RESOLUTION NO. 16-8339

A RESOLUTION OF THE CITY OF SANTA CLARA, CALIFORNIA, APPROVING A REZONING FROM PUBLIC, QUASI-PUBLIC, PUBLIC PARK OR RECREATION (B) AND COMMERCIAL PARK (CP) TO PLANNED DEVELOPMENT – MASTER COMMUNITY (PD-MC) OF APPROXIMATELY 240 ACRES OF LAND (APNs 104-03-036, 104-03-037, 104-01-102, 097-01-039, 097-01-073, 104-03-038, AND 104-03-039), COMMONLY KNOWN AS THE "CITYPLACE" PROJECT SITE

SCH#2014072078
CEQ2014-01180 (EIR)
PLN2014-10554 (General Plan Amendment, Rezoning and Development Agreement)

BE IT RESOLVED BY THE CITY OF SANTA CLARA AS FOLLOWS:

WHEREAS, on May 23, 2014, Santa Clara Centennial Gateway, LLC (predecessor in interest to Montana Property Group), filed a preliminary application for the development of a mixed-use project on approximately 9.48 acres of real property (together, the "Tasman Parcels") located at 5120 Stars and Stripes Drive (APNs 104-03-038 and -039);

WHEREAS, on June 9, 2014, Related Santa Clara LLC (the "Applicant") filed a preliminary application for the development of a mixed-use project on approximately 230 acres of real property (together, the "City Landfill Parcels") located at 5155 Stars and Stripes Drive (APNs 104-03-036, 104-03-037, 104-01-102, 097-01-039, 097-01-073), generally located to the north and northeast of the Tasman Parcels;

WHEREAS, the Tasman Parcels and the City Landfill Parcels (together, the "Project Site") encompass approximately two hundred forty (240) acres of land generally located north of Tasman Drive, east of Great America Parkway and San Tomas Aquino Creek, west of the Guadalupe River, and south of Great America Way and State Route (SR) 237, most of which was formerly occupied by a landfill and is currently occupied by the Santa Clara Golf & Tennis

Club, a restaurant and banquet facility, a maintenance building, Fire Station 10, a Bicycle-Motocross (BMX) track, the Ameresco Methane Plant, the Eastside Retention Basin, a City vehicle washing station, and vacant lots used for parking;

WHEREAS, on August 5, 2014, an application was filed by Related Santa Clara, LLC (the "Applicant"), to combine the two development proposals into a single project (the "Original Project") that would encompass up to 9.16 million gross square feet (gsf) of office buildings, retail and entertainment facilities, residential units, and hotel rooms, consistent with the elements of the "CityPlace Project" discussed in the Master Community Plan attached hereto and incorporated herein by this reference;

WHEREAS, on February 5, 2015, Montana Property Group and the Applicant formed a joint venture to develop the "City Center" portion of the Project Site (as described in the Master Community Plan), with the remainder of the Project Site to be developed by the Applicant;

WHEREAS, the Applicant later proposed a modification to the Original Project, referred to as the "Enhanced Open Space Variant" (the "EOS Variant") to reserve a portion of one of the parcels (APN 104-01-102) (designated as "Parcel 3" in the Master Community Plan) for parks and open space uses, with the office uses and associated parking that would otherwise have been developable on Parcel 3 being reallocated to other parts of the Project Site, all as consistent with the elements of the Supplement to the Master Community Plan attached hereto and incorporated herein by this reference;

WHEREAS, among other entitlements, the Applicant has requested a General Plan Amendment (the "GPA") to, among other things, change the existing land use designations of the Project Site from Parks/Open Space and Regional Commercial to Urban Center/Entertainment District (a newly-created Mixed Use designation);

WHEREAS, the Project Site is currently zoned as Public, Quasi-Public, Public Park or Recreation (B), and Commercial Park (CP);

WHEREAS, in order to effectuate the Project and its change in use, the entire Project Site must be rezoned to a Planned Development – Master Community (PD-MC) Zone in order to ensure the orderly and comprehensively-regulated development of the Project;

WHEREAS, SCCC Sections 18.56.040(a) and 18.56.060 require that a PD-MC rezoning and Master Community Plan be consistent with the General Plan;

WHEREAS, the City has prepared a set of findings detailing how the project is consistent with the General Plan, attached hereto and incorporated herein by this reference.

WHEREAS, before considering the rezoning of the Project Site, the City Council reviewed and considered the potential environmental impacts of the Project, identified mitigation measures, and adopted and certified the Final Environmental Impact Report for the CityPlace Project (SCH#2014072078) (the "FEIR"), as well as a set of CEQA Findings and a Statement of Overriding Considerations, in accordance with the requirements of CEQA;

WHEREAS, in taking the action to adopt and certify the FEIR, the City Council selected the "Increased Housing Alternative" identified in the EIR, combined with the EOS Variant, as the Project (the "Project");

WHEREAS, on June 8, 2016, the Planning Commission held a duly noticed public hearing to consider the rezoning application, at which time interested persons were given an opportunity to give testimony and provide evidence in support of and in opposition to the proposed rezoning;

WHEREAS, at the conclusion of the public hearing the Planning Commission made a recommendation to the City Council to approve the rezoning application;

WHEREAS, on June 16, 2016, pursuant to section 18.112.060 of the City of Santa Clara Code, a notice of public hearing was posted in at least eight conspicuous places within one thousand (1,000) feet of the affected property, and mailed to property owners within one thousand (1,000) feet of the Project Site; and,

WHEREAS, the City Council conducted a duly noticed public hearing on June 28, 2016 to consider the rezoning application, at which time all interested persons were given an opportunity to give testimony and provide evidence in support of and in opposition to the proposed rezoning.

NOW THEREFORE, BE IT FURTHER RESOLVED BY THE CITY OF SANTA CLARA AS FOLLOWS:

1. That the City Council hereby finds that the above Recitals are true and correct and by this reference makes them a part hereof.

2. Pursuant to SCCC Sections 18.56.040(a) and 18.56.060, the City Council hereby finds that the PD-MC zoning designation for the Project Site and the Master Community Plan (MCP) are consistent with the General Plan, for the reasons set forth in the General Plan Consistency Findings, attached hereto and incorporated herein by this reference.

3. That the City Council hereby rezones the Project Site, subject to Project Conditions of Approval as attached hereto and incorporated by this reference, from Public, Quasi-Public, Public Park or Recreation (B) and Commercial Park (CP) to Planned Development – Master Community (PD-MC).

4. That the City Council hereby adopts the Master Community Plan, attached hereto and incorporated by this reference, as modified by the Supplement to the Master Community Plan attached hereto and incorporated by this reference, as part of the zoning map of the City, to allow the construction of the mixed-use CityPlace Project.

5. That the City Council hereby directs the Applicant to prepare and submit an Integrated MCP to the Director of Planning and Inspection for his or her consideration and approval. The Integrated MCP shall revise the text and figures in the MCP as necessary to reflect the EOS Variant and eliminate any inconsistencies with the EOS Variant, as described by the Supplement to the MCP;

7. Pursuant to SCCC Section 18.112.010, the City Council hereby determines that the following findings exist in in support of the rezoning:

A. The rezoning will promote the public welfare, in that it will permit development of the CityPlace Project on the Project Site. The Project, which is located in an urbanized area served by existing municipal services, would create a mixed-use development of a scale and character that complements and is supportive of the surrounding uses, and will:

- Further the City's goals for economic and housing development by providing up to a total of approximately 9,164,400 square feet of development, including retail/restaurant/entertainment (up to 2,021,000 square feet) hotel (up to 700 rooms), residential (up to 1,680 units), and office (up to 6,684,400 square feet);
- Provide public benefits to the City such as extensive infrastructure improvements, transportation improvements, increased public access and open space, and recreational and entertainment opportunities, while creating jobs and a vibrant, sustainable community; and
- Produce annual revenues for the City of approximately $16,119,000 upon completion of Phases 1-3 and $20,744,000 at Project completion, from property taxes, retail sales taxes, hotel taxes, and ground rent.

B. The proposed rezoning would conserve and enhance property values, protect and improve the existing character and stability of the area in question, and promote the orderly and

beneficial development of such area, in that it will facilitate development of the Project, which will:

- Create a sustainable infill mixed-use project that complements the nearby important local and regional attractions such as the stadium, convention center, and amusement park to create a well-defined center of activity for Santa Clara and the Silicon Valley;
- Establish a new mixed-use urban neighborhood that could extend and diversify the City's housing stock while fostering a sense of community; and
- Promote a flexible accommodation of growth and change over time.

C. The proposed rezoning would allow imaginative planning and design concepts to be utilized, which would otherwise be restricted in other zoning districts, in that the zone change would:

- Feature a mixture of several types of uses, including pedestrian-oriented, commercial retail and services, and urban residential, hotel and employment-generating uses, all within a defined planning area;
- Encourage master planned phases that may entail numerous individual parcels or development areas;
- Permit variation in the intensity of development within individual parcels or sub-areas, thereby allowing a more dense urban form in key locations throughout the Project Site; and
- Support the benefits of green building construction.

D. The existing zoning is inappropriate or inequitable in that the City's Zoning Code currently does not have a zoning district consistent with the proposed Urban Center/Entertainment Mixed Use General Plan designation.

8. Constitutionality, severability. If any section, subsection, sentence, clause, phrase, or word of this resolution is for any reason held by a court of competent jurisdiction to be unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining portions of the resolution. The City of Santa Clara, California, hereby declares that it would have passed this resolution and each section, subsection, sentence, clause, phrase, and word thereof, irrespective of the fact that any one or more section(s), subsection(s), sentence(s), clause(s), phrase(s), or word(s) be declared invalid.

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9. Effective date. This resolution shall become effective at such time as Ordinance No. 1956 approving the Development Agreement becomes effective, and if such Ordinance has not become effective by December 31, 2018, this resolution shall be deemed to be void and of no further force or effect.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE COPY OF A RESOLUTION PASSED AND ADOPTED BY THE CITY OF SANTA CLARA, CALIFORNIA, AT A REGULAR MEETING THEREOF HELD ON THE 28TH DAY OF JUNE, 2016, BY THE FOLLOWING VOTE:

AYES:	COUNCILORS:	Caserta, Davis, Kolstad, O'Neill and Watanabe and Mayor Gillmor
NOES:	COUNCILORS:	None
ABSENT:	COUNCILORS:	Marsalli
ABSTAINED:	COUNCILORS:	None

ATTEST: _____
ROD DIRIDON, JR.
CITY CLERK
CITY OF SANTA CLARA

Attachments Incorporated by Reference:
1. Conditions of Approval
2. Master Community Plan
3. Supplement to Master Community Plan
4. General Plan Consistency Findings

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CONDITIONS OF APPROVAL

In addition to complying with all applicable codes, regulations, ordinances and resolutions, the following conditions of approval are recommended to be applied to the City Place Master Community Plan (MCP). The conditions of approval and obligations cited herein may be altered as necessary and additional specific detailed conditions may be added by the Executive Project Clearance Committee (Exec PCC) to accommodate the specific development Phases provided for in individual Development Area Plans (DAPs) called for under the provisions of the Master Community Plan (MCP). Detailed requirements and conditions specific to any DAP will be applied to the Council's consideration of that DAP approval.

References herein to the term *Parcels* shall be consistent with those five identified in Exhibit 1-4 of the MCP. References herein to the term *Phases* shall be consistent with those five identified in Exhibit 2-1 or 2-2 of the MCP, as appropriate.

GENERAL

1. The Master Developer shall submit within 45 days of Council final approvals of the PD-MC zoning an Integrated MCP with the Increased Housing Alternative and Enhanced Open Space (EOS) Variant as the Project, subject to review and approval by the of Director of Planning and Inspection; the Integrated MCP would revise the text and figures as necessary to reflect and eliminate any inconsistencies in the submitted MCP with the Increased Housing Alternative and the EOS Variant that is described in the MCP Supplement. The Integrated MCP shall include also any other changes incorporated into the MCP in accordance with Council approvals. The following specific changes shall be included in the integrated MCP:
   (a) Change the word "should" to "shall" in both sentences of the first bullet point under Station Area Design Guidelines on page 112 and include a conceptual plan for the improvements described.
   (b) In the second bullet point under Station Area Guidelines on page 112, include a conceptual plan for the enhanced transit plaza described and add a final sentence stating, "It is a City objective that improvements be made to the overall transit station area."
   (c) Change "2.8.2.1" to "2.7.2.1" at the bottom of the first column of page 245.
   (d) Correct the number "500,000" as to the minimum retail in Phase 2 in the definition of Minimum Initial Buildings on page 251.

2. All development, construction and uses shall comply with all applicable codes, regulations, ordinances and resolutions that are not otherwise altered by the specific development entitlements for the City Place Project.

3. If relocation of an existing public facility becomes necessary due to a conflict with the Developer's new improvements, then the cost of said relocation shall be borne by the Developer.

4. The project shall comply with the conditions set forth in the Development Agreement and Development and Disposition Agreement in effect between the City of Santa Clara and Related, Santa Clara, LLC.

5. The project shall comply with the mitigation measures included within the Mitigation Monitoring or Reporting Program for the Project, each of which is hereby imposed as a condition of approval.

6. Provide filtration systems for on-site residences and daycare centers as necessary to reduce operational cancer risks and exposure to particulate matter 2.5 microns in diameter or less (PM2.5). This measure only applies to on-site residences and daycare centers. The Project Developer shall implement the following measures, as necessary, to reduce cancer risks to a level less than BAAQMD project-level thresholds:

   (a) Revised Health Risk Assessment (HRA): The Project Developer may choose to reassess the potential on-site cancer risk and PM2.5 concentrations to be experienced by on-site residential receptors and on-site daycare centers later in the design Phase, but prior to occupancy, and to prepare a revised HRA using updated receptor location information and more detailed assessment of risks associated with existing and project operational sources, and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk and exposure to PM2.5 for all potentially exposed on-site receptors will be less than BAAMQD project-level thresholds, then no additional measures are necessary. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk or exposure to PM2.5 for on-site sensitive receptors will be less than presented in the EIR but still over BAAMQD threshold, then the control effort may be less.

   (b) Install filtration systems on ventilation and recirculation systems. Filtration systems shall be installed on ventilation and recirculation systems within on-site residences and the heating, cooling, and ventilation systems that serve daycare centers that are exposed to risks above BAAQMD thresholds due to individual existing sources. All filters must be rated MERV 13 or higher. The Project Developer shall submit a plan for installation and maintenance of all filters in accordance with the manufacturer's recommendations to the City prior to approval of the first building permits.

7. Prepare and implement a noise control plan to reduce interior noise at sensitive land uses. The Project Developer shall conduct a design-level acoustic study that identifies exterior noise levels for residential and commercial uses on the project site. This study shall take into account existing, project, and reasonably foreseeable future noise sources (such as proposed increases in passenger rail service along the Lafayette Street corridor). Where this study finds that the exterior noise level would exceed the residential compatibility standard of 55 dBA Ldn or the commercial incompatibility standard of 65 dBA Ldn, the Project Developer shall prepare a design-level operational noise control plan to provide acceptable interior noise levels. This plan shall identify all project features and treatments that will be implemented to ensure that the project is in compliance with the interior noise standards listed in the City's General Plan and City Code as well as the standards specified for new construction within the Comprehensive Land Use Plan (CLUP) for Mineta San Jose International Airport (SJC). The study and plan shall be developed by an acoustical design professional. Design features and treatments will be identified to ensure that interior noise levels at new proposed uses are in compliance with the noise standards. The

report shall be submitted to the City for review and approval prior to the issuance of building permits for the project. Depending on the noise exposure for a particular site, such treatments may include, but are not limited to, those listed below, as recommended by the acoustical design professional.

(a) Construction of enclosures around noise-generating mechanical equipment at commercial uses.
(b) Use of setbacks from noise sources to maximum attenuation of noise over distance.
(c) Installation of noise-reducing treatments in new buildings, including:
- High-performance, sound-rated double-glazed windows,
- Sound-rated doors,
- Sound-rated exterior wall construction,
- Special acoustical details for vents,
- Acoustical caulking at all exterior façade penetrations,
- Sound-rated roof and ceiling constructions, and
- Adequate mechanical ventilation so that windows and doors may be kept closed at the discretion of the building occupants to control environmental noise intrusion.

8. Prepare and implement a vibration control plan to reduce vibration from the Union Pacific Railroad (UPRR) for sensitive land uses. The Project Developer shall prepare a design-level operational vibration control plan that identifies all project features and treatments that would be implemented to ensure that the project is in compliance with the vibration standards recommended by the Federal Transportation Administration (FTA) relative to railway operational vibration associated with UPRR operations. The plan shall be prepared when new uses would be located within the following screening distances, as recommended by FTA (FTA 2006):

(a) Category 1: Buildings where vibration would interfere with interior operations (600 feet).
(b) Category 2: Residences and buildings where people normally sleep (200 feet).
(c) Category 3: Institutional land uses with primarily daytime use (120 feet).
The plan shall take into account current and future expected passenger and freight rail service levels adjacent to the project site. The plan shall be developed by an acoustical design professional and shall include a detailed investigation of ground-borne train vibration that considers site-specific train vibration source and propagation conditions and the actual building designs. The design features and treatments shall be identified to ensure that vibration levels at new proposed uses are in compliance with FTA standards. The report shall be submitted to the City for review and approval prior to the issuance of building permits for the project. Depending on the vibration exposure for a particular site, such treatments may include, but are not limited to, those listed below, as recommended by the acoustical design professional.
(d) Increased setbacks of noise-sensitive uses from the train track.
(e) Foundation isolation systems to reduce the transmission of vibration into buildings with noise-sensitive uses that are near the tracks.

9. Incorporate flood warnings for the Lick Mill Boulevard extension and other access roads for areas vulnerable to flooding. The Project Developer and the City shall coordinate to provide flood warnings for new and existing roadways that provide access to the site and are vulnerable to 100-year flood levels. The Project Developer shall review the City's flood warning and emergency response plan and submit a brief plan for the project that is consistent with the City's plan. The plan shall be submitted to the City's Emergency Services Coordinator in the City's Fire Department for review and approval. The specific frequency of expected flooding on-site access roads shall be determined by the Project Developer and reviewed by the City. Flood warnings may be temporary or permanent, depending on the frequency of expected flooding, as determined by the City. Information about alternative access/egress routes, based on flooding potential and other factors, shall also be provided by the Project Developer to the City's Emergency Services Coordinator in the City's Fire Department for review and approval. If other flood improvements are implemented that remove the flooding risk at the Lick Mill Boulevard extension or other site access roads, then this condition of approval shall no longer be required.

ENGINEERING

E1. Developer is responsible for cost of relocation or modification of any public facility necessary to accommodate subject development, unless the cost of relocation or modification of a utility is the responsibility of a franchisee under a franchise agreement. Planned changes to existing facilities shall be included with and described in proposed infrastructure plans required at the time of DAPs.

E.2. Following approval of Tentative Maps and/or Vesting Tentative Maps by Council, the Developer shall file Final Maps for approval and recordation to the satisfaction of the Director of Public Works prior to the issuance of building permits for the DAP.

E.3 Infrastructure plans that are submitted with the DAP application shall address infrastructure needs for the entire phase where the DAP infrastructure needs must rely on, may be affected by, or may affect any future phase(s) of development. The submitted DAP infrastructure plans in that case shall provide not less than conceptual plans for or a description of the design of the infrastructure in the future phase(s), to the satisfaction of the Director of Public Works. Plans shall be prepared by a Registered Civil Engineer and approved by the City Engineer prior to approval and recordation of Final Map and/or issuance of building permits.

E4. The Sanitary sewer (SS) laterals from Parcel 1 and Parcel 2 shall connect to the westernmost 42" SS main in Lafayette Street. The SS laterals from Parcel 3 and Parcel 4 shall connect to the 42" SS main running between the two parcels from Great America Parkway to Lafayette Street. Parcel 5 shall be connected to the 12" SS main in Stars and Stripes Drive. The City shall determine available SS capacity for each main as of the time of project entitlements, including each DAP or DAP Amendment, and the Developer shall construct facility improvements to accommodate the maximum MCP development. The Developer may be reimbursed for design and construction costs above its fair share costs.

E5. Execute Covenant(s) Running with the Land to assume maintenance responsibility for non-standard street improvements within public rights-of-way prior to the City's acceptance of said improvements. Non-standard street improvements include, but are not limited to, curb return type driveway(s).

E6. Obtain site clearance through the Engineering Department prior to issuance of building permits. Site clearance will require payment of applicable development fees prior to issuance of the building permit. Other requirements may be identified for compliance during the site clearance process.

ELECTRIC

EL1. DAP infrastructure plans and documents that address the electrical distribution system shall specify on-site private electric facilities and off-site public electric facilities to address the needs of the particular DAP and, conceptually, the needs of the overall phase which contains that DAP. To the extent that development of any particular DAP or phase may affect service to other phases, a conceptual plan or description of those needs shall be included in the application.

EL2. On-site infrastructure is the Developer's responsibility. The Developer shall install the substructures required to meet Silicon Valley Power (SVP) design requirements. SVP will install all cable and equipment facilities. The Developer will be assessed development fees to cover the costs associated with installation of these facilities. Any costs associated with non-SVP standard equipment, including design reviews, will be the responsibility of the Developer.

EL3. Easements for electric facilities and access will be required for all facilities located on private streets or within structure boundaries.

EL4. Prior to the approval of the DAP for Phase 1, Developer shall enter into a separate agreement with the City to address the rights and obligations of the parties with respect to providing interim electrical capacity and service at full build-out. The agreement will address such matters as the construction obligations of the City for additional substation and off-site distribution facilities, electrical service requirements to be provided by the City, construction and payment obligations of Developer, the granting of easements or other property rights and mutual cooperation as reasonably necessary to accommodate the electric service needs of the Project.

WATER

W1. Each DAP submittal shall indicate all service connections and facilities for potable and recycled water and sanitary sewer facilities to serve the development area. To the extent necessary, plans shall include conceptual plans to serve the remainder of the Phase or future Phases that will rely on these facilities, to the satisfaction of the Director of the Water and Sewer Utilities.

W2. Prior to issuance of Building Permits, the Developer shall submit plans for water service to each individual building parcel, site and/or building to be connected to a public main in the public right-of-way to the satisfaction of the Director of Water & Sewer Utilities. Additionally, different types of water use (domestic, irrigation, fire) shall be served by separate water services. Plans shall also indicate locations of proposed fire hydrants.

FIRE DEPARTMENT

FD1. When in the opinion of the fire code official, a new structure obstructs emergency radio communications to existing buildings or to any other locations the Developer shall resolve the deficiency to the satisfaction of the Fire Department, which may include requirements to provide and install radio retransmission equipment necessary to restore communications capabilities. Any required equipment shall be located in a space or area within a new structure approved by the Fire Department.

FD2. Each DAP application shall include proposed access routes for emergency service vehicles. Plans may be required to include the entire Phase in which the DAP is included and may necessitate conceptual plans for access through or to future Phases to the extent that may be necessary to the satisfaction of the Fire Chief.

FD3. Construction and final development in each Phase and DAP shall comply with applicable fire standards, codes, and policies, including emergency access requirements.

FD4. The Developer shall provide a replacement Fire Station in accordance with the Development and Disposition Agreement.

POLICE

PD1. The Developer shall include, for each building, design specifications that meet the City of Santa Clara's guidelines established for radio signal penetration, as detailed in the Communications Department's Public Safety Radio System Building Penetration Guidelines. The intended use of telecommunications sites/equipment shall be clearly and accurately stated in the building documentation. The signal, of whatever nature, of any communications facility or system, shall in no way whatsoever interfere with or affect any police communication or police communication system.

PARKS AND RECREATION

PR1. The Developer shall comply with the City's Park and Recreational Land Ordinance (SCCC Ch. 17.35), subject to conformance with and as otherwise satisfied by the provisions of the MCP, DA and Development and Disposition Agreement, to the satisfaction of the City Manager.

STREET DEPARTMENT

ST1. Submit copy of complete landscape and automatic irrigation plans for all public rights-of-way for review and comment by City staff. The Developer is to supply and install City street trees per the MCP and City specifications. Spacing, specie, and sizes of street trees shall be subject to approval of the City Arborist.

ST2. Special Urban Runoff Stormwater Pollution Prevention requirements apply. Provide the Street Department with information to evaluate proposed stormwater pollution prevention improvements for each Phase.

ST3. Developer shall comply with City Development Guidelines for Solid Waste Services in each Phase, as specified by development type.

PLANNING AND BUILDING INSPECTION

P1. DAP applications for partial Phases as described in the MCP may be required to include conceptual plans and information for areas outside of the DAP boundaries that address site access for the provision of safety and service by City forces, as well as related utility facilities, and schematic or concept plans addressing such items as open space and parks that may be constructed in future Phases on abutting sites.

P2. Tentative Subdivision Map, Vesting Tentative Subdivision Map and/or Parcel Map applications consistent with the intent and obligations of the MCP, DA and DDA, and consistent with any parcel(s) indicated in the submission of the DAP, shall be approved by City Council prior to issuance of building permits for development within any Phase, Sub Phase or DAP within the area of that map application. Maps shall define development sites and provide for the dedication or disposition of public streets, utilities and parks/open space, to the satisfaction of the City.

P3. The Developer will be required to prepare acoustical analyses and implement noise insulation features in building construction as required by the Mitigation Monitoring and Reporting Program.

P4. The Developer shall be required to incorporate within the residential tenant lease agreements notification of the occurrence of aircraft traffic noise over the project site.

P5. The Developer shall convey an avigation easement to the City of San Jose on behalf of the San Jose International Airport.

P6. Obtain required permits and inspections from the Building Official and comply with the conditions thereof, based upon approved DAPs. Submittal of plans shall be consistent with a predetermined address numbering scheme based upon Phases identified in the MCP, to the satisfaction of the Building Official.

P7. The Developer shall file a Notice of Intent (NOI) with the State Water Resources Control Board prior to issuance of any permit for grading or construction in accordance with an approved DAP, or as otherwise permitted or required under the obligations and rights of the DDA. A copy of the NOI shall be sent to the City Building Inspection Division. A stormwater pollution prevention plan is also required with the NOI.

P8. Along with the submission of the first DAP within any Phase, a landscape and lighting concept plan for that Phase shall be provided and agreed upon by the Developer and the City. Landscaping and lighting concepts shall address public areas and street frontage areas, as well as open space and park areas within the Phase.

P9. The Developer shall employ green building standards and materials in the site design and construction of structures within each DAP, designed to meet USGBC LEED standards for new construction, in accordance with the approved MCP.

P10. The project will be required to comply with the City's Urban Runoff Pollution Prevention

Program, including best management practice measures for construction and post-construction activity, including reducing runoff to public storm drain facilities from rooftops and paved surfaces.

P11. DAP applications shall include third-party certification that the conceptual stormwater control plan meets applicable post-construction stormwater control (C3) requirements. Prior to the issuance of grading or building permits, the Developer shall provide to the Planning Division third-party certification that the stormwater control plan meets applicable C3 requirements, along with an Operations and Maintenance Agreement approved by the City for post-construction maintenance of C3 devices/measures.

P12. Trees removed shall be replaced at a ratio of two new trees for every one removed tree. Any trees not replaced at the 2:1 ratio shall be subject to in-lieu payments consistent with City policy. The developer shall be responsible for maintaining a master accounting of all tree removals, tree replacements, and in-lieu fee payments and shall provide such information with each DAP submittal and upon the City's request.

P13. The Developer shall prepare a Construction Management Plan (CMP) for review and approval prior to the issuance of initial grading or building permits for development within any Phase, Sub Phase or DAP. To the extent that information is known, a CMP may address some or all construction within the DAP or Phase, such that a CMP may not be required for each permit as called for in the adopted Mitigation Monitoring or Reporting Program.

P14. Construction activity not confined within an enclosed building shall be limited to the hours of 7:00 a.m. to 6:00 p.m. weekdays and 8:00 a.m. to 6:00 p.m. Saturdays for construction within 300 feet of a residential use. Construction activity shall not be allowed on Sundays or recognized State and Federal holidays.

P15. The Comprehensive Sign Program required for either Parcels 4/5 or Parcels 1 and 2, as specified in the MCP shall be submitted with the initial DAP submission for each area and shall be considered concurrently with and as a part of the DAP plans for the Council's consideration.

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CITYPLACE

SANTA CLARA

VOLUME 1

MASTER COMMUNITY PLAN | JUNE 1, 2016

CITYPLACE

SANTA CLARA

MASTER COMMUNITY PLAN

PREPARED FOR:

RELATED COMPANIES
MASTER DEVELOPER

PREPARED BY:

RTKL ASSOCIATES, INC.
MASTER COMMUNITY PLANNING

IN COLLABORATION WITH:

ELKUS MANFREDI ARCHITECTS
MIXED-USE PLANNING

FEHR & PEERS
TRANSPORTATION ENGINEERING

LANGAN TREADWELL ROLLO
CIVIL ENGINEERING

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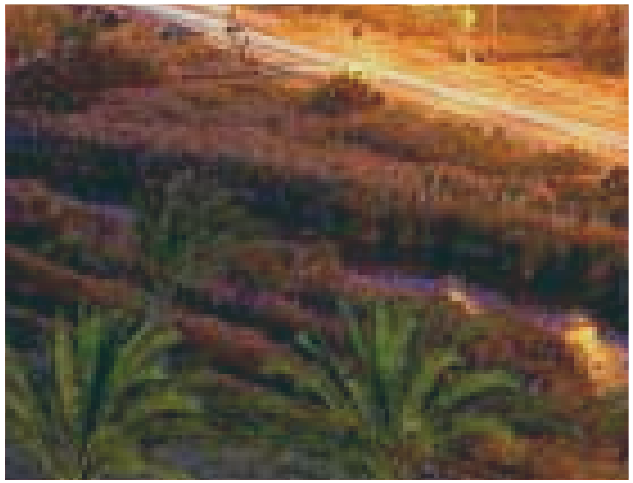
2. TRANSACTIONAL DOCUMENTS:
    - DEVELOPMENT AGREEMENT
    - FORM OF GROUND LEASE
    - DISPOSITION & DEVELOPMENT AGREEMENT
3. INFRASTRUCTURE MASTER PLAN AND TECHNICAL MEMOS





CHAPTER 1

INTRODUCTION



1.1 PROJECT SUMMARY

CityPlace Santa Clara will create a new center of activity for the community of Santa Clara and the Silicon Valley region, providing significant mixed-use, retail offerings, office buildings, hotel rooms, and rental residential dwellings at an urban scale, as well as accessible outdoor spaces and vital infrastructure to support the development.

PROJECT DESCRIPTION

CityPlace Santa Clara is envisioned to be an approximately 240-acre urban city development located in the heart of the Silicon Valley, in the northern part of the City of Santa Clara (see *Exhibit 1-1*). Significantly, it will convert property owned by the City of Santa Clara that was formerly used primarily as a landfill and is currently primarily utilized as a golf course, to a more productive use in the form of a new and vibrant mixed-use, urban community. The planned development proposes three alternative land use schemes on five large development parcels and is anticipated to be developed in eight phases.

- *Scheme A* will accommodate 9,164,400 gross square feet (GSF) of development and a total floor area ratio (FAR) of 0.93; with a conceptual land use program as follows: 5,404,400 square feet (sf) commercial office, 1,312,000 sf commercial retail (including food and beverage), 190,000 sf commercial entertainment uses, 700 hotel rooms, and 1,680 residential dwelling units, approximately 74.1 acres of open space, and over 25,000 parking stalls within structured, podium, and surface parking facilities.

- *Scheme A Variant* will accommodate 7,523,400 GSF of development, and a FAR of 0.76; with a conceptual land use program as follows: 3,244,400 sf commercial office, 1,831,000 sf commercial retail (including food and beverage), 190,000 sf commercial entertainment uses, 700 hotel rooms, and 1,680 residential dwelling units, approximately 65 acres of open space, and over 20,000 parking stalls within structured, podium, and surface parking facilities. The Scheme A Variant primarily differs from Scheme A in that one of the parcels would be developed as a retail center rather than an office complex.

- *Scheme B* will accommodate 9,164,400 GSF of development and a total FAR of 0.93, with a conceptual land use program as follows: 6,684,400 sf commercial office, 1,512,000 sf commercial retail, 190,000 sf commercial entertainment uses, 700 hotel rooms, and 200 residential dwelling units, approximately 74.1 acres of open space, and over 25,000 parking stalls within structured, podium, and surface parking facilities. The Scheme B plan primarily differs from Scheme A in that parcel 4 would have no residential use but commercial office use would be built as a replacement.

Other features of the planned development will include an integrated network of open spaces, including a number of outdoor gathering spaces to encompass public plazas, shared courtyards, as well as walkable streetscapes. The project will also involve the construction and reconstruction of substantial infrastructure to support the proposed land uses and intensity of development, including landfill protection systems, environmental remediation as determined necessary, construction of a road network to serve the project site, and construction of necessary wet and dry utilities improvements. Ultimately the entire site will be 8'-12' above the landfill cap. The city center portion of Parcel 4 will accommodate infrastructure by incorporation of an interstitial zone between the landfill cap and the surface.

Site access will utilize existing points of contact with Tasman Drive, Great America Parkway and Lafayette Street, and additional new connections will be made along those roadways as phases are developed to facilitate multi-modal access to all parts of the project.



Exhibit 1–1: Regional Vicinity Map

1.2 PROJECT LOCATION

CityPlace Santa Clara will be a master planned, mixed-use development project located in the City of Santa Clara. Centrally located in the Silicon Valley, the project will transform a closed landfill and surrounding properties that are currently underutilized into a local and regional destination.

SITE SETTING

The City of Santa Clara is located within Santa Clara County about 45 miles southeast of San Francisco. Bordered by the cities of San Jose, Sunnyvale, and Cupertino, it sits at the center of the "Silicon Valley" (see *Exhibit 1-2*). With a population in excess of 120,000, Santa Clara is home to the headquarters of several high-tech companies, including Oracle, Applied Materials, and Intel, as well as a number of important regional destinations (see *Exhibit 1-3*). Most notable are: Santa Clara University, the oldest institution of higher learning in the State of California; Levi's Stadium, the new home of the National Football League's San Francisco 49ers; and Great America Amusement Park. Immediately adjacent to the site is the Santa Clara Convention Center.



Exhibit 1–2: 'Valley HUB' Map

SITE BOUNDARIES

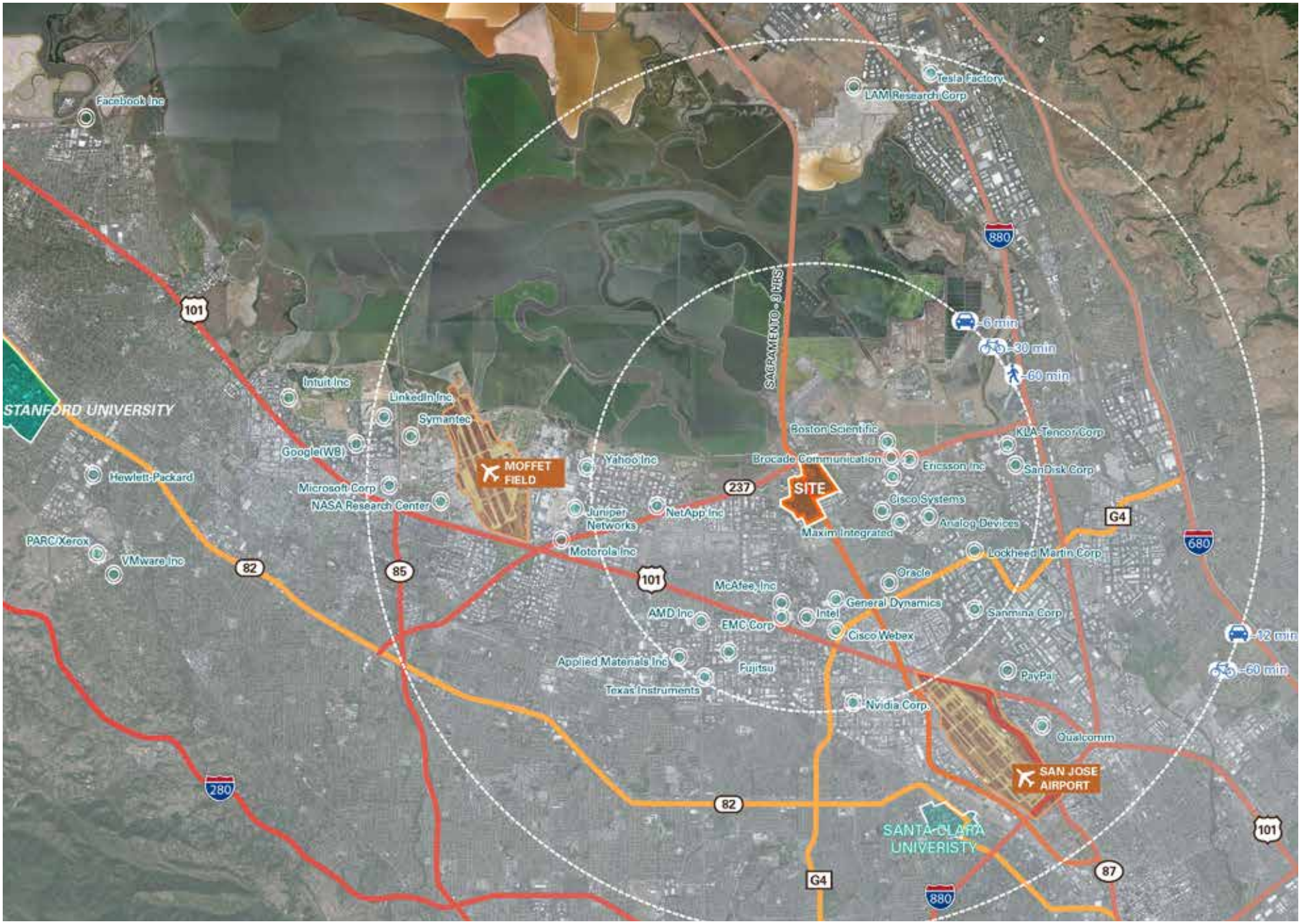
The approximately 240-acre project site is located at the northern edge of the City of Santa Clara. It is generally bounded by: the Southbay Freeway (California State Route 237) and Great America Way to the north; Great America Parkway and the San Tomas Aquino Creek to the west; the Guadalupe River to the east; and Tasman Drive to the south. Lafayette Street roughly divides the site into two halves. The project boundaries are shown in *Exhibit 1-4: Site Boundaries & Topography*, while a full legal description is provided in Appendix A of this document.

SITE DESCRIPTION

The project site is comprised of seven City-owned legal parcels referenced hereinafter for the purpose of this Master Community Plan as five development parcels as illustrated in *Exhibit 1-4: Site Boundaries & Topography* as of 2016. The parcels are primarily used by the Santa Clara Golf & Tennis Club, although portions of the site are used for a bicycle-motocross (BMX) track and a fire station. The Santa Clara Golf & Tennis Club was developed in 1987 by the City's Sports & Open Space Authority as part of the Santa Clara Trade and Convention Center Complex, and includes an 18-hole golf course, clubhouse and restaurant, seven lighted tennis courts, and a surface parking lot (between Stars & Stripes Drive and Tasman Drive).

Lafayette Street, a major arterial, divides the site into two halves; Parcels 1 and 2 are situated east of Lafayette Street and immediately west of the Guadalupe River, while Parcels 3, 4 and 5 are located west of Lafayette Street. Much of the site was formerly utilized by the Santa Clara All-Purpose Landfill, a 210-acre site with a waste footprint of approximately 183 acres, which closed in 1994. The topography of the site indicates that soil embankments were constructed on each of the landfill parcels (1,2,3&4) and that refuse was placed to create large mounds that rise above current street elevations. Consequently, the site topography varies considerably, with low elevations near sea level and high elevations above 65 feet; the highest mounds are on the northernmost Parcels 1 and 3.

EXHIBIT 1–3: A HUB CONNECTING SILICON VALLEY AND THE BAY AREA





The Santa Clara Golf & Tennis Club



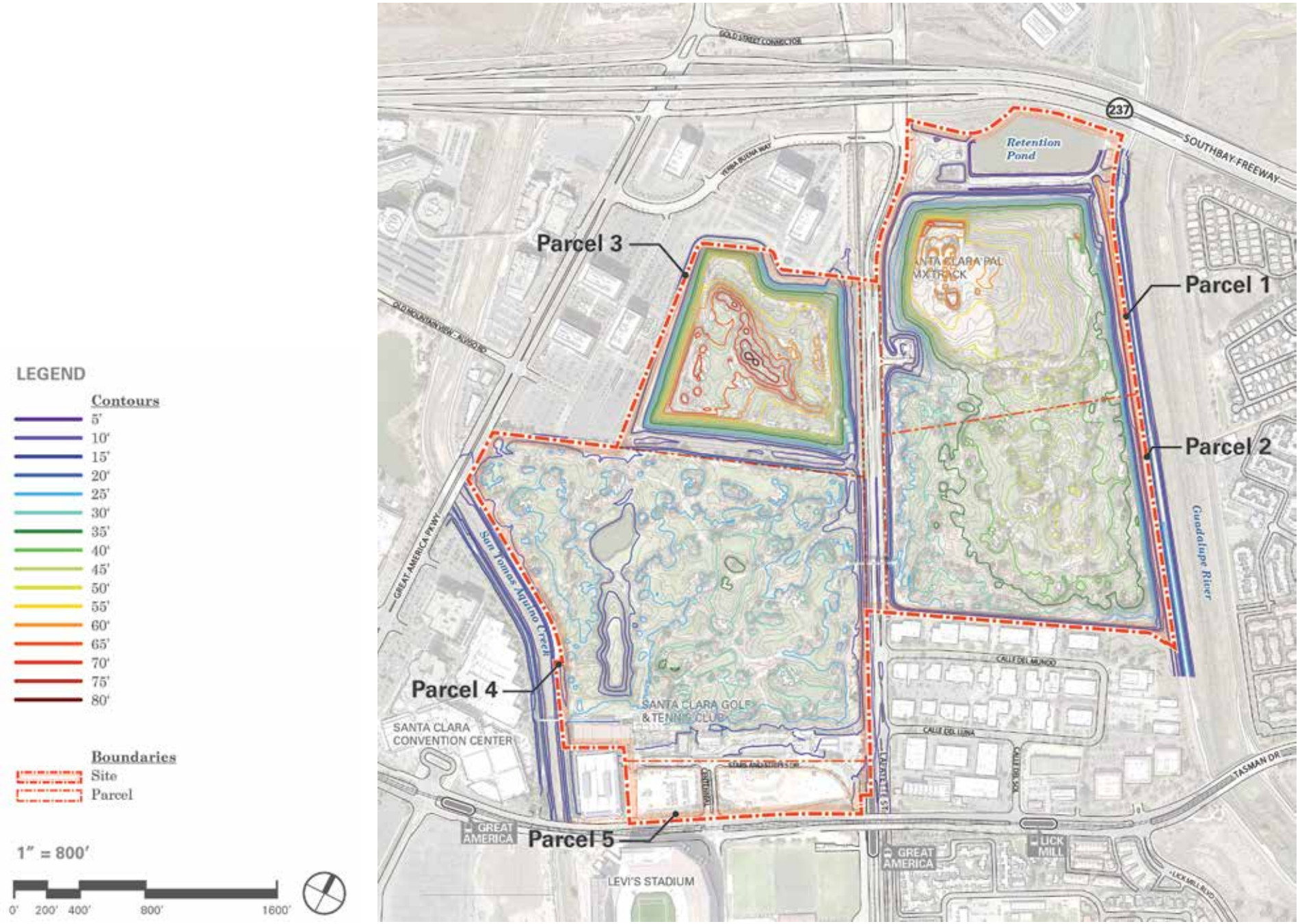
The nearby Baylands Pond



The open-dirt BMX grounds in "Parcel 1"

- *Parcel 1:* This parcel measures approximately 49.6 acres. Landfill operations took place on this parcel from 1982 through 1986, and 1991 through 1993.
- *Parcel 2:* Directly south of and contiguous with Parcel 1, this parcel measures approximately 60.9 acres. Landfill operations took place on this parcel from 1977 through 1984.
- *Parcel 3:* This parcel measures approximately 34.9 acres. Landfill operations took place on this parcel from 1986 through 1991.
- *Parcel 4:* Directly south of and contiguous with Parcel 3, this parcel measures approximately 86.6 acres. Landfill operations took place on this parcel between the 1960s and 1970s.
- *Parcel 5:* Directly south and contiguous with Parcel 4, this parcel measures approximately 8 acres. The landfill did not include this parcel.

EXHIBIT 1–4: SITE BOUNDARIES & TOPOGRAPHY*



** More detailed (1 foot contour) topographic information can be found in the Infrastructure Master Plan (Fig. 2 through 14).*
The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.

1.3 COMMUNITY CONTEXT

CityPlace Santa Clara will be well positioned for development as a city center, and will serve both the local community and the region. Nearby regional attractions, high-tech employment, diverse housing stock, an accessible highway, and commuter rail and light rail networks support an urban, transit-oriented development pattern.



Santa Clara Convention Center



Levi's Stadium and Great America Park

LAND USE CONTEXT

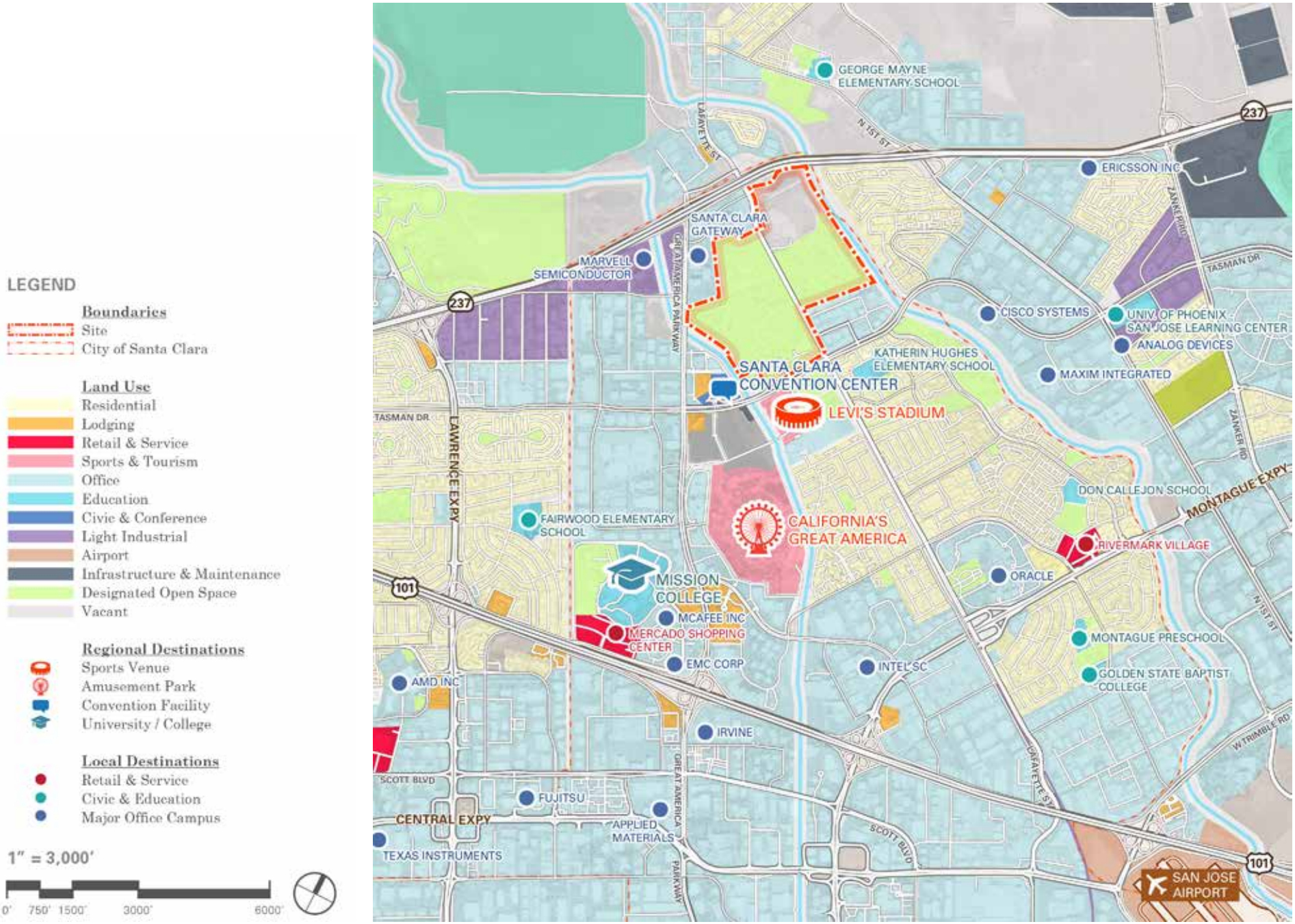
The project site is central to a high level of existing commercial and employment activity (see *Exhibit 1-5*). In addition to the Santa Clara Convention Center, unique regional attractions such as an NFL stadium and a major amusement park bring high volumes of visitors to the vicinity. Office and light industrial buildings as well as campuses characteristic of high tech employment in the region support a considerable day-time population. Meanwhile, surrounding single family neighborhoods and multi-family residential complexes accommodate a diverse housing stock and add a resident population to the area's mix.

- *Regional Attractions:* A number of major attractions are found in close proximity to the project site. These include the recently completed Levi's Stadium that seats up to 68,500 persons and hosts the NFL's San Francisco 49ers and various special events, and California's Great America Amusement Park. Both attractions are situated just to the south of the site across Tasman Drive. The Santa Clara Convention Center, one of the Silicon Valley's largest event and meeting venues, is located immediately west of the project site along Tasman Drive and Great America Parkway.
- *Office and Residential Mix:* In addition to the stadium, its ancillary facilities, and the amusement park, uses located south of the project site generally encompass a mix of low to moderate density residential neighborhoods. An exception to this would be the properties located directly south of Parcel 2 and north of Tasman Drive which are occupied by the Lafayette Industrial Park (which currently is primarily comprised of a number of low-rise office and light industrial buildings, but per the City General Plan is identified for future high-density residential development). West of the project site is an area that is characterized by low- and high-intensity office buildings, including The Irvine Company's Santa Clara Gateway office campus and Marvell Semiconductor office campus, and is designated in the General Plan for office/R&D uses at intensities of up to 2.0 FAR. East of the project site (across the Guadalupe River in North San Jose) is a mix of multi-family housing complexes and single family residential neighborhoods, with office and light industrial campuses (including Cisco Systems) located farther to the east and southeast.
- *Open Space:* North of the project site, in the City of San Jose, the land is largely undeveloped parklands, tidal wetlands, and former industrial salt ponds, that together comprise a part of the Don Edwards San Francisco Bay National Wildlife Refuge. Scattered residential and commercial developments are found in the nearby community of Alviso (City of San Jose), further north. Southeast of the site along the western bank of the Guadalupe River is the City of Santa Clara 40-acre Ulistac Natural Area featuring natural habitat areas and trails.

TRANSPORTATION CONTEXT

Santa Clara is generally well served by the regional transportation system, including nearby highway access, and convenient commuter rail and light rail connections, providing access to cities throughout the South Bay, as well as the San Francisco Peninsula and the East Bay. The community's close proximity

EXHIBIT 1–5: AREA LAND USE + KEY DESTINATIONS (2015 EXISTING CONDITIONS)*



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The VTA's Lick Mill light-rail station



Great America station



Trail facilities along San Tomas Aquino Creek

to the Mineta San Jose International Airport (SJC) offers an additional asset in terms of convenience and transportation.

- *Highway Access:* The project site is readily accessed by the Southbay Freeway (SR-237), a six-lane divided highway that runs from Milpitas to Mountain View, connecting the east and west sides of the Silicon Valley. SR-237 passes to the north of the site, accessed from Great America Parkway or Lafayette Street via the Gold Street Connector. The interchange between SR-237 and the Nimitz Freeway (I-880 connecting Oakland and San Jose) is approximately 3.5 miles east of Great America Parkway. Additionally, the Bayshore Freeway (US-101) passes south of the site, and is accessed by Great America Parkway or Lafayette Street via the Montague Expressway. This eight-lane freeway connects San Francisco and San Jose.

- *Street Access:* Local access to the project site is provided by three arterial streets. Great America Parkway is a north-south six lane divided arterial to the west that provides primary access to US-101 and SR-237; Parcel 4 has approximately 350 feet of frontage along this street. Tasman Drive is an east-west six lane divided arterial to the south that includes a center-running VTA-owned and operated light rail line. Lafayette Street is a north-south four lane arterial that provides convenient access to both US-101 via Montague Expressway and SR-237 via the Gold Street Connector. This roadway divides the project site's east and west parcels; because the Union Pacific Railroad (UPRR) corridor runs along the roadway's west side there is limited access at street level to Parcels 3, 4, and 5. There is an unpaved driveway access to Parcels 1 and 2 from Lafayette Street. The intersection at Lafayette Street and Tasman Drive is grade separated with no direct connection to the site.

- *Transit System:* The Santa Clara Valley Transit Authority (VTA) operates a light rail and bus system that serves Santa Clara County. VTA's Mountain View-Winchester light rail corridor runs along Tasman Drive with the Lick Mill and Great America Stations serving the project site and surroundings. This route includes stops in downtown Mountain View, Sunnyvale, and downtown San Jose. It is worth noting that the City's General Plan identifies Great America Parkway / Bowers Avenue and Lafayette Street as "north-south transit opportunities" that are suitable for frequent transit service.

- *Commuter Rail:* Santa Clara is home to two major train stations. Situated below the Tasman Drive overpass, the Santa Clara-Great America Station directly serves both the project site and Levi's Stadium. This station hosts Amtrak's "Capitol Corridor" train linking San Jose and Sacramento and the Altamont Corridor Express (ACE) connecting Stockton and San Jose. The Santa Clara Transit Station, located roughly five miles to the south, hosts the Caltrain commuter rail line to San Francisco and Gilroy, Capitol Corridor and ACE, VTA county-wide bus service, and is also the planned terminus station for the Silicon Valley BART extension.

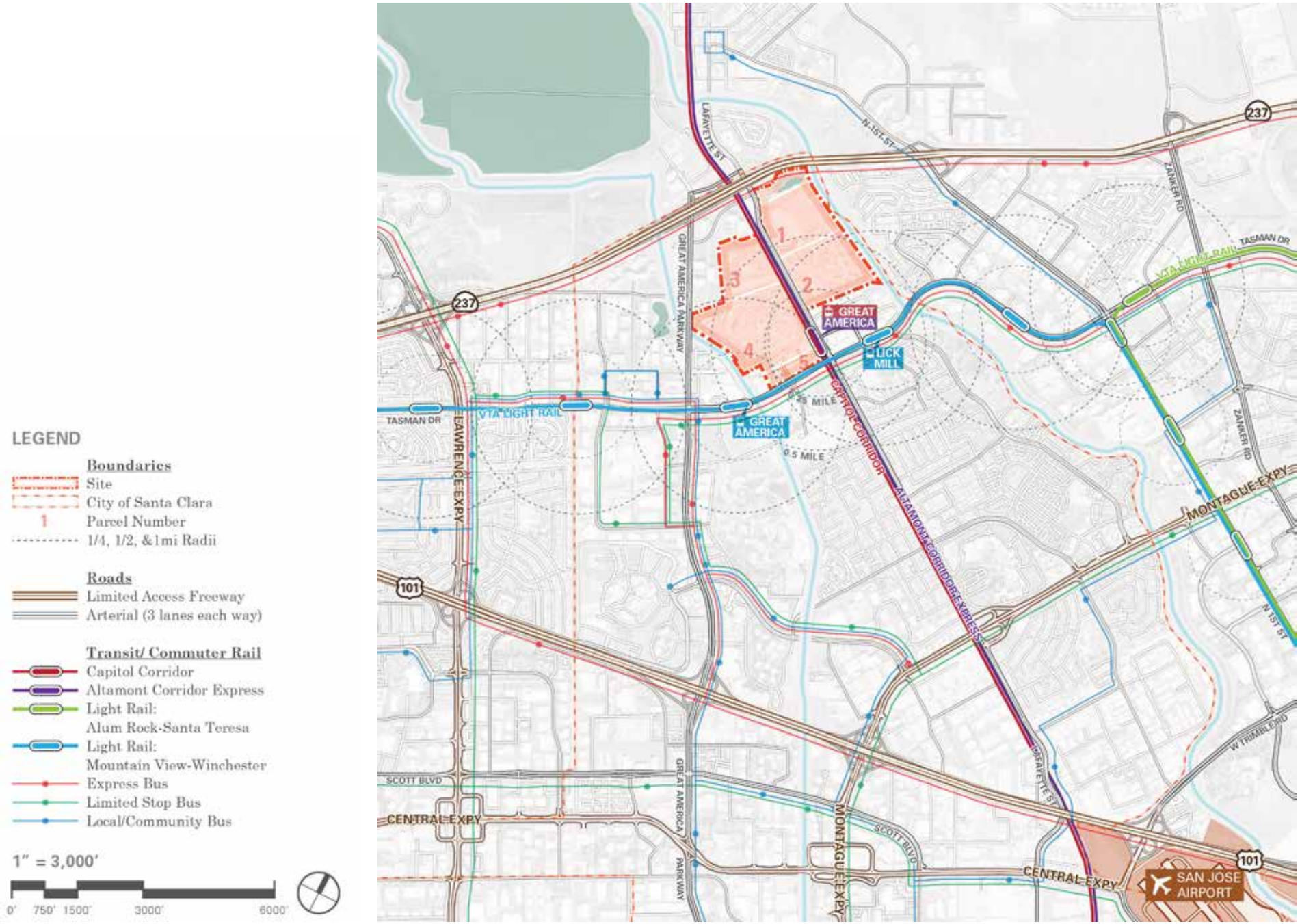
- *Airport Proximity:* The SJC is located along Santa Clara's eastern boundary, its passenger terminal a distance of approximately 6.5 miles from the intersection of Lafayette Street and Tasman Drive via Great America Parkway and US-101. Although the smallest of the Bay Area's three international airports in terms of passenger boarding, the recently modernized SJC provides a valuable air service choice for Silicon Valley residents and businesses. San Francisco International Airport is approximately 31.5 miles distant via northbound US-101 and Oakland International Airport is approximately 33.5 miles distant via northbound I-880.

- *Bicycle & Trail Networks*: The site is well served by a network of existing and proposed north-south bicycle paths and lanes, including the trails along San Tomas Aquino Creek and the Guadalupe River. On-street bicycle lanes are also provided along Great America Parkway, while the bicycle lanes along Lafayette Street extend to Calle de Luna just south of the project site, with a future extension to Great America Way proposed in the General Plan. In the east-west direction, the General Plan envisions future bicycle lanes along Tasman Drive, turning south at Lick Mill Boulevard.

ENVIRONMENTAL CONTEXT

Development needs to sensitively address local environmental factors and constraints, recognizing that

EXHIBIT 1–6: AREA TRANSPORTATION*



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Guadalupe River, Santa Clara



San Tomas Aquino Creek Trail near Great America



Don Edwards San Francisco Bay National Wildlife Refuge

much of the site is a former landfill and that the site is situated near waterways and restored wetlands that interact with the San Francisco Bay. In particular, site grading and drainage are complicated by the underlying refuse, requiring that construction maintain the integrity of the landfill, and integrate control systems to protect the environment and maintain public health and safety.

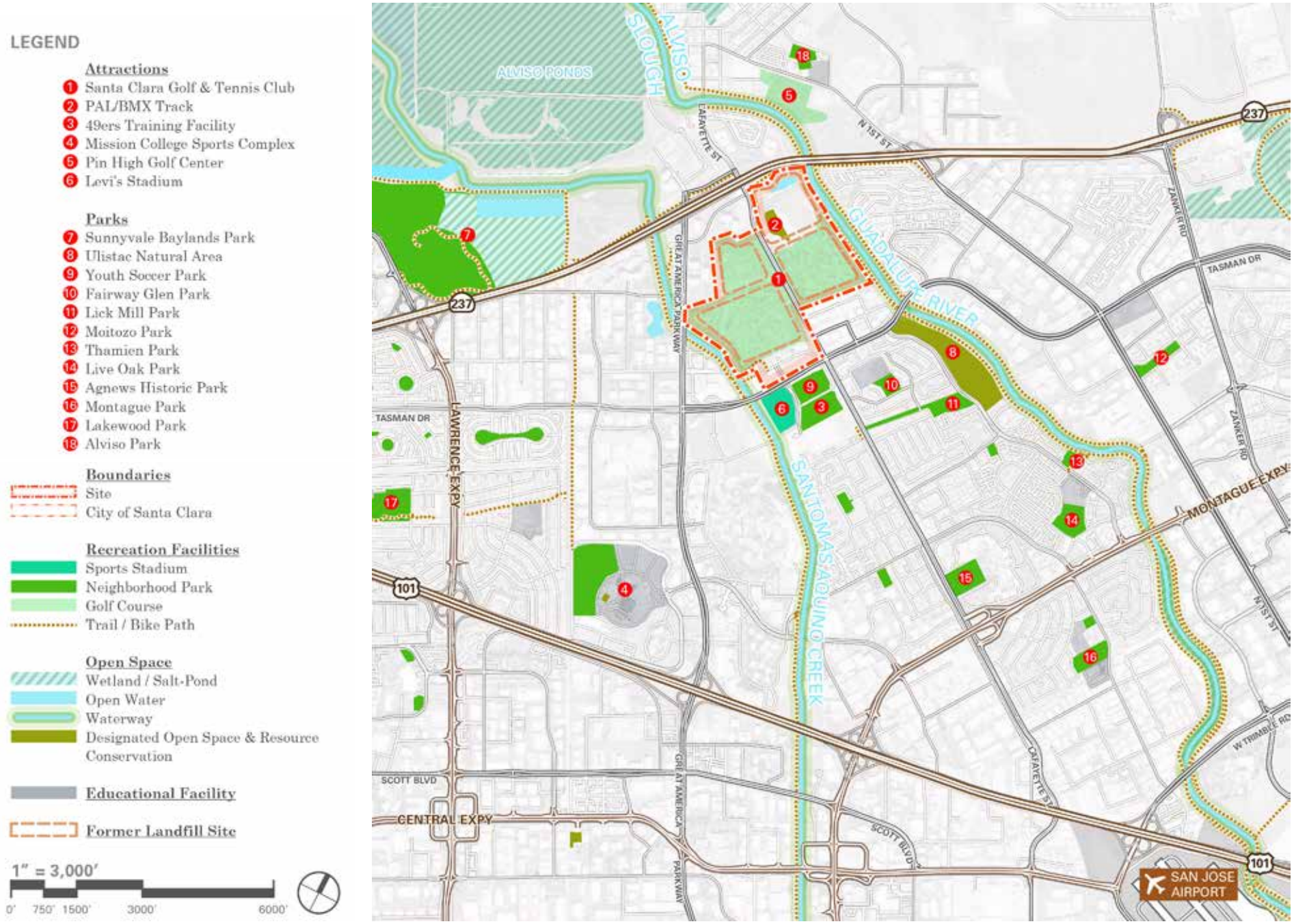
- *Landfill Condition:* Separate landfill cells were established on each of the four proposed development parcels north of Stars & Stripes Drive (Prcels 1 through 4), with landfill operations concluding in the 1990s. The topography indicates that soil embankments were constructed and that refuse was placed creating large mounds. On the basis of available subsurface information, refuse in the northern landfills (Parcels 1 and 3) ranges in thickness from 40 to 80 feet; while refuse in the southern landfills (Parcels 2 and 4) ranges from 20 to 40 feet thick. A clay cap overlies the refuse which is in turn covered by imported earth fill. Additional earth fill was used to create varied topography utilized by the golf course (with a significant stockpile of earth on Parcel 3). This condition will require grading that protects the integrity of the existing landfill cap, and levels the site to create the proposed building pads. Additionally, infiltration of stormwater runoff is not feasible where it overlays the landfill, requiring new systems for collection, conveyance and treatment of stormwater.

- *Adjacent Waterways:* Santa Clara is drained by Saratoga Creek, Calabazas Creek, San TomasAquino Creek, and the Guadalupe River, all of which flow into the Guadalupe Slough through a series of flood control channels that empty into the southern portion of San Francisco Bay. One of these, San Tomas Aquino Creek, establishes the western boundary of Parcel 4. The Guadalupe River marks the eastern boundary of Parcels 1 and 2, also separating Santa Clara from San Jose along its northern reaches. This river flows into the Alviso Slough (it was rerouted from the Guadalupe Slough in the 1870s to aid navigation) before emptying into the San Francisco Bay.

- *Flood Control:* The Santa Clara Valley Water District (SCVWD) is responsible for managing water flows and providing flood control throughout Santa Clara County. While channelization and other flood control measures have reduced the potential hazard, flooding can occur in localized areas due to overflow of the local creeks and rivers during periods of heavy rain. Characterized by landfill mounds, the project site is generally not subject to flood hazard. However, Lafayette Industrial Park located directly south of Parcel 2 is situated within a designated flood zone; Lafayette Street is also susceptible to flooding.

- *Nearby Wetlands:* Salt ponds and wetlands found north of SR-237 are part of the Don Edwards San Francisco Bay National Wildlife Refuge, administered by the U.S. Fish and Wildlife Service, and are included in the 15,100-acre South Bay Salt Pond Restoration Project that is returning former industrial salt ponds to tidal wetlands along the Bay. The first phase of the restoration project transformed significant acreage of the Alviso Ponds into managed wetlands and increased the flood flow capacity of the Alviso Slough.

EXHIBIT 1–7: AREA ENVIRONMENTAL FEATURES*



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1.4 PLAN SUMMARY

This Master Community Plan will serve as the zoning map and zoning regulations that apply in the Planned Development - Master Community (PD-MC) zone designation for the project site.

PURPOSE

This Plan provides a comprehensive program to govern the use of land and will provide for orderly development of CityPlace Santa Clara. As such, it incorporates a conceptual development framework, and other development regulations in the form of standards and guidelines; it also identifies and coordinates necessary infrastructure improvements, addresses public and private financing for infrastructure improvements and describes development phasing. These contents are intended to ensure: a) that development within the planning area will be consistent with the General Plan; and b) that development of CityPlace's private and public realms will be in accord with the Plan's vision and design intent.

LEGAL AUTHORITY

This Plan was prepared in accordance with Chapter 18.56 (Planned Development - Master Community Zoning Districts) of the Santa Clara Zoning Ordinance.. These provisions allow for the designation of a Planned Development - Master Community (PD-MC) zoning district on project sites measuring at least 25 contiguous acres, thereby accommodating large-scale integrated development where a mixture of residential with commercial, office, research and development and/or public uses will be proposed. CityPlace Santa Clara will comprise approximately 240 acres, thus qualifying for this zoning designation.

Rezoning to PD-MC must be accompanied by the adoption of a Master Community Plan that includes narrative and graphic descriptions of the allowed development and its various components, such as land use, circulation, and open space. The plan must also indicate the density / intensity of residential and nonresidential development, and include development standards and design guidelines. A preliminary public infrastructure plan and a program for financing on- and off-site infrastructure improvements are also required. *Table 1-1: Master Community Plan Required Content* lists the required elements of a Master Community Plan and identifies where those elements are included in this Plan.

APPLICABILITY

In accordance with the proceedures set forth in Appendix C. Submitted Development Area Plans must conform to the contents of this document.

TABLE 1–1: MASTER COMMUNITY PLAN REQUIRED CONTENT

REQUIRED CONTENT PER SANTA CLARA CITY ZONING CODE - SECTION 18.56.070	APPLICABLE DOCUMENT CHAPTER OR SECTION
The master community plan shall include the following information, subject to the satisfaction of the Director of Planning and Inspection:	
(a) A master community summary providing, in narrative form:	
1. A general description of the proposed development; including a legal description of the property in the district;	1.1 PROJECT SUMMARY 1.2 PROJECT LOCATION APPENDIX A: LEGAL SITE DESCRIPTION
2. Definitions of the land use designations (including density ranges and, in the case of residential designation, product types) shown on the master community graphics (as required by subsection (b) of this section);	3.2 LAND USE CONCEPT
3. A table setting forth the minimum and maximum total dwelling units, the minimum and maximum nonresidential square footage, and the minimum acreage for open space, public uses and any other uses for the district at buildout;	3.2 LAND USE CONCEPT
4. A description of:	
A. Residential neighborhoods;	3.2 LAND USE CONCEPT
B. Mixed-use neighborhoods;	3.2 LAND USE CONCEPT
C. Commercial, office and/or research and development uses;	3.2 LAND USE CONCEPT
D. Open space and parks;	3.4 OPEN SPACE CONCEPT
E. "Public Buildings"; and	3.3 MOBILITY CONCEPT
F. Any other proposed uses; and	
5. Financing, if any, for on- and off-site infrastructure improvements.	2.4 DEVELOPMENT FINANCING / IMPLEMENTATION RESPONSIBILITIES
(b) Master community graphics showing generally:	
1. Land use designations for each distinct use in the master community district (each such designated area is hereinafter referred to as a "land use area") and in adjacent areas outside the district;	3.2 LAND USE CONCEPT (EXHIBIT 3-2)
2. A public circulation system (including street classifications and cross sections, pedestrian paths and bikeways);	3.3 MOBILITY CONCEPT (EXHIBITS 3-9, 3-10, 3-11, 3-18, 3-19 & 3-20)
3. "Public Buildings";	3.3 MOBILITY CONCEPT (EXHIBIT 3-16)

TABLE 1-1: MASTER COMMUNITY PLAN REQUIRED CONTENT CONT.

REQUIRED CONTENT PER SANTA CLARA CITY ZONING CODE - SECTION 18.56.070	APPLICABLE DOCUMENT CHAPTER OR SECTION
4. Open space and parks; and	3.4 OPEN SPACE PLAN (EXHIBIT 3-21)
5. A preliminary public infrastructure plan (including drainage, sewerage, water, power and telecommunication utilities).	CHAPTER 8: INFRASTRUCTURE OVERVIEW
(c) A map showing the existing topography of the district at one-foot contour intervals, if required by the Zoning Administrator of the City of Santa Clara.	1.2 PROJECT LOCATION (EXHIBIT 1-4) *
(d) Design guidelines and development standards for:	
1. Site Planning.	CHAPTER 4: PARCEL DEVELOPMENT PLANS, STANDARDS & REQUIREMENTS
A. Site coverage;	TABLES 4.1 - 4.16
B. Setbacks;	EXHIBITS 4.2 - 4.33
C. Building heights;	EXHIBITS 4.2 - 4.33
D. Private outdoor areas, including open space and yards; and	6.6 PRIVATE OUTDOOR SPACE
E. Parking;	4.2 - 4.17
2. Architectural Character.	
A. Style;	CHAPTER 5: DESIGN GUIDELINES
B. Scale; and	CHAPTER 5: DESIGN GUIDELINES
C. Building materials;	CHAPTER 5: DESIGN GUIDELINES
3. Landscaping;	CHAPTER 6: LANDSCAPE MASTER PLAN
4. Signage; and	CHAPTER 7: SIGNAGE & LIGHTING GUIDELINES
5. Lighting. (Ord. 1746 § 2, 2-15-00).	CHAPTER 7: SIGNAGE & LIGHTING GUIDELINES

** More detailed (1 foot contour) topographic information can be found in the Infrastructure Master Plan (Fig. 2 through 14).*

1.5 PLAN ORGANIZATION

This Plan is structured to assist all interested parties, including prospective developers and local decision-makers, in accessing the information they will need to implement the desired vision and ensure a high level of development and design quality for CityPlace. The document organization is as follows:

SECTION 1. INTRODUCTION:
This section briefly summarizes the project, its setting, and outlines the purpose of the Plan and its contents. This section offers existing topographic information.

SECTION 2. IMPLEMENTATION:
This section describes the programs and procedures that will be utilized to implement the Plan; it outlines the development approval process and the roles of the City and Master Developer in development of the project.

SECTION 3. MASTER PLAN OVERVIEW:
This section sets forth the overall vision, policies, and physical framework for development of the project site, covering land use, mobility, open space, and urban design.

SECTION 4. PARCEL DEVELOPMENT PLANS & REGULATIONS:
This section describes a program framework and the desired character of development for delineated parcels, as well as the associated site development regulations.

SECTION 5. DESIGN GUIDELINES:
The section presents general design guidelines with the intent of ensuring high quality development, addressing site planning of building and open space, architectural design and parking requirements for key development typologies.

SECTION 6. LANDSCAPE MASTER PLAN:
This section presents plans, programs, and guidelines that establish the overall aesthetic of the site's landscape, especially focusing on the design of streetscapes and of public and private open space and plazas.

SECTION 7. SIGNAGE & LIGHTING MASTER PLAN:
This section presents plans, programs and guidelines that establish the overall aesthetic for on-site signage and lighting, in particular presenting guidelines for tenant signage and wayfinding signage.

SECTION 8. INFRASTRUCTURE OVERVIEW:
This section provides plans, programs, and guidelines for the improvement of key components of the infrastructure serving the project site, including vehicular circulation, drainage and stormwater control, water, sewers, gas, electric, and telecommunications.

SECTION 9. SUSTAINABILITY MASTER PLAN:
This section details plans, programs, and guidelines that will meet a locally accepted level of sustainable development practice, addressing such issues as green infrastructure and buildings, and sustainable materials and resources.

APPENDICES:
The appendices include a full legal description of the project site, a list of definitions of the land uses referenced in Section 3.2 and procedures for the review and approval of the Development Area Plans.





CHAPTER 2

IMPLEMENTATION



2.1 GENERAL PLAN CONSISTENCY & CEQA COMPLIANCE

This Master Community Plan is consistent with the City General Plan, including the project site's designation as Urban Center Entertainment District.

GENERAL PLAN CONSISTENCY

The project supports the General Plan's Major Strategies:

- *Policy Support:* The General Plan presents seven Major Strategies that are the "foundation for civic priorities and a framework for decisions that shape the future growth and development of the City of Santa Clara." CityPlace and its development objectives are consistent with and support each of the Major Strategies.

  Major Strategy 1: Enhance the City's High Quality of Life. CityPlace will expand employment opportunities while offering a broad range of amenities, integrating significant office development with an array of retail, dining, and entertainment options. Moreover, its mixed-use, transit-oriented development pattern will support a pedestrian friendly live, work and play environment complemented by active open spaces. In summary, the project will contribute both economically and socially to the community.

  Major Strategy 2: Preserve and Cultivate Neighborhoods. CityPlace will establish a new mixed-use urban neighborhood that will extend and diversify Santa Clara's housing stock while fostering a sense of community. In particular, the proposed construction of up to 1,680 residential dwelling units at urban densities will create a distinctive residential living experience.

  Major Strategy 3: Promote Sustainability. CityPlace will be developed primarily upon a former landfill, achieving more efficient use of the land; and will intensify land use in the form of a mixed-use, city center development in close proximity to local and regional destinations and major transit facilities and connections. Additionally, the project will integrate on- and off-site infrastructure improvements necessary to support the development, and will incorporate measures to reduce water and energy consumption and protect water quality.

  Major Strategy 4: Enhance City Identity. CityPlace will rely on a robust mixture of uses, a high-quality public realm, and compelling architectural design to establish a vibrant and attractive destination for residents, workers and visitors alike. Emphasis will be placed on delivering inviting streetscapes and hospitable outdoor spaces suitable for public use and community gatherings. Given its proximity to Levi's Stadium, Great America Amusement Park and the Santa Clara Convention Center, it will become not only a local destination but a regional one as well.

  Major Strategy 5: Support Focus Areas and Community Vitality. CityPlace will capitalize on the presence of important local and regional attractions, including the nearby stadium, convention center, and amusement park to create a well-defined center of activity for Santa Clara and the Silicon Valley. As an important focus of employment and commercial endeavors, the development is expected to attract considerable investment to the community. To ensure long-term viability, the plan will provide a flexible accommodation of growth and change over time.

  Major Strategy 6: Maintain the City's Fiscal Health and Quality Services. CityPlace will feature a broad mix of uses with the capacity to strengthen and diversify Santa Clara's tax base and maintain the community's fiscal health. Between 3.56 and 6.68 million square feet of office development is projected to attract major employers and expand the employment base. In addition, between 1.5 and 2 million square feet of commercial development, consisting of retail, dining, entertainment and hotel uses, is expected to significantly increase taxable sales. The enhanced fiscal stability created by the Project will allow the City sufficient funds to maintain quality municipal services.

  Major Strategy 7: Maximize Health and Safety Benefits. Creating a successful and attractive live, work, play environment while encouraging walking and recreation over emphasis on automobiles, with a park once strategy, will offer health and safety benefits to CityPlace (i.e. walkable streets, bike paths, etc). A priority for the development will be to modernize landfill protection systems to ensure the continued protection of human health and the environment.

- *Land Use Classification:* In order to accommodate high intensity urban-oriented development, including the proposed CityPlace development, a new General Plan land use classification category of Mixed-Use Designations, has been added as a classification of "Urban Center / Entertainment District". The text of this classification is as follows:

  This classification is intended for local- and regional-scale destinations that feature a mixture of some or all of the following: pedestrian-oriented commercial retail and services; urban residential, hotel and employment-generating uses within a defined planning area. It accommodates an intensity of development intended to create a lively place of focus for community and commerce. Master planned projects are encouraged, which may proceed through multiple phases and may entail several individual parcels or development areas. The intensity of

development within individual parcels or sub-areas may vary, thereby allowing a more dense urban form in key locations (for example, concentrated employment, retail services, and/or housing by nearby transit facilities). The planning area may be designated as one of the following:

- Low Intensity Urban Center that allows an overall project that shall not exceed a gross FAR of 1.0 for all combined office, commercial, retail, and hotel uses; or
- High Intensity Urban Center that allows an overall project that shall not exceed a gross FAR of 2.0 for all combined office, commercial, retail, and hotel uses.

This classification accommodates a wide variety and mix of commercial activities serving residents, businesses and visitors from the local community and surrounding region. Some combination of the following uses are allowed in vertical or horizontal mixed-use arrangements: 1) retail sales and services; 2) restaurants and other food and beverage uses; 3) entertainment venues such as cinemas, performance venues, other interactive experiences, and active open space and plaza amenities; 4) hotels; 5) corporate and general office; 6) commercial services; and 7) compatible uses of a similar commercial character (to the extent permitted by the applicable zoning designation). Auto-oriented uses such as drive-through restaurants and auto service facilities are not permitted. This is not intended to exclude product showcase venues, including auto showrooms, which shall require a use permit.

Medium to very high-density residential uses are also suitable to this classification; however the building heights could be restricted by FAA or other applicable height restrictions/regulations. The integration of urban scale housing is intended to contribute to a balanced community, reduce reliance on the automobile, and promote the desired pedestrian oriented character. Horizontal and vertical mixing of compatible uses is permissible, bringing residents and workers in close proximity to basic services and desirable conveniences. Mixed-use developments that afford active lower floors(s) retail or commercial space along street frontages with residential units arranged on upper floors are especially fitting as part of an urban core.

Development should support alternative modes of travel, incorporating accommodations for transit users, bicyclists, and pedestrians, as well as utilizing and incentivizing transportation demand management. Parking should be provided in a manner that does not disrupt the desired pedestrian orientation, and instead is arranged and scaled to help activate street spaces. Shared parking among compatible uses is encouraged. Both structured and surface parking are permissible, as appropriate to location and uses.

Open spaces and landscape features that enhance the public realm and meet the active and passive recreational needs of multiple users shall be incorporated throughout a project. In particular, open spaces should encompass some or all of the following: at-grade plazas, greens, and similar shared outdoor spaces suitable for formal and informal gatherings, as well as pedestrian-friendly streetscapes that feature wide sidewalks, canopy trees, street furniture, and other amenities. Upper / podium level courtyards and terraces, as well as public and private rooftop gardens, are also encouraged."

With a maximum development area of 9,164,400 gross square feet (GSF), CityPlace's FAR falls below 1.0; therefore, the project is categorized as a Low Intensity Urban Center. City Place is consistent with this new General Plan designation because it is a regional-scale destination that features a mixture of pedestrian-oriented commercial retail and services; urban residential, hotel and employment-generating uses, and is intended to create a lively place of focus for community and commerce.

In addition to the General Plan Amendment, the project approvals include a zoning change to Planned Development – Master Community (PD-MC) from Public, Quasi-Public, Public Park or Recreation (Parcels 1 to 4, the retention basin, a portion of Parcel 5) and Commercial Park (CP) (the remainder of Parcel 5).

The PD-MC district is intended to create regulations for large-scale integrated development that is compatible with the existing community and that: 1) Integrates uses that are not permitted to be combined in other zoning districts, and/or utilizes planning and design concepts that would be restricted in other zoning districts; 2) subdivides land or air space in a manner that results in units not having the required frontage on a dedicated public street; and 3) will be developed in phases.

FULL LIST OF APPROVALS

City Discreationary Approvals

- General Plan Amendment
- Rezoning from B and CP zoning districts to Planned Development - Master Community (PD-MC)
- Master Community Plan
- Tentative Subdivision Map and/or Vesting Tentative Subdivision Map
- Development Agreement
- Disposition and Development Agreement and Ground Leases
- Infrastructure Master Plan
- Development Area Plans
- Conditional use permits for specified uses as set forth in Section 3.2

Landfill Related Approvals

Responsible Agencies:

- Bay Area Air Quality Management District (BAAQMD)
- San Francisco Bay Regional Water Quality Control Board (Water Board)
- Santa Clara County Department of Environmental Health (Local Enforcement Agency)
- Cal Recycle
- California Department of Public Health

Approvals Required:

- Approval of the Post-Closure Land Use Plan, amended Closure Plan, and amended Post Closure Maintenance Plan
- Revisions to Corrective Action Plans
- Revised Waste Discharge Requirements
- Post Closure Land Use Plan

Additional Approvals that may be Required

- California Department of Transportation (Caltrans)- review of traffic circulation effects
- Water Board - approval of NPDES permit and review of potential impacts to wetlands
- California Department of Fish and Wildlife - streambead alteration agreement and review of potential impacts to wetlands
- United States Army Corps of Engineers - review of potential impacts to wetlands

2.2 MASTER COMMUNITY PLAN APPROVALS & ADMINISTRATION

The proposed CityPlace development requires City Council approval of a Master Community Plan to accompany a zoning change to Planned Development – Master Community (PD-MC). Site development will progress based on approval of separate Development Area Plans tied to project phasing, affording the City an opportunity to review detailed site and architectural plans for compliance with the provisions of this Master Community Plan.

APPROVALS & ADMINISTRATION

Site development will require application and approval of one or more Development Area Plans and later architectural review to the extent not addressed in the Development Area Plan application. One or more Development Area Plan applications will be approved for each of the proposed project phases and shall conform to the Master Community Plan. The submittal and approval procedures for Development Area Plan applications and architectural review shall be governed by the "Development Area Plans – Submittal and Approval Procedures" in Appendix C, which supersedes Sections 18.56.080 through 18.56.110 of the Zoning Ordinance in their entirety with respect to the new PD-MC zoning district.

- Site development will require application and approval of one or more Development Area Plans and later architectural review to the extent not addressed in the Development Area Plan approval. One or more Development Area Plans will be approved for each of the proposed project phases and shall conform to the Master Community Plan. The submittal and approval procedures for Development Area Plan applications and architectural review shall be governed by the "Development Area Plans – Submittal and Approval Procedures" in Appendix C, which supersedes Sections 18.56.080 through 18.56.110 of the Zoning Ordinance in their entirety with respect to the new PD-MC zoning district.

2.3 DEVELOPMENT PHASING

CityPlace will be developed in multiple phases, timing the delivery of commercial retail, office, hotel and residential space to projected market demand and other factors. Construction will begin with the City Center, creating an essential focal point for the community while providing the critical mass needed to generate both activity and revenue. Office campus development will follow with estimated project completion by 2031.

PHASING CONCEPT

One of the advantages of PD-MC zoning is that it readily accommodates the project phasing associated with a large-scale development project. In this case, the proposed development is expected to achieve build-out of all five development parcels through multiple phases, with project completion estimated by 2031. This conceptual phasing takes into account such factors as projected market absorption, infrastructure costs, revenue generation, community benefits, and development flexibility, and incorporates the following three concepts:

- *Create Mixed-Use Destination:* Development will commence with Parcels 4 and 5, delivering approximately 5 million square feet of commercial retail, office, hotel and residential space to create a vital city center by approximately 2023. The intent will be to leverage both parcels' proximity to local and regional attractions, especially the recently-constructed Levi's Stadium, to create in the near term a mixed-use destination for the community. Synergies with stadium events will add value, creating an opportunity for full day experiences, which could result in additional revenue and a broader customer base. Anticipated benefits include housing and employment, access to goods and services, entertainment choices, the ability to park once for full complement of needs, transit-oriented design resulting in trip reductions, raising the profile of the community, generating project revenue, and expanding the City's tax base, thereby stimulating further high quality development.

- *Expand Employment Base:* Development is expected to next progress to the office campuses proposed for Parcels 1 and 3, potentially delivering nearly 2 million square feet of additional office space by approximately 2027. The intent is to provide a setting that will attract major employers, adding 25,000 jobs; in particular, offering the amenities that appeal to high-tech businesses and knowledge based enterprises. These amenities include appealing campus environments, proximity to an active city center, and strong transit connections to reduce vehicle trips.

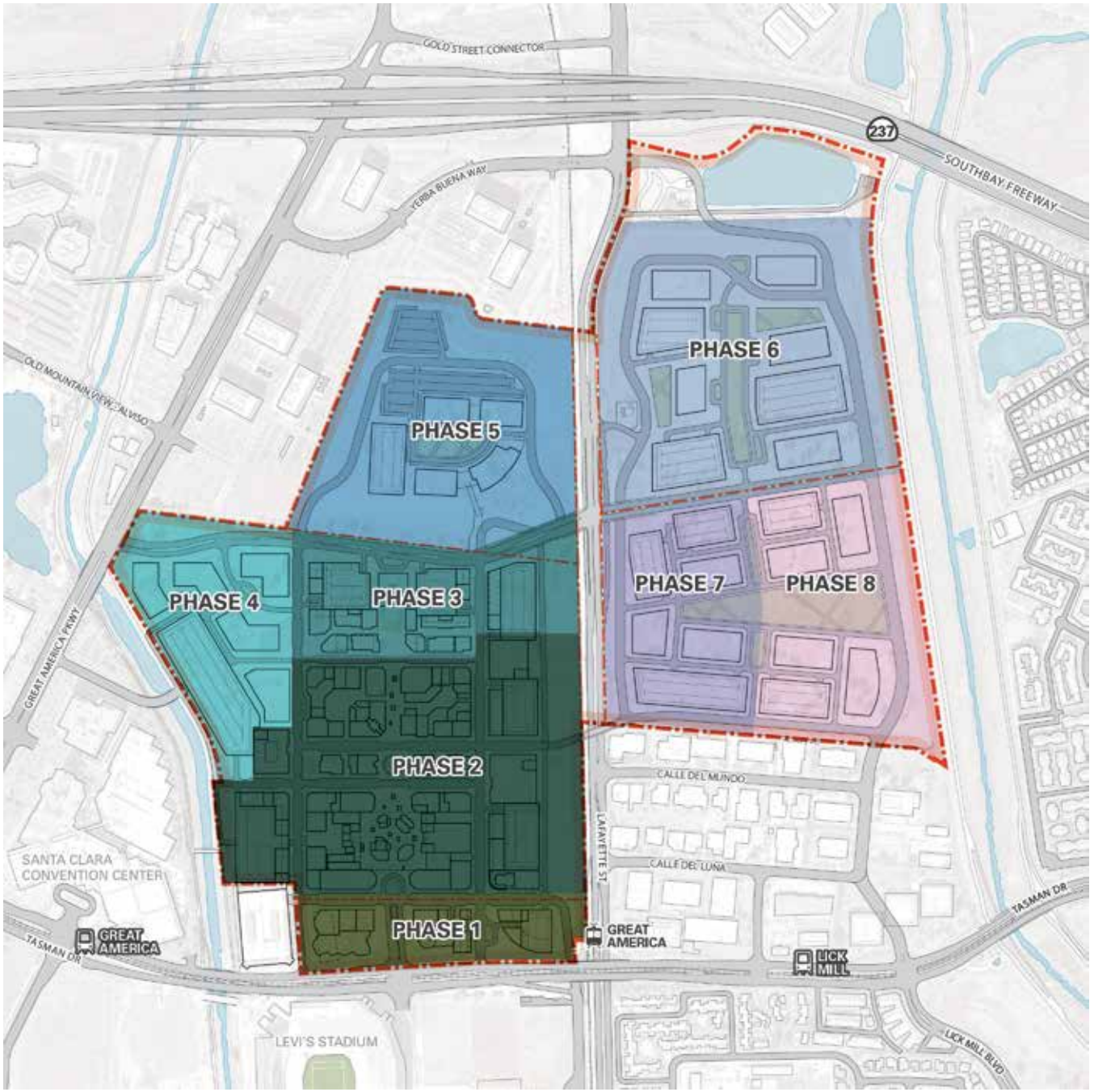
- *Address Future Market Conditions:* Market absorption capacity will inform project phasing decisions, and development on parcels beyond the City Center will be governed by market demand forces for the primary office uses. Market needs may require the flexibility to substitute uses. Parcel 2 will reserve the most flexibility to pursue alternative land use schemes based on future market conditions. The eventual land use mix will depend in large measure on the character of local and regional growth, including potential redevelopment of the adjacent Tasman East Industrial Park as a residential neighborhood as contemplated under the General Plan.

CONCEPTUAL PHASING STRATEGY

It is projected that the project will be constructed in eight phases for Scheme A and Scheme B, and seven phases for the Scheme A Variant; however, this phasing strategy is conceptual, and (with in the limitations

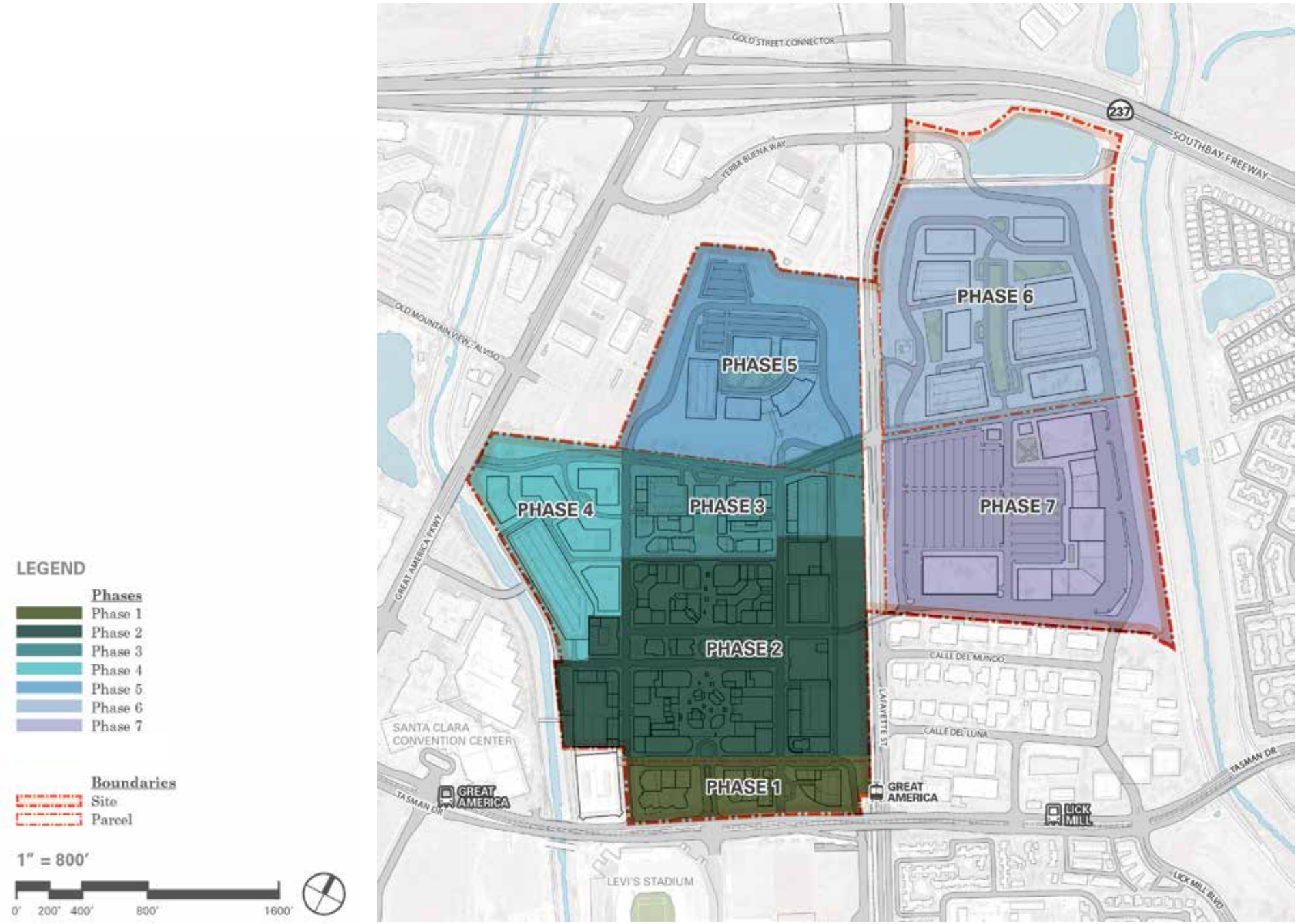
EXHIBIT 2–1: SCHEME A - DEVELOPMENT PHASING CONCEPT*

Implementation of all necessary infrastructure improvements will be accomplished concurrent with the project phase where the demands are created.



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 2–2: SCHEME A VARIANT- DEVELOPMENT PHASING CONCEPT*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

set forth in the Development and Disposition Agreement) phases may be consolidated, implemented out of numerical sequence, or otherwise modified to address changing conditions. A brief description of each proposed phase of development follows, with the phasing conceptually portrayed in *Exhibit 2-1: Scheme A - Development Phasing Concept* and *Exhibit 2-2: Scheme A Variant - Development Phasing Concept*. Scheme B phasing will the same as Scheme A, with office replacing residential on Parcel 4 and Retail replacing a portion of ground floor office space on parcel 2.

- *Phase 1:* The initial phase is expected to develop approximately 825,000 square feet of commercial retail, residential, hotel and office space on an estimated 8 acres, establishing the gateway into the City Center Mixed-Use zone on Parcel 5. The estimated time frame for development is 2016-2019.

- *Phase 2:* This phase is anticipated to develop approximately 2.4 million square feet of commercial retail, entertainment, residential, hotel and office space on an estimated 52 acres, establishing the essential core of the City Center Mixed-Use zone on Parcel 4. The estimated time frame for development is 2017-2020.

- *Phase 3:* This phase is anticipated to provide additional mixed-use to the zone, and will develop approximately 18 additional acres on Parcel 4 to complete the City Center Mixed-Use zone. Approximately 750,000 square feet of retail, office, and residential space is contemplated. The estimated time frame for development is 2018-2021.

- *Phase 4:* This phase is anticipated to generally correspond to the City Center Northwest Office Zone, completing development of Parcel 4. Nearly 1.1 million square feet of office space on 16 acres is envisioned. The estimated time frame for development is 2020-2023.

- *Phase 5:* This phase is anticipated to comprise the office campus on Parcel 3, thereby finishing development on the west side of Lafayette Street. Approximately 720,000 square feet of office space will be proposed for 34.9 acres. Development is expected to proceed in 2022-2025.

- *Phase 6:* This phase is anticipated to initiate office campus development on the east side of Lafayette Street. Development of approximately 1.2 million square feet of office space is anticipated to be built on 36.8 acres on Parcel 1 and is expected to proceed in 2024-2027. New access points to the parcels on the east side of Lafayette Street will be constructed with or not later than commencement of this Phase.

- *Phase 7:* Under Scheme A, this phase is anticipated to involve 26 acres of development of approximately 1 million square feet of office space on the west half of Parcel 2. Under Scheme B, this phase will develop just under 1 million square feet of office space and approximately 100,000 square feet of commercial retail on the west half of Parcel 2. The estimated time frame for development is 2026-2029. Under the Scheme A Variant, construction of the 520,000 square foot retail center is expected to proceed as a single phase.

- *Phase 8:* Under Scheme A, this phase is planned to involve 35 acres of development of approximately 1 million square feet of office space on the east half of Parcel 2 to complete the office campus. Under Scheme B, this phase is expected to develop just under 1 million square feet of office space and approximately 100,000 square feet of commercial retail on the east half of Parcel 2 to complete the office campus. The estimated time frame for development is 2028-2031. The Scheme A Variant does not utilize a Phase 8.

- *Development Agreement Requirements:* Development Agreement must describe the proposed phasing of both on-site construction and any public improvements required through that agreement, and it must identify specified times for the commencement and completion of each phase of the project.

- *Development Area Plan Requirements:* It is anticipated that each development phase will be approved through a separate Development Area Plan. Construction in accordance with an approved Development Area Plan must begin within two years of approval by the City Council; the Planning Commission may grant an extension of up to two years, provided the developer can demonstrate "good cause."

- *Infrastructure Sequencing:* The provision of on- and off-site infrastructure will coincide with the phasing of site development, thereby ensuring that infrastructure timing and sequencing satisfy the demands of each development phase. Phasing of infrastructure improvements is mentioned in Chapter 8 (Infrastructure Overview) and will be confirmed by Infrastructure Plans approved as part of the DAP submissions.

2.4 DEVELOPMENT FINANCING / IMPLEMENTATION RESPONSIBILITIES

The method of development financing and the assignment of responsibilities for implementing the CityPlace project, including both on- and off-site improvements, will be set forth in financing plans submitted by the Master Developer and approved by the City of Santa Clara.

FINANCING

Due to the size of development and mitigation measures required by the project EIR, CityPlace Santa Clara will implement construction of new public and private infrastructure (both on the 240 acre project site and beyond). Improvements include utility upgrades in the vicinity of the project and street/intersection modifications in numerous locations throughout the City of Santa Clara and also neighboring cities. The developer will be responsible for costs of relocation or modification of any public facility necessary to accomodate development of the CityPlace project. The Development and Disposition Agreement specifies that, prior to taking possession of land within the project site and before beginning construction of any phase, the Developer will submit initial and detailed financing plans, respectively indicating the sources of funding for all project infrastructure and improvements, as well as maintenance of public and private improvements so as to mimize use of City or general funds or proceeds from the project.

Some of these improvements will be implemented through the payment of specific project development fees These funds derived from project development fees will assist the various governmental agencies in carrying out broader infrastructure and facility improvements. To assist with the implementation of the public improvements, the Developer may use public financing vehicles, including but not limited to Community Financing Districts (CFDs), Enhanced Infrastructure Financing Districts (EIFDs), State and Federal grants, and other public facility revenue bonds. Such financing vehicles would require cooperation between the Developer and the City.



EXHIBIT 2–3: CITYPLACE - VIEW LOOKING SOUTH





CHAPTER 3

MASTER PLAN OVERVIEW



3.1 MASTER PLAN SUMMARY

Vision: CityPlace Santa Clara will sit at the heart of Silicon Valley, a region that is globally recognized for its leadership in community resilience, integrated technology and quality of life. In keeping with this high standard, the project's walkable City Center and adjacent office campuses will create an exceptional live, work, play environment that delivers on the finest tenets of placemaking and community building. Offering an unparalleled opportunity for cutting-edge businesses, and featuring uses such as one or more hotels and a collection of both unique and popular retail brands and entertainment venues, this development will become a premier destination in the Silicon Valley.

DEVELOPMENT CHARACTER

Consistent with the project's vision, the characteristics that will formulate CityPlace "raise the bar" for development and promise a unique social and economic asset for the community and the region.

- *Master Planned Development:* CityPlace will deliver an integrated, phased development, comprised of complementary uses and activities that expand the employment, shopping and entertainment, and residential choices available to the community and the region. The project will provide Santa Clara with jobs and housing, and access to goods, services and entertainment choices. Flexibility in the plan will accommodate changing conditions and will ensure long-term viability.

- *Transit Orientation:* CityPlace will capitalize on public investment in transit by intensifying land use development on a former landfill that is favorably located in proximity to key transit facilities, including regional commuter and light rail stops. The location, density and mix of employment, commercial and residential activities is intended to support transit usage with a commensurate reduction in reliance on the automobile, augmented by a bicycle and pedestrian network. City Place will also include Traffic Demand Management (TDM) Plan targets for reducing office and residential generated traffic, and best management TDM practices for retail uses.

- *Mixed-Use Destination:* CityPlace will provide a prime destination and center of community and commerce for Santa Clara, highlighted by a distinctive, high intensity mixed-use core. A full complement of uses and amenities is planned, encompassing urban residential, creative office, lifestyle hotel, large format retail, "main street" shops, multiple food and beverage tenants, and various entertainment venues, all brought together in an active street environment. By leveraging popular nearby attractions, especially Levi's Stadium and Great America Amusement Park, the synergy of activity in this "City Center" is anticipated to draw both a local and regional market.

- *Employment Generating Uses:* CityPlace will establish a premier employment center for the Silicon Valley, emphasizing corporate offices within an attractive campus setting that features adjacency to the vibrant, mixed-use core. The intent is to expand, diversify and intensify the employment base of the Santa Clara community by attracting major employers, including those businesses (such as high-tech, creative and knowledge-based endeavors) that seek a superior level of amenity, and service and hospitality sector employment.

- *Engaging Public Realm:* CityPlace will exemplify outstanding placemaking. As a leading destination for the region, the mixed-use core will receive special attention; a robust intermingling of street oriented uses, appealing storefronts, expanded sidewalks, street furniture, public art, wayfinding signage, kiosks, pedestrian lighting, and inviting public plazas are expected to attract plentiful activity and generate intense pedestrian traffic. Nonetheless, the entire project will emphasize a high quality public realm, employing compelling architecture, enhanced streetscapes, shared outdoor space, and distinctive wayfinding signage to promote identity, vitality, connectivity and livability.

- *Sustainable Infrastructure:* CityPlace will promote leadership in sustainable development. While the proposed land use mix, intensity, and transit orientation will support alternative modes of transportation with the attendant benefits of sustainability, the project will also be designed to achieve resource efficiency and will incorporate an extensive green infrastructure. Advanced landfill protection systems, green roofs, recycled water, and water conserving landscapes are among the array of measures that are expected to be employed to reduce water and energy consumption, and protect water quality. Green building design is also to be employed to meet standards for the use of sustainable materials and renewable resources.

DEVELOPMENT OBJECTIVES

The following are key objectives for the development of CityPlace. They are intended to balance local and regional needs, minimize impacts of development on the environment, City services and finances, while accomplishing the business plan of the Master Developer and the City for a successful, engaging, live, work, play experience:

MORE PRODUCTIVE USE



Objective No. 1 - Convert property formerly utilized as a landfill and designated as open space and regional commercial use to more productive uses that will meet the growing demand for commercial, retail, and office development and housing while providing active and passive open space for use by occupants and visitors.

VIBRANT MIXED-USE /URBAN CORE



Objective No. 2 - Establish a vibrant mixed-use, urban core, creating a pedestrian friendly "live, work, and play" environment that will function as a well-defined center for the Santa Clara community.

TRANSIT-ORIENTED INFILL DEVELOPMENT



Objective No. 3 - Promote transit-oriented infill development by placing job-creating commercial uses, residential units, shopping, entertainment, and dining options near existing transit and multi-modal transportation facilities, with shared parking and "park-once" strategies for efficient land use.

FLEXIBILITY



Objective No. 7 - Allow flexibility to respond to changing market demands, ensuring that the project will remain economically feasible throughout a multi-year development process within the construct of the PD-MC zoning and Development Area Plans.

COMMUNITY BENEFITS



Objective No. 8 - Provide community benefits, highlighted by compelling outdoor spaces suitable for public use and community gatherings, as well as other amenities such as varied recreation facilities.

MODERNIZE THE LANDFILL PROTECTION SYSTEMS



Objective No. 9 - Modernize the landfill protection systems operated by the City of Santa Clara to ensure continued protection of human health and the environment.

SHOPPING, ENTERTAINMENT & DINING



Objective No. 4 - Expand shopping, entertainment and dining opportunities for local and area-wide residents and workers.

CORPORATE AND LARGE TECHNOLOGY EMPLOYERS



Objective No. 5 - Provide additional opportunity for corporate and major employers to locate in Santa Clara by creating attractive office complexes, located near new residences, retail options, transit and other desirable amenities.

ADDITIONAL VISITOR SERVICES



Objective No. 6 - Provide additional visitor serving facilities such as hotels, restaurants and shops for convenient use by patrons of Levi's Stadium, as well as the convention center and theme park. Provide opportunities for supplemental parking for stadium events (including parking on football game days), while making adequate provision to maintain the vitality of the retail uses within the project. Offer enhanced hotel availability to an underserved travel market.

JOB CREATION



Objective No. 10 - Facilitate creation of both permanent and construction related jobs.

NEW TAX BASE



Objective No. 11 - Create a significant new tax base, thereby increasing revenues to the City.

ENVIRONMENTAL STEWARDSHIP



Objective No. 12 - Minimize, mitigate and monitor environmental impacts, promote energy conservation, and require LEED/Build it Green.



Enhanced pedestrian streetscape



Green roof



Recycled water irrigation systems

DEVELOPMENT FRAMEWORK

The physical framework for development of the site in accordance with the more intensive Scheme A is depicted in Exhibit 3-1: Illustrative Site Concept, supplemented by a series of plan diagrams that follow throughout this chapter, addressing: 1) land use; 2) mobility; 3) open space: and 4) urban design. Alternative plan layouts associated with Scheme A Variant are presented in Chapter 4 (Parcel Development Plans, Standards & Guidelines).

The illustrative and plan diagrams are consistent with the level of development analyzed in the EIR based on project goals and polices; however, they are conceptual and serve an illustrative purpose. Nonetheless, future development of the site shall satisfy all applicable development regulations as set forth in Chapter 4 (Parcel Development Plans, Standards & Guidelines) of this document and the DAP and undergo the review and approval process set forth in the "Development Area Plans – Submittal and Approval Procedures" in Appendix C.

DEVELOPMENT TYPOLOGIES

This chapter also identifies a number of development typologies that are appropriate to the character of CityPlace. These typologies further elucidate desired qualities and describe essential components of the development framework to encompass: 1) land use designations; 2) street typologies; 3) open space typologies; and 4) building typologies.

EXHIBIT 3–1: ILLUSTRATIVE SITE CONCEPT*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

3.2 LAND USE CONCEPT

The land use concept reinforces CityPlace's essential vision of a mixed-use, transit-oriented development, offering a vibrant live, work, play environment. Accordingly, a dynamic "City Center" featuring a broad array of uses and activities will be complemented by adjoining office campuses suitable for corporate and high-tech occupants.

CONCEPT SUMMARY

Each of the five development parcels is assigned a land use function suitable to its surrounding context and absence or presence of underlying landfill condition, while achieving a complementary array of uses and activities that support the plan's vision. Located closest to transit and the stadium, the City Center will incorporate mixed-use development within a pedestrian-oriented setting. Adjacent to this core, attractive office campus environments will accommodate major employers, further activated with support commercial activities such as retail and hospitality uses.

- *Urban Mixed-Use:* The expansive planning area will support a broad mixture of complementary land uses, suitable to a burgeoning urban center and employment hub situated within an evolving suburban community. Thus, a range of commercial activities and interests is encouraged, especially general and corporate office, retail and entertainment, and hospitality uses in compatible formats that will serve the needs of residents, business and visitors alike. The addition of strategically located medium-to-high-density housing and open space will complete the live, work, play environment. Collectively, these land use functions and their proposed intensities will achieve a critical mass of activity sufficient to establish a local and regional destination. Consistent with this urban mixed-use character, uses that are incompatible with a pedestrian-oriented environment will be discouraged.

- *Complementary Development Parcels:* Five separate development parcels have been delineated, in part as a result of the mounding and embankments created by prior landfill operations, and existing roadway network and heavy rail corridor. The suitability of various land uses for each parcel will be based on such factors as transit proximity, land use adjacencies, site accessibility, and market demand and phasing. The high mounding with steep soil embankments reduces the developable site area and ease of accessibility of Parcels 1 and 3, which therefore will best accommodate office campus development. On the other hand, Parcel 4 favors development as the intended mixed-use core; it features the shallowest embankments, the largest developable site area, as well as the proximity to transit and popular regional attractions, most notably the stadium, convention center, and amusement park. Parcel 2 may be developed in accordance with two variant scenarios, as office campus or retail center.

- *Phased Build-Out:* Construction is anticipated to proceed through a series of phases, it will commence with Parcels 4 and 5 as the mixed-use City Center, followed by the office campuses. Total maximum building area (excluding parking facilities) for all parcels under Scheme A and Scheme B is 9,164,400 GSF; total maximum building area (excluding parking facilities) for all parcels under Scheme A Variant is 7,523,400 GSF. The base entitlement assigned to each parcel is described below, while the phasing strategy is elaborated upon in Chapter 2 (Implementation). Some phases are expected to involve development of the entirety of a parcel (e.g., Phase 1 is expected to include all of, and only, Parcel 5), while others are expected to involve development of a portion of a parcel (e.g., the portions of City Center in Parcel 4 are expected to be developed in at least two phases.) Project phases four through eight, may be developed in any order, subject to the obligation to develop the City Center within the time frames established by the DDA.

TABLE 3–1: LAND USE PLAN CONSISTENCY W/ KEY GENERAL PLAN SUSTAINABILITY POLICIES

5.3.1-P5:
Implement a range of development densities and intensities within General Plan land use classification requirements to provide diversity, use land efficiently and meet population and employment growth.

5.3.2-P2:
Encourage higher-density residential development in transit and mixed-use areas and in other locations throughout the City where appropriate.

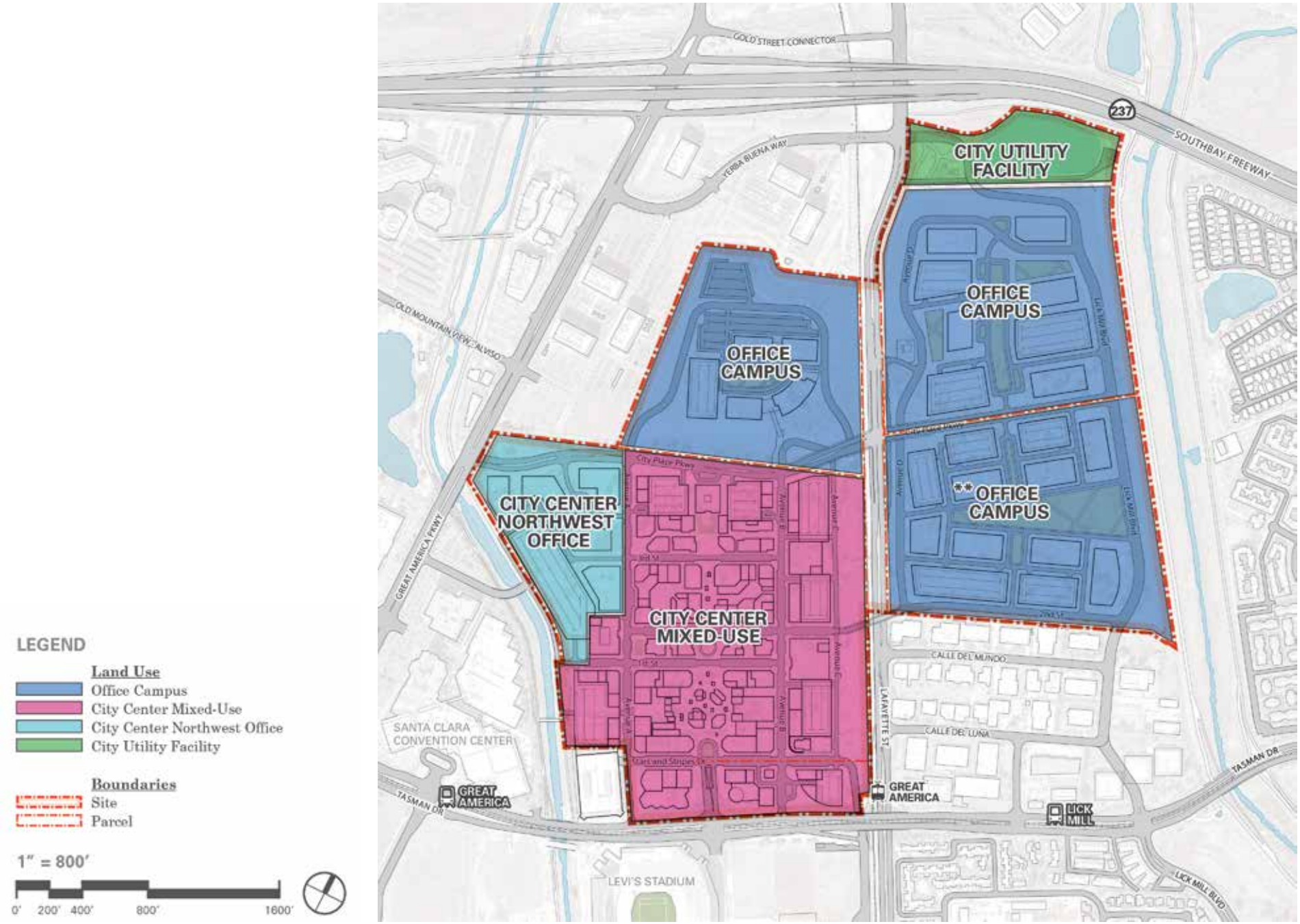
5.3.4-P2:
Encourage mixed-use development in proximity to employment centers and residential neighborhoods throughout the City.

5.3.1-P12:
Encourage convenient pedestrian connections within new and existing developments.

Section 5.9:
"parks & recreation … are integral to maintaining a high quality of life and livability in the City, a Major Strategy of this General Plan. As such, the Goals and Policies in this section promote the provision of adequate parkland…"

Section 5.9.1:
"Parks, open space and recreation facilities are critical in satisfying the diverse outdoor needs of Santa Clara residents and visitors, improving the physical health of the community and providing opportunities for social interaction. Open spaces should offer options for all types of activities, from passive rest areas and trails for walking or jogging, to fields and recreational facilities for organized sports. Overall, parks are an essential contributor to qualify of life. As residential and employment populations increase and available land in the City becomes more limited, it will be essential for the City to actively seek additional park and open space."

EXHIBIT 3–2: SCHEME A - LAND USE AREAS*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*
*** For Scheme A Variant this parcel is designated as a retail center.*

PROGRAM SUMMARY:



- *Land Use Flexibility:* To provide market flexibility for development of the site, the project may be developed under one of three alternative land use schemes. Under Scheme A, Parcel 2 would feature an office campus. Under Scheme B, Parcel 4 would include additional office space replacing all residential uses on that parcel, and Parcel 2 would feature an office campus including anchor retail buildings and smaller standalone food and beverage buildings. Under Scheme A Variant, Parcel 2 would support a retail center. Additional flexibility is achieved through a limited program of development transfer across parcels.

LAND USE AREAS

CityPlace Santa Clara is designed around several types of land use areas. The land use areas are depicted in Exhibits 3.2, and are described conceptually in this subsection. The specific uses permitted, conditionally permitted or prohibited on each parcel are set forth further below in the subsection "Permitted, Conditionally Permitted and Prohibited Uses."

For illustrative purposes, Exhibit 3-2 depicts the land use areas for Scheme A and B, with Scheme A Variant covered by the footnote for Parcel 2.

- *Office Campus:* This land use area is primarily intended for office use, allowing for limited commercial services such as retail, food and beverage, and hotel uses. Office parcels are suited to various office typologies, but all can be situated in a campus-like environment that incorporates ample open space, including shared courtyards or greens. The Office Campus designation applies to Parcels 1 and 3, as well as Parcel 2 Scheme A and Scheme B.

- *Retail Center:* This land use area is primarily intended for commercial retail use, designed as a community retail center that will include anchor tenants and in-line shopping. A mix of retail and food & beverage uses will be encouraged; office will be permitted as a secondary use. The Retail Center designation applies only to Parcel 2 Scheme A Variant.

- *City Center Mixed-Use:* This land use area is intended for a wide variety and mix of commercial uses, including: retail sales and services; restaurants and other food and beverage tenants; cinemas, theaters, and other entertainment venues; hotels; and offices. Medium to very high density, multi-family residential is also a permitted use. A pedestrian-oriented, urban character is encouraged, including horizontal and vertical mixture of uses as appropriate. The City Center Mixed-Use designation applies to Parcels 4 and 5, excluding the northwest office portion of Parcel 4.

- *Parcel 4 City Center Northwest Office Zone:* This land use area is intended for multiple office buildings situated in a manner that conforms to a walkable, city center environment. Limited commercial services are permitted, including retail, food and beverage, and hotel uses. The City Center Northwest Office designation applies to the northwest portion of the Parcel 4.

- *City Utility Facility:* This land use area includes the 12.8-acre parcel used for a retention basin and storm drain pump station, sewer pump station, and various other public facilities located in the northern portion of Parcel 1.

LAND USE DISTRIBUTION & INTENSITY

A "base entitlement" defines the total permissible development on each of the five parcels (gross building area excluding parking), subject to the development transfer provisions described at the end of this subsection. The entitlement and conceptual land use program applicable to each parcel are summarized below.

- *Parcel 1 (49.6 acres):* The base entitlement for this parcel totals 1,200,000 GSF . Designated as Office Campus, various office typologies can be incorporated. Limited office serving retail including food and beverage, and hotel (150 room maximum) will also be permissible uses. The 12.8 acre retention pond area is reserved for City use and excluded from FAR calculations for this parcel.

- *Parcel 2 Scheme A (60.9 acres):* Under Scheme A, the base entitlement for this parcel totals 2,160,000 GSF. Designated as Office Campus, the conceptual land use program emphasizes corporate office buildings. Limited office-serving retail including food and beverage, and hotel (150 room maximum) are also permissible uses;

* *Accessory uses are not included but may be a part of future development.*

however, the combined area of commercial retail and food and beverage is limited to 200,000 square feet.

- *Parcel 2 Scheme A Variant (60.9 acres):* Under Scheme A Variant, the base entitlement for this parcel is 519,000 GSF. Designated as a Retail Center, the conceptual land use program will support an array of commercial retail types, including anchor stores, in-line shops, entertainment establishments, food & beverage. Office or a hotel (150 room maximum) is permissible as an accessory use.

- *Parcel 2 Scheme B (60.9 acres):* Under Scheme B, Parcel 2 consists of approximately 1,960,000 GSF of predominantly office uses. In addition, this parcel includes anchor retail buildings and smaller standalone food/beverage buildings, totaling approximately 200,000 GSF. The retail buildings may connect several of the anchor retail buildings and be one or two stories. The total base entitlement at Parcel 2 is approximately 2,160,000 GSF. Surface parking is available, with potential for structured parking. A hotel (150 room maximum) is permissible as an accessory use.

- *Parcel 3 (34.9 acres):* The base entitlement for this parcel totals 720,000 GSF. Designated as Office Campus, the conceptual land use program will emphasize corporate office buildings. Support retail including food and beverage, and hotel (150 room maximum) will also be permissible uses.

- *Parcel 4 (86.6 acres):* This parcel accommodates mixed-use development within two distinct zones: 1) the City Center Mixed-Use and 2) the Parcel 4 City Center Northwest Office Zone. The base entitlement for the City Center Mixed-Use zone totals 2,873,000 GSF, and will support a broad mixture of commercial and urban residential use. The base entitlement for the Parcel 4 Northwest Office zone is 1,066,400 GSF, of office use Limited support retail including food and beverage, and hotel (150 room maximum) are also permissible uses within the Northwest Office zone.

- *Parcel 5 (8 acres):* The base entitlement for this parcel totals 825,000 GSF. Designated as City Center Mixed-Use, the conceptual land use program includes office, residential and hotel uses. Street level frontages should support signature commercial uses. Flagship retail, exhibition and showroom format "iconic buildings," as well as food and beverage are also permissible uses.

DEVELOPMENT TRANSFER

Notwithstanding SCCC Section 18.56.080(e), to provide flexibility to respond to changing market demands and ensure on-going feasibility through a multi-phase development process, density transfers of floor area are allowed among Parcels 1, 2 ,3 and the Northwest Office portion of Parcel 4, and between City Center Parcels 4 and 5. The developer may elect to transfer up to 20 percent of the maximum allowed density of each of the individual development parcels to one or more of the other development parcels,. As a result, the total amount of development in these parcels could increase or decrease proportionately while not exceeding the maximum build-out for the entire project in each development scheme.

DEVELOPMENT PROGRAM

A conceptual land use plan and corresponding summary development program is presented in the Conceptual Land Use Plans: Exhibits 3-3 through 3-8 with the corresponding land development program yield shown in Table 3-2: Summary Development Yields

* *All areas identified on pages 35 - 36 are gross parcel acreages.*

PERMITTED, CONDITIONALLY PERMITTED AND PROHIBITED USES

Notwithstanding SCCC Section 18.56.040 the following uses are permitted, conditionally permitted, or prohibited (as set forth below) for this PD-MC plan, and are identified here geographically by project parcel number. Definitions of these uses are included in Appendix B to this MCP. The City Council may, through the Development Area Plan process, amend the allowable uses identified herein, so long as the uses are consistent with the intent of the Master Community Plan and applicable environmental clearance."

- ***Permitted Uses** (identified by parcel):* The following uses are permitted within this PD-MC plan

CITY CENTER PARCELS 4 & 5 MIXED-USE URBAN DEVELOPMENT

1) Retail, including product showcase venues;

2) Multi-family residential;

3) Restaurants, including bona fide public eating places with incidental alcoholic beverage service;

4) Hotels;

5) Professional office;

6) General office:

7) Personal services;

8) Entertainment, except for live music or dancing that is not incidental live music or dancing;

9) Parking structures;

10) Public facilities, including a transit facility and a fire station;

11) Incidental and accessory buildings and uses supporting any permitted use, not to exceed 10% of the maximum floor area for each parcel.

OFFICE PARCELS - PARCELS 1, 2 & 3 OFFICE CAMPUS DEVELOPMENT

1) Professional office;

2) General office;

3) Incidental light manufacturing/research and development.

4) Incidental restaurants;

5) Incidental retail;

6) Parking structures;

7) Hotel & Services;

8) Public facilities, including transit facilities and a fire station;

9) Incidental and accessory buildings and uses supporting any permitted use, not to exceed 10% of the maximum floor area for each parcel.

OFFICE PARCELS - PARCEL 2

RETAIL DEVELOPMENT*

1) Retail, including appliances and bulk item sales;

2) Product showcase venues;

3) Professional office;

4) General office;

5) Hotels;

6) Personal services;

7) Entertainment, except for live music or dancing that is not incidental live music or dancing;

8) Parking structures;

9) Public facilities, such as transit facilities and a fire station;

10) Incidental and accessory buildings and uses supporting any permitted use, not to exceed 10% of the maximum floor area for each parcel.

*Under Scheme A Variant, this will apply to the entire parcel. Under the other schemes, this would apply to a discrete portion of Parcel 2, not to exceed 200,000 square feet.

- ***Conditionally Permitted Uses:*** The following uses are permitted on the condition that they apply for, are granted, and maintain; a use permit pursuant to the Zoning Ordinance.

CONDITIONED USES

1) In the City Center (Parcels 4 and 5) or in Parcel 2 under the Scheme A variant: alcoholic beverage service that is not incidental alcoholic beverage service.

2) In the City Center (Parcels 4 and 5) or in Parcel 2 under the Scheme A variant: Live entertainment and dancing, that is not incidental live music or dancing. In the City Center (Parcels 4 and 5): incidental light manufacturing/research and development.

3) In the City Center (Parcels 4 and 5): incidental light manufacturing/research and development.

4) In Parcels 1, 2 (except under the Parcel A variant) and 3: light manufacturing/research and development that is not incidental light manufacturing/research and development.

5) In all parcels: other uses that, in the opinion of the Planning Commission, are compatible with the character and nature of the uses allowed under this Master Community Plan.

- ***Prohibited Uses:*** The following uses are incompatible with the character and nature of the uses provided and approved in this Master Community Plan, and are prohibited on any Parcel (except as specifically noted).

PROHIBITED USES

1) Drive-through restaurants and services;

2) Auto repair and auto sales (except for product showcase venues in Parcel 5) and service stations:

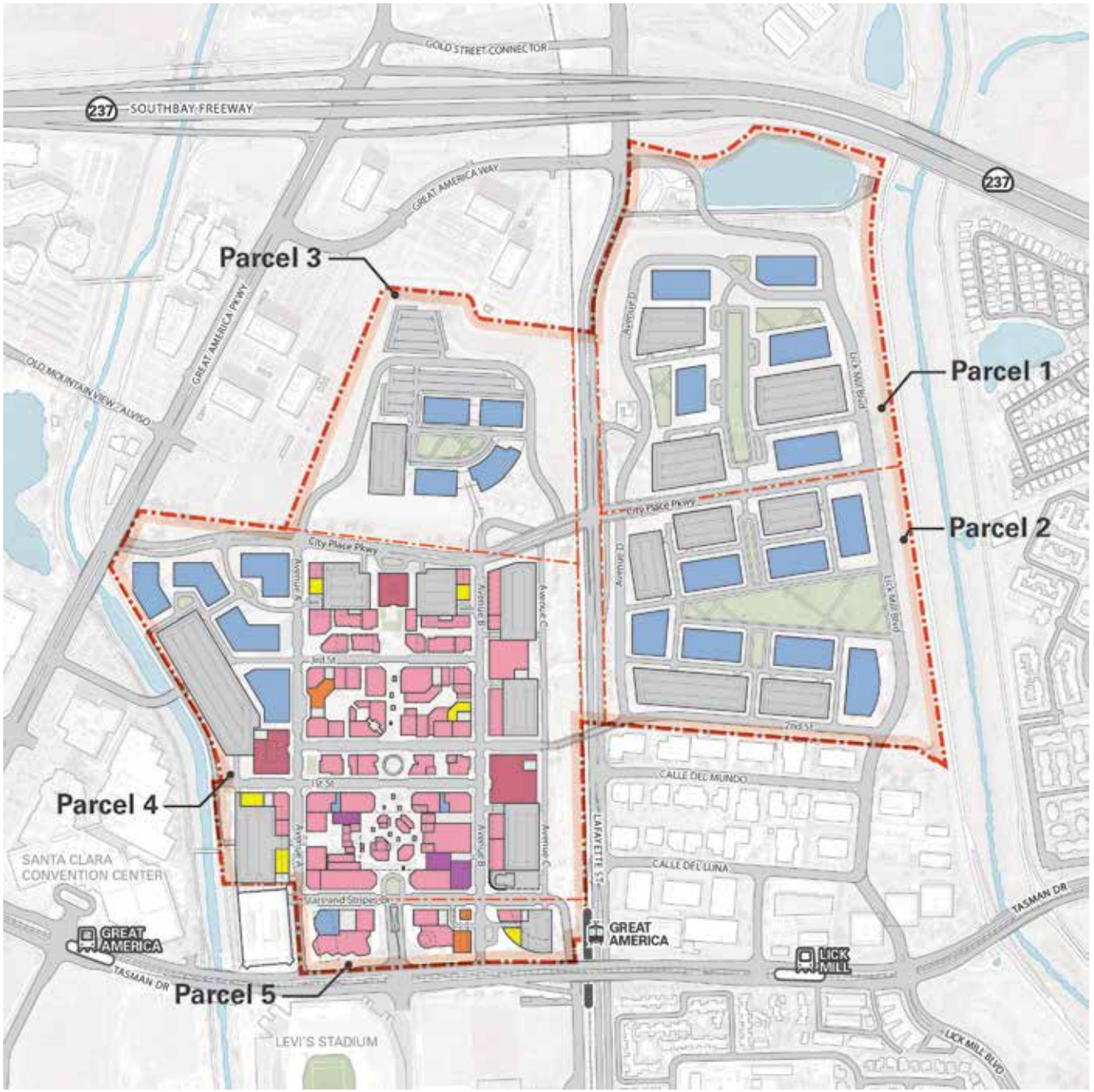
3) Appliances and bulk item sales (except for Parcel 2 under Scheme A Variant);

4) Industrial uses except Light Manufacturing/ Research and Development (to the extent allowed above) and uses involving quantities of hazardous materials that may have potentially significant health consequences;

5) Wholesaling, warehousing and storage (indoor and outdoor) operations;

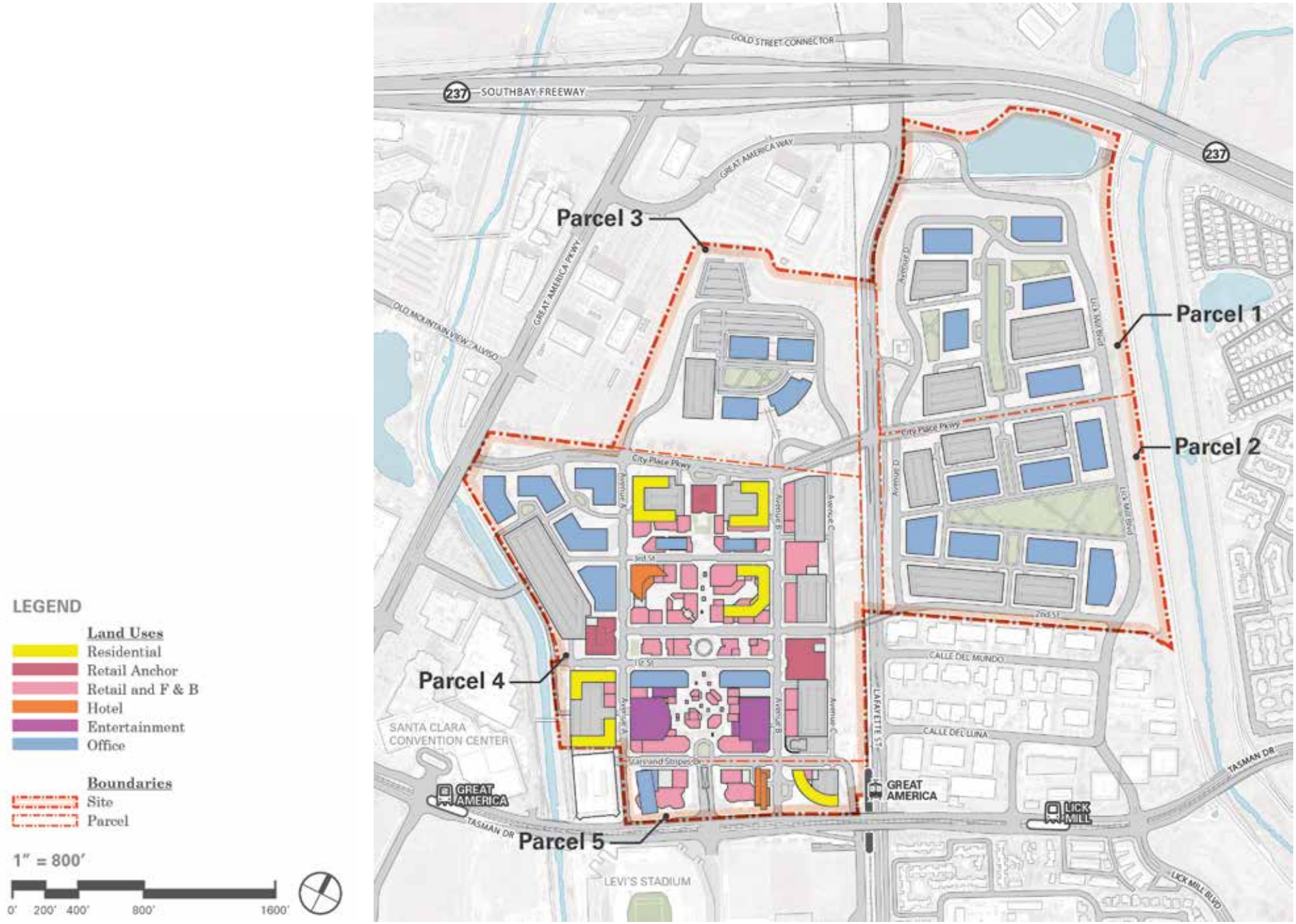
6) Contractor's yards and other similar uses;

EXHIBIT 3–3: SCHEME A - CONCEPTUAL LAND USE PLAN GROUND FLOOR*



** Open space is documented on page 68. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–4: SCHEME A - CONCEPTUAL LAND USE PLAN PRIMARY USE/UPPER FLOORS*



* *Open space is documented on page 68. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

TABLE 3–2: SUMMARY DEVELOPMENT YIELDS

PARCEL 1 - SCHEME A			
Building Type		***Floors***	***Gross Area***
Office			
Office	*(5 Buildings, 30k-45k footprint)* *	*5~6*	1,200,000
TOTAL of PARCEL 1			**1,200,000**
SITE AREA:	49.6 Acres (including 11.4 acre City use area)	FAR:	0.75 **

PARCEL 2 - SCHEME A			
Building Type		***Floors***	***Gross Area***
Office			
Office	*(7 Buildings, 30k-50k footprint)* *	*5~6*	2,160,000
TOTAL of PARCEL 2			**2,160,000**
SITE AREA:	60.9 Acres	FAR:	0.81

PARCEL 3 - SCHEME A			
Building Type		***Floors***	***Gross Area***
Office			
Office	*(4 Buildings, 30k footprint)* *	*6*	720,000
TOTAL of PARCEL 3			**720,000**
SITE AREA:	34.9 Acres	FAR:	0.47

PARCEL 4 - SCHEME A			
Building Type		***Floors***	***Gross Area***
Residential			
Residential	*(5 buildings, 20-30K footprint)* *	3~17	1,480,000
Hotel			
Hotel	*(825sf / key)* *	8~17	298,000
Retail			
Anchors	*(4 buildings, 20-60K footprint)* *	1~3	330,000
F&B	*	1	225,000
Retail	*	1~2	670,000
Entertainment			
Entertainment	*(3 buildings, 40-60K footprint)* *	1~2	190,000
Office			
Office	*(6-9 buildings, 25-40K footprint)* *	3~17	1,066,400 ***
TOTAL of PARCEL 4			**4,259,400**
SITE AREA:	86.6 Acres	FAR:	1.13

PARCEL 5 - SCHEME A			
Building Type		***Floors***	***Gross Area***
Residential			
Residential	*(1 building, 18-20K footprint)* *	10~17	200,000
Hotel			
Hotel	*(750 sf / key)* *	7~17	280,000
Retail			
F&B	*	1	25,000
Retail	*	1~2	62,000
Office			
Office	*(1 buildings, 20-25K footprint)* *	11	258,000
TOTAL of PARCEL 5			**825,000**
SITE AREA:	8 Acres	FAR:	2.37

**PARCEL 2 - SCHEME A VARIANT*			
Building Type		***Floors***	***Gross Area***
Retail			
Anchors	*(2 buildings, 75-100K footprint)* *	1~2	260,000
Retail	*	1~2	259,000
TOTAL of PARCEL 2			**519,000**
SITE AREA:	60.9 Acres	FAR:	0.20

**PARCEL 2 - SCHEME B*			
Building Type		***Floors***	***Gross Area***
Office			
Office	*(7 Buildings, 30k-50k footprint)* *	5~6	1,960,000
Retail			
Retail	*	1~2	200,000
TOTAL of PARCEL 2			**2,160,000**
SITE AREA:	60.9 Acres	FAR:	0.81

**PARCEL 4 - SCHEME B*			
Building Type		***Floors***	***Gross Area***
Hotel			
Hotel	*(825sf / key)* *	8~17	298,000
Retail			
Anchors	*(4 buildings, 20-60K footprint)* *	1~3	330,000
F&B	*	1	225,000
Retail	*	1~2	670,000
Entertainment			
Entertainment	*(3 buildings, 40-60K footprint)* *	1~2	190,000
Office			
Office	*(6-9 buildings, 25-40K footprint)* *	3~17	2,546,400
TOTAL of PARCEL 4			**4,259,400**
SITE AREA:	86.6 Acres	FAR:	1.13

* Information provided for illustrative purposes and is not intended to limit possible configurations.
** Excluding 11.4 acre City use area at retention pond. *** Office area can increase if residential area is reduced (at a 1 for 1 ratio) up to an additional 320,000 SF.

MINIMUM AND MAXIMUM REQUIREMENTS

Minimum Requirements

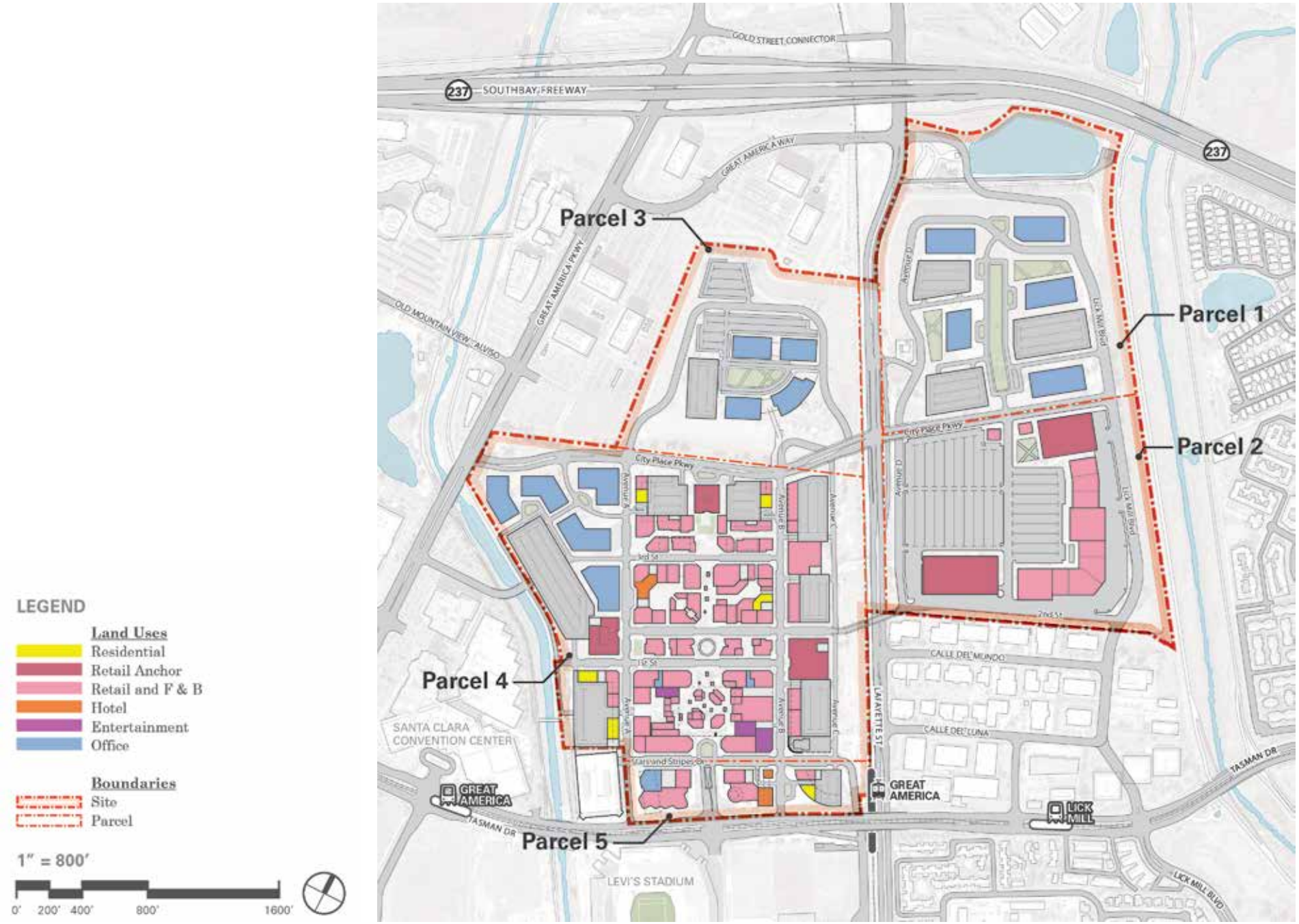
CityPlace will include a minimum of 200 residential units. The 200 units may be placed anywhere in the City Center (Parcels 4 and 5), excluding the Parcel 4 NW Office area. The Development and Disposition Agreement specifies additional minimum development requirements.

Maximum Requirements

Total Development: The maximum total amount of gross area of development allowed in City Place is 9,164,000 gross square feet. The maximum areas specified for each use and parcel below shall not be construed to allow more than a total of 9,164,000 gross square feet in City Place as a whole.

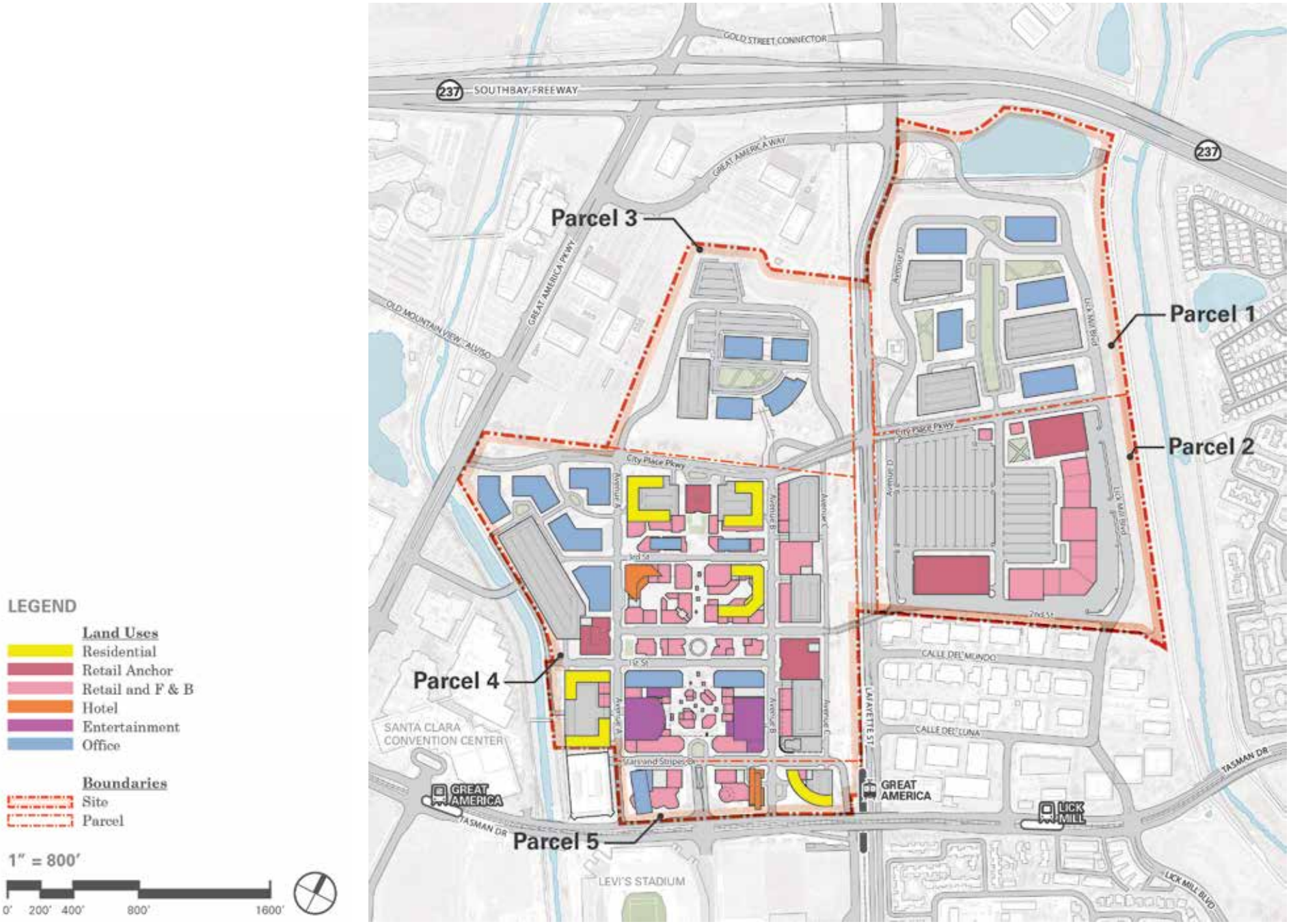
Residential Development: The maximum number of residential units allowed in City Place is 1680 units (with a total area of no greater than 1, 680,000 gross square feet),

EXHIBIT 3–5: SCHEME A - VARIANT - CONCEPTUAL LAND USE PLAN GROUND FLOOR*



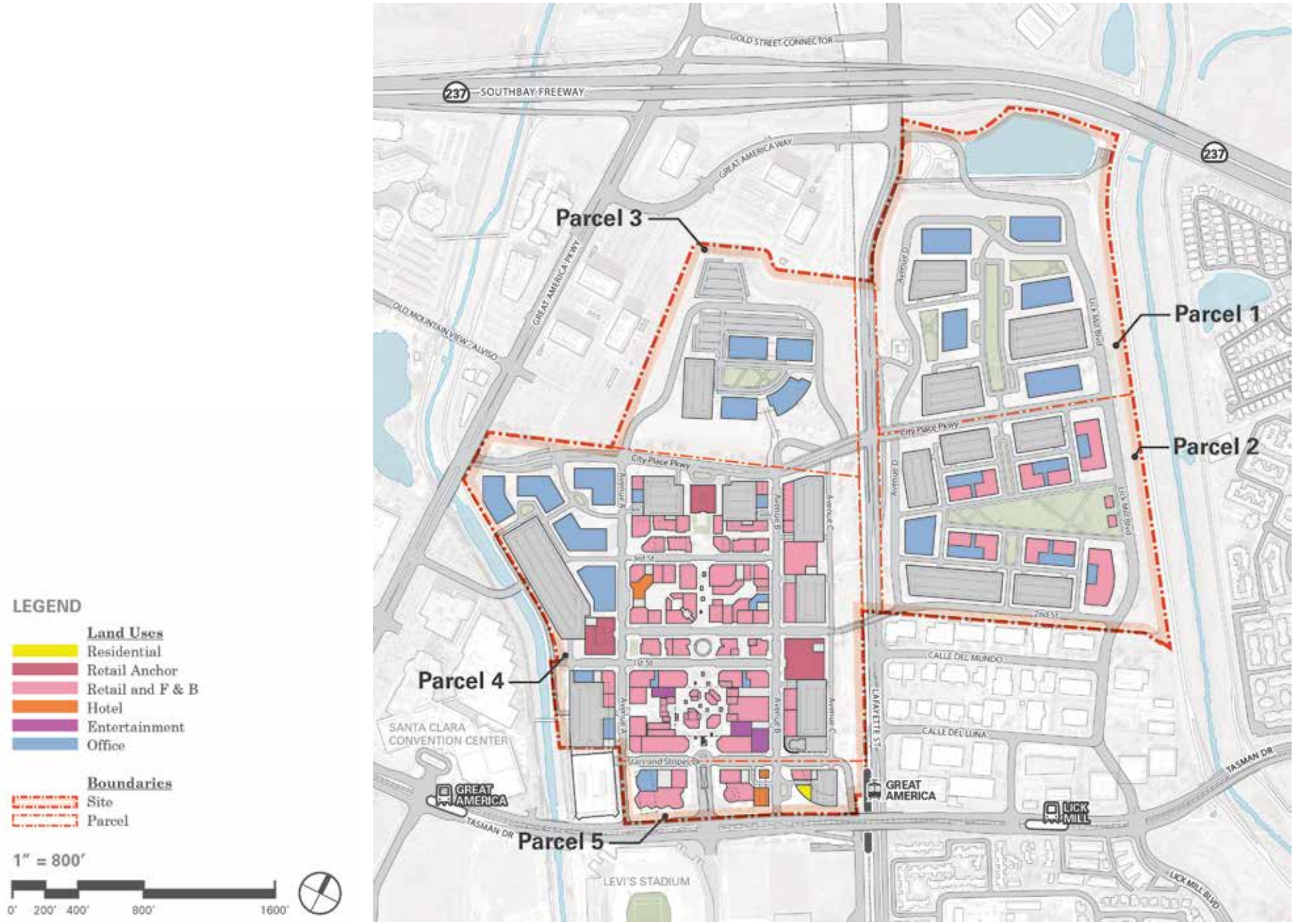
* *Open space is documented on page 68. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–6: SCHEME A - VARIANT - CONCEPTUAL LAND USE PLAN PRIMARY USE/UPPER FLOORS*



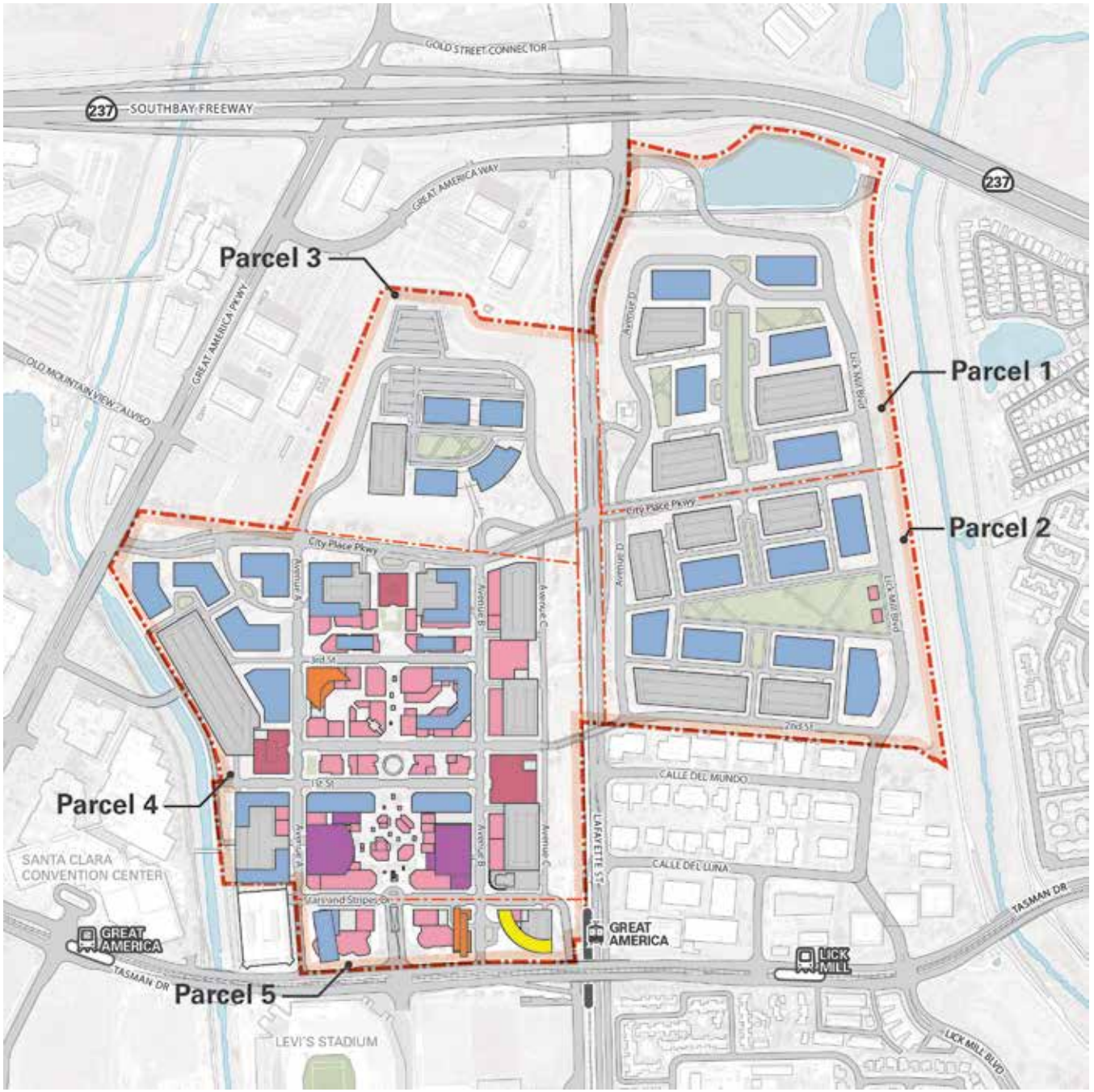
* *Open space is documented on page 68. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–7: SCHEME B - CONCEPTUAL LAND USE PLAN GROUND FLOOR*



* *Open space is documented on page 68. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–8: SCHEME B - CONCEPTUAL LAND USE PLAN PRIMARY USE/UPPER FLOORS*



* *Open space is documented in Exhibit 3-23. Accessory uses are not depicted but may be a part of future development on Parcels 1, 2, and 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

of which up to 200 units (with a total area of no greater than 200, 000 gross square feet) may be placed in Parcel 5.

Office: The maximum amount of office development allowed in CityPlace is 6,684,400 gross square feet. The maximum areas specified for each parcel below shall not be construed to allow more than a total of 6,684,000 gross square feet in City Place as a whole. Subject to adjustment in accordance with the development transfer provisions described above, the maximum amount of office (incidental light manufacturing) allowed in each parcel is as follows:

(1) The maximum amount of office (incidental light manufacturing) in Parcel 1 is 1,200,000 gross square feet;

(2) The maximum amount of office (including incidental light manufacturing) in Parcel 2 is 2,160,000 gross square feet;

(3) The maximum amount of office in Parcel 3 (including incidental light manufacturing) is 720,000 gross square feet;

(4) The maximum amount of office in Parcel 4 is 2,546,400 gross square feet;

(5) The maximum amount of office in Parcel 5 is 258,000 gross square feet.

Hotel: The maximum total amount of hotel development allowed in CityPlace is 1,028,000 gross square feet.

CITYPLACE PARKING SUPPLY RATIOS

This section is a summary of the findings provided in the EIR Transportation Impact Analysis. Parking supply totals are not provided within this document, only ratios to be applied by use and development area with each DAP. Parking supply rates are expressed in parking ratios tied to specific land uses, which are intended to be utilized by the DAP process to determine parking supply for each development phase. The parking ratios expressed in this MCP reflect parking utilization rates prevalent at the time of this documents creation in 2016. To accommodate future patterns of parking utilization, parking supply in future DAP submittals beyond the initial phase can be provided at lesser intensity if approved by the City Council as part of a DAP application, at a rate up to 25 percent below the supply ratios specified in this document. In the event that the City Council approves such a reduction, the PAP shall not be eligible for a zoning administator modification with respect to parking.

Parking at CityPlace will include both on-street and off-street parking facilities. An assessment of the parking supply and demand has been completed to ensure that sufficient parking is provided.

A set of parking supply rates have been developed and are summarized in *Table 3-3* below. These parking supply rates are informed by the City Code parking requirements for off-street parking, with adjustments for the shared use nature of a mixed-use development like CityPlace.

For all of Parcels 1, 2 and 3, parking would be provided in off-street parking facilities. For Parcels 4 and 5, on-street parking will also complement off street parking and be provided along Avenues A, B, and C, First, Second and Third streets, and Stars & Stripes Drive. The on-street parking will be for short term purposes only. Off-street parking facilities will be distributed across the parcels to ensure that parking supply is provided with close proximity to high demand locations, emphasizing convenience and accessibility. Off-street parking facilities must be designed to City standards and have sufficient on-street access to limit queuing. Off-street parking facilities shall implement a Parking Management/Wayfinding Program that may include message reader boards, intelligent parking management systems, etc. to improve parking utilization rates.

TABLE 3–3: CITYPLACE PARKING SUPPLY REQUIREMENTS

Land Use	City Place Parking Supply Rate
Residential	1.5 per unit
Retail	4.5 per 1,000 sq.ft.*
Office	3.0 per 1,000 sq.ft.
Restaurants	1.5 per 1,000 sq.ft.*
Entertainment	2.5 per 1,000 sq.ft.*
Hotel	1.0 per room

*Additional parking spaces would be shared with adjacent land uses.

* *Reference Appendix 3.3 F Travel Demand Model Validation of the EIR for full parking analysis.*

3.3 MOBILITY CONCEPT

The mobility concept will support CityPlace's proposed land use distribution and intensity, and will reinforce the mixed-use, transit-oriented concepts that are fundamental to the land use plan. It will ensure suitable on-site circulation and identify necessary access improvements. Multi-modal connections will be emphasized to promote a high quality of life and advance sustainability goals.

TABLE 3–4: MOBILITY PLAN CONSISTENCY W/ KEY GENERAL PLAN SUSTAINABILITY POLICIES

5.3.4-P13:	Encourage pedestrian linkages in mixed-use areas through measures such as enhanced lighting, curb bulb-outs, mid-block pedestrian crossings, pedestrian "refuge" areas in planted medians and pedestrian-oriented building frontages.
5.3.4-P14:	Provide a network of streets and pedestrian connections in large mixed-use developments.
5.3.4-P15:	Maximize opportunities to connect streets, bicycle facilities and pedestrian pathways to improve accessibility between mixed-use development and surrounding neighborhoods, parks, open spaces, transit and public amenities. Provide clear signage, high visibility, adequate lighting and special paving to enhance pedestrian and bicycle facilities.
5.8.1-P1:	Create accessible transportation networks system to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.
5.8.1-P2:	Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.
5.8.2-P1:	Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage where feasible.
5.8.4-P2:	Provide a system of pedestrian and bicycle friendly facilities that supports the use of alternative travel modes and connects to activity centers as well as residential, office and mixed-use developments.

CONCEPT SUMMARY

The mobility concept will work in concert with the land use concept to establish off-site connections, provide suitable on-site access and circulation, and support alternative modes of transportation. Ties to local and regional circulation networks that address multiple travel modes will be vital to the project's success. In particular, roadway improvements will be required to properly serve the proposed land uses.

- *Multi-Modal Connections:* Incorporate a well-connected system of internal routes and external links, including construction of major vehicular entrances and new full service roadways (i.e., Complete Streets) throughout the project site. Special attention will be given to ensure convenient pedestrian and bicycle connections to existing transit facilities and the provision of designated paths and trails.

- *Street Network:* The proposed on-site roadway network and associated off-site improvements reinforces the hierarchical framework for design and operation of the City's streets as defined by the General Plan. Major arterials will provide vehicular access to the site, while proposed on-site roadways will be classified as minor arterials, collector streets, or local streets. Additionally, to achieve a balanced circulation network, roadway improvements will incorporate opportunities for travel by alternative modes, implementing Santa Clara's policy in support of full service streets. *Exhibit 3-9: Street Network* illustrates the street hierarchy for the site and surroundings, including the conceptual depiction of on-site roadway alignments.

- *Full Service Streets:* The General Plan encourages full service design for all public streets. Consistent with this policy, on-site roadways will be designed to accommodate bicycles and pedestrians within their rights-of way, in particular, to ensure safe and comfortable routes within and between the active mixed-use core and the adjoining office campuses, as well as to secure safe links to nearby transit.

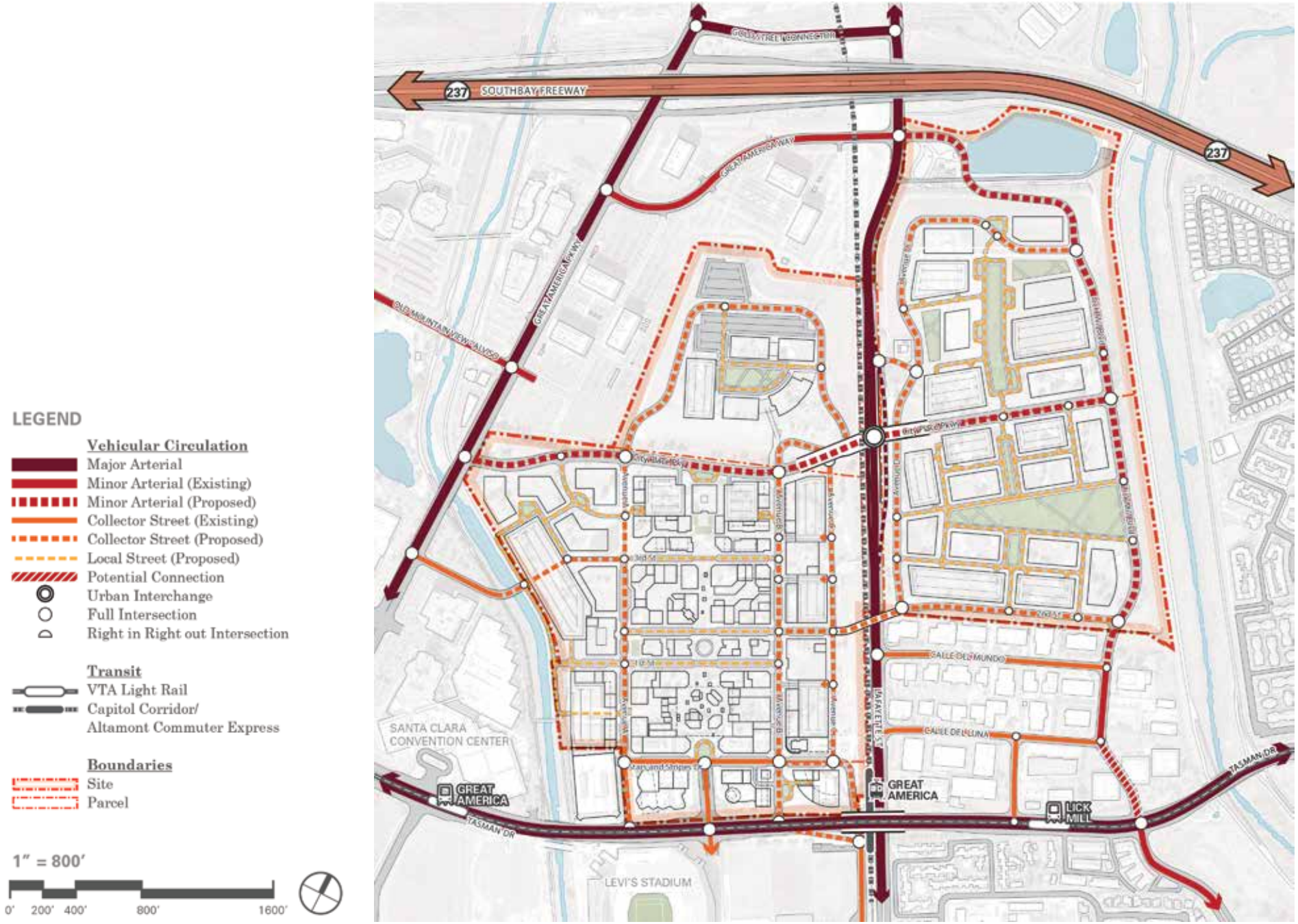
- *Trip Reduction:* One of the main site constraints is congestion on surrounding highways and major arterials during commute hours. However, there is limited opportunity for roadway expansion that boosts capacity. The project primarily addresses traffic congestion by promoting alternative modes of travel and integration of transportation demand management (TDM) measures. In addition to identified land use strategies, key design approaches will include full service streets, a "park once" strategy, and continuous bicycle and pedestrian routes.

- *Street Names:* The street names that are assigned are working names for the purpose of this document; actual street names are yet to be determined.

VEHICULAR CIRCULATION

The project will rely on strategic improvements to access roadways and intersections outside of the project boundaries to facilitate vehicular access to the site. On the other hand, on-site access to proposed land use functions and parking facilities will be dependent on construction of a new street network within the project boundaries. Roadways will be designed to handle anticipated levels of vehicular traffic generation while

EXHIBIT 3–9: STREET NETWORK*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*



Minor Arterial



Collector Street



Local Street

accommodating multiple users. *Exhibit 3-10: Street Typologies* provides street cross-sections depicting typical configurations for each typology. However, these sections are conceptual, and will necessarily be refined as detailed design and engineering plans are prepared; it is necessary that the circulation system meet all applicable engineering criteria and public safety standards.

- *Minor Arterial Spine:* A minor arterial roadway will serve as the backbone for on-site vehicular circulation, linking the marquee entrance at Great America Parkway with the raised urban interchange along Lafayette Street. This roadway will directly feed the collector streets serving Parcels 3 and 4, and will tie into Parcel 2 after crossing the urban interchange. The projected right-of-way measures approximately 102 feet, with a curb-to curb measurement of approximately 70 feet. These widths will accommodate four vehicular travel lanes with a landscaped median that will integrate left turn lanes as appropriate. There will also be sufficient room for bicycle lanes and sidewalks that will feature large street trees.

- *Collector Streets:* These streets typically will serve the periphery of each development parcel, channeling traffic from surrounding arterials to on-site parking facilities and local streets. Commensurate with anticipated levels of vehicular traffic, these roadways will provide two to four lanes. The projected right-of way will measure 75 - 90 feet, with a curb-to-curb measurement of 45 - 55 feet, depending on the number of travel lanes and the provision of on-street parallel parking, dedicated turn lanes, passenger drop-offs, bicycle lanes, and/or planted medians. For example, it may be preferred in some locations to have fewer vehicular travel lanes in favor of bicycle lanes, on-street parking, and wider sidewalks that will achieve full service streets are especially appropriate for the City Center.

- *Local Streets:* These will typically serve the interior of development parcels, and are therefore designed to calm traffic and give pedestrians priority in terms of scale and amenity. For example, local streets will normally provide two travel lanes, on-street parallel parking, and sidewalks. The projected right-of-way measures 60 - 96 feet, with a curb-to-curb measurement of 36 - 56 feet, while the use of curb extensions (i.e., bulb-outs) at intersections and mid-block crossings will be encouraged; additional width may be contemplated for on-street angled parking. Local roadways will be comprised of both public and private streets. Private streets will be recommended where controlled access is desired.

- *Public and Private Streets Infrastructure:* Throughout each phase of the project, the Developer will construct all on-site improvements. At the completion of each phase, some of the streets, public parks and infrastructure will revert to City control and become the City's responsibility for continued maintenance (see *Exhibit 3-11: Conceptual Public and Private Streets* and *Exhibit 3-21: Open Space Network* for a conceptual illustration). All other areas will be private facilities; responsibilities for maintenance and operations will be the Developer's.

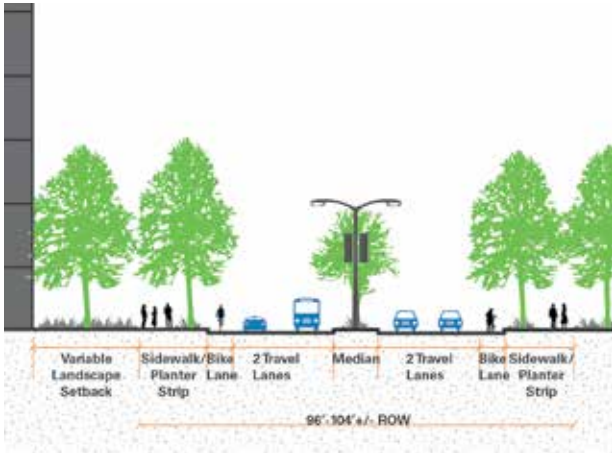
  Preliminary designations for public and private streets have been incorporated into exhibit 3-11. Note that the existing city streets, Centennial Blvd. and Stars & Stripes Drive, will be re-built at a higher elevation and Stars & Stripes Drive will be repositioned northward from its current location. The final designation of the public and private streets will be incorporated into the Development Area Plans (DAPs).

  Throughout the project, and particularly within the City Center, a cohesive network of streets and urban experience shall be maintained, whether the streets are classified as public or private.

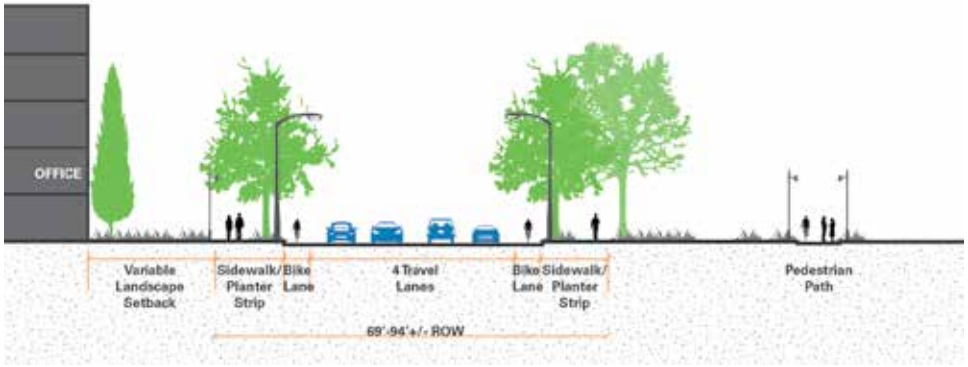
  Much of the development will be served by private streets and the developer. The protocols for private space utilization can be addressed in the project's CC&Rs and may differ from standards prevalent within City street rights-of-way. Traffic related standards should retain consistency, but private streets may utilize street signage and accommodate loading and truck maneuverings differently. Private streets may also be subject to occasional street closures for festivals, farmers markets, and host other elements without the City approval of a Special Permit that would be required if proposed for a typical city street's right-of-way.

EXHIBIT 3–10: STREET TYPOLOGIES

① *Typical Minor Arterial*

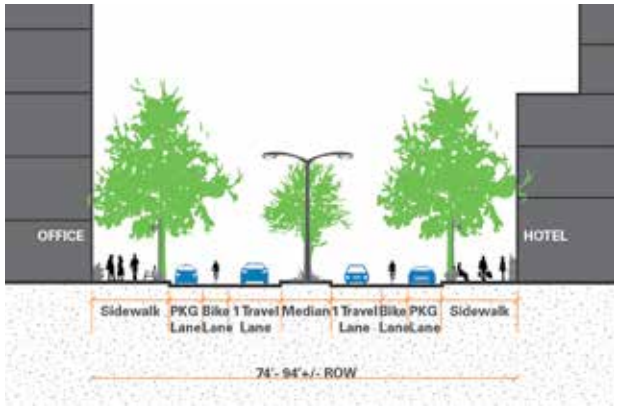


② *Typical Collector Street Office Campus*

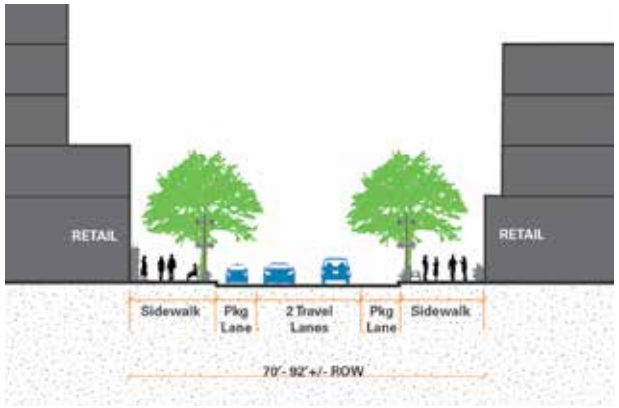




③ *Typical Collector Street City Center*



④ *Typical Local Street City Center*



⑤ *Typical Local Street Office Campus*

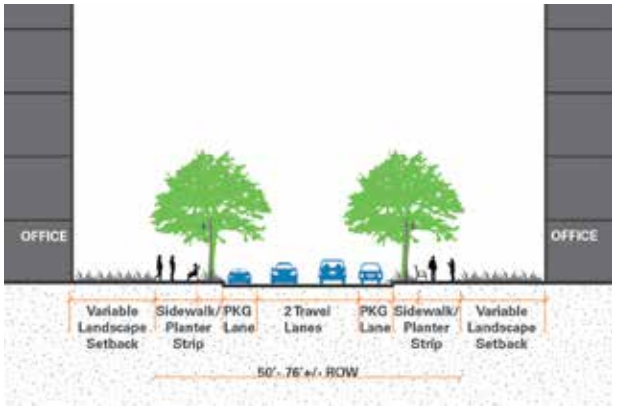
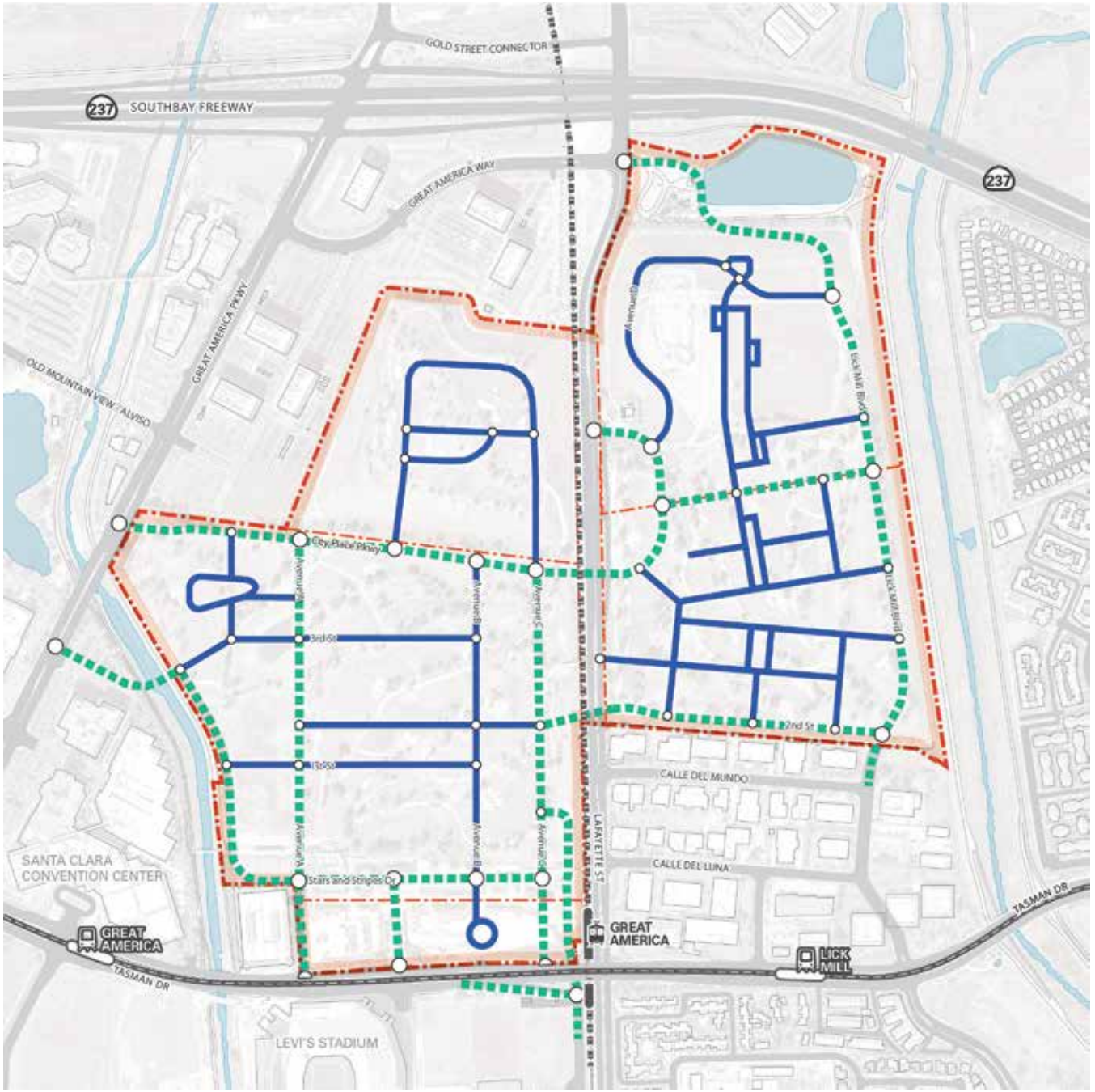
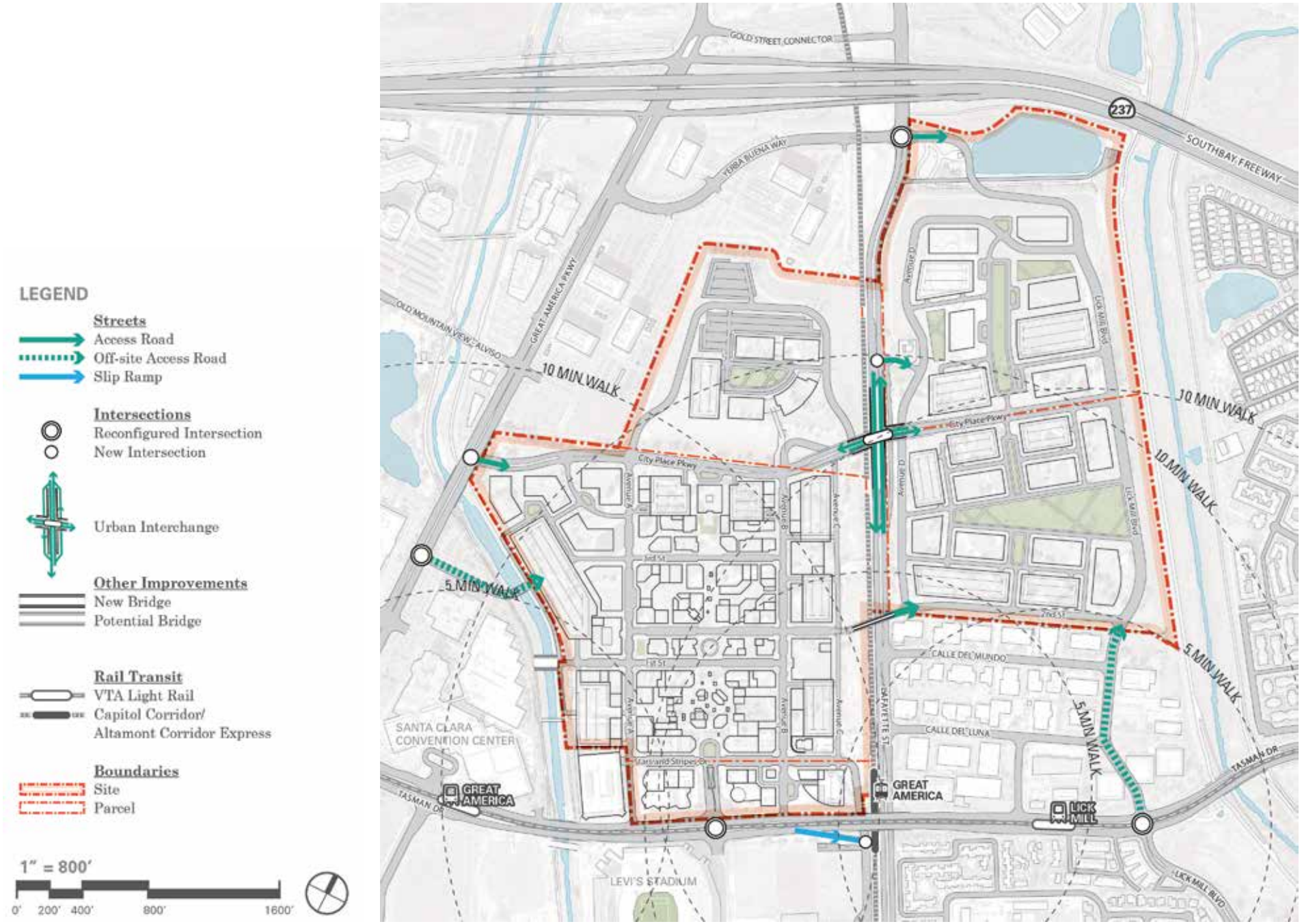


EXHIBIT 3–11: PUBLIC AND PRIVATE STREETS*



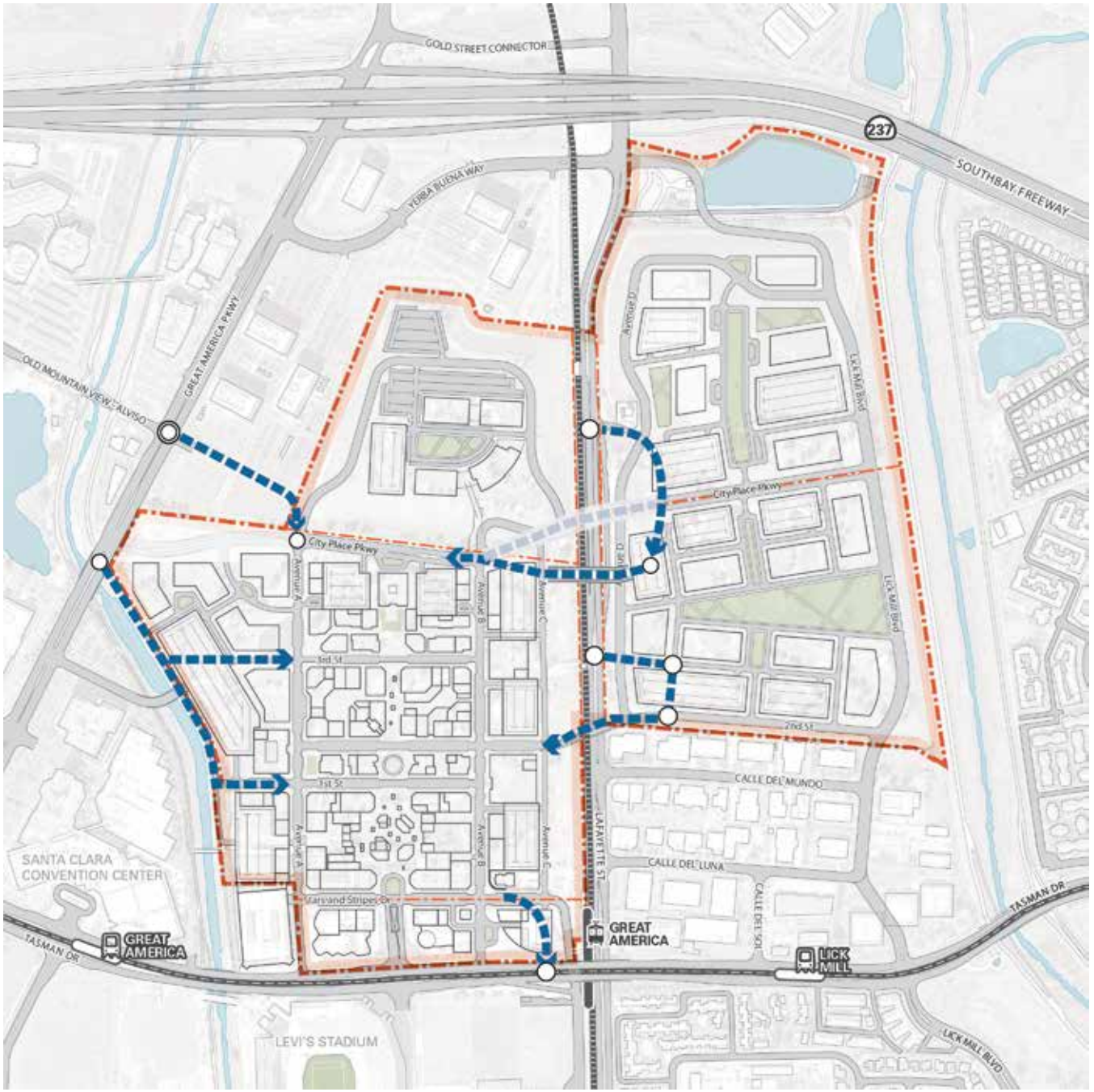
** Plan is conceptual and subject to change. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations. This depiction of the public and private streets utilizes some of the access variants as shown in Exhibit 3-13 and reflects the classification of streets at the time of this MCP publication (2016).*

EXHIBIT 3–12: ACCESS CIRCULATION IMPROVEMENTS*



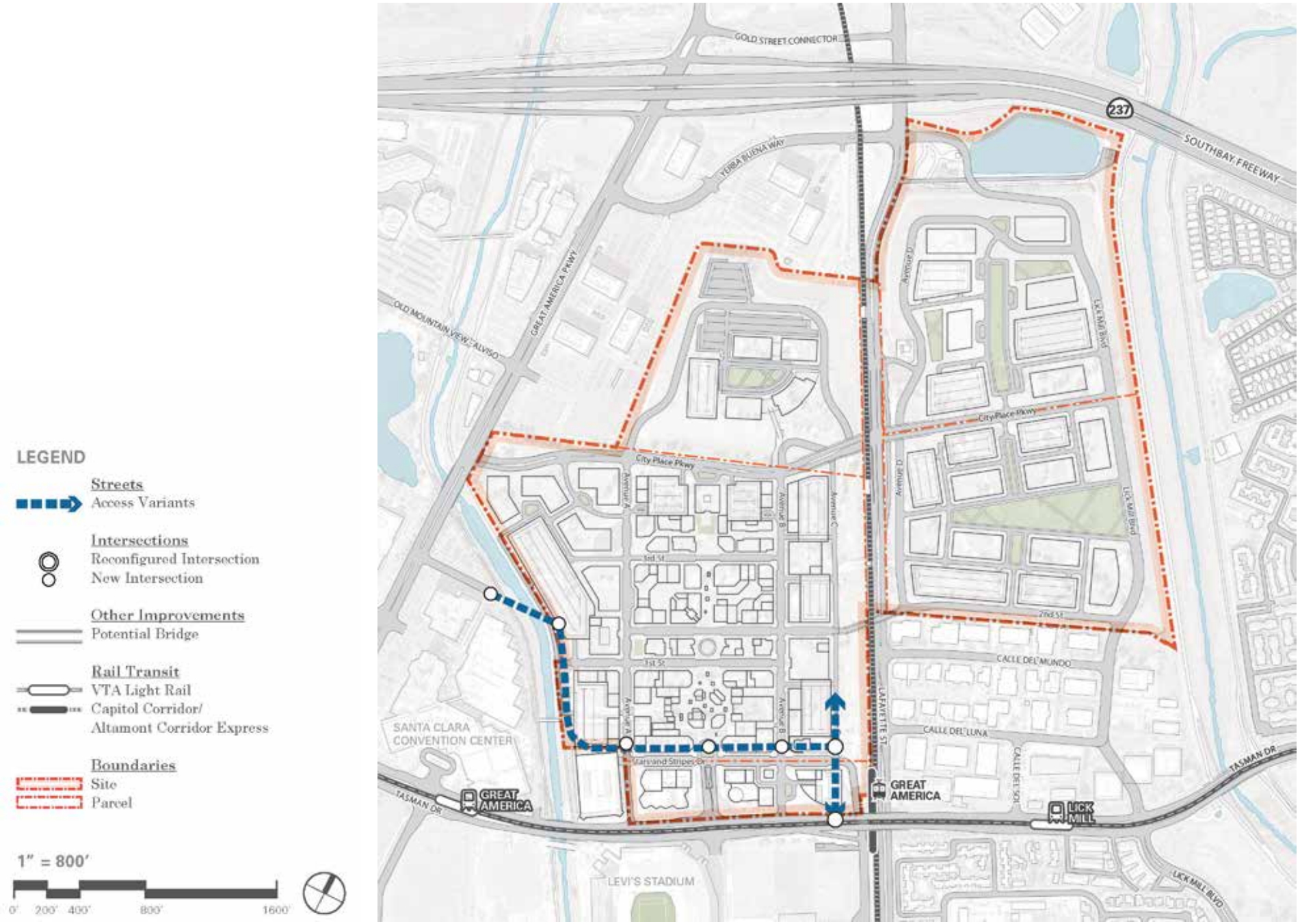
** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–13: ACCESS VARIANTS*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–14: ACCESS VARIANTS 2*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

The protocols for private space utilization can be addressed in the project's CC&R's and may differ from standards prevalent within City street R.O.W.s. Traffic related standards should retain consistency, but private streets may accomodate loading and truck maneuverings differently.

Temporary events and similar temporary outdoor uses in the City Center (Parcels 4 & 5) shall not trigger the requirement for a Special Permit under Chapter 18.60 of the Zoning Ordinance, as amended, unless private or public streets are proposed to be closed in a manner that is not approved in a DAP. Such events and temporary outdoor uses must comply with all applicable Building and Fire Code requirements, and they must obtain any applicable Police Permits. Other areas (Parcels 1, 2, and 3) shall adhere to the Special Permit process requirements under Chapter 18.60 of the Zoning Ordinance, as amended, unless such event plans are spelled out in an approved DAP. All applicable Building/Fire Code and Police Permit requirements will apply.

- *Access Improvements:* The project site is constrained by limited frontage along major arterial streets, which is compounded by the differential in elevation between developable land area, the arterial roadways, and the UPRR R.O.W. A series of improvements will provide the requisite access from surrounding arterials to the five development parcels, the extent of which are depicted in *Exhibit 3-12: Access Circulation Improvements*. Most significant are: 1) a vehicular access point at Great America Parkway that will serve as the marquee entrance to the development; 2) connections to Lafayette Street that will require bridging over the Union Pacific rail line; and 3) connections that will access the east bound lanes of Tasman Drive. Variant access points are also being studied as illustrated in *Exhibit 3-13: Access Variants* and *Exhibit 3-14: Access Variants 2*. The scope of off-site roadway and intersection improvements is addressed in greater detail within Chapter 8 (Infrastructure Overview).

- *Fire Access:* The current fire station location is at the intersection of Stars & Stripes Drive and the proposed Avenue B and may be retained in its current position during initial development phases or permanently. Two possible relocation options are proposed, both situating the fire station along Great America Parkway. Details regarding Fire Department access and coordination with the Fire Chief on emergency service requirements shall be provided with each DAP submittal or other documentation acceptable to the City associated with each project phase. The following standard Fire Department provisions are provided here outlining typical Santa Clara Fire Department accommodations. Any alternate accommodation will need to be approved through coordination with the Fire Chief:

  1) Fire apparatus access roadways throughout the development shall be designed in accordance with the requirements noted below, unless alternate measures are approved by the Fire Prevention and Hazardous Materials Division:

  2) Unobstructed width of emergency apparatus access roadways shall be 26 feet.

  3) Parking on one side of the emergency apparatus access roadways is acceptable if the roadway is a minimum of 32 feet or more in width.

  4) Parking on two sides is permitted for roadways 38 feet or more in width.

  5) The minimum inside turning radius for emergency apparatus access roadways is 36 feet.

  6) No portion of an exterior wall of a building and/or structure shall be located more than 150 feet from emergency apparatus access roadways as measured by an approved route around the exterior of the building and/or structure.

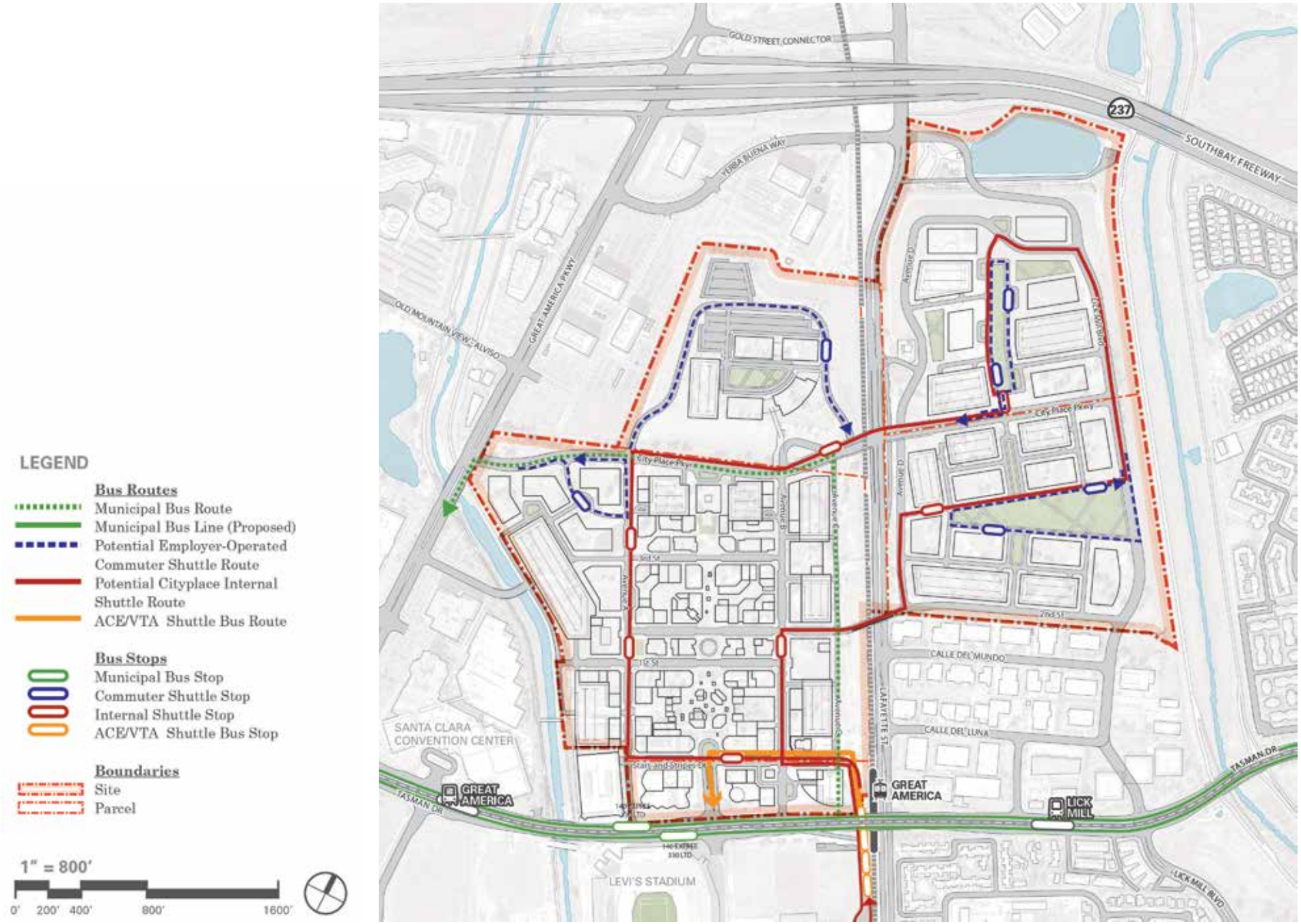
  7) The minimum unobstructed vertical clearance shall not be less than 13 feet 6 inches from the surface of the traffic lanes.

  8) Aerial apparatus access roads may require additional vertical clearance.

  9) The grade for emergency apparatus access roadways shall not exceed 10 percent to facilitate fire-ground operations.

  10) Traffic calming devices on both public and private roadways shall not be installed, unless approved by the Fire Prevention and Hazardous Materials Division.

EXHIBIT 3–15: POTENTIAL BUS CIRCULATION*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

PARKING STRATEGY

The proposed scale and intensity of development will depend on a managed approach to parking. In particular, each development parcel shall provide parking sufficient to meet current and future generated demands and to serve its various land use functions. Reduced standards based on shared parking arrangements, TDM measures, and other applicable parking strategies shall be implemented where appropriate. Parking and access generally shall be governed by the DAPs and the Master CC&Rs.

Important considerations informing parking accommodation strategies to be incorporated into the DAP's:

- *"Park Once" Strategy:* Park once is a strategy that allows visitors, employees, and residents to leave their automobiles at a single location and then conveniently access multiple on-site destinations. This concept is essential to reducing vehicle trips and will be supported by convenient and comfortable pedestrian movement throughout the project; clear pedestrian links connecting parking facilities to the residential, commercial and office uses; and the ability to readily walk throughout the development. This approach will also favor strategically located parking structures, rather than sprawling surface lots.

- *Shared Parking:* The mixture of uses within a development parcel may suggest non-conflicting and reduced parking demand that may be accommodated through sharing of parking resources with a commensurate decrease in parking requirements. This is most applicable to the City Center with its combination of office, retail and residential space that are in easy walking distance of one another. Parking facilities will be configured to facilitate utilization of shared parking to the extent possible.

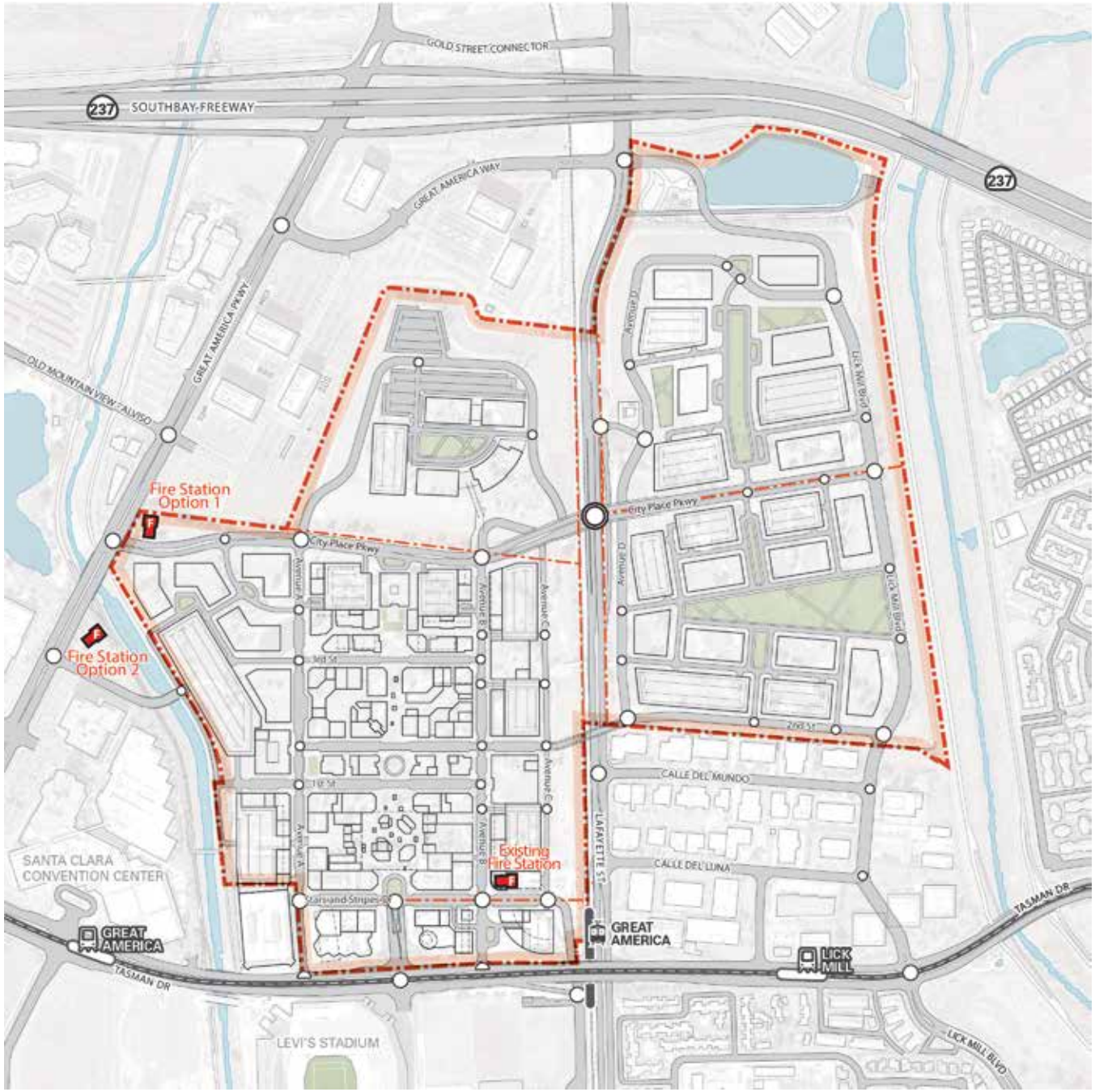
- *Parking Facilities:* To promote shared parking and reinforce the park once strategy, structured parking will be provided commensurate with development; surface parking will be allowed for designated office campus and retail center land uses and in conjunction with early phases of development. Surface parking may be utilized temporally during initial phases in anticipation of land use intensification at a later stage. Parking facilities will typically be distributed around the periphery of each development parcel, primarily accessed via the perimeter collector roadways to ensure that interior local streets remain pedestrian-oriented. Parcel 5 will utilize below podium parking (making use of the existing topography and its positioning outside of the landfill refuse area). The development may make use of below podium parking for a portion of its parking, in a non-basement configuration at areas above landfill. On-street parking will also be available along some local streets, especially within the mixed-use core, where it will help meet short-term parking needs and serve ground level retail; however, on-street parking shall not count toward meeting parking requirements. *Exhibit 3-17: Access & Parking* depicts a conceptual plan for the location of parking facilities.

- *Parking Management/Wayfinding Program: A parking manaement/wayfinding program* for publicly accessible parking spaces will be implemented where feasible to provide real-time information on parking availability and location.

- *NFL Event Days Parking:* The developer will provide a total of 3,000 parking spaces to the 49ers, limited to NFL football games only, at Levi's Stadium, estimated to occur 10-12 days per year. The 3,000 spaces will be provided in two formats: (i) 789 spaces located within the southern end of the City Center mixed-use core; and (ii) 2,211 spaces located throughout Parcel 4 and future Office Parcels 1, 2 & 3, with at least 50 percent located in locations within the City Center project identified by the Developer.

- *Non-NFL Event* Days Parking: The developer and the City will cooperate and manage the project site so that approximately three thousand (3,000) parking spaces will be available to serve non-NFL events at the 49ers Stadium. Concurrently with the first DAP application, to be updated concurrently with each subsequent DAP application, the developer and City will work cooperatively on preparing a Parking Management Plan that will show how Non-Event Parking may be accommodated on all City-owned property within the Project that has not been ground leased by the developer ("City-Retained Property"), and, if all of the Non-Event Parking Spaces cannot be accommodated on such City-Retained Property (e.g., as future phases

EXHIBIT 3–16: FIRE STATION RELOCATION*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

are ground leased by the developer and the availability of City-owned property is reduced), within the non-reserved retail or other parking developed for any Phases. The Parking Management Plan will incorporate the following underlying principles: (1) Non-Event Parking Spaces will be prioritized on City-Retained Property; (2) the City will take reasonable measures at its sole cost and expense to locate Non-Event Parking Spaces on City-Retained property; and (3) Non-Event Parking Spaces that are proposed on development parcels that are subject to a ground lease will be available on a first-come, first-serve basis within non-reserved parking developed for the applicable phase and for the period of time that permits attendance at a stadium event.

ALTERNATIVE MODES

The project will take an integrated approach to mobility planning that will encourage alternatives to solo driving, which will be spelled out in a TDM plan. Consistent with the General Plan's policy that all new projects include amenities that support alternative travel modes, the intent will be to also make the project transit, bicycle and pedestrian friendly. This will be achieved through a network of on-site pedestrian and bicycle paths with convenient off-site connections. There will be a unique opportunity for CityPlace to knit together existing/proposed regional bike paths for strengthening connections and improving the regional bicycle network.

A partial list of relevant Traffic Demand Management strategies follows:

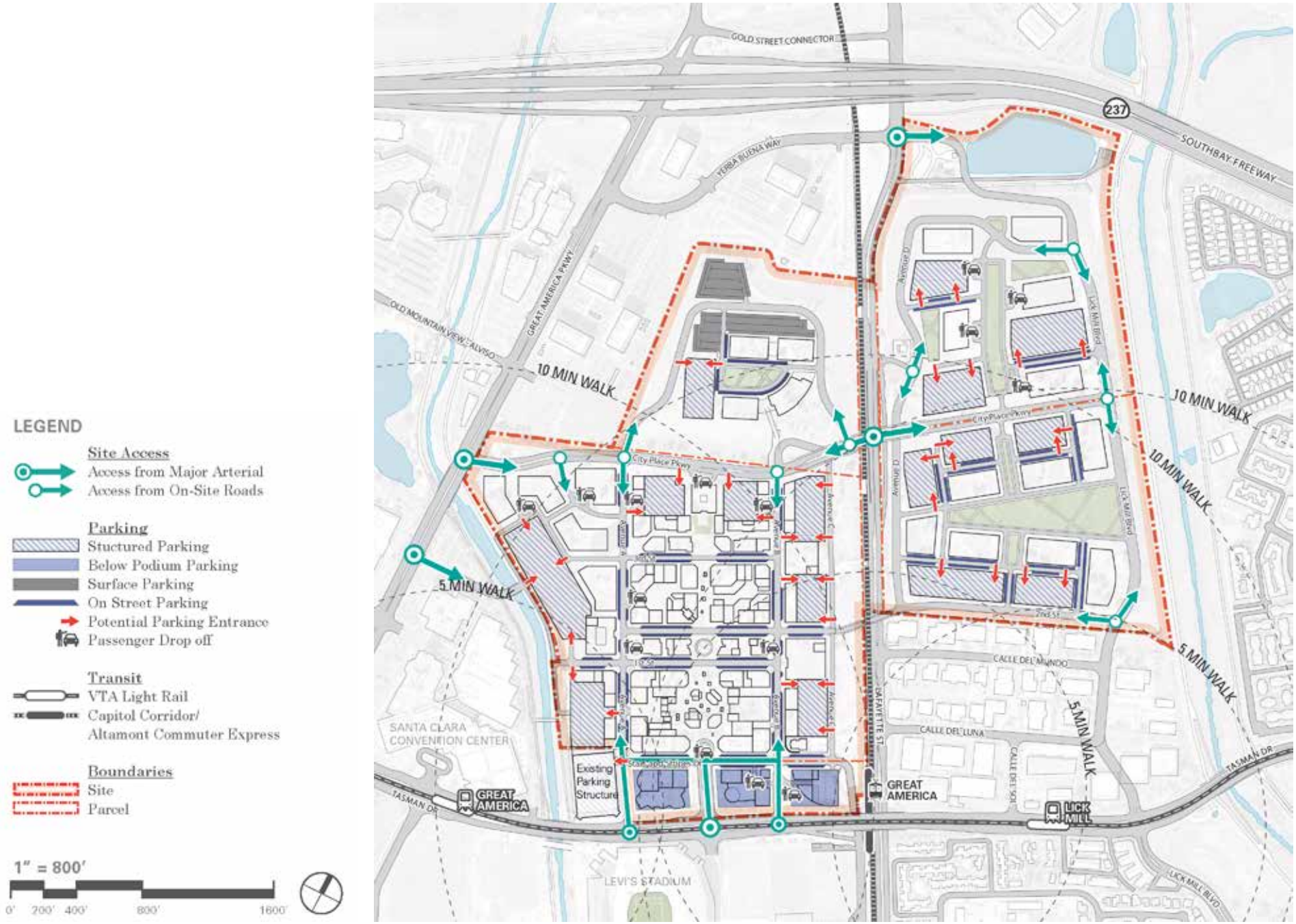
- *Transit Service:* Recognizing that much of the project site is located within a ten-minute walking radius of one or more of the nearby transit stops, planned land use intensities will maximize accessibility to existing transit facilities. In particular, the mixed-use core will place many complementary activities within convenient walking distance of transit stops (i.e. existing bus and rail lines along Tasman Drive, internal shuttle etc.). Support for transit will be further augmented by delivering multi-modal links to transit stops, encompassing both bicycle and pedestrian networks. The project's TDM program may also incorporate long-range private commuter buses, van pools and/or shuttle service to supplement public transit.

- *Bicycle Circulation:* The existing bicycle circulation system will be extended onto the project site, with ties to the bicycle trails along San Tomas Aquino Creek and the Guadalupe River, as well as to existing and planned on-street bicycle lanes along Great America Parkway, Lafayette Street and Tasman Drive. On-site facilities will include shared use trails (i.e., "hike and bike") along the landscape perimeter of development parcels, as well as designated bicycle lanes or marked routes along roadways. Lighting will be incorporated with new pedestrian/bicycle trails and grade separated street crossings will be implemented where feasible. *Exhibit 3-19: Bicycle Network* depicts a conceptual plan for the routing of bicycle facilities, including connections to the existing and proposed City network. Additionally, requirements for the provision of bicycle parking (i.e., storage lockers and racks) are specified in Chapter 4 (Parcel Development Plans, Standards & Requirements); in general, these amenities shall be placed at highly visible and accessible locations.

- *Pedestrian Circulation:* A continuous network of pathways will facilitate pedestrian movement throughout the site, securing safe and convenient connections between transit stops, parking facilities, building entrances, and shared open spaces. *Exhibit 3-20 Pedestrian Network* depicts sidewalks that will be incorporated along both sides of on-site roadways (both public and private), while off-street routes will include both shared perimeter trails and internal paths and paseos. Recognizing the importance of streetscape design to a high quality public realm that encourages walking, streets throughout the development will offer ample sidewalks, enhanced crosswalks, and a superior level of pedestrian amenity, such as street furniture, most generously within the mixed-use core.

- *Transportation Demand Management:* The developer will prepare and implement a TDM Plan with an overall target of reducing project office-generated daily traffic by a minimum of 4 percent and peak-hour traffic by a minimum of 10 percent, with an overall target of reducing project residential-generated daily traffic by a minimum of 2 percent and peak-hour traffic by a

EXHIBIT 3–17: ACCESS & PARKING*



** Further detail on service/refuse vehicle access will be included with DAP submission. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 3–18: POTENTIAL ACTIVE TRANSPORTATION DIAGRAM






1. Bike Rental / Bike Storage / E-Bikes





2. Bicycle/Pedestrian Creek Trail





3. VTA LRT, Shuttle Services, Improved Muni Bus Service





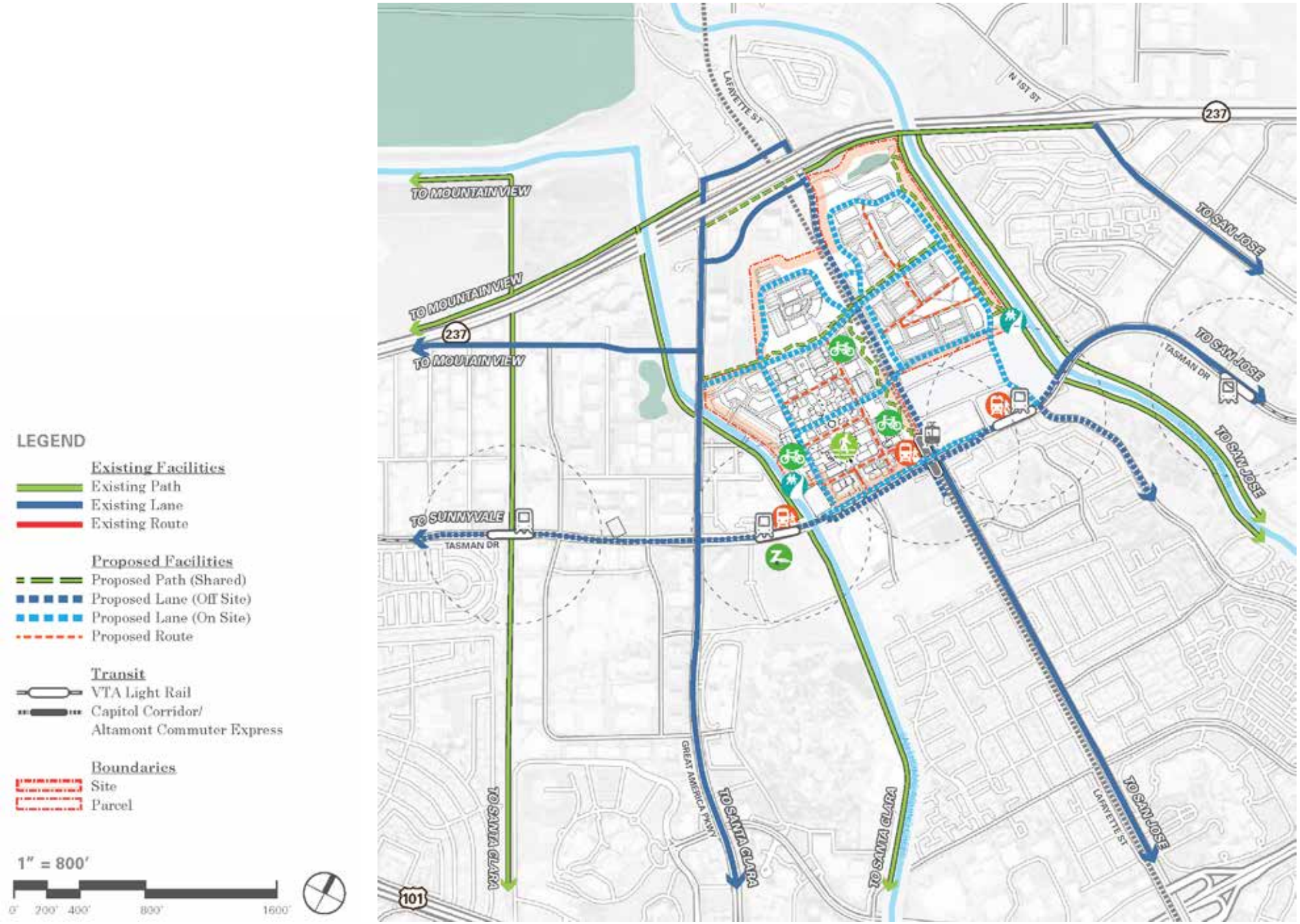

4. ZIPCAR and/or Electric Charging Stations





5. Pedestrian Paths / Wide Sidewalks

EXHIBIT 3-18: POTENTIAL ACTIVE TRANSPORTATION DIAGRAM CONT.*



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minimum of 4 percent. The TDM Plan shall also include and implement TDM Best Management Practices (BMPs) for the retail uses. The TDM Plan will be designed to reduce the amount of vehicle traffic generated by CityPlace by shifting employees, customers, and residents from driving alone to using transit, carpooling, cycling, and walking modes through TDM measures, strategies, incentives, and policies. The TDM Plan may specify a phased implementation approach that provides initially for implementation of the TDM measures that are appropriate for multi-tenant offices (e.g., measures aimed at increased transit use), which are expected to be developed during the first three phases of development, and then provides for more expansive TDM measures that are appropriate for large corporate office tenants in the remaining phases (such as shuttles). The following TDM measures will be considered for inclusion in the TDM Plan for some or all portions of the development, to the extent feasible and appropriate, either as part of an initial TDM Plan or as options for enhanced or remedial measures if trip reduction targets are not being met:

1) *On-site Support Facilities:* shuttle bus stops with shelters, bicycle paths and lanes, pedestrian paths linking buildings and transit stations, priority parking for carpools and vanpools;

2) *In-building Support Facilities:* showers and changing rooms, bicycle storage rooms and bicycle racks, and bicycle repair stands, cafes, and fitness centers;

3) Private shuttles for both long distance commute and last-mile service from nearby public transit;

4) Ridesharing options for long distance commuters such as carpool and vanpool matching services;

5) Guaranteed ride home services for commuters who carpool, take transit, or bicycle to work;

6) Financial incentives such as pre-tax benefits for transit and bicycle expenses (e.g., Commuter Check) or subsidized transit passes (e.g., Commuter Checks or VTA EcoPass) for all employees;

7) Additional support services for employees who use transit or rideshare, such as flexible work hours;

8) A website and marketing program to disseminate information on commute options;

9) A TDM information packet to be provided to all new CityPlace employees upon commencement of work at CityPlace and, the benefits of alternative commute methods stressed during new employee orientation programs;

10) Incentives for employees to live in locations well served by transit or shuttles;

11) Bike share pods to enable trips on-site and to nearby destinations to be made by bicycle;

12) Car share services with cars on-site for use by employees (or others) who use alternative modes to travel to the site but need a car to run an errand, travel to a meeting, etc.;

13) Multi-passenger demand responsive ride services for local employees that are competitive with drive alone including transportation network/ride-sharing services such as Uber Pool, Lyft Line and Chariot on-demand and crowd-sourced bus services, and

14) Yet-to-be developed new services, programs, strategies and emerging technologies.

EXHIBIT 3–19: BICYCLE NETWORK*

Existing Facilities: For current proposed land use, provide the following minimum bicycle facilities at the main entrance or high visible areas:

Scheme A:

- Residential (540,000 SF):180 lockers & 36 bike spaces
- Commercial (1,255,000 SF): 60 lockers & 209 bike spaces
- Office (6,064,400 SF): 758 lockers & 253 bike spaces
- Hotel (300,000 SF): 32 lockers
- Entertainment (180,000 SF): 10 lockers & 48 bike spaces

Scheme B:

- Residential (408,000 SF): 130 lockers & 26 bike spaces
- Commercial (1,799,000 SF): 67 lockers & 300 bike spaces
- Office (3,584,400 SF): 448 lockers & 149 bike spaces
- Hotel (300,000 SF): 32 lockers
- Entertainment (180,000 SF): 10 lockers & 48 bike spaces

**Note: Lockers are Class I Bicycle Lockers, bike spaces are Class II Bicycle Rack Spaces*

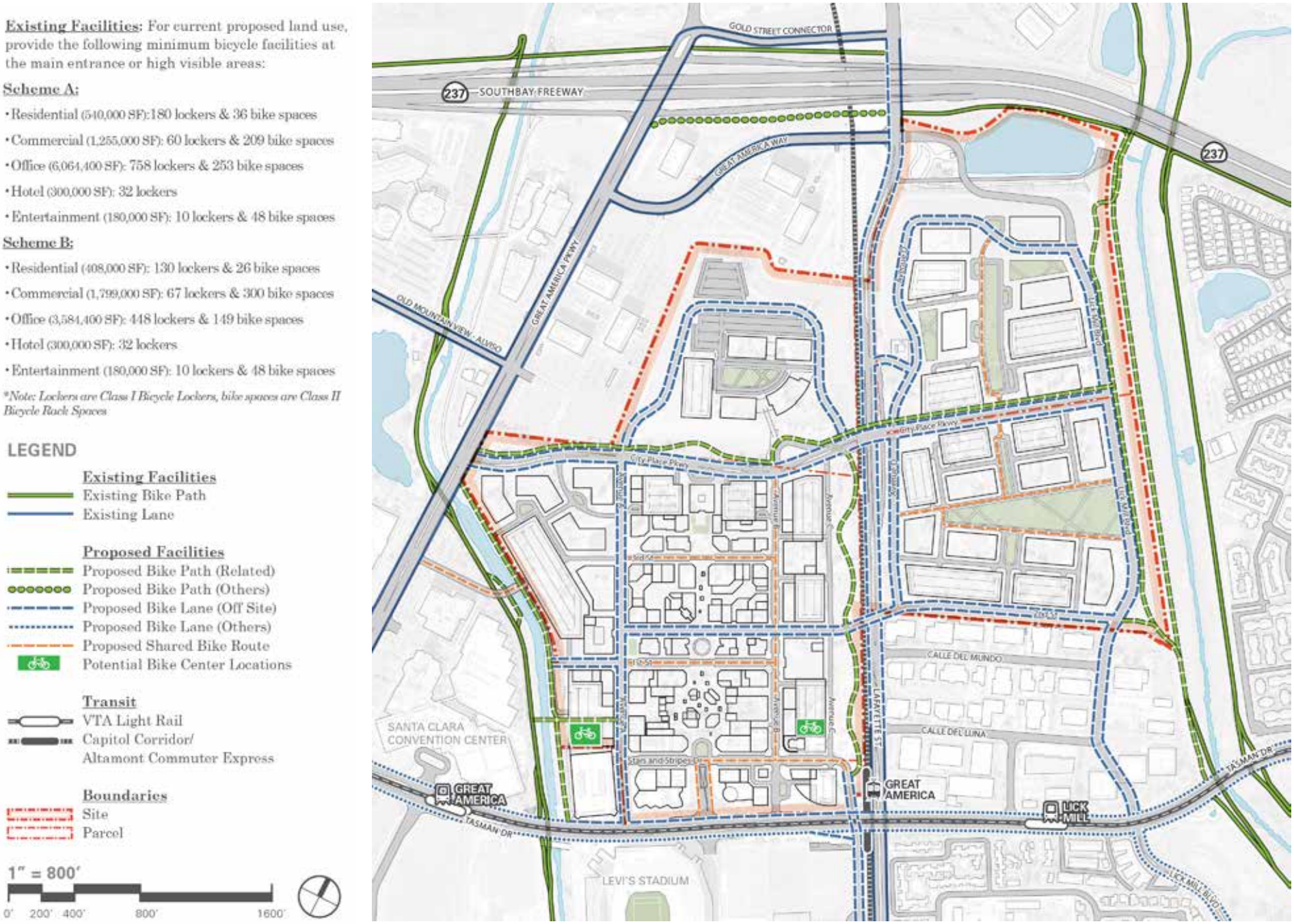

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EXHIBIT 3–20: PEDESTRIAN NETWORK*





1. Major Pedestrian Linkage





2. Pedestrian Paseo





3. Wide Sidewalks





4. Bike Path

EXHIBIT 3-20: PEDESTRIAN NETWORK CONT.*

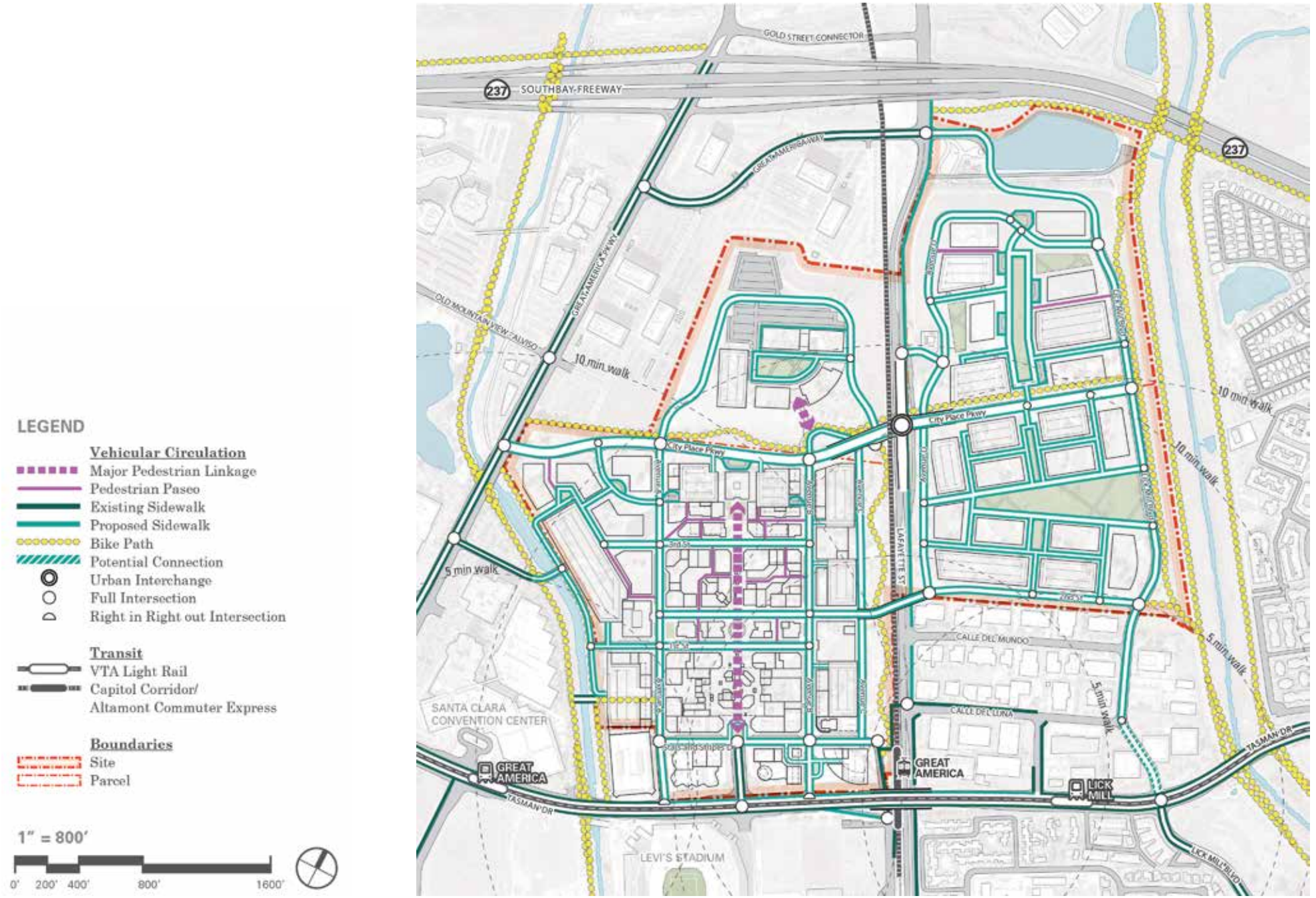

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TABLE 3–5: OPEN SPACE PLAN CONSISTENCY W/ KEY GENERAL PLAN SUSTAINABILITY POLICIES

5.3.4-P12:	Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation
5.5.2-P9:	Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility.
5.9.1-P1:	Develop additional parkland in the City so that it is integrated into neighborhoods and meets the standards for size, amenities and location to serve residents and employees.
5.9.1-P2:	Develop new parks to serve the needs of the surrounding community based on the criteria defined on Table 5.9.1. (defines a neighborhood & a community park)
5.9.1-P5:	Encourage public visibility for all parks, trails and open spaces.
5.9.1-P17:	Foster site design for new development so that building height and massing do not overshadow new parks and plazas.
5.9.1-P18:	Promote recreation facilities in large-scale developments in order to meet a portion of the demand for parks generated by new development.
5.9.1-P20:	Promote the continuation of a parks per population ratio of 2.4 per 1,000 residents and explore the potential to increase the ratio to 3.0, based on the Parks and Recreation Needs Assessment (Parks Master Plan), referenced in Plan Prerequisite 5.1.1-P24.
5.9.1-P21:	Explore options for incorporating an outdoor theater within one of the City's neighborhood parks.

3.4 OPEN SPACE CONCEPT

The open space concept describes an integrated network of shared outdoor spaces and sustainable landscapes, highlighted by active plazas, recreational areas, and campus like greens linked through attractive and coherent streetscapes. Collectively, these elements will be essential to creating an engaging public realm and will contribute to CityPlace's identity, functionality, sociability, and visual appeal.

CONCEPT SUMMARY

Distinctive, sustainable open spaces featuring a diversity of inviting and interesting outdoor environments will distinguish the development. This network of open spaces will enhance the visual and experiential quality of place and reinforce the project's identity as a center of mixed-use pedestrian activity. It will also serve a functional role, accommodating the recreational needs and leisure activities of a multiplicity of users, while integrating green infrastructure to achieve sustainable site development. Chapter 6 (Landscape Master Plan) will build on this open space framework, and will elaborate on the landscape design and character of the project.

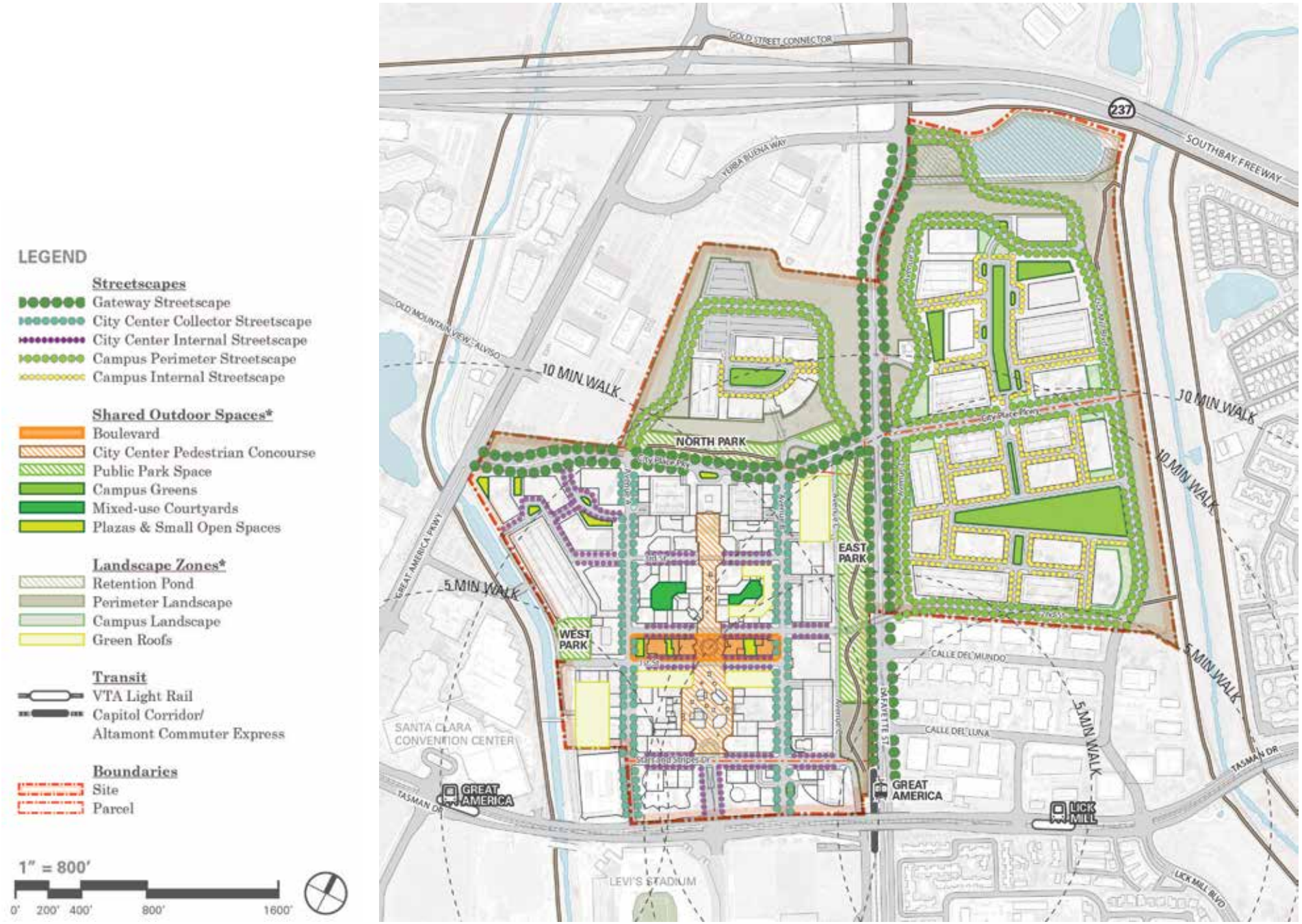
- *Open Space Network*: The development will incorporate a network of specialized open spaces that will encompass: 1) streetscapes; 2) shared outdoor spaces; and 3) landscape zones. These open spaces will ensure continuity and connection between development parcels and adjacent land uses, offering a continuous sequence of inviting pedestrian spaces, including shaded sidewalks and paths, active and flexible plazas, improved open spaces and restful campus greens. Accordingly, shared outdoor spaces properly scaled to formal and informal gatherings will be integrated into each development parcel. Identified landscape zones will differ in generally covering larger expanses of land, often at the edges of the site, suitable for varied forms of recreation and broad swaths of naturalistic planting. *Exhibit 3-21: Open Space Network* conceptually illustrates the distribution and hierarchy of open spaces across the site.

- *Active Recreation Space:* The project will include organized play areas, including, but not limited to, softball, baseball, and soccer fields, tennis, volleyball and basketball courts, fitness stations, jogging trails, bike paths, picnic areas and various forms of children's play equipment.

- *Distinctive Landscape Setting:* The open space concept will recognize the aesthetic value of the physical setting and its contribution to effective place-making. The objective will is form a lasting favorable impression of the development by creating an appealing outdoor setting, ranging in disposition from highly visible, naturalized landscape edges to heavily-peopled open-air spaces. Of necessity, a more structured urban physical setting will characterize the lively sidewalks and plazas of the mixed-use core, in contrast to a "looser" design for the contemplative environment that typifies the office campuses. Nonetheless, appropriate transitions in character and common design elements will achieve an overall harmony; in particular, the physical setting will communicate the sustainable character of the project, highlighted by a preference for native and adapted plant species.

- *Eco-Sensitive Landscape Design:* Sustainability will be central to the design and function of the open space network, in particular, through dependence on eco-sensitive physical settings that will be fully compatible with the site's landfill protection systems. In particular, the overall physical setting concept will encourage best practices for water conservation, water quality, and Low-Impact Development stormwater drainage and management. Such practices will include reliance on plant species adapted to the local climate, the use of

EXHIBIT 3–21: OPEN SPACE NETWORK*



** Depictions of outdoor spaces and landscape zones are illustrative, particularly in parcels 1 through 3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

TABLE 3-5 CONT'D: OPEN SPACE PLAN CONSISTENCY W/KEY GENERAL PLAN SUSTAINABILITY POLICIES

5.10.1-P11:	Require use of native plants and wildlife-compatible non-native plants, when feasible, for landscaping on City property.
5.10.4-P1:	Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Ordinance, and other applicable City-wide policies and programs.
5.10.4-P3:	Promote water conservation, recycled water use and sufficient water importation to ensure an adequate water supply.
5.9.1-G1:	Ample facilities for physical activities that promote community health.
5.9.1-G2:	Parks, trails, and open space located within a 10-minute walk to residential neighborhoods and employment centers.
5.9.1-G3:	New parks, open space, and recreation provided with new development so that existing facilities are not overburdened.
5.9.1-G4:	Park, trail and open space facilities that are accessible and provide connections to destination points and activity centers within the City.

reclaimed water for irrigation, and the establishment of irrigation regimes that distinguish intensive lawns and gardens from extensive, low maintenance landscape zones. Bio-retention measures such as swales and green roofs shall be integrated to collect, clean, and discharge rainwater where feasible. The landscape's capacity to reduce energy usage should also be exploited, utilizing street trees and potentially green roofs to minimize the heat island effect and reduce heat loads on individual buildings. Chapter 9 (Sustainability Master Plan) goes into greater detail about sustainable practices that are incorporated into the development.

- *People-Oriented Places:* The development's outdoor spaces will be designed to help meet social and recreational demands in a configuration with a mix of commercial and pedestrian activity, placing user safety, comfort and accessibility at a premium. Altogether, the open space network will provide plentiful room and suitable facilities for active and passive recreation and leisure, formal congregation, and informal social interaction. Thus, a balance will be attained between active places and passive spaces. The most dynamic, people-oriented places will comfortably integrate site amenities and furnishings, while accommodating temporary activities and events, foremost of which are the City Center's plazas and use of public and private right-of-way. Moreover, shared outdoor spaces will stress spatial enclosure and close interaction with adjoining buildings and uses.

RESIDENTIAL INDUCED REQUIREMENT FOR DEDICATED PARK AND RECREATIONAL LAND

The Developer will meet the conditions of Santa Clara City Code Chapter 17.35 through the implementation of the following:

1) The Developer will construct and dedicate the park and open space land areas as required by Chapter 17.35 of the City Code at the applicable ratio pursuant to the City's standards. Any deficiency, consistent with Chapter 17.35, will be addressed by fees due in lieu of parkland;

2) The public neighborhood parks shall be operated and maintained by the Developer;

3) CityPlace will also include Mini Parks (less than 1 acre) and the Developer shall operate and maintain responsibility for these parks. Mini Parks will not be credited toward the eligible land devoted to parkland pursuant to SCCC Chapter 17.35;

4) The Developer shall maintain the sloped open space areas and these areas shall not count toward the City's parkland dedication requirement consistent with SCCC Chapter 17.35;

5) The Developer shall construct, own and maintain the private parks and private open spaces. Pursuant to SCCC Chapter 17.35, the Developer may receive a maximum credit of fifty (50) percent of the value of the eligible land devoted to private parks and private open space that is eligible for credit. The calculation of qualified private open space shall not include features required by this MCP, i.e., yards, setbacks and decorative landscape areas, and

6) Per Chapter 17.35, at the time of project approval, the City shall make a final determination as to the land to be dedicated and/or fees to be paid by the Developer. Any in lieu fees imposed under Chapter 17.35 shall be due and payable to the City prior to issuance of a building permit for each dwelling unit. In the event the Developer does not use a building permit for construction of a dwelling unit, the City will refund the fee collected for that dwelling unit at the time of expiration of the building permit.

STREETSCAPES

Streets will be an integral part of the physical and visual landscape, and enhanced streetscapes with distinctive native and drought tolerant landscape treatment minimizing water use and maintenance will be an important feature of the project. Landscaped streetscapes will help establish the project's identity, communicate the roadway hierarchy as illustrated in

EXHIBIT 3–22: STREETSCAPE TYPOLOGIES



① *Gateway Streetscape*



② *City Center Collector Streetscape*





③ *City Center Internal Streetscape*



④ *Campus Perimeter Streetscape*



⑤ *Campus Internal Streetscape*

Exhibit 3-10: Street Typologies, and offer a congenial environment for walking and informal socializing. Design strategies will be intended to support these functions, with emphasis on the provision of wide sidewalks, canopy street trees and other sidewalk amenities such as street furniture. Street trees are perhaps the most recognizable streetscape element; at maturity, they will contribute to the visual coherence and spatial definition of the street, serve as a traffic calming measure to reduce travel speeds, and provide a comfortable sense of enclosure, shade, and element of safety. *Exhibit 3-22: Streetscape Typologies* suggests the visual character of the project's streetscapes.

- *Streetscape Amenities:* Good street design prioritizes the physical safety, comfort and convenience of persons on foot. In doing so, it also heightens the social vitality of the place and conveys the public character of its streets. Wide sidewalks will support pedestrian flows with streetscape amenities normally located along the edge of the curb as a physical and perceptual barrier between pedestrians and vehicular traffic. Street trees, planting strips, and sidewalk furniture will be integrated throughout the project; amenities such as pedestrian-scaled light fixtures, benches, planter boxes, and specialty paving will be most abundant where especially intense pedestrian activity is anticipated.

- *Corridor Streetscape:* Arterial streets will exhibit a processional character that will enhance arrival to the project. This will be particularly applicable to the project entrances from Great America Parkway and Tasman Drive; similar treatment is to be applied along Lafayette Street to the extent allowed by the presence of the Union Pacific rail line and other existing conditions. As entrance corridors, these roadways will incorporate planted medians, a broad planter strip adjacent to each curb, and relatively deep landscape setbacks. Recommended design elements will include special gateway landscape treatment and large shade trees that will provide spatial enclosure and establish a rhythmic procession. Bike lanes and wide sidewalks will be provided to support multi-modal movement. See *Table 6-1: Street Typology Matrix* for all recommended street dimensions.

- *City Center Collector Streetscape*: Although important to vehicular circulation and parking access, the City Center location will require that these streets also serve pedestrians and bicyclists. Wide sidewalks with shady canopy trees will facilitate walkable connections throughout the City Center, while bicycle lanes and on-street parking and planted medians will be incorporated to ensure a balance between travel modes around the periphery of the development parcel.

- *City Center Internal Streetscape:* Characterized by the highest level of amenities, the City Center's internal roadways will place emphasis on the pedestrian experience to create vibrant shopping streets. Wide sidewalks, consistent planting of leafy canopy trees, and street furniture placed at frequent intervals, as well as specialty sidewalk and crosswalk paving, will be among the critical design features. With the introduction of on-street parking, curb bulb-outs, and mid-block crossings, traffic calming will be another important facet of their design. These and other amenities will be coupled with active storefronts to fashion an especially amenable setting for strolling, lingering, meeting, and conversing, as well as outdoor dining. Additionally, street closures for special events may be permitted on private streets without City approval of a Special Permit per SCCC 18.60.030.

- *Campus Perimeter Streetscape:* Although primarily geared toward vehicular access and circulation, the design character of these roadways nonetheless will reinforce the campus feel and support multiple modes of travel. In particular, they will incorporate wide planter strips, expanded sidewalks, planted medians and generous landscape setbacks; plantings that mediate between a campus setting and the proposed naturalistic planting along landscape perimeters and embankments and will be provided.

- *Campus Internal Streetscape:* These streets will receive pedestrian priority and will include a high level of streetscape treatment with shade street trees, planter strips and landscape setbacks reinforcing the campus experience. On-street parking, enhanced crosswalks, and other measures such as curb bulb-outs may be incorporated to slow vehicular traffic.

- *Temporary Street Closures:* The City Center Mixed-Use district will contain three private streets: identified in this document as 1st Street, 2nd Street, and 3rd Street. These streets all can have a dual function as open space during special events through the use of temporary street closures and Special Permit approval.

SHARED OUTDOOR SPACES

Key to successful urban place-making, these shared outdoor spaces will serve as a counterpart to the streetscape environment, further enriching the public realm by offering various places to congregate. Comprised of plazas, greens, courtyards, and similar spaces, they will be dimensioned to human occupation and amenable to active or passive use, and therefore, normally conceived as outdoor rooms. *Exhibit 3-23: Shared Outdoor Space Typologies* portrays the visual character of the project's shared outdoor spaces.

- *Boulevard:* Located at the heart of the mixed-use core, the Boulevard will function as CityPlace's primary outdoor gathering space, a focus of commercial activity and a stage for the civic life of the community that will support the retail, dining and entertainment role of the mixed-use core. This will be a multi-functional space suitable for informal socializing, as well as community gatherings, special events, and programmed activities. Therefore, a mostly paved surface that supports flexible use is recommended. Surrounding uses are expected to consist of ground floor retail, dining and entertainment that will activate and further enliven the Boulevard.

- *City Center Pedestrian Concourse:* A highly public place and branch of intense activity, the pedestrian concourse will pass through the core of the City Center and will feed the Boulevard. As such, it will be characterized by a high level of design and amenity, essential to a thriving open air shopping environment. Design elements would include specialty paving, shade features, and outdoor furniture, with accommodations for outdoor dining.

- *Public Park Space:* CityPlace's development program will include the following parks and open space program elements within the City Center area (Phases 1-4) as illustrated in *Exhibit 3-21: Open Space Network:*

  1) City Center East Neighborhood Park A public park along the east side of Parcel 4 that will include:

  • A north-south multi-use trail (biking, jogging, and walking) that incorporates side buffers and amenities that could include landscaping, seating, fitness areas, sports courts, gardens and/or an extended transit station platform (should the train station platform expand northward from its current location). The trail will connect the transit station to the proposed east-west multi-use trail that connects the Guadalupe River and San Tomas Creek trail systems. The width of multi-use trail and the adjacent buffer areas shall be a an average of 30 feet wide.
  • A level or terraced park area that could be programed with sports courts, fitness and/or play area such as a par course, and/or other active recreational uses.
  • The minimum area for this park shall be 1 acre, but the design goal is approximately 3 acres, excluding sloped areas that are not usable, (i.e. not usable for the proposed active recreational purposes).

  2) City Center North Neighborhood Park
  A public park along the north side of Parcel 4 (physically located on the south part of Parcel 3) that will include:

  •An east-west multi-use trial (biking, jogging, and walking) that includes side buffers and amenities that could include landscaping, seating, fitness areas, sports courts, and gardens. This trail comprises a segment of the proposed east-west multi-use trail that connects the Guadalupe River and San Tomas trail systems The width of the multi-use trail and the adjacent buffer shall average a minimum of 30 feet.

  • A turfed fitness and/or play area such as a par course, fitness steps, and/or other active recreational uses.

  • The minimum area for this park shall be 1 acre, but the design goal is approximately 2 acres, excluding sloped areas that are not usable, (i.e. not usable for the proposed active recreational purposes)

  3) **City Center West Neighborhood Park** A public park along the west side of Parcel 4 that will include:

  • A children's play area including a physical play structure(s) (type and design age specified at the time of the DAP application).

  • A family picnic area.

  • An option for an outdoor gathering or performance area.

- The minimum area for this park shall be one (1) acre.

- *Campus Greens:* One or more centrally located greens will be associated with each development parcel that has been designated as Office Campus. Framed by office buildings, campus greens will provide a convenient place for workers to congregate or relax and may or may not be accessible for public use. Typically, these spaces will possess an intensive landscape character that favors plantings over hardscape, and while a more refined and cultivated appearance will be appropriate, design concepts that maximize drought tolerant landscaping and minimize the lawn's extent shall be considered. Outdoor eating/socializing areas and employee recreation areas should be incorporated.

- *Mixed-Use Courtyards:* A series of well-defined, courtyards scaled to function as outdoor rooms will occupy the urban core. The degree of "publicness" will vary in accordance with the location and accessibility of each space, largely depending on the nature of surrounding buildings and uses, and whether the courtyard is located at-grade or at podium level.

- *Plazas and Small Open Spaces:* Comprised of an assortment of open spaces distributed throughout the development, these spaces will be secondary in function, less formal in purpose and more intimate in scale. Even so, they will maintain a public character, normally offering seating and shade; while they will tend to support passive use, in some instances, programmed activities such as outdoor performances, may still be accommodated.

PRIVATE OPEN SPACE

Private open space can be provided with both residential and commercial developments (and may include rooftops), specific details are to be provided with the DAP submissions.

- *Residential:* A limited amount of open space will be dedicated to private spaces associated with the residential uses. Semi-private, communal space will be useful in addressing the social and recreational needs of urban residents, and may include such amenities as a swimming pool, Jacuzzi, barbecue area, children's tot lots / play areas, and other social, recreational fitness, and leisure facilities. Courtyards and rooftop terraces will be the most likely configurations. Private open spaces devoted to active recreational uses will include a minimum of four of the following uses (actual program elements will be included in the DAP applications): (1) landscaped and furnished, park-like quiet areas; (2) recreational community gardens; (3) family picnic areas; (4) game, fitness or sport court areas; (5) accessible swimming pool (minimum size 42' x 75') with adjacent deck; (6) recreation center buildings and grounds.

- *Office:* Depending on the office development typology, some office developments may require the security of a closed campus, which would require that access to interior courtyards would be restricted to authorized employees and guests. In all cases public roads and public bicycle/pedestrian connections between parcels will be preserved.

LANDSCAPE ZONES

The large project site will afford opportunity for the establishment of expansive, character defining landscape zones. Given the overall coverage of these zones, they will be called upon to address a multitude of open space objectives by contributing to a distinctive landscape setting, accommodating various active and passive recreational activities, extending the site's green infrastructure, and communicating a commitment to sustainability. Moreover, attention to water conservation in these zones will be imperative; this will be most noticeably and effectively accomplished through a heavy reliance on native, naturalized and drought resistant plant species. *Exhibit 3-24: Landscape Zone Typologies* is suggestive of the visual character of each of the project's landscape zones.

- *Retention Basin:* The land use concept will set aside as Public Facility / Open Space the approximately 13-acre site located between SR-237 and elevated portion of Parcel 1; the intent is for the City to maintain its use as a retention basin and pump station.

- *Perimeter Landscape:* The soil embankments present a unique design challenge, occupying undevelopable property at the visible perimeters of development parcels. Landscape treatments will emphasize an attractive, naturalized edge that will minimize water

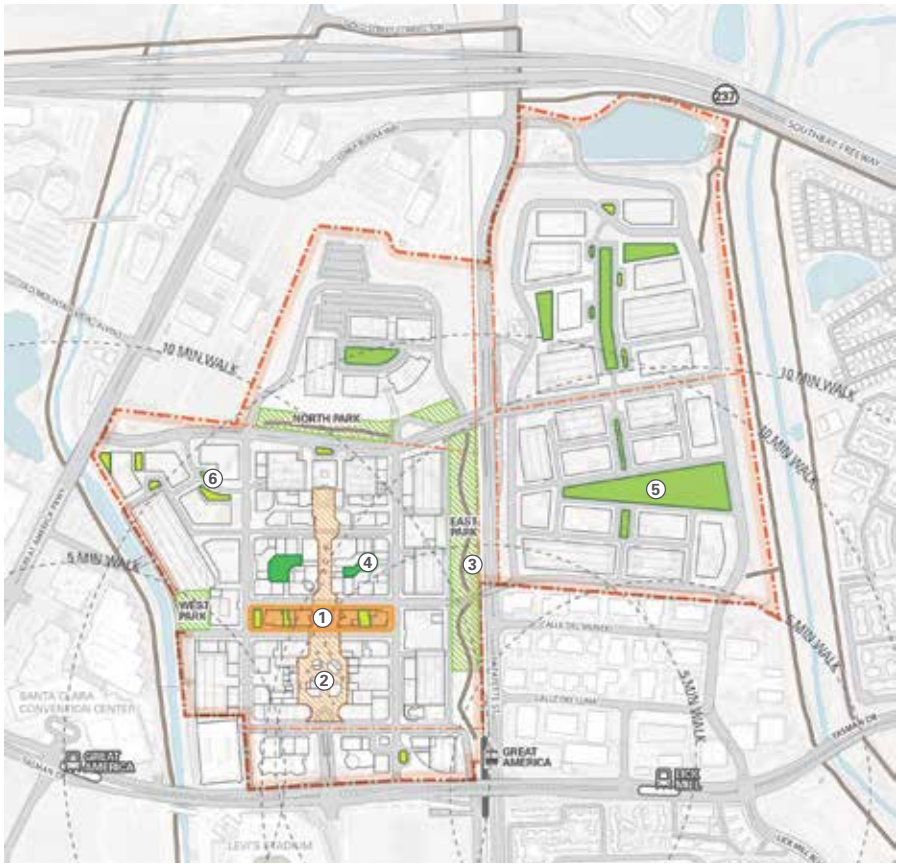
EXHIBIT 3–23: SHARED OUTDOOR SPACE TYPOLOGIES



① *Boulevard*



② *Pedestrian Concourse*





③ *Public Park Space*



④ *Mixed-use Courtyards*



⑤ *Campus Greens*



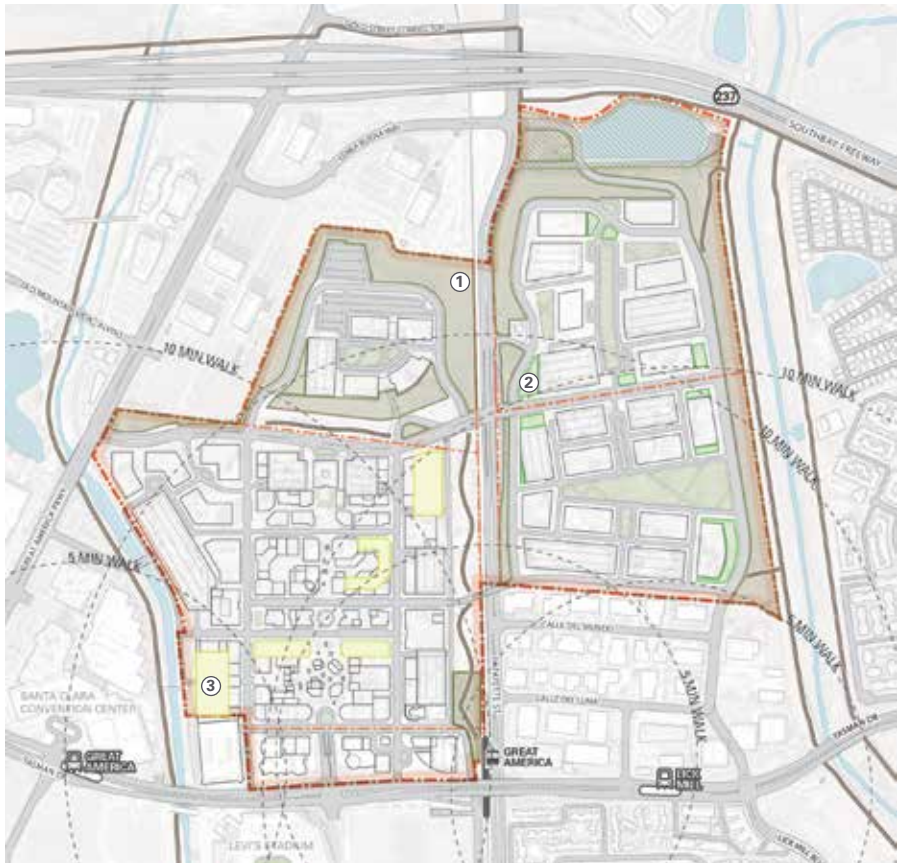
⑥ *Plazas / Small Open Spaces*

use and will transition to the surrounding environment. Landfill side slopes will remain landscaped to minimize erosion and promote stability. Plantings that draw inspiration from native plant communities will be especially encouraged, for example, establishing zones of riparian, coastal prairie, coastal shrubland, and coastal woodland species, depending on aspect, elevation and context of the slope. Specifically, the introduction of riparian plantings along the site's eastern boundary should interact with and enrich the Guadalupe River habitat as well as the site's western boundary and relationship with San Tomas Creek. These perimeters will also function as a recreational amenity, incorporating "hike and bike" paths and trails that will link into the broader trail network.

- *Campus Landscape:* Because project build-out largely proposes parking structures rather than sizable surface lots, considerable land area is expected to be freed up in the long-term for landscape areas that augment campus greens and further enhance the campus environment. The focus of these spaces will be on providing active and passive recreational use that primarily serves office workers, for example, accommodating sports courts and sports fields, as well as various ornamental gardens. Therefore, a more cultivated appearance will be typical, although utilizing native and adapted species as appropriate to harmonize with the perimeter landscape.

- *Green Roofs:* The introduction of green roofs on project buildings not only will provide a unique opportunity to extend the open space network, but also will promote site sustainability as an integral component of the project's green infrastructure. Roofs of commercial/residential buildings and parking structures may support a variety of open space functions, balancing ecological, aesthetic and recreational benefits. Key opportunities will include small-scale urban agriculture, community gardens, and aesthetically pleasing horticultural gardens. Incorporation of renewable energy photovoltaic systems may limit the extent of roofs available for landscaping. Space necessary for mechanical systems and access requirements will also be limiting factors. Among the ecological advantages of green roofs will be a reduction in stormwater runoff through rainwater harvesting, less heat absorption and reduced cooling loads, and the filtering of pollutants.

EXHIBIT 3–24: LANDSCAPE ZONE TYPOLOGIES





① *Perimeter Landscape*



② *Campus Landscape*



③ *Green Roof with Photovoltaics*

3.5 URBAN DESIGN CONCEPT

The urban design concept will emphasize community building and placemaking with the intent of achieving a high design standard throughout CityPlace. Community linkages, urban character, livability and sustainability will be key concepts that support the project's urban design and reinforce the overall vision of creating a new center of activity for Santa Clara and the region. With this in mind, a successful project will be dependent on realizing high quality site planning, architectural and landscape design.

CONCEPT SUMMARY

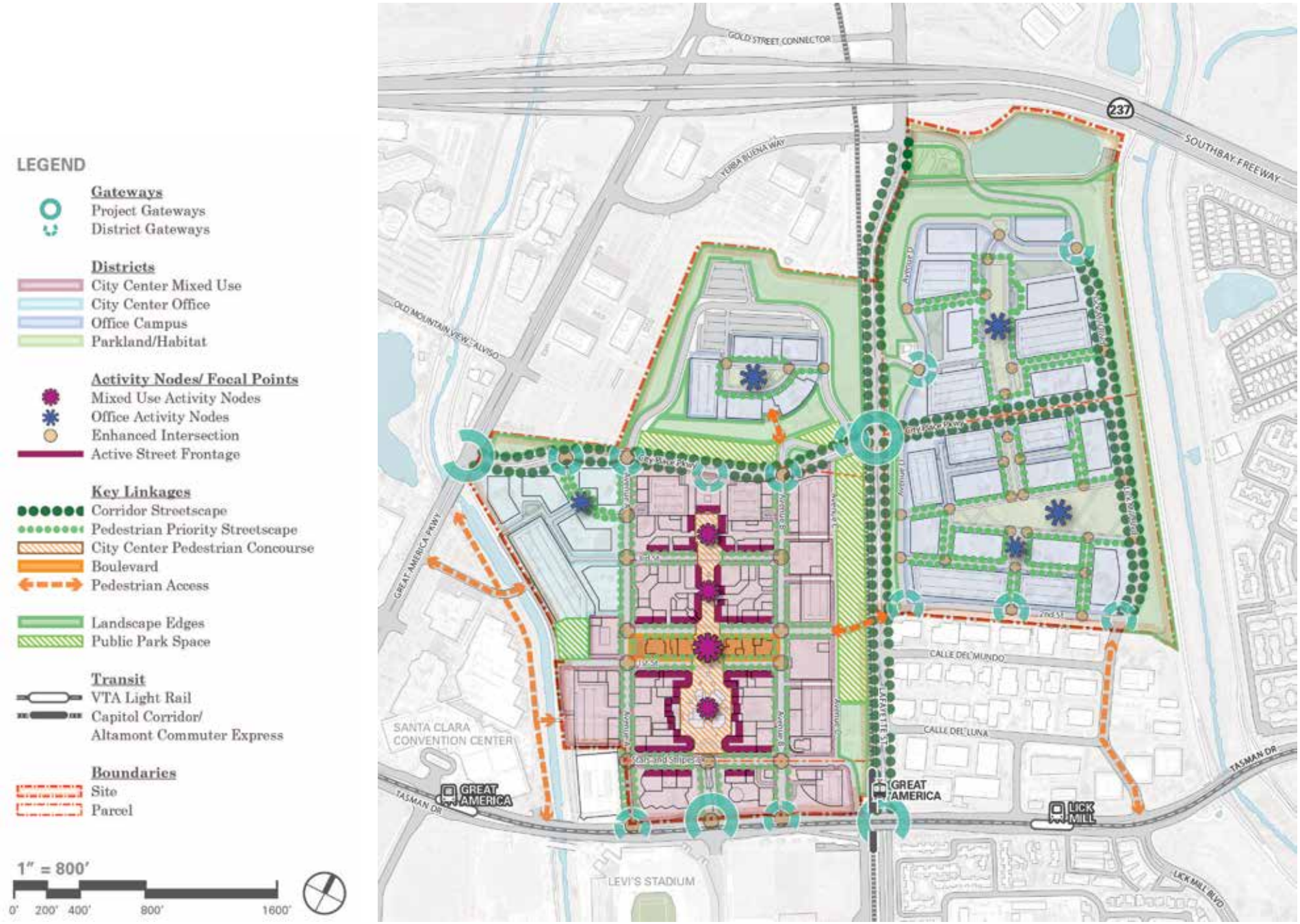
Working together with the land use, mobility and open space concepts, the urban design concept will establish a clear organizational structure that will bind CityPlace to its surroundings, unify its disparate parts, create an urban core, and provide nodes of activity. In doing so, the project looks to create an identifiable character derived from the active, urban character of its mixed-use core, as well as its function as a sustainable, pedestrian and transit-oriented development.

- *Community Linkages:* Project roadways, pathways, and trails will build visual and physical linkages both externally and internally. The desired external connectivity will be achieved through various off-site circulation improvements and reinforced by the proposed active transportation network that supports multi-modal movement. Internal connectivity will largely be achieved through a gridded network of pedestrian-friendly streets and a centrally located pedestrian concourse within the City Center core. Similarly, a network of local streets that readily accommodate pedestrian travel will be located internal to the office campuses, while various pedestrian access routes will link parcels.
- *Urban Character & Livability:* The proposed mix of uses and walkability will be key aspects in establishing an urban character and livability that will be most prominent in the City Center. More specifically, the density, human-scale and street orientation of buildings in the core will be major contributing factors to CityPlace's urban appeal, activating its sidewalks and comfortably framing its public spaces. Beyond the core, high quality outdoor spaces in the form of campus greens will create an attractive setting while also serving as important nodes of activity for the surrounding offices.
- *Project Identity:* A key component of successful placemaking will be to establish a clear project identity. For CityPlace, this will be accomplished through a variety of interrelated means, encompassing gateways that mark major entrances to the project; a coordinated family of wayfinding signage and environmental graphics; a unified palette of streetscape amenities; and a compelling landscape character. Additional features may include landmark buildings and civic art at strategic locations. These measures will be especially applicable to the City Center core as a major destination, whereas the office campuses will have leeway to create individual characters within the context of the overall project identity.
- *Site Sustainability:* CityPlace will incorporate sustainable design as both an integral and emblematic part of the project. This will be achieved through sustainable site planning, landscape and building design that aims to maximize resource efficiency, promoting economic vitality, and increasing the quality of life for the project's visitors and occupants. Among the more visible sustainable design measures will be the project's transit and pedestrian-oriented site layout; green building practices such as natural ventilation, shading and daylighting; and eco-sensitive landscapes that will stress the use of native and adapted species.

TABLE 3–6: URBAN DESIGN CONCEPT CONSISTENCY W/ KEY GENERAL PLAN SUSTAINABILITY POLICIES

5.3.3-P4:	Promote community events, such as farmers' markets and street festivals within the public right-of-way and on City-owned land, in order to support economic development, business retention, and healthy food options within the City.
5.3.4-P11:	Foster active, pedestrian-oriented uses at ground level, such as retail shops, offices, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development.
5.8.4-P1:	Provide a comprehensive, integrated bicycle and pedestrian network that is accessible for all community members.
5.8.4-P5:	Design streets to include detached sidewalks with planting strips or wider, attached sidewalks with tree-wells to encourage pedestrian use and safety, as well as to remove barriers and increase accessibility.
5.8.4-P7:	Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.
5.9.1-P4:	Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.
5.10.3-P2:	Encourage new development to incorporate sustainable building design, site planning and construction, including solar opportunities.

EXHIBIT 3–25: URBAN DESIGN CONCEPT*



** Plan is illustrative and subject to change. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*



Station looking north



Boulevard retail

URBAN STRUCTURE

The urban structure of CityPlace may be described according to the following components: 1) Gateways; 2) Linkages; 3) Districts; 4) Activity Nodes and Focal Points; and 5) Edges. Collectively, these elements will organize the project to create a strong visual image, focusing activity on the desired urban core; linking the various parcels physically and visually to create a unified whole; responding to the adjacent land use context and built infrastructure; and working with the existing landforms.

- *Gateways:* Entrance into the project and its various districts will be marked through a series of gateways; these may be expressed through a combination of signage and art, special landscape and lighting treatment, and/or the orientation and massing of buildings. The main project gateways will be located 1) off Great America Parkway at CityPlace Parkway; 2) off Tasman Drive at Centennial Boulevard; and 3) at the crossing of CityPlace Parkway and Lafayette Street. District-scale gateways will be recommended at district entrances via collector streets.

- *Linkages:* These will include important vehicular and pedestrian routes that will connect gateways, activity nodes and focal points, including parks. The proposed CityPlace Parkway and Lick Mill Boulevard are major vehicular corridors that will be part of the arrival sequence linking the various districts into a unified whole; this will be communicated through streetscape treatment that will include suitably scaled street trees. Pedestrian priority streets will be identified internal to each district, receiving an appropriate level of streetscape amenity, including canopy shade trees, lighting and outdoor furniture; within the City Center core, these streets will form a tight gridded network. Meanwhile, a major pedestrian spine will become the central feature of the core, supporting the highest level of activity and pedestrian flows.

- *Districts:* These will be defined by areas of like character, generally corresponding to parcel delineations and associated land use designations. The City Center Mixed-Use District will have the most urban character and support the most activity, incorporating a mix of uses that encompasses residential, retail, office and hospitality, and are knit together through a network of walkable streets. The City Center Northwest Office District will feature a more urban character than the Office Campus districts located outside of the core. The character of buildings, streetscapes, landscapes and signage will reinforce the character and identity of each district, mindful that each will contribute to the overall project identity.

- *Activity Nodes and Focal Points:* Each district will incorporate one or more activity nodes that will function as primary people gathering places and also will help to orient visitors. For the City Center Mixed-Use District, this will be comprised of a series of focal points along the pedestrian concourse, with the most important node to be located midway along the pedestrian concourse at the heart of the district; here, the adjacent streets may be temporarily closed to support major festivals and events. Within each office campus, a central campus green may serve the function of an activity node. Additionally, certain intersections may also receive special treatment that reflects their relative importance, for example with enhanced pedestrian crossings.

- *Edges:* The landscape edges resulting from the landfill embankments are highly visible and will be important in communicating both the design quality and sustainability of the project. These will primarily rely on native and adapted vegetation to create a visually attractive boundary that requires a minimum of resource inputs, with suitable design transitions to adjacent perimeter roadways and gateways.

MASSING / SPATIAL DEFINITION

CityPlace's buildings will be oriented and massed to reinforce the desired urban character and to establish a positive relationship between buildings and outdoor spaces; this will be key to activating the project's outdoor gathering spaces and to making walkable streets. Particularly in the City Center core, building orientation and massing will establish a consistent street wall along pedestrian priority streets and will define the pedestrian concourse. Additionally, active uses such as retail and food and beverage will be placed along sidewalks and will line the edges of the pedestrian concourse. Within each office campus, buildings will be encouraged to frame and orient to the internal campus greens, thereby creating a collegial atmosphere; other considerations in the placement of office buildings will include solar orientation, and views to and from the buildings.

Multi-story parking structures will be utilized extensively thought the project. For the City Center portions of the project, parking structures should be predominately located at the edges of the pedestrian district with access from perimeter roads, so to divert auto traffic away from pedestrian zones. Where parking structures face pedestrian zones they should incorporate active edges, which may include Commercial Storefronts and/or Public Amenities that enliven pedestrian experience.

EXHIBIT 3–26: CITYPLACE - VIEW LOOKING NORTH



BUILDING TYPOLOGIES

The following imagery is suggestive of an appropriate visual character for the various building types that will comprise CityPlace, including: 1) Office Typologies; 2) Retail / Entertainment Typologies; 3) Hospitality Typologies 4) Residential Typologies; and 5) Parking Typologies. The guidelines associated with each of these typologies are presented in Chapter 5 (Design Guidelines).

OFFICE TYPOLOGIES

office campus



class-A office



office tower



creative office / office loft



RETAIL / ENTERTAINMENT TYPOLOGIES

anchor retail



in-line retail



pad retail



entertainment (cinema/theater)



HOSPITALITY TYPOLOGIES

full service hotel



boutique hotel



RESIDENTIAL TYPOLOGIES

multi-family podium



mid-rise multi-family



high-rise multi-family (12 stories +/-)



service apartments



PARKING TYPOLOGIES

stand-alone magazine



stand-alone magazine (ground floor retail)



wrapped podium







CHAPTER 4



PARCEL DEVELOPMENT PLANS, STANDARDS & REQUIREMENTS

4.1 INTRODUCTION

Design standards are graphic and written principles which are to be incorporated into the design of each development block in the project area. With appropriate flexibility, they will aid in achieving a high level of design excellence.

INTRODUCTION

CityPlace will be conceived as an Urban District. As such, its development should best mimic the tendencies associated with urban growth, promoting both a diversity of building uses and expressions that are characteristic of great urban environments, while retaining unifying urban design characteristics that hold the district together. To accomplish this, emphasis will be placed on promoting the diverse and specific needs of tenants and working to craft sub-districts of synergistic uses, while working to retain the essence of the overall urban design structure. In both the diversity of creating sub districts of unique character and unity of common urban design, the overall image of CityPlace will be supported.

For the City Center, the Block Development Guidelines detailed in this chapter are intended to be used as a tool for City staff to review DAPs. The Guidelines identify planning concepts "in spirit" for the proposed block. Elements such as key frontages and entries, setbacks, general street patterns, and servicing are identified and will guide many valid approaches to development of the block. Other more specific block characteristics such as massing, general disposition of land uses, etc. will evolve as the project design is implemented, and may deviate from the illustrated block characteristics shown. Overall program, density and urban character will be maintained within the development of each parcel; however, specific program elements may move from one block to another to accommodate a variety of anticipated influencing factors, including:

- Changes in use and density, and shifts in program between blocks;
- Regulatory requirements due to landfill conditions;
- Building typology flexibility;
- Key tenant leasing accommodations;
- Districting, retail mix and locational synergies;
- Shifting anchor tenant locations; and
- Redistributing upper floor residential uses or accommodating variety in office typologies.

In such case, guidelines associated with the relocation of uses can be applied to the new locations as appropriate; however they shall be consistent with the MCP. The Guidelines are not intended to inflexibly define specific form and character requirements of the City Center blocks through the life of the project.

Outside of City Center (for the Office Parcels 1, 2, 3, and 4 Northwest) the Block Development Guidelines in this chapter are an example of a typical campus office layout found in many office developments in the vicinity (typically a multi-tenant speculative development approach). Elements such as key frontages, servicing, and parking locations are identified and valid to consider in any proposed block development scheme. However, increasingly important to the current marketplace is the ability to flexibly accommodate new working environment prototypes in response to tenant and market needs. Other approaches might be proposed in the DAP submissions, including new building typologies and campus organizations that can better accommodate a Build-to-Suit situation.

PLANS & DESIGN OBJECTIVES

The goal of the standards is to promote a visually cohesive, pedestrian-oriented, and economically viable urban community. The standards promote a clear and consistent process for parcel development. They do not mandate specific architectural styles or building materials. They do recognize the following:

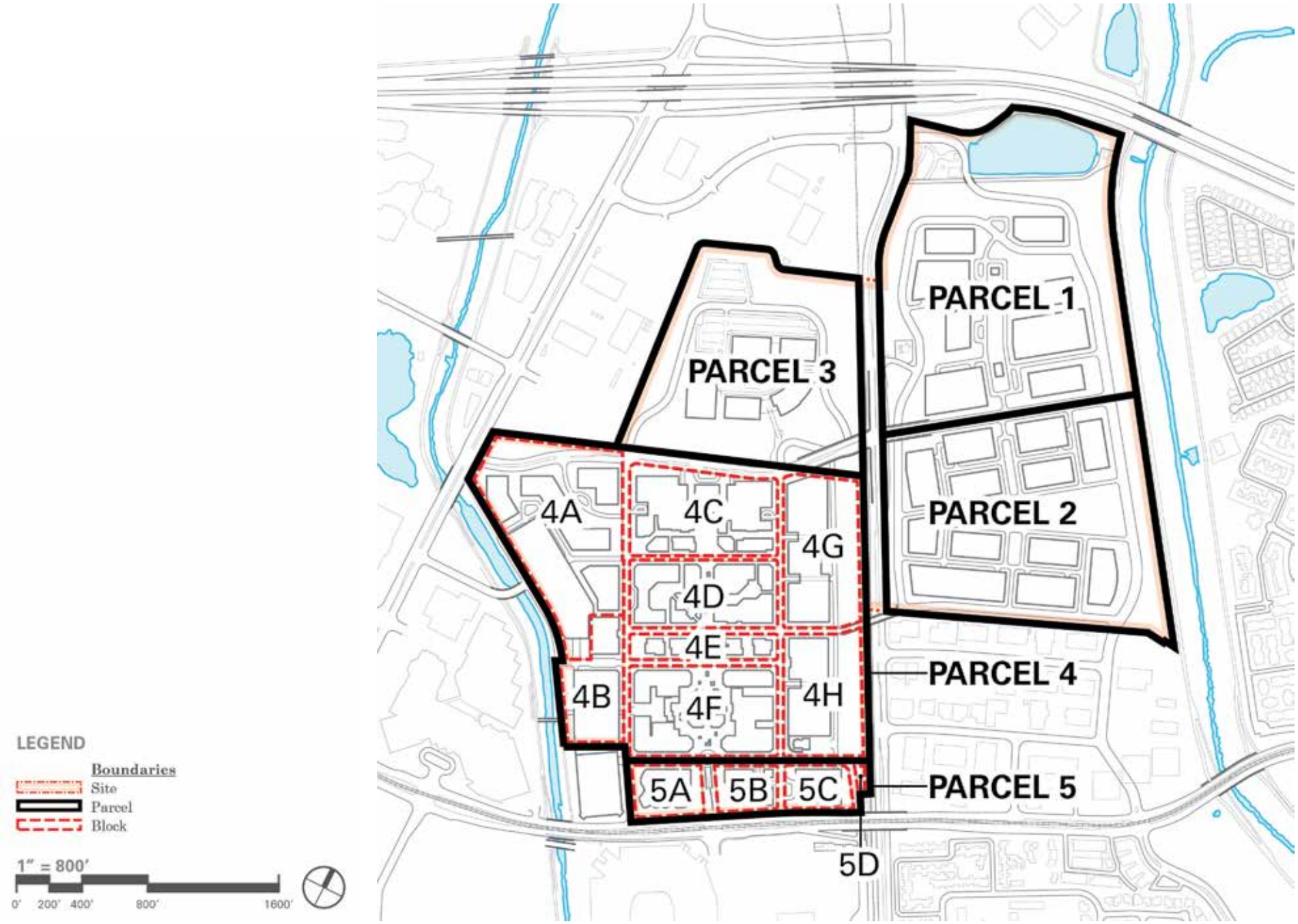
- Provide high quality development;
- Promoting a cohesive development pattern, while allowing variety in design and construction;
- Assist designers, City Staff, City Council, and developers in making consistent design choices that reinforce the project vision over time;
- Provide clarity to the design review and approval process; and
- Emphasize pedestrian connectivity through pathways, quiet spaces, and vistas.

Each development will be reviewed for compliance with the design standards, according to the Development Area Plan process outlined in Chapter 2 of this document.

DESIGN STANDARD ORGANIZATION

The sequence of future DAP submittals will depend on various factors. Therefore, the area addressed by a DAP may correspond to multiple blocks or only a portion of a block as depicted in this chapter. Each block is identified on a key plan so the designer has a logical starting point for design. The standards by block identify allowable buildings, setbacks, active frontages, parking access and other standards. In addition, the objective of the development of the block, its target program, and design objectives are provided in text form. Required design objectives are accompanied by the term “shall”, while design objectives that are recommended are termed as “should” or “are encouraged”. Minimum standards use the term “acceptable” or “allowable” to describe minimum required development performance. The Standards associated with each development parcel outlined in this chapter should be considered as Requirements when applied to public streets and understood as Recommendations when applied to private streets, except private streets must comply with standards related to fire, public safety and sanitation. Public and Private Street Designations are depicted in Exhibit 3-11.

EXHIBIT 4–1: PARCEL & BLOCK KEY PLAN*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

4.2 PARCEL 1: OFFICE CAMPUS NE

TABLE 4–1: PARCEL 1 PROGRAM*

PARCEL 1	
Primary Land Use	***Gross Area***
Office	
Office	1,200,000
TOTAL	**1,200,000**
AREA: 49.6 Acres	FAR: 0.75

Potential Land Use Categories Include:

Retail/F&B — *This use may be considered in the form of either standalone kiosk structures and/or as an accessory use.*

Hotel — *A potential business-oriented hotel may be considered.*

Site Coverage:

- *35 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

PARCEL CHARACTER

Parcel 1 will have high visibility from Highway 237 to the north, and has the potential to be a signature office campus. It will have the important function of anchoring the northeast portion of the project, and may be developed as either an open tenant office campus, a secure office campus, or as a combination of office campus types. An internal green space is envisioned within the parcel, as well as green buffers and trails surrounding the parcel.

PARCEL DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required around the perimeter loop road. A shared bike route is suggested within the primary road running through the parcel.
- *Active Frontages:* These are suggested within land uses other than parking structures along the interior roads. Potential retail and food and beverage uses should front the interior spine road.
- *Parking Access:* Entries to parking shall only be located off of interior streets and not primary roads. Parking can be either structured or in surface lots.
- *Open Space & Amenities:* A vehicular accessible passive recreation area is suggested in the center of the site, which should focus all the buildings around it within the parcel. A kiosk structure or structures might be provided within the central passive recreation area. An ornamental garden could be located north of the primary road. Active recreation spaces are also located within the parcel and should create connections to the central passive space. Outside of the loop road, land is significantly sloped and can provide picturesque landscape that includes trails, native habitat, etc.
- Setbacks along the perimeter loop road shall be 20' minimum from the curbline.
- *View Corridors:* View corridors should be kept open at both ends of the primary road. In the case of separate buildings, clear views should be maintained through the lobby at ground level.
- *Concealed & Exposed Parking:* Parking structures and / or lots shall be made visually attractive, either by landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* Buildings should be moderate height (roughly three to seven stories), however, to accommodate a range of unique design solutions a maximum building height of 219' above mean sea level (msl) is established consistent with Airport Land Use Commission (ALUC) regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* These shall be located off secondary streets running perpendicular to the perimeter loop road.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–2: PARCEL 1 GROUND FLOOR PLAN*



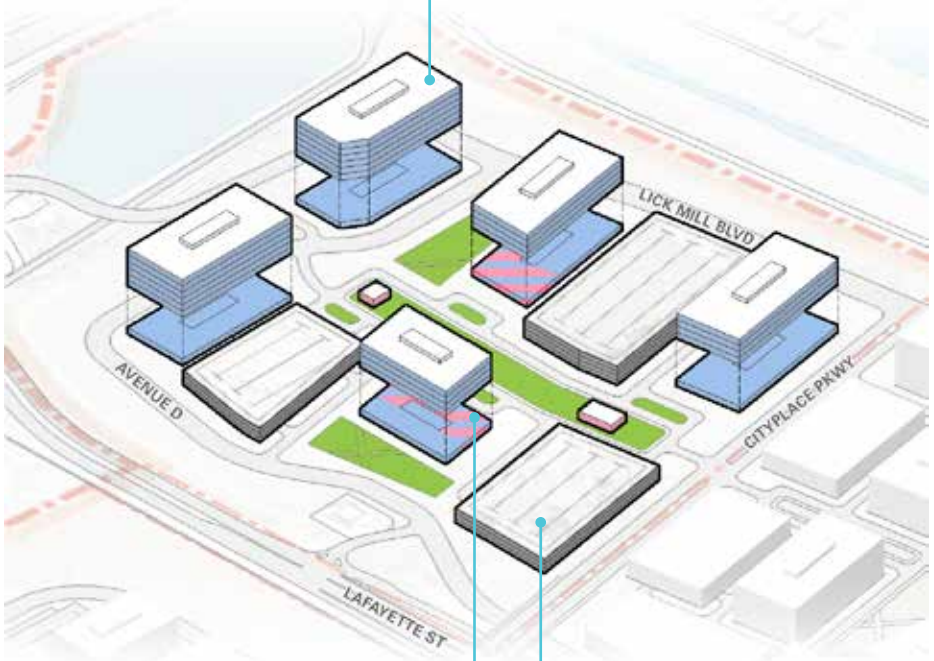
LEGEND

- Active Frontage
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Entrance
- Photovoltaics
- Site
- Parcel

1" = 400'

0' 100' 200' 400'

EXHIBIT 4–3: PARCEL 1 EXPLODED AXONOMETRIC VIEW*



Office Buildings:
- Three to seven floors of office shown, with footprint ranging from 25-35K

Parking Structures:
- Parcel 1 will be self-parked in a combination of structured and/or surface parking

Ground Floor:
- Campus may be oriented along a central green space
- Potential retail/food & beverage accessory uses oriented along central green space
- Active frontages, main building entrances facing inwards towards green space

LEGEND

Land Uses
- Office
- Retail or F&B
- Structured Parking
- Potential Retail/F&B
- Hotel (Potential Use)

Open Space
- Landscaped Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.3 PARCEL 2 (SCHEME A): OFFICE CAMPUS SE

TABLE 4–2: PARCEL 2 PROGRAM*

PARCEL 2	
Primary Land Use	***Gross Area***
Office	
Office	2,160,000
TOTAL	**2,160,000**
AREA: 60.9 Acres	FAR: 0.81

Potential Land Use Categories Include:

Retail/F&B — *This use may be considered in the form of either standalone kiosk structures and/or as an accessory use.*

Hotel — *A potential business-oriented hotel may be considered.*

Site Coverage:

- *35 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

PARCEL CHARACTER

Anchoring the southeastern corner of the site, the Scheme A version of Parcel 2 is envisioned as either a signature open tenant office campus, a secure office campus, or as a combination of office campus types. There will be a green space within the parcel. Office buildings will front the green space, with major entries facing the green. Access is provided from Lick Mill Boulevard, CityPlace Parkway, 2nd Street, Lafayette Street or via transit connections further south.

PARCEL DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required around the perimeter loop road. A shared bike route is suggested along interior roads within the parcel.
- *Active Frontages:* These are suggested within land uses other than parking structures that front the interior open space. Potential retail and food & beverage uses should also front the open space.
- *Parking Access:* Entries to parking are located off secondary streets running perpendicular to the campus loop road. Parking may be either structured or located in surface lots.
- *Open Space & Amenities:* A multifunction recreation area is identified in the center of the site, and will have the potential to focus all the buildings around it within the parcel. A kiosk or similar structure or structures should be provided within the central recreation area, supporting recreation or accommodating retail/food & beverage as an accessory use. Outside of the loop road, land is significantly sloped and can provide a picturesque landscape that includes trails, native habitat, etc.
- Setbacks along the perimeter loop road shall be 20' minimum from the curbline.
- *View Corridors:* View corridors should be kept open at both ends of the primary open space. In the case of separate buildings, clear views should be maintained through the lobby at ground level.
- *Concealed & Exposed Parking:* Parking structures and / or lots shall be made visually attractive, either by landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* Buildings are expected to be moderate height (roughly three to seven stories), and "read" as a campus, however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* These shall be located off secondary streets running perpendicular to the campus loop road.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–4: PARCEL 2 GROUND FLOOR PLAN*



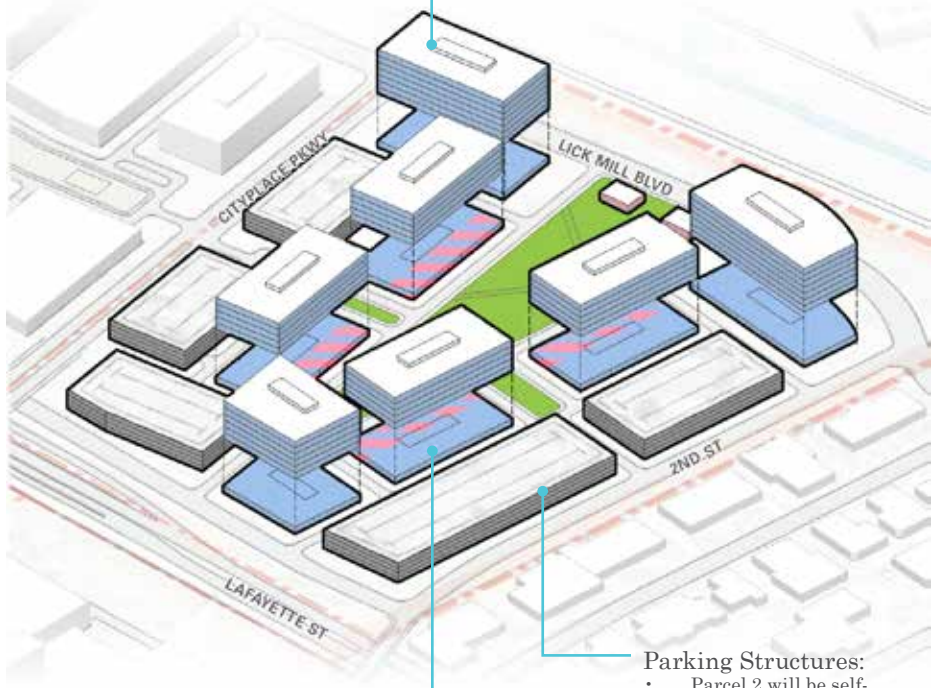
LEGEND

- Active Frontage
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Entrance
- Photovoltaics
- Site
- Parcel

1" = 400'

0' 100' 200' 400'

EXHIBIT 4–5: PARCEL 2 EXPLODED AXONOMETRIC VIEW*



Office Buildings:
- Three to seven floors of office shown with footprint ranging from 25-35K

Parking Structures:
- Parcel 2 will be self-parked in a combination of structured and/or surface parking

Ground Floor:
- Campus may be oriented along a central green space
- Potential retail/food & beverage accessory uses oriented along green space

LEGEND

Land Uses
- Office
- Retail or F&B
- Structured Parking
- Potential Retail/F&B
- Hotel (Potential Use)

Open Space
- Landscaped Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.4 PARCEL 2 (SCHEME A VARIANT): RETAIL CENTER

TABLE 4–3: PARCEL 2 (VARIANT) PROGRAM*

*PARCEL 2 - SCHEME A VARIANT	
Primary Land Use	*Gross Area*
Retail	
Anchors	260,000
Retail	259,000
TOTAL	519,000
AREA: 60.9 Acres	FAR: 0.20

Potential Land Use Categories Include:

Hotel — *A potential business-oriented hotel may be considered.*

Entertainment — *Entertainment uses, such as a cinema multiplex, may be considered.*

Site Coverage:

- *35 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

PARCEL CHARACTER

The Scheme A Variant will be a retail-oriented alternative to the office campus, and is intended to serve as a surface parked retail center with two large anchors and in-line retail, food and beverage, and entertainment. Access will remain similar to the office version of the parcel.

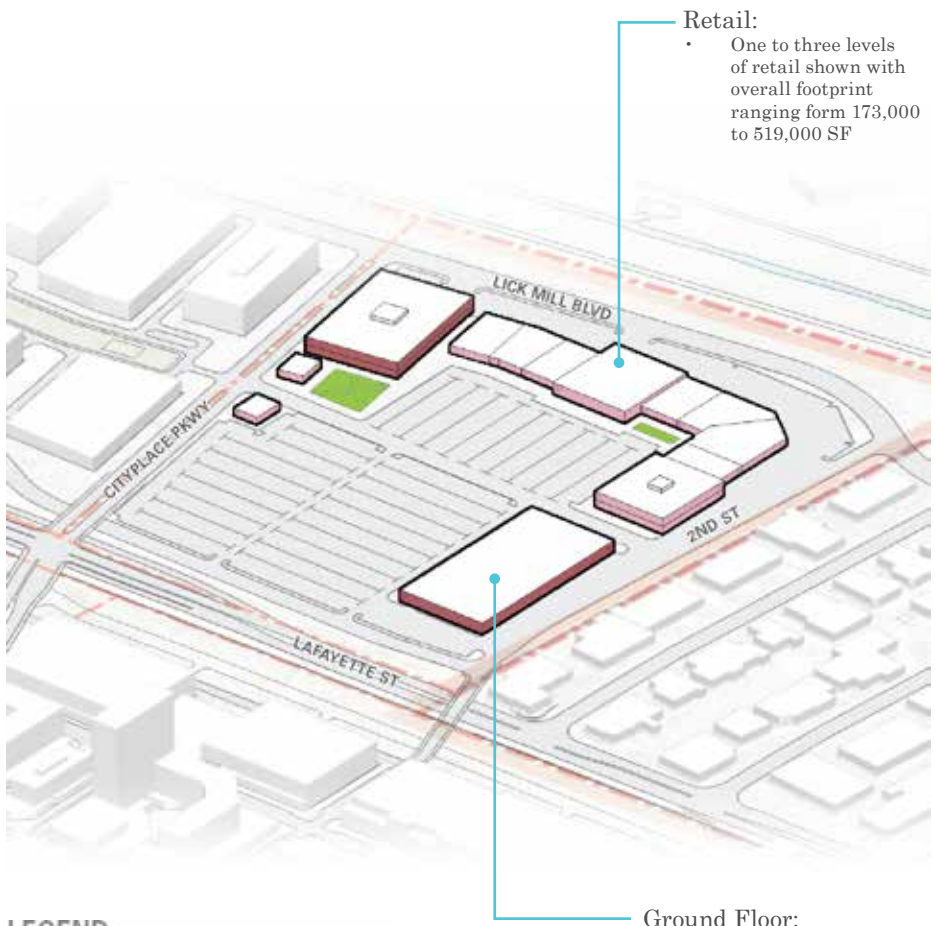
PARCEL DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required around the perimeter loop road. A shared bike route is suggested along interior roads within the parcel.
- *Active Frontages:* These are suggested along primary anchor and in-line retail entries, and along open spaces and retail/food & beverage kiosks.
- *Parking Access:* Entries to parking are required to be located off secondary streets running perpendicular to the loop road. Parking may be either structured or located in surface lots.
- *Open Space & Amenities:* Within the retail center, provision should be made for small landscaped spaces adjacent to active frontages. Outside of the loop road, land is significantly sloped and can provide picturesque landscape that includes trails, native habitat, etc.
- *Build-To Lines & Setbacks:* Build-to lines are suggested along buildings that front open spaces. Setbacks from secondary streets within the retail center shall be 15' minimum from the curbline. Setbacks along the campus loop road shall be 20' minimum from the curbline.
- *View Corridors:* Views should be kept open along the western edge of the parcel, facing the City Center. In the case of separate buildings, clear views should be maintained through the lobby at ground level.
- *Concealed & Exposed Parking:* Parking structures and / or lots shall be made visually attractive, either by landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* Buildings are to be at the low heights expected for a retail center. In the case of an office component, office buildings should be moderate height (roughly three to seven stories), however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* These shall be located off of driveways running perpendicular to the campus loop road. Servicing should take place at the back of the retail center, as identified in the plan diagram.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–6: PARCEL 2 (SCHEME A VARIANT) GROUND FLOOR PLAN*



EXHIBIT 4–7: PARCEL 2 (SCHEME A VARIANT) EXPLODED AXONOMETRIC VIEW*



** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.5 PARCEL 2 (SCHEME B): OFFICE CAMPUS SE

TABLE 4–4: PARCEL 2 (SCHEME B) PROGRAM*

*PARCEL 2-SCHEME B	
Primary Land Use	*Gross Area*
Retail	
Retail	200,000
Office	
Office	1,960,000
TOTAL	**2,160,000**
AREA: 60.9 Acres	FAR: 0.81

Potential Land Use Categories Include:

Hotel *A potential business-oriented hotel may be considered.*

Site Coverage:

- *35 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

PARCEL CHARACTER

Anchoring the southeastern corner of the site, the Scheme B version of Parcel 2 is envisioned as either a signature open tenant office campus, a secure office campus, or as a combination of office campus types. There will be a green space within the parcel. The main difference between this Scheme and Scheme A will be retail buildings and smaller stand-alone food and beverage buildings that will front the green space, with major entries facing the green.

PARCEL DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required around the perimeter loop road. A shared bike route is suggested along interior roads within the parcel.
- *Active Frontages:* These are suggested within land uses other than parking structures that front the interior open space. Retail and food & beverage uses should also front the open space.
- *Parking Access:* Entries to parking are located off secondary streets running perpendicular to the campus loop road. Parking may be either structured or located in surface lots.
- *Open Space & Amenities:* An accessible multifunction recreation area is identified in the center of the site, and could focus all the buildings around it within the parcel. A kiosk structure or structures might be provided within the central recreation area to support recreation or accommodate retail/food & beverage. Outside of the loop road, land is significantly sloped and can provide a picturesque landscape that includes trails, native habitat, etc.
- *Build-To Lines & Setbacks:* Build to lines are suggested to follow the interior open space and also along adjacent streets fronting open spaces. Setbacks along the perimeter loop road should be 20' minimum from the curbline.
- *View Corridors:* View corridors should be kept open at both ends of the primary open space. In the case of separate buildings, clear views should be maintained through the lobby at ground level.
- *Concealed & Exposed Parking:* Parking structures and /or lots shall be made visually attractive, either by landscaping, visual buffering, siting, or appropriate screening.
- *Building Heights:* Buildings are expected to be moderate height (roughly two to seven stories), and "read" as a campus, however, to accommodate a range of unique design solutions. a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* These shall be located off secondary streets running perpendicular to the campus loop road.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–8: PARCEL 2(SCHEME B) GROUND FLOOR PLAN*



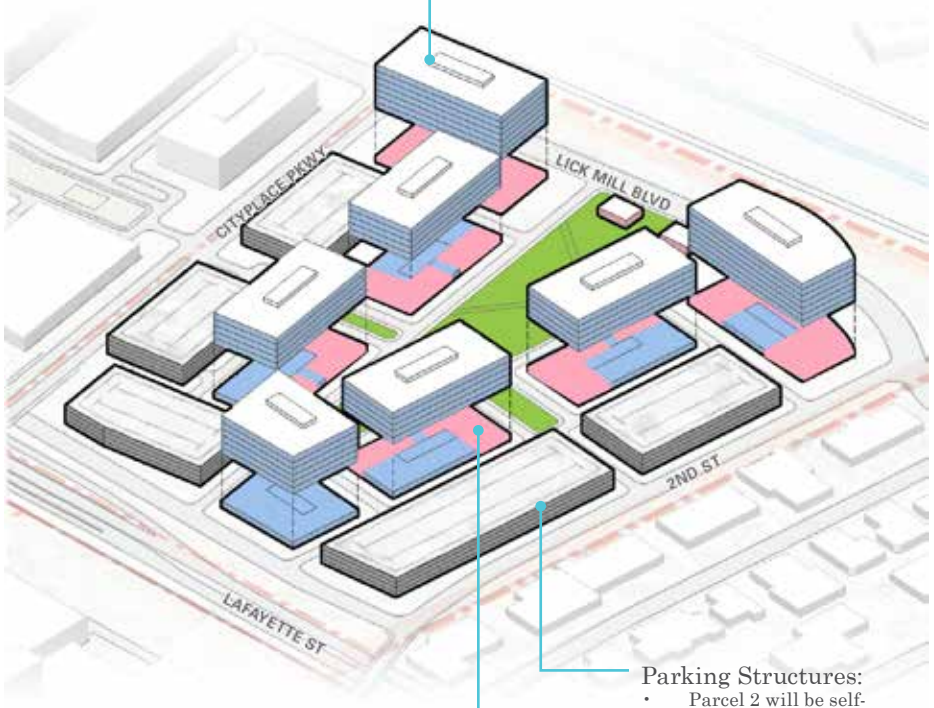
LEGEND

- Active Frontage
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Entrance
- Photovoltaics
- Site
- Parcel

1" = 400'

0' 100' 200' 400'

EXHIBIT 4–9: PARCEL 2(SCHEME B) EXPLODED AXONOMETRIC VIEW*



Office Buildings:
- Two to seven floors of office shown with footprint ranging from 25-35K

Parking Structures:
- Parcel 2 will be self-parked in a combination of structured and/or surface parking

Ground Floor:
- Campus may be oriented along a central green space
- Retail/food & beverage accessory uses oriented along green space

LEGEND

Land Uses
- Office
- Retail or F&B
- Structured Parking
- Hotel (Potential Use)

Open Space
- Landscaped Open Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.6 PARCEL 3: OFFICE CAMPUS NW

TABLE 4–5: PARCEL 3 PROGRAM*

PARCEL 3	
Primary Land Use	***Gross Area***
Office	
Office	720,000
TOTAL	**720,000**
AREA: 34.9 Acres	FAR: 0.47

Potential Land Use Categories Include:

Retail/F&B — *This use may be considered in the form of either standalone kiosk structures and/or as an accessory use.*

Hotel — *A potential business-oriented hotel may be considered.*

Site Coverage:

- *25 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

PARCEL CHARACTER

With high visibility from Highway 237 to the north and anchoring the northwestern portion of the project, this parcel will have high potential as either a signature open tenant office campus, a secure office campus, or as a combination of office campus types. An internal green space is envisioned as a central gathering area within the parcel, as well as green buffers and trails surrounding the parcel. A loop road will serve surface and structured parking areas shared between several buildings on the site.

PARCEL DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*). A pedestrian stair that connects the campus to the City Center is also suggested.
- *Bicycle Circulation:* Dedicated bike lanes are required around the perimeter loop road. A shared bike route is suggested along interior roads within the parcel.
- *Active Frontages:* These are suggested within land uses other than parking structures that front the interior open space. Potential retail and food & beverage uses should also front the open space.
- *Parking Access:* Entries to parking are to be located off secondary streets or driveways running perpendicular to the campus loop road. Parking may be either structured or located in surface lots.
- *Open Space & Amenities:* An accessible passive open space is identified in the center of the site, and will focus all the buildings around it within the parcel. A kiosk or similar structure or structures may be provided within the central recreation area, supporting recreation or accommodating retail/food and & beverage as an accessory use. Outside of the loop road, land is significantly sloped and can provide picturesque landscape that includes trails, native habitat, etc. The southern edge of Parcel 3 has frontage along a potential park dedication identified as North Park in this document. Connections to this park and possible extension of it up to the useable development area should be considered. Topographic conditions may make this challenging, but potential exists for an exercise stair that could connect active recreation opportunities below and on top.
- Setbacks shall be 20' minimum from the curbline.
- *View Corridors:* A dual access view corridor could be kept open along the central open space. In the case of separate buildings, clear views should be maintained through the lobby at ground level.
- *Concealed & Exposed Parking:* Parking structures and /or lots should be made visually attractive, either by landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* Buildings are expected to be moderate height (roughly three to seven stories) and "read" as a campus; however, to accommodate a range of unique design solutions, a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Access:* These shall be located off secondary streets or driveways running perpendicular to the campus loop road.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–10: PARCEL 3 GROUND FLOOR PLAN*



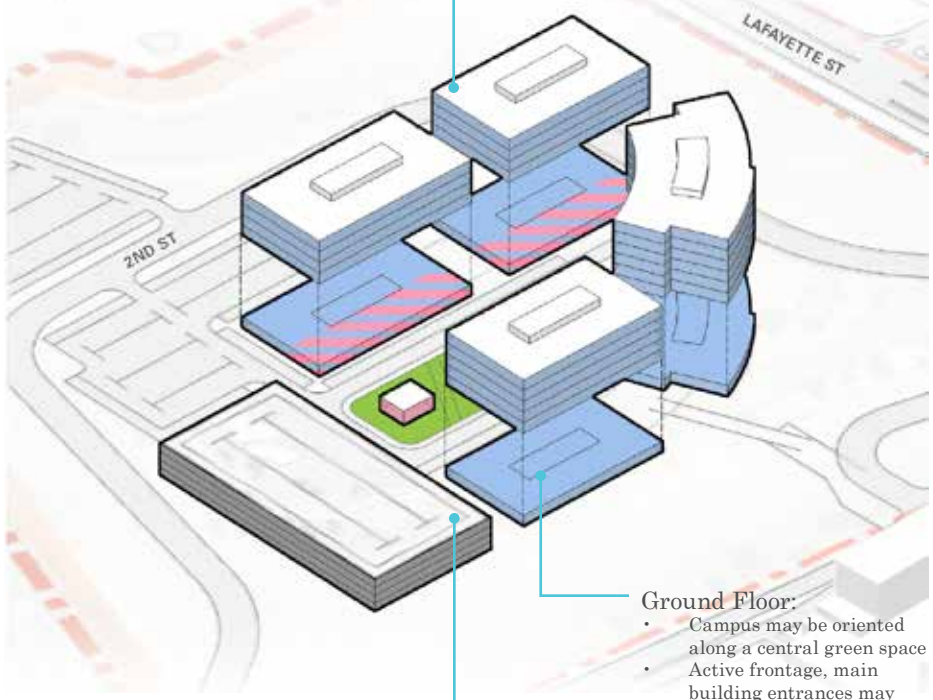
LEGEND

- Active Frontage
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Entrance
- Photovoltaics
- Site
- Parcel

1" = 300'

0' 75' 150' 300'

EXHIBIT 4–11: PARCEL 3 EXPLODED AXONOMETRIC VIEW*



Office Buildings:

- Three to seven floors of office shown with footprint ranging from 25-35K

Ground Floor:

- Campus may be oriented along a central green space
- Active frontage, main building entrances may be located along the 2nd Street ring road or facing inwards
- Potential retail/food & beverage accessory uses oriented along central green space

Parking Structures:

- Parcel 3 will be self-parked in a combination of surface and structured parking

LEGEND

Land Uses

- Office
- Retail or F&B
- Structured Parking
- Potential Retail/F&B
- Hotel (Potential Use)

Open Space

- Landscaped Open Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.7 BLOCK 4A: CITY CENTER NW OFFICE ZONE

TABLE 4–6: BLOCK 4A PROGRAM*

BLOCK 4A	
Primary Land Use	*Gross Area*
Office	
Office	1,185,400
TOTAL	**1,185,400**
AREA: 19.4 Acres	FAR: 1.40

Potential Land Use Categories Include:

Retail/F&B — *This use may be considered in the form of either standalone kiosk structures and/or as an accessory use.*

Hotel — *A potential business-oriented hotel may be considered.*

Site Coverage:

- *55 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

BLOCK CHARACTER

As the gateway block at the northwestern boundary of Parcel 4, the site is bounded by Great America Parkway and CityPlace Parkway as well as San Tomas Aquino Creek. It is envisioned as either a signature open tenant office campus, a secure office campus, or as a combination of land uses. Block 4A buildings will share a parking structure along the western boundary of the block that will need to be sensitively buffered.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A, and off street bike paths are required along CityPlace Parkway and San Tomas Aquino Creek.
- *Active Frontages:* These are suggested along Avenue A. Potential retail and food & beverage uses should also front Avenue A.
- *Parking Access:* Entries to parking shall be located off secondary streets running perpendicular to CityPlace Parkway and Avenue A. Parking may be either structured or located in surface lots.
- *Open Space & Amenities:* Small, distributed mini parks or landscaped areas or a large passive open space are suggested for the center of the block. A kiosk structure or structures may be provided within these spaces. In addition, linear open spaces or landscaped areas are suggested along CityPlace Parkway and Avenue A. A linear open space or buffering is recommended along the frontage of San Tomas Aquino Creek.
- *Public Park:* This block includes a landscaped open space that may become a public park identified as West Park. Depending of the amount of dedicated active park space needed to support residential uses on adjacent uses, this park may accommodate an amphitheater and children's play space for various age groups. The minimum size for this park is one acre (to qualify as residential active open space).
- *Build-To Lines & Setbacks:* Build to lines are suggested to follow the corner of CityPlace Parkway and Avenue A. There shall be a 15' minimum setback from the Avenue A curbline, as well as a 20' minimum setback from the CityPlace Parkway curbline, and the block boundary fronting San Tomas Aquino Creek.
- *Buffers:* A 20' landscape buffer shall be kept open along the western edge of the block, fronting San Tomas Aquino Creek.
- *Concealed & Exposed Parking:* Parking structures and /or lots should be made visually attractive, either by landscaping, visual buffering, siting, artwork, or appropriate screening. Special design attention shall be given to parking structure facade fronting the San Tomas Aquino Creek.
- *Building Heights:* Buildings are expected to be moderate height (roughly three to seven stories) and "read" as a campus, however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* These shall be located off secondary streets or driveways running perpendicular to CityPlace Parkway or Avenue A.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–12: BLOCK 4A GROUND FLOOR PLAN*



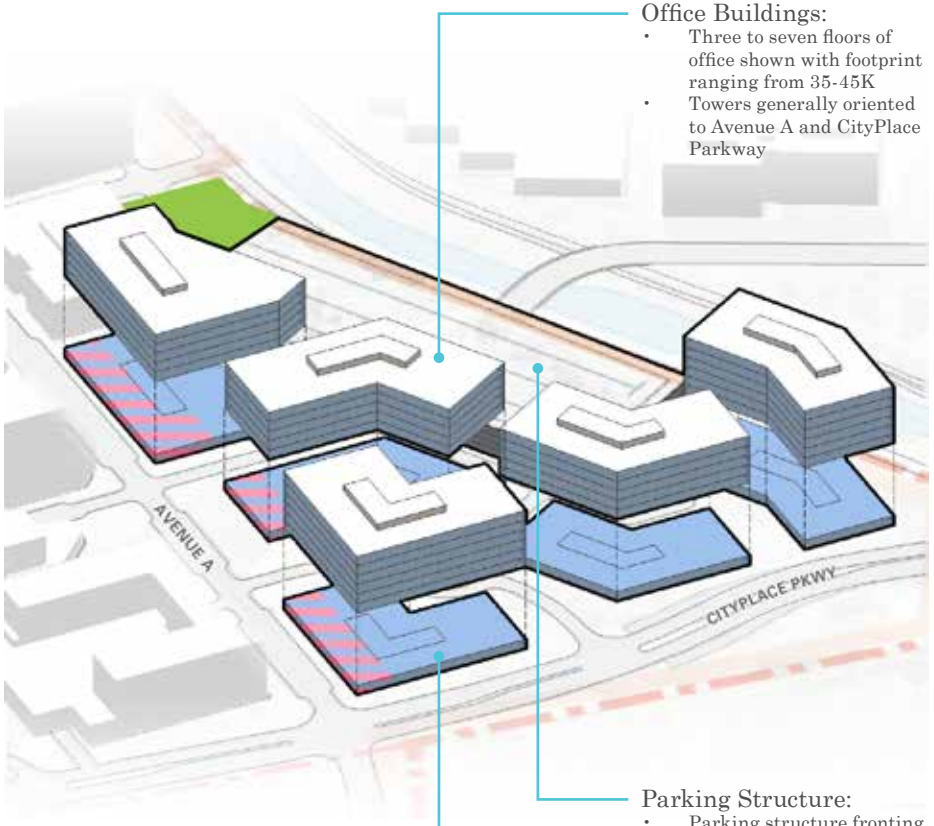
LEGEND

- Active Frontage
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Entrance
- Photovoltaics
- Site
- Parcel

1" = 300'

0' 75' 150' 300'

EXHIBIT 4–13: BLOCK 4A EXPLODED AXONOMETRIC VIEW*



Office Buildings:

- Three to seven floors of office shown with footprint ranging from 35-45K
- Towers generally oriented to Avenue A and CityPlace Parkway

Parking Structure:

- Parking structure fronting San Tomas Aquino Creek

Ground Floor:

- Active frontage, should be located along Avenue A and CityPlace Parkway
- Retail/food & beverage accessory uses may be located along Avenue A

LEGEND

Land Uses
- Office
- Structured Parking
- Potential Retail/F&B
- Hotel (Potential Use)

Open Space
- Landscaped Open Space

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4.8 BLOCK 4B: CITY CENTER WEST

BLOCK CHARACTER

A dense mixed-use block that will act as a western boundary of City Center abutting the San Tomas Aquino Creek and Santa Clara Convention center to the west, the City parking structure to the south, and the core of the City Center to the East. Residential buildings will wrap the block and parking structures.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* Bisected by 1st Street, Block 4B may be composed of a northern building (retail anchor), and a southern building (podium residential with ground floor retail).
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A and 1st Street, and off street bike paths are required along the San Tomas Aquino Creek frontage. A bicycle parking/share facility is recommended within this block.
- *Active Frontages:* These are required along the majority of the 1st Street and Avenue A frontages. .
- *Parking Access:* Parking will be provided internal to the block and may include an attached connection to the City Parking structure to the south. Entries to the podium parking structure are recommended to be located off of Avenue A and 1st Street.
- *Open Space & Amenities:* A generous landscaped open space buffer shall be located along the western edge of the podium building, fronting San Tomas Aquino Creek. The podium building, if developed as residential, should provide an amenity deck to its tenants.
- *Build-To Lines & Setbacks:* Build to lines are suggested to follow the Avenue A frontage of the retail anchor, as well as the corner of Avenue A and 1st Street. There shall be a 15' minimum setback from the Avenue A and 1st Street curblines, as well as a 20' minimum setback from the block boundary or the driveway curbline fronting San Tomas Aquino Creek.
- *View Corridors:* A view corridor should be kept open along the western edge of the block, fronting San Tomas Aquino Creek.
- *Concealed & Exposed Parking:* The podium building should conceal parking structures along its north and east frontages. Parking shall be visually attractive, including landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* The northern anchor is expected to be less than 80' in height. The southern building is expected to be at a moderate height to incorporate a parking structure and wrapped residential buildings above, however, to accommodate a range of unique design solutions, a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Service entries for both buildings may be located perpendicular to 1st Street, as shown in the plan. Servicing for the retail anchor may partially or entirely take place within the block 4A parking structure.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

TABLE 4–7: BLOCK 4B PROGRAM*

BLOCK 4B		
Primary Land Use	***Units***	***Gross Area***
Residential		
Residential	540 units	443,000
Retail		
Anchors		120,000
F&B		5,500
Retail		10,500
TOTAL		**579,000**
AREA: 6.1 Acres	FAR: 2.18	

Potential Land Use Categories Include:

Office — *In-lieu of the residential podium, there is potential to reprogram the block as creative office over retail, or as an office tower.*

Site Coverage:

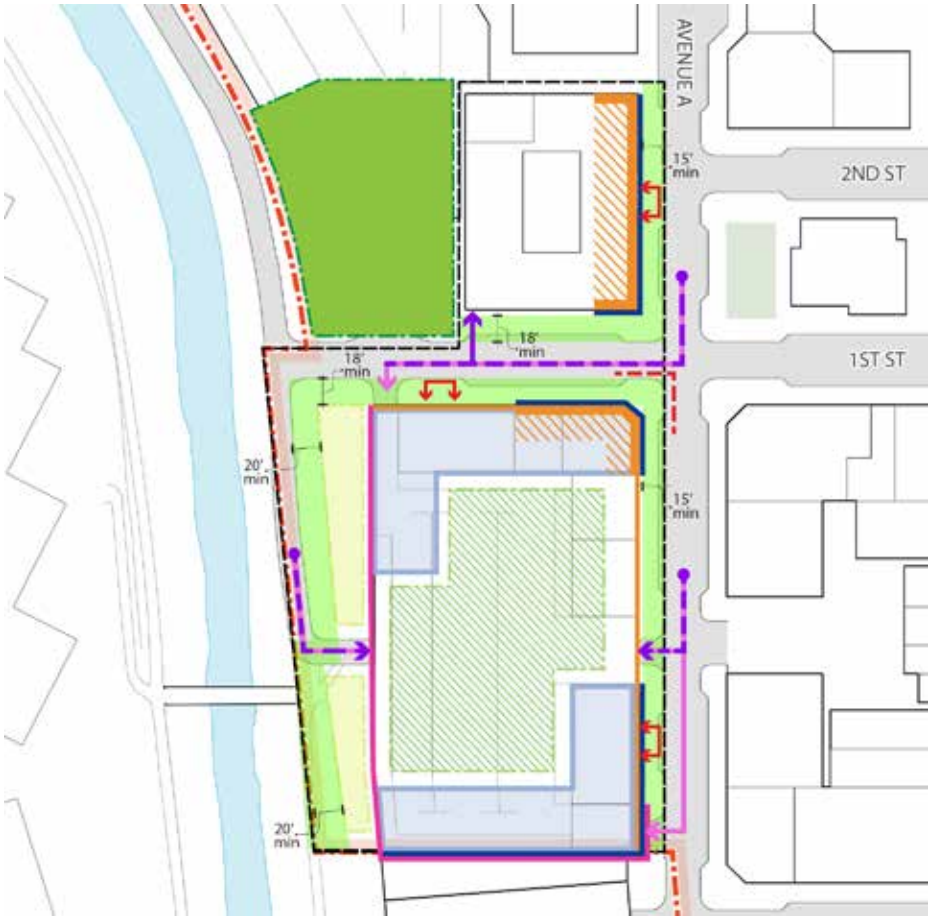
- *75 percent maximum allowable coverage (includes parking structure)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

EXHIBIT 4–14: BLOCK 4B GROUND FLOOR PLAN*



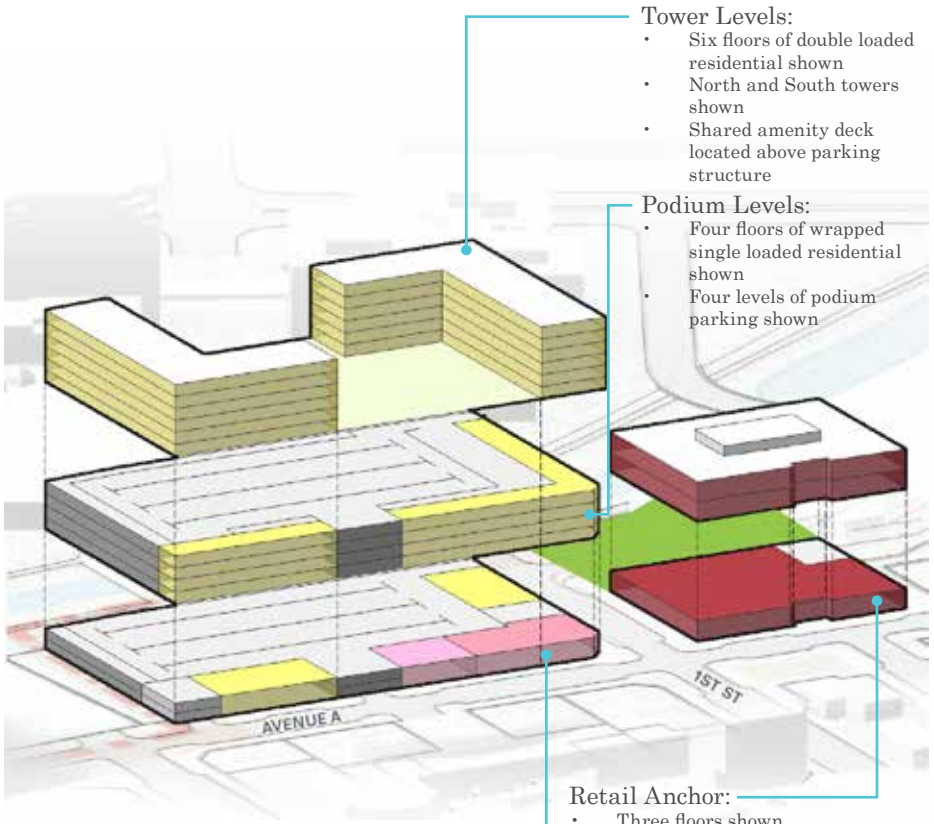
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Lobby Entrance
- Roof Deck Open Space
- Parking Structure Exposure
- Preferred Podium Location
- Corner Focus
- Site
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–15: BLOCK 4B EXPLODED AXONOMETRIC VIEW*



Tower Levels:
- Six floors of double loaded residential shown
- North and South towers shown
- Shared amenity deck located above parking structure

Podium Levels:
- Four floors of wrapped single loaded residential shown
- Four levels of podium parking shown

Retail Anchor:
- Three floors shown
- Servicing provided in rear of building
- Active ground floor frontage along Avenue A

Ground Floor:
- Active frontage along Avenue A and 1st Street
- Retail and food & beverage at corner
- Two separate residential lobbies
- Two floors of parking; ingress and egress provided on Avenue A and 1st Street

LEGEND

Land Uses
- Residential
- Retail Anchor
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service
- Office (Potential Use)

Open Space
- Landscaped Open Space
- Amenity Deck

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.9 BLOCK 4C: DESIGN DISTRICT

TABLE 4–8: BLOCK 4C PROGRAM*

BLOCK 4C		
Primary Land Use	*Units*	*Gross Area*
Residential		
Residential	500 units	450,000
Retail		
Anchors		75,000
F&B		20,000
Retail		93,000
Office		
Office		81,000
TOTAL		**719,000**
AREA: 10.6 Acres	FAR: 1.56	

Site Coverage:

- *60 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

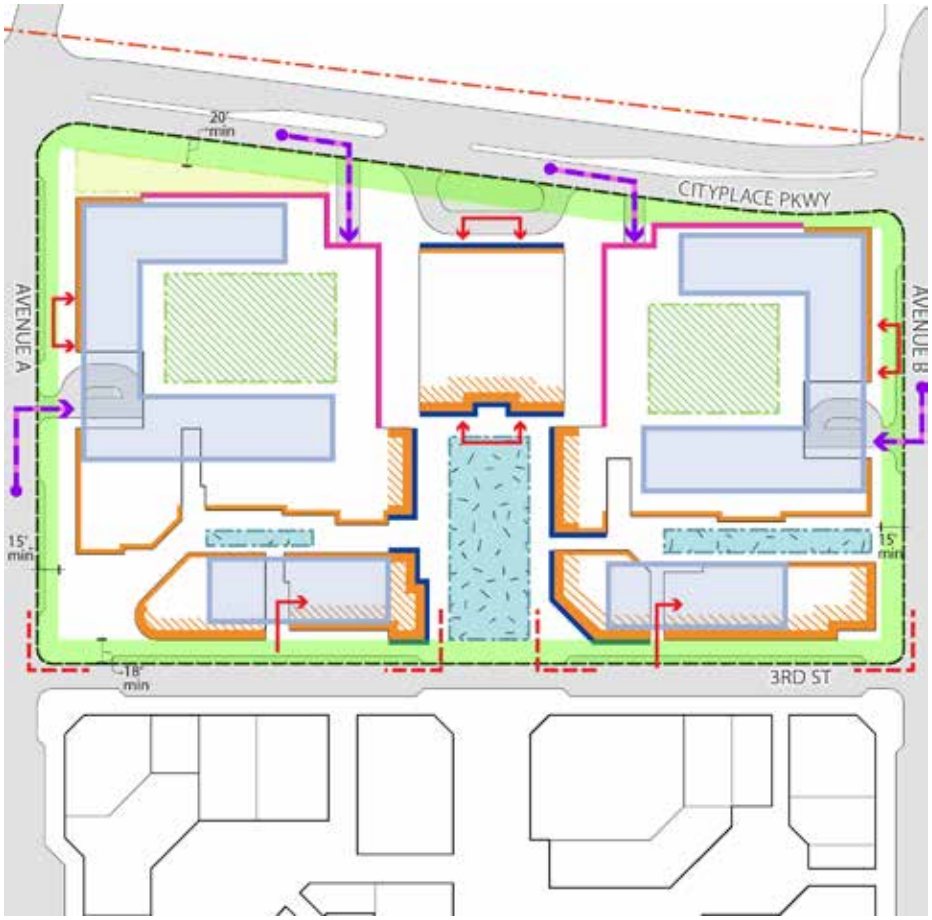
BLOCK CHARACTER

Acting as the northern terminus to the primary north/south commercial axis through the City Center, this block will accommodate a variety of mixed-use including an anchor retailer, ground floor active uses fronting all major streets, and upper story offices and residential towers filling out the perimeter of the block.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* The block is intended to be divided into east and west sides, anchored in the center by a retail anchor and a central open space.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A and CityPlace Parkway and bike routes are required along 3rd Street and Avenue B.
- *Active Frontages:* These are required along the majority of 3rd Street, Avenue A, and Avenue B frontages, as well as within the paseo spaces and the anchor forecourt. Frontages are expected to be most intensively active along the promenade and along 3rd Street.
- *Parking Access:* Parking access shall be provided primarily along CityPlace Parkway, though access to parking may be provided along Avenue A and Avenue B.
- *Open Space & Amenities:* A network of outdoor spaces organizes the internal block with one primary forecourt and two secondary courtyards interconnected with active pedestrian passages. An open space buffer is recommended along CityPlace Parkway. If developed as residential, both podium buildings should provide an amenity deck to its tenants.
- *Build-To Lines & Setbacks:* Build-to lines are suggested to follow the shape of the retail anchor forecourt. There shall be a 15' minimum setback from the Avenue A and Avenue B curblines, and an 18' minimum setback from the 3rd Street curbline. A 20' minimum setback from the CityPlace Parkway curbline is also required.
- *View Corridors:* A view corridor should be oriented north/south, terminating at the retail anchor.
- *Concealed & Exposed Parking:* The podium building should conceal parking structures along its south, east, and west frontages. Measures to conceal parking shall be visually attractive, and may include landscaping, visual buffering, siting, artwork, or appropriate screening.
- *Building Heights:* Podium buildings are expected to be at a moderate height and should incorporate a parking structure with residential or office buildings above, however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Retail/food & beverage buildings should be of low height, not to exceed two to three stories, and should consider active retail uses on ground and and possibly upper levels. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Should be located along CityPlace Parkway.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–16: BLOCK 4C GROUND FLOOR PLAN*



LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Plaza / Paseo
- Buffer Landscape
- Parking Access
- Service Access
- Building Lobby Entrance
- Roof Deck Open Space
- Parking Structure Exposure
- Preferred Podium Location
- Corner Focus
- Site
- Block

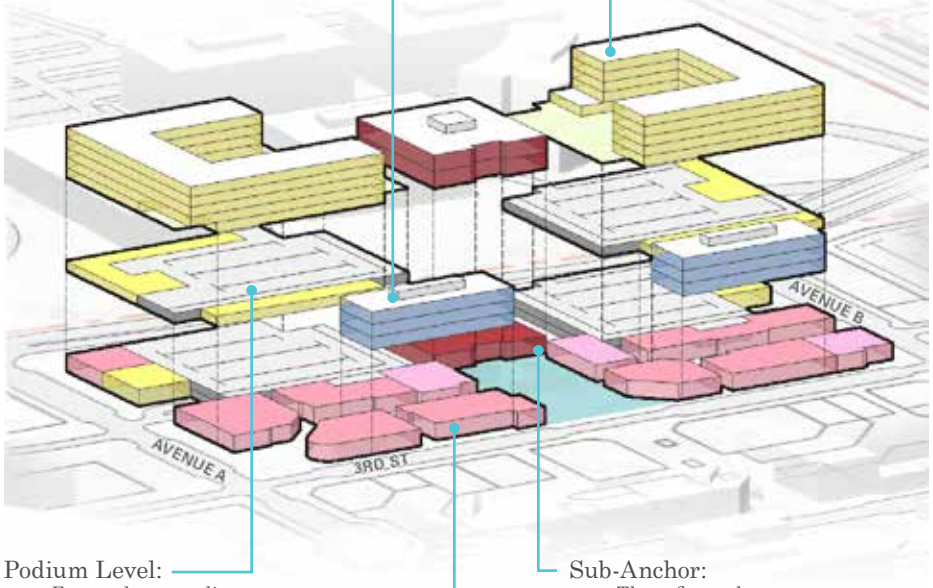
1" = 200'

0' 50' 100' 200'

EXHIBIT 4–17: BLOCK 4C EXPLODED AXONOMETRIC VIEW*

Office:
- East and west buildings
- Three levels of creative office provided along 3rd Street shown
- Primary entrances provided on ground floor along 3rd Street

Residential Podium:
- East and west buildings
- Six residential floors shown
- Shared amenity deck located above parking structure



Podium Level:
- East and west podiums
- 1 floor of single loaded residential wrapped around parking level shown

Sub-Anchor:
- Three floors shown
- Active ground floor frontage north facing CityPlace Parkway and south facing forecourt

Ground Floor:
- Active frontages along Avenue A, 3rd Street, and Avenue B
- Southern portion features in-line retail facing street and within east and west pedestrian paseos
- Parking structure entrances along CityPlace Parkway
- Residential lobbies along Avenue A and Avenue B

LEGEND

Land Uses
- Podium Residential
- Retail Anchor
- Retail
- Food & Beverage (F&B)
- Office
- Structured Parking / Service

Open Space
- Plaza
- Amenity Deck

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.10 BLOCK 4D: HOTEL & LIVE/ WORK DISTRICTS

TABLE 4–9: BLOCK 4D PROGRAM*

BLOCK 4D		
Primary Land Use	*Units*	*Gross Area*
Residential		
Residential	290 units	395,000
Hotel		
Hotel	300 keys	341,500
Retail		
F&B		58,500
Retail		184,500
TOTAL		979,500
PARCEL AREA: 8.6 Acres	FAR: 2.61	

Potential Land Use Categories Include:

Office — *There is potential to reprogram the residential or hotel blocks as creative office over retail, or as an office tower.*

Entertainment — *Entertainment uses, such as a cinema multiplex or smaller venues, may be considered.*

Site Coverage:

- *60 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

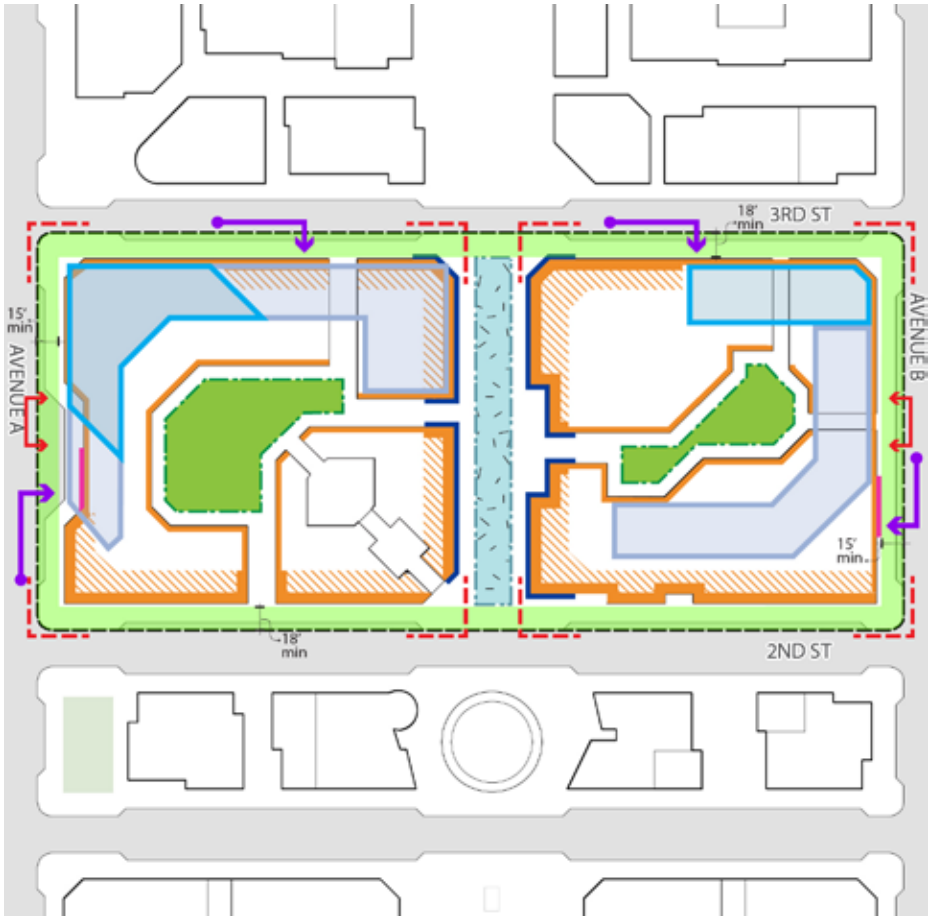
BLOCK CHARACTER

At the core of the City Center, this block will straddle the primary pedestrian promenade running north to south through the City Center. Retail/food & beverage uses will form the block along the ground plane with internal courtyards. The block will include two towers (hotel and residential) on the northern boundary facing 3rd Street.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* The block is envisioned to be divided into east and west sides, with a western luxury hotel block and an eastern residential block subject to alternative approaches consistent with the overall intent of the plan.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A and 2nd Street, and bike routes are required along 3rd Street and Avenue B.
- *Active Frontages:* These are required along the majority of street frontages, as well as within internal courtyards and along the north/south pedestrian promenade. Frontages are expected to be most intensively active along the promenade and along 2nd Street and 3rd Street.
- *Parking Access:* There are no parking structures recommended for Block 4D. Access to parking is shared in adjacent structures. The hotel and residential component may provide limited parking spaces.
- *Open Space & Amenities:* A network of outdoor spaces organizes the block with a primary north/south promenade space and two secondary courtyards interconnected with active pedestrian passages. Both hotel and residential blocks should provide an amenity deck to tenants or guests.
- *Build-To Lines & Setbacks:* Build-to lines are suggested to follow the north/south pedestrian promenade. There shall be a 15' minimum setback from the Avenue A and Avenue B curblines, and an 18' minimum setback from 3rd Street and 2nd Street curblines.
- *View Corridors:* A view corridor should be oriented north/south along the pedestrian promenade.
- *Building Heights:* Proposed towers located on this block shall be no taller than 219' above mean sea level. Podium buildings are expected to be at a moderate height; however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Retail/food & beverage buildings should be of low height, not exceed two to three stories, and should contain active retail uses on ground levels and consider them on upper levels. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading docks should be located along 3rd Street. Avenue A and Avenue B may provide locations for valet/drop-off service.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–18: BLOCK 4D GROUND FLOOR PLAN *



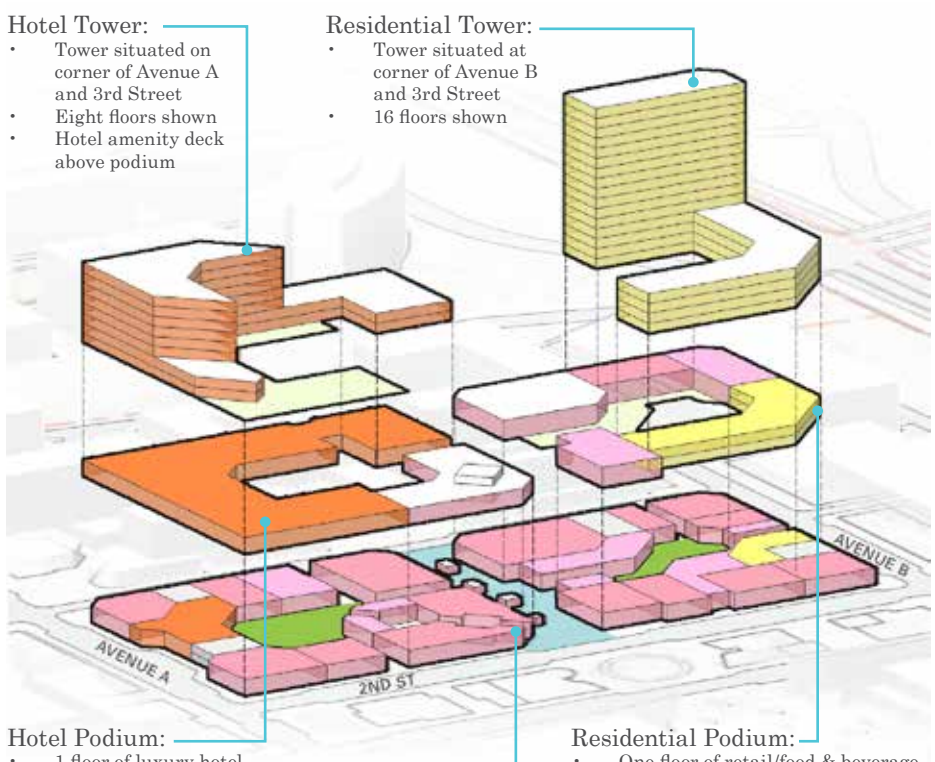
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Plaza / Pasco
- Service Access
- Building Lobby Entrance
- Preferred Podium Location
- Preferred Tower Location
- Corner Focus
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–19: BLOCK 4D EXPLODED AXONOMETRIC VIEW*



Hotel Tower:
- Tower situated on corner of Avenue A and 3rd Street
- Eight floors shown
- Hotel amenity deck above podium

Residential Tower:
- Tower situated at corner of Avenue B and 3rd Street
- 16 floors shown

Hotel Podium:
- 1 floor of luxury hotel facilities shown

Residential Podium:
- One floor of retail/food & beverage and two floors of residential shown
- Provision for residential amenity deck

Ground Floor:
- North/south pedestrian street bisects block
- Active frontages along all four sides, pedestrian street, and east and west courtyards
- Hotel lobby provided along Avenue A; residential lobby along and Avenue B

LEGEND

Land Uses
- Hotel
- Residential
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service
- Office (Potential Use)
- Entertainment (Potential Use)

Open Space
- Plaza
- Landscaped Open Space
- Amenity Deck

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.11 BLOCK 4E: BOULEVARD

TABLE 4–10: BLOCK 4E PROGRAM*

BLOCK 4E	
Primary Land Use	*Gross Area*
Retail	
F&B	32,000
Retail	39,000
TOTAL	**71,000**
PARCEL AREA: 3.2 Acres	FAR: 0.50

Site Coverage:

- *35 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

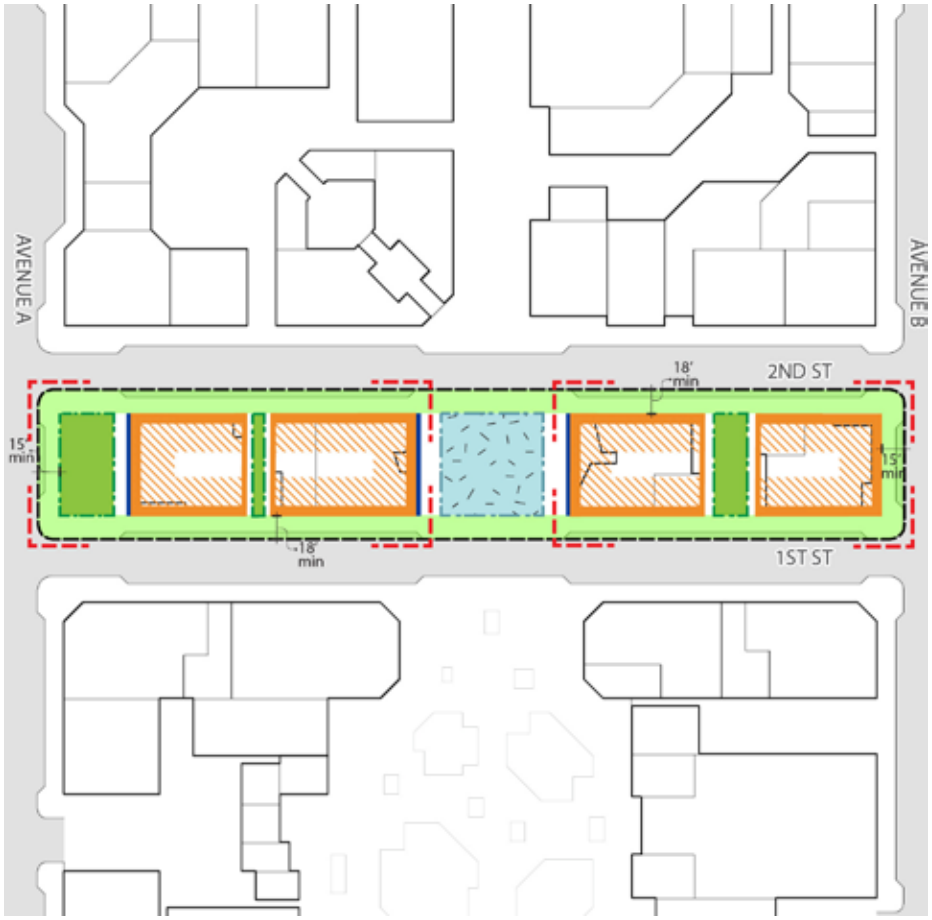
BLOCK CHARACTER

The central activity space of the City Center, this block will include four retail / food & beverage kiosks as well as a central multi-function event plaza, which could incorporate a major landscape component and/or art feature. Each kiosk could include an outdoor seating area.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* The block is intended to be divided into east and west sides, each containing two retail/ food & beverage kiosks.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A and 2nd Street, and bike routes are required along 1st Street and Avenue B.
- *Active Frontages:* These are suggested along all street frontages, as well as within internal courtyards and along the north/south pedestrian promenade. Frontages are expected to be most intensively active along the promenade and along 2nd Street and 3rd Street.
- *Parking Access:* There are no parking structures recommended for Block 4E. Access to parking is shared in adjacent structures.
- *Open Space & Amenities:* A network of outdoor spaces organizes the block with a primary north/south promenade space and a landscaped open space (landscaped and furnished park-like areas) on the western end of the block. The wide sidewalks envisioned for this block should include a variety of linear open space features, as well as outdoor seating, especially in between each kiosk.
- *Build-To Lines & Setbacks:* Build-to lines are suggested to follow the north/south pedestrian promenade, as well fronting the western open space. There shall be a 15' minimum setback from the Avenue A and Avenue B curblines, and an 18' minimum setback from the 2nd Street and 1st Street curblines.
- *View Corridors:* A view corridor should be preserved through the center of the block that orients north/south along the pedestrian promenade.
- *Building Heights:* Retail/food & beverage buildings should not exceed two to three stories, and should consider active retail uses on ground and upper levels. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading docks are not required, and retail and food & beverage uses may be serviced from the surrounding streets.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–20: BLOCK 4E GROUND FLOOR PLAN*



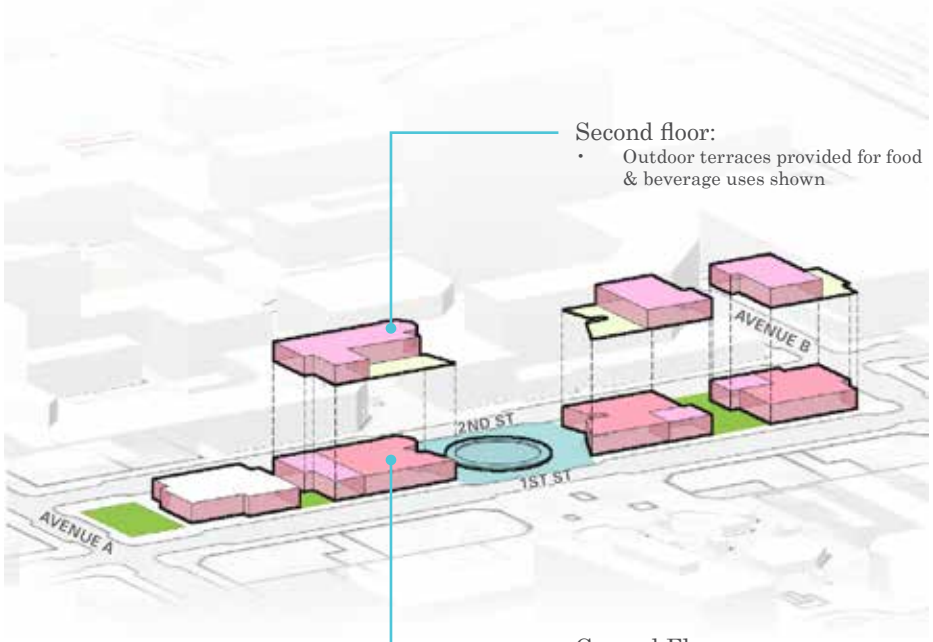
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Plaza / Paseo
- Corner Focus
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–21: BLOCK 4E EXPLODED AXONOMETRIC VIEW*



Second floor:

- Outdoor terraces provided for food & beverage uses shown

Ground Floor:

- Four retail/food & beverage kiosks shown
- Hardscaped plaza/paseos divide block; landscaped space on west end
- Active frontages along all four sides and along central plaza

LEGEND

Land Uses
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service

Open Space
- Plaza/Paseo
- Landscaped Open Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.12 BLOCK 4F: CITY CENTER STATION DISTRICT

TABLE 4–11: BLOCK 4F PROGRAM*

BLOCK 4F	
Primary Land Use	***Gross Area***
Retail	
F&B	99,500
Retail	298,000
Entertainment	
Entertainment	257,500
Office	
Office	120,000
TOTAL	**775,000**
AREA: 11.5 Acres	FAR: 1.55

Potential Land Use Categories Include:

Retail/F&B *Additional retail may be considered in the form of standalone kiosk structures within the central courtyard.*

Site Coverage:

- *60 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

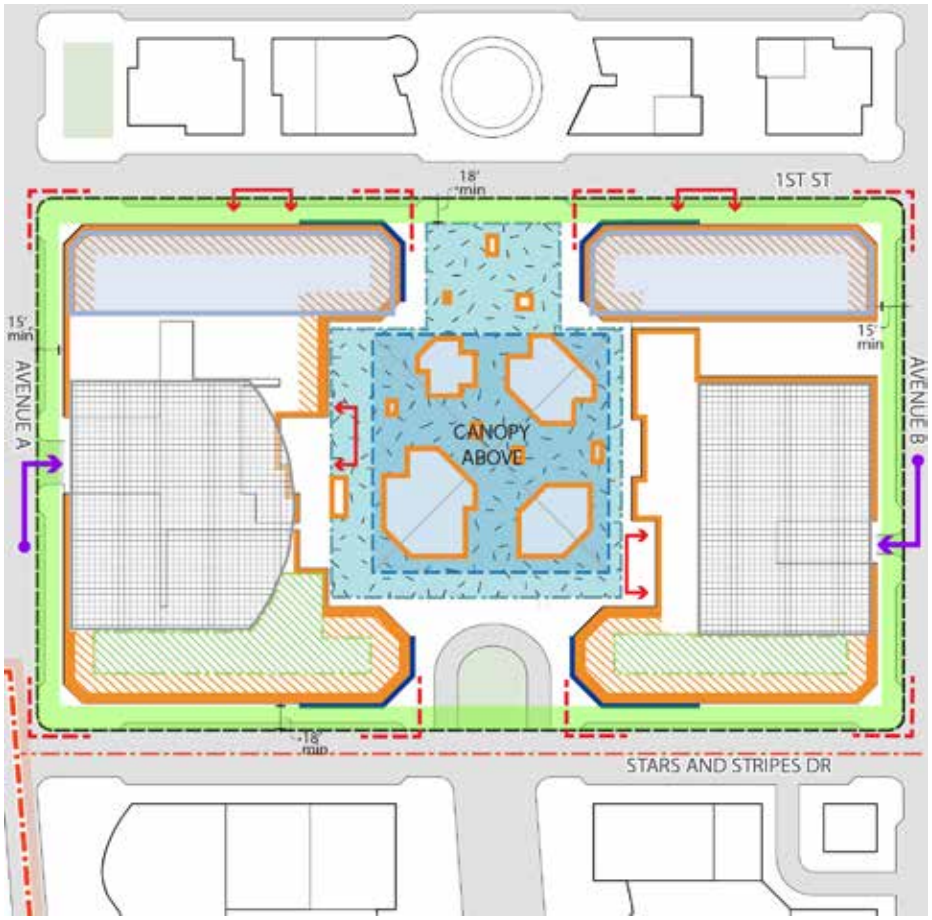
BLOCK CHARACTER

Serving as the entertainment core of the City Center, this block will be broken into two distinct halves with a central plaza in between. Terraces and other carefully designed spaces will create a variety of internal gathering areas combined with movable kiosks and seating areas. Ground floor active uses will line all major streets as well as the central internal courtyard. An overhead canopy may be accommodated in the plaza that will provide some protection from the elements, while increasing visual interest.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* The block is intended to be divided into east and west sides, with large entertainment venues fronting a potential central covered space.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along Avenue A. Bike routes are required along 2nd Street, Stars & Stripes Drive, and Avenue B.
- *Active Frontages:* These are required along the majority of street frontages, as well as within the central courtyard space and along the north/south pedestrian promenade. Frontages are expected to be most intensively active along the promenade and courtyard, and along 1st Street.
- *Parking Access:* There are no parking structures recommended for block 4F. Access to parking is shared in adjacent parking structures. Limited short-term parking may be located within service areas fronting Avenue A and Avenue B. Pedestrian access to the below surface grade parking, located at the southern portion of the block, may be provided.
- *Open Space & Amenities:* The primary north/south promenade space should act as the central organizing element. The promenade should expand into an open court, potentially covered by a canopy and/or canopies. Retail kiosks should complement the courtyard. Retail, food & beverage, or entertainment uses may provide an amenity terrace to their tenants or guests.
- *Build-To Lines & Setbacks:* Build-to lines are suggested to follow the corners framing the north/south pedestrian promenade. There shall be a 15' minimum setback from the Avenue A and Avenue B curblines, and an 18' minimum setback from the 1st Street and Stars & Stripes Drive curblines.
- *View Corridors:* A view corridor should be oriented north/south along the pedestrian promenade.
- *Building Heights:* Podium buildings are expected to be at a moderate height; however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Retail/food & beverage buildings should be of low height, not exceed two to three stories, and shall consider active retail uses on ground levels and possibly upper levels. If entertainment uses are placed above retail, the overall height shall not exceed 219' in compliance with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading docks should be located mid-block along Avenue A and Avenue B. A central location along Stars & Stripes Drive may provide a drop-off area for taxis, buses, and other services, as shown in the plan diagram.
- Trash and mechanical equipment shall be screened from view along the public and private street r-o-w.

EXHIBIT 4–22: BLOCK 4F GROUND FLOOR PLAN*



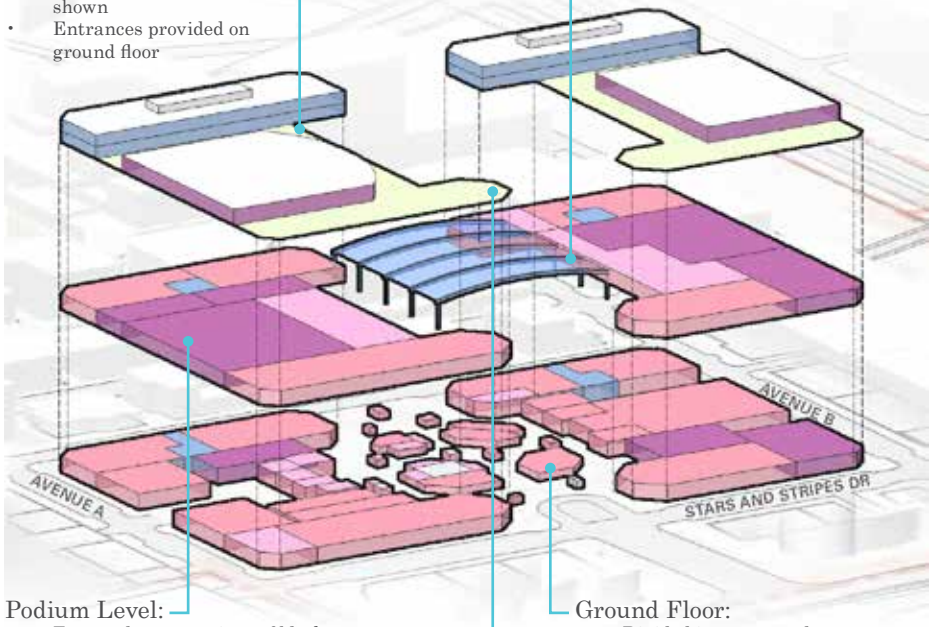
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Plaza / Paseo
- Service Access
- Building Lobby Entrance
- Photovoltaics
- Roof Deck Open Space
- Preferred Podium Location
- Corner Focus
- Site
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–23: BLOCK 4F EXPLODED AXONOMETRIC VIEW*



Office:
- Two levels of office fronting 1st Street shown
- Entrances provided on ground floor

Canopy:
- Canopy structure above central courtyard shown

Podium Level:
- East and west portions of block accommodate second floor retail, food & beverage, and entertainment venues

Ground Floor:
- Divided into east and west portions
- Central covered courtyard bisects block; kiosks and central food hall shown
- Pedestrian access to underground parking should be provided

Roof/Venues:
- Terraces serving retail/ entertainment venues shown

LEGEND

Land Uses
- Entertainment
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service

Open Space
- Amenity Deck

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.13 BLOCK 4G: CITY CENTER EAST

TABLE 4–12: BLOCK 4G PROGRAM*

BLOCK 4G	
Primary Land Use	*Gross Area*
Retail	
F&B	45,000
Retail	32,500
TOTAL	77,500
AREA: 5.3 Acres	FAR: 0.34

Potential Land Use Categories Include:

Residential *A residential podium component may be located above the parking structure.*

Retail/F&B *A retail anchor may be considered in-lieu of the market.*

Site Coverage:

- *75 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

BLOCK CHARACTER

Located along the eastern boundary of the City Center, the block will provide important support uses for the rest of the core, and will include a potential market, supporting retail, and significant parking structures to the north and south.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* This block is suggested to be composed of a potential food market, supporting retail, as well as two large parking structures that serves this and adjacent blocks.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along 2nd Street and CityPlace Parkway. Bike routes are required along Avenue B and 2nd Street.
- *Active Frontages:* These are proposed along Avenue B and the southwest corner of the block. The frontage of the retail uses may be most intensive in character.
- *Parking Access:* Access to the parking structure is provided from Avenue B and Avenue C.
- *Open Space & Amenities:* A landscape buffer is required as part of the CityPlace Parkway setback and a landscape buffer is suggested along Avenue C. The area between Avenue C and the UP railroad tracks is part of a PG&E utility easement that will be utilized as open space and possibly dedicated as a public park identified as part of East Park in *Exhibit 3-23*, and discussed in Chapters 3.2 and 3.4. The park will accommodate a bike and hike trail and may also support other active uses if this space is utilized for park land dedication required for residential development. Once the CityCenter residential program is confirmed, specific active use accommodation can be determined and shall be described in the DAP submission.
- *Build-To Lines & Setbacks:* Build-to lines are suggested along the market frontage, which terminates 3rd Street. There shall be a 15' minimum setback along the Avenue B curbline, an 18' minimum setback from the 2nd Street curbline, and a 20' minimum setback along the CityPlace Parkway curbline.
- *Building Heights:* Retail anchors are suggested to be no taller than 80', while parking structures should be no taller than 100', however, to accommodate a range of unique design solutions, a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading dock entrances should be located along Avenue C, as shown in the plan diagram.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–24: BLOCK 4G GROUND FLOOR PLAN*



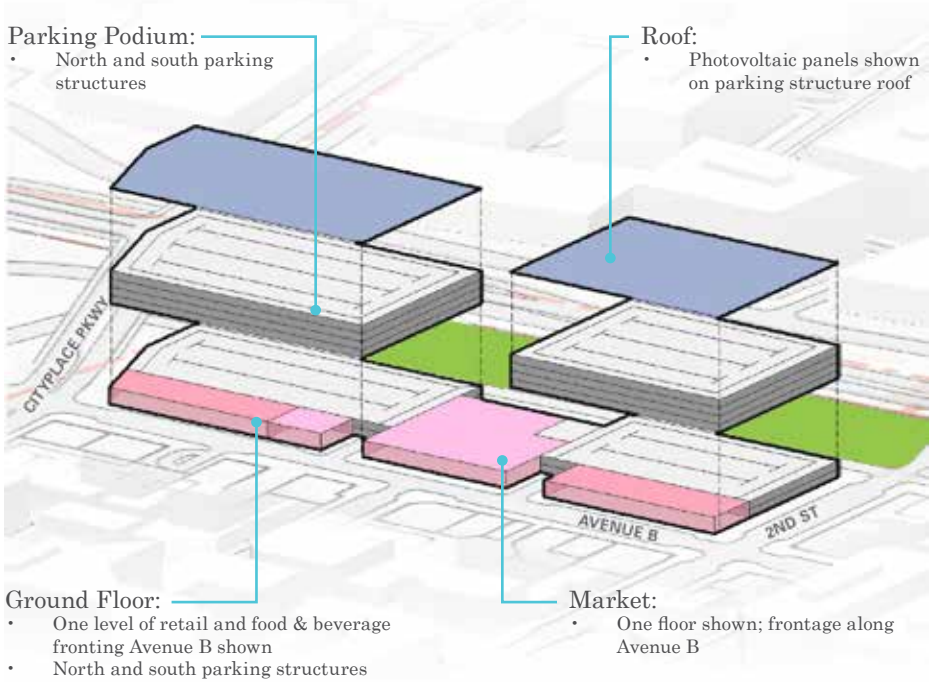
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Landscaped Open Space
- Buffer Landscape
- Parking Access
- Service Access
- Building Lobby Entrance
- Photovoltaics
- Parking Structure Exposure
- Corner Focus
- Site
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–25: BLOCK 4G EXPLODED AXONOMETRIC VIEW*



LEGEND

Land Uses
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service
- Residential (Potential Use)

Open Space
- Roof-mounted Photovoltaics
- Landscaped Open Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.14 BLOCK 4H: CITY CENTER SOUTHEAST

TABLE 4–13: BLOCK 4H PROGRAM*

BLOCK 4H	
Primary Land Use	*Gross Area*
Retail	
Anchors	165,000
F&B	25,000
Retail	12,500
TOTAL	**202,500**
AREA: 6.4 Acres	FAR: 0.72

Potential Land Use Categories Include:

Residential *A residential podium component may be located above the parking structure.*

Site Coverage:

- *75 percent maximum allowable coverage (includes parking structures)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*



KEY

BLOCK CHARACTER

This block will include a large retail anchor, supporting in-line retail, and food & beverage. A large parking structure will serve this and surrounding parcels of the City Center. An existing firehouse along the southern boundary may be incorporated into the design of the block.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* This block is suggested to be composed of a large retail anchor, supporting food & beverage, as well as a large parking structure that services this and surrounding blocks.
- *Pedestrian Circulation:* Sidewalks are required along all public (City maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*).
- *Bicycle Circulation:* Dedicated bike lanes are required along 2nd Street. Bike routes are required along Avenue B and Stars & Stripes Drive. A bicycle parking/share facility is recommended within the parking structure.
- *Active Frontages:* These are required along Avenue B and the northwest corner of the block. The frontage of the retail anchor may be most intensive in character. The continued presence of the fire station may preclude active frontages along the southwest corner of the block and along Stars & Stripes Drive.
- *Parking Access:* Access to the parking structure is provided along Avenue B and Avenue C.
- *Open Space & Amenities:* The retail anchor may choose to provide a terraced open space above ground level. A landscape buffer is suggested along Avenue C. The area between Avenue C and the UPRR tracks is part of a PG&E utility easement that will be utilized as open space and possibly dedicated as a public park identified as part of East Park in *Exhibit 3-23*, and discussed in Chapters 3.2 and 3.4. The park will accommodate a bike and hike trail and may also support other active uses if this space is utilized for park land dedication required for residential development. Once the CityCenter residential program is confirmed, specific active use accommodation can be determined and shall be described in the DAP submission.
- *Build-To Lines & Setbacks:* Build-to lines are suggested along the retail anchor, framing the central Boulevard to the west. There shall be a 15' minimum setback from the Avenue B curbline, and an 18' minimum setback from the 2nd Street and Stars & Stripes Drive curblines.
- *Building Heights:* Retail anchors are suggested to be no taller than 80', while parking structures should be no taller than 100'; however, to accommodate a range of unique design solutions a maximum building height of 219' above msl is established consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading dock entrances should be located along Avenue C. Existing entrances to the fire station are located along Stars & Stripes Drive.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

STATION AREA DESIGN GUIDELINES

- Parcel 4H sits adjacent to the existing Capital Corridor/ACE Great America Station and should be integrated with its operations by connecting Stars & Stripes Drive to the existing shuttle bus loading plaza. Stars & Stripes Drive should ramp up as it leaves the existing station curb frontage at a 5 percent slope to maintain accessibility for users of all abilities and mobility levels.
- With inclusion of the New Tasman Drive/Avenue C Intersection in Variant 2, the relocation of Stars & Stripes Drive and the extension of Avenue C would allow for an enhanced transit plaza with a new vehicle turn around just beyond the northern end of the station, which would provide room for an additional six transit bus loading positions.
- Further enhancements to Great America station could be considered as part of a Station Area Master Plan that VTA has proposed. Adapting to the Station Area Project as it progresses through its future design stages, Parcel 4H design should respond to station needs, enhancing the transit and pedestrian/bicycle connectivity to/from the Station.
- The Station Area Project Master Plan may encompass area within the CityPlace development boundary and other city owned properties outside of the existing Station Area. Specific station improvements may also be identified in a separate Deficiency Plan/Multimodal Improvement Plan (MIP), which is identified as a Mitigation Measure in the EIR.

EXHIBIT 4–26: BLOCK 4H GROUND FLOOR PLAN*

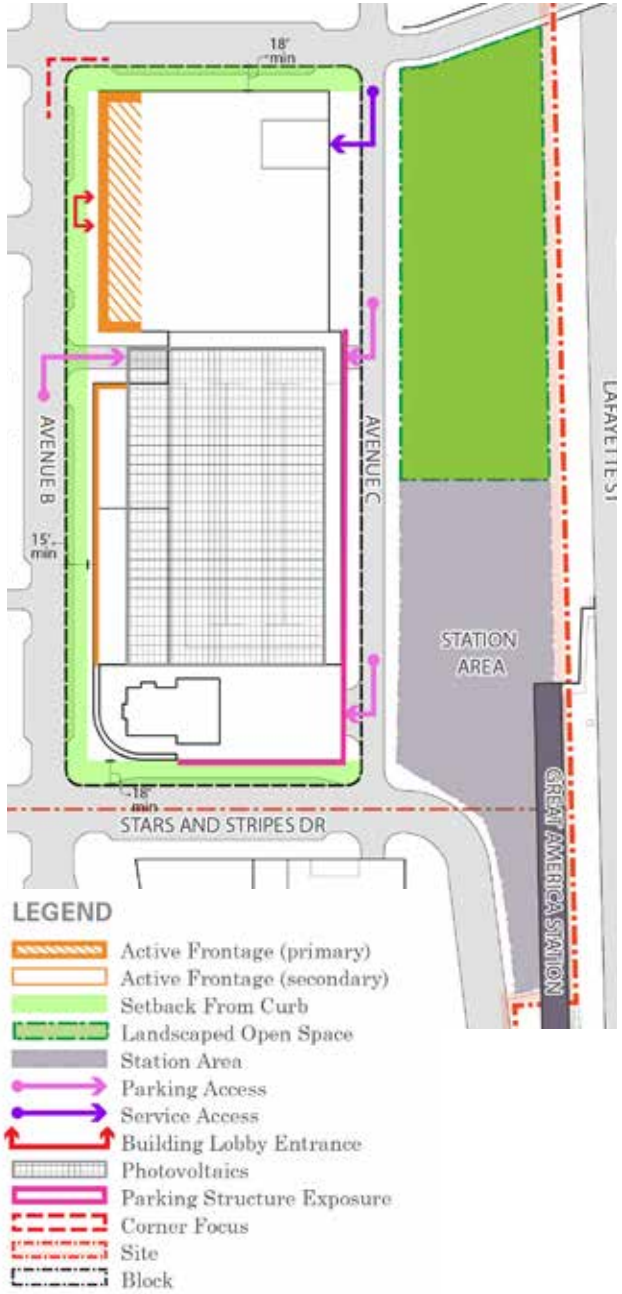
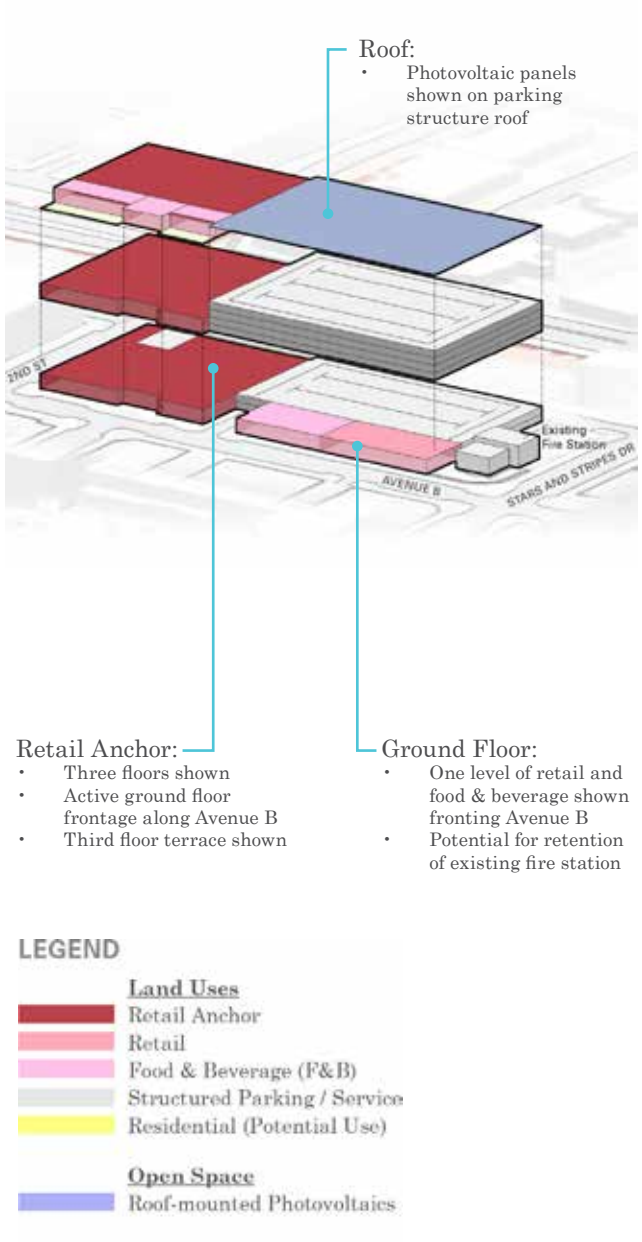


EXHIBIT 4–27: BLOCK 4H EXPLODED AXONOMETRIC VIEW*



** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.15 BLOCK 5A: GATEWAY OFFICE

TABLE 4–14: BLOCK 5A PROGRAM*

BLOCK 5A	
Primary Land Use	***Gross Area***
Retail	
F&B	10,000
Retail/Product Showcase	60,000
Office	
Office	282,000
TOTAL	**352,000**
AREA: 3.3 Acres	FAR: 2.42

Potential Land Use Categories Include:

Residential *A residential tower may be considered in-lieu of the office tower.*

Hotel *A hotel may be considered in-lieu of the office tower.*

Site Coverage:

- *70 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*

*** Within Parcel 5, the dominant land uses on Parcels 5A, 5B an 5C are interchangeable as long as the aggregate areas of Office, Hotel and Residential are respected.*



KEY

BLOCK CHARACTER

Facing Tasman Drive and Levi's Stadium to the south as well as Centennial Boulevard to the east, this block will be a component of the City Center, acting as a gateway, as well as both a vehicular and pedestrian connection into and out of the City Center. A significant potential office tower will front Avenue A, with ground floor retail and food & beverage filling out the majority of the block. Multi-level storefronts acting as product showcases facing Tasman Drive are also appropriate uses. A significant setback is envisioned along Tasman Drive for outdoor dining and augmented landscape elements.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* This block is suggested to be composed of a potential office tower block, incorporating multi-level retail and food & beverage. The block is located above a substantial underground parking structure.
- *Pedestrian Circulation:* Sidewalks are required along all public (city maintained) roads and recommended along private roads (as illustrated in *Exhibit 3-11: Public and Private Streets* and *Exhibit 3-20: Pedestrian Network*). Generous pedestrian amenities and provisions for outdoor dining are suggested along Tasman Drive and Centennial Boulevard.
- *Bicycle Circulation:* Dedicated bike lanes are required along Tasman Drive and Avenue A. Bike routes are required along Centennial Boulevard and Stars & Stripes Drive.
- *Active Frontages:* These are required along the majority of Tasman Drive, Centennial Boulevard, and Stars & Stripes Drive. The frontages along Tasman Drive and Centennial Boulevard are expected to be most intensive in character.
- *Parking Access:* Access to the underground parking structures is provided at the Centennial Boulevard median and internal to the block along Stars & Stripes Drive.
- *Open Space & Amenities:* Wide setbacks along Tasman Drive and Centennial Boulevard shall accommodate generous landscaping. Office or retail tenants may provide an amenity deck or terrace above the retail podium.
- *Build-To Lines & Setbacks:* Build-to lines are suggested at the northeast corner of the block, framing the north/south pedestrian axis. There shall be a 20' minimum setback from the Centennial Boulevard curbline and a 30' minimum setback from the Tasman Drive curbline, in order to accommodate high pedestrian flows, significant landscaping, and outdoor dining. In addition, there shall be a 15' minimum setback from the Avenue A curbline, and an 18' minimum setback along the Stars & Stripes Drive curbline.
- *Building Heights:* Proposed towers located on this block have a maximum building height of 219' above msl consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading dock entrances should be located along Stars & Stripes Drive, as shown in the plan diagram.
- *Multiple Tenant Signage:* Allow the ability for multiple office tenants to integrate their signage on facades and roof, subject to City review and approval as part of the Development Area Plan process.
- Trash and mechanical equipment shall be screened from view along the public and private street r-o-w.

EXHIBIT 4–28: BLOCK 5A GROUND FLOOR PLAN*

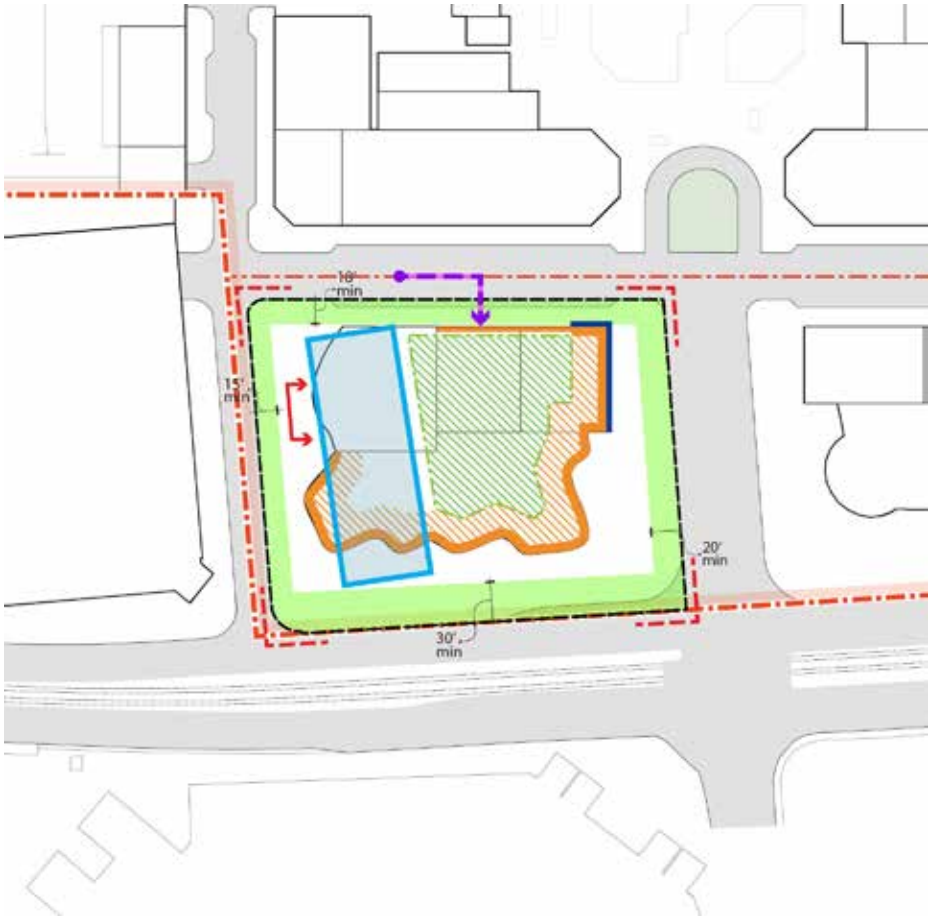
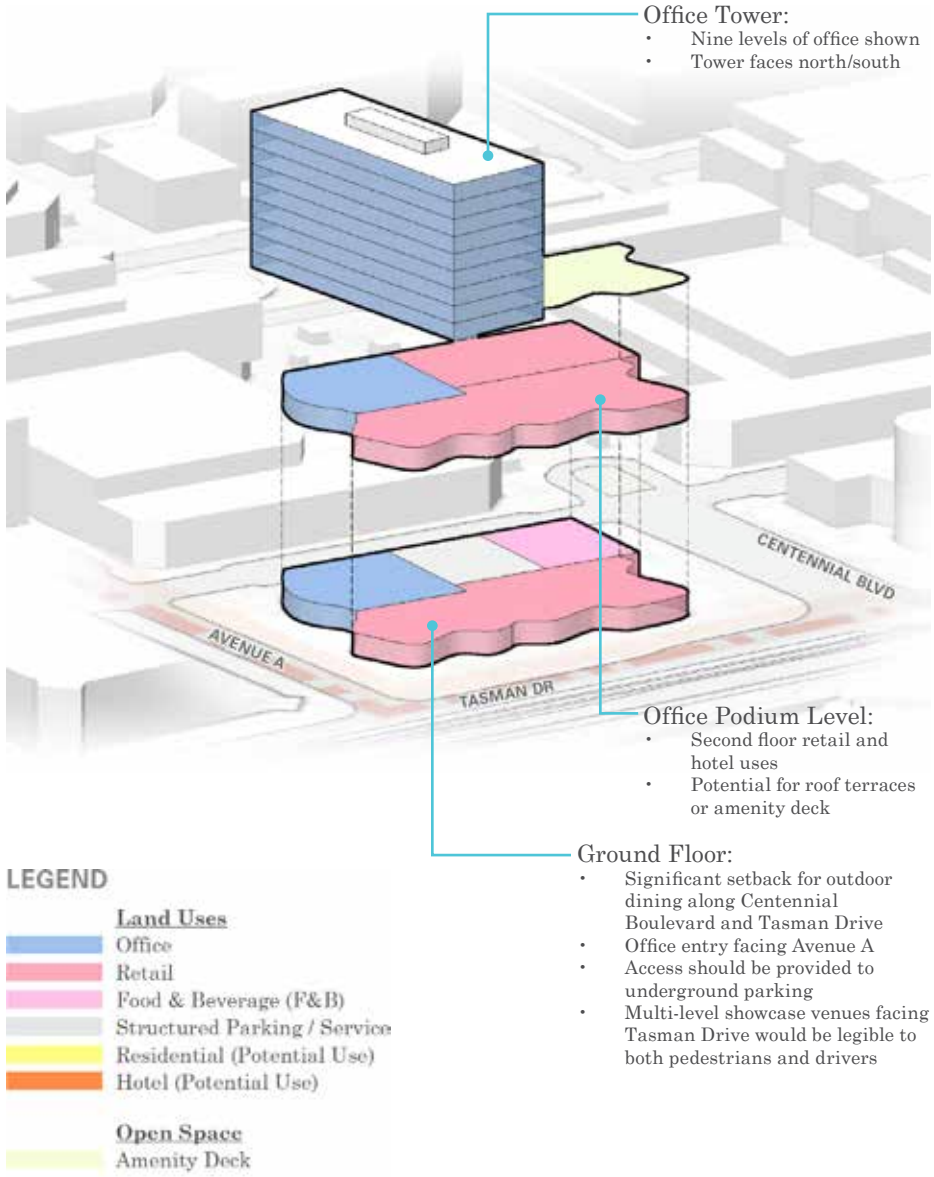


EXHIBIT 4–29: BLOCK 5A EXPLODED AXONOMETRIC VIEW*



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4.16 BLOCK 5B: GATEWAY HOTEL

TABLE 4–15: BLOCK 5B PROGRAM*

BLOCK 5B		
Primary Land Use	*Units*	*Gross Area*
Hotel		
Hotel	400 keys	227,000
Retail		
F&B		10,000
Retail		44,000
TOTAL		**281,000**
AREA: 2.6 Acres	FAR: 2.46	

Potential Land Use Categories Include:

Residential — *A residential tower may be considered in-lieu of the hotel.*

Office — *An office tower may be considered in-lieu of the hotel.*

Product Showcase — *Product showcase venues (including auto showroom) may be considered in-lieu of retail.*

Site Coverage:

- *70 percent maximum allowable coverage*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*

*** Within Parcel 5, the dominant land uses on Parcels 5A, 5B an 5C are interchangeable as long as the aggregate areas of Office, Hotel and Residential are respected.*



KEY

BLOCK CHARACTER

The "bookend" condition to Block 5A, the block will be anchored by a hotel tower along the eastern frontage of Avenue B. A porte-cochere will connect Avenue B to Stars & Stripes Drive, internal to the block. Active uses will line the block, with retail and food & beverage along all major street frontages. Commercial spaces facing Tasman Drive will have major street exposure as well as pedestrian exposure. Multi-level storefronts acting as product showcases facing Tasman Drive are also appropriate uses. A significant setback is envisioned along Tasman Drive and Centennial Boulevard for outdoor dining and augmented landscape elements.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* This block is suggested to be composed of a business-oriented hotel, incorporating multi-level in-line retail and food & beverage. The block is located above a substantial underground parking structure.
- *Pedestrian Circulation:* Sidewalks are required along all street frontages. Generous pedestrian amenities and provisions for outdoor dining are suggested along Tasman Drive and Centennial Boulevard.
- *Bicycle Circulation:* Dedicated bike lanes are required along Tasman Drive. Bike routes are required along Centennial Boulevard and Stars & Stripes Drive.
- *Active Frontages:* These are required along Centennial Boulevard, Stars & Stripes Drive and along majority of Tasman Drive frontage. The frontages along Centennial Boulevard and Stars & Stripes are expected to be most intensive in character.
- *Open Space & Amenities:* Wide setbacks along Tasman Drive and Centennial Boulevard should accommodate generous landscaping. The hotel shall provide an amenity deck above the retail podium to its tenants.
- *Build-To Lines & Setbacks:* Build-to lines are suggested at the northwest corner of the block, framing the north/south pedestrian axis. There shall be a 20' minimum setback from the Centennial Boulevard curbline and a 30' minimum setback from the Tasman Drive curbline, in order to accommodate high pedestrian flows, significant landscaping, and outdoor dining. In addition, there should be a 15' minimum setback from the Avenue B curbline, and an 18' minimum setback along the Stars & Stripes Drive curbline.
- *Building Heights:* Proposed towers located on this block have a maximum building height of 219' above msl consistent with ALUC regulations. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading dock entrances should be located along Stars & Stripes Drive. Stars & Stripes Drive and Avenue B may provide locations for hotel valet/drop-off service.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–30: BLOCK 5B GROUND FLOOR PLAN*



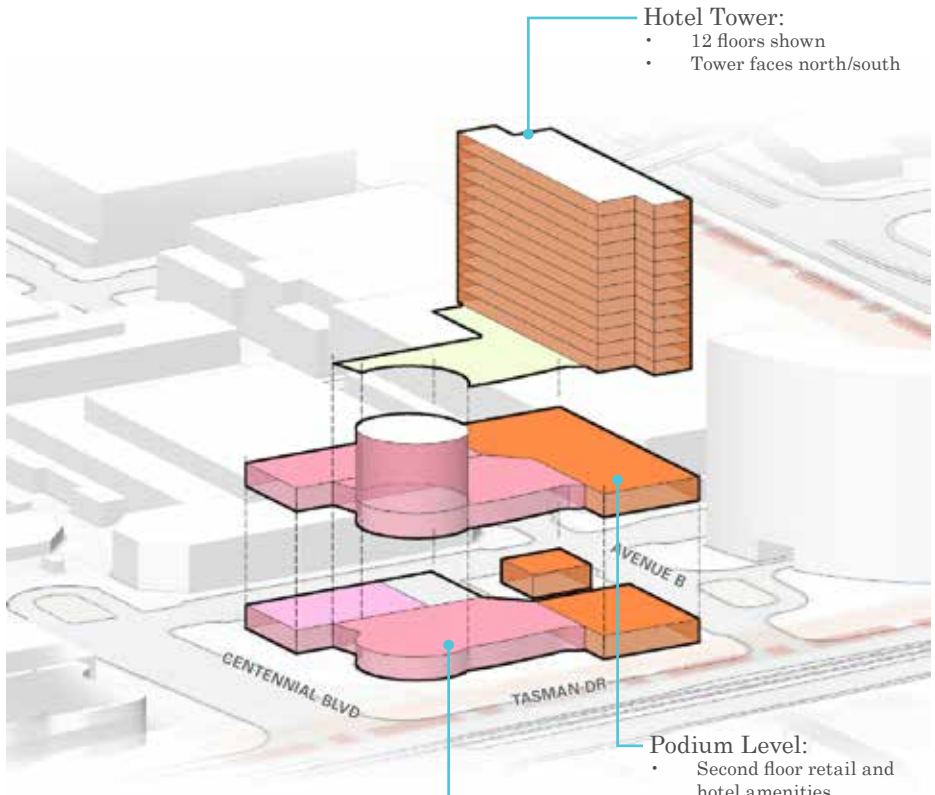
LEGEND

- Active Frontage (primary)
- Active Frontage (secondary)
- Build-to-Line
- Setback From Curb
- Parking Access
- Service Access
- Building Lobby Entrance
- Roof Deck Open Space
- Preferred Tower Location
- Corner Focus
- Site
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–31: BLOCK 5B EXPLODED AXONOMETRIC VIEW*



LEGEND

Land Uses
- Hotel
- Retail
- Food & Beverage (F&B)
- Structured Parking / Service
- Residential (Potential Use)
- Office (Potential Use)
- Product Showcase (Potential Use)

Open Space
- Amenity Deck

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*

4.17 BLOCK 5C: GATEWAY RESIDENTIAL

TABLE 4–16: BLOCK 5C PROGRAM*

BLOCK 5C		
Primary Land Use	***Units***	***Gross Area***
Residential		
Residential	180 units	257,500
Retail		
F&B		7,000
TOTAL		**264,500**
AREA: 2.7 Acres	FAR: 2.25	

Potential Land Use Categories Include:

Retail/F&B — *Additional retail or food and beverage uses may be considered.*

Office — *There is potential to reprogram the residential component as office over retail, or as an office tower.*

Product Showcase — *Product showcase venues (including auto showroom) may be considered.*

Hotel — *A hotel, including extended stay, may be considered in-lieu of the residential tower.*

Site Coverage:

- *70 percent maximum allowable coverage (includes parking structure)*

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval.*

*** Within Parcel 5, the dominant land uses on Parcels 5A, 5B an 5C are interchangeable as long as the aggregate areas of Office, Hotel and Residential are respected.*



KEY

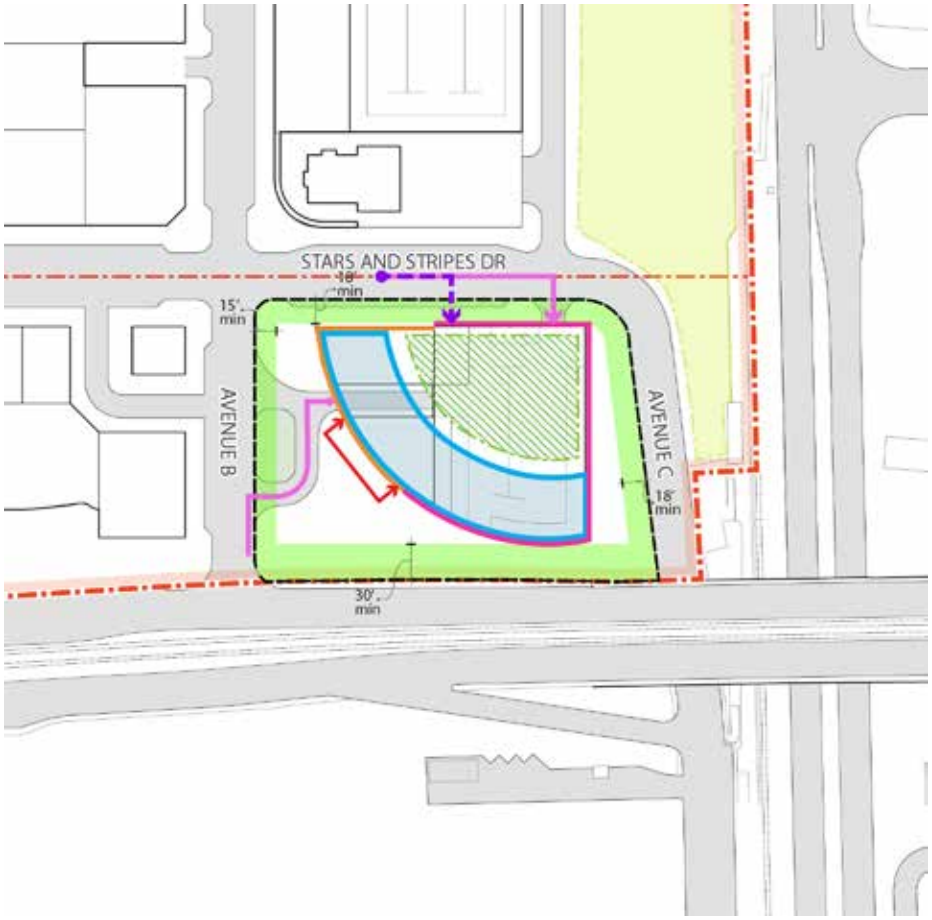
BLOCK CHARACTER

The easternmost of the gateway blocks, this block will accommodate an iconic residential tower with active uses along the ground plane including retail and food and beverage facing Tasman Drive, Stars & Stripes Drive, and Avenue B. An amenity deck is identified with views north and east. The residential porte-cochere will be located along Avenue B.

BLOCK DEVELOPMENT DESIGN GUIDELINES

- *Block Composition:* The block is suggested to be a residential tower located above a parking podium, incorporating ground floor retail.
- *Pedestrian Circulation:* Sidewalks are required along all street frontages. Generous pedestrian amenities along Stars & Stripes Drive are suggested, due to the adjacent Great America Light Rail Station.
- *Bicycle Circulation:* Dedicated bike lanes are required along Tasman Drive and the north/south segment of Stars & Stripes Drive. Bike routes are required along the east/west segment of Stars & Stripes Drive.
- *Use:* This block may be developed as serviced apartments (a residential use) associated with the hotel on Block 5B.
- *Active Frontages:* These are suggested along Avenue B and the east/west segment of Stars & Stripes Drive.
- *Parking Access:* The podium parking structure on the block is accessed by the residential porte-cochere along Avenue B and by an entry on one of the other streets. Entries to the underground parking structure are suggested.
- *Open Space & Amenities:* No significant ground floor open spaces are suggested, aside from landscaping along the southern edge of the block. The residential component should provide an amenity deck above the parking structure to its tenants.
- *Build-To Lines & Setbacks:* Build-to lines are not recommended for this block. There should be a 15' minimum setback from the Avenue B curbline, and an 18' minimum setback along the Stars & Stripes Drive curbline. There should be a 30' minimum setback from the Tasman Drive curbline, accommodating additional pedestrian amenities and/or landscaping.
- *Concealed & Exposed Parking:* Best efforts shall be made to conceal the podium parking structures along its south and west frontages. Measures to conceal parking shall be visually attractive, and may include landscaping, visual buffering, artwork screening, or similar forms of concealment.
- *Building Heights:* Proposed towers located on this block have a maximum building height of 219' above msl consistent with ALUC regulations. This is suggested to include a parking podium and a tower volume. Final building mass and height will be subject to City review and approval through the Development Area Plan process.
- *Service Entries:* Loading dock entrances should be located along the east/west segment of Stars & Stripes Drive.
- Trash and mechanical equipment shall be screened from view along the public and private street rights-of-way.

EXHIBIT 4–32: BLOCK 5C GROUND FLOOR PLAN*



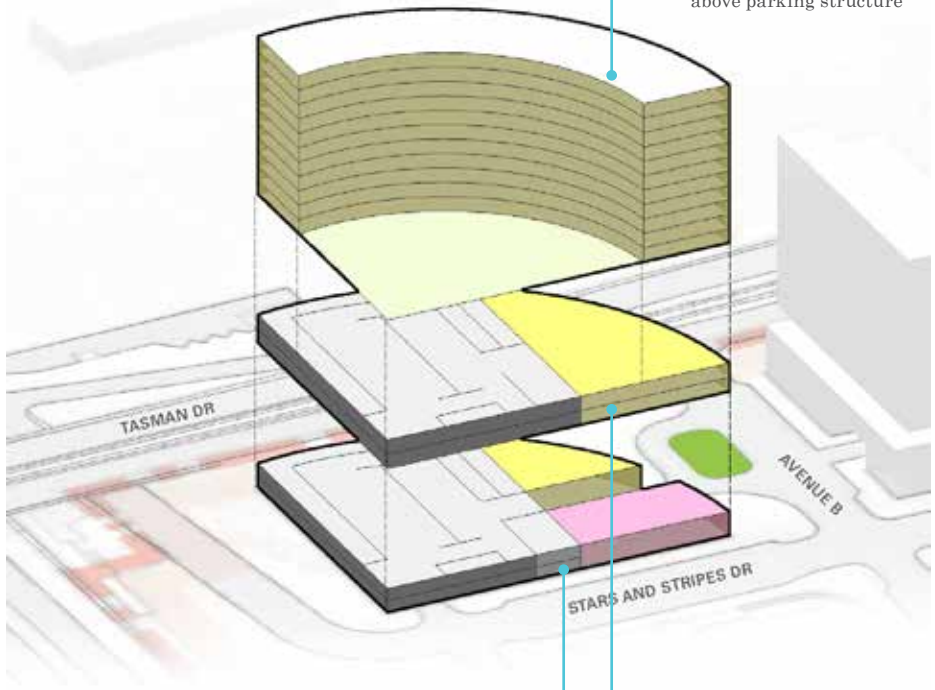
LEGEND

- Active Frontage (secondary)
- Setback From Curb
- Buffer Landscape
- Parking Access
- Service Access
- Building Lobby Entrance
- Roof Deck Open Space
- Parking Structure Exposure
- Preferred Tower Location
- Site
- Block

1" = 200'

0' 50' 100' 200'

EXHIBIT 4–33: BLOCK 5C EXPLODED AXONOMETRIC VIEW*



Residential Tower:
- 11 floors of double loaded residential shown
- Amenity deck located above parking structure

Podium Levels:
- Two floors of wrapped single loaded residential shown two floors of parking

Ground Floor:
- Residential entry and porte cochere located along and Avenue B
- Access should be provided to underground parking

LEGEND

Land Uses
- Podium Residential
- Food & Beverage (F&B)
- Structured Parking / Service
- Office (Potential Use)
- Hotel (Potential Use)
- Product Showcase (Potential Use)

Open Space
- Amenity Deck
- Landscaped Space

** The program, plan, and exploded axonometric view depict a potential configuration for illustrative purposes only. The actual program and layout may vary subject to City review and approval. Accessory uses are not depicted but may replace portions of the elements in the illustrated plan.*





CHAPTER 5

DESIGN GUIDELINES



5.1 DESIGN PRINCIPLES

…informing choices regarding site/hardscape elements, building massing, fenestration, material choices and more.

SITE PLANNING

Building Orientation:

- Locate and mass buildings so as to consistently frame and define outdoor space, including sidewalks, pedestrian walkways and paseos, and public plazas.
- Orient buildings and their entrances to link to key outdoor spaces, including sidewalks, pedestrian walkways and paseos, and public plazas.

Parking Facilities:

- Wrap parking garages with retail uses on the ground floor where appropriate, adjacent to pedestrian zones.
- Use compatible landscape treatment to break up the expansiveness of surface parking fields, and reduce parking's visual and environmental impacts.
- Place landscape along the street level or ground level portion of any parking structure to screen or buffer views of that ground level from the public right-of-way.
- Design parking structures to minimize light trespass from headlights of vehicles within.
- Capture rooftops for renewable energy; e.g., photovoltaic panel installations that can shade upper parking decks.

Service and Loading Facilities:

- Locate service, trash, and loading storage areas so that they are not visible from areas with high pedestrian traffic. Strategies may include aggregation of services areas to serve more than one building and locating entrances along streets less frequented by pedestrians.
- Servicing from street curbs or pedestrian concourses is allowed for retail zones, but limited to early morning periods when there is no conflict with pedestrian activity or residential use.
- Screen service, loading, and storage areas with compatible landscape and/or architectural treatment.
- Screen ground level mechanical equipment from view.

ARCHITECTURAL DESIGN

Mass & Scale:

- Employ simple yet varied massing. Elevation breaks should be introduced on buildings with multiple floors.
- Include design features that provide pedestrian scale for lower level(s).
- Consider special treatment at building corners (e.g., distinctive or strong corner massing), especially at gateways and key intersections.

Windows:

- Limit use of highly reflective exterior glazing and/or utilize bird safety treatments, consistent with Chapter 6.8 of this MCP (Bird Safety Guidelines).
- Consider recessed windows to enhance façade depth and add shadow lines.
- Utilize energy efficient glazing or consider use of exterior shading on critical exposures.

Roofs:

- Locate and/or screen rooftop equipment so that it is not visible from adjacent streets or other important pedestrian areas. Rooftop screening should be integral to the building's form (e.g., through the use of raised parapets, louvers, etc.).

Articulation & Fenestration:

- Modulate exterior walls. Blank, unadorned walls are to be avoided especially along streets and areas with pedestrian traffic.
- Establish a clear pattern of fenestration that unifies the building, including well-marked and articulated building and shop entrances.
- Clearly differentiate main building entrances (e.g., entrances to upper floor office or residential) from storefront entrances.

SIGNAGE & LIGHTING DESIGN

Signage:

- Design project signage that is compatible with the overall site design and immediate surroundings in both scale and character, while also developing signage for each development area.
- Use signage to identify the project and reinforce placemaking, as well as to focus and guide both pedestrian and vehicular circulation throughout the project.
- Include directional signs and maps that guide persons on foot to important areas of the project, outdoor gathering areas, transit nodes, parks, trailheads and major tenants.

Lighting:

- Discourage illumination of an entire building or large portions of an entire building.
- Locate and shield architectural lighting to minimize glare on adjacent properties and streets. Intense architectural lighting should be limited to areas with special security needs including the pedestrian concourse and other highly active areas.
- Configure interior lighting to minimize spill onto outdoor areas and to limit unnecessary glare, particularly with parking structures.
- Integrate project signage and lighting. Unobtrusive and attractive external forms of lighting are appropriate for most project sign types, although major gateway signage may incorporate more dramatic lighting displays.

5.2 CITY CENTER MIXED-USE DESIGN GUIDELINES



CITY CENTER MIXED-USE

These guidelines are integral in the building and site planning of a successful urban place. The pedestrian and public realm will be framed by buildings and open spaces, and it will be the arrangement of these in-between spaces that determines the quality of the urban form as a whole. Tenant branding elements should be accommodated on a case by case basis.

SITE PLANNING

Building Siting & Orientation:

Buildings should be sited so that the coordinated relationship between buildings is legible and strong. The positioning of buildings on their parcels should improve pedestrian and driver visibility, ensure pedestrian comfort and human scale, provide connectivity of uses and lend to an overall sense of an orderly district.

Design Guidelines:

- *MU-1:* Orient main building entrances toward the key pedestrian spine / pedestrian concourse. Secondary entrances may be oriented to paseos, parking facilities, and streets.
- *MU-2:* Building facades should respect the street and sidewalk by building out to the property line and forming a strong visual edge along the street frontage, except, that forecourts and set back building corners should be allowed to announce building entrances, welcome pedestrians and allow more expressive building facades, and should be viewed as consistent with the goal of developing a strong street edge.
- *MU-3:* Situate buildings on the site so that they are oriented to maximize daylighting opportunities and collect natural light within interior spaces.
- *MU-4:* Position entries to buildings so that they are easily identifiable from adjoining public rights-of-ways and primary access drives.

Vehicular Circulation & Parking:

On-site circulation and site access should provide for the safe, efficient, convenient, and functional movement of multiple modes of transportation both on and off the site to prevent pedestrian/bicycle/vehicle conflicts. The site planning process should make provision for alternate modes of transportation, including public transit, bicycles and pedestrians.

Design Guidelines:

- *MU-5:* Provide vehicular, pedestrian, and bicycle circulation systems for safe and efficient site utilization.
- *MU-6:* On-site circulation should be coordinated in a manner to minimize vehicle and pedestrian interaction, with a clear and hierarchical order which makes pedestrian routes and development access points visually different from vehicular parking lots, parking structures or service access points.
- *MU-7:* Pave on-site drop-off and vehicular driveways to match the material and pattern of on-site sidewalks and plazas in order to communicate a slow-speed shared pedestrian and vehicular realm.
- *MU-8:* Enhance the intersections of gateways by incorporating wayfinding signs, accent paving, special landscaping and lighting.
- *MU-9:* In the City Center, create compact street sections and utilize traffic calming techniques that reinforce an urban feel, while ensuring adequate accommodation for service vehicles, emergency vehicles and identified bus routes.
- *MU-10:* Provide bicycle lockers and/or racks near building entrances. Disperse bicycle parking facilities throughout the development area located in convenient and visible areas in close proximity to primary

entrances. Refer to the bicycle plan (*Exhibit 3-19*) in this document for more information.

Service & Loading Facilities:

Services and loading, including trash disposal areas should be designed and located to adequately provide for commercial, hotel, entertainment, residential and office uses without impacting the visual character of the City Center Mixed-Use district.

Design Guidelines:

- *MU-11:* Screen all mechanical equipment from view along the public and private right-of-way. This includes back flow devices, traffic signal boxes, transformers, meters etc, and may include planting of vegetation to adequately screen equipment.
- *MU-12:* Incorporate storage, trash delivery, and loading areas into the overall building form.

Site Landscape Design:

Landscaping within the City Center Mixed-Use District should be provided to enhance development aesthetics, create a pedestrian friendly environment, provide screening and buffering, enhance connections to the public realm, provide shade, and communicate site organization and hierarchy.

Design Guidelines:

- *MU-13:* Utilize landscaping to add texture and visual interest at the street level. Landscaping should not create a solid visual barrier between the public realm and the building frontage or views into buildings at the ground floor. Visual buffering and filtering of windowless facades from the public right of way is encouraged.
- *MU-14:* Incorporate pedestrian and bicycle connections to the Guadalupe and San Tomas Aquino Creek trails.
- *MU-15:* Encourage the use of drought tolerant, native and adapted plant species.
- *MU-16:* Landscaping may include any practicable combination of shrubs, trees, ground cover, minimal lawns, planter boxes, flowers, or fountains.
- *MU-17:* Utilize landscaped islands and medians to improve the definition of circulation patterns, provide shading for paved areas and beautify streets.
- *MU-18:* Incorporate complete streets with bike lanes, ample and cohesive street furniture, and tree canopy.

ARCHITECTURAL DESIGN

Building Massing & Form:

Building height, massing, and scale should relate to pedestrian scale in the immediate vicinity, and facilitate a hierarchical and varied aesthetic throughout the district. Modulating massing will help to reduce the mass of otherwise large buildings while maintaining visual interest. Massing should also improve site navigation and experience by incorporating landmarks to emphasize key elements such as access and internal uses.

Design Guidelines:

- *MU-19:* Architectural elements such as entries, porticoes, cornices, and awnings should be compatible in scale with the building massing and should not be exaggerated or made to appear as a caricature of a historic architectural style. Reasonable accommodation may be made for store branding elements associated with retail, food and beverage tenants.
- *MU-20:* Multi-story buildings should contain three parts; a base, a midsection, and a top. The different parts should be expressed through varied detailing of the facade and discernible vertical and horizontal offsets should be provided to reduce the visual bulk of the building.
- *MU-21:* Organize massing to emphasize certain parts of the building such as entries, corners, and display areas. Entrances should be identifiable by an accompanying modulation in massing - this may include a portion of the building with a differing building or parapet height (above or below) and/or with a projected or recessed building massing.
- *MU-22:* Ensure that districts are compatible and complementary in scale, massing, style, and/or architectural materials, but retain diversity typically characteristic of the urban idiom.

Roof Forms & Materials:

Rooftops should contribute to the unified appearance of the district. Visually clean rooftops with mechanical and service facilities kept screened, green roofs that are



Landscaping to add texture & visual interest



Identifiable entry massing



Green roof



Modulated roofline with varied setbacks



Architectural canopy provides shade and reduces heat gain



Clear visual division between upper & lower floors

energy efficient, or rooftops with photovoltaics are all viable rooftop options for rooftops in this area.

Design Guidelines:

- *MU-23:* Use high albedo roof and paving materials which mitigate the heat-island and embody "cool roof" design practices. Otherwise, employ roof materials and assemblies which utilize or capture stormwater such as "blue roofs" or "green roofs" with drought and heat tolerant plant selections to reduce cooling and heating costs. Rooftop photovoltaic solar panel systems are encouraged, and compatible with green roofs.

- *MU-24:* Roofs should be designed as an integral component of building form, mass, and facade.

- *MU-25:* Integrate varied roof lines through the use of sloping roofs, modulated building heights, setbacks, or innovative architectural solutions.

- *MU-26:* Within a block or district, rooftop materials should be limited in design complexity and in the number of colors; moreover, their material should be specified as an integral and unobtrusive part of a limited palette for the entire building.

- *MU-27:* Locate and/or screen rooftop equipment so that it is not visible from adjacent streets. Rooftop screening should be integral to the building's form (e.g., through the use of raised parapets, louvers, etc.)

Building Articulation & Fenestration:

Articulation and fenestration should communicate clear points of entry and contribute to the overall visual aesthetic and apparent accessibility of each building.

Design Guidelines:

- *MU-28:* Promote pedestrian activity by providing a primary entry that fronts a public right-of-way.

- *MU-29:* Incorporate windows and doors with well-designed trims, recesses and details as character defining features to reflect an architectural style or theme consistent with other facade elements and building architecture.

- *MU-30:* At entrances and openings, include overhead architectural features, such as awnings, canopies, trellises or cornice treatments that provide shade, weather protection, and reduce daytime heat gain, especially on south-facing facades.

Architectural Details:

Enrich the pedestrian and site occupant experience at the street level by providing a ground level facade that relates to a more detailed human scale, is accessible, and facilitates retail and commercial activity. An active, safe, and enjoyable street environment depends on buildings that connect and interact with the pedestrian realm when they meet the ground.

Design Guidelines:

- *MU-31:* Design storefronts with a focus on window design that creates a visual connection between the interior and exterior.

- *MU-32:* Ensure that commercial ground floor uses provide clear and unobstructed windows (not precluding tree planting), free of reflective coatings and exterior mounted gates and security grills. Ensure that landscaping does not create a barrier between pedestrians and the building frontage, nor views into buildings at the ground floor.

- *MU-33:* Provide shelter from the sun and rain for pedestrians along the public right-of-way where the buildings meet the sidewalk. Extend overhead cover across sidewalks and/or driveways or provide architecturally integrated awnings, arcades, and canopies.

Building Materials & Colors:

These guidelines are intended to ensure the appearance of a high-value, high-quality district that is both cohesive and visually interesting. Basic harmony of architecture shall be developed to promote the quality and attractiveness of the mixed-use environment.

Design Guidelines:

- *MU-34:* A clear visual division between upper and lower floors should be incorporated by changes in materials and colors, or building modulation, and by the use of canopies and awnings.

- *MU-35:* Introduce transparency along sidewalks (with the exception of street trees) and paths, especially in proximity to store entrances; generous storefront window and displays are encouraged.

- *MU-36:* Treat all facades of the building with appropriate level of architectural detail and articulation. Building elevations, whether such elevations function as the front, side, or rear of the building, shouchitecturally detailed to avoid the appearance of once being the "back of the building".

- *MU-37:* Minimize the number of colors appearing on a structure's exterior.

- *MU-38:* Exterior materials shall be of natural finish, factory coated, stained, integrally colored, or otherwise suitably treated, avoiding field applied coatings where practical. High gloss finishes should be of limited area only.

- *MU-39:* Large expanses of smooth material should be broken up with expansion joints, reveals or changes in texture and color. Expanses of highly reflective surfaces and mirrored glass walls are strongly discouraged.

- *MU-40:* Storefront windows should be transparent and not be obstructed or coated with any material to preclude visibility within the interior space that is not of a decorative or photographic medium.

Parking Structures:

Parking structures are secondary structures and should only contribute to the pedestrian comfort of the City Center Mixed-Use District, providing the requisite amount of space without overwhelmingly impacting the massing, order, and visual reading of the district.

Design Guidelines:

- *MU-41:* Use landscape features and wall art to screen parking structures. Trees, shrubbery, planter boxes, climbing plants, vines, green walls, or berms can be used to soften views from the public right-of-way and art to create visual interest and detract from use.

- *MU-42:* Design parking structure facades with attractive entrances, varied building materials, or screening to provide visual interest.

- *MU-43:* Laminate or wrap parking facilities with active uses such as retail spaces or conveniences other than parking (such as bicycle lockers or bike-sharing).

SIGNAGE & LIGHTING DESIGN

Site Signage:

Signage packages for each land use area shall be prepared to improve the streetscape experience and uniformly communicate key information without creating visual clutter. Signs shall be designed as a 'family', incorporating similar, compatible materials that reinforce the design and style of the project architecture. Signs will be consistent with the applicable Comprehensive Sign Program approved pursuant to Section 7.1 of this MCP.

Design Guidelines:

- *MU-44:* Include signage at height and of a size that is visible to pedestrians and facilitates access to the building entrance. Allow LED/digital signage in City Center (subject to City review and approval through the DAP process).

- *MU-45:* Signs shall incorporate materials, colors, and designs that are compatible with the associated structures.

- *MU-46:* Window signage is limited to individual tenant name only.

- *MU-47:* Individually cut lettering visible at a distance and made of durable material is encouraged, while small, undifferentiated, and flush lettering with weak coloring is discouraged.

Site Lighting:

Lighting shall be essentially and efficiently used to provide illumination for safety without intruding on adjacent properties, the public right-of-way., or the night sky. Site lighting shall be architecturally compatible and consistent in design between parcels, and shall be consistent with the guidelines of Section 7.8 Bird-safe lighting measures shall be integrated into the design, consistent with Section 6.8 (Bird Safety).

Design Guidelines:

- *MU-48:* Poles and fixtures should be designed to be pedestrian scaled and architecturally compatible with structures and all other lighting fixtures on-site. Lighting within the public realm shall have a theme.

- *MU-49:* Select and locate all lighting fixtures to shield or confine light spread within a site's boundaries.

- *MU-50:* To facilitate security, specify lighting levels that are adequate for visibility, but not overly bright. All building entrances, pedestrian pathways, and parking facilities should be well-illuminated.

- *MU-51:* To the extent consistent with the normal and expected operations of the office, hotel, retail, food/beverage, entertainment and residential uses of the project, take appropriate measures to turn unnecessary lighting off at night, especially during bird migration season (February–May and August–November), including, to the extent feasible, the use of motion sensor lighting, automatic lighting shut-off mechanisms, and installation of downward facing exterior lighting.



Parking garage wrapped with retail



Durable, individually cut letters, with strong color contrast



Pedestrian scaled light fixtures

5.3 CITY CENTER N-W OFFICE DESIGN GUIDELINES



CITY CENTER NORTHWEST OFFICE

The City Center Northwest Office Design Guidelines will be essential in creating a thriving office component for CityPlace. The guidelines will aid in the creation of a cohesive public realm with a clear overall aesthetic. A successful work environment depends widely on its inviting, comfortable, and easily accessible surroundings and buildings.

SITE PLANNING

Building Siting & Orientation:

Buildings within the City Center Northwest Office District may be organized either as an open tenant office park, a secure office campus, or as a combination of multiple uses. These buildings should be sited so that the coordinated relationship between buildings is legible and strong. The positioning of buildings on their parcels should improve pedestrian and driver visibility, ensure pedestrian comfort and human scale, provide connectivity to adjacent uses and lend to an overall sense of an orderly district.

Design Guidelines:

- *CCO-1:* Provide human scaled blocks that allow convenient pedestrian access and connectivity throughout the district.
- *CCO-2:* Locate and mass buildings to consistently frame and define public space. An especially strong relationship between the building and street is encouraged.
- *CCO-3:* Use strong identifiable architectural forms at building corners, especially to mark gateways and key intersections.
- *CCO-4:* Orient main building entrances, lobbies and ground floor auxiliary uses like cafes so that they open onto pedestrian space, including sidewalks, paseos and active areas.

Vehicular, Pedestrian, & Bicycle Circulation:

On-site circulation and access systems should provide for the safe, efficient, convenient, and functional movement of multiple modes of transportation both on and off the site.

Design Guidelines:

- *CCO-5:* Emphasize safe and comfortable pedestrian/bicycle movement throughout the district, whether the district is an open campus or a secure closed campus. Sidewalks and paths should incorporate amenities while connecting important adjacent uses and public spaces.
- *CCO-6:* Introduce traffic calming measures where pedestrian activity will be greatest, including curb bulb-outs, enhanced crosswalks, and on-street parking and landscaping.
- *CCO-7:* Create strong pedestrian connections to neighboring blocks through scaled gateway entry markers, landscaping, lighting, and specialty paving for crosswalks at primary intersections.
- *CCO-8:* Incorporate bicycle facilities (lockers and/or racks) near important building entrances.

Service, Loading Facilities & Mechanical Equipment:

Services and loading including trash disposal and service yards shall be designed and located to adequately provide for their associated developments without impact to the visual character of the City Center Northwest Office District.

Design Guidelines:

- *CCO-9: Locate* service, *loading, and storage facilities (including refuse/recycling areas) away from streets, public spaces, and adjacent sensitive land uses. These facilities should not face public streets, and where they do face public streets, they shall be shielded from public view. .*

- *CCO-10:* Screen ground-level mechanical and electrical equipment and service areas from view. Cohesive architectural treatment is strongly recommended; dense landscape treatment and physical screening may also serve as an effective screen.

- *CCO-11:* Intrusion of service, loading, and storage areas into open spaces, such as landscape buffers and required setbacks, is prohibited.

Site Landscape Design:

Landscaping within the City Center Northwest Office District should be provided to enhance development aesthetics, create a pedestrian friendly environment, and provide an overall enriched and finished landscape look.

Design Guidelines:

- *CCO-12:* Introduce landscape features and plantings that are scaled to surrounding streets, outdoor spaces, and buildings. Include tree canopies.

- *CCO-13:* Use a rich coordinated palette of landscape materials to provide scale, texture, and color.

- *CCO-14:* Utilize hardscape/paving materials that are compatible with their surroundings, and enhance the building and landscape design. In particular, decorative paving may be used to highlight key pedestrian areas, including plazas, intersections, and crosswalks.

- *CCO-15:* Emphasize plants that are adapted to the local climate. Native and drought tolerant plants are preferred.

- *CCO-16:* Landscape all open areas not used for buildings, drives, parking structures, or pedestrian amenities. Landscaping may include any practicable combination of shrubs, trees, ground cover, minimal lawns, planter boxes, flowers, or fountains that reduce dust and other pollutants.

ARCHITECTURAL DESIGN

Building Massing & Form:

Modulating massing will maintain visual interest and help to reduce the apparent mass of office buildings and other potential land uses that may be typical in the City Center Northwest Office District. Massing should also improve site navigation and experience by emphasizing key elements such as access and internal uses.

Design Guidelines:

- *CCO-17:* Accentuate important locations, especially entries through architectural massing.

- *CCO-18:* Create a varied skyline with strong forms (i.e., towers, domes, extruded roof forms and rotundas), especially at corners.

- *CCO-19:* Encourage massing changes and architectural articulation to provide visual interest and texture facing streets and public spaces.

- *CCO-20:* Reinforce a strong corner condition at street intersections.

- *CCO-21:* Define a base, middle, and cap in order to clearly define building form.

- *CCO-22:* Make the ground floor taller than typical upper stories.

Roof Forms & Materials:

Rooftops should contribute to the unified appearance of the development, the energy and efficiency of each building, and the visual cleanliness from higher areas, ground level, and other buildings and roadways. Green roofs that are energy efficient or rooftops with photovoltaics are also welcome in this area.

Design Guidelines:

- *CCO-23:* Express roofs in a visually interesting manner that complements the building. Flat, unarticulated expressions are discouraged. Rooftop photovoltaic solar panel systems are encouraged, and can provide the added benefit of shading for parking structures.



Rich,coordinated landscape adding texture and color



Visually interesting rooftop



Clearly articulated building entrance



Transparent entry offers views into lobby



Neutrally colored quality materials



Vertical garden on parking garage to screen cars

- *CCO-24:* Complement the composition of the building, varying the roof form in accordance with the building's massing.
- *CCO-25:* Locate and/or screen rooftop equipment so that it is not visible from adjacent sidewalks or open space. Rooftop screening should be integral to the building's form (e.g., through the use of raised parapets, louvers, etc.).

Building Articulation & Fenestration:

Clear marked points of entry, overall visual readability, and perceptible accessibility all become well defined through articulation and fenestration of the building within the City Center Northwest Office District.

Design Guidelines:

- *CCO-26:* Utilize major articulation of the facades at corners and areas around entries.
- *CCO-27:* Use fenestration, as well as changes in wall plane, material, texture, color, etc., to create shadow lines and articulate building walls. Deep wall openings are encouraged.
- *CCO-28:* Introduce three-dimensional interest at the street level. In general, buildings should provide transparent views into their entrance lobbies, and commercial/retail spaces.

Architectural Details:

Architectural details enrich the pedestrian experience especially at the street level where the facade relates at a more human scale that feels familiar and accessible for the pedestrian.

Design Guidelines:

- *CCO-29:* Emphasize architecture that enhances the pedestrian experience by providing street level details and amenities.
- *CCO-30:* Design buildings to be architecturally differentiated from their neighbors yet be complementary to their materials, colors, and scale.
- *CCO-31:* Provide shade along pedestrian paths for comfort through awnings, canopies, etc.

Building Materials & Colors:

Building materials and finish guidelines are intended to ensure the appearance of a high-value, high-quality Office Campus that is both cohesive and visually interesting. Basic harmony of architecture shall be developed to promote the quality and attractiveness of the business environment.

Design Guidelines:

- *CCO-32:* Building exterior materials should be a natural finish, factory coated, stained, colored, or otherwise suitably treated. High gloss finishes should be of limited area only.
- *CCO-33:* Treat all facades of the building with an equal level of architectural detail and articulation.
- *CCO-34:* Choose material and color palettes such that the majority of colors for new buildings are compatible with the materials and colors of adjacent structures.

Parking Structures:

Parking structures offer a great opportunity to implement renewable energy collecting photovoltaic panels (PV) within the City Center Northwest Office District; these elements provide shade and visually show the commitment CityPlace has to sustainability. PV installations are not incompatible with green roofs, which are also encouraged.

Design Guidelines:

- *CCO-35:* Screen cars through measures attached to the exterior of garages, such as latticework, sheer panels, art panels, or the use of vertical gardens.
- *CCO-36:* Encourage structured parking where the height of the parking garage does not significantly exceed the height of the principal buildings that it serves.
- *CCO-37:* Structures should architecturally complement surrounding buildings.
- *CCO-38:* Interior walls and ceilings should be painted a light color to improve illumination.

- *CCO-39:* Parking should appear inconspicuous and visually screened or softened from public streets and adjoining properties by planting of trees and shrubs.

SIGNAGE & LIGHTING DESIGN

Site Signage:

Office building signage shall be an integrated and cohesive part of the building architecture. Signage shall be made of compatible materials that reinforce the design style of the overall district. Signs will be consistent with the applicable Comprehensive Sign Program approved pursuant to Section 7.1 of this MCP.

Design Guidelines:

- *CCO-40:* Provide signage that is compatible with the streetscape, the building materials and overall design aesthetic.
- *CCO-41:* Construct signs of durable, high-quality materials that suggest permanence.
- *CCO-42:* Identity signage should be sufficiently visible from surrounding public streets so that site entrances can be readily identified by both pedestrians and persons in vehicles.
- *CCO-43:* Discourage signage that obscures architectural features, such as vertical piers, trim work, etc.
- *CCO-44:* Multiple Tenant Signage - Allow the ability for multiple office tenants to integrate tenant signage on facades and roof, subject to City Review and approval as part of the DAP process.

Site Lighting:

Lighting shall be efficiently used to provide illumination for the security and safety of workers and visitors without intruding on adjacent properties. Spill will be limited on off-site right-of-ways, and shall be consistent with the guidelines of Section 7.8. Bird-safe lighting measures shall be integrated into the design, consistent with Section 6.8 (Bird Safety).

Design Guidelines:

- *CCO-45:* Select exterior lighting fixtures that are pedestrian scaled and compatible with the architectural design.
- *CCO-46:* Locate and shield architectural lighting to minimize glare on adjacent properties and streets. Intense architectural lighting is discouraged. Limit exterior light spill from interior office lighting and utilize nighttime lighting curfews where appropriate.
- *CCO-47:* Complement the lighting employed for surrounding streetscapes and landscape.
- *CCO-48:* Illuminate all building entries, walkways, steps or ramps along pedestrian routes.
- *CCO-49:* Provide only as much light/illumination as necessary to provide safety and security of the City Center Northwest Office Zone.



Illuminated steps for safe pedestrian movement

5.4 OFFICE CAMPUS DESIGN GUIDELINES



OFFICE CAMPUS

These guidelines will be integral in the building and site planning of a successful work environment. Connectivity between buildings, ample outdoor recreation areas, proper lighting for safe pedestrian travel, outdoor furniture, and landscaping will all help to construct an enjoyable office or light manufacturing campus. These guidelines are intended to be applicable to multiple office typologies including: multi-tenant office parks, a single tenant open corporate campus and a closed (secure) corporate campus. The potential also exists for a dedicated campus that will integrate multiple parcels into a single secured campus of office or light manufacturing.

ALTERNATIVE DEVELOPMENT FRAMEWORK POTENTIAL:

The policy statements and design principles expressed in this section are focused on office campus development consisting primarily of an open campus single or multi-tenant use. It is recognized that numerous other forms of office campus development are being incorporated throughout the region, and are designed to meet the specific operational needs and desires of cutting edge high-tech companies and industries. As site development is anticipated over many years, both the City and the developer desire enough flexibility to incorporate many different campus design configurations that attract a variety of tenants and building typologies. Therefore, specific campus typology and design configuration for each development area will be submitted in each DAP application.

SITE PLANNING

Building Siting & Orientation:

Buildings within Parcels 1, 2 & 3 may be organized either as an open tenant office park, a secure office campus, or as a combination of multiple land uses. Buildings should be sited so that the coordinated relationship between buildings is legible and strong. Arrangement of buildings on their parcels should be designed to improve pedestrian connectivity and driver visibility, ensure pedestrian comfort and human scale, and lend to an overall sense of an orderly district.

Design Guidelines:

- *OC-1:* Situate buildings on-site so they are oriented to maximize daylighting opportunities and optimize natural light within interior work spaces.
- *OC-2:* Explore opportunities to group buildings so as to frame and share active pedestrian and communal outdoor gathering spaces.
- *OC-3:* Building setbacks should be varied to enhance visual interest along the streetscape.
- *OC-4:* Position entries to buildings so that they are easily identifiable from adjoining rights-of-way and primary access drives.

Vehicular, Pedestrian, & Bicycle Circulation:

The on-site circulation and access system should provide for the safe, efficient, convenient, and functional movement of multiple modes of transportation both on and off the site to avoid pedestrian/bicycle/vehicle conflict.

Design Guidelines:

- *OC-5:* Pedestrian linkages shall be provided between the Office Campus District and City Center Mixed-Use District to promote shared use of all districts within the development.
- *OC-6:* Provide plazas at primary building entrances as a means of distinguishing them from secondary and service entries.
- *OC-7:* Provide pedestrian connections from building entries and required exits to walkways that adjoin on-site parking structures and/or surface lots. Where provided, these pedestrian connections should have a different ground material and color to the adjoining surface.

- *OC-8:* Provide bicycle lockers and/or racks near building entrances. Disperse bicycle parking facilities throughout the Campus located at convenient and visible areas in close proximity to primary entrances (see *Exhibit 3-19* for more information).

Service, Loading Facilities & Mechanical Equipment:

Service and loading areas should be designed and located to adequately provide for their associated developments without impact to the visual character of the Campus District.

Design Guidelines:

- *OC-9:* Place loading docks, outside storage, and service areas in areas of low visibility such as at the side or rear of buildings.
- *OC-10:* Locate transformers away from major pedestrian routes and outdoor employee areas.
- *OC-11:* Screen all mechanical equipment from view along the public and private right-of-way. This includes back flow devices, traffic signal boxes, transformers, meters etc., and may include planting of vegetation to adequately screen equipment.
- *OC-12:* Hide trash enclosures within parking garages, lots, or buildings so that they are not visible to passers-by. Screen outdoor standalone trash enclosures using walls consistent with the architectural character of the overall campus, and locate them so that they are out of the line-of-sight from crosswalks or sidewalks.

Site Landscape Design:

Landscaping within the Campus should be provided to enhance the overall aesthetic, create a pedestrian friendly environment, provide screening and buffering where necessary, enhance connections to the public realm, provide shade, and communicate hierarchy.

Design Guidelines:

- *OC-13:* Paving of sidewalks, plazas, and pedestrian surfaces should be differentiated at primary building entries and on-site employee break areas.
- *OC-14:* Incorporate on-site plazas and courtyards. These should be functional, well-defined spaces that reinforce the social life of the employees within the Office Campus District.
- *OC-15:* A variety of planting materials and plant heights should be provided in landscaped areas. Appropriate planting includes: drought tolerant trees, shrubs, groundcovers, and accent plants and flowers of varied heights and textures.
- *OC-16:* Introduce pedestrian and bicycle linkages between open spaces and the various districts.
- *OC-17:* Furnish outdoor employee areas with amenities such as benches, landscaping, and/or recreational areas. These outdoor spaces shall be functional and not appear as leftover spaces.
- *OC-18:* Outdoor seating areas should include permanent shade from trees, structures, trellises, pergolas, or canopies to effectively reduce heat gain and employee discomfort.

ARCHITECTURAL DESIGN

Building Massing & Form:

Building height, massing, and scale should relate to pedestrian scale in the immediate vicinity. In the case of an open tenant office park, a secure office campus, or as a combination of multiple land uses, modulating building massing will help to reduce the apparent mass of otherwise large buildings typical of an primarily office development, while maintaining visual interest.

Design Guidelines:

- *OC-19:* Architectural elements such as entries, porticoes, cornices, and awnings should be compatible in scale with the building massing.
- *OC-20:* Introduce significant vertical and horizontal offsets to reduce visual bulk. Exterior wall planes should be varied in height, depth, and direction.
- *OC-21:* Organize massing to emphasize entries, corners, or working spaces.
- *OC-22:* Ensure that buildings are compatible in scale with existing structures in the immediate vicinity.



Functional, well landscaped, on-site courtyard



Emphasize internal uses through thoughtful building massing



Visually interesting sloping roof form



Incorporates awnings & canopies as part of a harmonious design



Incorporates human-scaled elements (i.e., exterior lights & overhangs)



All facades treated with architectural detail

Roof Forms & Materials:

Rooftops should contribute to the unified appearance of each development, the energy efficiency of each building, and the visual cleanliness from higher areas, ground level, and other buildings and roadways.

Design Guidelines:

- *OC-23:* Integrate varied roof lines through the use of sloping roofs, modulated building heights, setbacks, or innovative architectural solutions.
- *OC-24:* Express roofs in a visually interesting manner that complements the composition of the building and creates added interest to the building profile. Sculptural roof forms are permitted.
- *OC-25:* Use high albedo materials which mitigate the heat island and embody "cool roof" design practices. Employ roof materials and assemblies which utilize or capture stormwater such as "blue roofs" or "green roofs" with drought and heat tolerant plant selections to reduce cooling and heating costs. Rooftop PV solar panel systems are encouraged on all structures.
- *OC-26:* Locate and/or screen rooftop equipment so that it is not visible from adjacent streets, sidewalks or open space. Rooftop screening should be integral to the building's form (e.g., through the use of raised parapets, louvers, etc.)

Building Articulation & Fenestration:

Articulation and fenestration should communicate clear points of entry and contribute to the overall visual legibility and apparent accessibility of each building.

Design Guidelines:

- *OC-27:* Introduce major and minor projecting features as part of a harmonious design.
- *OC-28:* Promote pedestrian activity by providing a primary entry that fronts a right-of-way or has a framed view from a right-of-way.
- *OC-29:* Modulate exterior walls. Blank unadorned wall surfaces are to be avoided, especially along streets.
- *OC-30:* At entrances, openings, and south facing facades include overhead architectural features, such as awnings, canopies, trellises or cornice treatments that provide shade to reduce daytime heat gain and cooling loads.

Architectural Details:

An active, safe, and enjoyable street environment depends on buildings that connect and interact with the pedestrian realm. Ground floor details in particular play a large role in providing pedestrians with a pleasant urban experience.

Design Guidelines:

- *OC-31:* Provide highly visible and readily identifiable public building entrances. Along with changes in building form, entrances may be expressed through special materials and/or detailing.
- *OC-32:* Introduce elements that establish a comfortable transition between indoors and outdoors, for example, canopies, awnings, trellises or similar features.
- *OC-33:* Ensure that all sides of an office building are highly articulated. Blank or monotonous wall surfaces should be avoided.
- *OC-34:* Incorporate design elements that offer a human dimension, such as frequent entries, landscaping, exterior light fixtures, awnings and overhangs.

Building Materials & Colors:

Building materials and finish guidelines are intended to ensure the appearance of a high-value, high-quality Campus that is both cohesive and visually interesting. Basic harmony of architecture should promote the quality and attractiveness of a working environment.

Design Guidelines:

- *OC-35:* Building exterior materials should be of natural finish, factory coated, stained, integrally colored, or otherwise suitably treated. Use of glossy finishes should be restricted to limited areas. Extensive use of reflective glazing should be avoided.
- *OC-36:* Treat all facades of the building with an equal level of architectural detail and articulation.
- *OC-37:* Choose material and color palettes such that the majority of colors for new buildings are compatible and complementary with the materials and colors of adjacent structures.

Parking Structures:

Parking structures should only contribute to the pedestrian comfort and human scale of the Campus, providing the requisite amount of space without overwhelmingly impacting the massing, order, and visual reading of the area.

Design Guidelines:

- *OC-38:* Landscape features such as trees, shrubbery, planter boxes, climbing plants, vines, green walls, or berms should be placed along the street level or ground level portion of any parking structure to screen or buffer views of that ground level from the public right-of-way.
- *OC-39:* Exterior walls of parking structures should have an open-air design with the first floor (ground level) walls being a maximum of three feet high (except for sheer panels).
- *OC-40:* Include moderately scaled canopy trees within surface parking lots and landscaped parking strips.
- *OC-41:* The design of parking structures should integrate high quality and permanent materials. Automobiles within the parking structure should be screened from view where possible with art walls, cascading landscaping, or other suitable screening.
- *OC-42:* On-site parking structures should not be significantly taller than adjacent buildings.
- *OC-43:* Wayfinding graphics and lighting within and surrounding parking structures should encourage safe and effective pedestrian and vehicular entry and exit movement patterns.
- *OC-44:* Incorporation of photovoltaic panels into parking structure design is encouraged.

SIGNAGE & LIGHTING DESIGN

Site Signage:

Building signage shall improve the streetscape experience and uniformly communicate information without creating visual clutter. Signs shall be designed as a 'family', incorporating similar, compatible materials that reinforce the design style of an overall district or a specific office campus. Signs will be consistent with the applicable Comprehensive Sign Program approved pursuant to Section 7.1 of this MCP.

Design Guidelines:

- *OC-45:* Mark district thresholds with distinctive public signage and/or graphics.
- *OC-46:* Signs should be sufficiently visible from public streets so that site entrances can be readily identified by both pedestrians and persons in vehicles.
- *OC-47:* Utilize signage materials, colors, and designs that are compatible with the associated structures.
- *OC-48:* Individually cut lettering visible at a distance and made of durable material is encouraged.
- *OC-49:* Flashing or moving signs are not permitted.
- *OC-50:* Multiple Tenant Signage - Allow the ability for multiple office tenants to integrate their signage on facades, subject to City Review and approval as part of the DAP process.

Site Lighting:

Site Lighting shall be efficiently used to provide illumination for security and safety without intruding on adjacent properties. Lighting shall be architecturally compatible and consistent in design within parcels or office campuses, and shall be consistent with the guidelines of Section 7.8. Bird-safe lighting measures shall be integrated into the design, consistent with Section 6.8 (Bird Safety).

Design Guidelines:

- *OC-51:* Site lighting should provide consistent levels of illumination, avoiding pockets of very high or low levels of illumination.
- *OC-52:* Provide only as much light/illumination as necessary to provide safety and security of the area.
- *OC-53:* Use ornamental lighting, bollard fixtures, or other low-level elevation fixtures to identify and to highlight pedestrian walkways, plazas, drop-off areas, and pedestrian paths at entrances to office buildings.
- *OC-54:* Illuminate all pedestrian routes, including walkways, steps or ramps.
- *OC-55:* Provide separate, pedestrian scaled lighting for all pedestrian ways through surface parking lots.



Green parking garage screening



Parking structure with rooftop solar panels



Well lit pedestrian walkways

5.5 RETAIL CENTER DESIGN GUIDELINES



RETAIL CENTER

The Retail Center Design Guidelines will be key in the success of CityPlace. Buildings, open spaces, wide sidewalks, and paseos will all aid in the creation of a unique urban retail environment. Designing a cohesive public realm will help in facilitating a quality development as a whole.

SITE PLANNING

Building Siting & Orientation:

The building street relationship should be apparent and strong. Arrangement and orientation of buildings should promote sustainable measures such as optimal direction for use of photovoltaic panels or orientation to minimize heat gain from the sun.

Design Guidelines:

- *RC-1:* Establish a consistent "street wall" with continuous retail frontage. Minor modulations will accommodate recessed shop entrances, "eroded" building corners, etc.
- *RC-2:* Locate and mass buildings so as to consistently frame and define outdoor space, including sidewalks, pedestrian walkways and paseos, and public plazas.
- *RC-3:* Reinforce the edges of on-site open spaces. Building placement should delineate the size and area of the green space.
- *RC-4:* Orient major anchors for heightened visibility from adjacent parcels and from Tasman Drive and Lick Mill Boulevard.

Vehicular, Pedestrian, & Bicycle Circulation:

Site planning should make on-site circulation and parking fields safe, efficient, convenient, and functional while moving multiple modes of transportation seamlessly throughout.

Design Guidelines:

- *RC-5:* Position on-site parking facilities to minimize their visual impact on the street. Where feasible, parking facilities should be located interior to the block.
- *RC-6:* Mask parking structures through design, art, and/or landscaping.
- *RC-7:* Use compatible landscape treatment to break up the expansiveness of parking fields, and reduce parking's visual and environmental impacts.
- *RC-8:* Provide a landscape buffer where a parking field fronts the street. The buffer should have a depth of at least five feet, measured from the rear edge of the sidewalk.
- *RC-9:* Provide bicycle lockers and/or racks near building entrances. Disperse bicycle parking facilities throughout the retail center located in convenient and visible areas in close proximity to primary entrances. Refer to the bicycle plan in this document for more information.

Service & Loading Facilities:

The visual character of the Retail Center should not be impacted by service, trash disposal, loading, and storage facilities. Service areas and facilities should integrate into the design while being positioned, screened and scaled appropriately for an overall high-quality appearance.

Design Guidelines:

- *RC-10:* Locate service, loading and storage areas so that they are not readily visible from the public right-of-way and areas with high pedestrian traffic. In general, these areas should be located behind the building.

- *RC-11:* Screen ground level mechanical and electrical equipment (including meters, back flow devices, transformers etc.) from public view. Cohesive architectural treatment is recommended, although dense landscape may also serve as an effective screen.

- *RC-12:* Screen service, trash disposal, loading, and storage areas with compatible landscape and/or architectural treatment. The intrusion of service, loading and storage areas into open spaces such as landscape buffers and required setbacks is prohibited.

Site Landscape Design:

Landscape within the Retail Center should enhance the development aesthetic, create a pedestrian friendly environment, and aid in creating connections throughout the Retail Center.

Design Guidelines:

- *RC-13:* Enrich outdoor pedestrian areas with decorative paving, overhead cover, outdoor furniture, and pedestrian- scaled lighting. A high level of amenity is desired throughout the Retail Center.

- *RC-14:* Plant canopy trees within off-street parking lots, providing protection from sun and wind, and reducing urban heat island effect.

- *RC-15:* Rely on simple, bold, and easy to maintain landscape planting schemes, typically using native and drought tolerant species.

- *RC-16:* Provide special landscape treatment at major focal points, entryways, and major pedestrian gathering areas. These areas may incorporate water features, specimen trees, accents plantings, landscape lighting, decorative hardscape, etc.

- *RC-17:* Use plantings to: reduce architectural scale, enliven blank or unadorned walls, and scre en service facilities.

- *RC-18:* Irrigate all permanently landscaped areas with an underground recycled water irrigation system, operated by an automatic controller. Utilize native and adapted plantings that would not require permanent irrigation systems in appropriate areas.

ARCHITECTURAL DESIGN

Building Massing & Form:

Modulating building mass will help to provide visual interest and aid in site navigation through the emphasis of key elements such as entries.

Design Guidelines:

- *RC-19:* Employ simple, yet varied, massing. Elevation breaks should be introduced on buildings over a single story, and single story buildings with substantial or elongated building walls.

- *RC-20:* Introduce articulated sub-volumes as necessary to provide a transition to an adjacent structure that is smaller in scale.

- *RC-21:* Consider special treatment at building corners and building entrances (e.g., distinctive or strong corner massing), especially at gateways and key intersections.

Roof Forms & Materials:

Rooftops should contribute to the unified appearance of the each district. Visually clean rooftops with mechanical and service facilities kept screened, or rooftops with photovoltaics and/or greenroofs are all viable rooftop options.

Design Guidelines:

- *RC-22:* Complement the composition of the building by varying roof form in accordance with the building's massing.

- *RC-23:* Treat building's roof line in a visually interesting manner. Sculptural roof forms are generally encouraged, while flat roof forms should incorporate a strong and attractively detailed cornice or parapet.



High level of pedestrian amenity



Building massing as special corner treatment



Modulated building massing provides interest



Architectural details provide visual relief



High degree of transparency and high quality materials



High quality signage that is compatible in scale and character with the building facade

- *RC-24:* Locate and/or screen rooftop equipment so that it is not visible from adjacent streets, sidewalks or open space. Rooftop screening should be integral to the building's form (e.g., through the use of raised parapets, louvers, etc.)

Building Articulation & Fenestration:

Articulation and fenestration of the facade help to create "architecture of mass" that provides deep openings, shadow lines, and details enhanced by the sun.

Design Guidelines:

- *RC-25:* Establish a clear pattern of fenestration that unifies the building, including well marked and articulated building and shop entrances.
- *RC-26:* Modulate exterior walls. Blank, unadorned walls are to be avoided unless screened by landscaping, especially along areas with high levels of pedestrian traffic.
- *RC-27:* Consider recessing windows to create depth and shadow lines.
- *RC-28:* Utilize a high degree of ground floor transparency where appropriate.
- *RC-29:* Storefront windows should be transparent and not be obstructed or coated with any material to preclude visibility within the interior space that is not of a decorative or photographic medium.

Architectural Details:

Details, especially at street level, enrich the pedestrian experience providing eye-level features at a human scale that feel familiar, accessible, and facilitate retail and commercial activity.

Design Guidelines:

- *RC-30:* Introduce architectural details and elements that provide visual relief for example, pilaster, course lines, window heads and sills brackets, cornices, etc.
- *RC-31:* Encourage details that modulate the light and show evidence of artistry and craft.
- *RC-32:* Allow for creativity and individual expression in storefront design, provided that each storefront is compatible with the overall building design.
- *RC-33:* Ensure that architectural features are integral and contribute to a harmonious design. Ornamentation and features that appear tacked-on or are artificially thin are discouraged.
- *RC-34:* Encourage inviting entries and expansive storefront windows with engaging displays that add to the adjacent pedestrian areas.
- *RC-35:* Introduce pedestrian scaled details at street level. Canopies, awnings and overhangs are especially appropriate as climate protection, and at building and shop entrances.
- *RC-36:* Continue design elements and detailing (e.g., trim details, materials) around the entire structure, and especially along elevations that are readily visible to the public.

Building Materials & Colors:

The material and color guidelines are intended to provide a uniform character and complimentary material relationship between buildings, promote the perception of strength and permanence of buildings, while maintaining appropriate variety for design flexibility.

Design Guidelines:

- *RC-37:* Use materials and colors that will enhance a building's visual quality, requiring compatible materials on all sides.
- *RC-38:* Emphasize especially durable and high quality materials at the street level. Materials such as stone, wood, tile, terra-cotta, concrete, metal and glass may be introduced as part of the facade treatment, and to break-up the predominance of a single material such as cement plaster.

- *RC-39:* Choose a color palette that offers visual simplicity and harmony, generally emphasizing light, neutral colors. The use of bright or intense colors should normally be limited to an accent within a carefully balanced color scheme; for example, to help articulate the facade, highlight building features, or add visual interest.

- *RC-40:* Discourage the use of reflective, opaque or highly-tinted glass.

SIGNAGE & LIGHTING DESIGN

Site Signage:

Signage shall add to the pedestrian streetscape experience and uniformly express information without creating visual clutter or confusion. Signs shall be thought of as a "family" and incorporate a similar "language" when it comes to materials and colors, etc. Signs will be consistent with the applicable Comprehensive Sign Program approved pursuant to Section 7.1 of this MCP.

Design Guidelines:

- *RC-41:* Signs shall be consistent with the applicable Comprehensive Sign Program approved pursuant to Section 7.1 of this MCP.

- *RC-42:* Design signs that complement one another rather than compete with one another.

- *RC-43:* Conceive of signs as an integral part of building facade. Tenant signage shall be compatible in scale and character with the building and storefront design. Nonetheless, encourage high quality, innovative and expressive tenant signage.

- *RC-44:* Tenant identification signage shall be appropriately scaled to fit the storefronts, with tenant branding elements reasonably accommodated.

- *RC-45:* Place signs in accordance with facade rhythm, scale and proportion. Signs shall not obscure architectural features such as vertical piers, trim work, ornamental features, etc.

- *RC-46:* Construct signs of high quality and durable materials.

- *RC-47:* Coordinate sign materials and colors with the building and storefront design. In general sign letters and symbols should contrast with background materials to achieve readability.

Site Lighting:

Lighting shall be efficient, effective, and well thought out in its placement. A balance is needed of being mindful of night lighting issues and light pollution while also creating a pleasant and comfortable shopping experience, consistent with the guidelines of Section 7.8. Bird-safe lighting measures shall be integrated into the design, consistent with Section 6.8 (Bird Safety).

Design Guidelines:

- *RC-48:* Limit illumination of an entire building or large portions of an entire building.

- *RC-49:* Select exterior lighting fixtures that are pedestrian scaled and compatible with the architectural design of the structure and/or streetscape aesthetic.

- *RC-50:* Lighting employed for streetscapes, public open spaces, and project signage should form a complementary family of fixtures with a similar aesthetic, emphasizing efficiency and good light control.

- *RC-51:* Limit uplighting throughout the project.



Pedestrian scaled and compatible light fixtures





CHAPTER 6

LANDSCAPE MASTER PLAN



6.1 LANDSCAPE DESIGN CONCEPT

…establishes design principles, guidelines and recommendations for open space improvements throughout CityPlace; it builds on the open space framework and elaborate on the landscape design and character of the project.

CONCEPT OVERVIEW

The landscape design concept will reinforce and expand on the design framework established by the open space plan to more fully describe a distinctive, sustainable landscape featuring a diversity of inviting and interesting outdoor environments. The proposed network of open spaces encompasses shared outdoor spaces and landscape zones. Important features of the landscape also include streetscapes, gateways, and enhansced inersections.

This interconnected network of landscapes and open spaces will be integral to the overall master plan. It will enrich the local and regional environment and provide highly desirable amenities for workers, residents, and visitors. Collectively, these multiple and various landscape elements are intended to create an engaging public realm and will contribute to the project's identity, functionality, sociability and visual appeal.

The landscape design concept will be refined as details of the project are worked out through Development Area Plans and related approvals. Nonetheless, it is expected that the essential landscape quality as described in this chapter will be implemented. Landscaping plans will be provided in the manner required by "Development Area Plans – Submittal and Approval Procedures" in Appendix C.

LANDSCAPE DESIGN PRINCIPLES

The following are fundamental design principles that will guide the landscape design concept and to which all future landscape design proposals shall respond. These principles are grouped according to four broader concepts established by the open space plan: 1) open space network; 2) distinctive landscape setting; 3) eco-sensitive landscape design; and 4) user-friendly spaces.



Alviso Marina County Park view at sunset

Open Space Network:



Principle No. 1 - Multi-functional: Integrate a variety of high performance outdoor spaces to create distinct and assorted experiences that address the full range of anticipated users and perform numerous functions. The resulting network of green infrastructure will bring added value to the project, community, and environment.



Principle No. 2 - Physical Connectivity: Ensure that pedestrian and bicycle circulation is continuous, safe and secure, including a network of full service green streets supplemented by trails, paths and paseos. It will be important that on-site pedestrian and bicycle networks provide convenient links to the regional open space system and nearby transit facilities.



Principle No. 3 - Communal Space: Incorporate a range of outdoor spaces encompassing public and semi-public settings that comfortably support formal and informal gatherings and social interaction. Spaces that have potential for public gathering will be essential, and will be anchored by the City Center Boulevard.



Principle No. 4 - Recreational Opportunity: Encourage active and passive recreational facilities that meet the needs of residents, workers and visitors. Facilities are to feature a variety of picturesque and horticultural gardens, as well as trails and paths and multi-functional activity spaces, which may include sports courts, playing fields and par courses where appropriate.

Distinctive Landscape Setting:



Principle No. 5 –Private Open Space: Certain project elements including residential rooftop recreational areas and courtyards, as well as secure areas of closed corporate campuses will be allowed as private open spaces.



Principle No. 6 - Landscape Identity: Employ a cohesive landscape design concept to promote project identity, including a coordinated design palette for the public realm. This principle recognizes that the landscape will be an important aspect of placemaking, encouraging unique or special design qualities and features.



Principle No. 7 - Regional Character: Contribute to the authentic character of the place through the use of regionally appropriate materials, especially native and adapted drought tolerant plant species. To the extent feasible, reliance on locally and regionally sourced materials is encouraged.



Principle No. 8 - Enhanced Public Realm: Establish a high standard of quality for the design of public outdoor spaces, in particular, to make a statement about the public character of the City Center. The public landscape should contribute to a welcoming environment and enhance visual appeal.

Eco-Sensitive Landscape Design:



Principle No. 9 - Low Maintenance & Energy Conservation: Minimize the urban heat island effect, and provide shading and cooling design features for buildings and outdoor spaces. The shading of paved areas will be critical, including the provision of a continuous tree canopy along streets. Choosing drought tolerant native plants, quality street furniture, appropriate tree species, and energy efficient lighting all help to create a low maintenance project.



Principle No. 10 - Water Wise: Minimize resource inputs through efficient use of water resources and a drought tolerant plant scheme. This will be best accomplished through the use of native and climate adapted plant materials that will contribute to long term sustainability, as well as efficient irrigations systems, and use of recycled water for irrigation and water features.



Principle No. 11 - Stormwater Management: Integrate stormwater management into the landscape planting scheme to create a sustainable urban drainage system. Landscape features such as bio-swales, rain gardens, and green roofs are recommended to collect, convey and cleanse rainwater and will be incorporated into the project site design for conformance with C3 requirements.



Principle No. 12 - Habitat Enrichment: Introduce native landscape communities and natural systems to create a regenerative and resilient site that reduces maintenance and minimizes water and energy inputs. Habitat enrichment of this kind will increase biodiversity and will create a positive environmental impact.

User Friendly Spaces:



Principle No. 13 - Site Accessibility: Provide a landscape experience that invites and engages the community, first and foremost ensuring ease of access through physical and visual connections both on- and off-site. This principal assumes universal accessibility and compliance with the American with Disabilities Act.



Principle No. 14 - Security & Comfort: Make user safety and comfort a priority, for example, offering appropriate exterior lighting that promotes on-site security and by creating favorable micro-climates that result in extended outdoor use. Additionally, the presence of uses that will activate a public outdoor space should be encouraged.



Principle No. 15 - Spatial Enclosure: Design active public spaces that take on the character of outdoor rooms, especially within the mixed-use City Center. Surrounding buildings and trees should define streets and outdoor spaces, with pleasing transitions between the interior and exterior.



Principle No. 16 - Site Amenities: Contribute to the physical comfort and convenience of on-site users by incorporating landscape design elements such as canopy trees for shade and site furnishings. These features will let people know they are a welcome presence and support the shopping and entertainment experience.

6.2 SUSTAINABLE LANDSCAPE MEASURES

CityPlace's landscapes will support an environmentally sustainable infrastructure that will address efficient use of resources, energy and water conservation, stormwater management, habitat enhancement, and restoration of natural ecological processes. A primary objective will be to minimize the inputs required to sustain a healthy landscape, especially energy and water, while limiting negative impacts on the environment such as pollution and stormwater runoff. Following are ten interrelated measures with supporting design guidelines for achieving a sustainable landscape.

HIGH PERFORMANCE OUTDOOR SPACES

Sustainability Concept: The project will encourage high performing landscapes that simultaneously embrace social, recreational, ecological, and aesthetic values. A driving factor behind the planning and design of the landscape will be the interdependence between aesthetic and recreational outdoor environments and the green infrastructure that will deliver ecological benefits such as stormwater management and energy conservation and production. The emphasis will be on multi-functional, adaptable, and resilient outdoor spaces that are vital to a successful urban environment.

Design Guidelines:

- *SL-1:* Orchestrate outdoor spaces that incorporate integrated stormwater BMPs in a manner that contributes to its aesthetic character and flexible use.

ECOLOGICAL HABITAT

Sustainability Concept: The project will create and enhance local and regional habitats through the emulation of plant communities associated with the South Bay region to include coastal wetland, riparian, prairie, shrubland, and woodland zones. Establishment of native plant communities will be especially appropriate along the perimeter of the site, thereby transforming landfill embankments into an aesthetic and ecological amenity. This method of landscape treatment also will present an opportunity to enrich adjacent waterways, introducing constructed wetland and riparian habitats to aid in the bio-filtering of pollutants and will attract wildlife that rely on healthy local ecologies.

Design Guidelines:

- *SL-2:* Set aside areas for the establishment of native plant communities to enhance bio-diversity.

NATIVE & ADAPTED PLANT SPECIES

Sustainability Concept: The project will favor regionally native plants and species adapted to the local climate; these will normally require less care than exotic species and contribute to more ecologically resilient habitats and landscapes. This approach will depend on a heavy reliance on water conserving plants derived from native plant communities, while limiting the use of turf grass and other water intensive landscapes to only the most appropriate areas. See *Exhibit 6-4: Examples of Sustainable Landscape* for examples of

EXHIBIT 6–1: LANDSCAPE FUNCTION*



Public Park Space
- *Courts, Sports Fields*
- *Areas for active play*
- *Typically turf areas*
- *Playgrounds*



Passive Recreation
- *Areas for lingering & relaxation*
- *Typically turf and hardscape*



Picturesque
- *Grasslands, native landscape areas*
- *Colorful wildflowers along slopes*



Ornamental Garden
- *Unique colorful plantings*
- *Mini-Park*
- *Roof gardens*



Working Gardens
- *Recreational community* gardens *,chef's gardens,*
- *Urban rooftop gardens*



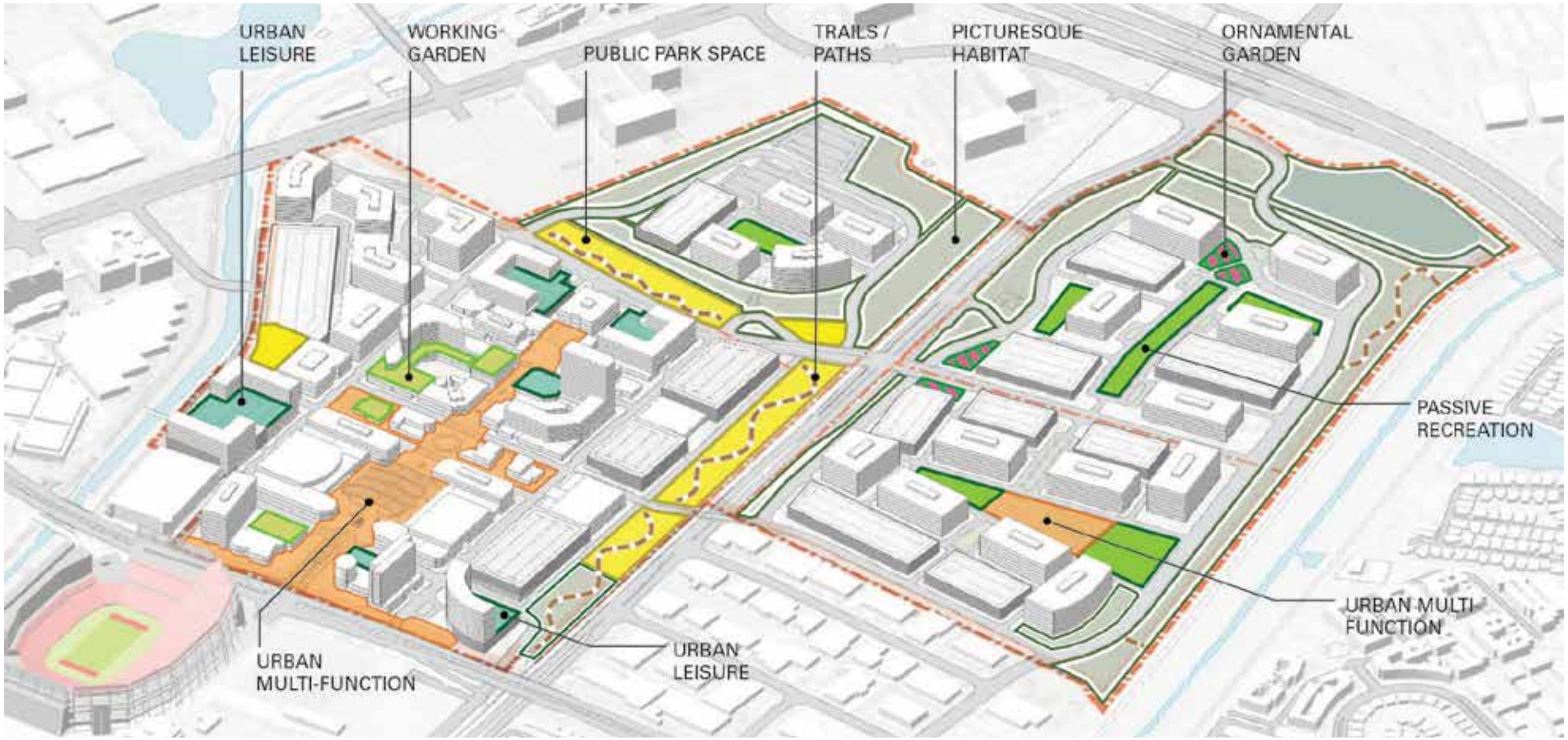
Urban Multi-Function
- *Plazas & pedestrian spine*
- *Highly pedestrian area*
- *Typically hardscape*



Urban Leisure
- *Mixed-use courtyards*
- *Amenities areas*
- *Public & Private*



Trails / Paths
- *Multi-use trail for walking, biking, jogging etc.*
- *Native plantings*



** The depiction of landscape infrastructure is illustrative in nature, particularly on parcels 1-3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

various native/drought tolerant species adapted to the project area that may be included in the design.

Design Guidelines:

- *SL-3:* Select plants suited to the soil and climatic conditions of the site, emphasizing drought tolerant and adapted species that minimize water use.
- *SL-4:* Minimize the use of water intensive landscapes such as turf grass and extensive annual beds, especially within perimeter landscape zones.
- *SL-5:* Use low maintenance varieties of turf grass in locations where turf is necessary or uniquely advantageous. Consider non-turf alternatives such as artificial turf for sports fields.
- *SL-6:* Favor native species and water conserving plants that are also suitable for erosion control along embankments and sloped areas.
- *SL-7:* Install and utilize recycled water irrigation and water saving technology.

EFFICIENT IRRIGATION

Sustainability Concept: The project will support efficient use of water resources by relying on the most sustainable systems and technologies for irrigation. Although limiting the need for irrigation through the use of water conserving plants will be important, high efficiency irrigation systems that employ recycled water, and minimize runoff and evaporation will be installed. Furthermore, it will be necessary to group plants with similar water needs to maximize the effectiveness and reduce water consumption. Irrigation will be a favored end-use for greywater recycling and rainwater harvesting systems.

Design Guidelines:

- *SL-8:* Group plants according to their requirements for sun, water, and soil to promote efficient irrigation, designating areas for lower or higher water use.
- *SL-9:* Install efficient irrigation systems that employ deep or subsurface delivery, low volume and/ or low flow methods and recycled water.
- *SL-10:* Employ automatic irrigation sensors and controllers; for example, utilizing either evapotranspiration or soil moisture sensor data.
- *SL-11:* Eliminate or reduce to a minimum potable water use in the landscape by utilizing alternative sources of irrigation, such as the use of stored rainwater and reclaimed water from utility and on-site sources.

BIO-RETENTION / BIO-SWALES:

Sustainability Concept: The project will use BMP's to manage and treat anticipated urban stormwater runoff, involving on-site collection, filtration and reuse. More specifically, the project will employ a system of bio-swales, rain gardens, and green roofs and walls to intercept and gradually convey rainwater to water storage basins and adjacent creeks, as well as to feed a system of greywater treatment and reuse. Additional benefits will be derived from the ability of plants to filter runoff and maintain water quality; for example, by removing and degrading contaminants.

Design Guidelines:

- *SL-12:* Install and direct runoff toward designed dry ponds, rain gardens, bio-swales and other landscape features that retain water and slow the rate of discharge.
- *SL-13:* Set aside landscape areas to harvest and clean stormwater for reuse in water irrigation and building systems.
- *SL-14:* Incorporate stormwater management into site design, including features that serve multiple functions. for example, bio-retention areas and planters along streets and in lieu of parking islands.

GREEN STREETS

Sustainability Concept: The project will utilize on-site roadways as a critical component of its green

EXHIBIT 6–2: LANDSCAPE INFRASTRUCTURE*



Retention Pond

- *Basin to manage stormwater runoff to prevent flooding and downstream erosion*
- *Artificial lake with vegetation around the perimeter*



Green Streets / Bioswales

- *Stormwater runoff conveyance system*
- *Removes pollution & silt from runoff*
- *Drainage w/ sloped sides & vegetation*



Roof Garden

- *May provide food, temperature control, hydrological benefits, architectural enhancement, habitats for wildlife, recreational opportunities, and aesthetic benefits and recreational areas for building users*



Stormwater Catchment

- *The collection, accumulation, treatment or purification, and storing of stormwater for its eventual reuse*



Rain Garden

- *Reduce rain runoff by allowing stormwater to soak into the ground*
- *Rain gardens can cut down on the amount of pollution reaching creeks and streams by up to 30 percent*



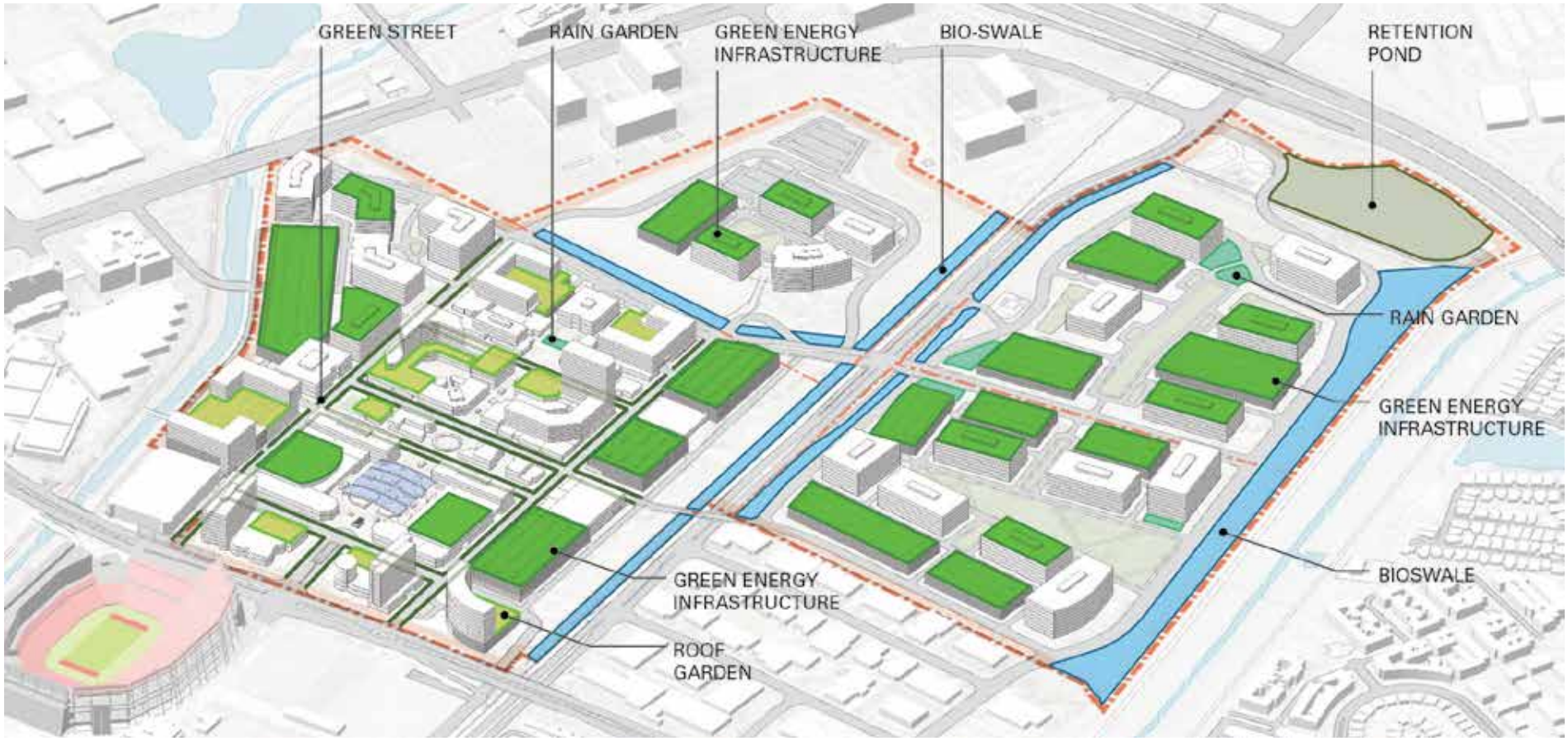
Green Energy Infrastructure (PV's)

- *Energy from resources which are naturally replenished on a human timescale*
- *Photovoltaic systems employ solar panels suppling usable solar power*



Bioswales

- *Stormwater runoff conveyance system*
- *Removes pollution & silt from runoff*
- *Drainage w/ sloped sides & vegetation*



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infrastructure. Key aspects of green streets include narrow streets to reduce runoff and the use of landscape within the right-of-way to support natural processes, such as integration of swales and vegetation for bio-retention within curbside planter strips, curb extensions, and sidewalk planters. These design features will take advantage of the opportunity to intercept and treat stormwater close to its source. Permeable pavers will also aid in stormwater runoff. Sidewalk trees with sufficient planting area to mature will reduce the urban heat island effect, improve air quality, improve site aesthetics, and have the added effect as a traffic calming measure to slow vehicle travel and provide a buffer for safe pedestrian travel. These concepts are wholly compatible with complete streets policies and objectives that support multi-modal movement and walkability.

Design Guidelines:

- *SL-15:* Plant street trees to enhance the urban forest and reduce the heat island effect through evapotranspiration and shade.

- *SL-16:* Design and install planters within the sidewalk area to aid in the management of stormwater runoff.

GREEN ROOFS & GREEN WALLS

Sustainability Concept: The project will integrate green roofs and walls as part of its green infrastructure, delivering numerous sustainable benefits. Their extra thermal mass and evapotranspiration will promote natural cooling to reduce ambient temperatures and will provide insulation and shade that decreases heating and cooling loads on buildings. Additionally, they will have the capacity to retain rainwater, promote bio-filtration, increase biodiversity and support urban agriculture. Use of green screens on parking structures has both an aesthetic function, and the practical advantages of shading and screening. By capturing airborne pollutants and absorbing carbon dioxide emissions from parking structures, green screens also will improve air quality.

Design Guidelines:

- *SL-17:* Allow green roofs for tenant/resident managed small-scale food production, for example, as a residential plot garden, or a showcase "chef's garden" associated with one or more restaurants, and for additional outdoor open space, recreational use or social gathering.

HIKE AND BIKE / NATURE TRAILS

Sustainability Concept: The project will incorporate a trail system designed for safe pedestrian and bicycle use, highlighting the aesthetic and recreational benefits associated with sustainable landscapes. On-site trails with linkages to the regional trail network will be a special opportunity to improve access to natural resources and will support environmental education. For example, trails that run the perimeter of the site among native plant communities and enhanced habitats may be signed with interpretive information.

Design Guidelines:

- *SL-18:* Create hike and bike trails with a minimum of 4' in width for hiking trails and minimum 6' in width for shared trails that include multiple users.

- *SL-19:* Link on-site hike and bike trails into the regional trail network.

- *SL-20:* Incorporate interpretive signage along trails to include information about local and regional history and culture, natural processes and/or ecological principles.

REGULATED MICRO-CLIMATES

Sustainability Concept: The project will utilize the landscape to create comfortable micro-climates, delivering functional outdoor spaces that also will deliver on improved energy efficiency for buildings. Deciduous trees will be especially valued for their ability to regulate access to sun and shade and providing cooling effects on hardscape areas and may be utilized as street trees, as well as solar control for south and southwest facing facades. Other design features that will be utilized to regulate micro-climates and reduce

EXHIBIT 6–3: LANDSCAPE ZONES*



Native Wetland
- *Historically marshes transitioned to coastal grasslands and then to coastal shrub beyond*
- *Creates a nesting & feeding habitat for waterfowl*



Native Riparian Woodlands
- *Grow along stream banks leading to the Bay*
- *Understory growing* b/w woods and marsh



Native Coastal Prairie / Grassland
- *Once grew along the gentle slopes to the Bay*
- *Mix of grasses, wildflowers, and perennials*
- *Typically no trees or shrubs*



Native Coastal Shrub
- *Low shrubs within grassy open meadows*
- *Adaptable and drought tolerant shrubs*
- *Shrubs range* from *1-5 ft high*



Native Coastal Woodland
- *Often mixes with Coastal Grassland*
- *Generally begins at foot of the hills & moves up*
- *Tree dominated* vegetation
- *Dominated by* coast live oaks



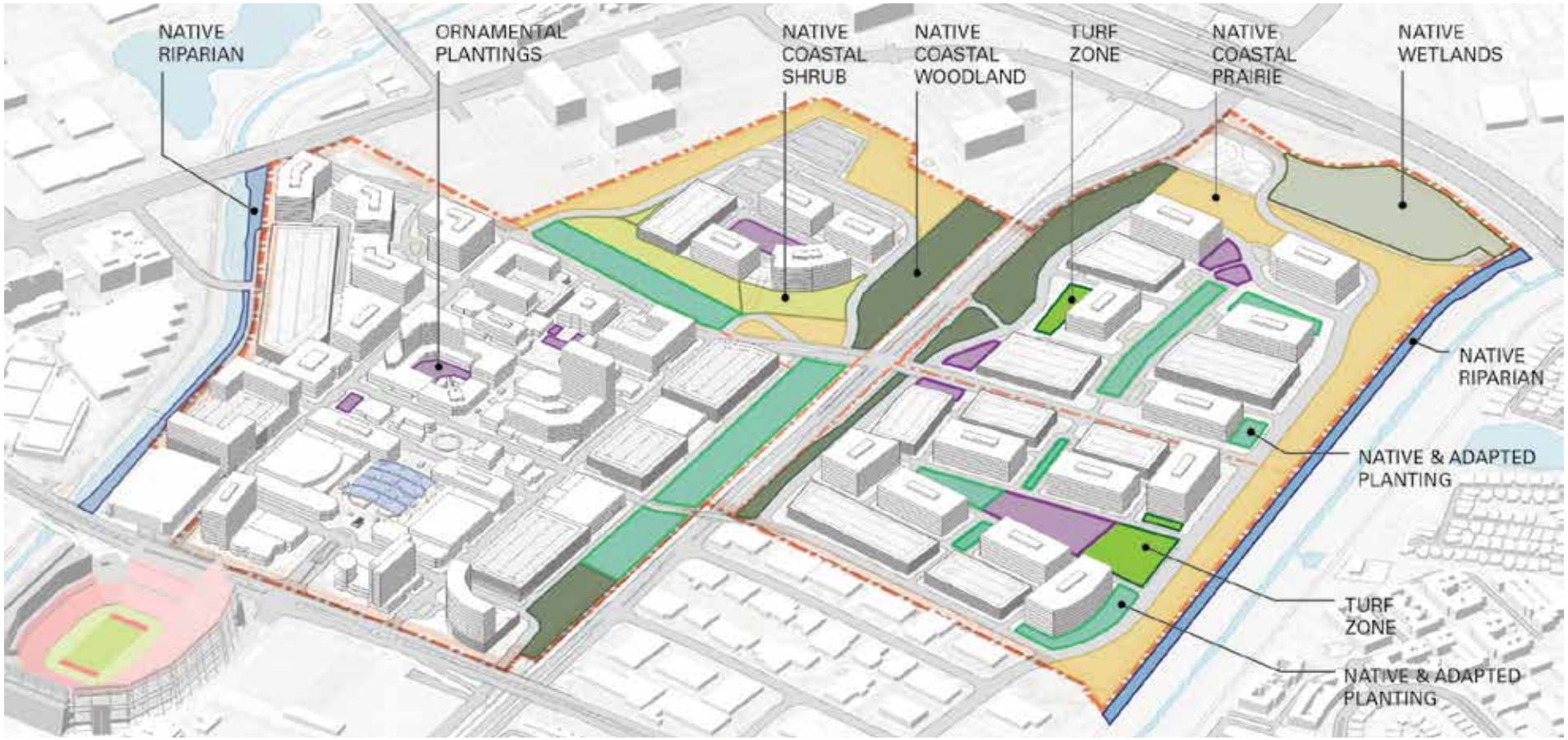
Native & Adapted Plantings
- *Native plants species that are indigenous to this region*
- *Adapted plants are not native and not invasive, but are able to thrive in the local climate and soil conditions.*



Ornamental Plantings
- *Gateway plantings*
- *Colorful/decorative plantings in areas of special interest*



Turf Zone
- *Grassy lawn areas*
- *Passive or active zones*
- *Sports fields or quiet relaxation areas*



** The depiction of landscape infrastructure is illustrative in nature, particularly on parcels 1-3. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

urban heat island effects include roof gardens and vegetated structures (e.g., trellises, green screens), and a reduction in paved areas, especially the area devoted to parking lots.

Design Guidelines:

- *SL-21:* Select and place trees to provide shading of streets, pedestrian walkways, and southwest facing windows of buildings.

- *SL-22:* Use landscape to mitigate the expansiveness of surface parking lots, incorporating canopy trees to reduce the heat island effect.

RENEWABLES INFRASTRUCTURE

Sustainability Concept: The project has the potential to support significant production of renewable energy on-site, primarily by use of photovoltaics on un-programmed rooftops. Other renewable energy sources should also be considered, but primary attention to demand side reductions will be most crucial. Automated Energy Load Management systems, user energy use feedback information and efficient infrastructure systems will promote sustainability through reduced energy use.

Design Guidelines:

- *SL-23:* Integrate on-site renewable energy generation where practical, for example, photovoltaic cells on un-programmed rooftops or shade structures.

- *SL-24:* Employ exterior light fixtures that use efficient technologies like LED,s, dimming capabilities, sensors and curfews, to reduce demand side energy load.

WATER BUDGET

In addition to the previous sustainable landscape measures, each Development Area Plan shall complete a Water Budget Calculation for the landscape component of the project as required per section 24.I Water Budget Calculation from the Water Service and Use Rules and Regulations, Ordinance No.1871, adopted January 11, 2011, or as amended. A water budget shall be completed by a certified professional who is authorized by the State of California to complete a water budget. On-site recovery of rainwater and/or wastewater is encouraged to augment supply of City reclaimed water. Such on-site reclaimed water can be considered as additive (above the calculated water budget) and may be used to support water features and landscape irrigation outside of the budget.

EXHIBIT 6–4: EXAMPLES OF SUSTAINABLE LANDSCAPE

NATIVE WETLAND / MARSH




Typical Wetland Plants:

- Alkali bulrush (*Bolboschoenus maritimus)*
- Red willow *(Salix laevigata)*
- Arroyo willow *(Salix lasiolepis)*
- California bulrush *(Schoenoplectus californicus)*

NATIVE RIPARIAN WOODLANDS




Typical Riparian Woodland Plants:

- Box elders *(Acer negundo)*
- Willows *(Salix laevigata, S. lasiolepis)*
- Bigleaf maple (*Acer macrophyllum)*
- Marsh baccharis *(Baccharis douglasii)*
- California rose *(Rosa californica)*
- California blackberry *(Rubus ursinus)*
- California grape *(Vitis californica)*

COASTAL PRAIRIE / GRASSLAND




Typical Grassland Plants:

- Diego bent grass (*Agrostis pallens)*
- Blue wild rye (*Elymus glaucus)*
- Red fescue (*Festuca rubra)*
- Douglas iris *(Iris douglasiana)*
- Creeping wild rye *(Leymus triticoides)*
- Purple needle grass *(Nassella pulchra)*
- Blue-eyed grass *(Sisyrinchium bellum)*

NATIVE COASTAL SHRUB




Typical Coastal Shrub Plants:

- California sagebrush (*Artemisia californica)*
- Buckwheat (*Eriogonum nudum)*
- Silver bush lupine *(Lupinus albifrons)*
- Sticky monkey flower *(Mimulus aurantiacus)*
- Coffeeberry *(Rhamnus californica)*
- Coyote bush *(Baccharis pilularis var. consanguinea)*

NATIVE COASTAL WOODLAND




Typical Coastal Woodland Plants:

- Buckeye (*Aesculus californica)*
- Western redbud (*Cercis occidentalis)*
- Toyon *(Heteromeles arbutifolia)*
- Coast live oak *(Quercus agrifolia)*
- California blackberry *(Rubus ursinus)*

NATIVE & ADAPTED PLANTINGS




Typical Native & Adapted Plants:

- Rock rose cress *(Arabis blepharophylla)*
- Sandhill sage *(Artemisia pycnocephala)*
- Berkeley sedge *(Carex tumulicola)*
- Beach Aster (*Erigeron glaucus)*
- Pacific Reed Grass *(Calamagrostis nutkaensis)*

NATIVE ORNAMENTAL PLANTINGS




Typical Ornamental Plants:

- Sea pink *(Armeria maritima)*
- Deer grass (*Muhlenbergia rigens)*
- Cape Mendicino Reed Grass (*Calamagrostis foliosa)*
- California fescue *(Festuca californica)*
- Cleveland Sage (*Salvia clevelandii)*

6.3 STREETSCAPE

This section describes the proposed landscape treatment of CityPlace's streets, including roadway, bicycle and pedestrian circulation components. It includes design intent and general design guidelines for the project's streetscapes, with specific recommendations for the various streetscape typologies, augmented by drawings and photo illustrations.

STREETSCAPE DESIGN INTENT

The project's streetscapes are envisioned as a system of landscaped corridors designed to accommodate multiple modes of travel and deliver a pedestrian friendly experience. Moreover, their design should enrich the public realm, achieving spatial enclosure, offering ADA and pedestrian comfort, and providing visual appeal, through the use of such features as wide sidewalks, canopy street trees, and benches for rest and relaxation.

STREETSCAPE GENERAL DESIGN STANDARDS / GUIDELINES

Traffic Calming:

- *SD-1:* Introduce traffic calming measures where pedestrian activity is heaviest, including curb bulb-outs, enhanced crosswalks, park strips or tree wells with canopy tree planting and on-street parking.
- *SD-2:* Use curb extensions (i.e., bulb-outs) at intersections, particularly in combination with on-street parking, to slow vehicular traffic and decrease the crossing distance for non-vehicular traffic (ADA, pedestrians, bicyclists).
- *SD-3:* Encourage on-street parking along local streets, especially in support of short-term customer access and to slow vehicular traffic along these roadways.

Pedestrian Circulation:

The intent is to design streets for safe and comfortable movement on foot.

- *SD-4:* Provide generous sidewalks with sufficient width to accommodate clear pedestrian passage while allowing sufficient room for street trees and other streetscape amenities, as well as commercial activity such as sidewalk dining as appropriate.
- *SD-5:* Offer pedestrian amenities along streets and sidewalks, such as street trees, site furniture, pedestrian lighting, wayfinding signage, special paving, etc.
- *SD-6:* Locate streetscape amenities in a zone adjacent to or near the curb as a physical and psychological barrier to vehicular traffic.
- *SD-7:* Provide additional pedestrian amenities (within the core pedestrian areas of the City Center) such as raised intersections, use of "scramble" interchanges, etc.

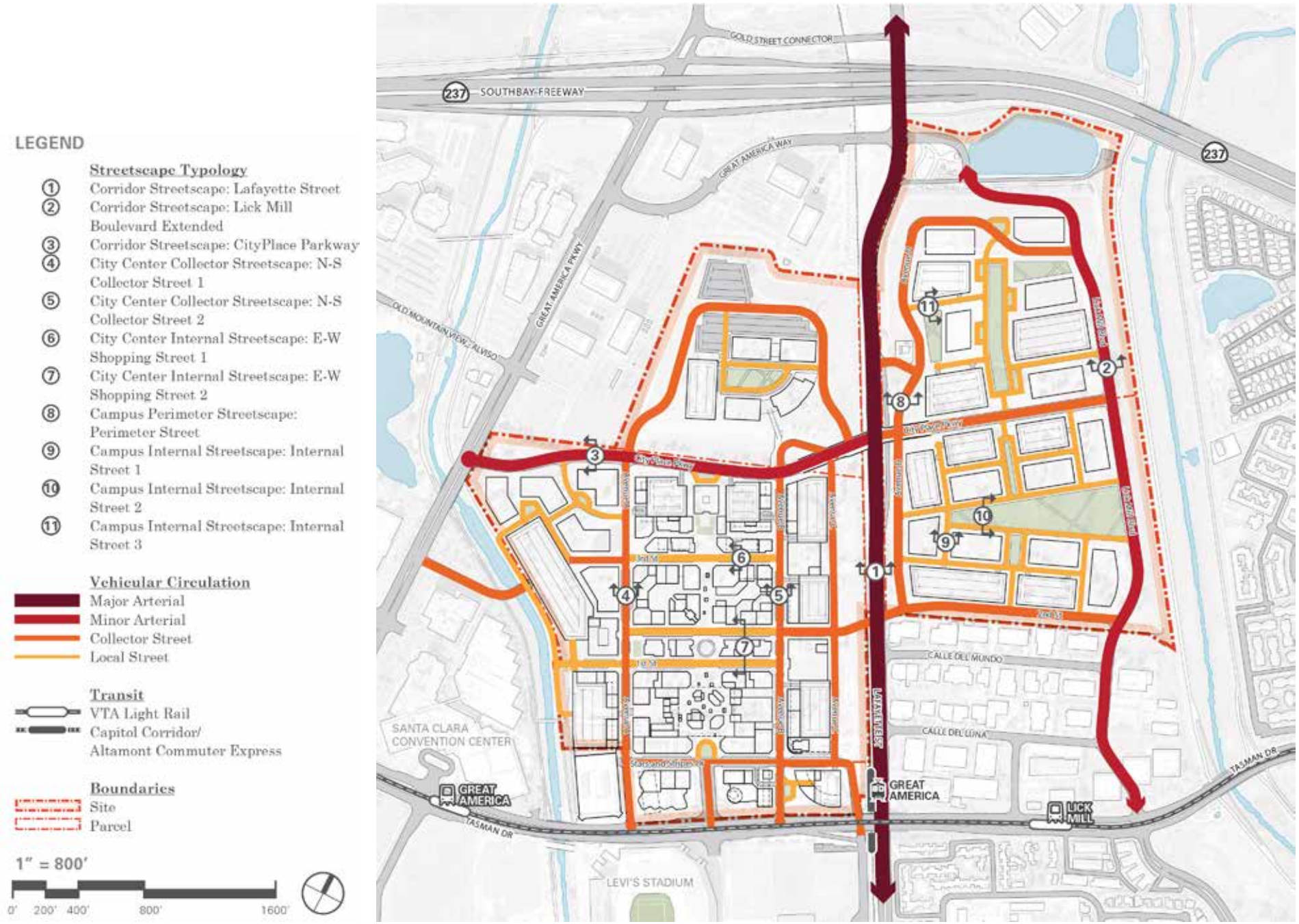
Bicycle Circulation:

- *SD-8:* Use off-street bike paths whenever possible within a hierarchy of bicycle accommodations featuring bike trails, bike lanes and shared routes (sharrows), using colored bicycle lanes in conflict areas.
- *SD-9:* Connect to existing bicycle and pedestrian trail network creating linkages that improve the local and regional system.

Street Trees:

- *SD-10:* Plant street trees throughout the project, thereby contributing to the spatial definition and visual appeal of the project's roadways, while providing shade and comfort for pedestrians.

EXHIBIT 6–5: STREETSCAPE TYPOLOGIES*



** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

- *SD-11:* Determine street tree species, size and spacing based on street hierarchy and function, while maintaining visibility of commercial signage.
- *SD-12:* Select street trees that are disease resistant, hold up to urban conditions and provide shady canopies at maturity.

Streetscape Amenities:

- *SD-13:* Place street furniture at regular intervals along sidewalks for pedestrian comfort and use in the City Center pedestrian zones. A high level of amenity is especially important and should be provided where pedestrian activity is most desired.
- *SD-14:* Select a consistent palette of street furniture that enhances project identity and reinforces the hierarchy of streets; durable materials and finishes are advised in each district.
- *SD-15:* Coordinate landscape design with the placement of utilities to avoid interference with streetscape amenities and pedestrian flows.

Sidewalk Activity:

- *SD-16:* Accommodate sidewalk dining along commercial streets where pedestrian activity is most desired; locate outdoor dining to maintain pedestrian flows and ADA accessibility.

Green Streets:

- *SD-17:* Include Low Impact Development (LID) measures to comply with the City Santa Clara stormwater C.3 provision requirements, State Water Resources Control Board (SWRCB) and National Pollutant Discharge Elimination System (NPDES) requirements (see section 8.4 for description).

A comprehensive Servicing and Trash Plan for the City Center will be provided with the first Development Area Plan submission. Reflecting the integrated nature of the City Center planning and operation, this plan should combine/optimize loading/trash locations and orchestrate movements of large vehicles away from pedestrian zones where possible. Curb-side loading may be utilized on private streets and utilize the Pedestrian Concourse during hours with minimum pedestrian activity. Office parcel loading/trash will be addressed in associated DAP submittals.

STREETSCAPE RECOMMENDATIONS

TABLE 6–1: STREET TYPOLOGY MATRIX

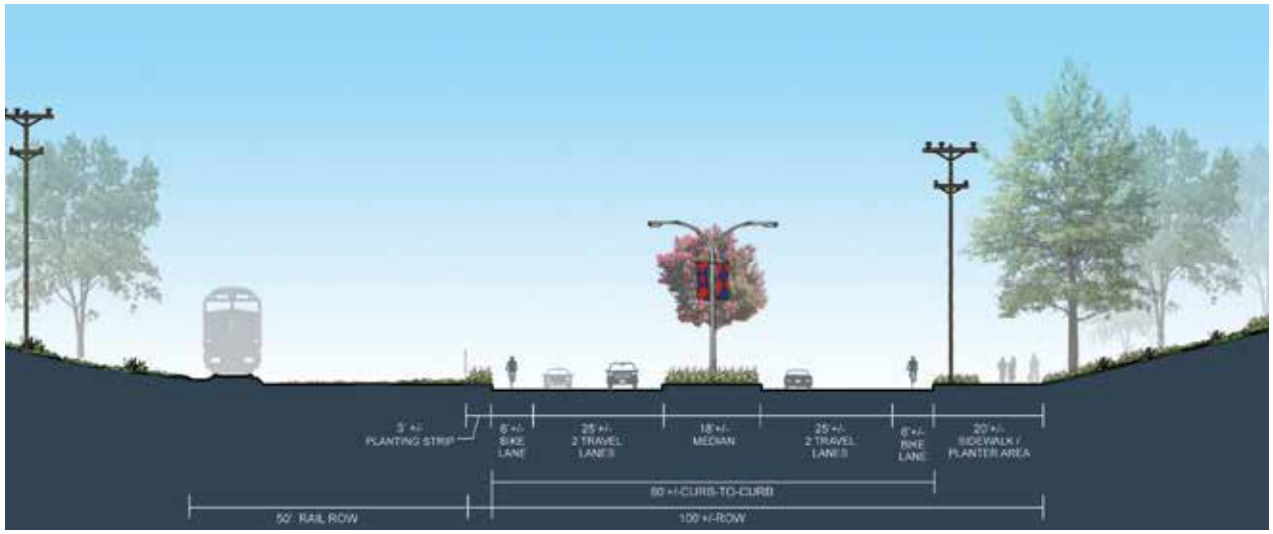
STREET TYPOLOGY		TRAVEL LANES		TURN LANE /MEDIAN		BIKE LANES		ON-STREET PARKING		SIDEWALK & PLANTER STRIP		TOTAL ROW
STREET	DESIGNATION	#	WIDTH	#	WIDTH	#	WIDTH	#	WIDTH	#	WIDTH	
1- Corridor Streetscape: Lafayette Street	Major Arterial	4	12-13*	1	18	2	5-8			1	16′ min, 20′ typ.	92-106
2- Corridor Streetscape: Lick Mill Boulevard Extended	Collector Street	4	11-13*			2	5-8			2	14′ min, 16′ typ.	82-100
3- Corridor Streetscape: CityPlace Parkway	Minor Arterial	4	12-13*	1	10	2	5-8			2	14′ min, 16′ typ.	96-110
4- City Center Collector Streetscape: N-S Collector Street 1	Collector Street	2	11-13*	1	12	2	5-8	2	8	2	12′ min, 15′ typ.	84-100
5- City Center Collector Streetscape: N-S Collector Street 2	Collector Street	2	11-13*	1	12	2	sharrow	2	8	2	12′ min, 15′ typ.	74-84
6- City Center Internal Streetscape: E-W Shopping Street 1	Local Street	2	11-12*			2	sharrow	2	8	2	16′ min, 18′ typ.	70-76
7a- City Center Internal Streetscape: E-W Shopping Street 2	Local Street	2	11-12*			2	sharrow	2	8	2	16′ min, 20′ typ.	70-80
7b- City Center Internal Streetscape: E-W Shopping Street 2	Local Street	2	10.5-12*			2	5-8	2	8	2	16′ min, 20′ typ.	79-96
8- Campus Perimeter Streetscape: Perimeter Street 1	Collector Street	2	10.5-12*	1	10	2	5-8			2	14′ min, 16′ typ.	69-82
9- Campus Internal Streetscape: Internal Street 1	Local Street	2	10.5-12*				sharrow	2	9	2	14′ min, 16′ typ.	67-74
10- Campus Internal Streetscape: Internal Street 2	Local Street	2	10.5-12*							2	14′ min, 16′ typ.	49-56
11- Campus Internal Streetscape: Internal Street 3	Local Street	2	10.5-12*							2	14′ min, 16′ typ.	49-56

**Street widths will be designed to accommodate emergency service vehicles and delivery trucks as appropriate.*

CORRIDOR STREETSCAPE TYPOLOGY

Corridor Streetscape: Lafayette Street*

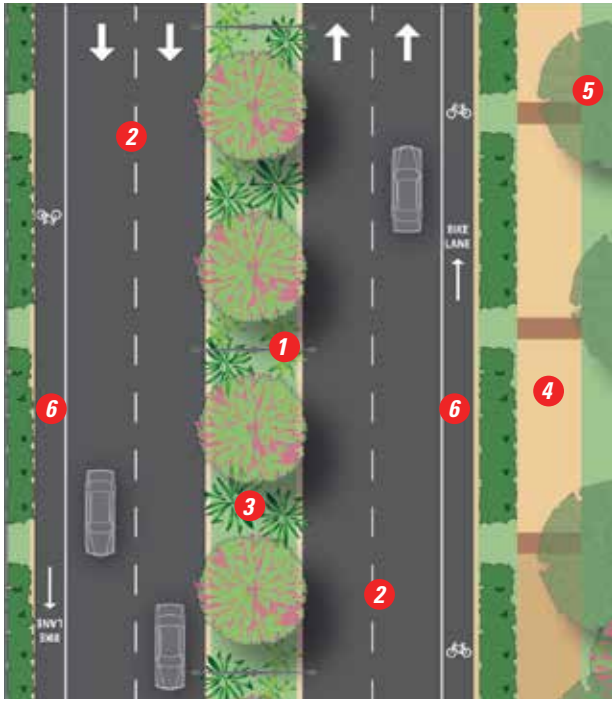
** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



SECTION

Design Standards:

1. ***Amenities:*** Hang banners on street light poles for local events.
2. ***Travel Lanes:*** Maintain four travel lanes, two in each directions separated by a raised median and multiple left turn lanes where warranted.
3. ***Median:*** Maintain median with drought tolerant planting, adding in small scale flowering trees where lacking.
4. ***Sidewalk:*** Continue existing sidewalk north of Calle Del Mundo incorporating areas for planter strips creating a physical separation between the pedestrian and street traffic where possible.
5. ***Trees:*** Planting of street trees (large canopy) consistent with a parkway aesthetic.
6. ***Bicycle:*** Create two dedicated bicycle lanes; one in each direction. Use buffered bicycle lanes if possible, use colored bicycle lanes in conflict areas.



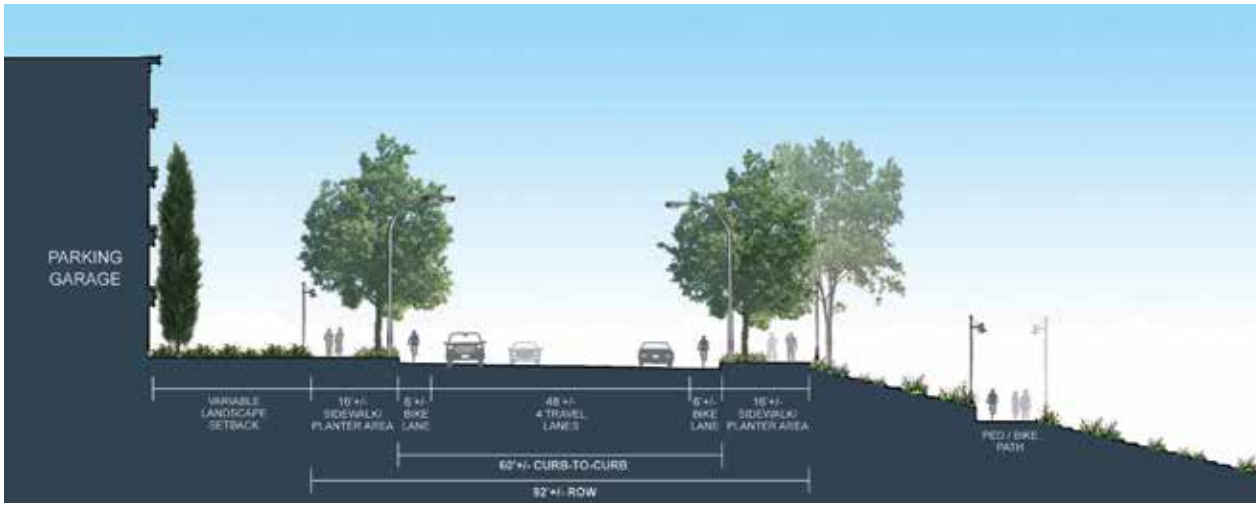
PLAN



KEY

Corridor Streetscape: Lick Mill Boulevard Extended*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



SECTION

Design Standards:

1. ***Amenities:*** Locate both auto-scaled and pedestrian scaled light fixtures at regular intervals along the sidewalk.

2. ***Travel Lanes:*** Provide four travel lanes, two in each direction.

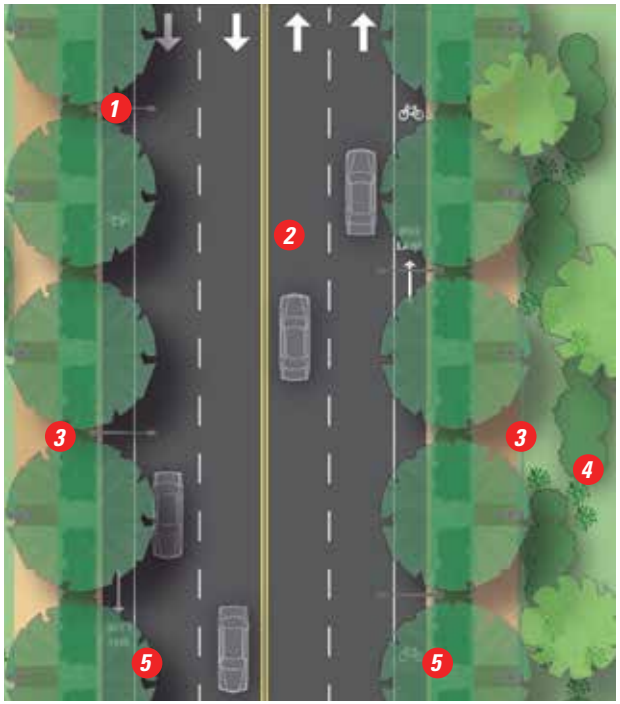
3. ***Sidewalk:*** Allow for wide sidewalk widths along with areas for planter strips to separate pedestrians from moving traffic if curb parking does not create this buffer. Locate landscape planter strip adjacent to roadway with sidewalk behind landscape buffer.

4. ***Trees:*** Provide large scaled canopy trees to create pleasing rhythm and define the street. Utilize appropriate columnar and broad canopy trees and landscaping to break up large expanses of blanks wall such as parking garages.

5. ***Bicycle:*** Create two dedicated bicycle lanes one in each direction. Use colored bicycle lanes in conflict areas.



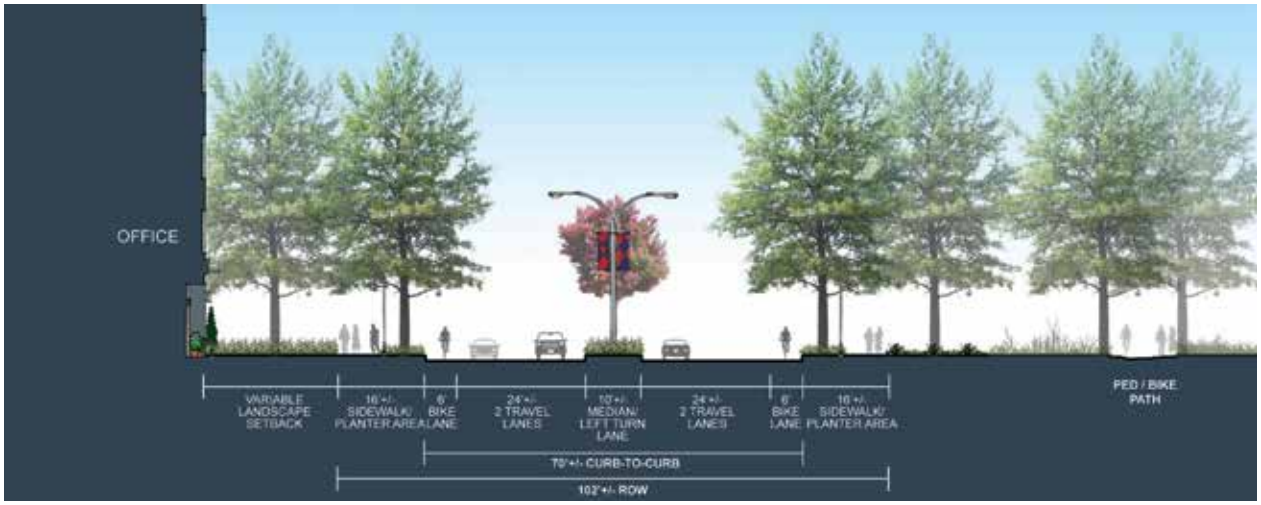
KEY



PLAN

Corridor Streetscape: CityPlace Parkway*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



SECTION

Design Standards:

1. ***Amenities:*** Hang banners on street light poles for local events. Provide pedestrian scaled light fixtures at regular intervals along the sidewalk.

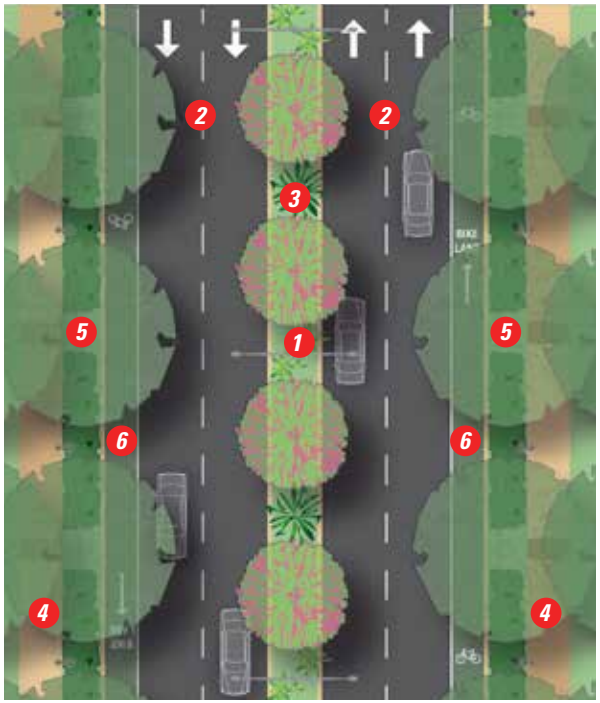
2. ***Travel Lanes:*** Provide four travel lanes, two in each directions separated by a raised landscape median with tree plantings and left turn lanes at intersections.

3. ***Median:*** Introduce small scaled flowering trees for an added pop of color and native drought tolerant landscaping.

4. ***Sidewalk:*** Allow for wide sidewalk widths along with areas for planter strips to separate pedestrians from moving traffic if curb parking does not create this buffer. Locate landscape planter strip adjacent to roadway with sidewalk behind landscape buffer.

5. ***Trees:*** Provide large scale canopy street trees to define the street and create a prominent entry boulevard.

6. ***Bicycle:*** Create two dedicated bicycle lanes one in each direction. Use colored bicycle lanes in conflict areas.



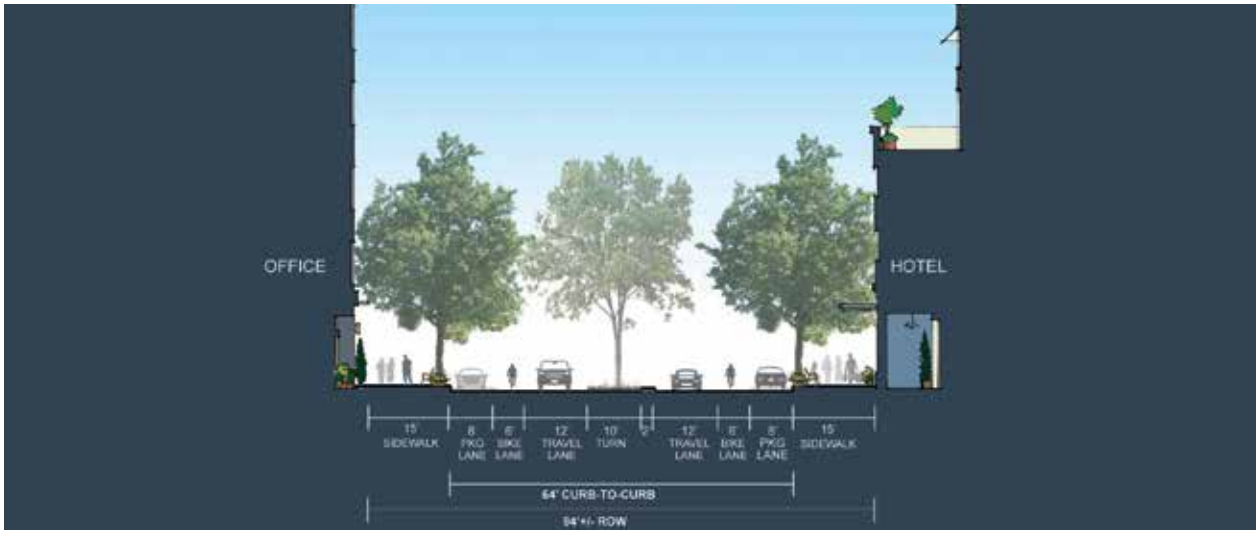
PLAN



KEY

City Center Collector Streetscape: N-S Collector Street 1*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



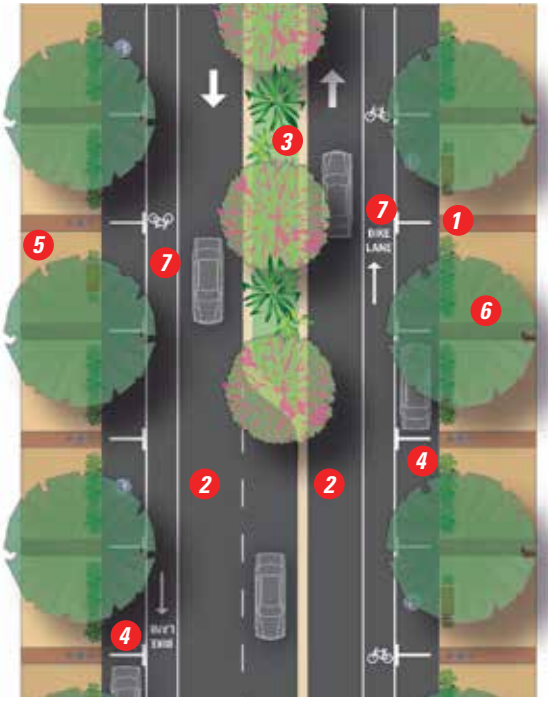
SECTION



KEY

Design Standards:

1. ***Amenities:*** Locate pedestrian scaled light fixtures at regular intervals along the sidewalk. Add planters, street furniture, bicycle racks, and wayfinding signage. Allow outdoor seating areas for restaurants.
2. ***Travel Lanes:*** Provide four travel lanes, two in each direction, and separated by a raised tree landscaped median with left turn lanes at intersections and entrances to parking structures.
3. ***Median:*** Introduce small scaled flowering trees for an added pop of color and native drought tolerant landscaping or xeriscaping.
4. ***Parking Lanes:*** Introduce on-street parallel parking on both sides of the street, interrupted by bulb-outs at intersections and mid-block crosswalks (if needed)
5. ***Sidewalk:*** Allow for wide sidewalk widths and space for large scale planters.
6. ***Trees:*** Provide rhythmic planting of large scale canopy trees creating shade for pedestrians.
7. ***Bicycle:*** Create two dedicated bicycle lanes one in each direction. Use colored bicycle lanes in conflict areas.



PLAN

City Center Collector Streetscape: N-S Collector Street 2*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



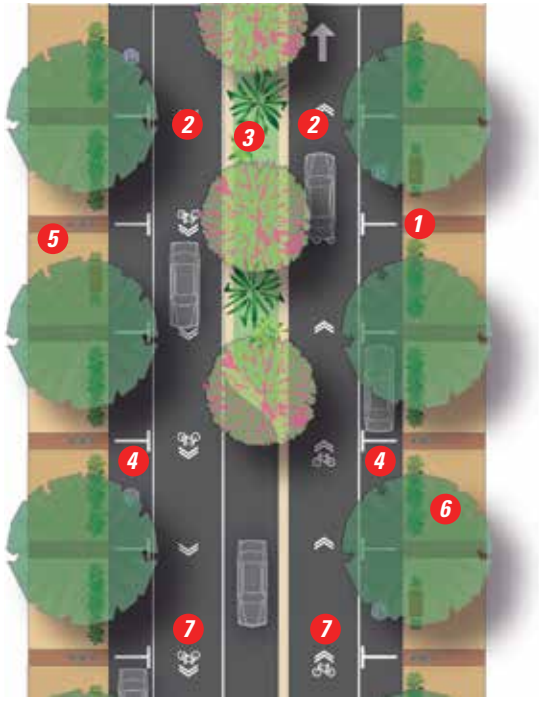
SECTION

Design Standards:

1. ***Amenities:*** Provide pedestrian scaled light fixtures at regular intervals along the sidewalk. Add planters, street furniture, bicycle racks, and wayfinding signage.
2. ***Travel Lanes:*** Provide two travel lanes, one in each direction separated by a raised tree landscaped median with left turn lanes at intersections and entrances to parking structures.
3. ***Median:*** Introduce small scaled flowering trees for an added pop of color and native drought tolerant landscaping or xeriscaping.
4. ***Parking Lanes:*** Introduce on-street parallel parking on both sides of the street, interrupted by bulb-outs at intersections and mid-block crosswalks.
5. ***Sidewalk:*** Allow for wide sidewalk widths along with areas for large scale planters and benches creating a physical separation between the pedestrian and street traffic.
6. ***Trees:*** Provide rhythmic planting a varied scale of canopy trees adding to pedestrian comfort.
7. ***Bicycle:*** Designate street as a shared bike route (sharrow) using appropriate signage and graphics.



KEY



PLAN

City Center Internal Streetscape: E-W Shopping Street 1*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



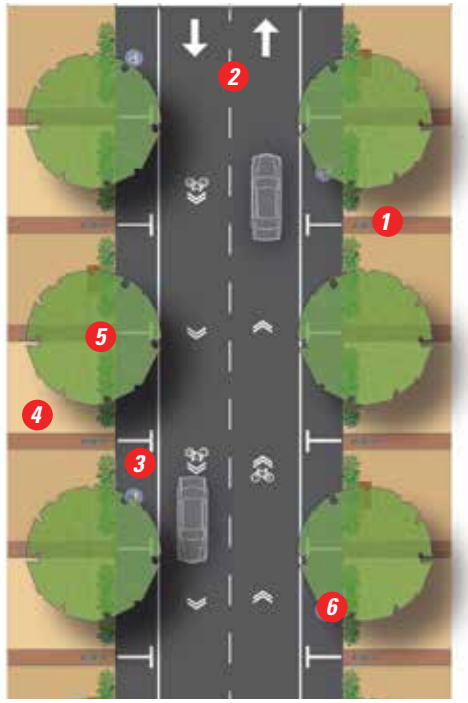
SECTION

Design Standards:

1. ***Amenities:*** Locate pedestrian scaled light fixtures at regular intervals along the sidewalk. Incorporate Banner Program and/or hang flowering baskets from pedestrian street lights for added interest. Add planters, street furniture, bicycle racks, and wayfinding signage. Allow outdoor seating areas for restaurants.
2. ***Travel Lanes:*** Provide two travel lanes, one in each direction.
3. ***Parking Lanes:*** Introduce on-street parking on both sides of the street, interrupted by bulb-outs at intersections and mid-block crosswalks.
4. ***Sidewalk:*** Provide space for street amenities within sidewalks.
5. ***Trees:*** Provide rhythmic planting of a varied scale of canopy trees creating shade for pedestrians.
6. ***Bicycle:*** Designate street as a shared bike route (sharrow) using appropriate signage and graphics.
7. ***Street Closure:*** Street design should facilitate occasional street closures for special events.



KEY



PLAN

City Center Internal Streetscape: E-W Shopping Street 2*



SECTION

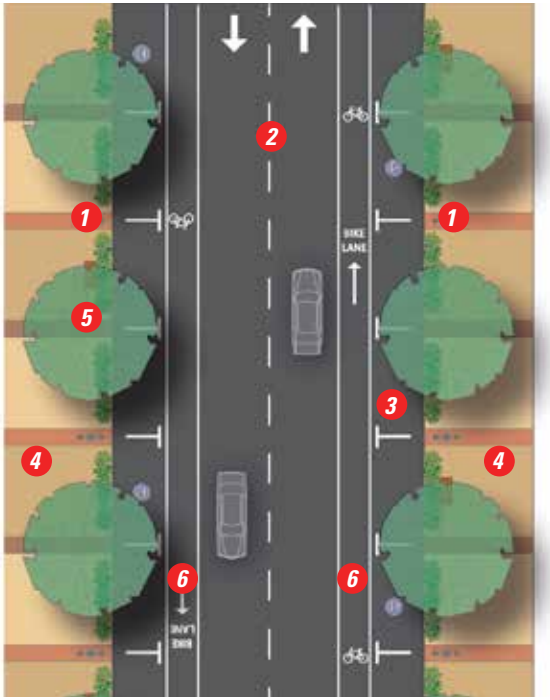
** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



KEY

Design Standards:

1. ***Amenities:*** Locate pedestrian scaled light fixtures at regular intervals along the sidewalk. Hang flowering baskets from pedestrian street lights for added interest. Add planters, street furniture, bicycle racks, and wayfinding signage. Allow outdoor seating areas for restaurants.
2. ***Travel Lanes:*** Provide two travel lanes.
3. ***Parking Lanes:*** Introduce on-street parking on both sides of the street, interrupted by bulb-outs at intersections and mid-block crosswalks.
4. ***Sidewalk:*** Provide space for street amenities within sidewalks.
5. ***Trees:*** Provide rhythmic planting of a varied scale of canopy trees creating shade for pedestrians, but also allowing visibility for retail storefronts.
6. ***Bicycle:*** Create two dedicated bicycle lanes or bike routes, one in each direction. Use colored bicycle lanes in conflict areas.
7. ***Street Closure:*** Street design should facilitate occasional street closures for special events and regular programmed use like farmers markets.



PLAN

Campus Perimeter Streetscape: Perimeter Street 1*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



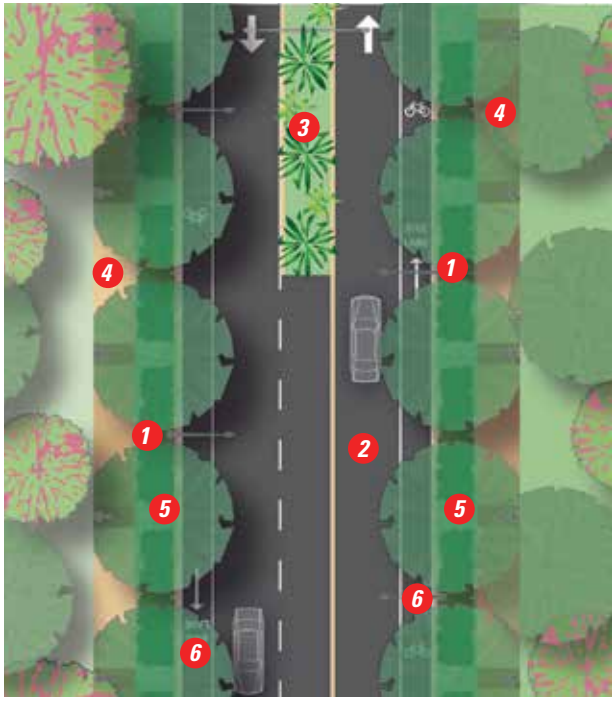
SECTION



KEY

Design Standards:

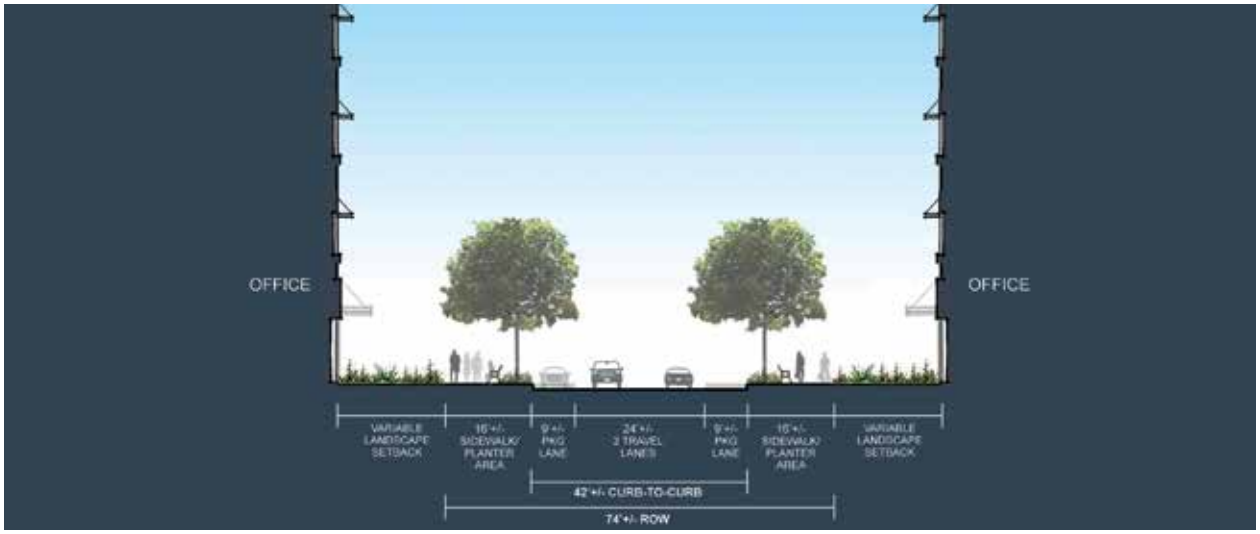
1. ***Amenities:*** Locate auto-scaled light fixtures at regular intervals along the sidewalk. Hang banners on auto-scaled light fixtures for local events.
2. ***Travel Lanes:*** Provide two travel lanes, one in each direction, with a center turn lane.
3. ***Median:*** Introduce native drought tolerant landscaping or xeriscaping for a pop of color.
4. ***Sidewalk:*** Allow for wide sidewalk widths along with areas for planter strips to separate pedestrians from moving traffic if curb parking does not create this buffer. Locate landscape planter strip adjacent to roadway with sidewalk behind landscape buffer.
5. ***Trees:*** Provide rhythmic planting of a varied scale of canopy trees creating shade for pedestrians.
6. ***Bicycle:*** Create two dedicated bicycle lanes, one in each direction and/or a dedicated off street adjacent bicycle path. Use only use colored bicycle lanes in conflict areas.



PLAN

Campus Internal Streetscape: Internal Street 1*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



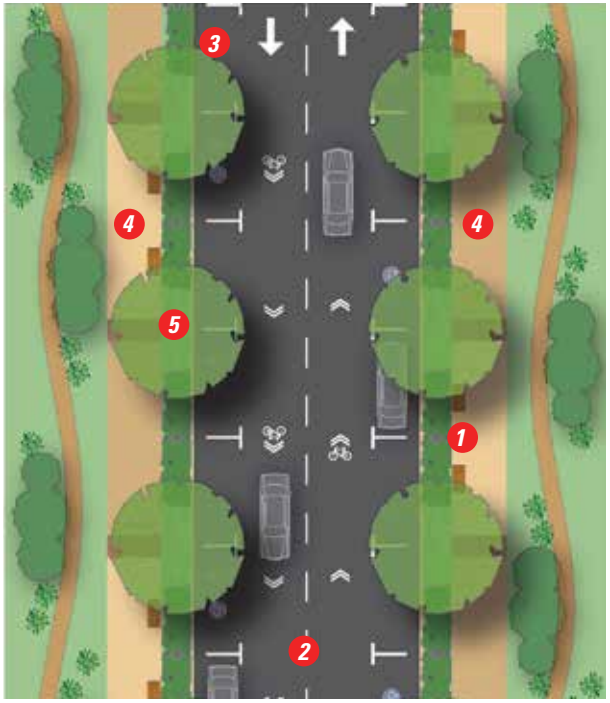
SECTION

Design Standards:

1. ***Amenities:*** Locate pedestrian scaled light fixtures at regular intervals along the sidewalk. Add planters, street furniture, bicycle racks, and wayfinding signage.
2. ***Travel Lanes:*** Provide two travel lanes, one in each direction.
3. ***Parking Lanes:*** Introduce on-street parallel parking on both sides of the street.
4. ***Sidewalk:*** Provide space for street amenities within sidewalks such as benches.
5. ***Trees:*** Provide rhythmic planting of moderately scaled canopy trees creating shade for pedestrians.



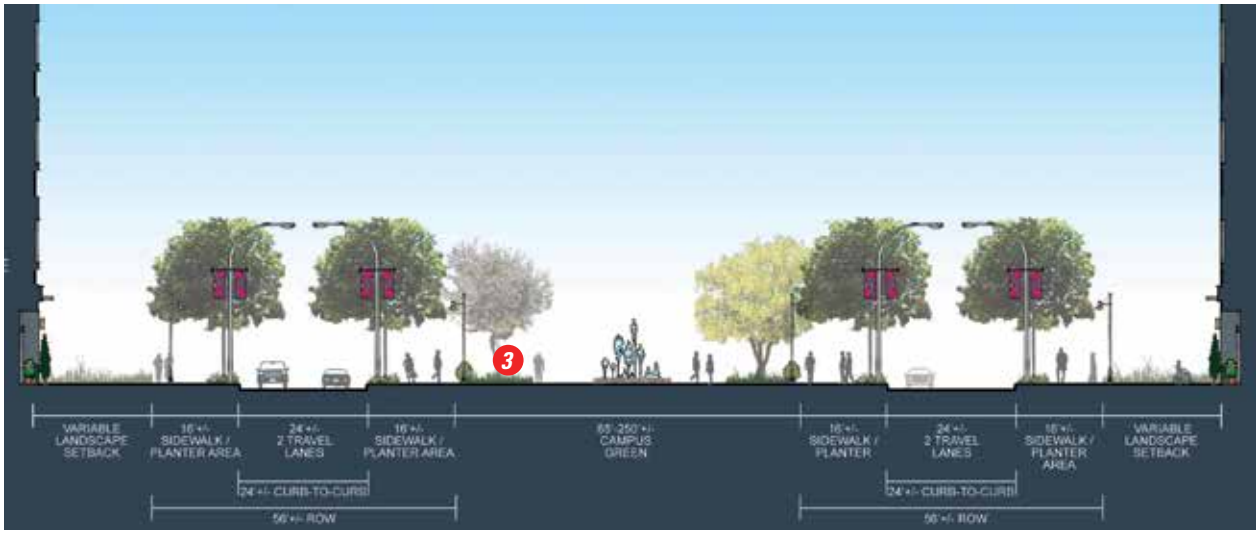
KEY



PLAN

Campus Internal Streetscape: Internal Street 2*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



SECTION

Design Standards:

1. ***Amenities:*** Hang banners on street light poles for local events. Provide pedestrian scaled light fixtures at regular intervals along the sidewalk. Add planters, street furniture, bicycle racks, and wayfinding signage.

2. ***Travel Lanes:*** Provide two travel lanes, one in each direction on either side of the campus green.

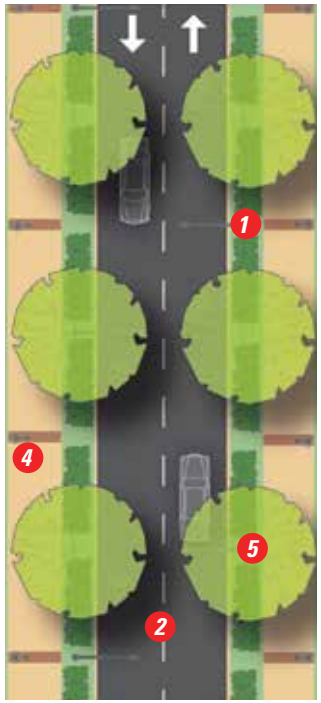
3. ***Campus Green:*** Introduce small scaled flowering trees for an added pop of color in conjunction with canopy trees, native landscaping, and other special landscape features.

4. ***Sidewalk:*** Allow for wide sidewalk widths along with areas for planter strips to separate pedestrians from moving traffic if curb parking does not create this buffer. Locate landscape planter strip adjacent to roadway with sidewalk behind landscape buffer.

5. ***Trees:*** Provide small to moderately scaled canopy trees to define the street and create a prominent entry boulevard.



KEY



PLAN

Campus Internal Streetscape: Internal Street 3*

** Section and plan views depict a potential/typical configuration for illustrative purposes only. The actual dimensions and layout may vary subject to City review and approval.*



SECTION

Design Standards:

1. ***Amenities:*** Locate pedestrian scaled light fixtures at regular intervals along the sidewalk. Add planters, street furniture, bicycle racks, and wayfinding signage.
2. ***Travel Lanes:*** Provide two travel lanes, one in each direction.
3. ***Sidewalk:*** Provide space for street amenities within sidewalks.
4. ***Trees:*** Provide rhythmic planting of moderately scaled canopy trees creating shade and comfort for pedestrians.



KEY



PLAN

6.4 SHARED OUTDOOR SPACE

This section describes the desired character of CityPlace's shared outdoor spaces, including plazas, greens, courtyards and similar spaces. It includes design intent and general design guidelines for these publicly and communally oriented spaces, with specific outlined features for applicable typologies, augmented by photo illustrations.

SHARED OUTDOOR SPACE DESIGN INTENT

The project's outdoor spaces will range from plazas that support civic engagement and will enhance the public domain to interior courtyards that will serve as an amenity for project residents. Generally located at the core of the project's development parcels and typically presenting a multi-functional urban character, the general intent will be to make shared outdoor space comfortable for human use, public congregation and/or social interaction.

SHARED OUTDOOR SPACE GENERAL DESIGN STANDARDS / GUIDELINES

- *OS 1:* Make outdoor spaces comfortable for human occupation and social interaction, utilizing decorative paving, plants, site furniture, and lighting to shape, embellish and give purpose to these spaces.
- *OS 2:* Use trees to regulate sun and shade, and create a pleasant micro-climate; deciduous canopy trees are generally recommended.
- *OS 3:* Introduce elements that establish a comfortable transition between indoors and outdoors, for example canopies, awnings, trellises, and similar features.
- *OS 4:* Rely on movable seating and planters where flexible use of the space is especially desired.
- *OS 5:* Incorporate art pieces or special landscape features within key outdoor spaces; for example, a sculptural piece may serve as the focal point of a plaza or campus green.
- *OS-6:* Design outdoor spaces with safety in mind, allowing for active surveillance from adjacent buildings or the street.
- *OS-7:* Encourage the presence of uses such as outdoor cafes and vendors in outdoor spaces, to the extent appropriate to that space's character and function.
- *OS-8:* Define and contain outdoor spaces through a combination of building and landscaping. In general, open spaces should take on the character of "outdoor rooms" that complement the streetscape.
- *OS-9:* Establish an immediate physical and visual connection between sidewalks and outdoor rooms, such as plazas and paseos. These spaces should be located at or near the same grade as adjacent sidewalks.
- *OS-10:* Employ a rich, yet coordinated palette of landscape materials and drought tolerant plantings to provide scale, texture, and color. Warm materials and details that are pleasing to the eye should be incorporated.
- *OS-11:* Introduce decorative, pedestrian-scaled fixtures that emit a warm light. Special accent lighting such as landscape lighting, twinkle lights, etc. may also be appropriate.

SHARED OUTDOOR SPACE CHARACTERISTICS

BOULEVARD TYPOLOGY



* Exhibit is conceptual and subject to change.

Boulevard

Summary Description:

- Functions as the heart of the project and is adjacent to restaurants, specialty shops, etc.
- Flexible space serves for both formal and informal gatherings, celebrations, and people watching.
- Quality public space with enhanced amenities.
- Community space for special events such as outdoor movies, concerts, and farmers markets which can expand into private streets by use of temporary closures.
- Special paving, unique lighting features, ornamental along with canopy trees, and decorative plantings and public art promote a festive character and support a community atmosphere.





CITY CENTER PEDESTRIAN CONCOURSE TYPOLOGY



* Exhibit is conceptual and subject to change.

City Center Pedestrian Concourse

Summary Description:

- Heaviest pedestrian traffic is here along with the best access to shopping, food and beverage and entertainment, and highest levels of pedestrian amenity.
- Incorporates shaded “outdoor rooms” that support informal congregations and social interaction -meeting, sitting, conversing, eating etc.
- Includes decorative hardscape features, plantings, water features, and project signage to aid in pedestrian movement through the space.
- Specimen trees, public art, and fountains all aid in creating this animated pedestrian environment.
- Canopies, awnings, trellises etc. augment pedestrian comfort in this active area.
- Design will incorporate adequate clearances to allow emergency vehicles and accommodate off-hour service to internal uses.





PUBLIC PARK SPACE TYPOLOGY



* Exhibit is conceptual and subject to change. Campuses may be open and publicly accessible, may be closed to the public, or may also incorporate other land uses. The open space types depicted do not dictate the building typologies that may be employed. Additionally, the depicted plan representation of the campuses are only illustrative of one possible office typology,

Public Park Space

Summary Description:

- Provides active recreation areas for the project.
- Flexible space typically not programmed. Provide space that accommodates a variety of flexible uses.
- Quality public space with enhanced amenities.
- Community spaces include: playfields, jogging trails, par courses, playgrounds etc.









CAMPUS GREEN TYPOLOGY



* Exhibit is conceptual and subject to change. Campuses may be open and publicly accessible, may be closed to the public, or may also incorporate other land uses. The open space types depicted do not dictate the building typologies that may be employed. Additionally, the depicted plan representation of the campuses are only illustrative of one possible office typology,

Typical Primary Campus Green

Summary Description:

- Campus greens incorporate grassy areas, canopy trees for shade, and outdoor seating.
- Provides the office campus environment with a comfortable setting to either relax or be active before, during, and after work.
- Outdoor space framed by adjacent office buildings offering the desired effect of enclosure.



Typical Secondary Campus Green

Summary Description:

- Small quiet greens nestled between buildings contributing to a positive work environment by offering places to relax in addition to an attractive outdoor landscape.
- Includes seating areas suitable for rest and relaxation, people watching, or a business lunch.
- Secondary campus greens include small and moderately scaled trees, water features, shade and seating areas.





MIXED-USE COURTYARD TYPOLOGY



* Exhibit is conceptual and subject to change.

Typical Street Level Courtyard

Summary Description:

- Outdoor dining for restaurants and cafes is located along the perimeter of courtyards.
- Includes shaded areas with street furniture for relaxation and people watching.
- Trellises, planters and planter-pots featuring lush plants embellish outdoor courtyards and add to their visual appeal.
- Courtyards create intimate outdoor space that accommodates pedestrian movement while offering a place to rest and relax or enjoy a meal outdoors.





Typical Podium Level Courtyard (Residential Communal Space)

Summary Description:

- Outdoor "living rooms" are created through the use of outdoor furniture groupings and other amenities that will allow people to comfortably occupy the space.
- Adjacent buildings frame courtyards creating desired sense of enclosure.
- Courtyards can include pools and Jacuzzis, lounge chairs, eating and barbecue areas, recreation spaces, garden/green spaces etc.
- Residential courtyards aid in creating a sense of community for residents.
- Landscaping that includes decorative plantings and accent and shade trees.





** If any of these podium or courtyard spaces are intended to qualify as Private Open Space for the purpose of satisfying Residential Parkland Dedication requirements, information shall be provided in the DAP submission identifying how SCCC 17.35.070 "CREDIT FOR PRIVATE OPEN SPACE" requirements will be satisfied.*

PLAZA & PARKLETS TYPOLOGY



* Exhibit is conceptual and subject to change.

Typical Secondary Plaza

Summary Description:

- Introduce both hardscape and softscape features including decorative plantings, specialty paving, seating areas, and some areas of grass for relaxation.
- Adjacent buildings enliven, activate, and/or delineate the plaza edges.
- Pedestrian scaled lighting, benches, trash receptacles, and planters all enhance secondary plaza spaces.





Typical Mini-Park

Summary Description:

- Small distinctive parks with individual character offering shade from the sun and comfortable places to relax or socialize.
- Includes plantings, outdoor furniture, and other site amenities that enhance the space and promote user comfort.
- Focal elements such as specimen trees, fountain or water features, sculpture or other civic art help to enrich the spaces.





6.5 LANDSCAPE ZONES

This section describes the desired character and quality of the landscape zones identified by the Open Space Plan for CityPlace, addressing the project's perimeter and other landscape areas that are key to promoting site sustainability. It includes design intent and general design guidelines for these areas, with specific characteristics for various landscape typologies, augmented by photo illustrations.

LANDSCAPE ZONES DESIGN INTENT

Generally located at the perimeter of parcels, the scale of landscape zones will afford an opportunity to deliver multiple visual, recreational and environmental benefits, while maintaining the integrity of the landfill embankments. Their extent will also make it important to incorporate design strategies that minimize water use.

LANDSCAPE ZONES GENERAL DESIGN STANDARDS / GUIDELINES

- *LZ-1:* Minimize the use of turf grass in identified landscape zones to the extent feasible.
- *LZ-2:* Rely on simple, bold, easy to maintain landscape planting schemes, typically utilizing native and adapted drought tolerant species.
- *LZ-3:* Use reclaimed water for all irrigation needs.
- *LZ-4:* Incorporate pedestrian/bicycle paths within the landscape zones.
- *LZ-5:* Make campus landscape zones comfortable for human occupation and social interaction. Include decorative paving, plants, furniture, trash receptacles and lighting to embellish the space.
- *LZ-6:* Employ a rich, yet coordinated, palette of landscape materials to provide scale, texture, and color.
- *LZ-7:* Incorporate green roofs to absorb rainwater, provide building insulation, and aid in creating a habitat for wildlife.

LANDSCAPE ZONE CHARACTERISTICS
PERIMETER LANDSCAPE TYPOLOGY



* Exhibit is conceptual and subject to change.

Typical Perimeter Landscape 1: Riparian Habitat

Summary Description:

- Vegitated natural habitat found directly adjacent to the Retention Basin, Guadalupe River and the San Tomas Aquino Creek in areas associated with permanent surface water.
- Streamside trees, shrubs and other plants help to purify the streams by removing contaminants, controlling erosion and flooding, increasing available water by maintaining stream banks, and supporting wildlife.
- Willows, deciduous trees, and shrubs occupy this area.





Typical Perimeter Landscape 2: Upland Slopes Habitat

Summary Description:

- Rising above the riparian habitat below is drier upland habitat.
- Upland habitat is the dryer habitat along the slopes of the rivers, but not immediately river adjacent.
- Coyote brush, oaks and many varieties of grass provide cover for the upland slopes habitat.





CAMPUS LANDSCAPE TYPOLOGY



* Exhibit is conceptual and subject to change. Campuses may be open and publicly accessible, may be closed to the public, or may also incorporate other land uses. The landscape types depicted do not dictate the building typologies that may be employed. Additionally, the depicted plan representation of the campuses are only illustrative of one possible office typology,

Typical Campus Landscape 1: Campus Garden



Summary Description:

- Campus gardens offer quiet retreats for employees or a comfortable spot to enjoy lunch with colleagues.
- Shade, comfortable seating, and decorative planting create a pleasant outdoor environment for employees and visitors to enjoy.
- Adjacent office buildings frame campus gardens, creating intimate outdoor spaces that accommodate pedestrian movement while offering a place for rest and relaxation.

Typical Campus Landscape 2: Campus Greenfield



Summary Description:

- Campus greenfield areas offer outdoor spaces for multiple purposes. These areas offer space to take a break outdoors, catch up with a colleague or leisurely enjoy a picnic lunch.
- Includes seating areas suitable for rest and relaxation, or a working lunch.
- Greenfields include decorative planting, native and adapted species, and grass areas.

Typical Campus Landscape 3: Campus Recreation



Summary Description:

- Tennis courts, basketball courts, and other recreational courts and/or fields add to the office campus environment, giving employees healthy lifestyle choices close and convenient to the workplace.
- Offering easily accessible ways for employees to exercise will improve their health and well-being.
- Office recreation courts/fields offer an attractive perk to employees, improving a company's ability to recruit and retain workers.

GREEN ROOF TYPOLOGY



* Exhibit is conceptual and subject to change.

Typical Green Roof 1: Agricultural Garden

Summary Description:

- Agricultural green roof gardens offer the opportunity for locally grown food production, co-ops, community gardens etc. in the form of chef's gardens or divided garden plots associated with the residential units.
- Green roof agricultural gardens help to reach the principles of smart growth and positively affect the urban environment by increasing amenity and green space while aiding in stormwater control, energy-saving insulation for the building, and even a boost in the efficiency of rooftop solar panels.
- Green roofs utilized for an urban agriculture project can reduce the community's urban footprint through adding to the local food system.
- Agricultural green roof gardens can serve as a source of community empowerment, give increased feelings of self-reliance, and improve levels of nutrition.





Typical Green Roof 2: Horticultural Garden

Summary Description:

- Green roofs serve several purposes for buildings at CityPlace, such as absorbing rainwater and providing insulation, while providing a more aesthetically pleasing landscape, and helping to lower urban air temperatures and mitigate the heat island effect.
- Green roof gardens have positive impacts on community and psychological well-being of their inhabitants through visual and environmental diversity.
- Horticulture gardens beautify the built environment, increase investment opportunity, and provide a shared community experience.





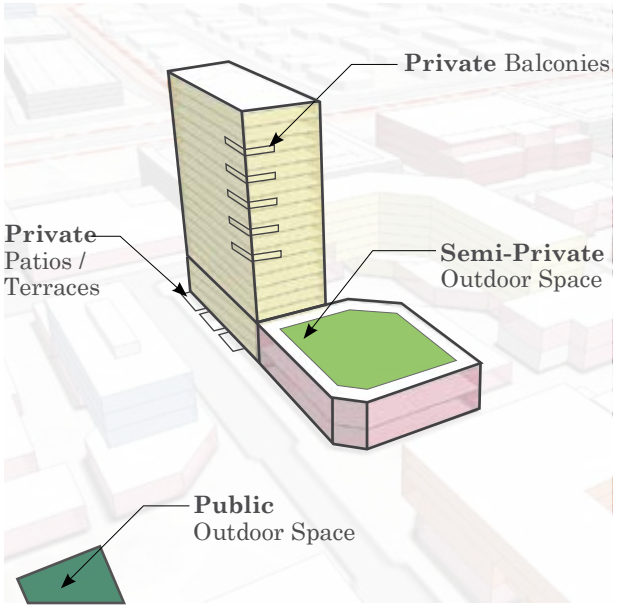
6.6 PRIVATE OUTDOOR SPACE

This section discusses the desired character of CityPlace's private and semi-private outdoor spaces. It includes general design intent and general design guidelines, as well as photo illustrations to convey the key ideas.

PRIVATE OUTDOOR SPACE DESIGN INTENT

The project's private outdoor spaces will range from private residential balconies and terraces to interior courtyards and semi- private outdoor living spaces that will serve as extensions of indoor amenities for residents to enjoy. Generally located at the core of the project's development parcels, the general intent will be to make private outdoor space comfortable for human occupation, easily accessible for residents, and private in that they create a sense of personal space and seclusion when desired.

Balconies and terraces are often used to provide private open spaces for residential buildings, however, their exposure to wind can make them unusable, and in some cases it may be more appropriate for apartments at the upper levels of buildings to be provided with semi-private gardens or public open space at ground or roof-top levels of the building.



PRIVATE OUTDOOR SPACE GENERAL DESIGN STANDARDS / GUIDELINES

- *POS-1:* Make outdoor spaces comfortable for human occupation and social interaction, utilizing decorative paving, plants, site furniture, and lighting to shape, embellish and give purpose to these spaces.
- *POS-2:* Create spaces that are usable in a range of weather conditions at various times of the year.
- *POS-3:* Introduce elements that establish a comfortable transition between indoors and outdoors, for example canopies, awnings, trellises, and similar features.
- *POS-4:* Integrate balconies, terraces and roof gardens with the overall building form and facade composition.
- *POS-5:* Orient towards views and sunlight and away from noise or unsightly views.
- *POS-6:* Balconies should be sufficient size to accommodate outdoor seating.
- *POS-7:* Define and contain outdoor space through a combination of building and landscaping. In general, open spaces should take on the character of "outdoor rooms" that complement the streetscape.
- *POS-8:* Establish an immediate physical and visual connection between balconies and terraces and the building's interior.
- *POS-9:* Employ a rich, yet coordinated, palette of landscape materials and drought tolerant plantings that is pleasing to the eye, to provide scale, texture, and color.
- *POS-10:* Private outdoor spaces generally should provide for approporate recreation and entertainment uses while preserving privacy and allowing views to the outside.
- *POS-11:* Design private outdoor spaces that can be well maintained.
- *POS-12:* Consider that roof spaces may be good locations for open space as they provide access to sun not always available at lower levels.

PRIVATE OUTDOOR SPACE CHARACTERISTICS

OUTDOOR SPACE - SEMI-PRIVATE

Semi-private outdoor spaces should be easily accessible and extensions of indoor amenity / community rooms.

Summary Description:

- Opportunity to create interesting patterns to be viewed from above.
- Variety of spaces from semi-private to larger gathering spaces.
- May include decorative planting, native and adapted species, and grass areas.
- An easily accessible and usable space.
- May incorporate movable seating and planters where flexible use of the space is desired in common private spaces









OUTDOOR SPACE - PRIVATE

Incorporate private outdoor living spaces for each home in the form of patios or balconies.

Patios & Terraces:

- Patios are screened by vegetation or walls for privacy; where a patio faces a street, it could also be slightly elevated.
- Includes space large enough to accommodate outdoor dining.

Balconies:

- Accommodates walls or landscaping as barriers for privacy between neighboring units.
- Includes space large enough to accommodate outdoor dining.









6.7 GATEWAYS & ENHANCED INTERSECTION DESIGN

This section describes the desired character of project and district gateways, as well as enhanced intersections at major pedestrian crossings. It includes design intent and general design guidelines for these landscape elements, with specific outlined characteristics for key typologies, augmented by photo illustrations.

GATEWAYS & ENHANCED INTERSECTIONS DESIGN INTENT

Gateways will deserve special treatment as they are critical in providing the first impression of the project for visitors. Distinctive landscape design and entry monumentation will signal entrance into the project and its districts, and set the standard for quality design. On the other hand, intersections that will feature substantial pedestrian activity should be regarded as public space suitable for design enhancements, including special crosswalk treatment and "bulb-outs" that also promote pedestrian safety and traffic calming.

GATEWAYS & ENHANCED INTERSECTIONS DESIGN STANDARDS / GUIDELINES

- *GD-1:* Demarcate gateways with distinctive landscape treatment that establishes a precedent for high quality design in the public realm, including special hardscape, planting and lighting.
- *GD-2:* Ensure that project identity signage and environmental graphics are fully integrated with the gateway landscape design.
- *GD-3:* Explore opportunities to integrate works of art, potentially featuring designs that handle the project signage as an art piece.
- *GD-4:* Emphasize bold project signage with unique, sculptural and/or highly graphic treatment at major gateways.
- *GD-5:* Use decorative paving to highlight major gateways, especially to demarcate pedestrian accessible areas, i.e., visitor orientation and experience.
- *GD-6:* Rely on adjacent buildings to reinforce major gateways. Architectural emphasis at major gateway locations is strongly encouraged, including strong corner massing or other architectural features that create a distinct building profile.
- *EI-1:* Demarcate intersections that are anticipated to receive heavy pedestrian use, for example, through the use of decorative paving to delineate crosswalks.
- *EI-2:* Encourage the use of "bulb-outs" at key pedestrian intersections, providing a comfortable area for pedestrians to wait and congregate, and permitting a high level of streetscape amenity.
- *EI-3:* Incorporate abundant streetscape amenities, such as street trees, benches, pedestrian-scaled light fixtures, planters, and project signage, especially at heavily trafficked intersections.
- *EI-4:* Consider ramping down to a "curb-less" condition at street corners along private streets to ease pedestrian crossing, especially within the City Center.

GATEWAYS & ENHANCED INTERSECTION CHARACTERISTICS

GATEWAY TYPOLOGY



* Exhibit is conceptual and subject to change.

LEGEND

Gateways
Project Gateway
District Gateway- Typical Office
District Gateway- Typical City Center

Project Gateway: Great America Gateway, Centennial Gateway, Urban Interchange

Summary Description:

- Bold graphics and/or sculptural art pieces establish a precedent for high quality design applicable to the streetscapes and public spaces throughout CityPlace.
- Identifiable planting schemes using ornamental trees, shrubs, and groundcover augment the visual impact of the project gateways.
- Decorative paving and light fixtures highlight major gateways and demarcate pedestrian accessible areas, and are compatible with the overall design of each gateway.



District Gateway: Typical Office Campus Gateway

Summary Description:

- Distinctive entry feature that announces the office campus, whether it be open and publicly accessible, or closed to the public. It may be an architectural, landscape or signage element.
- Adjacent office buildings reinforce the office campus gateway with architectural emphasis such as corner massing on buildings.
- Bold project signage with unique, sculptural and/or highly graphic treatment. Integrating properly scaled artwork at campus gateways heightens the visual impact of gateways.



District Gateway: Typical City Center Gateway

Summary Description:

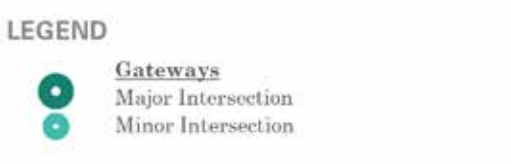
- City Center Gateways are main entries into the core of the project, and are of utmost importance as they provide the first impression of the project for visitors.
- Special signage, landscape and hardscape treatment, and building massing all combine to create a memorable point of arrival and distinctive project identity.
- Graphics and/or art pieces establish a precedent for high quality design applicable to streetscapes and public spaces throughout CityPlace.



ENHANCED INTERSECTION TYPOLOGY



* Exhibit is conceptual and subject to change.



Enhanced Intersection: Major Intersection

Summary Description:

- Major street intersections are important spaces where pedestrians tend to congregate, requiring a special high quality aesthetic.
- Enhancements such as curb bulb-outs and crosswalks treated with decorative paving improve the aesthetic quality of the streetscape, calm vehicular traffic, and improve safety and comfort for pedestrians.
- Abundant streetscape amenities such as street trees, pedestrian scaled light fixtures, planters, and wayfinding signage improve major intersections.
- Benches, trash receptacles, and planters at heavily trafficked intersections reflect the overall high quality design at CityPlace, while aiding in the comfort of those traveling by foot and bicycle.





Enhanced Intersection: Minor Intersection

Summary Description:

- Specialty paving enhances street intersections and demarcates crosswalk making them safer for pedestrians by calming vehicular traffic.
- "Curb-less" corner conditions along private streets ease pedestrian crossing with ramping down to the street level rather than a large step down at curbs.
- Integrally colored and textured concrete or other decorative treatments help to designate minor intersections as important outdoor areas.





6.8 BIRD SAFETY

This section briefly discusses bird safety and its relation to the built environment. Bird safe design is an important design aspect to will be incorporated within the project site.

BIRD SAFETY

Each Development Area Plan (DAP) approved by the City shall include a set of specific standards for minimizing hazards to birds, to be implemented by the developer. The development of the specific bird safety standards for each Development Area Plan shall be tailored to the specific potential hazards to birds in that development area, taking into account the specific locations, types and heights of buildings, lighting, and landscaping. In addition, the DAP shall require enhanced protective measures for buildings within 300 feet of the retention pond, the Guadalupe River, and San Tomas Aquino Creek, such as siting buildings in relation to existing landscape features to reduce conflicts with existing features that may serve as attractive bird habitat; minimizing the reflection of existing vegetation on building facades; or using soil berms, furniture, landscaping, or architectural features to prevent reflection of water in glazed building facades.

The specific bird safety standards in each DAP shall be based on the following bird-friendly building principles, to the extent applicable to the particular development area:

- Reduce mirrors and large areas of transparent or reflective glass.
- Avoid transparent glass skyways, walkways, or entryways, free-standing glass walls, and minimize transparent building corners, or utilize glazing treatments to mitigate the hazard.
- Minimize funneling of open space toward a building façade.
- Strategically place landscaping to reduce reflection and views of foliage inside or through glass.
- Reduce potential light and glare by requiring low-profile, low-intensity lighting directed downward, and requiring shielded fixtures for outdoor lighting.
- To the extent consistent with the normal and expected operations of the uses planned for the particular development area, take appropriate measures to avoid use of unnecessary lighting at night, especially during bird migration season (February–May and August–November) through the installation of motion-sensor lighting, automatic light shut-off mechanisms, downward-facing exterior light fixtures, or other effective measures to the extent possible feasible.
- The specific bird safety standards shall also provide for a monitoring program, and placing signs around the buildings with phone numbers to authorized bird conservation organizations.



Bird-safe windows through art application at the University of Waterloo

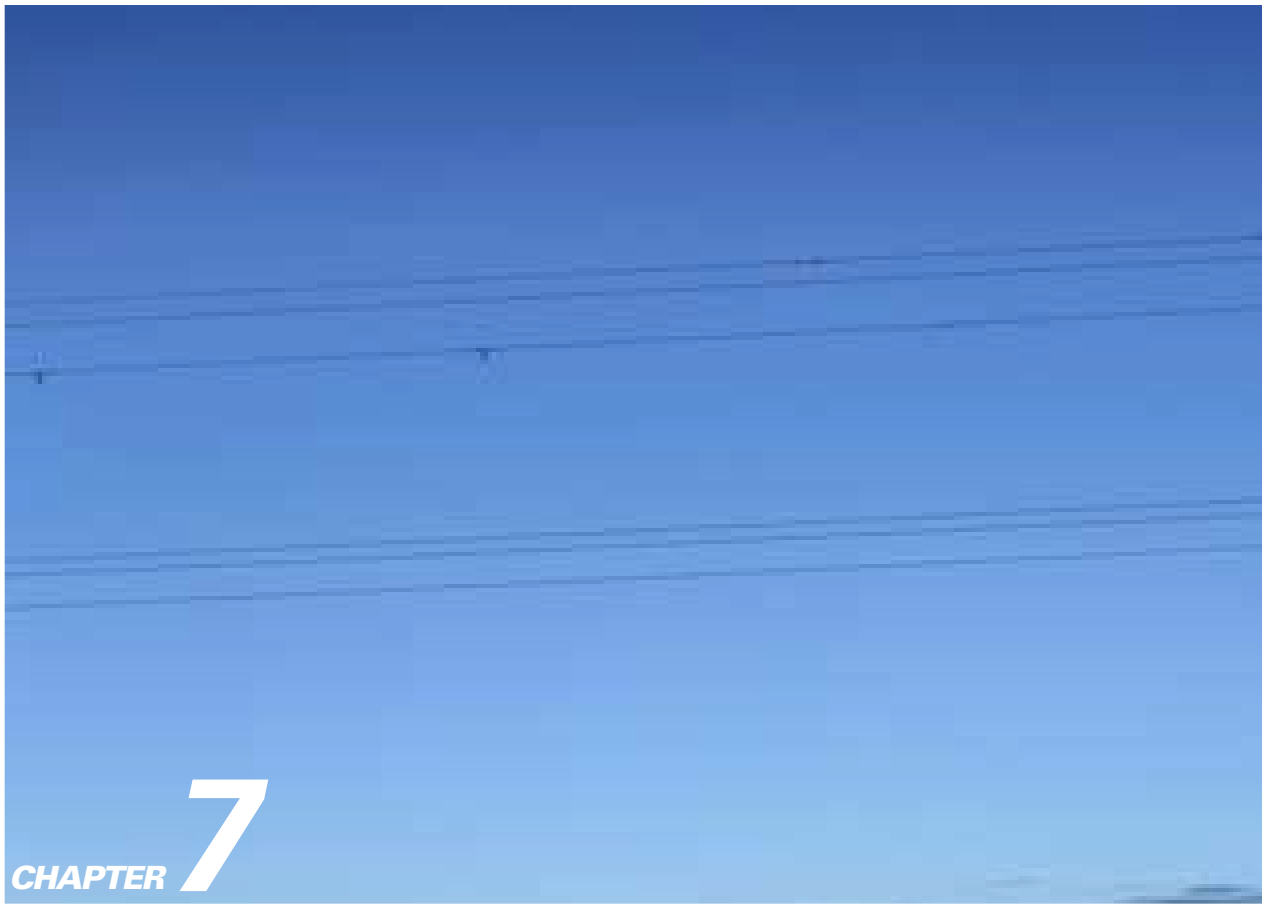


Perforated copper screen keeps birds from colliding with the windows



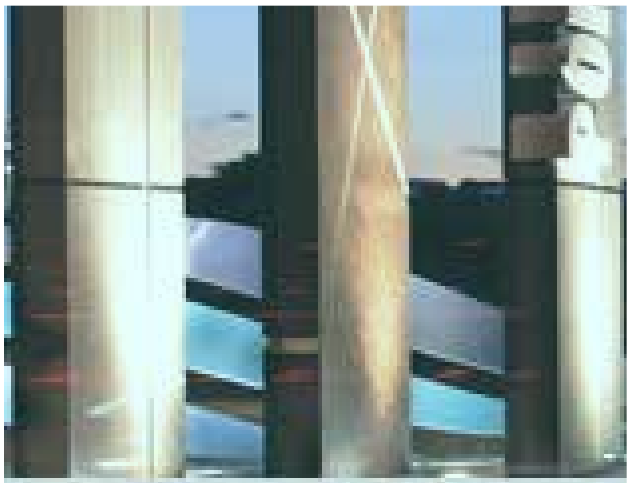
Acid-etched glass for bird safe design





CHAPTER 7

SIGNAGE & LIGHTING GUIDELINES



7.1 SIGNAGE CONCEPT PLAN*

...will be applied with respect to signage and lighting within the CityPlace Project area. The provisions of this section supersede the existing City Signage Code Regulations in the Zoning Ordinance. A "Comprehensive Sign Program" will be provided as part of the Development Area Plan (DAP) process.

COMPREHENSIVE SIGN PROGRAMS

A Comprehensive Sign Program for the City Center (Parcels 4 and 5) shall be submitted for approval by the City Council in conjunction with the submission for approval of the first Development Area Plan for any portion of the City Center, and separate Comprehensive Sign Programs shall be submitted for approval in conjunction with the approval of the Development Area Plans for each of Parcels 1, 2 and 3. Notwithstanding the provisions of SCCC 18.80 SIGNAGE REGULATIONS, the City Signage Code regulations do not apply to the CityPlace Project, including but not limited to the provisions of Sections 18.80.050 related to height limitations, 18.80.090 related to design and location, 18.80.200 related to limitations on total sign area in residential, professional, office, and public building zoning districts and 18.80.220 related to Outdoor Advertising.

By adopting this MCP, the City Council finds that creating a specific, limited exception to the limitations on outdoor advertising (billboards) for outdoor advertising in City Center that faces inward into City Center or faces toward Levi's Stadium on Tasman Drive pursuant to a Comprehensive Signage Program approved by the City Council will facilitate the City's objective to establish a vibrant mixed-use, urban core, creating a pedestrian friendly "live, work, and play" environment that will function as a well-defined center for the Santa Clara community. The City Council further finds that creating this specific limited exception does not weaken the direct link between the City's objectives and its general prohibition of new billboards, and will not denigrate the City's interests in reducing visual clutter and blight to the appearance of the City, and in promoting traffic safety and reducing traffic hazards.

The Comprehensive Sign Programs shall include City Center-specific standards for all signage, including specifying the types of signs allowed, establishing specific limitations on sign height and total sign area, specifying the number and location of signs, as well as establishing specifications for sign characteristics including illumination, electronic imagery, and seasonal and temporary signage. Comprehensive Sign Programs may allow for outdoor advertising (billboards) only in the City Center (Parcels 4 and 5), and outdoor advertising must face inward into the City Center, except outdoor advertising may face outward toward Levi's Stadium on Tasman Drive.

CONCEPT OVERVIEW

Signs in general should be designed to help ensure quality and clarity of message. Well-designed and coordinated signage is both a business and cultural asset to the City. The signage concepts included herein are intended to illustrate methods in which signs can be suitably designed, constructed, and placed within CityPlace. This Signage Design Concept Plan provides good examples of signs and methodologies that meet the City's expectations to attract high quality businesses and institutions. The Comprehensive Sign Programs will be broken into four major categories: 1) Project Signage: includes wayfinding and district wide project identity, major and minor gateways, street signs, parking, vehicular and pedestrian directional signage types, etc.; 2) Tenant Signage: identifies particular businesses and institutions within the project area, including freestanding, building mounted, and storefront signage types.; 3) Sponsorship and Advertising: includes use of interactive technologies and animated signage, light and sound towers, rooftop signage, naming rights, and sponsorship "zones" within the project area, and 4) Public Artwork: includes sculptures, light installations, interactive pieces, sight specific furniture, events, site pageantry/banners, and other pieces seen as part of the cultural infrastructure of the project.

SIGNAGE ILLUMINATION

All signs within the City Center Mixed-Use district may be illuminated by either internal or external means. Methods of signage illumination may include, but not be limited to: electric lamps, such as neon tubes; fiber optic; LEDs; cathode ray tubes exposed directly to view; shielded downward spot lights and wall wash fixtures. All illuminated signs shall be designed, located or screened so as to limit direct light sources onto any residential units that are located within the project area and roadways internal and external to the project.

* The provisions below must be implemented consistent with, and are subject to, the terms of any public agreements in place as of the time this MCP is approved.

SIGNAGE DESIGN PRINCIPLES intended to create functional, attractive signage incorporating a uniformly high level of design.



Principle No. 1: Coordinated Project Signage: Use coordinated signage to promote CityPlace identity. Signage based on a consistent unified design motif will add to a cohesive consistent look at CityPlace.



Principle No. 2 - Complementary Tenant Signage: Integrate tenant signage with the site design, building architecture and design theme of the district. Ensure signage is compatible in scale and character with the building and storefront.



Principle No. 3 - Wayfinding System: Wayfinding serves to orient visitors and offers a sense of familiarity to returning customers. Wayfinding will create a superior level of comfort for visitor orientation.



Principle No. 4 - High-Quality Signage: High quality signage materials will offer an elevated aesthetic for tenants but also should reflect the overall high quality of design at CityPlace.



Principle No. 5 - Legible Signage: Create signs that present a clear and simple message. Concise signage with few words tends to convey the best message.



Principle No. 6 - Durable Signage: Construct signs of durable, high quality materials that withstand weathering. Durable signage will create a feeling of permanence throughout CityPlace



Principle No. 7 - Civic Art Potential: Civic art will provide the opportunity to enrich the environment. Civic art may be used to highlight special locations such as gateways and public plazas, or to enrich architectural and landscape details.

7.2 PROJECT SIGNAGE

Project signage will enhance project identity at CityPlace and create a cohesive graphic family of signs for getting around CityPlace. Project signage will include project identity signage, transportation and traffic control signage, parking access and availability, and wayfinding signage.

PROJECT SIGNAGE DESIGN INTENT

Project and district identifiers will include highly visible gateway markers. In addition to advertising the project and/or its districts, these signs should enhance project identity and establish a welcoming point of arrival. Wayfinding signs will be especially useful in orienting first-time visitors, while offering a sense of familiarity to returning customers. All signage is expected to make a positive contribution to the public realm.

PROJECT SIGNAGE DESIGN STANDARDS / GUIDELINES

- *PS-1:* Implement signs that make a positive contribution to the general appearance of the street or pedestrian corridor in which they are located.
- *PS-2:* Use project signage and environmental graphics to assist wayfinding and reinforce project identity.
- *PS-3:* Create a "family" of signage that creates a graphic continuity throughout the project. In the City Center, districting concepts may require individualized district signage "families".
- *PS-4:* Provide vehicular directionals consistent with City requirements that guide motorists to important destinations on-site, including major attractions, parks and parking facilities.
- *PS-5:* Include directional signs and maps that guide persons on foot and bicycle to important public services and facilities, parks, outdoor gathering areas, and major tenants.
- *PS-6:* Encourage high quality, imaginative, and innovative signage.
- *PS-7:* Employ a unified motif for each of the City Center Mixed-Use districts. A separate motif is possible for the office campus, although a degree of compatibility should be maintained.
- *PS-8:* Select signage colors that contribute to legibility and design integrity. Too many colors used thoughtlessly can confuse the reader and negate the sign's message.
- *PS-9:* Use signage materials that are compatible with the surrounding environment.
- *PS-10:* Project signage should be brief with a succinct message. The fewer the words the more effective the sign.
- *PS-11:* Prohibit signage in corner/driveway sight clearance areas.

PROJECT SIGNAGE CHARACTERISTICS

PROJECT IDENTITY TYPOLOGY



Major Gateway Signage

Summary Description:

- Gateway signage clearly identifies the project at vehicular points of entry and provides information (or place identification).
- Signs are scaled to their surroundings and in accordance with their function as primarily vehicular-oriented project identifiers.
- Gateway signage coordinates with other gateway design elements, including landscape, hardscape, light displays and art.
- Signage enhances the project and establishes the overall character of the signage program.
- Gateway signage is generally limited to the name of project and its corresponding logo.
- Signs are constructed of high quality and durable materials that are weather and vandal resistant.







Minor Gateway Signage

Summary Description:

- Minor gateway signage identifies important project features, districts within the project or, in the case of office campuses, corporate identity.
- Minor gateway signage is smaller in scale than major gateway signage and placed at secondary points of entry or subdistrict entries.
- Signage enhances the project and/or district identity and establishes the overall character of the signage program.
- Minor gateway signage emphasizes bold, highly legible graphic design providing information to vehicles, pedestrians, and cyclists.
- Signs are constructed of high quality and durable materials that are weather and vandal resistant.





TRANSPORTATION / TRAFFIC CONTROL TYPOLOGY

Street Name (Private)*

Summary Description:

- Signs and typefaces are kept simple to augment readability for users.
- Light letters on a darker background work best for both day and night time use.
- Contrast of colors is especially important to the functionality and legibility of street name signage.









* Subject to City approval.

Parking Identity & Regulation

Summary Description:

- Signage is strategically placed to guide visitors toward their preferred destination.
- Parking identity signage engages users with bold, highly graphic signage design.
- Highly legible lettering is used to ensure clear and concise direction for vehicular traffic within parking garages. Typefaces are made simple to ensure user readability.
- Incorporate real time parking status information.









DIRECTIONAL / WAYFINDING TYPOLOGY

Vehicular Directional

Summary Description:

- Directionals are located at or near project entrances and key intersections and other locations that will serve to guide motorists to their destination, and positioned outside traffic sightline angles of safety. Signs direct motorists toward parking, and major destinations and attractions, including the larger tenants.
- Vehicular directionals are freestanding or mounted on light poles, and scaled to their surroundings for a comfortable read by slow moving vehicles and cyclists.
- Materials for vehicular directionals are similar to those making up other project signage and compatible with the overall signage program.
- Signs are visually attractive with highly legible text and graphics.







Pedestrian Directional

Summary Description:

- Directionals are located along major pedestrian circulation routes and other locations that will serve to guide the pedestrians toward public and/or guest services and amenities.
- Pedestrian directionals maintain pedestrian flows and sight lines.
- Signs are scaled to their surroundings for a comfortable read by persons-on-foot and bicycle.
- Directionals enhance project identity and maintain compatibility with the overall signage program at CityPlace.
- Signs are created from high quality and durable materials that are weather and vandal resistant.







EXHIBIT 7–1: VEHICULAR & PEDESTRIAN DIRECTIONALS - PARCELS 4 & 5*



** Exhibit is conceptual and subject to change.*

Wayfinding Directory

Summary Description:

- Directories are located within or near major pedestrian gathering spaces and key intersections subject to heavy pedestrian flow.
- Wayfinding directories present essential information needed to navigate the project.
- Directories are made from high quality durable materials, as these elements are exposed to the weather and will receive an especially high degree of contact with the public.
- Wayfinding directories and maps may also locate points of interests and essential services provided off-site.
- Information is presented in a clear and highly graphic manner, and locates project tenants, major destinations, and public and/or guest services.







Information Kiosk

Summary Description:

- Kiosks are situated to maintain pedestrian flows and preserve sight lines.
- Information kiosks present visitors with the essential information needed to navigate the project. Information is clear and highly graphic.
- Kiosks can also function as “community boards” that advertise upcoming events.







EXHIBIT 7–2: WAYFINDING DIRECTORIES & INFORMATION KIOSKS - PARCELS 4 & 5*



** Exhibit is conceptual and subject to change.*

7.3 TENANT SIGNAGE

Tenant signage quality will be measured through its compatibility with the building architecture, its level of integration with the storefront design, and the ability to clearly communicate.

TENANT SIGNAGE DESIGN INTENT

High quality, innovative, and expressive tenant signage will create a cohesive look and feel at CityPlace. A tenant's primary signage will consist of the name of the business and/or logo depicted on a wall sign, and will be designed to comfortably fit the building and storefront. Signage should reflect the character of the tenant and services provided, while clear and legible to passing pedestrian, bicycle and automotive traffic.

TENANT SIGNAGE DESIGN - STANDARDS

• TS-1 Locate and design tenant identity signs to complement the building architecture and storefront design.

• TS-2: Restrict tenant identification signs to the business name and/or simple logo.

• TS-3: Ensure that window signage and graphics augment and minimally obscure display areas, limiting such signage to 10-15 percent of the window area and preferably placed in the lower third of the window.

• TS-4: Office buildings and associated parking structures facing major roadways are allowed to have ID signage near the top of their buildings that is sufficiently scaled to be readable from adjacent arterial roads and freeway. Signage is limited to the corporate entity name and/or logo, and/or the name of a company that has purchased naming rights. There shall be only one sign per exposure, positioned to provide wayfinding clues for vehicles approaching from arterial roads.

• TS-5: Allow the ability for multiple office tenants to integrate their signage on facades and roof, subject to City review and approval as part of the DAP process.

TENANT SIGNAGE DESIGN - GUIDELINES

• TS-6 Use bold typefaces that are easy-to-read; for example letter and words should be spaced for heightened legibility. Crowding or excessive spacing of letter and words is generally discouraged, as are overly intricate type faces and symbols.

• TS-7: Tenant wall signs should be located on flat, unadorned surfaces. This is generally a panel or band above the storefront entrance, although alternative locations may be considered.

• TS-8: Coordinate sign placement with the arrangement of bays, windows, and other architectural features.

• TS-9: The overall size, materials and graphic composition of a tenant sign should be coordinated with architectural character of the project district and storefront design. Tenant signage will follow guidelines illustrated in the "Project Criteria" (part of the tenant lease). These criteria will vary in keeping with the character established for the various districts and will be detailed in the Development Area Plans that will be submitted for City approval.

• *TS-10: Encourage pedestrian-scaled projecting signs (overhead mounted, projecting blade signs, etc.) along pedestrian sidewalks and pathways.*

TENANT SIGNAGE CHARACTERISTICS

Free-Standing Signage

Summary Description:

- Freestanding signage (signage affixed to the ground or connected to supports affixed to ground, and not affixed to a building) includes architectural details, quality materials, and colors of the associated buildings.
- Signage incorporates extremely durable sign materials that withstand exposure to the elements.
- Freestanding signage should be easily and comfortably read by both pedestrians and by vehicular traffic.

Building-Mounted Signage

Summary Description:

- Building-mounted signs are conceived as an integral part of the building façade, placed in accordance with façade rhythm, scale and proportion.
- Signs do not obscure architectural features such as vertical piers, trimwork, ornamental features, etc.

Storefront Signage

Summary Description:

- Storefront signage is integrated with the design of the building, coordinating with the architectural details and color scheme of the building.
- Storefront signs are placed to establish rhythm, scale, and proportion.
- Signs are considerate of nearby residential uses and have little or no impact on adjacent residential uses.

Supergraphic / Building Integrated Signage

Summary Description:

- Supergraphics are integrated with the building architecture, coordinating with the overall design.
- Large-scale painted or applied decorative art in bold colors and typically in geometric or typographic designs.
- May be permanent or temporary and used over walls or windows to create an illusion of expanded or altered space.

















7.4 SPONSORSHIP & ADVERTISING

Sponsorship and advertising will enhance the identity of the City Center and create an active core with a unique vibe at CityPlace, thereby serving the City's objective to create a vibrant mixed-use, urban core, creating a pedestrian friendly "live, work, and play" environment that will function as a well-defined center for the Santa Clara community.

SPONSORSHIP & ADVERTISING SIGNAGE DESIGN INTENT

The types of sponsorship and advertising signs used at CityPlace are based on levels of animation, and hours of operation. The proposed sponsorship and advertising signs will advertise businesses within CityPlace, or special events happening within the site. Buildings and plazas may be named after companies or individuals who have purchased naming rights. The signage may also include digital displays, reader boards and other graphics that may enhance the functions held within the City Center.

SPONSORSHIP & ADVERTISING SIGNAGE DESIGN STANDARDS / GUIDELINES

- *SA-1:* Increase contrast for a visual advantage. More contrast between foreground text and background color is appropriate.
- *SA-2:* Locate and design signs to complement the building architecture and storefront design.
- *SA-3:* Locate animated signs on flat, unadorned surfaces. This is generally a panel or band above the storefront entrance, although alternative locations may be considered.
- *SA-4:* Design digital signs as clean, simple, attractive, appropriate and brief messages.
- *SA-5:* Coordinate signage placement with the arrangement of bays, windows, and other architectural features.
- *SA-6:* Keep message content brief, include thoughtful design placement.
- *SA-7:* Ensure that signage and interactive technologies augment and minimally obscure display areas of storefronts.
- *SA-8:* Use multiple image slides as a series in order to communicate a subject.
- *SA-9:* Enhance communication by ensuring that each element (typography, color and image) has the intrinsic attributes that make it clear and legible.
- *SA-10:* Limit the number of words used for copy on each sign face.
- *SA-11:* Use color as a design element to clarify communication and create visual impact. A good strategy for digital signage is to use high-contrast color combinations but to avoid garish combinations.
- *SA-12:* Outdoor advertising must face inward into the City Center, except outdoor advertising may face outward toward Levi's Stadium on Tasman Drive.

SPONSORSHIP & ADVERTISING SIGNAGE CHARACTERISTICS

Animated Signage / Interactive Technologies

Summary Description:

- Signage contains images, parts or illumination which flash, change, move, stream, scroll, blink or otherwise incorporate motion.
- Signage incorporates extremely durable sign materials that withstand exposure to the elements.
- Animated signage shall be located internal to the project to avoid distraction and safety hazards to passing cars on roadways.
- Interactive technologies can include areas subject to projected images containing GOes Before Optics (GOBO) technology.
- Signs do not obscure architectural features such as vertical piers, trimwork, ornamental features, etc.
- Signage should be integrated into the design of buildings and spaces.

Light & Sound

Summary Description:

- Freestanding multi-sided structures may consist of animated and/or non-animated signs.
- Animated signs shall be allowed only in the City Center (Parcels 4 and 5), shall face the interior of the development only and shall not be visible from roadways outside the CityCenter, except they may face Levi's Stadium on Tasman Avenue.
- Includes architectural details, quality materials, and relates spatially to its surroundings.
- Light and sound towers are conceived as an integral part of the outdoor space, placed in accordance with façade rhythm, scale and proportion.
- Appropriate locations within the City Center to be determined as part of the Signage Master Plan.
- Sound shall be subject to and comply with SCCC 9.10.040.

Rooftop Signage

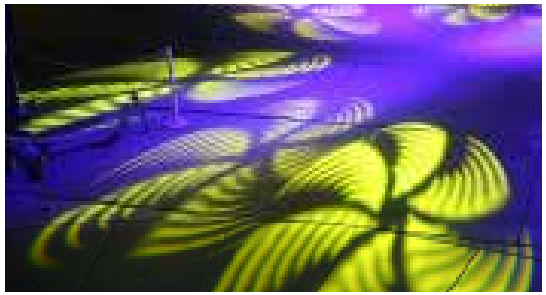
Summary Description:

- Rooftop signs identifying a structure are an important sponsorship opportunity for purchasers of naming rights.
- Signs that are applied or placed upon the roof surface, usually not visible from any adjacent public right-of-way.
- Signage is integrated with the design of the building, coordinating with the architectural details and color scheme of the building.
- Signs are considerate of nearby residential uses and have little or no impact on adjacent residential uses.













7.5 PUBLIC ART

Public art at CityPlace will offer a great opportunity to further enrich the environment. Art pieces may be used to highlight special locations such as gateways and public plazas, or simply enrich architectural and landscape details.

PUBLIC ART DESIGN INTENT

Public art will enhance the visual environment making a more memorable place, enhance wayfinding, reinforce the overall image and project identity, and even function as a conceptual link to disparate parts of the project. It is important to consider how the selected art form might serve as a local landmark, delineate outdoor space, add richness to the landscape, or create an expression of local history and culture through creative artwork. Suitable art forms range from sculptural art pieces that enliven a public plaza to artisan crafted details.

PUBLIC ART DESIGN GUIDELINES

- *CA-1:* Use civic art to highlight special locations, such as gateways, focal intersections, and important pedestrian gathering areas.
- *CA-2:* Incorporate art pieces that celebrate Santa Clara and the Silicon Valley's history and culture.
- *CA-3:* Allow for a broad range of expression, media and materials, while ensuring that the scale, material, form and content are appropriate to the immediate surroundings.
- *CA-4:* Make works of art visually and where appropriate physically accessible, generally encouraging a high degree of interaction with the art piece.
- *CA-5:* Explore opportunities to integrate artisan crafted landscape and building details.
- *CA-6:* Design permanent art pieces of durable, exterior grade materials, with consideration given to structural and surface integrity, assuring protection against vandalism, weathering, and excessive maintenance and repair.
- *CA-7:* Allow for temporary art pieces in addition to permanent works of art, potentially accommodating new or different modes of expression including banner programs.

PUBLIC ART DESIGN RECOMMENDATIONS

- *Custom Identity:* Explore opportunities to tastefully incorporate a project logo or similar graphic element as decorative sidewalk plaques or integral to on-site furnishing and landscape features, such as benches, trash receptacles, tree grates, etc.
- *Site Pageantry/Banners:* Colorful banner signs applied to light poles or building facades may advertise CityPlace and local events, and are especially appropriate for gateways and streets with retail frontages, where they will contribute to a festive environment. Banners are not intended for the display of tenant identity.

COMMUNITY ART TYPOLOGY



LEGEND

Community Art
CA-6: Permanent Art Pieces
CA-7: Temp/Changing Installations & Banner Programs







1. Sculptural Art







2. Light Art Installations







3.Intereactive Art







4. Public Art/Furniture

7.6 OUTDOOR LIGHTING

This section defines light pollution and how it relates to the CityPlace project. It assigns lighting character zones to the project site, offers general outdoor lighting guidelines, and reinforces the commitment CityPlace has to preserving the night sky.

WHAT IS LIGHT POLLUTION?

Light pollution is misdirected or obtrusive artificial light that is used in excess, usually in an outdoor environment. In recent years, in many parts of the globe, star filled nights have disappeared and have been replaced with a yellow haze due to excessive use of outdoor lighting. Artificial light pollution not only degrades the star-filled night sky, diminishing our connection with nature, but also disrupts ecosystems, interrupts birds migratory patterns (as discussed in the Bird Safety section), limits astronomical research, affects human circadian rhythms, and wastes abundant amounts of energy and of course money.

MODEL LIGHTING ORDINANCE

The IDA (International Dark-Sky Association) is a recognized authority on light pollution. The IDA and the IES (Illuminating Engineering Society) together have compiled a guide for environmentally responsible outdoor lighting for use in North America. Communities can take the Model Lighting Ordinance (MLO) adopt it and adapt it to their specific needs. Though Santa Clara has no ordinance in place to address outdoor lighting, the project is mindful of the concerns and lighting solutions set forth in the MLO. The MLO recommends limits for the amount of light in five different zones of lighting intensity, ranging from LZ0-LZ4. The California Energy Commission has designated CityPlace and the surrounding areas as LZ3, a moderately high ambient lighting zone. This area requires moderate lighting levels, given that this is what users are adapted to in the surrounding areas. The MLO also makes use of the "BUG" rating system (Backlight-Uplight-Glare), as a classification of outdoor lighting fixtures to ensure that only well-shielded fixtures meeting these standards are used. CityPlace recognizes these tools and will use them to aid in creating an outdoor lighting environment that is mindful of light pollution and sensitive to these concerns and the environment.

OUTDOOR LIGHTING DESIGN INTENT

The project's outdoor spaces range in size, location, and vary greatly in use, though all sidewalks, pedestrian areas, and parking areas shall meet minimum safety standards. The City Center Mixed-Use District (with retail emphasis) will have heavy pedestrian activity well into the evening, while the Office Campus pedestrian traffic will significantly diminish after office hours. An important aspect of outdoor lighting, as noted by the California Energy Commission, is to base the lighting power that is allowed on the brightness of surrounding conditions. The project's neighbor to the south, Levi's Stadium, establishes appropriate illumination levels for the intensity of pedestrian activity that occurs along Tasman Drive. That general character of illumination will carry through to the City Center Mixed-Use District along Tasman Drive and into the core of the district. Existing illumination characteristics at other project boundary conditions vary considerably, and project lighting levels will adjust to be compatible with their established character.

The various uses and hours of operation within the project site also require various lighting types and intensities. Due to the unique nature and topography of the site with sloped landscape borders on nearly all sides, the possibility of light trespass outside of the project boundary is nearly eliminated. The general intent at CityPlace is to make the outdoor environment safe and comfortable for pedestrians while being mindful of concerns pertaining to light pollution and only lighting what is necessary when it is necessary.

The general intentions for the use of artificial outdoor lighting includes the following:

- Allow reasonable uses of outdoor lighting for safety and enjoyment at night while preserving the ambiance of the night.
- Limit the degradation of the nighttime environment and the night sky.
- Minimize glare and obtrusive lighting by limiting outdoor lighting that is misdirected, excessive, or unnecessary.
- Conserve energy and resources employing LED lighting to the greatest extent possible.
- Help protect the natural environment from the damaging effects of night lighting.

PRACTICAL CONSIDERATIONS

Some common practices for outdoor lighting at CityPlace that should be considered include the following:

- Light only what needs to be lit when it needs to be lit. One only needs the right amount of light, in the right place, at the right time to ensure safety.
- Shield parking structure fixtures especially when structures front adjacent uses.
- Promote downward facing lighting, and consider shorter light standards to light ground level and avoid light loss to night sky.
- Focus on lighting sidewalks, not roadways.
- Employ motion sensor controlled lighting when appropriate to dim or turn off fixtures not required to meet code safety lighting levels.
- Incorporate curfews (i.e. turn lights off or dim automatically) after a certain hour when businesses close or traffic is minimal.
- Promote lighting that performs well under the "BUG" (Backlight-Uplight-Glare) rating system to limit light trespass and promote efficient use of exterior lighting.
- To the extent consistent with the normal and expected operations of the office, hotel, retail, food/beverage, entertainment and residential uses of the project, take appropriate measures to turn unnecessary lighting off at night, especially during bird migration season (February–May and August–November), including, to the extent feasible, the use of motion sensor lighting, automatic lighting shut-off mechanisms, and installation of downward facing exterior lighting.

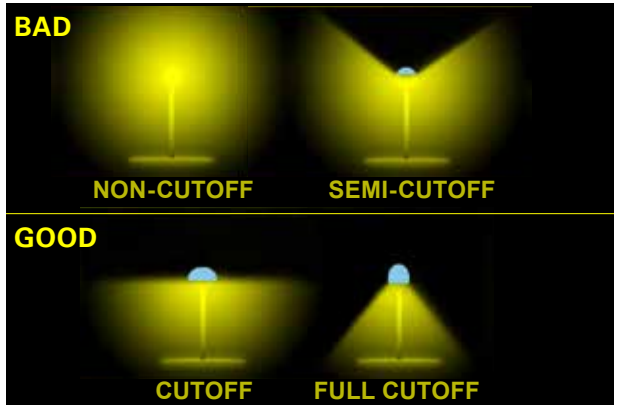
OUTDOOR LIGHTING CHARACTER ZONES

Lighting character zones as seen in the illustration will be established to allow for flexibility and customization of outdoor lighting within the diverse areas of the project site. Zones will range from low lighting within more natural landscape areas to environments with high activity levels and moderate lighting where pedestrians and a vibrant well-lit environment will be priority. Each lighting character zone has its recommendations for lighting best suited to that part of the project site.

Zone A: Low Lighting Natural Zone

Zone A, the low lighting natural zone generally contains open spaces in more passive areas with little pedestrian activity. Lighting in these areas may adversely affect flora and fauna and have an unfavorable affect on the character of the area, but is necessary in small quantities and lower intensities. These areas typically have limited nighttime activity. Most of the areas within this zone are perimeter landscape areas that require little lighting with the exception of some low ambient landscape lighting to build on the project character.

- Lighting may be used for safety and convenience but not necessarily continuously.
- After curfew most lighting should be extinguished or reduced significantly.
- Uplighting in this area should be very limited, if any.
- Use the lowest lighting levels possible in this zone, and shield fixtures to direct light downward.



Examples of good and bad fixture types


Satellite view of global light pollution


Effects of light pollution in nearly the same spot years later

Zone B: Moderate Activity Lighting Zone

Zone B, the moderate activity lighting zone tends to be occupied by commercial and/or office with limited evening activities. On-site recreation fields and outdoor uses that require more moderate levels of lighting are also prevalent in this zone. These areas will be for modest nighttime uses and lighting requirements, and will not require an overabundance of lighting, especially as the activity levels in these areas will be most intense during daylight hours.

- Outdoor lighting is used for safety and convenience.
- Office uses will minimize light spill and trespass from interior lighting through shades and/or curfew shut off times for interior lighting.
- Implement down lighting for building facades and landscape within this zone when practical.
- Parking structures within this zone should have shielded lighting.
- After curfew some lighting should be extinguished or reduced as activity levels decline.

Zone C: Moderate-High Activity Lighting Zone

Zone C, the moderate-high activity lighting zone will include a large portion of the City Center Mixed-Use District which will contain restaurants, shopping, entertainment, residential and office uses. Moderately high lighting levels will be necessary for proper retail functioning, and the creation of a dynamic mixed-use environment. Zone C will function as a transition zone between the moderate zone and the high activity zone, and will extend use of exterior lighting later in the evening to accommodate commercial activity and safety needs.

- Lighting is needed for safety, convenience, character and is uniform and/or continuous.
- Tree up lighting in this area is allowed in a limited amount.
- Animated signage is discouraged but may be considered on a case by case basis subject to City approval
- Curfew may be later in these areas and lighting can be reduced as activity levels decline.
- Parking structures within this zone should employ shielded exterior lighting.

Zone D: High Activity Lighting Zone

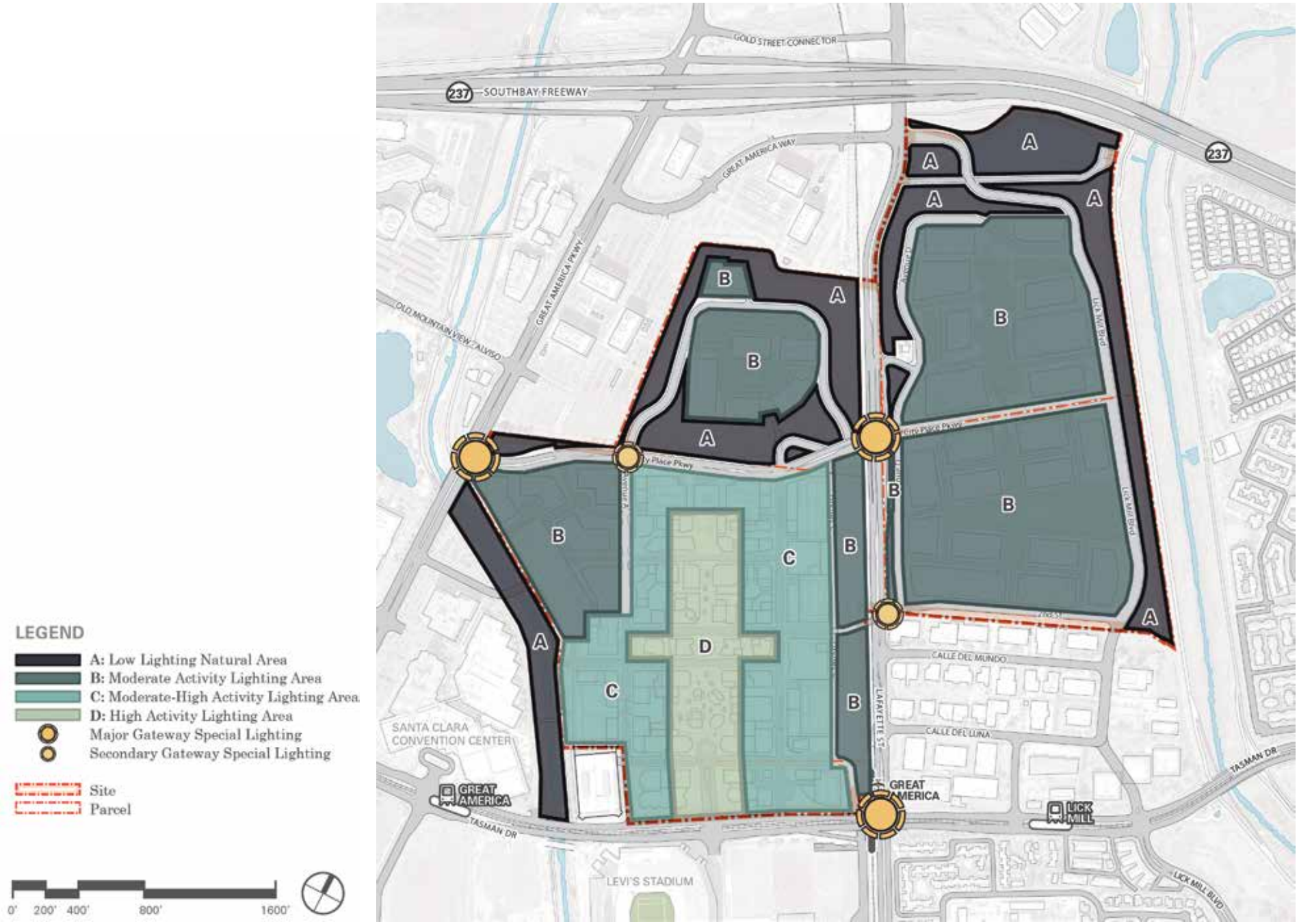
Zone D, the high activity lighting zone will be for the vibrant pedestrian spine located within the core of the City Center Mixed-Use District. This area will have the highest lighting levels throughout the project due to its mixed-use pedestrian environment, as well as the fact that this area will be a continuation of the elevated levels of pedestrian activity and lighting originating at the adjacent Levi's Stadium. High ambient lighting levels in this area will be critical to a safe, vibrant, and lively retail environment.

- Curfew is later in this area and lighting can be reduced as activity levels decline.
- Limited animated signage is allowed within this area, subject to City approval.
- Tower-mounted or building-mounted, aerial lighting that faces downward into the interior of this area or faces Levi's stadium on Tasman Drive is allowed for special occasions throughout the year.
- Tree uplighting in this area is allowed in a limited amount.
- Lighting is necessary for safety, convenience, character, and is uniform and/or continuous.

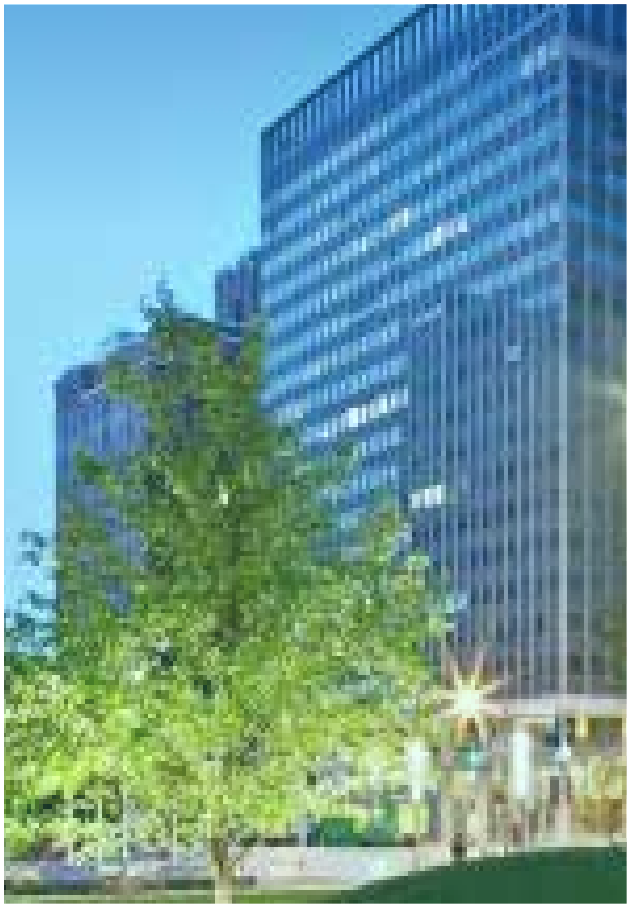
Gateways

All project gateways, regardless of the lighting character zone they fall within, will all have increased lighting levels. These main entryways serve to announce the project, and as such will require additional landscape, signage, and specialty lighting. Limited up lighting should be allowed in these unique gateways to the project. Increased lighting levels will be necessary to offer the appropriate impact upon arrival and sense of entry into this unique project.

EXHIBIT 7–3: OUTDOOR LIGHTING CHARACTER ZONES*



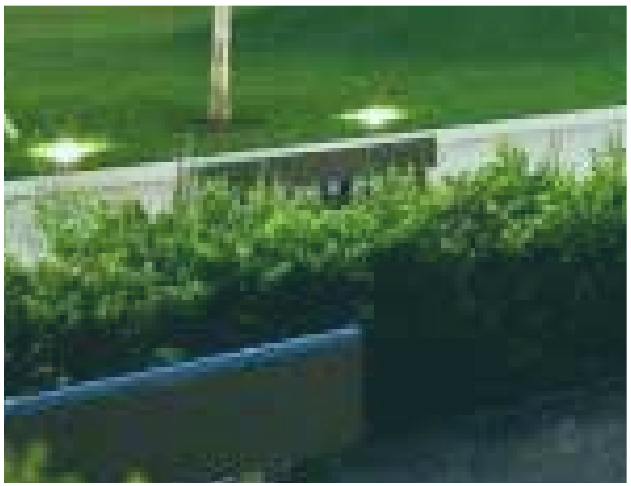
** Exhibit is conceptual and subject to change. The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*





CHAPTER 8

INFRASTRUCTURE OVERVIEW



8.1 INTRODUCTION

CityPlace will require new construction and reconstruction of substantial infrastructure. This infrastructure plan will provide overall guidance for the design and construction of infrastructure to support development of the project. It addresses both on-site and off-site roadway and utility infrastructure, and other related improvements.

OVERVIEW

This chapter presents a general description, layout, and preliminary standards and criteria for the project's infrastructure, including streets, domestic and fire water, recycled water, wastewater, stormwater drainage and management, and other infrastructure as appropriate, coordinated with the landfill operation and maintenance systems. The entitlement and approval processes, including the review and approval of Development Area Plans, will entail further design and development of the project's infrastructure. Final design of the infrastructure shall be consistent with this chapter, as well as the "Preliminary Infrastructure Master Plan" (prepared by Langan Treadwell Rollo, dated June 30, 2015), which contains additional specifications and details, including supporting figures and plans.

DEDICATION & EASEMENTS CONCEPT

The mapping, dedication and acceptance of streets and other infrastructure improvements will occur through the subdivision map process in accordance with the City's subdivision code and regulations. The majority of infrastructure described in this plan shall be constructed within the public right-of-way or dedicated easements to provide for access and maintenance of infrastructure facilities. Private roads may also be developed with private infrastructure and/or public infrastructure in dedicated easements. The eventual project layout within the project boundaries will ultimately determine the entity that owns, operates and maintains each infrastructure element.

INFRASTRUCTURE MASTER PLAN AND TECHNICAL MEMORANDA

Each infrastructure element is more fully described in the Infrastructure Master Plan (IMP) and the technical memoranda appended to the IMP These documents identify key design criteria and provide more detailed layouts of each infrastructure system. Each utility will be constructed according to the provisions of relevant City Standard Plans and Specifications per the City's standard design criteria, standard details, Rules and Regulations and specifications, except where deviations are expressly specified in the IMP and except where specifically approved by the City, and in accordance with the timing set forth in the Sensitivity Analysis prepared for each Development Area Plan.

CONFORMANCE WITH EIR AND ENTITLEMENTS

With the development of the design and associated documentation, consistency will be maintained with project mitigation measures required by the EIR and other entitlement documents. Compliance with project mitigation measures shall be the responsibility of the developer until acceptance of the infrastructure by the respective Agency or the City.

INFRASTRUCTURE PHASING

As each of the Project phases described in Section 2.3 above are built, the onsite infrastructure (e.g., road network, and wet and dry utility installations) necessary to support the development of the phase shall be constructed in the portion of the site where the phase under development. In some cases, it will be necessary to construct infrastructure in portions of the site where future phases would be developed to connect to existing infrastructure and provide a path that would serve the phase under development, as reflected in the MMRP.. Site earthwork may require moving existing fill material between parcels, as well as phasing the earthwork to accommodate the landfill operation systems reconstruction. The Post Closure Land Use Plan (PCLUP) and Post Closure Maintenance Plan documents the requirements for the landfill systems as part of the project.

8.2 SITE CONSTRAINTS

This section briefly describes the existing infrastructure pertaining to the project site. This includes landfill systems, rail infrastructure, stormwater drainage systems and more.

OVERVIEW

The site is proximate to a significant amount of existing infrastructure. The City owned and operated systems include sanitary sewer, stormwater drainage, water (domestic and fire), recycled water and landfill operation systems (gas extraction, leachate collection and monitoring) within and adjacent to the site. Utility providers and infrastructure owners with facilities near the site include Silicon Valley Power (SVP), Comcast, AT&T, Santa Clara Valley Water District (SCVWD), Pacific Gas & Electric (PG&E), Union Pacific Railroad (UPRR), Ameresco and Valley Transportation Authority (VTA).

EXISTING INFRASTRUCTURE

Each infrastructure system is briefly described below and as appropriate discussed in greater detail within the ensuing sections of this chapter.

- *Stormwater Drainage System* includes gravity underground conveyance piping, surface drainage channels, retention basin and two pump stations that discharge stormwater runoff to the east to the Guadalupe River and to the west to San Tomas Aquino Creek.
- *SCVWD and the San Francisco Hetch Hetchy system.*
- *Recycled Water Distribution System* is a source of water available to the City for irrigation and other purposes via the San Jose/Santa Clara Water Pollution Control Plant's South Bay Recycled Water facility.
- *Potable Water System.*
- *Wastewater (Sanitary Sewer) System* includes pump stations and both force and gravity sewers that convey sewage to the existing San Jose/Santa Clara Regional Wastewater Facility (Water Pollution Control Plant) located northeast of the site, adjacent to the San Francisco Bay.
- *Landfill Operation Systems* within Parcels 1, 2, 3 and 4 include a landfill gas extraction system and leachate collection system. The landfill gas is extracted via a system of vertical wells and horizontal pipes, and the gas is conveyed to a landfill gas-to-energy system operated by Ameresco, a private company under contract with the City. The leachate collection system (within Parcel 1 and Parcel 3 only) includes a central sump, laterals, risers and pump that discharge to the City sanitary sewer. Additionally, a groundwater monitoring well system and a landfill gas monitoring probe network are present at the site.
- *Rail Infrastructure:* The UPRR infrastructure includes a single track within a 50-ft right-of-way between the west side of Lafayette Street and the east sides of Parcel 3 and 4. There is an existing Station, Santa Clara – Great America Station to the east of Parcel 5 accessible via Stars & Stripes Drive. Additionally, the VTA operates a light rail on Tasman Drive south of Parcel 5 with stations located east and west of the project site.
- *Flood Control Infrastructure:* The SCVWD is responsible for the existing levees along the entire west side of Parcel 4 along Sam Tomas Aquino Creek and the entire east side of Parcel 1 and Parcel 2 along the Guadalupe River.
- *Electric & Telecommunications Systems:* The SVP electric system is Santa Clara's municipal electric utility, including both overhead and underground facilities. PG&E facilities include high-voltage overhead electric and buried gas services; AT&T and Comcast telecommunications are located in underground facilities.
- *Topology:* Existing topology characteristics are illustrated in *Exhibit 1-4: Site Boundaries & Topography.*

8.3 GEOTECHNICAL AND ENVIRONMENTAL CONSIDERATIONS

This section describes significant environmental considerations, most importantly, those having to do with the existing landfill.

OVERVIEW

Structural improvements developed on landfills must comply with specific construction standards set forth in the California Code of Regulations (CCR), Title 27, §21190. Planning documents, design, and construction of these improvements will need to be submitted as part of the Post-Closure Land Use Plan, Closure Plan and Post-Closure Maintenance Plan, and associated regulatory submittals to the County Local Enforcement Agency (LEA), CalRecycle, and the Regional Water Quality Control Board (RWQCB). Title 27 requires that post-closure construction on the site maintain the integrity of the landfill, including any existing final cover, drainage and erosion control systems, and gas monitoring and control systems. Modifications to these systems must be designed to be protective of public health and safety and the environment. Other post-closure land use requirements will include monitoring and ventilating landfill gases beneath proposed buildings and installing improvements designed to keep moisture from penetrating into the landfill materials.

LANDFILL SUMMARY DESCRIPTION

The closed former landfill was the result of several episodes of filling on the separate parcels. The landfill on Parcel 4 operated between the 1960s and 1970s; landfill operations at the other parcels took place from the late 1970s through early 1990s. Current research indicates that the lower portion of refuse was placed by excavating slots (drag technique) into the native soil and backfilling the slots with refuse. The topography indicates that soil embankments were constructed around the waste units and that refuse continued to be placed, which created large mounds above current street elevations. On the basis of the available subsurface information, the refuse on Parcels 1 and 3 ranges from about 40-ft to 80-ft thick; and on Parcels 2 and 4, the thickness of refuse ranges from about 20-to 50-ft. The area of the refuse is approximately 136 acres within the four Parcels. The refuse is underlain by alluvial deposits consisting predominately of clay and sandy clay layers with occasional interbedded layers of sand and silt. Groundwater table elevations are generally in or within 10-ft of the bottom portion of the waste unit based on data from the groundwater monitoring program, and from groundwater levels observed in recently drilled borings.

8.4 SITE GRADING & STORMWATER MANAGEMENT

This section briefly describes site grading, the important impacts the landfill has on grading, as well as stormwater management.

SITE GRADING

The existing site topography varies significantly, with low elevations near sea level and high elevations above 65 feet North American Vertical Datum of 1988 (NAVD 88). This large range in elevation is a result of the placement of the underlying refuse discussed in Section 8.3 above. In order to accommodate the planned development, significant earth moving will be required to provide for safe and accessible access to the proposed facilities on each of the five parcels.

Due to the underlying refuse and the on-going settlement, the final site grading design will be a complex exercise. It is preferable to avoid cutting into the refuse for reasons such as cost, air quality, health and safety and financial cost. Additionally, because the refuse has very low compressive strength, adding fill to the site will surcharge the weak refuse and potentially result in additional settlement. These constraints combined with the need to respect the continuity and integrity of the landfill cap (clay soil layer) result in strict grading criteria and the development of detailed methods that will focus on minimizing the disturbance required to grade the site. As the site grading plan is developed and site improvements plans are prepared, interaction with the City and Local Enforcement Agency (LEA) will be required. The Grading and Site Access Technical Memorandum attached to the IMP shows a preliminary grading scheme for the project which includes general pad elevations and access road grading for the development.

Finished grading elevations will be set following verification of landfill cap profile and cut/fill calculations associated with establishing the various development pads. At property lines, stormwater drainage patterns will be maintained so to not increase flow and adjacent grades will be maintained at the existing Tasman Parking Structure.

STORMWATER MANAGEMENT

Site drainage is also complicated by the underlying refuse. The addition of water to the refuse can result in the production of toxic leachate, and can also contribute to settlement by further surcharging the already weak refuse. Due to these factors, infiltration of stormwater runoff is not feasible on the majority of the site. This non-infiltration based design will be discussed with the City, LEA, RWQCB and Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) to ensure that mechanisms are in-place to exclude the site from any stormwater infiltration requirements.

Because the project will construct or replace more than 10,000 square feet of impervious surface area on the project site, the project must comply with the City of Santa Clara Stormwater C.3 provision requirements and the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) permit. In order to meet C.3 and NPDES requirements, the project will include low impact development (LID) measures to reduce runoff pollutant loads including bio-retention (with underdrain), flow-through planters, tree wells with media filter, infiltration trenches (with underdrain), landscaped open space, catch basin filters, green roofs, rainwater harvesting and on-site re-use and green streets (bioretention / permeable pavements with underdrain).

The proposed treatment facilities will be numerically sized in accordance with City requirements to ensure that they will have sufficient capacity to treat the requisite volume of stormwater runoff entering the storm drainage system. Full trash capture devices, as well as other source control measures, will also be included. In addition, the project will be required to record a Stormwater Treatment Measures Inspection and Maintenance Agreement to ensure continued maintenance and performance of the post-construction measures.

Both the San Tomas Aquino Creek and Guadalupe River are contained within FEMA certified levees adjacent to the site. As such, no increase in the 100 year flood elevation as a result of the development will be permitted without recertifying the levees. The on-site stormwater management and treatment features for each parcel will be dynamically modeled during final design, including buildings, parking garages, site, landscape, etc. The results of the modeling will be used to compare the proposed "permanent" storm-water peak flows and volumes for the project with the existing peak flows and show compliance with the jurisdictional regulations. A separate Stormwater Management Report inclusive of detailed hydrologic and hydraulics calculations, analysis and conclusions will be prepared to document the final design of the stormwater management and storm drain system and to obtain the requisite approvals.

TABLE 8–1: EARTHWORK ESTIMATES

Parcel	Total Earthwork (CY)
1	410,000
2	220,000
3	250,000
4	500,000
5	350,000

* *Specific compliance will be addressed in the DAP.*

8.5 PROJECT ACCESS

This section discusses project access both regionally and locally, and offers a detailed description of project access points broken down by parcel.

OVERVIEW

The site is currently serviced by two existing freeways. US Route 101 is an eight lane divided freeway running north-south up the Peninsula, along the west side of the San Francisco Bay. It is a major commuter route providing access from San Francisco to South San Jose. US 101 passes to the south of the development site and is accessed by traveling on Great America Parkway or Lafayette Street and Montague Expressway. State Route 237 is a six lane divided highway running east-west from Milpitas to Mountain View, connecting the east and west sides of the Silicon Valley. SR 237 passes to the north of the site, with access from Lafayette Street and the Gold Street Connector or Great America Parkway. Currently there are no plans to expand either US 101 or SR 237.

Local access to the project is provided by three arterial streets. Great America Parkway is a north-south six lane divided major arterial to the west side of the development. There is a short frontage along Parcel 4, measuring approximately 350 feet. Great America Parkway provides primary access to US 101 and SR 237. Tasman Drive is an east-west six lane divided arterial to the south of the project and includes a center-running VTA owned and operated light rail. Lafayette Street is a north-south four lane arterial between the east and west side parcels of the development and includes the UPRR right-of-way along its west side. Lafayette Street provides access to US 101 by way of Montague Expressway and SR 237 by way of the Gold Street Connector. Great America Parkway and Tasman Drive are currently developed with no apparent opportunities for expansion. Lafayette Street has limited opportunity for expansion on the east side and no opportunity for west expansion.

It is a development goal to make CityPlace both bike and pedestrian friendly. Currently, north-south bicycle access to the site is provided by dedicated bicycle trails along San Tomas Aquino Creek to the west of the site and the Guadalupe River Trail. There are also on-street bike lanes along Great America Parkway, as well as bike lanes on Lafayette Street that extend to Calle de Luna just to the south of the development. Bike access to the project in the east-west direction is more limited. Bike lanes currently exist on Tasman Drive, but terminate near Lick Mill Boulevard east of the site. To the west, there are on-street bike lanes along Old Mountain View-Alviso Road, which provide access to residential neighborhoods in northern Sunnyvale.

The following is intended to briefly summarize the current conditions and address how these conditions and the planned development impact infrastructure planning for the project as analysed in the CityPlace EIR.

Timing of off-site infrastructure is addressed in the MMRP. On-site improvements will be addressed at the time of DAP submittals.

SITE ACCESS

Site access points and variant options are illustrated in Exhibits: 3-12, 3-13 and 3-14. The two access points currently serving the existing City owned Tasman Parking Structure will be maintained by creation of a new access point connecting to the relocated Stars and Stripes Drive north of the building (replacing the current lower level second access); the existing lower entrance may connect to the CityPlace below podium parking planned for the Tasman Blocks (Parcel 5).

STREETS & INTERSECTIONS

A new on-site street network comprised of both public and private streets, and improvements to some of the off-site roadways and intersections outside of the project boundary will be constructed. Based upon the current concept plan and transportation analysis, the parcel access summary is as follows:

The street and intersection improvements for site access will require a detailed engineering evaluation with respect to lane configuration, dimensions, signalization, etc. (access variants illustrated in *Exhibits 3-13* and *3-14*). The following summarizes the current planning for the existing, new and modified intersections for the project. Additional design information is provided in the Grading and Site Access Technical Memorandum attached to the IMP. Public and Private Street designations are depicted in *Exhibit 3-11: Public and Private Streets*, which documents preliminary concepts developed with the City of Santa Clara Department of Public Works.

Parcel 1

- One access point from Lafayette Street with a minimum of two entrance and three exit lanes.
- A new "Urban Interchange" which involves raising a portion of Lafayette Street and a new bridge over the UPRR Railroad providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- As an alternate to the "Urban Interchange"; "T" intersections may be introduced on Lafayette Street in two locations to allow "Jug Handle" type access approaches, with bridges over Lafayette Street connecting the eastern and western parcels. One access point from the north at Great America Way.
- Multiple connection points to Parcel 2 located along shared parcel line with a minimum one lane in each direction.

Parcel 2

- One access point from Lafayette Street with a minimum of two entrance and three exit lanes.
- A new "Urban Interchange" which involves raising Lafayette Street and a new bridge over the UP Railroad providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- As an alternate to the "Urban Interchange"; "T" intersections may be introduced on Lafayette Street in two locations to allow "Jug Handle" type access approaches, with bridges over Lafayette Street connecting the eastern and western parcels.
- One access point from the south via the Lick Mill Boulevard extension.
- One connection to Parcel 4 via a new bridge over Lafayette Street.
- Multiple connection points to Parcel 1 located along shared parcel line with a minimum one lane in each direction.

Parcel 3

- Two connection points to Parcel 4 with a minimum two lanes in each direction.

Parcel 4

- A new "Urban Interchange" which involves raising a portion of Lafayette Street and a new bridge over the UPRR providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- As an alternate to the "Urban Interchange"; "T" intersections may be introduced on Lafayette Street in two locations to allow "Jug Handle" type access approaches, with bridges over Lafayette Street connecting the eastern and western parcels. One access point from Great America Parkway just north of Great America Parkway/San Tomas Aquino Creek crossing with a minimum two entrance and three exit lanes.

TABLE 8–2: ACCESS SUMMARY

Parcel	No. of Access Lanes In	No. of Access Lanes Out
1	4	4
2	4	4
3	2	2
4	9	10
5	4	4

- Supplemental access point from Great America Parkway through the existing convention center property via a new bridge over the San Tomas Aquino Creek or via access through the Santa Clara Gateway office park.

- Three access points from Stars & Stripes Drive via Avenue A, Avenue B and Avenue C with a minimum three entrance and three exit lanes.

Parcel 5

- Main access from the Tasman Drive / Centennial Boulevard intersection to Stars & Stripes Drive and site.

- Supplemental right-in/right-out access to Tasman Drive via new Avenue A and Avenue C. With VTA concurrence on crossing of tracks, outbound left turns to westbound Tasman Drive may be incorporated from Avenue C.

- Supplemental access from a new Tasman Drive (eastbound) slip ramp to lower Stars & Stripes Drive or Great America Station Transit Plaza, which will also provide access to the below podium parking garage.

The Lafayette Street "Urban Interchange" has numerous design and regulatory permitting challenges. There are overhead PG&E transmission lines on both sides of Lafayette Street and overhead SVP electric on the east side of Lafayette Street. The interchange will have to provide the proper clearances (or necessary relocation or undergrounding) from these utilities. It will also have to meet minimum vertical clearance requirements above the UPRR on the west side of Lafayette Street and obtain PG&E approval for encroachment through the existing easement.

The access point at Great America Parkway will be the marquee entrance to the development, and will be designed to set the atmosphere for the entire development. However, there are challenges in the layout and design of this access point. As proposed, the access road from Lafayette Street to Great America Parkway follows the northern parcel line for Parcel 4, which meets Great America Parkway at a skew. Per the Caltrans Highway Design Manual, Section 403.3, the minimum interior angle must be 75°, which will affect the approach of the access road. Because the Parcel 4 frontage on Great America Parkway is limited, the location of the access point is relatively fixed. This location is approximately 200-ft from the existing bridge crossing San Tomas Aquino Creek, which means that any improvements to Great America Parkway must conform to the existing bridge. There is also a potential sight distance issue as the intersection is approached from the south due to the existing vertical curve on the San Tomas Aquino bridge structure. Approximately 550-ft north of the access point is the intersection of Great America Parkway and Old Mountain View-Alviso Road. The Grading and Site Access Technical Memorandum attached to the IMP shows the concept site access locations for each Parcel.

8.6 STORMWATER DRAINAGE

This section briefly describes stormwater drainage, including current systems and proposed future infrastructure.

OVERVIEW

The San Tomas Aquino Creek watershed covers an area of approximately 45 square miles. San Tomas Creek originates in the forested foothills of the Santa Cruz Mountains flowing in a northern direction through the cities of Campbell and Santa Clara, into the Guadalupe Slough, and finally into the Lower South San Francisco Bay. The major tributaries to San Tomas Aquino Creek include Saratoga, Wildcat, Smith and Vasona Creeks. Most of the San Tomas Aquino watershed is developed as single and multi-family residential neighborhoods, with additional areas developed for commercial and industrial uses. The majority of the San Tomas Aquino Creek channel has been modified and lined with concrete (from the Smith Creek confluence in the upper reaches downstream to Highway 101).

The Guadalupe River watershed covers an area of approximately 171 square miles. The headwaters drain from the eastern Santa Cruz Mountains near the summit of Loma Prieta in heavily forested unincorporated county land with pockets of low-density residential developments. The Guadalupe River actually begins on the Valley floor at the confluence of Alamitos Creek and Guadalupe Creek, just downstream of Coleman Road in San Jose. From there it flows north, approximately 14 miles until it reaches the Lower South San Francisco Bay via the Alviso Slough. The upper watershed is characterized by heavily forested areas with pockets of scattered residential areas. Residential density gradually increases to high density on the valley floor. Commercial development is focused along major surface streets. Industrial developments are located closer to the Bay, primarily downstream of the El Camino Real crossing. Six major reservoirs exist in the watershed: Calero Reservoir on Calero Creek, Guadalupe Reservoir on Guadalupe Creek, Almaden Reservoir on Alamitos Creek, Vasona Reservoir, Lexington Reservoir, and Lake Elsman on Los Gatos Creek.

The climate of the City of Santa Clara is characterized as dry-summer subtropical (often referred to as Mediterranean), with cool wet winters and relatively warmer dry summers. The mean annual precipitation in the vicinity of Santa Clara is approximately 15 inches (95 percent of which falls between October and April) per the 2007 Santa Clara County Drainage Manual (SCCDM). This value is typical of Santa Clara County east of the coastal range. It is important to note that the site can be subject to a wide range of annual precipitation.

Due to the nature of the existing topography and drainage infrastructure, the five parcels along with the tributary off-site areas have been divided into four distinct sub-watersheds: San Tomas, East Basin, Eastside Channel and Basin Direct. Each watershed, the existing stormwater drainage system, and the proposed infrastructure improvements are described in detail in the Stormwater Technical Memorandum attached to the IMP.

EXISTING SYSTEMS

The existing City owned and operated drainage system includes pump stations, retention basins, open drainage channels, underground conveyance piping and appurtenant drainage structures. The on-site drainage system is made up of an intricate corrugated poly-pipe network and inlet structures. The off-site drainage systems that convey the stormwater runoff from the project to the discharge locations are shown on the City's Storm Drain System Information Maps.

Parcel 1, 2, 3 and about 45 percent of Parcel 4 are tributary to the Guadalupe River. The stormwater runoff from these parcels is collected in the Eastside Retention Basin, which has a surface area of approximately 5.3 acres and had a 1972 design storage capacity (retention volume) of 30 acre/feet, and discharged to the Guadalupe River via the Eastside Pump Station. The basin also collects runoff from off-site areas to the south and west of the site. The Basin and Pump Station are operated and maintained by the City. The remainder of Parcel 4 and Parcel 5 are tributary to the San Tomas Aquino Creek. The surface water runoff is discharged to the Creek via two existing gravity outfalls (12 inch diameter) and the Golf Course Club House Storm Drain Pump Station and outfall (30 inch diameter).

The Eastside Pump Station, originally constructed in 1973, was last upgraded in 2005 and has a design capacity of 50,000 gallons per minute (gpm). There are approximately 524 acres of the City tributary that flows to this pump station, which includes about 180 acres (34 percent of watershed) from the project. The City prepared a Hydrologic Investigation for the Eastside Pump Station Report in 2000. This Report concluded that the existing pumps had sufficient capacity to prevent the 100-year runoff from ponding in Lafayette Street. However, future pump upgrades were identified as a possibility under worst case scenario conditions.

The Eastside Drainage Channel was constructed in 1971. The City prepared an Initial Study in 2010 for the Eastside Retention Basin Drainage Swale Vegetation Clearing Project. The project proposed to clear vegetation within the drainage channel and establish a recurring maintenance program for these drainage facilities. As of 2016, the construction project has not been initiated.

The Golf Course Pump Station was originally constructed in 1987 and has a design capacity of 11,100 gpm. There is approximately 65.8 acres tributary to this pump station including about 43.6 acres from Parcel 4 (66 percent of area), all 8.0 acres of Parcel 5 and 14.2 acres from the public right-of-way including Stars & Stripes Drive, Tasman Drive and the City parking garage. The system utilizes the depressed area on Parcel 4 within the golf course driving range for detention and includes submersible pumps and an outfall to the San Tomas Aquino Creek.

PROPOSED INFRASTRUCTURE

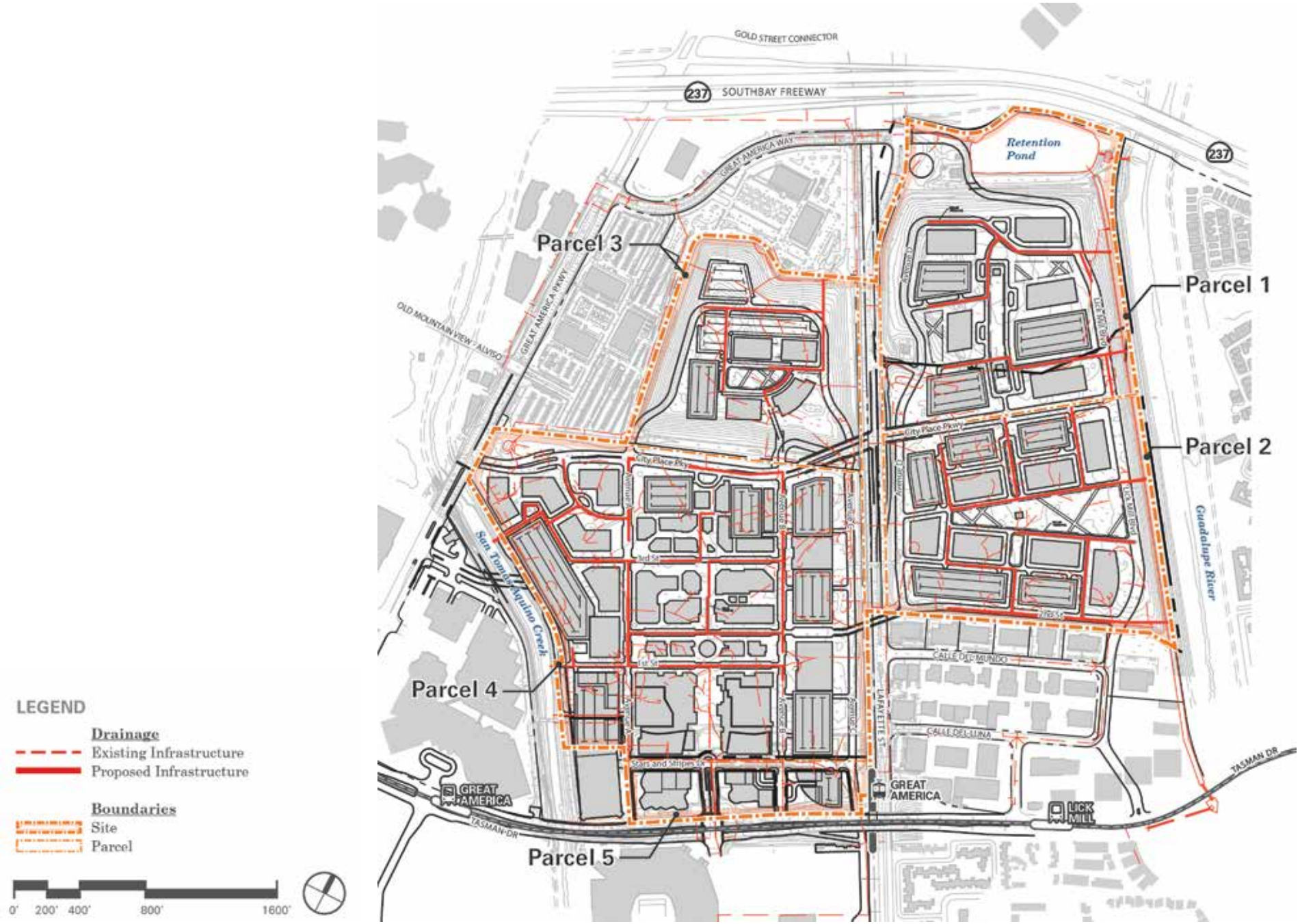
The storm drainage system for the project will be an underground gravity network of pipes, catch basin, manholes, water quality treatment measures and other appurtenances (as illustrated in *Exhibit 8-1: Storm Drain*). The building drainage will be via internal systems piped directly to the storm drains. A complete storm drain study for the 10-year and 100-year storm events prior to grading permit issuance will be prepared and submitted for review and approval by the City for each Development Area Plan. For final design, the public underground piped storm drain conveyance system will be capable of conveying the 10-year peak runoff as well as safely convey the 100-year event peak flows from the site via a combination of the piped system and surface conveyance. Public streets shall be designed such that the 100-year event flow remains within the roadway limits and not extend into private property.

The stormwater runoff from Parcels 1, 2 and 3 will discharge to the Eastside Retention Basin and be pumped to the Guadalupe River via the existing Eastside Pump Station. From Parcels 1 and 2, there will be multiple new outfalls from the site to the existing Eastside Drainage Channel. Minor modifications will be required to accommodate the new outfalls into the existing Eastside Drainage Channel. From Parcel 3, the existing drainage infrastructure located north of the parcel and west of the UPRR will be utilized. An option to utilize the existing infrastructure to the west of the parcel in the adjacent Gateway property may also be explored. The preliminary evaluation identified that a portion of the existing off-site system may need to be upsized to accommodate Parcel 3. However, these upgrades may not be required if enough of the stormwater on Parcel 3 is collected and re-used or routed to the existing drainage area between Parcel 3 and 4.

The stormwater runoff from Parcel 4 and Parcel 5 will discharge to the San Tomas Aquino Creek via three new stormwater outfalls. The invert of the outfalls will be set above the bottom of the Creek at a final elevation to be coordinated with the SCVWD to ensure the location is above sediment levels within the Creek. The Golf Course Pump Station will need to be modified,or based on the final design may be abandoned and removed, as the project will collect and convey stormwater runoff at higher elevations obviating the need for pumping.

As previously stated, the goal for the final stormwater management design will be to reduce the proposed peak flows to existing peak flow levels through the incorporation of sustainable stormwater measures. During final design, the extent of stormwater management measures such as LID, stormwater treatment BMPs, rainfall harvesting and re-use within the project will be determined.

EXHIBIT 8–1: STORM DRAIN



8.7 POTABLE WATER

This section briefly describes potable water systems, including current and proposed future infrastructure, in addition to estimated future water demands for CityPlace.

EXISTING SYSTEM

The water system in the City of Santa Clara is operated and maintained by the City of Santa Clara Water and Sewer Utility. This system is supplied with potable water from three main sources; the Santa Clara Valley Water District (the "SCVWD"), the San Francisco Public Utility Commission (the "SFPUC Hetch Hetchy"), and 27 groundwater wells operated by the Water and Sewer Utility. The potable water supply is augmented with recycled water from South Bay Water Recycling. This recycled water is not permitted for potable use, but it can be used for irrigation, toilet flushing and approved industrial uses.

The existing domestic water system near the site is provided on the City of Santa Clara Water Base Maps W93 – W115. There is a network of water mains around all four sides of Parcels 3, 4 and 5. This network is also located along the west and south sides of the Parcels 1 and 2.

PROPOSED INFRASTRUCTURE

Parcels 1 and 2 will be served by the existing water main in Lafayette Street. Parcel 3 will be served by the same water main in Lafayette Street, a stubbed main beneath the UPRR tracks to the east of Parcel 3. Parcels 4 and 5 will be served by the existing water mains in Great America Parkway, Stars & Stripes Drive, Centennial Boulevard and Tasman Drive.

Each site will include a combined domestic and fire water system "looped" network with a minimum two points of connection to the existing system. The Water Technical Memorandum attached to the IMP shows a preliminary layout of the water system, including possible connection points. Due to the height of some proposed buildings, it may be necessary to include booster pumps in the looped system to maintain water pressure for fire flows. Location of these pumps either within or external to the buildings will be evaluated. Connections to the public system will be provided by the City of Santa Clara Water Utility. Each connection to the existing public water system will require a meter and backflow preventer to keep water from flowing from the project back into the public system.

California Code of Regulations, 22CCR§64572.(f) states that new water mains shall not be installed within 100-ft of the nearest edge of any sanitary landfill, wastewater disposal pond, etc. The City is seeking a waiver from this requirement. Specific water utility materials, methods of construction, locations of appurtenances such as valves, meters, backflow devices, etc. must be addressed and approved by the City. Some sections of the water system on Parcel 4 may need to be private due to the inclusion of the structural platform and site design features.

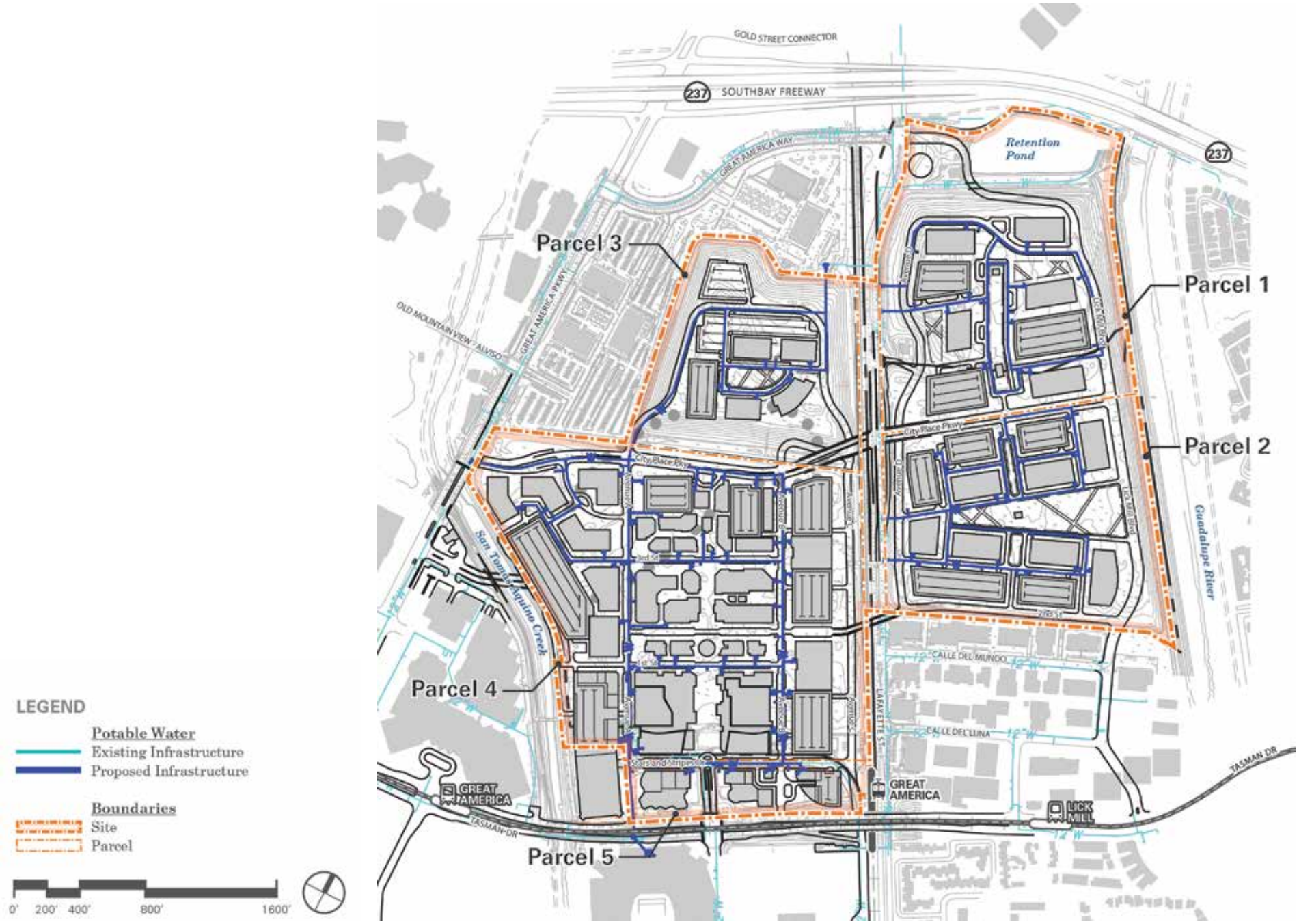
Based upon the current concept plan, the estimated water demand per Parcel is as shown in *Table 8-3: Estimated Water Demand*. As the design is finalized, these estimates will be refined and used to design a system which meets the needs and phasing of the project. Additional design information is provided in the Water Technical Memorandum attached to the IMP.

Implementation of the water system as currently designed will likely require some off-site improvements to the existing utility systems. The connection point to the northeast of Parcel 3 is a stubbed asbestos cement water main that was installed in 1970 and later abandoned. It may not be in an acceptable condition to serve the project. Also, a considerable amount of fill may be added to Stars & Stripes Drive. Previous City studies indicate that this will require the existing utilities in Stars & Stripes to

TABLE 8–3: ESTIMATED WATER DEMAND

Parcel	Potential Development Area (gsf)	Water Demand(gpd) Scheme A	Water Demand(gpd) Scheme B
1	1,200,000	232,064	232,064
2	2,160,000	401,014	388,189
3	720,000	172,241	172,241
4	4,259,400	692,366	714,406
5	825,000	208,039	208,039

EXHIBIT 8–2: POTABLE WATER



be raised. The City also noted approximately 2,000-ft of domestic water mains that may need to be upsized. Specifically, these include the 8-inch asbestos cement main in Great America Parkway, the 8-inch asbestos cement main in Lafayette Street, and parts of the loop in Calle de Luna and Calle del Mundo. An extension of the existing water main in Tasman Drive may also be necessary. More study will be required to determine if these sections or others will need to be upsized to meet the water demand of the projectand will occur with each Development Area Plan.

City standards that govern development shall be those current/approved at the time of DAP approval. All water utilities shall be designed to comply with the City's design criteria and standards.

Per City Water Department the following water utility horizontal clearances are required:

- 12" of vertical clearance at water service crossing with other utilities
- 10' of horizontal clearances between water and sanitary sewer utilities
- 8' of horizontal clearances between water and storm drain utilities
- 5' of horizontal clearances between fire and other water utilities
- 5' of horizontal clearances between water and gas utilities

8.8 RECYCLED WATER

This section discusses recycled water as it relates to CityPlace, including existing and proposed infrastructure.

EXISTING DISTRIBUTION

The existing recycled water distribution system near the site is provided on the City of Santa Clara Water Base Maps RCW93 – RCW115. There is a network of recycled water mains along the north, east and west sides of Parcel 1, the east and south side of Parcel 2, and between Parcel 3 and Parcel 4.

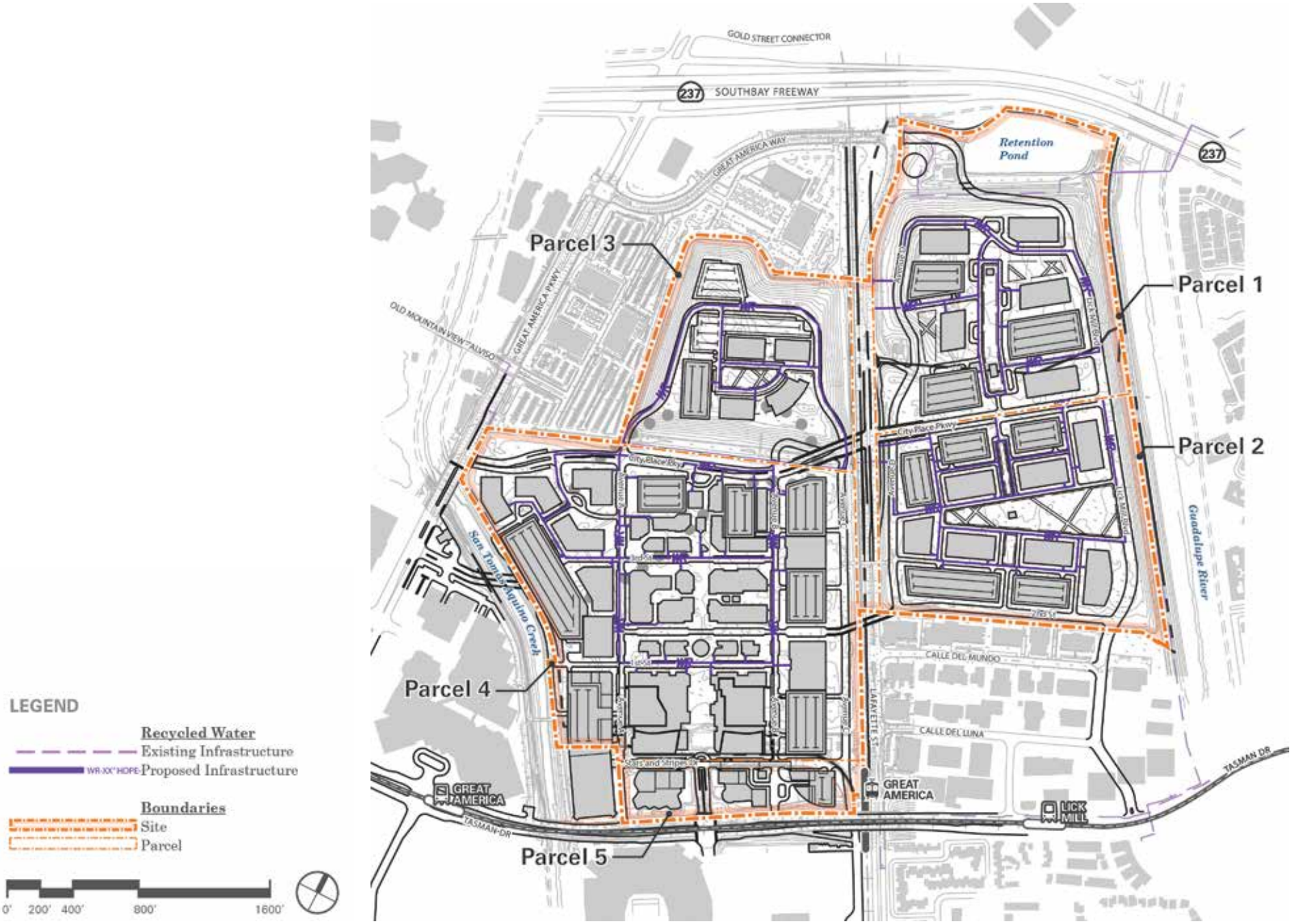
Recycled water is supplied to the site from the South Bay Water Recycling Program. It is conveyed from the plant to the northeast corner of Parcel 1 by a 16-inch plastic pipe. This pipe travels beneath State Route 237 then crosses the Guadalupe River. On the west bank of the Guadalupe River the recycled water main splits. One 12-inch Yelomine (plastic) pipe is located along the east side of Parcel 1 and Parcel 2 until it reaches Tasman Drive. It then turns west and mixes with a 30-inch steel recycled water main located along Tasman Drive before crossing this main and continuing in Lick Mill Boulevard. The second branch of the recycled water system is a 16-inch plastic main along the north side of Parcel 1. At Lafayette Street it turns to the south and travels approximately 1,500-ft, passing through a reducer to become a 12-inch plastic pipe. At the boundary between Parcel 3 and Parcel 4 the main turns west and travels through a 30-ft wide Recycled Water and Sanitary Sewer easement to Great America Parkway. At Great America Parkway, the main turns north before continuing west along Old Mountain View – Alviso Road. The City of Santa Clara Water Utility estimates pressure in the recycled water system to be between 80 and 90 psi in the vicinity of the site.

PROPOSED INFRASTRUCTURE

The recycled water system for each parcel will have two points of connection to maintain recycled water service. For both Parcels 1 and 2, the recycled water distribution will include one point of connection to the existing recycled water main in Lafayette Street and one point of connection to the recycled water main along the eastern edge of Parcels 1 and 2. For Parcels 3 and 4, the recycled water distribution will include two points of connection to the existing recycled water main located in the easement between Parcel 3 and Parcel 4. Parcel 5 will connect to the new infrastructure in Parcel 4.

As the design of the project progresses, the use of recycled water will be evaluated. The recycled water system can be used to supply non-potable water for different uses such as irrigation, HVAC equipment (cooling tower make-up), and toilet flushing. As these systems are designed, the entire water balance (domestic source, recycled source, reuse source) can be developed. Each connection for each use will require a separate meter as well as City and State approval via an independent recycled water permitting process. Additional design information is provided in the Water Technical Memorandum attached to the IMP.

EXHIBIT 8–3: RECYCLED WATER



8.9 WASTEWATER

This section briefly describes wastewater systems, including current and proposed future infrastructure, in addition to estimated future sewage generation for CityPlace.

EXISTING SYSTEM

The existing wastewater collection system for the City of Santa Clara includes a series of gravity trunk sewers, pump stations and sanitary force mains. The system conveys the wastewater to the existing San Jose/Santa Clara Regional Wastewater Facility (RWF) located approximately 2 miles northeast of the site. The site is located at the downstream end of the piped collection system. From Great America Parkway on the west side of the project, two main sewers are located between Parcel 3 and Parcel 4. The northernmost gravity trunk sewer is a 33-inch reinforced concrete pipe (RCP), and the southernmost is a 42-inch RCP. Within Lafayette Street there is a 36-inch gravity trunk sewer. These three sewers join in Lafayette Street into two 42-inch RCP's and continue north in Lafayette Street between Parcels 1 and 3. At the northern edge of Parcel 1, these sewers turn to the northeast, following the Parcel 1 boundary to the existing diversion structure which diverts the flow to both the existing Rabello Pump Station and the Northside Pump Station. There is a 12-inch sewer in Stars & Stripes Drive, which connects to the 36-inch sewer in Lafayette Street.

The gravity sewer that bypasses the Rabello Pump Station continues beneath the Guadalupe River and California State Highway 237, where it flows to the Northside Pump Station. From the Northside Pump Station, the wastewater is pumped and conveyed in a force main to the RWF. The Rabello Pump Station will pump wastewater to the RWF through a secondary force main, which follows the alignment of the Northside Pump Station gravity sewer and its force main once crossing beneath the Guadalupe River and Highway 237.

The current pump station operation includes the Rabello and Northside Pump Stations working in parallel to pump the wastewater to the RWF. The maximum capacity of this system, referred to as the Firm Capacity, is defined as the maximum capacity of the combined pump stations with the largest pump for each pump station out of commission. This builds some redundancy into the system, allowing it to function even if one of the pumps for each pump station is out of service. The Northside Pump Station has four pumps running in parallel to pump effluent, and the Rabello Pump Station has eight pumps running in parallel. Currently, the City of Santa Clara estimates the Firm Capacity of these two stations to be 41.0 million gallons per day (mgd). Per RMC's Sanitary Sewer Capacity Evaluation for the project dated 6 August 2015, the peak wet weather flow (PWWF) results predicated by the model are 43.0 mgd without the project and 44.8 mgd with the project.

PROPOSED INFRASTRUCTURE

Based upon the current concept plan, the estimated sewage generation per parcel is as follows:

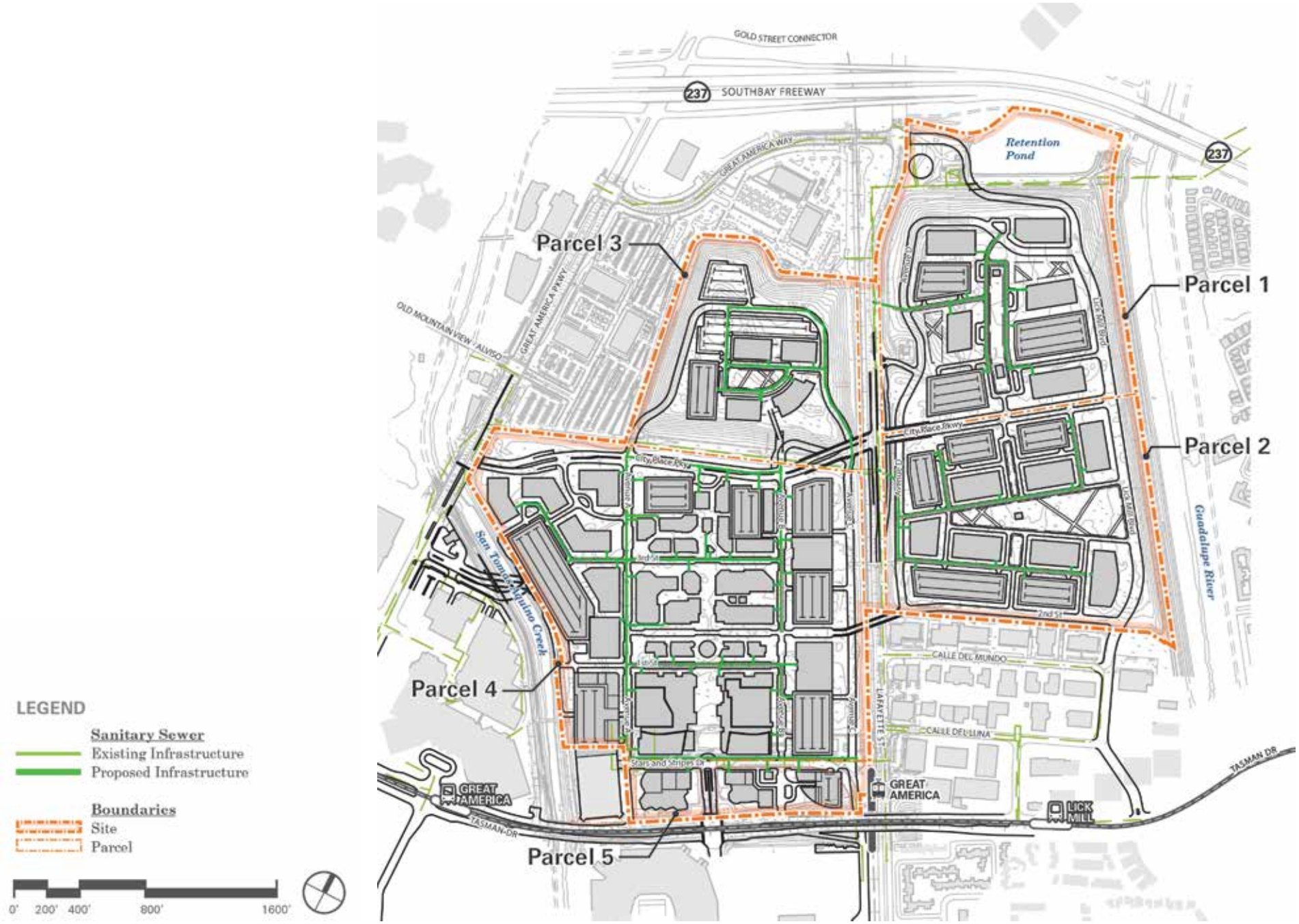
TABLE 8–4: ESTIMATED SEWAGE GENERATION

Parcel	Potential Development Area (gsf)	Sewage Generation (gpd)
1	1,200,000	168,000
2	2,160,000	302,400
3	720,000	100,800
4	4,259,400	941,506
5	825,000	236,432

The proposed sanitary sewer system for the project will connect to the existing City gravity trunk sewers between Parcels 3 and 4, in Lafayette Street and in Stars & Stripes Drive. The preliminary locations for the points of connection and for the routing of the sewers within in development parcel are provided in the Sanitary Sewer Technical Memorandum attached to the IMP. The preliminary design includes multiple gravity sanitary sewer systems with laterals, mains, manholes and cleanouts designed per City standards. The pipes will have the capacity to convey the total peak wet weather flow at a minimum velocity of 2 feet per second when flowing half full and no more than 75 percent full. Parcels 1 and 2 will connect to the westernmost existing 42-inch sewer in Lafayette Street, and Parcels 3 and 4 will connect to the existing 42-inch sewer located between Parcels 3 and 4. Parcel 5 will connect to the Stars & Stripes Drive system. The Stars & Stripes Drive system will need to be completely replaced to accommodate the proposed below grade parking structures. The systems are proposed as a looped system to provide redundancy as required by the City.

As the design is finalized, these estimates will be refined and used to design a system which meets the needs and phasing of the project. A detailed hydraulic analysis of the sewer system shall be performed to confirm the findings in the RMC Technical Memoranda, as well as to evaluate the timing for upgrades to the Rabello and North Side Pump Stations.

EXHIBIT 8–4: SANITARY SEWER



8.10 FIRE STATION

The existing City of Santa Clara Fire Station No: 10 is currently located on the project site and may continue to operate at this location or be relocated to an agreed location concurrent with a future project phase as outlined in the DDA.

OVERVIEW

The current fire station location is at the intersection of Stars & Stripes Drive and the proposed Avenue B, as depicted in *Exhibit 3-16: Fire Station Relocation*. The fire station may be retained in its current position during initial development phases or permanently. Two possible relocation options are proposed both situating the fire station along Great America Parkway. Other accommodations (temporary and/or permanent) shall be agreed upon through consultation with the Fire Chief. Further details regarding Fire Department access and coordination with the Fire Chief on emergency service requirements will be provided with each DAP submittal or other documentation associated with each design development.

8.11 ELECTRIC, GAS AND TELECOMMUNICATIONS

This section describes the existing and proposed systems for electric, gas and telecommunications at CityPlace.

ELECTRICAL DISTRIBUTION SYSTEM

Pacific Gas and Electric (PG&E) provides gas and electrical services to the vast majority of Northern California. However, some cities have historically provided their own municipal electric company. Such is the case for the City of Santa Clara whose municipal electric company is referred to as Silicon Valley Power (SVP). SVP provides electric utility power to all residences and commercial businesses in the City of Santa Clara. Since the City is surrounded by PG&E territory, there are locations within Santa Clara where PG&E owned electric transmission systems exist, within appropriate right-of-ways. PG&E transmission systems traverse all four parcels.

Existing System

PG&E maps indicate that two separate PG&E 115kV overhead transmission pole lines run "north-south" along the westerly side of Lafayette Street. There is a 175-ft wide easement within Parcels 5, 4 and 3 for these transmission lines. Additionally, a PG&E overhead transmission pole line runs "north-south" along the east side of Lafayette Street. These pole lines are in dedicated rights-of-way, which typically forbid structures of any kind.

SVP's electric distribution maps indicate that an existing 12kV underground distribution line provides service to existing commercial buildings along Stars and Stripes Drive. There is an existing 12kV overhead line running north-south under the PG&E transmission pole line on the easterly side of Lafayette Street that branches easterly to serve the residential development southeast of the proposed new development. There also is an existing 230kV underground transmission line (part of the Northern Receiving Station system) in Lafayette Street. This underground line is in the west side of Lafayette Street from Tasman Drive to the southern edge of Parcel 2. The 230kV line turns east, crossing Lafayette Street, continuing along the toe of the southern slope in Parcel 2 then turns north continuing along the toe of the eastern slope in Parcel 2 and Parcel 1. At the northern limit of Parcel 1, just south of the Eastside Retention Basin, the line turns east and traverses under the Guadalupe River. Lastly, SVP underground electric 12kV feeder-lines exist along Great America Parkway, adjacent to Parcel 4, and along the Guadalupe River adjacent to Parcel 2. Discussions with SVP indicate that all of the existing underground and overhead distribution lines in the immediate vicinity of the new development are fully utilized and could not be extended to serve the new development.

Proposed Infrastructure

It is common for parking lots to intrude into PG&E easement areas. When that occurs, care must be taken to avoid placement of parking lot lights and trees within the easement. PG&E would need to be consulted to obtain approval for any development (i.e. grading/landscape plans) planned within the easement areas. Additionally, site improvements would be designed to avoid conflict with existing transmission line steel support poles. It is conceivable, however, that PG&E would allow a support pole to be adjusted to be "taller" or moved "tangentially" along the north-south corridor to eliminate a conflict with proposed grading or utility improvements. Moving poles perpendicularly to the north-south route should be

avoided because it is impractical to add the necessary "down-guys" and provide the additional easements, to consider off-setting the transmission pole line.

SVP has confirmed that to provide electrical service to the new development, new circuits will need to be installed and extended from the existing "Northern Receiving Substation" located south of Levi's stadium. Specifically, it is expected that four new 600A, 12kV feeder lines will be needed to serve Parcels 4 and 5.

Two more feeder lines will be required for Parcel 2, and one for each of Parcels 1 and 3, for a total of eight new feeders.

The feeder lines will be installed as part of a multi-circuit conduit bank of up to four 5 inch primary conduits. Accordingly, it is expected that two new trench routes, each typically 36 inch x 60 inch, will need to be extended approximately 1,800-ft from the substation to the south end of the new development, although further study is needed to determine the appropriate routing of the new feeder-lines throughout the development.

SVP manholes would be needed, typically spaced no more than 500-ft apart, to facilitate cable pulling and to allow the installation of pad mount switches and transformers. Further study is needed to determine the number and locations of manholes, switches and transformers that would be required to serve the new development and will occur with the submission of each Development Area Plan.

The applicant will be responsible for trenching and installing all new SVP conduits and substructures. SVP does not utilize sub-surface equipment. All switches and transformers will be pad-mounted and locations will need to be coordinated with SVP during the design stages.

Streetlights will be part of the project on all new streets. For new streets that are to be dedicated as public streets, SVP will provide public streetlights (e.g. electroliers) as part of their electric service. If the streets are to be "private", the applicant would be required to bear the cost of providing City approved street lights.

SVP has recently announced that "fiber services" are being offered to schools and residential developments. The extent and locations of SVP "fiber" services for each of the four development parcels will need to be coordinated with SVP during the design stages.

NATURAL GAS DISTRIBUTION SYSTEM

Existing System

PG&E will be the service provider for natural gas to the development. PG&E's maps indicate that an existing 24-inch high-pressure gas transmission main is located north-south along Lafayette Street. Specifically, the gas main is along the west side of Lafayette Street from the south, northward, until it reaches the midpoint of Parcel 4, then it crosses to the east side and traverses northward along the east-side of Lafayette Street along the entire frontage of Parcels 1 and 2. Any street improvements to Lafayette Street (i.e. road widening, road overlay) will need to be reviewed by PG&E to ensure the integrity to their gas facilities would be maintained.

PG&E's gas distribution maps also indicate that 2-inch and 1¼-inch distribution gas mains exist along Stars & Stripes Drive. Also a 4-inch gas main is located north-south along the east side of Lafayette Street, and a second 4-inch main is located along the east side of Great America Parkway adjacent to Parcel 4.

Proposed Infrastructure

It is feasible that the 4-inch existing gas mains in the vicinity could be extended into the new development to provide gas service, assuming standard "commercial gas loads" are needed. If any "campus boiler/steam" type systems or "bloom box generators" are being considered, specific studies will be required for PG&E planning to evaluate. Gas facilities within Stars & Stripes Drive could be utilized to serve only the two

nearby proposed buildings, but may need to be relocated if Stars & Stripes is reconfigured.

Extending the gas service from the 4-inch gas main from Lafayette Street into Parcels 4 and 5 would require crossing the UPRR right-of-way. This crossing, if necessary, will require railroad permits and a "jack and bore" crossing. As an alternative, it is feasible that a gas sleeve could be incorporated into any new bridge structures that may span the rail right-of-way and Lafayette Street.

If the total expected gas loads of the new development are sufficiently large, PG&E may require the installation of a new gas regulator station to serve the development. The proximity of the high-pressure transmission line provides the capacity to provide service to a gas regulator station should one be required. A new gas regulator station would take approximately three years for PG&E to plan, design, and build.

PG&E gas mains would typically be extended in a trench joint with SVP electric facilities. SVP trenches are typically minimum 36 inches wide and often 48 inches wide when accommodating all four utilities. This is because SVP requires 12 inch horizontal separation from gas, telephone/catv facilities, rather than "vertical" separation, which is more common PG&E requirement.

The applicant is responsible for all trenching and has the option to install gas facilities and to be credited by PG&E for the estimated cost of the installation. It is recommended that gas meters be located outside of proposed new buildings, either in an alcove, or perhaps adjacent to landscape walls. PG&E clearances and truck access to gas meters would need to be provided. PG&E does allow gas meters to be located in "gas rooms", but the requirements are strict (E.G. forced air ventilation system, gas detection, explosion proof fixtures, etc.), and the process typically delays the PG&E approval process significantly (6 to 12 months additional).

TELECOMMUNICATION SERVICE

Existing System

AT&T service maps indicate that limited AT&T facilities exist along Stars & Stripes Drive. It does appear, however, that significant AT&T facilities exist on a north-south "wood pole line" along the east side of Lafayette Street.

Comcast service maps indicate that facilities exist along Stars & Stripes Drive, and it appears that significant Comcast facilities exist on a north-south "wood pole line" along the east side of Lafayette Street.

Proposed Infrastructure

AT&T will provide service to one Minimum Point of Entry (MPOE) for up to one building on each non-contiguous property. AT&T will serve multiple buildings on one property, but the applicant will be billed for the estimated cost of the additional AT&T services. The applicant is responsible for trenching and installation of AT&T conduits.

It is typical for developers to discuss the possible extension of "fiber services" with AT&T. If desired, a utility consultant would work with AT&T's engineering department to discuss the need for fiber pads if fiber service is ultimately to be provided to the project.

Conduits for new Comcast service would typically be installed by Comcast contractors in an "open trench" provided by the developer. Number and sizes of conduits would be based on the types of services desired for the development program.

It would be necessary for AT&T and Comcast to cross the UPRR right-of-way to serve Parcels 4 and 5. This crossing would require railroad permits and a "jack and bore" crossing (the same jack and bore pits that would be needed for gas facilities could be used for these services, however, separate conduit/sleeves would be required to provide separation). As an alternative, it is feasible that the conduits could be incorporated into any new bridge structures that may span the rail right-of-way and Lafayette Street.

8.12 ADDITIONAL FACTORS

This section briefly describes additional infrastructure elements such as interstitial spaces, settlement vaults, structural slabs, and utility trenching.

LANDFILL INFRASTRUCTURE

The development of the site will impact the current configuration of portions of the landfill operations monitoring, collection and removal systems. Initial assumptions for abandonment and replacement or maintenance of the above systems include the following:

- Protection and maintenance of groundwater monitoring wells and groundwater piezometers;
- Monitoring existing leachate collection and removal system during site development; and
- Abandonment and replacement of the landfill gas collection and removal system including the landfill gas monitoring probes.

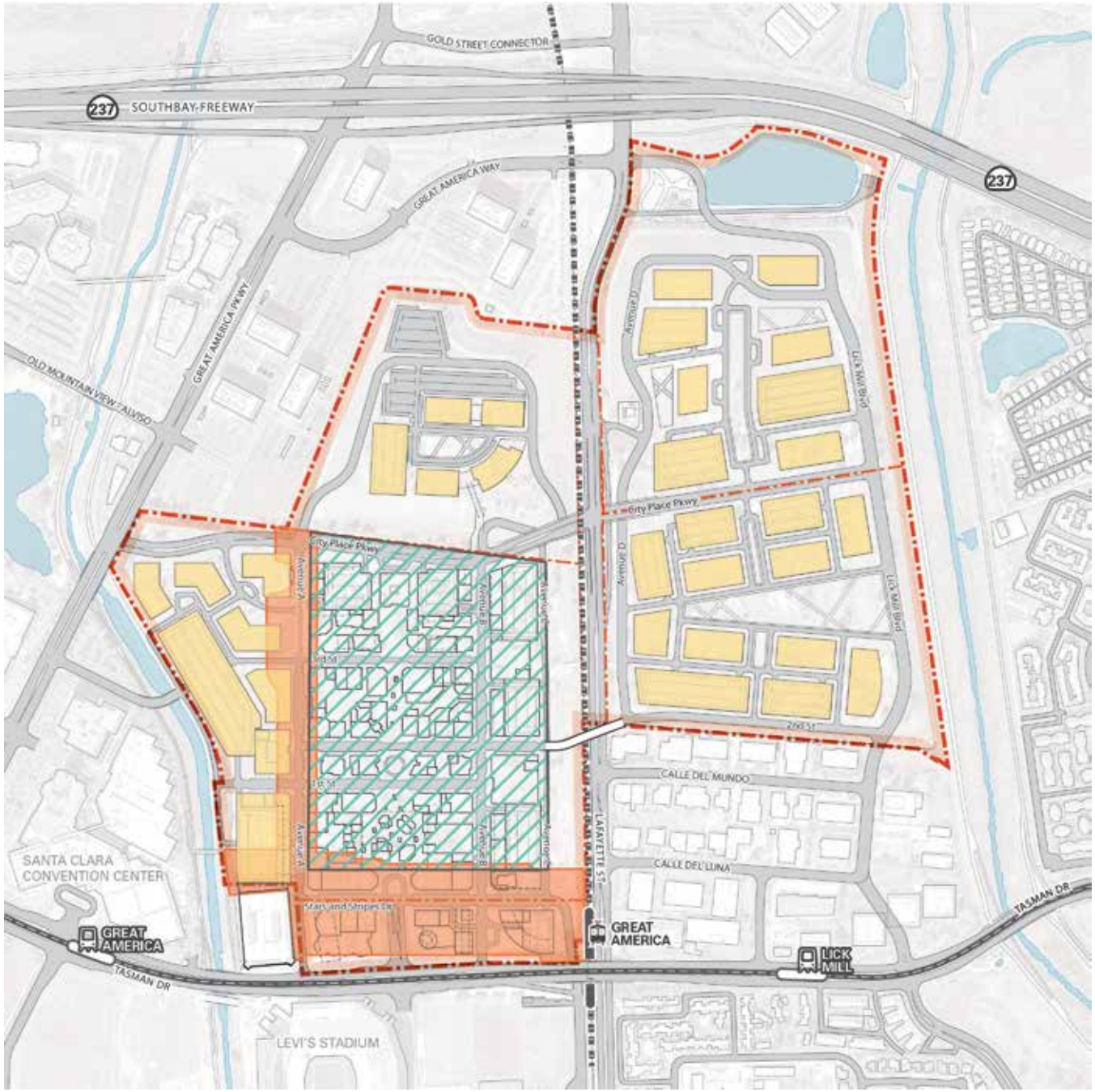
The design of specific landfill infrastructure components including the Landfill Gas Extraction System Re-Design, Landfill Gas Mitigation System at Building Pads and Landfill Monitoring Features will require further design coordination. Infrastructure modifications will be done in accordance with applicable laws and regulations, with review and input from the regulatory agencies that administer compliance including the Santa Clara County Department of Environmental Health Local Enforcement Agency (LEA), the California Department of Resources, Recycling, and Recovery (CalRecycle), the San Francisco Bay Regional Water Quality Control Board (RWQCB), the Bay Area Air Quality Management District (BAAQMD), and the City of Santa Clara Planning Department.

NON-STANDARD DESIGN ELEMENTS

Some of the non-standard design elements that may be incorporated into the site design to address the landfill issues for the project include interstitial spaces, settlement slabs, settlement vaults/flexible connections, special utility trenching for landfill cap disruption and refuse handling and considerations for landfill gas. Typical utility/roadway corridor sections have been prepared for several variations of roadways, streetscape amenities and the multiple utilities that will be located within each street (sewer, storm drain, domestic/fire water, recycled water, gas, joint trench, automated waste collection, landfill gas extraction system), and are provided in the applicable technical memoranda. The following briefly discusses some of the non-standard elements that will be incorporated into the final design of the system.

- *Interstitial Spaces:* Beneath the buildings within the City Center portion of the project and other select office buildings, there will be an interstitial space. The current design assumes a 4-ft to 5-ft high interstitial space, which will allow the building utility laterals to be accessible from within the building first floor space without disrupting the landfill systems.
- *Settlement Vaults/Flexible Connections:* At locations where differential settlement is expected, settlement vaults and/or flexible connections will be included in the design. These direct buried vault structures will either enclose a flexible connection (such as a Flex-Tend device) or be located adjacent to a building structure to allow for a piped configuration within the vault to settle. There are two conditions that will need to be addressed: 1) transition from structure to direct bury support over refuse; and 2) transition from direct bury to direct bury over refuse.
- *Structural Slabs:* Within City Center, the majority of the infrastructure systems will be constructed on a structural slab supported on deep foundations. The slabs will support the roadways between the proposed City Center buildings and have been designed to minimize disruption to the landfill cap and refuse. The gravity utility systems have a direct impact on the depth of the structural slab relative to street grade, and will require deeper utility corridors in the slab, which may impact/disrupt the landfill cover and refuse.
- *Utility Trenching for Landfill Cap Disruption:* Utility corridors, which may or may not be within a roadway, may need a sub-grade improvement program to reduce total and differential settlements. Utility trenching that penetrates the landfill cap will require excavating and disposing of all the material encountered below the cap. The exposed trench will be lined with a polyethylene liner to re-establish the cap and the trench will be backfilled with clean import backfill. This will allow for the future maintenance of the utility without encountering landfill material and impacting the cap.

EXHIBIT 8–5: FOUNDATION SYSTEMS*



LEGEND

Foundation Types

- Continuous Podium Supported on Piles Through Refuse
- No Refuse Below (Conventional Foundations)
- Individual Structures Supported on Piles Through Refuse

Transit

- VTA Light Rail
- Capitol Corridor/ Altamont Commuter Express

Boundaries

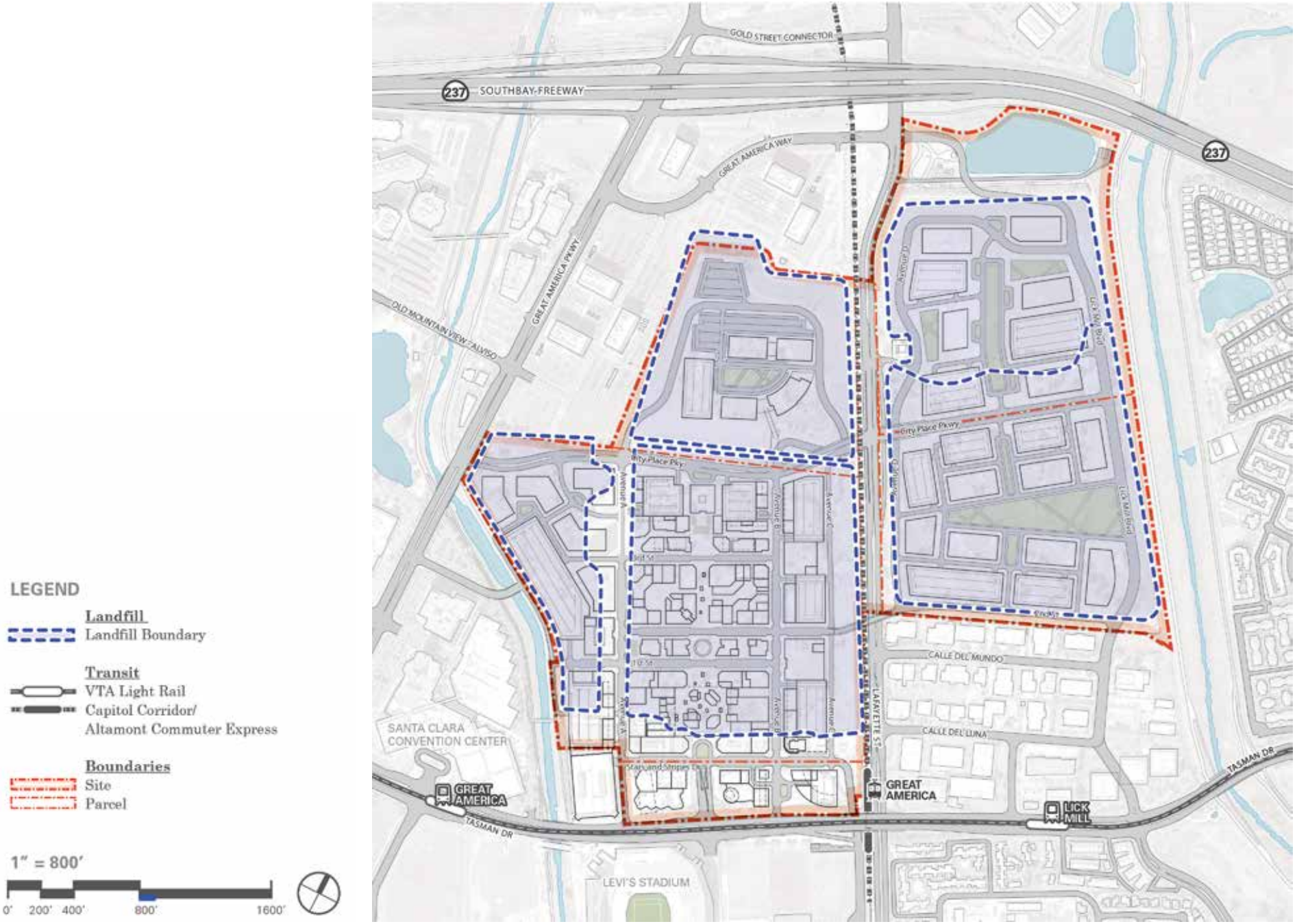
- Site
- Parcel

1" = 800'

0' 200' 400' 800' 1600'

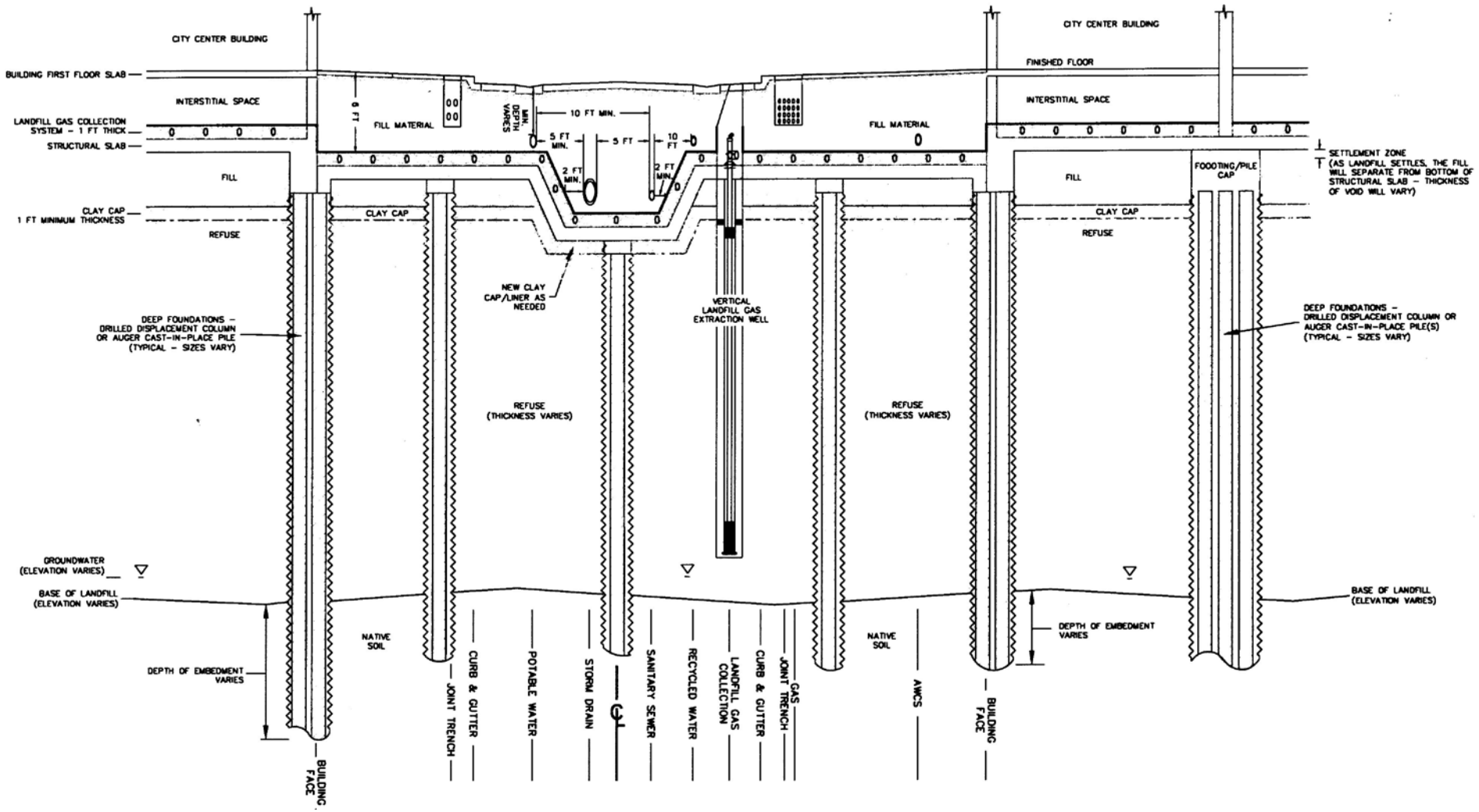
** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 8–6: LANDFILL BOUNDARY*



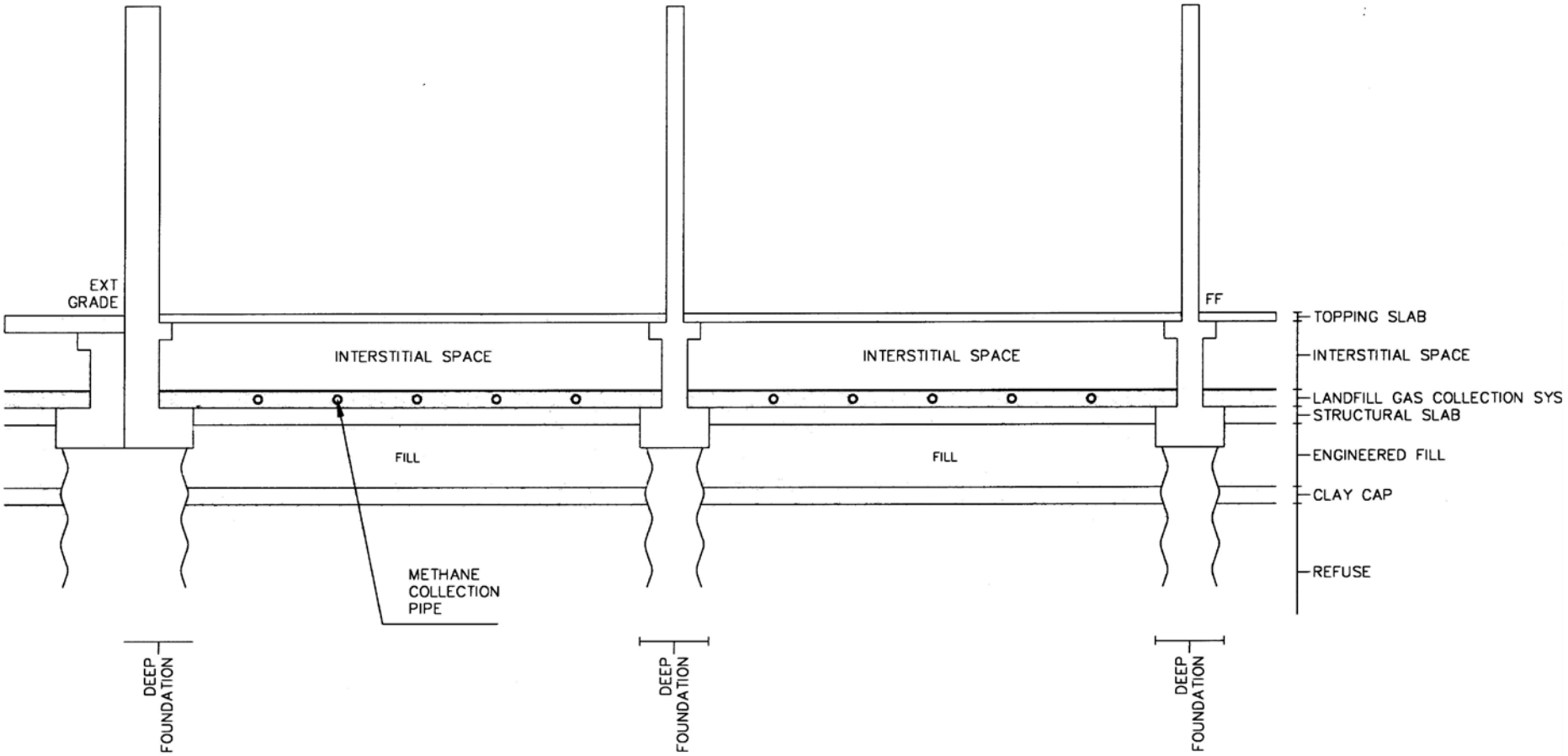
** The retention pond area (while part of the legal parcel) is a City utility facility and not part of the development area or FAR calculations.*

EXHIBIT 8–7: CONCEPTUAL FOUNDATION CONDITIONS - STREET SECTION (PARCEL 4 SETTLEMENT SLAB SECTION)



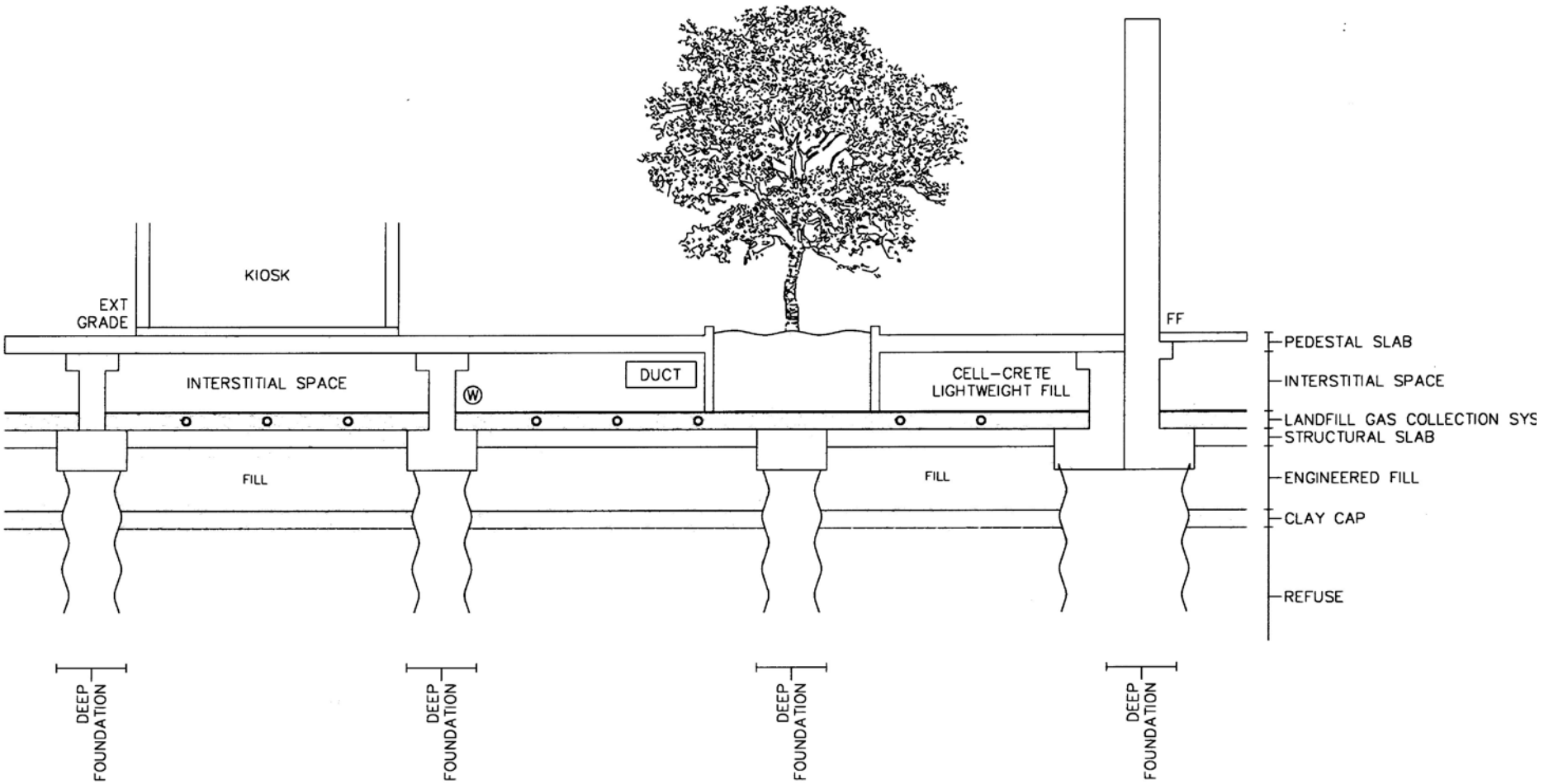
* Not to a scale

EXHIBIT 8–8: CONCEPTUAL FOUNDATION CONDITIONS - BUILDING (RETAIL, OFFICE & HOTEL) SECTION



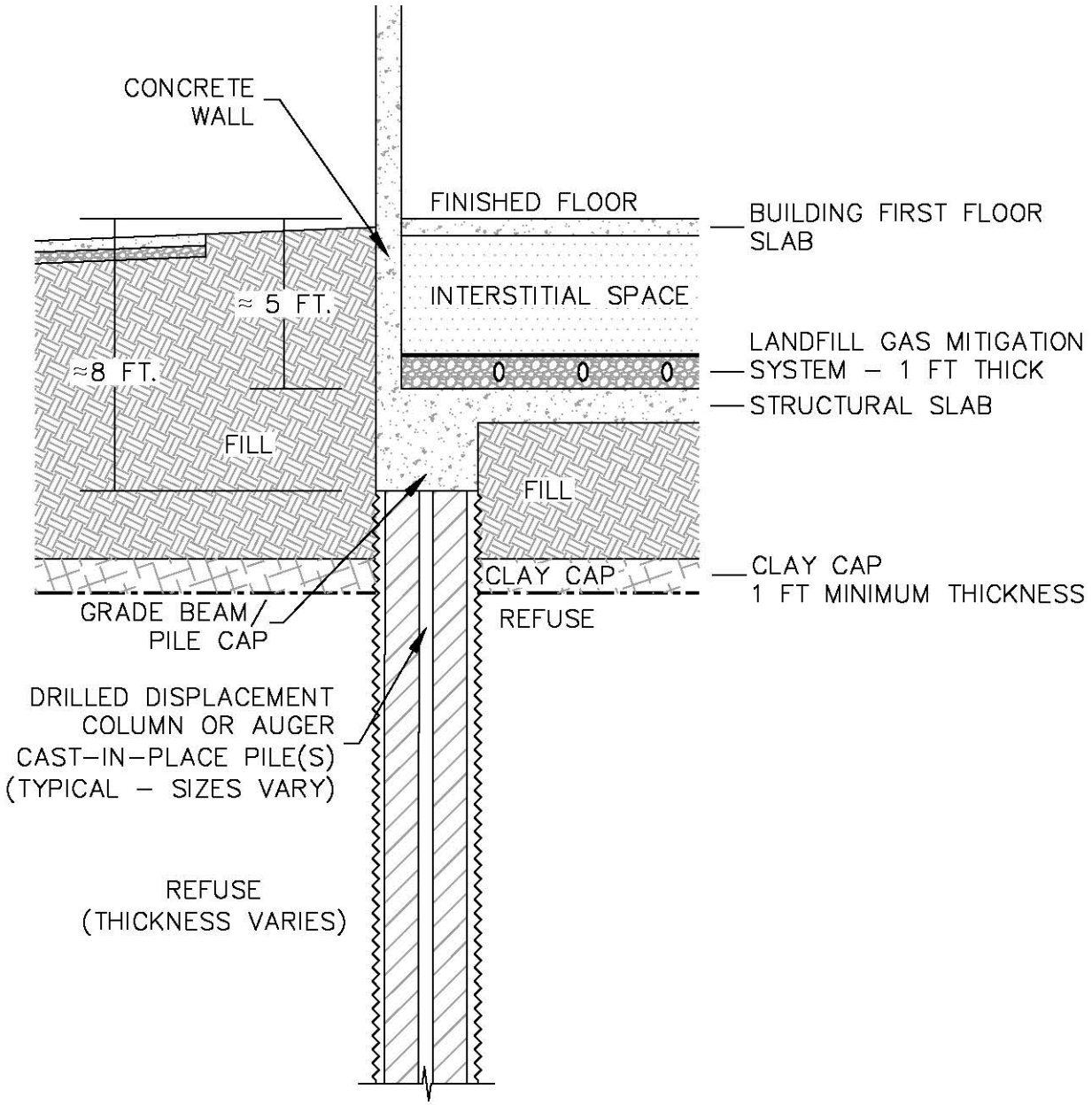
* Not to a scale

EXHIBIT 8–9: CONCEPTUAL FOUNDATION CONDITIONS - PLAZA SECTION



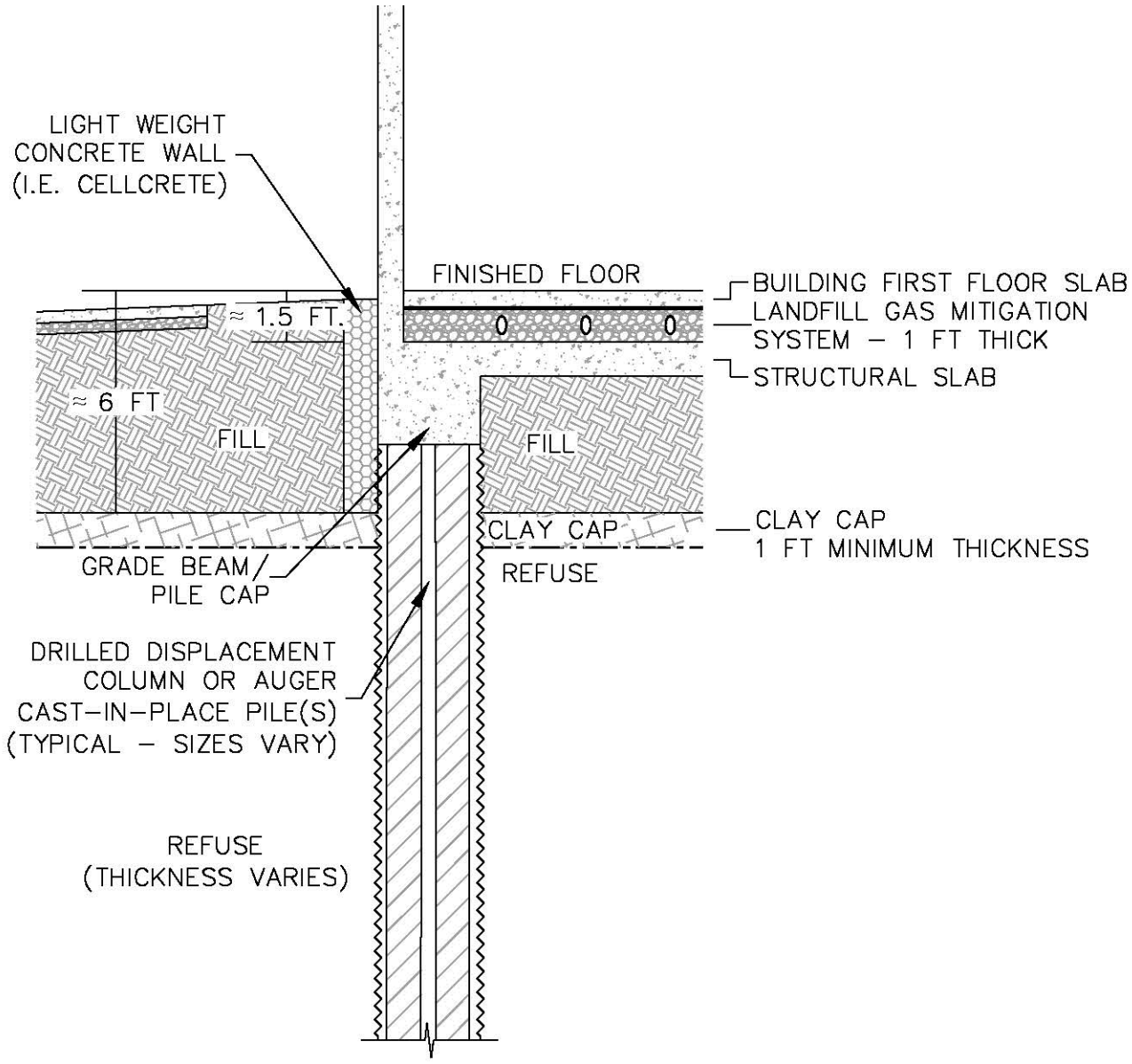
* Not to a scale

EXHIBIT 8–10: FOUNDATION CONDITIONS - BUILDING EDGE WITH WALL



* Not to a scale

EXHIBIT 8–11: FOUNDATION CONDITIONS - BUILDING EDGE WITH LIGHT WEIGHT CONCRETE WALL



* Not to a scale





CHAPTER 9

SUSTAINABILITY



9.1 INTRODUCTION

The International Living Future Institute has put forth the notion of a "Living Community" and has set in place a challenge: "to create the foundation for a sustainable future in the fabric of our communities". CityPlace presents an excellent opportunity to put this sentiment into action.

INTRODUCTION

Integration of sustainable features into building projects is often challenged because the optimum implementation scale for a certain technology exceeds the scale of the project. Synergies can exist for efficiency optimization through sharing of resources, but projects need to be of sufficient scale, diversity of use and have the organizational structure needed to manage the resource exchange.

As conceived, CityPlace will function at an urban scale, with a diversity of uses typically found in City or neighborhood scaled urban environments. Integration of the various design elements and implementing systems at the optimum scale will be key to achieving the most important sustainability objectives. The public-private nature of this development will also assist with opening up new avenues for planning and infrastructure optimization.

CityPlace's greatest sustainability advantage stems from inherently sustainable mixed-use programming choices and location decisions, which work together to form the critical mass necessary for creation of a new community focus. By grouping jobs, residences, shopping, entertainment and services near transit and other non-auto based mobility modes, CityPlace offers a more walkable, bikeable, transit-accessible alternative to customary development in Silicon Valley, a paradigm which encourages inherently reduced carbon lifestyles and employment opportunities.

Transportation accounts for nearly half of emissions in the region and reducing transportation demand by optimizing use of established public transit nodes is a key support strategy. Accommodating job and housing growth while meeting community obligations under AB32 and SB375 climate change goals is a challenge for Santa Clara and the region. Offering opportunities for a live/work/play environment that supports connectivity without the necessity of an automobile is the strategy upon which CityPlace is conceived.

Mixed-Use and Transit Connected Sustainable Communities are built through the following combination of elements:

1. **Compact Development** – CityPlace is targeting a density of development of 1.0 FAR (Urban Zones generally fall in a range of 0.5 to 1.5 FAR) and incorporates a mix of uses and services that will support active walkable streets, facilitating lifestyle choices that do not necessarily rely on a car.

2. **Pedestrian Orientation** – CityPlace is anchored by the City Center, the pedestrian centric mixed-use urban retail and entertainment core that connects transit options to community supporting urban activity, featuring active streets with strong linkages to significant office and residential options.

3. **Transportation Alternatives** – As an alternative to typical suburban development, CityPlace will offer a full complement of live, work, play opportunities in a "park once" urban experience, supported by a full complement of multi-mode transportation options. This model will help Santa Clara to accommodate ongoing regional growth in a less impactful manner by creating local options for jobs, shopping and entertainment; facilitating connections to neighboring public facilities; and supporting existing transit/bike/trail infrastructure.

4. **Energy and Resource Efficiency** – CityPlace recognizes the impacts of construction and long term operation by focusing on optimization of water conservation/reuse, energy conservation, renewable energy production, waste minimization and resource recovery.

5. **Community and Economic Benefits of Sustainability Measures** – Accommodating a diverse mix of uses will attract a diverse population of workers, residents, shoppers and recreation seekers interested in an auto-optional urban experience. This new community will become an attractive landmark for the broader community and offer a full range of accommodation for the resident population of apartment dwellers and office workers. Substantial economic benefits will accrue to the City, County, schools, and transit from the sales taxes and fees associated with this new development.

CityPlace is committed to implementing "Best In Class" sustainability concepts, benchmarked by the goals for water, energy, waste and performance metrics outlined in 9.2, 9.3 and 9.4.

9.2 WATER

This section briefly describes project goals and strategies along with potential concepts related to water use reduction both indoors and outdoors at CityPlace.

PROJECT GOALS

- **Indoor water use reduction:** Reduce water use from City baseline by 10 percent.
- **Outdoor water use reduction:** Reduce water use from City baseline by 20 percent.
- **Manage 100 percent of storm water on-site.**
- **Limit utilization of municipal potable water** by utilization of rain/stormwater and/or other sources of reclaimed water for all non-potable water needs (to the fullest extent practical).

WATER REDUCTION STRATEGIES MAY INCLUDE:

- Use of WaterSense low and ultralow-flow fixtures including but not limited to: faucets, water closets and urinals.
- Planting the site with a combination of very low, low, medium and high planting hydrozones (which can include both native and drought tolerant plantings), and use of reclaimed water for supplemental irrigation.
- Efficient irrigation utilizing best available technologies and practices.
- Water saving multi-stage cooling towers utilizing advanced water treatment and reclaimed water.
- Implementation of dual-plumbing in buildings and purple pipe irrigation systems, to facilitate use of reclaimed water.

ADDITIONAL CONCEPTS FOR FURTHER WATER REDUCTIONS THAT MAY BE CONSIDERED INCLUDE:

- Supplying the indoor flushing demands with recycled water.
- Supplying cooling tower demands using recycled water.
- Ground source heat rejection (using underground water loops) to reduce cooling tower use (lowering water consumption).
- Reuse stormwater for non-potable uses where possible.



Purple pipe irrigation system

9.3 ENERGY

This section generally explains project goals and strategies for energy reduction.

PROJECT GOALS

The project would include a range of energy-use efficiencies, including:

- The project developer will pursue Leadership in Energy and Environmental Design (LEED) for Neighborhood Development (LEED-ND) v2009 certification for the proposed City Center, LEED v2009 Gold for the proposed commercial buildings outside of the City Center, and LEED v2009 Silver for the proposed residential buildings. This LEED program includes strategies that optimize the energy performance and environmental and health benefits for the buildings and their inhabitants. Energy reduction strategies should include building scale energy efficiency measures for building envelope, HVAC, and lighting.
- The Project's energy efficiency shall be 15 percent better than the base case energy model developed pursuant to the 2013 Title 24 requirements or shall meet the Title 24 requirements that are applicable at the time of issuance of the building permits for individual phases, whichever is more stringent.
- The project will include on-site self-generation using photovoltaics (PV) to meet a minimum of 15 percent of the overall project's electricity demand.
- The project shall obtain renewable energy electricity corresponding to 50 percent of on-site electricity demand by 2030, through a combination of on-site solar, purchase of renewable energy or other measures. This requirement may be phased in as follows: 2020–15%, 2025 –29%, 2030 –50%).
- The project will also incorporate features to reduce per capita water use, such as low-flow fixtures as well as and native and drought-resistant plants, which would reduce indoor water demand by 10 percent and outdoor water demand by 20 percent, with a corresponding reduction in water pumping electricity demand.
- CityPlace is a mixed-use project that is located near existing transit lines, which would reduce vehicle trips and associated fuel consumption compared to average development. In addition, the project use of newer off-road construction equipment that is generally more fuel efficient than older equipment, which will result in lower carbon emissions.
- The project will require the use of alternative fuels for 30 percent of construction diesel equipment.
- The project will implement a series of measures that will reduce energy consumption derived from the City's Climate Action Plan, including: installing electrical outlets for electrical landscaping equipment (which is less polluting than fossil-fuel landscaping equipment); installing electric vehicle (EV) charging stations and preferential parking (EVs are more energy efficient than fossil-fueled vehicles); and planting of shade trees and pavement treatments for uncovered parking (which reduces the urban heat island effect and thus reduces energy demand for building air conditioning).



Rooftop Photovoltaics

9.4 WASTE

This section briefly describes project goals and strategies for waste reduction at CityPlace. Also included are additional concepts for further waste reduction potential.



Wet organic waste collection

PROJECT GOALS

- **Construction and Demolition Waste Diversion Rate:** It is expected that 100 percent of the demolition materials will be recycled or reused during all phases except on portions of Parcels 4 & 5 where demolition of existing buildings, concrete retaining walls, paving, concrete, and other materials is required; in which case at least 50 percent of nonhazardous construction and demolition debris material will be diverted from landfills.
- **Operational Waste Diversion Rate:** The project will comply with the mandatory requirements of the Santa Clara Commercial and Residential Recycling Programs to help the City meet its waste diversion goals. As well as the City ordinances that regulate single-use carryout bags, expanded polystyrene foam food service ware, and composting. Solid waste reduction strategies that will be implemented as part of the project and include optimization of an organic waste collection system to support operations at Mission Trail Waste Systems, grease collection/recycling for off-site biofuel conversion, and triple-chute waste collection in proposed residential and hotel buildings.

OPERATIONAL WASTE REDUCTION STRATEGIES MAY INCLUDE:

- Wet Organic Waste Reduction/Collection Program (optimized to allow resource recovery).
- Purchasing policy recommendations (preferred purchasing guidelines for cleaning products and consumables used in the maintenance of common areas and policy recommendations for tenants) and container/bag programs for retail/food and beverage/entertainment facilities.
- Grease collection/recycling for offsite biofuel conversion.
- Triple-chute waste collection in high-rise residential buildings, plus a wet organic material collection system for hotel, restaurant and residential uses.

ADDITIONAL CONCEPTS FOR FURTHER WASTE REDUCTIONS THAT MAY BE CONSIDERED INCLUDE:

- Vacuum waste collection system in the City Center to centralize collection and improve efficiency of waste removal operations.

EXHIBIT 9–1: CITYPLACE - VIEW LOOKING SOUTHEAST









APPENDICES

APPENDIX A: LEGAL SITE DESCRIPTION

LEGAL DESCRIPTION

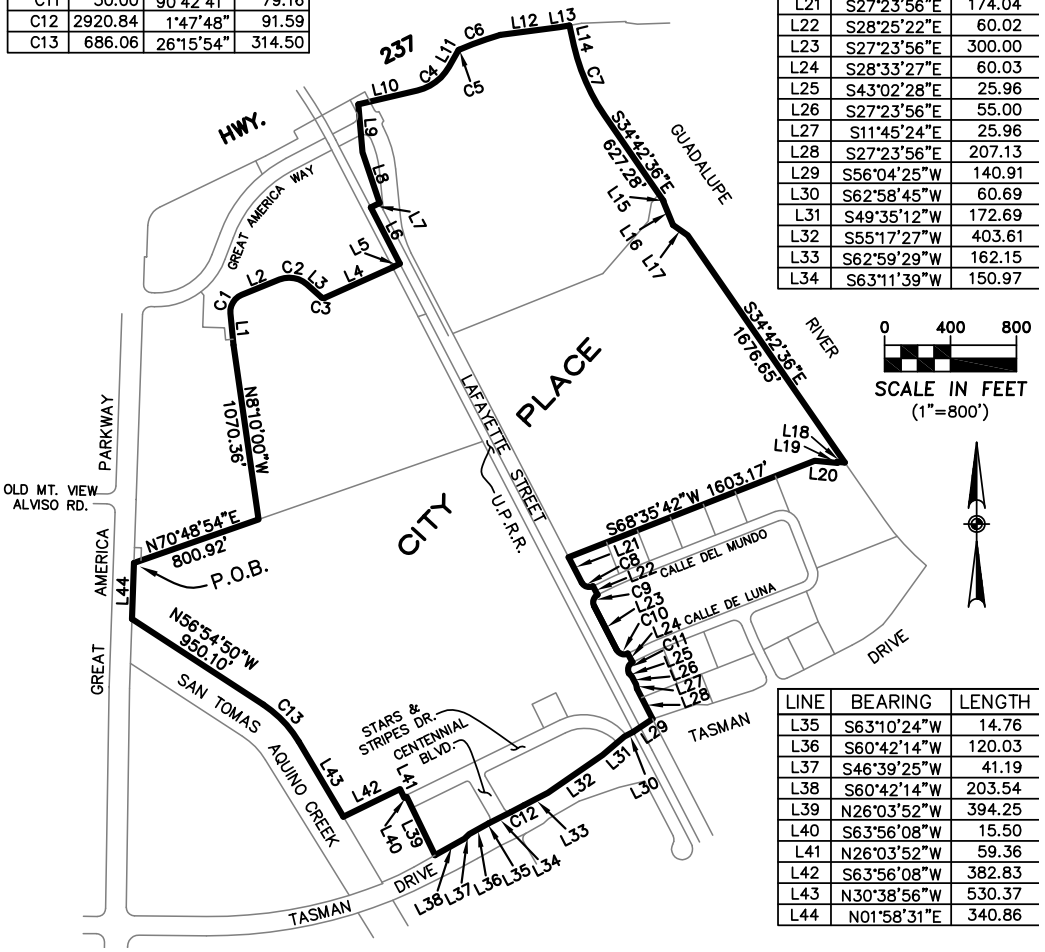
The adjoining *Exhibit 10-1:Plat Map* constitutes a legal site description of the project area.

EXHIBIT 10-1: PLAT MAP

CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
C1	109.99	73°36'48"	141.32
C2	159.99	63°38'58"	177.73
C3	16.00	65°46'18"	18.37
C4	300.00	47°19'56"	247.83
C5	987.00	0°21'48"	6.26
C6	1987.00	7°36'13"	263.69
C7	1204.94	22°10'15"	466.25
C8	50.00	89°23'52"	78.01
C9	50.00	90°37'37"	79.08
C10	50.00	89°19'14"	77.94
C11	50.00	90°42'41"	79.16
C12	2920.84	1°47'48"	91.59
C13	686.06	26°15'54"	314.50

LINE TABLE		
LINE	BEARING	LENGTH
L1	N05°35'14"W	191.73
L2	N68°01'34"E	247.17
L3	S48°19'28"E	120.04
L4	N65°54'14"E	452.69
L5	N62°36'04"E	50.00
L6	N27°23'56"W	383.89
L7	N62°36'04"E	60.00
L8	N18°41'34"W	324.57
L9	N04°49'01"W	291.65
L10	N76°46'00"E	367.73

LINE TABLE		
LINE	BEARING	LENGTH
L11	N29°26'04"E	115.92
L12	N82°36'47"E	359.94
L13	N79°54'20"E	63.77
L14	S12°32'21"E	124.61
L15	S38°48'48"W	2.93
L16	S22°11'12"E	158.39
L17	S54°41'12"E	108.85
L18	N84°23'47"W	47.65
L19	S23°19'21"E	7.40
L20	N84°25'47"W	139.94
L21	S27°23'56"E	174.04
L22	S28°25'22"E	60.02
L23	S27°23'56"E	300.00
L24	S28°33'27"E	60.03
L25	S43°02'28"E	25.96
L26	S27°23'56"E	55.00
L27	S11°45'24"E	25.96
L28	S27°23'56"E	207.13
L29	S56°04'25"W	140.91
L30	S62°58'45"W	60.69
L31	S49°35'12"W	172.69
L32	S55°17'27"W	403.61
L33	S62°59'29"W	162.15
L34	S63°11'39"W	150.97



LINE TABLE		
LINE	BEARING	LENGTH
L35	S63°10'24"W	14.76
L36	S60°42'14"W	120.03
L37	S46°39'25"W	41.19
L38	S60°42'14"W	203.54
L39	N26°03'52"W	394.25
L40	S63°56'08"W	15.50
L41	N26°03'52"W	59.36
L42	S63°56'08"W	382.83
L43	N30°38'56"W	530.37
L44	N01°58'31"E	340.86

APPENDIX B: DEFINITIONS OF USES

"Anchor" means one or retail outlets in a shopping center that have the largest amount of square footage and are fundamental to the center's market positioning strategy.

"Bona fide public eating place" means a restaurant or hotel which is regularly and in a bona fide manner used and kept open for the serving of meals to guests for compensation and which has suitable kitchen facilities connected therewith, containing conveniences for cooking an assortment of foods which may be required for ordinary meals, the kitchen of which must be kept in a sanitary condition with the proper amount of refrigeration for keeping of food on said premises and must comply with all the regulations of the local department of health. For purposes of this definition, "meals" means the usual assortment of foods commonly ordered at various hours of the day; the service of such food and victuals only as sandwiches or salads shall not be deemed a compliance with this requirement. For purposes of this definition, "guests" shall mean persons who, during the hours when meals are regularly served therein, come to a bona fide public eating place for the purpose of obtaining, and actually order and obtain at such time, in good faith, a meal therein. Nothing in this definition, however, shall be construed to require that any food be sold or purchased with any beverage.

"Dwelling" means a building or portion thereof, but not including a vessel or boat, house trailer or mobile home, designed or used exclusively for residential occupancy, including one-family dwelling units, two-family dwelling units, and multiple-family units, but not including hotels.

"Dwelling unit" means a room or group of rooms including living, sleeping, eating, cooking, and sanitation facilities, constituting a separate and independent housekeeping unit, occupied or intended for residential occupancy on a nontransient basis and having not more than one kitchen.

"Entertainment" means performance and recreational uses including amphitheaters, arenas, auditoriums or other similar facilities; museums; art galleries; live theaters; movie theaters; live entertainment; cabarets; comedy clubs; dance clubs; sports bars; billiards; bowling alleys; electronic/game arcades; family entertainment centers; ice and in-line skating rinks; and similar uses or enterprises which are oriented, marketed and intended for tourists, visitors and/or recreational consumers.

"Food and beverage (F&B)" means restaurants, including establishments that only serve beverages, and markets.

"General office" means administrative facilities, corporate office campuses (including campuses closed to the public), banks, financial and general business offices, nurseries and preschools, studios and instructional facilities such as dance studio, music studio, or similar establishment teaching a specific subject as distinguished from a school (not to include industrial training such as welding or automotive repair involving the use of tools and materials appropriate to an industrial use area).

"Hotel" means an establishment consisting of one building or a group of attached or detached buildings containing lodging accommodations a majority of which are designed for use by transients, travelers or temporary guests. Facilities provided may include

maid services, laundering of linen used on premises, telephone and secretarial or desk service, food and beverage service to guest rooms, meeting and banquet rooms, restaurants, incidental entertainment, meeting rooms, incidental retail, incidental alcoholic beverage service, incidental personal services, and other incidental services and facilities.

"Incidental alcoholic beverage service" means the service of beer, wine, liquor or other alcoholic beverages at a bona fide public eating place.

"Incidental light manufacturing/research and development" means light manufacturing/research and development included in an office building or corporate campus in which the primary activity is not light manufacturing, which does not exceed 25 percent of the floor area of the office building or corporate campus.

"Incidental live music or dancing" means the performance of live music, or dancing by customers to live or recorded music at a bona fide public eating place.

"Incidental personal services" means an establishment providing personal services inside or adjacent to an office building or office complex or hotel primarily intended to serve employees and ocustomers of the office building or hotel, not to exceed 10 percent of the floor area of the office building or hotel.

"Incidental restaurant" means a restaurant inside or adjacent to an office building or office complex primarily intended to serve employees of and visitors to the office building or office complex, not exceeding 10 percent of the floor area of the office building or office complex.

"Incidental retail" means a retail establishment inside or adjacent to an office building or office complex or hotel primarily intended to serve employees and customers of the office building or hotel or office complex, not exceeding 10 percent of the floor area of the office building or office complex.

"Light manufacturing/research and development" means facilities for the assembly, compounding, manufacture, packaging, processing, repairing, or treatment of equipment, materials, merchandise, or products, including research laboratories within an enclosed building, that are not objectionable or detrimental to adjacent properties because of signing, noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial wastes emanating from the property.

"Market" or "Food Market means a retail store (often identified as a grocery store) that primarily sells food for consumption off-site or on-site, including non-perishable food that is packaged in cans, bottles and boxes, and may also have fresh produce, butchers, delis, and bakeries, and operate under a single proprietor or have multiple vendors.

"Multi-family residential" means multiple dwellings**.**

"Multiple dwelling" means three or more dwelling units forming an apartment, townhouse, condominium, court, or group complex.

"Office" (as used in the Table 3-2 and the "Minimum and Maximum Requirements" set forth in Section 3.2) means general office, professional office, and personal services

"Personal services" means barber and beauty shops, nail salons, fitness centers and spas (which may include the provision of therapeutic massages), laundry and dry cleaning services, and similar establishments providing on-site personal care services.

"Professional office" means architect, attorney, chiropractor, professional engineer, drafting office, collection agency, dentist, doctor, insurance office, private detective, real estate agency, social worker, or similar use.

"Product showcase venues" means a retail establishment primarily intended to display examples of products, including automobiles.

"Residential" means dwellings.

"Residential unit" means a dwelling unit**.**

"Restaurant" means a public eating or drinking establishment, including service of food or beverages over-the-counter or with table service, and including establishments with outdoor seating or that provide on-site banquet services, and including bona fide eating places.

"Retail" means any enterprise or establishment involving the on-site transaction or transfer of merchandise to the general public, including but not limited to advertising products as available to the public, and over the counter sales, including product showcase venues, markets and pharmacies.

APPENDIX C: DEVELOPMENT AREA PLANS - SUBMITTAL & APPROVAL PROCEDURES

DEVELOPMENT AREA PLANS AND ARCHITECTURAL REVIEW

SUBMITTAL AND APPROVAL PROCEEDURES

1. LEGAL FRAMEWORK
2. DAP APPLICATION REVIEW PROCESS
   - 2.1 Summary of Review Process.
   - 2.2 Priority Project; Priority Project Manager
   - 2.3 Summary of Developer and City Roles in the DAP Process
   - 2.4 Subdivision Map Review
   - 2.5 Other Governmental Entity Approvals
   - 2.6 Review Periods.
   - 2.7 Development Area Plan Approvals
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   - 3.1 WHEN ARCHITECTURAL REVIEW IS NOT REQUIRED.
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   - 3.3 REVIEW OF ARCHITECTURAL MATERIALS
     - 3.3.1 City Review - Initial
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4. GOVERNMENT REQUIRED PROVISIONS, CHANGES

Exhibit 1 Definitions

Exhibit 2 Documents to be Submitted for DAP Applications

CITYPLACE SANTA CLARA MASTER COMMUNITY PLAN

DEVELOPMENT AREA PLANS AND ARCHITECTURAL REVIEW DESIGN SUBMITTAL AND APPROVAL PROCEDURES

These Development Area Plans and Architectural Review Submittal and Approval Procedures (collectively, the "DAP Procedures") implement and are part of the CityPlace Santa Clara Master Community Plan (the "MCP") and are included as Appendix C thereto. As used herein, certain capitalized terms are defined in Exhibit 1 (Definitions).

1. LEGAL FRAMEWORK

Concurrently with the City's adoption of the MCP and these DAP Procedures, the City has approved the Transaction Documents for the development of the Project Site, including the DDA. These DAP Procedures set forth the procedures for submitting, reviewing, and approving Development Area Plan ("DAP") applications (each, a "DAP Application") and Architectural Review applications (each, an "Architectural Review Application") for the Project Site and are intended to supersede in its entirety the submittal and approval procedures set forth in in the City's Zoning Code Section 18.56.080 through 18.56.110, inclusive during the term of the DDA and for the terms of each applicable Ground Lease. The City shall, in accordance with the Development Agreement and the DDA, review each DAP Application and Architectural Review Application to ensure that it conforms to and is consistent with the Development Requirements. The review and approval process set forth in Section 2 of these DAP Procedures relates to the DAP Application process for each Phase or Partial Phase of development under the DDA and compliance with various obligations under the DDA connected with such Phase or Partial Phase. The architectural review procedures for submitting, reviewing and approving Architectural Review Applications for Buildings in the Project Site are set forth in Section 3 of these DAP Procedures. The City and any Developer of the Project Site under the Development Agreement and DDA must comply with these DAP Procedures.

2. DAP APPLICATION REVIEW PROCESS

2.1 Summary of Review Process.

In order to approve a DAP Application, the City Council shall find that the proposed development conforms to the Development Requirements applicable to the subject Phase or Partial Phase. DAP Application submittal requirements are set forth in Exhibit 2 attached hereto, but generally include overall site plans, vicinity plans, illustrative concept plans for Infrastructure and other matters specified in the DDA. The City Council must approve the DAP Application as a condition precedent to Take Down of the applicable Phase or Partial Phase under the DDA.

2.2 Priority Project; Priority Project Manager

The development of the project contemplated under the DDA and the MCP (the "Project") is a priority to the City. As contemplated under and in accordance with the Development Agreement, the City shall designate a priority project manager (the "Priority Project Manager"), who may be a City employee or a third party. The Priority Project Manager shall serve as the single point of contact for the receipt, distribution and processing of DAP Applications and Architectural Review Applications, as well as for coordinating the timely and efficient review and approval by City staff and outside consultants of all other development applications (such as infrastructure and building permits). The Priority Project Manager shall report directly to the City Manager and shall be responsible for coordinating City's review of applications hereunder with the Director of Planning and Inspection (the "Director") and the heads of the other applicable City Departments reviewing DAP Applications or their designees (together with the Director and City Manager, the "Executive Project Clearance Committee" or "Executive PCC").

The Priority Project Manager shall be charged with the timely and efficient processing of applications in accordance with the time frames set forth in these DAP Procedures, including the following: (i) coordinating pre-submittal conferences with the applicant and making applicable staff experts available for review and comment; (ii) convening the Executive PCC and key department staff having expertise to review the completeness of the applications and to generate substantive comments on complete applications; (iii) preparing and transmitting to the Developer City comments on each application that are clear, concise and consistent with each other and with the Development Requirements and MCP; and (iv) coordinating with the Developer as necessary to address City comments and to observe the time periods for review and approval set forth herein.

2.3 Summary of Developer and City Roles in the DAP Process

Developer shall submit all DAP Applications to the Priority Project Manager in accordance with these DAP Procedures and will work with the Priority Project Manager to obtain City input in the formulation of a DAP Application in advance of the required submission of the DAP Application. The Priority Project Manager shall coordinate with the Executive PCC and applicable City Staff for scheduling of such requested meetings and consultation.

Once received, the Priority Project Manager shall distribute the DAP Applications to the Executive PCC members, each of whom will in turn distribute the DAP Applications to key staff and third-party consultants within their respective departments. Each City Department shall assign key technical experts to the Project to maintain consistency and continuity of application reviews throughout the Project to the extent feasible. The Priority Project Manager shall coordinate with the Executive PCC, City Staff and any third-party consultants that any of the foregoing parties require (including third-party consultants identified and engaged by or through the Priority Project Manager) to review all DAP Application submittals for completeness and shall evaluate complete DAP Applications for consistency with the Development Requirements and all Applicable Regulations. Executive PCC members shall provide any comments related to the applicable City Department's jurisdiction to the Priority Project Manager within the time required by these DAP Procedures.

Whenever Approval or any other action is required by the Planning Commission or City Council, the Priority Project Manager shall submit such matter to the Planning Commission and/or City Council in accordance with the time required by these DAP Procedures and the time required for notice of public hearings. With regard to any public hearings and presentations relating to the Project, Developer shall cooperate with, prepare materials for, and participate in presentations to the Planning Commission and City Council, as applicable and as desired by City

2.4 Subdivision Map Review

The review and approval of DAP Applications are in addition to and do not waive the requirements for approval of tentative, final and/or parcel maps under the Subdivision Map Act and the City's Municipal Code related to Subdivisions (Development Code, Chapter 17.05). The City's consideration and approval or disapproval of Developer's applications for such maps shall be done in accordance with the procedures set forth in the City's Development Code.

2.5 Other Governmental Approvals

Nothing contained in these DAP Procedures is intended to eliminate or alter the process or approval requirements set forth under applicable provisions of state or federal law or the regulations of other Governmental Entities, as applicable, with respect to any development at the Project Site.

Any applicable Santa Clara Police Department permits, either currently required or required at any point in the future, shall be obtained prior to

initiation of applicable uses, such as massage, alcohol, event, entertainment, etc.

2.6 Review Periods.

2.6.1.1 Calculation of Days.

All review periods specified in these DAP Procedures shall refer to business days and not calendar days unless expressly stated otherwise. All review periods shall commence on the business day immediately following the day of submission.

2.6.1.2 Extensions for CEQA.

Notwithstanding anything to the contrary herein, any review periods specified herein shall be extended to accommodate subsequent or supplemental environmental review to the extent required under the California Environmental Quality Act.

2.6.1.3 Relationship to Schedule of Performance Under the DDA.

The DDA requires the Developer to comply with certain obligations in accordance with the Schedule of Performance. The DDA provides that the Schedule of Performance shall be automatically extended under certain circumstances to account for delays caused by the City's failure to comply with its times for review and approval under these DAP Procedures and to allow Developer to respond to certain matters as contemplated under Sections 2.7.2.6(ii) and 3.3.2(d) hereunder.

2.7 Development Area Plan Approvals

Developer shall submit DAP Applications for ultimate consideration and approval by the City Council as set forth in the DDA and this Section 2.7. The purpose of the DAP approval is for the City to confirm that the DAP Application conforms to and is consistent with the MCP and applicable Development Requirements and for Developer to obtain approval by the City of the additional information included in a DAP Application that has not been previously reviewed or approved by the City. Subject to consistency with the MCP and Development Requirements, there shall be no minimum acreage requirement for property that is subject to the DAP Application.

2.7.1 Application Process

2.7.1.1 Pre-Submission Conference

Prior to submitting a DAP Application, Developer may, at its election, submit to the Priority Project Manager drafts of the materially important submittals of the type listed for DAP Applications in Exhibit 2 and any other data as Developer shall so desire concerning the applicable Phase or Partial Phase. Upon receipt of such pre-submission materials, the Priority Project Manager shall coordinate with Executive PCC members and/or identify technical experts among the City Staff that will be charged with review the DAP Application. Within twelve (12) business days after receipt of such pre-submission materials, Developer, the Priority Project Manager and applicable City Staff and/or members of the Executive PCC identified by the Priority Project Manager shall hold at least one pre-submission conference at a mutually agreeable time, during which such City Staff shall preview their key issues and concerns with respect to their review of the DAP Application and provide preliminary feedback on the pre-submission materials. Developer may submit information and materials iteratively, and Developer and the Priority Project Manager may agree to hold such additional pre-submission conferences as they may deem useful or appropriate.

2.7.1.2 Submission

Developer shall submit a DAP Application to the Priority Project Manager (12 copies for City review and any additional copies requested by the Priority Project Manager to the extent needed for review by third-party consultants), together with any applicable fees. Unless a more limited submission is otherwise approved by the Director, all DAP Applications shall include all of the documents and

materials described for DAP Applications in Exhibit 2. The Priority Project Manager shall distribute a copy of the DAP Application to the Executive PCC and any third-party consultants identified by Priority Project Manager as soon as possible upon receipt.

2.7.2 Review by City

2.7.2.1 City Review - Initial

The Executive PCC shall coordinate with their key staff the review of each DAP Application as expeditiously as reasonably possible for conformance with the Development Requirements and MCP and report to the Priority Project Manager. Within fifteen (15) business days following receipt of a DAP Application, the Priority Project Manager, following consultation with the Executive PCC, shall (i) compile, edit as necessary for consistency, and distribute to Developer all comments received from City Staff, through the Executive PCC, to date with respect to the DAP Application and (ii) notify Developer in writing of either:

(a) any deficiencies in the DAP Application and requests for additional information or materials that are reasonably necessary in order to process the DAP Application under these DAP Procedures and are consistent with the type of documents listed in Exhibit 2 for DAP Applications, such that the DAP Application is not a Complete Application; or

(b) a determination that the DAP Application is a Complete Application, accompanied by a set of preliminary comments on the DAP Application compiled by the Priority Project Manager.

If deficiencies are identified, Developer shall promptly correct any such deficiencies and provide any such requested information and materials, following receipt of which the Priority Project Manager shall have fifteen (15) business days to notify Developer in writing whether deficiencies persist or the DAP Application is a Complete Application consistent with this Section 2.8.2.1. If the Priority Project Manager does not so advise Developer within such fifteen (15) business-day period, Developer may submit a subsequent request for determination of completeness to the Priority Project Manager and the City Attorney by certified mail, which request shall be labeled prominently: "Second Request: Application Deemed Complete Matter." If City fails to respond to the subsequent request within fifteen (15) business days, then the DAP Application shall be deemed a Complete Application and all time periods for City review shall run from the date of such deemed completeness. Notwithstanding the foregoing, a determination that a DAP Application is deemed a Complete Application shall not prevent the Priority Project Manager from requesting such additional materials as the Priority Project Manager determines are reasonably necessary for the City's review of the DAP Application in accordance with these DAP Procedures.

2.7.2.2 City Department Review – Complete DAP Application

As soon as practicable but in no event more than three (3) business days after the determination that a DAP Application is a Complete Application or within three (3) business days after the date that such DAP Application is deemed a Complete Application, the Priority Project Manager shall submit such Complete Application, or applicable portions thereof, to the Executive PCC for distribution to the applicable City Departments, any other Governmental Entities consulted by the City, and any third-party consultants identified by Priority Project Manager or Executive PCC members. From time to time after the initial application submittal, the Priority Project Manager may request additional copies of complete or partial plan sets for distribution to reviewing entities noted above that represent additional reviewing parties. Developer shall submit such additional plan sets within three (3) business days from request, with any additional days beyond such three (3) business day period being added on a business day for business day basis to the review time line in Section 2.7.2.3. Each Executive PCC member will coordinate review by key

technical staff within its respective department for consistency with the Development Requirements and Applicable Regulations.

2.7.2.3 City Review - Complete DAP Application

Each member of the Executive PCC will coordinate with key staff to review each Complete Application as expeditiously as reasonably possible and to provide any comments on the submittal within twenty-two (22) business days of their receipt of the submittal. The Priority Project Manager shall convene one or more meetings of the Executive PCC to receive comments generated from this review process and to resolve conflicts to the extent necessary. As promptly as reasonably feasible, but in no event later than thirty-two (32) business days after the date the DAP Application is Complete, the Priority Project Manager shall provide Developer with a summary of City comments on the DAP Application, reasonably compiled and edited as necessary for clarity and consistency, and any other comments by other Governmental Entities and community organizations consulted by the City. The City comments provided by the Priority Project Manager may include requests for additional information or changes to a Complete Application that do not conflict with the Development Requirements. If changes are proposed, then the Developer, the Priority Project Manager and other City Staff as the Priority Project Manager requests shall promptly meet and confer in good faith to reach agreement on any such changes, provided, however, that in no event shall the total time from the date of a Complete Application to submittal of a staff recommendation to the Planning Commission exceed sixty (60) business days, unless otherwise agreed to by Developer and the Priority Project Manager, provided, however, that if the Priority Project Manager reasonably requests additional materials from Developer in connection with its review of the Complete Application and Developer does not furnish such materials within five (5) business days, such sixty (60) business-day period shall be extended on a business-day-for-business-day basis until the date on which Developer furnishes such materials.

2.7.2.4 Planning Commission Recommendation

As promptly as reasonably feasible, but in no event later than the expiration of the sixty (60) business-day period specified above (as may be extended as set forth above), the Director shall submit to the Planning Commission the Complete Application and a written staff report (which may contain a staff recommendation) concerning the DAP Application. The Planning Commission may hear the DAP Application and make a recommendation to the City Council within twenty-two (22) business days after the submittal date. The scope of the Planning Commission's review and recommendation shall be limited to the DAP approval standard set forth in Section 2.7.2.6 .

Consideration of DAP Applications by the Planning Commission shall include notification to surrounding property owners and neighbors pursuant to SCCC Section 18.112.060.

2.7.2.5 City Council Approval

As promptly as reasonably feasible following the earlier to occur of (i) the Planning Commission's hearing and/or recommendation or (ii) the expiration of the twenty-two (22) business-day period for review under Section 2.7.2.4 without Planning Commission hearing and/or recommendation, the Director shall submit the Complete Application to the City Clerk for review and consideration by the City Council at a public meeting held within twenty-two (22) business days after such Complete Application is submitted, unless Developer consents to an extension of such period (including continuances). At the public meeting, the City Council shall approve, approve with conditions, or deny the DAP Application.

Consideration of DAP Applications by the City Council shall include notification to surrounding

property owners and neighbors pursuant to SCCC Section 18.112.060.

2.7.2.6 City Review - Approval Standard

In order for the City Council to approve or conditionally approve a DAP Application, the City Council, in its reasonable discretion, must find that (1) the DAP Application conforms to and is consistent with the applicable Development Requirements and the MCP, (2) the Infrastructure that Developer proposes to construct in connection with the applicable Phase or Partial Phase that is the subject of the DAP Application is sufficient to serve the proposed development on the subject property, and (3) the proposed shared outdoor space provided for the applicable Phase or Partial Phase in accordance with the MCP is reasonable and appropriate to the proposed level of development. In its consideration of the DAP Application, the City Council may alter or supersede previously imposed conditions of approval (whether related to the MCP, a prior DAP, or otherwise) so long as they are consistent with the foregoing standards of approval and acceptable to Developer .

(i) If a DAP Application is disapproved by the City Council, then the City Council shall, at the public hearing during which the DAP Application is being considered, state the basis for the disapproval. The Council shall, at its discretion, memorialize the findings for the disapproval in a resolution at that same meeting, or at a subsequent meeting, or direct the Director to summarize the findings in writing after the hearing. Following any disapproval of a DAP Application, Developer may within sixty-five (65) business days following receipt by Developer of such resolution or summary (subject to such extensions as may be approved by the Director) make changes to and resubmit the DAP Application. Promptly following the City's receipt of a revised DAP Application, the Priority Project Manager shall submit such revised DAP Application in accordance with the procedure set forth in this Section 2.7.2.

2.7.2.7 Amendments to DAP Approvals

Developer may apply to the City for an amendment to a DAP approval in accordance with the standards and procedures for a DAP Application. All proposed amendments shall be subject to review and consideration by the Director, unless he or she determines that the proposed amendment is material. The Director shall have reasonable discretion in determining whether or not an amendment is material, provided, however, that in no event shall an amendment be considered material if it increases or decreases by no more than ten percent any of the numerical standards set forth in the MCP, including, without limitation, standards related to any of the following: Site Coverage, Maximum Building Heights (subject to compliance with applicable FAA regulations), Setbacks, Vehicle/Parking/Servicing Access, Pedestrian/Bicycle Accommodations, Active Street Frontages and Open Space and Amenities (collectively, the "MCP Standards"). Conversely, an amendment shall be considered material if it (i) increases any of the numerical MCP Standards by more than twenty-five percent or (ii) reduces the proposed number of parking spaces by more than twenty-five percent below the applicable supply ratios specified in the MCP. If the Director determines that the amendment is material, he or she shall submit the proposed amendment for City review and approval in accordance with the standards and procedures set forth in Sections 2.7.2.2 through 2.7.2.6.

3. ARCHITECTURAL REVIEW

3.1 WHEN ARCHITECTURAL REVIEW IS NOT REQUIRED.

Notwithstanding SCCC 18.76.020 (Architectural review process), no review by the City's Architectural Committee or under Section 3.3 below shall be required for the issuance of any approvals or Building Permits for any Building within the Project Site if the approved DAP Application included, at Developer's option, all of the materials listed in Exhibit 2, Section 1.8 ("Architectural Materials") with respect to that

particular Building. In such case, the provisions of Sections 3.2 and 3.3 below shall not apply. If the DAP Application did not include a complete submission of the Architectural Materials, this Section 3.1 shall not apply and the DAP Application shall undergo architectural review in accordance with Section 3.2.

3.2 WHEN ARCHITECTURAL REVIEW IS REQUIRED.

Except as otherwise provided in Section 3.1 above, no Building Permit for any Building within the Project Site shall be issued, and no structure or building shall be constructed or used in any case hereinabove mentioned unless Architectural Materials have been approved by the Director (or the City Council, upon appeal) and no appeal or review is pending and the time to appeal has expired. In the event of an appeal by Developer or Others Affected, or action to review is taken by the City Council, no such permit shall be granted until the matter has been finally acted upon and final approval has been received. All buildings, structures, and grounds shall be in accordance with the plans and drawings as finally approved. Notwithstanding the foregoing, signage shall be reviewed and approved by the Director or his or her designee, in accordance with the Master Sign Program established for each Phase.

3.3 REVIEW OF ARCHITECTURAL MATERIALS

3.3.1 City Review - Initial

The Priority Project Manager shall process each Architectural Review Application as expeditiously as reasonably feasible using the same procedures described for a DAP Application for a Phase or Partial Phase in Section 2.7.2.1, including but not limited to the "deemed completeness" concept described therein. An Architectural Review Application shall not be deemed a Complete Application for purposes of the review periods set forth below until the Priority Project Manager notifies Developer in writing that it is a Complete Application and the review periods shall commence on the date of such notification.

3.3.2 City Review – Action on Complete Architectural Review Application

(a) The Director shall render a decision on any Architectural Review Application within twenty-eight (28) business days following the determination that such Architectural Review Application is a Complete Application, except where the Developer consents to an extension of time.

(b) The authority for approval of any Architectural Review Application in accordance with the provisions of this Section 3 is imposed upon the Director (and his or her designees), and the action thereon by the Director shall be final and conclusive, except in the event of an appeal and referral as hereinafter provided.

(c) The Director (or his or her designee) shall review each Architectural Review Application and shall approve such application in writing if the Director determines, in the Director's reasonable discretion, that the Architectural Materials conform to and are consistent with the applicable design requirements and standards of the MCP and the Development Requirements. In the event Developer or Others Affected are not satisfied with the decision of the Director, he or she may within five (5) business days after such decision appeal in writing to the City Council in accordance with the procedures set forth in SCCC 18.108.060.

(d) If an Architectural Review Application is disapproved by the Director, the Director shall state the basis for the disapproval, which basis shall be summarized in writing by the Director and delivered to Developer within twelve (12) business days of the decision date. Following any disapproval of an Architectural Review Application, Developer may make changes to and resubmit the Architectural Review Application at any time. A revised Architectural Review Application that is deemed a

Complete Application shall be processed in accordance with the procedure set forth in this Section 3.3.2.

3.3.3 Amendments to Architectural Review Application Approvals

Developer may apply to the City for an amendment to an approved Architectural Review Application in accordance with the same standards and procedures for review of an Architectural Review Application set forth in this Section 3.3.

4. GOVERNMENT REQUIRED PROVISIONS, CHANGES

Where a change in a Complete Application is required by a City Department or other Governmental Entity where such City Department or Governmental Entity has authority to require such change pursuant to either applicable state or federal law or, in the case of City Departments, pursuant to the Development Agreement, the City and the Developer acknowledge and agree that: (i) they will meet and confer and make every reasonable effort to respond to such requirement in a manner that is consistent with the Development Requirements, MCP and applicable State and federal law and (ii) the City will not deny its Approval of any change that is required to comply with applicable state or federal law or the requirements of City Departments and Governmental Entities so long as such change does not conflict with the Development Requirements.

EXHIBIT 1

Definitions

"**Additional Initial Buildings**" means, in addition to the Minimum Initial Buildings, an additional 200,000 square feet of office, retail and/or residential Buildings in Phase 1, and an additional 230,000 square feet of office, retail and/or residential Buildings in Phase 2, as more particularly described in the DDA.

"**Additional Retail Buildings**" means an aggregate of one million five hundred thousand (1,500,000) square feet of retail, within Phases 2 and 3, as more particularly described in the DDA.

"**Architectural Materials**" as defined in Section 3.1.

"**Applicable Regulations**" as defined in the Development Agreement.

"**Architectural Review Application**" as defined in Section 1.

"**Building Permit**" means a building permit issued by Building Inspection Division pursuant to the City's Building Code.

"Buildings" means each physical structure located within a Phase that is intended for human occupancy or the conduct of a business, including but not limited to hotels, retail and office space, parking structures and apartments.

"**City**" as defined in the Preamble.

"**City Departments**" mean all City departments having permitting or review authority over the Project Site.

"**City Staff**" means employees of the City or other City staff or outside consultants retained and authorized by the City to review and/or approve Applications under these DAP Procedures on behalf of the City.

"**Complete Application**" means, with respect to a DAP Application or an Architectural Review Application, the submission of all documents and materials in such detail as is required under the DDA and these DAP Procedures for such Application.

"**DAP**" as defined in Section 1.

"**DAP Application**" as defined in Section 1.

"**DAP Procedures**" as defined in the Preamble.

"**DDA**" means that certain Disposition and Development Agreement by and between the City and Master Developer.

"**Developer**" means the Master Developer or applicable Phase Developer submitting a DAP Application.

"**Development Agreement**" as defined in the Preamble.

"**Development Requirements**" means (i) the Project Approvals, (ii) the Transaction Documents and (iii) the documents approved under these DAP Procedures, as they may be amended from time to time.

"**Executive Project Clearance Committee**" or "**Executive PCC**" as defined in Section 2.2.

"**Governmental Entity**" means all federal, state, local and/or regional governmental and quasi-governmental bodies and authorities other than the City, including departments, agencies, boards and councils, and any political subdivision, public corporation, district or other political or public entity or department thereof having or exercising jurisdiction over City, Developer or the Project or the Project Site, or such portions thereof as the context indicates.

"**Ground Lease**" means a ground lease between City and the applicable Phase Developer.

"**Infrastructure**" means those items identified in the Infrastructure Master Plan including open space improvements (such as park improvements and restrooms), streets and transportation improvements, sewer and storm drainage systems, water systems, traffic signal systems, dry utilities and other improvements any of which are to be constructed in or for the benefit of the applicable real property or any other matters described in the Infrastructure Master Plan. Infrastructure does not include Buildings.

"**Major Department Store**" means a department store of 100,000 gross square feet or larger with middle to high price points in terms of caliber of merchandise.

"**Master Developer**" means Related Santa Clara, LLC, a Delaware limited liability company.

"**MCP**" as defined in the Preamble.

"**Minimum Initial Buildings**" means (i) not less than 600,000 square feet of office, hotel and/or retail Buildings in Phase 1, which shall include a minimum of a 300-key (or larger) hotel other than an extended stay hotel and 50,000 square feet of retail uses; and (ii) not less than 700,000 square feet of Buildings in Phase 2, consisting of (x) 500,00 square feet of Retail, and (y) 200,000 square feet of office and/or a 300-key (or larger) hotel, as more particularly described in the DDA.

"**Minimum Retail Buildings**" means (i) not less than 50,000 square feet of retail Buildings in Phase 1 and (ii) not less than 750,000 square feet of retail Buildings in the aggregate in Phases 2 and 3, as more particularly described in the DDA.

"**Others Affected**" are anyone with a property interest in land located within 1,000 feet (but outside the boundaries of the MCP) of the site for which architectural review is approved. These entities may appeal an Architectural Review approval.

"**Outside Date**" means the last date by which a particular obligation may be satisfied, as such date is set forth in the Schedule of Performance.

"**Partial Phase**" means a proposal to develop less than all of the land within the boundaries of a particular Phase.

"**Phase**" means, individually or collectively as the context requires, each parcel or parcels designated as a Phase of development by Master Developer from time to time under the DDA.

"**Phase Developer**" means the tenant under a Ground Lease for a particular Phase.

"**Planning Department**" means the Planning Department of the City, or any successor public agency designated by or under law.

"**Priority Project Manager**" as defined in Section 2.2.

"**Project**" as defined in Section 2.2.

"**Project Approvals**" means, collectively, the following actions taken by the City following certification of the Environmental Impact Report for the City Place Project:

i. adoption of a Resolution rezoning the Property as PD-MC and adopting the MCP and Infrastructure Master Plan;

ii. adoption of amendments to the General Plan, including a new General Plan land use classification of Urban Center/Entertainment District; an amendment to the Climate Action Plan setting forth vehicle trip reduction targets for the new classification; and an amendment revising city-wide limitations on office development ;

iii. adoption of a Resolution approving the DDA; and

iv. adoption of an Ordinance approving the Development Agreement.

"**Project MMRP**" means the Mitigation Monitoring and Reporting Program for the City Place Project, attached as an exhibit to the DDA.

"**Project Site**" means the property that is the subject of the CityPlace Santa Clara Master Community Plan.

"**Schedule of Performance**" means the schedule of performance attached as an exhibit to the DDA, as such schedule of performance may be updated, amended or extended by any delay in accordance with the DDA.

"**Take Down**" means the City and Master Developer or a Phase Developer designated by Master Developer entering into a Ground Lease for the parcels within a particular Phase.

"**Transaction Documents**" means the (1) DDA, (2) the Development Agreement, (3) Ground Leases and related conveyance agreements governing the development of the Project Site in accordance with the DDA, and (4) other necessary transaction documents for the conveyance, management and redevelopment of the Property.

EXHIBIT 2

Documents to be Submitted for DAP Applications

During each stage of the project design review process set forth in these DAP Procedures, the Director and the Developer may mutually approve changes to the type and scope of documents set forth in these DAP Procedures for a particular Application, in order to ensure consistency with standards and guidelines in the Development Requirements.

Subject to consistency with the MCP and Development Requirements, there shall be no minimum acreage requirement for property that is subject to the DAP Application. The Development Area Plan application shall include the following information, subject to the satisfaction of the Director:

1.1. Written Narrative of Compliance with MCP

A written statement regarding: (a) the proposed land use program, including the total dwelling units, if any, in the plan by type (such as multi-family and the like), the square footage of nonresidential uses and a parking calculation of required and proposed spaces by use, and opportunities for shared parking; (b) how the DAP conforms with the MCP; (c) a summary of material conditions that must be satisfied under the DDA in connection with the applicable Phase; (d) a description of the Infrastructure that will be provided in connection with the applicable Phase or Partial Phase by reason of geographic adjacencies or need to serve the Phase or Partial Phase; and (e) contextual information about the area surrounding the Site, if requested by the Director.

1.2. Data Charts

Each submittal shall include the following data charts:

1.2.1. Program of uses and approximate aggregate square footage of such uses, including open space, including indication of whether such uses are permitted or conditional;

1.2.2. Estimated Phase aggregate development in relation to the total allowable building program;

1.2.3. Anticipated building heights;

1.2.4. A parking data table;

1.2.5. Status of overall development build-out for previous Phases, if any;

1.3. Site Plan

The Site Plan will pertain to the total area of development and improvement included in the Phase. A Site Plan or Plans as needed (at a scale of l" = 100') should conceptually indicate:

1.3.1. Location of potential uses;

1.3.2. Phase blocks, parcel boundaries and dimensions to the extent reasonably known or anticipated;

1.3.3. Location of public property (i.e., sites that will either not be conveyed via Ground Lease to Developer, or will be conveyed to Developer and conveyed back to City upon Completion of applicable Infrastructure);

1.3.4. Generalized lot coverage, floor area ratio, and conceptual diagrams of massing, height and bulk of future buildings illustrated in neighborhood-wide plans, sections and three dimensional figures.

1.3.5. Planned public and private shared outdoor open space, within and surrounding the proposed Phase; and

1.3.6. Diagram of proposed roads and sidewalks separating blocks, and, to the extent known, mid-block alleys and pedestrian and bicycle connections and pathways;

1.4. **Development Obligations**

The following materials as required under the DDA:

1.4.1. In connection with the Phase 1 DAP, the location, construction schedule and Architectural Materials Documents for the Temporary Station Site (DDA, Section 5.3.1);

1.4.2. In connection with the DAP for such Phase, the location and square footages of: the Minimum Initial Buildings within Phase 1 or Phase 2, as applicable, the Minimum Retail Buildings within Phase 1, 2 or 3, as applicable (DDA Section 5.3.2 and 5.3.4), and a minimum of 200 residential units within Phase 1, 2 or 3, as applicable;

1.4.3. In connection with the DAP for such Phase, the proposed location and square footages of the Additional Initial Buildings that could be satisfied under the best efforts standard of the DDA within Phase 1 or 2, as applicable (DDA Section 5.3.3);

1.4.4. In connection with the DAP for such Phase, the proposed location and square footages of the Additional Retail Buildings that could be satisfied under the best efforts standard of the DDA within Phase 2 or 3, as applicable (DDA Section 5.3.5).

1.4.5. For all obligations that can be satisfied among two or more Phases (i.e., the Minimum Retail Buildings, the best efforts requirements for the Additional Retail Buildings, and the best efforts requirements for Major Department Stores), the DAP for Phase 2 shall indicate whether or not each of the Additional Retail Buildings will be included in Phase 2, or if part of such Development Obligation will be deferred to Phase 3. (DDA Section 5.4.1).

1.4.6. In connection with the DAP for such Phase, the proposed location and square footages of the Major Department Stores that could be satisfied under the best efforts standard of the DDA within Phase 1, 2 or 3, as applicable (DDA Section 5.3.6);

1.4.7. The DAP for Phase 3 shall indicate how any of the Additional Initial Buildings, Additional Minimum Buildings or Major Department Stores that may be allocated to City Center Phase 3 will be met within Phase 3, to the extent that such City Center Buildings have not been previously satisfied by the inclusion of Improvements within the DAPs for Phases 1 and/or 2, as applicable. (DDA 5.4.2).

1.4.8. A summary of the uses and square footages of Minimum Initial Buildings, Minimum Retail Buildings, Additional Initial Buildings, Additional Retail Buildings and Major Department Stores that have been constructed to date, the proposed square footages of such categories of buildings to be constructed under the proposed DAP Application and the remaining balance to be constructed in future Phases. (Phases 1-3 only).

1.4.9. A Parking Management Plan to be updated with each DAP Application in accordance with DDA Section 5.5 that will show how at least 3,000 parking spaces will be accommodated on the entire Project Site including City-controlled property that has not yet been Taken-Down to serve non-NFL events at Levi's Stadium on a non-reserved basis.

1.5. Signage Plan

The DAP Application for Phase 1 will include comprehensive signage standards for all of Phases 1, 2 and 3. The first DAP Application submitted for each successive Phase after Phases 1, 2 and 3 will include comprehensive signage standards for the entire applicable Phase.

1.6. Tentative Subdivision Map

A tentative subdivision map or vesting tentative map that includes the property within the development area plan area.

1.7. Topography

A map showing the existing topography of the district at one-foot contour intervals, if required by the Director.

1.8. Architectural Materials

At Developer's option and to the extent known, the following Architectural Materials:

1.8.1. Preliminary elevations of all proposed structures drawn to scale. The purpose of such drawings is to indicate the building heights, materials, fenestration, colors, and the general appearance of the existing and/or proposed structures consistent with the MCP design standards and guidelines;

1.8.2. A proposed plot plan for the applicable Building site showing the existing and/or proposed buildings (indicating maximum and minimum distances between buildings, between building and property or building site boundaries, percentage of building coverage and percentage of landscaping, if applicable), paving and areas to be landscaped;

1.8.3. A parking and/or loading plan drawn to scale;

1.8.4. Preliminary floor plans of the proposed structures;

1.8.5. Preliminary landscaping plan;

1.8.6. Fencing, trash disposal and recycling storage areas;

1.8.7. Preliminary stormwater treatment plan; and

If Developer does not submit the foregoing Architectural Materials, then the provisions of Sections 3.2 and 3.3 of the DAP Procedures shall apply.

1.9. Infrastructure Plans and Documents

Illustrative concept plans for Infrastructure shall be submitted for both transportation systems and utilities within the Phase and shall correspond to any Improvements to be provided with the applicable tentative subdivision map.

1.9.1. Roadways, including identifying proposed public and private ownership.

1.9.2. Transit.

1.9.3. Pedestrian routes and improvements, including identifying proposed public and private ownership.

1.9.4. Bicycle lanes and improvements.

1.10. Open Space

Conceptual drawings and data charts showing acreages and uses for all proposed open spaces within the Phase, including an analysis of compliance with the SCCC Chapter 17.35 (Parks and Recreational Land). The City Center North Neighborhood Park (on Parcel 3) is included with Phase 2A for which no DAP application will be submitted. Therefore, if the Phase 3 DAP Application (or the Phase 2 DAP Application if required for compliance with Chapter 17.35 of the Code) does not include the relevant information required under this Section 1.101 pertaining to the City Center North Neighborhood Park, the Developer shall include the proposed terms for an agreement regarding the timing and procedures for approval and development of the City Center North Neighborhood Park, which agreement shall be a condition of approval to the applicable DAP Application.

1.11. Project MMRP

A report describing the substance and timing of compliance with the applicable Mitigation Measures from the Project MMRP to be completed during the Phase.

1.12. Retail Plan

For any DAP Application that includes retail components, Developer shall submit a retail plan for informational purposes that includes the sizes and types of retail that will be targeted during that Phase.

1.13. Traffic Analysis

A traffic report prepared by a qualified third-party traffic consultant analyzing the projected vehicle trips and trip reduction measures for the Phase consistent with the requirements of the MMRP and Development Agreement.

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CITYPLACE

SANTA CLARA

MASTER COMMUNITY PLAN SUPPLEMENT | JUNE 1, 2016

CITYPLACE

SANTA CLARA

MASTER COMMUNITY PLAN

PREPARED FOR:

RELATED COMPANIES
MASTER DEVELOPER

PREPARED BY:

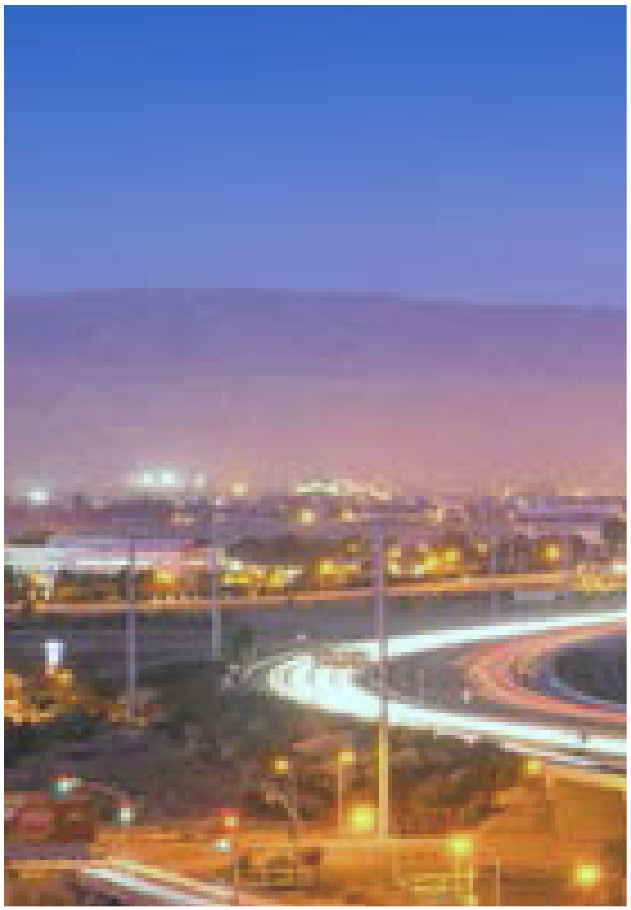
RTKL ASSOCIATES, INC.
MASTER COMMUNITY PLANNING

IN COLLABORATION WITH:

ELKUS MANFREDI ARCHITECTS
MIXED-USE PLANNING

FEHR & PEERS
TRANSPORTATION ENGINEERING

LANGAN TREADWELL ROLLO
CIVIL ENGINEERING





SUPPLEMENT



PARCEL 3 PARK

ENHANCED OPEN SPACE "EOS" VARIANT

This supplement describes an additional variant, as proposed by the Master Developer.

OVERVIEW

After the initial public release of the Draft MCP, the Master Developer proposed an additional land use scheme, referred to as the Enhanced Open Space ("EOS") Variant, in contrast to Scheme A and Scheme B as they are described in Chapter 3.2. Under the EOS Variant, Parcel 3 would be set aside by the developer for the City and reserved for park uses, as depicted in Exhibit S-2 [1] (the "City Place Park"), instead of being developed by the Master Developer for up to 720,000 square feet of office building uses and associated parking. The 720,000 square feet of office that had been planned for Parcel 3 would be reallocated to other parcels as described below.

It is anticipated that if the City Council approves the MCP and adopts the EOS Variant as the Project, the City would require that the Master Developer submit an Integrated MCP for approval by the Director of Planning and Inspection following City Council approval of the project to reflect the City Place Park and the shift of office square footage to other sites. Such an Integrated MCP would revise the text and figures as necessary to reflect and eliminate any inconsistencies with the EOS Variant that is described in this MCP Supplement.

FUTURE CITY PLANNING FOR DEVELOPMENT OF PARCEL 3 PARK

There currently exist no specific plans for Parcel 3 development and use as a park (except for North Park as indicated in footnote 1). In the future, in consultation with the Master Developer and with community input, the City will consider plans for park, recreation, and open space uses that are complementary to, and do not unreasonably interfere with, the City Center development.

Additional CEQA evaluation would potentially be required prior to the development of the City Center Park if the City proposes park development that would: require significant structures; require any intrusion into the landfill refuse layer; or be designed with facilities to regularly accommodate major events or activities generating significant levels of traffic.

MASTER DEVELOPER OBLIGATION TO PROVIDE ACCESS TO PARCEL 3 PARK

Parcel 3 is currently accessible via an existing on-site road within the golf course grounds that extends from a low point at the Southeast corner of the parcel and traverses up the eastern landfill embankment to reach the higher areas of this parcel where it joins a cart path utilized by the golf course. This road is primarily utilized by golf course maintenance vehicles and golf carts and does not meet the standards of a city street. A second off-site access road connects Parcel 3 to Great America Way by use of an easement through and along the eastern edge of Santa Clara Gateway's parking lot and is not intended for future public access. This easement is provided for maintenance/emergency access only.

The master developer shall provide an access road from the development side to the south (Parcel 4) to meet City public street standards, in a manner that provides useful access to the upper sections of the parcel from the City Center development. This road will be improved so as to accommodate two lanes of traffic and also include street lighting consistent with the design of street lighting for the City Center development. A

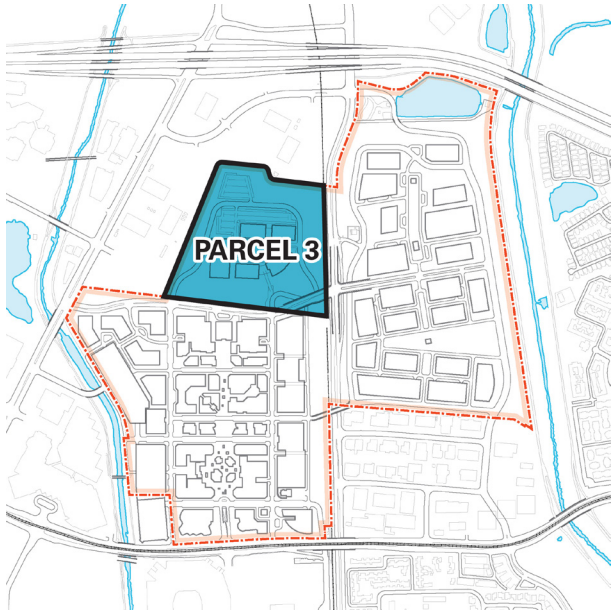


Exhibit S–1: PARCEL 3 KEY DIAGRAM

[1] *The southern 2.5 acre portion of Parcel 3 would continue to be retained and developed by the Applicant as North Park as part of the DAP for Phase 3.*

turning circle shall be provided to redirect traffic back to the City Center. Any additional infrastructure and park improvements for the City Place Park will be carried out and funded by the City.

The Master Developer may at its option regrade and lower the contours of Parcel 3 prior to the handover of the parcel for park development. Surplus dirt is currently stockpiled on this parcel, which may be required as fill for other parcels of the project. Parcel 3 is currently serviced by a functioning landfill maintenance system that serves the site as presently configured for public golf course use. If this system is disturbed by surplus dirt removal, it will be repaired by the Master Developer. In such case, any disturbed portions of Parcel 3 would be rough graded by the Master Developer to a level pad.

As specified in the Disposition and Development Agreement, the Master Developer shall enter into a Ground Lease for Parcel 3 within the earlier of (i) 12 months from the start of construction of any Residential development within Phase 2; or (ii) 24 months of the start of construction of Phase 2. The Master Developer will construct and dedicate the street to access Parcel 3, and Parcel 3 will be made available to the City within 24 months after Take Down of the Parcel 3 Ground Lease. Upon acceptance of the street dedication, the City will assume full responsibility for constructing, maintaining and operating the City Center Park. Accordingly, instead of being designated as Phase 5, Parcel 3 shall be designated as Phase 2A (and Phases 6, 7 and 8 shall be redesignated as Phases 5 through 7.)

In addition to these obligations to provide access improvements, the Development and Disposition Agreement requires the Master Developer to make a monetary contribution to the City to be used toward the costs of planning and developing the City Center Park.

RELOCATION OF OFFICE USES

On Parcels 1, 2 and 5, the Applicant would be allowed to increase the amount of office space by up to 20% of the total planned development for those parcels. For Scheme A, this variant would result in up to an additional 240,000 sf of office space on Parcel 1, an additional 432,000 sf of office space on Parcel 2, and an additional 48,000 sf of office space on Parcel 5 (slightly less than 20% of the Parcel 5 square footage so that the total re-allocated office space equals 720,000 sf.). Table S-1 sets forth the updated summary development yields for each parcel in the different schemes under the Enhanced Open Space Variant.

This intensification of use on Parcels 1, 2 and 5 would increase the intensity of land uses for individual parcels, which may result in an increase in the heights of individual office buildings, but the overall height of buildings will not exceed 17 stories on any parcel, which is the same as Scheme A and Scheme B. The increased intensity may result in higher floor area ratios (FAR) for individual parcels or Phases, but the overall FAR for the development within the project boundaries remains the same.

EXHIBIT S-2: ILLUSTRATIVE SITE CONCEPT PLAN



1″ = 800′

0′ 200′ 400′ 800′ 1600′

TABLE S-1: SUMMARY DEVELOPMENT YIELDS FOR ENHANCED OPEN SPACE VARIANT

PROJECT YIELDS *(Scheme "A" with Parcel 3 changed to park use, and P-3 Office GSF redistributed proportionately to Parcels P-1, P-2 & P-3.)*

PARCEL 1 - SCHEME A

Building Type		Floors	Gross Area
Office			
Office	*(5 Buildings, 30k-45k footprint)*	6~8	1,440,000
TOTAL of PARCEL 1			**1,440,000**
SITE AREA:	49.6 Acres (less 10 Acre Retention Basin)	FAR:	0.83

PARCEL 2 - SCHEME A

Building Type		Floors	Gross Area
Office			
Office	*(7 Buildings, 30k-50k footprint)*	6~10	2,592,000
TOTAL of PARCEL 2			**2,592,000**
SITE AREA:	60.9 Acres	FAR:	0.98

PARCEL 3 - SCHEME A

Building Type		Floors	Gross Area
Park			
CityPlace Park		0	0
TOTAL of PARCEL 3			**0**
SITE AREA:	34.9 Acres	FAR:	0.00

PARCEL 4 - SCHEME A

Building Type		Floors	Gross Area
Residential			
Residential	*(5 buildings, 20-30K footprint)*	3~17	1,480,000
Hotel			
Hotel	*(825sf / key)*	8~17	298,000
Retail			
Anchors	*(4 buildings, 20-60K footprint)*	1~3	330,000
F&B		1	225,000
Retail		1~2	670,000
Entertainment			
Entertainment	*(3 buildings, 40-60K footprint)*	1~2	190,000
Office			
Office	*(6-9 buildings, 25-40K footprint)*	3~17	1,066,400
TOTAL of PARCEL 4			**4,259,400**
SITE AREA:	86.6 Acres	FAR:	1.13

PARCEL 5 - SCHEME A

Building Type		Floors	Gross Area
Residential			
Residential	*(1 building, 18-20K footprint)*	10~17	200,000
Hotel			
Hotel	*(750 sf / key)*	7~17	280,000
Retail			
F&B		1	25,000
Retail		1~2	62,000
Office	*(1 buildings, 25-30K footprint)*	11	306,000
TOTAL of PARCEL 5			**873,000**
SITE AREA:	8 Acres	FAR:	2.52

PROJECT TOTALS			**9,164,400**
SITE AREA:	240 Acres (less 10 Acre Retention Basin)	FAR:	0.96

PROJECT YIELDS *(for other scheme options identified in EIR)*

PARCEL 2 - SCHEME A VARIANT

Building Type		Floors	Gross Area
Office			
Office	*(2 buildings, 30k-50k footprint)*	5~6	423,000
Retail			
Anchors	*(2 buildings, 75-100K footprint)*	1~2	260,000
Retail		1~2	259,000
TOTAL of PARCEL 2			**942,000**
SITE AREA:	60.9 Acres	FAR:	0.35

PARCEL 2 - SCHEME B

Building Type		Floors	Gross Area
Office			
Office		6~10	2,392,000
Retail			
Retail		1~2	200,000
TOTAL of PARCEL 2			**2,592,000**
SITE AREA:	60.9 Acres	FAR:	0.96

PARCEL 4 - SCHEME B

Building Type		Floors	Gross Area
Hotel			
Hotel	*(825sf / key)*	8~17	298,000
Retail			
Anchors	*(4 buildings, 20-60K footprint)*	1~3	330,000
F&B		1	225,000
Retail		1~2	670,000
Entertainment			
Entertainment	*(3 buildings, 40-60K footprint)*	1~2	190,000
Office			
Office		3~17	2,546,400
TOTAL of PARCEL 4			**4,259,400**
SITE AREA:	86.6 Acres	FAR:	1.13

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1 Site Location Map

APPENDICES

Appendix A: Grading and Site Access Technical Memorandum

Appendix B: Stormwater Technical Memorandum

Appendix C: Water Technical Memorandum

Appendix D: Sanitary Sewer Technical Memorandum

1.0 INTRODUCTION

1.1 Overview

This Preliminary Infrastructure Master Plan (the "Plan") has been prepared for Related Santa Clara, LLC ("Related") to support the planned City Place Santa Clara (the "Project") mixed-use development project in the City of Santa Clara, Santa Clara County, California. The Plan addresses roadway and utility infrastructure and other related improvements. .

The Plan establishes the general layout, design standards, guidelines, criteria, and specifications for the Project's infrastructure including streets, domestic and fire water, recycled water, wastewater, stormwater drainage and management, utility corridors, other infrastructure, and coordination of infrastructure installation with the landfill operation and maintenance systems.. More specific conceptual plans for infrastructure for each development area within the project will be submitted with each Development Area Plan, and the applicable tentative subdivision map. Such submittals shall be consistent with this Plan.

The Plan focuses on the infrastructure required to build the Project as described in the Master Community Plan (MCP). The process of developing this plan included City Department Head meetings to review each infrastructure element, developing an understanding of the project's usage/demand based on the overall MCP, developing an understanding of the City's infrastructure needs and establishing infrastructure design criteria based on existing and available information. The conceptual infrastructure design is based on the preliminary layout of the Project and the MCP and other design requirements, but it is expected to be updated and refined as the Project proceeds through Development Area Plan (DAP) approval, tentative and final subdivision map approval, grading and building permit approvals. and regulatory approvals associated with the landfill.

1.2 Property Acquisition, Dedication and Easements

The Mapping, property acquisition, dedication and acceptance of streets and other infrastructure improvements will occur through the Subdivision Map process in accordance with the City's Subdivision Code and Regulations. Except as otherwise noted, all infrastructure described in this Plan shall be constructed within the public right-of-way or dedicated easements to provide for access and maintenance of infrastructure facilities. The eventual project layout within the Project boundaries will ultimately determine the entity that owns, operates and maintains each infrastructure element.

City Resolutions to address the private infrastructure elements and specific public utility easements will be allowed within the Project as may be necessary to service the development. Utilities in these areas will be installed in accordance with the standards in this Plan and applicable City Regulations for public acquisition and acceptance within public utility easement areas, including provisions for maintenance access.

1.3 Technical Memoranda / Reports

Each infrastructure element described herein is more fully described in a Technical Memorandum included as an appendix to this Plan.. These memoranda identify the design criteria and provide more detailed conceptual layouts of each infrastructure system. Each utility system will be constructed according to the provisions of relevant City Standard Plans and Specifications, except

where the City approves a deviation. The Technical Memoranda included as appendices are as follows::

- Appendix A: Grading and Site Access Technical Memorandum
- Appendix B: Stormwater Technical Memorandum
- Appendix C: Water Technical Memorandum
- Appendix D: Sanitary Sewer Technical Memorandum

1.4 Revisions

This Infrastructure Master Plan and the technical memoranda included as appendices may be revised with the approval of the Santa Clara Director of Public Works without amending the Master Community Plan.

2.0 PROJECT DESCRIPTION

2.1 Site Description

The overall site (the "Site") for the Project is the former Santa Clara All Purpose Landfill and two additional sites (see Figure 1). The subject property includes five parcels: Parcel 1, Parcel 2, Parcel 3, Parcel 4 and Parcel 5 totaling approximately 240 acres. The landfill is no longer active and the Final Closure and Post-Closure Maintenance Plan (FCPMP) was approved in December 1992 and amended multiple times, most recently in December 2013. The site boundaries include Lafayette Street, Great America Parkway, , Tasman Drive, the Guadalupe River and the San Tomas Aquino Creek.

2.2 Planned Development

The development currently envisioned includes office, hotel, mixed-used retail, restaurant, entertainment, residential and parking structures with significant site improvements. The City has reported that the existing infrastructure systems were designed and constructed based on the 2010-2035 General Plan. The approvals for the Project include a zoning change to Planned Development –Master Community ("PD-MC") from the "B" zoning district and the ((Public, Quasi-Public and Public Park or Recreation) for Parcels 1 through 4 and from the "CP" (Commercial Park) zoning district in Parcel 5 is zoned "CP". MCP authorizes up to 9,164,400 gross square feet (gsf) with associated parking and site improvements. The current breakdown by parcel is as follows:

Table 1
Current Development Program

Parcel	Site Area (acres)	Potential Development Area (gsf)
1	49.6	1,200,000
2	60.9	2,160,000
3	34.9	720,000
4	86.6	4,259,400
5	8.0	825,000

This information was used to develop the initial water demand, sewer generation and electric load estimates. The preliminary estimates are provided in the Technical Memoranda.

2.3 Project Phasing

The current project planning includes a phasing strategy for full development of the five parcels in eight phases. Parcel 4 and 5, the location of City Center, would be developed in the first four phases. Parcel 3 would be developed in phase 5, Parcel 1 in phase 6 and Parcel 2 in the phases 7 and 8. The infrastructure will be phased with the parcel development as defined in the Development Area Plans.

The design of both the landfill operation and maintenance systems and the roadway and utility infrastructure for the development of the Project will consider the phasing strategy. The impact of the phasing will be handled through the design of each infrastructure element, considering which elements need to be designed, permitted and constructed prior to other elements. The design and construction of the roadway infrastructure and access to each site will be phased with the development and with the EIR Mitigation, Monitoring and Reporting Program (MMRP) requirements. Site earthwork may require moving existing fill material between parcels as well as phasing the earthwork to accommodate the landfill operation systems reconstruction. The Post Closure Land Use Plan (PCLUP) documents the requirements for the landfill systems as part of the Project.

3.0 SITE CONSTRAINTS

A Base Map (aka Site Constraints Map) has been prepared to compile all of the relevant information received to date. The Map includes but is not limited to information from the City's 2013 aerial topography, preliminary title report, easements, ENA documents, GIS mapping, record utility maps, State and City codes, landfill activity (haul roads) sketches and landfill records, as well data provided verbally from various sources including the City and previous City employees. A copy of the latest version of the Site Constraints Map is provided in the Technical Memoranda.

The site is proximate to a significant amount of existing infrastructure. The City owned and operated systems include sanitary sewer, stormwater drainage, water (domestic and fire), recycled water, landfill operation systems (gas extraction, leachate collection and monitoring) within and adjacent to the Site. Utility providers and infrastructure owners with facilities near the site include Silicon Valley Power (SVP), a City owned utility, Comcast, AT&T, Santa Clara Valley Water District (SCVWD), Pacific Gas & Electric (PG&E), Union Pacific Railroad (UPRR) and Valley Transportation Authority (VTA). Each system is briefly described below and record maps are provided in the Technical Memoranda.

- The stormwater drainage system includes gravity underground conveyance piping, surface drainage channels, retention basin and two pump stations that discharge stormwater runoff to the east to the Guadalupe River and to the west to San Tomas Aquino Creek.
- The domestic and fire water distribution system includes water mains, pumps, hydrants and other appurtenances; the sources for the system available to the City include an extensive local underground aquifer and imported water supplies delivered by the Santa Clara Valley Water District (SCVWD) and the San Francisco Hetch Hetchy system.
- The recycled water distribution system is a source of water available to the City for irrigation and other purposes via the San Jose/Santa Clara Water Pollution Control Plant's South Bay Recycled Water facility.

- The wastewater (sanitary sewer) system includes pump stations and both force and gravity sewers that convey sewage to the existing San Jose/Santa Clara Regional Wastewater Facility (Water Pollution Control Plant) located northeast of the site, adjacent to the San Francisco Bay.
- The landfill operation systems within Parcel 1, 2, 3 and 4 include a landfill gas extraction system and leachate collection system. The landfill gas is extracted via a system of vertical wells and horizontal pipes, and the gas is conveyed to a landfill gas-to-energy flare system operated by Ameresco, a private company under contract with the City. The leachate collection system (within Parcel 1 and Parcel 3 only) includes a central sump, laterals, risers and pump that discharge to the City sanitary sewer. Additionally, a groundwater monitoring well system and a landfill gas monitoring probe network are present at the Site.
- The UPRR infrastructure includes a single track within a 50-ft right-of-way between the west side of Lafayette Street and the east sides of Parcel 3 and 4. There is an existing Station, Santa Clara – Great America Station to the east of Parcel 5 accessible via Stars and Stripes Drive.
- The VTA operates a light rail on Tasman Drive south of Parcel 5.
- The SCVWD is responsible for the existing levees along the entire west side of Parcel 4 along Sam Tomas Aquino Creek and the entire east side of Parcel 1 and Parcel 2 along the Guadalupe River.
- The Silicon Valley Power electric system, Santa Clara's municipal electric utility, includes both overhead and underground facilities.
- The PG&E facilities include high-voltage overhead electric and buried gas services.
- AT&T and Comcast telecommunications are located in underground facilities.

4.0 GEOTECHNICAL AND ENVIRONMENTAL CONSIDERATIONS

Structural improvements developed on landfills must comply with specific construction standards set forth in the California Code of Regulations (CCR), Title 27, §21190. Planning documents, design, and construction of these improvements will need to be submitted as part of the Post-Closure Land Use Plan, Closure Plan and Post-Closure Maintenance Plan, and associated regulatory submittals to the County Local Enforcement Agency (LEA), CalRecycle, and the Regional Water Quality Control Board. Title 27 requires that post-closure construction on the site maintain the integrity of the landfill, including any existing final cover, drainage and erosion control systems, and gas monitoring and control systems. Modifications to these systems must be designed to be protective of public health and safety and the environment. Other post-closure land use requirements include monitoring and ventilating landfill gases beneath proposed buildings and installing improvements designed to keep moisture from penetrating into the landfill materials.

The former landfill consists of waste deposited during several episodes of filling on the separate parcels. It has been reported that landfill operations occurred between 1934 and 1994; however, based on historical aerial photographs and topographic maps, it appears that landfill operations began in the late 1960s (beginning in Landfill Parcel 4). The Landfill received final landfill closure certification in September 1994. The landfill on Parcel 4 operated between the 1960s and 1970s; landfill operations at the other parcels took place from the late 1970s through early 1990s. Our research indicates the lower portion of refuse was placed by excavating slots (*drag* technique) into the native soil and backfilling the slots with refuse. The topography indicates that soil embankments were constructed around the waste units and that refuse continued to be placed which created large mounds above current street elevation. On the basis of the available subsurface

information, the refuse on Parcels 1 and 3 ranges from about 40 ft to 80 ft thick. On Parcels 2 and 4, the thickness of refuse ranges from about 20 ft to 50 ft. The area of the refuse is approximately 136 acres within the four Parcels. The refuse is underlain by alluvial deposits consisting predominately of clay and sandy clay layers with occasional interbedded layers of sand and silt. Groundwater table elevations are generally in or within 10 ft of the bottom portion of the waste unit based on data from the groundwater monitoring program, and from groundwater levels observed in the recently drilled borings.

5.0 SITE GRADING AND STORMWATER MANAGEMENT

The existing site topography varies significantly, with low elevations near sea level and high elevations above 65 feet North American Vertical Datum of 1988 (NAVD 88). This large range in elevation is a result of the placement of the underlying refuse discussed in Section 4 above. In order to accommodate the planned development significant earth moving to provide for safe and accessible access to the proposed facilities on each of the five parcels will be required.

Based on the preliminary grading, the earthwork estimates to achieve subgrade for each Parcel are as follows:

Table 2
Earthwork Estimates

Parcel	Total Earthwork (CY)
1	410,000
2	220,000
3	250,000
4	500,000
5	350,000

Due to the underlying refuse and the on-going settlement, the final site grading design will be a complex exercise. It is preferable to avoid cutting into the refuse for reasons such as cost, air quality and health and safety. Additionally, because the refuse has very low compressive strength, adding fill to the site will surcharge the weak refuse and potentially result in additional settlement. These constraints combined with respecting the continuity and integrity of the landfill cap (clay soil layer) result in strict grading criteria and the development of detailed method statements that will focus on minimizing the disturbance required to grade the site. As the site grading plan is developed and the site improvements plans are prepared, interaction with the City and Local Enforcement Agency (LEA) will be required. The Grading and Site Access Technical Memorandum shows a preliminary grading scheme for the Project which includes general pad elevations and access road grading for the proposed development.

Drainage of the site is also complicated by the underlying refuse. The addition of water to the refuse can result in the production of toxic leachate, and can also contribute to settlement by further surcharging the already weak refuse. Due to these factors, infiltration of stormwater runoff is not feasible on the majority of the site. This non-infiltration based design will be discussed with the City, LEA, Regional Water Quality Control Board and Santa Clara Valley Urban Runoff Pollution

Prevention Program (SCVURPPP) to ensure the mechanisms are in-place to exclude the site from any stormwater infiltration requirements.

Because the project will replace more than 10,000 square feet of impervious surface area on the project site, the project must comply with the City of Santa Clara Stormwater C.3 provision requirements and the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) permit. In order to meet C.3 and NPDES requirements, the project will include low impact development (LID) measures to reduce runoff pollutant loads including bio-retention (with underdrain), flow-through planters, tree wells with media filter, infiltration trenches (with underdrain), landscaped open space, catch basin filters, green roofs, rainwater harvesting and on-site re-use and green streets (bioretention/permeable pavements with underdrain). The proposed treatment facilities will be numerically sized in accordance with City requirements to ensure that they will have sufficient capacity to treat the requisite volume of stormwater runoff entering the storm drainage system. In addition, the project will be required to to ensure continued maintenance and performance of the post-construction measures.

Both the San Tomas Aquino Creek and Guadalupe River are contained within FEMA certified levees adjacent to the site. As such, no increase in the 100 year flood elevation as a result of the development will be permitted without recertifying the levees. The on-site stormwater management and treatment features for each Parcel will be dynamically modeled during final design including buildings, parking garages, site, landscape, etc. The results of the modeling will be used to compare the proposed "permanent" stormwater peak flows and volumes for the Project with the existing peak flows and show compliance with the jurisdictional regulations. A separate Stormwater Management Report inclusive of detailed hydrologic and hydraulics calculations, analysis and conclusions will be prepared to document the final design of the stormwater management and storm drain system and to obtain the requisite approvals.

6.0 PROJECT ACCESS

6.1 Overview

The City Place Santa Clara site is currently serviced by two existing freeways. US Route 101 is an eight lane divided freeway running north-south up the Peninsula, along the west side of the San Francisco Bay. It is a major commuter route providing access from San Francisco to South San Jose. US 101 passes to the south of the development site and is accessed by travelling on Great America Parkway or Lafayette Street and Montague Expressway. State Route 237 is a six lane divided highway running east-west from Milpitas to Mountain View, connecting the east and west sides of the Silicon Valley. SR 237 passes to the north of the site, with access from Lafayette Street and the Gold Street Connector or Great America Parkway. Currently there are no plans to expand either US 101 or SR 237.

Local access to the Project is provided by three arterial streets. Great America Parkway is a north-south six lane divided major arterial to the west side of the development. There is a short frontage along Parcel 4, approximately 350 ft. Great America Parkway provides primary access to US 101 and SR 237. Tasman Drive is an east-west six lane divided arterial to the south of the Project and includes a center-running VTA owned and operated light rail. Lafayette Street is a north-south four lane arterial between the east and west side parcels of the development and includes the UPRR right-of-way along its west side. Lafayette Street provides access to US 101 by way of Montague

Expressway and SR 237 by way of the Gold Street Connector. Great America Parkway and Tasman Drive are currently developed with no apparent opportunities for expansion. Lafayette Street has limited opportunity for expansion on the east side and no opportunity for west expansion.

It is a development goal to make City Place Santa Clara both bike and pedestrian friendly. Currently, north-south bicycle access to the site is provided by dedicated bicycle trails along San Thomas Aquino Creek to the west of the site and the Guadalupe River Trail. There are also on street bike lanes along Great America Parkway, as well as bike lanes on Lafayette Street that extend to Calle de Luna just to the south of the development. Bike access to City Place in the east-west direction is more limited. Bike lanes currently exist on Tasman Drive, but they terminate near Lick Mill Boulevard east of the site. To the west, there are on street bike lanes along Old Mountain View-Alviso Road which provide access to residential neighborhoods in northern Sunnyvale.

A Traffic Impact Assessment will be prepared as part of the EIR. The following is intended to briefly summarize the current conditions and address how these conditions and the planned development impact the infrastructure planning for the Project. This section relies heavily upon the Fehr & Peers memoranda entitled "Existing Conditions Assessment for the Proposed City Place Santa Clara Mixed-Use Project" dated 2 May 2014 and "Preliminary Transportation Review of the Proposed City Place Santa Clara Mixed-Use Project" dated 14 May 2014.

6.2 Site Access

There are many challenges in providing access to City Place Santa Clara. The most difficult of these challenges is the amount of automobile congestion during commute hours. Both major freeways are operating above capacity now, with little opportunity for expansion. There is also little opportunity for expansion of existing arterial surface streets to boost capacity. A development of the scale of City Place will add to the traffic load of the surrounding area.,

Another challenge is that there is limited frontage to major arterials which makes it difficult to locate access points which will have adequate capacity to meet the demands of the Project. Parcel 1 and Parcel 2 front only to Lafayette Street on the west. They are bounded to the north, east and south by SR 237, the Guadalupe River and Lafayette Industrial Park, respectively, leaving only Lafayette Street available for access. Because it is surrounded by the Santa Clara Gateway Property to the west and north, the UPRR to the east and Parcel 4 to the south, Parcel 3 is essentially land locked. It is also significantly higher in elevation than the surrounding area, which adds constraints to access because of road grading and the existing landfill. Parcel 4 has limited frontage along Great America Parkway to the west, but is bounded to the north by Parcel 3, the east by the UPRR, the south by Stars and Stripes Drive and the south-west by the San Tomas Aquino Creek. Tasman Drive will provide multiple points of access to Parcel 5 and Parcel 4 via Centennial Boulevard, three new access locations (Avenue A, Avenue B and Avenue C (variant)) and an eastbound slip ramp to Stars and Stripes Drive. There are other access options that will be studied as the design of the Project is further developed.

6.3 Streets and Intersections

A new on-site street network comprised of both public and private streets, and improvements to some of the off-site roadways and intersections outside of the project boundary will be constructed to serve the Project. The following descriptions are based on the initial planning exercises and will require further evaluation as part of the TIA and final review and approval by the City.

Based upon the current concept plan and the initial preliminary transportation review, the conceptual parcel access summary is as follows:

Table 3
Conceptual Access Summary

Parcel	No. of Access Lanes In	No. of Access Lanes Out
1	4	4
2	4	4
3	4	4
4	9	10
5	4	4

The street and intersection improvements for site access may vary from the table above and the descriptions below after detailed engineering evaluations with respect to lane configuration, dimensions, signalization, etc. The following summarizes the current planning for the existing, new and modified intersections for the Project. Additional design information is provided in the Grading and Site Access Technical Memorandum.

6.3.1 Parcel 1

- One access point from Lafayette Street with a minimum of two entrance and three exit lanes. This access may be further developed in a "jug handle" configuration to serve as the primary access to Parcels 1, 2, and 4 and negate the need for the "urban interchange" described below.
- A new "Urban Interchange" which involves raising Lafayette Street and a new bridge over the UP Railroad providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- One access point from the north at Great America Way.
- Multiple connection points to Parcel 2 located along shared parcel line with a minimum one lane in each direction.

6.3.2 Parcel 2

- One access point from Lafayette Street with a minimum of two entrance and three exit lanes. This access may be further developed in a "jug handle" configuration to serve as the primary access to Parcel 2 with secondary access to Parcels 1and 4 and negate the need for an "urban interchange," as defined below.
- A new "Urban Interchange" which involves raising Lafayette Street and a new bridge over the UP Railroad providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- One access point from the south via the Lick Mill extension.

- One connection to Parcel 4 via a new bridge over Lafayette.
- Multiple connection points to Parcel 1 located along shared parcel line with a minimum one lane in each direction.

6.3.3 Parcel 3

- Two connection points to Parcel 4 with a minimum two lanes in each direction.

6.3.4 Parcel 4

- A new "Urban Interchange" which involves raising Lafayette Street and a new bridge over the UP Railroad providing access to Parcels 1, 2 and 4 with two entrance and three exit lanes, including bypass lanes for through traffic on Lafayette Street in each direction.
- One access point from Great America Parkway just north of Great America Parkway/San Tomas Aquino Creek crossing with a minimum two entrance and three exit lanes.
- Supplemental access point from Great America Parkway through the existing convention center property via a new bridge over the San Tomas Aquino Creek.
- Three access points from Stars and Stripes Drive via Avenue A, Avenue B and Avenue C with a minimum three entrance and three exit lanes.

6.3.5 Parcel 5

- Main access from the Tasman Drive / Centennial Boulevard intersection, and Stars and Stripes Drive (access to the below grade parking garage will need to be coordinated considering both vehicular and pedestrian movements).
- Supplemental right-in/right-out access to Tasman Drive via new Avenue A, Avenue B and possibly right-in / right-out / left-out at Avenue C (variant.)
- Supplemental access from a new Tasman Drive (eastbound) slip ramp to Stars and Stripes Drive.

The Lafayette Street "Urban Interchange" has numerous design and regulatory permitting challenges. There are overhead PG&E transmission lines on both sides of Lafayette Street and overhead SVP electric on the east side of Lafayette. The interchange will have to provide the proper clearances (or necessary relocation or undergrounding) from these utilities. It will also have to meet minimum vertical clearance requirements above the UPRR on the west side of Lafayette Street.

The access point at Great America Parkway will be the marquee entrance to the development. It will be designed to set the atmosphere for the entire development. There are challenges in the layout and design of this access point. As proposed, the access road from Lafayette Street to Great America Parkway follows the northern parcel line for Parcel 4, which meets Great America Parkway at a skew. Per the Caltrans Highway Design Manual, Section 403.3, the minimum interior angle must be 75°, which will affect the approach of the access road. Because the Parcel 4 frontage on Great America Parkway is limited, the location of the access point is relatively fixed. This location is approximately 200-ft from the existing bridge crossing San Thomas Aquino Creek, which means that any improvements to Great America Parkway must conform to the existing bridge. There is also a potential sight distance issue as the intersection in approached from the south due to the existing vertical curve on the San Tomas Aquino bridge structure. Approximately 550-ft north of

the access point is the intersection of Great America Parkway and Old Mountain View-Alviso Road. The traffic impacts of locating an access point close to this intersection will need to be studied. The Grading and Site Access Technical Memorandum show the concept site access locations for each Parcel.

7.0 STORMWATER DRAINAGE

The Site is adjacent to the San Tomas Aquino Creek and the Guadalupe River. A brief description of each as provided by the Santa Clara Valley Urban Runoff Pollution Protection Program (SCVURPPP) is summarized below.

The San Tomas Aquino Creek watershed covers an area of approximately 45 square miles. San Tomas Creek originates in the forested foothills of the Santa Cruz Mountains flowing in a northern direction through the cities of Campbell and Santa Clara, into the Guadalupe Slough, and finally into the Lower South San Francisco Bay. The major tributaries to San Tomas Aquino Creek include Saratoga, Wildcat, Smith and Vasona Creeks. Most of the San Tomas Aquino watershed is developed as high-density residential neighborhoods, with additional areas developed for commercial and industrial uses. The majority of the San Tomas Aquino Creek channel has been modified and lined with concrete (from the Smith Creek confluence in the upper reaches downstream to Highway 101).

The Guadalupe River watershed covers an area of approximately 171 square miles. The headwaters drain from the eastern Santa Cruz Mountains near the summit of Loma Prieta in heavily forested unincorporated county land with pockets of low-density residential developments. The Guadalupe River actually begins on the Valley floor at the confluence of Alamitos Creek and Guadalupe Creek, just downstream of Coleman Road in San Jose. From there it flows north, approximately 14 miles until it flows into the Lower South San Francisco Bay via the Alviso Slough. The upper watershed is characterized by heavily forested areas with pockets of scattered residential areas. Residential density gradually increases to high density on the valley floor. Commercial development is focused along major surface streets. Industrial developments are located closer to the Bay, primarily downstream of the El Camino Real crossing. Six major reservoirs exist in the watershed: Calero Reservoir on Calero Creek, Guadalupe Reservoir on Guadalupe Creek, Almaden Reservoir on Alamitos Creek, Vasona Reservoir, Lexington Reservoir, and Lake Elsman on Los Gatos Creek.

The climate of the City of Santa Clara is characterized as dry-summer subtropical (often referred to as Mediterranean), with cool wet winters and relatively warmer dry summers. The mean annual precipitation in the vicinity of Santa Clara is approximately 15 inches (95 percent of which falls between October and April) per the 2007 Santa Clara County Drainage Manual (SCCDM). This value is typical of Santa Clara County east of the coastal range. It is important to note that the Site can be subject to a wide range of annual precipitation.

Due to the nature of the existing topography and drainage infrastructure, the five parcels along with the tributary off-site areas have been divided into four distinct sub-watersheds: San Tomas, East Basin, Eastside Channel and Basin Direct. Each watershed, the existing stormwater drainage system and the proposed infrastructure improvements are described in detail in Stormwater Technical Memorandum.

7.1 Existing Systems

The existing City owned and operated drainage system includes pump stations, retention basins, open drainage channels, underground conveyance piping and appurtenant drainage structures. The on-site drainage system is made up of an intricate corrugated poly-pipe network and inlet structures. The off-site drainage systems that convey the stormwater runoff from the Project to the discharge locations are shown on the City's Storm Drain System Information Maps.

Parcel 1, 2, 3 and about 45% of Parcel 4 are tributary to the Guadalupe River. The stormwater runoff from these parcels is collected in the Eastside Retention Basin, which has a surface area of approximately 5.3 acres and had a 1972 design storage capacity (retention volume) of 30 acre-feet, and discharged to the Guadalupe River via the Eastside Pump Station. The basin also collects runoff from off-site areas to the south and west of the Site. The Basin and Pump Station are operated and maintained by the City. The remainder of Parcel 4 and Parcel 5 are tributary to the San Tomas Aquino Creek. The surface water runoff is discharged to the Creek via two existing gravity outfalls (12 inch diameter) and the Golf Course Club House Storm Drain Pump Station and outfall (30 inch diameter).

The Eastside Pump Station was originally constructed in 1973, was last upgraded in 2005 and has a design capacity of 50,000 gallons per minute (gpm). There are approximately 524 acres of the City tributary to this pump station, which includes about 180 acres (34% of watershed) from the Project. The City prepared a Hydrologic Investigation for the Eastside Pump Station Report in 2000. This Report concluded that the existing pumps had sufficient capacity to prevent the 100-year runoff from ponding in Lafayette. However, future pump upgrades were identified as a possibility under worst case scenario conditions.

The Eastside Drainage Channel was constructed in 1971. The City prepared an Initial Study in 2010 for the Eastside Retention Basin Drainage Swale Vegetation Clearing Project. The project proposed to clear vegetation within the drainage channel, desilt the Eastside Retention Basin, which had not been done since the late 1980's, and establish a recurring maintenance program for these drainage facilities. Reportedly, the construction project was not initiated.

The Golf Course Pump Station was originally constructed in 1987 and has a design capacity of 11,100 gpm. There is approximately 65.8 acres tributary to this pump station including about 43.6 acres from Parcel 4 (66% of area), all 8.0 acres of Parcel 5 and 14.2 acres from the public right-of-way including Stars and Stripes Drive, Tasman Drive and the City parking garage. The system utilizes the depressed area on Parcel 4 within the golf course driving range for detention and includes submersible pumps and an outfall to the San Tomas Aquino Creek.

7.2 Proposed Infrastructure

The storm drainage system for the Project will be an underground gravity network of pipes, catch basin, manholes, water quality treatment measures and other appurtenances. The building drainage will be via internal systems piped directly to the storm drains. A complete storm drain study for the 10-year and 100-year storm events prior to grading permit issuance will be prepared and submitted for review and approval by the City. For final design, the public underground piped storm drain conveyance system will be capable of conveying the 10-year peak runoff as well as safely convey the 100-year event peak flows from the Site via a combination of the piped system and surface conveyance. Public streets shall be designed such that the 100-year event flow remains within the roadway limits and not extend into private property.

The stormwater runoff from Parcels 1, 2 and 3 will discharge to the Eastside Retention Basin and be pumped to the Guadalupe River via the existing Eastside Pump Station. The preliminary results indicate there is sufficient storage and pumping capacity within the current system (assuming existing conditions) to safely convey the post-development peak runoff from the 100-year storm. From Parcels 1 and 2 there will be multiple new outfalls from the Site to the existing Eastside Drainage Channel. The channel should be cleared of vegetation in order to safely convey the peak flows from 100-year storm event for existing and proposed conditions. From Parcel 3, the existing drainage infrastructure located north of the Parcel and west of the UPRR will be utilized. An option to utilize the existing infrastructure to the west of the Parcel in the adjacent Gateway property may also be explored. The preliminary evaluation identified that a portion of the existing off-site system may need to be upsized to accommodate Parcel 3. However, these upgrades may not be required if enough of the stormwater on Parcel 3 is collected and re-used or routed to the existing drainage area between Parcel 3 and 4.

The stormwater runoff from Parcel 4 and Parcel 5 will discharge to the San Tomas Aquino Creek via three new stormwater outfalls. The invert of the outfalls will be set above the bottom of the Creek at a final elevation to be coordinated with the SCVWD to ensure the location is above sediment levels within the Creek. The Golf Course Pump Station will likely be abandoned and removed.

As previously stated, the goal for the final stormwater management design will be to reduce the proposed peak flows to existing peak flow levels through the incorporation of sustainable stormwater measures. During final design, the extent of the stormwater management measure such as low-impact development (LID) stormwater treatment best management practices (BMPs), rainfall harvesting and re-use within the Project will be determined, and the potential off-site improvements will need to be further studied.

8.0 POTABLE WATER

8.1 Existing System

The water system in the City of Santa Clara is operated and maintained by the City of Santa Clara Water and Sewer Utility. This system is supplied with potable water from three main sources; the Santa Clara Valley Water District (the "SCVWD"), the San Francisco Public Utility Commission (the "SFPUC Hetch Hetchy"), and 27 groundwater wells operated by the Water and Sewer Utility. The potable water supply is augmented with recycled water from South Bay Water Recycling. This recycled water is not permitted for potable use, but it can be used for irrigation, toilet flushing and approved industrial uses.

The existing domestic water system near the Site is provided on the City of Santa Clara Water Base Maps W93 – W115. There is a network of water mains around all four sides of Parcel 3, Parcel 4 and Parcel 5. This network is also located along the west and south sides of the Parcel 1 and Parcel 2.

8.2 Proposed Infrastructure

It is anticipated that: 1) Parcel 1 and Parcel 2 will be served by the existing water main in Lafayette Street; 2) Parcel 3 will be served by the same water main in Lafayette Street, a stubbed main beneath the UPRR tracks to the east of Parcel 3, and 3) Parcel 4 and Parcel 5 will be served by the existing water mains in Great America Parkway, Stars and Stripes Drive, Centennial Boulevard and Tasman Drive.

Each site will include a combined domestic and fire water system "looped" network with a minimum two points of connection to the existing system. The Water Technical Memorandum shows a preliminary layout of the water system, including possible connection points. Due to the height of some proposed buildings, it may be necessary to include booster pumps in the looped system to maintain water pressure for fire flows. Location of these pumps either within or external to the buildings will be evaluated. Connections to the public system will be provided by the City of Santa Clara Water Utility. Each connection to the existing public water system will require a meter and backflow preventer to keep water from flowing from the project back into the public system.

California Code of Regulations, 22CCR§64572.(f) states that new water mains shall not be installed within 100-ft of the nearest edge of any sanitary landfill, wastewater disposal pond, etc. The City is seeking a waiver from this requirement. Specific water utility materials, methods of construction, locations of appurtenances such as valves, meters, backflow devices, etc. must be addressed and approved by the City. Some sections of the water system on Parcel 4 may need to be private due to the inclusion of the structural platform and site design features.

Based upon the current concept plan, the estimated water demand per Parcel is as follows:

Table 4
Estimated Water Demand

Parcel	Potential Development Area (gsf)	Water Demand (gpd)
1	1,200,000	176,400
2	2,160,000	317,520
3	720,000	105,840
4	4,259,400	988,578
5	825,000	248,253

As the design is finalized, these estimates will be refined and used to design a system which meets the needs and phasing of the Project. Additional design information is provided in the Water Technical Memorandum.

Implementation of the water system as currently designed will likely require some offsite improvements to the existing utility systems. The connection point to the north east of Parcel 3 is a stubbed asbestos cement water main that was installed in 1970 and later abandoned. It may not be in an acceptable condition to serve the project. Also, a considerable amount of fill may be added to Stars and Stripes Drive. Per the City of Santa Clara Council/Staff Work Study Session (see Appendix C) on 11/20/2013, this will require the existing utilities in Stars and Stripes to be raised. The City also noted approximately 2,000-ft of domestic water mains that may need to be upsized. Specifically, these include the 8 inch asbestos cement main in Great America Parkway, the 8-inch asbestos cement main in Lafayette Street, and parts of the loop in Calle de Luna and Calle del Mundo. An extension of the existing water main in Tasman Drive may also be necessary. More study will be required to determine if these sections or others will need to be upsized to meet the water demand of the Project.

9.0 RECYCLED WATER

9.1 Existing Distribution

The existing recycled water distribution system near the Site is provided on the City of Santa Clara Water Base Maps RCW93 – RCW115. There is a network of recycled water mains along the north, east and west sides of Parcel 1, the east and south side of Parcel 2, and between Parcel 3 and Parcel 4.

Recycled water is supplied to the Site from the South Bay Water Recycling Program. It is conveyed from the plant to the northeast corner of Parcel 1 by a 16-inch plastic pipe. This pipe travels beneath State Route 237 then crosses the Guadalupe River. On the west bank of the Guadalupe River the recycled water main splits. One 12-inch Yelomine (plastic) pipe is located along the east side of Parcel 1 and Parcel 2 until it reaches Tasman Drive. It then turns west and mixes with a 30 inch steel recycled water main located along Tasman Drive before crossing this main and continuing in Lick Mill Road. The second branch of the recycled water system is a 16 inch plastic main along the north side of Parcel 1. At Lafayette it turns to the south and travels approximately 1,500-ft, passing through a reducer to become a 12-inch plastic pipe. At the boundary between Parcel 3 and Parcel 4 the main turns west and travels through a 30-ft wide Recycled Water and Sanitary Sewer easement to Great America Parkway. At Great America Parkway, the main turns north before continuing west along Old Mountain View – Alviso Road. The City of Santa Clara Water Utility estimates pressure in the recycled water system to be between 80 and 90 psi in the vicinity of the Site.

9.2 Proposed Infrastructure

The recycled water system for each parcel will have two points of connection to maintain recycled water service. Potential connection points for each of the parcels are as follows. For both Parcel 1 and Parcel 2, the recycled water distribution will include one point of connection to the existing recycled water main in Lafayette Street and one point of connection to the recycled water main along the eastern edge of Parcel 1 and Parcel 2. For Parcel 3 and Parcel 4, the recycled water distribution will include two points of connection to the existing recycled water main located in the easement between Parcel 3 and Parcel 4. Parcel 5 will connect to the new infrastructure in Parcel 4.

As the Project is designed, the use of recycled water will be evaluated. The recycled water system can be used to supply non-potable water for different uses such as irrigation, HVAC equipment (cooling tower make-up), and toilet flushing. As these systems are designed, the entire water balance (domestic source, recycled source, reuse source) can be developed. Each connection for each use will require a separate meter as well as City and State approval via an independent recycled water permitting process. Additional design information is provided in the Water Technical Memorandum.

10.0 WASTEWATER

10.1 Existing System

The existing wastewater collection system for the City of Santa Clara includes a series of gravity trunk sewers, pump stations and sanitary force mains. The system conveys the wastewater to the existing San Jose/Santa Clara Regional Wastewater Facility (WWTF) located approximately 2 miles northeast of the Site. The Site is located at the downstream end of the piped collection system. From Great America Parkway on the west side of the Project, two main sewers are located between Parcel 3 and Parcel 4. The northernmost gravity trunk sewer is a 33-inch Reinforced Concrete Pipe

(RCP), and the southernmost is a 42-inch RCP. Within Lafayette Street there is a 36-inch gravity trunk sewer. These three sewers join in Lafayette Street into two 42-inch RCP's and continue north in Lafayette Street between Parcel 3 and 1. At the northern edge of Parcel 1, these sewers turn to the northeast, following the Parcel 1 boundary to the existing diversion structure which diverts the flow to both the existing Rabello Pump Station and the Northside Pump Station. There is a 12-inch sewer in Stars and Stripes Drive, which connects to the 36-inch sewer in Lafayette Street.

The gravity sewer that bypasses the Rabello Pump Station continues beneath the Guadalupe River and California State Highway 237, where it flows to the Northside Pump Station. From the Northside Pump Station, the wastewater is pumped and conveyed in a force main to the WWTF. The Rabello Pump Station will pump wastewater to the WWTF through a secondary force main, which follows the alignment of the Northside Pump Station gravity sewer and its force main once crossing beneath the Guadalupe River and Highway 237.

The current pump station operation includes the Rabello and Northside Pump Stations working in parallel to pump the wastewater to the WWTF. The maximum capacity of this system, referred to as the Firm Capacity, is defined as the maximum capacity of the combined pump stations with the largest pump for each pump station out of commission. This builds some redundancy into the system, allowing it to function even if one of the pumps for each pump station is out of service. The Northside Pump Station has 4 pumps running in parallel to pump effluent, and the Rabello Pump Station has 8 pumps running in parallel. Currently, the City of Santa Clara estimates the Firm Capacity of these two stations to be 38.2 Million Gallons per Day (MGD). Per RMC's Sanitary Sewer Capacity Evaluations for the Project both dated 14 November 2014, the peak wet weather flow (PWWF) results predicted by the model are 49.8 MGD without the Project and 53.1 MGD with the Project. Another study would be needed to determine the required improvements to increase the pump stations total firm capacity to convey the predicted flow in 2035 General Plan PWWF.

10.2 Proposed Infrastructure

Based upon the current concept plan, the estimated sewage generation per Parcel is as follows:

Table 5
Estimated Sewage Generation

Parcel	Potential Development Area (gsf)	Sewage Generation (gpd)
1	1,200,000	168,000
2	2,160,000	302,400
3	720,000	100,800
4	4,259,400	941,506
5	825,000	236,432

It is anticipated that the proposed sanitary sewer system for the Project will connect to the existing City gravity trunk sewers between Parcels 3 and 4, in Lafayette Street and in Stars and Stripes Drive. The preliminary locations for the points of connection and for the routing of the sewers within a development parcel are provided in the Sanitary Sewer Technical Memorandum. The preliminary design includes multiple gravity sanitary sewer systems with laterals, mains, manholes and cleanouts designed per City standards. The pipes will be sized for the capacity to convey the total peak wet weather flow at a minimum velocity of 2 fps when flowing half full and no more than

75% full. Preliminarily, Parcel 1 and Parcel 2 will connect to the westernmost existing 42-inch sewer in Lafayette Street and Parcel 3 and Parcel 4 will connect to the existing 42-inch sewer located between Parcels 3 and 4. Parcel 5 will connect to the Stars and Stripes Drive system. It is anticipated that the Stars and Stripes Drive system will need to be completely replaced to accommodate the proposed below grade parking structures. The systems are proposed as a looped system to provide redundancy as required by the City.

As the design is finalized, these estimates will be refined and used to design a system which meets the needs and phasing of the Project. A detailed hydraulic analysis of the sewer system should be performed to confirm the findings in the RMC Technical Memoranda, as well as to evaluate the timing for upgrades to the Rabello and North Side Pump Stations.

11.0 ELECTRIC, GAS AND TELECOMMUNICATIONS

11.1 Electrical Distribution System

Pacific Gas and Electric (PG&E) provides gas and electrical services to the vast majority of Northern California. However, some cities have historically provided their own municipal electric company. Such is the case for the City of Santa Clara whose municipal electric utility is referred to as Silicon Valley Power (SVP). SVP provides electric utility power to all residences and commercial businesses in the City of Santa Clara. Since the City is surrounded by PG&E territory, there are locations within Santa Clara where PG&E owned electric transmission systems exist, within appropriate right-of-ways. PG&E transmission systems traverse all five parcels.

11.1.1 Existing System

PG&E maps indicate that two separate PG&E 115kV overhead transmission pole lines run "north-south" along the westerly side of Lafayette Street. There is a 175-ft wide easement within Parcels 5, 4 and 3 for these transmission lines. Additionally, a PG&E overhead transmission pole line runs "north-south" along the east side of Lafayette Street. These pole lines are in dedicated rights-of-way, which typically forbid structures of any kind.

SVP's electric distribution maps indicate that an existing 12kV underground distribution line provides service to existing commercial buildings along Stars and Stripes Drive. Additionally, there is an existing 12kV overhead line running north-south under the PG&E transmission pole line on the easterly side of Lafayette Street. This pole line branches easterly to serve the residential development southeast of the proposed new development. SVP underground electric 12kV feeder-lines exist along Great America Parkway, adjacent to Parcel 4, and along the Guadalupe River adjacent to Parcel 2. Discussions with SVP indicate that all of the existing underground and overhead distribution lines in the immediate vicinity of the new development are fully utilized and could not be extended to serve the new development.

11.1.2 Proposed Infrastructure

It is common for parking lots to intrude into PG&E easement areas. When that occurs, care must be taken to avoid placement of parking lot lights and trees within the easement. PG&E would need to

be consulted to obtain approval for any development (i.e. grading/landscape plans) planned within the easement areas. Additionally, site improvements would be designed to avoid conflict with existing transmission line steel support poles. It is conceivable, however, that PG&E would allow a support pole to be adjusted to be "taller" or moved "tangentially" along the north-south corridor to eliminate a conflict with proposed grading or utility improvements. Moving poles perpendicularly to the north-south route should be avoided because it is impractical to add the necessary "down-guys" and provide the additional easements, to consider off-setting the transmission pole line.

SVP has confirmed that to provide electrical service to the new development, new circuits would need to be installed and extended from the existing "Northern Receiving Substation" located south of Levi's stadium. Specifically, it is expected that four new 600A, 12kV feeder lines would be needed to serve Parcel 4 and Parcel 5. Two more feeder lines would be required for Parcel 2, and one for each of Parcels 1 and 3, for a total of 8 new feeders.

The feeder lines would be installed as part of a multi-circuit conduit bank of up to four 5 inch primary conduits. Accordingly, it is expected that two new trench routes, each typically 36 inch x 60 inch, would need to be extend approximately 1,800-ft from the substation to the south end of the new development. To the extent that spare conduits were previously extended north toward Tasman from the substation, SVP has indicated that those conduits may be utilized to provide service to the project. Further study is needed to determine the appropriate routing of the new feeder-lines throughout the development.

SVP manholes would be needed, typically spaced no more than 500-ft apart, to facilitate cable pulling and to allow the installation of pad mount switches and transformers. Further study is needed to determine the number and locations of manholes, switches and transformers that would be required to serve the new development.

The applicant would be responsible for trenching and installing all new SVP conduits and substructures. SVP does not utilize sub-surface equipment. All switches and transformers would be pad-mounted and locations would need to be coordinated with SVP during the design stages.

Streetlights will be part of the Project on all new streets. If new streets are to be dedicated as public streets, SVP would provide public streetlights (e.g. electroliers) as part of their electric service. If the streets are to be "private", the applicant would be required to bear the cost of providing City approved street lights.

SVP has recently announced "fiber services" are being offered to schools and residential developments. The extent and locations of SVP "fiber" services for each of the five development parcels would need to be coordinated with SVP during the design stages.

11.2 Natural Gas Distribution System

11.2.1 Existing System

PG&E would be the service provider for natural gas to the development**.** PG&E's maps indicate that an existing 24 inch high-pressure gas transmission main is located north-south along Lafayette Street. Specifically, the gas main is along the west side of Lafayette Street from the south,

northward, until it reaches the midpoint of Parcel 4, then it crosses to the east side and traverses northward along the east-side of Lafayette Street along the entire frontage of Parcels 1 and 2. Any street improvements to Lafayette Street (i.e. road widening, road overlay) would need to be reviewed by PG&E to ensure the integrity to their gas facilities would be maintained.

PG&E's gas distribution maps also indicate that 2 inch and 1¼ inch distribution gas mains exist along Stars and Stripes Drive. Also a 4- inch gas main is located north-south along the east side of Lafayette Street, and a second 4-inch main is located along the east side of Great America Parkway adjacent to Parcel 4.

11.2.2 Proposed Infrastructure

It is feasible that the 4 inch existing gas mains in the vicinity could be extended into the new development to provide gas service, assuming standard "commercial gas loads" are needed. If any "campus boiler/steam" type systems or "bloom box generators" are being considered, specific studies would be required for PG&E planning to evaluate. It is not likely that the gas facilities along Stars and Stripes Drive could be utilized, except perhaps to serve only the two nearby proposed buildings.

Extending the gas service from the 4 inch gas main from Lafayette Street into Parcels 5 and 4 would require crossing the UPRR right-of-way. This crossing, if necessary, would require railroad permits and a "jack and bore" crossing. As an alternative, it is feasible that a gas sleeve could be incorporated into any new bridge structures that may span the rail right-of-way and Lafayette Street.

If the total expected gas loads of the new development are sufficiently large, PG&E may require the installation of a new gas regulator station to serve the development. The proximity of the high-pressure transmission line provides the capacity to provide service to a gas regulator station should one be required. A new gas regulator station would take approximately 3 years for PG&E to plan, design, and build.

PG&E gas mains would typically be extended in a trench joint with SVP electric facilities. SVP trenches are typically minimum 36 inches wide and often 48 inches wide when accommodating all four utilities. This is because SVP requires 12 inch horizontal separation from gas, telephone/catv facilities.

The applicant is responsible for all trenching and has the option to install gas facilities and to be credited by PG&E for the estimated cost of the installation. It is recommended that gas meters be located outside of proposed new buildings, either in an alcove, or perhaps adjacent to landscape walls. PG&E clearances and truck access to gas meters would need to be provided. PG&E does allow gas meters to be located in "gas rooms", but the requirements are strict (E.G. forced air ventilation system, gas detection, explosion proof fixtures, etc.), and the process typically delays the PG&E approval process significantly (6 to 12 months additional).

11.3 Telecommunication Service

11.3.1 Existing System

AT&T service maps indicate that minimum AT&T facilities exist along Stars and Stripes Drive. It does appear, however, that significant AT&T facilities existing on a north-south "wood pole line" along the east side of Lafayette Street.

Comcast service maps indicate that facilities exist along Stars and Stripes Drive, and it appears that significant Comcast facilities exist on a north-south "wood pole line" along the east side of Lafayette Street.

11.3.2 Proposed Infrastructure

AT&T will provide service to one Minimum Point of Entry (MPOE) for up to one building on each non-contiguous property. AT&T will serve multiple buildings on one property, but the applicant will be billed for the estimated cost of the additional AT&T services. The applicant is responsible for trenching and installation of AT&T conduits.

It is typical for developers to discuss the possible extension of "fiber services" with AT&T. If desired, a utility consultant would work with AT&T's engineering department to discuss the need for fiber pads if fiber service is ultimately to be provided to the project.

Conduits for new Comcast service would typically be installed by Comcast contractors in an "open trench" provided by the developer. Number and sizes of conduits would be based on the types of services desired for the development program.

It would be necessary for AT&T and Comcast to cross the UPRR right-of-way to serve Parcel 4 and Parcel 5. This crossing would require railroad permits and a "jack and bore" crossing (the same jack and bore pits that would be needed for gas facilities could be used for these services, however, separate conduit/sleeves would be required to provide separation). As an alternative, it is feasible that the conduits could be incorporated into any new bridge structures that may span the rail right-of-way and Lafayette Street.

12.0 ADDITIONAL FACTORS

12.1 Landfill Infrastructure

The development of the site will impact the current configuration of portions of the landfill operations monitoring, collection and removal systems. Initial assumptions for abandonment and replacement or maintenance of the above systems include the following:

- Protection and maintenance of groundwater monitoring wells and groundwater piezometers;
- Protection and maintenance of the existing leachate collection and removal system during site development;
- Abandonment and replacement of the landfill gas collection and removal system including the landfill gas monitoring probes; and
- Protection and maintenance of the existing composite barrier wall along the north and west boundary of the development area.

As the LEA and City is further engaged, the specific landfill infrastructure components including the Landfill Gas Extraction System Re-Design, Landfill Gas Mitigation System at Building Pads, Landfill Leachate Collection System Re-Design and Landfill Monitoring Features will be defined.

12.2 Non-Standard Design Elements

Some of the non-standard design elements that may be incorporated into the site design to address the landfill issues for the Project include interstitial spaces, settlement slabs, settlement vaults/flexible connections, special utility trenching for landfill cap disruption and refuse handling and considerations for landfill gas. Typical utility/roadway corridor sections have been prepared for several variations of roadways, streetscape amenities and the multiple utilities that will be located within each street (sewer, storm drain, domestic/fire water, recycled water, gas, joint trench, automated waste collection, landfill gas extraction system). The following briefly discusses some of the non-standard elements that will be incorporated into the final design of the system.

- Interstitial Spaces – Beneath the buildings within the City Center portion of the Project and other select office buildings there will be an interstitial space. The current design assumes a 4-ft to 5-ft high interstitial space, which will allow the building utility laterals to be accessible from within the building first floor space without disrupting the landfill systems.
- Settlement Vaults/Flexible Connections – At locations where differential settlement is expected settlement vaults and/or flexible connections will be included in the design. These direct buried vault structures will either enclose a flexible connection (such as a Flex-Tend device) or be located adjacent to a building structure to allow for a piped configuration within the vault to settle. There are two conditions that will need to be addressed; 1) transition from structure to direct bury support over refuse, and 2) transition from direct bury to direct bury over refuse.
- Structural Slabs – Within City Center the majority of the infrastructure systems will be constructed on a structural slab supported on deep foundations. The slabs will support the roadways between the proposed City Center buildings and have been designed to minimize disruption to the landfill cap and refuse. The gravity utility systems have a direct impact on the depth of the structural slab relative to street grade, and may require deeper utility corridors in the slab, which may impact/disrupt the landfill cover and refuse.
- Utility Trenching for Landfill Cap Disruption – Utility corridors, which may or may not be within a roadway, may need a subgrade improvement program to reduce total and differential settlements. Utility trenching that penetrates the landfill cap will require excavating and disposing of all the material encountered below the cap. The exposed trench will be lined with a polyethylene liner to re-establish the cap and the trench will be backfilled with clean fill. This will allow for the future maintenance of the utility without encountering landfill material and impacting the cap.

FIGURES

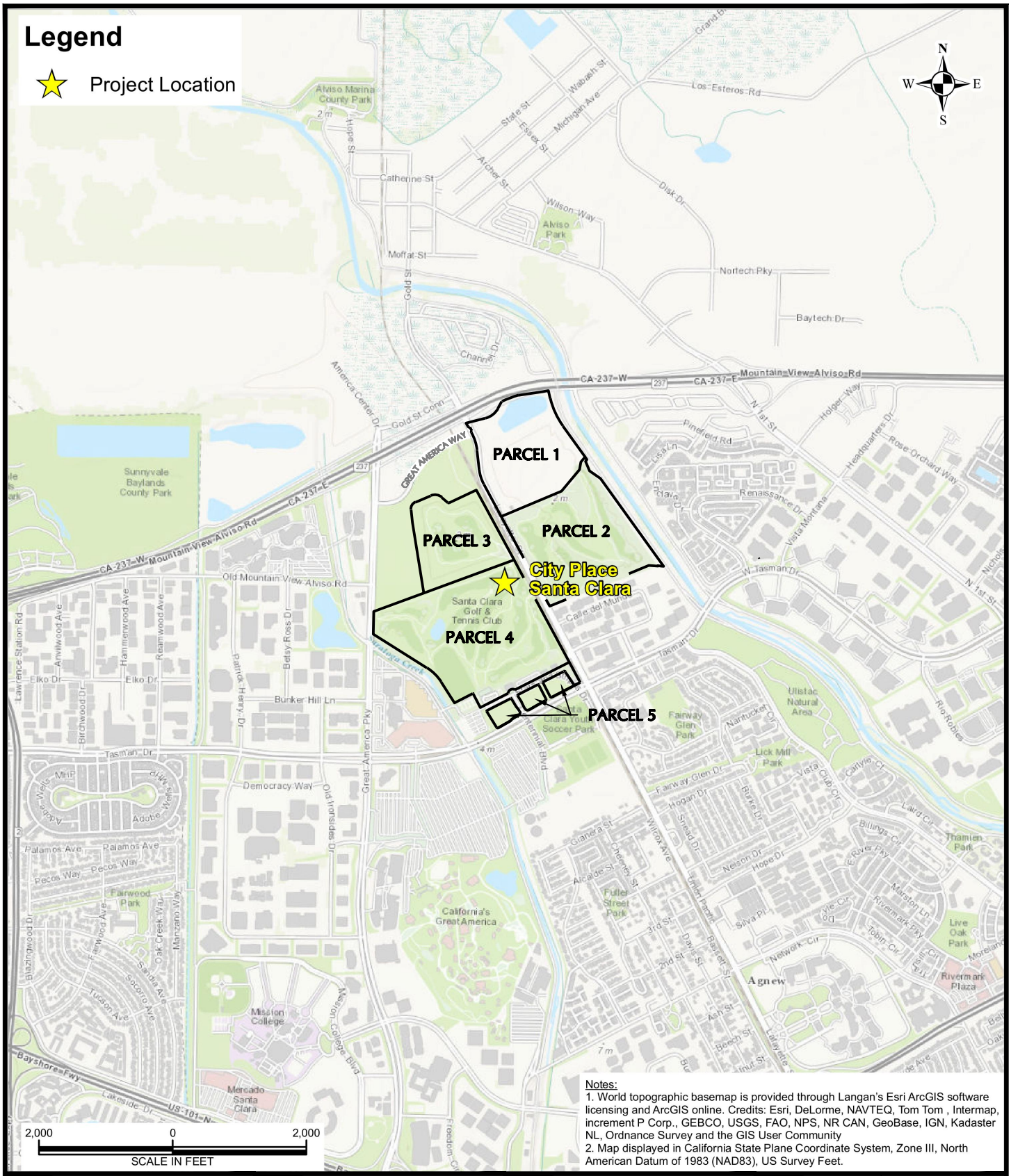
APPENDIX A
Grading and Site Access Technical Memorandum

APPENDIX B
Stormwater Technical Memorandum

APPENDIX C
Water Technical Memorandum

APPENDIX D
Sanitary Sewer Technical Memorandum

FIGURES



Notes:
1. World topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Esri, DeLorme, NAVTEQ, Tom Tom , Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR CAN, GeoBase, IGN, Kadaster NL, Ordnance Survey and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
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SITE LOCATION MAP

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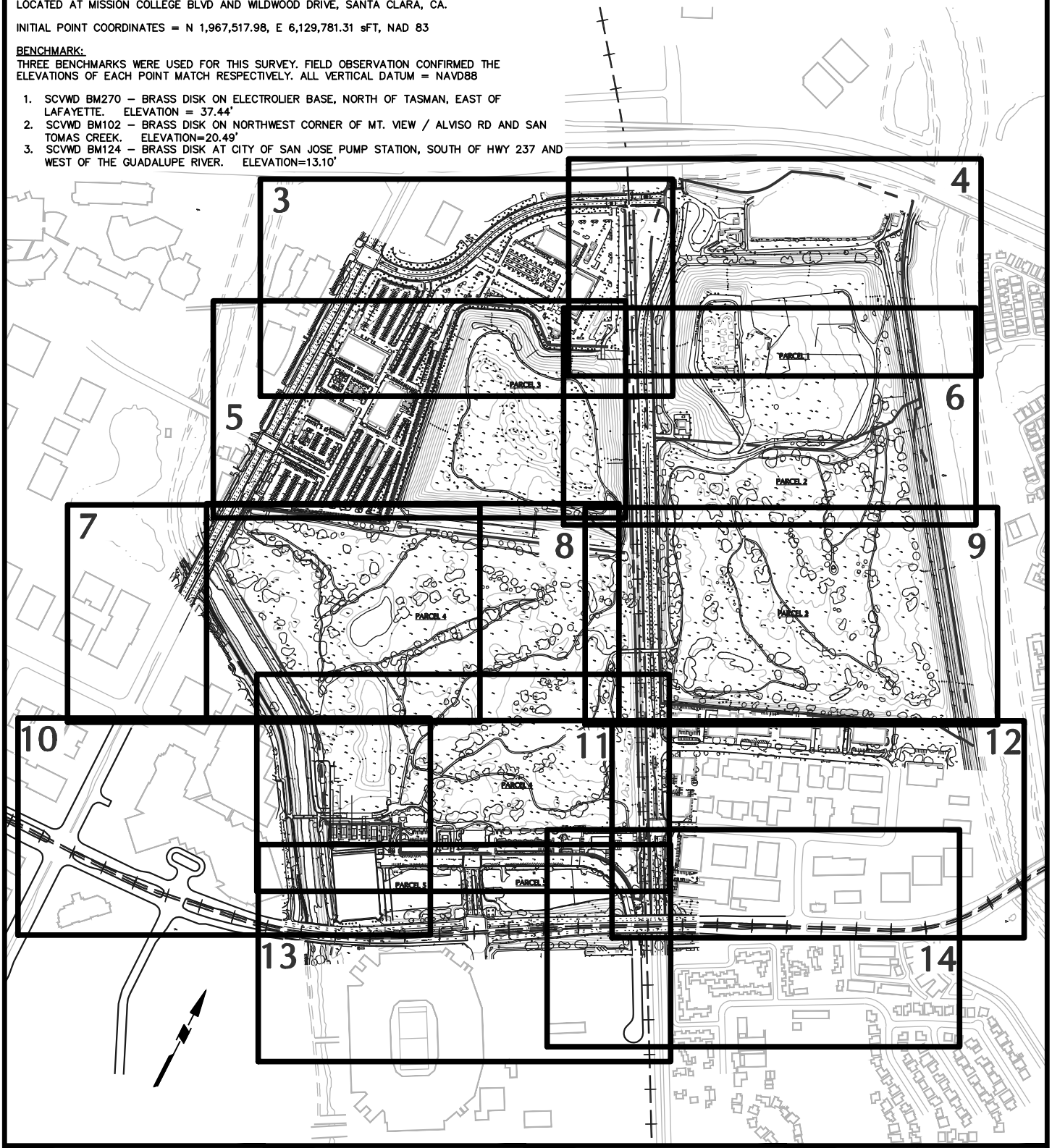
Figures from Grading and Site Access Technical Memorandum

BASIS OF BEARINGS:
THE BEARING, NORTH 00°00'00" EAST, AS DETERMINED BY GPS OBSERVATION WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY. THE HORIZONTAL COORDINATES USED FOR THIS SURVEY ARE BASED ON THE STATE OF CALIFORNIA STATE PLANE SYSTEM, CA ZONE 3, AS ESTABLISHED FROM GPS OBSERVATION OF NGS POINT "HPGN D CA MISSION" (PID AA1873), AN ALUMINUM DISK LOCATED AT MISSION COLLEGE BLVD AND WILDWOOD DRIVE, SANTA CLARA, CA.

INITIAL POINT COORDINATES = N 1,967,517.98, E 6,129,781.31 sFT, NAD 83

BENCHMARK:
THREE BENCHMARKS WERE USED FOR THIS SURVEY. FIELD OBSERVATION CONFIRMED THE ELEVATIONS OF EACH POINT MATCH RESPECTIVELY. ALL VERTICAL DATUM = NAVD88

1. SCVWD BM270 – BRASS DISK ON ELECTROLIER BASE, NORTH OF TASMAN, EAST OF LAFAYETTE. ELEVATION = 37.44'
2. SCVWD BM102 – BRASS DISK ON NORTHWEST CORNER OF MT. VIEW / ALVISO RD AND SAN TOMAS CREEK. ELEVATION=20.49'
3. SCVWD BM124 – BRASS DISK AT CITY OF SAN JOSE PUMP STATION, SOUTH OF HWY 237 AND WEST OF THE GUADALUPE RIVER. ELEVATION=13.10'



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4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com

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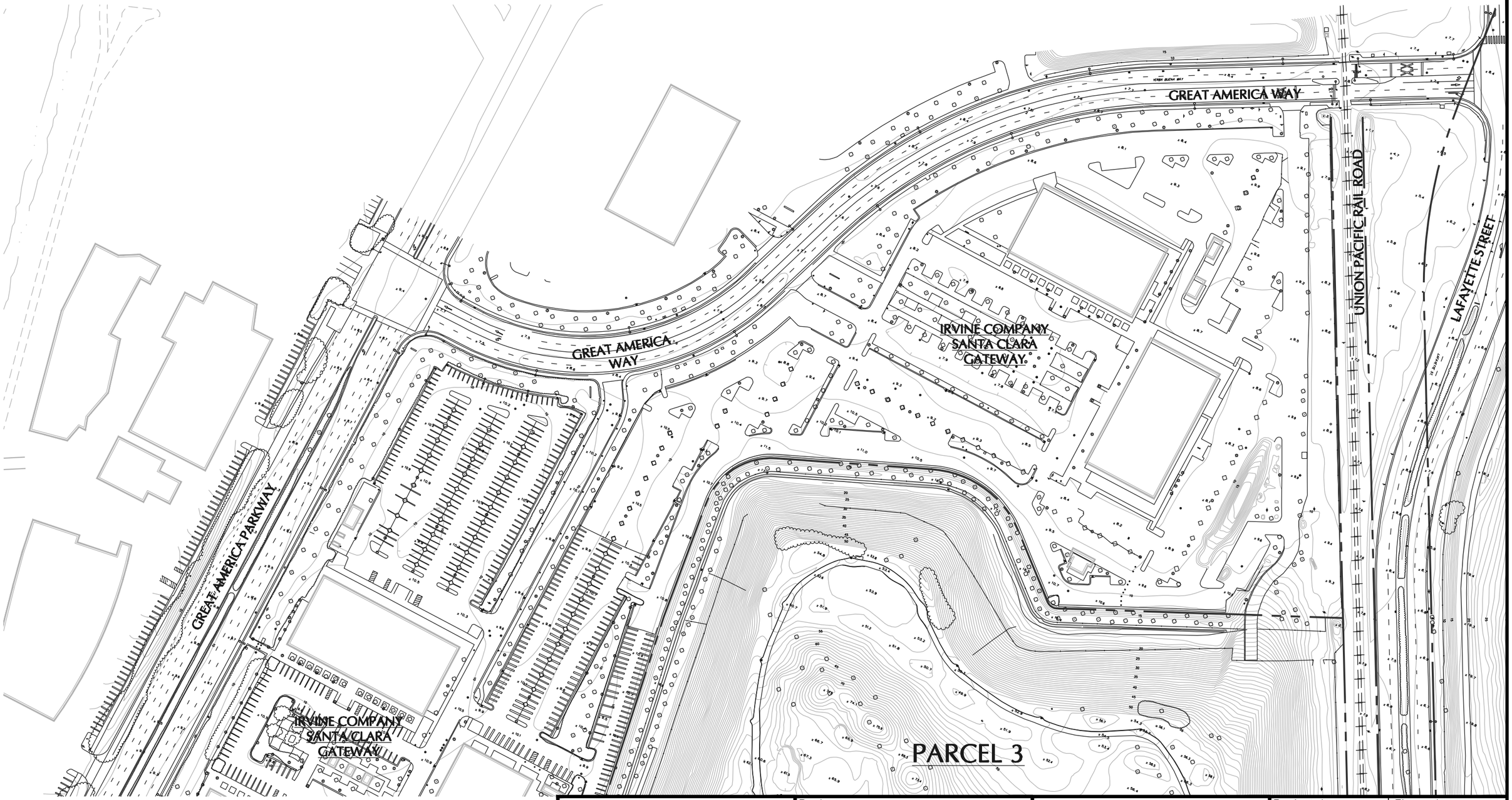

NOTE:
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San Jose, CA 95117
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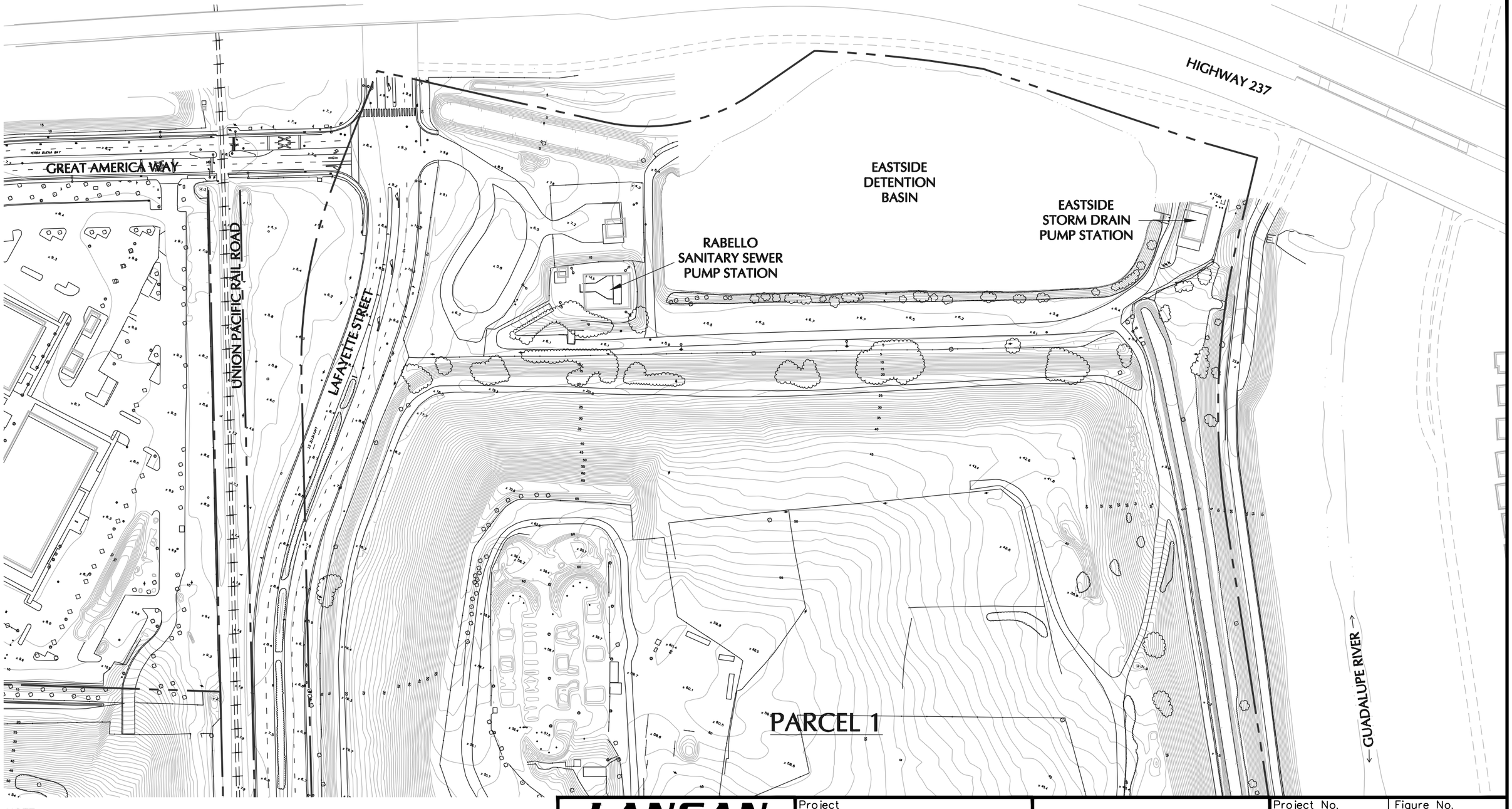

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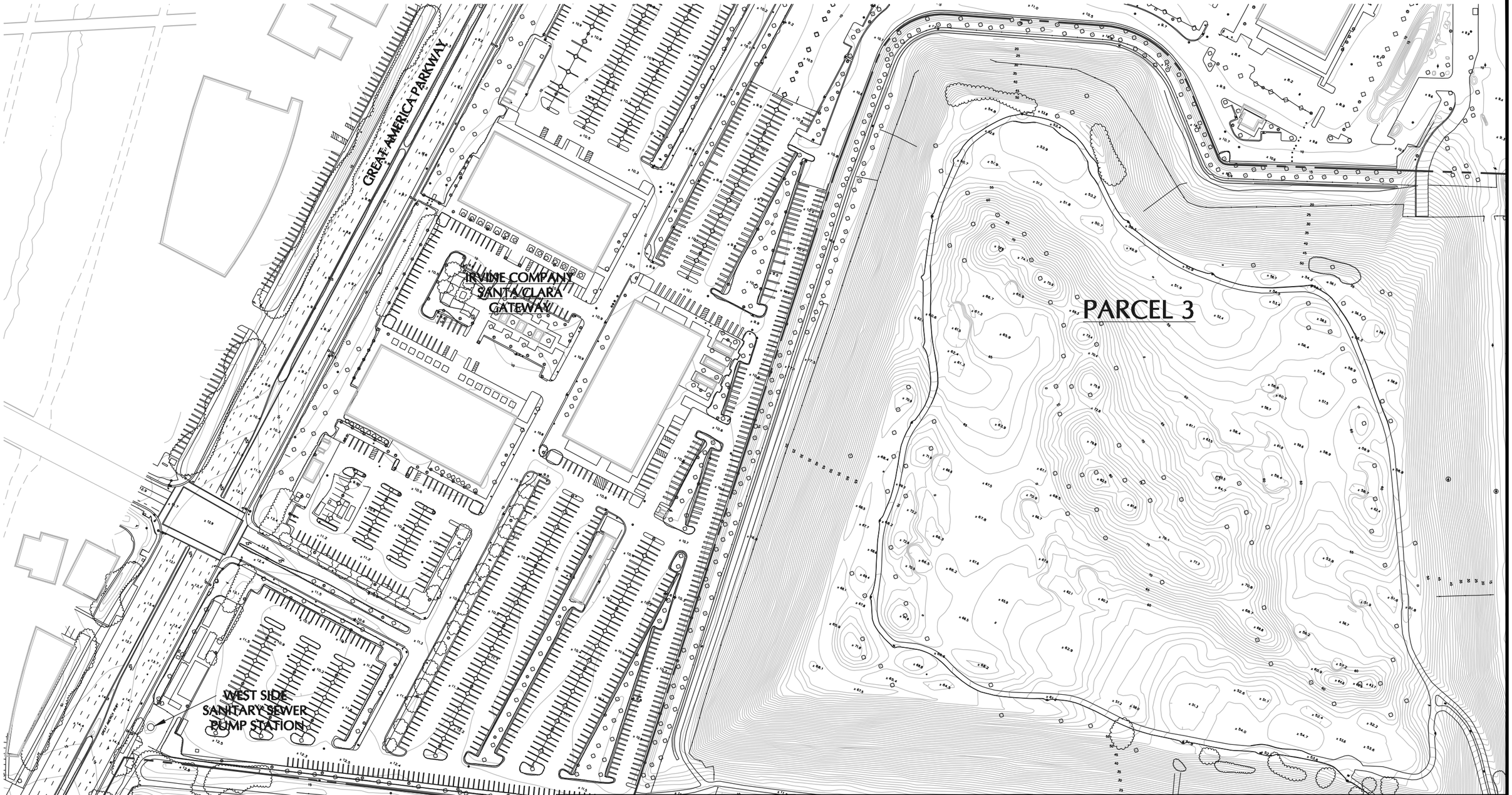

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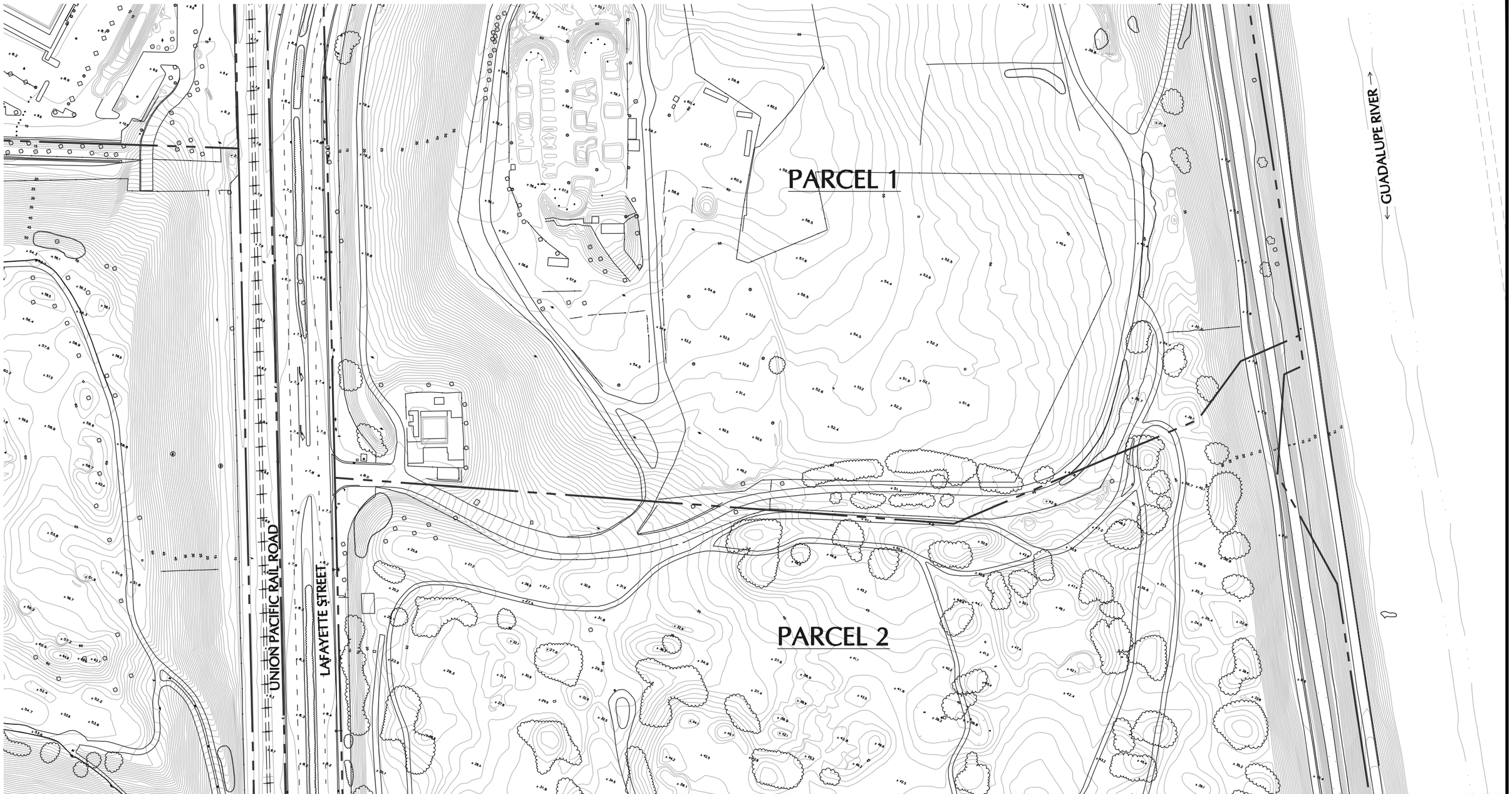

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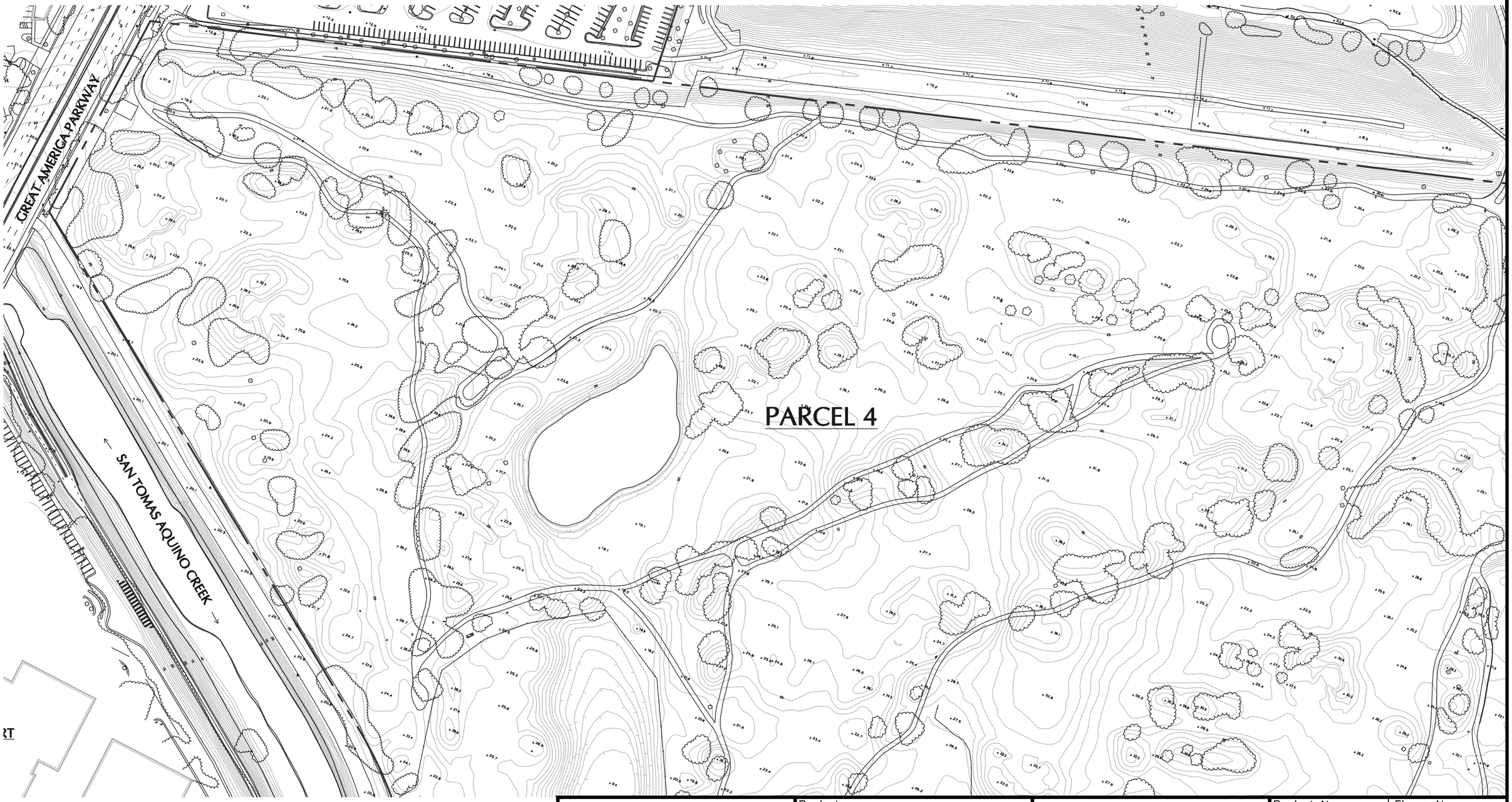

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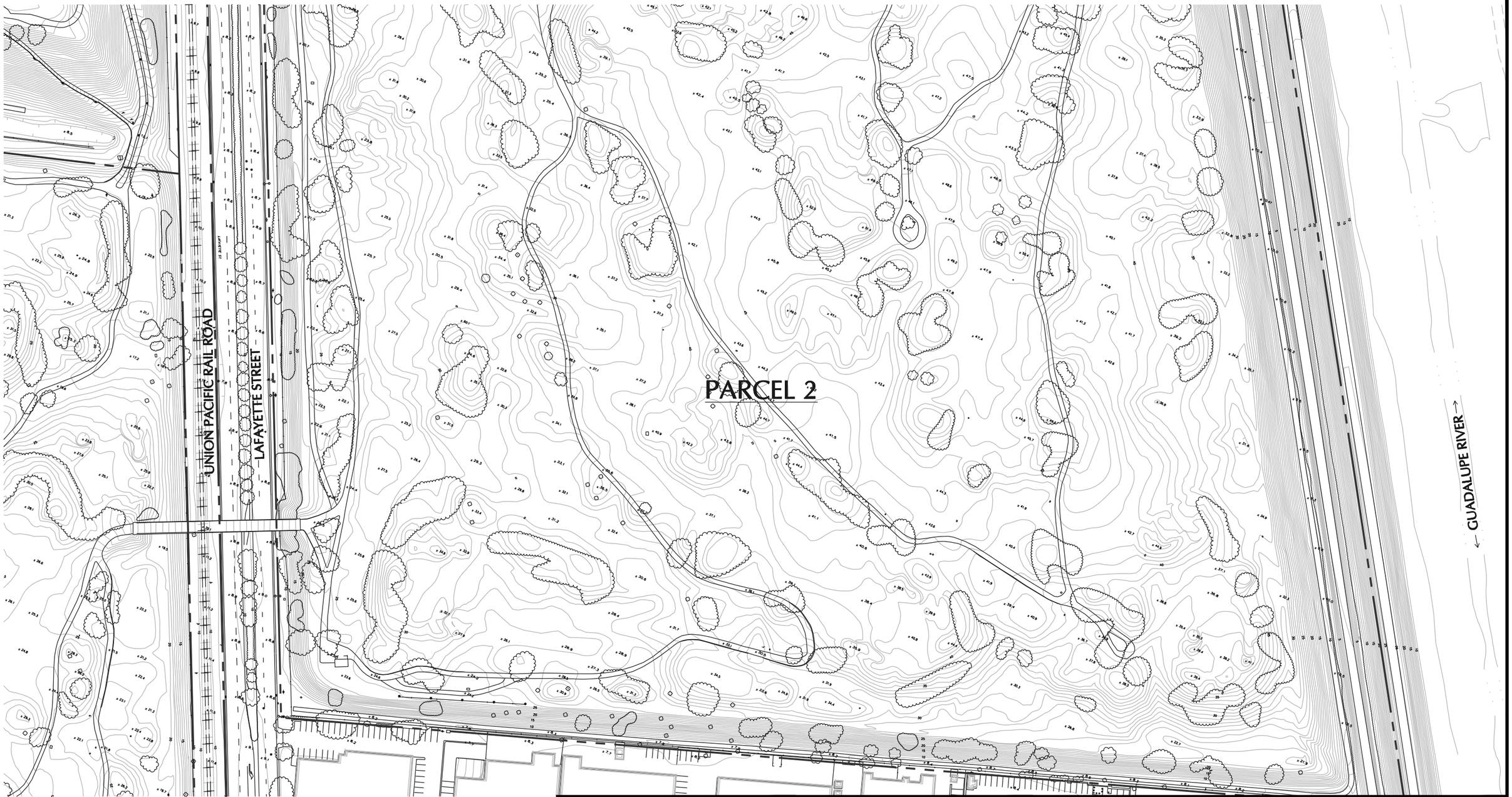

NOTE:
SEE FIGURE No. 2 FOR BASIS OF BEARINGS AND BENCHMARK.

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SANTA CLARA CALIFORNIA

EXISTING TOPOGRAPHY

Project No. 770611601	Figure No. 9
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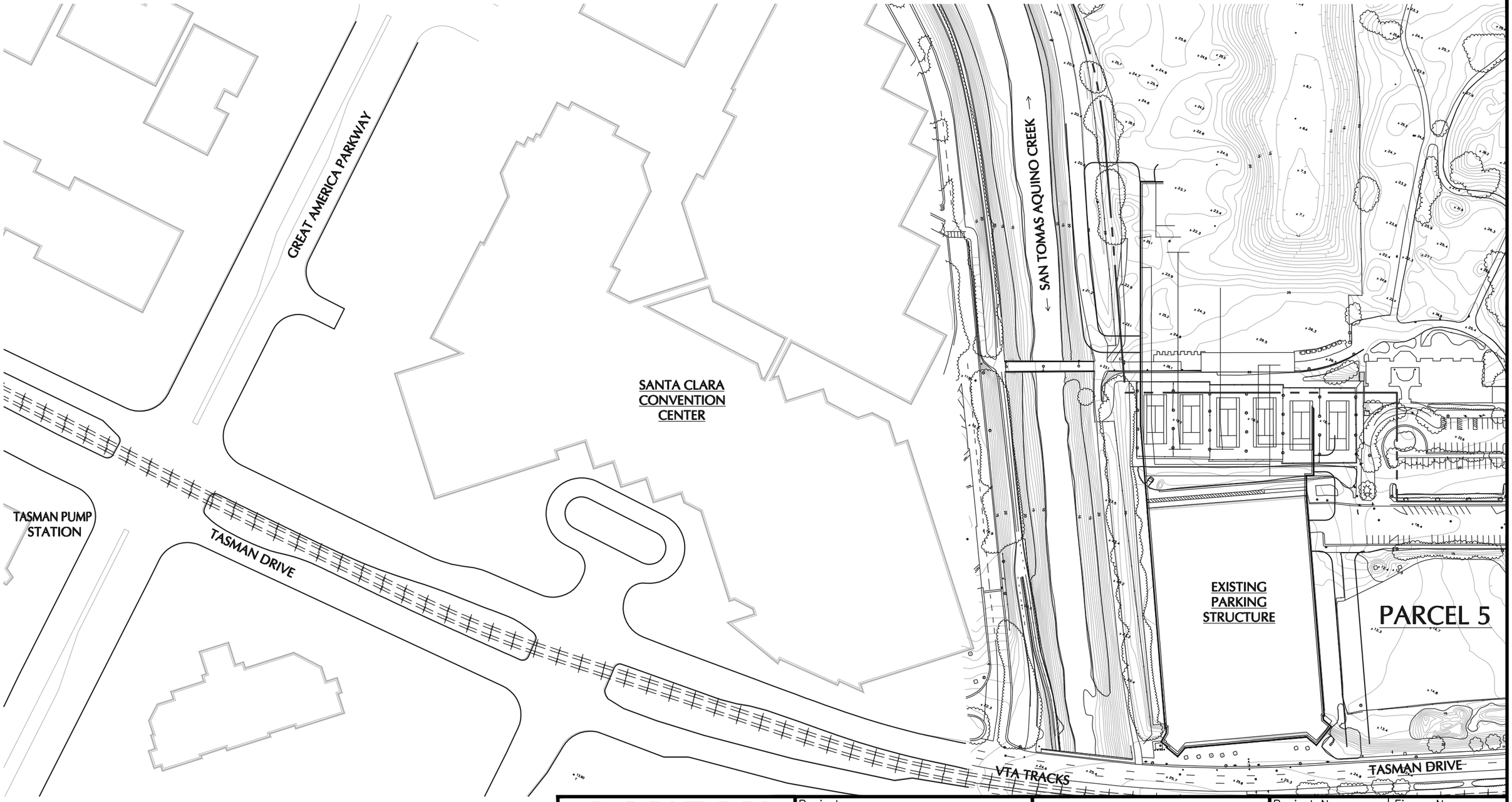

NOTE:
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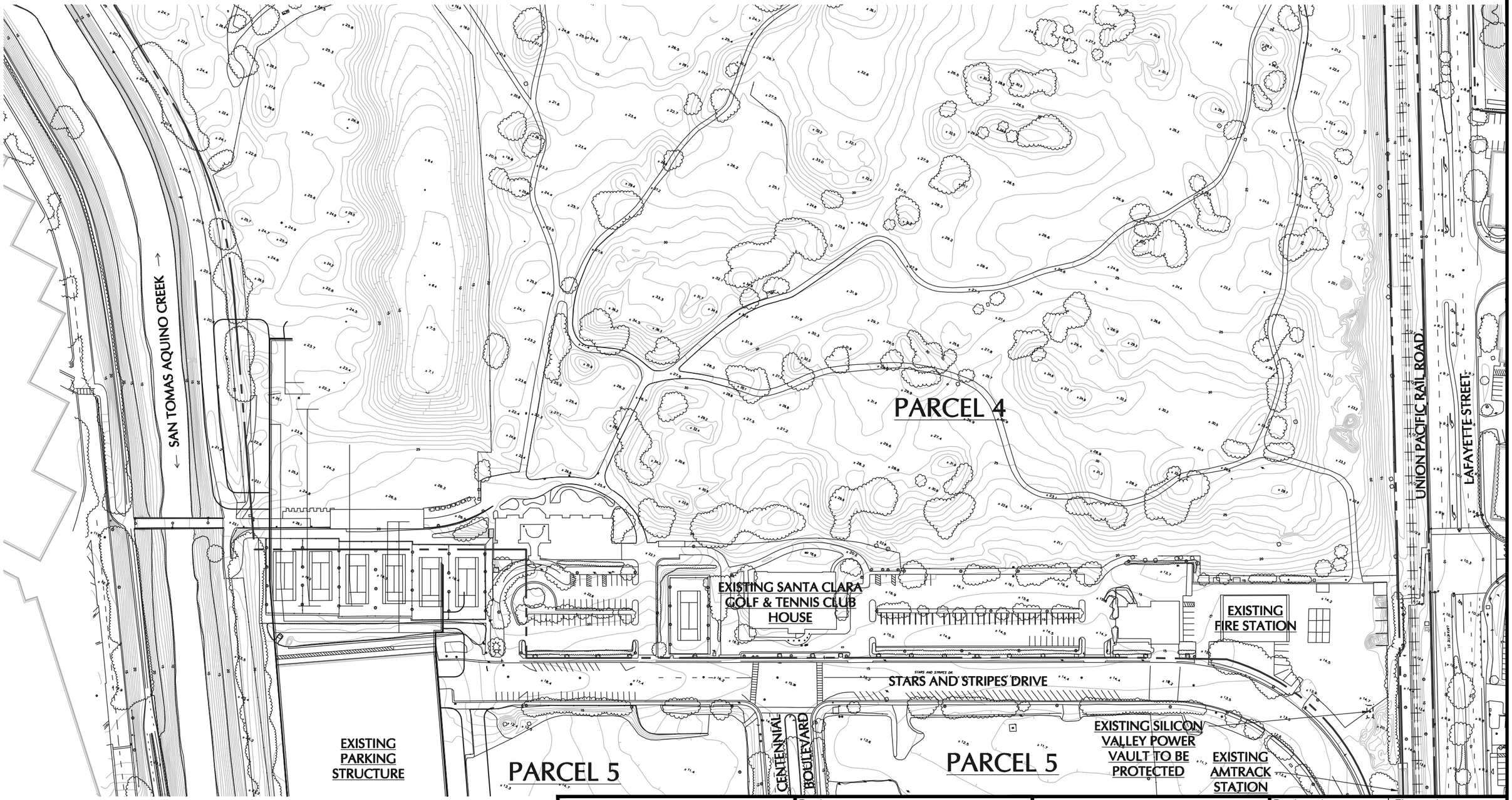

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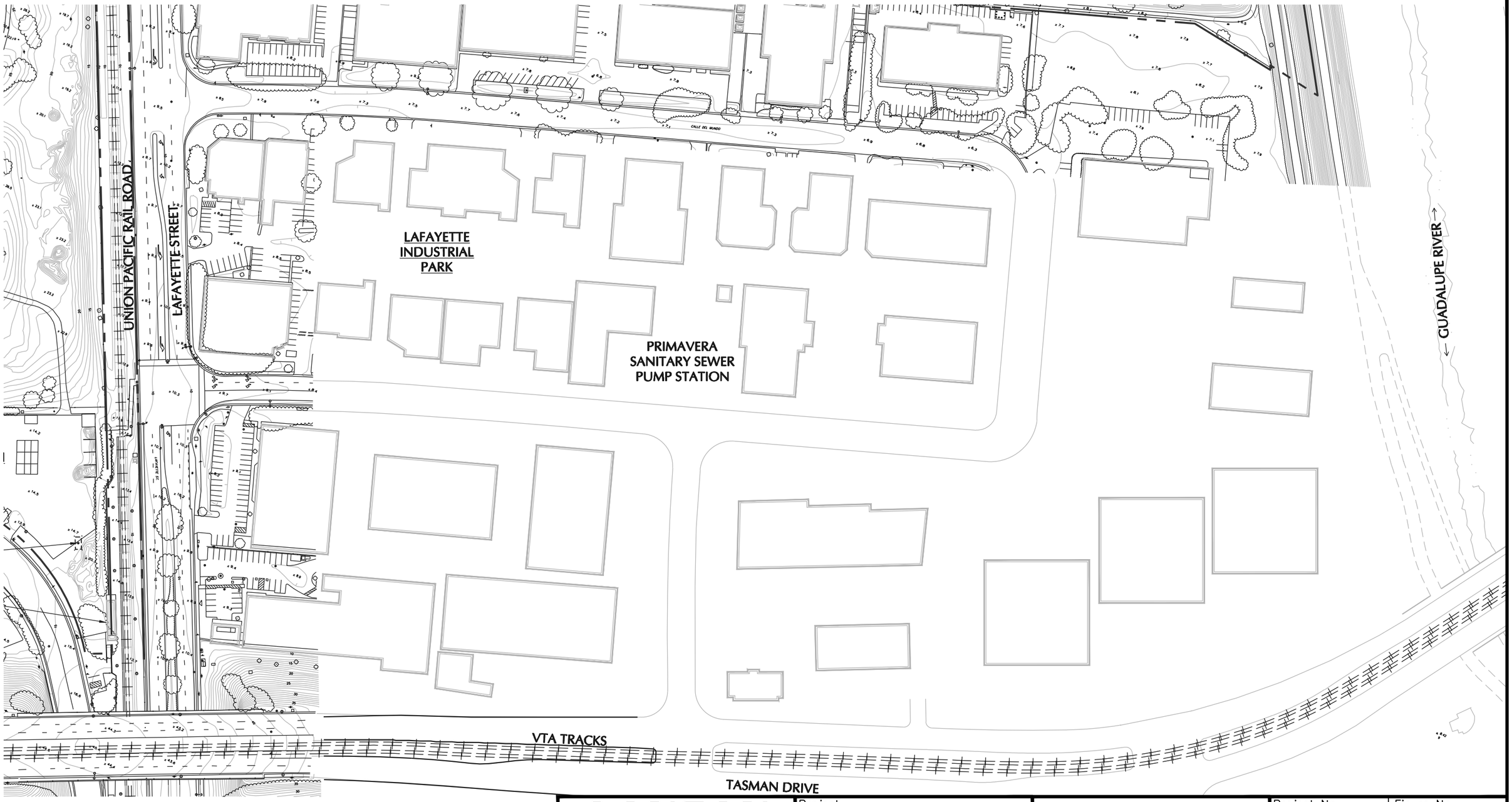

NOTE:
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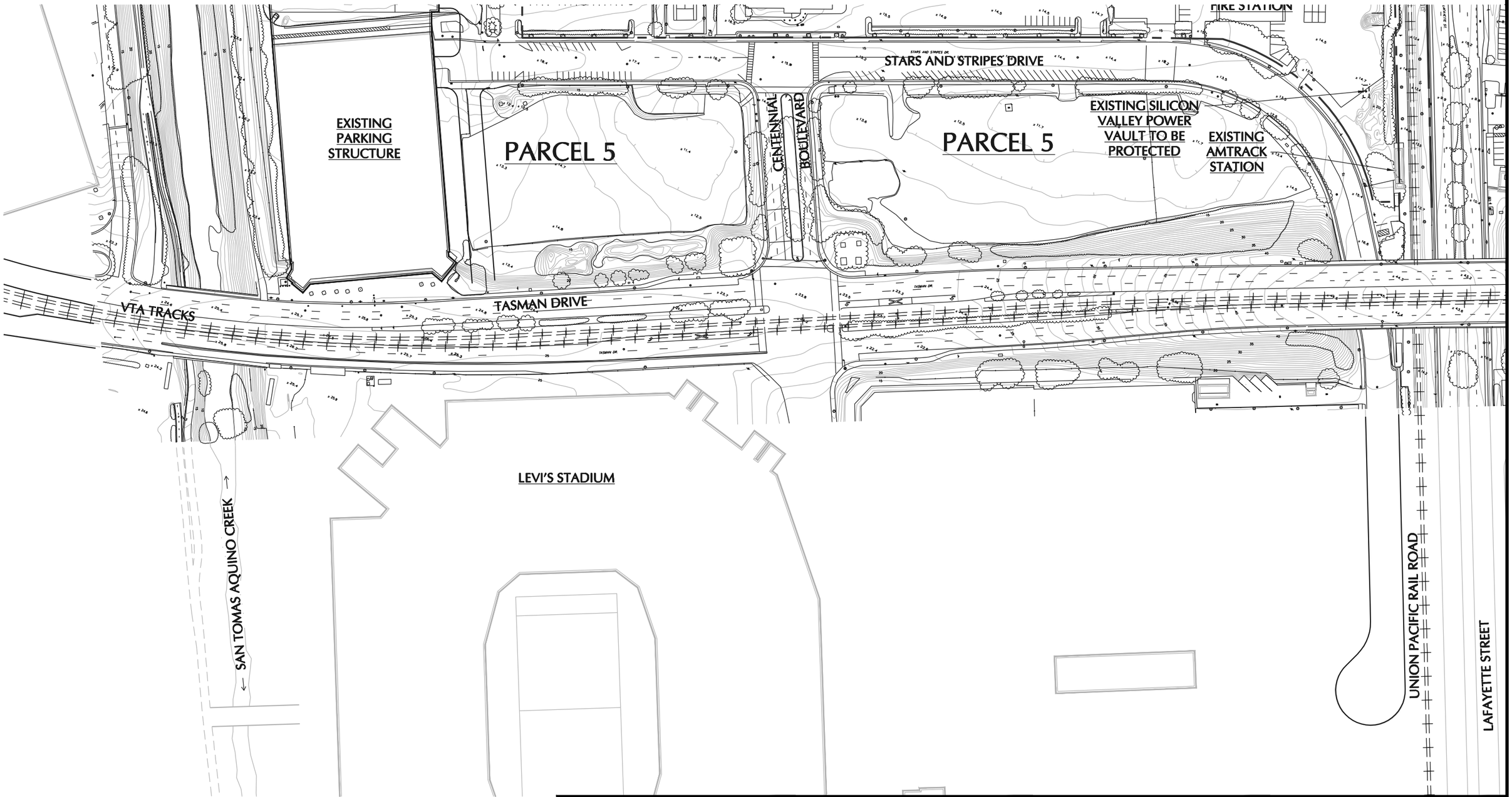

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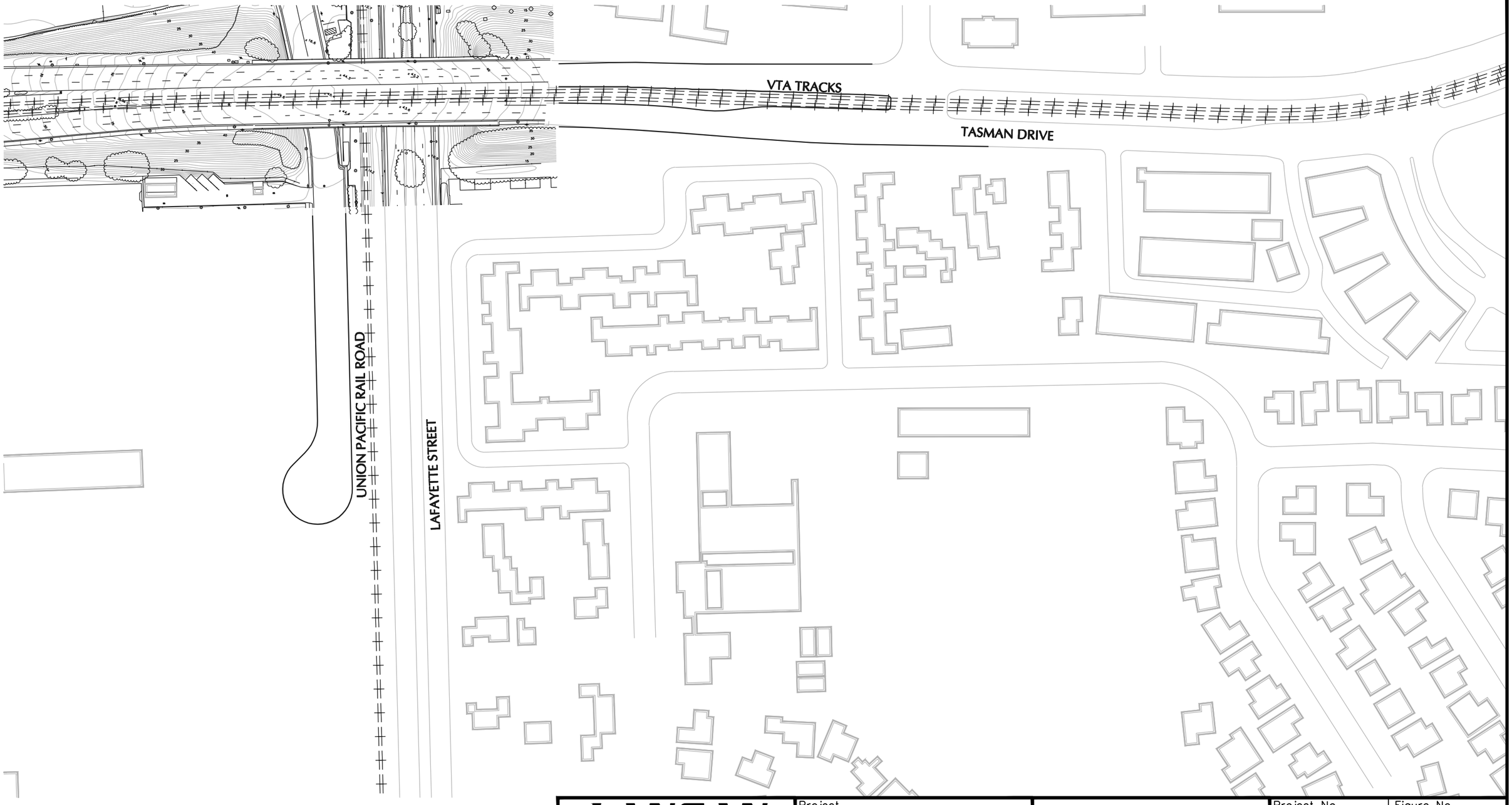

NOTE:
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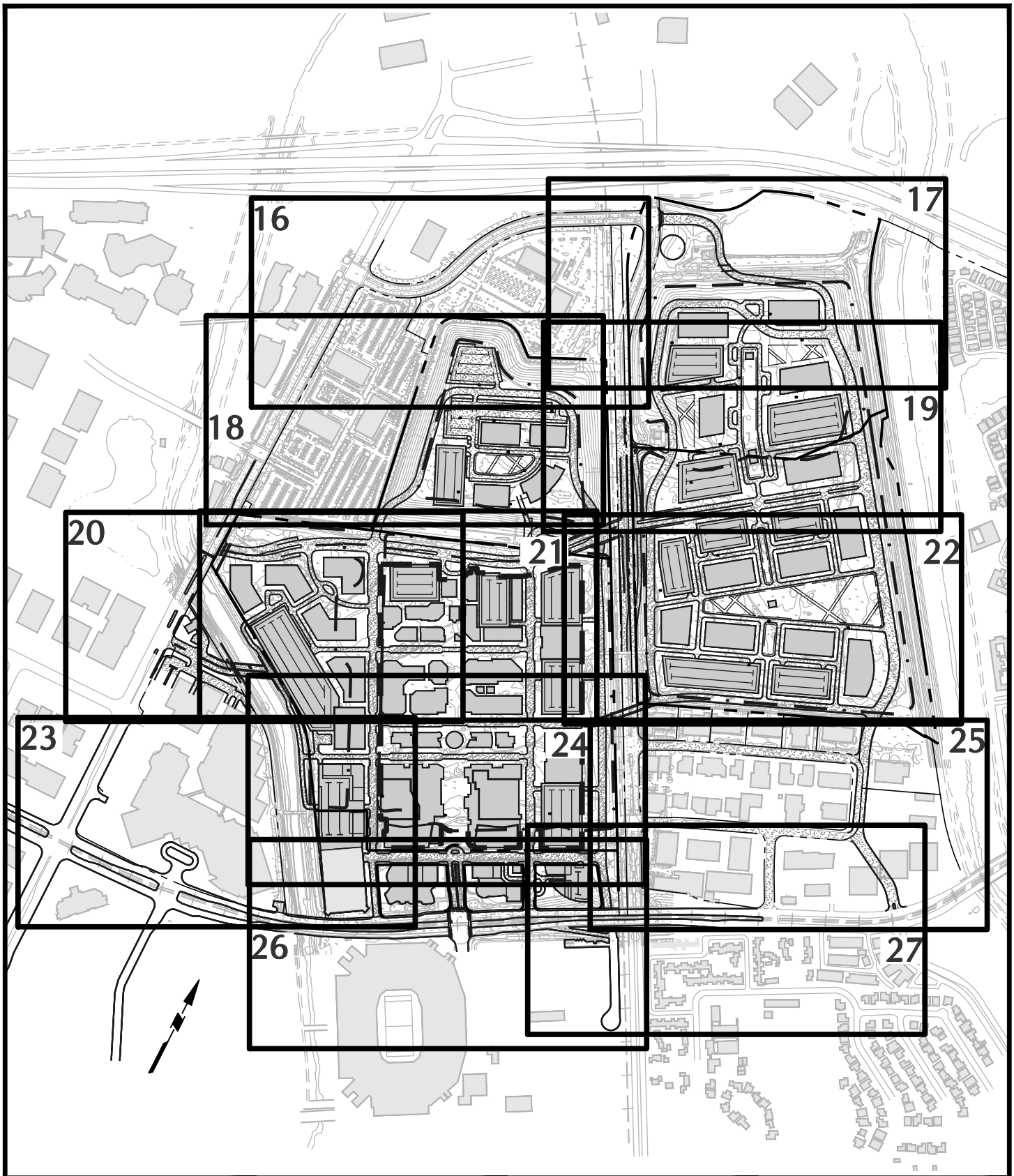

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PRELIMINARY GRADING KEY MAP

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GREAT AMERICA WAY

GREAT AMERICA WAY

UNION PACIFIC RAIL ROAD

LAFAYETTE STREET

IRVINE COMPANY
SANTA CLARA
GATEWAY

GREAT AMERICA PARKWAY

IRVINE COMPANY
SANTA CLARA
GATEWAY

LIMIT OF REFUSE

48 FT (FG)

48.5 FT (FG)

48 FT (FG)

52.7 FT (FG)

53.3 FT (FG)

52.7 FT (FG)

55.2 FT (FG)

B-8

53.5 FT (FG)

52 FT (FG)

52.6 FT (FG)

53

50 FT

150 0 75 150

SCALE IN FEET

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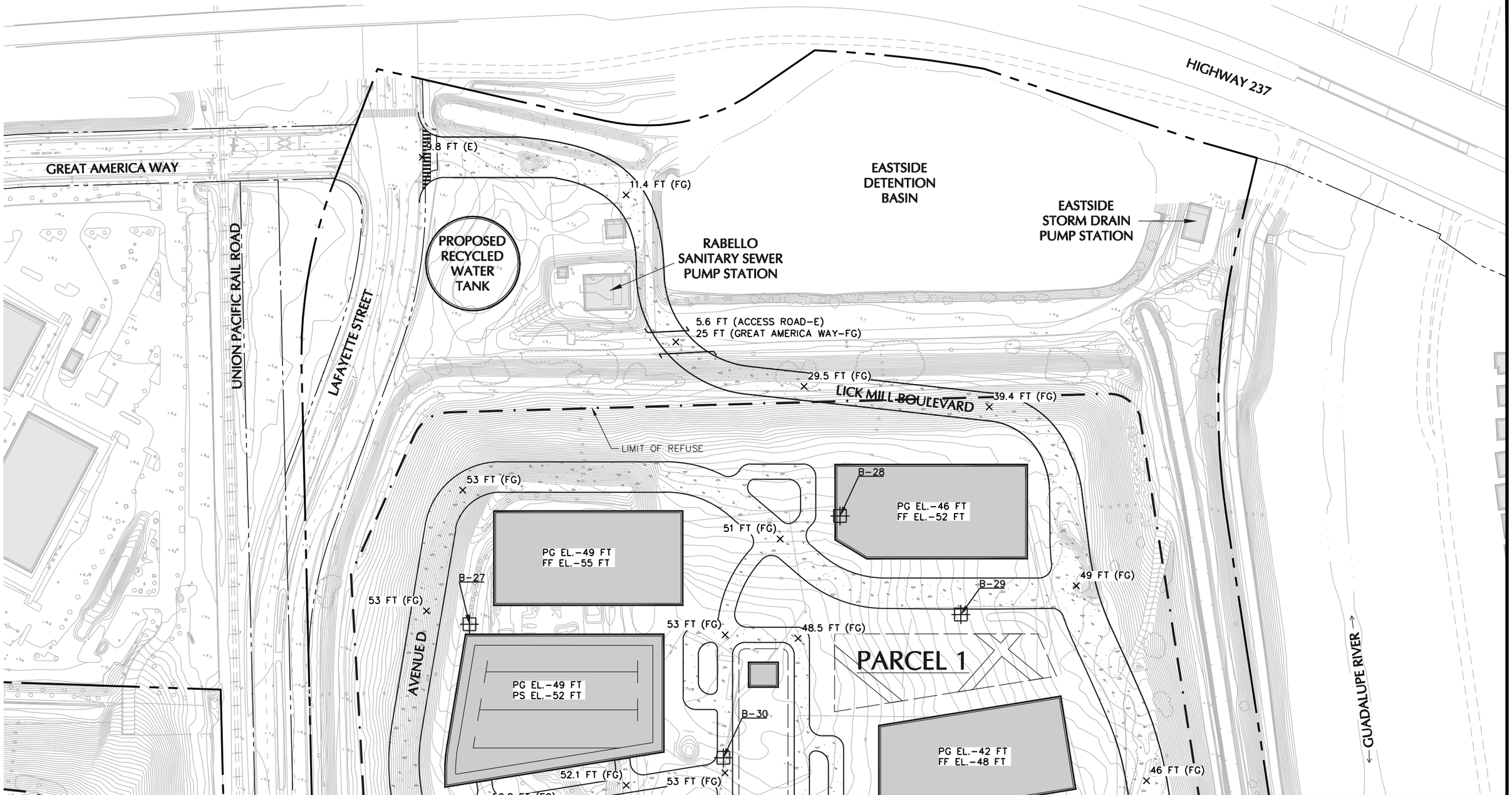

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Project No. 770611601	Figure No. 17
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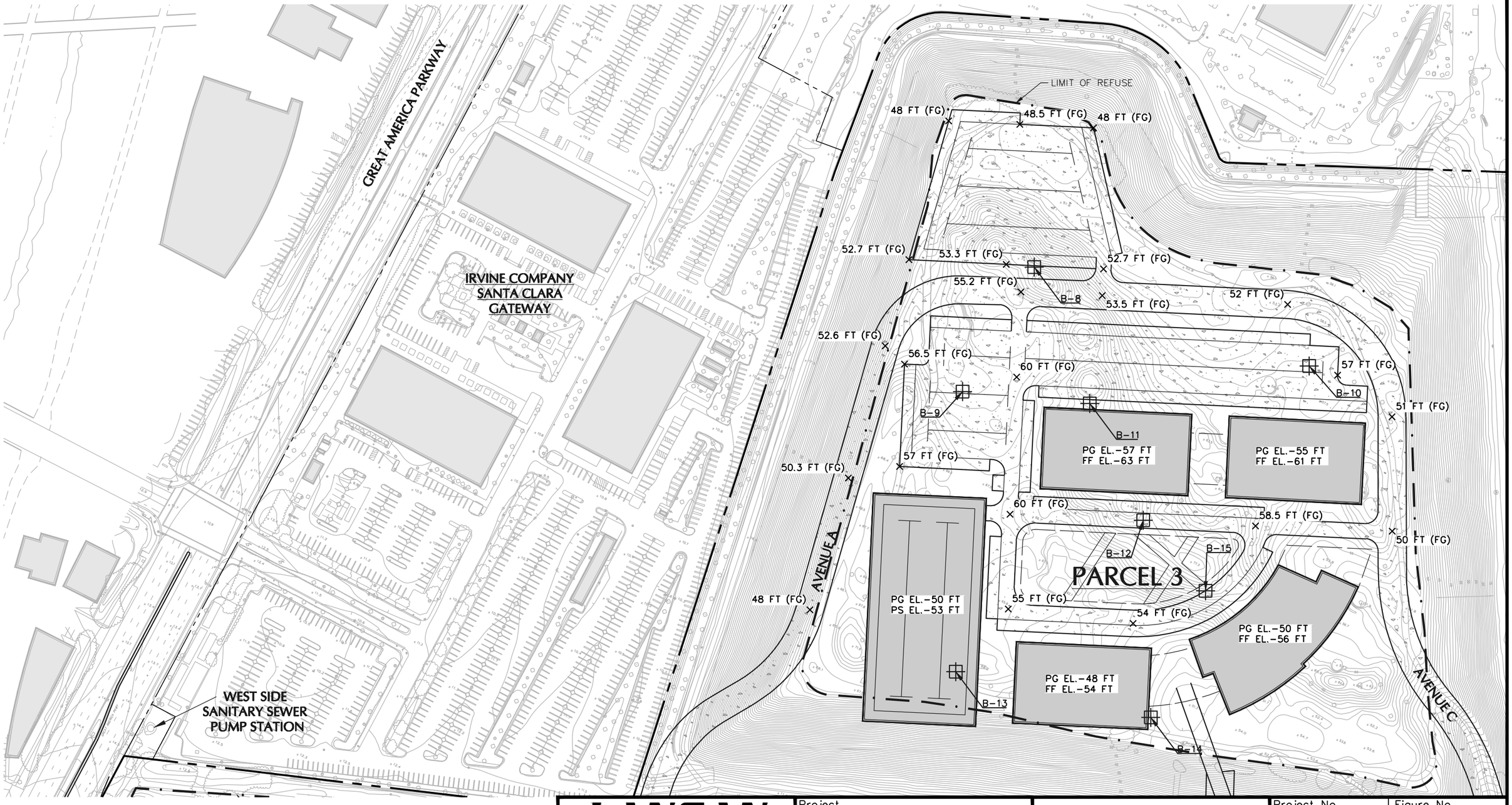

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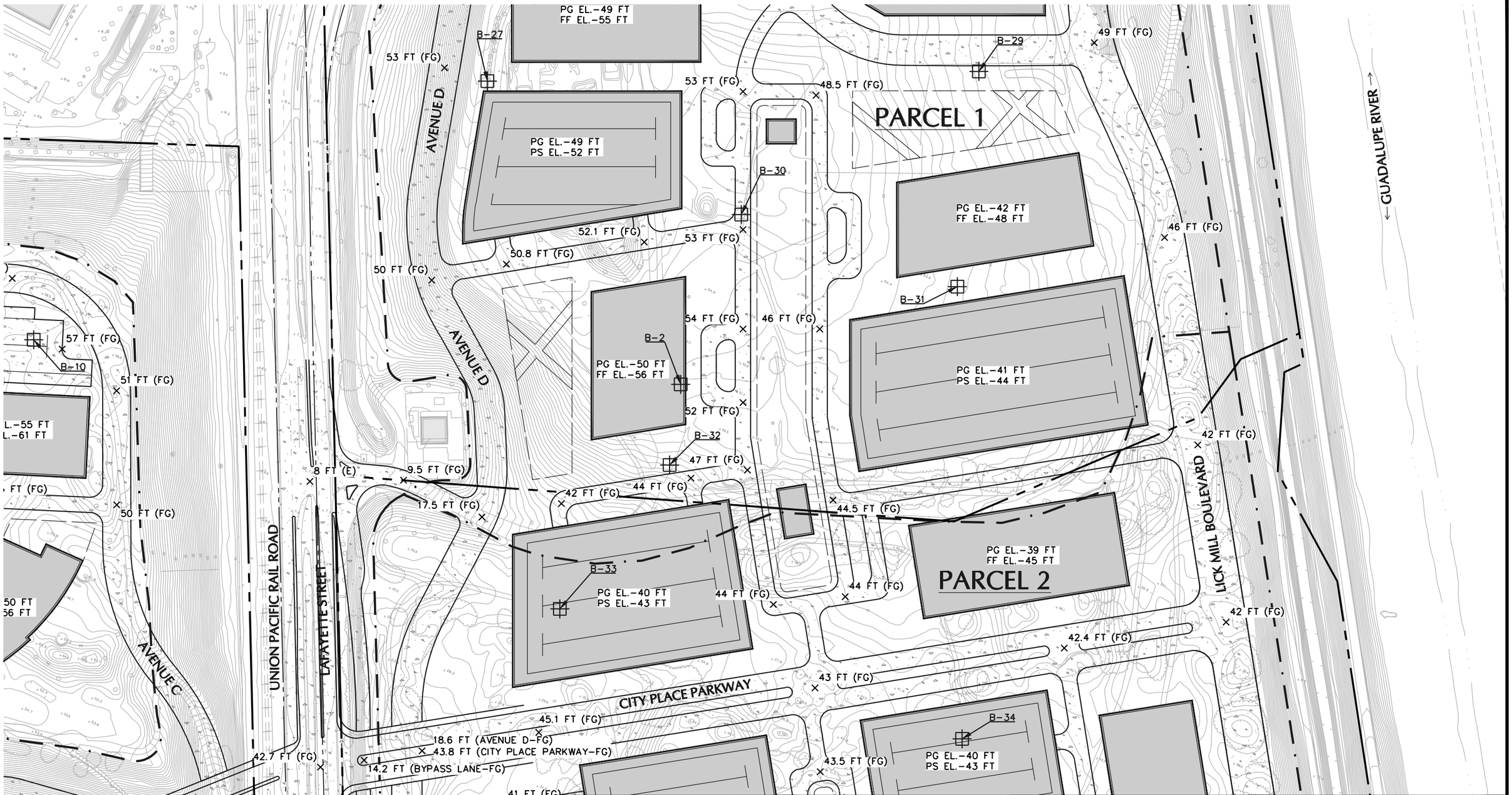

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LIMIT OF REFUSE

GREAT AMERICA PARKWAY

SCVWD ACCESS ROAD

SAN TOMAS AQUINO CREEK

CITY PLACE PARKWAY

AVENUE A

3rd STREET

TECH MART

PARCEL 4

PG EL.-24 FT
FF EL.-30 FT

PG EL.-24 FT
FF EL.-30 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-24 FT
PS EL.-27 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-VAR.
PS EL.-30.5 FT

PG EL.-VAR.
FF EL.-33.5 F

PG EL.-VAR.
FF EL.-34.5 FT

PG EL.-VAR.
FF EL.-34.5 FT

PG EL.-VAR.
FF EL.-34.5

PG EL.-VAR.
FF EL.-35 FT

PG EL.-VAR.
FF EL.-35.5 FT

PG EL.-VAR.
FF EL.-35 FT

PG EL.-VAR.
FF EL.-35.5 FT

PG EL.-VAR.
FF EL.-35 FT

B-16

B-18

B-4

B-20

B-5

TP-1

TP-2

TP-3

TP-4

TP-8

TP-9

TP-10

TP-11

TP-12

19 FT (E)

19 FT (E)

12 FT (E)

21 FT (E)

17.6 FT (FG)

10.1 FT (E)

27.4 FT (FG)

27.5 FT (FG)

21 FT (E)

20 FT (FG)

27 FT (FG)

28 FT (FG)

27.5 FT (FG)

28 FT (FG)

20.4 FT (E)

27.6 FT (FG)

20.8 FT (E)

29 FT (FG)

31 FT (FG)

28.5 FT (FG)

28.9 FT (FG)

33 FT (FG)

35 FT

32.5 FT (FG)

33.5

150 0 75 150

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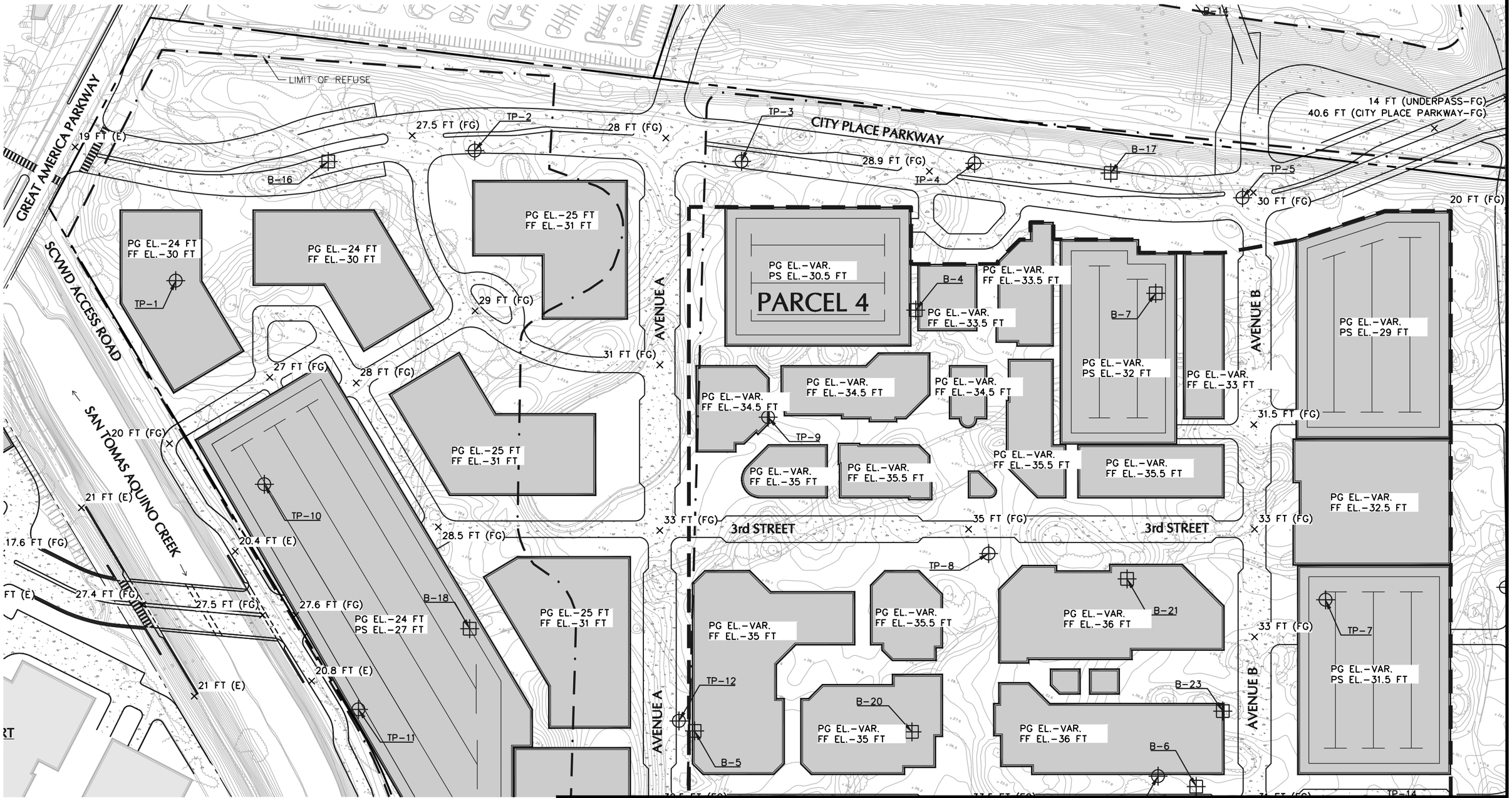

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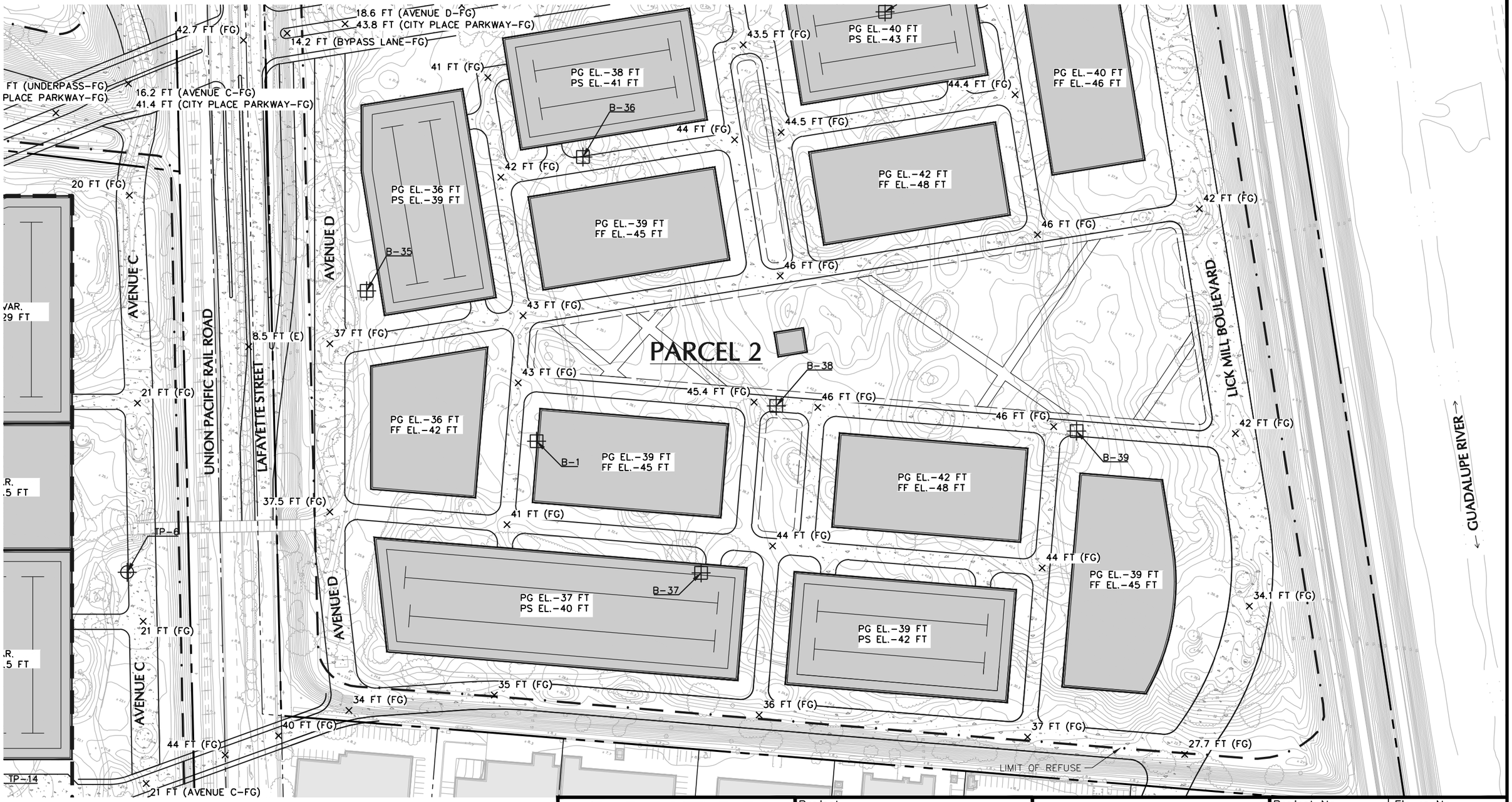

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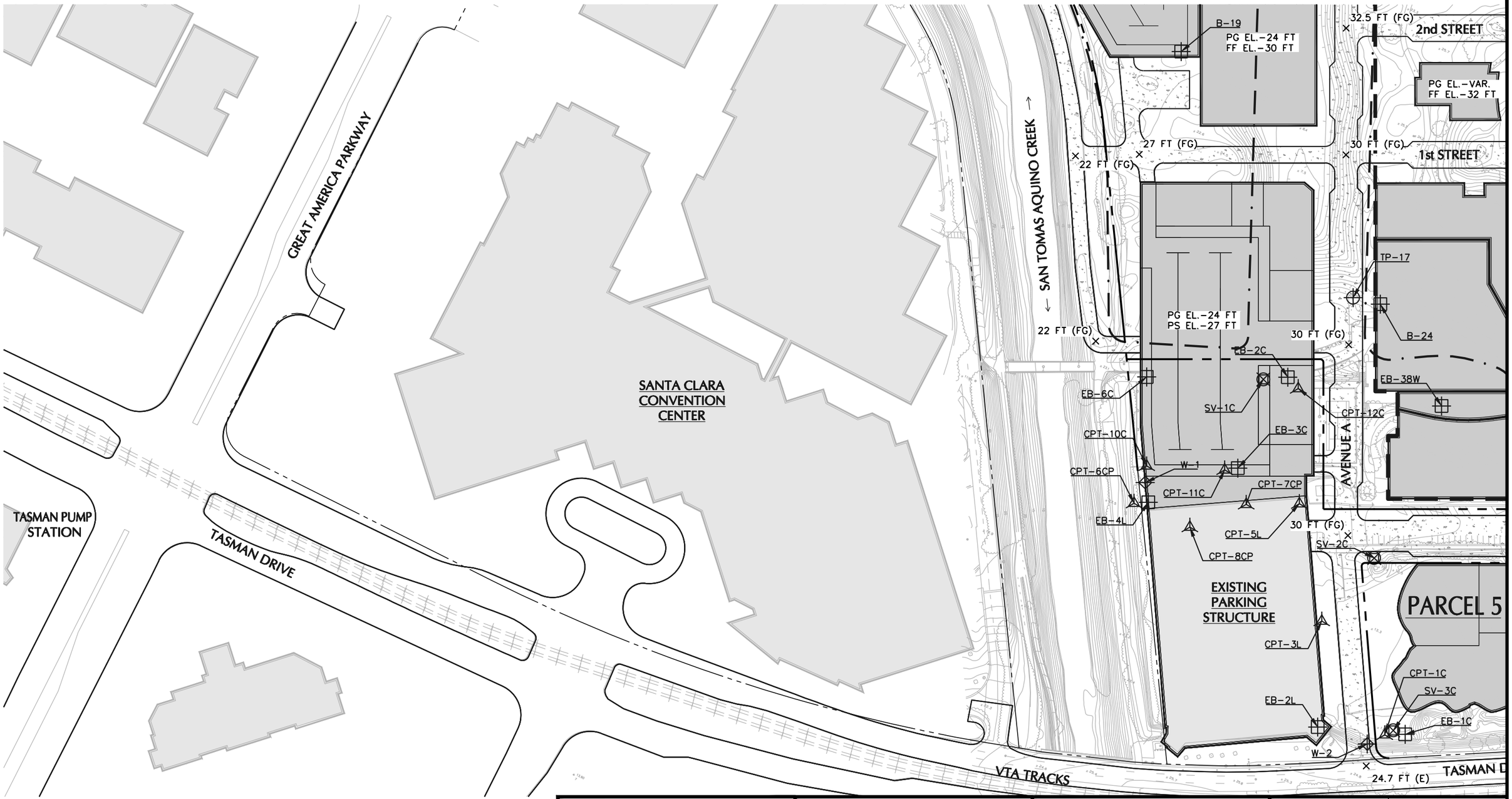

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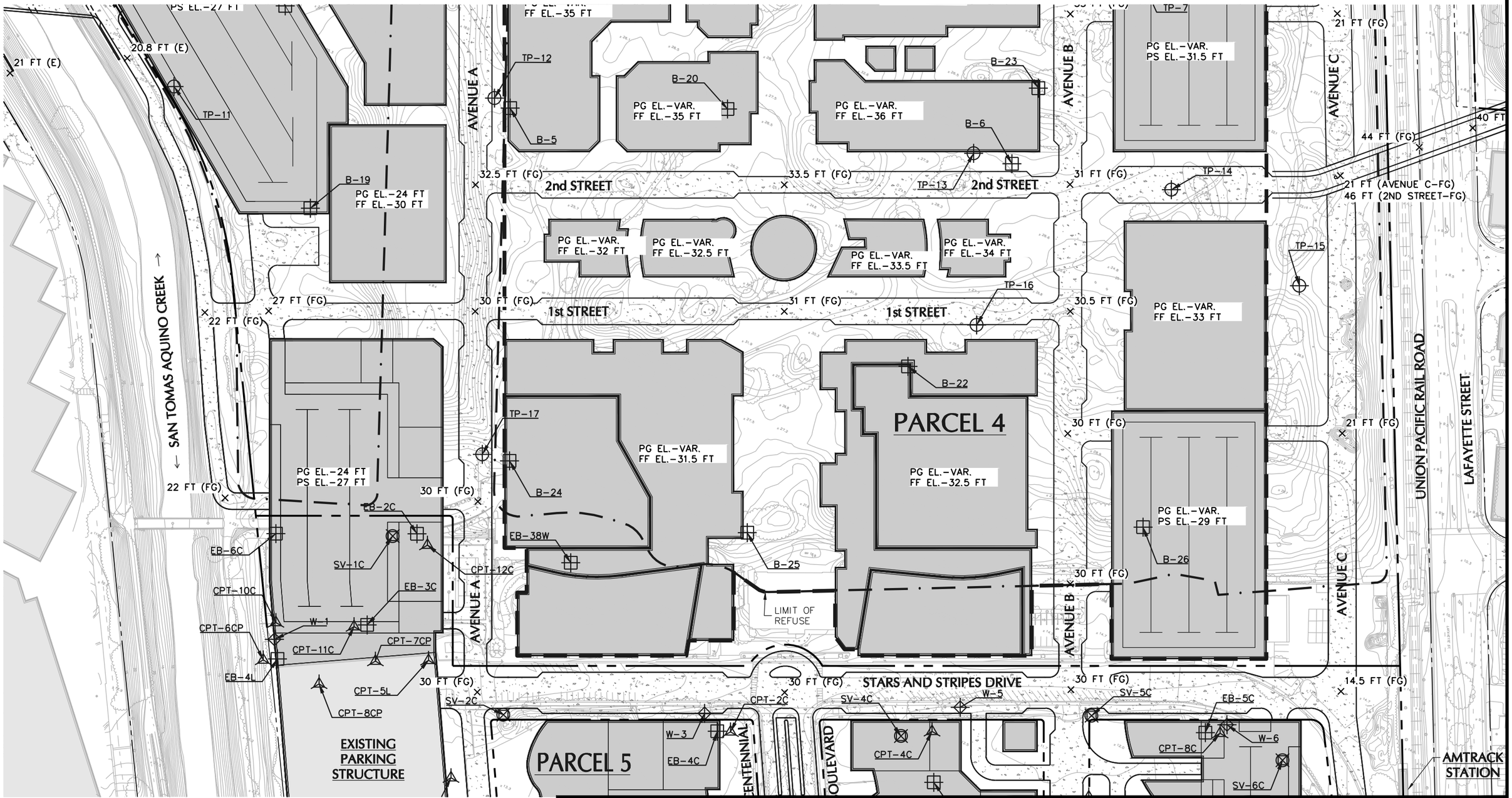

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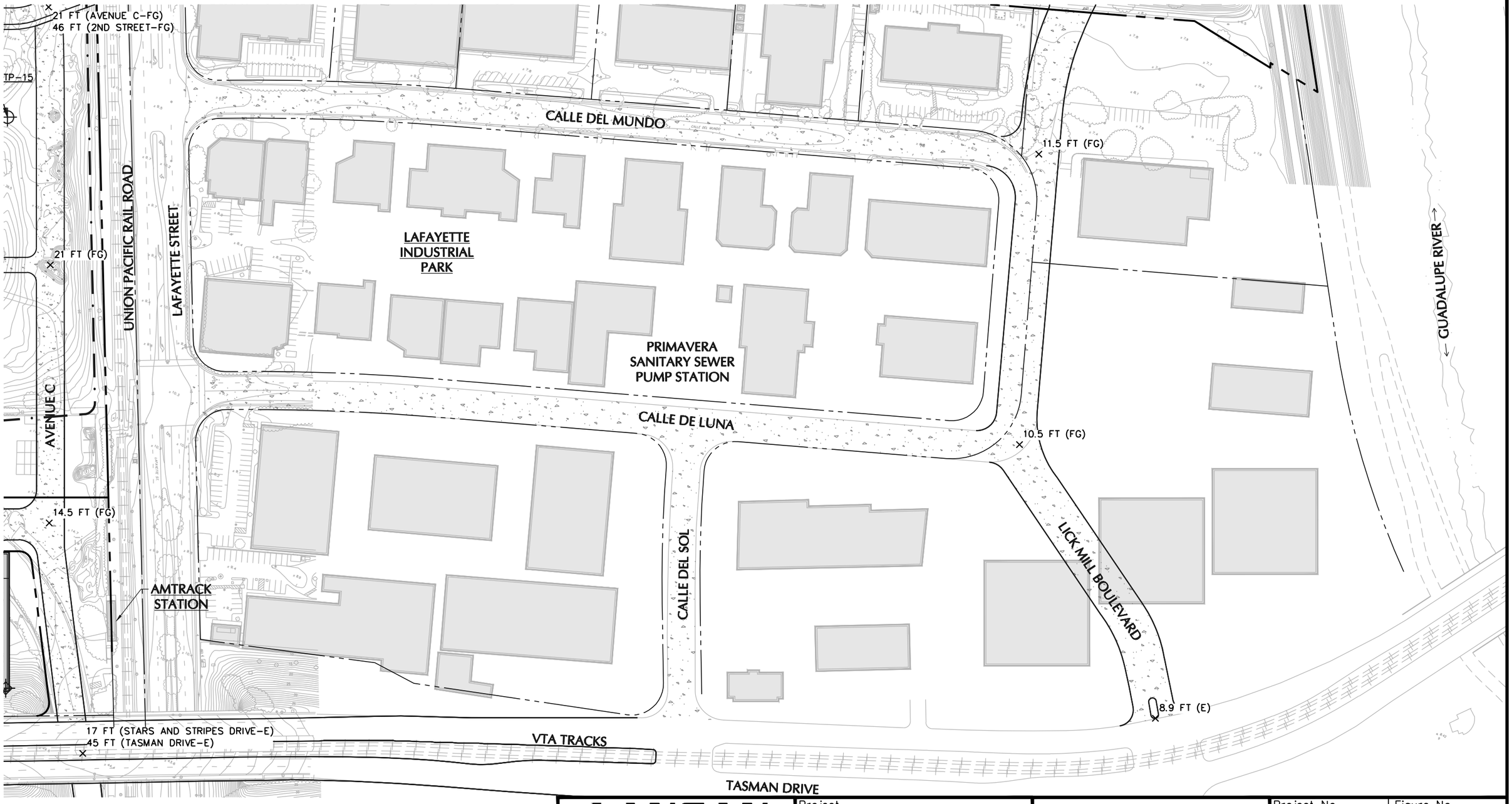

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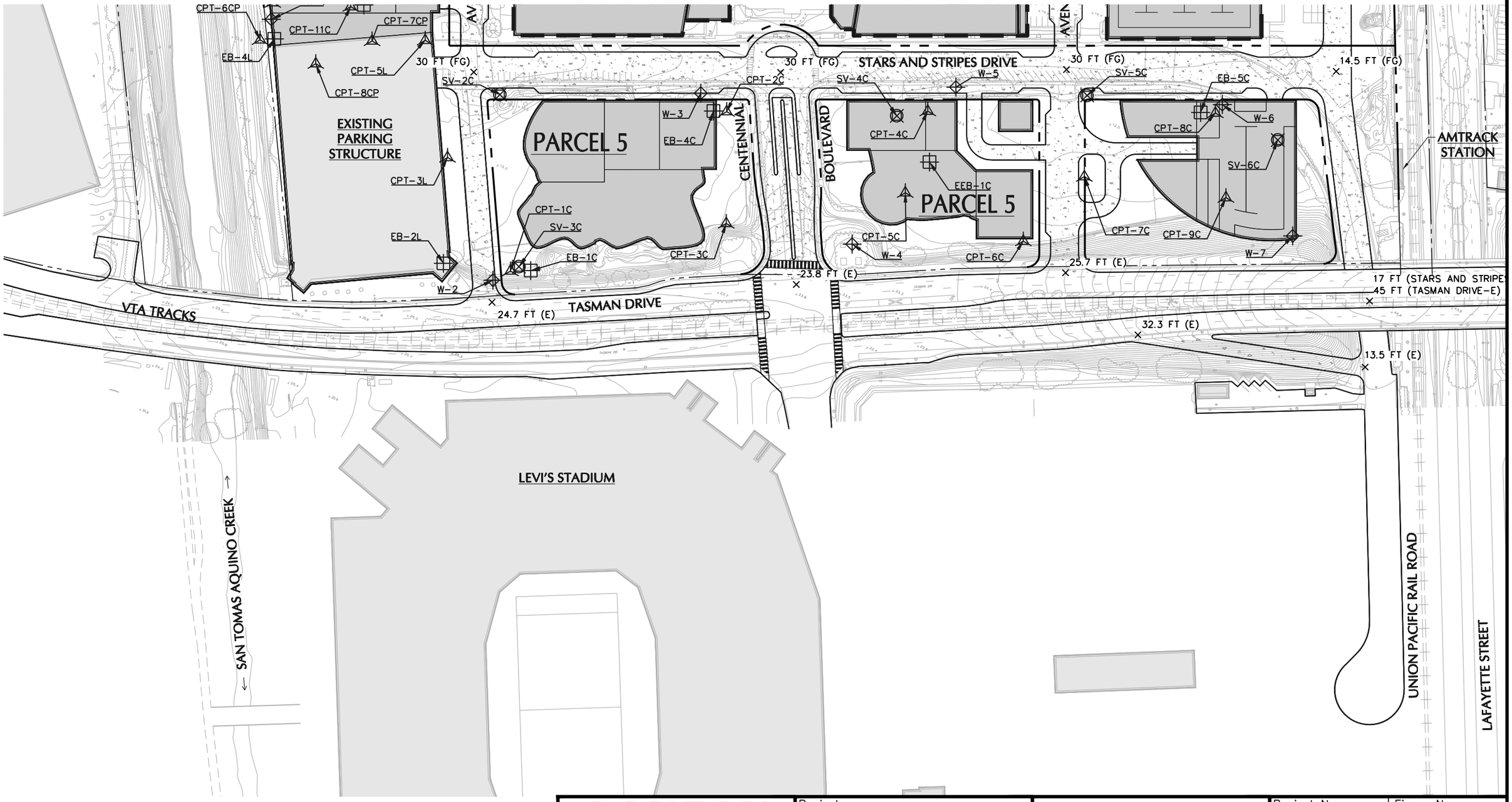

150 0 75 150

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CITY PLACE SANTA CLARA

SANTA CLARA CALIFORNIA

PRELIMINARY GRADING

Project No. 770611601	Figure No. 26
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 27
Date 6/30/2015	
Scale 1" = 150'	
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Submission Date 6/30/2015	

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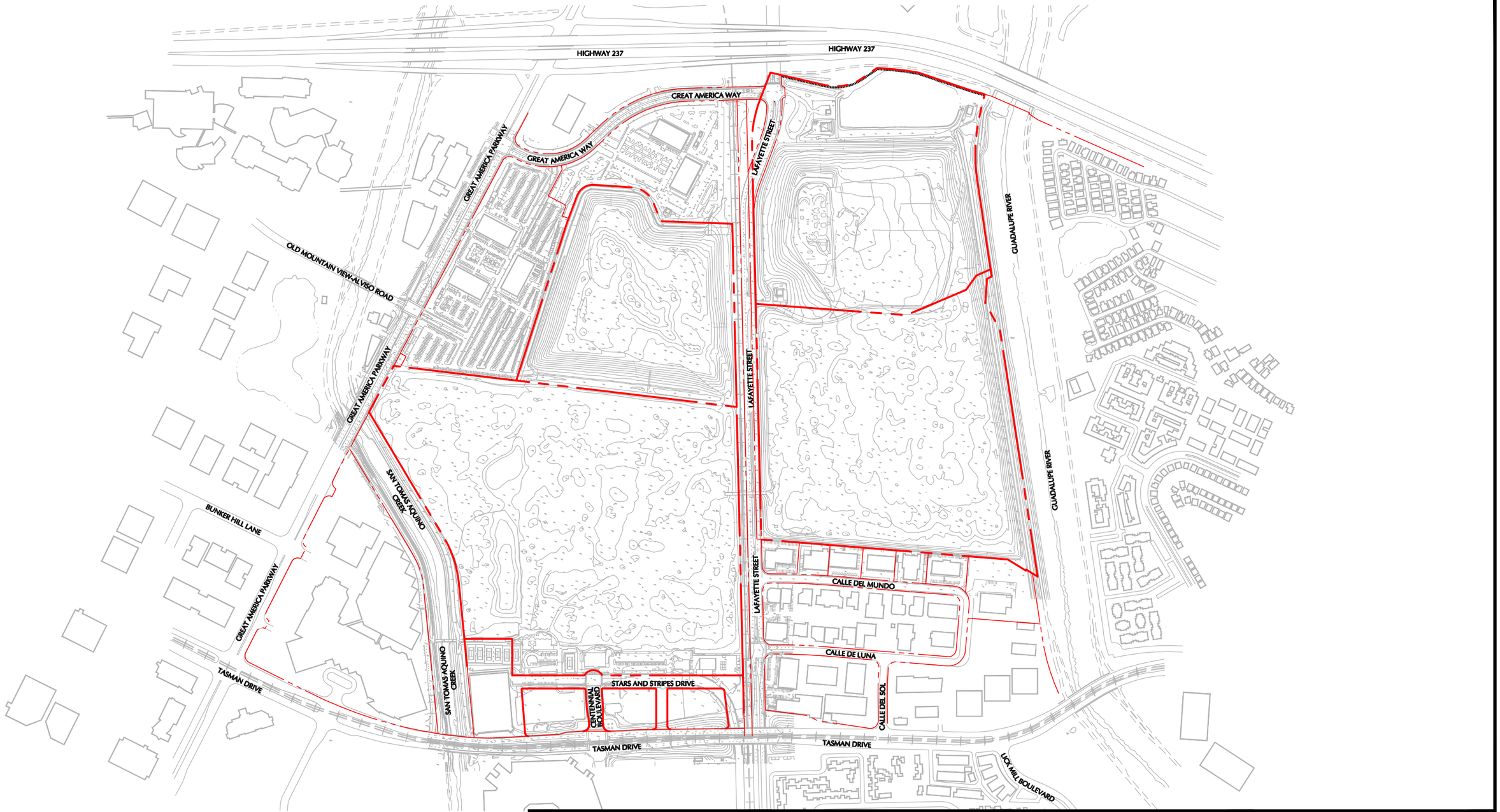

LEGEND:

PROPERTY LINE

150 0 75 150

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EXISTING ROADWAY NETWORK

Project No. 770611601	Figure No. 28
Date 6/30/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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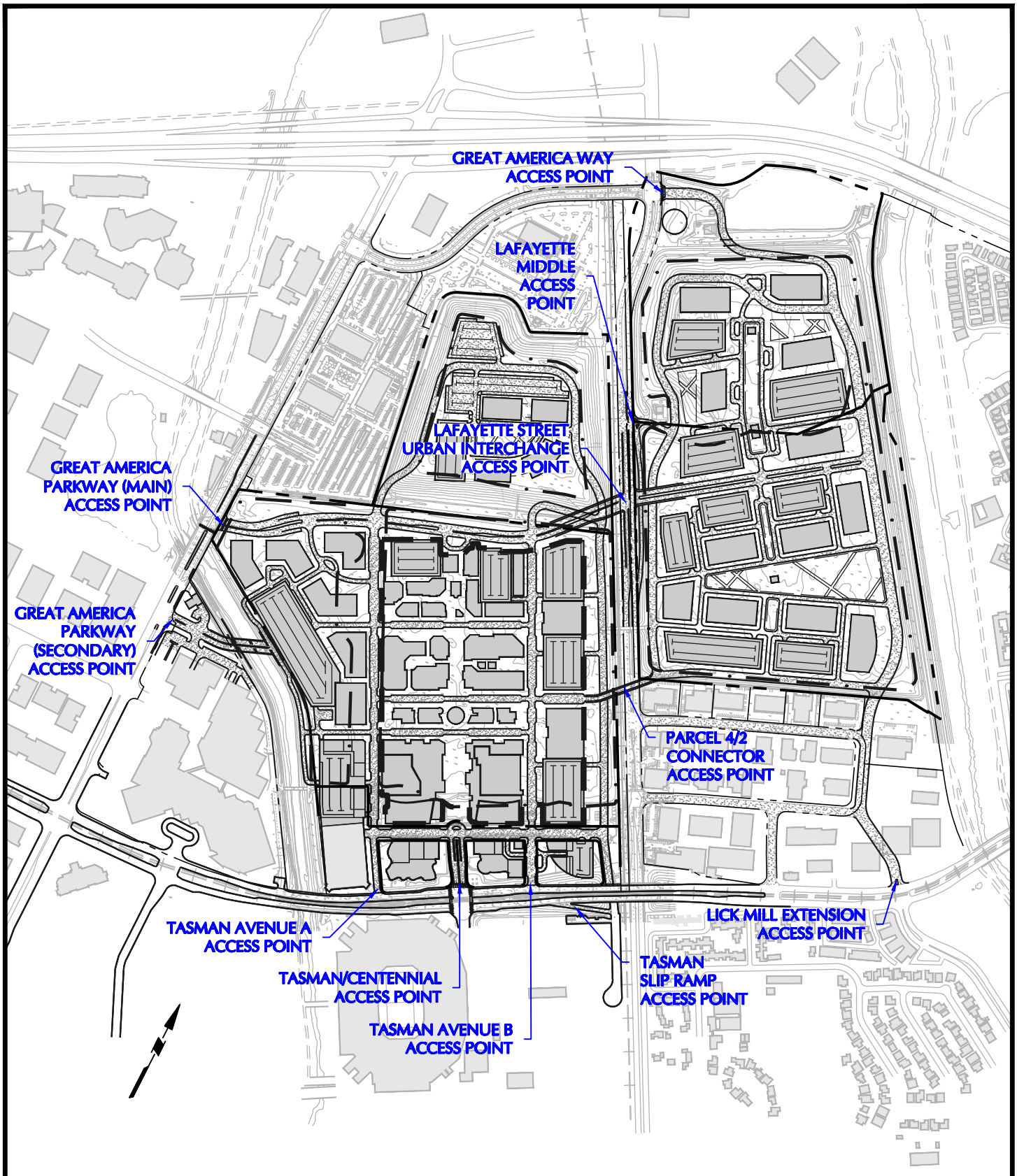

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ACCESS LOCATION SUMMARY

Project No. 770611601	Figure No. 29
Date 6/30/2015	
Scale 1" = 800	
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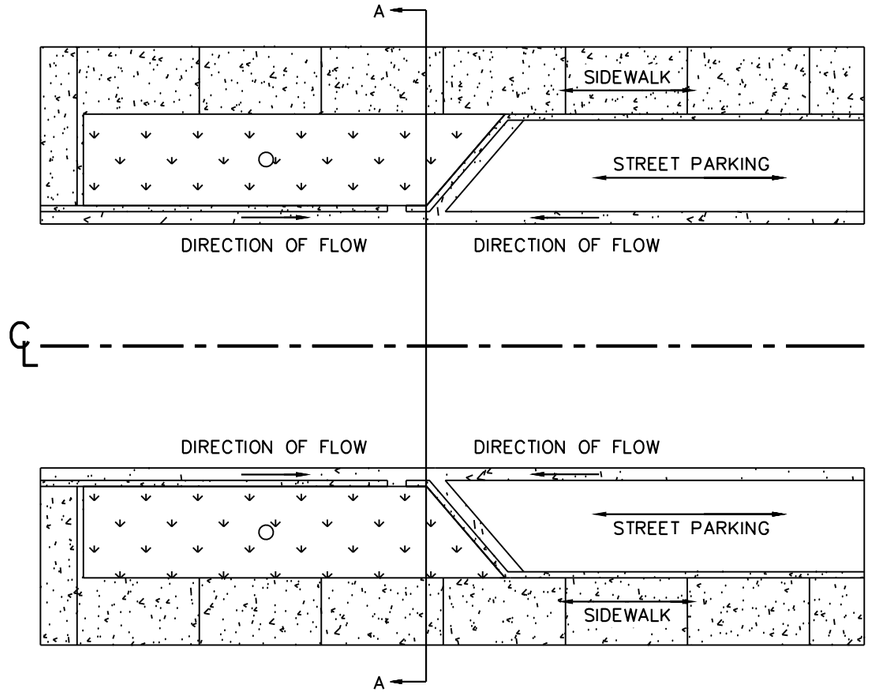
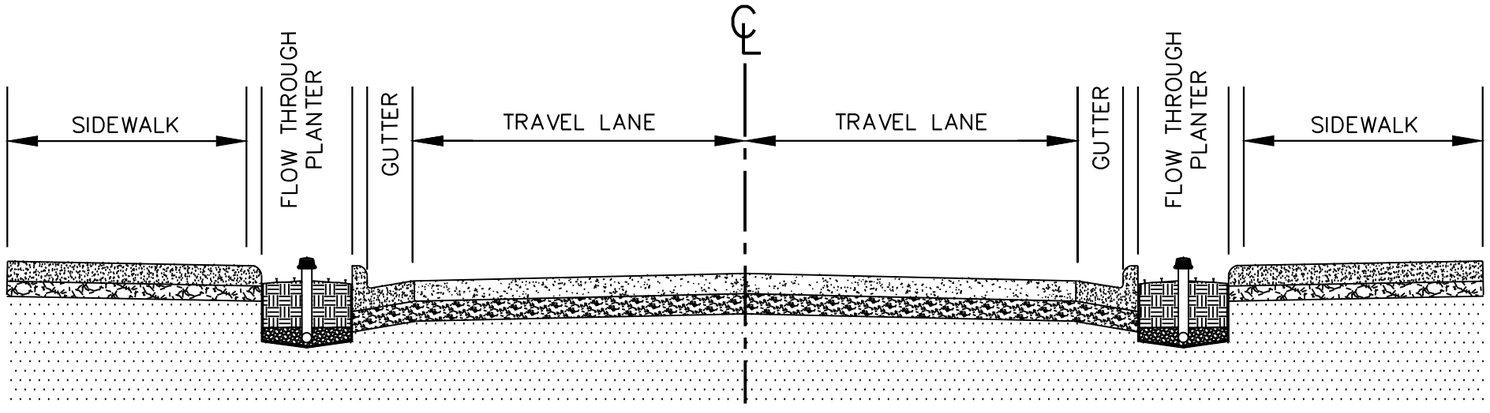


PLAN VIEW



CROSS SECTION A-A
STREET PROFILE

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ON-SITE ROADWAY GREEN STREET SECTION

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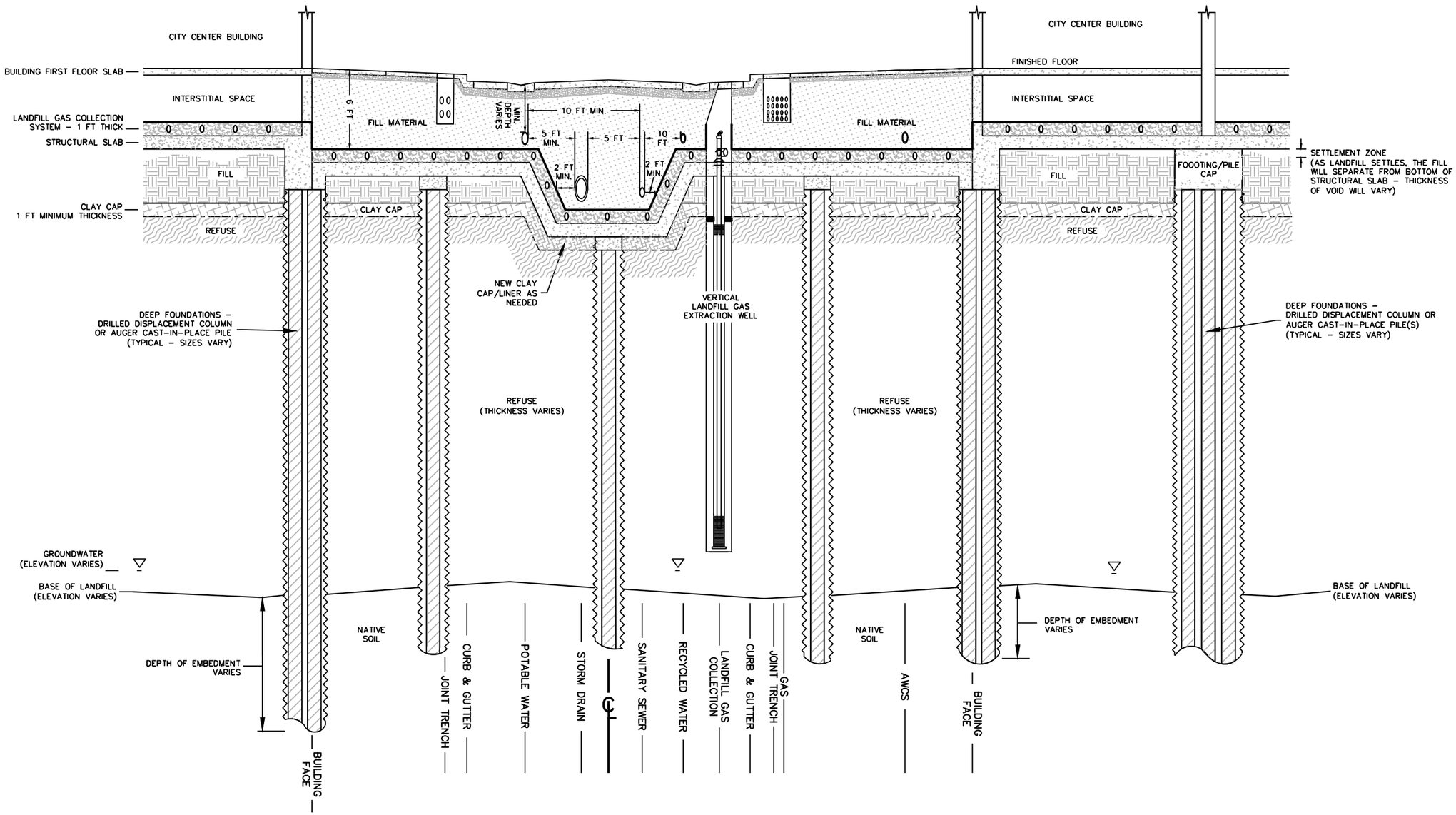
STREET SECTION - WIDTH VARIES
(PARCEL 4 SETTLEMENT SLAB SECTION)



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FOUNDATION CONCEPT TYPE 1

Project No. 770611601	Figure No. 31
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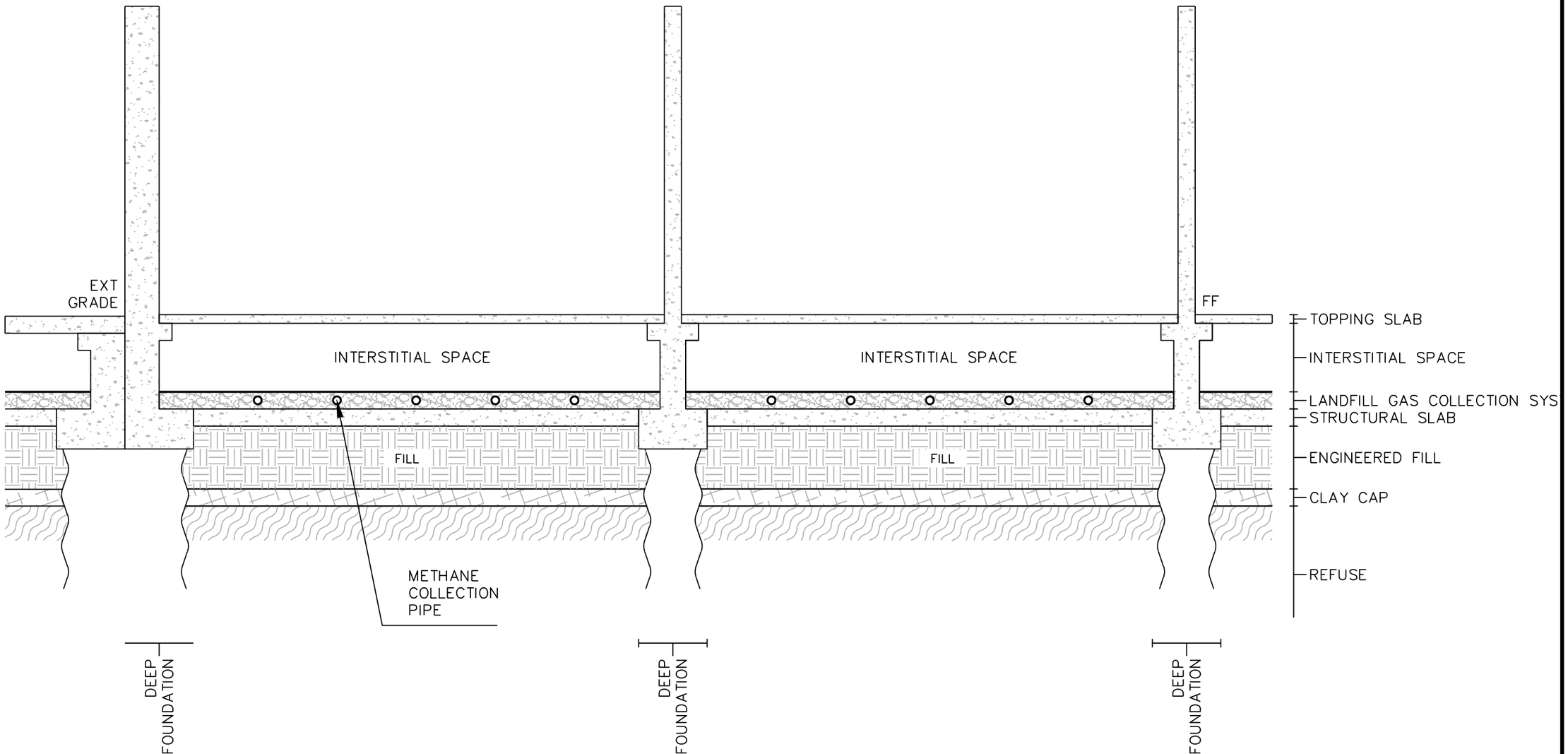
CONCEPTUAL FOUNDATION
BUILDING (RETAIL, OFFICE & HOTEL)



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FOUNDATION CONCEPT TYPE 2

Project No. 770611601	Figure No. 32
Date 6/30/2015	
Scale N.T.S.	
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Submission Date 6/30/2015	

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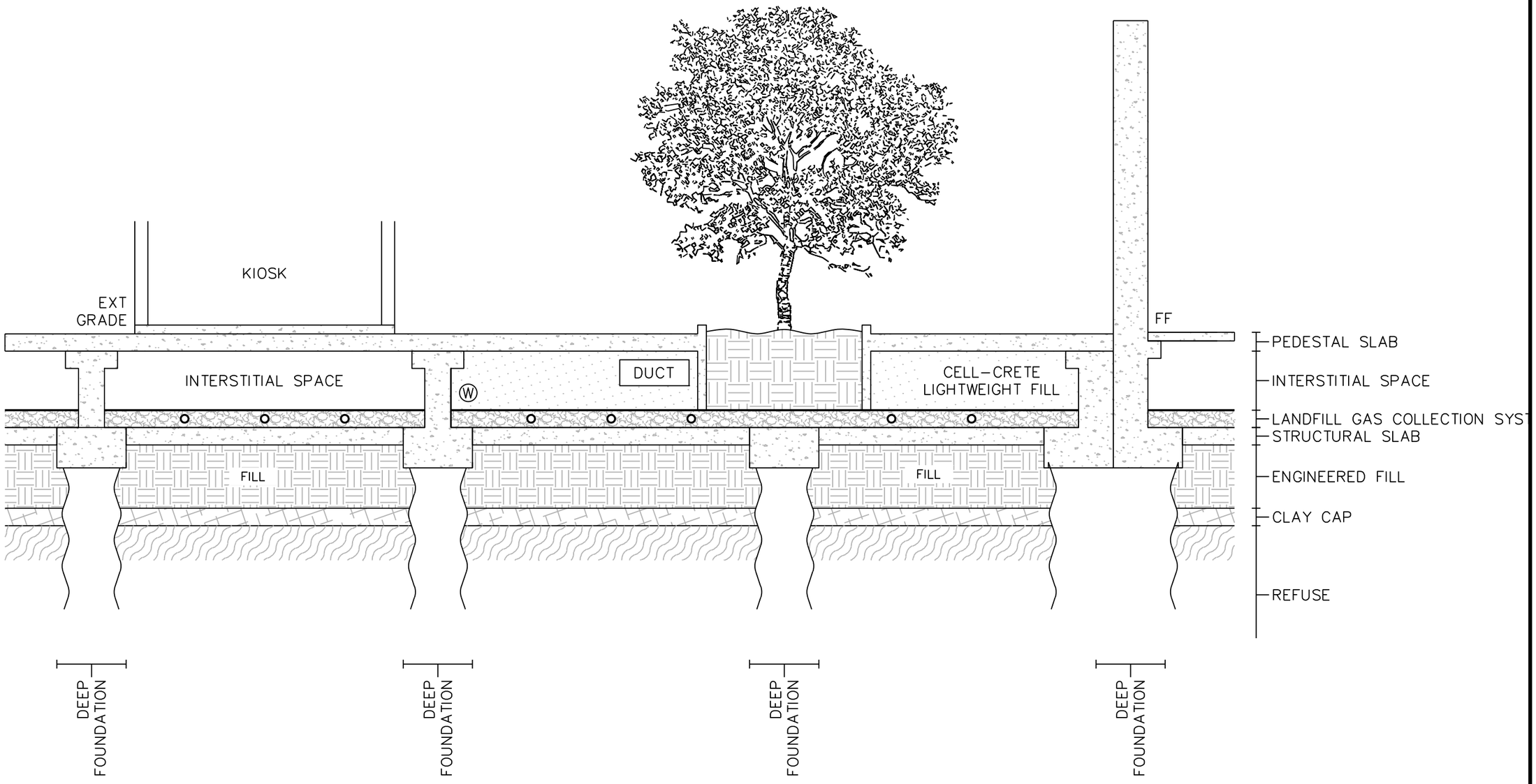
CONCEPTUAL FOUNDATION
PLAZA



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FOUNDATION CONCEPT TYPE 3

Project No. 770611601	Figure No. 33
Date 6/30/2015	
Scale N.T.S.	
Drawn By DJH / Checked By JL	
Submission Date 6/30/2015	

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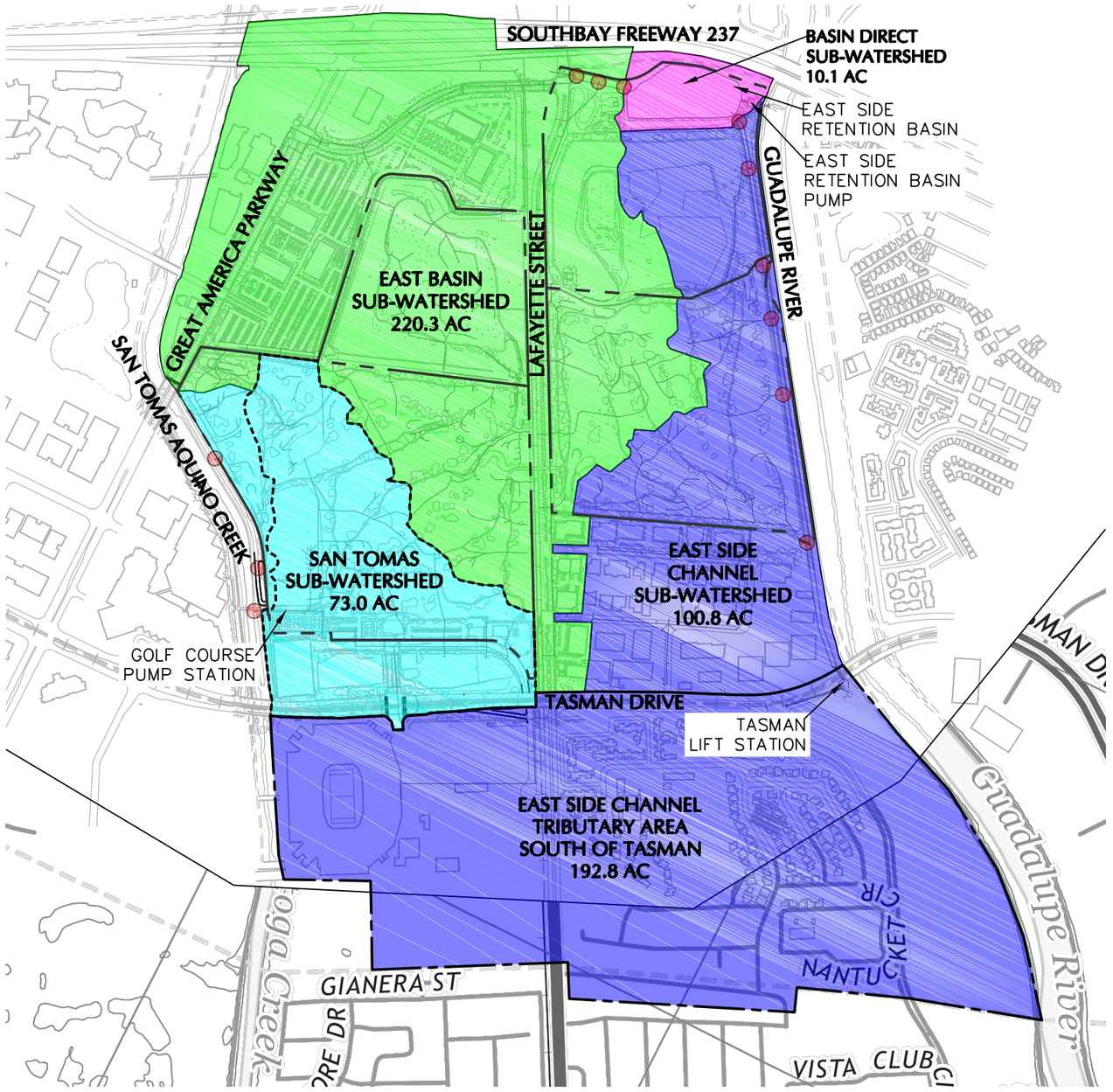
Figures from Stormwater Technical Memorandum



LEGEND:

- EXISTING OUTFALL LOCATION
- PROPERTY LINE
- AREA TRIBUTARY TO GOLF COURSE PUMP
- AREA SOUTH OF TASMAN DRIVE TRIBUTARY TO EAST SIDE CHANNEL SUB WATERSHED

AREA SUMMARY:

SUB WATERSHED	ONSITE (AC)	OFFSITE (AC)
SAN TOMAS	50.8	22.2
EAST SIDE CHANNEL	57.0	43.8
EAST BASIN	114.8	105.5
BASIN DIRECT	8.0	2.1
SOUTH OF TASMAN	–	192.8
TOTAL	230.6	366.4

NOTES:

EAST SIDE CHANNEL SUB–WATERSHED OUTFALLS DRAIN TO THE EXISTING NATURAL CHANNEL JUST WEST AND ADJACENT TO THE GUADALUPE RIVER

LIMITS FOR THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE ARE APPROXIMATE AND OBTAINED FROM HYDRAULIC EVALUATION FOR EASTSIDE PUMP STATION AND RETENTION BASIN (NOV. 22, 2000)

TOPOGRAPHIC INFORMATION FOR AREAS SOUTH OF TASMAN DRIVE SUPPLEMENTED BY USGS TOPOGRAPHIC MAP FOR MILPITAS, CA DATED 2015

900 0 450 900
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Drawing Title
OVERALL EXISTING DRAINAGE MAP

Project No. 770611601	Figure No. 2
Date 6/30/2015	
Scale 1" = 900'	
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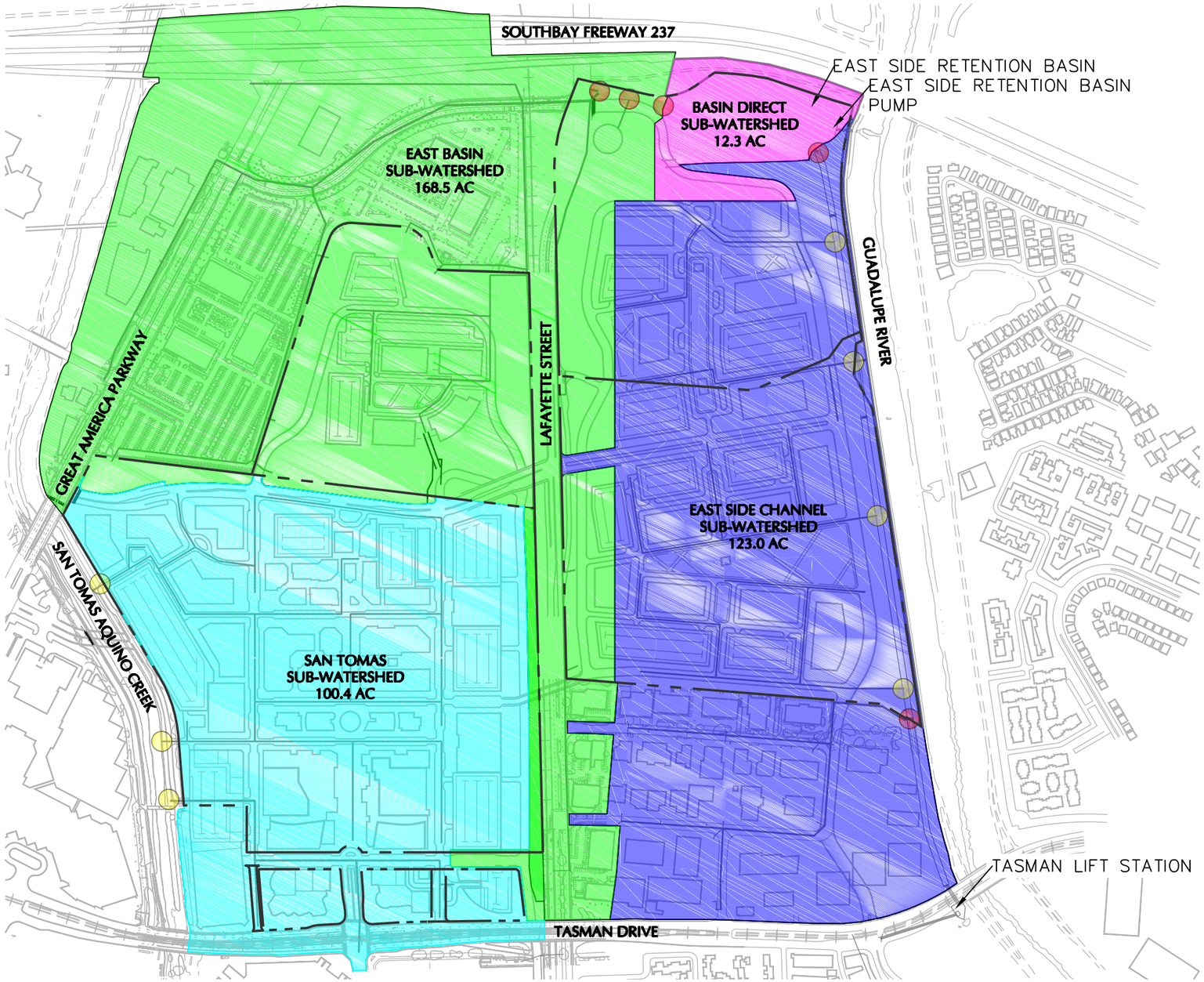

LEGEND:

- EXISTING OUTFALL LOCATION
- PROPOSED OUTFALL LOCATION
- PROPERTY LINE

AREA SUMMARY:

SUB WATERSHED	ONSITE (AC)	OFFSITE (AC)
SAN TOMAS	87.4	13.0
EAST SIDE CHANNEL	79.2	43.8
EAST BASIN	62.9	105.6
BASIN DIRECT	10.2	2.1
SOUTH OF TASMAN	–	192.8
TOTAL	239.7	357.3

NOTES:

EAST SIDE CHANNEL SUB–WATERSHED OUTFALLS DRAIN TO THE EXISTING NATURAL CHANNEL JUST WEST AND ADJACENT TO THE GUADALUPE RIVER

LIMITS FOR THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE ARE APPROXIMATE AND OBTAINED FROM HYDRAULIC EVALUATION FOR EASTSIDE PUMP STATION AND RETENTION BASIN (NOV. 22, 2000)

FOR APPROXIMATE LIMITS OF THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE SEE FIGURE 2

600 0 300 600
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Drawing Title
OVERALL PROPOSED DRAINAGE MAP

Project No. 770611601	Figure No. 8
Date 6/30/2015	
Scale 1" = 600'	
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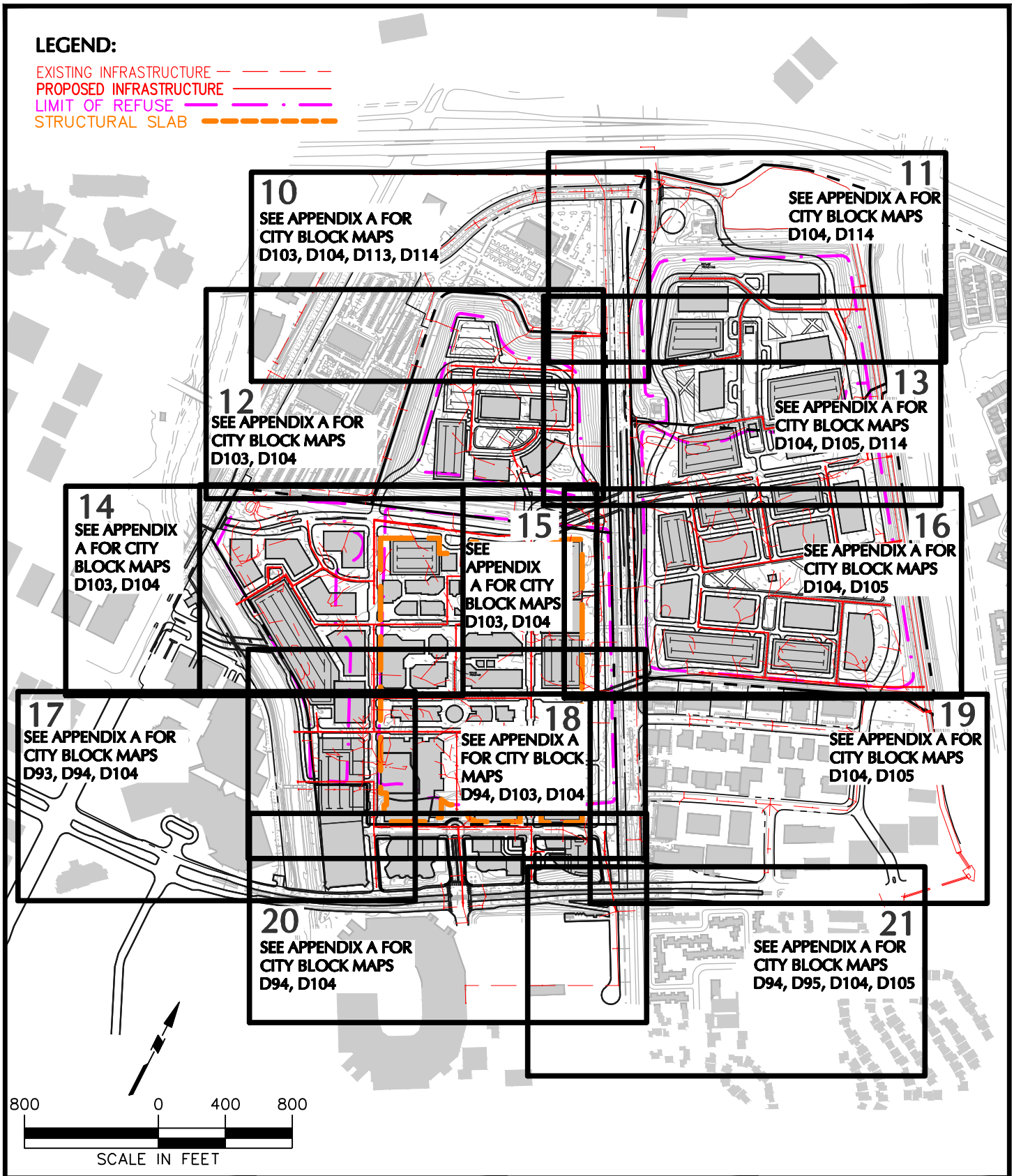

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PRELIMINARY STORM DRAIN KEY

Project No. 770611601	Figure No. 9
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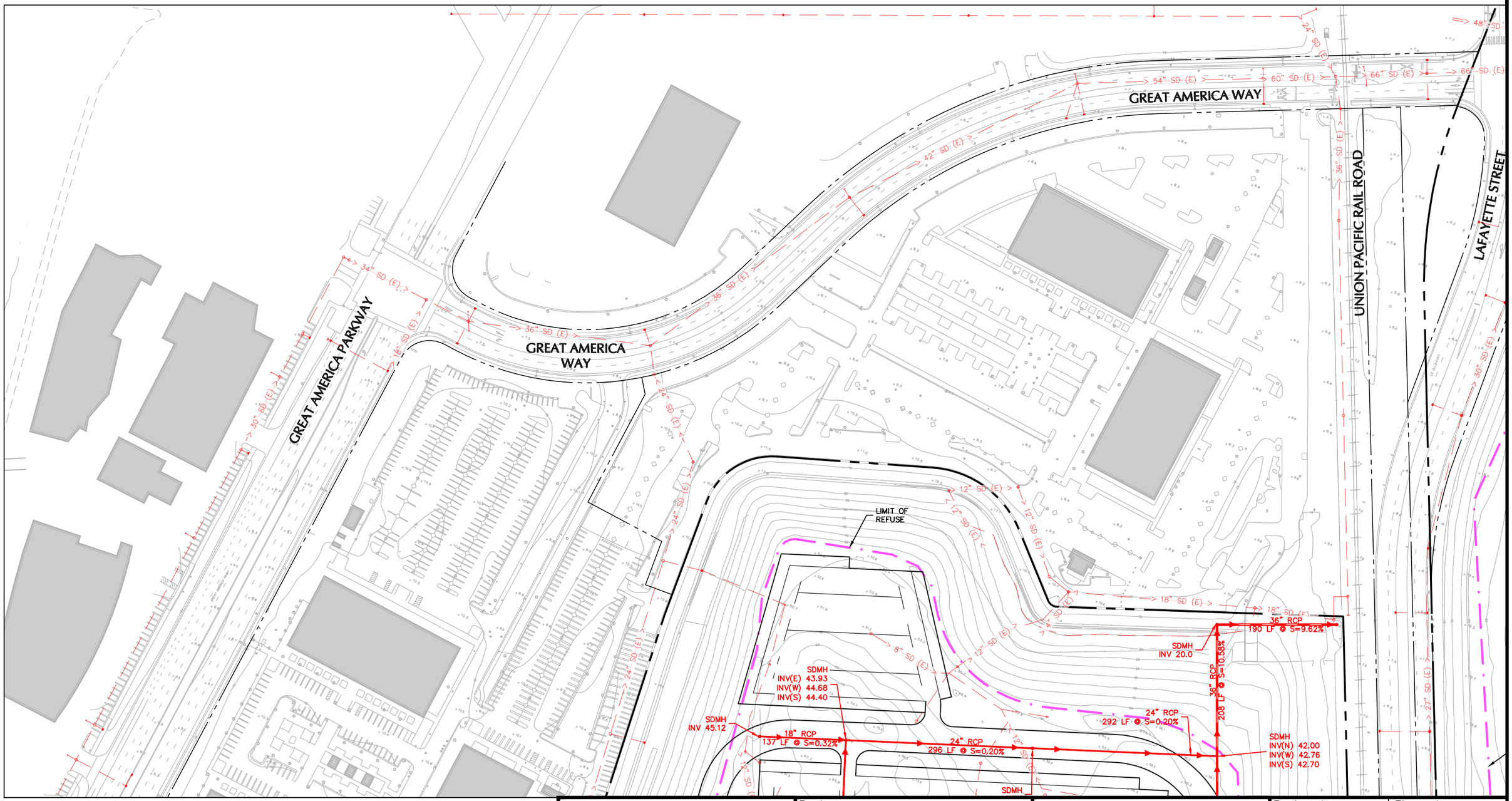

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) > — —

PROPOSED INFRASTRUCTURE — XX" RCP XX LF @ S=X% —>

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 10
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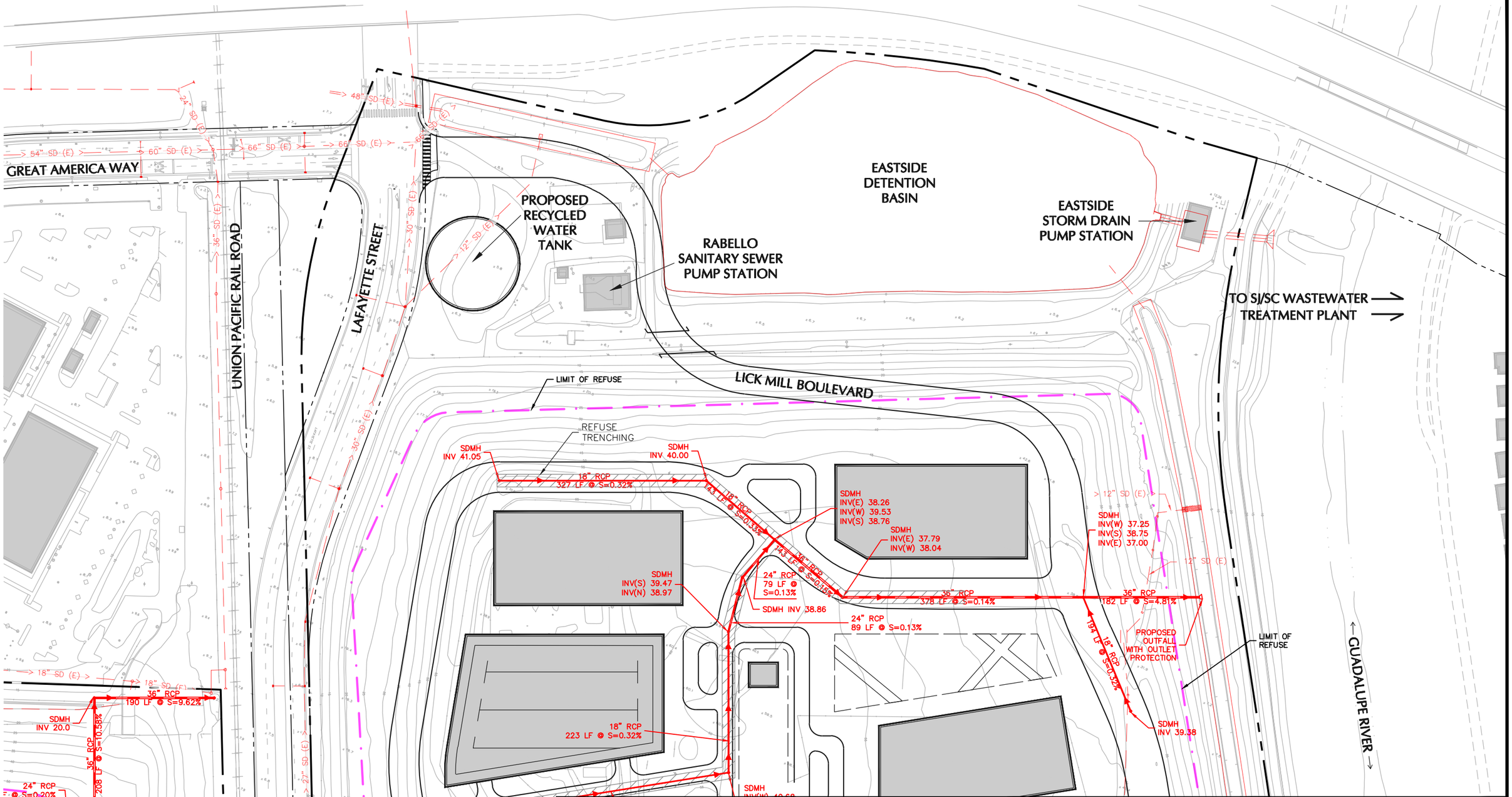

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) > ——

PROPOSED INFRASTRUCTURE —— XX" RCP, XX LF @ S=X% ——

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 11
Date 6/30/2015	
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Submission Date 6/30/2015	

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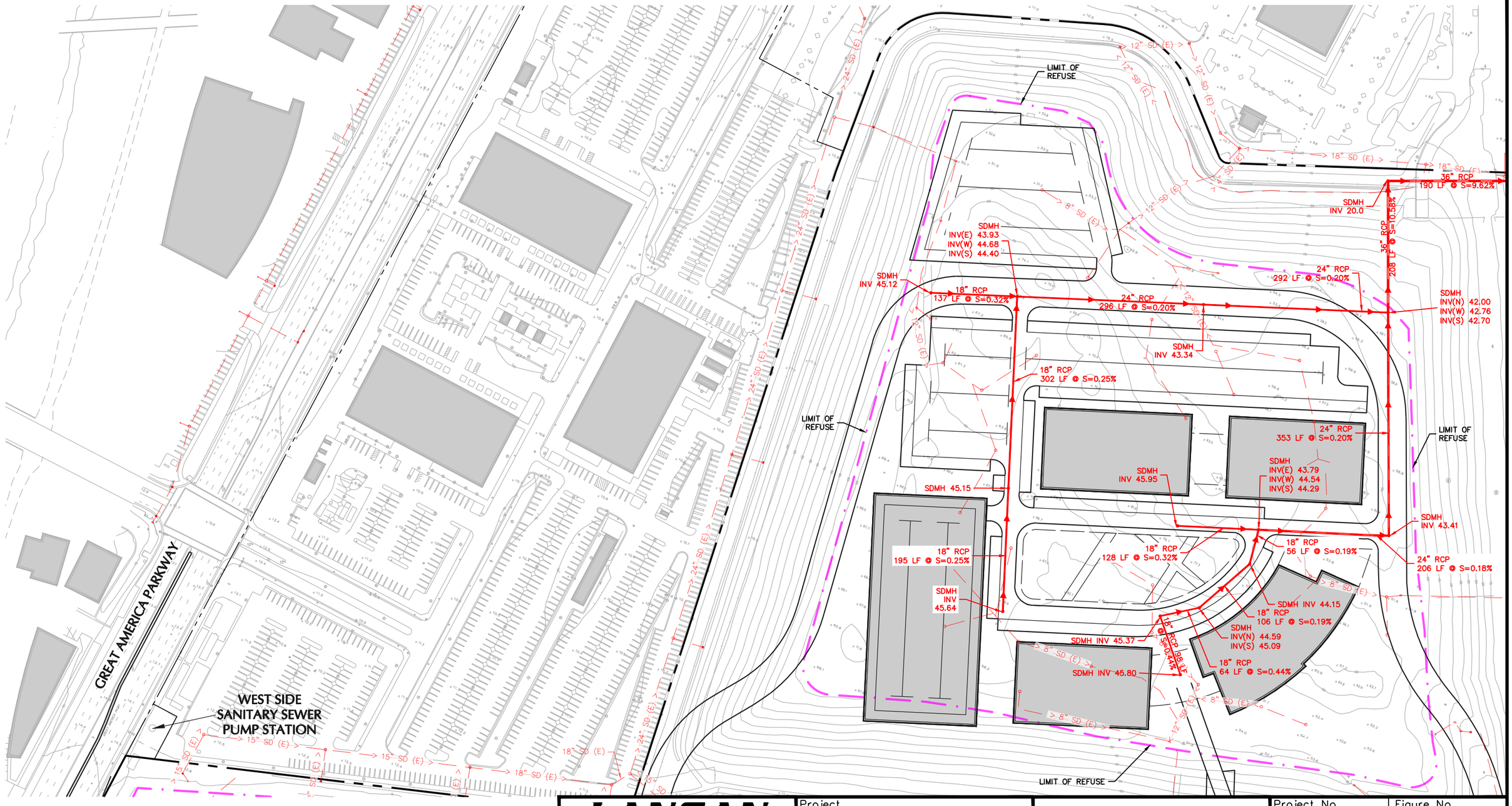

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X% —

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 12
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Scale 1" = 150'	
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Submission Date 6/30/2015	

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LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) > ——

PROPOSED INFRASTRUCTURE —— XX" RCP / XX LF @ S=X% ——>

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 13
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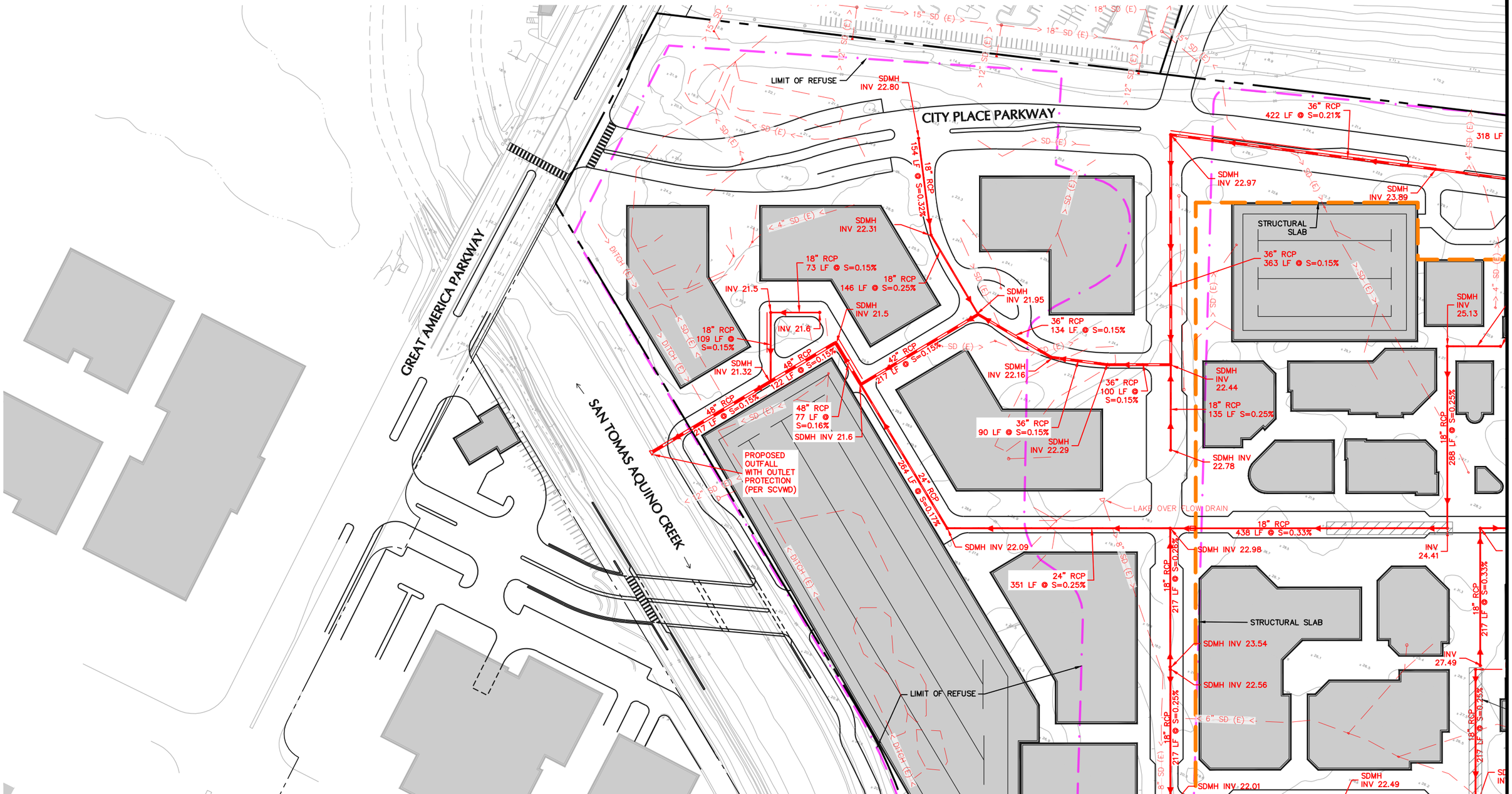

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X% —

LIMIT OF REFUSE

STRUCTURAL SLAB

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PRELIMINARY STORM DRAIN

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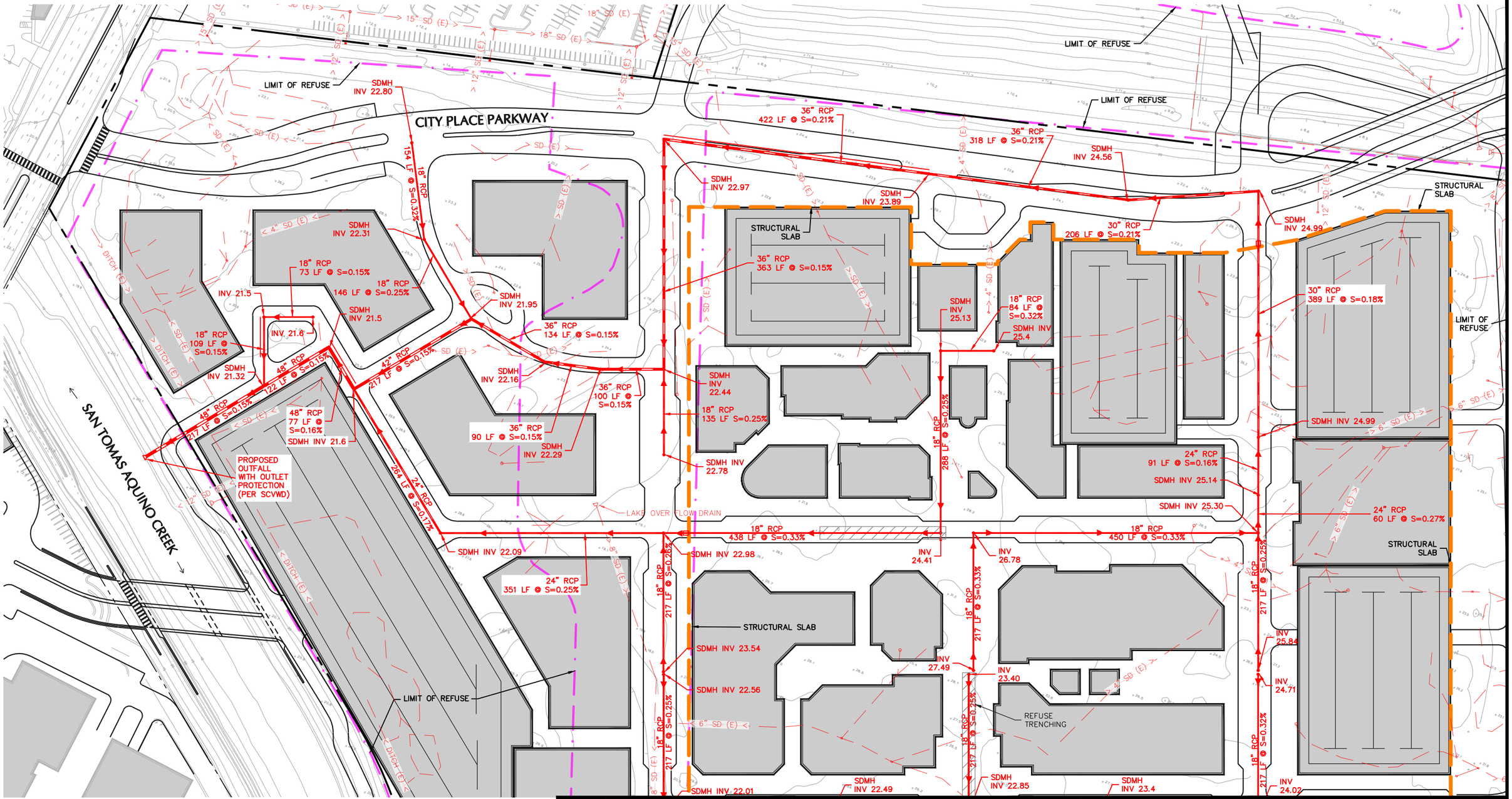

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >—— ——

PROPOSED INFRASTRUCTURE ——> XX" RCP XX LF @ S=X% ——>

LIMIT OF REFUSE — — — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬

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PRELIMINARY STORM DRAIN

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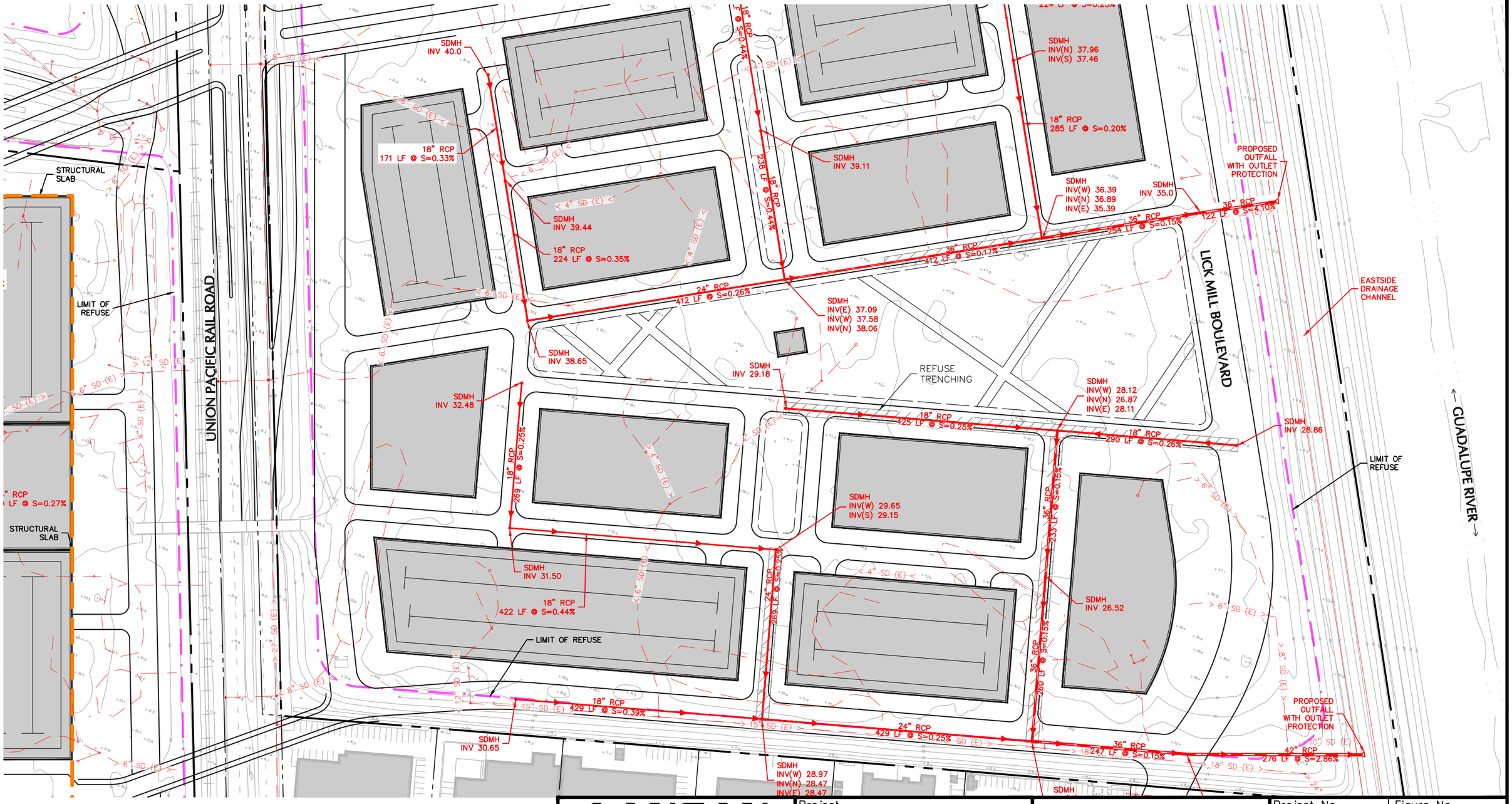

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >

PROPOSED INFRASTRUCTURE XX" RCP XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

SCALE IN FEET

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CITY PLACE SANTA CLARA

SANTA CLARA CA

PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 16
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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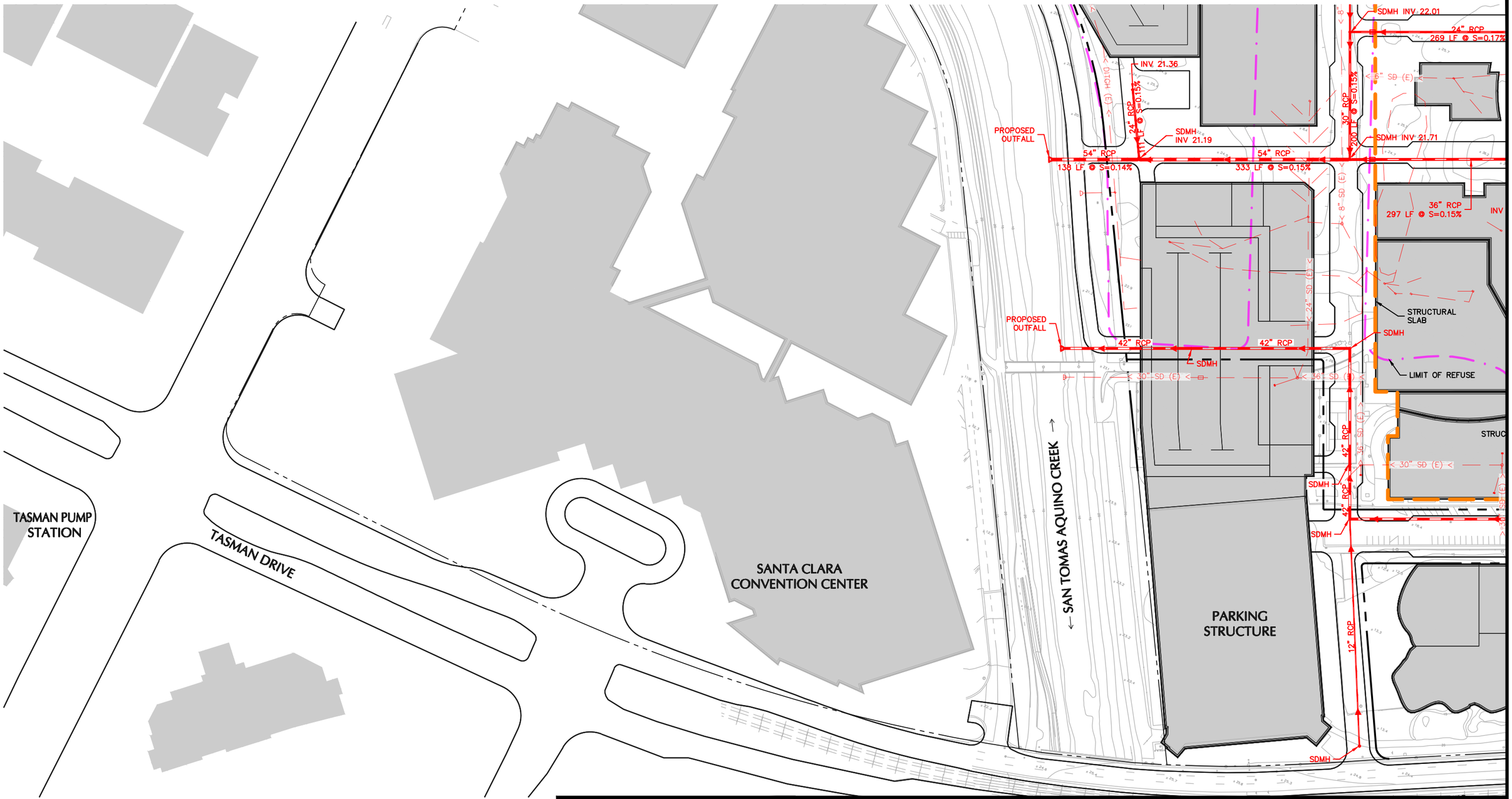

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >—— ——

PROPOSED INFRASTRUCTURE —— XX" RCP / XX LF @ S=X% ——

LIMIT OF REFUSE — — · — — · — —

STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 17
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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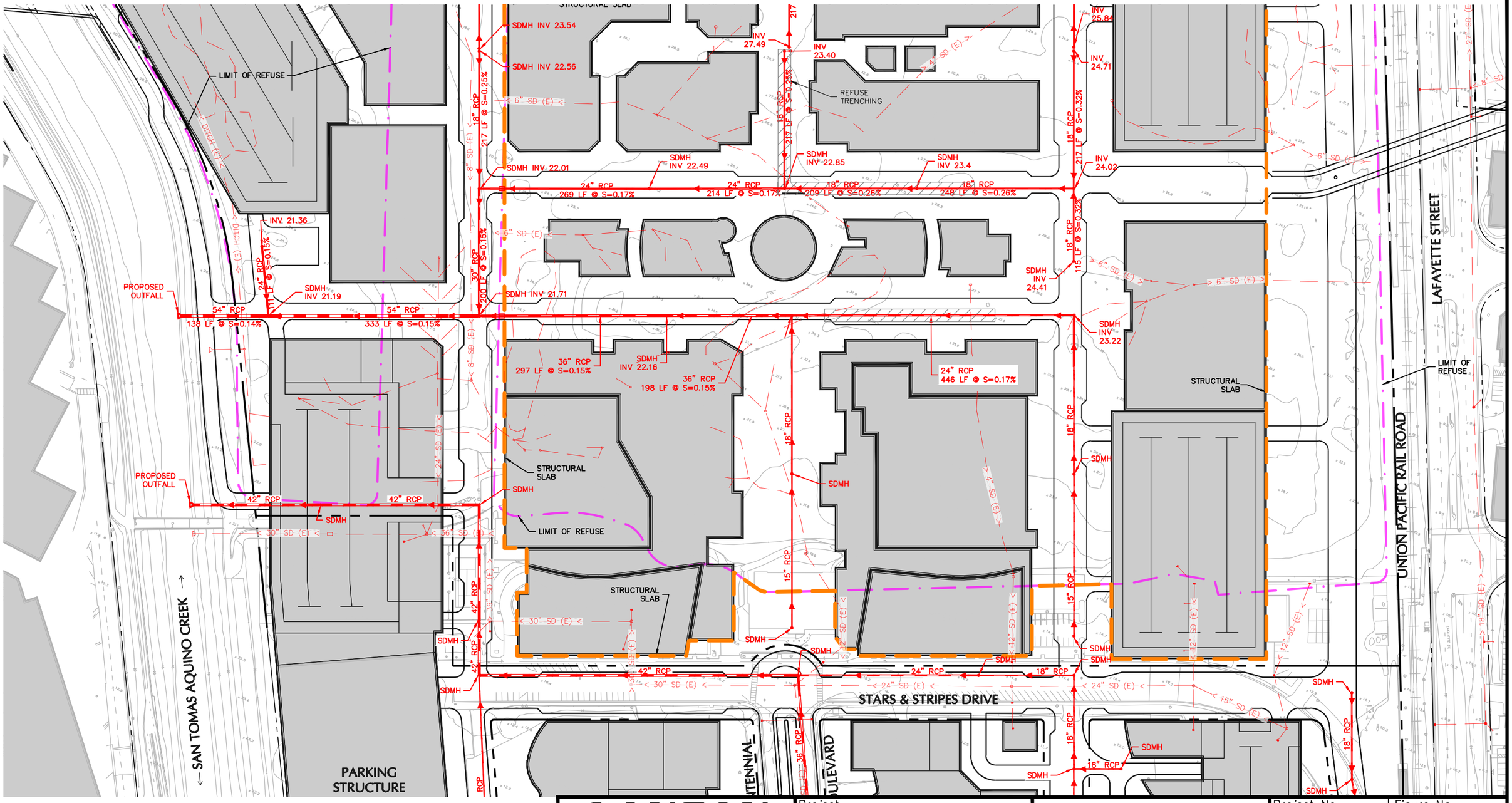

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE —→ XX" RCP, XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 18
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
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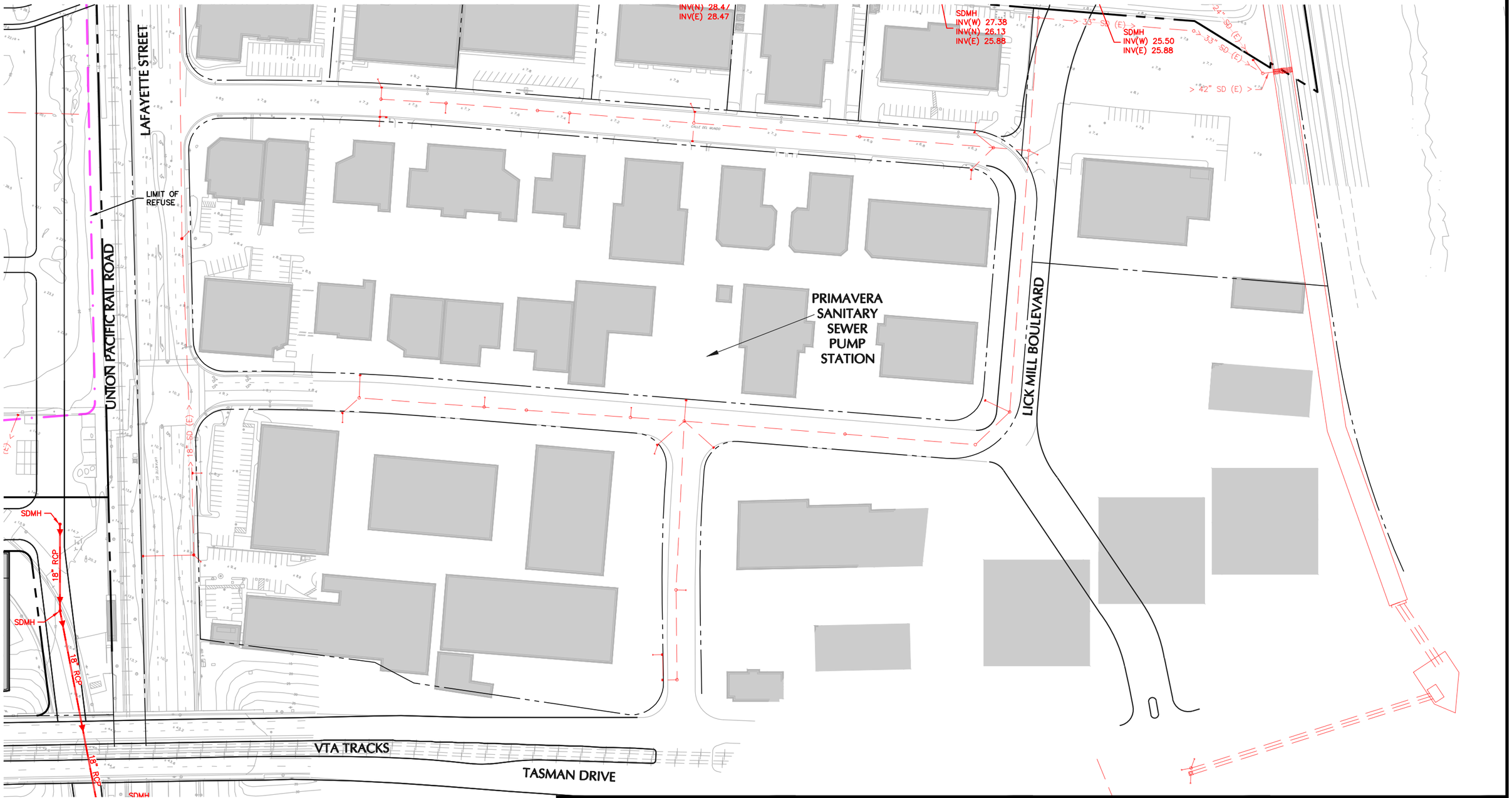

LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 19
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Submission Date 6/30/2015	

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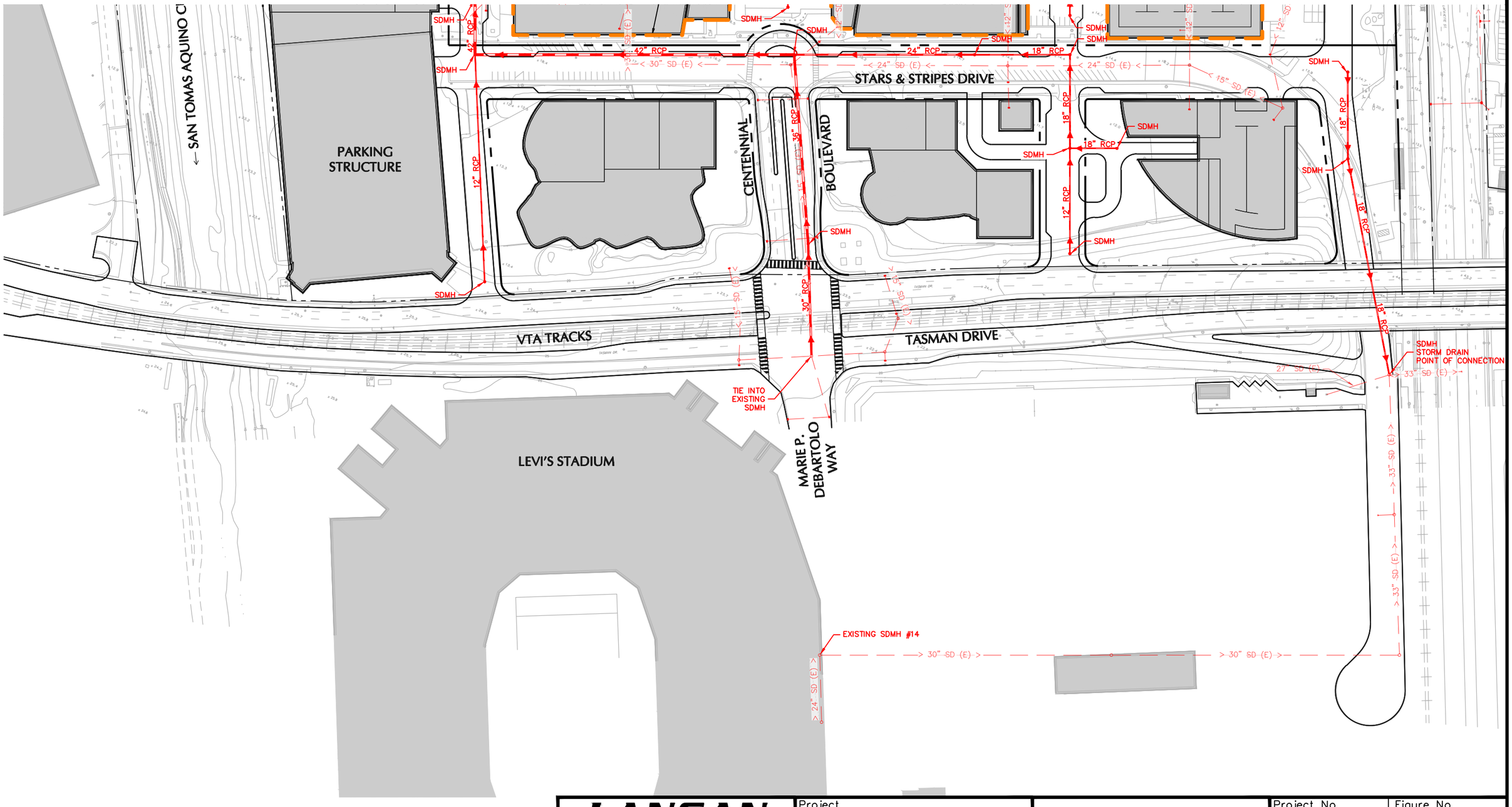

LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 20
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LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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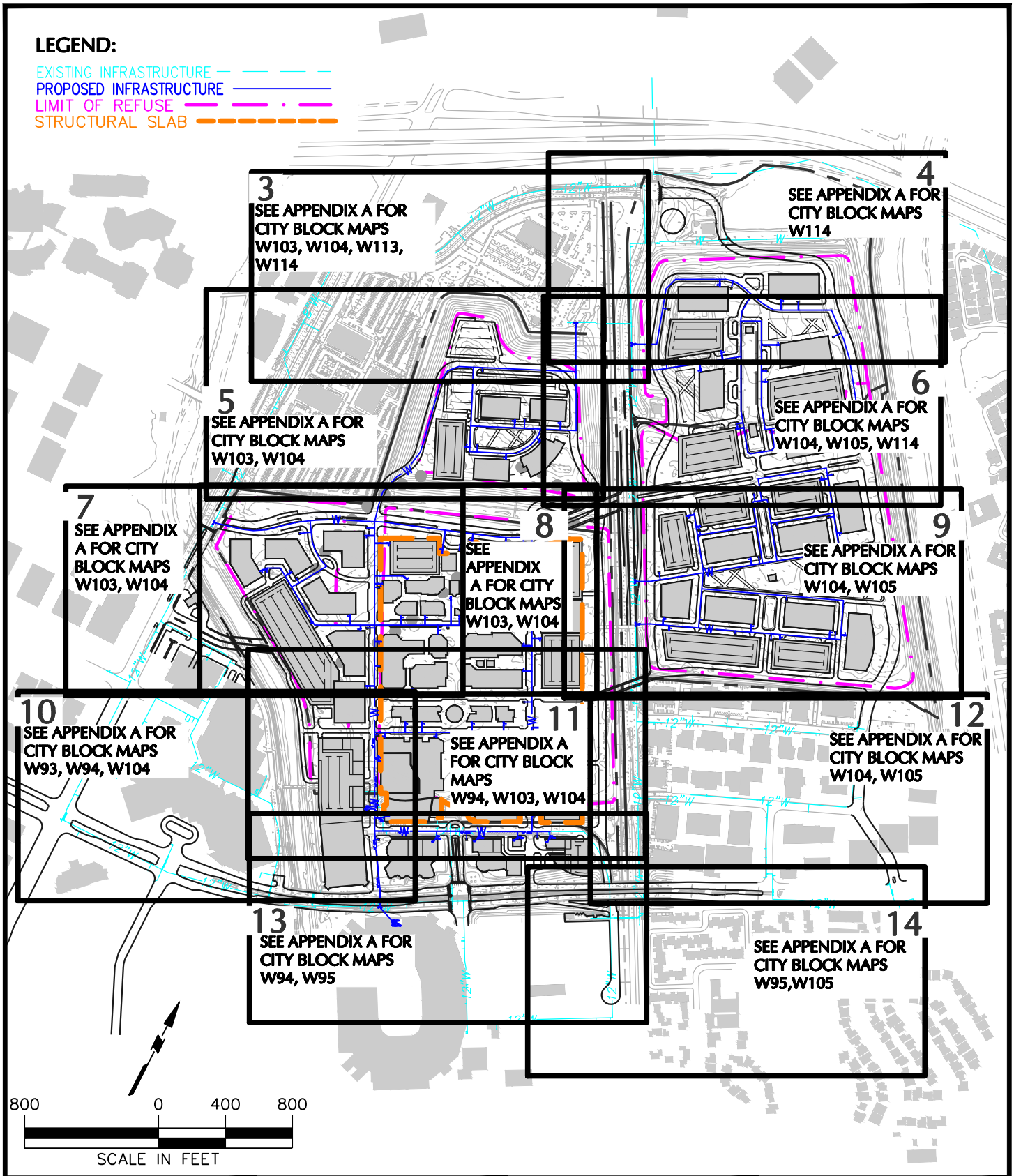
Figures from Water Technical Memorandum



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Project No. 770611601	Figure No. 2
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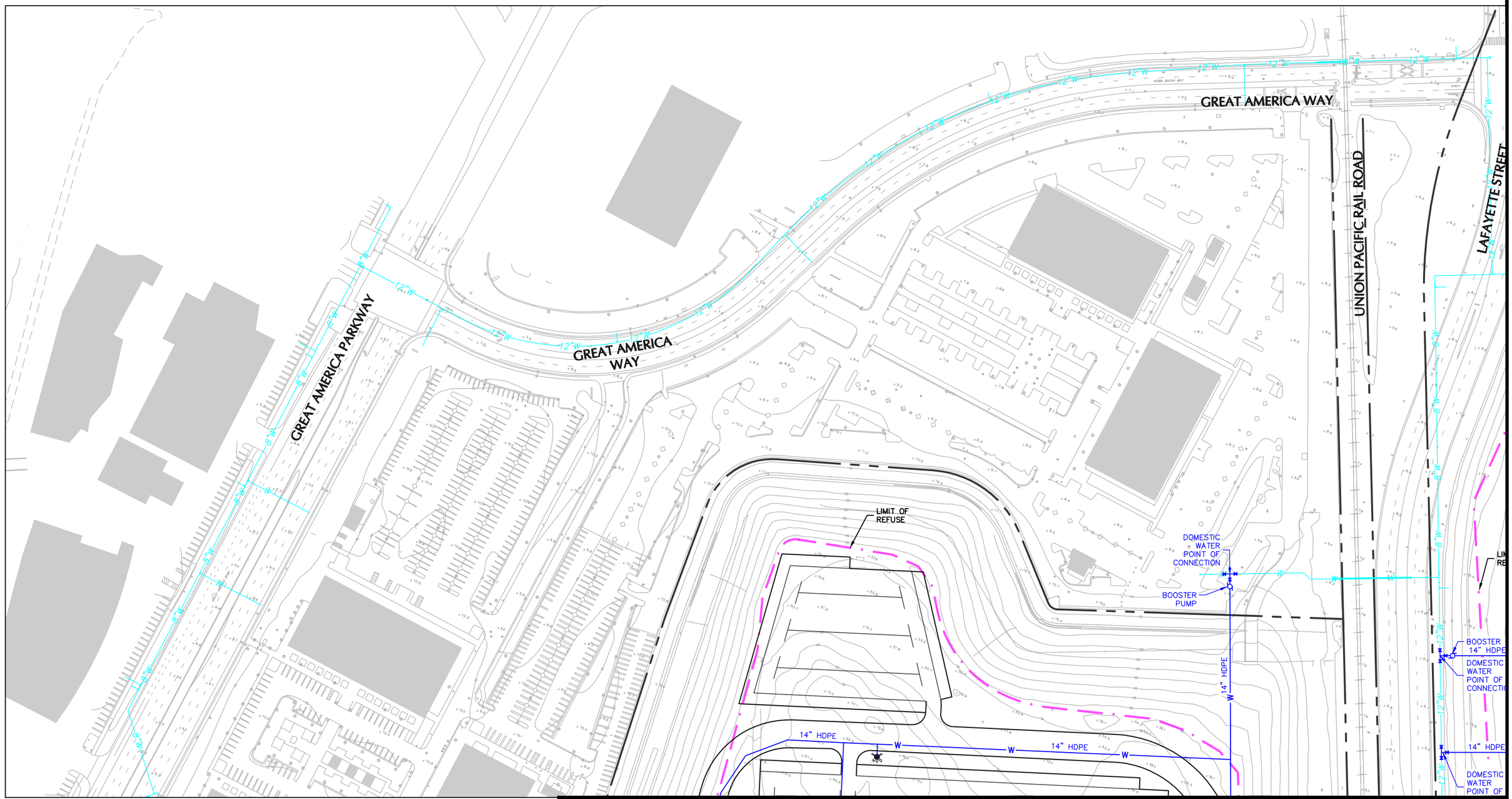

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W ———

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — — · — — · — —

STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬ ▬ ▬

150 0 75 150

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Project No. 770611601	Figure No. 3
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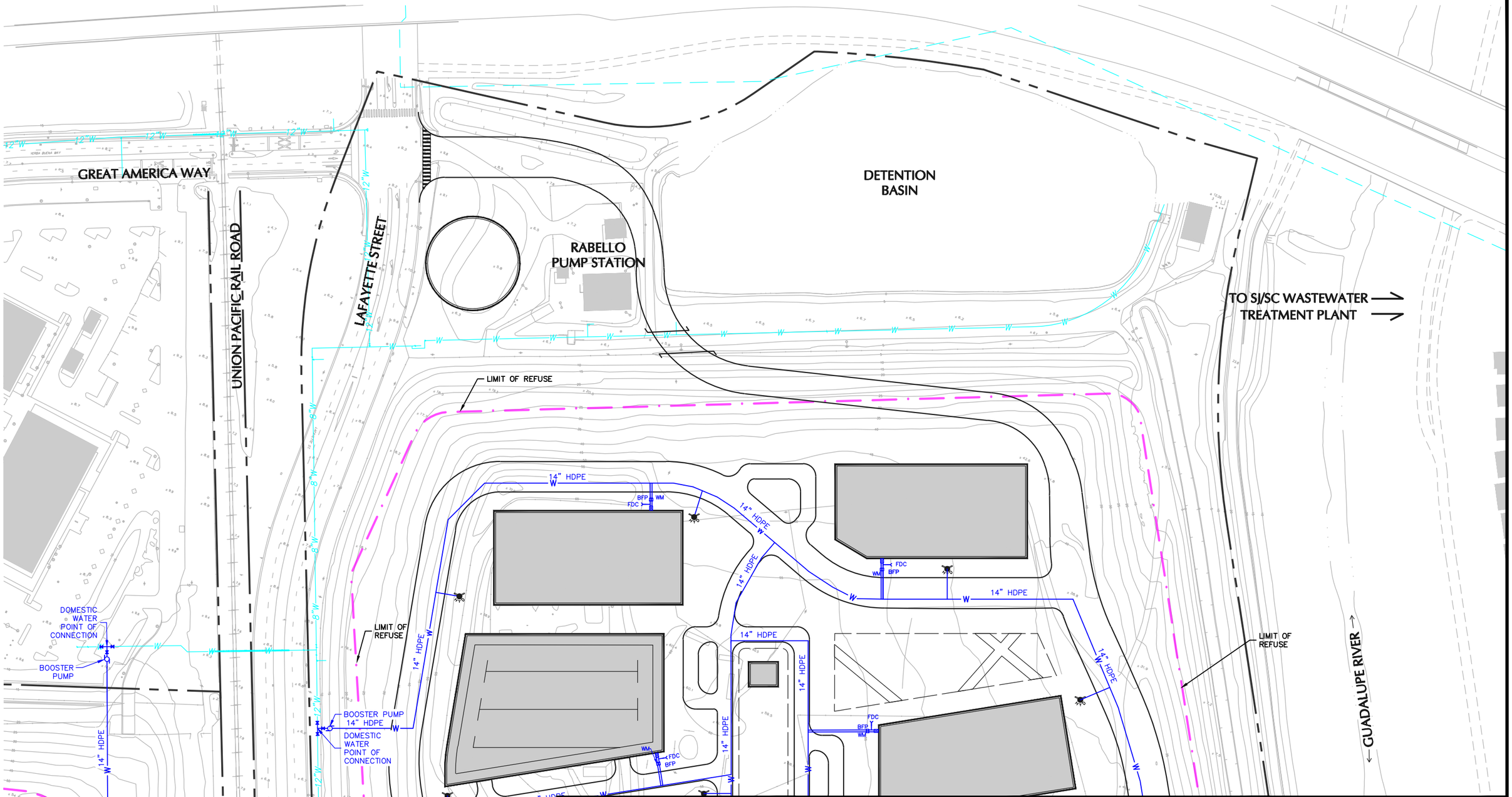

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬▬▬

150 0 75 150

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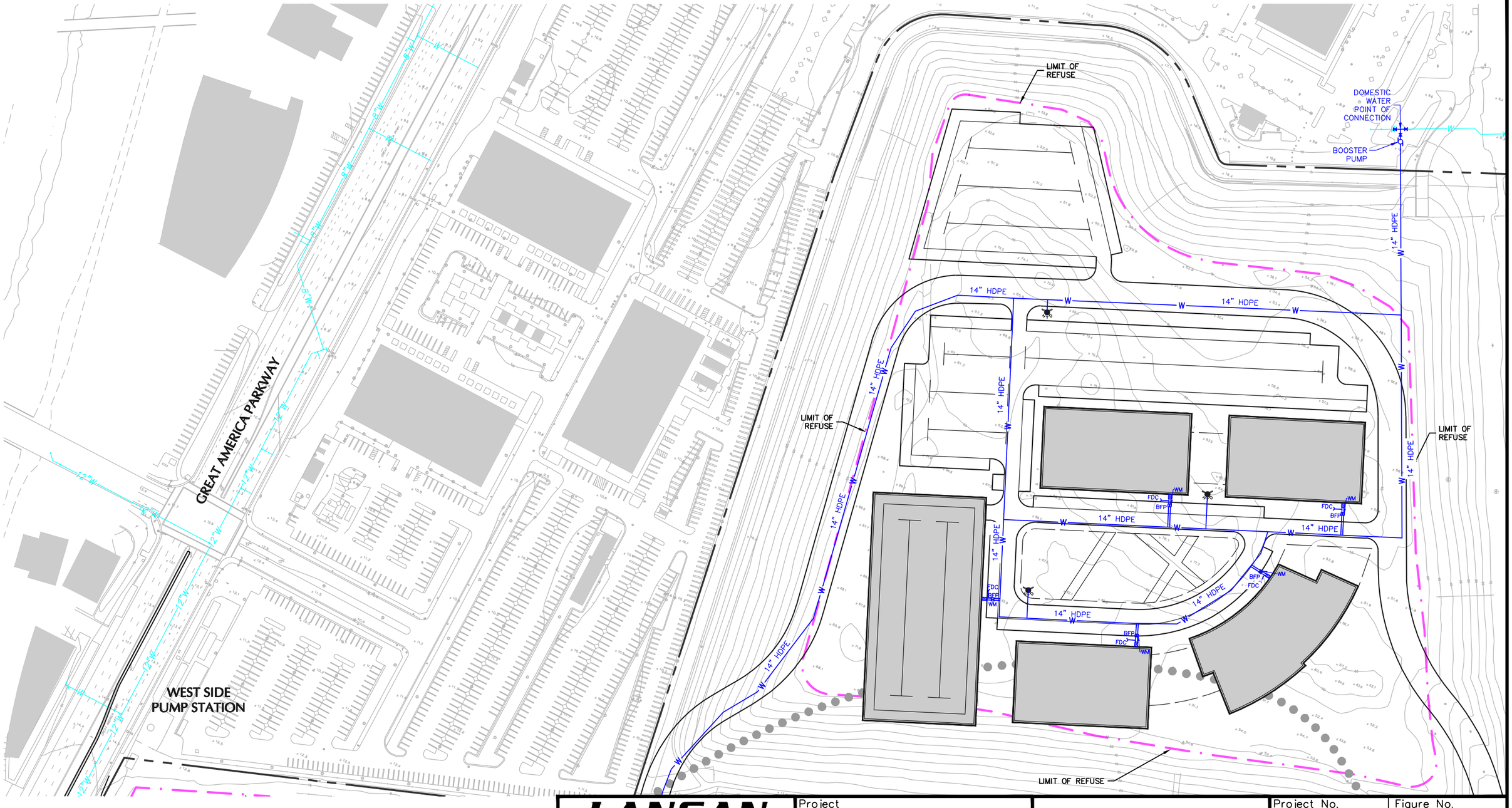

LEGEND:

EXISTING INFRASTRUCTURE ——— xx" w

PROPOSED INFRASTRUCTURE ——— W —xx" HDPE———

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬

150 0 75 150

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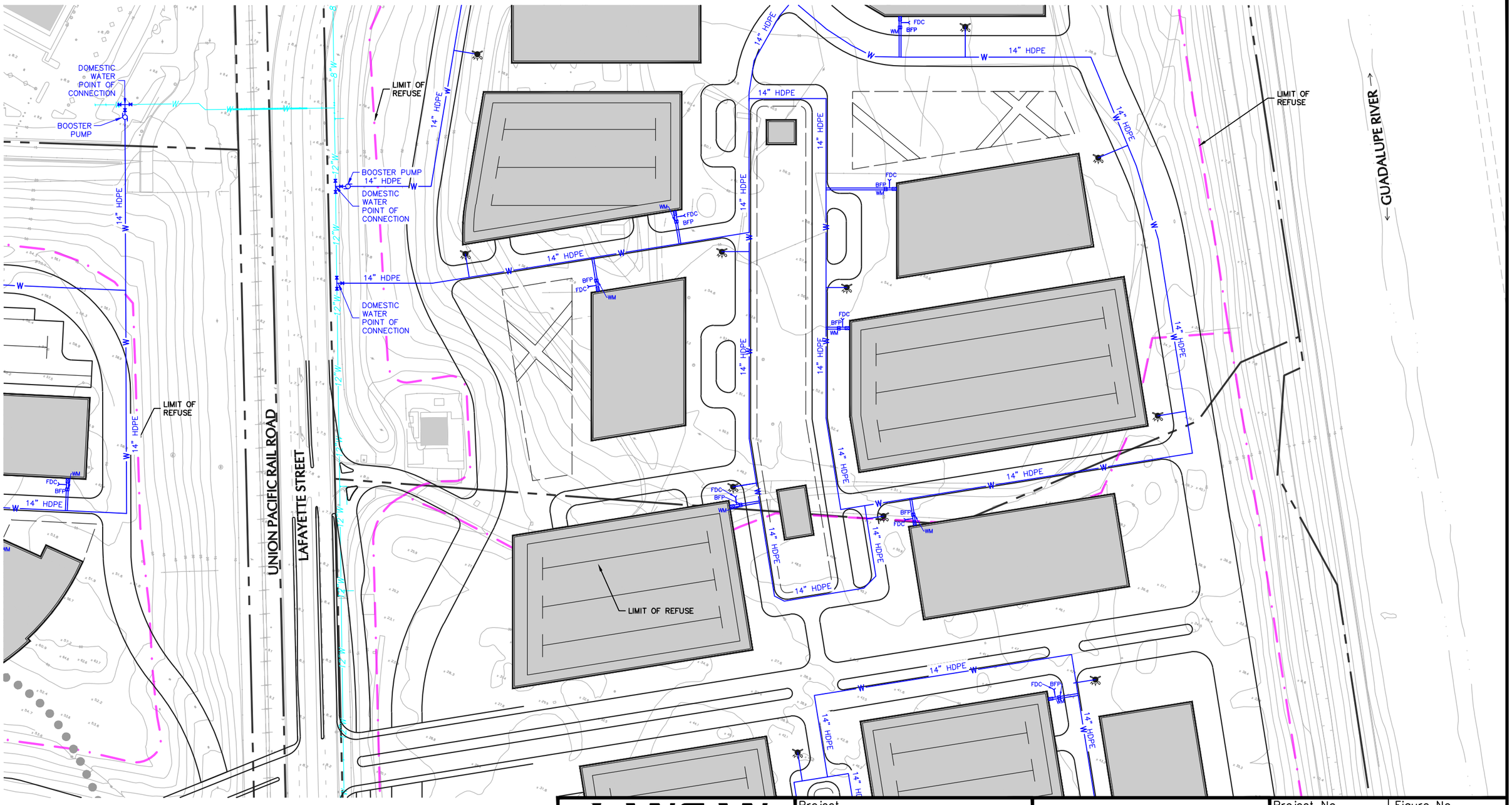

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 6
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Submission Date 6/30/2015	

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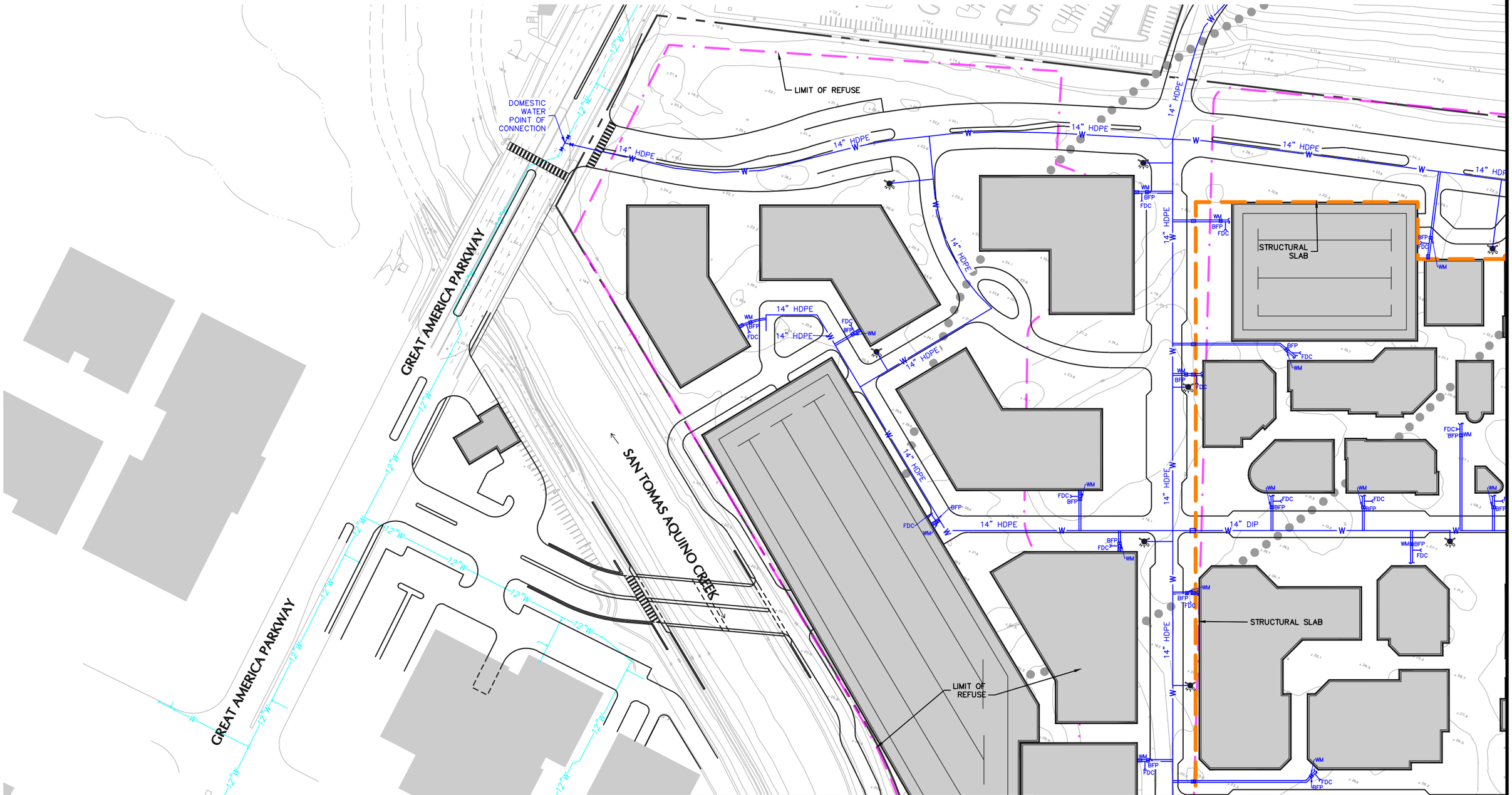

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 7
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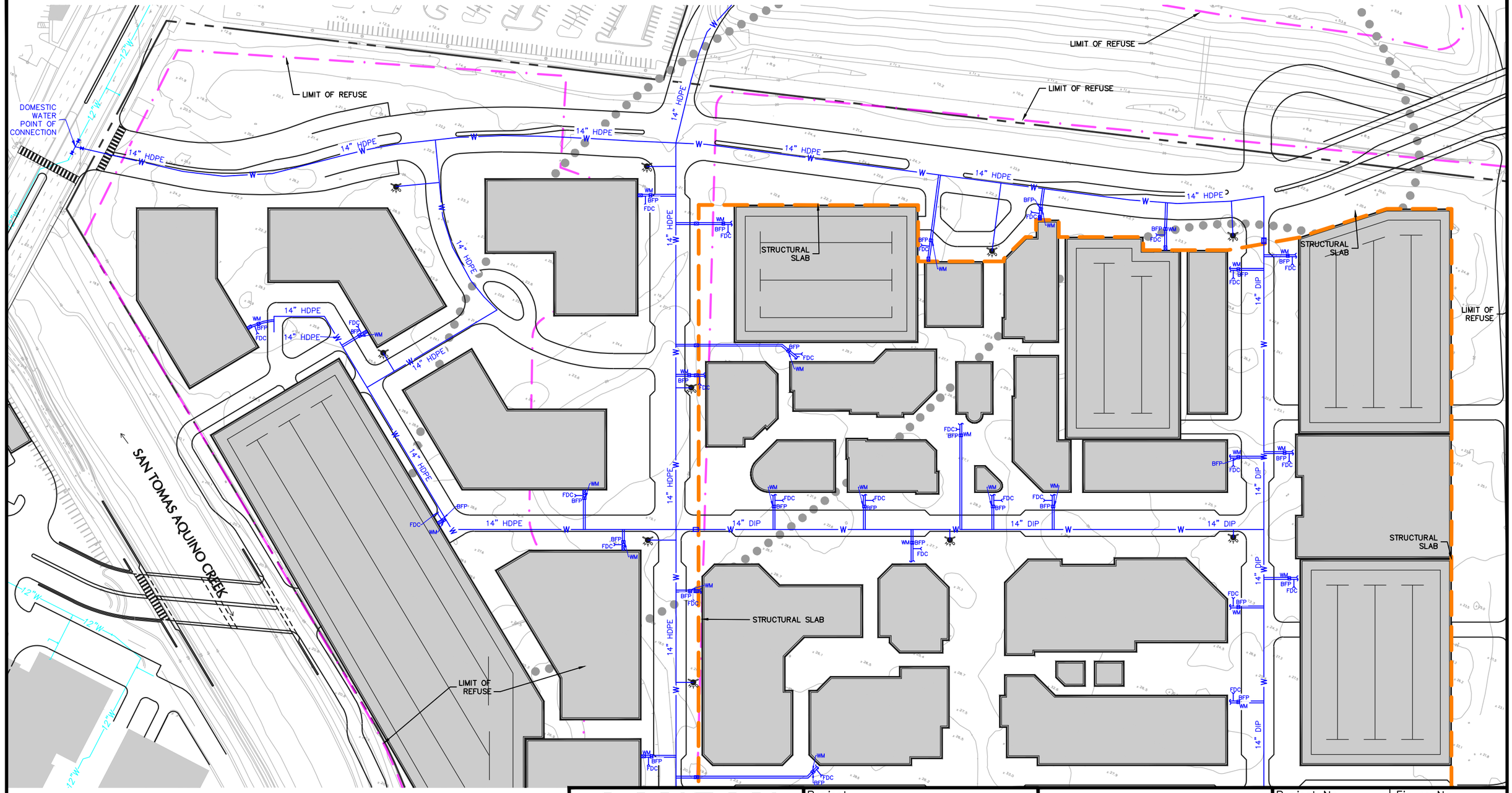

LEGEND:

EXISTING INFRASTRUCTURE ——— xx" W ———

PROPOSED INFRASTRUCTURE ——— W ——xx" HDPE———

LIMIT OF REFUSE — — — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬▬

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Project No. 770611601	Figure No. 8
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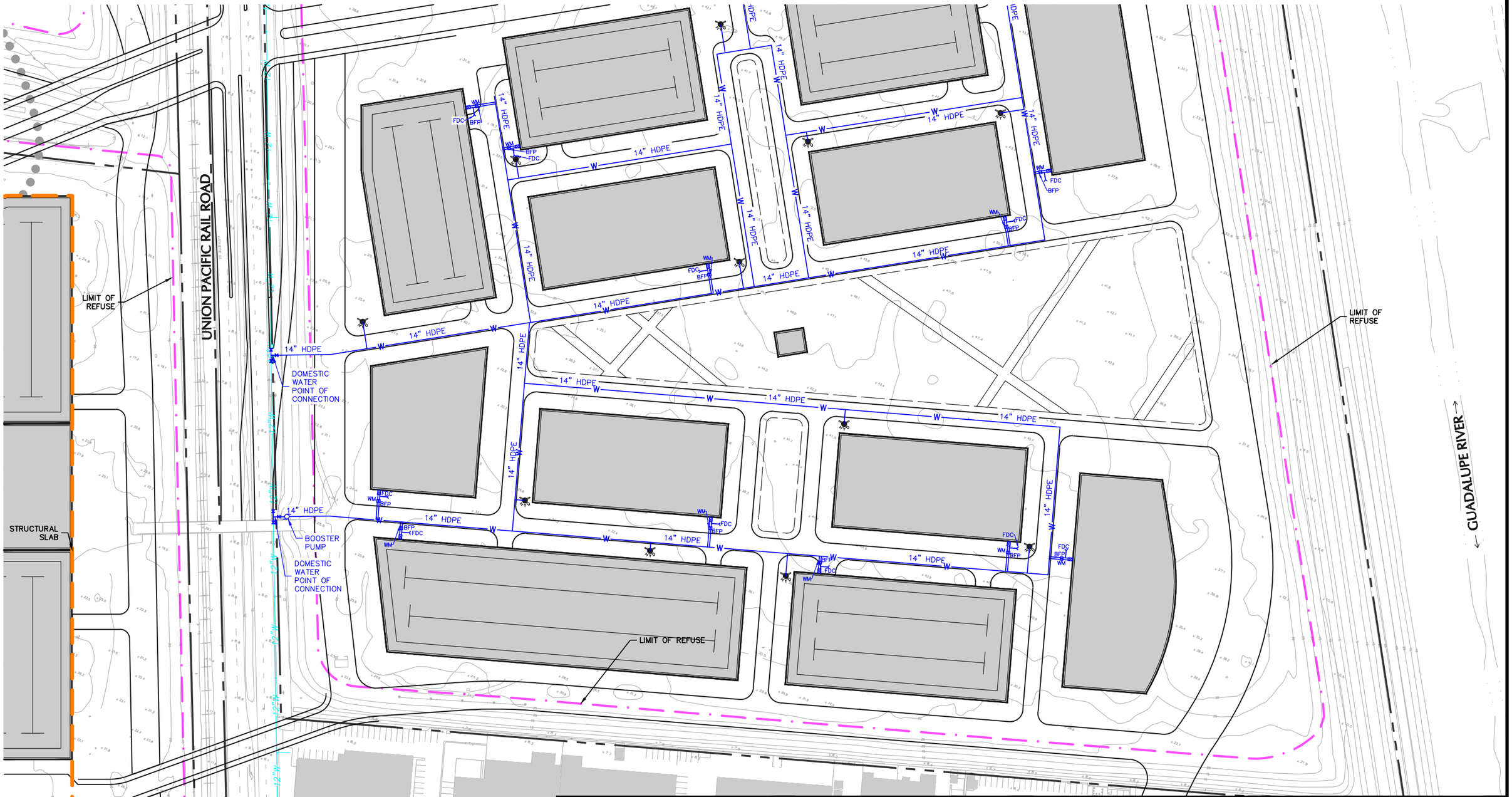

LEGEND:

- EXISTING INFRASTRUCTURE ——— XX" W ———
- PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———
- LIMIT OF REFUSE
- STRUCTURAL SLAB

150 0 75 150

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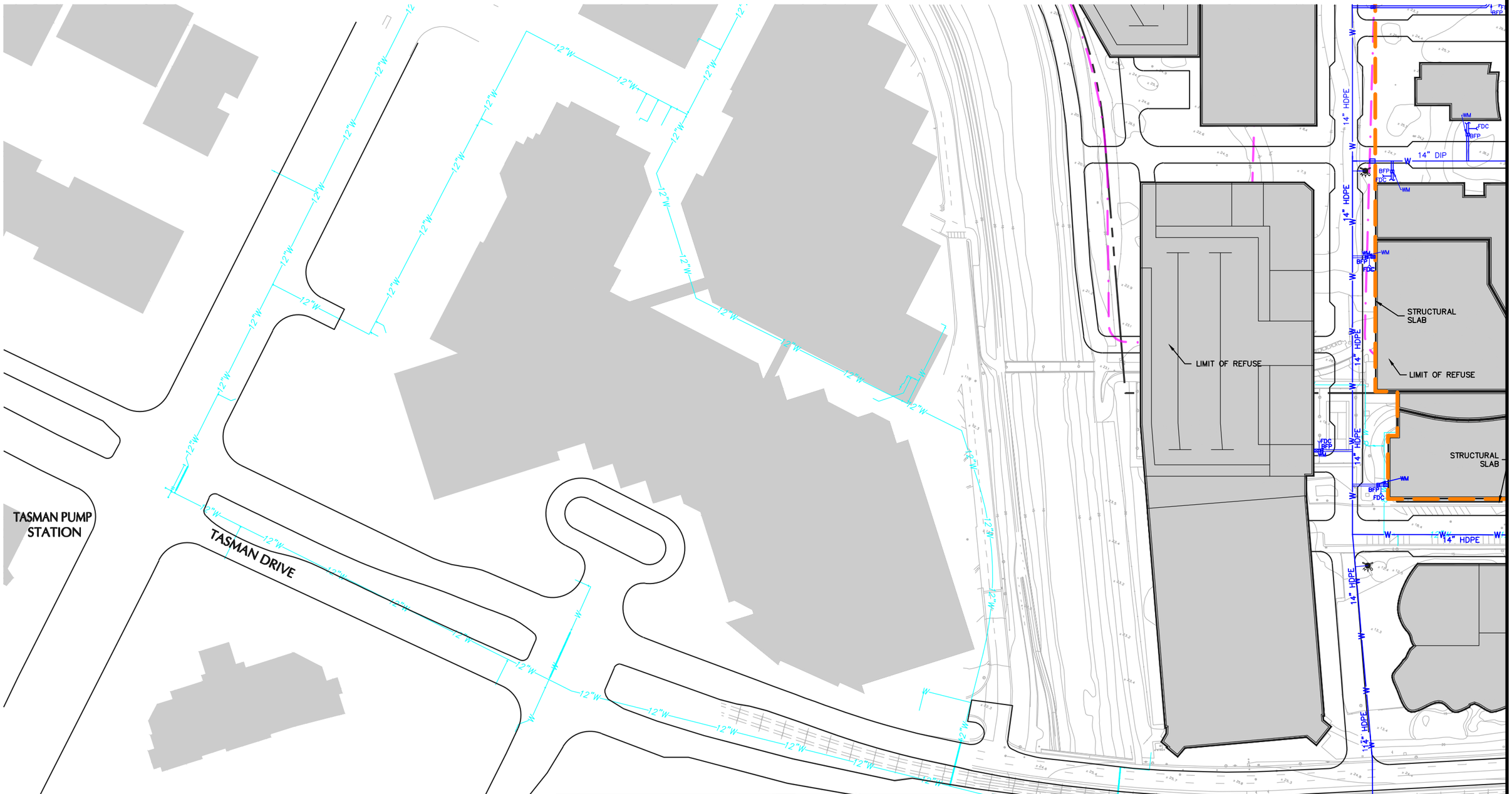

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

150 0 75 150
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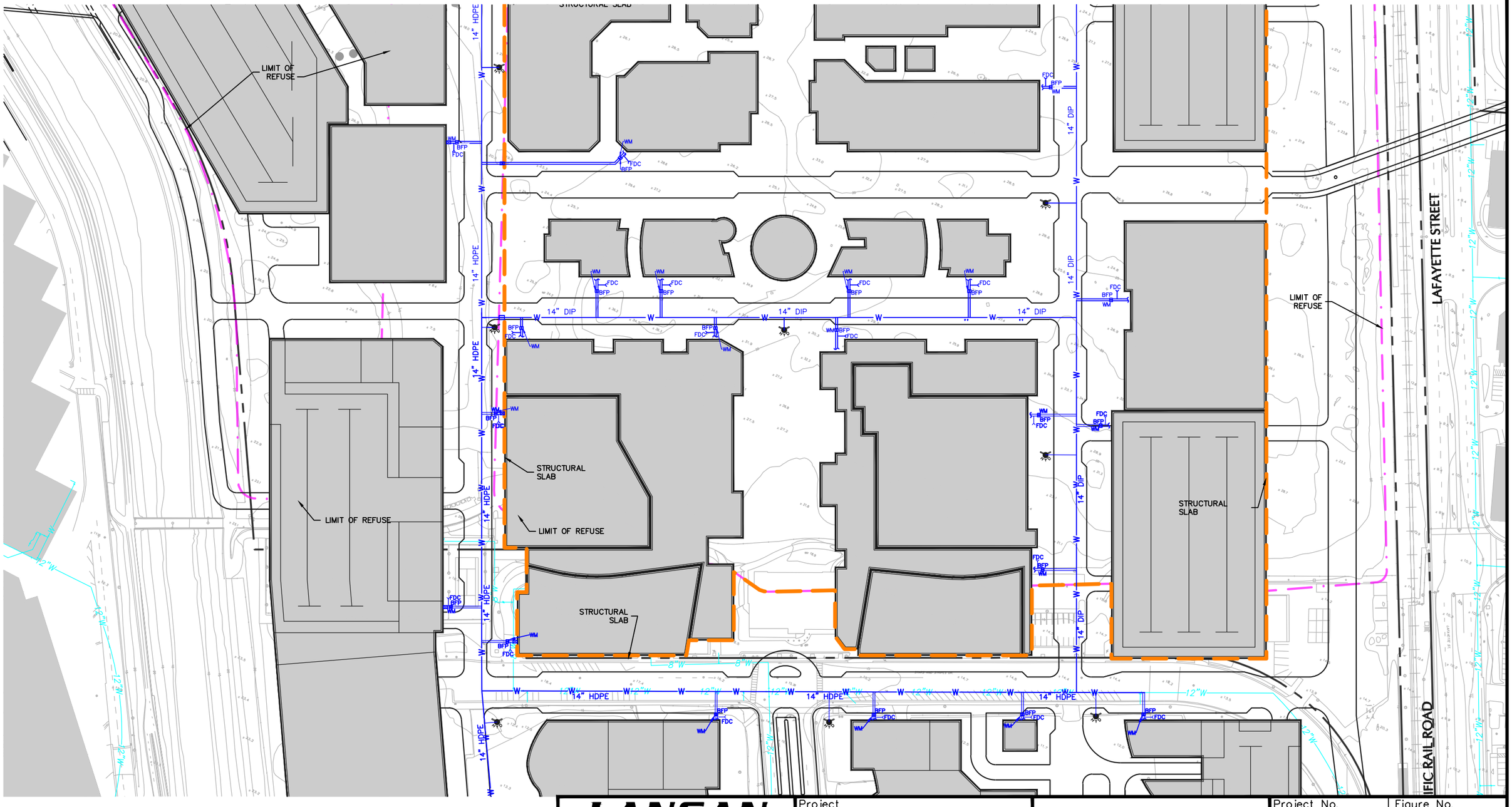

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W ———

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB

150 0 75 150

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LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W

PROPOSED INFRASTRUCTURE ——— W ——XX" HDPE———

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB

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Project No. 770611601	Figure No. 12
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Submission Date 6/30/2015	

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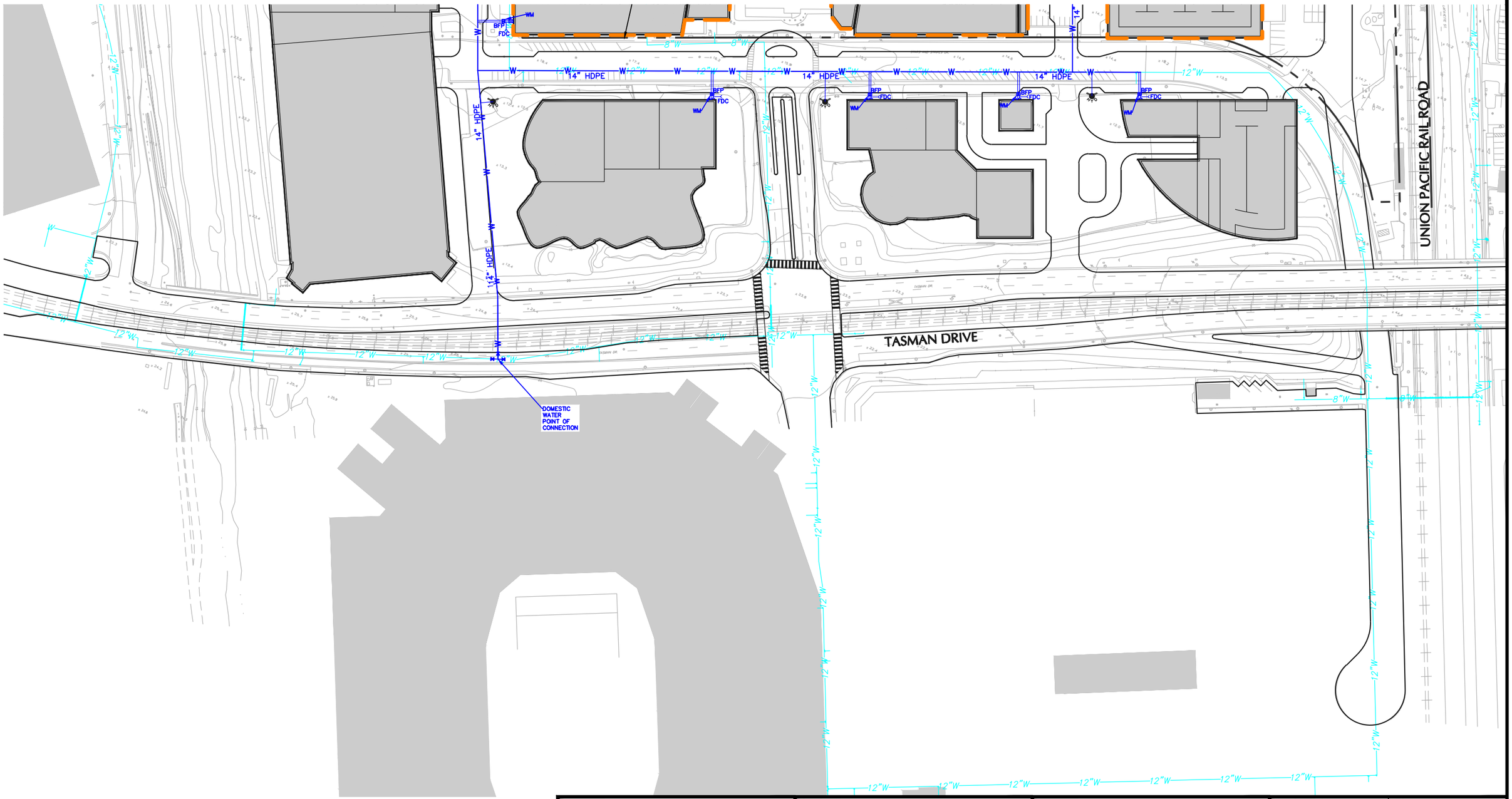

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

150 0 75 150

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CITY PLACE
SANTA CLARA
SANTA CLARA CA

PRELIMINARY DOMESTIC WATER

Project No. 770611601	Figure No. 14
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
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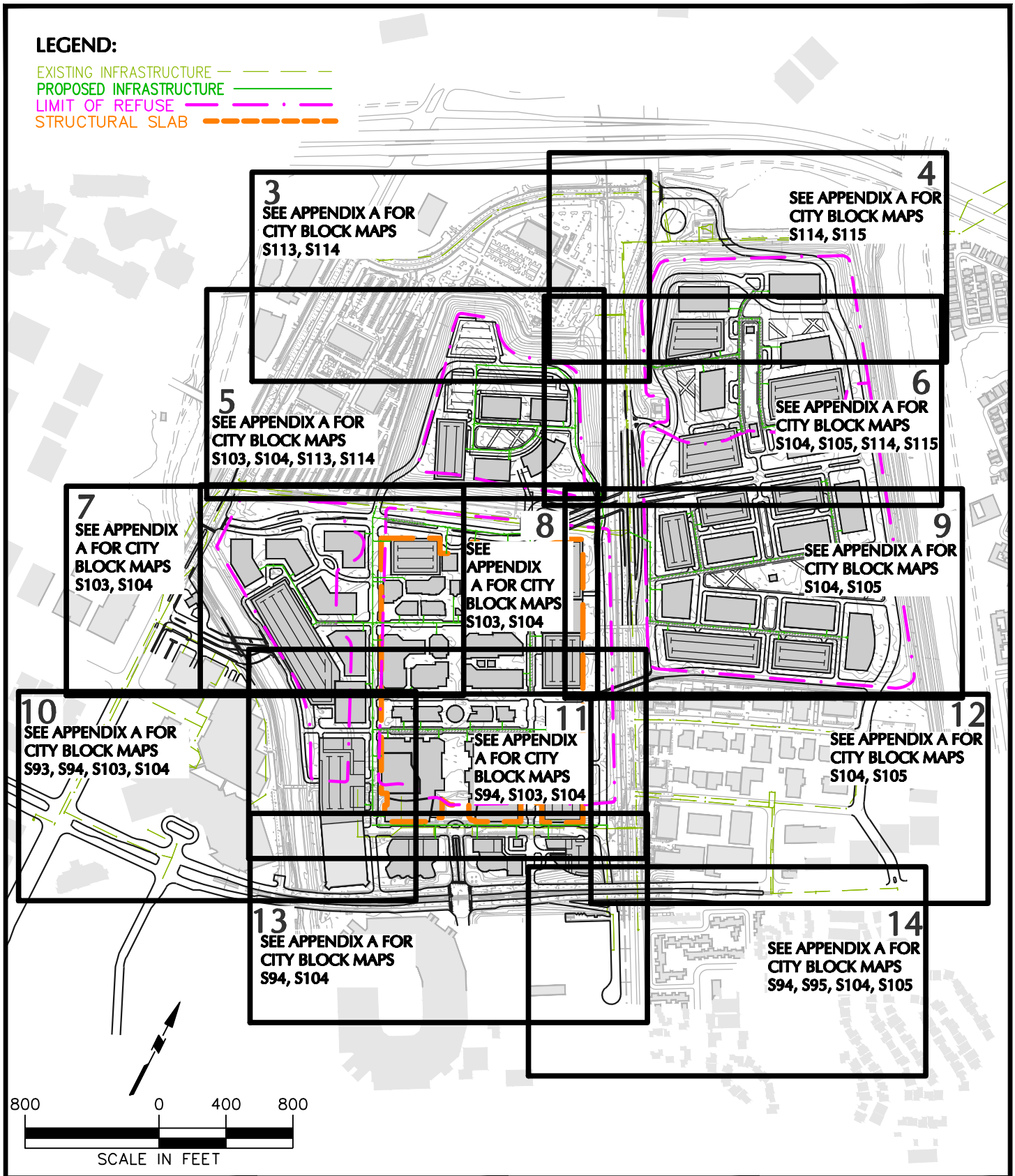
Figures from Sanitary Sewer Technical Memorandum



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SANTA CLARA CALIFORNIA

PRELIMINARY SANITARY SEWER KEY

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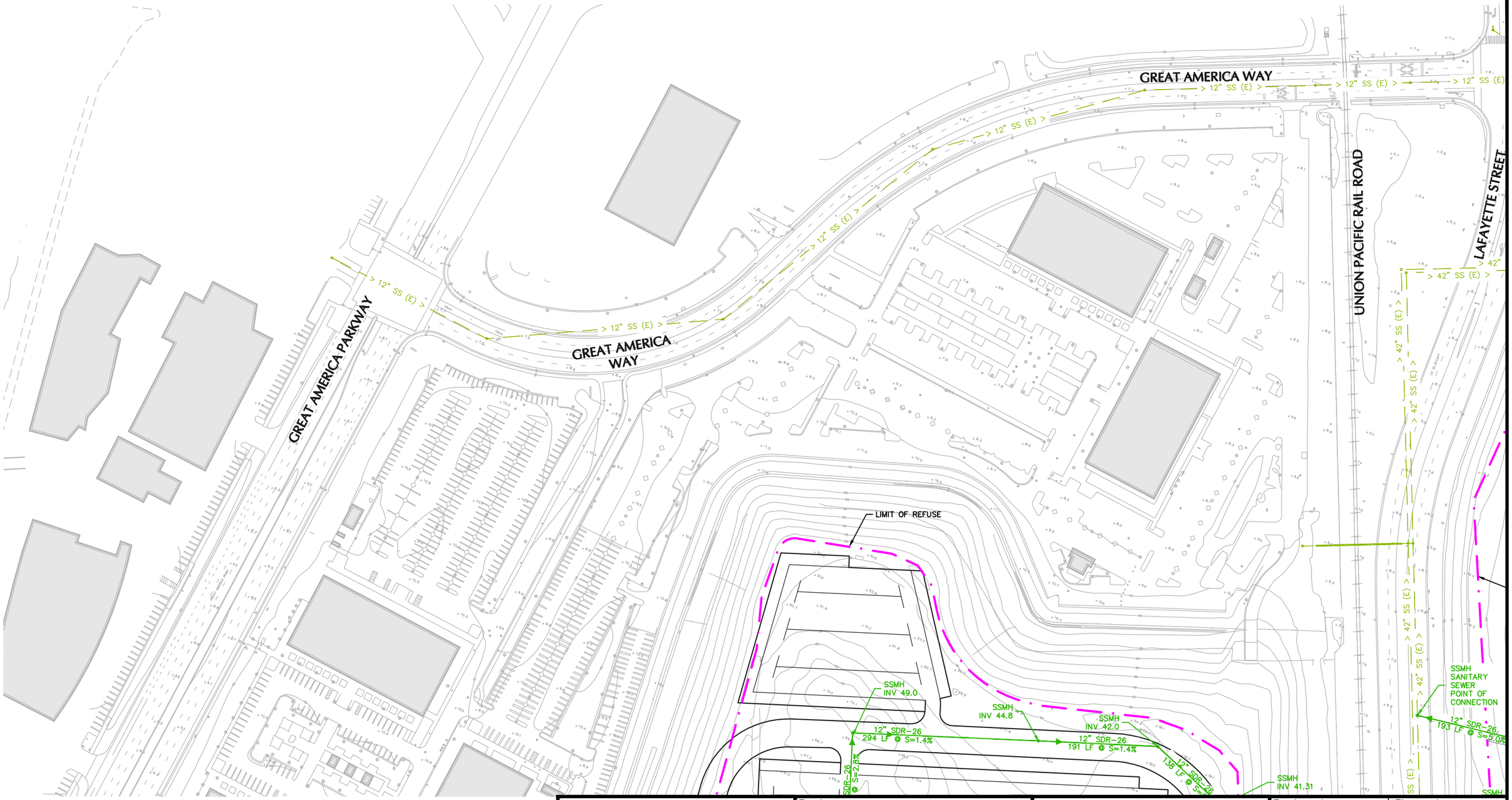

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

SCALE IN FEET

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GREAT AMERICA WAY

> 12" SS (E) >

UNION PACIFIC RAIL ROAD

LAFAYETTE STREET

PROPOSED RECYCLED WATER TANK

RABELLO SANITARY SEWER PUMP STATION

EASTSIDE DETENTION BASIN

EASTSIDE STORM DRAIN PUMP STATION

TO SJ/SC WASTEWATER TREATMENT PLANT

> 42" SS (E) >

LIMIT OF REFUSE

LICK MILL BOULEVARD

SSMH INV 39.00

10" SDR-26 94 LF @ S=0.5%

SSMH INV 38.53

CO

10" SDR-26 122 LF @ S=0.25%

SSMH INV 35.99

SSMH INV 38.06 (N) INV 35.69 (E)

10" SDR-26 214 LF @ S=0.5%

10" SDR-26 284 LF @ S=0.25%

SSMH INV 26.6

SSMH INV 34.62

12" SDR-26 160 LF @ S=5.0%

SSMH SANITARY SEWER POINT OF CONNECTION

GUADALUPE RIVER

LEGEND:

EXISTING INFRASTRUCTURE — > XX" SS (E) >

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

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LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% —

LIMIT OF REFUSE — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬

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LEGEND:

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PROPOSED INFRASTRUCTURE → XX" SDR-26 / XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

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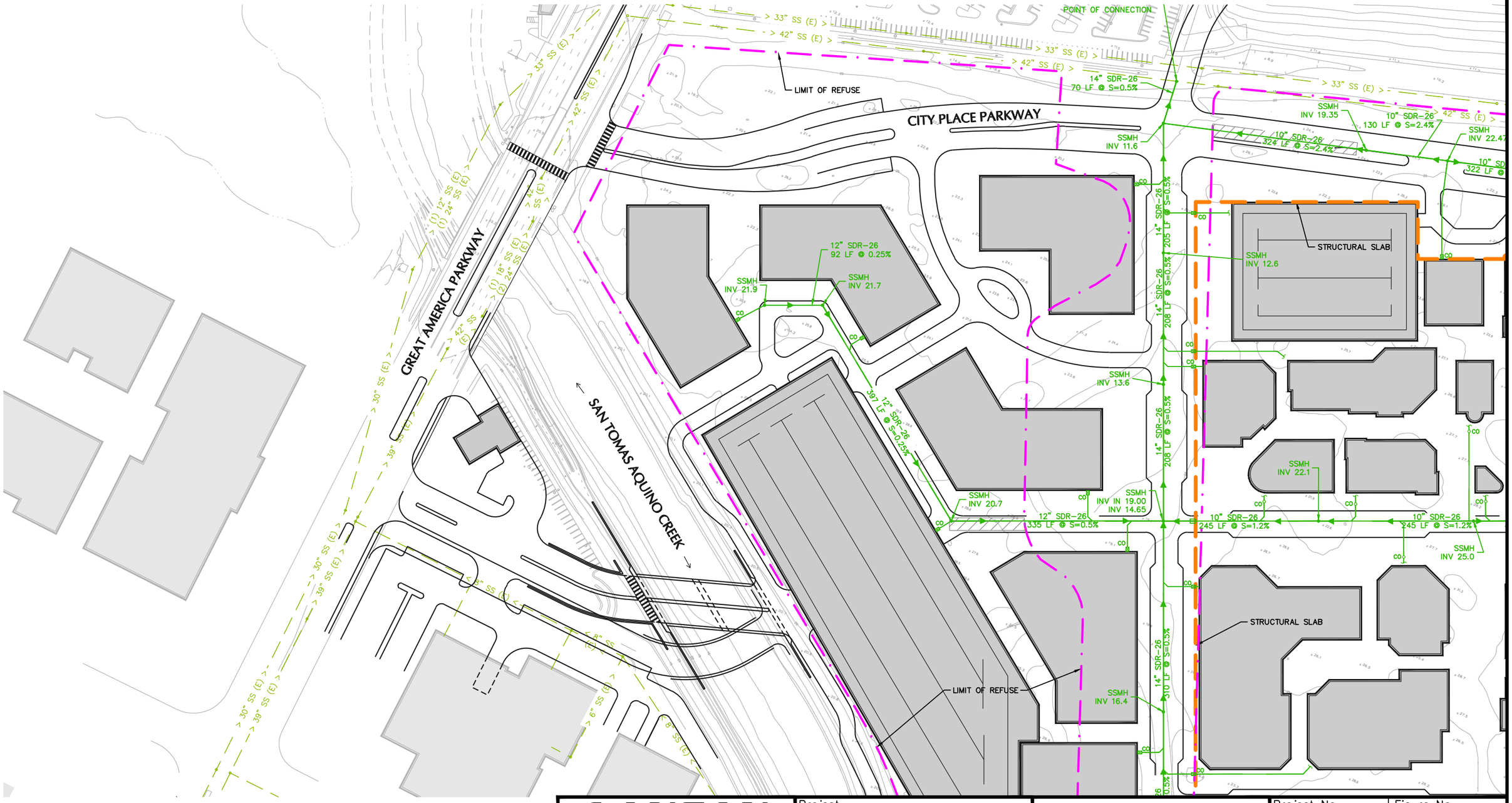

LEGEND:

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PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

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Project No. 770611601	Figure No. 7
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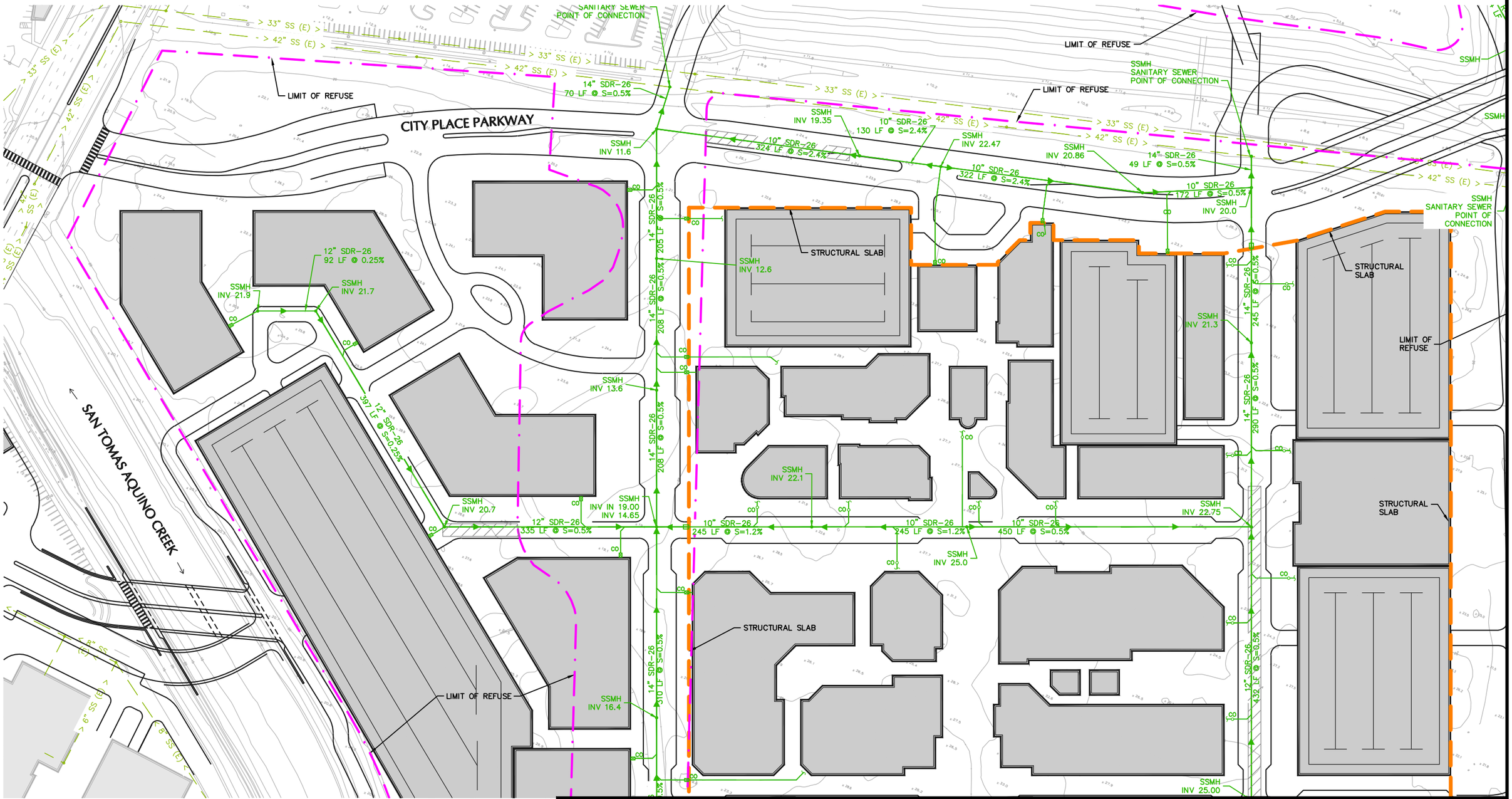

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LIMIT OF REFUSE — · — · —

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Project No. 770611601	Figure No. 8
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PROPOSED INFRASTRUCTURE → XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

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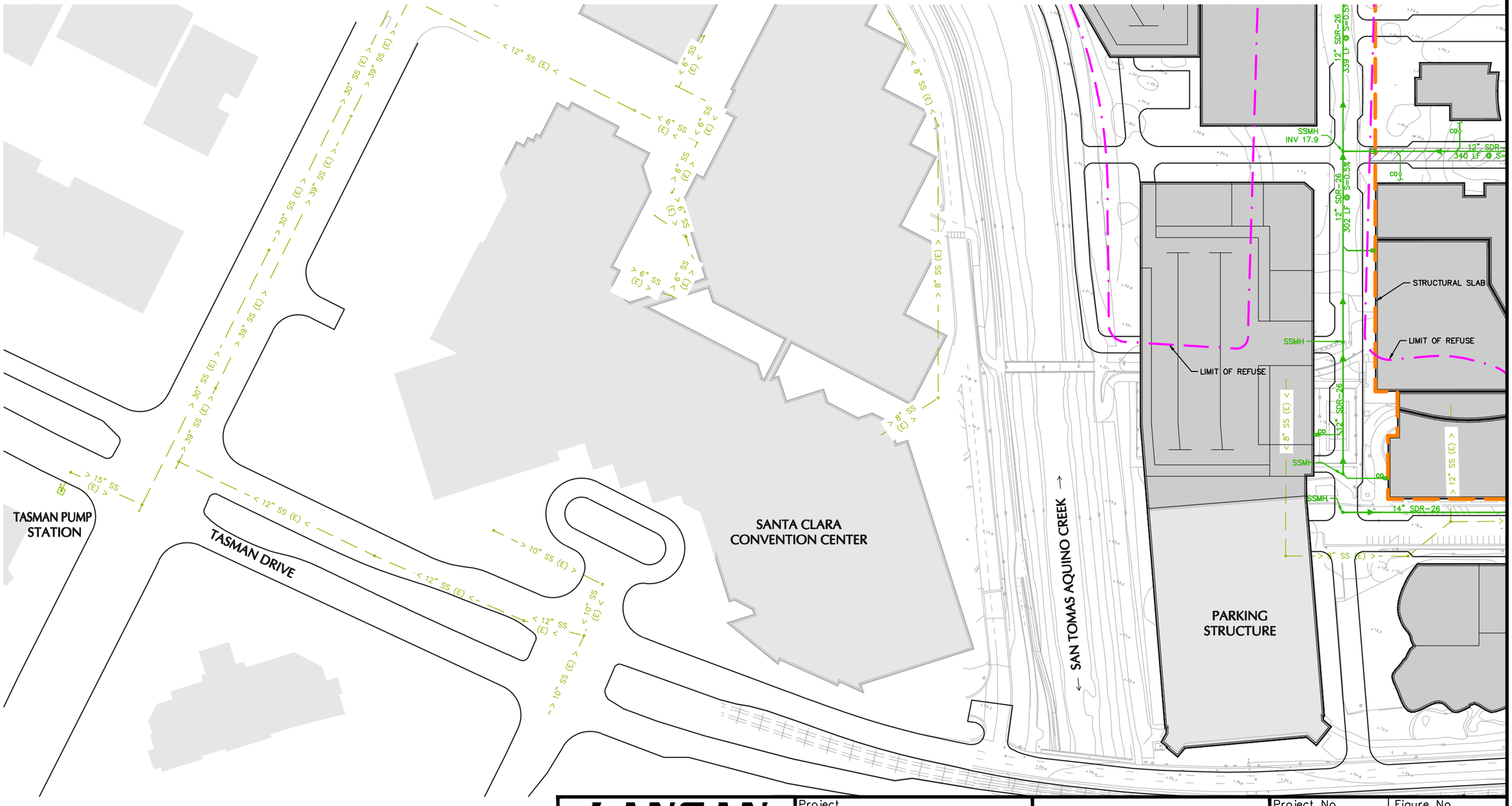

LEGEND:

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PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

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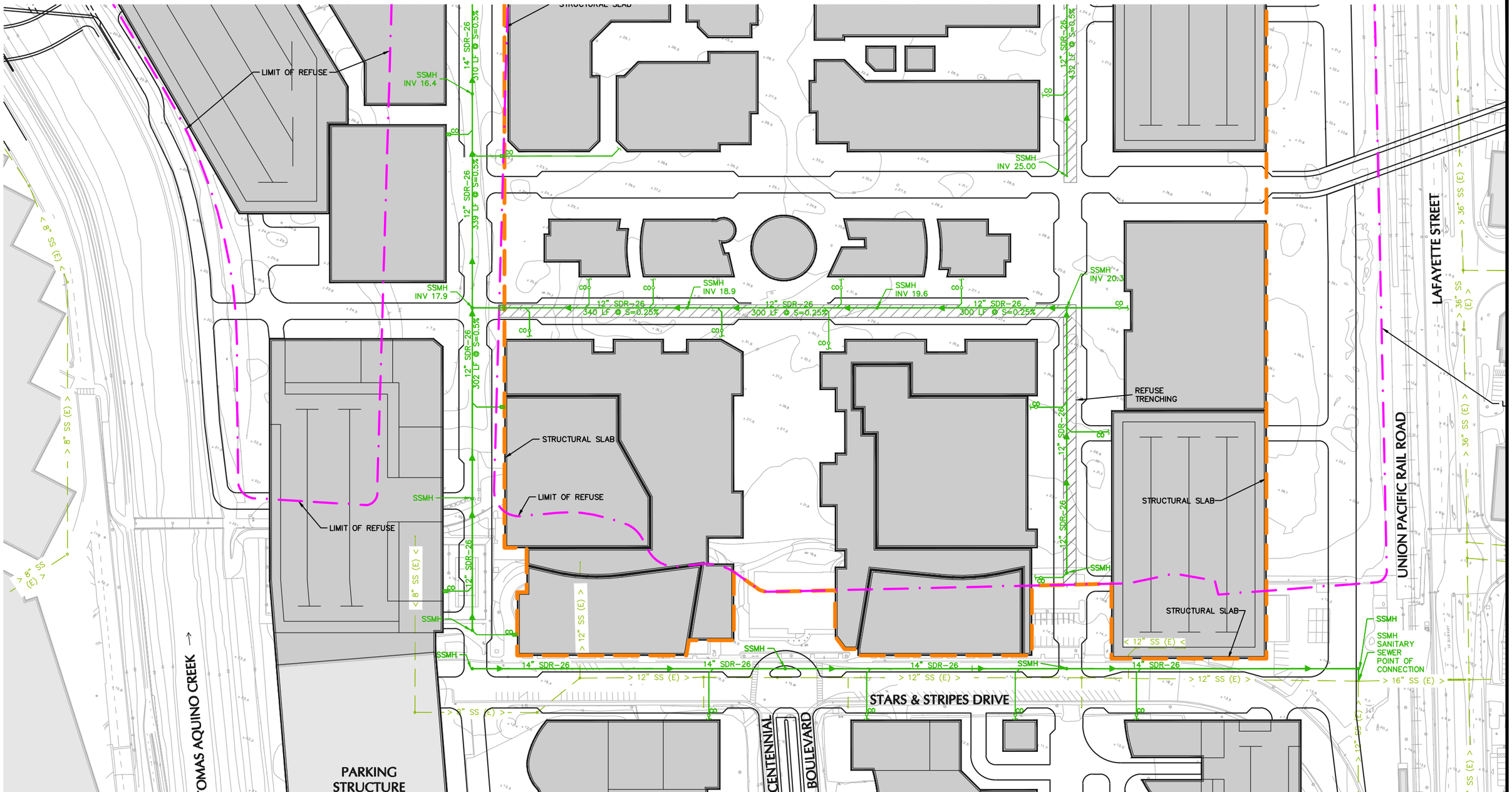

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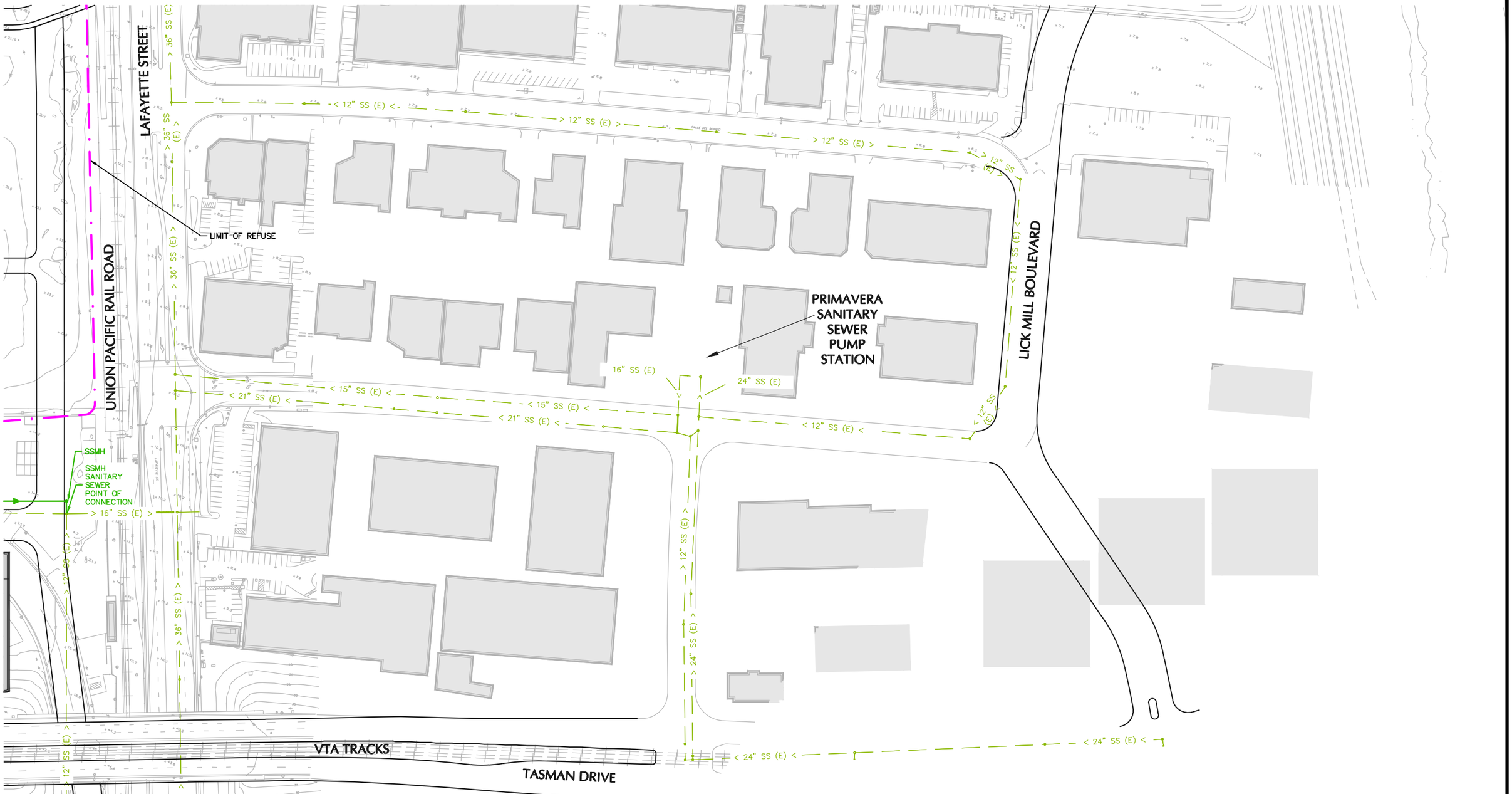

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EXISTING INFRASTRUCTURE — > XX" SS (E) >

PROPOSED INFRASTRUCTURE — XX" SDR-26, XX LF @ S=X%

LIMIT OF REFUSE

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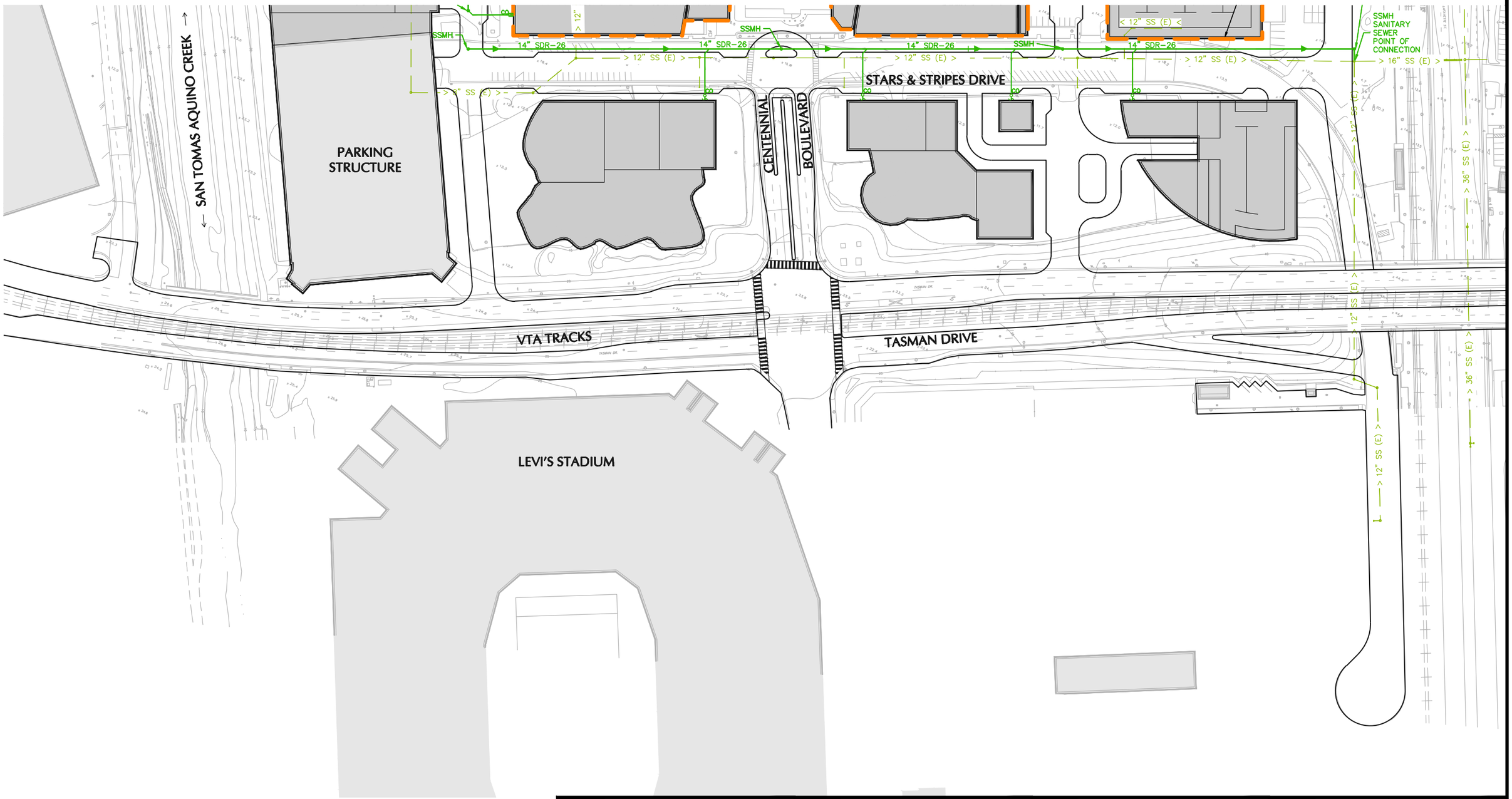

LEGEND:

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Project No. 770611601	Figure No. 14
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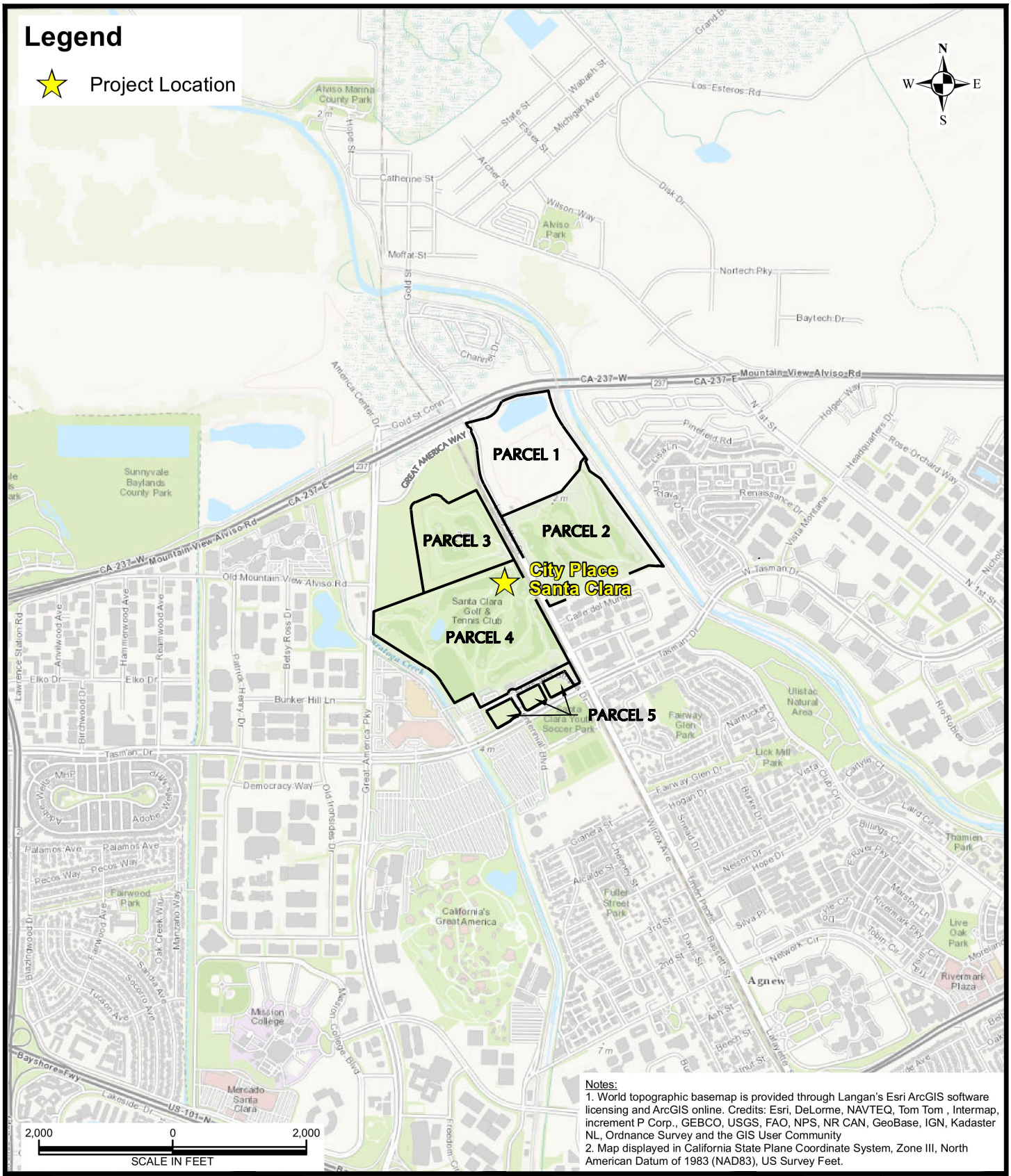
GRADING AND SITE ACCESS PHASING MATRIX				
Phase / Parcel	**Gross Sq. Footage**	**Approximate Earthwork**	**Access Intersections**	**Access Structures**
1 / 5	825,000	350,000 CY cut from Parcel 5 to Parcel 4	Tasman Drive, Centennial Boulevard, Stars and Stripes, Tasman Slip Ramp, A & B	
2 / 4	2,411,470	500,000 CY cut/fill on Parcel 4 and 250,000 CY (from Parcel 3 to Parcel 4)	Great America Parkway Lafayette Urban Interchange A, B & C	72,000 SF of bridge structure and abutments/fill in Lafayette Street
3 / 4	752,030	Fine Grading – See Note 1	-	-
4 / 4	1,095,900	Fine Grading – See Note 1	Great America Parkway (secondary)	20,000 SF of Bridge Structure over San Tomas Aquino Creek
5 / 3	750,000	Fine Grading – See Note 2	Two connections to Parcel 4	Two bridge structures over the infrastructure corridor
6 / 1	1,200,000	410,000 CY	Great America Way Lafayette Street Middle (at-grade)	Bridge structure over infrastructure corridor and City access
7 / 2	1,080,000	220,000 CY	Parcel 4/2 Connector Lick Mill Boulevard	35,000 SF of bridge structure over Lafayette Street
8 / 2	1,080,000	Fine Grading – See Note 3	-	-

Notes:
1. Earthwork performed during Phase 2 to accommodate gas extraction system replacement/relocation.
2. Earthwork performed during Phase 2 (250,000 CY of cut to Parcel 4).
3. Earthwork performed during Phase 7 to accommodate gas extraction system replacement/relocation.

FIGURES



Notes:
1. World topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Esri, DeLorme, NAVTEQ, Tom Tom , Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR CAN, GeoBase, IGN, Kadaster NL, Ordnance Survey and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

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SITE LOCATION MAP

Project No. 770611601	Figure No. 1
Date 6/30/2015	
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Drawn By STAFF / Checked By DJH	
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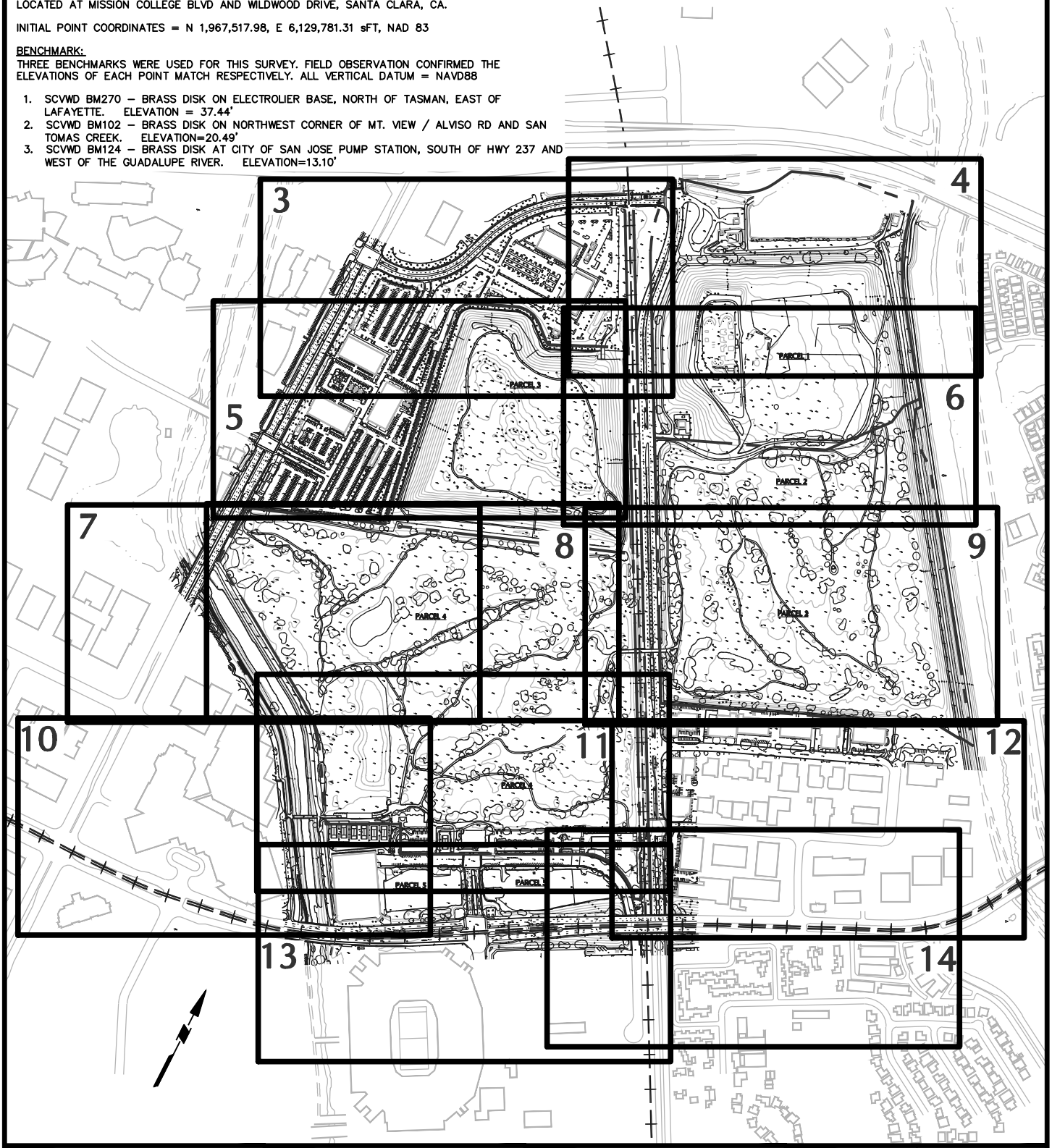
BASIS OF BEARINGS:
THE BEARING, NORTH 00°00'00" EAST, AS DETERMINED BY GPS OBSERVATION WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY. THE HORIZONTAL COORDINATES USED FOR THIS SURVEY ARE BASED ON THE STATE OF CALIFORNIA STATE PLANE SYSTEM, CA ZONE 3, AS ESTABLISHED FROM GPS OBSERVATION OF NGS POINT "HPGN D CA MISSION" (PID AA1873), AN ALUMINUM DISK LOCATED AT MISSION COLLEGE BLVD AND WILDWOOD DRIVE, SANTA CLARA, CA.

INITIAL POINT COORDINATES = N 1,967,517.98, E 6,129,781.31 sFT, NAD 83

BENCHMARK:
THREE BENCHMARKS WERE USED FOR THIS SURVEY. FIELD OBSERVATION CONFIRMED THE ELEVATIONS OF EACH POINT MATCH RESPECTIVELY. ALL VERTICAL DATUM = NAVD88

1. SCVWD BM270 – BRASS DISK ON ELECTROLIER BASE, NORTH OF TASMAN, EAST OF LAFAYETTE. ELEVATION = 37.44'
2. SCVWD BM102 – BRASS DISK ON NORTHWEST CORNER OF MT. VIEW / ALVISO RD AND SAN TOMAS CREEK. ELEVATION=20.49'
3. SCVWD BM124 – BRASS DISK AT CITY OF SAN JOSE PUMP STATION, SOUTH OF HWY 237 AND WEST OF THE GUADALUPE RIVER. ELEVATION=13.10'



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EXISTING TOPOGRAPHY KEY MAP

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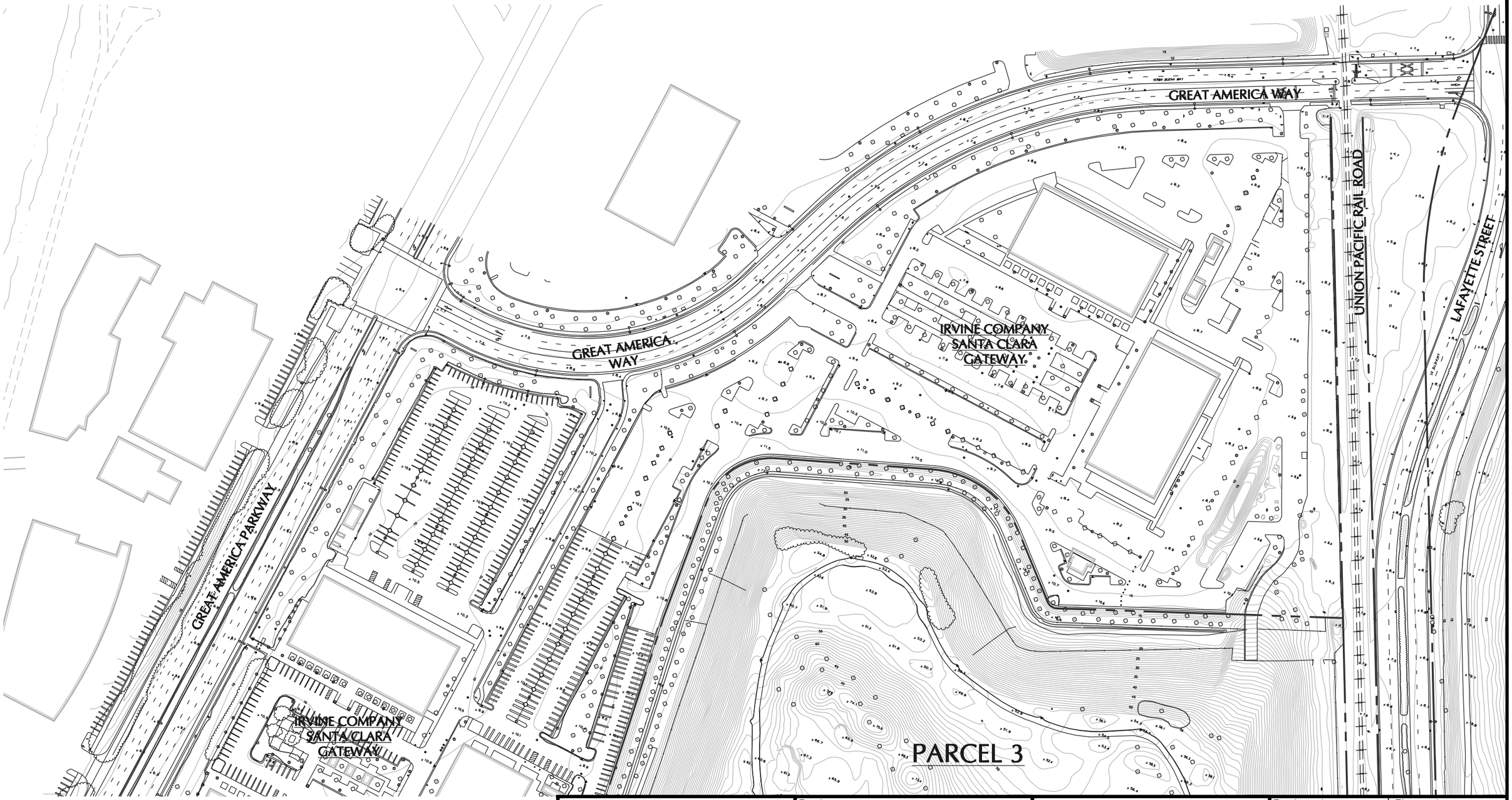

NOTE:
SEE FIGURE No. 2 FOR BASIS OF BEARINGS AND BENCHMARK.

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Project No. 770611601	Figure No. 3
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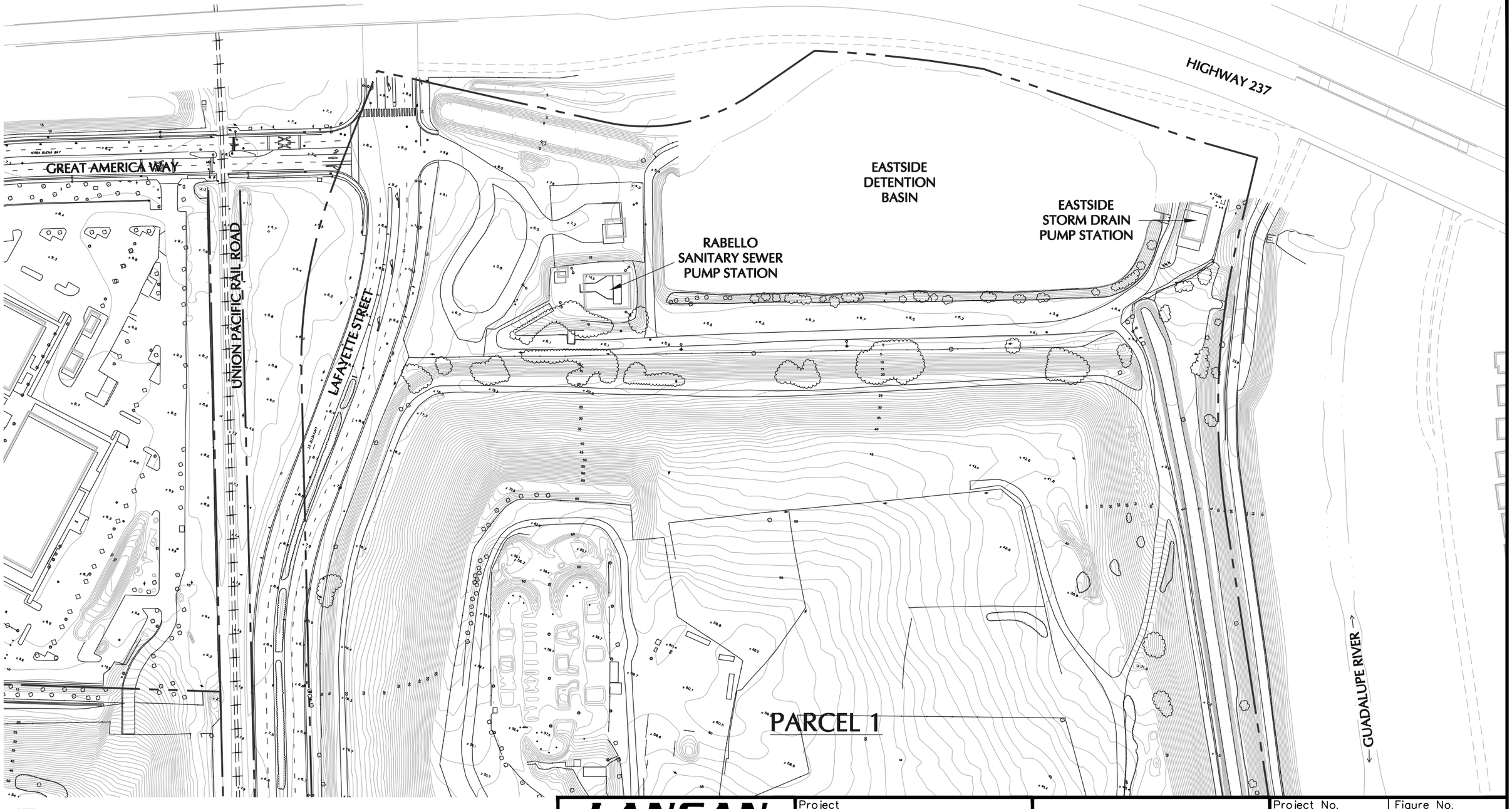

NOTE:
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Project No. 770611601	Figure No. 4
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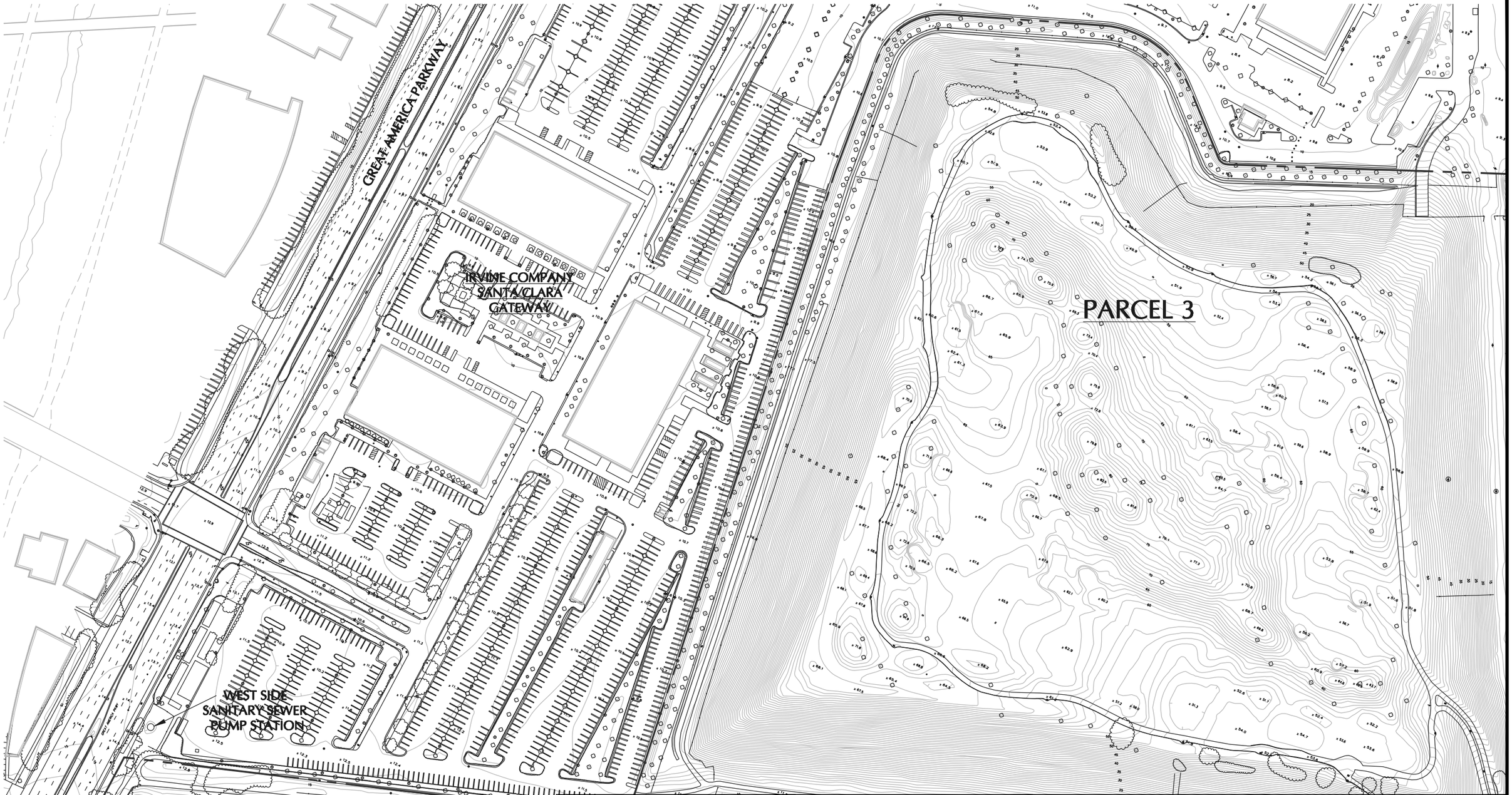

NOTE:
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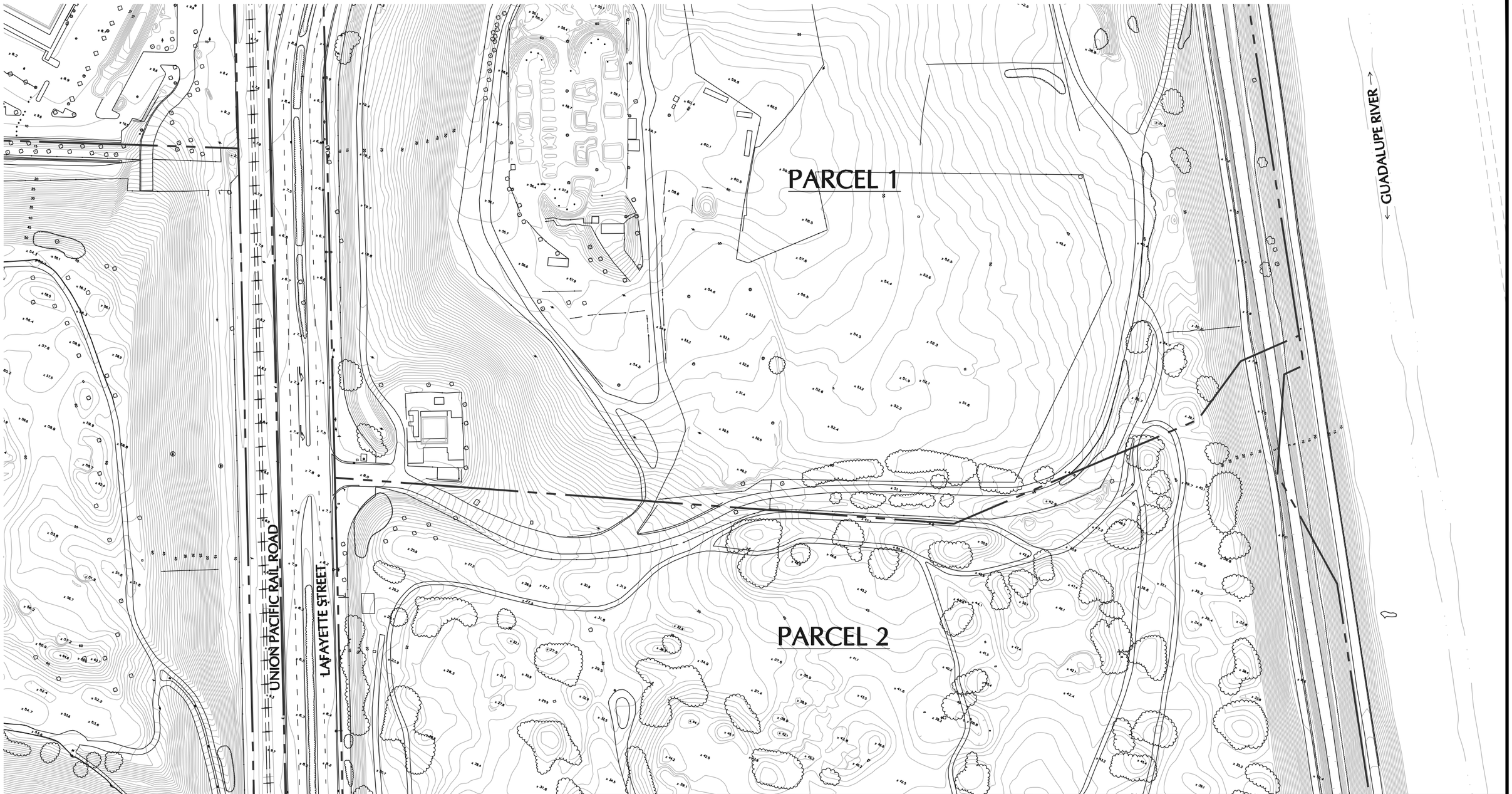

NOTE:
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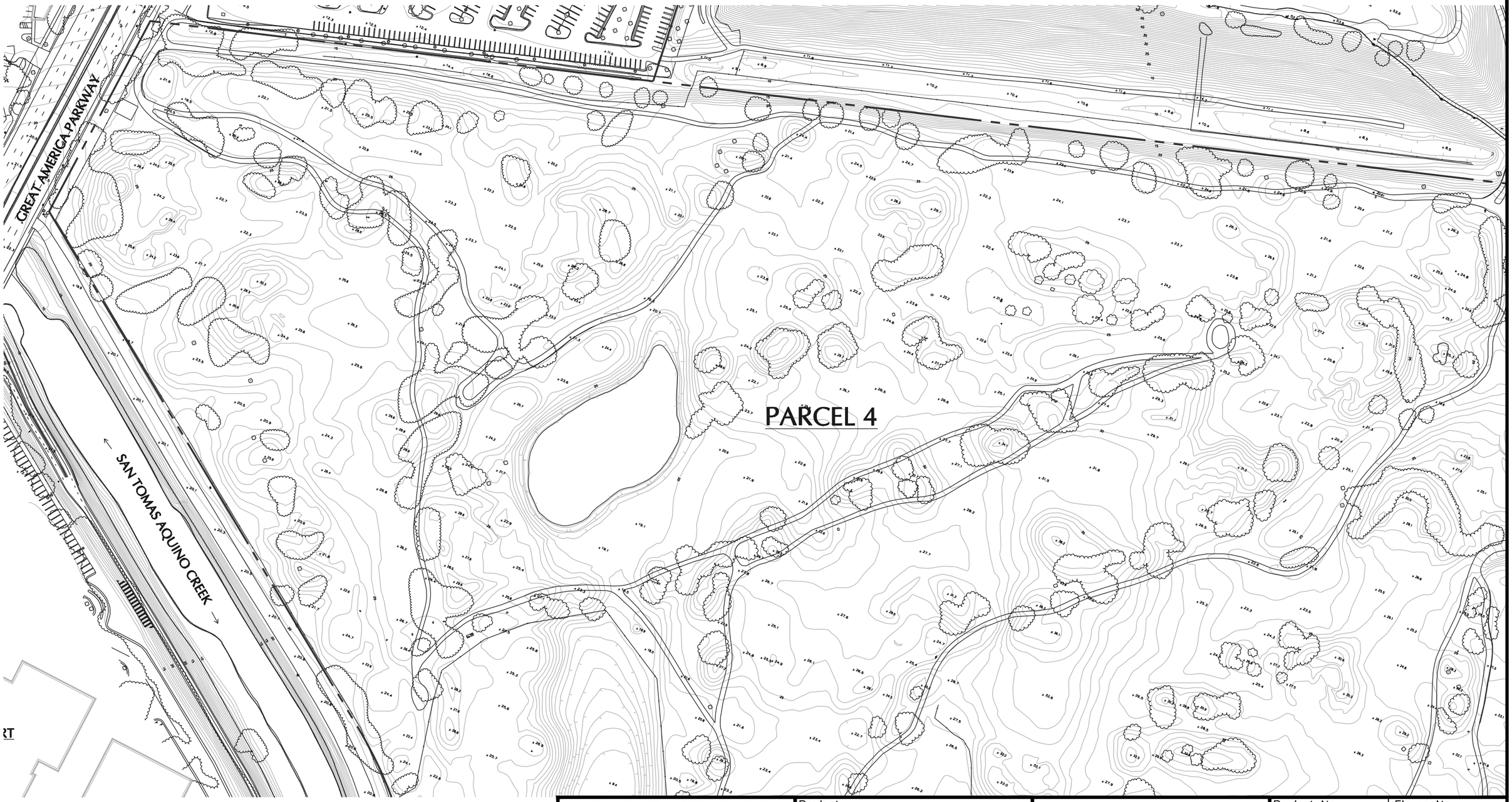

NOTE:
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Project No. 770611601	Figure No. 8
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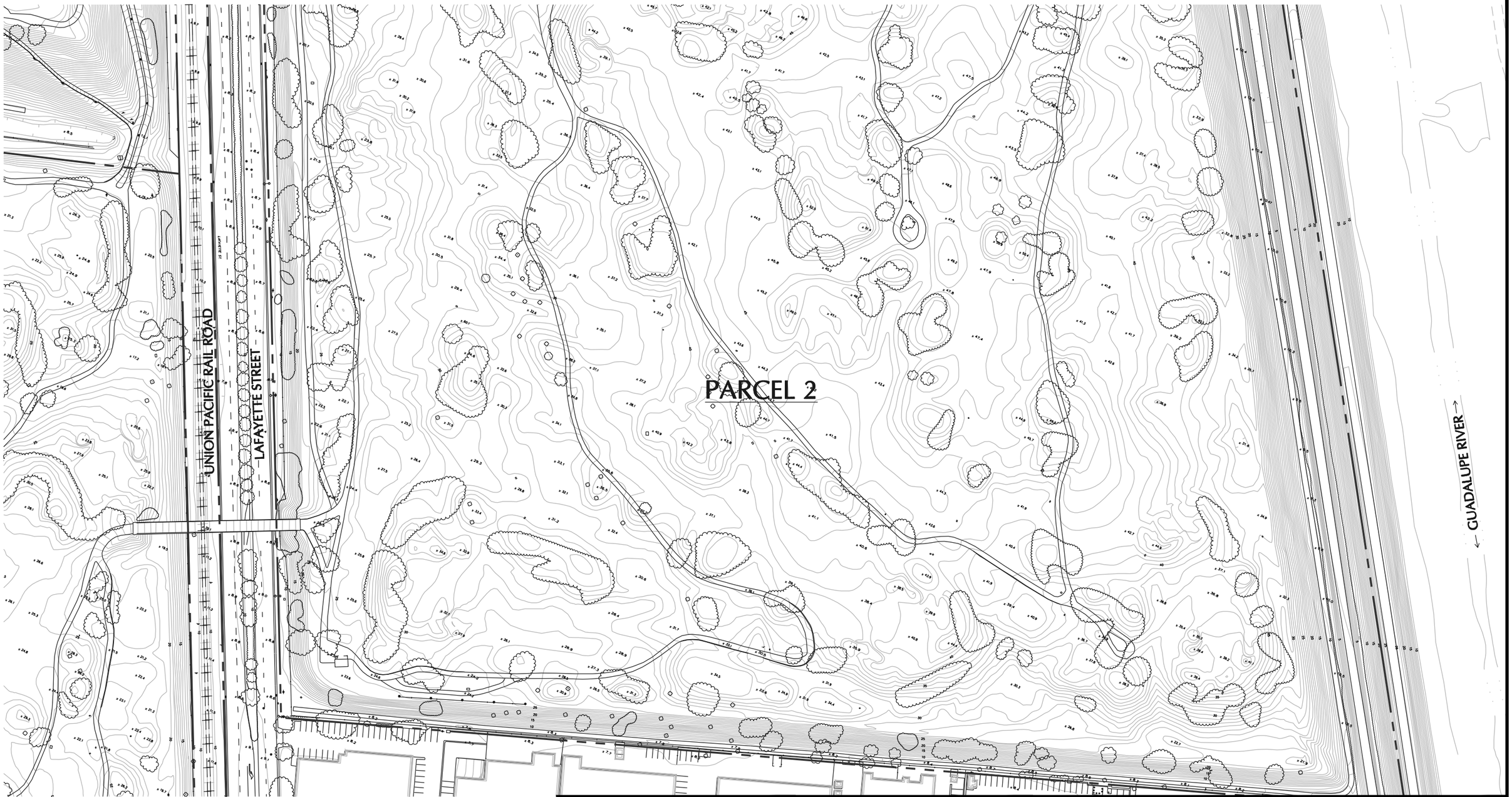

NOTE:
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GREAT AMERICA PARKWAY

SANTA CLARA CONVENTION CENTER

SAN TOMAS AQUINO CREEK →

← SAN TOMAS AQUINO CREEK

TASMAN PUMP STATION

TASMAN DRIVE

EXISTING PARKING STRUCTURE

PARCEL 5

VTA TRACKS

TASMAN DRIVE

NOTE:
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Project No. 770611601	Figure No. 10
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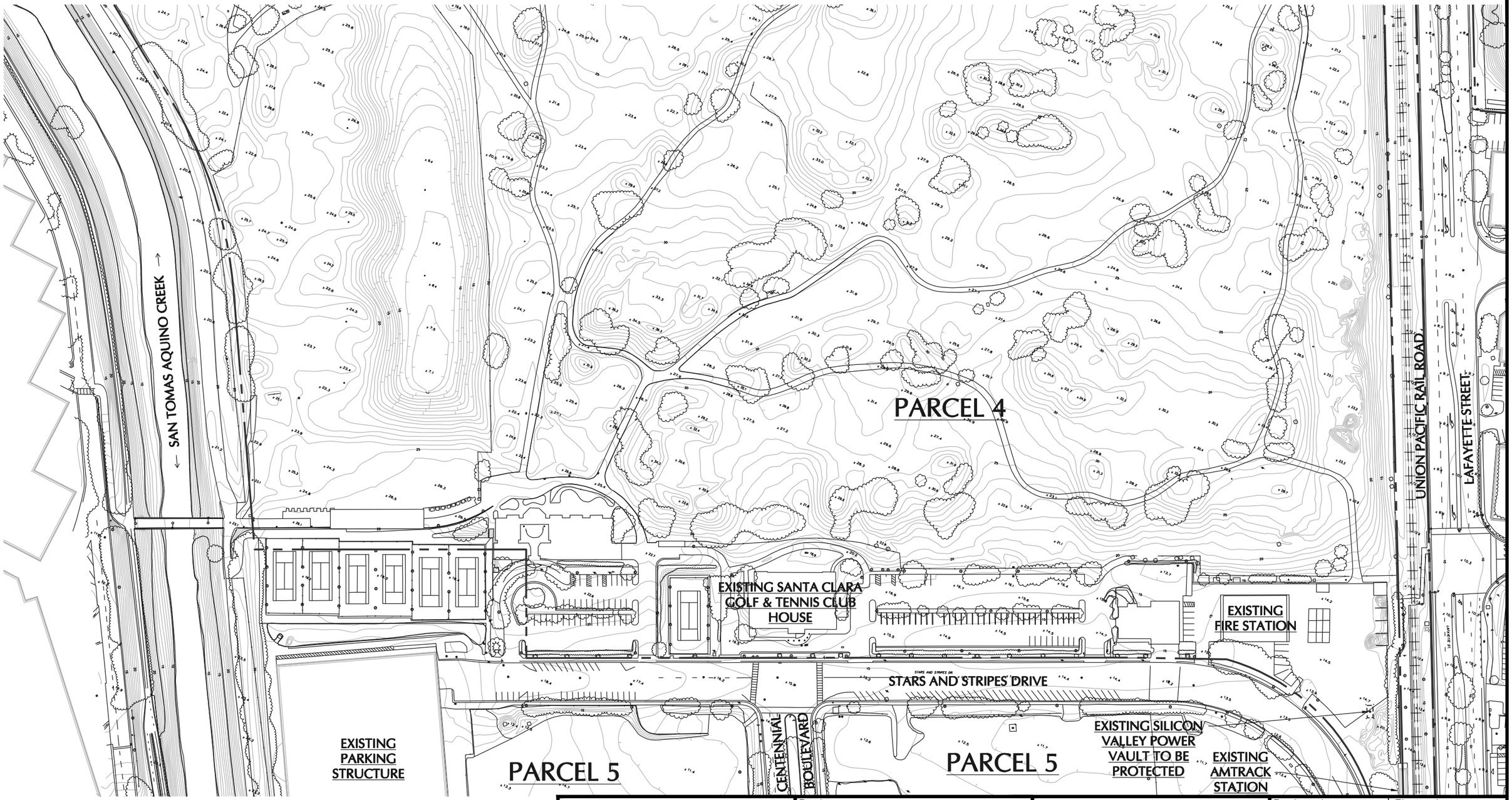

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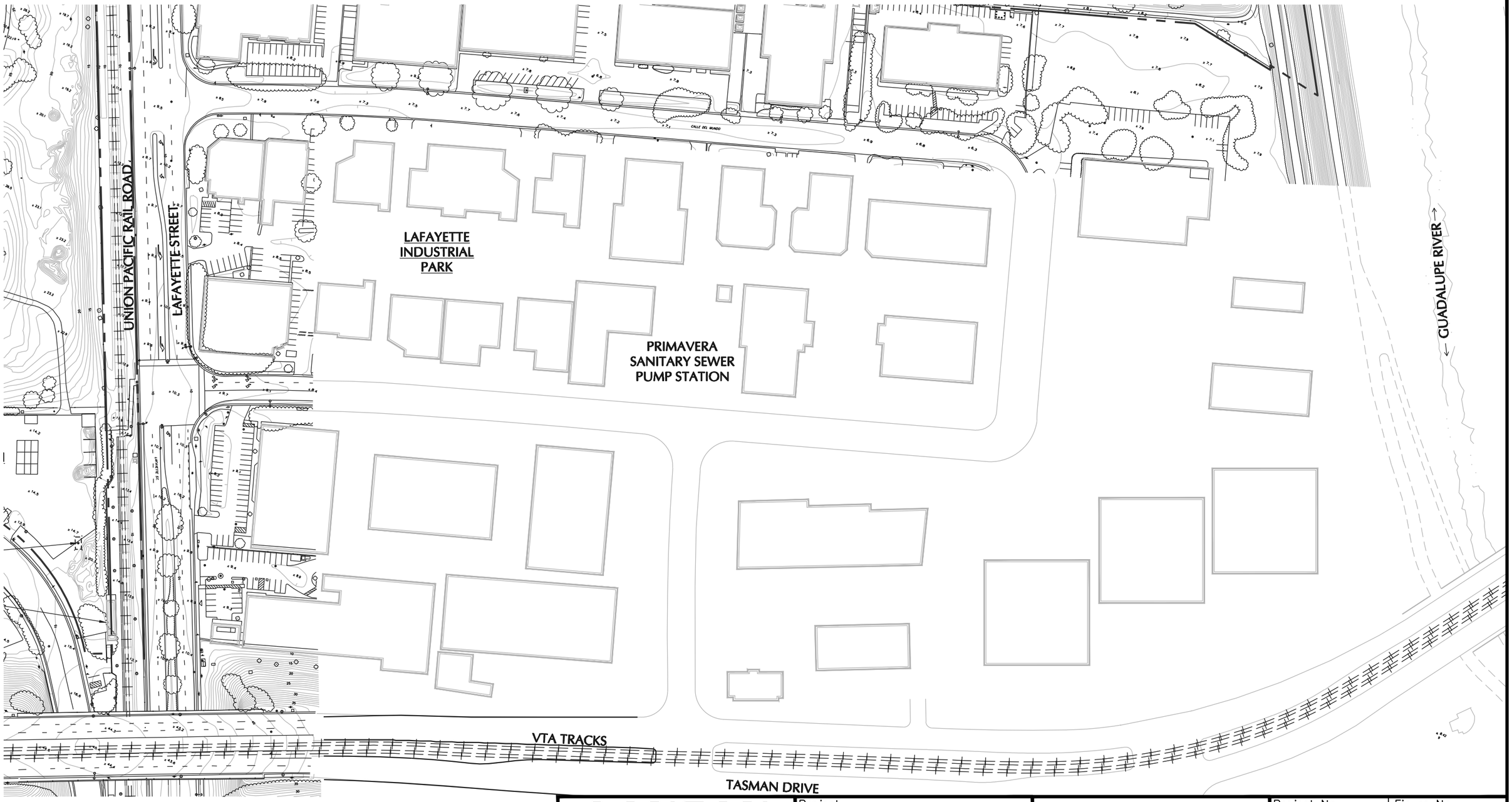

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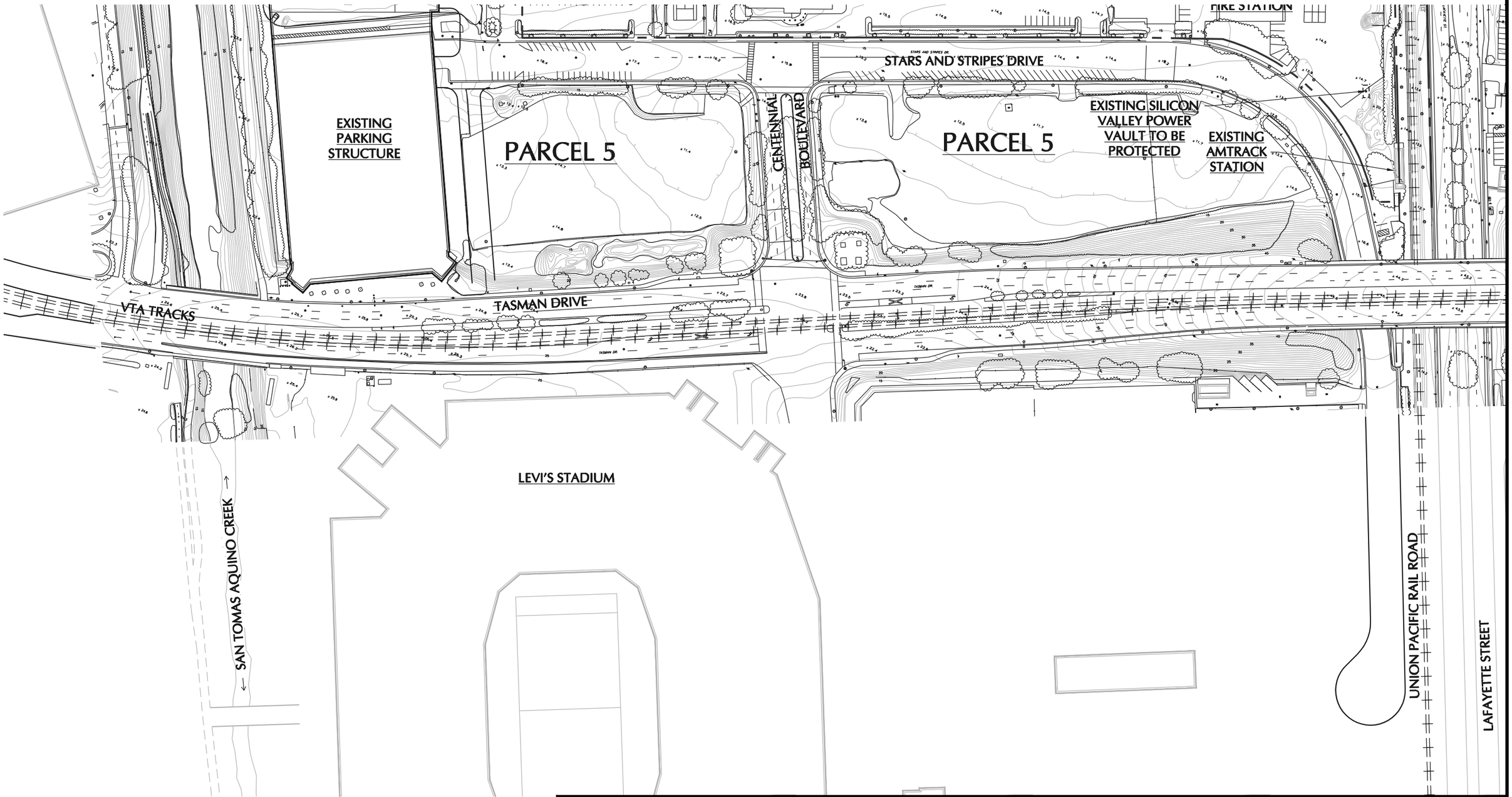

NOTE:
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Project No. 770611601	Figure No. 13
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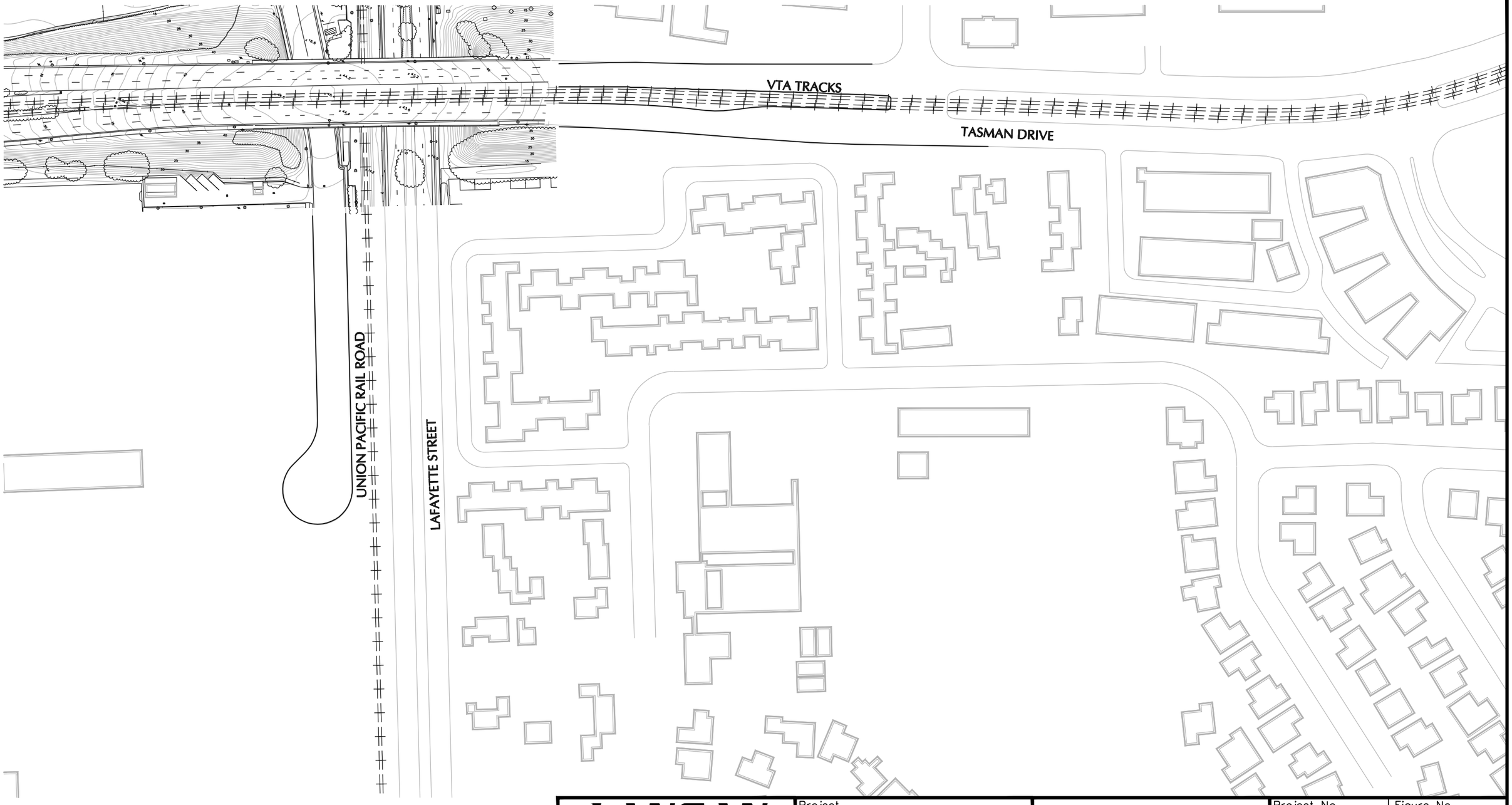

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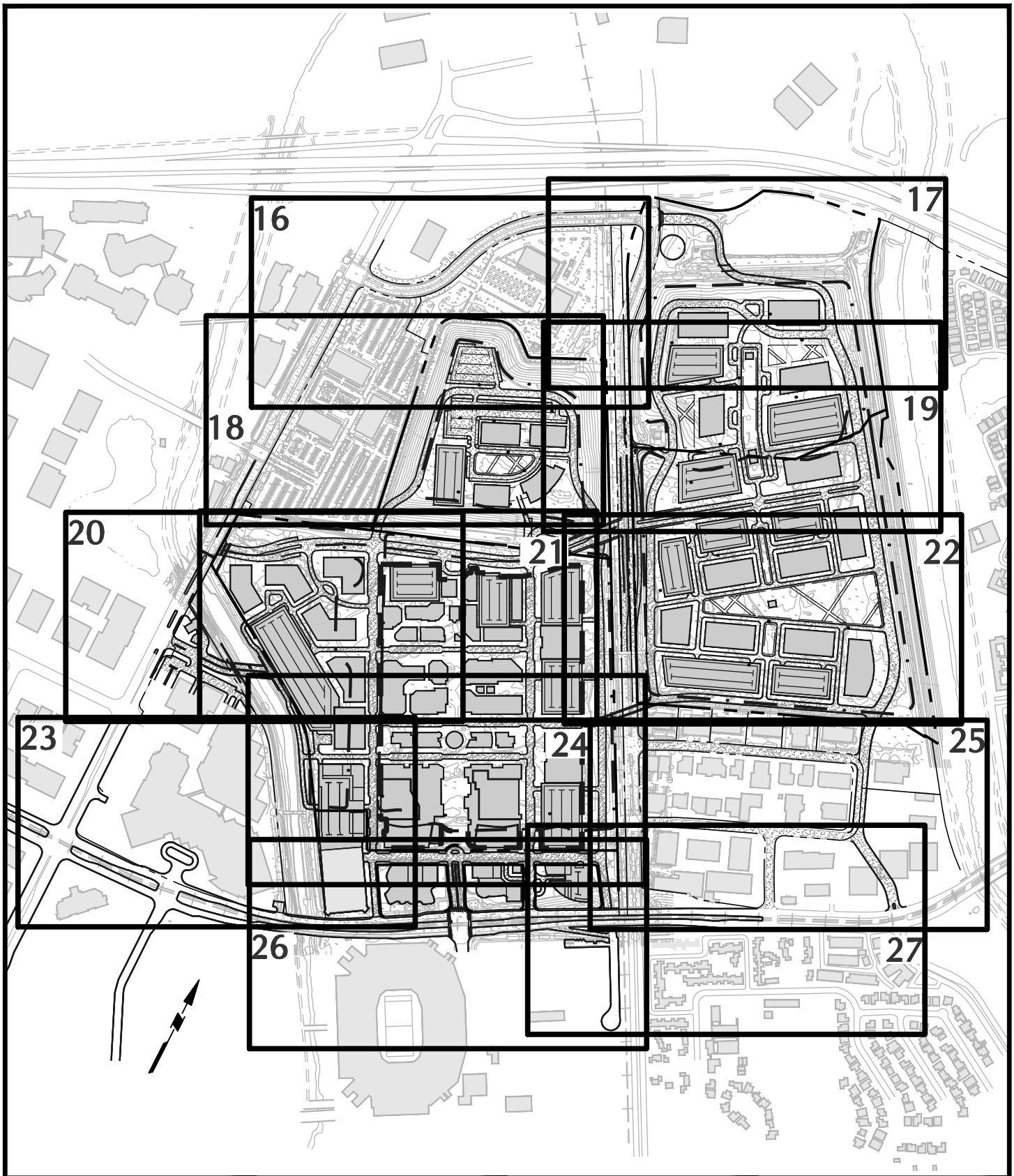

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PRELIMINARY GRADING KEY MAP

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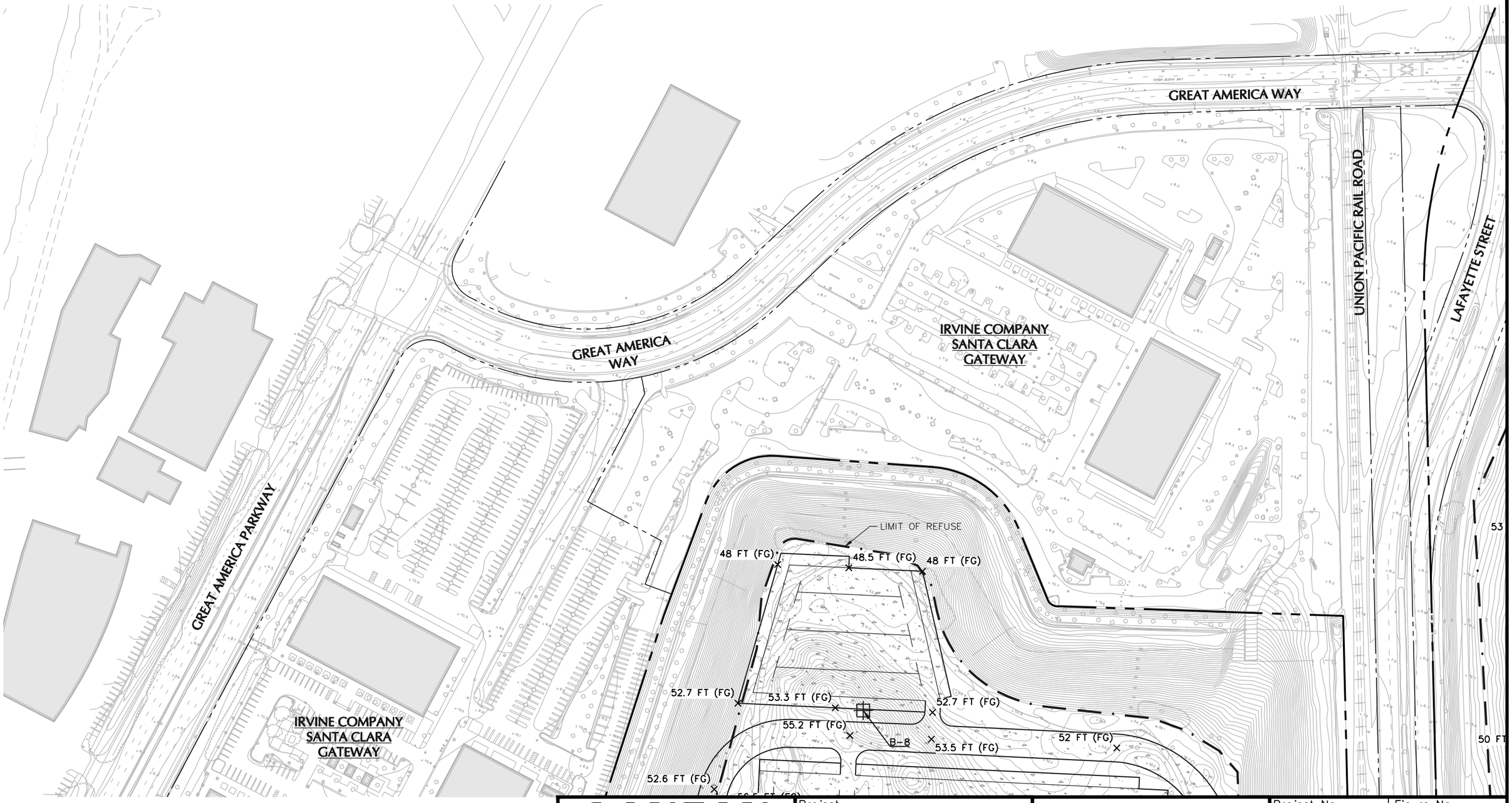

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 16
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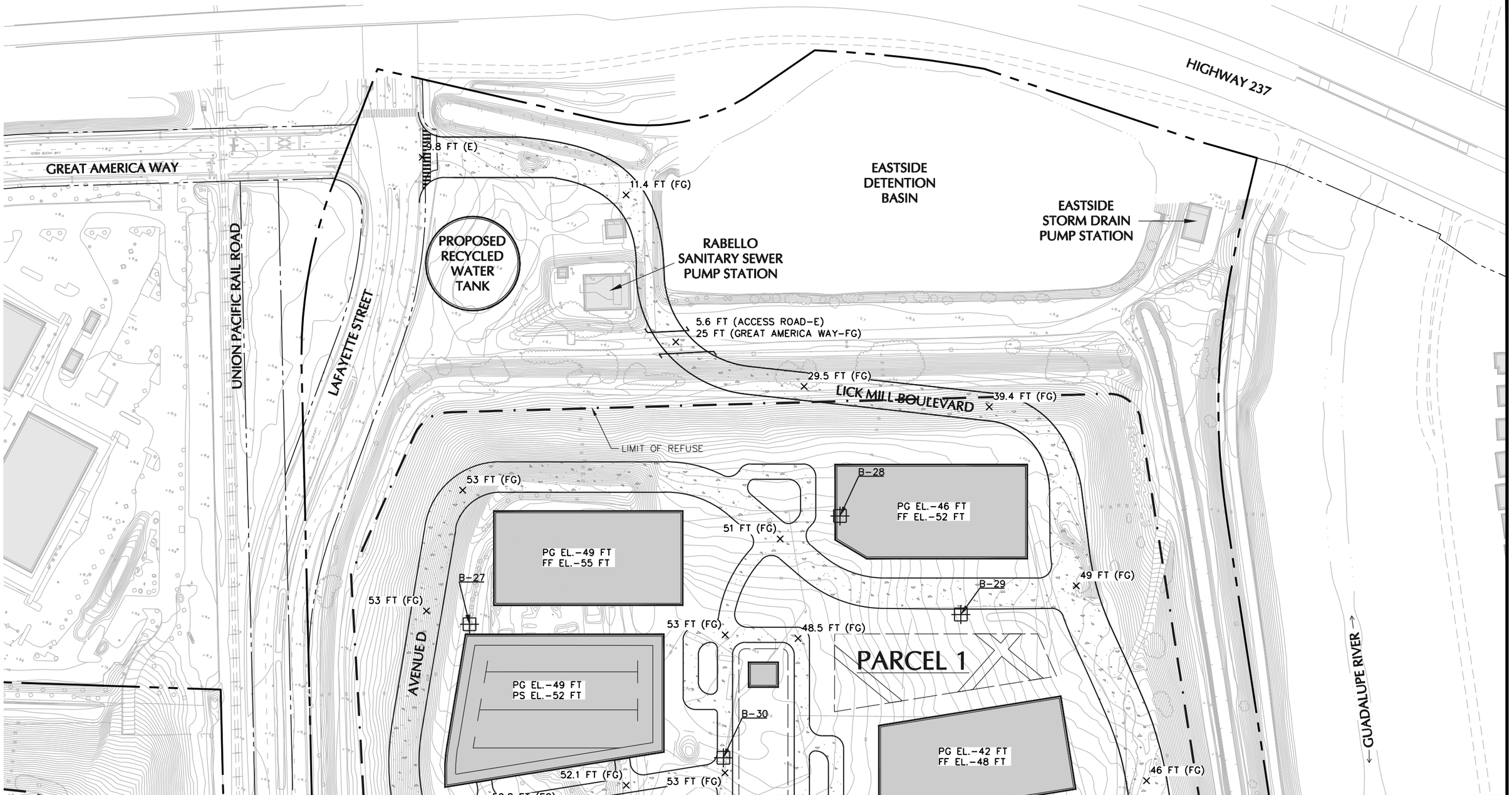

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Project No. 770611601	Figure No. 17
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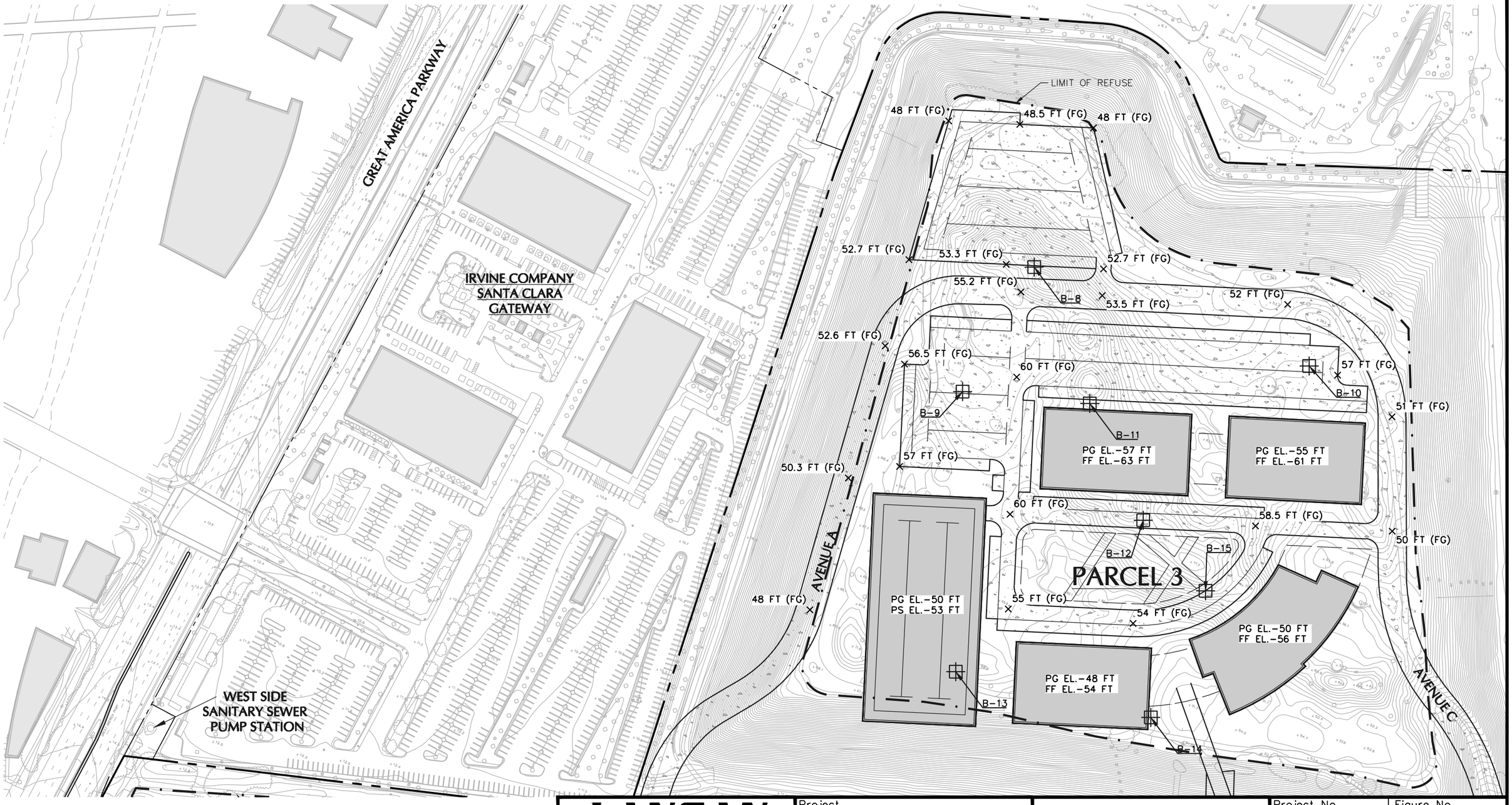

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PRELIMINARY GRADING

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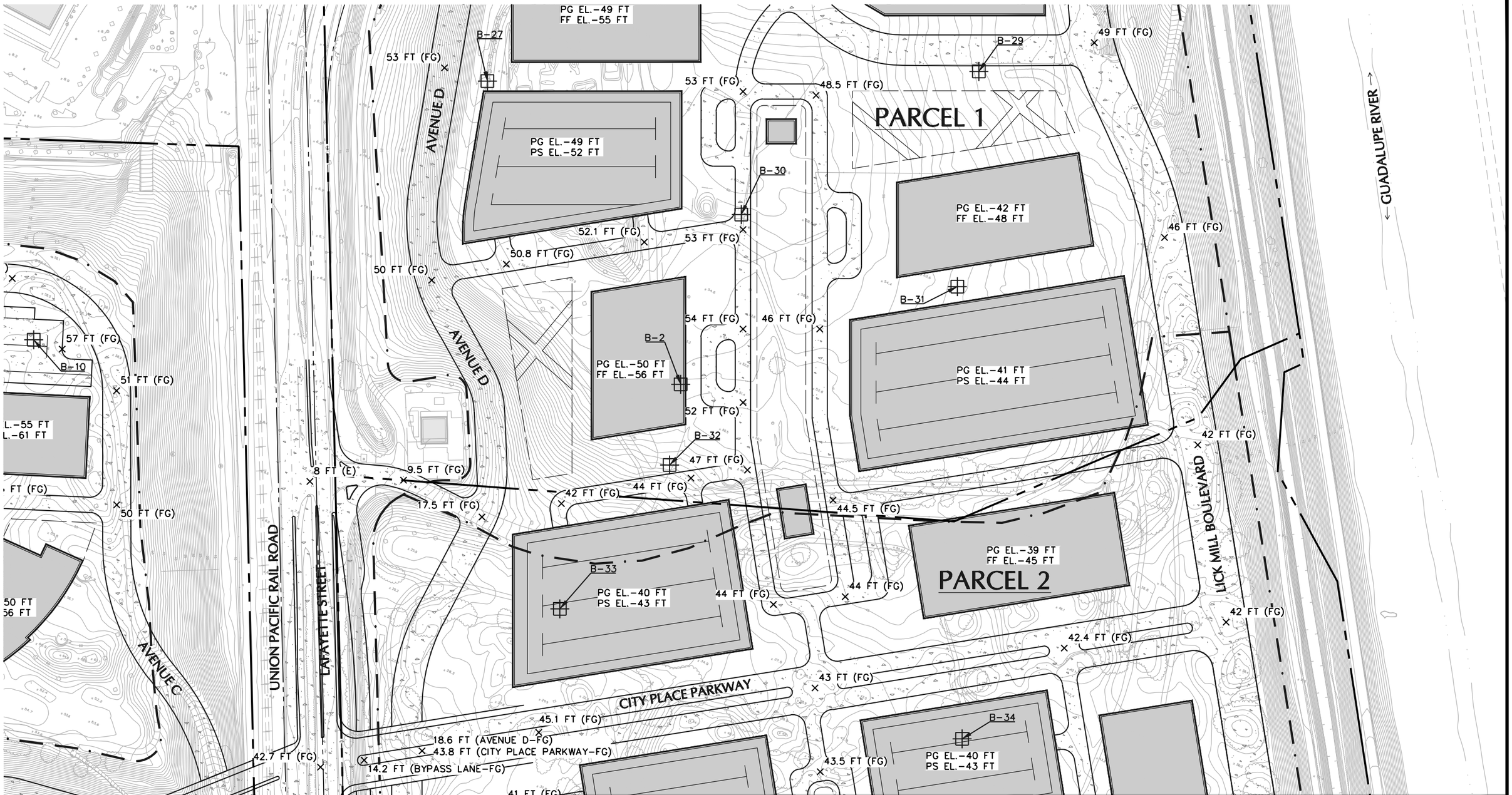

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PRELIMINARY GRADING

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LIMIT OF REFUSE

GREAT AMERICA PARKWAY

SCVWD ACCESS ROAD

SAN TOMAS AQUINO CREEK

CITY PLACE PARKWAY

AVENUE A

3rd STREET

TECH MART

PARCEL 4

PG EL.-24 FT
FF EL.-30 FT

PG EL.-24 FT
FF EL.-30 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-24 FT
PS EL.-27 FT

PG EL.-25 FT
FF EL.-31 FT

PG EL.-VAR.
PS EL.-30.5 FT

PG EL.-VAR.
FF EL.-33.5 F

PG EL.-VAR.
FF EL.-34.5 FT

PG EL.-VAR.
FF EL.-34.5 FT

PG EL.-VAR.
FF EL.-34.5

PG EL.-VAR.
FF EL.-35 FT

PG EL.-VAR.
FF EL.-35.5 FT

PG EL.-VAR.
FF EL.-35 FT

PG EL.-VAR.
FF EL.-35.5 FT

PG EL.-VAR.
FF EL.-35 FT

B-16

B-18

B-4

B-20

B-5

TP-1

TP-2

TP-3

TP-4

TP-8

TP-9

TP-10

TP-11

TP-12

19 FT (E)

19 FT (E)

12 FT (E)

21 FT (E)

17.6 FT (FG)

10.1 FT (E)

27.4 FT (FG)

27.5 FT (FG)

21 FT (E)

20 FT (FG)

27 FT (FG)

28 FT (FG)

27.5 FT (FG)

28 FT (FG)

20.4 FT (E)

27.6 FT (FG)

20.8 FT (E)

29 FT (FG)

31 FT (FG)

28.5 FT (FG)

28.9 FT (FG)

33 FT (FG)

35 FT

32.5 FT (FG)

33.5

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CITY PLACE SANTA CLARA

SANTA CLARA CALIFORNIA

PRELIMINARY GRADING

Project No. 770611601	Figure No. 20
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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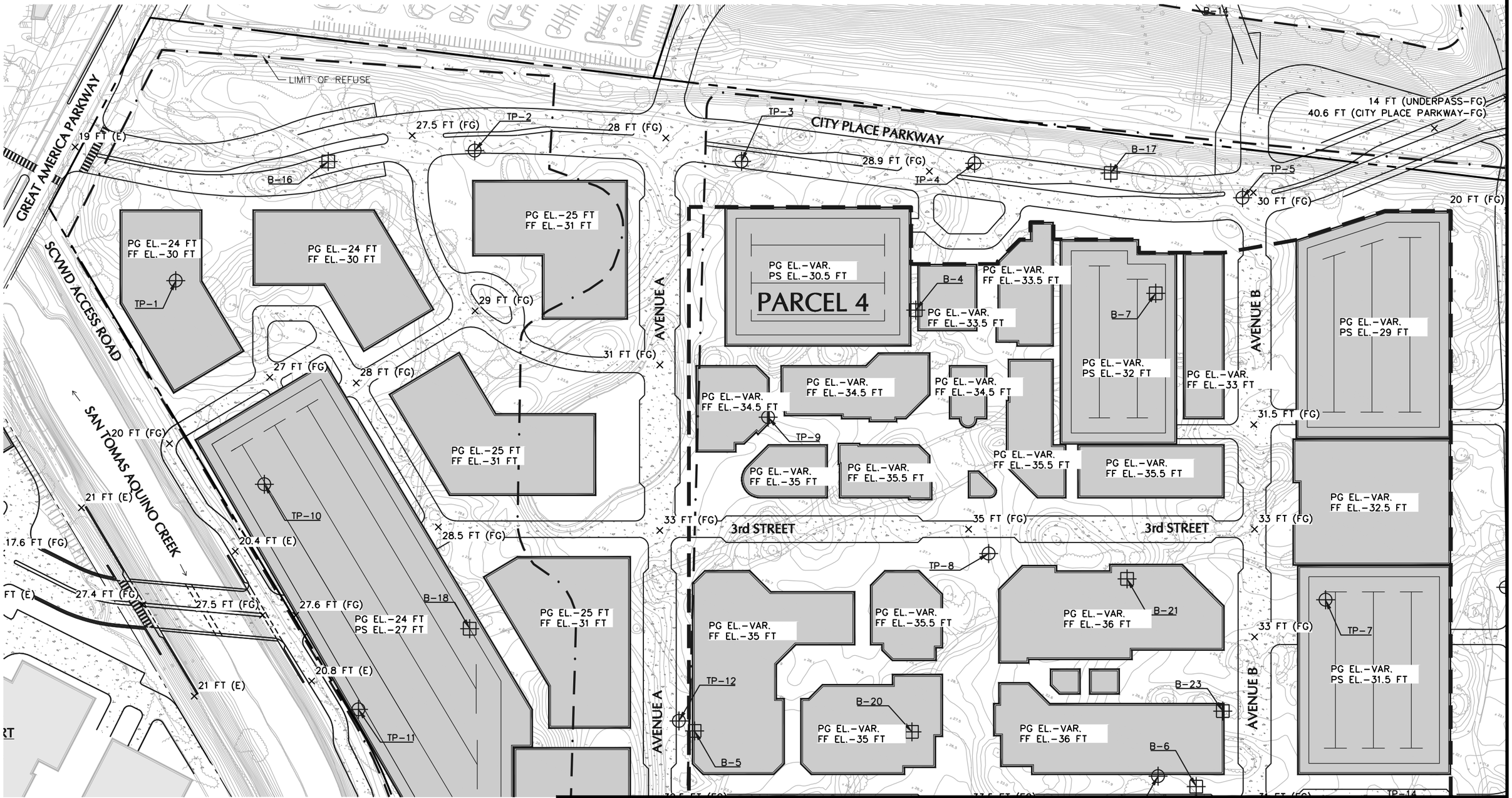

150 0 75 150

SCALE IN FEET

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 21
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Scale 1" = 150'	
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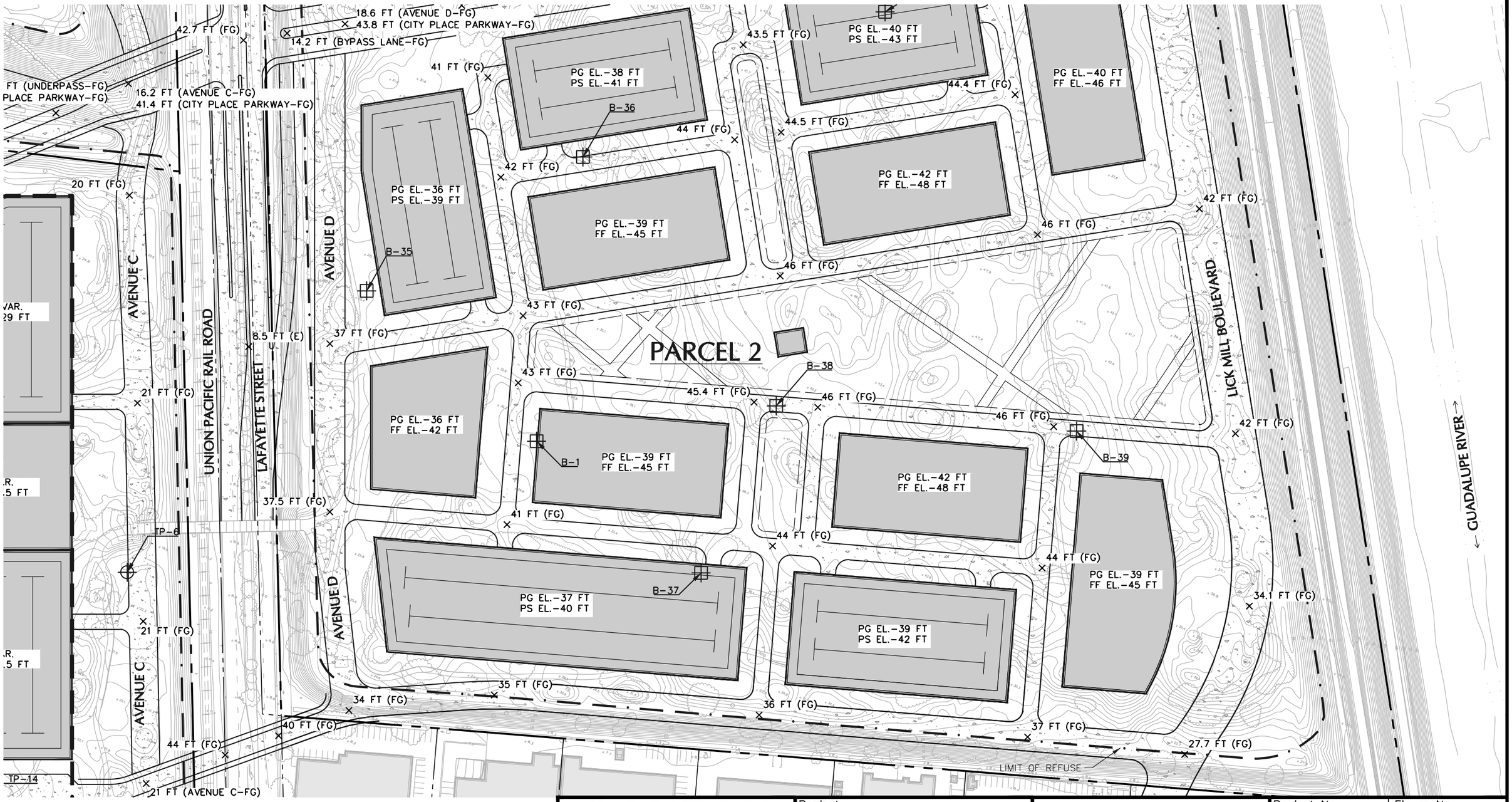

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 22
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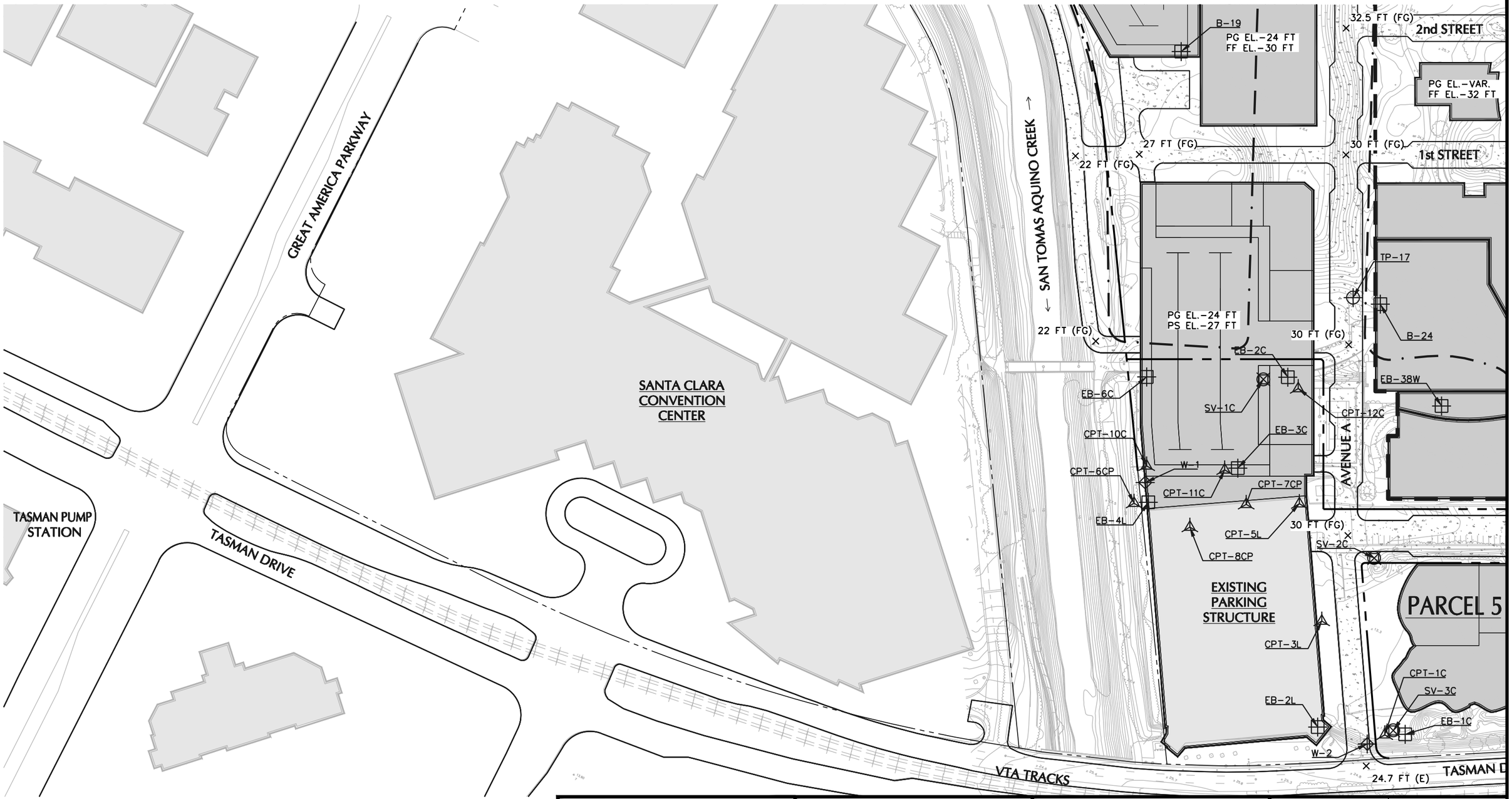

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 23
Date 6/30/2015	
Scale 1" = 150'	
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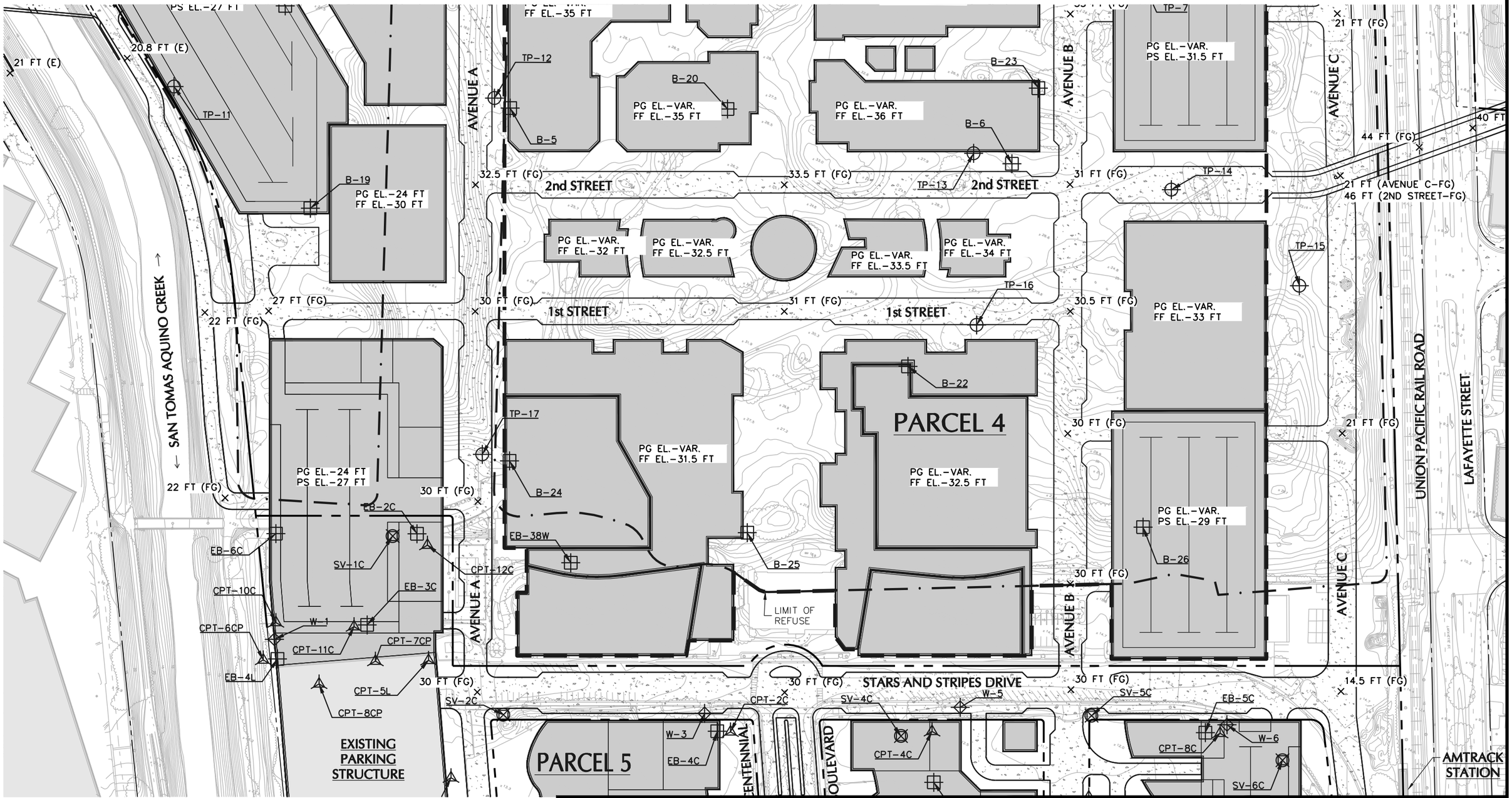

150 0 75 150

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 24
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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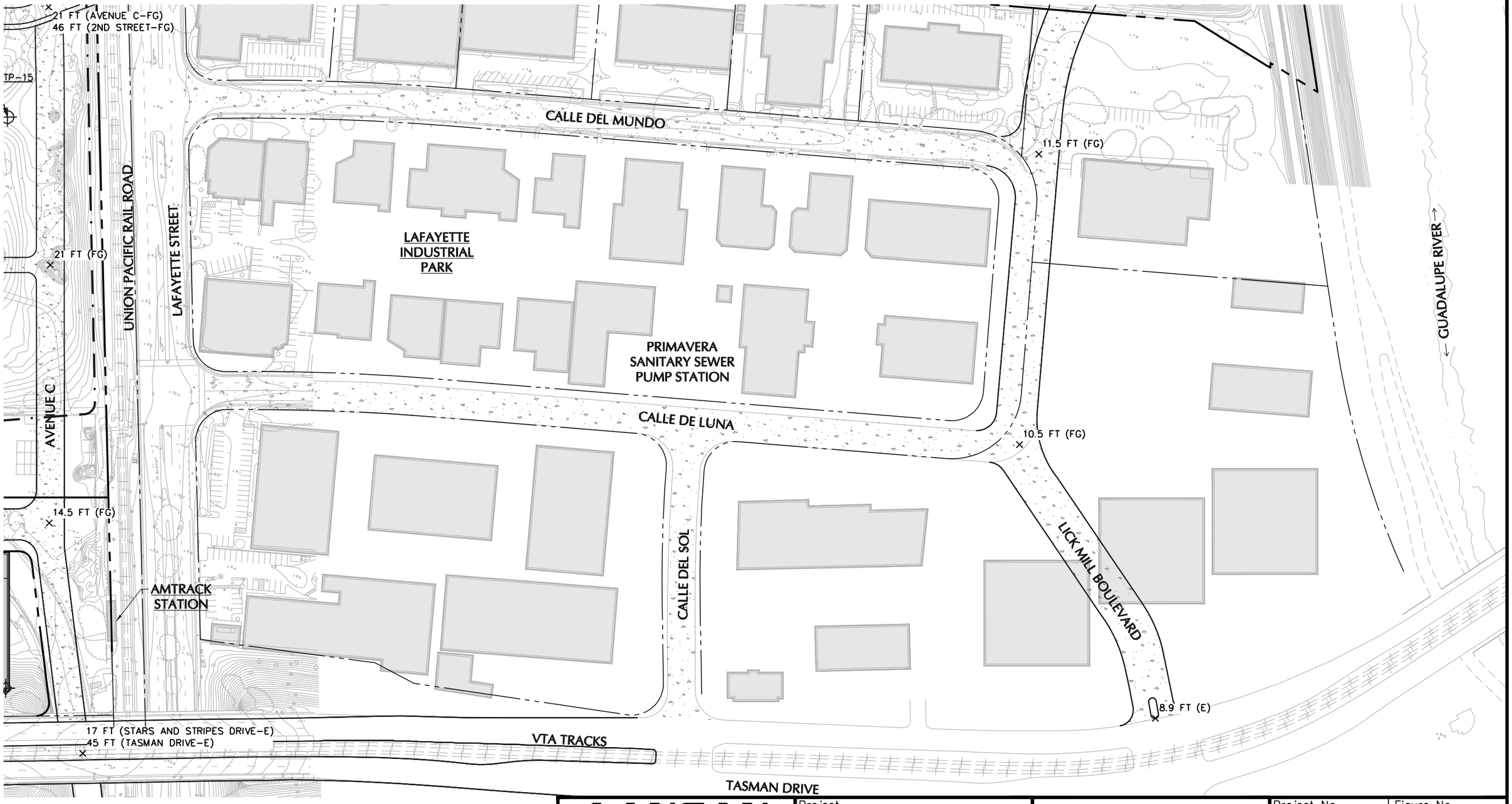

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T: 408.551.6700 F: 408.551.0344 www.langan.com

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 25
Date 6/30/2015	
Scale 1" = 150'	
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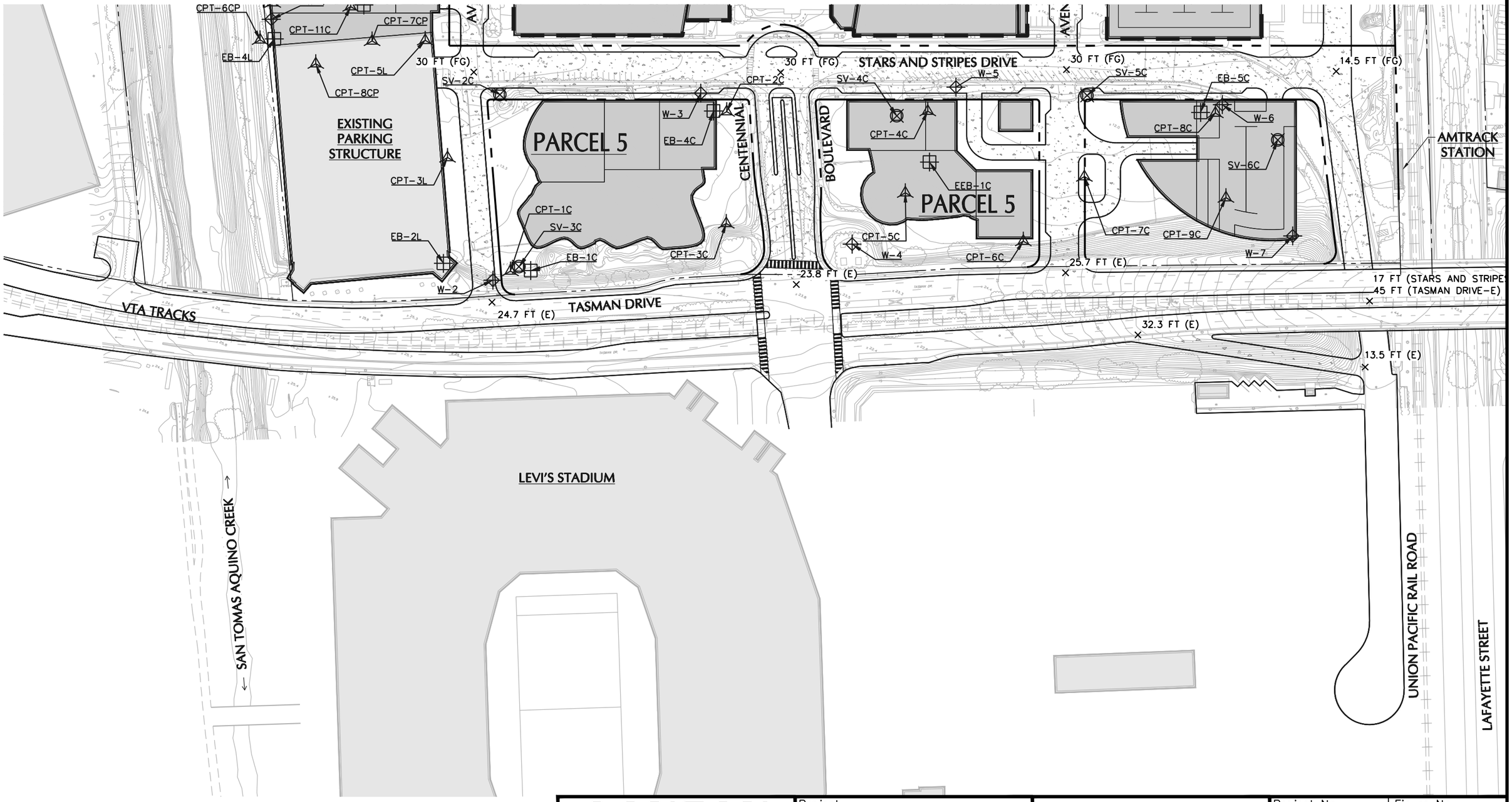

150 0 75 150

SCALE IN FEET

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 26
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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PRELIMINARY GRADING

Project No. 770611601	Figure No. 27
Date 6/30/2015	
Scale 1" = 150'	
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Submission Date 6/30/2015	

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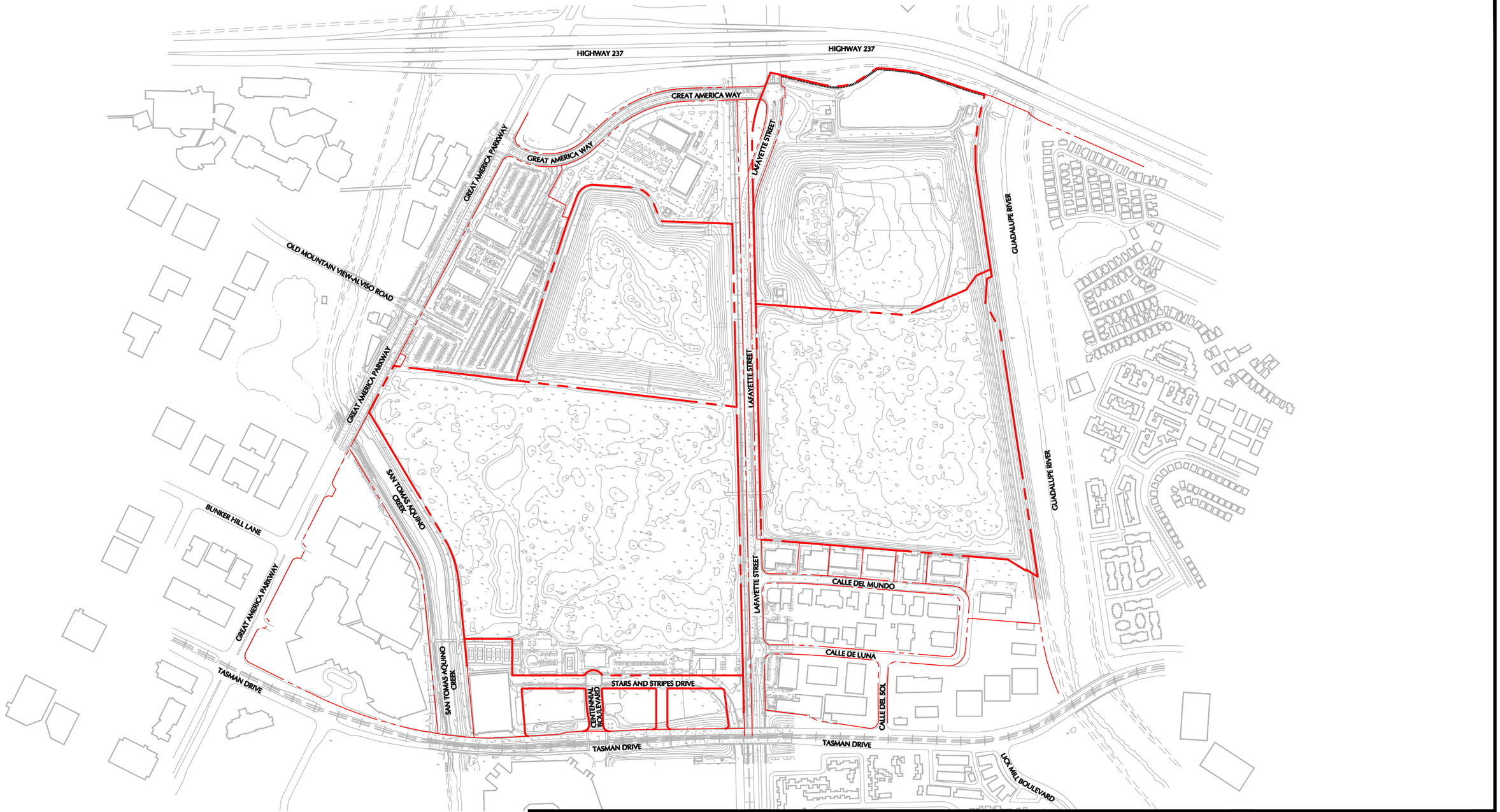

LEGEND:

PROPERTY LINE

150 0 75 150

SCALE IN FEET

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EXISTING ROADWAY NETWORK

Project No. 770611601	Figure No. 28
Date 6/30/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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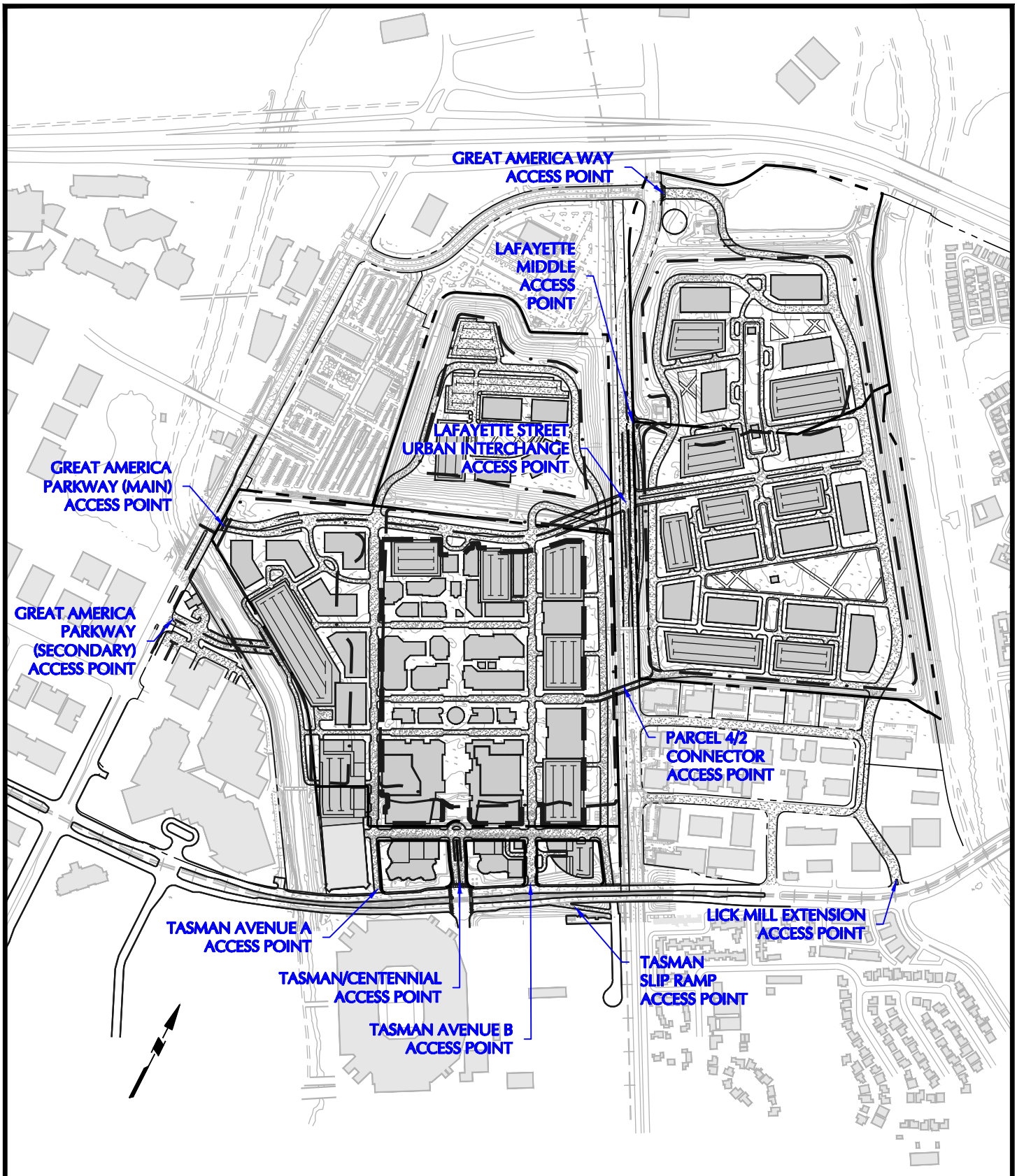

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ACCESS LOCATION SUMMARY

Project No. 770611601	Figure No. 29
Date 6/30/2015	
Scale 1" = 800	
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Submission Date 6/30/2015	

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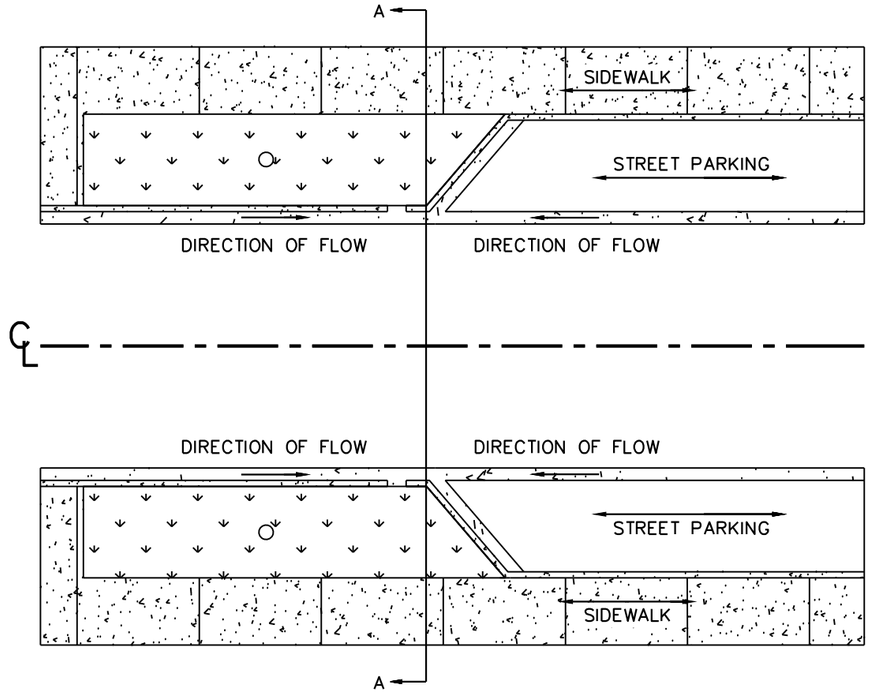
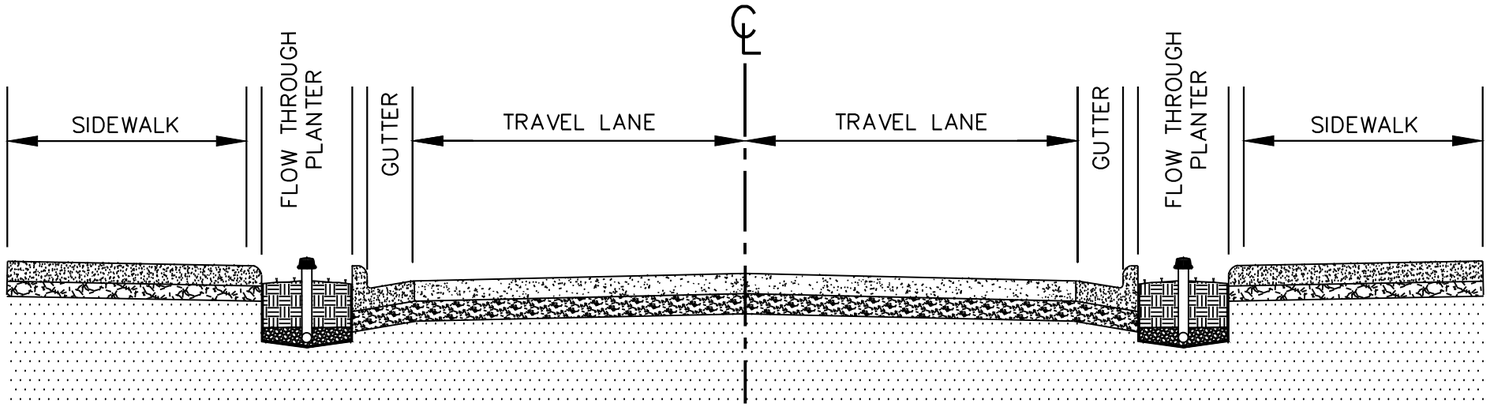


PLAN VIEW



CROSS SECTION A-A
STREET PROFILE

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ON-SITE ROADWAY GREEN STREET SECTION

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Date 6/30/2015	
Scale N.T.S.	
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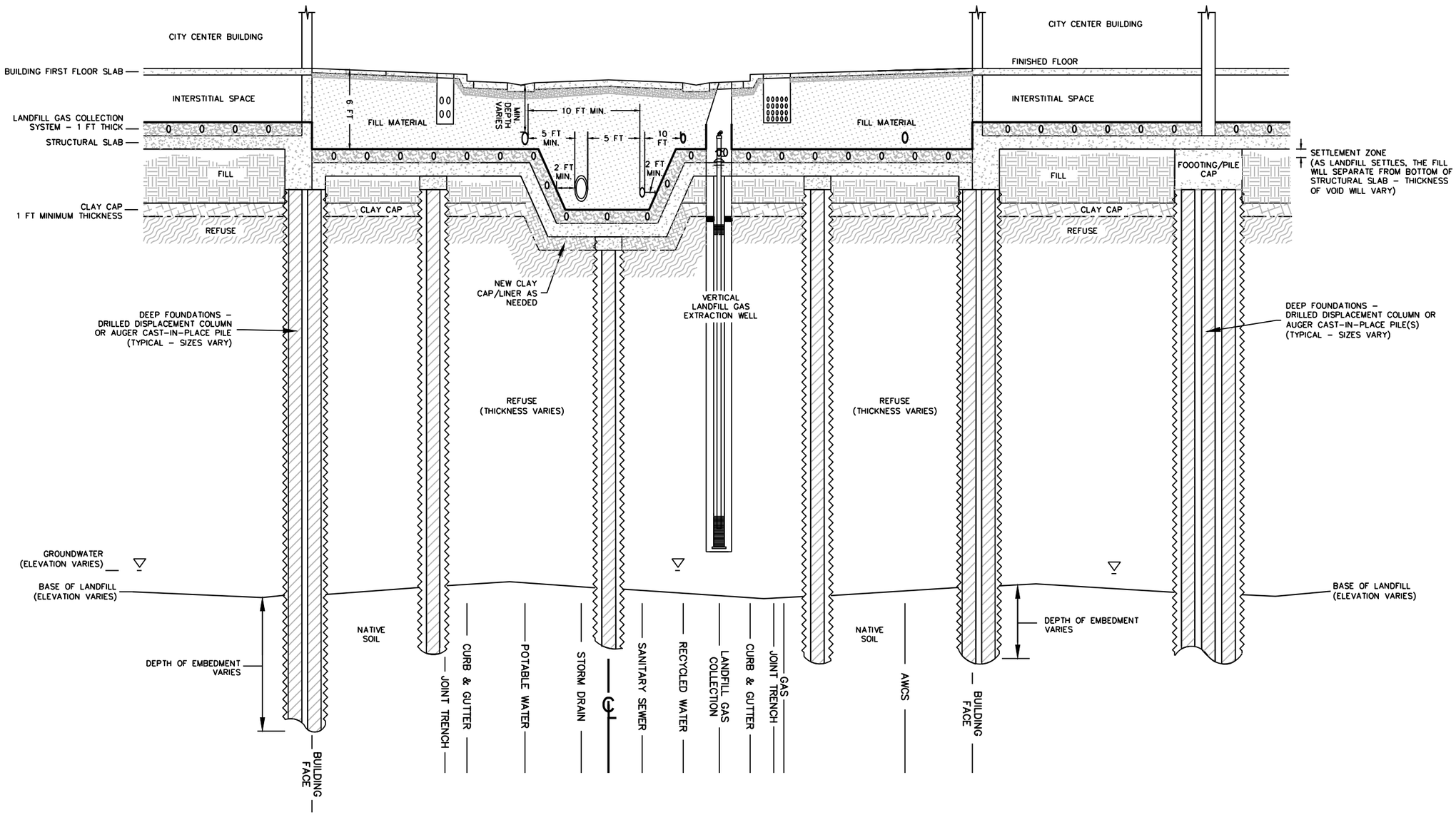
STREET SECTION - WIDTH VARIES
(PARCEL 4 SETTLEMENT SLAB SECTION)



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FOUNDATION CONCEPT TYPE 1

Project No. 770611601	Figure No. 31
Date 6/30/2015	
Scale N.T.S.	
Drawn By DJH / Checked By JL	
Submission Date 6/30/2015	

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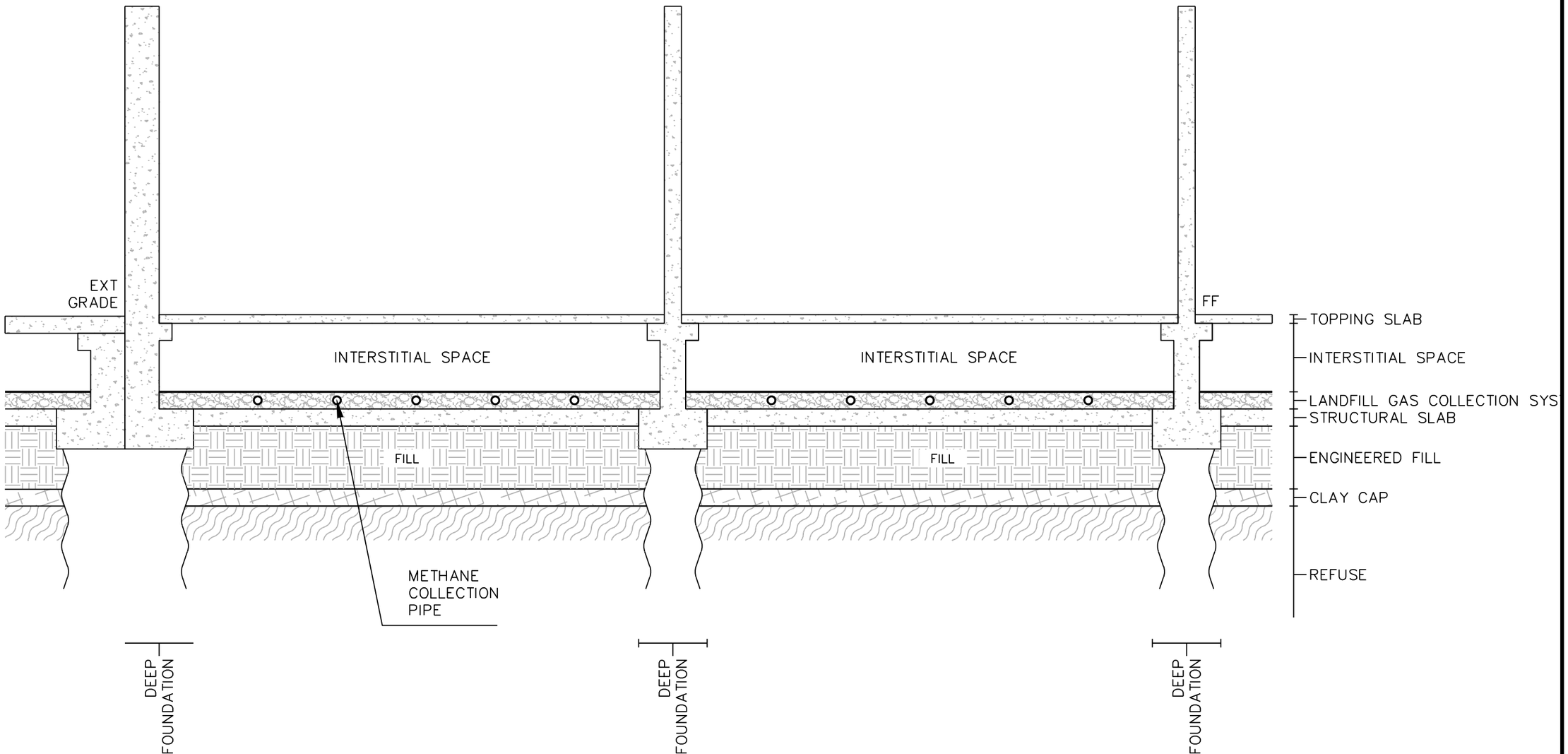
CONCEPTUAL FOUNDATION
BUILDING (RETAIL, OFFICE & HOTEL)



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FOUNDATION CONCEPT TYPE 2

Project No. 770611601	Figure No. 32
Date 6/30/2015	
Scale N.T.S.	
Drawn By DJH / Checked By JL	
Submission Date 6/30/2015	

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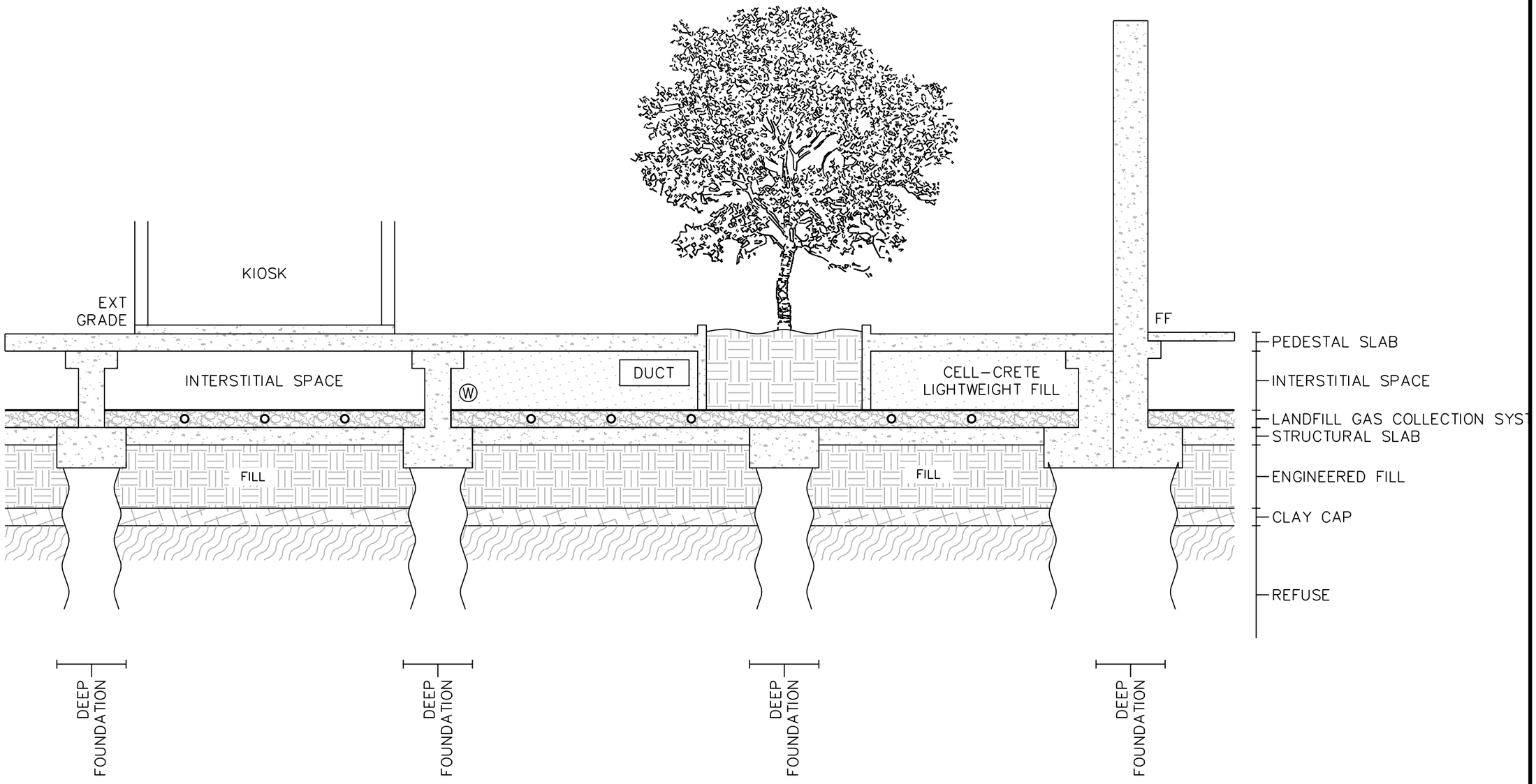
CONCEPTUAL FOUNDATION
PLAZA



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FOUNDATION CONCEPT TYPE 3

Project No. 770611601	Figure No. 33
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Scale N.T.S.	
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Submission Date 6/30/2015	

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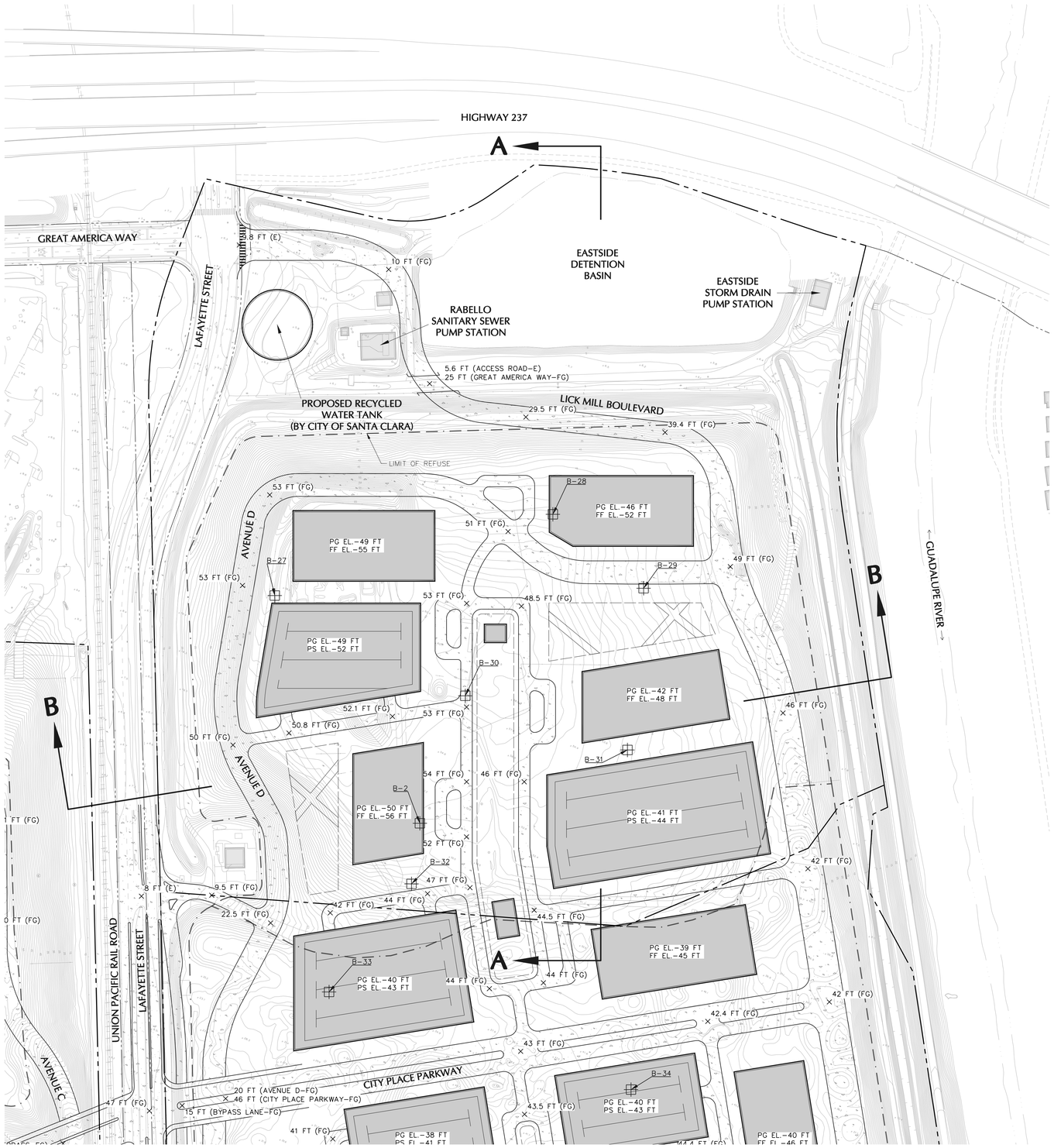
DRAWINGS



GRADING LEGEND

EXISTING ELEVATION	28'(E)
PROPOSED ELEVATION	28'(FG)
APPROXIMATE LOCATION OF EXPLORATORY BORING	B-#/EB-#/EEB-#
APPROXIMATE LOCATION OF TEST PIT	TP-#
APPROXIMATE LOCATION OF CONE PENETRATION TEST	CPT-#
APPROXIMATE LOCATION OF WENNER 4-PIN IN SITU CORROSION TEST	W-#
APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE WELL	SV-#

GRADING NOTES

1. FOR SECTIONS, SEE SHEETS CG3.01 TO CG3.05.
2. BORINGS B-1, B-2 AND B-4 THROUGH B-7 PERFORMED BY LANGAN TREADWELL ROLLO (3/17/2014 TO 3/20/2014)
3. BORINGS B-8 THROUGH B-39 PERFORMED BY LANGAN TREADWELL ROLLO (10/7/2014 TO 10/10/2014)
4. TEST PITS TP-1 THROUGH TP-17 PERFORMED BY LANGAN TREADWELL ROLLO (7/13/2014 TO 7/16/2014)
5. CONE PENETRATION TESTS CPT-6CP, CPT-8CP, CPT-10CP AND CPT-1C THROUGH CPT-12C PERFORMED BY CORNERSTONE EARTH GROUP (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
6. CONE PENETRATION TESTS CPT-3L AND CPT-5L PERFORMED BY LOWNEY ASSOCIATES (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
7. EXPLORATORY BORINGS EB-1C THROUGH EB-5C PERFORMED BY CORNERSTONE EARTH GROUP (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
8. EXPLORATORY BORINGS EB-2L AND EB-4L PERFORMED BY LOWNEY ASSOCIATES (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
9. WENNER 4-PIN IN SITU CORROSION TEST PERFORMED BY JDH CORROSION CONSULTANTS (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
10. EXPLORATORY BORINGS EEB-1C AND EB-6C PERFORMED BY CORNERSTONE EARTH GROUP (PER PHASE I ENVIRONMENTAL SITE ASSESSMENT AND PRELIMINARY SOIL AND SOIL VAPOR QUALITY EVALUATION, CORNERSTONE EARTH GROUP, 4/23/2014)
11. SOIL VAPOR SAMPLE WELLS PERFORMED BY CORNERSTONE EARTH GROUP (PER PHASE I ENVIRONMENTAL SITE ASSESSMENT AND PRELIMINARY SOIL AND SOIL VAPOR QUALITY EVALUATION, CORNERSTONE EARTH GROUP, 4/23/2014)

ABBREVIATIONS

E	–	EXISTING
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
PG	–	PAD GRADE
PS	–	PARKING SURFACE
VAR.	–	VARIES

PARCEL 1 BORING DATA

BORING #	DATE	EXISTING ELEVATION (FT)	REFUSE DEPTH (FT)	REFUSE ELEVATION (FT)
B-2	4/2014	52.13	6.5	45.63
B-27	10/2014	60.87	17.0	43.87
B-28	10/2014	49.29	8.5	40.79
B-29	10/2014	44.52	9.5	35.02
B-30	10/2014	58.38	15.0	43.38
B-31	10/2014	51.52	17.0	34.52
B-32	10/2014	45.09	4.5	40.59

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

Date	Description	No.
REVISIONS		

LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
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SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 1
PRELIMINARY
GRADING PLAN

Project No. 770611601	Figure CG2.01
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 1 of 4

100 0 50 100
SCALE IN FEET

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PROJECT No. 770611601

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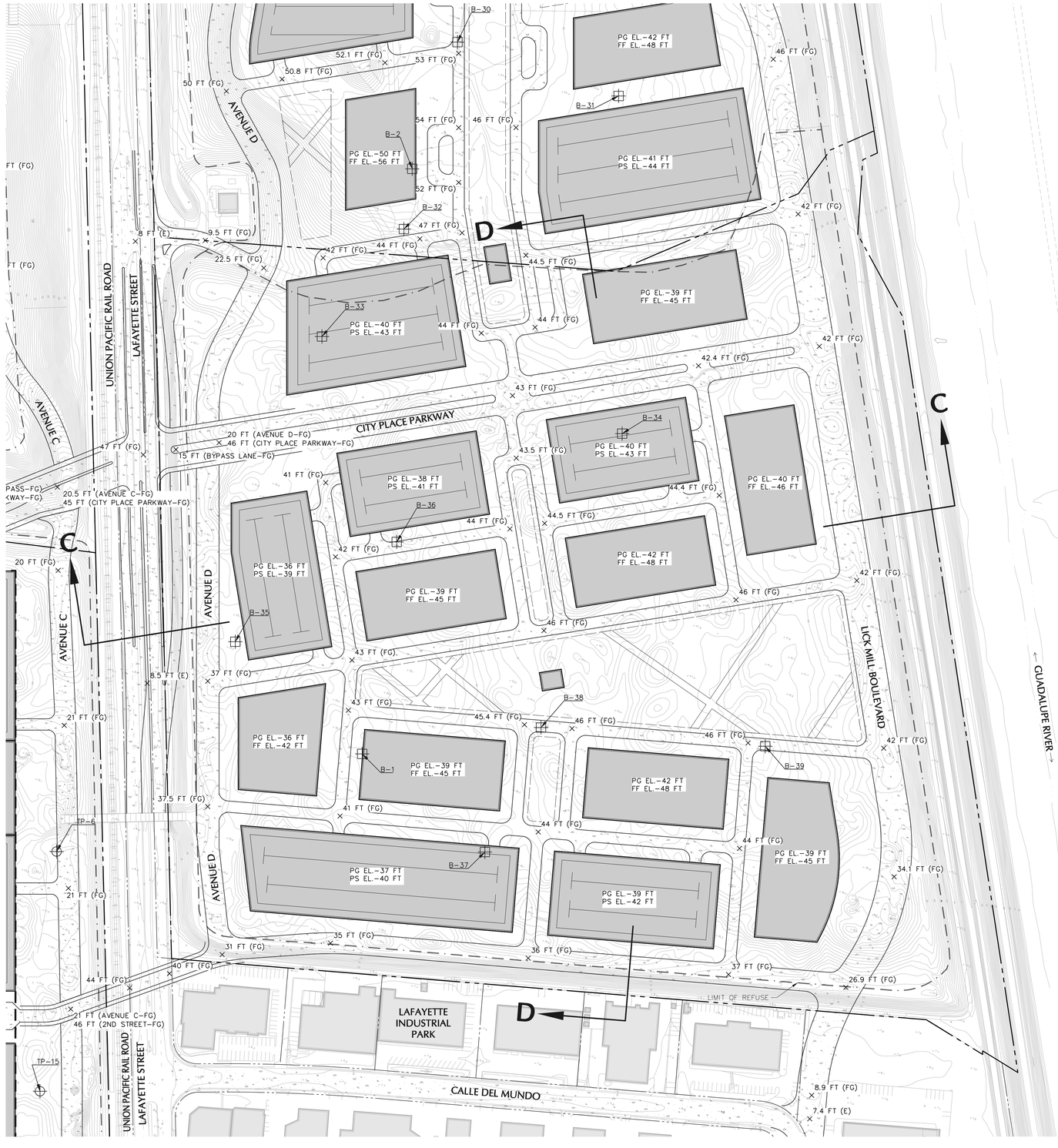

GRADING LEGEND

EXISTING ELEVATION	28'(E)
PROPOSED ELEVATION	28'(FG)
APPROXIMATE LOCATION OF EXPLORATORY BORING	B-#/EB-#/EEB-#
APPROXIMATE LOCATION OF TEST PIT	TP-#
APPROXIMATE LOCATION OF CONE PENETRATION TEST	CPT-#
APPROXIMATE LOCATION OF WENNER 4-PIN IN SITU CORROSION TEST	W-#
APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE WELL	SV-#

GRADING NOTES

1. FOR SECTIONS, SEE SHEETS CG3.01 TO CG3.05.
2. BORINGS B-1, B-2 AND B-4 THROUGH B-7 PERFORMED BY LANGAN TREADWELL ROLLO (3/17/2014 TO 3/20/2014)
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5. CONE PENETRATION TESTS CPT-6CP, CPT-8CP, CPT-10CP AND CPT-1C THROUGH CPT-12C PERFORMED BY CORNERSTONE EARTH GROUP (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
6. CONE PENETRATION TESTS CPT-3L AND CPT-5L PERFORMED BY LOWNEY ASSOCIATES (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
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8. EXPLORATORY BORINGS EB-2L AND EB-4L PERFORMED BY LOWNEY ASSOCIATES (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
9. WENNER 4-PIN IN SITU CORROSION TEST PERFORMED BY JDH CORROSION CONSULTANTS (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
10. EXPLORATORY BORINGS EEB-1C AND EB-6C PERFORMED BY CORNERSTONE EARTH GROUP (PER PHASE I ENVIRONMENTAL SITE ASSESSMENT AND PRELIMINARY SOIL AND SOIL VAPOR QUALITY EVALUATION, CORNERSTONE EARTH GROUP, 4/23/2014)
11. SOIL VAPOR SAMPLE WELLS PERFORMED BY CORNERSTONE EARTH GROUP (PER PHASE I ENVIRONMENTAL SITE ASSESSMENT AND PRELIMINARY SOIL AND SOIL VAPOR QUALITY EVALUATION, CORNERSTONE EARTH GROUP, 4/23/2014)

ABBREVIATIONS

E	–	EXISTING
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
PG	–	PAD GRADE
PS	–	PARKING SURFACE
VAR.	–	VARIES

PARCEL 2 BORING DATA

BORING #	DATE	EXISTING ELEVATION (FT)	REFUSE DEPTH (FT)	REFUSE ELEVATION
B-1	4/2014	32.11	4.5	27.61
B-33	10/2014	28.61	4.5	24.11
B-34	10/2014	40.12	7.0	33.12
B-35	10/2014	25.79	7.5	18.29
B-36	10/2014	36.82	8.0	28.82
B-37	10/2014	36.51	10.5	26.01
B-38	10/2014	43.17	6.0	37.17
B-39	10/2014	47.81	7.5	40.31

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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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Figure Title
PARCEL 2
PRELIMINARY
GRADING PLAN

Project No. 770611601	Figure CG2.02
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 2 of 4

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Filename: \\langan.com\data\SJ\data\770611601\Cadd Data - 770611601\SheetFiles\Post Closure Land Use Plan\06-CG1 - Site Grading Plan.dwg Date: 3/20/2015 Time: 12:29 User: alara Style Table: Langan.stb Layout: PARCEL 2

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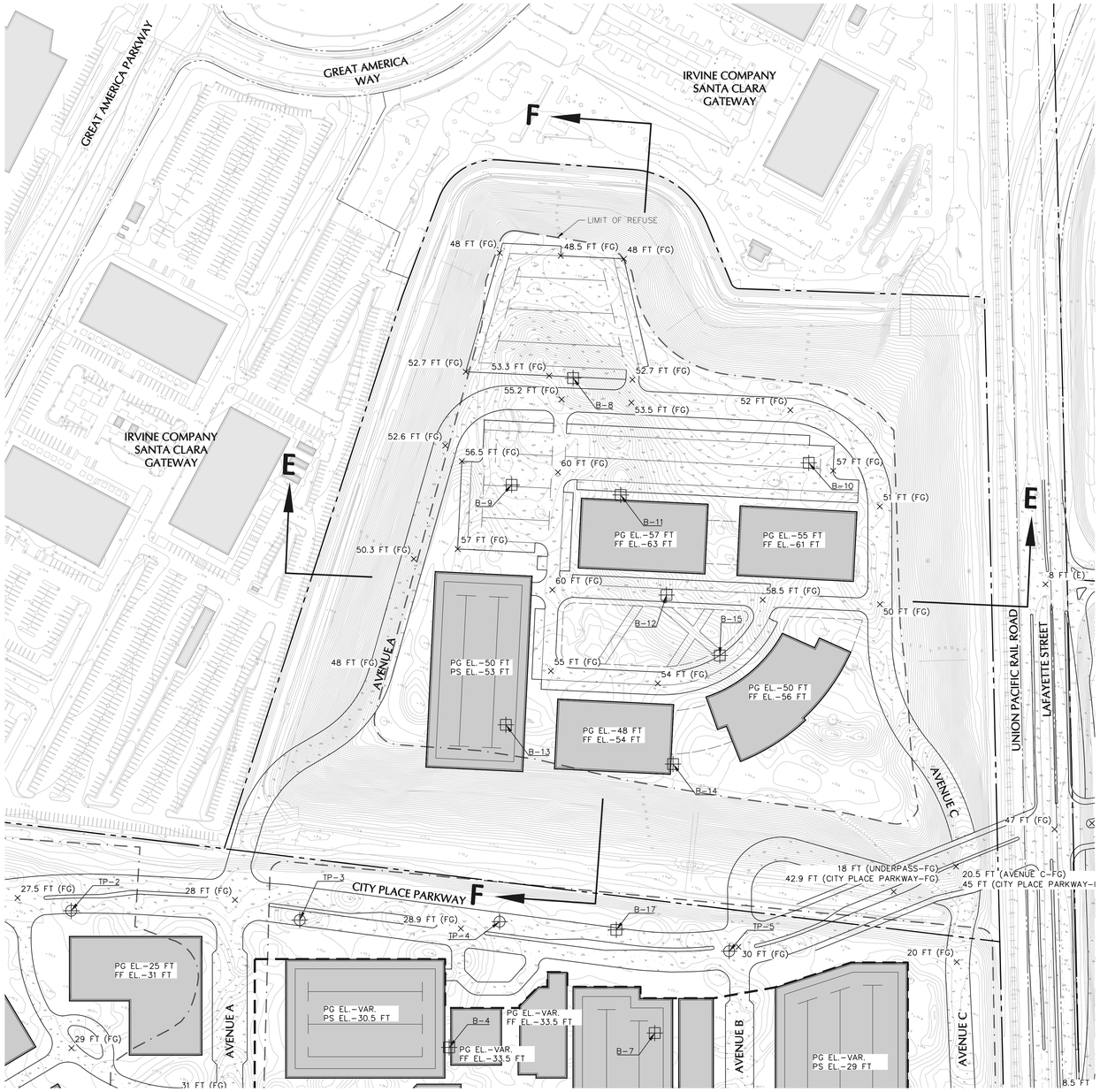
PROJECT No. 770611601



GRADING LEGEND

EXISTING ELEVATION — 28'(E)

PROPOSED ELEVATION — 28'(FG)

APPROXIMATE LOCATION OF EXPLORATORY BORING — B-#/EB-#/EEB-#

APPROXIMATE LOCATION OF TEST PIT — TP-#

APPROXIMATE LOCATION OF CONE PENETRATION TEST — CPT-#

APPROXIMATE LOCATION OF WENNER 4-PIN IN SITU CORROSION TEST — W-#

APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE WELL — SV-#

GRADING NOTES

1. FOR SECTIONS, SEE SHEETS CG3.01 TO CG3.05.
2. BORINGS B-1, B-2 AND B-4 THROUGH B-7 PERFORMED BY LANGAN TREADWELL ROLLO (3/17/2014 TO 3/20/2014)
3. BORINGS B-8 THROUGH B-39 PERFORMED BY LANGAN TREADWELL ROLLO (10/7/2014 TO 10/10/2014)
4. TEST PITS TP-1 THROUGH TP-17 PERFORMED BY LANGAN TREADWELL ROLLO (7/13/2014 TO 7/16/2014)
5. CONE PENETRATION TESTS CPT-6CP, CPT-8CP, CPT-10CP AND CPT-1C THROUGH CPT-12C PERFORMED BY CORNERSTONE EARTH GROUP (PER PRELIMINARY GEOTECHNICAL INVESTIGATION, CORNERSTONE EARTH GROUP, 5/2/2014)
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ABBREVIATIONS

E	–	EXISTING
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
PG	–	PAD GRADE
PS	–	PARKING SURFACE
VAR.	–	VARIES

PARCEL 3 BORING DATA

BORING #	DATE	EXISTING ELEVATION (FT)	REFUSE DEPTH (FT)	REFUSE ELEVATION
B-8	10/2014	72.86	35.0	37.86
B-9	10/2014	62.95	9.0	53.95
B-10	10/2014	57.29	20.0	37.29
B-11	10/2014	73.54	20.0	53.54
B-12	10/2014	77.32	29.0	48.32
B-13	10/2014	66.00	35.0	31.00
B-14	10/2014	54.63	10.0	44.63
B-15	10/2014	71.56	30.0	41.56

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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
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Figure Title
PARCEL 3 PRELIMINARY GRADING PLAN

Project No. 770611601	Figure CG2.03
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 3 of 4

PROJECT No. 770611601

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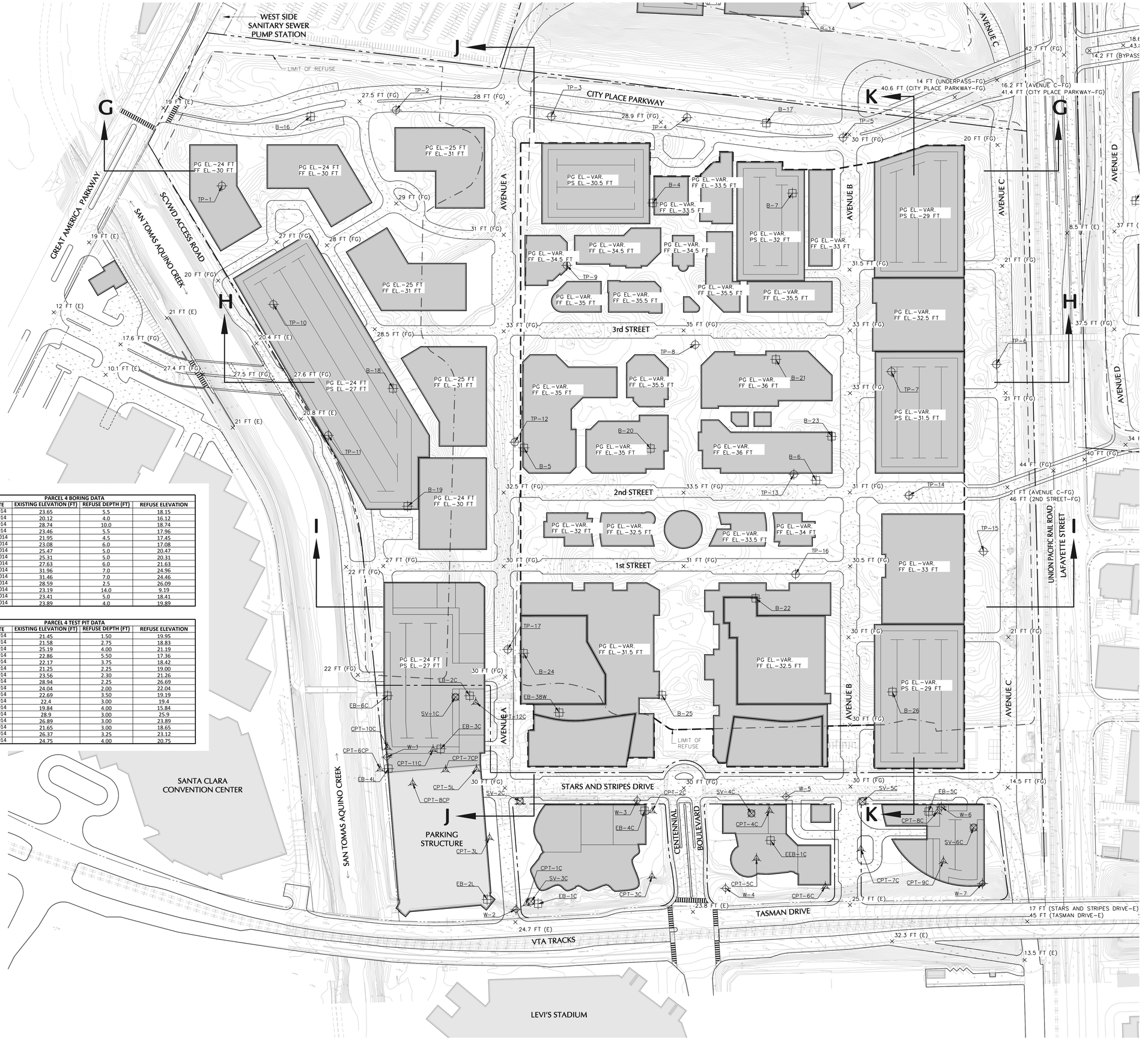

GRADING LEGEND

- EXISTING ELEVATION — 28'(E)
- PROPOSED ELEVATION — 28'(FG)
- APPROXIMATE LOCATION OF EXPLORATORY BORING — B-#/EB-#/EEB-#
- APPROXIMATE LOCATION OF TEST PIT — TP-#
- APPROXIMATE LOCATION OF CONE PENETRATION TEST — CPT-#
- APPROXIMATE LOCATION OF WENNER 4-PIN IN SITU CORROSION TEST — W-#
- APPROXIMATE LOCATION OF SOIL VAPOR SAMPLE WELL — SV-#

GRADING NOTES

1. FOR SECTIONS, SEE SHEETS CG3.01 TO CG3.05.
2. BORINGS B-1, B-2 AND B-4 THROUGH B-7 PERFORMED BY LANGAN TREADWELL ROLLO (3/17/2014 TO 3/20/2014)
3. BORINGS B-8 THROUGH B-39 PERFORMED BY LANGAN TREADWELL ROLLO (10/7/2014 TO 10/10/2014)
4. TEST PITS TP-1 THROUGH TP-17 PERFORMED BY LANGAN TREADWELL ROLLO (7/13/2014 TO 7/16/2014)
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ABBREVIATIONS

E	–	EXISTING
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
PG	–	PAD GRADE
PS	–	PARKING SURFACE
VAR.	–	VARIES

PARCEL 4 BORING DATA

BORING #	DATE	EXISTING ELEVATION (FT)	REFUSE DEPTH (FT)	REFUSE ELEVATION
B-4	4/2014	23.65	5.5	18.15
B-5	4/2014	20.12	4.0	16.12
B-6	4/2014	28.74	10.0	18.74
B-7	4/2014	23.46	5.5	17.96
B-16	10/2014	21.95	4.5	17.45
B-17	10/2014	23.08	6.0	17.08
B-18	10/2014	25.47	5.0	20.47
B-19	10/2014	25.31	5.0	20.31
B-20	10/2014	27.63	6.0	21.63
B-21	10/2014	31.96	7.0	24.96
B-22	10/2014	31.46	7.0	24.46
B-23	10/2014	28.59	2.5	26.09
B-24	10/2014	23.19	14.0	9.19
B-25	10/2014	23.41	5.0	18.41
B-26	10/2014	23.89	4.0	19.89

PARCEL 4 TEST PIT DATA

TEST PIT #	DATE	EXISTING ELEVATION (FT)	REFUSE DEPTH (FT)	REFUSE ELEVATION
TP-1	7/2014	21.45	1.50	19.95
TP-2	7/2014	21.58	2.75	18.83
TP-3	7/2014	25.19	4.00	21.19
TP-4	7/2014	22.86	5.50	17.36
TP-5	7/2014	22.17	3.75	18.42
TP-6	7/2014	21.25	2.25	19.00
TP-7	7/2014	23.56	2.30	21.26
TP-8	7/2014	28.94	2.25	26.69
TP-9	7/2014	24.04	2.00	22.04
TP-10	7/2014	22.69	3.50	19.19
TP-11	7/2014	22.4	3.00	19.4
TP-12	7/2014	19.84	4.00	15.84
TP-13	7/2014	28.9	3.00	25.9
TP-14	7/2014	26.89	3.00	23.89
TP-15	7/2014	21.65	3.00	18.65
TP-16	7/2014	26.37	3.25	23.12
TP-17	7/2014	24.75	4.00	20.75

SCALE IN FEET: 100 0 50 100

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

No.	Description	Date
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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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Figure Title
PARCELS 4 & 5 PRELIMINARY GRADING PLAN

Project No. 770611601	Figure CG2.04
Date 6/30/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 6/30/2015	Sheet 4 of 4

PROJECT No. 770611601

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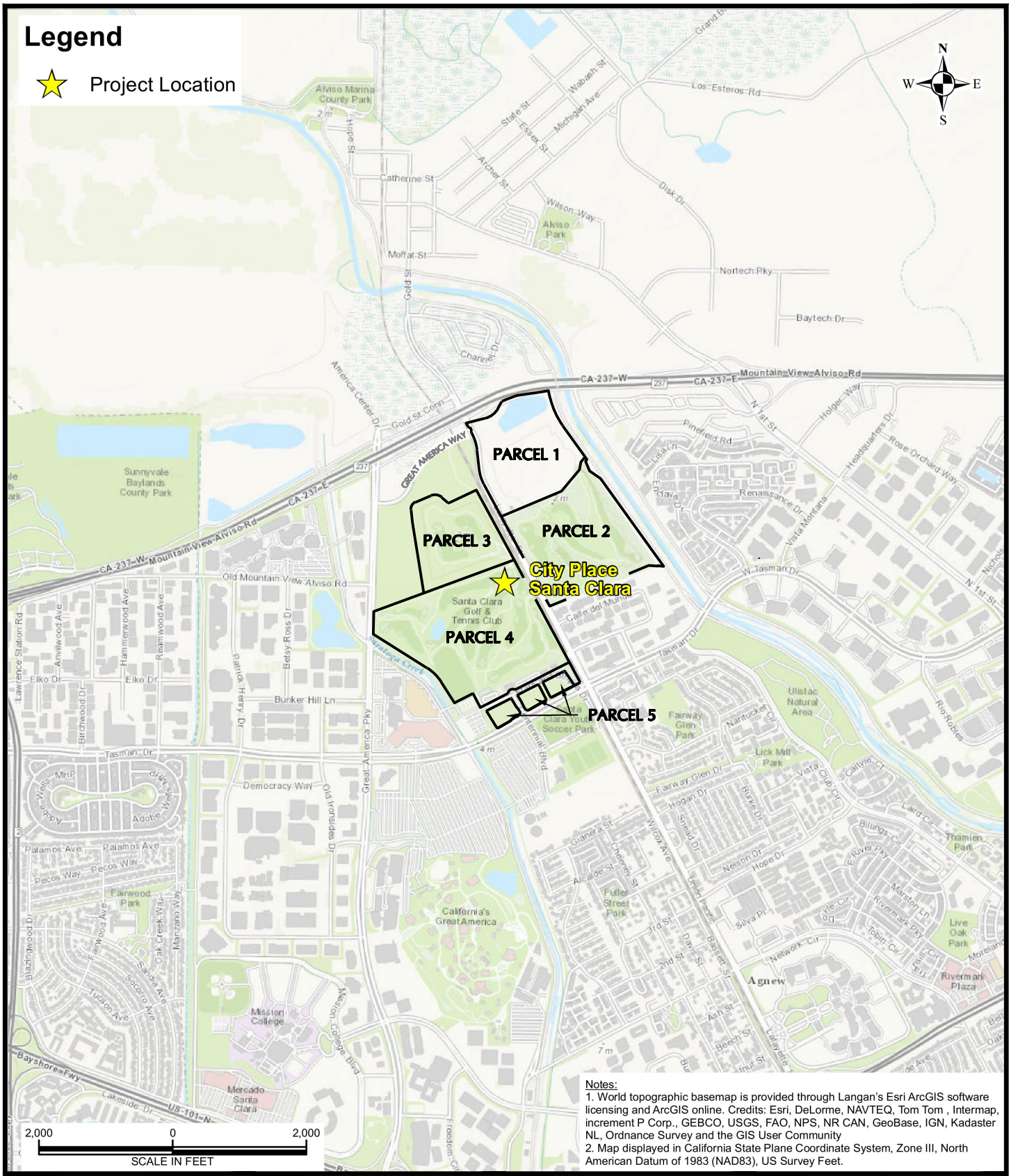
STORMWATER PHASING MATRIX								
Phase / Parcel	**Gross Sq. Footage**	**Storm Pipe (LF)**	**Manholes (#)**	**Catch Basins (#)**	**Laterals (LF)**	**Settlement Vaults (#)**	**Refuse Trenching (CY) Note 2**	**Off-Site Improvements**
1 / 5	825,000	526 - 12″ 856 - 18″ 286 - 24″ 176 - 30″ 300 - 36″ 1,231 - 42″	14	28	-	-	-	Abandon Golf Course Pump Station Outfall to San Tomas Creek - sized for future phases
2 / 4	2,411,470	256 - 15″ 2,587 - 18″ 1,808 - 24″ 796 - 30″ 1,922 - 36″ 217 - 42″ 418 - 48″ 476 - 54″	40	80	244 - 15″ 684 - 18″	6	4,000	Outfalls to San Tomas Aquino Creek (3) sized for future phases
3 / 4	752,300	-	2	4	372 - 18″	11	-	-
4 / 4	1,095,900	622 - 18″	3	6	-	7	-	-
5 / 3	750,000	989 - 18″ 1,147 - 24″ 398 - 36″	15	30	98 - 18″	5	-	Possible off-site Storm drain upgrades – 870 LF of 42 inch RCP Including 5 new manholes and Eastside Drainage Channel , Retention Basin and Pump Station – See Note 1
6 / 1	1,200,000	1,809 - 18″ 374 - 24″ 1,408 —36″	18	36	-	8	9,000	Eastside Drainage Channel , Retention Basin and Pump Station – See Note 1
7 / 2	1,080,000	1,,436 - 18″ 1,108 - 24″ 1,033 - 36″ 276 - 42″	13	26	-	6	2,500	Eastside Drainage Channel , Retention Basin and Pump Station – See Note 1
8 \2	1,080,000	1,732 - 18″ 493 - 36″	8	16	-	6	4,500	Eastside Drainage Channel , Retention Basin and Pump Station – See Note 1

Notes:
1. The clearing of the Eastside Drainage Channel and Eastside Pump Station upgrades (approximate cost of $1,260,000 in 2010) and Basin improvements (approximate cost of $250,000) may be required by the City (possibly in Phases 5, 6, 7 or 8).
2. Refuse Trenching for structural slab include average width of 20-ft and depth of 5-ft.

FIGURES



Notes:
1. World topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Esri, DeLorme, NAVTEQ, Tom Tom , Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR CAN, GeoBase, IGN, Kadaster NL, Ordnance Survey and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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SITE LOCATION MAP

Project No. 770611601	Figure No. 1
Date 6/30/2015	
Scale 1" = 2000	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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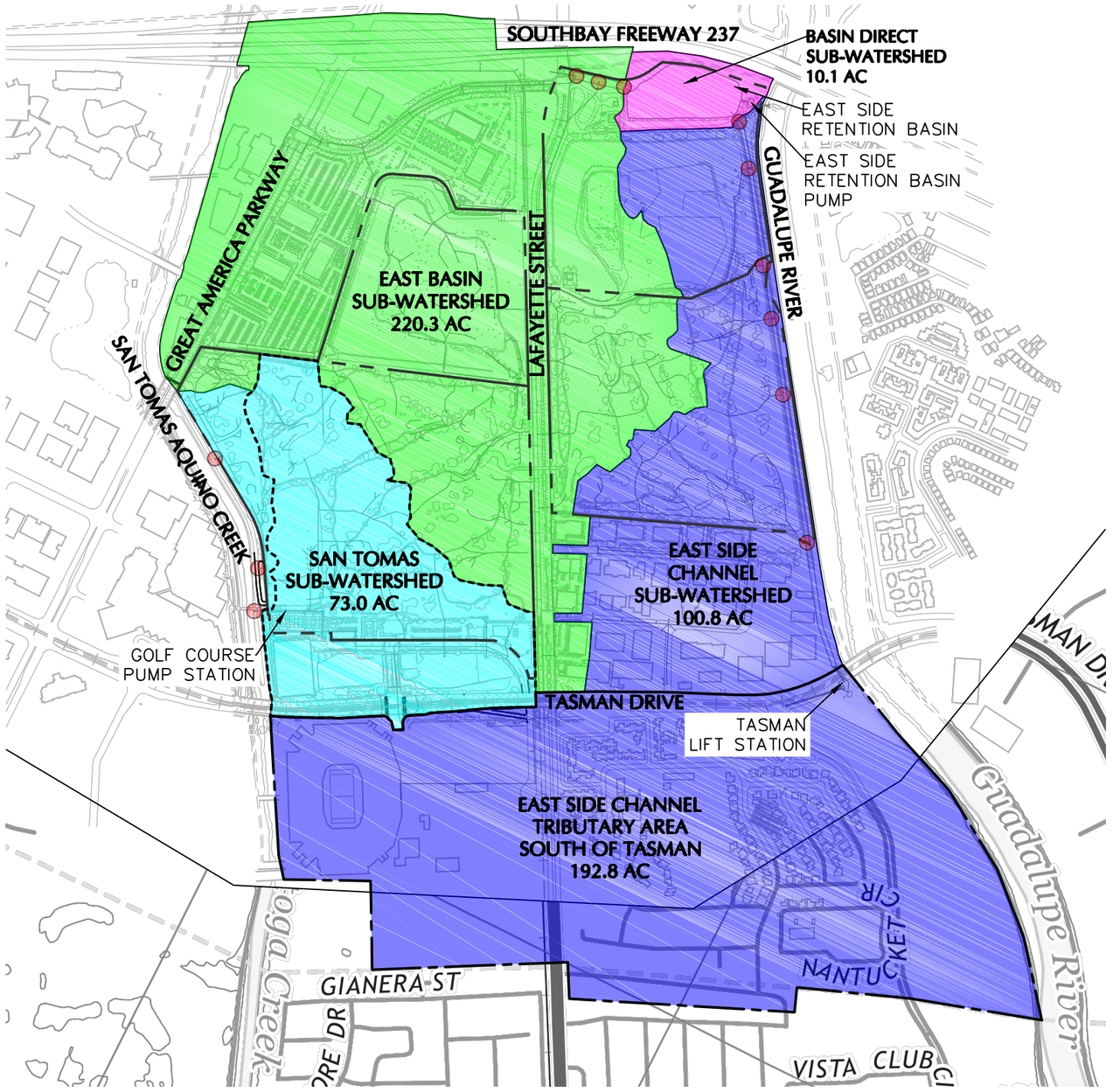

LEGEND:

- EXISTING OUTFALL LOCATION
- PROPERTY LINE
- AREA TRIBUTARY TO GOLF COURSE PUMP
- AREA SOUTH OF TASMAN DRIVE TRIBUTARY TO EAST SIDE CHANNEL SUB WATERSHED

AREA SUMMARY:

SUB WATERSHED	ONSITE (AC)	OFFSITE (AC)
SAN TOMAS	50.8	22.2
EAST SIDE CHANNEL	57.0	43.8
EAST BASIN	114.8	105.5
BASIN DIRECT	8.0	2.1
SOUTH OF TASMAN	–	192.8
TOTAL	230.6	366.4

NOTES:

EAST SIDE CHANNEL SUB–WATERSHED OUTFALLS DRAIN TO THE EXISTING NATURAL CHANNEL JUST WEST AND ADJACENT TO THE GUADALUPE RIVER

LIMITS FOR THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE ARE APPROXIMATE AND OBTAINED FROM HYDRAULIC EVALUATION FOR EASTSIDE PUMP STATION AND RETENTION BASIN (NOV. 22, 2000)

TOPOGRAPHIC INFORMATION FOR AREAS SOUTH OF TASMAN DRIVE SUPPLEMENTED BY USGS TOPOGRAPHIC MAP FOR MILPITAS, CA DATED 2015

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LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
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Drawing Title
OVERALL EXISTING DRAINAGE MAP

Project No. 770611601	Figure No. 2
Date 6/30/2015	
Scale 1" = 900'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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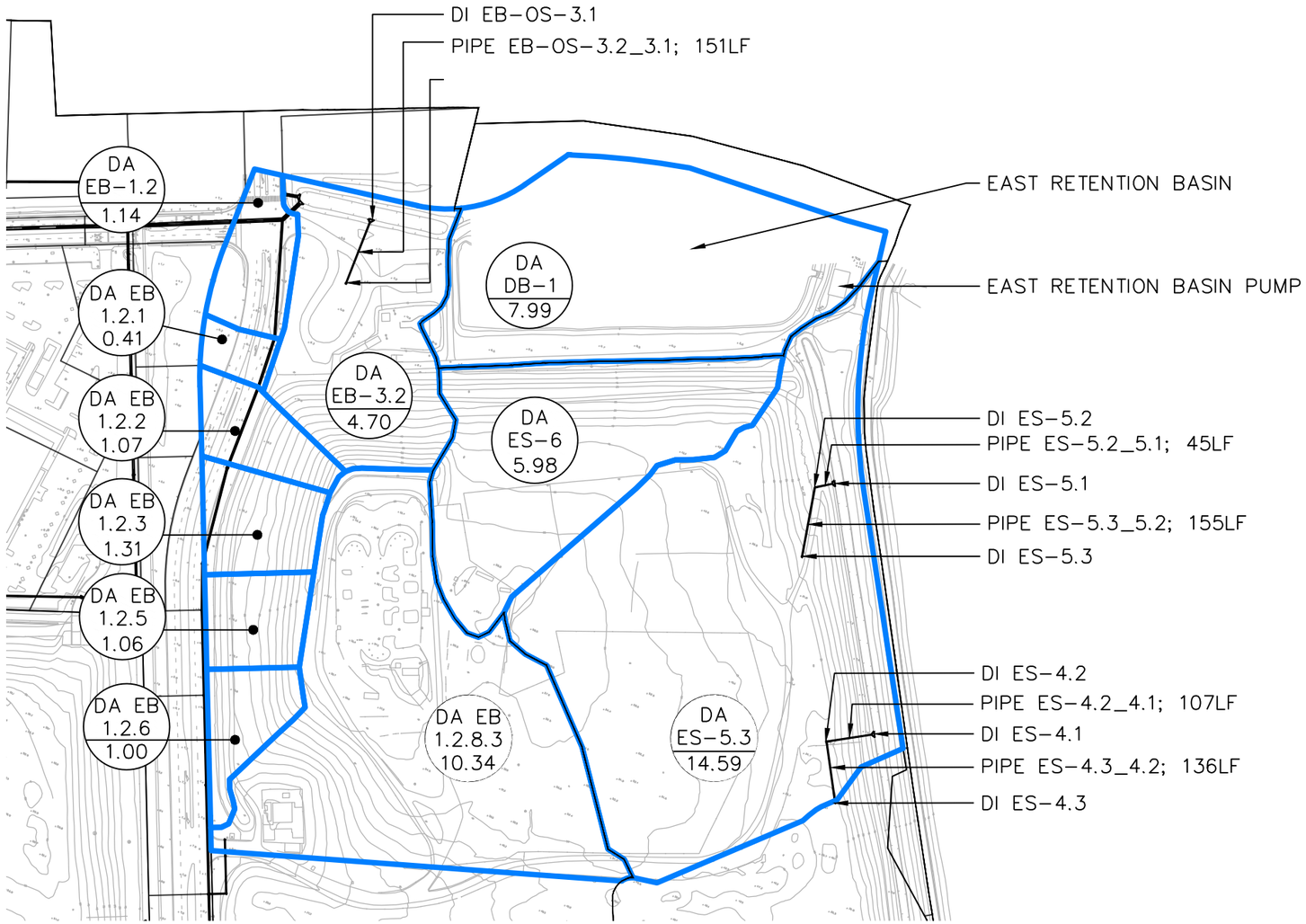
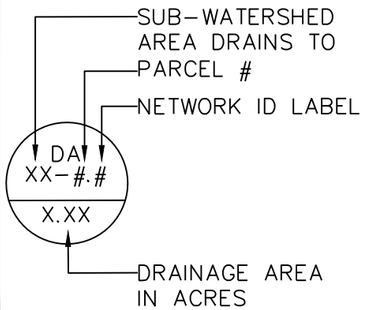
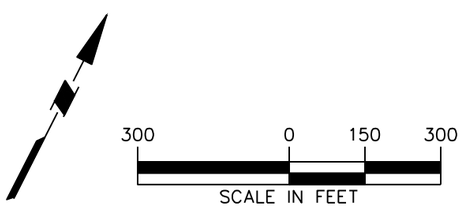


LEGEND/ABBREVIATIONS

DRAINAGE AREA BOUNDARY

DA	DRAINAGE AREA
ST	SAN TOMAS SUB-WATERSHED
EB	EAST BASIN SUB-WATERSHED
ES	EAST SIDE SUB-WATERSHED
DB	DIRECT BASIN SUB-WATERSHED





LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
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Drawing Title
PARCEL 1 EXISTING DRAINAGE MAP

Project No. 770611601	Figure No. 3
Date 6/30/2015	
Scale 1" = 300'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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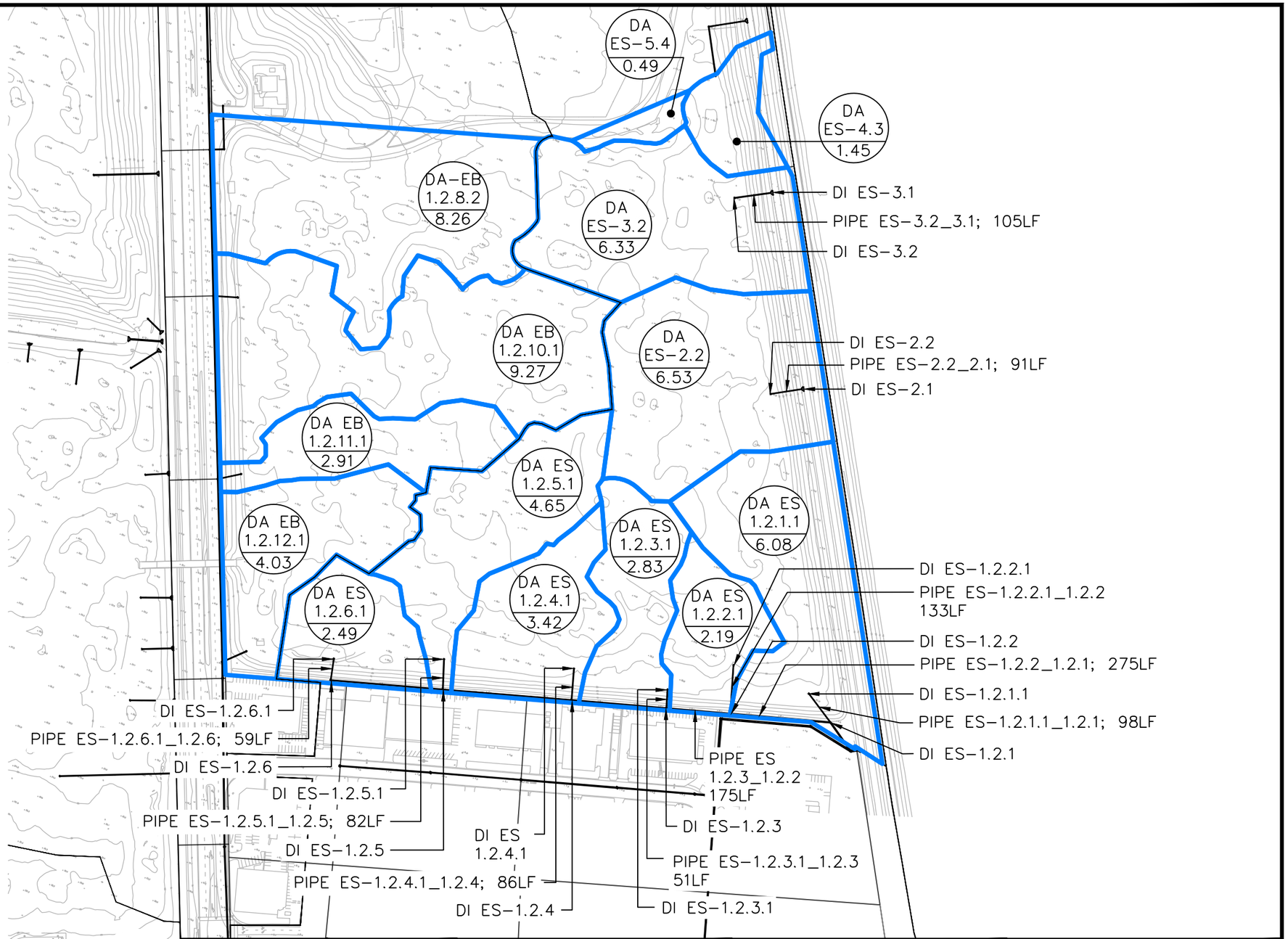
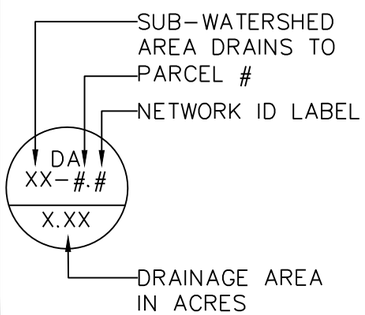


LEGEND/ABBREVIATIONS

DRAINAGE AREA BOUNDARY

DA	DRAINAGE AREA
ST	SAN TOMAS SUB-WATERSHED
EB	EAST BASIN SUB-WATERSHED
ES	EAST SIDE SUB-WATERSHED
DB	DIRECT BASIN SUB-WATERSHED



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LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
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Project
CITY PLACE SANTA CLARA
SANTA CLARA CA

Drawing Title
PARCEL 2 EXISTING DRAINAGE MAP

Project No. 770611601	Figure No. 4
Date 6/30/2015	
Scale 1" = 300'	
Drawn By STAFF / Checked By DJH	
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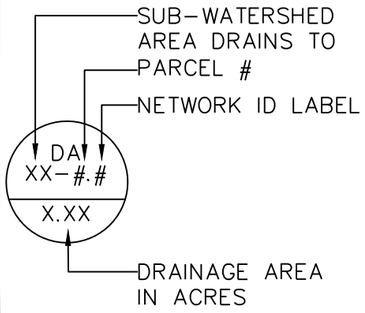
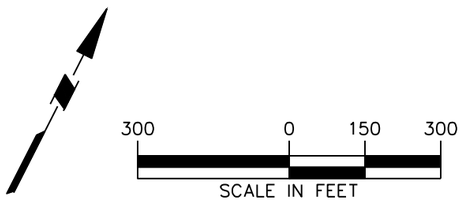
LEGEND/ABBREVIATIONS

DRAINAGE AREA BOUNDARY

DA	DRAINAGE AREA
ST	SAN TOMAS SUB-WATERSHED
EB	EAST BASIN SUB-WATERSHED
ES	EAST SIDE SUB-WATERSHED
DB	DIRECT BASIN SUB-WATERSHED





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SANTA CLARA
SANTA CLARA CA

Drawing Title
PARCEL 3
EXISTING
DRAINAGE MAP

Project No. 770611601	Figure No. 5
Date 6/30/2015	
Scale 1" = 300'	
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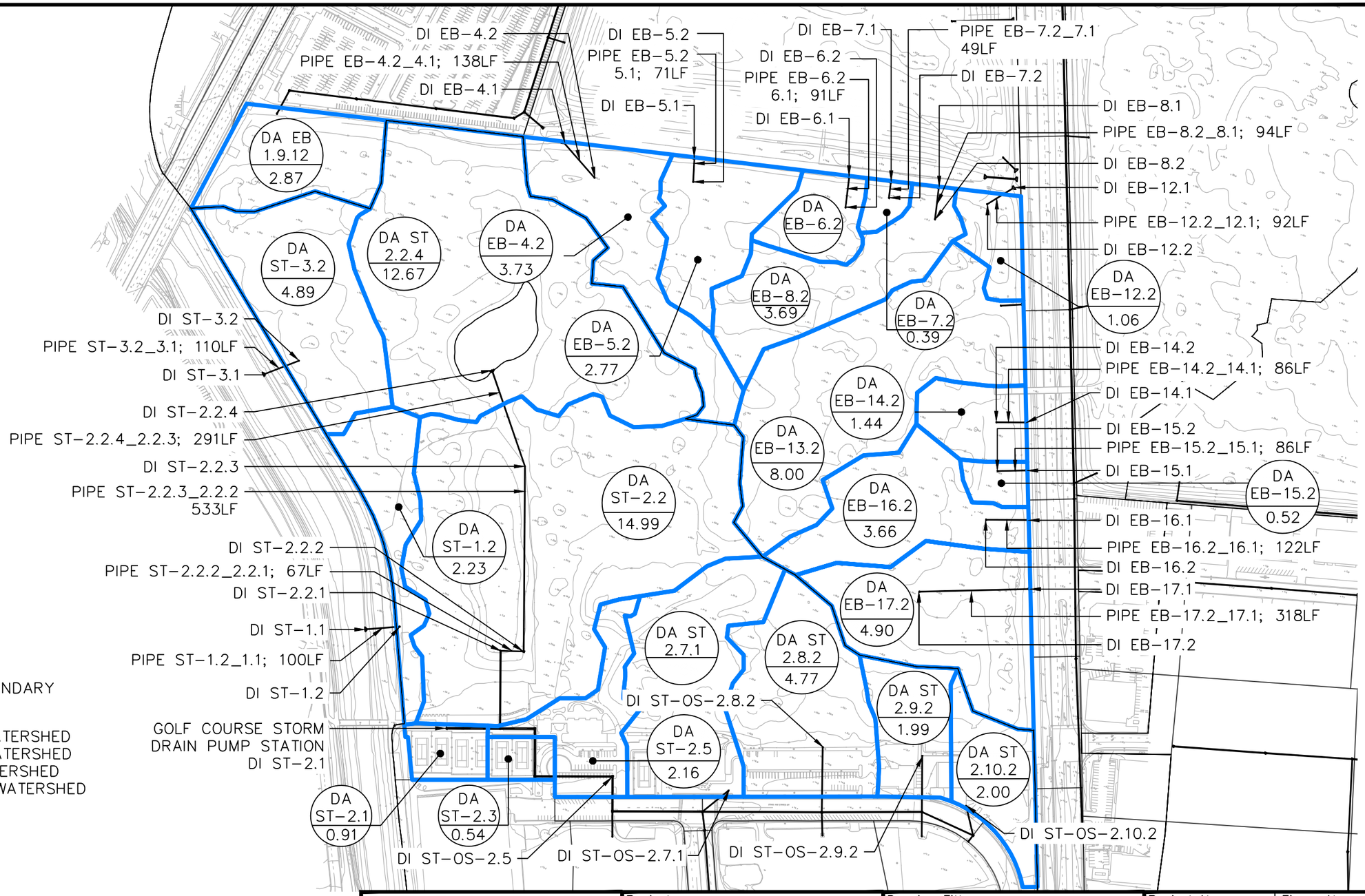
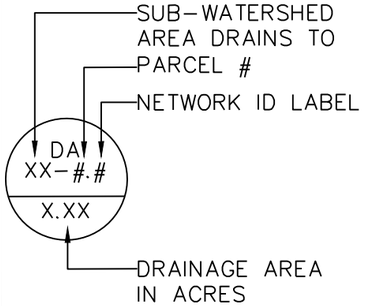
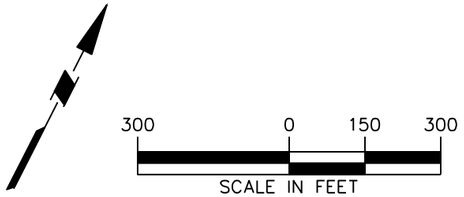


LEGEND/ABBREVIATIONS

DRAINAGE AREA BOUNDARY

DA	DRAINAGE AREA
ST	SAN TOMAS SUB-WATERSHED
EB	EAST BASIN SUB-WATERSHED
ES	EAST SIDE SUB-WATERSHED
DB	DIRECT BASIN SUB-WATERSHED
OS	OFFSITE





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Drawing Title
PARCEL 4 EXISTING DRAINAGE MAP

Project No. 770611601	Figure No. 6
Date 6/30/2015	
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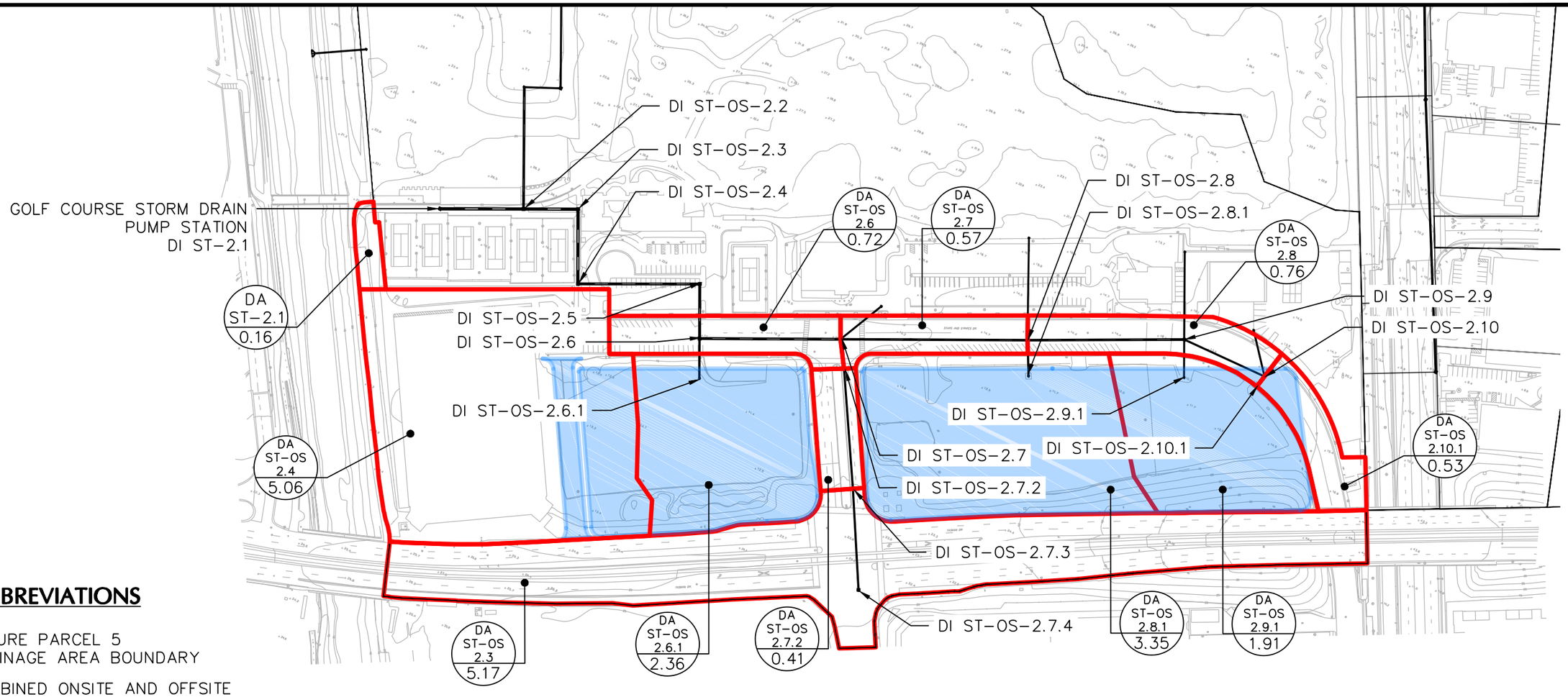
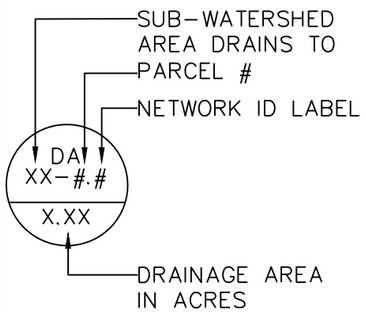


LEGEND/ABBREVIATIONS

FUTURE PARCEL 5 DRAINAGE AREA BOUNDARY

COMBINED ONSITE AND OFFSITE DRAINAGE AREA BOUNDARY

DA	DRAINAGE AREA
ST	SAN TOMAS SUB-WATERSHED
EB	EAST BASIN SUB-WATERSHED
ES	EAST SIDE SUB-WATERSHED
DB	DIRECT BASIN SUB-WATERSHED
OS	OFFSITE



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PARCEL 5 EXISTING DRAINAGE MAP

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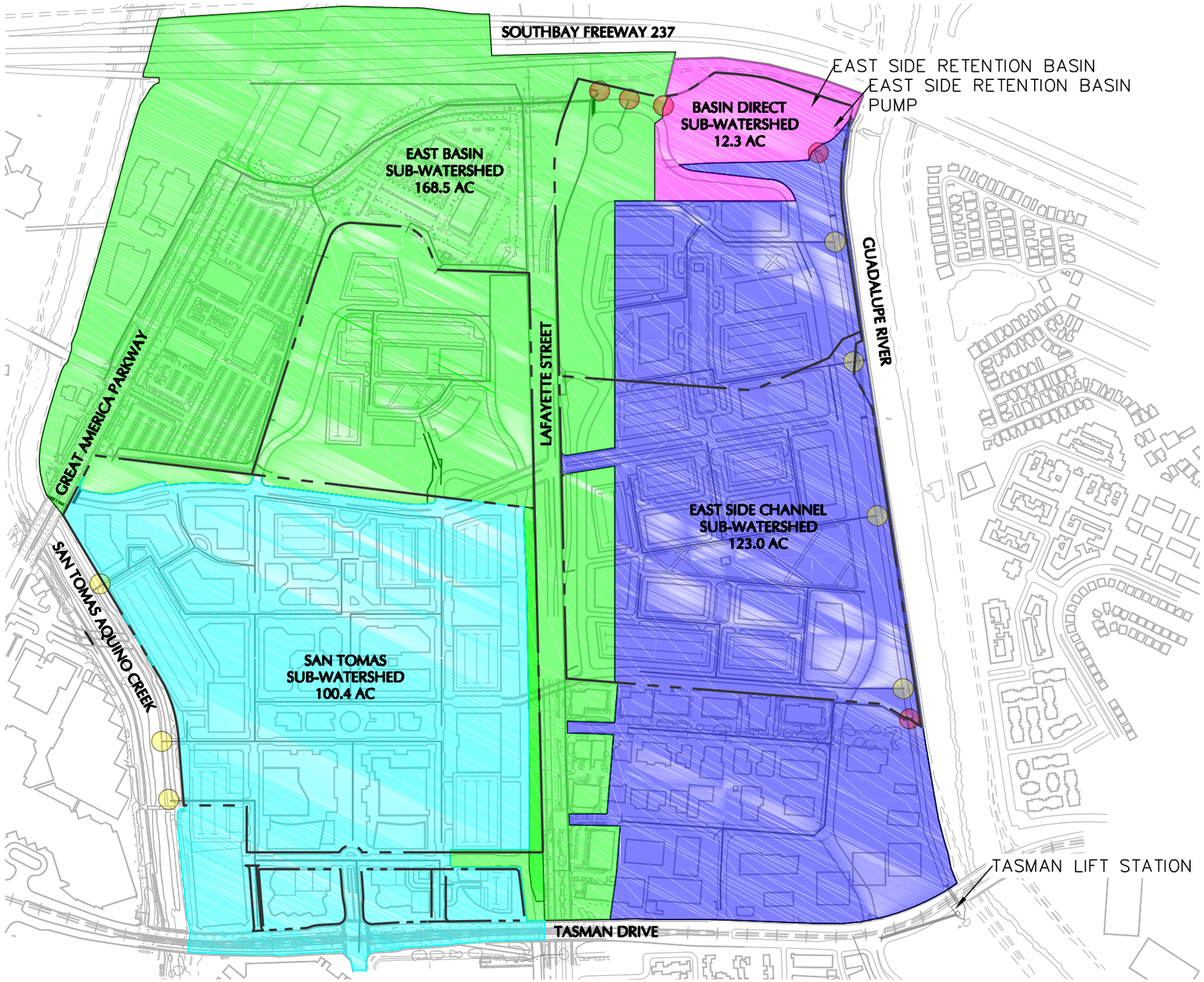

LEGEND:

- EXISTING OUTFALL LOCATION
- PROPOSED OUTFALL LOCATION
- PROPERTY LINE

AREA SUMMARY:

SUB WATERSHED	ONSITE (AC)	OFFSITE (AC)
SAN TOMAS	87.4	13.0
EAST SIDE CHANNEL	79.2	43.8
EAST BASIN	62.9	105.6
BASIN DIRECT	10.2	2.1
SOUTH OF TASMAN	–	192.8
TOTAL	239.7	357.3

NOTES:

EAST SIDE CHANNEL SUB–WATERSHED OUTFALLS DRAIN TO THE EXISTING NATURAL CHANNEL JUST WEST AND ADJACENT TO THE GUADALUPE RIVER

LIMITS FOR THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE ARE APPROXIMATE AND OBTAINED FROM HYDRAULIC EVALUATION FOR EASTSIDE PUMP STATION AND RETENTION BASIN (NOV. 22, 2000)

FOR APPROXIMATE LIMITS OF THE TRIBUTARY AREA SOUTH OF TASMAN DRIVE SEE FIGURE 2

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OVERALL PROPOSED DRAINAGE MAP

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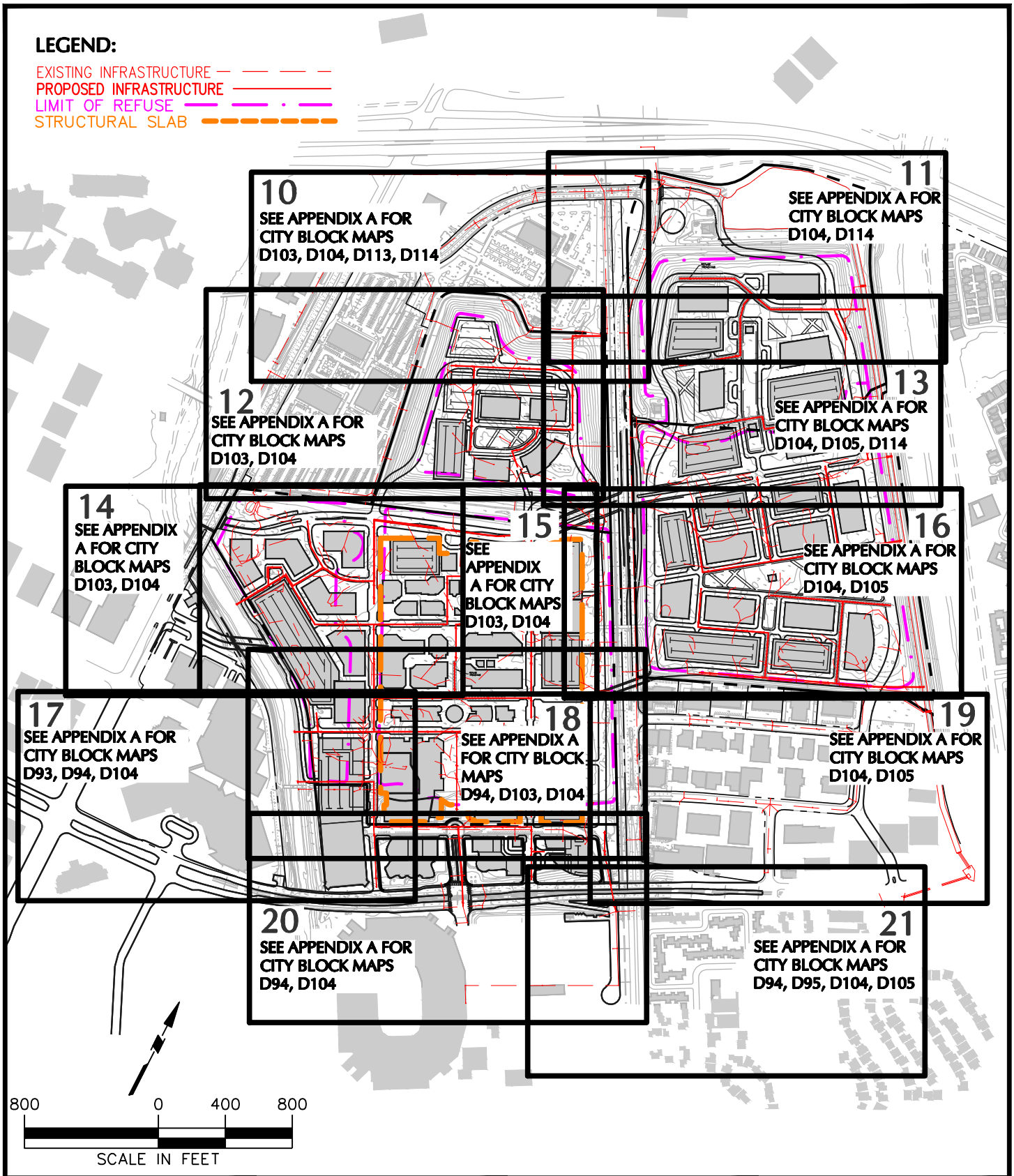

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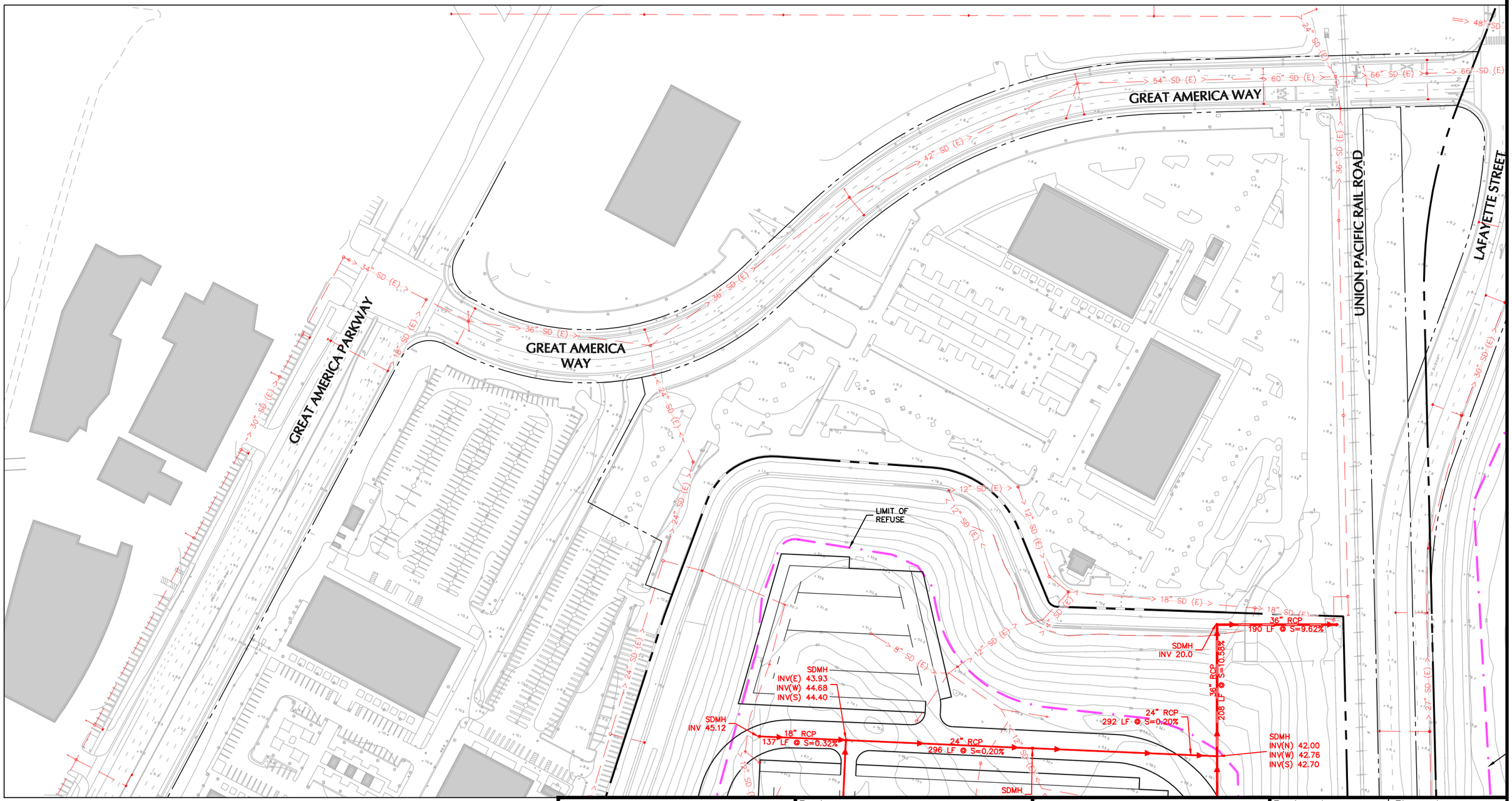

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) > — —

PROPOSED INFRASTRUCTURE — XX" RCP XX LF @ S=X% —>

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 10
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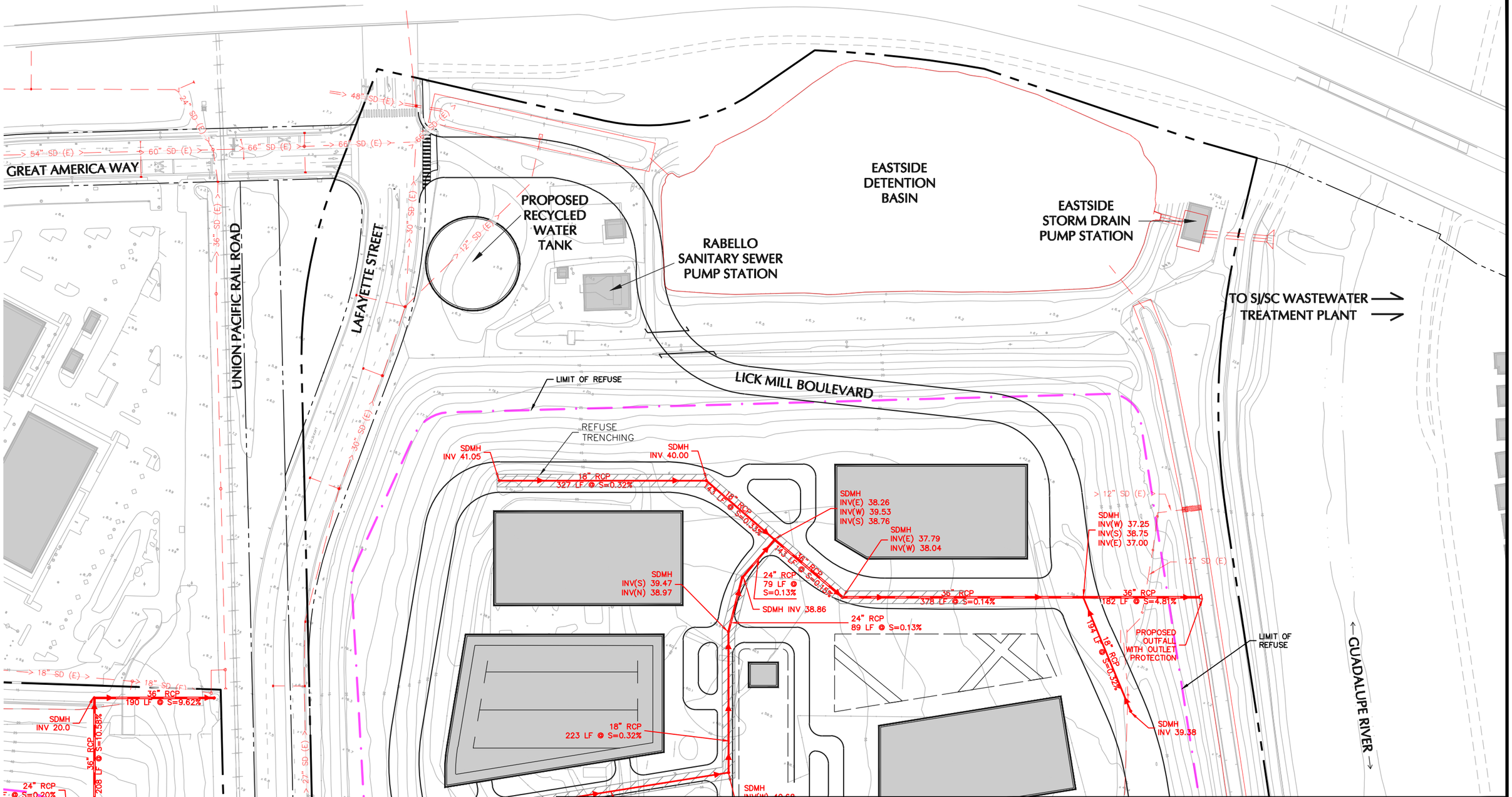

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) > ——

PROPOSED INFRASTRUCTURE —— XX" RCP, XX LF @ S=X% ——

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB

150 0 75 150

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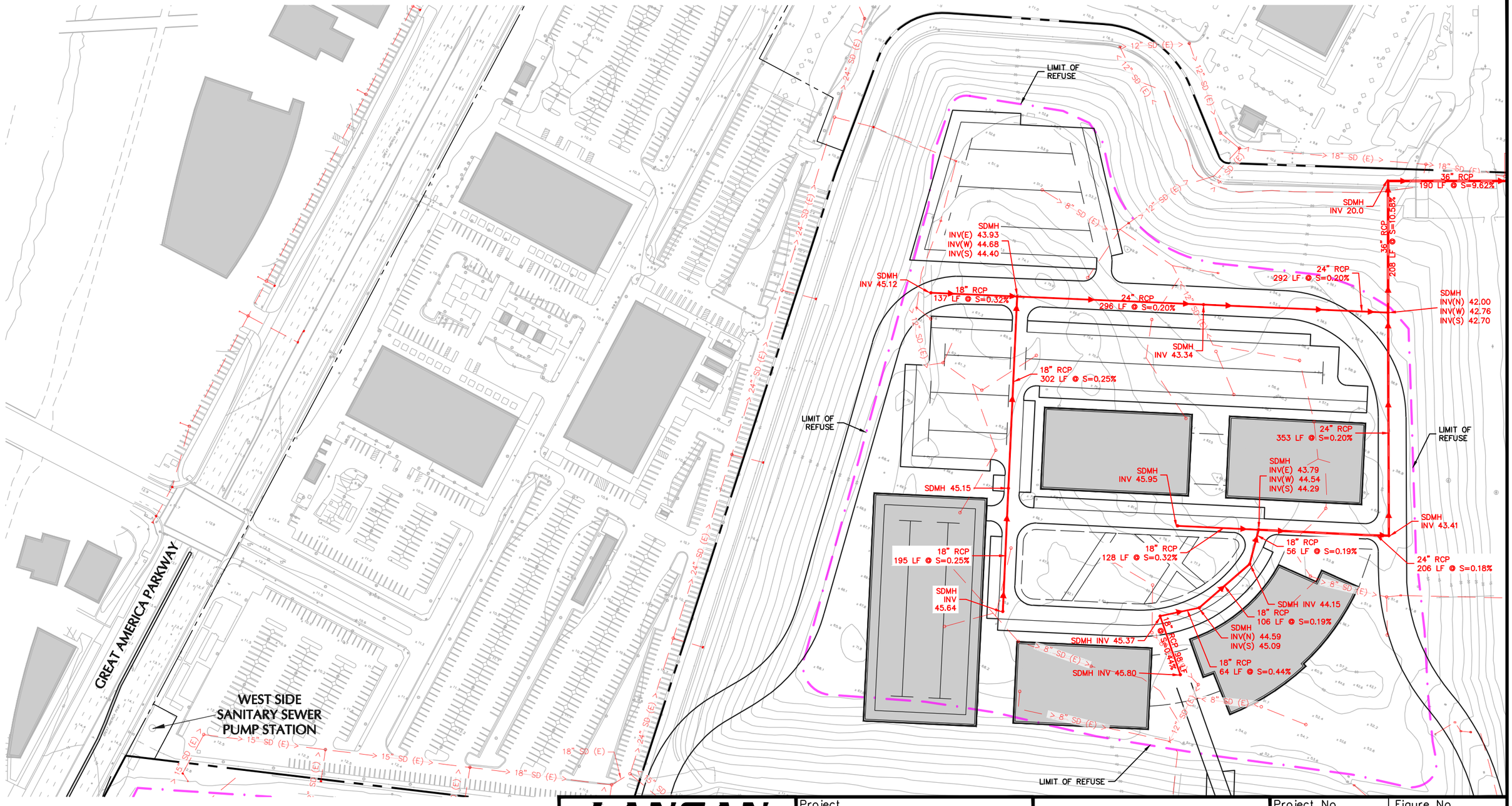

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X% —

LIMIT OF REFUSE

STRUCTURAL SLAB

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LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) > ——

PROPOSED INFRASTRUCTURE —— XX" RCP / XX LF @ S=X% ——>

LIMIT OF REFUSE

STRUCTURAL SLAB

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Date 6/30/2015	
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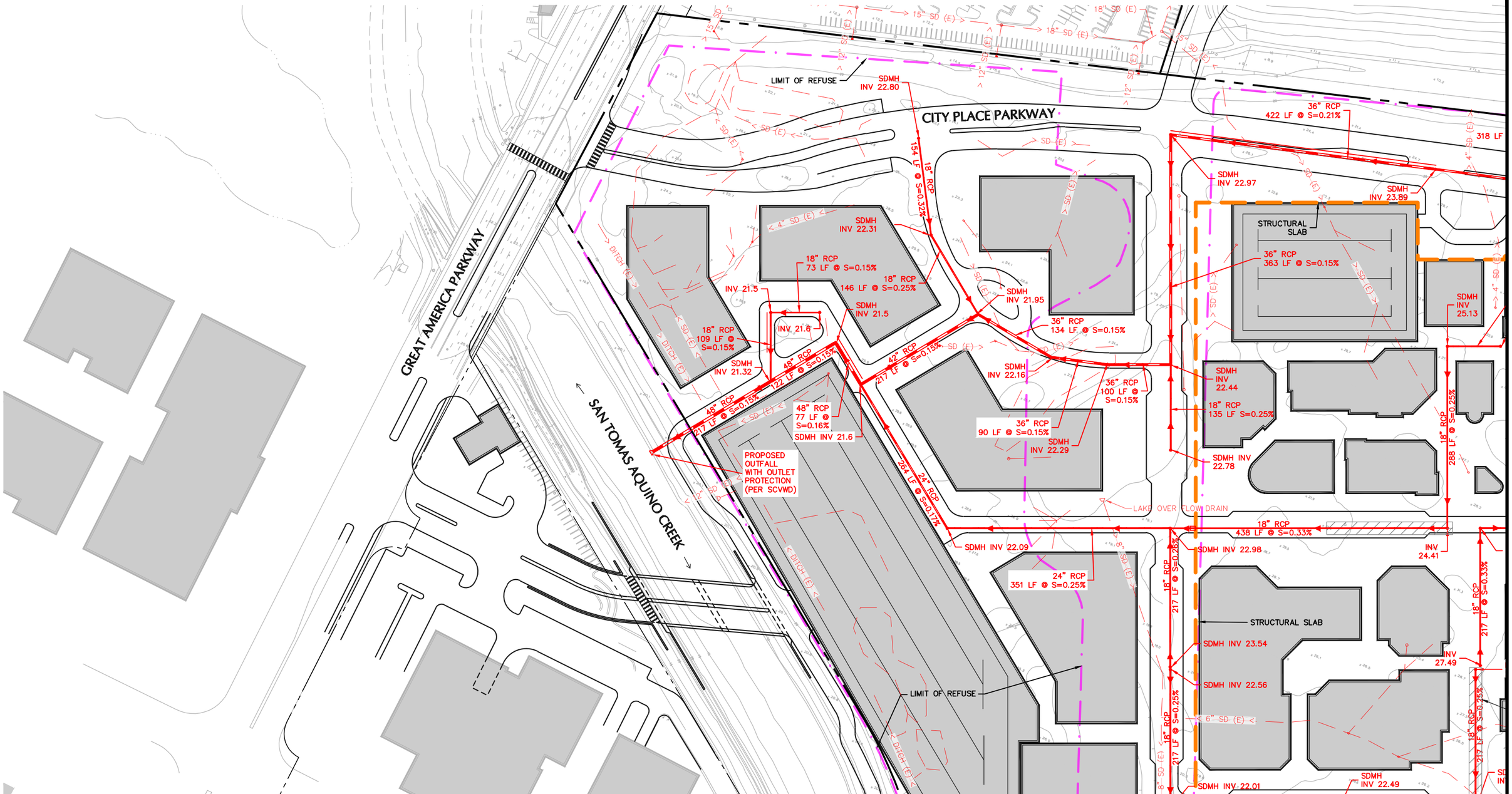

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X% —

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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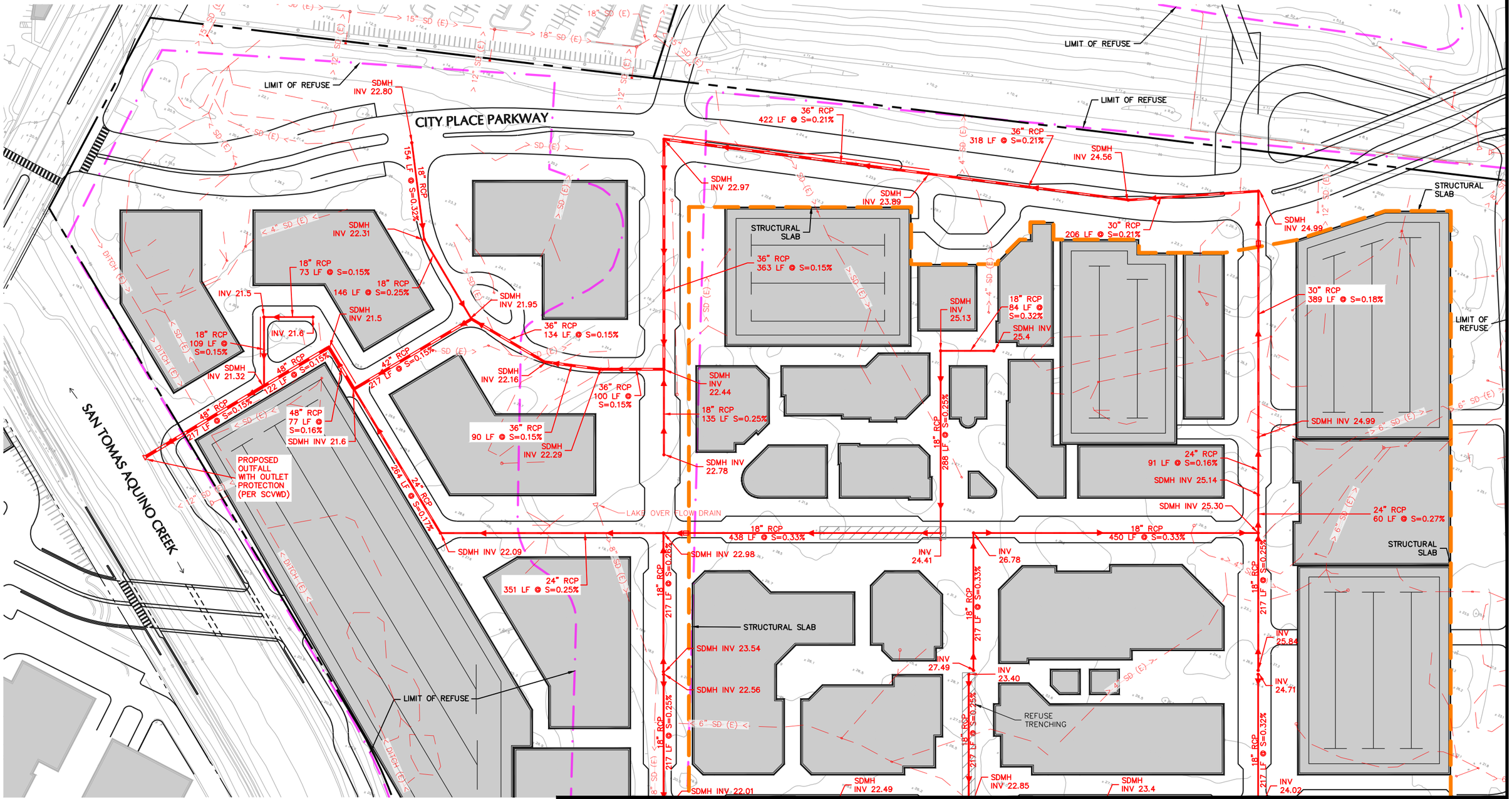

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >—— ——

PROPOSED INFRASTRUCTURE ——> XX" RCP XX LF @ S=X% ——>

LIMIT OF REFUSE — — — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬

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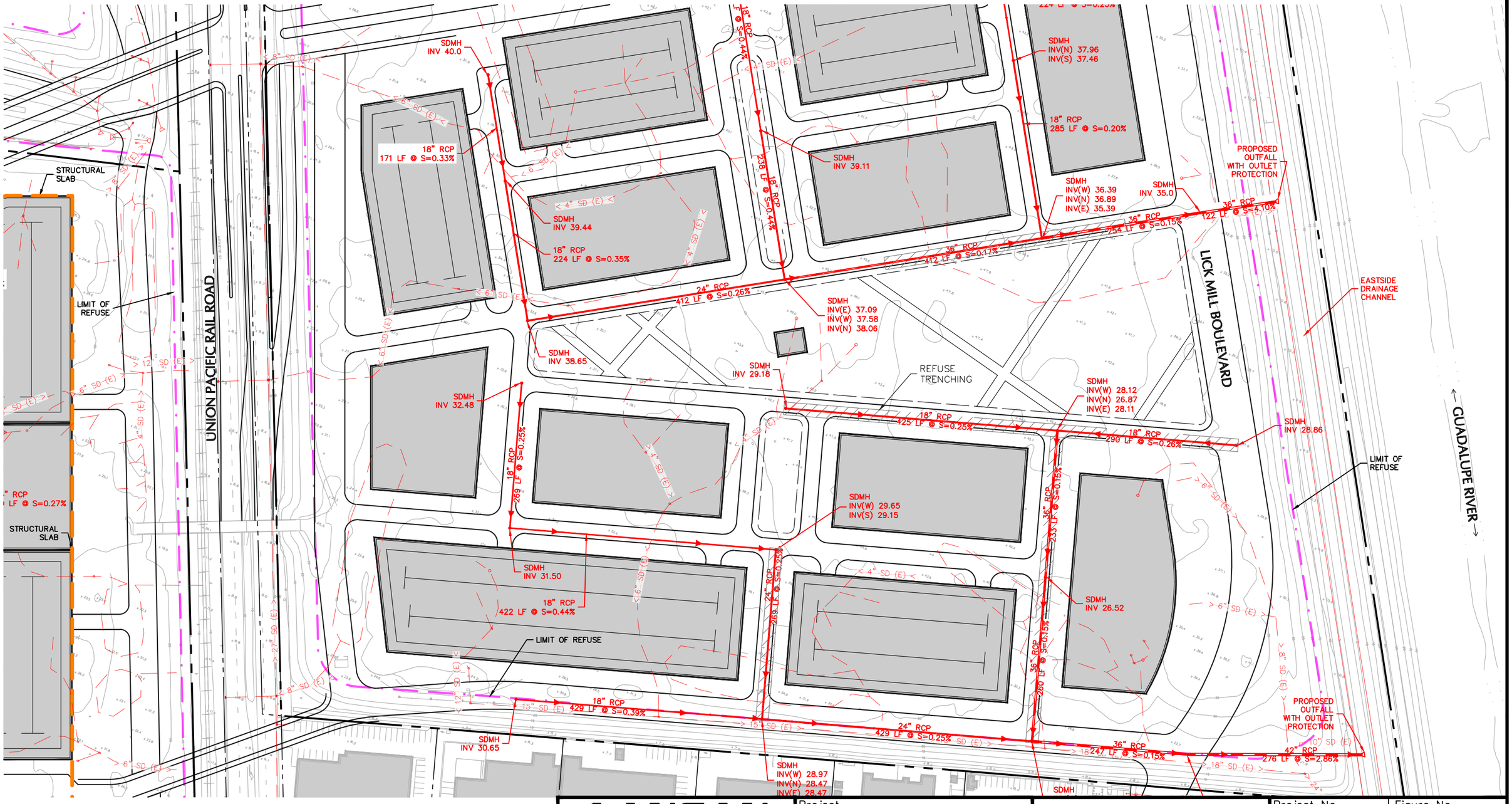

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >

PROPOSED INFRASTRUCTURE XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

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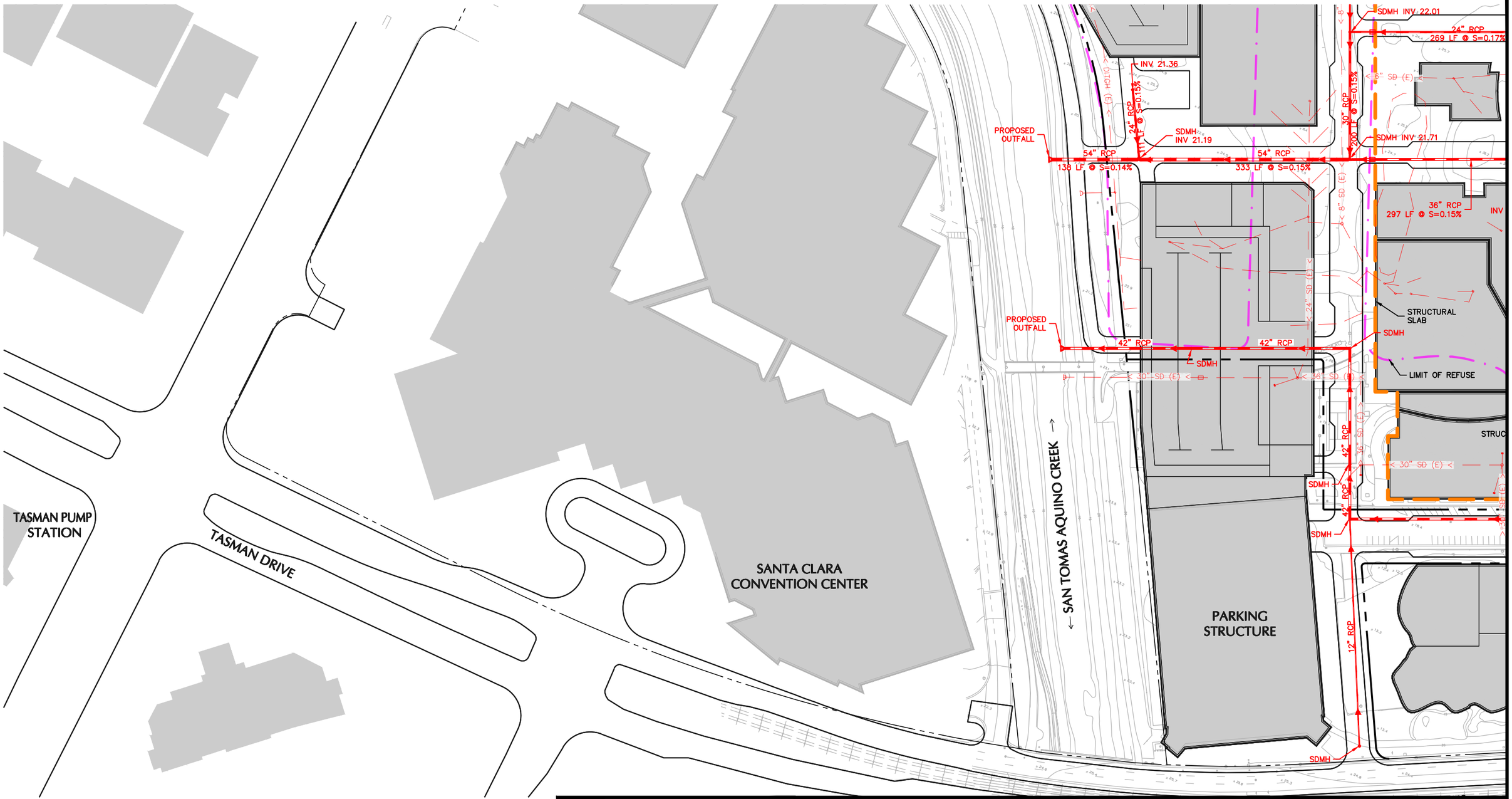

LEGEND:

EXISTING INFRASTRUCTURE —— —> XX" SD (E) >—— ——

PROPOSED INFRASTRUCTURE —— XX" RCP / XX LF @ S=X% ——

LIMIT OF REFUSE — — · — — · — —

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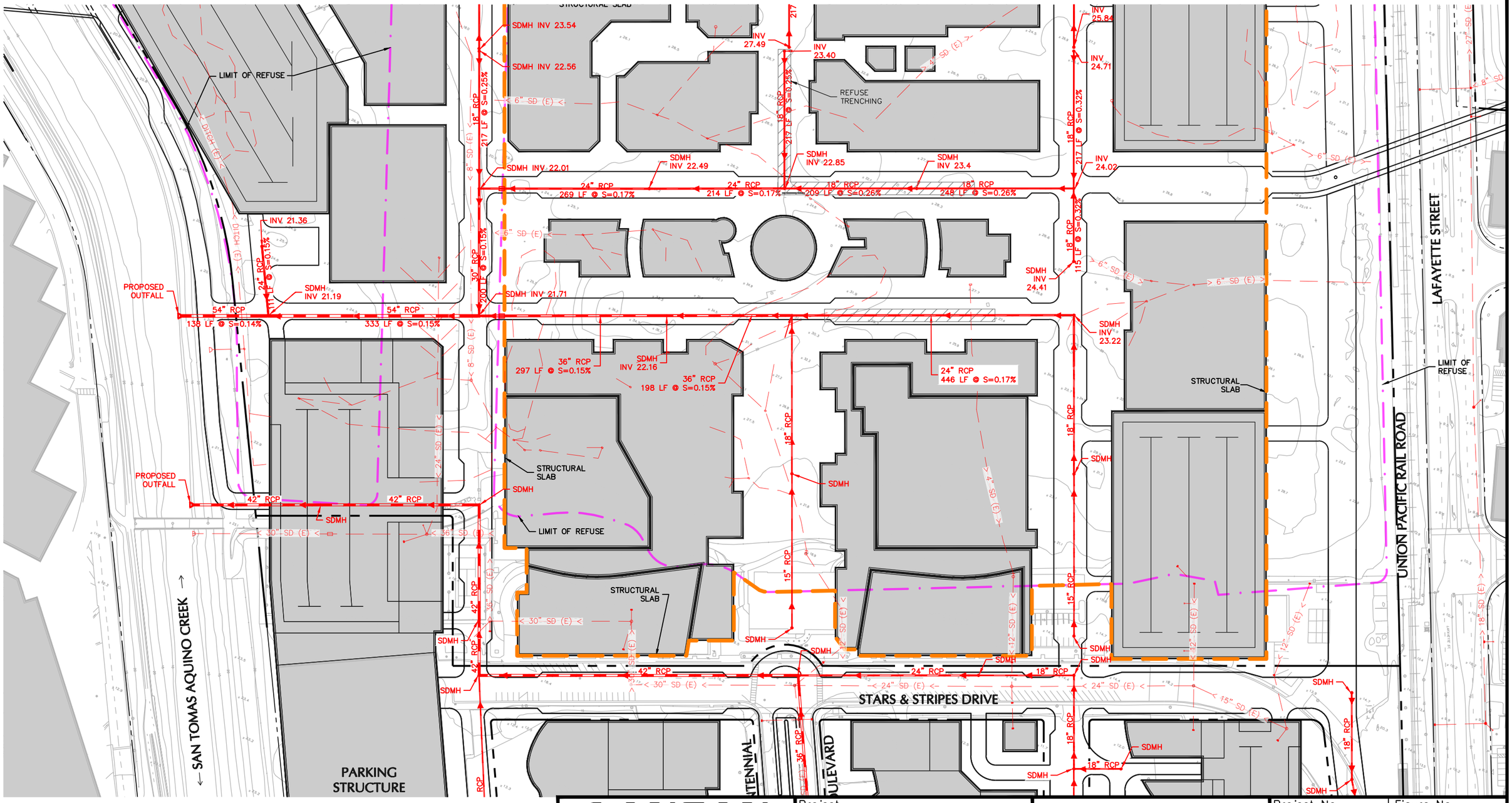

LEGEND:

EXISTING INFRASTRUCTURE — —> XX" SD (E) >— —

PROPOSED INFRASTRUCTURE —→ XX" RCP, XX LF @ S=X% →

LIMIT OF REFUSE

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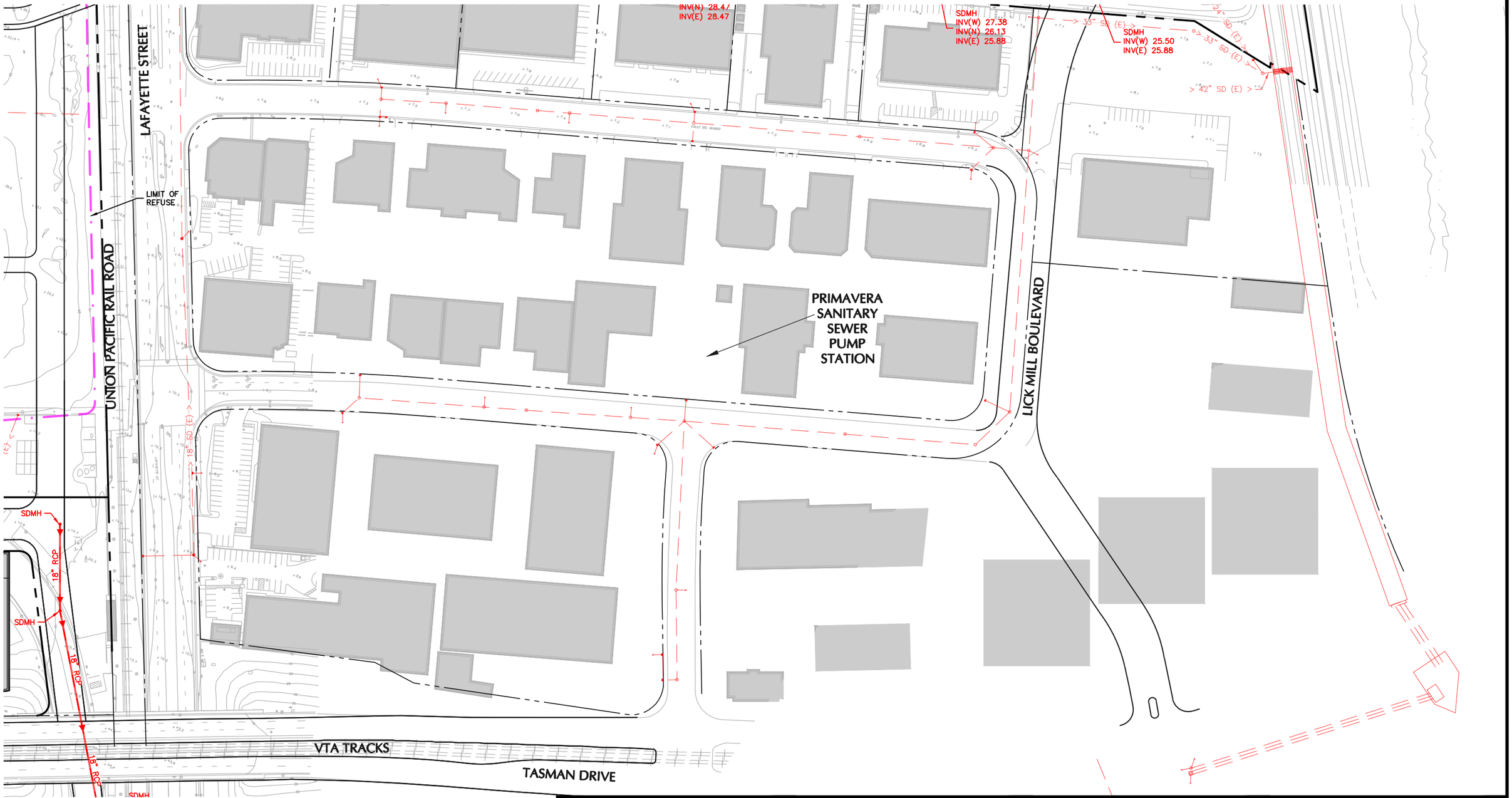

LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

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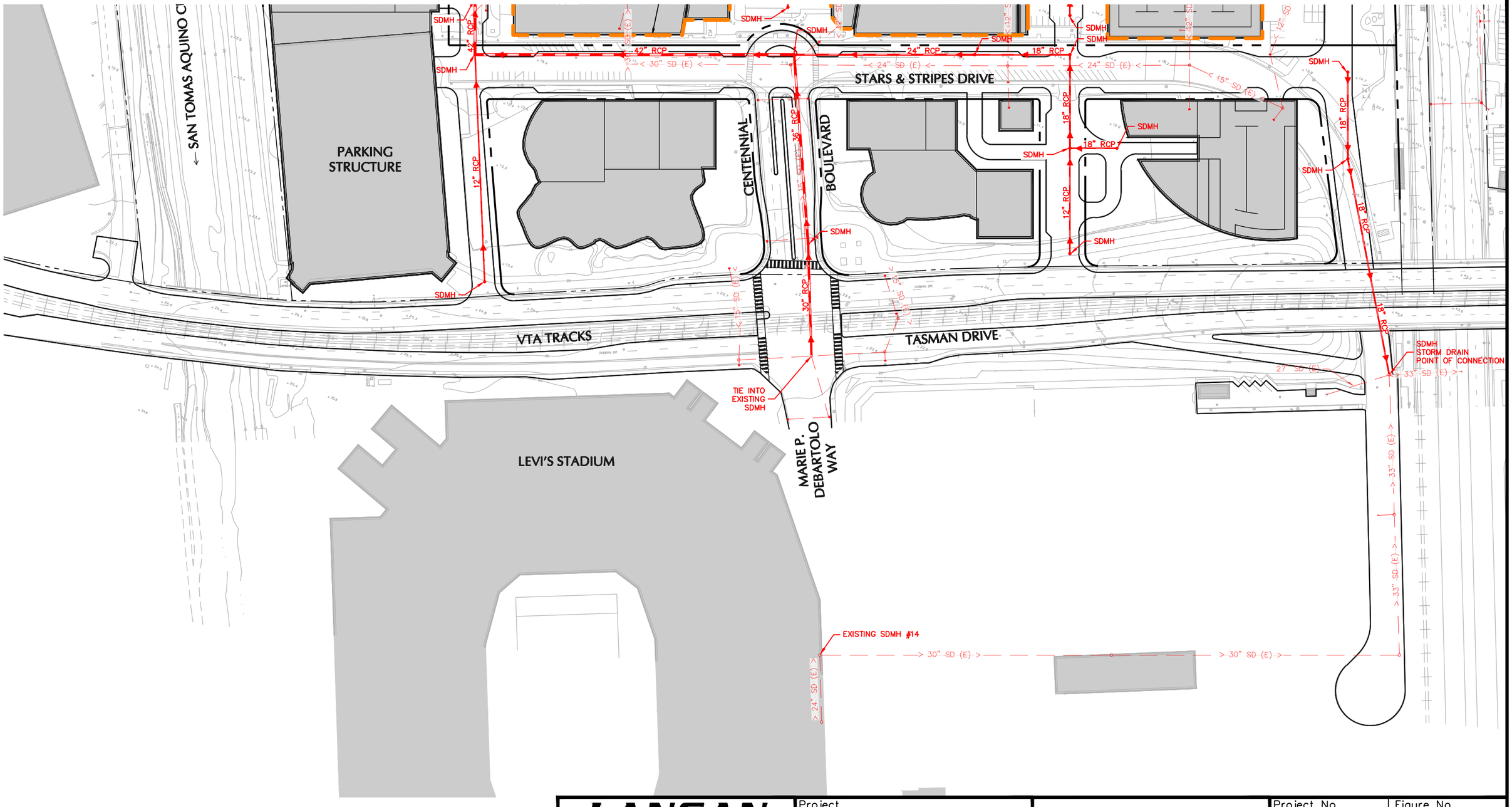

LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 20
Date 6/30/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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LEGEND:

EXISTING INFRASTRUCTURE — > XX" SD (E) >

PROPOSED INFRASTRUCTURE — XX" RCP, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

SCALE IN FEET

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CITY PLACE SANTA CLARA

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PRELIMINARY STORM DRAIN

Project No. 770611601	Figure No. 21
Date 6/30/2015	
Scale 1" = 150'	
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Submission Date 6/30/2015	

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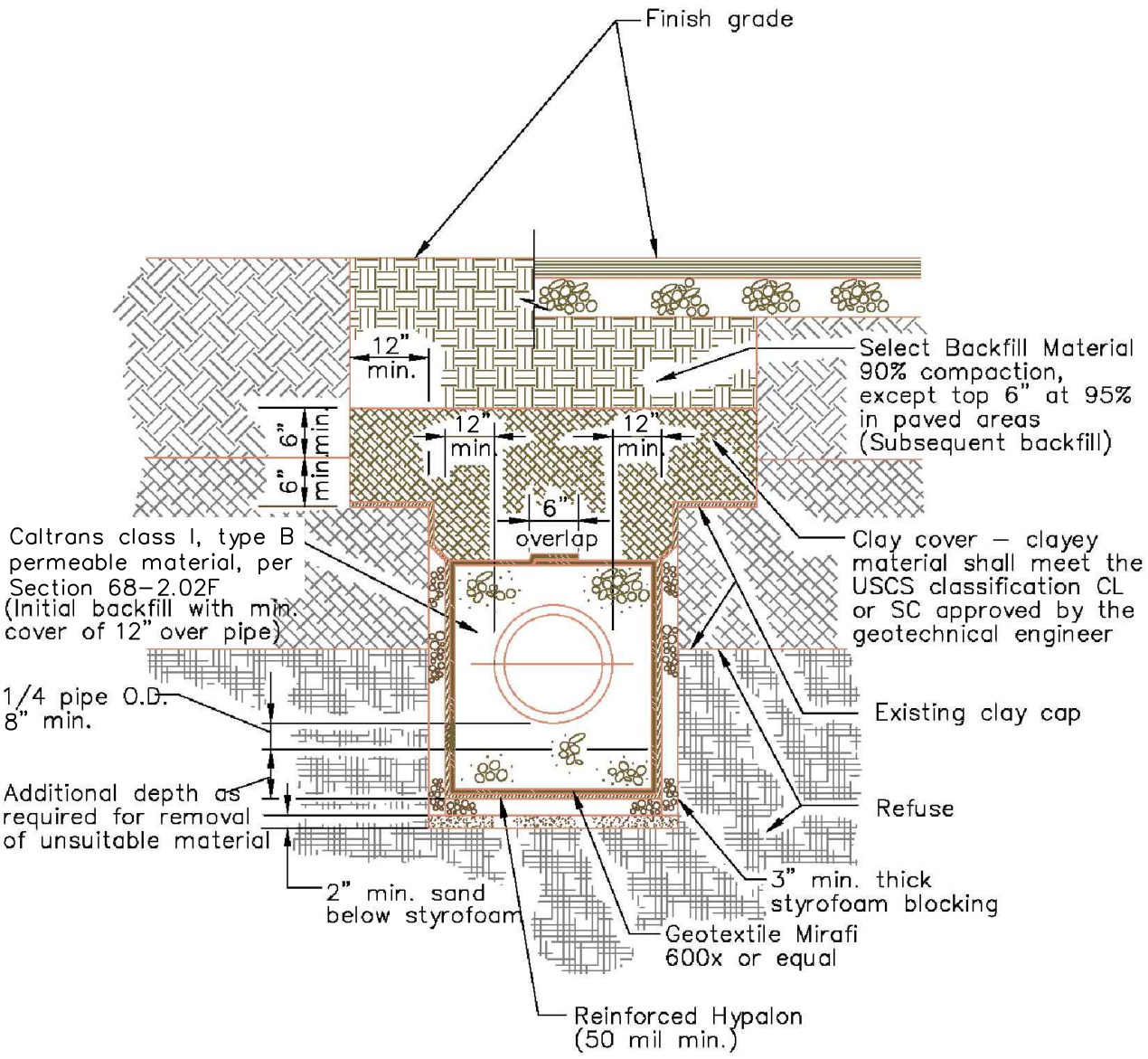

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UTILITY TRENCH PENETRATING CLAY CAP

Project No. 770611601	Figure No. 22
Date 6/30/2015	
Scale N.T.S.	
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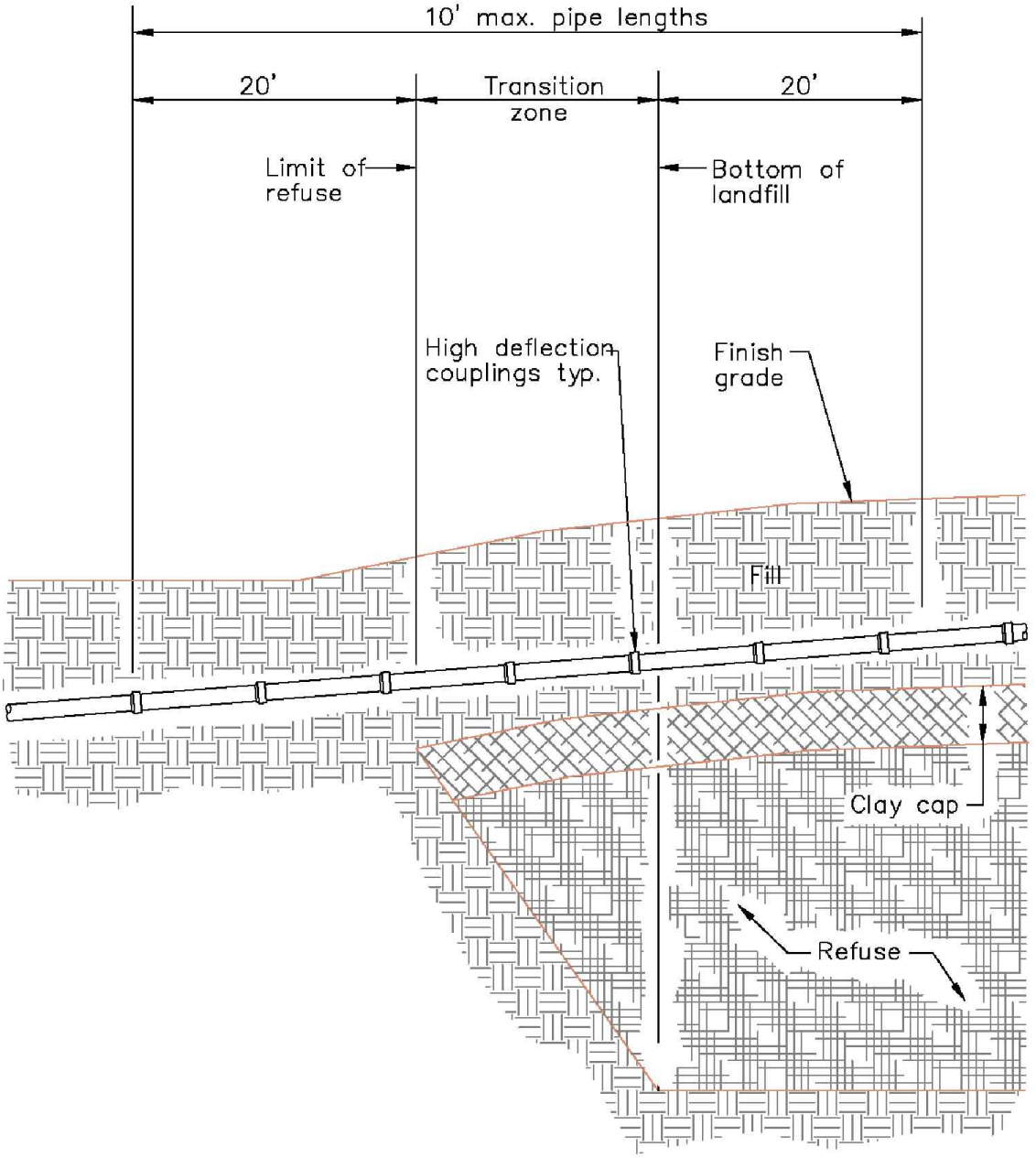

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STORM DRAIN GRAVITY PIPES THROUGH TRANSITION ZONE

Project No.	770611601
Date	6/30/2015
Scale	N.T.S.
Drawn By	STAFF
Checked By	DJH
Submission Date	6/30/2015
Figure No.	23

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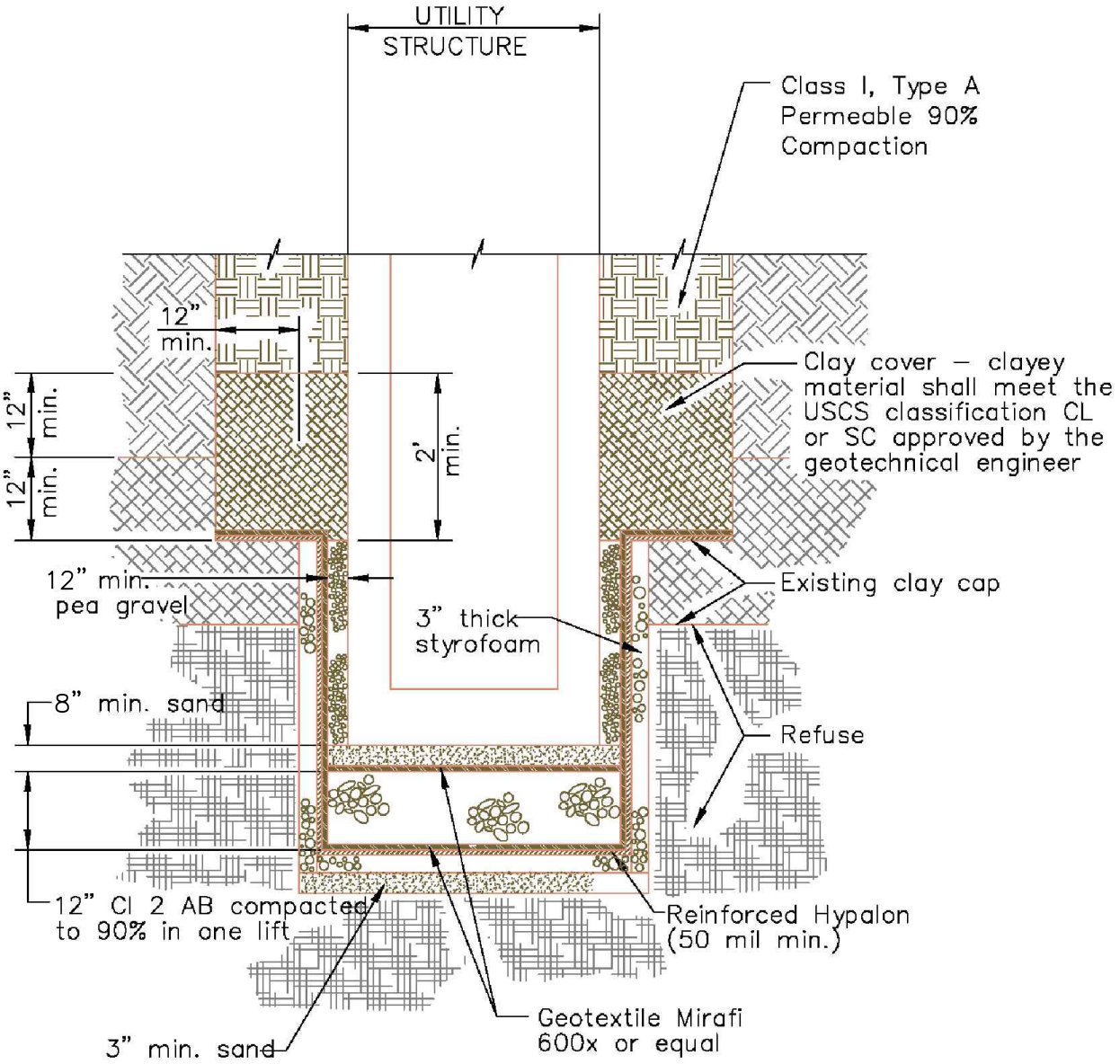

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UTILITY STRUCTURE PENETRATING CLAY CAP

Project No. 770611601	Figure No. 24
Date 6/30/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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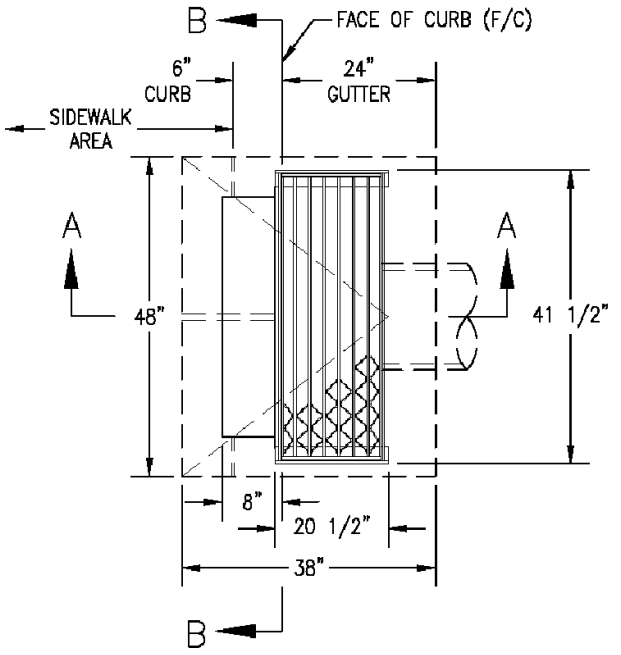
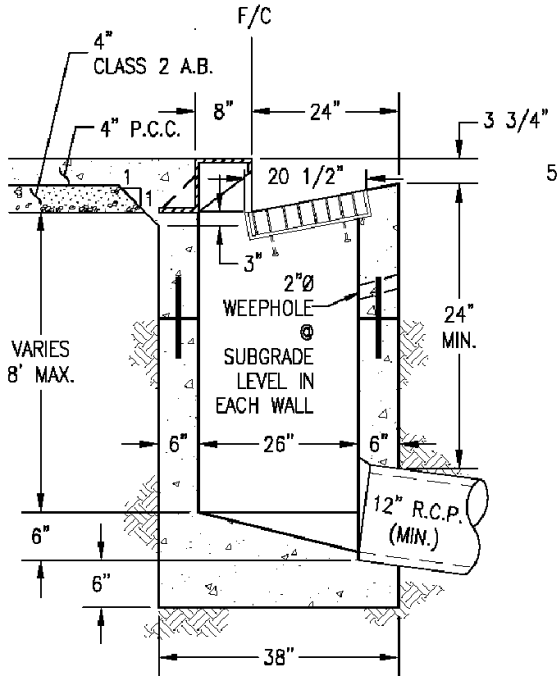


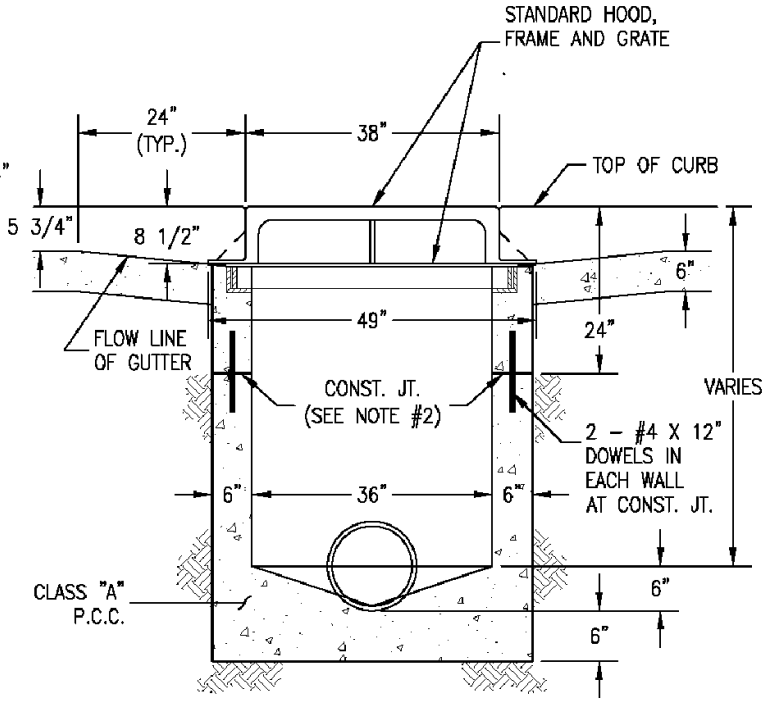
PLAN VIEW
NO SCALE

NOTES:

1. PRECAST CONCRETE CATCH BASIN (C.B.) MAY BE USED SUBJECT TO WRITTEN APPROVAL OF THE CITY ENGINEER.
2. C.B. WALLS MAY BE POURED TO AN ELEVATION NOT LESS THAN 2'-0" BELOW TOP OF CURB. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FRAME IN AND POUR THE UPPER 2'-0" OF THE C.B. MONOLITHICALLY WITH CURB AND GUTTER.
3. WHEN CURB AND SIDEWALK ARE NOT POURED MONOLITHICALLY, CONCRETE CURB POUR SHALL ALSO ENCASE SIDES AND BACK OF HOOD A MINIMUM OF 12" WIDE AND 12" DEEP. SAID ENCASEMENT SHALL BE POURED IN FORM TO PROVIDE STRAIGHT EDGES.



SECTION A-A
NO SCALE



SECTION B-B
NO SCALE

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STORM DRAIN
CURB INLET

Project No. 770611601	Figure No. 25
Date 6/30/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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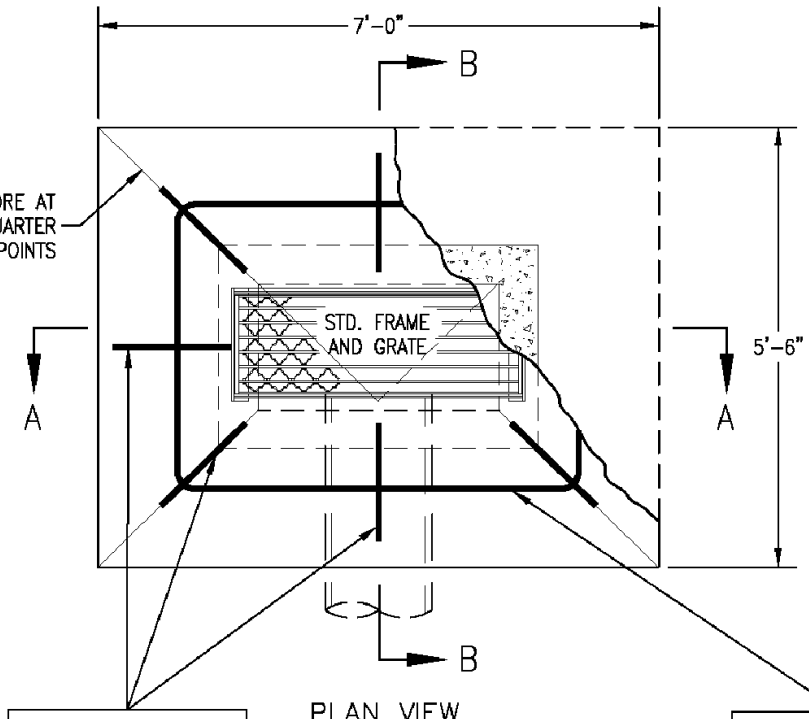


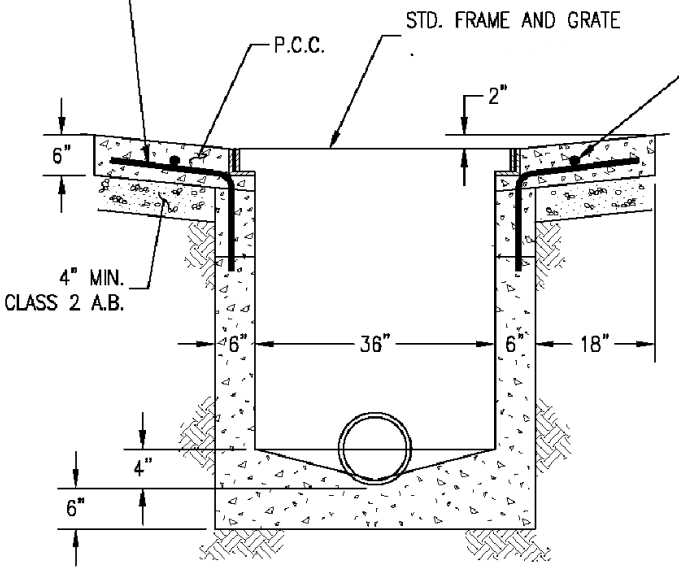
PLAN VIEW
NO SCALE

NOTES:

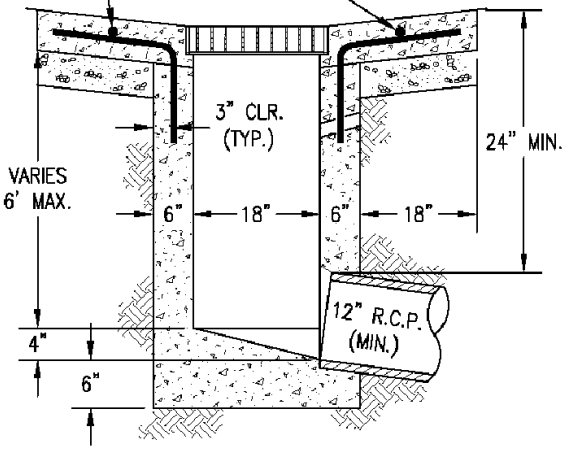
1. WHERE VALLEY GUTTER MEETS INLET APRON, SHAPE APRON TO CONFORM TO VALLEY GUTTER.
2. PRECAST INLETS MAY BE USED SUBJECT TO WRITTEN APPROVAL OF THE CITY ENGINEER.

PLACE 8 – #4 X 18" REBARS SYMMETRICALLY

1 – #4 X 43" REBAR WHERE SHOWN



SECTION A–A
NO SCALE



SECTION B–B
NO SCALE

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STORM DRAIN CATCH BASIN

Project No. 770611601	Figure No. 26
Date 6/30/2015	
Scale N.T.S.	
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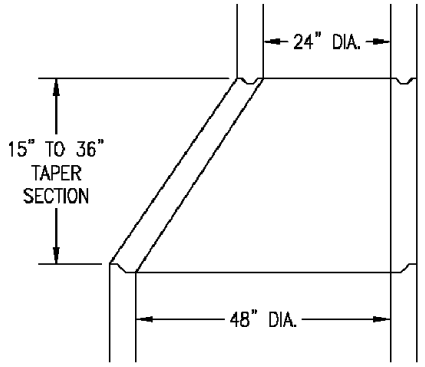
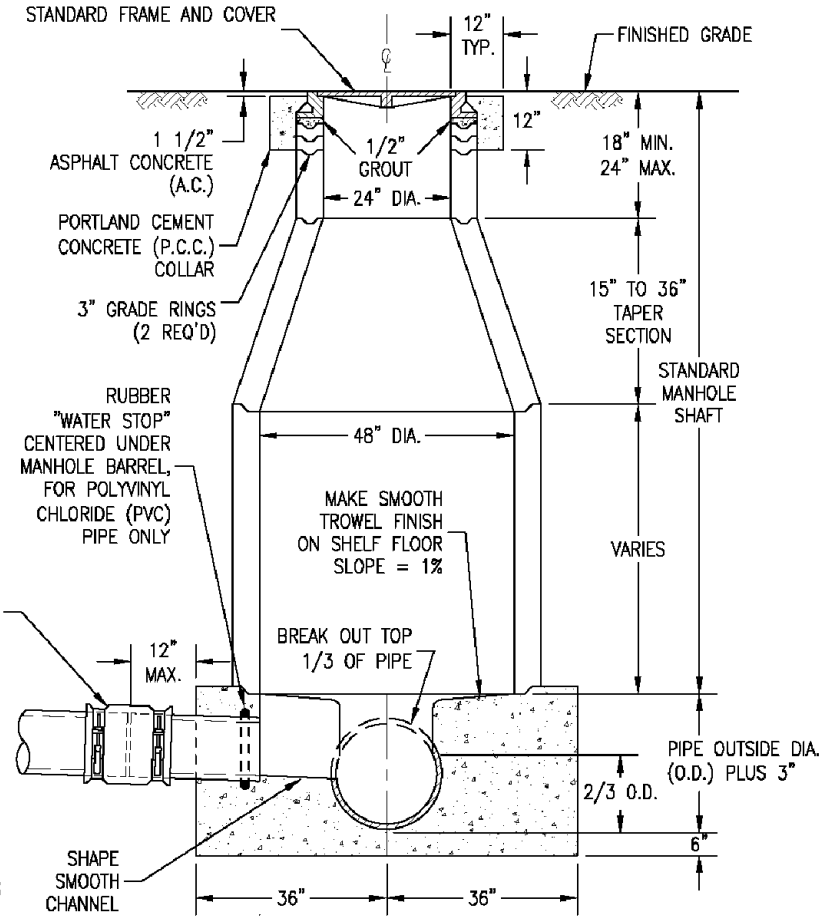


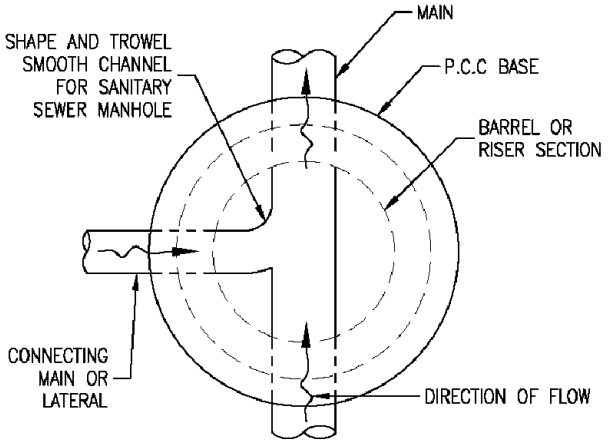
ECCENTRIC MANHOLE
(OPTION FOR STORM DRAIN MANHOLE ONLY)



CONCENTRIC MANHOLE – ELEVATION VIEW
NO SCALE

NOTES:

1. MANHOLE BASE SHALL BE POURED ON UNDISTURBED GROUND. IF OVER EXCAVATION OCCURS BELOW MANHOLE BASE, BACKFILL WITH CONCRETE. AN APPROVED 'IMPRESSION RING' MUST BE USED TO FORM KEYWAY FOR MANHOLE BARREL SECTION.
2. INTERSECTING LATERALS' AND MAINS' CROWNS SHALL MATCH.
3. ALL JOINTS SHALL BE SEALED WITH "RAMNEK" OR APPROVED EQUAL.
4. CENTER OF ECCENTRIC MANHOLE COVER SHALL BE LOCATED OVER THE CENTER OF THE MAIN ON THE UPSTREAM SIDE.
5. TYPE V PORTLAND CEMENT FOR SANITARY SEWER STRUCTURES AND TYPE II PORTLAND CEMENT FOR STORM DRAIN STRUCTURES.
6. BELL END OF PIPE SHALL BE 12" MAX. FROM WALL OF MANHOLE
7. THIS DESIGN IS USABLE FOR PIPES UP TO 39" DIA. ONLY.
8. ALL SANITARY SEWER MANHOLES SHOULD BE LINED WITH INTEGRALLY LOCKING PVC (T-LOCK) OR APPROVED EQUAL. GRADE RINGS SHALL BE PVC LINED VIA THE MANHOLE TOPPER BY AMERON OR APPROVED EQUAL.



BOTTOM VIEW
NO SCALE

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MANHOLE

Project No. 770611601	Figure No. 27
Date 6/30/2015	
Scale N.T.S.	
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Submission Date 6/30/2015	

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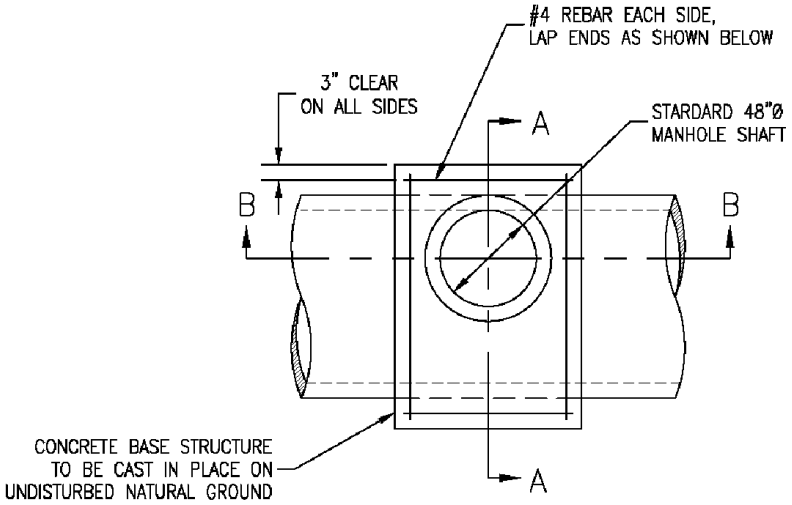
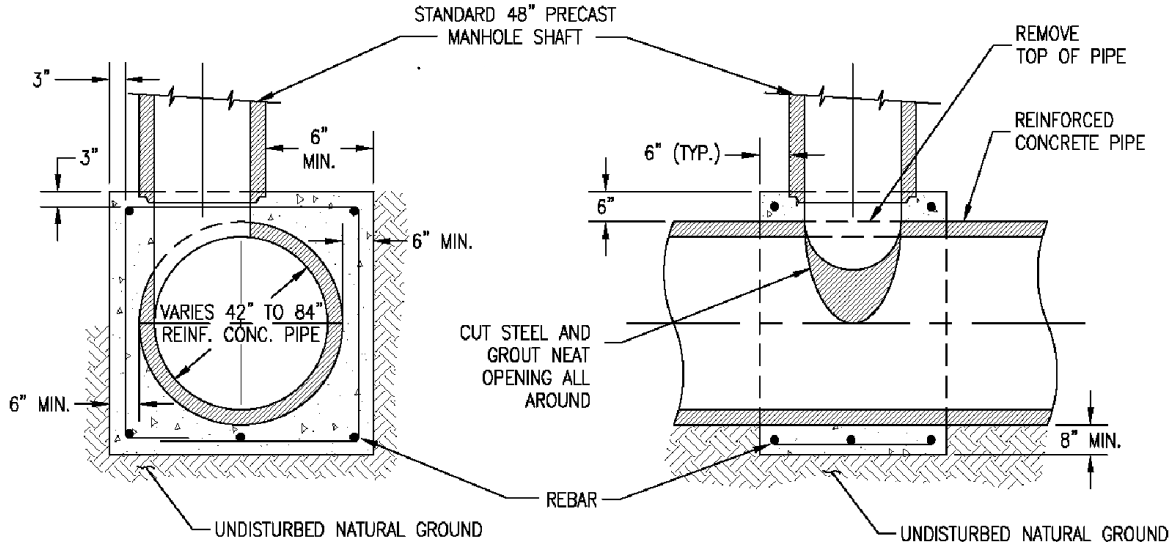


PLAN VIEW
NO SCALE



SECTION A–A
NO SCALE

SECTION B–B
NO SCALE

NOTES:

1. MANHOLE SHAFT SHALL BE CENTERED AT MID–LENGTH OF PIPE SECTION.
2. DETAIL NOT APPLICABLE WHERE PIPE DEFLECTION OCCURS AT MANHOLE. SPECIAL MANHOLE BASE DETAIL REQUIRED IF LOCATED AT PIPE JOINT.
3. ALL JOINTS SHALL BE SEALED WITH "RAMNEK" OR APPROVED EQUAL.
4. BACKFILL AROUND THE MANHOLE AND ANY NEW OR EXISTING PIPE CONNECTION(S).

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MANHOLE - TYPE A

Project No. 770611601	Figure No. 28
Date 6/30/2015	
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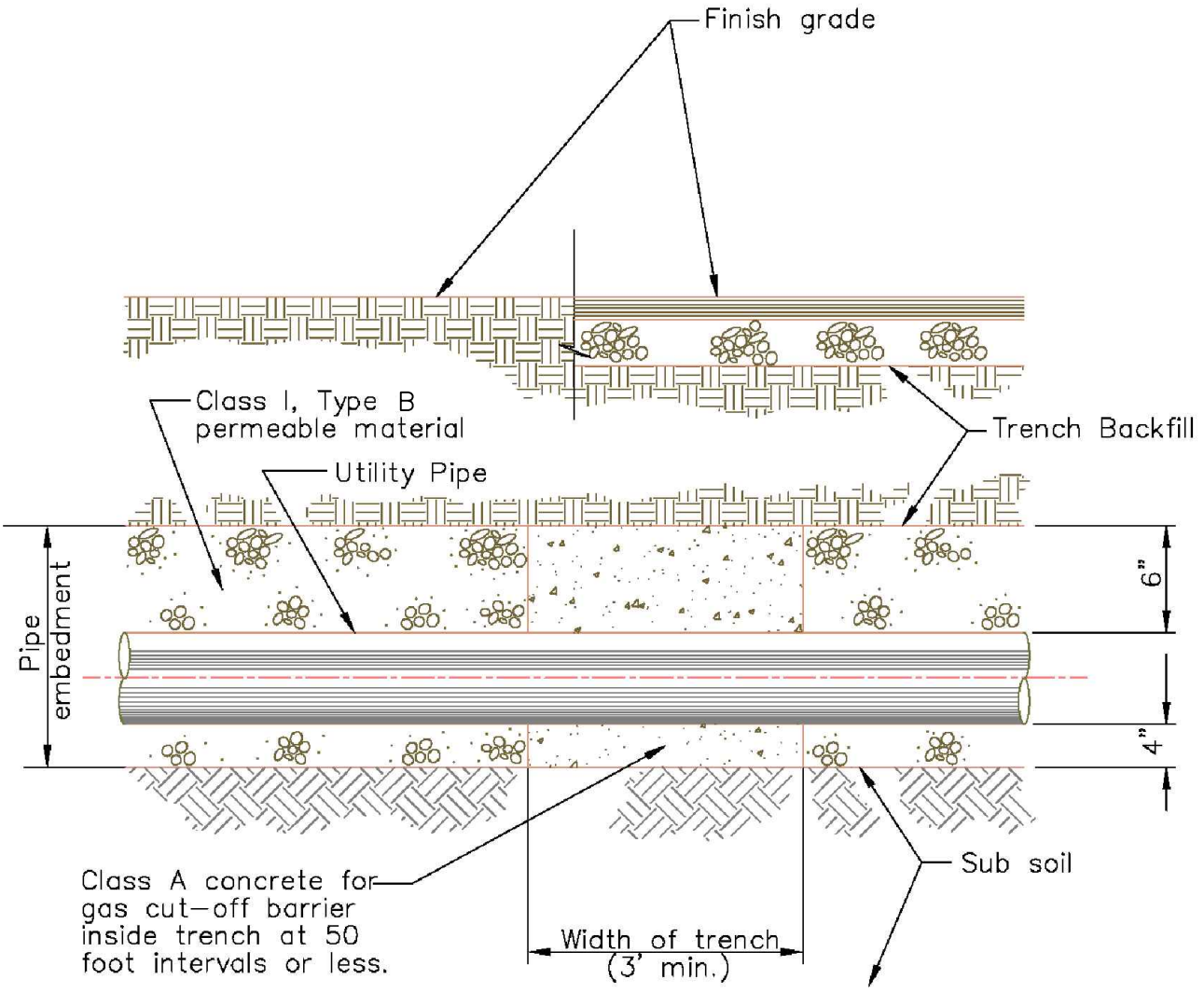

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METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH

Project No. 770611601	Figure No. 29
Date 6/30/2015	
Scale N.T.S.	
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Submission Date 6/30/2015	

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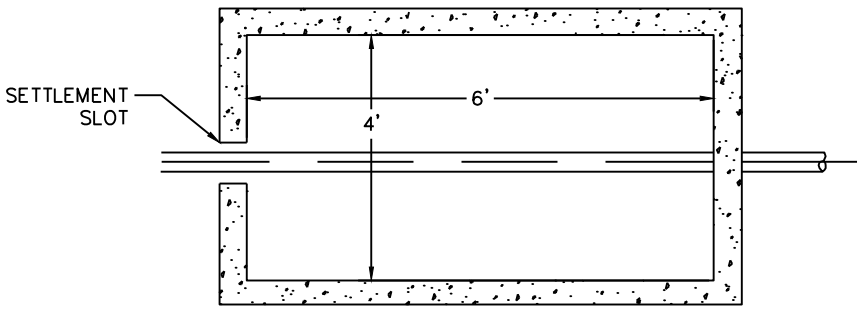

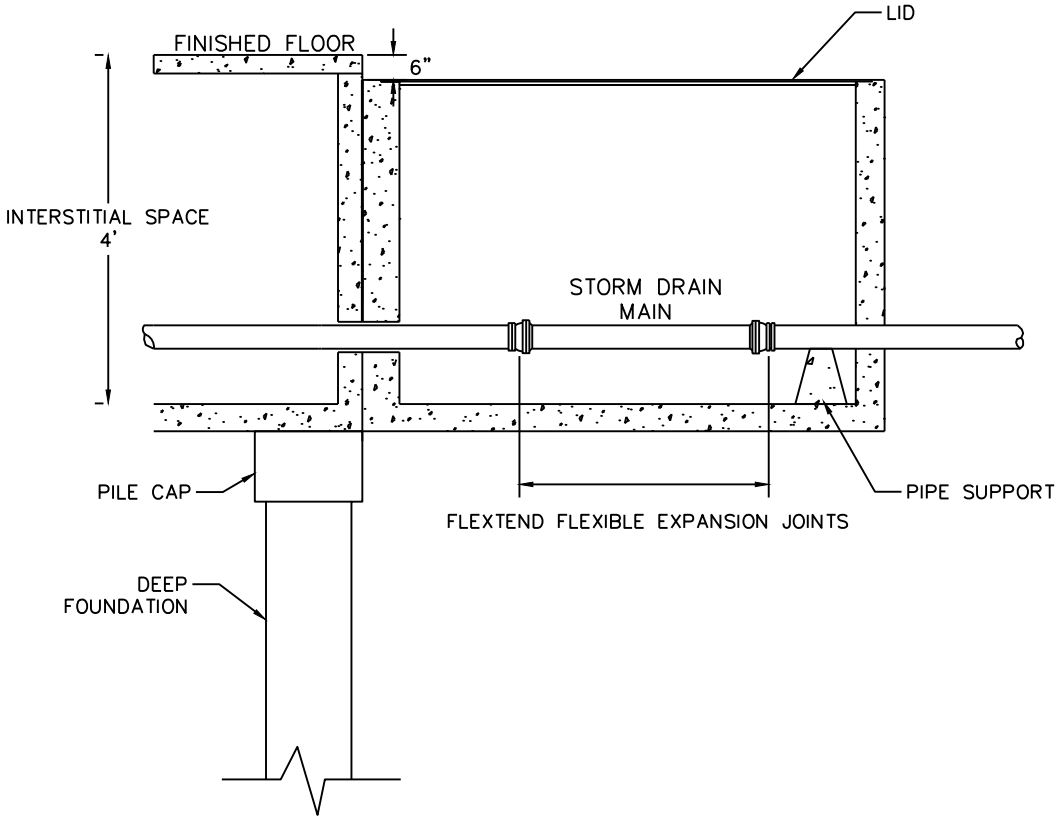

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SETTLEMENT VAULT-
TYPE 1

Project No. 770611601	Figure No. 30
Date 6/30/2015	
Scale N.T.S.	
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Submission Date 6/30/2015	

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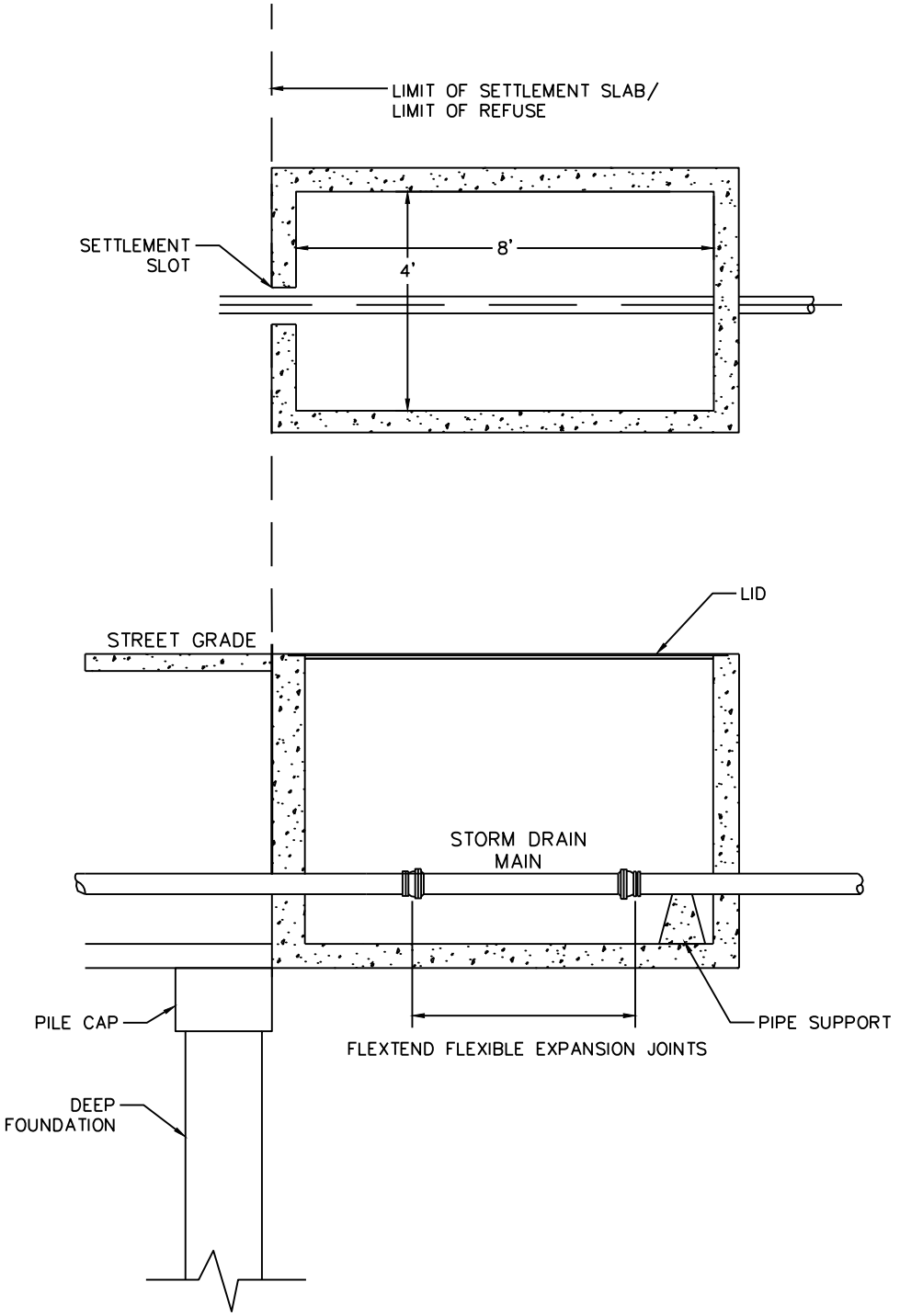

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SETTLEMENT VAULT-TYPE II

Project No. 770611601	Figure No. 31
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Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 6/30/2015	

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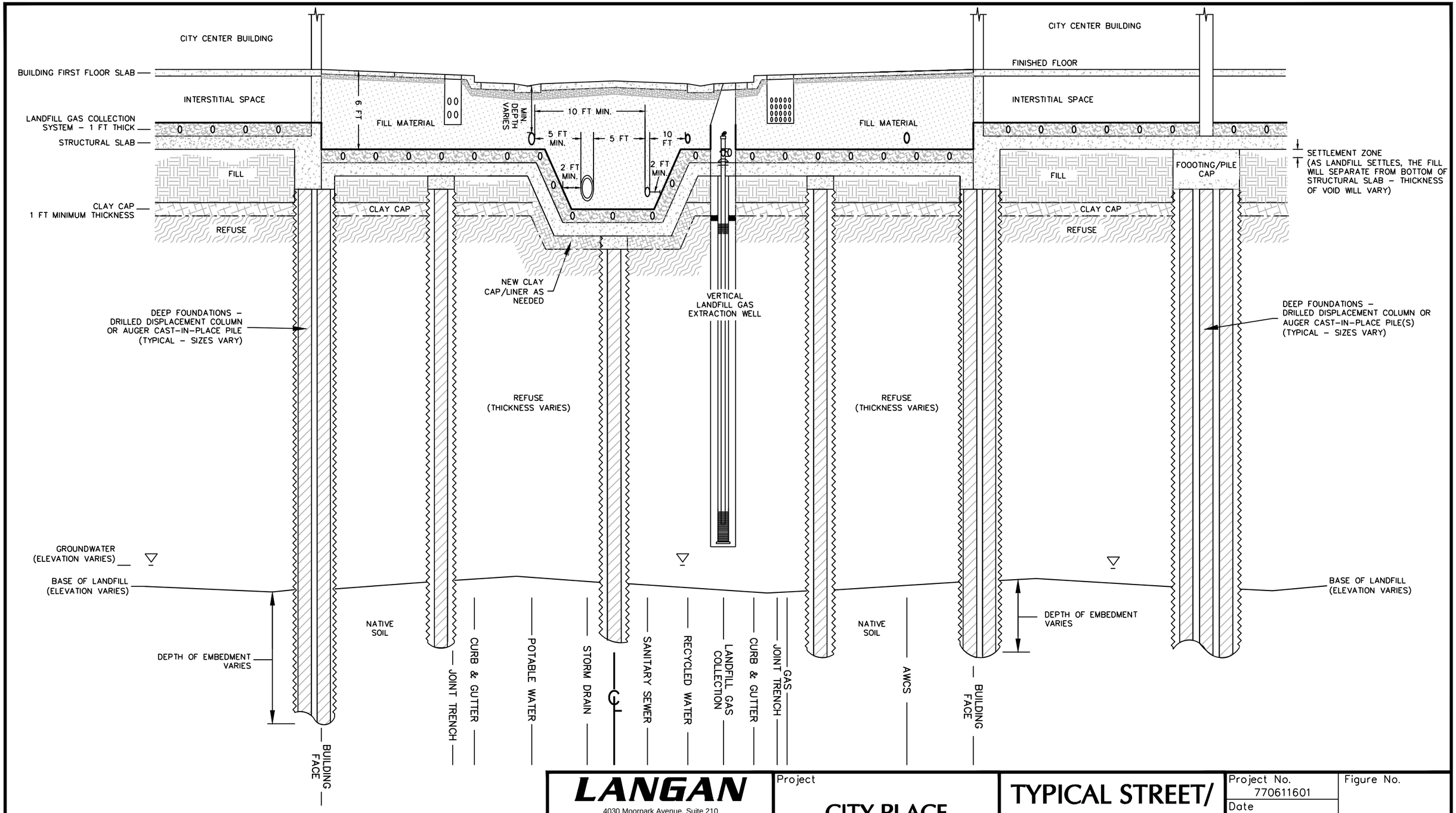

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TYPICAL STREET/ UTILITY SECTION ON STRUCTURAL SLAB

Project No. 770611601	Figure No. 32
Date 6/30/2015	
Scale N.T.S.	
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CONTOUR INTERVAL

1' CONTOUR INTERVAL

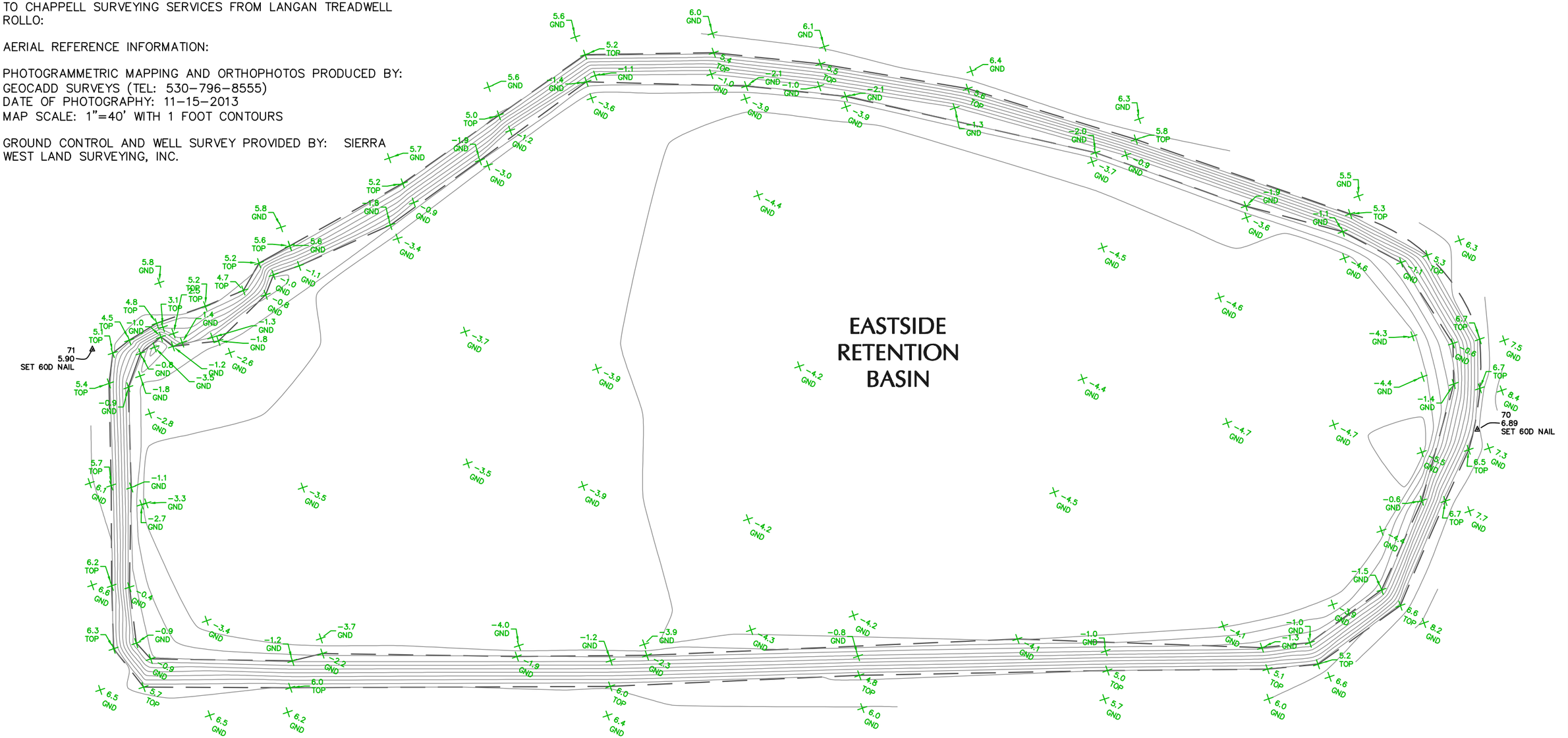
BASIS OF SURVEY CONTROL:

SURVEY CONTROL IS BASED ON THE AERIAL SURVEY PROVIDED TO CHAPPELL SURVEYING SERVICES FROM LANGAN TREADWELL ROLLO:

AERIAL REFERENCE INFORMATION:

PHOTOGRAMMETRIC MAPPING AND ORTHOPHOTOS PRODUCED BY:
GEOCADD SURVEYS (TEL: 530-796-8555)
DATE OF PHOTOGRAPHY: 11-15-2013
MAP SCALE: 1"=40' WITH 1 FOOT CONTOURS

GROUND CONTROL AND WELL SURVEY PROVIDED BY: SIERRA WEST LAND SURVEYING, INC.



ABBREVIATIONS:

GND GROUND ELEVATION
TOP TOP OF SLOPE

60 0 30 60
SCALE IN FEET

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EAST SIDE RETENTION BASIN BATHYMETRIC SURVEY

Project No. 770611601	Figure No. 33
Date 6/30/2015	
Scale 1" = 60'	
Drawn By STAFF / Checked By DJH	
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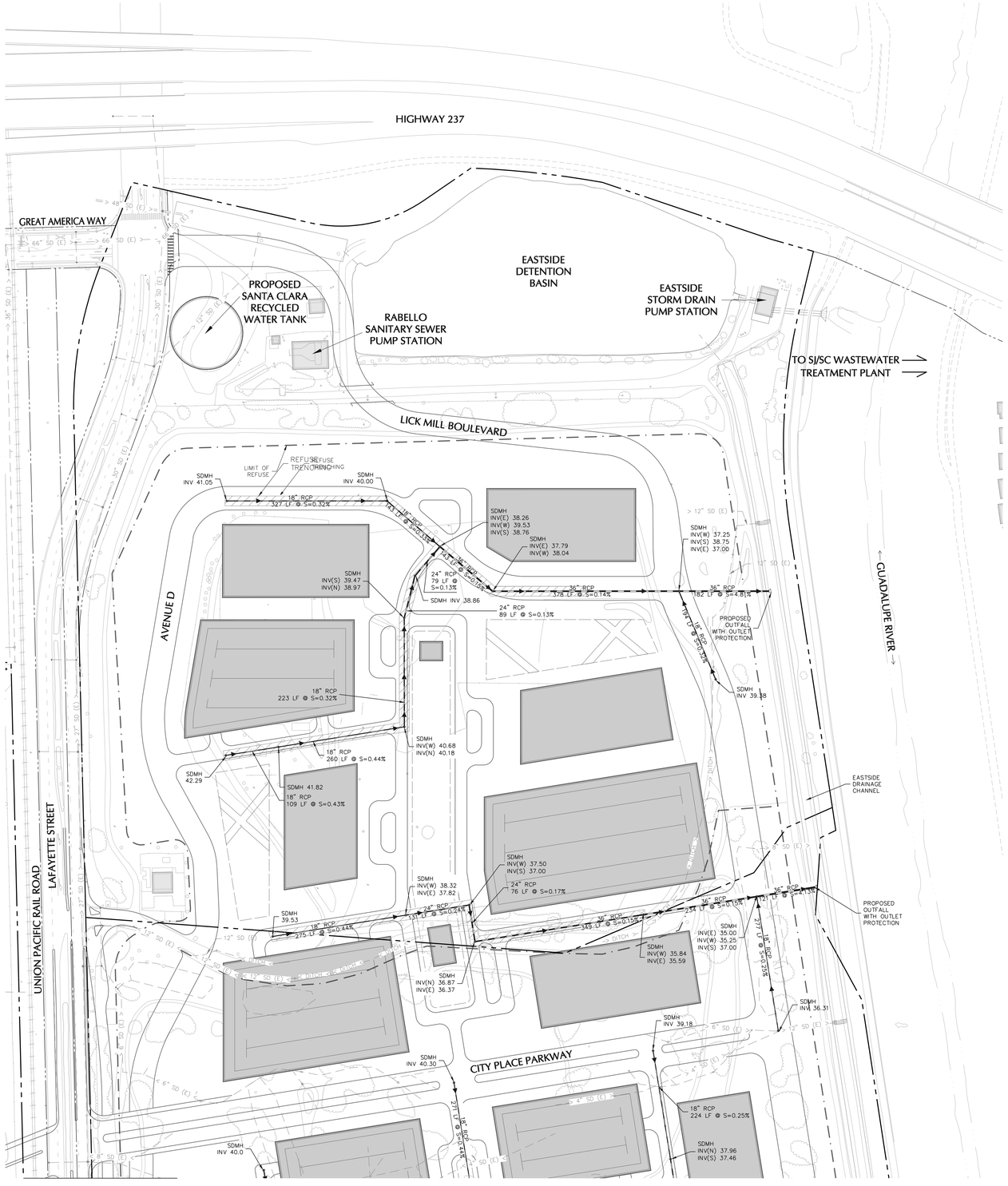
DRAWINGS



STORM DRAIN LEGEND

- EXISTING STORM DRAIN — — — > XX" SD (E) > — — —
- PROPOSED STORM DRAIN — XX" RCP, X LF @ S=X% —
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. — 1 / CUS.01

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.
2. APPROXIMATE ELEVATION OF TOP OF SLAB WAS USED TO SET INVERT ELEVATIONS.
3. HDPE PIPES COULD BE USED AS AN ALTERNATIVE TO RCP.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CUS.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CUS.01
- STORM DRAIN GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CUS.01
- STORM DRAIN CURB INLET — 1 / CUS.03
- STORM DRAIN CATCH BASIN — 2 / CUS.03
- MANHOLE — 3 / CUS.03
- MANHOLE – TYPE A — 4 / CUS.03
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CUS.01
- SETTLEMENT VAULT – TYPE I — 5 / CUS.02
- SETTLEMENT VAULT – TYPE II — 6 / CUS.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CUS.01

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PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

Date	Description	No.
REVISIONS		

LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan Treaty, LLC
Collectively known as Langan

Project
CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 1 PRELIMINARY STORM DRAIN PLAN

Project No. 770611601	Figure CSD2.01
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 1 of 4

PROJECT No. 770611601

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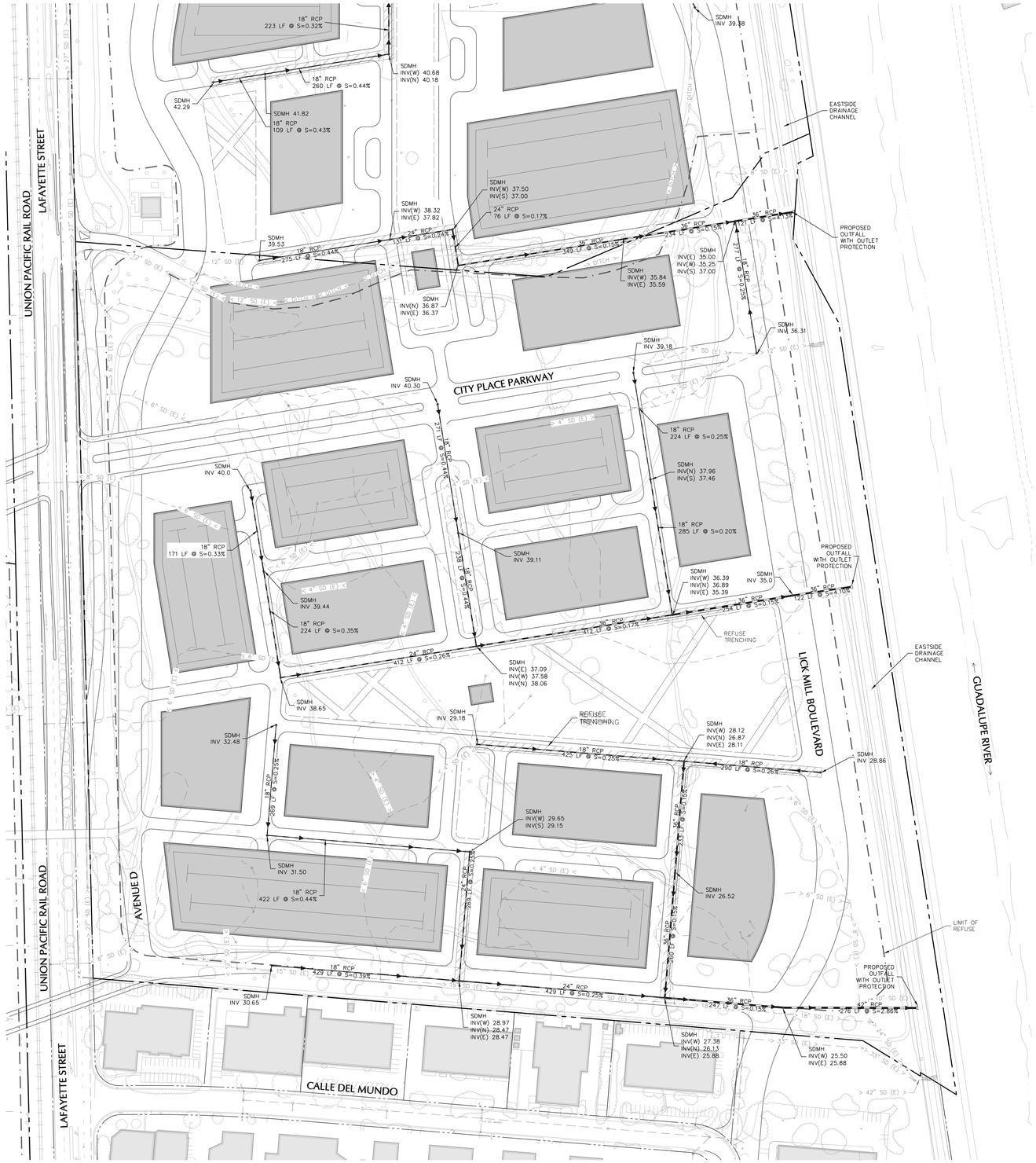

STORM DRAIN LEGEND

- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN — XX" RCP, X LF @ S=X%
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. 1 / SHEET No. CU5.03

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.
2. APPROXIMATE ELEVATION OF TOP OF SLAB WAS USED TO SET INVERT ELEVATIONS.
3. HDPE PIPES COULD BE USED AS AN ALTERNATIVE TO RCP.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CU5.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CU5.01
- STORM DRAIN GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CU5.01
- STORM DRAIN CURB INLET — 1 / CU5.03
- STORM DRAIN CATCH BASIN — 2 / CU5.03
- MANHOLE — 3 / CU5.03
- MANHOLE – TYPE A — 4 / CU5.03
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CU5.01
- SETTLEMENT VAULT – TYPE I — 5 / CU5.02
- SETTLEMENT VAULT – TYPE II — 6 / CU5.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CU5.01

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4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 2 PRELIMINARY STORM DRAIN PLAN

Project No. 770611601	Figure CSD2.02
Date 3/20/2015	
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Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 2 of 4

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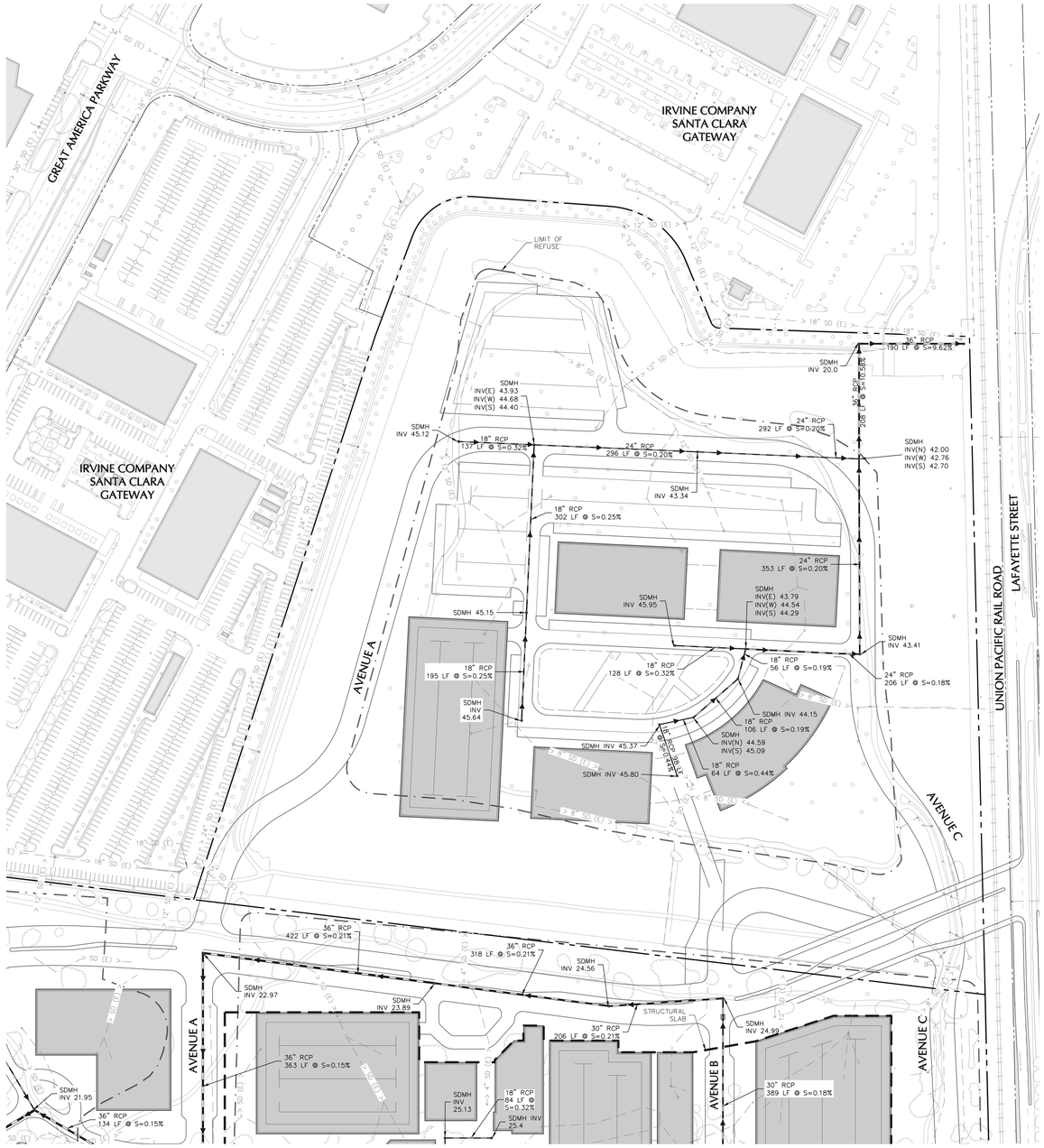

STORM DRAIN LEGEND

- EXISTING STORM DRAIN — > XX" SD (E) >
- PROPOSED STORM DRAIN — XX" RCP, X LF @ S=X%
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. — 1 / CUS.01

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.
2. APPROXIMATE ELEVATION OF TOP OF SLAB WAS USED TO SET INVERT ELEVATIONS.
3. HDPE PIPES COULD BE USED AS AN ALTERNATIVE TO RCP.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CUS.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CUS.01
- STORM DRAIN GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CUS.01
- STORM DRAIN CURB INLET — 1 / CUS.03
- STORM DRAIN CATCH BASIN — 2 / CUS.03
- MANHOLE — 3 / CUS.03
- MANHOLE – TYPE A — 4 / CUS.03
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CUS.01
- SETTLEMENT VAULT – TYPE I — 5 / CUS.02
- SETTLEMENT VAULT – TYPE II — 6 / CUS.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CUS.01

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T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
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CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 3 PRELIMINARY STORM DRAIN PLAN

Project No.	Figure
770611601	CSD2.03
Date: 3/20/2015	
Scale: AS SHOWN	
Drawn By: JJM / Checked By: DJH	
Submission Date: 3/20/2015	Sheet 3 of 4

PROJECT No. 770611601

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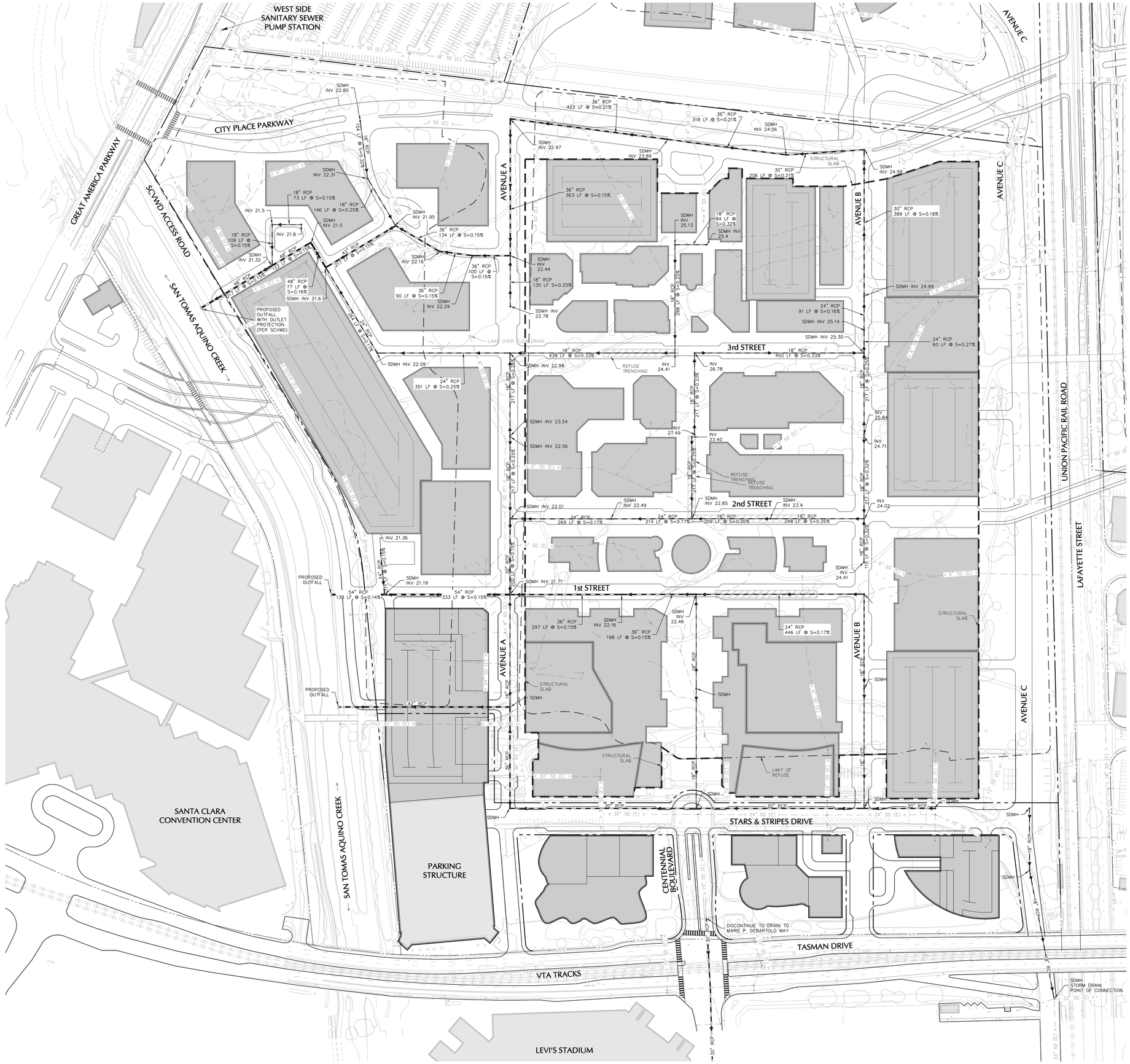

STORM DRAIN LEGEND

- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN (XX" RCP, X LF @ S=X%)
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No.

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.
2. APPROXIMATE ELEVATION OF TOP OF SLAB WAS USED TO SET INVERT ELEVATIONS.
3. HDPE PIPES COULD BE USED AS AN ALTERNATIVE TO RCP.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP (1 / CU5.01)
- UTILITY STRUCTURE PENETRATING CLAY CAP (2 / CU5.01)
- STORM DRAIN GRAVITY PIPES THROUGH TRANSITION ZONE (3 / CU5.01)
- STORM DRAIN CURB INLET (1 / CU5.03)
- STORM DRAIN CATCH BASIN (2 / CU5.03)
- MANHOLE (3 / CU5.03)
- MANHOLE – TYPE A (4 / CU5.03)
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH (4 / CU5.01)
- SETTLEMENT VAULT – TYPE I (5 / CU5.02)
- SETTLEMENT VAULT – TYPE II (6 / CU5.02)
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB (5 / CU5.01)

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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Project

CITY PLACE SANTA CLARA

SANTA CLARA **CALIFORNIA**

Figure Title

PARCEL 4 & 5 PRELIMINARY STORM DRAIN PLAN

Project No. 770611601	Figure CSD2.04
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 4 of 4

PROJECT No. 770611601

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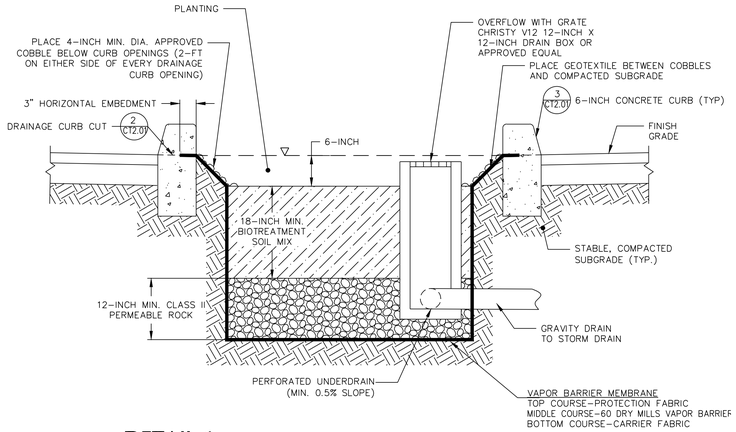

DETAIL 1

BIO-RETENTION/DETENTION SECTION

NOT TO SCALE



ELEVATION VIEW

PLAN VIEW

DETAIL 2

DRAINAGE CURB CUT

NOT TO SCALE

DETAIL 3

6 INCH CONCRETE CURB

NOT TO SCALE



DRAINAGE MANAGEMENT AREAS - ROADWAY

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			STA - # (SF)
DMA - 1	72,284	2,891	STA - 1 2,897
DMA - 3	83,683	3,339	STA - 3 3,339
DMA - 4	46,400	1,856	STA - 4 1,878
DMA - 5	39,968	1,599	STA - 5 3,603
DMA - 6	28,412	1,136	STA - 6 1,189
DMA - 9	11,940	478	STA - 9 479

DRAINAGE MANAGEMENT AREAS - PARKING STRUCTURE

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			STA - # (SF)
DMA - PS1	109,555	4,382	STA - PS1 4,382
DMA - PS2	87,881	3,515	STA - PS2 3,515

DRAINAGE MANAGEMENT AREAS - BUILDING

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			STA - # (SF)
DMA - B3	49,556	1,982	STA - B3 1,983
DMA - B7	3,873	155	STA - B7 155

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 1/2

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			
PARCEL 1 & 2			
ROADWAY			
DMA - 8	130,843	5,234	
SUBTOTAL		5,234	
PARCEL 2			
ROADWAY			
DMA - 3	179,947	7,198	16,343
PARKING STRUCTURE			
DMA - PS3	59,454	2,378	
BUILDING			
DMA - B4	38139	1,534	
SUBTOTAL		11,110	
TOTAL		**16,343**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 1.1

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			
PARCEL 1			
ROADWAY			
DMA - 2	21,697	868	
DMA - 7	64,698	2,588	7,082
BUILDING			
DMA - B1	45,000	1,800	
DMA - B2	45,658	1,826	
TOTAL		**7,082**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 1.2

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			
PARCEL 1			
PARKING STRUCTURE			
DMA - PS3	71,361	2,854	
BUILDING			
DMA - B4	35,230	1,410	6,142
DMA - B5	45,000	1,800	
DMA - B6	1,936	77	
TOTAL		**6,142**	

ABBREVIATIONS

DMA	DRAINAGE MANAGEMENT AREA
STA	STORMWATER TREATMENT AREA
B	BUILDING
PS	PARKING STRUCTURE

LEGEND

- DMA – ROADWAY
- STA
- BUILDINGS
- BIO-RETENTION/DETENTION 1/2 DMA
- BIO-RETENTION/DETENTION 1.1 DMA
- BIO-RETENTION/DETENTION 1.2 DMA
- STORMWATER FLOW DIRECTION

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Date	Description	No.
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4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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Project
CITY PLACE
SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 1
PRELIMINARY
STORMWATER
MANAGEMENT

Project No. 770611601	Figure CT2.01
Date 3/20/2015	
Scale AS SHOWN	
Drawn By NT / Checked By DJH	
Submission Date 3/20/2015	Sheet 1 of 4

PROJECT No. 770611601

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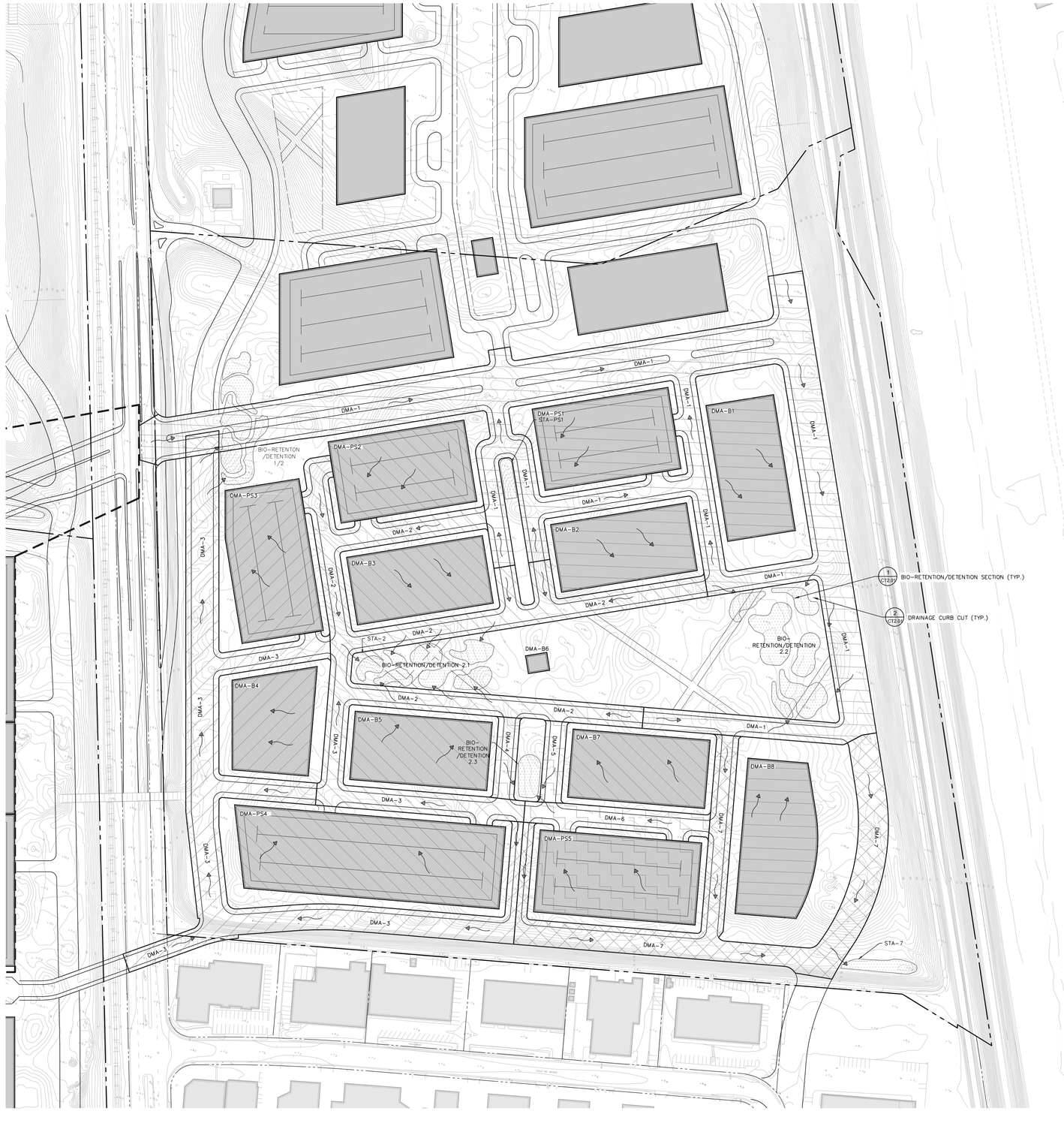

DRAINAGE MANAGEMENT AREAS - ROADWAY

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area	
DMA - 2			STA - 2	(SF)
DMA - 7	95,699	3,828	STA - 7	3,828

DRAINAGE MANAGEMENT AREAS - PARKING STRUCTURE

PARCEL 1

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area	
DMA - 2			STA - 2	(SF)
DMA - PS1	54,000	2,160	STA - PS1	2,160

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 1/2

PARCEL 1 & 2

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - 2			
	PARCEL 1		
ROADWAY			
DMA - 8	130,843	5,234	
	SUBTOTAL	5,234	
	PARCEL 2		
ROADWAY			
DMA - 3	179,947	7,198	16,343
PARKING STRUCTURE			
DMA - PS3	59,454	2,378	
BUILDING			
DMA - B4	38,139	1,534	
	SUBTOTAL	11,110	
	TOTAL	**16,343**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 2.1

PARCEL 2

Drainage Management Area DMA - 2	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
ROADWAY			
DMA - 7	116,629	4,665	
PARKING STRUCTURE			
DMA - PS2	54,000	2,160	
DMA - PS4	103,487	4,139	
BUILDING			16,442
DMA - B3	45,000	1,800	
DMA - B5	45,000	1,800	
DMA - B6	1,916	77	
DMA - B7	45,000	1,800	
	TOTAL	**16,442**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 2.2

PARCEL 2

Drainage Management Area DMA - 2	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
ROADWAY			
DMA - 1	461,323	18,453	
BUILDING			
DMA - B1	45,000	1,800	24,162
DMA - B2	45,000	1,800	
DMA - B8	52,722	2,109	
	TOTAL	**24,162**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 2.3

PARCEL 2

Drainage Management Area DMA - 2	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
ROADWAY			
DMA - 4	8,226	329	
DMA - 5	8,194	328	
DMA - 6	20,596	824	4,026
PARKING STRUCTURE			
DMA - PS5	63,622	2,545	
	TOTAL	**4,026**	

ABBREVIATIONS

DMA DRAINAGE MANAGEMENT AREA
STA STORMWATER TREATMENT AREA
B BUILDING
PS PARKING STRUCTURE

LEGEND

- DMA – ROADWAY
- STA
- BUILDINGS
- BIO-RETENTION/DETENTION 1/2 DMA
- BIO-RETENTION/DETENTION 2.1 DMA
- BIO-RETENTION/DETENTION 2.2 DMA
- BIO-RETENTION/DETENTION 2.3 DMA
- STORMWATER FLOW DIRECTION

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

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SANTA CLARA CALIFORNIA

Figure Title
PARCEL 2
PRELIMINARY
STORMWATER
MANAGEMENT

Project No.	Figure
770611601	CT2.02
Date: 3/20/2015	
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Submission Date: 3/20/2015	Sheet 2 of 4

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PROJECT No. 770611601

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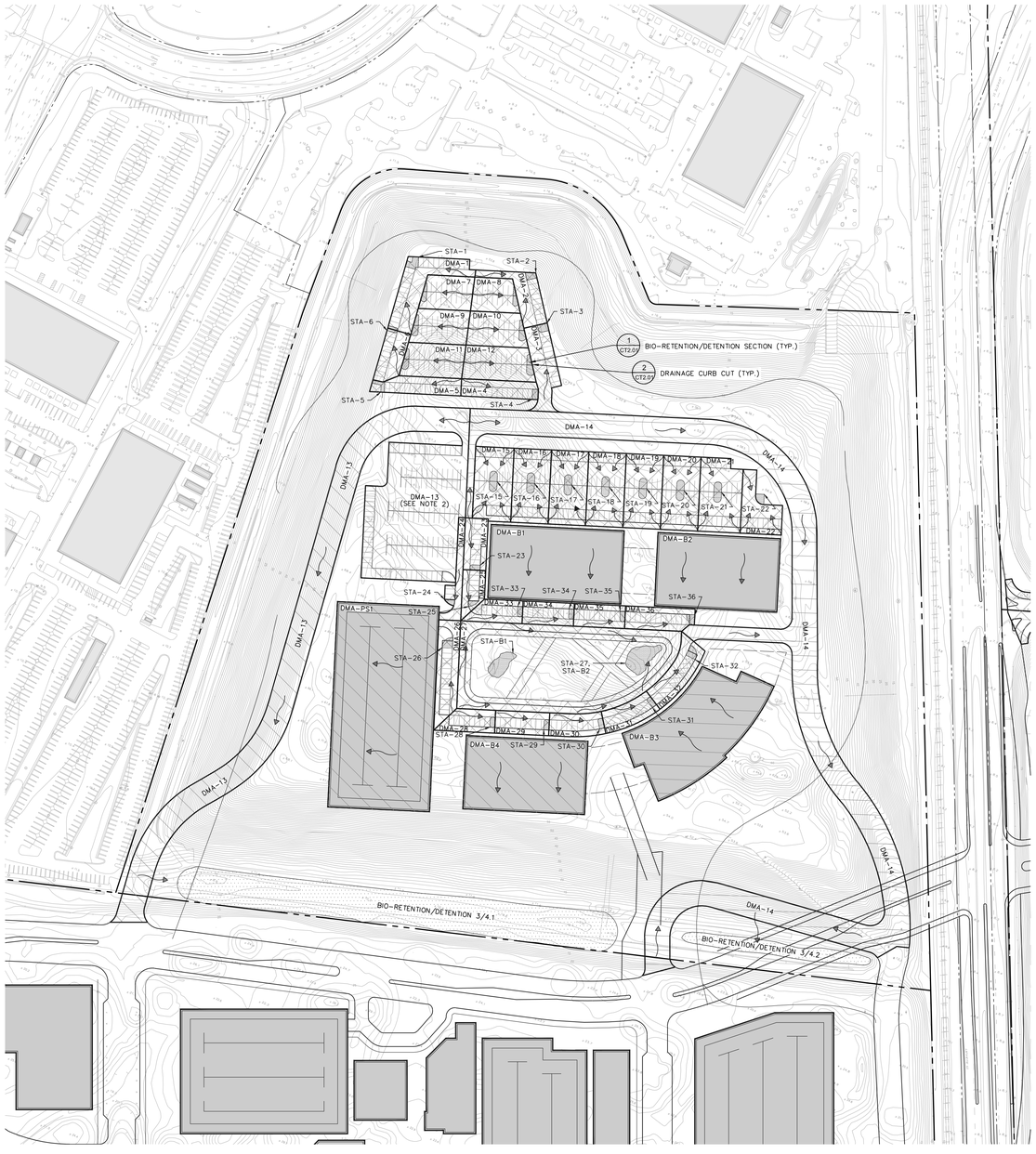

DRAINAGE MANAGEMENT AREAS - ROADWAY

PARCEL 3

Drainage Management Areas	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area
DMA - #			STA - # (SF)
DMA - 1	7,907	316	STA - 1 322
DMA - 2	4,821	191	STA - 2 207
DMA - 3	5,834	233	STA - 3 239
DMA - 4	4,093	164	STA - 4 186
DMA - 5	4,401	176	STA - 5 203
DMA - 6	3,710	148	STA - 6 154
DMA - 7	5,206	208	STA - 7 210
DMA - 8	4,598	184	STA - 8 197
DMA - 9	5,797	232	STA - 9 305
DMA - 10	5,944	238	STA - 10 316
DMA - 11	6,257	250	STA - 11 310
DMA - 12	7,136	285	STA - 12 338
DMA - 15	8,663	347	STA - 15 447
DMA - 16	8,539	342	STA - 16 447
DMA - 17	8,540	342	STA - 17 447
DMA - 18	8,540	342	STA - 18 447
DMA - 19	8,539	342	STA - 19 447
DMA - 20	8,540	342	STA - 20 447
DMA - 21	9,319	373	STA - 21 447
DMA - 22	5,240	210	STA - 22 221
DMA - 23	3,655	146	STA - 23 154
DMA - 24	3,149	326	STA - 24 137
DMA - 25	2,800	112	STA - 25 122
DMA - 26	6,685	267	STA - 26 279
DMA - 27	20,525	821	STA - 27 821
DMA - 28	3,513	141	STA - 28 154
DMA - 29	3,804	152	STA - 29 154
DMA - 30	3,813	153	STA - 30 154
DMA - 31	3,825	153	STA - 31 154
DMA - 32	5,245	210	STA - 32 281
DMA - 33	3,516	141	STA - 33 154
DMA - 34	3,601	144	STA - 34 154
DMA - 35	3,602	144	STA - 35 154
DMA - 36	4,691	188	STA - 36 200

DRAINAGE MANAGEMENT AREAS - BUILDING

PARCEL 3

Drainage Management Areas	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area
DMA - #			STA - # (SF)
DMA - B1	30,550	1,222	STA - B1 #####
DMA - B2	28,126	1,125	STA - B2 #####

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 3/4.1

PARCEL 3 & 4

Drainage Management Areas	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			
PARCEL 3			
ROADWAY			
DMA - 13	90,241	3,610	
PARKING STRUCTURE			
DMA - PS1	65,160	2,606	
BUILDING			
DMA - B4	27,950	1,118	
SUBTOTAL		7,334	
PARCEL 4			
ROADWAY			
DMA - 7	303,724	12,149	
PARKING STRUCTURE			
DMA-PS1	84,931	3397	
DMA-PS2	80,267	3211	
DMA-PS4	58,680	2347	
DMA-PS5	64,819	2593	
BUILDING			
DMA - B5	10,578	423	
DMA - B6	13,172	527	
DMA - B7	8,575	343	47,349
DMA - B8	12,288	492	
DMA - B9	9,252	370	
DMA - B10	42,111	1,684	
DMA - B11	1,834	73	
DMA - B12	1,936	77	
DMA - B13	48,298	1,932	
DMA - B14	31,585	1,263	
DMA - B15	14,661	586	
DMA - B16	54,336	2,173	
DMA - B17	10,479	419	
DMA - B18	14,473	579	
DMA - B19	20,764	831	
DMA - B20	12,437	497	
DMA - B21	1,553	62	
DMA - B22	5,417	217	
DMA - B23	16,791	672	
DMA - B24	19,720	789	
DMA - B25	17,095	684	
DMA - B26	15,207	608	
DMA - B27	10,009	400	
SUBTOTAL		39,400	
TOTAL		**46,734**	

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 3/4.2

PARCEL 3 & 4

Drainage Management Areas	DMA AREA (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
DMA - #			
PARCEL 3			
ROADWAY			
DMA - 14	93,713	3,749	
BUILDING			
DMA - B3	32,130	1,285	7,108
SUBTOTAL		5,034	
PARCEL 4			
ROADWAY			
DMA - 3	50,292	2,012	
SUBTOTAL		2,012	
TOTAL		**7,045**	

ABBREVIATIONS

DMA DRAINAGE MANAGEMENT AREA
STA STORMWATER TREATMENT AREA
B BUILDING
PS PARKING STRUCTURE

LEGEND

- DMA – ROADWAY
- STA
- BUILDINGS
- BIO-RETENTION/DETENTION 3/4.1 DMA
- BIO-RETENTION/DETENTION 3/4.2 DMA
- LIMIT OF BIO-RETENTION/DETENTION DMA
- STORMWATER FLOW DIRECTION

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

Date	Description	No.
REVISIONS		

LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan UK Ltd.
Langan International LLC
Collectively known as Langan

Project
CITY PLACE
SANTA CLARA

SANTA CLARA CALIFORNIA

Figure Title
PARCEL 3
PRELIMINARY
STORMWATER
MANAGEMENT

Project No. 770611601	Figure CT2.03
Date 3/20/2015	
Scale AS SHOWN	
Drawn By NT / Checked By DJH	
Submission Date 3/20/2015	Sheet 3 of 4

100 0 50 100
SCALE IN FEET

PROJECT No. 770611601

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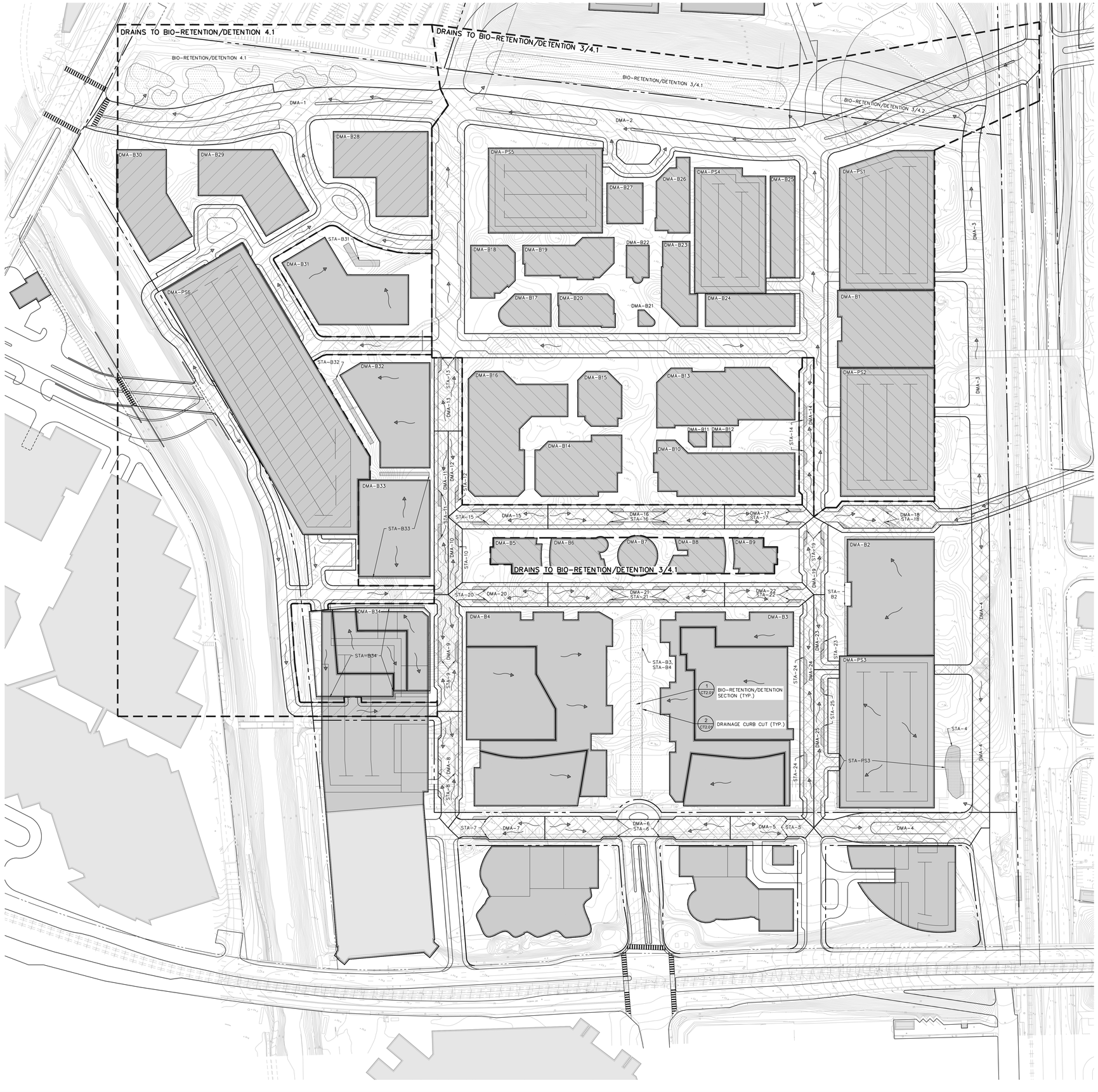
Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Post Closure Land Use Plan\13-CT - Stormwater Management Plan.dwg Date: 3/23/2015 Time: 16:11 User: ntrinh Style Table: Langan.stb Layout: PARCEL 3



DRAINAGE MANAGEMENT AREAS - ROADWAY

PARCEL 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area STA - #	(SF)
DMA - 4	67,403	2,696	STA - 4	2,696
DMA - 5	11,315	453	STA - 5	533
DMA - 6	25,610	1,024	STA - 6	1,207
DMA - 7	12,916	517	STA - 7	607
DMA - 8	16,324	653	STA - 8	708
DMA - 9	20,128	805	STA - 9	839
DMA - 10	6,085	243	STA - 10	302
DMA - 11	15,126	605	STA - 11	612
DMA - 12	7,387	295	STA - 12	318
DMA - 13	13,563	543	STA - 13	585
DMA - 14	14,320	573	STA - 14	672
DMA - 15	14,788	592	STA - 15	604
DMA - 16	28,162	1,126	STA - 16	1,211
DMA - 17	13,174	527	STA - 17	534
DMA - 18	32,727	1,309	STA - 18	1,601
DMA - 19	12,534	501	STA - 19	579
DMA - 20	14,787	591	STA - 20	607
DMA - 21	28,162	1,126	STA - 21	1,213
DMA - 22	13,176	527	STA - 22	535
DMA - 23	7,183	287	STA - 23	306
DMA - 24	19,833	793	STA - 24	816
DMA - 25	15,620	625	STA - 25	668

DRAINAGE MANAGEMENT AREAS - PARKING STRUCTURE

PARCEL 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area STA - #	(SF)
DMA - PS3	96,040	3,842	STA - PS3	3,842

DRAINAGE MANAGEMENT AREAS - BUILDINGS

PARCEL 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area STA - #	(SF)
DMA - 2	66,900	2,676	STA - B2	2,826
DMA - B1	155,082	6,203	STA - B3	6,203
DMA - B4	174,213	6,969	STA - B4	6,969
DMA - B31	44,786	1,791	STA - B31	1,823
DMA - B12	46,754	1,870	STA - B32	1,870
DMA - B33	46,219	1,849	STA - B33	1,849
DMA - B34	67,587	2,703	STA - B34	2,816
		SUBTOTAL		39,400
		TOTAL		**46,734**

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 4.1

PARCEL 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
ROADWAY			
DMA - 1	274,571	10,983	
PARKING STRUCTURE			
DMA - PS6	180,687	7,227	
BUILDING			
DMA - B28	42,900	1,716	
DMA - B29	38,165	1,527	
DMA - B30	36,126	1,445	
	TOTAL	**22,898**	

22,901

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 3/4.1

PARCEL 3 & 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area SF	Stormwater Treatment Area (SF)
	PARCEL 3		
ROADWAY			
DMA - 13	90,241	3,610	
PARKING STRUCTURE			
DMA - PS1	65,160	2,606	
BUILDING			
DMA - B4	27,950	1,118	
	SUBTOTAL	7,334	
	PARCEL 4		
ROADWAY			
DMA - 2	303,724	12,149	
PARKING STRUCTURE			
DMA-PS1	84,933	3,397	
DMA-PS2	80,267	3,211	
DMA-PS4	58,680	2,347	
DMA-PS5	64,819	2,593	
BUILDING			
DMA - B5	10,578	423	
DMA - B6	13,172	527	
DMA - B7	8,575	343	
DMA - B8	12,288	492	
DMA - B9	9,252	370	
DMA - B10	42,111	1,684	
DMA - B11	1,834	73	
DMA - B12	1,936	72	
DMA - B13	48,298	1,932	
DMA - B14	31,585	1,263	
DMA - B15	14,661	586	
DMA - B16	54,336	2,173	
DMA - B17	10,479	419	
DMA - B18	14,473	579	
DMA - B19	20,764	831	
DMA - B20	12,437	497	
DMA - B21	1,553	62	
DMA - B22	5,417	217	
DMA - B23	16,791	672	
DMA - B24	19,720	789	
DMA - B25	17,095	684	
DMA - B26	15,207	608	
DMA - B27	10,009	400	
	SUBTOTAL	39,400	
	TOTAL	**46,734**	

47,349

DRAINAGE MANAGEMENT AREAS - BIO-RETENTION/DETENTION 3/4.2

PARCEL 3 & 4

Drainage Management Areas DMA - #	DMA Area (SF)	Required Stormwater Treatment Area (SF)	Stormwater Treatment Area (SF)
	PARCEL 3		
ROADWAY			
DMA - 14	93,713	3,749	
BUILDING			
DMA - B3	32,130	1,285	
	SUBTOTAL	5,034	
	PARCEL 4		
ROADWAY			
DMA - 3	50,292	2,012	
	SUBTOTAL	2,012	
	TOTAL	**7,045**	

7,108

ABBREVIATIONS

DMA DRAINAGE MANAGEMENT AREA
STA STORMWATER TREATMENT AREA
B BUILDING
PS PARKING STRUCTURE

LEGEND

- DMA – ROADWAY
- STA
- BUILDINGS
- BIO-RETENTION/DETENTION 4.1 DMA
- BIO-RETENTION/DETENTION 3/4.1 DMA
- BIO-RETENTION/DETENTION 3/4.2 DMA
- LIMIT OF BIO-RETENTION/DETENTION DMA
- STORMWATER FLOW DIRECTION

100 0 50 100
SCALE IN FEET

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

Date	Description	No.
REVISIONS		

LANGAN
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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan Treet, LLC
Collectively known as Langan

Project
CITY PLACE
SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 4 & 5
PRELIMINARY
STORMWATER
MANAGEMENT

Project No.	Figure
770611601	CT2.04
Date: 3/20/2015	
Scale: AS SHOWN	
Drawn By: NT / Checked By: DJH	
Submission Date: 3/20/2015	Sheet 4 of 4

PROJECT No. 770611601

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APPENDIX A

City of Santa Clara Storm Drain System Index and Basic Information Maps

CITY OF SANTA CLARA STORM DRAIN SYSTEM - INDEX MAP

DISCLAIMER:

All City of Santa Clara public utility base maps are provided to the public for general reference use only, and are not intended to be relied upon or used as record ("As-Built") drawings. The public utility locations shown on the base maps are only approximate indications of the locations of such utilities, and are current only to the date indicated. Underground Service Alert (USA) must be contacted for confirmation of the location of all underground utilities prior to any work which may affect public utilities in the public right of way or in public easements. The City of Santa Clara is not responsible for any losses or damages resulting from the use of, or reliance on, the base maps.

PS = PUMP STATION

EASTSIDE PS
WESTSIDE PS
TASMAN OUTFALL PS
GOLF COURSE PS
FAIRWAY GLEN PS
GIANERA PS
RAMBO PS
LAKE SANTA CLARA PS
LICKMILL PS
NELO-VICTOR PS
LAKESIDE PS
FREEDOM CIRCLE PS
LAURELWOOD PS
BOWERS UNDERPASS PS
LAFAYETTE/ HWY 101 UNDERPASS PS
POLICE PISTOL RANGE PS
LAFAYETTE/ SHULMAN PS
LAFAYETTE SUBWAY PS
DE LA CRUZ OVER/ UNDERPASS PS
WEST WING PS
EAST WING PS
SAN JOSE INTERNATIONAL AIRPORT

R1 R2 R3 R4

STORM DRAIN LEGEND:

- Storm Drain Lines
- Direction of Flow
- Other Storm Drain Lines belonging to county, private, or other cities
- 21–350 — Pipe dimension: 1st element is size of pipe in inches; 2nd element is distance between structures in feet.
- 9,587D–86 — Drawing Designation: 1st element is drawing/tracing no.; 2nd element is the year construction was completed.
- EL. 23.4 / 6.5 — Elevation in feet of MH Rim or CB Grate. Depth in feet, from MH Rim or CB Grate to Invert of pipe. *Elevations are based upon 1977 City of Santa Clara Datum.
- Manhole (MH)
- Catch Basin (CB)
- Catch Basin over Manhole
- 7 — Manhole ID Number
- FD — French Drain
- FG — Flap Gate
- Drop Inlet
- CO — Clean Out Box
- Storm Drain Pump Station
- RCP — Reinforced Concrete Pipe *Default unless otherwise specified.
- CIP — Cast Iron Pipe
- DIP — Ductile Iron Pipe
- ACP — Asbestos Cement Pipe
- APC — Alternative Pipe Culvert
- CMP — Corrugated Metal Pipe
- V.55.25 — Valley Gutter Elevation

CITY OF SANTA CLARA BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
		ML	08-2014	40	94

104

N 333,250

E 1,572,150

93

95

84

D 94

N 330,000

E 1,574,450

Stars and Stripes Dr.

Tasman Dr.

COUNTY MAINT.

San Tomas Aquino Creek

BRIDGE

Centennial Blvd.

Hetch Hetchy R/W

Gianera St.

Lass Dr.

Silveria Ct.

Gilmore St.

Alcalde St.

Lakeshore Dr.

Kune Ct.

Villa Pl. (Pvt)

U.P.R.R.

GOLF COURSE CLUB HOUSE STORM DRAIN PUMP STATION
9,001D-86

GIANERA STORM DRAIN PUMP STATION
10,529D-96

CHECK VALVES
INV. 4.1

DUCKBILL OUTFALL STRUCTURE
10,388D-95

W.S.E. 18.4 Q10
W.S.E. 18.9 Q100

9,001D-86
9,542D-88
6,586D-74
10,146D-94
11,034D-01
9,311D-88
9,833D-92
10,738D-00
7,198D-77
7,704D-79
10,490D-96 TR 8815-96

CITY OF SANTA CLARA		DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	ML	01-2008	120	95

105



94

96

85

D 95

CITY OF SANTA CLARA		DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	ML	08-2014	50	103

113

N 336,500

E 1,569,850

Highway 237 (Mt. View-Alviso Rd.)

San Tomas Aquino Creek

10,683D-02

34-220 CULVERT

PRIVATE WELL
33-25 (PVT)
18-34 (PVT)
18-8 (CSC)

EL. 6.26 / 7.12
EL. 5.12 / 6.36
EL. 3.79 / 3.5
EL. 7.06 / 6.81
EL. 5.97 / 6.25
EL. 5.76 / 6.40
EL. 6.73 / 7.20
EL. 11.06 / 10.87
EL. 6.36 / 5.49
EL. 5.83 / 4.0
EL. 5.14 / 2.88
EL. 6.56 / 5.57 (N) 3.46 (S) 4.15 (E)
EL. 4.60 / 1.98 (N) 2.12 (W)
EL. 7.96 / 4.6
EL. 8.96 / 5.23
EL. 8.12 / 3.4

34-129
36-78
18-129
33-25
33-138
21-100
33-77
30-130
30-158
30-335
30-62
15-68
15-198
15-83
15-19
12-52

LIMITS OF 10' EASEMENT

9,695D-92

Great America Way

36-398
36-296
30-57
24-155
18"
EL. 3.73 / 3.6
EL. 3.71 / 3.5
EL. 8.60 / 6.3
EL. 6.06 / 7.6
EL. 8.18 / 8.9
EL. 4.44 / 5.7
EL. 3.81 / 3.6
11,646D-07
11,125D-04
11,964D-13
Limits of 15' SD Easement
EL. 6.99 / 4.4
12" HDPE
4" HDPE
12-28 DIP & 12-24 HDPE
24-163
EL. 7.43 / 7.4
4" HDPE
24-286
EL. 7.76 / 6.7
4" HDPE
24-275
EL. 7.92 / 6.4
4" HDPE
24-305
12-24 DIP & 12-23 HDPE
EL. 8.00 / 5.8
24-225
EL. 7.74 / 4.6
18-34
15-70
12-49
CONCRETE FLARED END W/ROCK PROTECTION
INV. 4.1
EL. 8.43 / 4.0
18-226
EL. 8.90 / 4.8
EL. 7.78 / 4.2
12-50
EL. 9.35 / 4.5
15-230
EL. 8.97 / 4.3
11,117D-02
15-194
EL. 9.81 / 4.5
EL. 9.63 / 3.8
15-69
8" PVC
EL. 8.94 / 2.9
11,125D-04

Marvell Ln. (Pvt.)

48-25
EL. 6.45 / 10.9
EL. 6.33 / N 2.8,S 5.8
EL. 6.36 / 2.3
12-60
36-112
54-215
54-151
54-170
48
18"
12"
EL. 7.49 / 13.2
EL. 6.28 / 12.2
EL. 5.67 / 9.0
EL. 6.47 / 10.3
6,415D-74
48-285
15"
EL. 5.84 / 8.2
EL. 6.70 / 10.0
42-375
7,440D-79
39-375
39-290

WESTSIDE STORM DRAIN PUMP STATION
6,738D-75

Old Mt. View Alviso Rd.

FIELD INLET
18-58
EL. 6.31 / 18.0
CB1
NORTH INLET
18-160
18-100
PS1
CMP
36 (3)
15 (2)
OF1
OF2
OF3
OF4
OF5
INV. 36" 10.8
INV. 15" 12.4
W.S.E. 12.5 Q10
W.S.E. 13.5 Q100
T.B. 17.2
3X36" CMP
2X15" CMP
DISCHARGE PIPES
EL. 3.94 / 17.5
30-36
18-390
EL. 3.27 / 13.6
18-330
EL. 2.84 / 10.3
18-30
SOUTH INLET
CB2
96-85
EL. 8.46 / 14.9
WESTSIDE RETENTION BASIN
6,738D-75
6,500D-74

Betsy Ross Dr.

EL. 4.57 / 4.3
EL. 4.59 / 5.1
EL. 4.85 / 5.5
EL. 5.93 / 5.0
EL. 3.79 / 3.5
EL. 3.81 / 3.6
EL. 4.57 / 4.3
EL. 4.85 / 5.5
EL. 5.93 / 5.0

EL. 8.9 / 5.59 (SE) 5.69 (SW) 5.25 (NW)
12-10
EL. 7.7 / 4.0
EL. 7.7 / 4.78 (NE) 4.78 (NW) 4.88 (SE)
12-22
EL. 7.5 / 4.47 (SE)
90-340
36-160 STEEL CASING
EL. 9.17 / 15.9
26
24-252
EL. 7.7 / 4.0 (E)
12-26
(Bolted Down Lid)
EL. 7.22 / 14.7
EL. 6.85 / 5.1
32
EL. 6.89 / 3.9
12-194
EL. 8.58 / 5.82 (NW) 5.92 (SE)
9,001D-85
35
12-65
12-29
EL. 7.1 / 4.0 (SE)
90-695
6,500D-74
38
12-98
EL. 10.7 / 5.6 (NE) 5.5 (SE)
EL. 9.93 / 5.32 (SW) 7.41 (NW) 7.51 (NE)
EL. 7.7 / 4.0 (SE)
EL. 7.6 / 4.0 (NW) 3.9 (SE)
12-59
12-59 12-25
12-45
12-35
12-10
12-21
27
21-127
28
12-15
EL. 8.21 / 13.85 (NW) 13.75 (SE) 5.56 (NNW) 4.64 (W) 6.76 (SW)
EL. 8.8 / 3.65 (NE) 3.12 (10") 3.24 (6")
EL. 8.4 / 3.5 (NE)(SW)
10-41ACP
6-47ACP
EL. 8.5 / 4.0 (SE)
2X8-51 ACP
12-60
EL. 9.89 / 5.86 (NE)(SW) 5.66 (SE)
12-7
EL. 8.8 / 5.05 (NW)
EL. 7.5 / 4.24 (NE) 4.34 (SW)
EL. 7.4 / 4.29 (NE) 4.39 (SW)
9,230D-87
EL. 8.4 / 3.5 (SW)
EL. 7.7 / 4.0 (SE)
EL. 8.2 / 4.62 (NW) 4.72 (SW)
EL. 7.81 / 12.72 (NW) 12.62 (SE) 4.90 (NE) 4.76 (W) 4.50 (SSE) 5.87 (SW) 7.31 (WSW)
EL. 8.89 / 12.74 (NW) 12.64 (SE) 4.08 (W) 4.11 (NE)
EL. 8.52 / 10.21 (NW) 10.11 (S) 3.89 (E) 4.57 (W)
EL. 8.52 / 9.21 (N) 9.11 (S) 3.89 (E) 3.80 (W) 5.94 (SW)
EL. 9.09 / 12.31 (NW) 12.21 (SE) 4.89 (SW)
EL. 8.25 / 3.5 (SW)
12-19
12-16
30
9,001D-85
18-179
18-181
12-22
EL. 8.5 / 4.1 (NW) 4.2 (NE)
EL. 9.98 / 5.65 (SW) 4.52 (NW)(BOTH)
8-29 ACP
12-25
12-5
EL. 8.25 / 4.27 (E) 4.22 (W)
EL. 8.25 / 3.5 (E)
EL. 8.25 / 3.5 (W)
37
18-107
12-50
12-29
12-49
12-24
18-193
29
EL. 8.90 / 4.8
EL. 7.78 / 4.2
EL. 8.43 / 4.0
41
42
43
12-50
EL. 8.97 / 4.3
EL. 9.81 / 4.5
39
40
15-194
15-230
11,117D-02
11,125D-04
15-69
8" PVC
EL. 8.94 / 2.9
EL. 9.63 / 3.8
EL. 9.35 / 4.5
EL. 7.74 / 4.6
15-19
15-83
15-68
15-198
15-52
15-70
12-52
12-20
12-24 DIP & 12-23 HDPE
EL. 8.00 / 5.8
44
45
46
47
48
49
50
EL. 7.92 / 6.4
EL. 7.76 / 6.7
EL. 7.43 / 7.4
EL. 8.18 / 8.9
EL. 6.99 / 4.4
EL. 3.71 / 3.5
EL. 6.06 / 7.6
EL. 8.60 / 6.3
EL. 3.73 / 3.6
18"
12"
4" HDPE
12" HDPE
12-12
12-10
12-10
12-10
12-5
12-5
12-25
12-25
12-25

CITY OF SANTA CLARA BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
		ML	08-2014	27	104

N 336,500

E 1,572,150

N 333,250

E 1,574,450

11,957–D

Limits of 20' SD Easement

11,125D–03

Limits of 15' SD Easement

11,964D–13

5,445D–71

5,802D–72

9,001D–86

10,330–D

10,146D–96

TYPE A DITCH 160LF

TYPE A DITCH 440LF

TYPE A DITCH 250LF

FLARED END W/ROCK PROTECTION

Lafayette St.

U.P.R.R.

Del Mundo

Calle De Luna

Stars and Stripes Dr.

Tasman Dr.

San Tomas

CITY OF SANTA CLARA BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
		ML	08-2014	42	105

N 333,250

E 1,574,450

104

106

Guadalupe River

Renaissance Dr.

Tasman Dr.

Calle Del Mundo

Calle De Luna

Calle De Sol

Calle De Escuela

Lick Mill Blvd.

Av. De Lago

Av. De Los Arbol

Av. De Carmen

Av. De Guadalupe (Pvt)

Av. De Los Alumnos (Pvt)

Plaza Corona (Pvt)

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

DRAINAGE CHANNEL

COUNTY MAINTAINED

5,639D–72

5,873D–72

A.D. 154
5,873D–72

10,551D–98

4,905D–69

6,586D–76

TR–4971–71
5,574D–71

TR–5388–74
6,664D–77

7,951D–80

9,518D–88

11,191D–03

T.B. 4.0

T.B. 17.8 (PROP)
12.0 (EXIST)

T.B. 4.7

T.B. 18.8 (PROP)
13.8 (EXIST)

INV.
–2.8

W.S.E. 10.4 Q10
W.S.E. 13.8 Q100

W.S.E. 10.9 Q10
W.S.E. 14.5 Q100

TYPICAL "V" CROSS SECTION
NO SCALE Q=
S=0.00096

40'
20'
3±
VARIES 5' TO 9' 1.5:1
6.0'

TASMAN DRIVE
DEWATERING
PUMP

PS1
EL. IN – 6.09
EL. OUT – 1.34

OF1
OF2
OF3
OF4

42–27 CMP
3–72" RCP
3–48" RCP

CB1
CB2
CB3
CB4

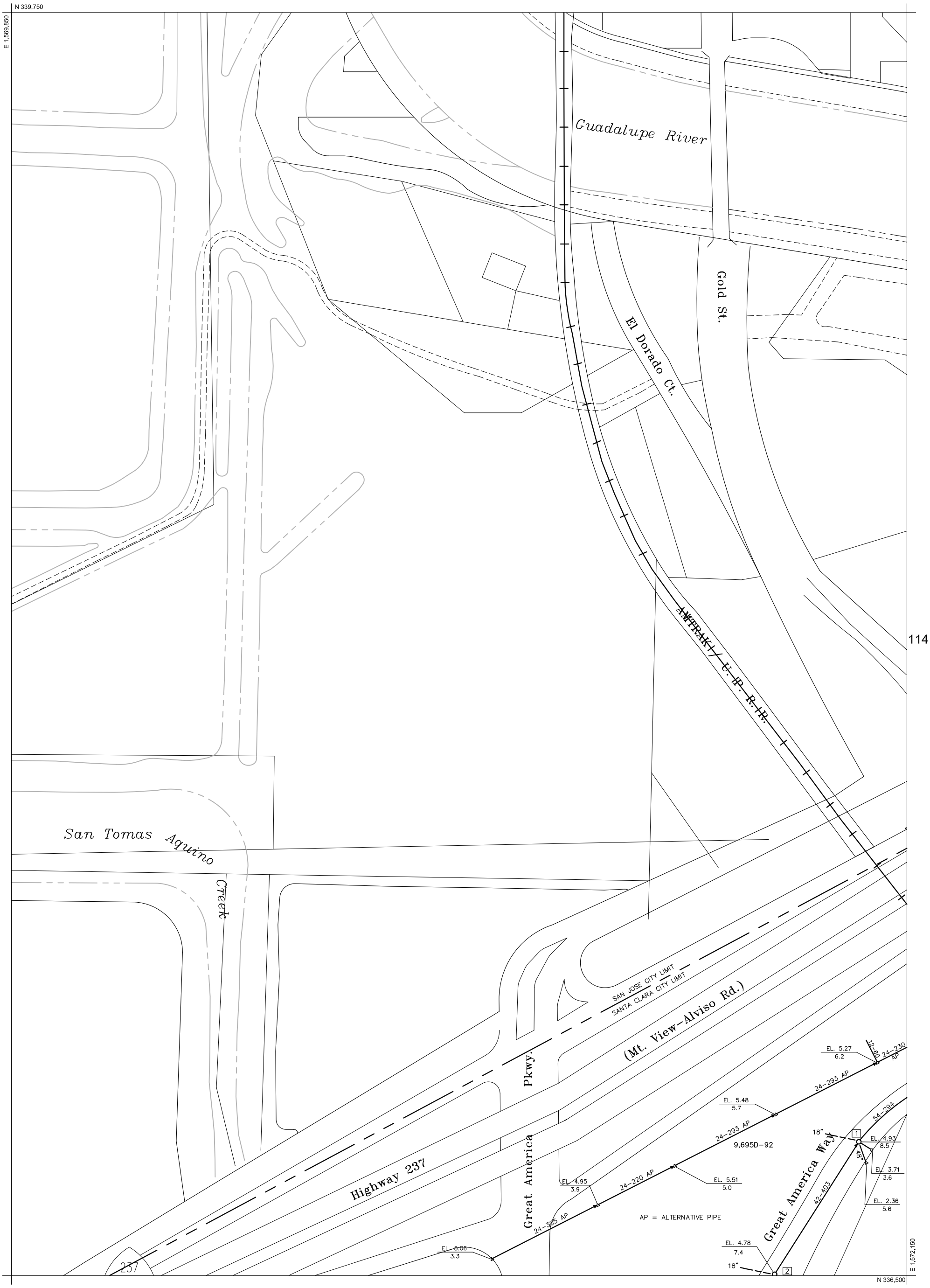
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

EL. 4.70 6.9
33–128
EL. 5.33 7.8
33–246
12"
EL. 3.90 6.9
EL. 4.76 6.6
21–55
EL. 3.47 5.2
24"
EL. 2.61 3.3
33–214
12"
EL. 2.91 2.5
21–212
12"
21–263
EL. 4.16 5.6
12"
EL. 2.72 2.2
18–197
EL. 2.96 2.6
18–51
EL. 4.49 5.3
12"
EL. 4.51 5.3
EL. 3.80 4.8
27–414
EL. 2.84 2.3
12"
EL. 3.75 5.2
EL. 3.02 3.0
15"
24–75
EL. 3.90 5.3
EL. 3.21 2.0
24–250
EL. 4.54 5.6
EL. 4.74 5.8
12"
18–85
EL. 3.46 2.9
EL. 4.38 4.8
18–165
18–67
18–198
EL. 4.61 5.0
12"
EL. 3.25 2.8
12–268
EL. 5.05 5.3
12"
12–142
EL. 4.96 4.2
EL. 5.38 4.1
EL. 5.56 4.5
EL. 5.77 4.4
EL. 5.84 5.6
12"
EL. 4.85 2.9
12–11
EL. 6.77 2.3
EL. 7.34 5.6
12–125
12–35
CB1
EL. 5.18 4.5
EL. 7.05 5.8
42–840
EL. 6.83 7.4
EL. 4.60 4.3
21–392
EL. 5.30 5.9
EL. 4.63 4.2
21–263
EL. 6.02 6.3
EL. 7.98 8.3
EL. 6.29 8.7
EL. 4.51 3.8
EL. 5.64 4.7
12"
EL. 6.03 10.4
EL. 4.33 4.4
EL. 5.76 8.2
EL. 6.35 8.8
48–144
48–335
48–284
EL. 6.99 8.6
EL. 4.56 5.1
EL. 6.26 10.7
60–121
60–144
42–180
42–139
42–301
EL. 5.43 9.1
EL. 5.53 7.1
EL. 4.39 6.7
42–20
EL. 5.46 7.2
EL. 3.38 3.4
EL. 6.09 8.1
EL. 5.38 4.6
18"
36–230
42–73
18–120
42–35
EL. 6.17 7.1
42–416
EL. 6.32 7.5
EL. 4.61 3.9
EL. 3.38 2.9
12–158
EL. 3.35 2.4
EL. 3.20 2.0
EL. 4.21 4.0
EL. 5.33 5.2
27–140
EL. 3.04 3.1
EL. 3.36 2.4
EL. 3.42 2.8
EL. 3.38 3.4
EL. 4.52 5.5
27–185
EL. 4.91 5.5
27–390

E 1,576,750

N 330,000

CITY OF SANTA CLARA BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
		ML	09-2014	2	113



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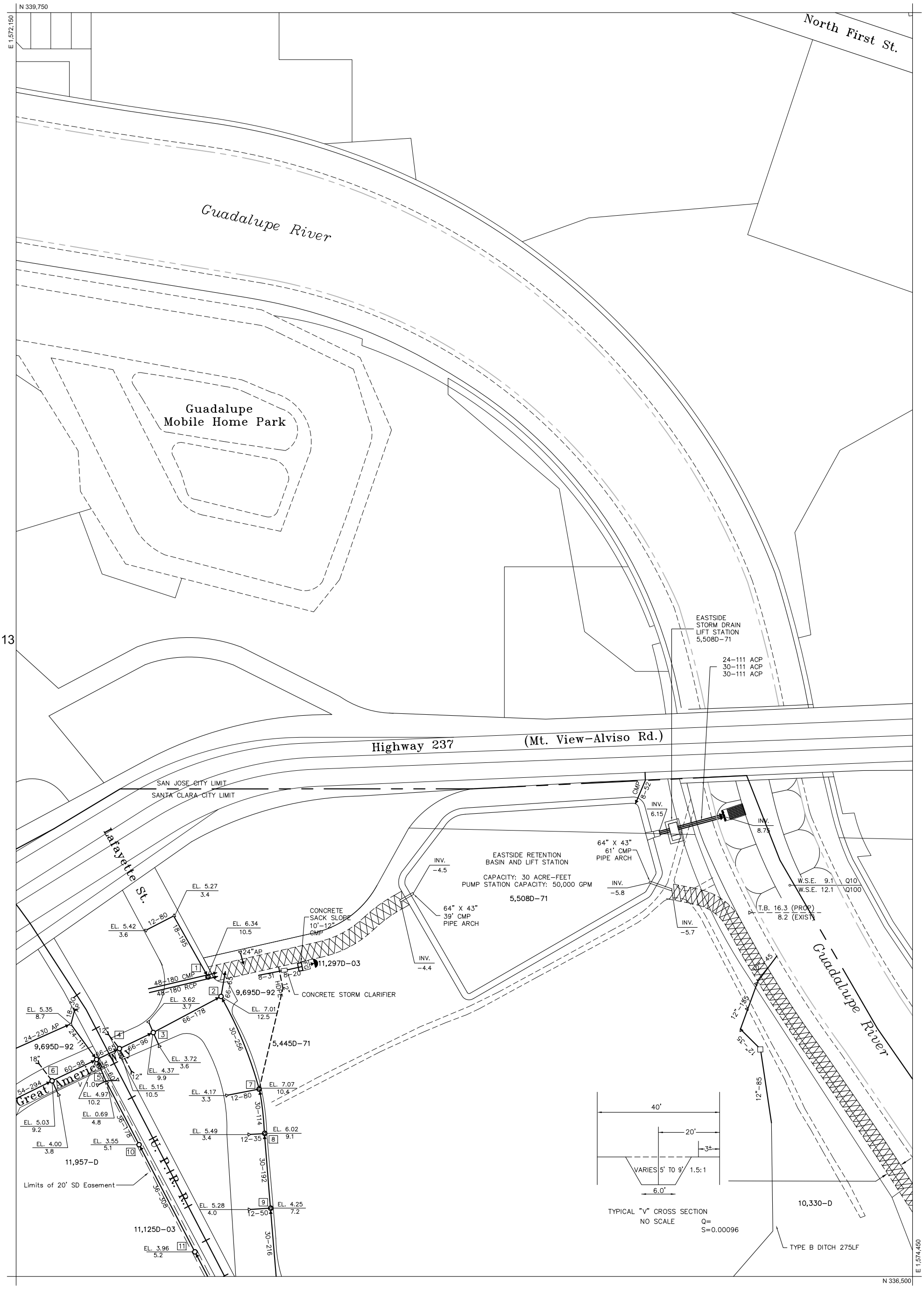
CITY OF SANTA CLARA		DRAWN BY	LAST REVISED DATE	TOTAL MH	MAP NO.
BASIC INFORMATION MAP	100 50 0 100 200 300 400 500 FT.	ML	08-2014	11	114



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APPENDIX B

Excerpts from the Santa Clara Storm Drain Pump Station Evaluation and Hydrologic Evaluation of the Eastside Retention Basin

Storm Drain Pump Station Evaluation

City of Santa Clara, CA

Prepared

November 3, 2010

for

City of Santa Clara
Water and Sewer Utilities Department
1500 Warburton Avenue
Santa Clara, CA 95050



03 NOV 10

Andrew A. Sterbenz, RCE No. 69703 (Date)

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

100 N. Winchester Blvd., Suite 200
Santa Clara, CA 95050
(408) 246-4848
FAX (408) 246-5624
s&w@swsv.com

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CITY OF SANTA CLARA
PUMP STATION EVALUATION

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OVERVIEW

The City of Santa Clara (City) engaged the firm of Schaaf & Wheeler to evaluate the storm water pump stations operated by the City. The City operates a system of 21 stations, listed in Table 1. The location of each pump station is shown on Figure 1, and the drainage areas of those discharging to creeks and rivers are shown on Figure 2. The stormwater collection system, including the pump station wetwells and forebays, is maintained by the City's Streets and Automotive Services Department. The stormwater pumps and stations are maintained by the Water and Sewer Utilities Department, which allows efficiencies for operator training and certification. Pump stations are generally located in the northern half of the City, where stormwater must be pumped over or through the levees into the Lower Guadalupe River, San Tomas Aquino Creek and Calabazas Creek. Of the 21 stations, nine are internal lift stations that drain basements or underpasses into the stormwater collection system.

The City is a member of the Santa Clara Valley Urban Runoff Pollution Prevention Program, and operates its stormwater collection system under the San Francisco Bay Municipal Regional Stormwater Permit, National Pollutant Discharge Elimination System (NPDES) No. CAS612008. The Regional Permit was updated in October 2009, and now includes a requirement for trash capture, which is discussed in this report.

The pump stations range from nine to 47 years in age. The equipment at many of these stations is nearing the end of its service life, and it may become necessary to replace equipment or even entire pump stations within the next few years. This can be a costly task which requires financial planning. It is recommended that the City set up an annual sinking fund for the upkeep and replacement of their pump stations. The goal of the fund is to budget and allocate sufficient funds to replace/upgrade major pump station equipment as it becomes necessary. The fund would also be used to fund routine maintenance and unforeseen improvements.

This report describes each pump station and how it operates, and documents the analysis and calculations that were performed to estimate the current replacement cost of each pump station.

Table 1: Stormwater Pump Stations in Santa Clara

Pump Stations Draining to Guadalupe River				
Station	**Originally Constructed**	**Last Upgraded**	**Drainage Area**	**Design Capacity**
Eastside Retention Basin	1973	2005	566 acres	50,000 gpm
Fairway Glen	1989		355 acres	111,500 gpm
Lick Mill	1988		620 acres	105,500 gpm
Nelo Victor	1986	2004	157 acres	78,150 gpm
Laurelwood	1986		308 acres	59,150 gpm
Pump Stations Draining to San Tomas Aquino Creek				
Station	**Originally Constructed**	**Last Upgraded**	**Drainage Area**	**Design Capacity**
Westside Retention Basin	1975	2001	854 acres	64,500 gpm
Golf Course	1987		54 acres	11,100 gpm
Gianera	1978	1996	58 acres	17,500 gpm
Rambo	1986	2001	351 acres	61,200 gpm
Lake Santa Clara	1986		20 acres	not listed
Freedom Circle	2001		46 acres	35,200 gpm
Pump Stations Draining to Calabazas Creek				
Station	**Originally Constructed**	**Last Upgraded**	**Drainage Area**	**Design Capacity**
Lakeside	1998		103 acres	30,000 gpm
Lift Stations to the City Storm Drain System				
Station	**Originally Constructed**	**Last Upgraded**	**Drainage Area**	**Design Capacity**
Bowers Ave Underpass	1974		n/a	2,750 gpm
City Hall – East Wing	1964		n/a	not listed
City Hall – West Wing	1964		n/a	not listed
Lafayette Over/Under	1976		n/a	2,300 gpm
Lafayette Subway	1963	1995	n/a	200 gpm
Police Pistol Range	1979		n/a	not listed
Shulman	1979		n/a	600 gpm
Tasman	1990		n/a	not listed
Tri-Level Underpass	1968	1975	n/a	not listed

Figure 1: Pump Station Locations

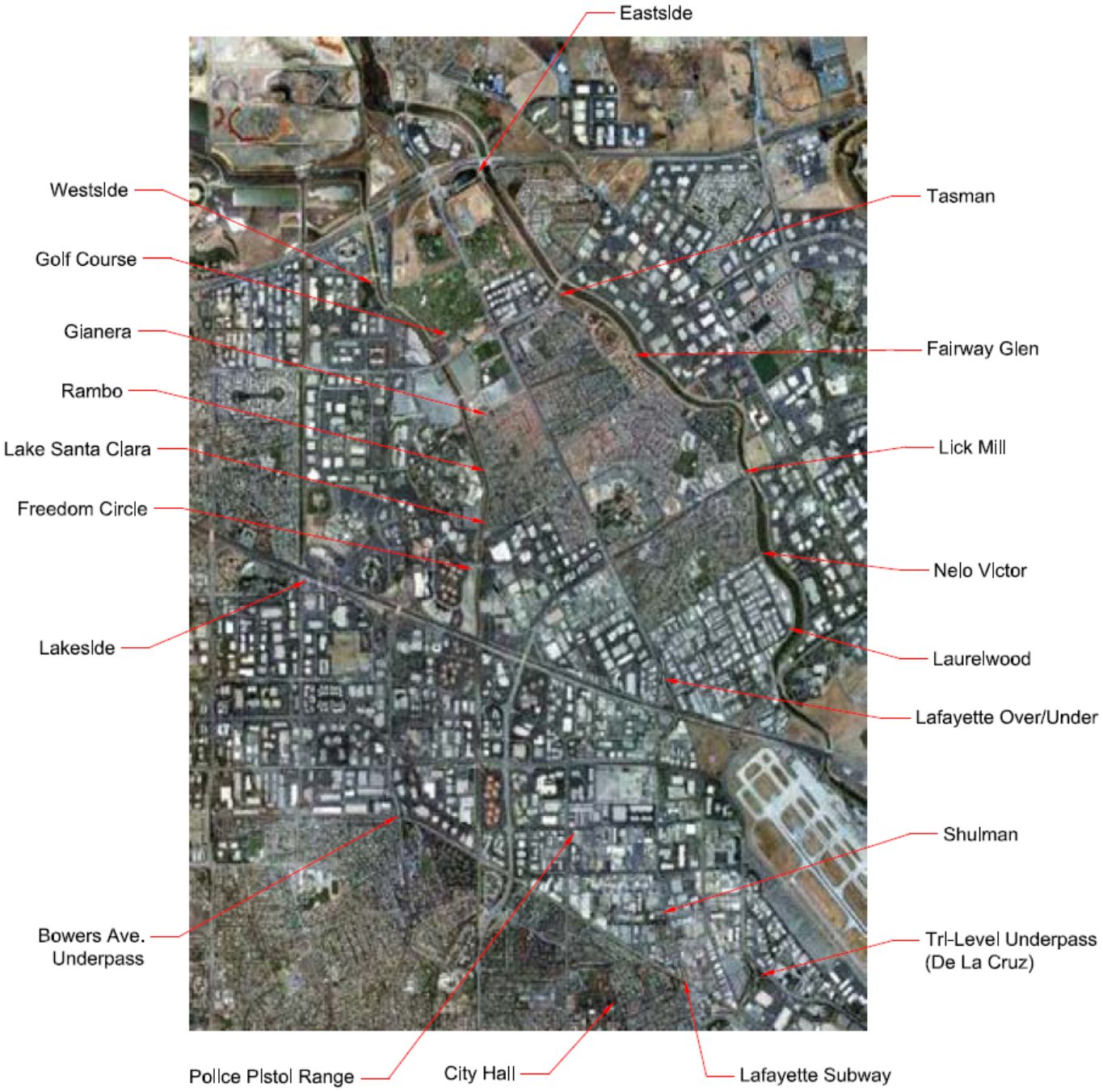
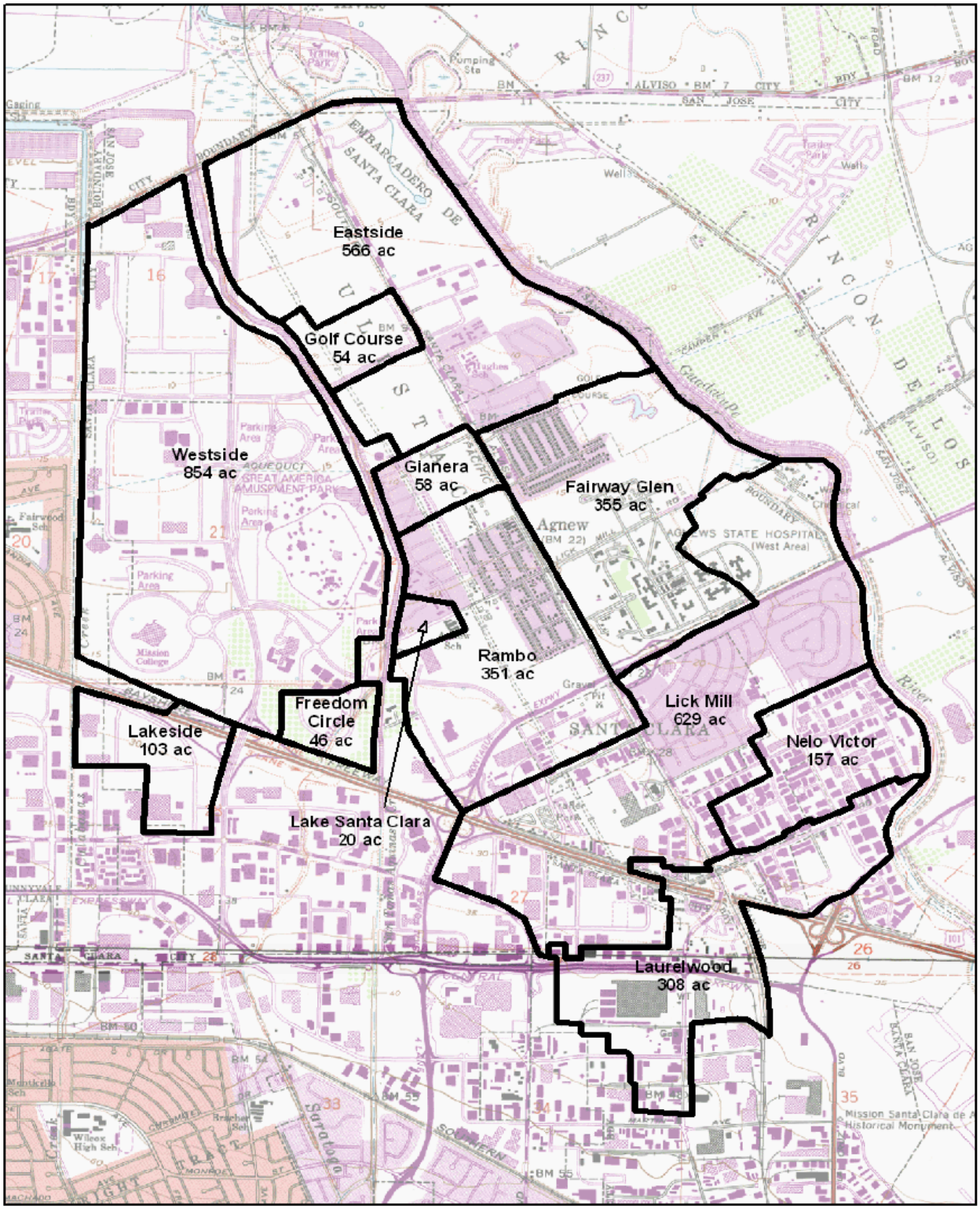


Figure 2: Pump Station Drainage Areas



PUMP STATION EVALUATION METHODS

Pump stations are evaluated based on their installation date, current condition, and any pertinent information provided by the City. The eleven largest pump stations (those with three or more pumps) have been visited and visually inspected. The remaining smaller stations are evaluated solely on the information provided by City Staff. Current replacement costs for each pump station are estimated assuming all items would be replaced in-kind.

All of the pump station buildings, with the exception of the Eastside Retention Basin Pump Station, are constructed with concrete or CMU (concrete block) which can be expected to last indefinitely, so replacement schedule/costs for these buildings are not included. Pumping facilities, on the other hand, rely heavily on mechanical and electrical equipment that will wear out, particularly since the stations are not operated on a constant basis. On average pumping equipment can be expected to last anywhere from 20 to 30 years with proper maintenance. Structural facilities should last much longer, at least 50 years, although metal, wood, and even concrete surfaces all require regular care. Therefore, a 25-year replacement schedule for all equipment within the pump station is used. Certain replacement items such as pump station roofs and concrete structure rehabilitation are put on a 50-year replacement schedule. Reinforced concrete pipes (RCP) will last well over 50 years in a non-corrosive environment, but corrugated metal pipes (CMP) are assumed to require replacement at 50 years. Replacement schedules are based on either the original construction date, or when the pump station had its last major upgrade or replacement. It is recommended that City maintenance crews monitor the condition of these facilities and prepare for system replacement several years in advance.

All but five of the stormwater pump stations are equipped with RTUs (Remote Terminal Units) for communication with the City-wide SCADA (Supervisory Control and Data Acquisition) system. Of the five unmonitored stations, three are basement pumps with alarms and the remaining two have gravity overflows. Each RTU converts signals from the various pump station controls for level, pump operation, valve position etc. and communicates status via radio or City network to master SCADA computers. This pump station evaluation project identifies the replacement costs for more conventional items and does not include the SCADA-dependent items. These electronic communication items require more frequent replacement to provide upgraded operating systems and control logic. These costs should be included in City-wide upgrades to the SCADA system.

Generator sizes were reviewed with respect to the ability to start and run the pumps. The evaluation assumed that pumps would be started sequentially, and that the largest pump would be started last. This produces the highest instantaneous load on the generator. Starting voltages were estimated

based on motor size and assumed across-the-line starting. Units with VFDs or soft-starters would require smaller generators, as discussed later under the respective pump stations.

This study focuses on the pump station equipment and age of the station and applies standard replacement schedules and costs to determine appropriate funding levels. Certain aspects of the pump stations have not been analyzed including: structural/seismic stability of the stations, routine maintenance requirements, and current pumping capacity and efficiency. Analysis of the current condition of each station is limited to visual inspection and information provided by the City. Replacement schedules are solely based on original construction or rehabilitation dates. It may be necessary to replace some equipment earlier than noted, and some may last longer than expected.

It is important to keep in mind that numerous uncertainties could alter the future costs and replacement methods. This study projects costs more than 50 years into the future, when available technology, relevant regulations, and climate trends are unknown at this time. Green technology efforts could alter the replacement methods and resulting costs; and, it may be necessary to reduce the carbon footprint by installing more efficient equipment or to include alternate sources of energy (solar, natural gas) or other technologies. There are numerous regulatory unknowns such as water quality and FEMA requirements. If current NPDES measures do not achieve their desired results, it could conceivably become necessary to require water treatment at stormwater pump stations. Significant differences in extreme event hydrology due to large-scale climate change could speculatively require pump stations to be re-sized or relocated.

One additional cost consideration for the stormwater pump stations is the new trash capture requirements in the San Francisco Bay Municipal Regional Stormwater Permit, NPDES Permit No. CAS162008, issued October 14, 2009. Under the new permit, cities must reduce the trash loads from the municipal separate storm sewer system (MS4). The required milestones are: a 40% reduction by the year 2014; a 70% reduction by the year 2017; and 100% reduction by the year 2022. Also, by July 2014 each permittee must install full trash capture devices to treat runoff from an area equivalent to 30% of the retail/wholesale/commercial lands that drain to MS4's. In Santa Clara, the required minimum area for full trash capture by 2014 is 168 acres, as established by the NPDES Permit, Attachment J. The standard for a "full trash capture device" is one that traps all particles on a 5 mm mesh screen for the one-year one-hour design storm (estimated as 0.3 in/hr). Trash capture options at pump stations are discussed in the "Technical Report on Feasibility of Trash Removal at Pump Stations," prepared by Schaaf & Wheeler in July 2009 for Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Not all of the City's stormwater passes through the stormwater pump stations, but the stations offer a single point of capture for large

drainage areas. Coordinate with the SCVURPPP manager to ensure the City's trash capture efforts meet the regional standards currently being established.

Mechanical trash screens are discussed in the station descriptions as potential means of meeting the new requirement. Typically installed in the forebay of water and wastewater treatment plants, mechanical screens consist of either a static screen with a scraper that removes accumulated trash, or a moving screen that carries trash out of the water and delivers it into a collection pile. Either type requires a source of electrical power, a dedicated portion of the forebay for installation of the device in advance of the pump intakes, and sufficient deck space for the collection bins or piles. The site design must address the effect of strong winds carrying the removed trash from the collection pile back into the forebay and/or into the receiving water body.

As previously mentioned, annual routine maintenance costs are not included within this study. The City is in a better position to evaluate the efficacy of their ongoing maintenance operations, identify the need for expansion or reduction of their operation and maintenance program, and calculate the associated increase or decrease in cost as appropriate. However, recommended generalized pump station maintenance schedules are described in the following section.

GENERAL PUMP STATION MAINTENANCE

Each pump station should have a bound copy of its site-specific operations and maintenance manual on site; and all personnel need to be familiar with the contents of the manuals. Proper equipment lubrication and maintenance following manufacturer's recommendations (which must be included in the operations and maintenance manual) is essential to efficient operation and longevity, particularly when one considers how infrequent pump operation may be. For this reason it is also recommended that any pump station control system that does not automatically alternate lead and lag pump status be retrofitted so that each pump within a station operates roughly the same number of hours every year.

Large axial flow pumps are the predominant pump type in the system. Shafts and bearings need to be periodically balanced and/or replaced. The frequency of inspection (where pumps need to be pulled out of the building) will vary depending upon the L-10 bearing life rating of the pump in question. The AFBMA (the Anti-Friction Bearing Manufacturers Association) defines L-10 as the bearing life associated with a 90% reliability when operating under conventional conditions, i.e., after a stated amount of time, 90% of a group of identical bearings will not yet have developed metal fatigue. Average bearing life, or the L-50, is defined as the operating hours at which half of the group of bearings fail and the rest continue to operate. The AFBMA defines average life (L-50) statistically

as three to five times the L-10 life.

Manufacturer's maintenance instructions for engine drive units and standby engine-generators should be followed exactly, particularly while the engine is under warranty. Maintenance schedules depend somewhat on whether the engine is used as the prime pump driver (as in most stations), or is on standby (such as for backup power generation). A typical schedule of maintenance based on references provided by Cummins/Onan (Sanks, 1989) is provided as Table 2, giving both operating hours and calendar time.

Diesel engine generators should be operated at full power for at least 15 to 30 minutes after reaching operating temperatures once a month to eliminate carbon deposits. Unfortunately, without significant stormwater inflow to the station, generators cannot be run under load for any significant length of time (the water quickly runs out). Pump stations can be designed with recirculation piping so that the engines and pumps can be tested and exercised; however, it may be cost prohibitive to retrofit a recirculation system onto existing pump stations.

Table 2: Typical Maintenance Frequency for Engines and Generator Sets

Maintenance Task	Operating Time	Calendar Time
Inspect fuel, oil level, coolant	8 hr	1 Mo.
Inspect air cleaner, battery	50 hr	1 Yr.
Clean governor linkage, breather, air cleaner	100 hr	1 Yr.
Clean fuel filter, replace oil filter, change crankcase oil, check switchgear	200 hr	1 Yr.
Clean commutator, collector rings, relays, cooling system; inspect brushes, valve clearances, starting and stopping systems, water pump	500 hr	1 Yr.
Check injectors, grind valves (if required), remove carbon, clean oil passages, replace secondary fuel filter, clean generator, grease bearings	1000 hr	2 Yr.

Pump Station Standardization

It is recommended that the City develop design and maintenance standards for stormwater pump stations, and where possible, retrofit the existing stations to comply with these standards. A typical standard requirement might be the type and manufacturer of stormwater pumps and engine-generators so that a more limited inventory of spare parts is needed and maintenance procedures are

familiar to field crews. The City is generally built-out, so it is unlikely that new pump stations will be constructed. Instead, the standards should focus on standardizing equipment and processes across the existing pump stations. Proposed standards include:

- Set Programmable Logic Controller (PLC) to rotate lead and lag pumps. Large pumps should accrue similar run hours during the year.
- Standard display and operator interface at each station PLC. SCADA screen should mirror field display. Include gravity bypass on station schematic, where applicable.
- Primary controller should be a pressure transducer with float switches as backup. Controls should be installed in a stilling well or column to prevent them from swinging during pump start-up, which causes undue cycling. Controls for lift stations (simplex or duplex) internal to the storm drain system should be coordinated with City standards for sanitary lift stations of similar size and function.
- Measure and mark the water levels in each wetwell, measured on a standard datum. Marking may be stenciled on the wall, but must be visible from an easily accessible location such as an access hatch. This will aid in calibrating the station controls, and allow the operators to visually identify control errors.
- Pump bays should be configured per Hydraulic Institute standards for pump intake design (approach length, width and depth).
- All of the larger pump stations are equipped with emergency generators. The smaller pump stations should be equipped with receptacles for portable generators.
- Generators must be sized to run all pumps within the station (started sequentially). If the existing generator cannot carry that load, the PLC must be programmed to limit the number of pumps running while on backup power.
- Generators should have internal fuel tanks with secondary containment. External fuel tanks should be phased out as equipment is replaced.
- Inlets should be configured with a closure device (gate valve, slide gate or stop logs) so that the forebay and wetwell may be dewatered and cleaned. Stations which receive year-round flow but lack a gravity bypass also require a location to place a bypass sump pump.
- Trash racks must be configured to meet the new regional stormwater standards. Capturing trash to a smaller size will increase the required cleaning frequency and trash rack size. Motorized self-cleaning screens may be installed at some stations where space and power are available.
- All outdoor hatches should be locked with a padlock to prevent unauthorized access.
- All access hatches should be protected by guard rails meeting OSHA requirements. Permanent installation of rails is impractical in some locations; therefore, it may be necessary to install receiving cups for removable rails to be used when the station is serviced. Removable rails may be stored within the station building, or kept on the service

truck for use at multiple sites.

- All inlet and outfall piping should be RCP. Replace CMP piping as it reaches an age of 50 years, or as it becomes corroded, or use a rehabilitative cured-in-place-pipe (CIPP) lining such as Insituform.
- All creek outfalls should have flap gates to prevent animals nesting in the piping.

The SCADA system may also be standardized to collect and display information from each pump station, to include:

- Wetwell level (current standard)
- Record water levels and station settings in history (to evaluate station performance during rain events)
- Station settings (lead on, lag on, high water alarm)
- Pump-on, -off and fail
- HOA (hand-off-auto) status
- Slide gate % open (where applicable)
- Communications (current standard)
- Power (service or generator) (current standard)
- Site security (current standard)
- RTU status (current standard)
- Generator parameters including fuel level
- Battery (current standard)
- Battery voltage (current standard)
- Fuel leakage (current standard)

PUMP STATION EVALUATIONS

For this cost analysis all pumps, motor control centers and backup generators are assumed to be

replaced in-kind. Also, trash screens are assumed to be replaced with static screens and not mechanical devices. Replacement of all equipment provides a worst-case cost estimate. The City should evaluate each pump station individually to determine if the pumps and equipment may be rehabilitated rather than replaced. The cost of relining bowls, replacing impellors and rewinding motors is significantly less than the cost of replacements. If axial flow pumps are replaced in-kind, the pump columns may be rehabilitated rather than replaced. Also, the salvage credit for existing equipment was not included in the replacement cost estimate.

The following sections describe each large pump station and outline the associated replacement costs. Station details are tabulated in Appendix A and detailed cost estimates are provided in Appendix B. Table 3 summarizes pump station information and the long-term rehabilitation/replacement plan.

Table 3: Pump Station Summary

Station Name	Capacity (gpm)	# of Pumps	Pump Type*	Primary Drive Units	Standby Power	Originally Constructed	Last Major Upgrade
Eastside	50,000	3	axial flow	electric motor	generator	1973	2005
Fairway Glen	111,500	5	axial flow submersible	electric motor	generator	1989	
Lick Mill	105,500	4	axial flow submersible	electric motor	generator	1988	
Nelo Victor	78,150	4	axial flow submersible	electric motor	generator	1986	2004
Laurelwood	59,150	3	axial flow	electric motor	generator	1986	
Westside	64,500	5	axial flow	electric motor	generator	1975	2001
Golf Course	11,100	3	submersible	electric motor	generator	1987	
Gianera	17,500	5	submersible	electric motor	generator	1978	1996
Rambo	61,200	4	axial flow	electric motor	generator	1986	2001
Freedom Circle	35,200	4	axial flow submersible	electric motor	generator	2001	
Lakeside	30,000	4	axial flow submersible	electric motor	generator	1998	

*Pump type reflects high flow pumps, not low flow sump pumps

1. Eastside Retention Basin Pump Station

The Eastside Retention Basin Pump Station was constructed in 1973 and upgraded in 2005. The station has three vertical turbine pumps with electric motors. There is a stated problem with the control settings for Pump 1 (50-hp) and Pump 3 (105-hp). If both are in automatic mode ("Auto"), they will cycle excessively. The current work-around for this is to have only the large pumps in Auto during the rainy season and only the smaller pump in Auto during the summer. The controls and level monitoring equipment (condition, location) should be evaluated to resolve this recurring error. The emergency generator is large enough to start and run all pumps. The pump station building is wood frame, and should be considered for replacement in 2023.

The station has a trash rack to prevent large items from damaging the pumps, and adequate space in the retention pond to reconfigure the inlet and achieve the trash capture standard. The inlet channel could be elongated to accommodate tiered trash screens (2", 1", ½", 5mm). The finer screens would require cleaning throughout the rainy season to prevent clogging.

Costs to replace all major components of the East Side Retention Basin Pump Station are shown in Table 4. Fifty-year replacement items include replacement of the pump station building and rehabilitation of the concrete wetwell. All other major components are on a 25-year replacement interval.

Table 4: East Side Retention Basin Replacement Cost Summary

Eastside Retention Basin Pump Station	**Current Replacement Cost**
Pumps and Motors	$161,000
Electrical Equipment	$297,000
Miscellaneous Equipment	$62,000
Subtotal	$520,000
25% Engineering and Admin.	$130,000
Subtotal	$650,000
40% Contingency	$260,000
Total of 25-Year items	**$910,000**
50 Year Replacement Items	$200,000
25% Engineering and Admin.	$50,000
Subtotal	$250,000
40% Contingency	$100,000
Total of 50-Year items	**$350,000**
Pump Station Total:	**$1,260,000**

7. Santa Clara Golf Course Pump Station

The Santa Clara Golf Course Pump Station was constructed in 1987 and there have been no major improvements to the station since completion of construction. The station has three rail-mounted submersible pump/motors, installed in a vault under the golf course service driveway. The electrical room is under the driving range, and has experienced some settling. Immediate repair is needed for one of the access doors and there is erosion around the outfall requiring the addition or replacement of sackcrete slope protection. Otherwise the station is in good shape and no major improvements are expected until its next scheduled replacement in 2037.

The trash screen at this station is a course basket under the inlet pipe. If additional screening is required, an additional vault must be added on the inlet pipe.

Costs to replace all major components of the Santa Clara Golf Course Pump Station are shown in Table10. Fifty-year replacement items include rehabilitation of the concrete wetwell. All other major components are on a 25-year replacement interval. Replacement of the electrical building is not included as it is expected to last longer than 50 years

Table 10: Santa Clara Golf Course Pump Station Replacement Cost Summary

Santa Clara Golf Course Pump Station	**Current Replacement Cost**
Pumps and Motors	$120,000
Electrical Equipment	$230,000
Miscellaneous Equipment	$71,000
Subtotal	$421,000
25% Engineering and Admin.	$105,000
Subtotal	$526,000
40% Contingency	$210,000
Total of 25-Year items	**$736,000**
50 Year Replacement Items	$246,000
25% Engineering and Admin.	$62,000
Subtotal	$308,000
40% Contingency	$123,000
Total of 50-Year items	**$431,000**
Pump Station Total:	**$1,170,000**

SUMMARY

Replacement schedule and associated replacement costs for each of the 21 pump stations are shown in Table 16. A replacement schedule in chronological order is provided in Table 17. A detailed replacement cost estimate for each pump station is included in Appendix B.

Table 16: Replacement Schedule and Cost Summary

Pump Station	25th year	Replacement Cost	50th year	Replacement Cost	75th year	Replacement Cost
Bowers Ave Underpass	1999	$340,000	2024	$10,000	2049	$340,000
City Hall – East Wing	1989	$170,000	2014	$10,000	2039	$170,000
City Hall – West Wing	1989	$170,000	2014	$10,000	2039	$170,000
East Side Retention Basin	2030	$910,000	2055	$350,000	2080	$910,000
Fairway Glen	2014	$3,490,000	2039	$660,000	2064	$3,490,000
Freedom Circle	2026	$1,430,000	2051	$1,310,000	2076	$1,430,000
Gianera	2021	$1,420,000	2046	$310,000	2071	$1,420,000
Golf Course	2012	$740,000	2037	$430,000	2062	$740,000
Lafayette Over and under	2001	$290,000	2026	$10,000	2051	$290,000
Lafayette Subway	1988	$270,000	2013	$10,000	2038	$270,000
Lake Santa Clara	2011	$430,000	2036	$20,000	2061	$430,000
Lakeside	2023	$1,110,000	2048	$680,000	2073	$1,110,000
Laurelwood	2011	$1,180,000	2036	$730,000	2061	$1,180,000
Lick Mill	2013	$3,070,000	2038	$1,320,000	2063	$3,070,000
Nelo Victor	2029	$1,780,000	2054	$430,000	2079	$1,780,000
Police Pistol Range	2004	$170,000	2029	$10,000	2054	$170,000
Rambo	2026	$1,310,000	2051	$740,000	2076	$1,310,000
Shulman	2004	$120,000	2029	$10,000	2054	$120,000
Tasman	2015	$220,000	2040	$10,000	2065	$220,000
Tri-Level Underpass	2000	$190,000	2025	$10,000	2050	$190,000
West Side Retention Basin	2026	$1,310,000	2051	$770,000	2076	$1,310,000

The replacement costs are used to calculate a yearly cash flow assuming that a constant sinking fund amount is deposited into an account each year. There are nine pump stations coming due for renovation in the first five years, City Hall East, City Hall West, Fairway Glen, Golf Course, Lafayette Subway, Lake Santa Clara, Laurelwood, Lick Mill and Tasman, totaling $9,160,000. These are considered up-front costs, because there is not sufficient time to build a sinking fund balance for them. The sinking fund begins in the year 2016, and continues to year 2062, which completes the second replacement cycle. Various inflation and interest (rate of return) rates are used to calculate the required sinking fund amount to maintain a positive funding balance. Table 18 summarizes the results for replacing the pump stations in-kind. This assumes the replacements occur as outlined in Tables 16 and 17.

References:

1. City of Santa Clara Storm Drain Lift Stations data table, provided by City staff
2. City of Santa Clara 2008 Storm Drain System Map (AutoCAD), provided by City staff
3. Pump Station Operator Notes, prepared by Andy Dale, March 15, 2010
4. Pump Station Operator Notes, prepared by Joe Luna, March 15, 2010
5. *Storm Pump Station Safety Evaluation Audit Report*, prepared by ERM-West Inc., December 2009 for the City of Santa Clara
6. *Technical Report on Feasibility of Trash Removal at Pump Stations*, prepared by Schaaf & Wheeler, July 2009 for Santa Clara Valley Urban Pollution Prevention Program
7. San Francisco Bay Municipal Regional Stormwater Permit, National Pollutant Discharge Elimination System (NPDES) No. CAS612008, issued October 14, 2009

Appendices:

A. Pump Station Summary Tables
B. Pump Station Cost Estimates

Appendix A: Pump Station Summary

PUMP STATION SUMMARY

Station:	**Eastside Retention Basin**
Address:	5611 Lafayette St.
Drainage Area:	566 acres
Constructed:	1973, equipment replaced 2005
Station Building:	Wood frame building over concrete deck and pump vault
Forebay:	30 acre-foot retention pond
Comments:	Operator note: retention pond needs to be dredged. Original genset was under the building roof. Conduits and wall penetrations may be removed.
Inlet	
Inlet Pipe 1:	30-inch RCP (forebay to wet well)
Inlet Pipe 2:	30-inch RCP (forebay to wet well)
Headwall:	Concrete headwall, wing walls and inlet invert.
Isolation valve:	Two 30-inch gate valves at inlet headwall
Trash Screen:	Bar screen at inlet. Manually raked.
Comments:	Need to add a guard rail at inlet headwall. Operator note: Isolation gates need to be exercised.
Pumps	
Pump/Motor 1:	50 hp vertical turbine pump with electric motor
Pump/Motor 2:	105 hp vertical turbine pump with electric motor
Pump/Motor 3:	105 hp vertical turbine pump with electric motor
Station Capacity:	50,000 gpm
Pump Bays:	Concrete walls between bays
Access:	Removable roof panels for pump lift out - crane required. Unlimited site clearance.
Controllers:	Pressure transducer with backup float switches
Comments:	Operator note: Pumps 1 and 3 cannot both be in Auto (leads to excessive cycling). Operator Note: Pump 2 is more efficient than Pump 3. P3 may require maintenance. Pumps 2 and 3 have right angle drives but in-line electric motors.
Outfall	
Outfalls to:	Guadalupe River
Outlet pipe 1:	24-inch RCP
Outlet pipe 2:	30-inch RCP
Outlet pipe 3:	30-inch RCP
Headwall:	Concrete headwall, wing and divider walls. Slope and outfall lined with concrete sandbags.
Flap Gates:	Yes
Comments:	

Station:	**Eastside Retention Basin**
Power	
Station Power:	Overhead electrical service, weather head above front door.
Conduits:	Underground conduit from generator to building. Overhead conduits inside building
Cabinets:	NEMA standard
Generator:	350 kW diesel electric generator located at northeast corner of property. The generator is large enough to run all pumps concurrently, starting pumps sequentially.
Comments:	Generator pedestal is tripping hazard. Place fill to bring existing grade within 1-inch of pedestal height. Original generator still on-site, but disconnected.
Aerial Photo	



Station:	Eastside Retention Basin
Site Photo:	







PUMP STATION SUMMARY

Station:	**Santa Clara Golf Course**
Address:	2501 Stars & Stripes drive
Drainage Area:	54 acres
Constructed:	1987
Station Building:	Cast-in-place concrete electrical room located under driving range.
Forebay:	Integral with wet well
Comments:	Electrical room has two access doors. West door is difficult to open due to differential settlement of building and street. Man-way hatch for accessing wet well is outside east door. Recommend cutting 1-inch off west door to allow resumed use.
Inlet	
Inlet Pipe 1:	36-inch CMP
Headwall:	Connects to concrete wet well
Isolation valve:	None.
Trash Screen:	Trash screen box below inlet pipe collects trash. When blinded, water can overflow into wet well.
Comments:	Trash visible in wet well.
Pumps	
Pump/Motor 1:	32 hp Flygt submersible pump/motor, rail-mounted
Pump/Motor 2:	32 hp Flygt submersible pump/motor, rail-mounted
Pump/Motor 3:	32 hp Flygt submersible pump/motor, rail-mounted
Station Capacity:	11,100 gpm
Pump Bays:	None – common wet well
Access:	Deck hatches outside electrical room. Pump service truck can back up to site.
Controllers:	Pressure transducer with backup floats
Comments:	Operator note: PLC should be standardized with newer pump stations. Vault hatches are located in single lane service drive for golf course and tennis courts. Consider adding mounts for removable guard rails to be set up during work.
Outfall	
Outfalls to:	San Tomas Aquino Creek
Outlet pipe 1:	30-inch CMP
Headwall:	Concrete sandbags used for headwall and slope protection.
Flap Gates:	None. Metal grate across opening to keep animals out.
Comments:	Visible erosion around outfall. Need to place fill and recover with concrete sandbags.

Station:	**Santa Clara Golf Course**
Power	
Station Power:	Underground electrical service
Conduits:	Underground conduit from electrical room to wet well.
Cabinets:	NEMA standard
Generator:	200 kW diesel electric generator located inside electrical room.
Comments:	Genset has separate fuel tank with concrete curb wall for secondary containment. Entry through east door is into the secondary containment sump. Genset removal requires removing air louver from wall. The generator is large enough to run all pumps concurrently, starting pumps sequentially. It is also oversized. Only a 150 kW generator is required.

Aerial Photo



Site Photo:





Appendix B: Cost Estimates

Eastside Retention Basin Pump Station

Item	Size	Make	Comments	Original Construction Date	Current Replacement Cost
Pumps and Motors					
Electric Motor #1	50 hp		50 hp	2005	$20,000
Vertical Pump #1	50 hp			2005	$20,000
Oiler				2005	$250
Oil Reservoir				2005	$150
Electric Motor #2, 3	105 hp		2x 105 hp	2005	$60,000
Vertical Pump #2, 3	105 hp			2005	$60,000
Oiler				2005	$500
Oil Reservoir				2005	$300
			Subtotal		**$161,000**
Electrical Equipment					
MCC Panel(s)			x3		$90,000
Hour Meter(s)			x3		$3,000
Programmable Logic Controller (PLC)					$30,000
Graphic Interface					$20,000
Remote Telemetry Unit (RTU)					$8,000
Electrical Service Panel					$10,000
Electric Distribution Panel					$10,000
Pressure Transducer			2		$1,600
Float Switches			6		$600
LEL Gas Monitor					$2,000
Emergency Generator Set	350 kW		350 kW		$102,000
Automatic Transfer Switch					$10,000
Power Receptacle					$200
Batteries					$4,000
Battery Charger(s)					$6,000
			Subtotal		**$297,000**
Miscellaneous Equipment					
Antenna					$1,000
Wall Vent Screens					$2,000
Overhead Lights					$10,000
Outside Lights					$2,000
Fan - Control Room					$2,000
Floor Grates					$25,200
Safety Railings					$4,750
Metal Ladders					$1,950
Perimeter Fence					na
Misc. Operation & Safety Items					$2,000
Slope Protection			Sackcrete		$11,100
			Subtotal		**$62,000**
			Total of 25 Year Replacement Items		**$520,000**
			25% Engineering and Admin.		$130,000
			Subtotal		$650,000
			40% Contingency		$260,000
			Total w/ Contingency		**$910,000**

Item	Size	Make	Comments	Original Construction Date	Current Replacement Cost
50 Year Replacement Items					
Rehab Wetwell				1973	$80,000
Replace roof				1973	$4,114
Replace woodframe building				1973	$57,112
Piping					
Inlet Slide Gate			2x 30"		$32,200
Trash Rack(s)			2x 36" bar screens		$12,000
Outfall Flap Gates(s)			1x 24"		$3,600
Outfall Flap Gates(s)			2x 30"		$11,200
			Subtotal		**$200,000**
			25% Engineering and Admin.		$50,000
			Subtotal		$250,000
			40% Contingency		$100,000
			Total w/ Contingency		**$350,000**
			Total of All Items w/ Contingency		**$1,260,000**

Notes:

This estimate of construction cost is a professional opinion, based upon the engineer's experience with the design and construction of similar projects. It is prepared only as a guide and is subject to change. Schaaf & Wheeler makes no warranty, whether expressed or implied, that the actual costs will not vary from these estimated costs, and assumes no liability for such variances.

Item	Size	Make	Comments	Original Construction Date	Current Replacement Cost
50 Year Replacement Items					
Rehab Wetwell					$300,000
Replace roof					$5,313
Piping					
Inlet stop logs			3x 36"		$30,000
Trash Rack(s)			3x 36" bar screen		$3,600
Outfall Flap Gates(s)			Add 3x 36"		$18,000
Outfall Flap Gates(s)			Add 2x 15"		$5,000
Replace CMP outfall pipe(s)	36"		Replace 36" with RCP		$64,800
Replace CMP outfall pipe(s)	15"		Replace 15" with RCP		$14,640
			Subtotal		**$441,000**
			25% Engineering and Admin.		$110,000
			Subtotal		$551,000
			40% Contingency		$220,000
			Total w/ Contingency		**$771,000**
			Total of All Items w/ Contingency		**$2,080,000**

Notes:

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Santa Clara Golf Course Pump Station

Item	Size	Make	Comments	Original Construction Date	Current Replacement Cost
Pumps and Motors					
Submersible Pump/Motor #1, 2, 3	32 hp	flygt	3x 32 hp	1987	$90,000
Guide rails and base					$30,000
			Subtotal		**$120,000**
Electrical Equipment					
MCC Panel(s)			3x		$60,000
Hour Meter(s)			3x		$3,000
Programmable Logic Controller (PLC)					$30,000
Graphic Interface					$20,000
Remote Telemetry Unit (RTU)					$8,000
Electrical Service Panel					$10,000
Electric Distribution Panel					$10,000
Pressure Transducer			2		$1,600
Float Switches			6		$600
LEL Gas Monitor					$2,000
Emergency Generator Set	150 kW		current 200 kW unit oversized		$65,000
Automatic Transfer Switch					$10,000
Power Receptacle					$200
Batteries					$4,000
Battery Charger(s)					$6,000
Fuel Tank			Next genset to have		$0
Fuel Sensor			integral fuel tank		$0
			Subtotal		**$230,000**
Miscellaneous Equipment					
Antenna					$1,000
Wall Vent Screens					$2,000
Air Duct					$4,000
Louvers					$4,000
Overhead Lights					$10,000
Outside Lights					$2,000
Fan - Control Room					$2,000
Access Hatches					$12,750
Safety Railings					$7,680
Metal Ladders					$1,560
Metal Landings					$12,700
Misc. Operation & Safety Items					$2,000
Slope Protection			Sackcrete		$9,250
			Subtotal		**$71,000**
			Total of 25 Year Replacement Items		**$421,000**
			25% Engineering and Admin.		$105,000
			Subtotal		$526,000
			40% Contingency		$210,000
			Total w/ Contingency		**$736,000**

Item	Size	Make	Comments	Original Construction Date	Current Replacement Cost
50 Year Replacement Items					
Rehab Wetwell					$50,000
Piping					
Inlet Slide Gate			add 36"		$20,000
Trash Rack(s)			Bar screen basket under inlet		$1,200
Outfall Check Valve(s)			3x 24"		$60,000
Outfall Gate Valve(s)			3x 24"		$60,000
Outfall Flap Gates(s)			1x 30"		$4,300
Replace CMP inlet pipe(s)	36"		Replace 36" with RCP		$25,200
Replace CMP outfall pipe(s)	30"		Replace 30" with RCP		$25,560
			Subtotal		**$246,000**
			25% Engineering and Admin.		$62,000
			Subtotal		$308,000
			40% Contingency		$123,000
			Total w/ Contingency		**$431,000**
			Total of All Items w/ Contingency		**$1,170,000**

Notes:

This estimate of construction cost is a professional opinion, based upon the engineer's experience with the design and construction of similar projects. It is prepared only as a guide and is subject to change. Schaaf & Wheeler makes no warranty, whether expressed or implied, that the actual costs will not vary from these estimated costs, and assumes no liability for such variances.

G-1

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

James R. Schaaf, PE
Kirk R. Wheeler, PE
David A. Foote, PE
Peder C. Jorgensen, PE
Katherine M. Oven, PE
Charles D. Anderson, PE

100 N. Winchester Blvd., Suite 200
Santa Clara, CA 95050
(408) 246-4848
FAX (408) 246-5624
s&w@swsv.com

Monterey Bay Office
(831) 582-2648
swmb@swsv.com

Puget Sound Office
(206) 624-9932
swps@swsv.com

November 22, 2000

RECEIVED
NOV 27 2000
CITY OF SANTA CLARA
WATER DEPARTMENT

Mr. Robin Saunders, P.E.
City of Santa Clara
Department of Water and Sewer Utilities
1500 Warburton Avenue
Santa Clara, California 95050

Subject: ***Findings of Hydrologic Investigation for Eastside Pump Station***

Dear Robin:

The enclosed report presents the findings of a hydrologic investigation undertaken within the Eastside Pumping Station drainage area. This study has been prepared at your request for two reasons:

(1) Confirm the pump station capacity required to discharge the one-percent (100-year) inflow from those areas tributary to the Eastside Retention Basin; and

(2) Confirm pump horsepower requirements to meet design water surface elevations in the Guadalupe River in conjunction with the pump capacities determined above.

Summary of Findings

Under all foreseeable design conditions in the Guadalupe River, it appears that the existing pumps have sufficient capacity to prevent one-percent local runoff from ponding in Lafayette Street. (The scope of this analysis did not include an examination of storm drain system capacity, nor potential street flooding upstream.) The elevation of maximum ponding within the retention facility depends upon the ultimate design water surface in the river. Three potential conditions have been examined: (Note that street flooding occurs above elevation 5 NGVD.)

Scenario	Guadalupe River 1% WSEL at Highway 237	1% WSEL in Eastside Retention Basin
Best Case	15 feet NGVD	2.8 feet NGVD
Average	18 feet NGVD	3.2 feet NGVD
Worst Case	21 feet NGVD	3.8 feet NGVD

Unfortunately, the Santa Clara Valley Water District cannot provide an ultimate design water surface elevation for the Guadalupe River at Highway 237. Their Draft Engineer's Report on the planning effort for the river was due out in August 2000, but has been delayed indefinitely. Conversations with the consultants working for the District have resulted in the preliminary values shown in the table above, but there is no commitment to those numbers from the District at this time. The report discusses this issue in some detail.

Due to the uncertainty in the ultimate water surface elevation in the Guadalupe River, and the timing of the improvements that will result in that water surface, horsepower requirements for each pump also remain unclear. The following table lists horsepower requirements based on an available performance curve for Pump #1 (24-inch diameter discharge pipe), and pump characteristics estimated for Pumps #2 and #3 (30-inch diameter discharge pipe).

Scenario	Horsepower for 24" Pump	Horsepower for 30" Pump
Best Case (15' tailwater)	60	125
Average (18' tailwater)	60	125
Worst Case (21' tailwater)	75	150

Based on the available performance curve for the 24-inch pump, a new pump is required for the worst case tailwater condition, and it assumed that new pumps and motors might be necessary for the two 30-inch pumps as well. This would be necessary to meet maximum pumping heads. We have also found that under minimum pumping heads, the 24-inch pump operates in excess of its rated capacity, and may cavitate.

Since the worst case tailwater condition seems unreasonable from a levee building perspective, the City may wish to budget for the worst case, but wait until the District can provide more information before ordering any equipment. Please review the enclosed report and call me with any comments. I am happy to discuss our findings with you at any time.

Very truly yours,

SCHAAF & WHEELER

Charles D. Anderson

Charles D. Anderson, P.E.
Principal

enclosure

HYDROLOGIC EVALUATION

for

EASTSIDE PUMP STATION AND RETENTION BASIN

SANTA CLARA, CALIFORNIA

November 22, 2000

Prepared for:

City of Santa Clara
Department of Water and Sewer Utilities
1500 Warburton Avenue
Santa Clara, California 95050

The following report has been prepared under the supervision of the undersigned, who hereby certifies that he is a Registered Civil Engineer in the State of California.

Prepared by:

Charles D. Anderson 11-22-00

CHARLES D. ANDERSON, RCE No. 43776 (Date)



Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
100 N. Winchester Blvd, Ste. 200
Santa Clara, CA 95050
(408) 246-4848
FAX:408-246-5624

BACKGROUND

The Eastside Pump Station and Retention Basin were constructed in 1972 to store and discharge local stormwater runoff into the Guadalupe River at State Highway 237 (Mountain View-Alviso Road at the time). The life cycle of the original pumping and electrical equipment is nearing its end, and the City of Santa Clara may wish to replace some equipment, and add standby power generation.

Prior to doing so, the City needs to evaluate the operation of this facility in light of two factors:

1) a better understanding of upstream hydrology and the need to accommodate overflows from the Rambo Pump Station basin; and

2) changes to the design water surface elevation in the Guadalupe River, based on contemplated improvements to be made by the Santa Clara Valley Water District.

SUMMARY OF FINDINGS

Although the contemplated changes to the water surface elevation in the Guadalupe River are still subject to conjecture at this point, it appears that the existing pumps have sufficient capacity to prevent one-percent local runoff from ponding in Lafayette Street (elevation 5 feet ± NGVD). The elevation of maximum ponding within the retention facility depends upon the ultimate design water surface in the river, for which three potential conditions have been examined:

Scenario	Guadalupe River 1% WSEL at Highway 237	1% WSEL in Eastside Retention Basin
Best Case	15 feet NGVD	2.8 feet NGVD
Average	18 feet NGVD	3.2 feet NGVD
Worst Case	21 feet NGVD	3.8 feet NGVD

The following table lists horsepower requirements based on an available performance curve for Pump #1 (24-inch diameter discharge pipe), and pump characteristics estimated for Pumps #2 and #3 (30-inch diameter discharge pipe), for the potential Guadalupe tailwater conditions:

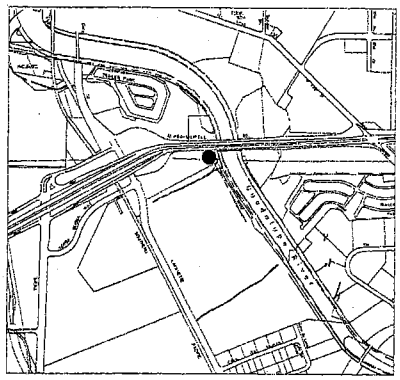
Scenario	Horsepower for 24" Pump	Horsepower for 30" Pump
Best Case (15' tailwater)	60	125
Average (18' tailwater)	60	125
Worst Case (21' tailwater)	75	150

Based on available data for the 24-inch pump, a new pump is required for the worst case tailwater condition, because the extra static lift results in a system head-discharge curve that is above the left-hand side of its pump performance curve. A new pump would not be needed for either the best case or average tailwater conditions. Although pump performance curves for Pump Nos. 2 and 3 are not available in the City's files, a similar conclusion might also be reached for the larger pumps. Also, under minimum pumping head conditions, the 24-inch pump operates in excess of its rated capacity, and could potentially cavitate.

The worst-case tailwater condition may be unreasonable from a levee building perspective. One would not expect the design discharge of Guadalupe River to increase from 13,000 cfs to 20,000 cfs without a commensurate increase in water surface. However, raising the water surface elevation from 10 feet to nearly 21 feet requires levee elevations of 25 feet at the 237 bridge. This is twenty feet higher than surrounding ground elevations. Since the Santa Clara Valley is currently working on solutions to what is seemingly becoming an intractable problem on the lower Guadalupe River, the City may wish to budget for the worst case, but wait until the District can provide more information before ordering any equipment.

EASTSIDE PUMP STATION AND RETENTION BASIN

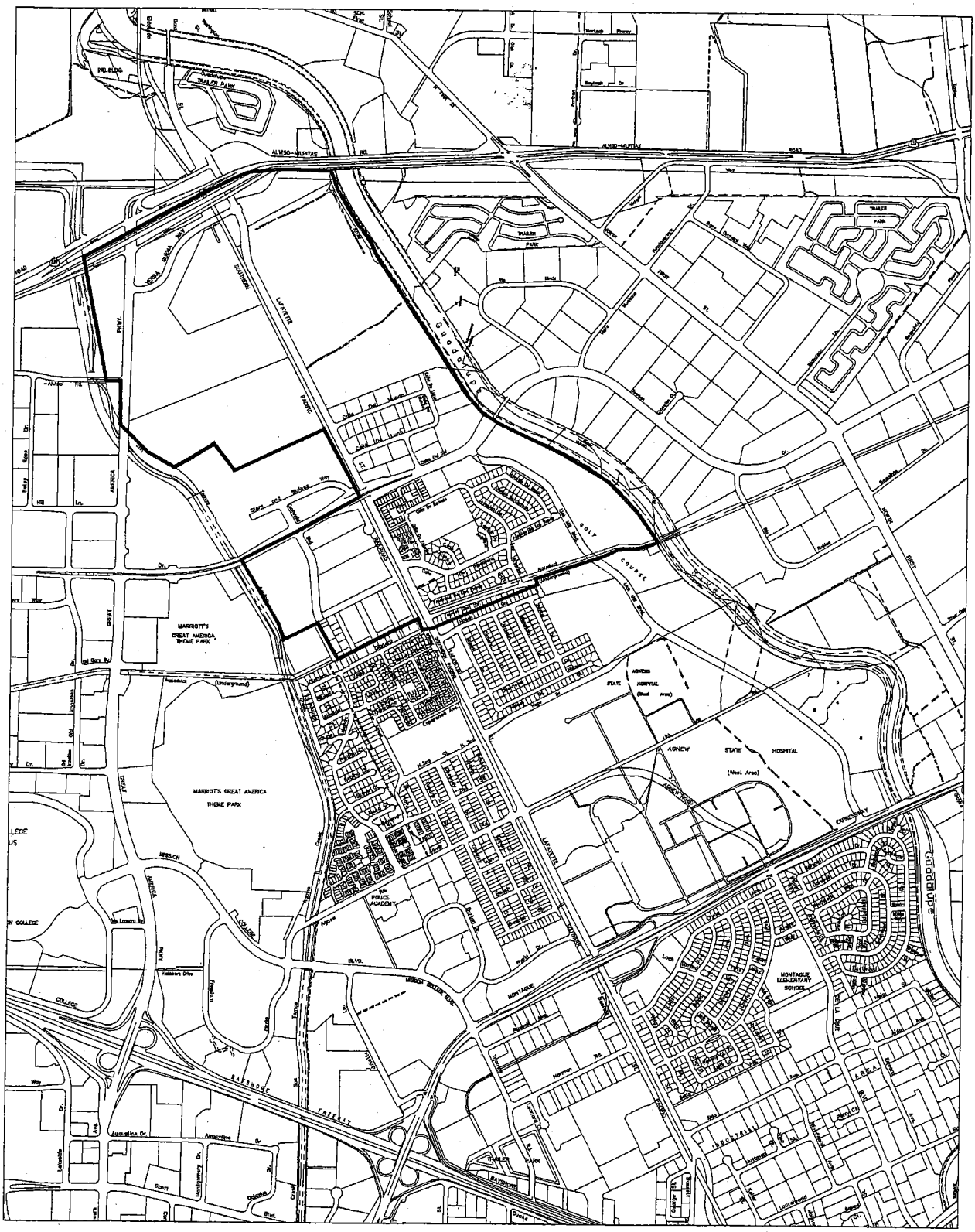
Location:	Off Lafayette Street at Hwy 237
Discharge to:	Guadalupe River
Design WSEL:	3 feet ± (NGVD)
Storage:	6.5 acre retention basin
Tributary Area:	590 acres (Figure 1)
Station Capacity:	110 cfs ±
Constructed:	1972



Eastside Pump Station Location

This facility stores local stormwater runoff and discharges that runoff into the Guadalupe River. The retention basin and pump station are located near the eastbound lane of State Highway 237 on the west bank of the river. The retention basin is designed as a "dry" pond which is pumped down to its minimum level after every runoff event. Stormwater is then pumped through one 24-inch diameter and two 30-inch diameter asbestos cement pipes directly into the Guadalupe River. A flapgated discharge structure is located within the river bank to dissipate energy; each pipe invert elevation is 8.75 feet (NGVD) at the discharge. Record drawings indicate that the Guadalupe River's west bank levee was elevation 13.5 feet NGVD at the time of construction. Recent field surveys performed by CH2M-Hill for the Santa Clara Valley Water District indicates that the current levee elevation at this location is 6.3m (NAVD), which converts to 17.9 feet NGVD.

Figure 1



AREAS TRIBUTARY TO EASTSIDE RETENTION BASIN

FILE NAME: CSCL\03-EASTSIDE\FIGURE1.DWG

Schaaf & Wheeler

Drainage Areas. Figure 1 outlines those areas within Santa Clara that are directly tributary to the Eastside Retention Basin, which are also tabulated below.

TABLE 1
Areas Directly Tributary to Eastside Retention Basin

Land Use	Tributary Area (acres)
Residential	160
Commercial	50
Golf Course	160
Landfill / Open	220
Total	**590**

In addition to these 590 acres of tributary area, some overflow from the Rambo and Gianera basins to the south is intercepted by Eastside Basin storm drains at the intersection of Tasman Drive and the Union Pacific Railroad / Lafayette Street. This analysis assumes that the Rambo Pump Station has been upgraded to 140 cfs capacity, which due to structural constraints at the facility, is not sufficient to discharge the estimated one-percent peak runoff into San Tomas Aquino Creek. Spill from the Rambo Basin will travel down Lakeshore Drive to Gianera Street and east to the railroad. Additional runoff in excess of storm drain capacity at Esperanca Avenue will also flow to this location, combine with the Gianera overflow, and make its way north to Tasman Drive, where it is blocked and captured by the storm system draining to the Eastside Retention Basin.

Local runoff and excess flow from other basins is conveyed to the Eastside Retention Basin, either through a 48-inch diameter outfall, or in a drainage channel that parallels the west side of the Guadalupe River.

EXISTING PUMP STATION AND BASIN CAPACITIES

A pump performance curve is available for Pump #1, which has a 10,000 gpm nominal capacity and a 60 horsepower motor. This pump discharges through a 24-inch forcemain to the river. Performance curves are not available in City files, however, for the two 30-inch discharge pumps. City records indicate that these pumps (Pumps #2 and #3) are rated at 20,000 gpm each. (Total station capacity is 50,000 gpm or 110 cfs.) Without actual pump curves, it is difficult to assess pump capacities and the effects of different tailwater conditions. To make an educated guess, a 30-inch Fairbanks Morse axial flow pump curve is used for sensitivity analyses.

The Eastside Retention Basin as originally graded in 1972 held a volume of roughly 37 acre-feet at elevation 3.0 feet NGVD. The basin was enlarged in 1978, increasing the volume to 45 acre-feet. However, ponding levels can exceed elevation 3 without causing property damage. Water flowing in the ditch that parallels Highway 237 from Lafayette to the basin will simply overflow onto a broad, flat area bound by 237, the westerly basin levee, Lafayette, and the sanitary sewage pumping plant. By adding this area to the storage capacity of the basin, 54 acre-feet are available to store water to elevation 4 feet. (At elevation 5 feet, ponded water will begin to back up onto Lafayette Street.) Figure 2 shows the storage-elevation curve for the Eastside Retention Basin.

GUADALUPE RIVER TAILWATER

Since there is no standpipe system or discharge box to provide nearly constant pumping heads at this station, tailwater in the Guadalupe River significantly affects pump performance. Over the years, the capacity of the river to convey flood flows has been drastically reduced due to sedimentation and vegetation growth in the channel. The Santa Clara Valley Water District is currently studying project alternatives to improve the situation and provide 100-year flood protection to Santa Clara and San Jose.

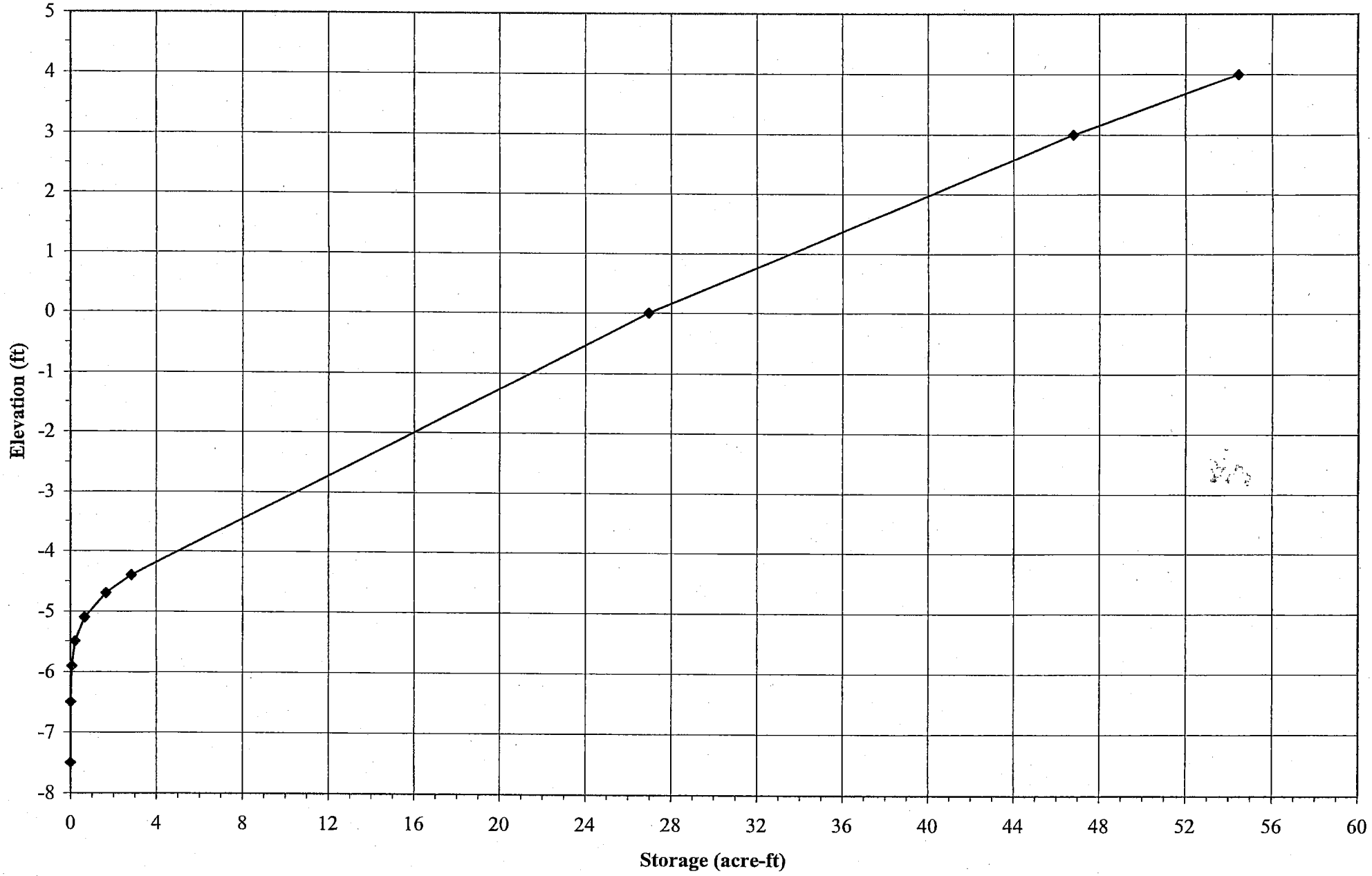
Project alternatives have not been finalized as of late 2000, so concrete values for potential tailwater elevations at Highway 237 are not available. Discussions with District consultants, however, have provided a range of possible outcomes which are listed below:

1. ***Best-Case Scenario.*** The likely best-case outcome is one in which sufficient improvements are made to the channel so that existing levees would not need to be raised. With the existing levee at elevation 18 feet NGVD, the design water surface (less three feet for freeboard) would be elevation 15 feet NGVD.

2. ***Worst-Case Scenario.*** Ms. Erica Gomez of CH2M-Hill indicates that the maximum worst-case water surface elevation upstream of Highway 237 with 20,000 cfs of Guadalupe River discharge is 7.15m (NAVD). This converts to 20.7 feet NGVD, which has been rounded to 21 feet NGVD for analysis.

3. ***Average Tailwater.*** In all likelihood, the final design tailwater will lie somewhere between the best- and worst-case scenarios. Therefore a median value of 18 feet NGVD is used to analyze this condition.

Figure 2
Storage vs. Elevation for Eastside Retention Basin



F: CSCL\03\calcs\eastpond.xls

INFLOW HYDROGRAPH

In order to examine pump and basin operation under various scenarios, a design discharge hydrograph is necessary to model local runoff into the basin. Hydrologic analyses utilize information previously gathered for the City of Santa Clara, modified as needed to reflect conditions at the site.

Rainfall Data. Since it is impossible to anticipate the effect of every conceivable storm, precipitation frequency analyses are often used to design facilities that control storm runoff. A common practice is to construct a "design storm", which is a rainfall pattern used in hydrologic models to estimate surface runoff.

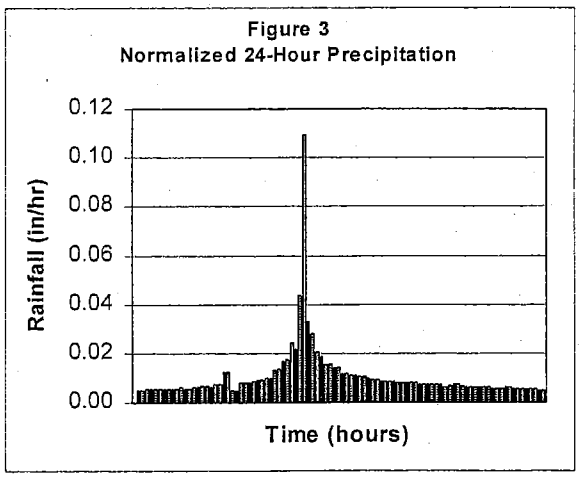
Using the Santa Clara Valley Water District's mean annual precipitation map (1988), the average annual precipitation over the Eastside tributary area is 13.25 inches. Since the mean annual precipitation for the California Department of Water Resources' statistical analysis for the "San Jose City" rain gage is 13.4 inches, its statistics are used to create the design storm pattern.

The 24-hour precipitation depth for this basin is 3.89 inches.

Design Storm Pattern. To evaluate lagoon and pump operation under different conditions, estimates of stormwater volume are required. Because IDF relationships for precipitation are not sufficient to provide this information, temporal rainfall patterns (hyetographs) must be specified for rainfall depths of a given duration and frequency.

An SCS Type I storm pattern has been used to distribute rainfall, since the project site is located to the west of the Sierra Nevada crest. Local rainfall duration-depth data based on the DWR IDF curves are then applied so that the rainfall pattern used in runoff computations is the Type I SCS distribution, but the maximum depth of rainfall for any duration reflects local statistics. These patterns are multiplied by rainfall depth for the frequency and duration of interest. Figure 3 shows the normalized 24-hour rainfall pattern used in this analysis.

Figure 3
Normalized 24-Hour Precipitation



Runoff Hydrographs. When it becomes necessary to evaluate collection system facilities where the *storage* of runoff is important (e.g. basin detention), a synthetic unit hydrograph procedure is used with aforementioned rainfall patterns to produce the requisite runoff hydrographs through a process

known as convolution. A unit hydrograph is defined as the basin runoff produced by one inch of rainfall excess applied uniformly over the basin over that "unit" of time. The Clark dimensionless unit hydrograph is established based on two parameters, t_c, which is equal to the time of concentration (in hours) for that basin, and R, a storage coefficient (in hours) which modifies the "peakedness" of the unit hydrograph. R is related to t_c by the following ratio:

$$\frac{R}{t_c + R}$$

which generally ranges between 0.1 and 0.5 within impervious (urbanized) areas. Times of concentration for individual storm drain systems have been calculated using the Rational Formula as shown on appended spreadsheets. R is then adjusted within the range of ratios given above so that the peak discharge from any given basin matches that as calculated using the Rational Formula.

Infiltration. Direct runoff is equivalent to precipitation in excess of the soil's infiltration capacity. This is based on soil type, land use, cover, and antecedent moisture conditions (i.e. how saturated the soil is at the beginning of the storm event). This analysis uses the Soil Conservation Service (SCS) Curve Number methodology. Table 2 presents SCS Curve Numbers for various land use types for both Antecedent Moisture Condition (AMC) II, and for AMC II½, which we have found to calibrate well to local stream gage frequency analyses for the 100-year discharge. SCS soil maps for Santa Clara County indicate that the entire area tributary to Eastside Retention Basin is underlain by soils classified in Hydrologic Soil Group "D".

TABLE 2
SCS Curve Numbers

Land Use	**CN_{AMCII}**	**$CN_{AMCII½}$**
Residential	87	92
Commercial	93	96
Golf Course	80	87
Landfill / Open	89	93

Storage Routing. Kinematic wave routines available in HEC-1 are used to route flows down streets (Manning's "n" = 0.020) or in storm drain pipes (n = 0.013).

BASIN OPERATION

Table 3 provides the results of pump station and basin modeling under three Guadalupe River tailwater conditions. Increasing tailwater derates each pump and decreases the pump station's effective capacity, and therefore raises the ponding level. Ponded water is not expected to flood Lafayette Street under any of the analyzed tailwater conditions with the existing pump station at its assumed capacity.

TABLE 3
Maximum Ponding in Eastside Retention Basin

Scenario	Pump Station Capacity	1% WSEL in Basin
Best Case (15' tailwater)	47,000 gpm	2.8 feet NGVD
Average (18' tailwater)	44,000 gpm	3.2 feet NGVD
Worst Case (21' tailwater)	40,000 gpm	3.8 feet NGVD

Analyses are based on the following operational assumptions, including an average basin pumping level of elevation 0 to determine static head:

Pumping Levels Provided by City

HI ALARM†	1.0	(11.0')
PUMP #3 ON	-2.0	(8.0')
PUMP #2 ON	-2.5	(7.5')
PUMP #1 ON	-3.0	(7.0')
PUMP #3 OFF	-4.0	(6.0')
PUMP #2 OFF	-4.5	(5.5')
PUMP #1 OFF	-4.5	(5.5')
LOW ALARM	-8.0	(2.0')

†All levels are NAVD with distance above wet well floor in parenthesis

The Verti-line 16P (1170 rpm) pump characteristic curve for Pump #1 found in City files is used to derive capacities for various pumping heads. A Fairbanks-Morse 30" 8211 (705 rpm) characteristic curve is used to infer capacities for Pump #2 and Pump #3 in lieu of the missing curves for the actual installed pumps. Without an actual curve, this is an educated guess at best.

As demonstrated by Table 4, horsepower requirements are also affected by tailwater conditions in the Guadalupe River. Tabulated horsepower is the maximum required when pumping against the design water surface in the river while evacuating the retention basin to each pump's lowest operating level (approaching pump-off). This assumes that the local runoff peaks in advance of the Guadalupe River peak. Based on a maximum pumping head with the worst-case tailwater, different pump trims would be needed to stay on the performance curve. Hence, the listed horsepower requirements assume that it would be necessary to operate each pump near its present off-level setting. Pump curves showing maximum horsepower requirements are appended to this report.

TABLE 4
Maximum Horsepower Requirements

Scenario	Horsepower for 24" Pump	Horsepower for 30" Pump
Best Case (15' tailwater)	60	125
Average (18' tailwater)	60	125
Worst Case (21' tailwater)	75	150

One potential problem with the current pumping configuration, however, is the lack of tailwater control during periods of lower river levels. If the Guadalupe River stage is less than elevation 10, the pumping head is controlled by the elevation of each pump discharge forcemain outfall. Examining the Pump #1 pump curve when the river is low, the minimum pumping head to remain on the operating curve is 10 feet, which requires a minimum static head of 8 feet. Thus, the maximum pumping level in the basin is 9.75 feet - 8 feet, or 1.75 feet. Once basin levels exceed this, the pump is operating outside of its proscribed range; although it is not clear for how long this would occur, or if any damage would result. Pump #2 and Pump #3 cannot be evaluated without an actual curve, but the minimum pumping head for the Fairbanks-Morse model is 8 feet, which limits the maximum basin level to elevation 5 feet, and should not pose a problem.

RECOMMENDATIONS

If the current pumps are operating at or near their assumed capacities, this facility provides adequate flood protection, even against the worst-case Guadalupe River tailwater. The only question is whether to provide sufficient horsepower and/or replace pumps to accommodate the full range of pumping operation against the worst tailwater. The length of time to decipher the Guadalupe River problem, and the fairly remote possibility of such high water surface elevations, do not appear to warrant the provision of additional horsepower for the Eastside pumps.

Motor horsepower should be verified from the nameplates, and if possible, actual pump curves for the two larger pumps should be obtained. If the existing motors do not have sufficient power to operate the pumps at all levels against predicted tailwater conditions, the pump off-levels could be adjusted to ensure that sufficient horsepower is available throughout each pumps operating range.

For instance, Pump #1's maximum pumping head with a 60 hp motor is about 25 feet, so the maximum static head is 23 feet. The pump can operate with current level settings for all but the worst-case tailwater. For that worst-case condition, the off-level needs to be raised by 2.5 feet. Given the large storage volume available to prevent pump cycling, on- and off-levels are really only constrained by the repeatability of the level sensing equipment. Assuming a six-inch operating interval as a minimum requirement, the maximum basin level under worst-case operation would be elevation 4.1 feet NGVD, which should not cause street flooding on Lafayette.

This report has not addressed pump intake hydraulics nor submergence requirements. Since this facility has operated for nearly 30 years without significant reported problems, these issues apparently do not need to be examined at this time. Storm drain performance with different basin levels has not been modeled.

APPENDICES

Time of Concentration Calculations
HEC-1 Model (Best Case Tailwater Condition Shown)
Pump Characteristic Curves
Head Loss Calculations
Storage Basin Volume Calculations

Eastside Detention Basin Inflow
(Interior Basin G-1)

Time of Concentration Calculations

Description	Area	Runoff Coefficient	CA	Cumulative CA	tc	I	Q	Ground Elev	Length	Ground Slope	Pipe Dia	Q_{pipe}	V_{pipe}	Q_{street}	Street ROW	V_{street}	V_{avg}	Travel Time
	(acres)	C	(acres)	(acres)	(min)	(in/hr)	(cfs)	(ft)	(ft)	(ft/ft)	(in)	(cfs)	(cfs)	(cfs)	(feet)	(fps)	(fps)	(min)
Storm Drain System 1																		
18" from a to b	1.86	0.8	1.49	1.49	16.0	2.07	3.1	5.8	500	0.0006	18	2.6	1.5	0.5	—	0.0	1.5	5.7
21" from b to c	2.87	0.8	2.30	3.78	21.7	1.54	5.8	5.5	504	0.0016	21	5.8	2.4	0.0	—	0.0	2.4	3.5
24" from c to c1	2.70	0.8	2.16	5.94	25.2	1.49	8.9	4.7	498	0.0002	24	3.2	1.0	5.7	84	0.3	0.6	14.1
27" from c1 to d	18.95	0.3	5.69	11.63	39.3	1.07	12.5	4.6	1340	0.0011	27	10.4	2.6	2.1	84	0.8	2.3	9.6
30" from d to e	31.18	0.3	9.35	20.98	48.9	1.02	21.5	3.1	1156	-0.0034	30	21.5	4.4	0.0	—	0.0	4.4	4.4
48" from e to f	17.16	0.8	13.73	34.71	53.3	1.00	34.8	7.0	20	0.0330	48	34.8	2.8	0.0	—	0.0	2.8	0.1
	74.72																	
Storm Drain System 2																		
18" from 1 to 3	3.54	0.8	2.83	2.83	13.0	2.30	6.5	5.1	515	0.0014	18	3.9	2.2	2.6	—	0.0	2.2	3.9
12" from 2 to 3	3.21	0.8	2.57	2.57	16.9	2.03	5.2	5.8	410	0.0034	12	2.1	2.7	3.1	—	0.0	2.7	2.6
24" from 3 to 4	10.22	0.8	8.18	13.58	19.5	1.91	25.9	4.4	525	0.0011	24	7.7	2.4	18.3	60	0.6	1.2	7.5
27" from 4 to 7	9.30	0.8	7.44	21.02	26.9	1.56	32.8	3.8	414	-0.0024	27	32.8	8.3	0.0	—	0.0	8.3	0.8
18" from 5 to 6	2.39	0.8	1.91	1.91	13.0	2.30	4.4	4.1	502	0.0006	18	2.6	1.5	1.8	—	0.0	1.5	5.7
21" from 6 to 7	6.08	0.8	4.86	6.78	18.7	1.95	13.2	3.8	530	-0.0019	21	13.2	5.5	0.0	—	0.0	5.5	1.6
33" from 7 to 8	6.90	0.8	5.52	33.31	27.8	1.52	50.8	4.8	588	0.0015	33	50.8	8.5	0.0	—	0.0	8.5	1.1
42" from 8 to 9	4.80	0.8	3.84	37.15	28.9	1.47	54.6	3.9	27		42	54.6	5.7	0.0	—	0.0	5.7	0.1
	46.44																	
Storm Drain System 3																		
30" from 16 to 17	9.53	0.6	5.72	5.72	15.0	2.12	12.1	8.5	680	0.0010	30	12.1	2.5	0.0	—	0.0	2.5	4.6
33" from 17 to 18	8.55	0.6	5.13	10.85	19.6	1.91	20.7	7.8	495	-0.0034	33	20.7	3.5	0.0	—	0.0	3.5	2.4
24" from 18a to 18b	8.20	0.3	2.46	2.46	15.0	2.12	5.2	10.3	697	0.0022	24	5.2	1.7	0.0	—	0.0	1.7	7.0
24" from 18b to 18c	27.50	0.3	8.25	10.71	22.0	1.79	19.2	8.8	106	-0.0085	24	19.2	6.1	0.0	—	0.0	6.1	0.3
30" from 18c to 18	7.02	0.3	2.11	12.82	22.3	1.78	22.8	9.7	923	0.0042	30	22.8	4.6	0.0	—	0.0	4.6	3.3
27" from 18 to 19	8.66	0.6	5.20	28.86	25.6	1.63	46.9	5.8	130	-0.0169	27	46.9	11.8	0.0	—	0.0	11.8	0.2
18" from a to b	4.48	0.6	2.69	2.69	10.0	2.58	6.9	9.5	92	-0.0022	18	6.9	3.9	0.0	—	0.0	3.9	0.4
24" from b to c	0.34	0.6	0.20	2.89	10.4	2.54	7.4	9.7	307	0.0055	24	7.4	2.3	0.0	—	0.0	2.3	2.2
27" from c to 19	4.30	0.6	2.58	5.47	12.6	2.34	12.8	9.1	1320	0.0008	27	9.0	2.3	3.9	84	0.6	1.8	12.6
42" from 19 to 20	6.20	0.6	3.72	38.05	25.8	1.62	61.5	8.0	1126	0.0009	42	30.1	3.1	31.5	60	1.5	2.3	8.2
48" from 20 to 21	3.67	0.6	2.20	40.25	33.9	1.36	54.8	7.0	660	0.0011	48	46.9	3.7	7.9	60	1.2	3.4	3.3
12" from 1 to 2	2.41	0.6	1.45	1.45	15.0	2.12	3.1	8.5	277	0.0047	12	2.4	3.1	0.6	60	0.7	2.6	1.8
18" from 2 to 5	2.27	0.6	1.36	2.81	16.8	2.04	5.7	7.2	932	0.0013	18	3.8	2.1	1.9	60	0.6	1.6	9.6
12" from 3 to 4	4.18	0.6	2.51	2.51	12.0	2.40	6.0	7.8	280	0.0025	12	1.8	2.3	4.2	60	1.0	1.3	3.5
15" from 4 to 5	3.10	0.6	1.86	4.37	15.5	2.10	9.2	7.1	275	0.0038	15	4.0	3.3	5.2	60	1.1	2.0	2.3
24" from 5 to 6	13.02	0.6	7.81	14.99	26.4	1.59	23.8	6.0	173	0.0029	24	12.2	3.9	11.6	60	1.3	2.6	1.1
27" from 6 to 10	1.84	0.6	1.10	16.09	27.5	1.54	24.7	5.5	915	-0.0009	27	24.7	6.2	0.0	—	0.0	6.2	2.5
12" from 7 to 8	1.83	0.6	1.10	1.10	16.0	2.07	2.3	9.9	661	0.0020	12	1.6	2.0	0.7	60	0.5	1.6	7.0
15" from 8 to 9	7.35	0.6	4.41	5.51	23.0	1.75	9.6	8.6	238	0.0109	15	6.8	5.5	2.8	60	1.5	4.3	0.9
21" from 9 to 10	2.89	0.6	1.73	7.24	23.9	1.70	12.3	6.0	655	-0.0005	21	12.3	5.1	0.0	—	0.0	5.1	2.1
42" from 10 to 13	14.44	0.6	8.66	32.00	29.9	1.42	45.6	6.3	416	0.0019	42	45.6	4.7	0.0	—	0.0	4.7	1.5
12" from 11 to 12	6.89	0.6	4.13	4.13	27.0	1.56	6.4	4.6	158	0.0076	12	3.1	4.0	3.3	60	1.4	2.6	1.0
18" from 12 to 13	6.70	0.6	4.02	8.15	28.0	1.51	12.3	3.4	120	-0.0175	18	12.3	7.0	0.0	—	0.0	7.0	0.3
42" from 13 to 14	2.75	0.6	1.65	41.80	31.4	1.40	58.5	5.5	267	-0.0019	42	58.5	6.1	0.0	—	0.0	6.1	0.7
42" from 14 to 21	0.00	0.0	0.00	41.80	32.1	1.39	58.0	6.0	80	-0.0038	42	58.0	6.0	0.0	—	0.0	6.0	0.2
3 - 48" from 21 to 22	1.38	0.6	0.83	82.88	37.2	1.31	108.7	6.3	450		83	108.7	2.9	0.0	—	0.0	2.9	2.6
	159.50																	
Rainfall Intensity (DWR San Jose City)	min	5	10	15	30	60	120	180	1440									
	d	0.30	0.43	0.53	0.71	0.97	1.35	1.59	3.89									
	I	3.60	2.58	2.12	1.42	0.97	0.68	0.53	0.16									
Manning's "n" for RCP =	0.013																	

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*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID   CITY OF SANTA CLARA
   2          ID   EASTSIDE DETENTION BASIN AND PUMPING PLANT (100 YEAR)
   3          ID   INCLUDES SPILLS FROM RAMBO BASIN
   4          ID   (1) 10,000 GPM PUMP AND (2) 20,000 GPM PUMPS
   5          ID   Grades Adjusted to City Datum
   6          IT      15 01JAN99    2400     300
   7          IO       5
              * **********

   8          KK      S4
   9          KM    DRAINAGE BASIN TRIBUTARY TO RAMBO PUMP STATION (RESIDENTIAL)
  10          BA    0.53
  11          PB    3.89
  12          IN     15. 01JAN99    2400
  13          PI  .00515  .00515  .00550  .00550  .00536  .00550  .00550  .00553  .00588  .00588
  14          PI  .00630  .00588  .00588  .00630  .00652  .00664  .00664  .00652  .00718  .00718
  15          PI  .01251  .01251  .00509  .00509  .00809  .00809  .00831  .00883  .00944  .00928
  16          PI  .01021  .01021  .01292  .01338  .01663  .01762  .02447  .02206  .04367  .10929
  17          PI  .03324  .02788  .02023  .01879  .01580  .01580  .01444  .01444  .01180  .01180
  18          PI  .01119  .01119  .01067  .01043  .00980  .00962  .00912  .00897  .00883  .00883
  19          PI  .00883  .00820  .00788  .00788  .00788  .00788  .00751  .00734  .00734  .00751
  20          PI  .00718  .00718  .00641  .00676  .00718  .00718  .00676  .00641  .00630  .00630
  21          PI  .00630  .00630  .00630  .00572  .00533  .00568  .00630  .00630  .00568  .00533
  22          PI  .00533  .00568  .00568  .00533  .00521  .00521
  23          LS      0.     92.
  24          UC     1.2     1.2
              * ***********

  25          KK   RAMBO
  26          KM   UPGRADED RAMBO PUMP STATION WITH 140 CFS CAPACITY
  27          DT     PUMP
  28          DI        0      50     100     140     141     150     200     250     300
  29          DQ        0      50     100     140     140     140     140     140     140
              * ***********

  30          KK   LKSHR
  31          KM   ROUTE RAMBO SPILL DOWN LAKESHORE DRIVE TO GIANERA AT WILCOX
  32          RK    2700   .0012    .025            TRAP      60       0
              * ***********

  33          KK    MONT
  34          KM    BASIN AT MONTAGUE AND BASSETT (PAVED)
  35          BA   0.032
  36          LS              99
  37          UC    0.33    0.04
              * ***********

  38          KK    BASS
  39          KM    ROUTE DOWN BASSETT/WILCOX TO GIANERA
  40          RK    5150   .0017    .025            TRAP      50       0
              * ***********
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  41      KK    GNRA
  42      KM    COMBINE RAMBO SPILLS AT GIANERA
  43      HC       2
          * ***********

  44      KK    TOSD
  45      KM    ROUTE SPILLS TO STORM DRAIN SYSTEM #3
  46      RK     600   .0028    .025            TRAP      50       0

  47      KK    SDRT
  48      KM    ROUTE SPILLS IN STORM DRAIN TO SD SYSTEM #3 OUTFALL AT DRAINAGE CHANNEL
  49      RK    2850   .0016    .013            CIRC     3.5
          * ***********

  50      KK     SD3
  51      KM    AREA TRIBUTARY TO STORM DRAIN SYSTEM #3 (RESIDENTIAL)
  52      BA    0.25
  53      LS              92
  54      UC    0.62    0.62
          * ***********

  55      KK     TAS
  56      KM    HYDROGRAPH AT TASMAN AND LICK MILL BLVD. OUTFALL
  57      HC       2
          * ***********

  58      KK    CHAN
  59      KM    CHANNEL ROUTING TO OUTFALL FROM SD SYSTEM #2
  60      RK     800    .001    .035            TRAP       6     1.5
          * ***********

  61      KK     SD2
  62      KM    AREA TRIBUTARY TO STORM DRAIN SYSTEM #2 (INDUSTRIAL)
  63      BA   0.075
  64      LS              96
  65      UC    0.48    0.16
          * ***********

  66      KK    OUT2
  67      KM    COMBINE HYDROGRAPHS AT STORM DRAIN OUTFALL
  68      HC       2
          * ***********

  69      KK    CHAN
  70      KM    CHANNEL ROUTING
  71      RK    1800    .001    .035            TRAP       6     1.5
          * ***********

  72      KK    GOLF
  73      KM    AREA DRAINING TO DRAINAGE CHANNEL ALONG GUADALUPE RIVER
  74      BA     .04
  75      LS              87
  76      UC     0.6     0.6
          * ***********

  77      KK    CHAN
  78      KM    COMBINE
  79      HC       2
          * ***********

  80      KK    CHAN
  81      KM    CHANNEL ROUTING
  82      RK    1200    .001    .035            TRAP       6     1.5
          * ***********

  83      KK   BASIN
  84      KM    AREA DIRECTLY TRIBUTARY TO DETENTION BASIN (LANDFILL)
  85      BA    0.05
  86      LS              93
  87      UC     0.3     0.3
          * ***************

  88      KK   BASIN
  89      KM    COMBINE
  90      HC       2
          * ***************

  91      KK     SD1
  92      KM    AREA TRIBUTARY TO SD SYSTEM #1 (1/3 LANDFILL; 2/3 GOLF)
  93      BA    0.12
  94      LS              89
  95      UC    0.89    0.89
          * ***********

  96      KK    YERB
  97      KM    AREA TRIBUTARY AT YERBA BUENA WAY (2/3 LANDFILL; 1/3 GOLF)
  98      BA    0.38
  99      LS              91
 100      UC    1.67    1.67
```

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          * ***********

  101     KK    LFYT
  102     KM    COMBINE AT LAPAYETTE STREET
  103     HC       2
          * ***********

  104     KK   DITCH
  105     KM    ROUTE THROUGH DITCH ALONG 237 TO BASIN
  106     RK     600    .0017    .035            TRAP       6     1.5
          * ***********

  107     KK   BASIN
  108     KM    COMBINE HYDROGRAPHS AT EASTSIDE BASIN
  109     HC       2
          * ***********

  110     KK   BASIN
  111     KM    STORAGE-ELEVATION FROM RECORD DRAWINGS
  112     KO       1
  113     RS       1    STOR     1.7
  114     SV     0.0    0.01     0.2      0.7     1.7     2.8    27.0    46.8    54.5
  115     SE    -7.5    -6.5    -5.5     -5.1    -4.7    -4.4     0.0     3.0     4.0
  116     SQ     0.0     0.0     0.0      0.0     0.0     0.0     0.0     0.0     0.0
  117     SE    -7.5    -6.5    -5.5     -5.1    -4.7    -4.4     0.0     3.0     4.0
  118     WP    -3.0     20.    -4.5        1
  119     WP    -2.5     42.    -4.5        2
  120     WP    -2.0     42.    -4.0        3
  121     ZZ
```

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            SEPTEMBER 1990             *
*             VERSION 4.0               *
*                                       *
*  RUN DATE  11/22/2000  TIME  15:28:10 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

CITY OF SANTA CLARA
EASTSIDE DETENTION BASIN AND PUMPING PLANT (100 YEAR)
INCLUDES SPILLS FROM RAMBO BASIN
(1) 10,000 GPM PUMP AND (2) 20,000 GPM PUMPS
Grades Adjusted to City Datum

```
  7 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN         15  MINUTES IN COMPUTATION INTERVAL
                     IDATE     1JAN99  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     5JAN99  ENDING DATE
                    NDTIME       0245  ENDING TIME
                     ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL      .25 HOURS
                      TOTAL TIME BASE    74.75 HOURS

        ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
110 KK      *    BASIN   *
            *            *
            **************

112 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          1  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

113 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       1.70  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

114 SV            STORAGE        .0       .0       .2       .7      1.7      2.8     27.0     46.8     54.5

115 SE          ELEVATION     -7.50    -6.50    -5.50    -5.10    -4.70    -4.40      .00     3.00     4.00

116 SQ          DISCHARGE        0.       0.       0.       0.       0.       0.       0.       0.       0.

117 SE          ELEVATION     -7.50    -6.50    -5.50    -5.10    -4.70    -4.40      .00     3.00     4.00

118 WP          PUMPING DATA

                  PUMP ON    PUMPING   PUMP OFF
                 ELEVATION     RATE    ELEVATION

                     -3.0       20.       -3.0
                     -2.5       42.       -2.5
                     -2.0       42.       -2.0

                     ISTAD          3  PUMP FLOW HYDROGRAPH IDENTIFICATION

                                       ***

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      .01      .20      .70     1.70     2.80    27.00    46.80    54.50
          OUTFLOW        .00      .00      .00      .00      .00      .00      .00      .00      .00
        ELEVATION      -7.50    -6.50    -5.50    -5.10    -4.70    -4.40      .00     3.00     4.00
```

HYDROGRAPH AT STATION BASIN

DA	MON	HRMN	ORD	PUMP Q	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	PUMP Q	OUTFLOW	STORAGE	STAGE
2	JAN	0000	1	0.	0.	1.7	-4.7	3	JAN	1330	151	0.	0.	10.5	-3.0
2	JAN	0015	2	0.	0.	1.7	-4.7	3	JAN	1345	152	0.	0.	10.5	-3.0
2	JAN	0030	3	0.	0.	1.7	-4.7	3	JAN	1400	153	0.	0.	10.5	-3.0
2	JAN	0045	4	0.	0.	1.7	-4.7	3	JAN	1415	154	0.	0.	10.5	-3.0
2	JAN	0100	5	0.	0.	1.7	-4.7	3	JAN	1430	155	0.	0.	10.5	-3.0
2	JAN	0115	6	0.	0.	1.7	-4.7	3	JAN	1445	156	0.	0.	10.5	-3.0
2	JAN	0130	7	0.	0.	1.7	-4.7	3	JAN	1500	157	0.	0.	10.5	-3.0
2	JAN	0145	8	0.	0.	1.7	-4.7	3	JAN	1515	158	0.	0.	10.5	-3.0
2	JAN	0200	9	0.	0.	1.7	-4.7	3	JAN	1530	159	0.	0.	10.5	-3.0
2	JAN	0215	10	0.	0.	1.7	-4.7	3	JAN	1545	160	0.	0.	10.5	-3.0
2	JAN	0230	11	0.	0.	1.7	-4.7	3	JAN	1600	161	0.	0.	10.5	-3.0
2	JAN	0245	12	0.	0.	1.7	-4.7	3	JAN	1615	162	0.	0.	10.5	-3.0
2	JAN	0300	13	0.	0.	1.7	-4.7	3	JAN	1630	163	0.	0.	10.5	-3.0
2	JAN	0315	14	0.	0.	1.8	-4.7	3	JAN	1645	164	0.	0.	10.5	-3.0
2	JAN	0330	15	0.	0.	1.8	-4.7	3	JAN	1700	165	0.	0.	10.5	-3.0
2	JAN	0345	16	0.	0.	1.9	-4.6	3	JAN	1715	166	0.	0.	10.5	-3.0
2	JAN	0400	17	0.	0.	2.0	-4.6	3	JAN	1730	167	0.	0.	10.5	-3.0
2	JAN	0415	18	0.	0.	2.1	-4.6	3	JAN	1745	168	20.	0.	10.1	-3.1
2	JAN	0430	19	0.	0.	2.3	-4.5	3	JAN	1800	169	0.	0.	10.1	-3.1
2	JAN	0445	20	0.	0.	2.5	-4.5	3	JAN	1815	170	0.	0.	10.1	-3.1
2	JAN	0500	21	0.	0.	2.8	-4.4	3	JAN	1830	171	0.	0.	10.1	-3.1
2	JAN	0515	22	0.	0.	3.1	-4.3	3	JAN	1845	172	0.	0.	10.1	-3.1
2	JAN	0530	23	0.	0.	3.5	-4.3	3	JAN	1900	173	0.	0.	10.1	-3.1
2	JAN	0545	24	0.	0.	4.0	-4.2	3	JAN	1915	174	0.	0.	10.1	-3.1
2	JAN	0600	25	0.	0.	4.6	-4.1	3	JAN	1930	175	0.	0.	10.1	-3.1
2	JAN	0615	26	0.	0.	5.1	-4.0	3	JAN	1945	176	0.	0.	10.1	-3.1
2	JAN	0630	27	0.	0.	5.8	-3.9	3	JAN	2000	177	0.	0.	10.1	-3.1
2	JAN	0645	28	0.	0.	6.4	-3.7	3	JAN	2015	178	0.	0.	10.1	-3.1
2	JAN	0700	29	0.	0.	7.1	-3.6	3	JAN	2030	179	0.	0.	10.1	-3.1
2	JAN	0715	30	0.	0.	7.8	-3.5	3	JAN	2045	180	0.	0.	10.1	-3.1
2	JAN	0730	31	0.	0.	8.6	-3.3	3	JAN	2100	181	0.	0.	10.1	-3.1
2	JAN	0745	32	0.	0.	9.4	-3.2	3	JAN	2115	182	0.	0.	10.1	-3.1
2	JAN	0800	33	0.	0.	10.3	-3.0	3	JAN	2130	183	0.	0.	10.1	-3.1
2	JAN	0815	34	0.	0.	11.3	-2.9	3	JAN	2145	184	0.	0.	10.1	-3.1
2	JAN	0830	35	20.	0.	11.9	-2.7	3	JAN	2200	185	0.	0.	10.1	-3.1
2	JAN	0845	36	20.	0.	12.6	-2.6	3	JAN	2215	186	0.	0.	10.1	-3.1
2	JAN	0900	37	20.	0.	13.5	-2.5	3	JAN	2230	187	0.	0.	10.1	-3.1
2	JAN	0915	38	62.	0.	13.7	-2.4	3	JAN	2245	188	0.	0.	10.1	-3.1
2	JAN	0930	39	62.	0.	14.1	-2.3	3	JAN	2300	189	0.	0.	10.1	-3.1
2	JAN	0945	40	62.	0.	14.9	-2.2	3	JAN	2315	190	0.	0.	10.1	-3.1
2	JAN	1000	41	62.	0.	16.3	-1.9	3	JAN	2330	191	0.	0.	10.1	-3.1
2	JAN	1015	42	104.	0.	18.0	-1.6	3	JAN	2345	192	0.	0.	10.1	-3.1
2	JAN	1030	43	104.	0.	20.8	-1.1	4	JAN	0000	193	0.	0.	10.1	-3.1
2	JAN	1045	44	104.	0.	24.2	-.5	4	JAN	0015	194	0.	0.	10.1	-3.1
2	JAN	1100	45	104.	0.	27.6	.1	4	JAN	0030	195	0.	0.	10.1	-3.1
2	JAN	1115	46	104.	0.	30.7	.6	4	JAN	0045	196	0.	0.	10.1	-3.1
2	JAN	1130	47	104.	0.	33.5	1.0	4	JAN	0100	197	0.	0.	10.1	-3.1
2	JAN	1145	48	104.	0.	35.9	1.3	4	JAN	0115	198	0.	0.	10.1	-3.1
2	JAN	1200	49	104.	0.	38.0	1.7	4	JAN	0130	199	0.	0.	10.1	-3.1
2	JAN	1215	50	104.	0.	39.8	1.9	4	JAN	0145	200	0.	0.	10.1	-3.1
2	JAN	1230	51	104.	0.	41.3	2.2	4	JAN	0200	201	0.	0.	10.1	-3.1
2	JAN	1245	52	104.	0.	42.5	2.3	4	JAN	0215	202	0.	0.	10.1	-3.1
2	JAN	1300	53	104.	0.	43.4	2.5	4	JAN	0230	203	0.	0.	10.1	-3.1
2	JAN	1315	54	104.	0.	44.2	2.6	4	JAN	0245	204	0.	0.	10.1	-3.1
2	JAN	1330	55	104.	0.	44.8	2.7	4	JAN	0300	205	0.	0.	10.1	-3.1
2	JAN	1345	56	104.	0.	45.2	2.8	4	JAN	0315	206	0.	0.	10.1	-3.1
2	JAN	1400	57	104.	0.	45.5	2.8	4	JAN	0330	207	0.	0.	10.1	-3.1
2	JAN	1415	58	104.	0.	45.7	2.8	4	JAN	0345	208	0.	0.	10.1	-3.1
2	JAN	1430	59	104.	0.	45.8	2.8	4	JAN	0400	209	0.	0.	10.1	-3.1
2	JAN	1445	60	104.	0.	45.7	2.8	4	JAN	0415	210	0.	0.	10.1	-3.1
2	JAN	1500	61	104.	0.	45.7	2.8	4	JAN	0430	211	0.	0.	10.1	-3.1
2	JAN	1515	62	104.	0.	45.5	2.8	4	JAN	0445	212	0.	0.	10.1	-3.1
2	JAN	1530	63	104.	0.	45.3	2.8	4	JAN	0500	213	0.	0.	10.1	-3.1
2	JAN	1545	64	104.	0.	45.0	2.7	4	JAN	0515	214	0.	0.	10.1	-3.1
2	JAN	1600	65	104.	0.	44.6	2.7	4	JAN	0530	215	0.	0.	10.1	-3.1
2	JAN	1615	66	104.	0.	44.2	2.6	4	JAN	0545	216	0.	0.	10.1	-3.1
2	JAN	1630	67	104.	0.	43.7	2.5	4	JAN	0600	217	0.	0.	10.1	-3.1
2	JAN	1645	68	104.	0.	43.3	2.5	4	JAN	0615	218	0.	0.	10.1	-3.1
2	JAN	1700	69	104.	0.	42.7	2.4	4	JAN	0630	219	0.	0.	10.1	-3.1
2	JAN	1715	70	104.	0.	42.2	2.3	4	JAN	0645	220	0.	0.	10.1	-3.1
2	JAN	1730	71	104.	0.	41.5	2.2	4	JAN	0700	221	0.	0.	10.1	-3.1
2	JAN	1745	72	104.	0.	40.9	2.1	4	JAN	0715	222	0.	0.	10.1	-3.1
2	JAN	1800	73	104.	0.	40.2	2.0	4	JAN	0730	223	0.	0.	10.1	-3.1
2	JAN	1815	74	104.	0.	39.5	1.9	4	JAN	0745	224	0.	0.	10.1	-3.1
2	JAN	1830	75	104.	0.	38.8	1.8	4	JAN	0800	225	0.	0.	10.1	-3.1
2	JAN	1845	76	104.	0.	38.1	1.7	4	JAN	0815	226	0.	0.	10.1	-3.1
2	JAN	1900	77	104.	0.	37.3	1.6	4	JAN	0830	227	0.	0.	10.1	-3.1
2	JAN	1915	78	104.	0.	36.5	1.4	4	JAN	0845	228	0.	0.	10.1	-3.1
2	JAN	1930	79	104.	0.	35.7	1.3	4	JAN	0900	229	0.	0.	10.1	-3.1
2	JAN	1945	80	104.	0.	34.9	1.2	4	JAN	0915	230	0.	0.	10.1	-3.1
2	JAN	2000	81	104.	0.	34.0	1.1	4	JAN	0930	231	0.	0.	10.1	-3.1
2	JAN	2015	82	104.	0.	33.2	.9	4	JAN	0945	232	0.	0.	10.1	-3.1
2	JAN	2030	83	104.	0.	32.3	.8	4	JAN	1000	233	0.	0.	10.1	-3.1
2	JAN	2045	84	104.	0.	31.4	.7	4	JAN	1015	234	0.	0.	10.1	-3.1
2	JAN	2100	85	104.	0.	30.5	.5	4	JAN	1030	235	0.	0.	10.1	-3.1
2	JAN	2115	86	104.	0.	29.5	.4	4	JAN	1045	236	0.	0.	10.1	-3.1

2	JAN	2130	87	104.	0.	28.6	.2	*	4	JAN	1100	237	0.	0.	10.1	-3.1
2	JAN	2145	88	104.	0.	27.6	.1	*	4	JAN	1115	238	0.	0.	10.1	-3.1
2	JAN	2200	89	104.	0.	26.6	-.1	*	4	JAN	1130	239	0.	0.	10.1	-3.1
2	JAN	2215	90	104.	0.	25.6	-.3	*	4	JAN	1145	240	0.	0.	10.1	-3.1
2	JAN	2230	91	104.	0.	24.6	-.4	*	4	JAN	1200	241	0.	0.	10.1	-3.1
2	JAN	2245	92	104.	0.	23.5	-.6	*	4	JAN	1215	242	0.	0.	10.1	-3.1
2	JAN	2300	93	104.	0.	22.5	-.8	*	4	JAN	1230	243	0.	0.	10.1	-3.1
2	JAN	2315	94	104.	0.	21.5	-1.0	*	4	JAN	1245	244	0.	0.	10.1	-3.1
2	JAN	2330	95	104.	0.	20.4	-1.2	*	4	JAN	1300	245	0.	0.	10.1	-3.1
2	JAN	2345	96	104.	0.	19.3	-1.4	*	4	JAN	1315	246	0.	0.	10.1	-3.1
3	JAN	0000	97	104.	0.	18.2	-1.6	*	4	JAN	1330	247	0.	0.	10.1	-3.1
3	JAN	0015	98	104.	0.	17.1	-1.8	*	4	JAN	1345	248	0.	0.	10.1	-3.1
3	JAN	0030	99	104.	0.	15.9	-2.0	*	4	JAN	1400	249	0.	0.	10.1	-3.1
3	JAN	0045	100	62.	0.	15.5	-2.1	*	4	JAN	1415	250	0.	0.	10.1	-3.1
3	JAN	0100	101	62.	0.	15.0	-2.2	*	4	JAN	1430	251	0.	0.	10.1	-3.1
3	JAN	0115	102	62.	0.	14.4	-2.3	*	4	JAN	1445	252	0.	0.	10.1	-3.1
3	JAN	0130	103	62.	0.	13.6	-2.4	*	4	JAN	1500	253	0.	0.	10.1	-3.1
3	JAN	0145	104	62.	0.	12.8	-2.6	*	4	JAN	1515	254	0.	0.	10.1	-3.1
3	JAN	0200	105	20.	0.	12.7	-2.6	*	4	JAN	1530	255	0.	0.	10.1	-3.1
3	JAN	0215	106	20.	0.	12.6	-2.6	*	4	JAN	1545	256	0.	0.	10.1	-3.1
3	JAN	0230	107	20.	0.	12.4	-2.7	*	4	JAN	1600	257	0.	0.	10.1	-3.1
3	JAN	0245	108	20.	0.	12.2	-2.7	*	4	JAN	1615	258	0.	0.	10.1	-3.1
3	JAN	0300	109	20.	0.	12.0	-2.7	*	4	JAN	1630	259	0.	0.	10.1	-3.1
3	JAN	0315	110	20.	0.	11.7	-2.8	*	4	JAN	1645	260	0.	0.	10.1	-3.1
3	JAN	0330	111	20.	0.	11.4	-2.8	*	4	JAN	1700	261	0.	0.	10.1	-3.1
3	JAN	0345	112	20.	0.	11.1	-2.9	*	4	JAN	1715	262	0.	0.	10.1	-3.1
3	JAN	0400	113	20.	0.	10.8	-2.9	*	4	JAN	1730	263	0.	0.	10.1	-3.1
3	JAN	0415	114	20.	0.	10.5	-3.0	*	4	JAN	1745	264	0.	0.	10.1	-3.1
3	JAN	0430	115	0.	0.	10.5	-3.0	*	4	JAN	1800	265	0.	0.	10.1	-3.1
3	JAN	0445	116	20.	0.	10.2	-3.1	*	4	JAN	1815	266	0.	0.	10.1	-3.1
3	JAN	0500	117	0.	0.	10.2	-3.1	*	4	JAN	1830	267	0.	0.	10.1	-3.1
3	JAN	0515	118	0.	0.	10.2	-3.0	*	4	JAN	1845	268	0.	0.	10.1	-3.1
3	JAN	0530	119	0.	0.	10.3	-3.0	*	4	JAN	1900	269	0.	0.	10.1	-3.1
3	JAN	0545	120	0.	0.	10.3	-3.0	*	4	JAN	1915	270	0.	0.	10.1	-3.1
3	JAN	0600	121	0.	0.	10.3	-3.0	*	4	JAN	1930	271	0.	0.	10.1	-3.1
3	JAN	0615	122	0.	0.	10.4	-3.0	*	4	JAN	1945	272	0.	0.	10.1	-3.1
3	JAN	0630	123	0.	0.	10.4	-3.0	*	4	JAN	2000	273	0.	0.	10.1	-3.1
3	JAN	0645	124	0.	0.	10.4	-3.0	*	4	JAN	2015	274	0.	0.	10.1	-3.1
3	JAN	0700	125	0.	0.	10.4	-3.0	*	4	JAN	2030	275	0.	0.	10.1	-3.1
3	JAN	0715	126	0.	0.	10.4	-3.0	*	4	JAN	2045	276	0.	0.	10.1	-3.1
3	JAN	0730	127	0.	0.	10.4	-3.0	*	4	JAN	2100	277	0.	0.	10.1	-3.1
3	JAN	0745	128	0.	0.	10.4	-3.0	*	4	JAN	2115	278	0.	0.	10.1	-3.1
3	JAN	0800	129	0.	0.	10.4	-3.0	*	4	JAN	2130	279	0.	0.	10.1	-3.1
3	JAN	0815	130	0.	0.	10.5	-3.0	*	4	JAN	2145	280	0.	0.	10.1	-3.1
3	JAN	0830	131	0.	0.	10.5	-3.0	*	4	JAN	2200	281	0.	0.	10.1	-3.1
3	JAN	0845	132	0.	0.	10.5	-3.0	*	4	JAN	2215	282	0.	0.	10.1	-3.1
3	JAN	0900	133	0.	0.	10.5	-3.0	*	4	JAN	2230	283	0.	0.	10.1	-3.1
3	JAN	0915	134	0.	0.	10.5	-3.0	*	4	JAN	2245	284	0.	0.	10.1	-3.1
3	JAN	0930	135	0.	0.	10.5	-3.0	*	4	JAN	2300	285	0.	0.	10.1	-3.1
3	JAN	0945	136	0.	0.	10.5	-3.0	*	4	JAN	2315	286	0.	0.	10.1	-3.1
3	JAN	1000	137	0.	0.	10.5	-3.0	*	4	JAN	2330	287	0.	0.	10.1	-3.1
3	JAN	1015	138	0.	0.	10.5	-3.0	*	4	JAN	2345	288	0.	0.	10.1	-3.1
3	JAN	1030	139	0.	0.	10.5	-3.0	*	5	JAN	0000	289	0.	0.	10.1	-3.1
3	JAN	1045	140	0.	0.	10.5	-3.0	*	5	JAN	0015	290	0.	0.	10.1	-3.1
3	JAN	1100	141	0.	0.	10.5	-3.0	*	5	JAN	0030	291	0.	0.	10.1	-3.1
3	JAN	1115	142	0.	0.	10.5	-3.0	*	5	JAN	0045	292	0.	0.	10.1	-3.1
3	JAN	1130	143	0.	0.	10.5	-3.0	*	5	JAN	0100	293	0.	0.	10.1	-3.1
3	JAN	1145	144	0.	0.	10.5	-3.0	*	5	JAN	0115	294	0.	0.	10.1	-3.1
3	JAN	1200	145	0.	0.	10.5	-3.0	*	5	JAN	0130	295	0.	0.	10.1	-3.1
3	JAN	1215	146	0.	0.	10.5	-3.0	*	5	JAN	0145	296	0.	0.	10.1	-3.1
3	JAN	1230	147	0.	0.	10.5	-3.0	*	5	JAN	0200	297	0.	0.	10.1	-3.1
3	JAN	1245	148	0.	0.	10.5	-3.0	*	5	JAN	0215	298	0.	0.	10.1	-3.1
3	JAN	1300	149	0.	0.	10.5	-3.0	*	5	JAN	0230	299	0.	0.	10.1	-3.1
3	JAN	1315	150	0.	0.	10.5	-3.0	*	5	JAN	0245	300	0.	0.	10.1	-3.1
								*								

****

PEAK OUTFLOW IS 0. AT TIME .00 HOURS

***** PUMP FLOW HYDROGRAPH *****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	74.75-HR
+ (CFS)	(HR)					
		(CFS)				
+ 104.	10.25		104.	72.	24.	23.
		(INCHES)	.655	1.802	1.807	1.807
		(AC-FT)	52.	142.	142.	142.

***** OUTFLOW HYDROGRAPH *****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	74.75-HR
+ (CFS)	(HR)					
		(CFS)				
+ 0.	.25		0.	0.	0.	0.
		(INCHES)	.000	.000	.000	.000
		(AC-FT)	0.	0.	0.	0.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	74.75-HR
46.	14.50	44.	26.	15.	14.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	74.75-HR
2.84	14.50	2.53	.00	.00	-2.34

CUMULATIVE AREA = 1.48 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	S4	153.	11.00	93.	43.	14.	.53		
DIVERSION TO	PUMP	140.	11.00	92.	42.	14.	.53		
HYDROGRAPH AT	RAMBO	13.	11.00	1.	0.	0.	.53		
ROUTED TO	LKSHR	12.	11.50	2.	0.	0.	.53		
HYDROGRAPH AT	MONT	23.	10.25	7.	3.	1.	.03		
ROUTED TO	BASS	23.	10.75	7.	3.	1.	.03		
2 COMBINED AT	GNRA	23.	10.75	8.	4.	1.	.56		
ROUTED TO	TOSD	22.	10.75	8.	4.	1.	.56		
ROUTED TO	SDRT	20.	10.75	8.	4.	1.	.56		
HYDROGRAPH AT	SD3	101.	10.50	45.	20.	7.	.25		
2 COMBINED AT	TAS	114.	10.50	53.	24.	8.	.81		
ROUTED TO	CHAN	112.	10.75	53.	24.	8.	.81		
HYDROGRAPH AT	SD2	51.	10.25	15.	7.	2.	.08		
2 COMBINED AT	OUT2	148.	10.50	68.	31.	10.	.89		
ROUTED TO	CHAN	145.	10.50	68.	31.	10.	.89		
HYDROGRAPH AT	GOLF	14.	10.50	6.	3.	1.	.04		
2 COMBINED AT	CHAN	159.	10.50	74.	33.	11.	.93		
ROUTED TO	CHAN	153.	10.75	74.	33.	11.	.93		
HYDROGRAPH AT	BASIN	28.	10.25	9.	4.	1.	.05		
2 COMBINED AT	BASIN	174.	10.50	83.	38.	13.	.98		
HYDROGRAPH AT	SD1	36.	10.75	19.	9.	3.	.12		
HYDROGRAPH AT	YERB	89.	11.50	62.	29.	10.	.38		
2 COMBINED AT	LFYT	118.	11.25	81.	38.	13.	.50		
ROUTED TO	DITCH	118.	11.25	81.	38.	13.	.50		

	2 COMBINED AT									
+		BASIN	272.	10.75	163.	76.	25.	1.48		
	PUMP FLOW TO									
+		3	104.	10.25	104.	72.	24.	1.48		
	HYDROGRAPH AT									
+		BASIN	0.	.25	0.	0.	0.	1.48		
+									2.84	14.50
1										

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
LKSHR	MANE	5.43	12.65	685.81	.03	15.00	12.43	690.00	.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5690E+00 EXCESS= .0000E+00 OUTFLOW= .7553E+00 BASIN STORAGE= .4567E-03 PERCENT ERROR= -32.8

BASS	MANE	13.57	23.36	644.71	3.84	15.00	23.17	645.00	3.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6436E+01 EXCESS= .0000E+00 OUTFLOW= .6555E+01 BASIN STORAGE= .1700E-02 PERCENT ERROR= -1.9

TOSD	MANE	1.45	22.84	646.85	.24	15.00	22.30	645.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7342E+01 EXCESS= .0000E+00 OUTFLOW= .7343E+01 BASIN STORAGE= .3320E-03 PERCENT ERROR= .0

SDRT	MANE	2.92	21.70	652.05	.25	15.00	20.13	645.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7356E+01 EXCESS= .0000E+00 OUTFLOW= .7357E+01 BASIN STORAGE= .6477E-04 PERCENT ERROR= .0

CHAN	MANE	1.45	113.66	632.76	1.09	15.00	112.00	645.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4736E+02 EXCESS= .0000E+00 OUTFLOW= .4736E+02 BASIN STORAGE= .1583E-03 PERCENT ERROR= .0

CHAN	MANE	2.81	147.26	636.46	1.29	15.00	145.28	630.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6104E+02 EXCESS= .0000E+00 OUTFLOW= .6105E+02 BASIN STORAGE= .3972E-03 PERCENT ERROR= .0

CHAN	MANE	1.94	158.65	634.07	1.34	15.00	153.29	645.00	1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6644E+02 EXCESS= .0000E+00 OUTFLOW= .6645E+02 BASIN STORAGE= .2826E-03 PERCENT ERROR= .0

DITCH	MANE	.97	118.02	677.16	2.85	15.00	117.64	675.00	2.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7606E+02 EXCESS= .0000E+00 OUTFLOW= .7605E+02 BASIN STORAGE= .3421E-07 PERCENT ERROR= .0

*** NORMAL END OF HEC-1 ***

→ EAST SIDE #1

Date **April 1994**

Supersedes **All previous catalog materials**

CURVE data

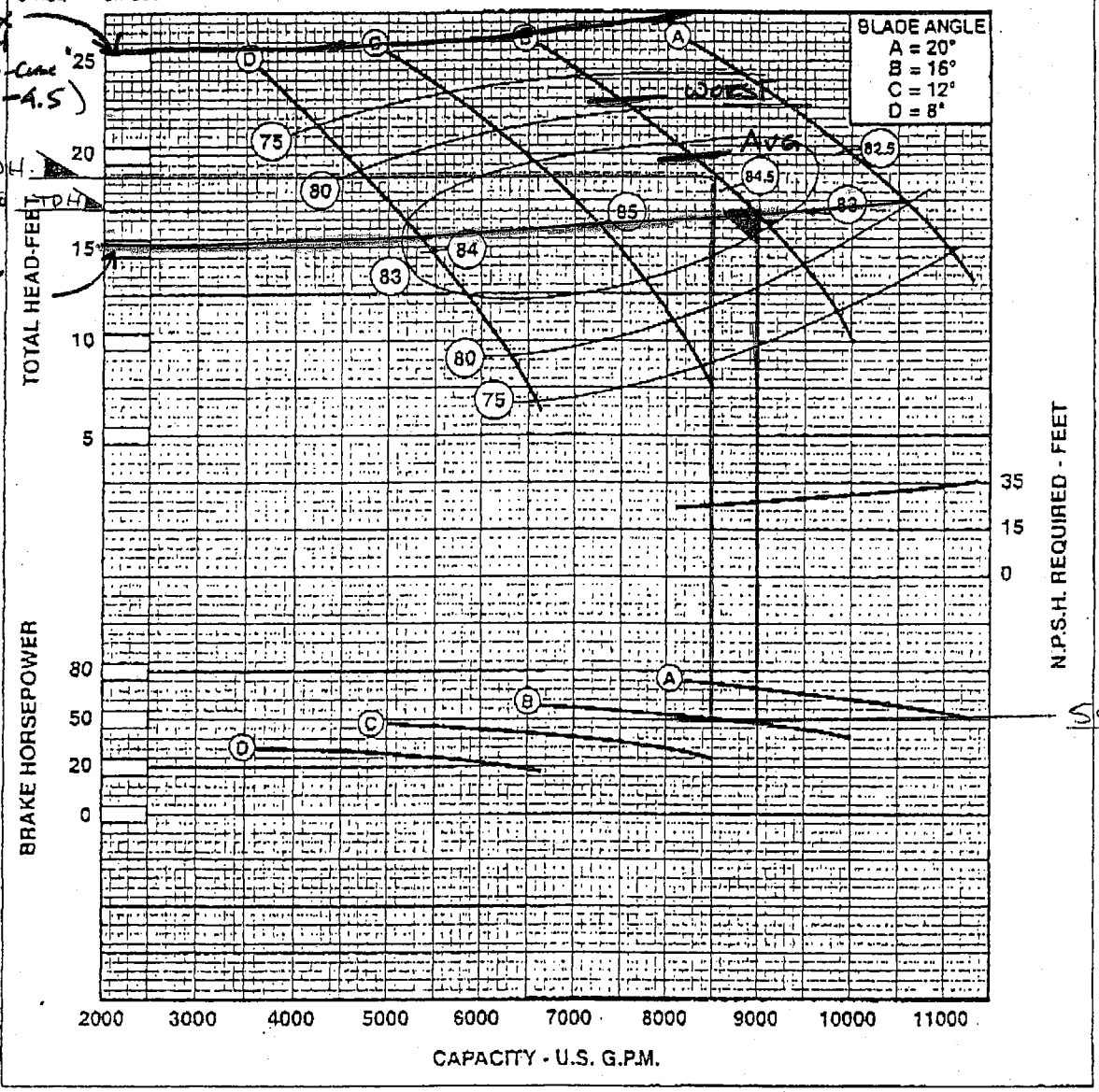
Verti-Line

16P 1170 R.P.M.

PUMP REPAIR SERVICE CO.
405 ALLAN ST. • P. O. BOX 34327
SAN FRANCISCO, CA 94134
(415) 467-2150

ONE STAGE ( ) STAGES

PUMP PERFORMANCE



MAX TDH "Worst-Case" (Pump to ~4.5)

MAX TDH. PER LISTING

"Best-Case" Tailpiece

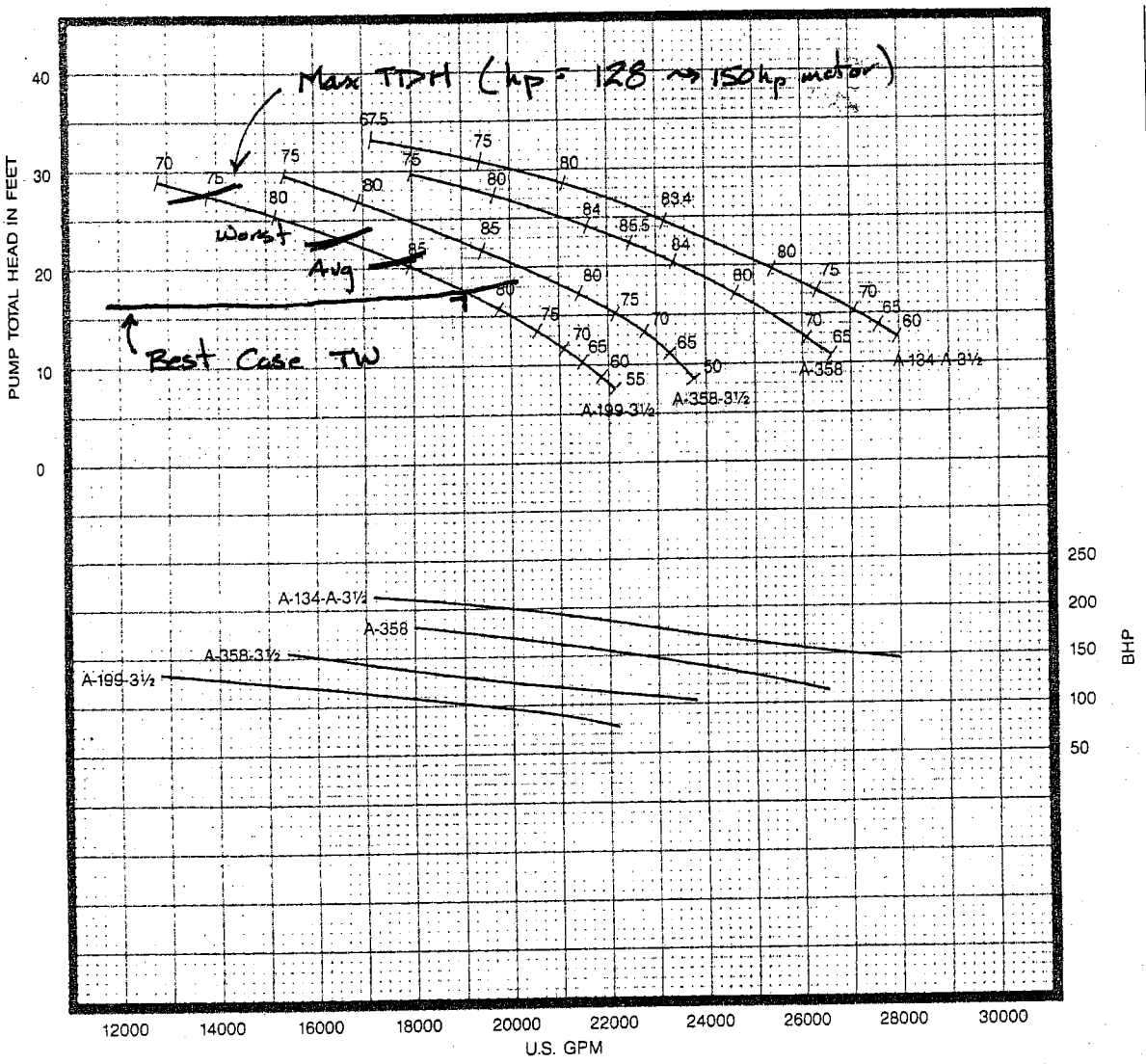
50 HP MOTOR

IMPELLER DIAMETER	SHUT-OFF HEAD	HORSEPOWER	"K" FACTOR	MAX. SPHERES	1.2
A	67.4	184.0	85.0	IMP. PATT. NO.	16P
B	63.7	168.0	85.0	CASE PATT. NO.	16P2
C	58.9	128.0	85.0	DISCHARGE BOWL	-
D	55.8	91.0	85.0	INTER. BOWL	-

VL1170/16P1160

Curves reflect typical performance, refer to factory for certification

Sump #1



30″
8211
705 RPM
1 STAGE

30″ COLUMN

30″ FABRICATED STEEL ELBOW

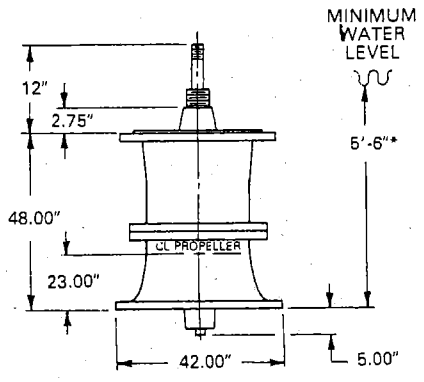
2-3/16″ LINESHAFT

3″ ENCLOSING TUBE

DATA	VALUE	
PUMP SHAFT DIAMETER	2.4375 IN.	
MAXIMUM SPHERE SIZE	4.00 IN.	
Kt (THRUST FACTOR)	215 LBS./FT.	
Ka (TOTAL ROTOR WEIGHT)	270 LBS.	
Ks (SETTING CONSTANT)	12.8 LBS./FT.	
WK²	152 LBS.-FT.²	
BOWL ASSEMBLY WEIGHT	1900 LBS.	
EYE AREA: PROPELLER NO. A-199-3 1/2	351.0 SQ. IN.	3 VANE
PROPELLER NO. A-358-3 1/2	351.0 SQ. IN.	3 VANE
PROPELLER NO. A-358	384.7 SQ. IN.	3 VANE
PROPELLER NO. A-134-A-3 1/2	351.0 SQ. IN.	4 VANE
PROPELLER NO.		
PROPELLER NO.		

HYDRAULIC PERFORMANCE IS CONTINGENT ON FURNISHING THE PUMP WITH SPECIFIED AMOUNT OF CLEAR, FRESH, NON-AERATED WATER NOT TO EXCEED 85° F.

PUMP PERFORMANCE SHOWN IS BOWL ASSEMBLY WITH 10 FEET OF COLUMN INCLUDING A STANDARD ABOVE GROUND DISCHARGE ELBOW. ADDITIONAL COLUMN LOSSES SHOULD BE ADDED WHEN SETTINGS ARE DEEPER THAN 10 FEET AND/OR FOR OTHER DISCHARGE ARRANGEMENTS.



*This value is the minimum submergence required to prevent vortexing only. This value may need to be increased to provide adequate NPSHA.

Guestimate for Sump #2 & #3

Table
Rating Table for Pressure Pipe

Project Description	
Project File	f:\data\jobs\cscl\03-eastside\calculations\pumps.fm2
Worksheet	24" Pump Discharge
Flow Element	Pressure Pipe
Method	Hazen-Williams Formula
Solve For	Elevation at 1

Constant Data	
Pressure at 1	0.00 psi
Pressure at 2	0.00 psi
Elevation at 2	0.00 ft
Length	111.00 ft
C Coefficient	120.0
Diameter	24.00 in

Input Data			
	Minimum	Maximum	Increment
Discharge	2,000.0	10,000.0	1,000.0 gal/min

Rating Table

Discharge (gal/min)	Elevation at * 1 (ft)	Velocity (ft/s)
2,000.0	0.04	1.42
3,000.0	0.09	2.13
4,000.0	0.15	2.84
5,000.0	0.22	3.55
6,000.0	0.31	4.26
7,000.0	0.41	4.96
8,000.0	0.52	5.67
9,000.0	0.65	6.38
10,000.0	0.79	7.09

* Friction Loss

Minor Losses:

	K
Bell Intake	0.05
3 piece mitre el	0.30
Flapgate	0.10
Exit	1.00
	1.45

say $1.5\ V^2/2g$

Table
Rating Table for Pressure Pipe

Project Description	
Project File	f:\data\jobs\cscl\03-eastside\calculations\pumps.fm2
Worksheet	30" Pump Discharge
Flow Element	Pressure Pipe
Method	Hazen-Williams Formula
Solve For	Elevation at 1

Constant Data	
Pressure at 1	0.00 psi
Pressure at 2	0.00 psi
Elevation at 2	0.00 ft
Length	111.00 ft
C Coefficient	120.0
Diameter	30.00 in

Input Data			
	Minimum	Maximum	Increment
Discharge	12,000.0	22,000.0	1,000.0 gal/min

Rating Table

Discharge (gal/min)	Elevation at * 1 (ft)	Velocity (ft/s)
12,000.0	0.38	5.45
13,000.0	0.44	5.90
14,000.0	0.50	6.35
15,000.0	0.57	6.81
16,000.0	0.64	7.26
17,000.0	0.72	7.72
18,000.0	0.79	8.17
19,000.0	0.88	8.62
20,000.0	0.97	9.08
21,000.0	1.06	9.53
22,000.0	1.15	9.99

* Friction Loss

Minor Losses:

	K
Bell Intake	0.05
3piece mitre el	0.30
Flapgate	0.10
EXIT	1.00
	1.45

SAY 1.5 $V^2/2g$

City of Santa Clara

Storage Volume of Eastside Detention Facility and Surrounding Area

Eastside Basin

Elevation (City Datum)	Area (ft^2)	Vertical Dist (feet)	Volume (ft^3)	Cum Vol. (ft^3)
-7.5	159			-
		1	576	
-6.5	992			576
		0.6	1,913	
-5.9	5,383			2,488
		0.4	7,136	
-5.5	30,295			9,624
		0.4	19,003	
-5.1	64,718			28,626
		0.4	43,736	
-4.7	153,964			72,363
		0.3	51,549	
-4.4	189,696			123,912
		4.4	868,463	
0.0	205,060			992,375
		3	630,890	
3.0	215,533			1,623,264
		0.2	45,037	
3.2	234,835			1,668,301
		0.8	189,806	
4.0	239,680			1,858,107

Elevation (feet)	Cum Vol (acre-ft)
-7.5	0.00
-6.5	0.01
-5.9	0.06
-5.5	0.22
-5.1	0.66
-4.7	1.66
-4.4	2.84
0.0	26.95
3.0	46.80
4.0	54.45

1978 Enlargement of Eastside Basin

Elevation (City Datum)	Area (ft^2)	Vertical Dist (feet)	Volume (ft^3)	Cum Vol. (ft^3)
-4.4	40,200			-
		4.4	181,654	
0.0	42,370			181,654
		3	129,330	
3.0	43,850			310,984
		1	43,975	
4.0	44,100			354,959

Land bound by 237, Eastside Basin and Sanitary Sewage Pumping Station

Elevation (City Datum)	Area (ft^2)	Vertical Dist (feet)	Volume (ft^3)	Cum Vol. (ft^3)
0.0	18,000			-
		3	104,550	
3.0	51,700			104,550
		1	54,285	
4.0	56,870			158,835

APPENDIX C

Excerpt from the Santa Clara County Drainage Manual

A. APPENDIX A

Overland Flow Velocity

Mean Annual Precipitation Map

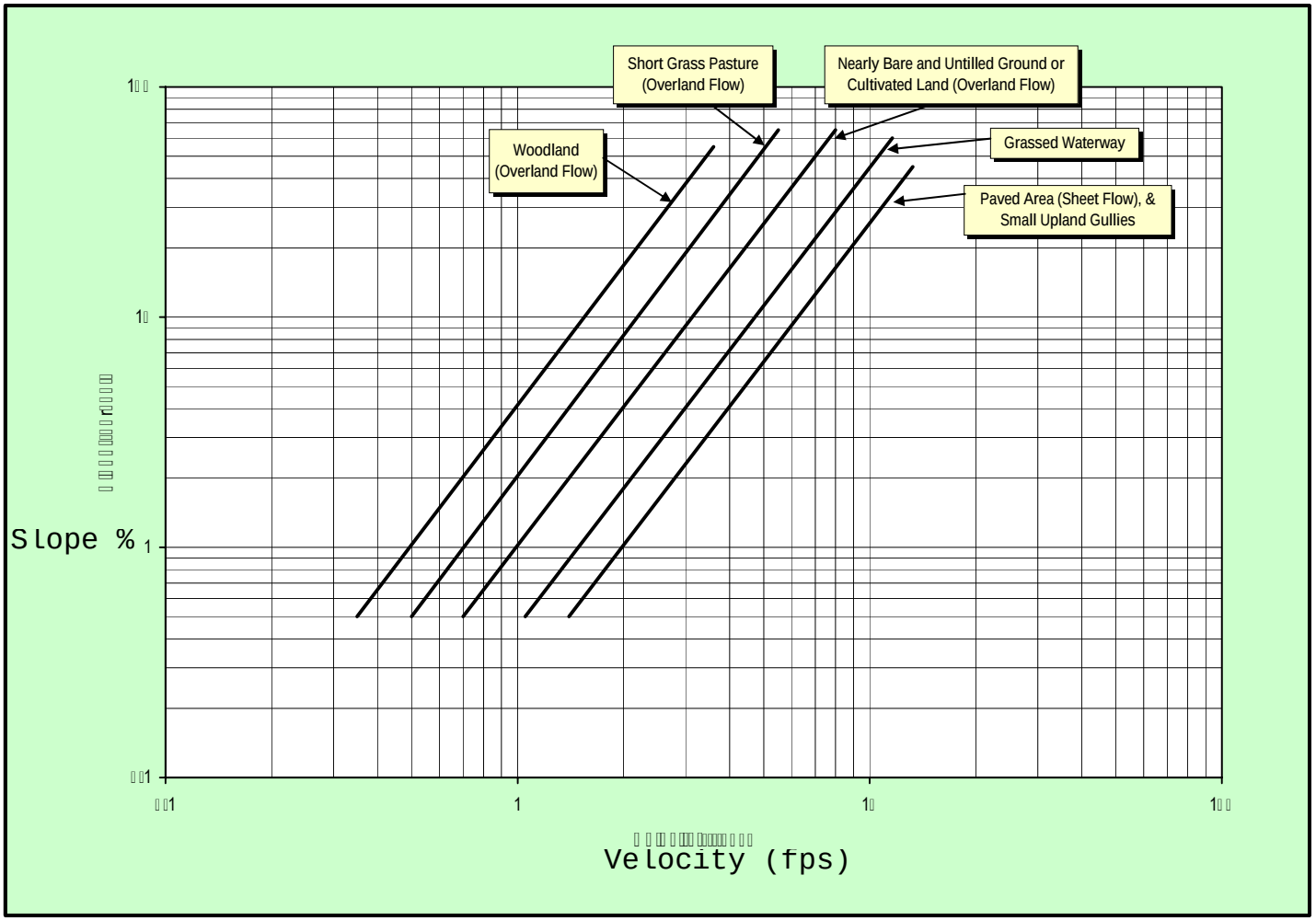
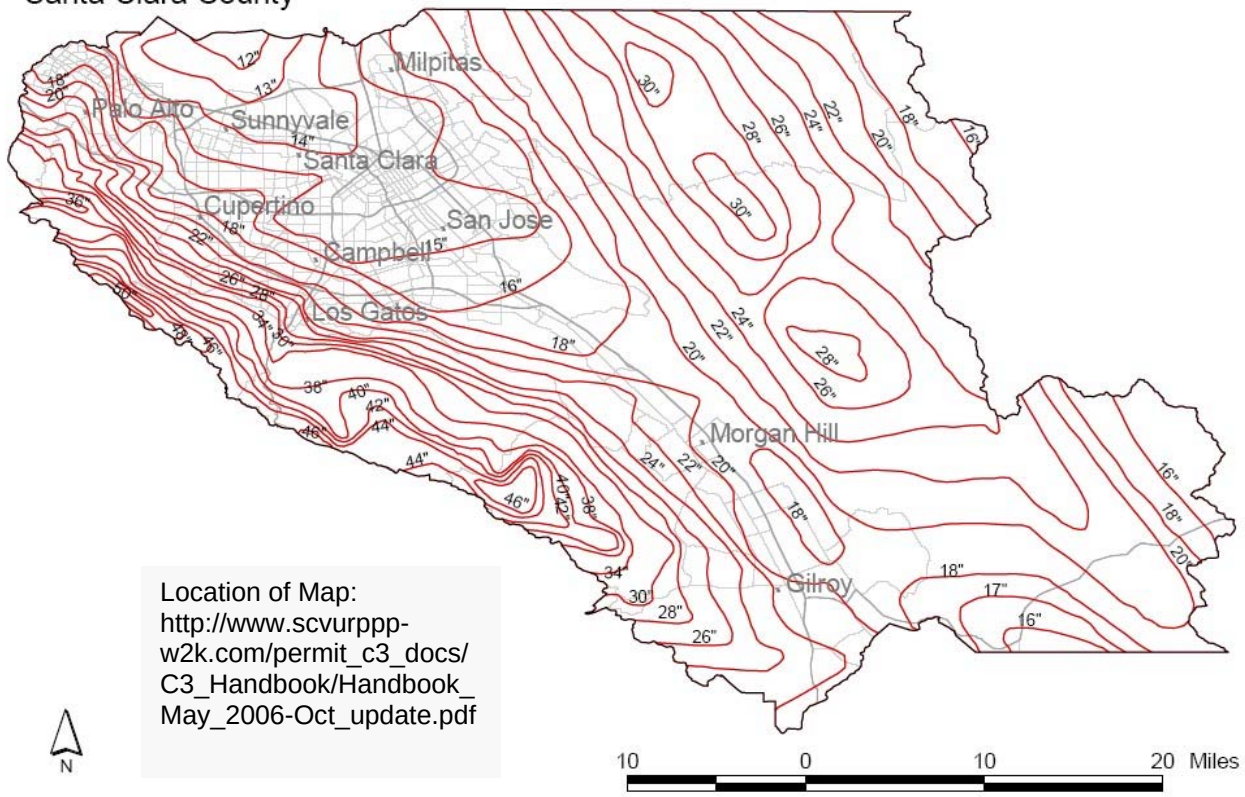


Figure A-1: Overland Flow Velocity

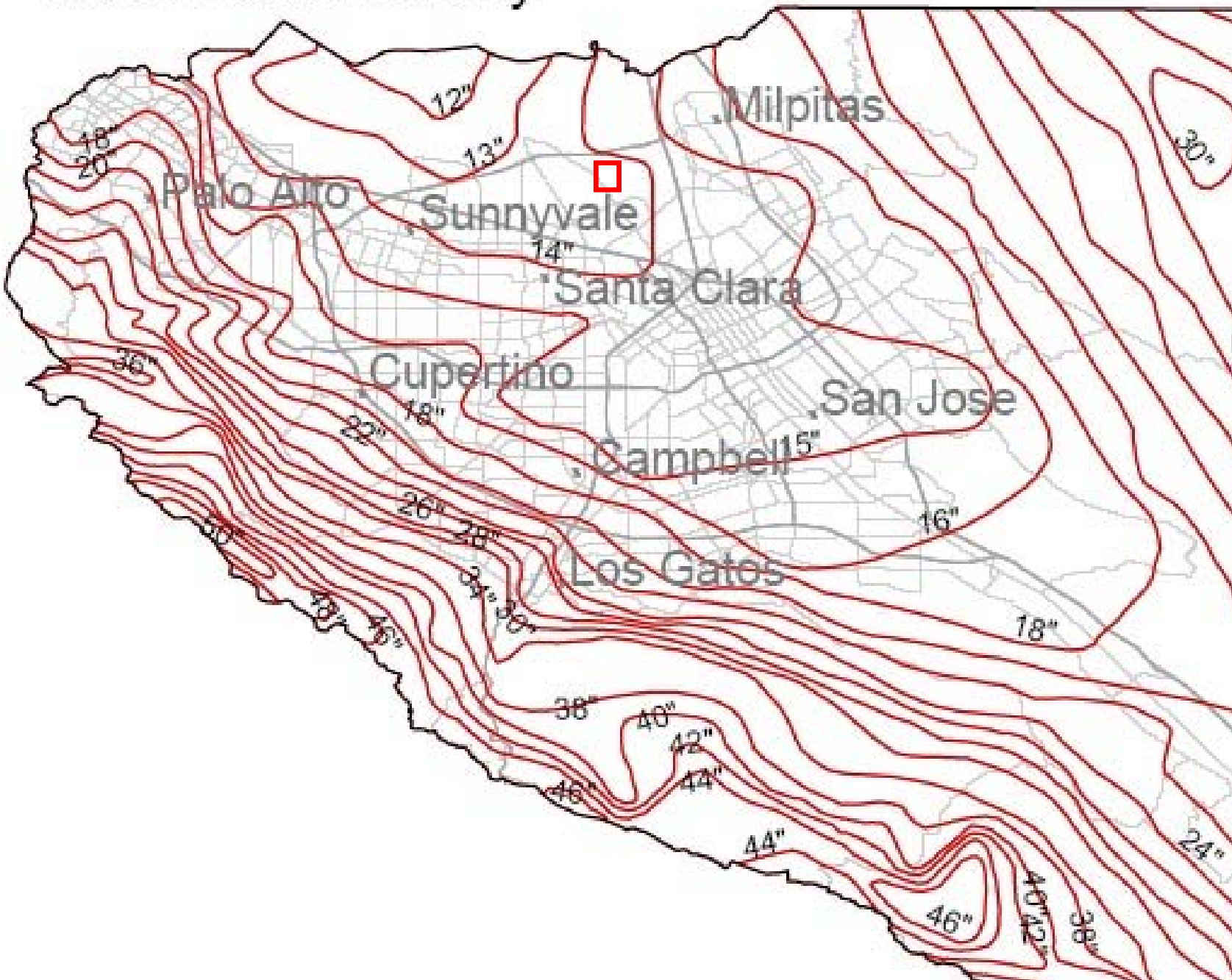
Figure A-2
Mean Annual Precipitation Map
Santa Clara County



SOURCE: Santa Clara Valley Water District, Mean Annual Precipitation Map, San Francisco & Monterey Bay Region, 1998

Figure A-2: Mean Annual Precipitation, Santa Clara County

Figure A-2
Mean Annual Precipitation Map
Santa Clara County



B. APPENDIX B

IDF Curves

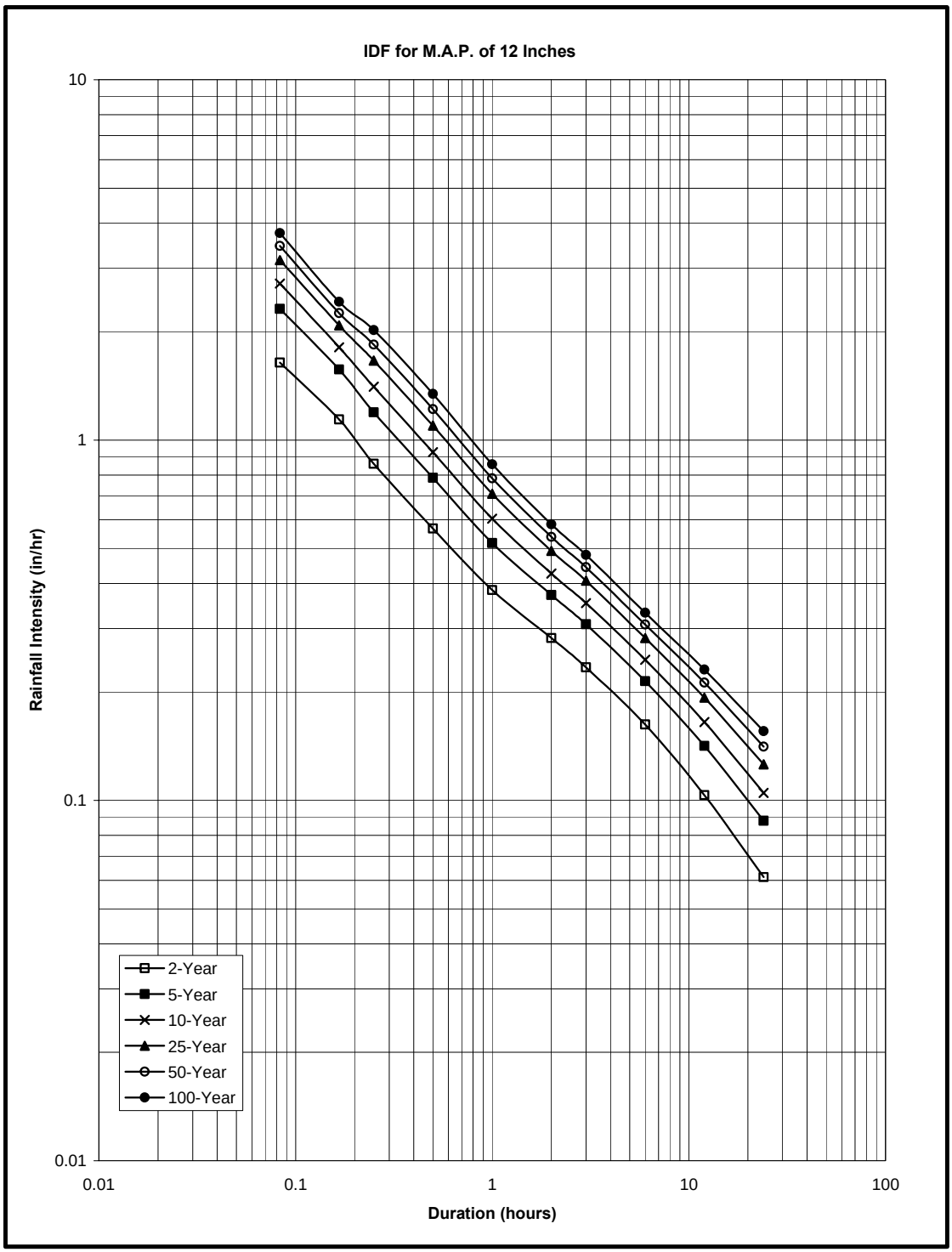


Figure B-1: IDF for M.A.P. of 12 Inches

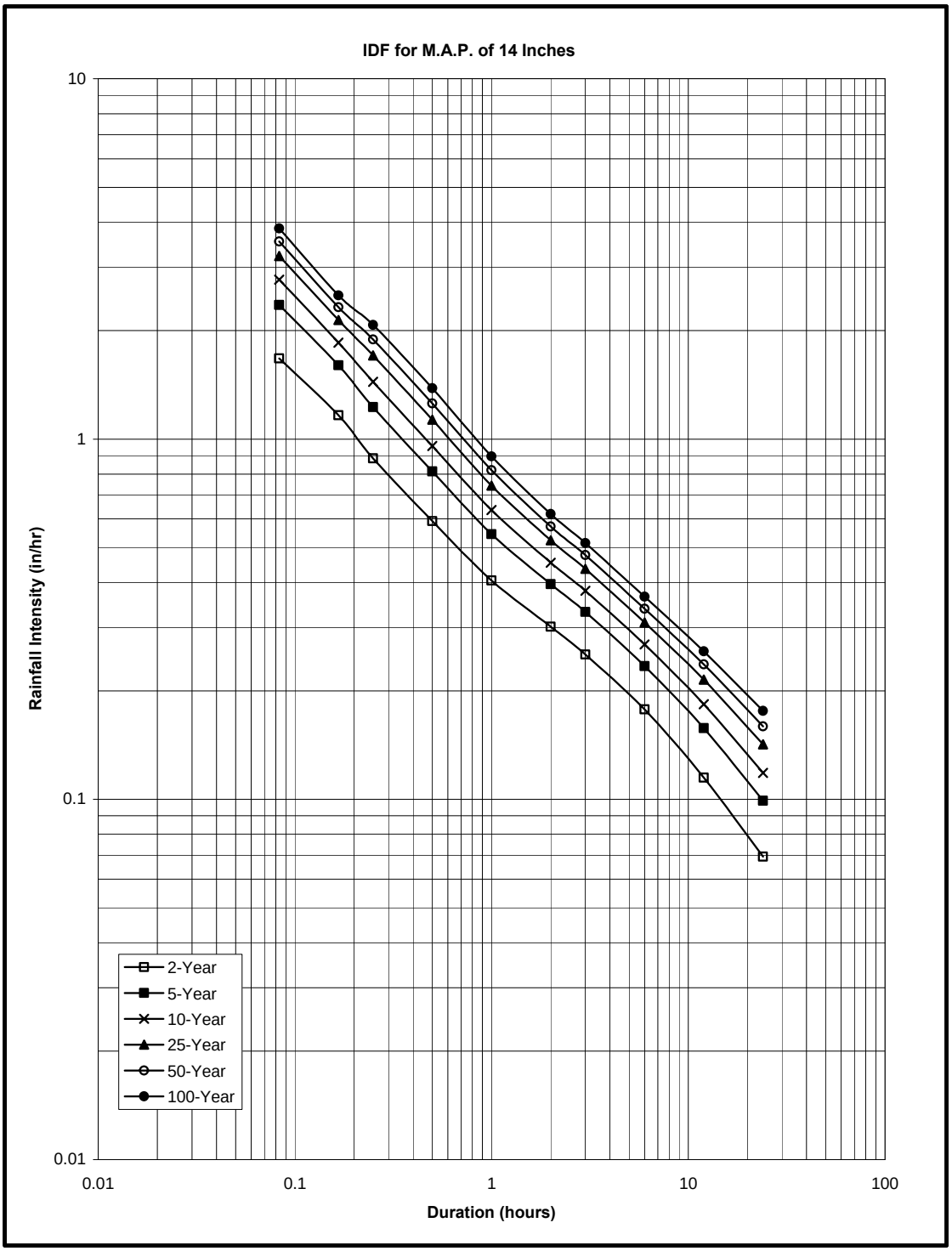


Figure B-2: IDF for M.A. P. of 14 Inches

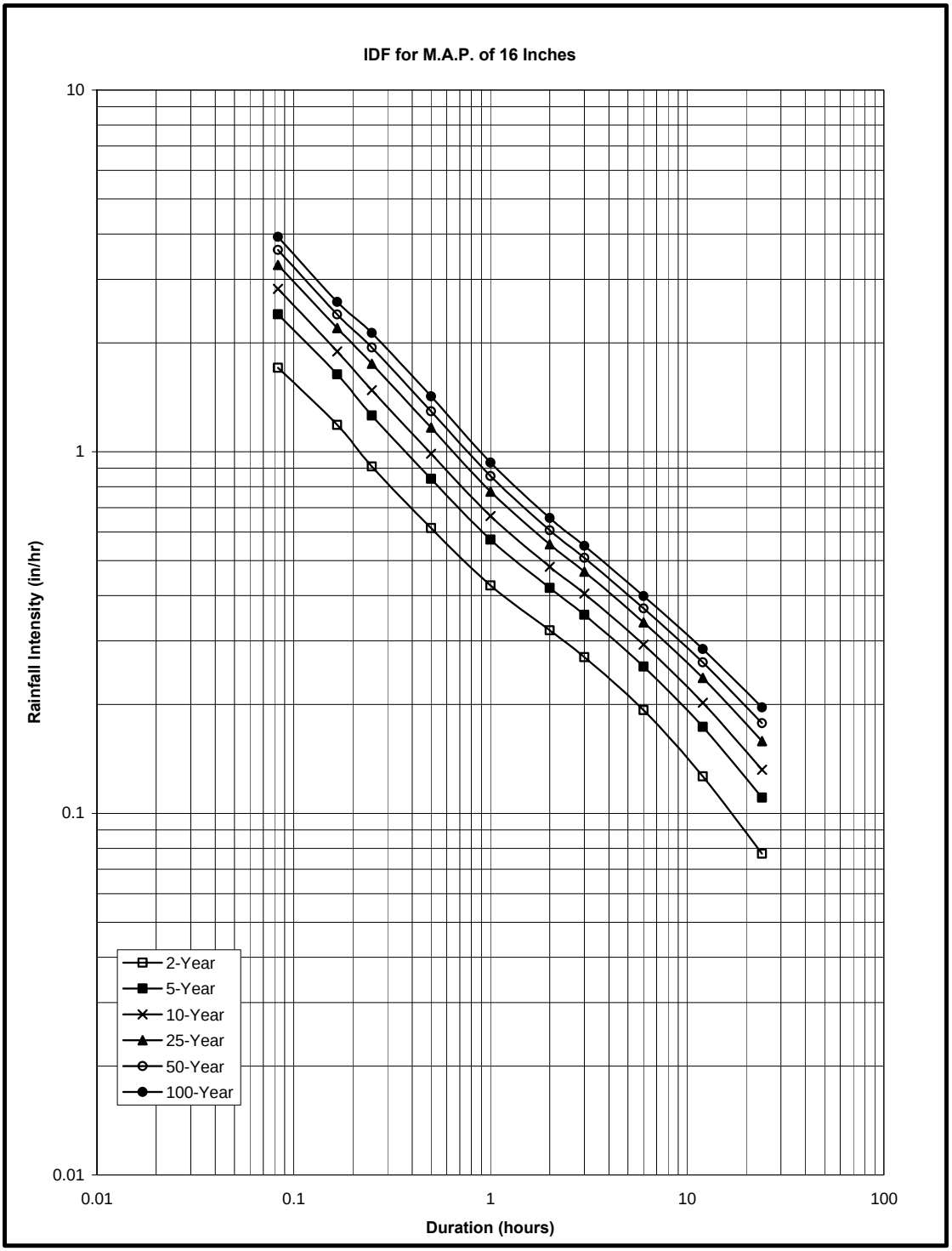


Figure B-3: IDF for M.A.P. of 16 Inches

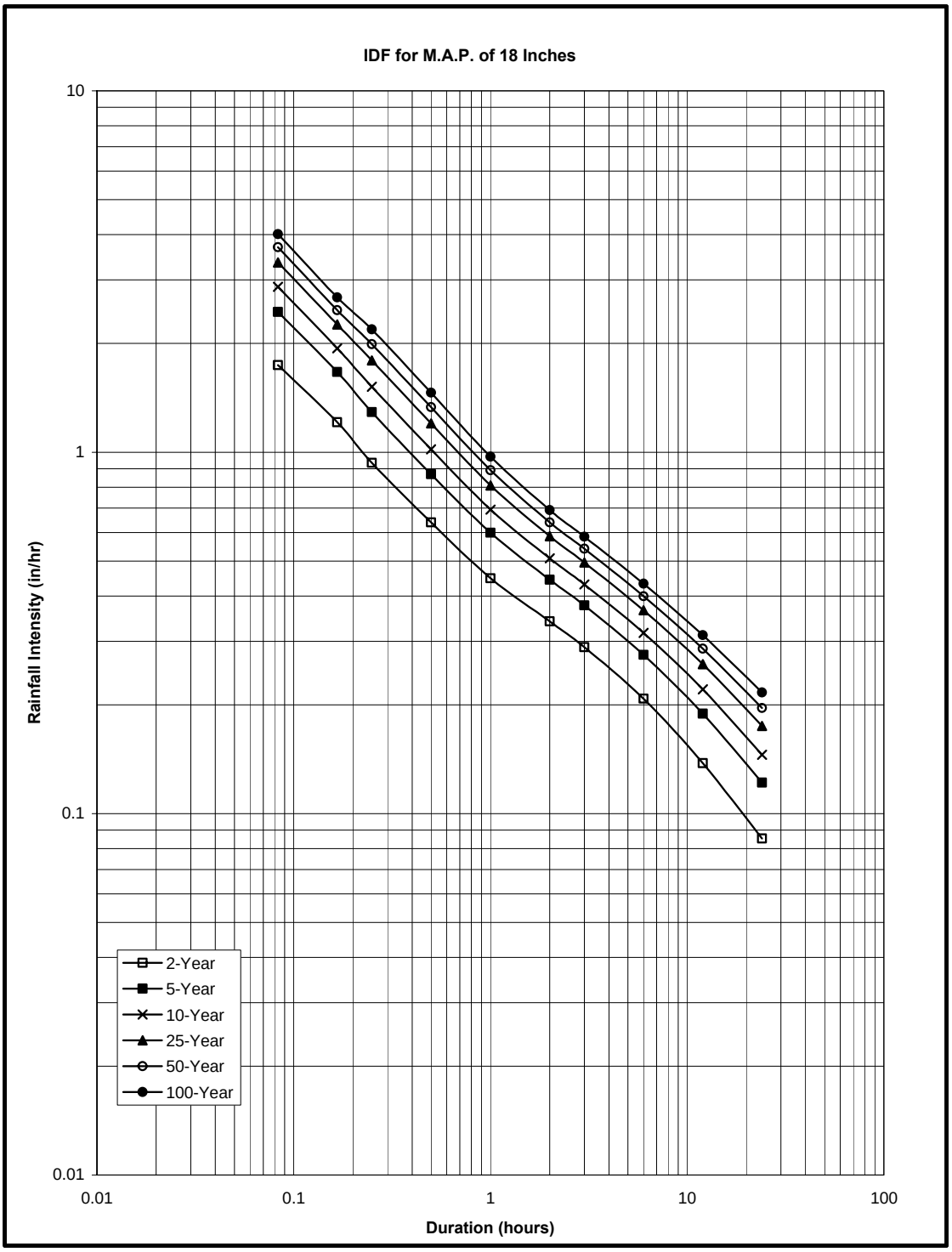


Figure B-4: IDF for M.A. P. of 18 Inches

Table B-1: Parameters $A_{T,D}$ and $B_{T,D}$ for TDS Equation

2-YR RETURN PERIOD		
5-min	0.120194	0.001385
10-min	0.166507	0.001956
15-min	0.176618	0.003181
30-min	0.212497	0.005950
1-hr	0.253885	0.010792
2-hr	0.330848	0.019418
3-hr	0.374053	0.027327
6-hr	0.425178	0.045735
12-hr	0.409397	0.069267
24-hr	0.314185	0.096343
48-hr	0.444080	0.134537
72-hr	0.447104	0.159461
5-YR RETURN PERIOD		
5-min	0.170347	0.001857
10-min	0.228482	0.002758
15-min	0.250029	0.004036
30-min	0.307588	0.007082
1-hr	0.357109	0.013400
2-hr	0.451840	0.024242
3-hr	0.512583	0.034359
6-hr	0.554937	0.060859
12-hr	0.562227	0.094871
24-hr	0.474528	0.136056
48-hr	0.692427	0.187173
72-hr	0.673277	0.224003
10-YR RETURN PERIOD		
5-min	0.201876	0.002063
10-min	0.258682	0.003569
15-min	0.294808	0.004710
30-min	0.367861	0.007879
1-hr	0.427723	0.014802
2-hr	0.522608	0.027457
3-hr	0.591660	0.038944
6-hr	0.625054	0.070715
12-hr	0.641638	0.111660
24-hr	0.567017	0.162550
48-hr	0.832445	0.221820
72-hr	0.810509	0.265469

Table B-2: Parameters $A_{T,D}$ and $B_{T,D}$ for TDS Equation

Return Period/Duration	$A_{T,D}$	$B_{T,D}$
25-YR RETURN PERIOD		
5-min	0.230641	0.002691
10-min	0.287566	0.004930
15-min	0.348021	0.005594
30-min	0.443761	0.008719
1-hr	0.508791	0.016680
2-hr	0.612629	0.031025
3-hr	0.689252	0.044264
6-hr	0.693566	0.083195
12-hr	0.725892	0.132326
24-hr	0.675008	0.195496
48-hr	0.989588	0.264703
72-hr	0.967854	0.316424
50-YR RETURN PERIOD		
5-min	0.249324	0.003241
10-min	0.300971	0.006161
15-min	0.384016	0.006315
30-min	0.496301	0.009417
1-hr	0.568345	0.017953
2-hr	0.672662	0.033694
3-hr	0.754661	0.048157
6-hr	0.740666	0.092105
12-hr	0.779967	0.147303
24-hr	0.747121	0.219673
48-hr	1.108358	0.295510
72-hr	1.075643	0.353143
100-YR RETURN PERIOD		
5-min	0.269993	0.003580
10-min	0.315263	0.007312
15-min	0.421360	0.006957
30-min	0.553934	0.009857
1-hr	0.626608	0.019201
2-hr	0.732944	0.036193
3-hr	0.816471	0.051981
6-hr	0.776677	0.101053
12-hr	0.821859	0.162184
24-hr	0.814046	0.243391
48-hr	1.210895	0.325943
72-hr	1.175000	0.389038

D. APPENDIX D

Normalized Rainfall Pattern

Fractions of Total Rainfall

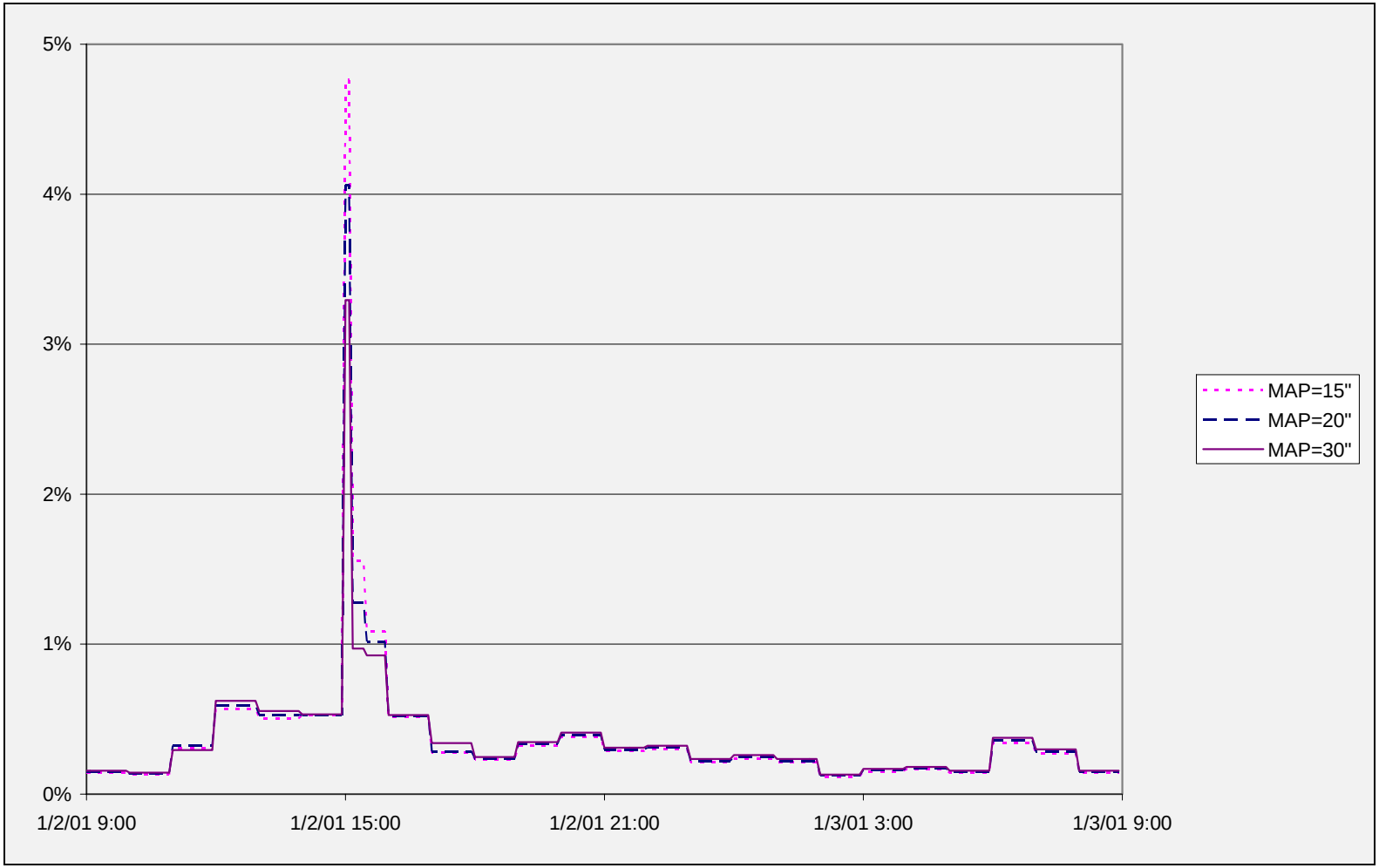


Figure D-1: Normalized Rainfall Pattern

Table D-1: Fractions of Total Rainfall for 24-Hour, 5-Minute Pattern

Time Starting	Fraction of Total Rainfall (%) *MAP=15″*	Fraction of Total Rainfall (%) *MAP=20″*	Fraction of Total Rainfall (%) *MAP=30″*
0:00	0.1412	0.1482	0.1558
1:00	0.1294	0.1358	0.1429
2:00	0.3080	0.3223	0.2945
3:00	0.5667	0.5930	0.6214
4:00	0.5051	0.5285	0.5538
5:00	0.5272	0.5266	0.5324
6:00	4.760	4.060	3.2950
6:10	1.554	1.275	0.9700
6:30	1.085	1.0169	0.9253
7:00	0.5177	0.5229	0.5263
8:00	0.2763	0.2860	0.3410
9:00	0.2302	0.2384	0.2478
10:00	0.3223	0.3337	0.3469
11:00	0.3799	0.3933	0.4089
12:00	0.2878	0.2979	0.3098
13:00	0.2993	0.3099	0.3222
14:00	0.2118	0.2223	0.2338
15:00	0.2353	0.2470	0.2597
16:00	0.2118	0.2223	0.2338
17:00	0.1177	0.1235	0.1299
18:00	0.1530	0.1605	0.1688
19:00	0.1647	0.1729	0.1818
20:00	0.1412	0.1482	0.1558
21:00	0.3412	0.3581	0.3766
22:00	0.2706	0.2840	0.2987
23:00	0.1412	0.1482	0.1558

E. APPENDIX E

Curve Numbers

Table E-1: Curve Numbers for AMC II

Land Use Type	Hydrologic Condition	Hydrologic Soil Group A	B	C	D
Open Water	good				
(100% Impervious)	fair				
	poor				
Low Density Residential	good	35	48	66	70
(25% Impervious)	fair	44	58	71	74
	poor	64	68	78	79
High Density Residential	good	35	48	65	70
(50% Impervious)	fair	44	58	71	74
	poor	64	68	78	79
Commercial/Industrial	good	35	48	65	70
(80% Impervious)	fair	44	58	71	74
	poor	64	68	78	79
Bare Rock/Sand/Clay					
(Imperviousness Varies)					
Quarries/Gravel Pits	good	0	0	0	0
(0 % Impervious)	fair	0	0	0	0
	poor	0	0	0	0
Deciduous Forest	good	27	30	41	48
(0% Impervious)	fair	35	48	57	63
	poor	48	66	74	79
Evergreen Forest	good	37	43	62	70
(0% Impervious)	fair	45	57	69	80
	poor	58	71	85	90
Mixed Forest	good	32	36	51	59
	fair	40	52	63	72
	poor	53	68	80	85
Shrub Land	good	27	43	60	68
(0% Impervious)	fair	35	51	65	72
	poor	48	62	72	78
Orchards	good	39	52	66	71
(1% Impervious)	fair	43	65	76	82
	poor	57	73	82	86
Vineyards	good	64	70	77	80
(1% Impervious)	fair	67	75	82	85
	poor	71	80	87	90
Grassland	good	38	50	69	76
(0% Impervious)	fair	48	60	74	80
	poor	58	70	80	84
Pasture/Hay	good	34	50	69	76
(0% Impervious)	fair	44	60	74	80
	poor	64	70	80	84
Row Crops	good	64	70	77	80
(1% Impervious)	fair	67	75	82	85
	poor	71	80	87	90
Small Grains	good	48	58	70	74
(0% Impervious)	fair	49	59	71	75
	poor	50	60	71	75
Fallow	good	64	68	78	79
(1% Impervious)	fair	70	77	84	86
	poor	77	86	91	94
Urban Recreational	good	34	48	66	70
(10% Impervious)	fair	44	58	71	74
	poor	64	64	78	79

Table E-2: Conversion of AMC II Curve Numbers to Other AMC Values

AMC II	AMC I	AMC III	AMC II-1/4	AMC II-1/2	AMC II	AMC I	AMC III	AMC II-1/4	AMC II-1/2
100	100	100	100	100	61	41	78	65.5	70
99	97	100	99.5	100	60	40	78	64.5	69
98	94	99	98.5	99	59	39	77	63.5	68
97	91	99	97.5	98	58	38	76	62.5	67
96	89	99	97	98	57	37	75	61.5	66
95	87	98	96	97	56	36	75	61	66
94	85	98	95	96	55	35	74	60	65
93	83	98	94.5	96	54	34	73	59	64
92	81	97	93.5	95	53	33	72	58	63
91	80	97	92.5	94	52	32	71	57	62
90	78	96	91.5	93	51	31	70	56	61
89	76	96	91	93	50	31	70	55	60
88	75	95	90	92	49	30	69	54	59
87	73	95	89	91	48	29	68	53	58
86	72	94	88	90	47	28	67	52	57
85	70	94	87.5	90	46	27	66	51	56
84	68	93	86.5	89	45	26	65	50	55
83	67	93	85.5	88	44	25	64	49	54
82	66	92	84.5	87	43	25	63	48	53
81	64	92	84	87	42	24	62	47	52
80	63	91	83	86	41	23	61	46	51
79	62	91	82	85	40	22	60	45	50
78	60	90	81	84	39	21	59	44	49
77	59	89	80	83	38	21	58	43	48
76	58	89	79.5	83	37	20	57	42	47
75	57	88	78.5	82	36	19	56	41	46
74	55	88	77.5	81	35	18	55	40	45
73	54	87	76.5	80	34	18	54	39	44
72	53	86	75.5	79	33	17	53	38	43
71	52	86	75	79	32	16	52	37	42
70	51	85	74	78	31	16	51	36	41
69	50	84	73	77	30	15	50	35	40
68	48	84	72	76	25	12	43	29.5	34
67	47	83	71	75	20	9	37	24.5	29
66	46	82	70	74	15	6	30	19	23
65	45	82	69.5	74	10	4	22	13	16
64	44	81	68.5	73	5	2	13	7	9
63	43	80	67.5	72	0	0	0	0	0

F. APPENDIX F

Manning's N-Values

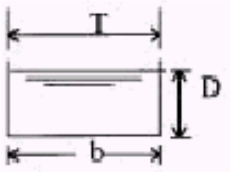
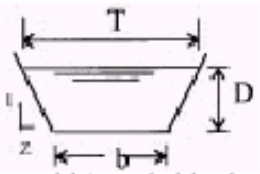
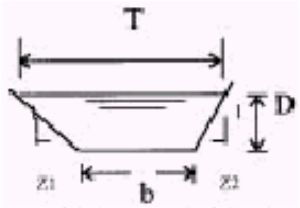
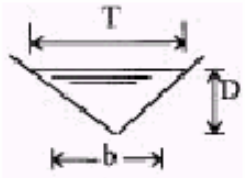
Open Channel Cross Sections

Loss Coefficients

Table F-1: Manning's Roughness Coefficients for Closed Conduits and Open Channels

Conveyance Material	Manning's n-value
Closed Conduits	
Concrete	
1. Precast or cast-in-place	0.013-0.015
2. Steel troweled or smooth-form finish	0.014-0.016
3. Wood float or broomed finish; including pneumatically applied mortar	0.014-0.017
Corrugated Metal Pipe	
1. Plain	0.022-0.026
2. Paved invert	0.018-0.022
3. Spun asphalt lined	0.011-0.015
Plastic (HDPE, PVC)	0.008-0.015
Vitrified Clay	0.011-0.015
Steel, coated	0.010-0.017
Brick	0.013-0.017
Open Channels	
Excavated or Dredged	
1. Earth, straight and uniform	0.020-0.030
2. Earth, winding and fairly uniform	0.025-0.040
3. Rock, smooth and uniform	0.025-0.033
4. Rock, jagged and irregular	0.035-0.045
5. With short grass, few weeds	0.022-0.033
6. Unmaintained, abundant vegetation as tall as flow depth	0.050-0.140
Lined	
1. Asphalt	0.013-0.017
2. Brick	0.011-0.018
3. Concrete	0.011-0.020
4. Riprap or rubble	0.020-0.035
5. Sack concrete riprap/Grouted rock riprap	0.028-0.032
6. With short grass, few weeds	0.022-0.033
7. Unmaintained, abundant vegetation as tall as flow depth	0.050-0.140
Natural Stream Channels	
1. Clean, straight bank, full stage no rifts or deep pools	0.025-0.033
2. Same as (1), but some weeds and stones	0.030-0.040
3. Clean, winding, some pools and shoals	0.033-0.045
4. Same as (3), lower stages, more ineffective slope and sections	0.040-0.055
5. Same as (3), some weeds and stones	0.035-0.050
6. Same as (5), some stony sections	0.045-0.060
7. Sluggish river reaches, rather weedy or with very deep pools	0.050-0.080
8. Very weedy reaches, trees or underbrush	0.075-0.150

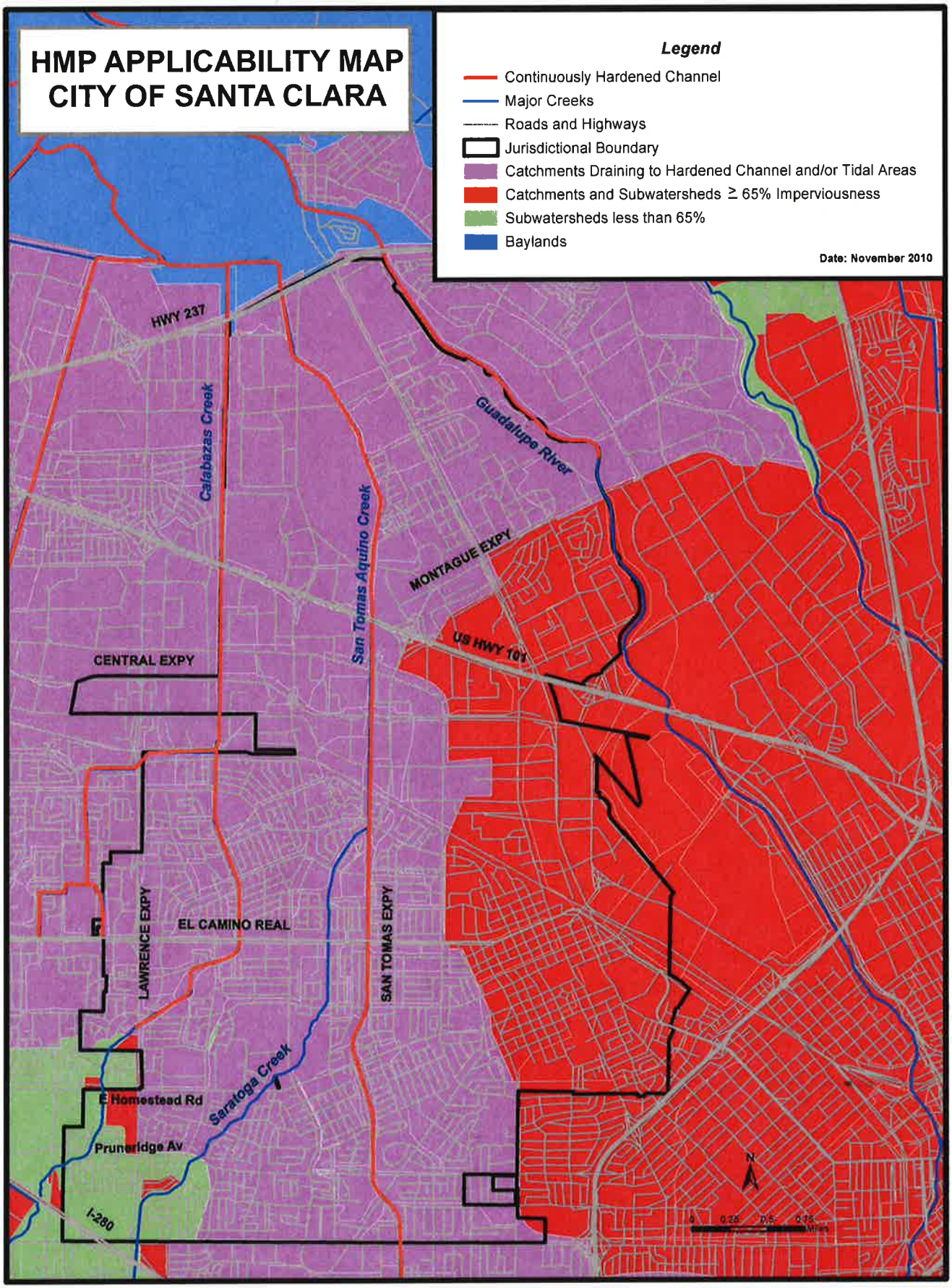
Table F-2: Geometric Elements of Channel Sections

Cross Section	Area, A	Wetted Perimeter, WP
 Rectangle	bD	$b + 2D$
 Trapezoid (equal side slopes)	$(b + ZD)D$	$b + 2D\sqrt{1 + Z^2}$
 Trapezoid (unequal side slopes)	$\frac{D^2}{2}(Z_1 + Z_2) + Db$	$b + D(\sqrt{1 + Z_1^2} + \sqrt{1 + Z_2^2})$
 Triangle	ZD^2	$2D\sqrt{1 + Z^2}$

Reference: VT Chow "Open Channel Hydraulics" for a more complete table of geometric elements.

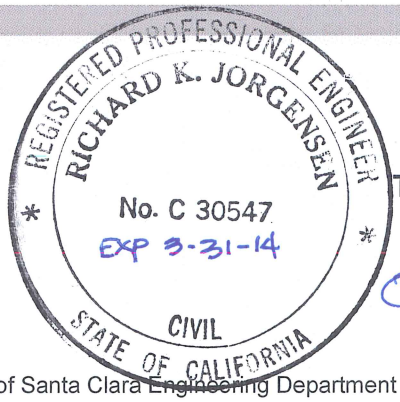
APPENDIX D

HMP Applicability Map City of Santa Clara


HMP APPLICABILITY MAP
CITY OF SANTA CLARA
Legend
Continuously Hardened Channel
Major Creeks
Roads and Highways
Jurisdictional Boundary
Catchments Draining to Hardened Channel and/or Tidal Areas
Catchments and Subwatersheds ≥ 65% Imperviousness
Subwatersheds less than 65%
Baylands
Date: November 2010
HWY 237
Calabazas Creek
Guadalupe River
San Tomas Aquino Creek
MONTAGUE EXPY
US HWY 101
CENTRAL EXPY
LAWRENCE EXPY
EL CAMINO REAL
SAN TOMAS EXPY
Saratoga Creek
E Homestead Rd
Pruneridge Av
I-280
N

APPENDIX E

Golf Course Pump Station Design Report



TECHNICAL MEMORANDUM NO. 2

11-07-12

November 7, 2012

To:	Ron Eng, City of Santa Clara Engineering Department		
Cc:	Yousra Tilden, Raymond Wong		
From:	Rick Jorgensen	Tel:	707.523.1010
Subject:	Golf Course Pump Station – Pump Station Design Report	Job no.:	11205-12001-38040

1. Introduction

GHD was hired by the City of Santa Clara (City) in April 2012, to complete the evaluation of the Santa Clara Golf Course Stormwater Pump Station and prepare design documents for the upgrade of the pump station.

The City has scheduled the rehabilitation of the Golf Course Stormwater Pump Station located at the Golf & Tennis Facility just off Stars and Stripes Drive. The pump station, constructed in 1987, has an equipment room that houses electrical equipment, a backup generator and fuel tank, and a wet well that contains the pumps, check valves and trash rack. The City wants to upgrade the pump station as some of the existing equipment is coming to the end of their design life. In addition, the City would like to confirm that the station is adequately sized for a 100-year flood event.

2. Evaluation/Condition Assessment

A kickoff meeting was held on May 1, 2012 at the City to review the scope of services and available documents. At the meeting, the City indicated that part of the Golf Course driving range acts as a detention facility, reducing peak flows arriving at the pump station.

2.1 Current Pump Station Operation

The current pump station consists of three 30 HP Davis EMU submersible pumps sized for 3750 gpm at 20 feet of head. The pumps are equipped with 12-inch discharges. These tie to 14-inch piping that combines outside the wet well at a Y and an increased to an existing 30-inch RCP storm water outfall to San Tomas Aquino Creek. 14-inch check valves are installed in the vertical piping inside the wet well and shut off valves are located just outside the wet well in individual valve boxes. A trash rack is located at the 36-inch gravity inlet to the pump station. A 3-foot by 3-foot hatch, ladder and landing allows access to the trash rack but the City indicated at the kickoff meeting that cleaning of the trash rack is difficult and time consuming.

The utility electrical service to the pump station is provided by 3/0 AWG, 600-volt, copper cables in a 4-inch underground conduit operating at 480-volts, 3-phase, 60 Hz. The 3/0 AWG cables are rated to carry 200-amps (approx. 150-kW) continuous at 75° C temperature rise and 30° C ambient per NEC 2011 Table 310.15(B)(16). The utility power, standby power and load for the circuit conduits enter the Automatic Transfer Switch (ATS) from the bottom. Standby power is provided by a Caterpillar engine-generator (EG) unit rated 200-kW, 480-volts, 3-phase, 60 Hz in the event of the Utility power being interrupted. The engine-generator has a 200 gallon fuel tank which has significant Code related deficiencies.

The pump station load is comprised of three 32 HP pump motors, miscellaneous loads to support the EG unit, PLC control system, and lighting. The two section Motor Control Center (MCC) is rated for 480-volt, 600-amp. 3-phase, 4-wire operation and is equipped with main lugs only, Size 2 full voltage non-reversing

GHD Inc.
2235 Mercury Way Suite 150 Santa Rosa CA 95407 USA
T 1 707 523 1010 F 1 707 527 8679 E santarosa@ghd.com W www.ghd.com

combination motor starters (FVNR) with 100-amp circuit breakers for the pump motors, a space to add a Size 1 FVNR motor starter and a 40-amp circuit breaker that feeds a 15-kVA, 3-phase dry type transformer and a 120/208-volt, 3-phase, 4-wire, 12 circuit Panel PPS. This panel serves miscellaneous 120-volt loads in the electrical/generator room. The existing submersible pump cable splices are not easily accessible and very hard to maintain. There is a concern for maintenance personnel and pedestrian safety in and around the wet well when the vault hatches are open.

The existing pumps are controlled by a Programmable Logic Controller (PLC). The existing PLC, replaced in 2009, is in good condition and functional. The City would like to reuse the PLC. The level sensor floats in the wet well provide a signal to the PLC. The PLC logic is programmed as follows:

1. When wet well level is "Low" as determined by the level set point, all pumps are "OFF".
2. When wet well level is "High" as determined by the level set point(s), the pump(s) "Start". The mode of operation is setup as "Lead", "Lag 1" and Lag 2". The "Lag" pumps "Start" as the wet well level rises, until all three pumps are "Running". Each pump "Stops" as the wet well level decreases, until all pumps are "Off" when the low level set point is reached.
3. The "Lead", "Lag1" and "Lag2" operation cycles each time the pumps are "OFF", such that all pumps are run equally.

The operators indicated that during dry weather minimal flow conditions, the "Lead" pump cycle time is very short. This short cycling would increase wear and tear on the pump motor.

2.2 Condition Assessment

GHD conducted a site visit and prepared Technical memorandum No. 1 - Golf Course Pump Station – Pump Station Assessment and Improvement Recommendations that outlined existing conditions and made preliminary recommendations for improvements. This Technical Memorandum presented final agreed upon improvements, and provided a basis for design including a hydrologic/hydraulic analysis of the watershed and existing detention facilities in the golf course.

Technical Memorandum No. 1 was submitted on May 23 and was followed by a teleconference with City staff to review the document. The following table lists the identified issues and recommended improvements

Table 1 – Condition Assessment – Recommended Improvements

Issue	Improvement/Fix
West door to electrical room is difficult to open due to differential settlement – cut 1-inch off bottom of door	Tentative fix - replace and lower existing concrete cap and dowel into wall
Man-way hatch for accessing wet well is opposite east door to electrical room – restricts door opening	Tentative fix - replace and lower existing concrete cap and dowel into wall – replace hatch
Provide visibility to wet well to avoid trash accumulation at screen box below inlet pipe - install new hatch	The trash box will be removed. A new trash capture unit will be installed upstream of the existing wet well.
Existing pumps are old - replace with Flygt submersible rail mounted system	New pumps will be installed – Sizing to be determined based on H&H analysis of watershed
Existing pumps short - cycle during summer flows	Install a small jockey pump in a recessed pocket to handle summer flows

Issue	Improvement/Fix
Existing check valves are located in the wet well in a vertical alignment	Replace the existing check valves in a new valve vault located outside of the wet well. Valve vault will also house relocated shutoff valves
Uneven settlement at wet well adjacent to control building	Tentative fix - replace and lower existing concrete cap and dowel into wall
Hatches not traffic rated and not supplied with fall protection	Install H-20 Traffic rated, spring loaded hatches equipped with fall protection
Metal ladders and landings are showing signs of corrosion and wear	Replace all metal ladders and landings
No way to isolate site during maintenance	Install removable posts
Electrical equipment	Most of the electrical equipment is in fair condition and can be reused. The existing PLC will be re-programmed.
Fuel Storage Tank does not meet current code requirements	Replace fuel tank to meet current fire code requirements
Pump motor cable connections not easily accessible	Replace existing submersible pump cable splices with new twist-lock type plug and receptacle assemblies in secure enclosure
Existing float switch system is not reliable	Install redundant float systems with multiple set points

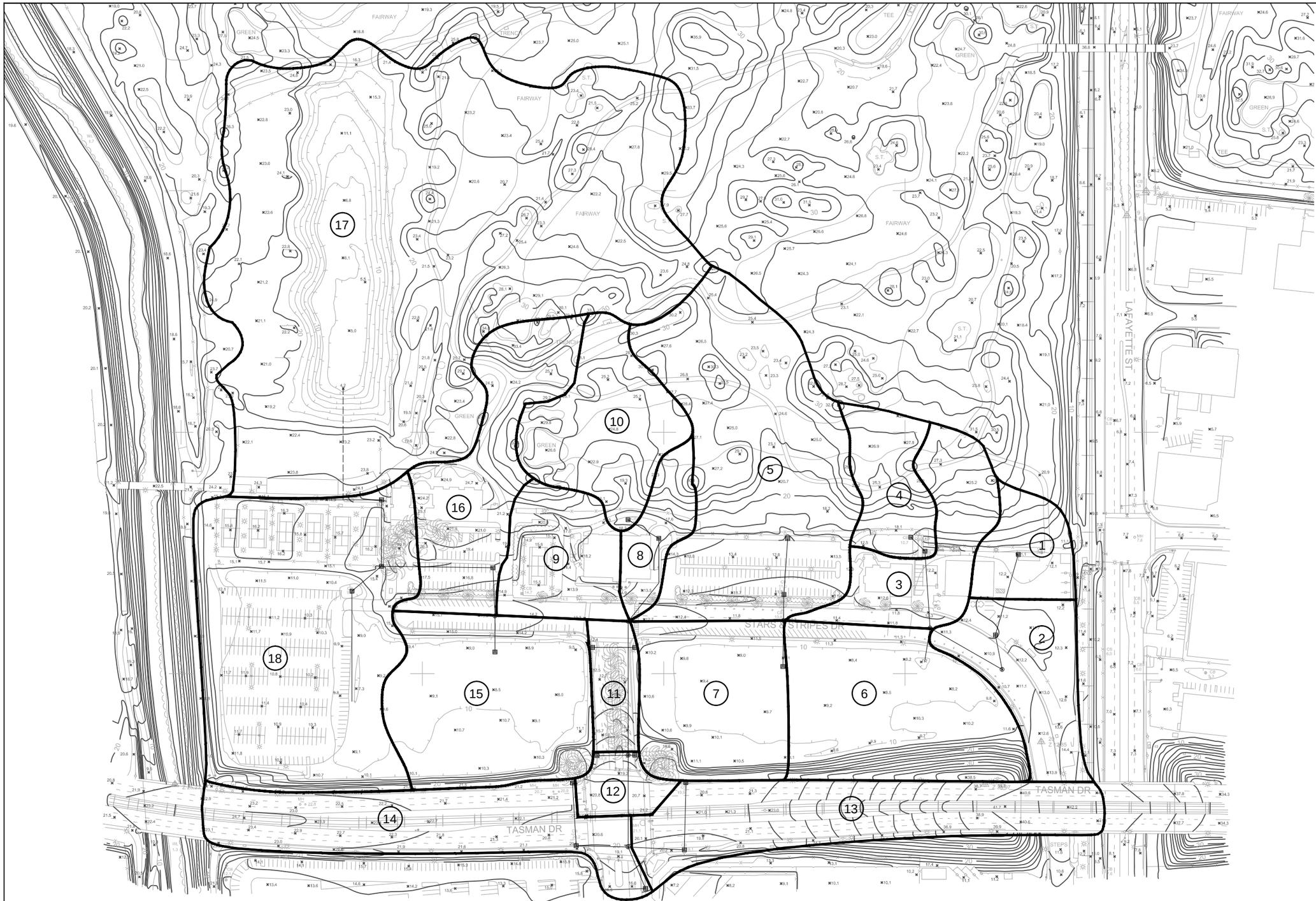
The following items were discussed with City staff during the teleconference following submittal of TM #1:

- Finalize the pump station sizing. Pump station sizing is pending the hydrology analysis findings. However, since the existing electrical equipment can only support pump sizes up to 30 HP, realistically it will limit the final pump selection.
- The City agreed that a new stormwater treatment (full trash capture) unit be installed upstream of the wet well, and the existing trash box in the wet well be demolished.
- The City agreed that the wet well concrete slab be demolished and lowered to match existing building grade. The access doors will also be replaced, if needed
- Preliminary analysis indicates that a new fuel tank can fit in the existing control building. GHD is currently reviewing options to remove the existing fuel tank and install a new one.

3. Hydrologic and Hydraulic Analysis of the Stormwater Collection System.

During the Kickoff meeting, GHD learned that a detention basin at the driving range is available for storage in order to reduce peak flows to the stormwater pump station. Review of as-built drawings indicates that a stormwater trunk main is located in Stars and Stripes Drive that routes the flow to the pump station. However, the actual street grade in Stars and Stripes Drive slopes away from the pump station to a low point near the overcrossing of Tasman Drive. The City requested that an analysis of potential street ponding be completed as part of the hydrologic analysis during a 100-year flood event. A detailed hydrologic model was developed utilizing HEC-HMS, and a hydraulic model in EPA SWMM in order to analyze flow routing from the various sub-watersheds and storage impacts from the detention basin. The contributing 54 acre watershed was broken down into 18 sub-watersheds as indicated in Figure 1. Only sub-watershed 17 flows directly to the detention basin. All others flow to the storm drain system in Stars and Stripes Drive.

The HEC-HMS model was developed for the 18 sub-watersheds. The purpose of this hydrology model was to estimate the 100-year 24-hour hydrograph from each of the sub-watersheds. The SCS method



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0 100' 200'

1"=100'

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
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GHD Inc.
2235 Mercury Way Suite 150 Santa Rosa California 95407 USA
T 1 707 523 1010 **F** 1 707 527 8679
W www.ghd.com

Drawn	C. PHELPS	Designer	R. JORGENSEN
Drafting Check	C. PHELPS	Design Check	R. JORGENSEN
Approved (Project Director)			
Date			
Scale	1"=100'	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	

Client **CITY OF SANTA CLARA**

Project **GOLF COURSE PUMP STATION REHABILITATION**

Title **FIGURE 1 - WATERSHED MAP**

Original Size **Ansi D** Drawing No: **1**

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Rev:

Plot Date: 15 June 2012 - 2:19 PM Plotted by: Colby Phelps Cad File No: G:\11205 - City of Santa Clara\11205-12-001 Santa Clara Storm Drain PS\06-CAD\Figures\Watershed.dwg

was used based on the design storm data and procedures outlined in the Santa Clara County Hydrology Manual. The hydrograph output was then imported into the SWMM hydraulic model for collection system routing analysis. The detailed HEC-HMS output in included in Appendix A.

The SWMM hydraulic model consists of the existing stormwater collection system along Stars and Stripes drive, the detention basin at the driving range, piping connecting to the Golf Course Pump Station, and a symbolic representation of the pump station, to simulate the pump station's maximum capacity. In addition, the model included four street cross sections along Stars and Stripes Drive, to model street overland flow during a 100-year storm event, and the potential ponding at the sump area near the Tasman Drive overpass. The street overland flow and the pipeline collection system are hydraulically coupled in the SWMM model. The SWMM model was manipulated by adjusting pump station outflow, taking into account the available detention basin storage volume and maximum depth until street flooding in Stars and Stripes Drive was essentially removed. The pump station capacity necessary for this to occur was approximately 14.2 cfs (6380 gpm). Under this design condition, only minor ponding, less than 4-inches in depth are anticipated within the roadway during the 100-year design storm.

A new parking structure is under construction at the south end of Stars and Stripes Drive. The grade is being elevated so flooding of the facility should not be a problem. The SWMM model shows a maximum hydraulic grade line (HGL) at the parking lot storm drain tie in manhole J1 of 11.15 feet which is lower than the rim of the lowest parking facility catch basin which has an elevation of 11.35 feet. However, the adjacent bioswale system to the north of the parking facilities will have standing water during high flow conditions.

Worst case scenario would occur during a 100-year water surface of approximately 17 feet in San Tomas Aquino Creek. A system head curve (Figure 2) was developed and based on discussions with Flgyt, a Flygt pump was selected to produce the 14.2 cfs output when two pumps are operated in parallel, with a third pump in standby. Based on the Condition Assessment and the hydrologic/hydraulic analysis, it appears that the current pump station wet well is adequately sized for the 100-year flood event.

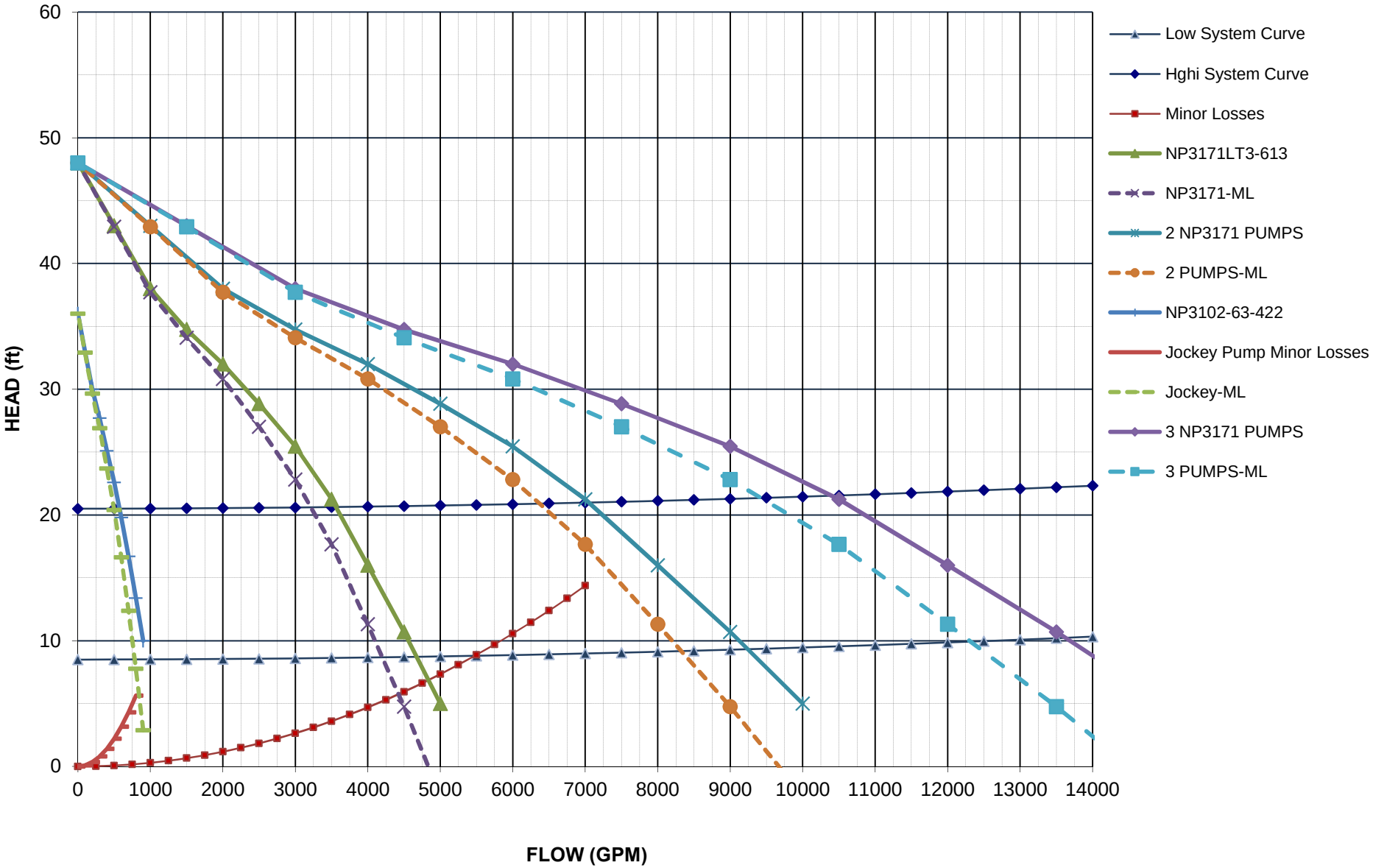
As mentioned above, the current MCC panels will only accommodate 30 HP pumps. Based on the design flow developed from the SWMM model, development of the system head curve data and discussions with Flygt, preliminary pump selection was made. System head curves and pump operation curves are provided on Figure 2. This figure indicates a single 25 HP pump capacity ranging between 3240 gpm and 4200 gpm with two pumps providing between 6380 gpm and 8320 gpm, allowing pump station flow of 6380 gpm (14.2 cfs) under worst case scenario. Model results indicate that detention storage based on this scenario would peak at elevation 9.79, storing approximately 9,250 cubic feet (0.21 acre-feet) of stormwater runoff mainly from the golf course. Minimal street flooding would occur at the low point in Stars and Stripes Drive at the existing upstream storm drain inlets to a depth of approximately 0.27 feet. Detailed SWMM model output is included in Appendix B.

4. Design Recommendations

Based on the above analysis and ongoing discussions with City staff, the following items are included in the pump station improvements:

- Demolish all internal components in the pump station wet well including pumps, piping, ladders, platform and trash rack
- Demolish wet well top and lower wet well walls to accommodate uneven settlement at the adjacent pump control building
- Demolish concrete walk to the limits shown (removal to existing concrete joints located just outside the reconstruction work)

FIGURE 2
Golf Course Pump Station
System Head Curve



- Grout pump station wet well bottom to form a sump for a jockey pump
- Install three new 25 HP Flygt pumps – model NP3171LT3-613 including all necessary associated equipment
- Install one new 5 HP Flygt jockey pump – model NP3102-63-422 including all necessary associated equipment
- Install one new 12-ft by 9-ft by6-ft valve vault adjacent to pump station wet well
- Install new pump piping (14-inch and 6-inch), and associated check valves and shut off valves in the new valve vault
- Reconstruct new wet well top including new fall-protected hatches centered over the three main pumps, and two 3-ft by 3-ft hatches in the wet well, one centered over the jockey pump and the other centered over the new ladder. Ladder to be placed to avoid egress issue with the hatch over the ladder
- Install new ladder for access to wet well
- Install new stormwater treatment (full trash capture) unit upstream of the pump station, connecting to the existing 36-inch storm drain pipe. Note that the purpose of the stormwater treatment unit is for trash capture.
- Remove existing diesel fuel tank and portions of the associated fuel piping serving the generator located in the pump control room, and portions of the associated vent piping to the exterior of the generator room.
- Provide and install new 275 gallon diesel fuel tank (sized for a 24-hour run time), supply and return fuel piping to the generator, fill piping and a remote fill port at the exterior of the building, and new associated vent piping and appurtenances to the exterior of the building.
- Provide and install a new fuel tank leak detection system and fuel level alarms with control/alarm panel for the new diesel fuel tank.
- Reuse existing MCC motor starters for the main wet well pumps. Use existing spare starter for the jockey pump.
- Provide new level sensor and backup floats in the wet well.
- Re-program existing PLC as necessary to incorporate any changes to pumping scheme.
- Provide junction box, remote from wet well, for pump motor cable connections.

Appendices:

Appendix A – HEC-HMS Model Output

Appendix B – SWMM Model Output

Appendix C – Cost Estimate (*provided under separate cover*)

Appendix D – 100% Design documents (*provided under separate cover*)

Appendix A

HEC-HMS Model Output

HMS - Data Input Table

Shed No.	Acre	sq mile	Soil Group	CN grass - 77*	CN com - 84*	CNt*	Initial Abstraction	N	L	Lc	Δ Elev.	S	D	T lag
1	0.9011	0.001408	C	0.44	0.46	80.6	0.05	0.08	130	190	13	0.043	0.1	13.99994
2	1.6279	0.002544	C	0.00	1.63	84.0	0.05	0.025	370	110	3	0.008	0.1	7.256633
3	1.7018	0.002659	C	0.80	0.90	80.7	0.05	0.08	410	170	16	0.039	0.1	21.17925
4	1.0615	0.001659	C	1.06	0.00	77.0	0.60	0.08	250	20	10	0.052	0.1	7.335441
5	5.2525	0.008207	C	3.85	1.40	78.9	0.05	0.08	550	330	10	0.019	0.1	34.96212
6	3.1606	0.004938	C	0.00	3.16	84.0	0.05	0.025	340	140	2	0.006	0.1	8.140312
7	2.3226	0.003629	C	0.00	2.32	84.0	0.05	0.025	290	110	3	0.01	0.1	6.33409
8	0.7332	0.001146	C	0.09	0.64	83.1	0.05	0.08	375	200	15	0.04	0.1	21.67403
9	1.4174	0.002215	C	0.44	0.98	81.8	0.05	0.025	350	200	9	0.026	0.1	7.12713
10	2.0334	0.003177	C	2.03	0.00	77.0	0.60	0.08	350	185	10	0.026	0.1	22.2464
11	0.6066	0.000948	C	0.00	0.61	84.0	0.05	0.025	270	180	5	0.019	0.1	6.581582
12	0.4731	0.000739	C	0.00	0.47	84.0	0.05	0.025	110	80	3	0.027	0.1	3.190431
13	2.914	0.004553	C	0.00	2.91	84.0	0.05	0.025	860	340	21	0.024	0.1	12.49555
14	2.7523	0.0043	C	0.00	2.75	84.0	0.05	0.025	750	300	3	0.004	0.1	15.91234
15	3.2741	0.005116	C	0.00	3.27	84.0	0.05	0.025	340	190	11	0.003	0.1	10.44286
16	2.422	0.003784	C	1.34	1.08	80.1	0.05	0.025	590	220	11	0.019	0.1	9.582515
17	15.6099	0.02439	C	15.61	0.00	77.0	0.60	0.08	1610	520	20	0.014	0.1	66.28142
18	5.9136	0.00924	C	0.00	5.91	84.0	0.05	0.025	450	180		0.01	0.1	9.046678

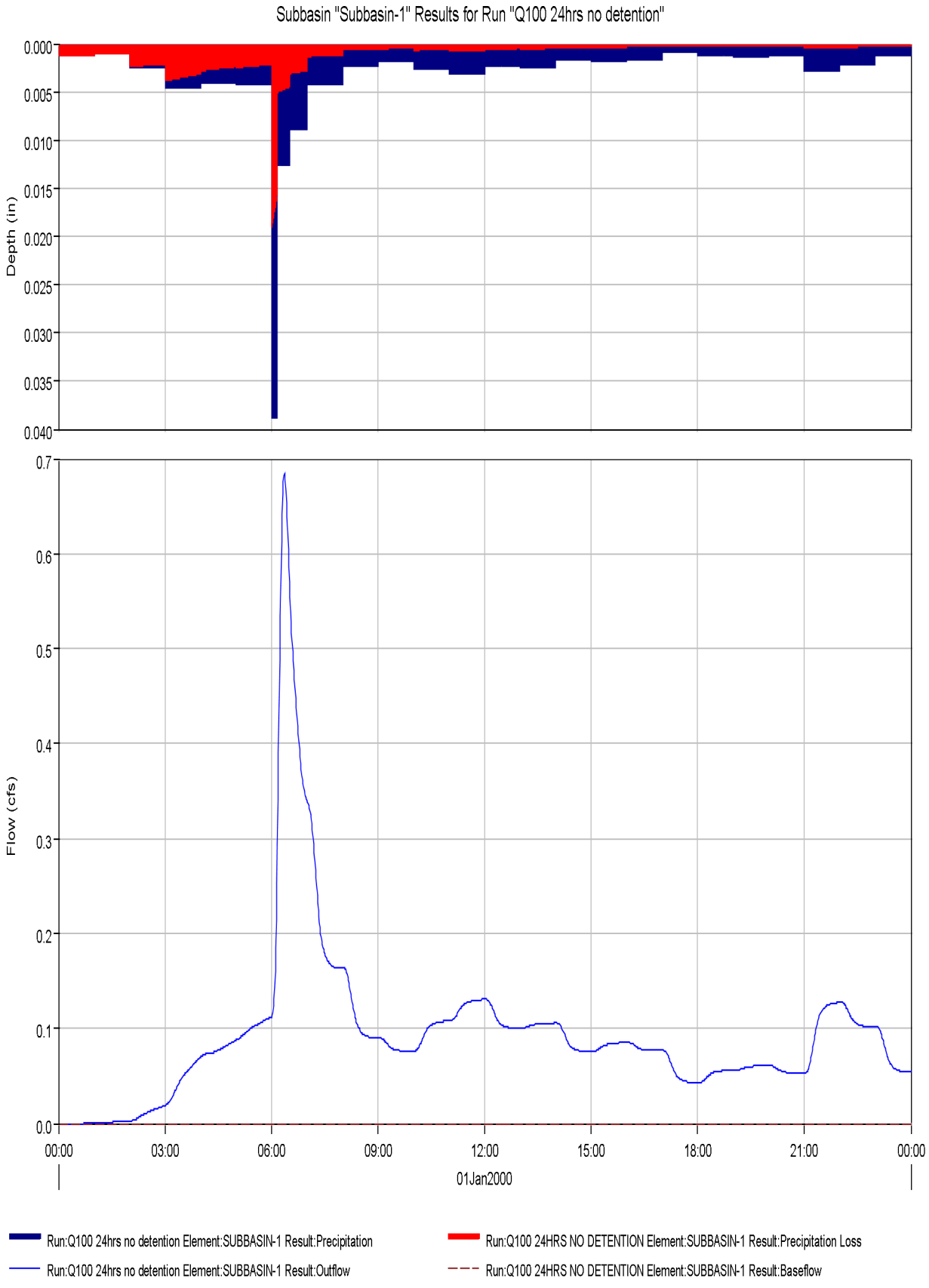
*Assumes AMC 2.5

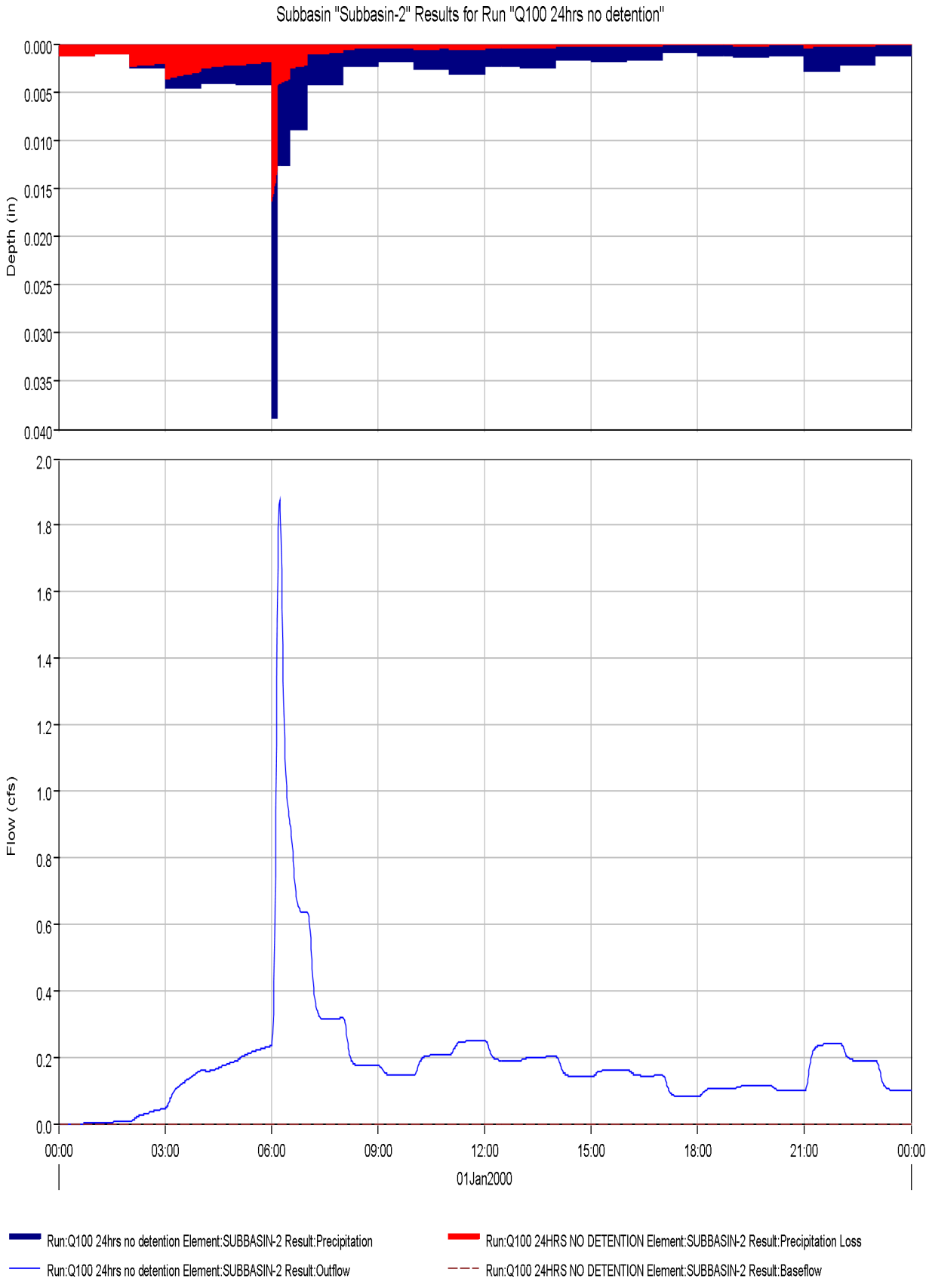
Golf Course Pump Station – Pump Station Design Report

HEC-HMS 3.5

Simulation Run:Q100 24hrs No Detention

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
Subbasin-17	0.0240	3.7	01Jan2000, 07:38	2.3
Subbasin-5	0.0082	2.5	01Jan2000, 06:51	1.0
Subbasin-7	0.0036	2.8	01Jan2000, 06:13	0.5
Junction-4	0.0118	3.6	01Jan2000, 06:13	1.6
Subbasin-13	0.0050	2.9	01Jan2000, 06:20	0.7
Subbasin-14	0.0040	2.1	01Jan2000, 06:24	0.6
Subbasin-12	0.0007	0.6	01Jan2000, 06:10	0.1
Junction-3	0.0097	5.1	01Jan2000, 06:21	1.4
Reach-7	0.0097	5.1	01Jan2000, 06:21	1.4
Subbasin-11	0.0009	0.7	01Jan2000, 06:13	0.1
Junction-2	0.0106	5.5	01Jan2000, 06:21	1.5
Subbasin-15	0.0050	3.2	01Jan2000, 06:17	0.7
Subbasin-16	0.0040	2.3	01Jan2000, 06:16	0.5
Junction-1	0.0090	5.5	01Jan2000, 06:17	1.3
Subbasin-18	0.0090	6.1	01Jan2000, 06:16	1.3
Subbasin-6	0.0049	3.5	01Jan2000, 06:15	0.7
Subbasin-3	0.0027	1.1	01Jan2000, 06:32	0.4
Junction-5	0.0076	4.1	01Jan2000, 06:15	1.1
Subbasin-2	0.0025	1.9	01Jan2000, 06:14	0.4
Subbasin-1	0.0014	0.7	01Jan2000, 06:22	0.2
Junction-6	0.0039	2.4	01Jan2000, 06:15	0.6
Subbasin-9	0.0022	1.5	01Jan2000, 06:14	0.3
Subbasin-8	0.0011	0.5	01Jan2000, 06:32	0.2
Junction-7	0.0033	1.8	01Jan2000, 06:14	0.5
Subbasin-10	0.0032	0.8	01Jan2000, 06:35	0.3
Subbasin-4	0.0017	0.7	01Jan2000, 06:14	0.2
Sink-1	0.0000	0.0	01Jan2000, 00:00	0.0


Subbasin "Subbasin-1" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-1 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-1 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-1 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-1 Result:Baseflow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Depth (in)
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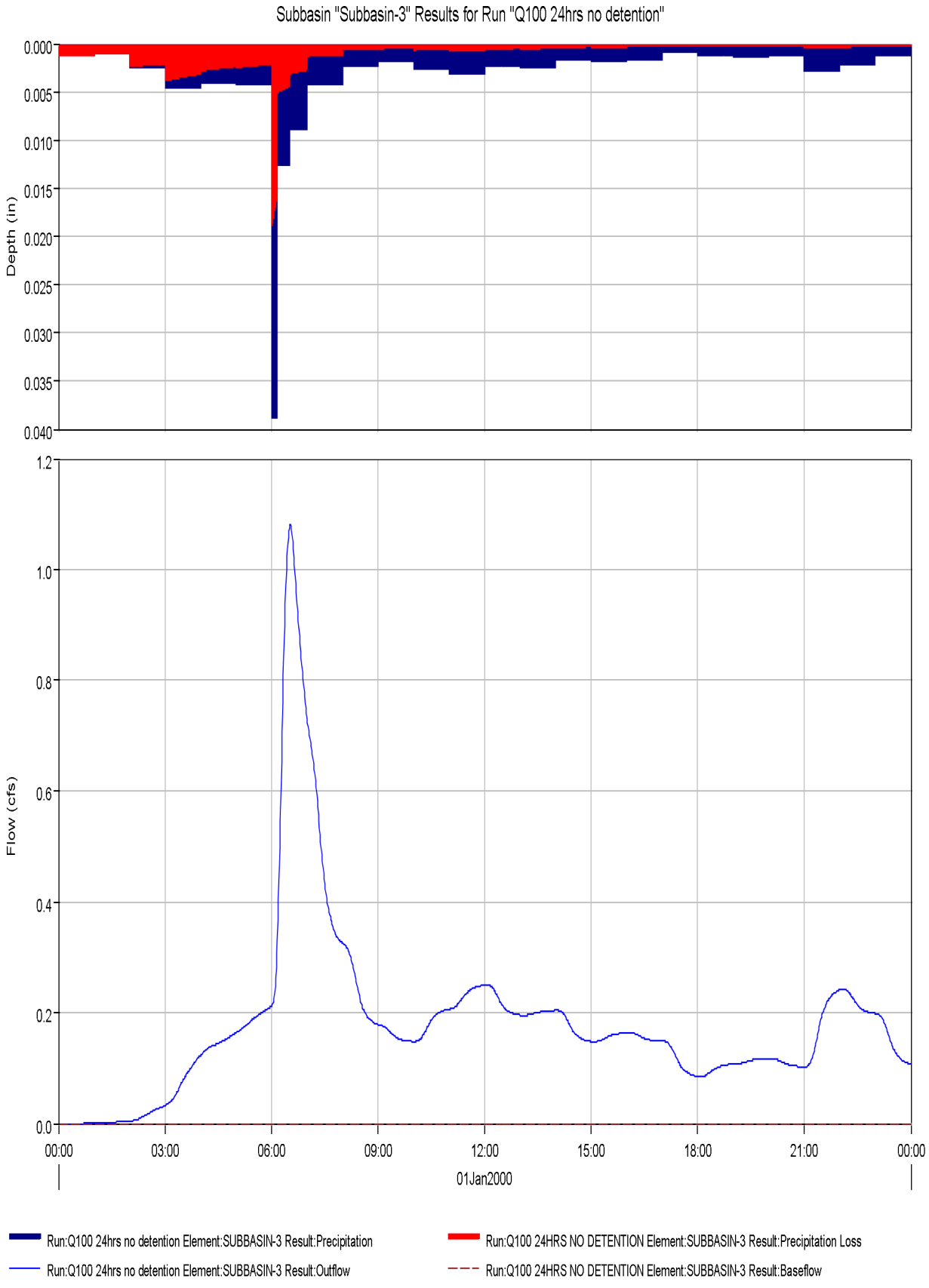
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-2 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-2 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-2 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-2 Result:Baseflow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Depth (in)
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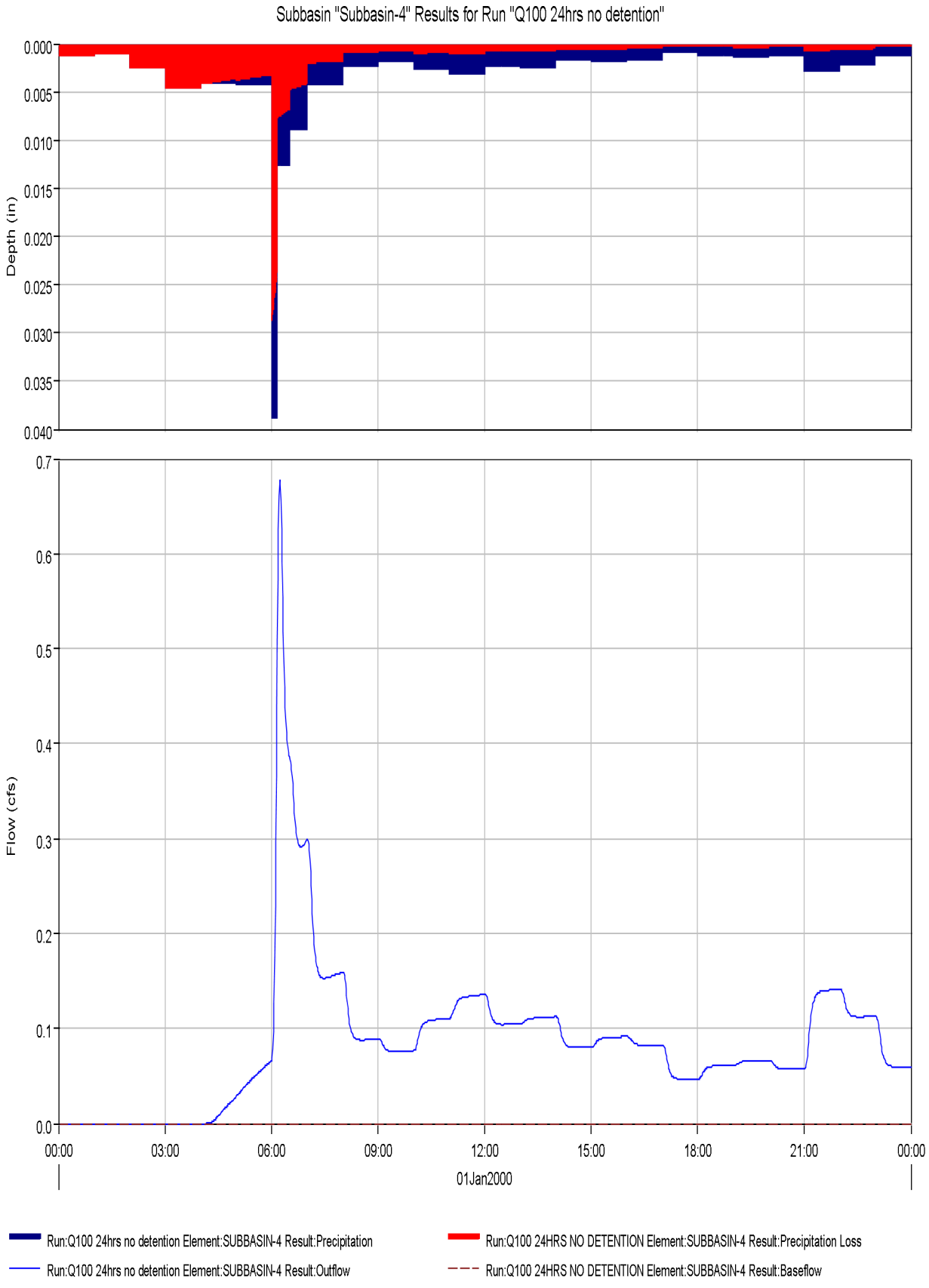
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-3 Result:Precipitation
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-3 Result:Precipitation Loss
Run:Q100 24hrs no detention Element:SUBBASIN-3 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-3 Result:Baseflow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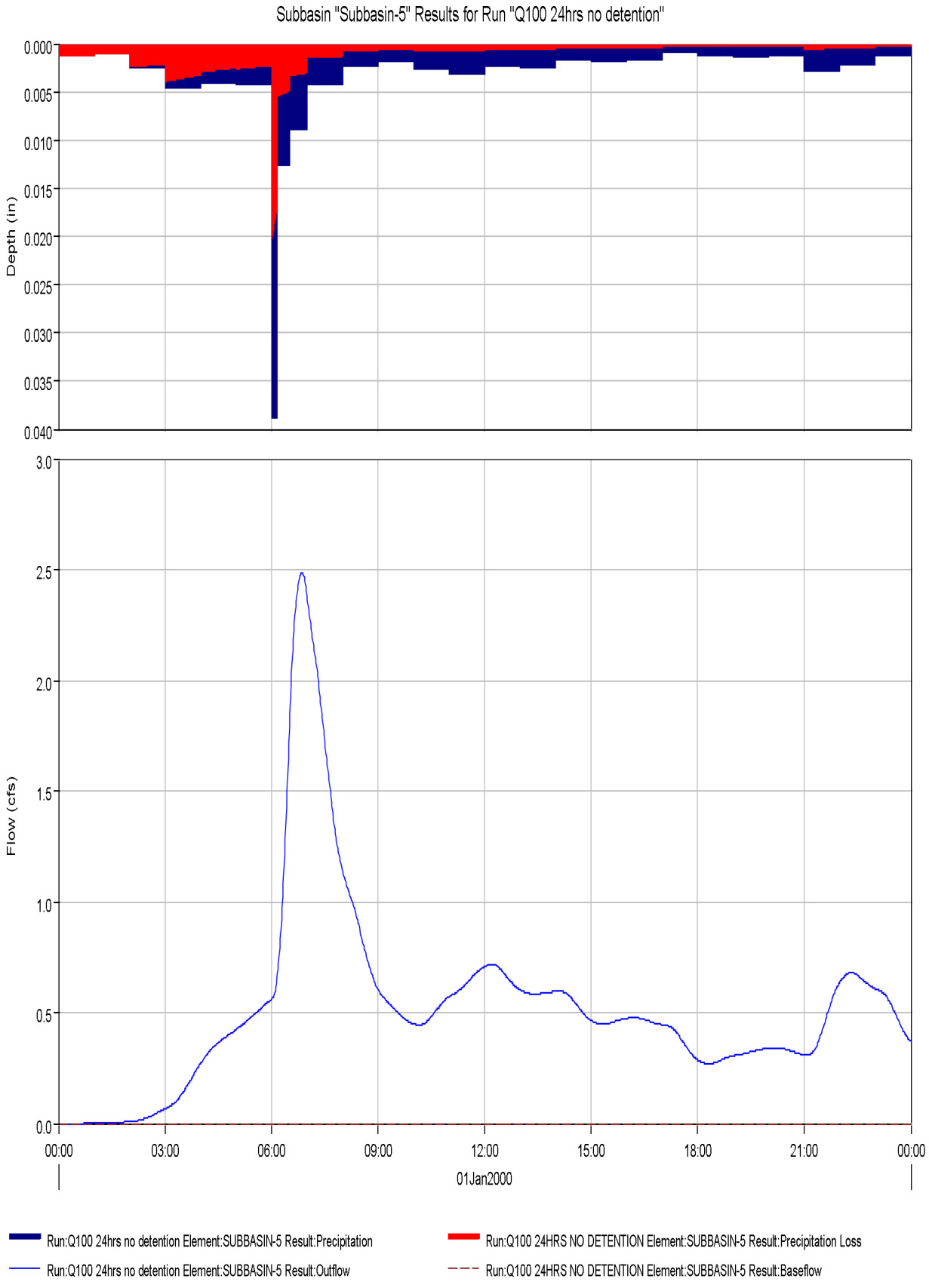
0.025
0.030
0.035
0.040
Flow (cfs)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-4 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-4 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-4 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-4 Result:Baseflow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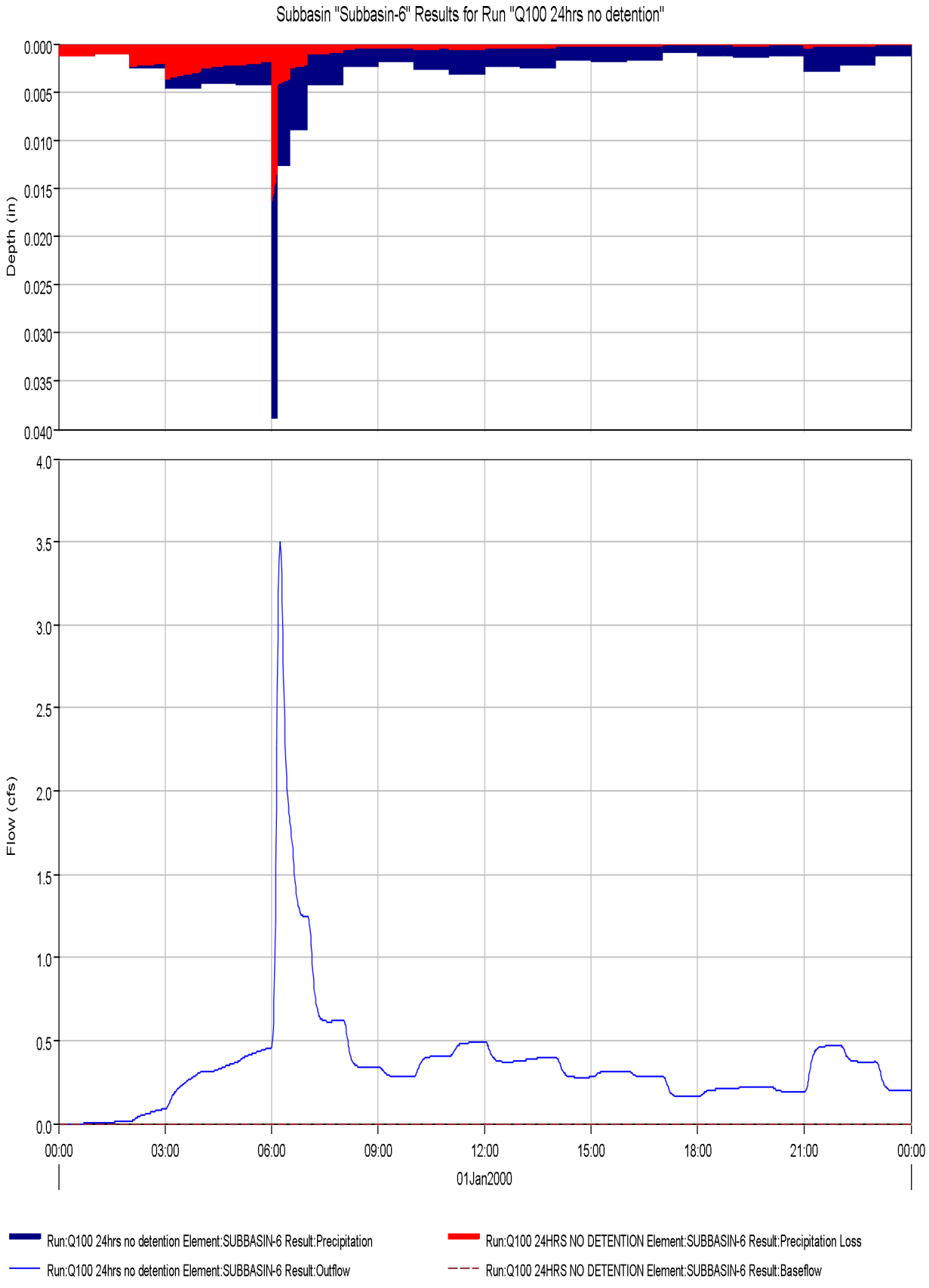
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-5 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-5 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-5 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-5 Result:Baseflow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Depth (in)
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0.010
0.015
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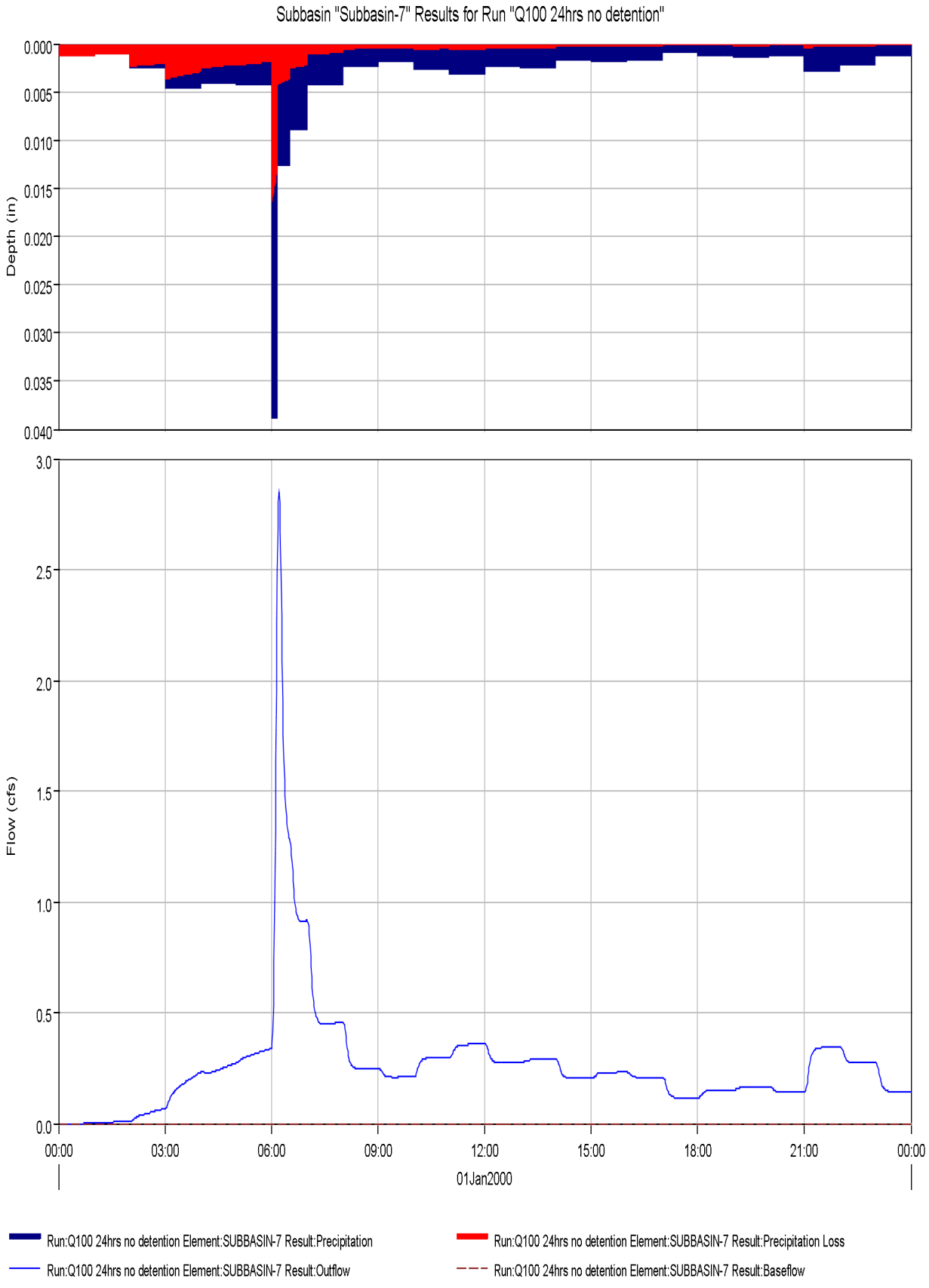
0.030
0.035
0.040
Flow (cfs)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-6 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-6 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-6 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-6 Result:Baseflow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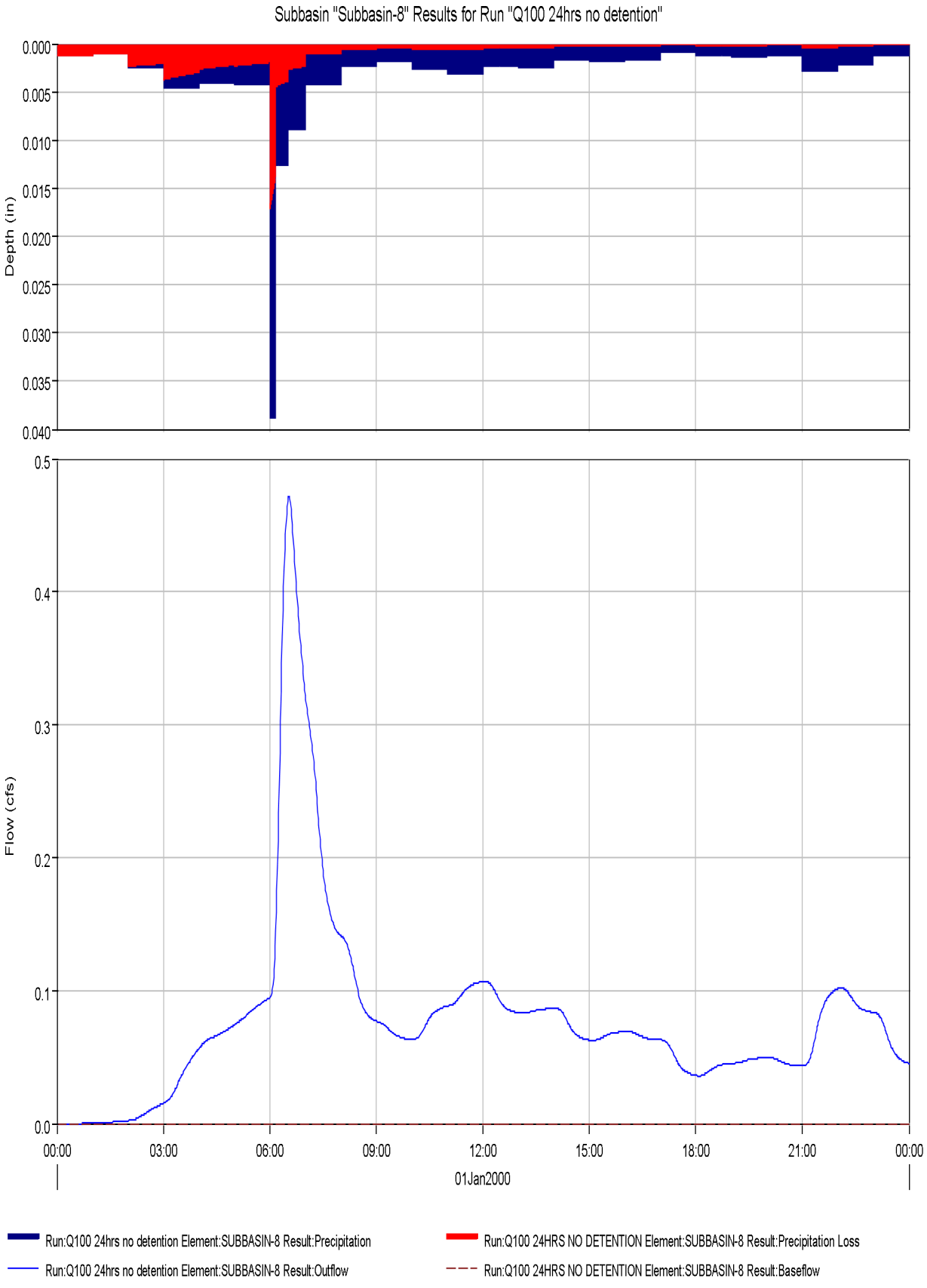
0.030
0.035
0.040
Flow (cfs)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-7 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-7 Result:Precipitation Loss
Run:Q100 24hrs no detention Element:SUBBASIN-7 Result:Outflow
Run:Q100 24hrs no detention Element:SUBBASIN-7 Result:Baseflow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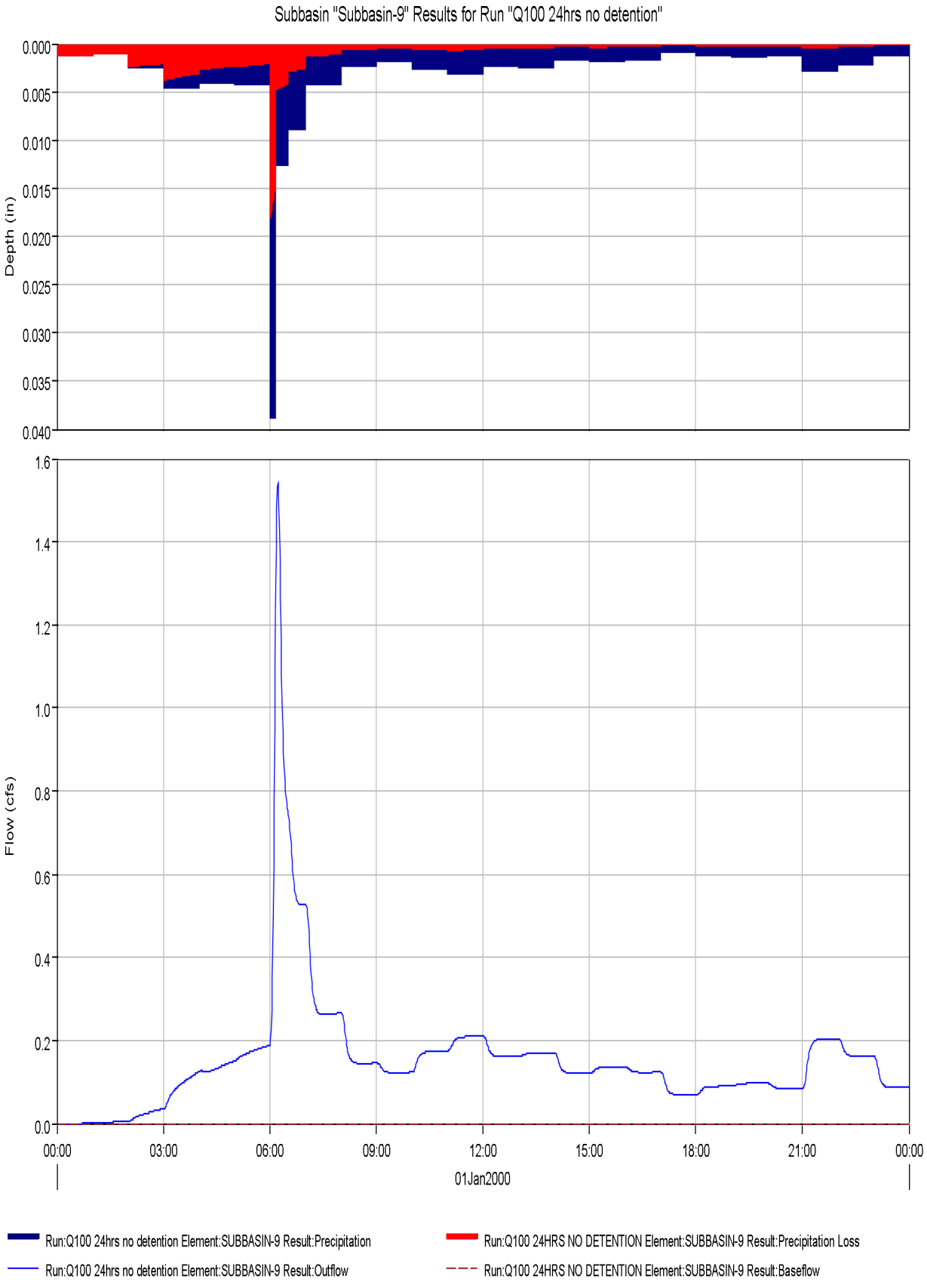
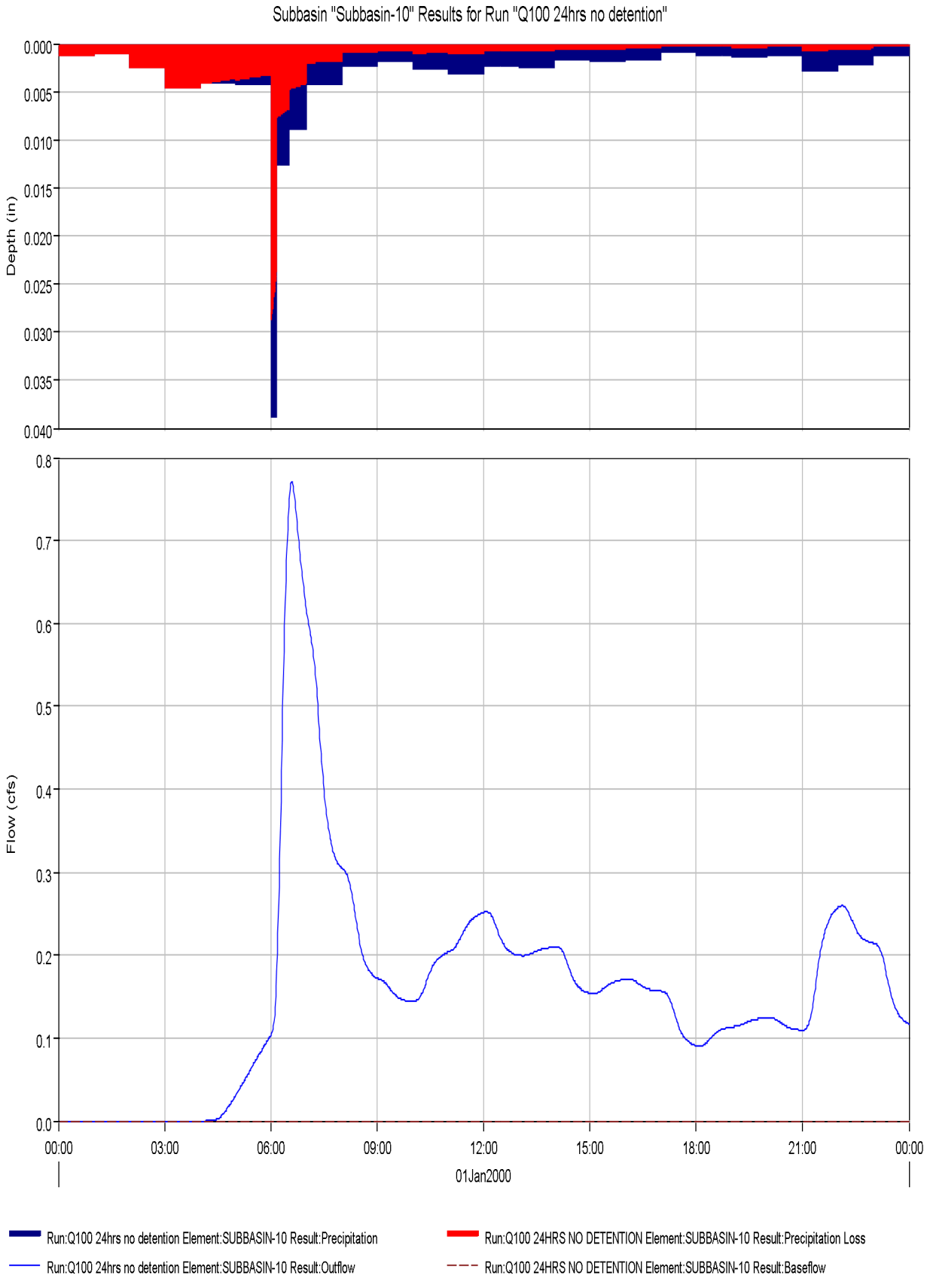
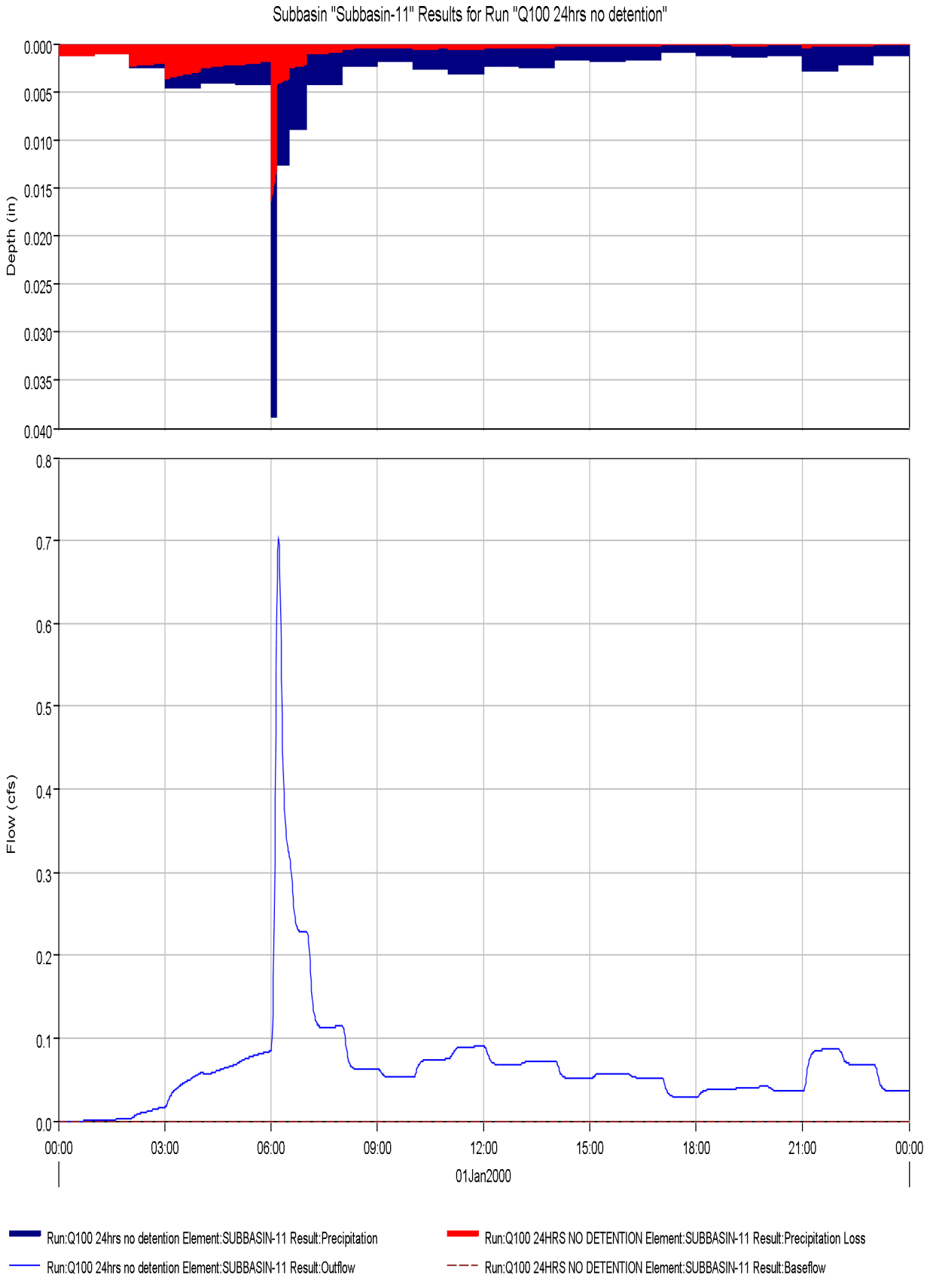
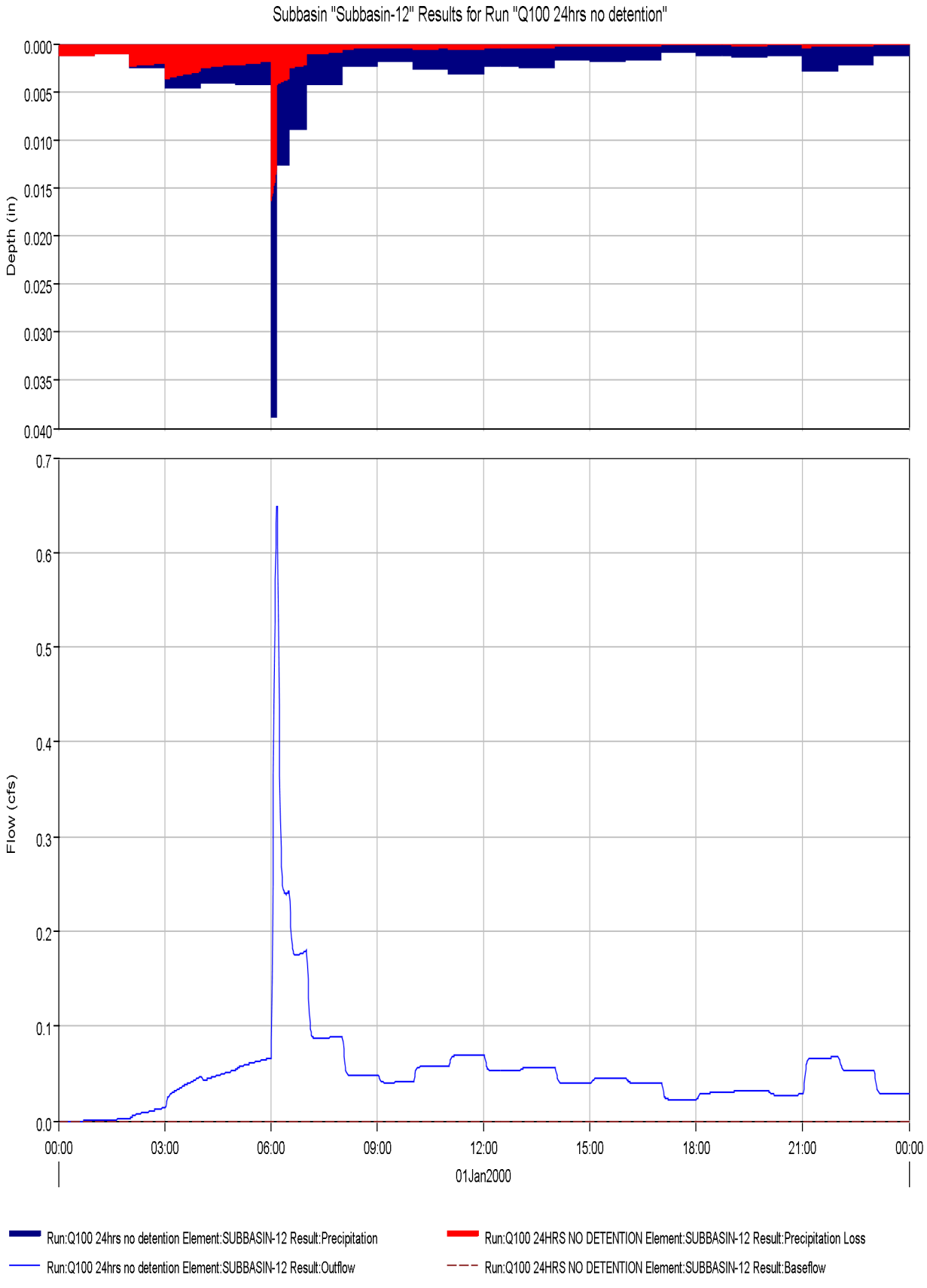
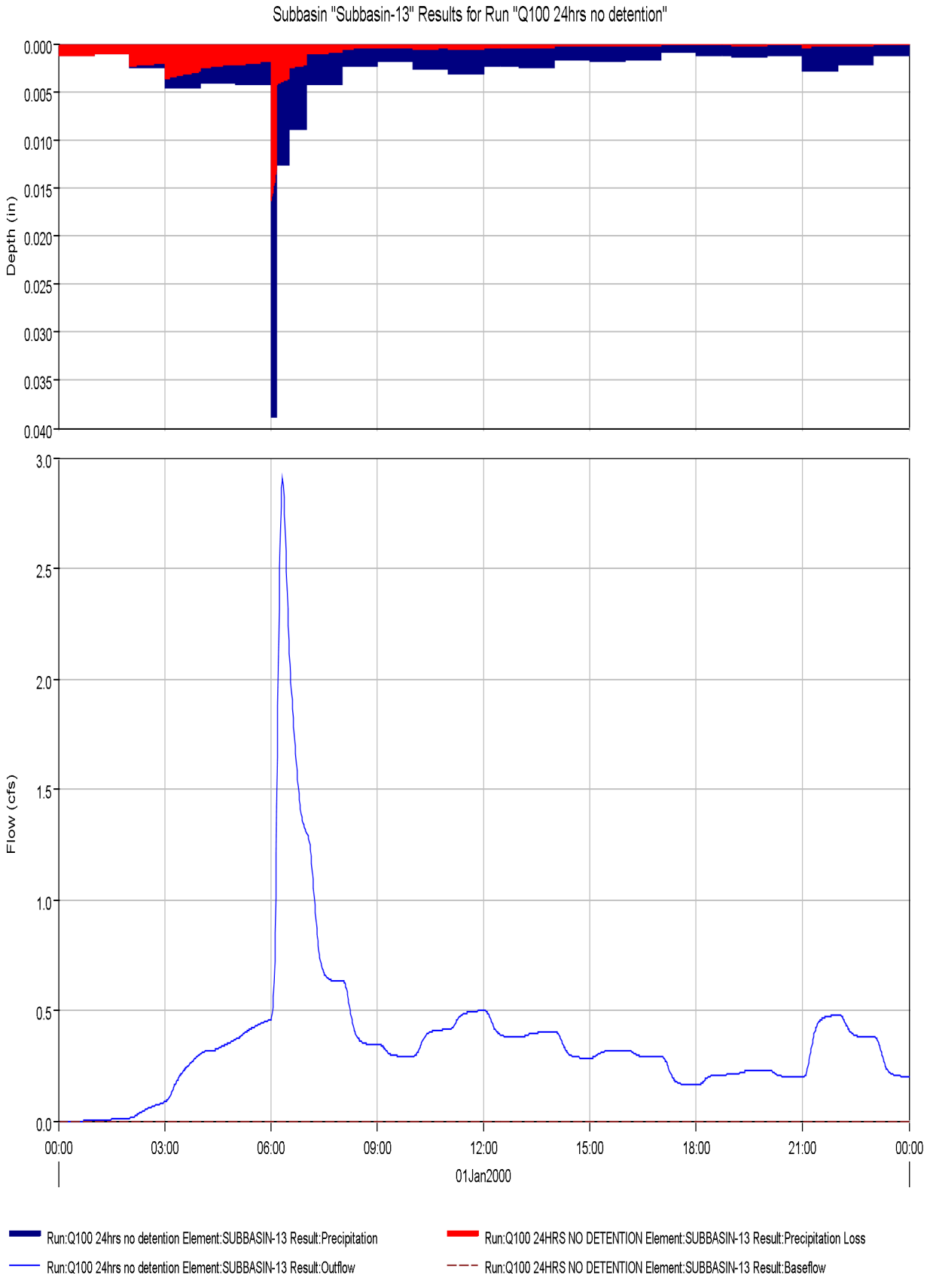
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-8 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-8 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-8 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-8 Result:Baseflow

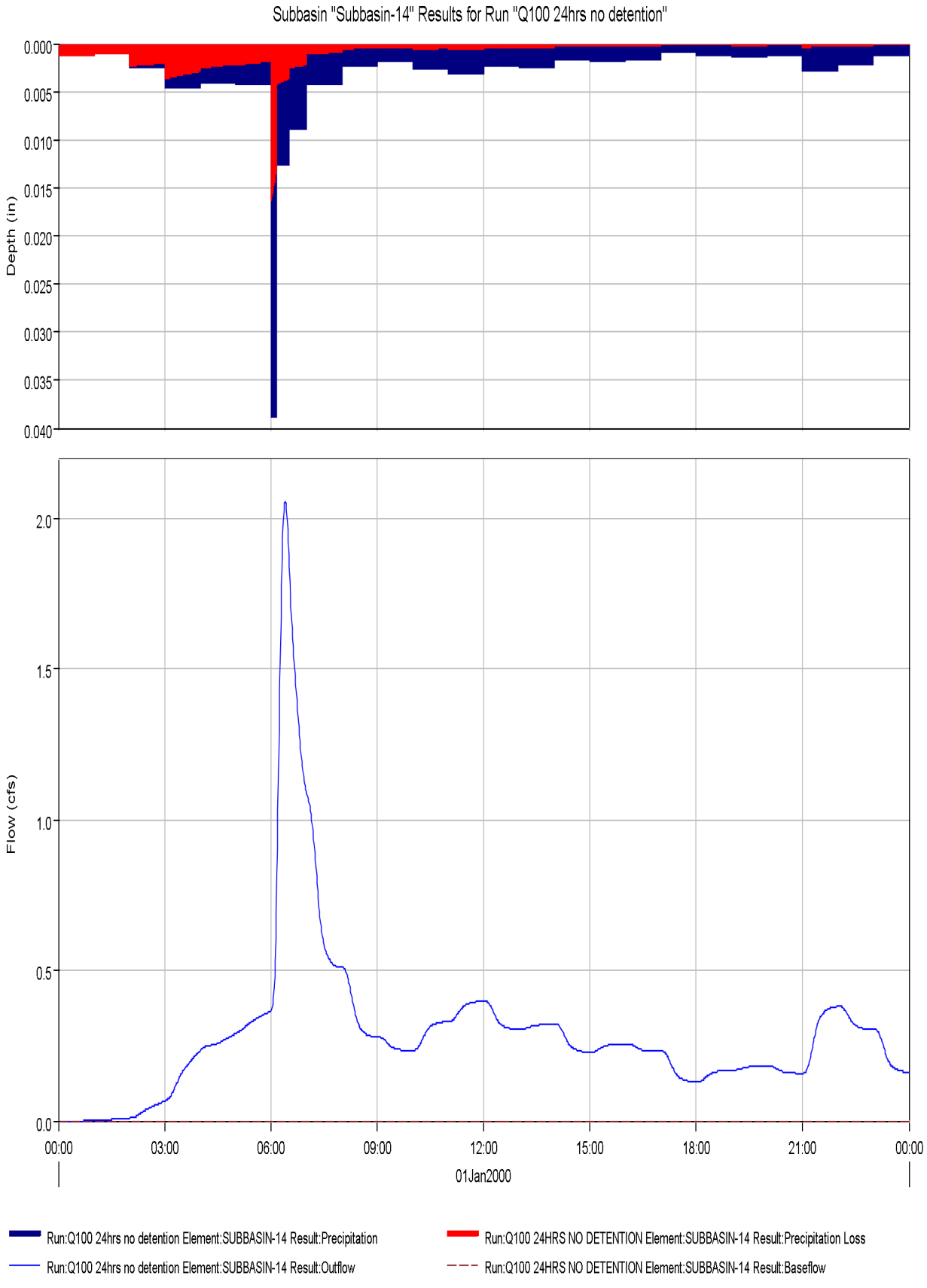

Subbasin "Subbasin-9" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-9 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-9 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-9 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-9 Result:Baseflow

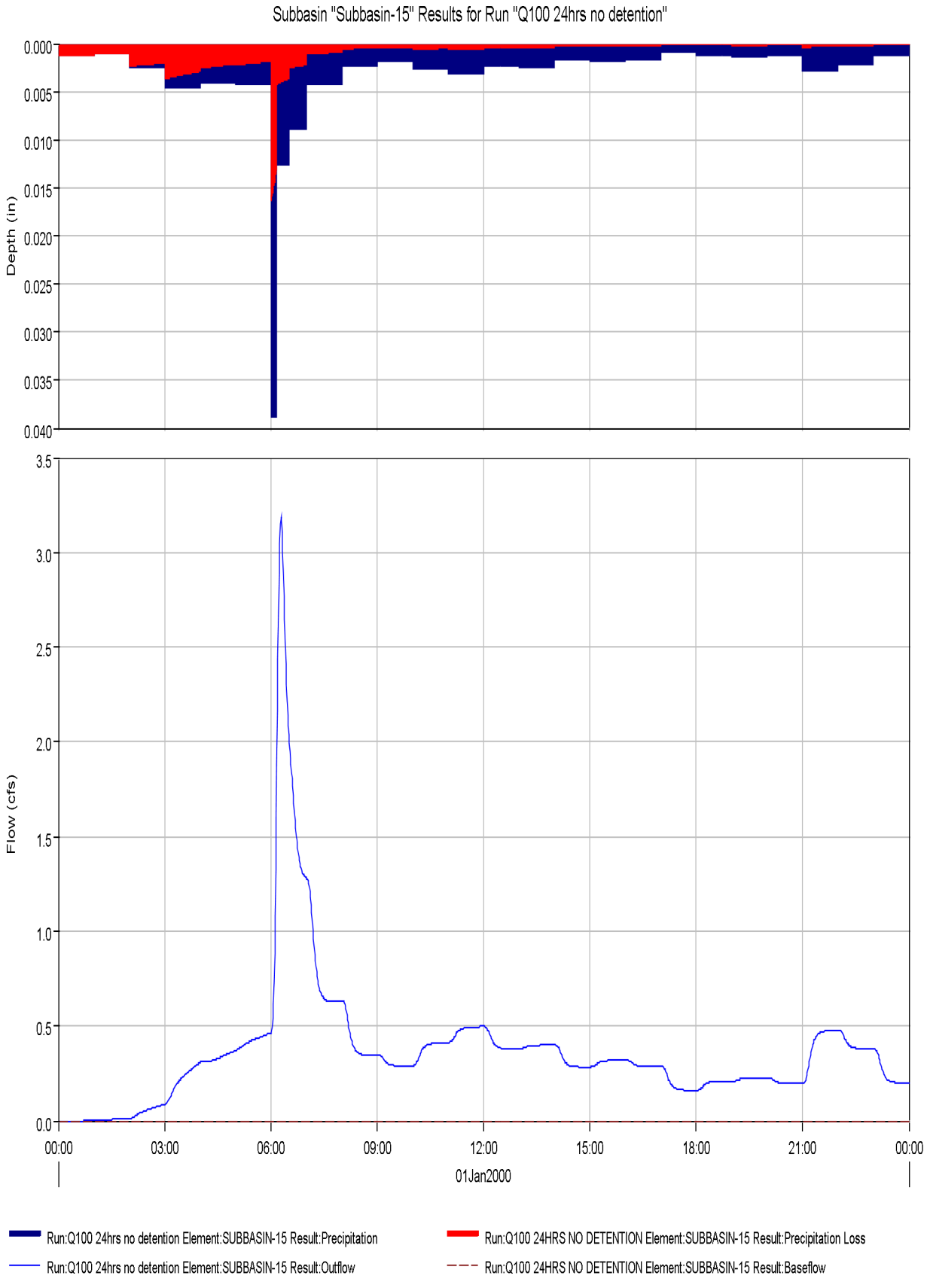

Subbasin "Subbasin-10" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-10 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-10 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-10 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-10 Result:Baseflow

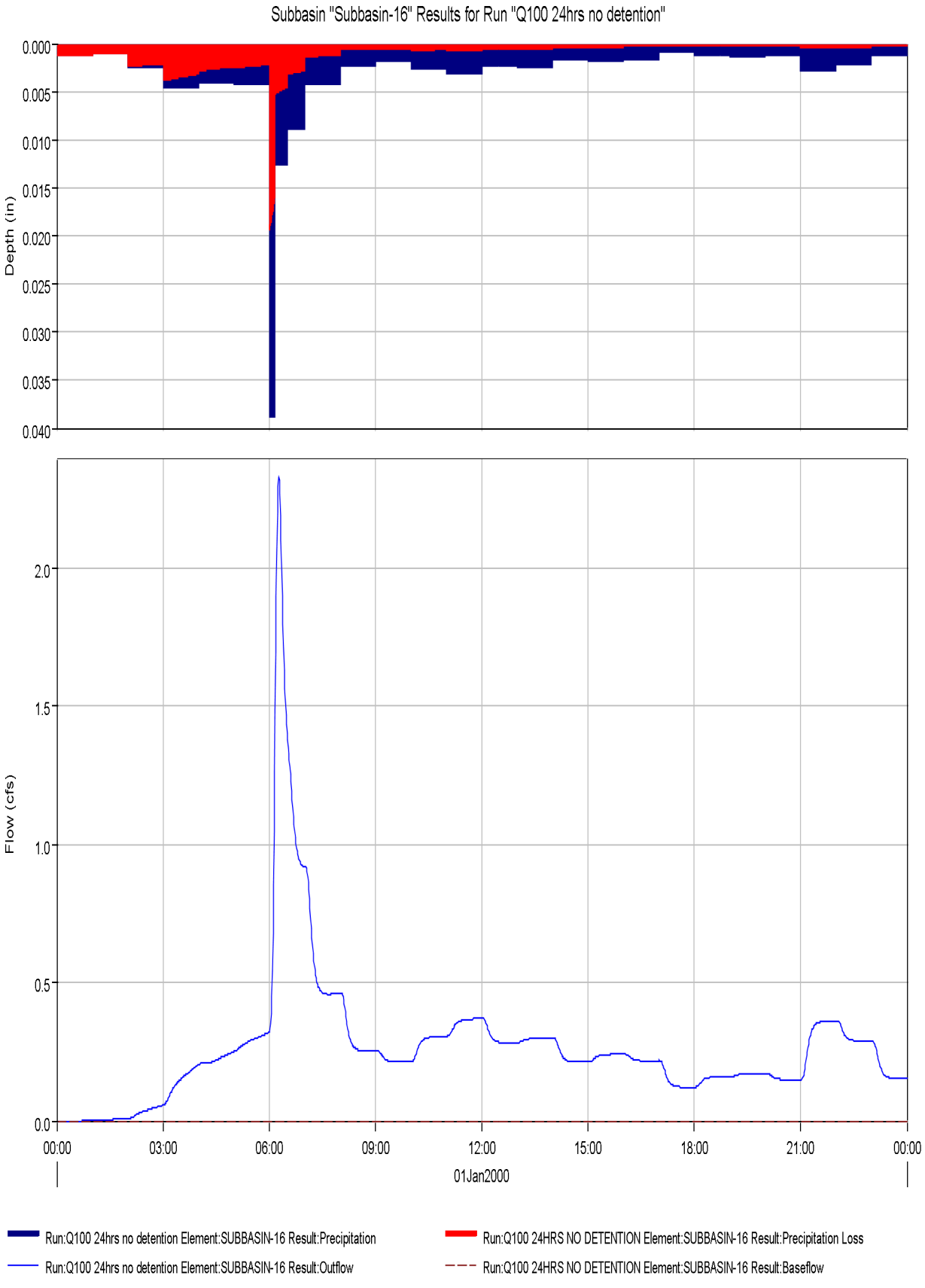

Subbasin "Subbasin-11" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-11 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-11 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-11 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-11 Result:Baseflow

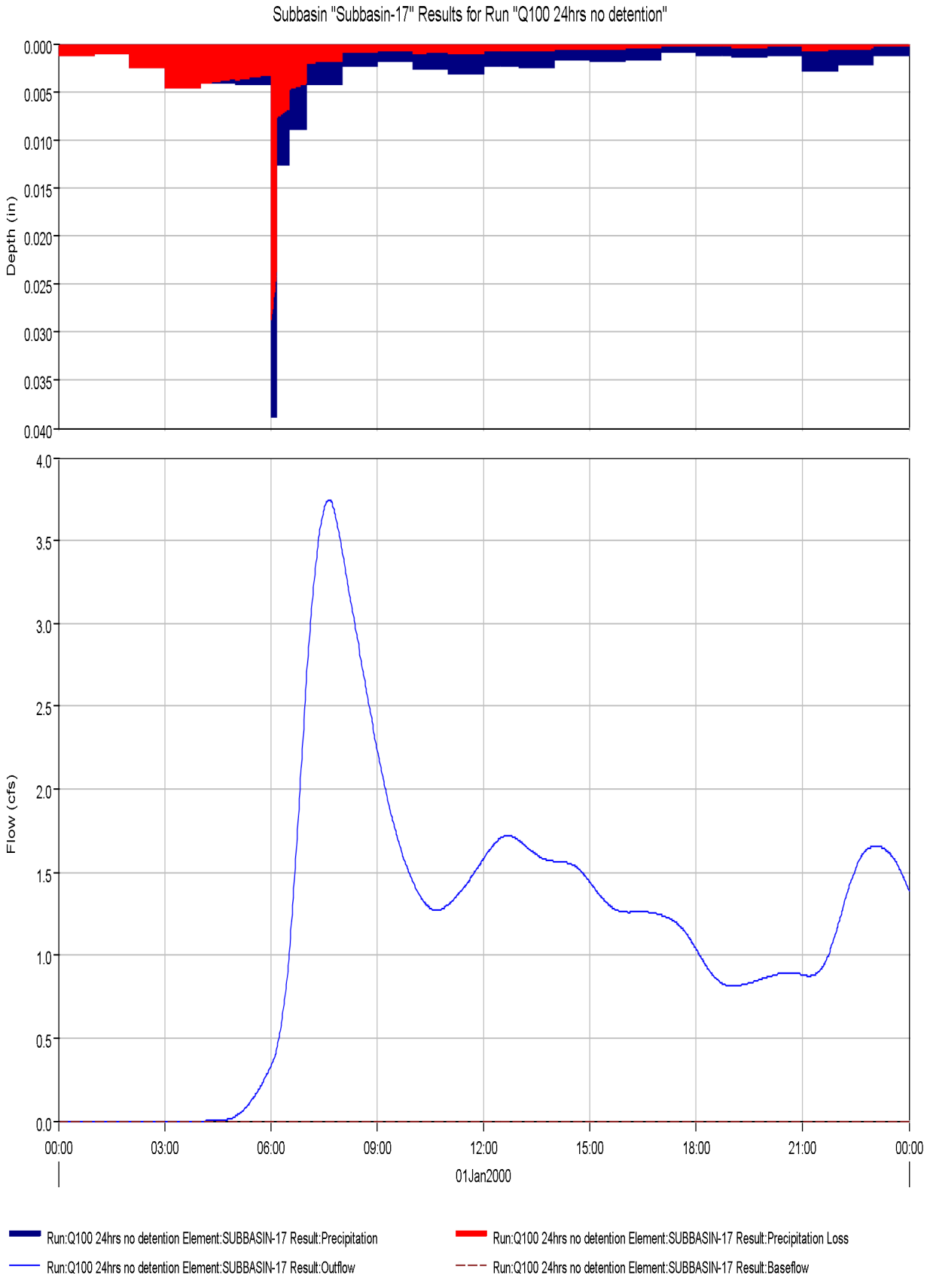

Subbasin "Subbasin-12" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-12 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-12 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-12 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-12 Result:Baseflow

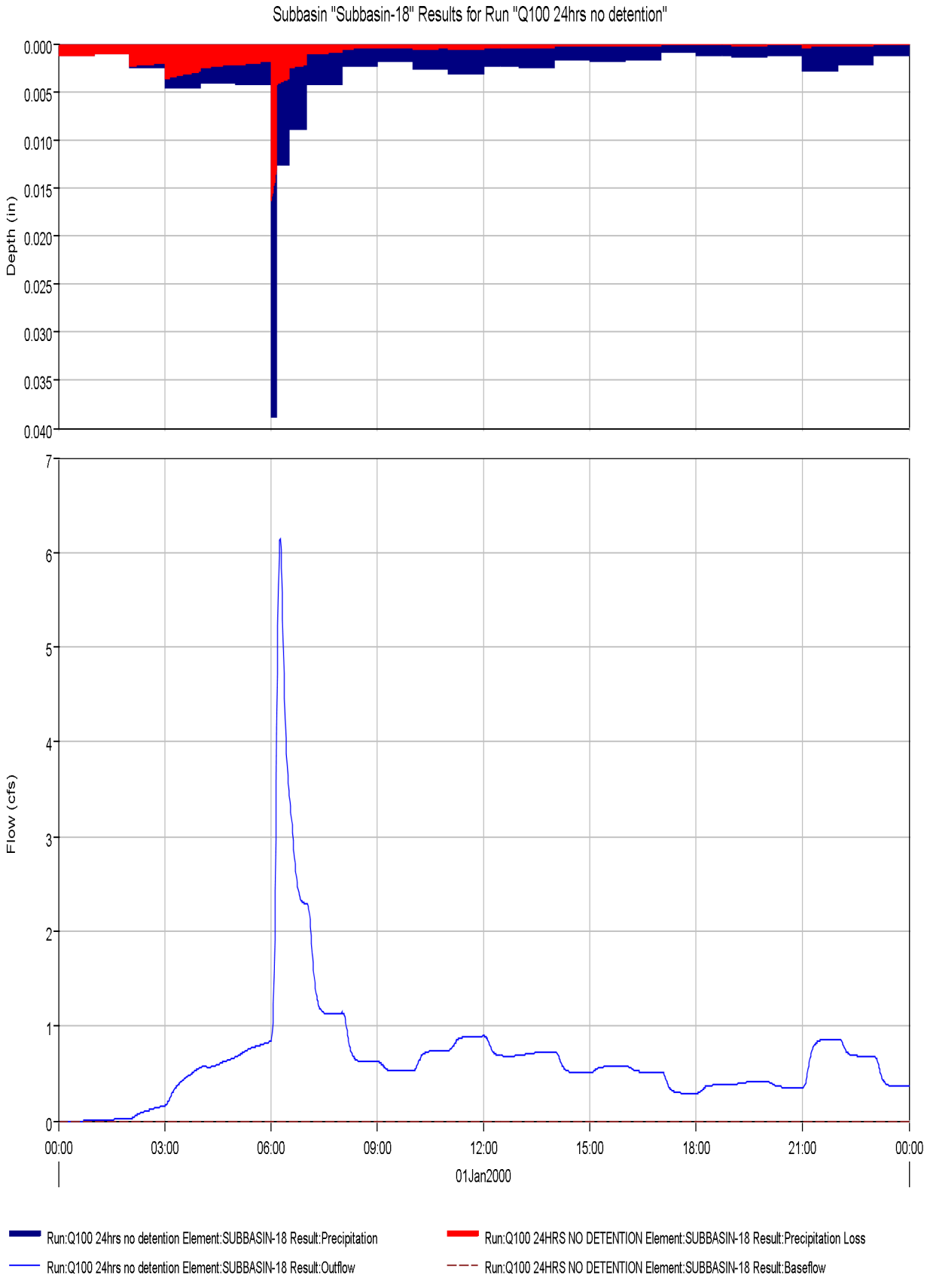

Subbasin "Subbasin-13" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-13 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-13 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-13 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-13 Result:Baseflow


Subbasin "Subbasin-14" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-14 Result:Precipitation
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-14 Result:Precipitation Loss
Run:Q100 24hrs no detention Element:SUBBASIN-14 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-14 Result:Baseflow


Subbasin "Subbasin-15" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-15 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-15 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-15 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-15 Result:Baseflow


Subbasin "Subbasin-16" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-16 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-16 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-16 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-16 Result:Baseflow


Subbasin "Subbasin-17" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-17 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-17 Result:Precipitation Loss
Run:Q100 24hrs no detention Element:SUBBASIN-17 Result:Outflow
Run:Q100 24hrs no detention Element:SUBBASIN-17 Result:Baseflow

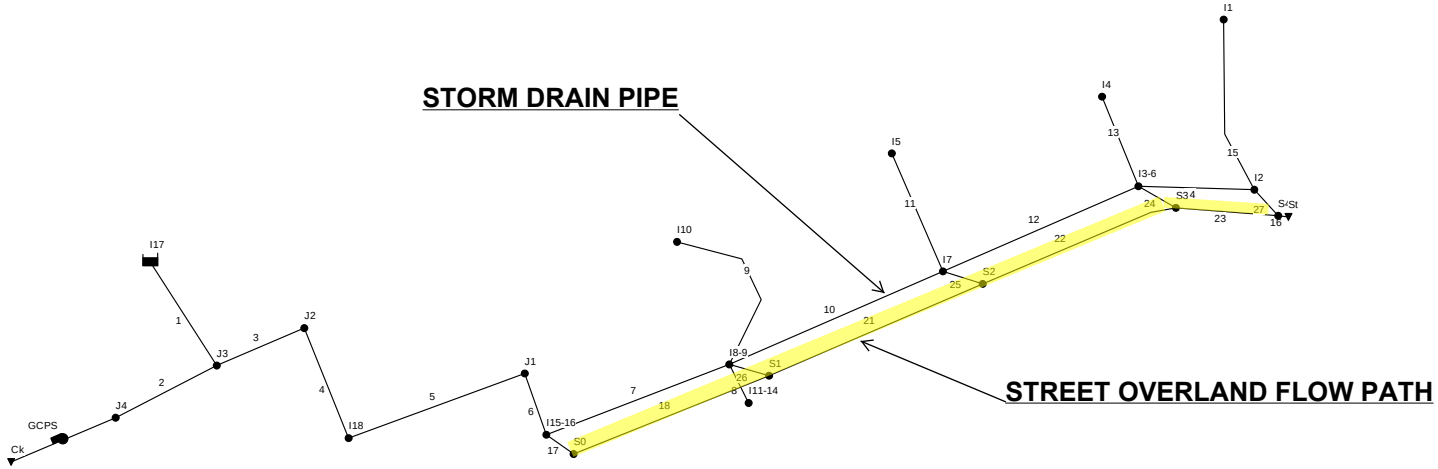

Subbasin "Subbasin-18" Results for Run "Q100 24hrs no detention"
Depth (in)
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
Flow (cfs)
0
1
2
3
4
5
6
7
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
01Jan2000
Run:Q100 24hrs no detention Element:SUBBASIN-18 Result:Precipitation
Run:Q100 24hrs no detention Element:SUBBASIN-18 Result:Outflow
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-18 Result:Precipitation Loss
Run:Q100 24HRS NO DETENTION Element:SUBBASIN-18 Result:Baseflow

Appendix B

SWMM Model Output

SWMM MODEL
Stars and Stripes Drive
Santa Clara, Ca

01/01/2000 00:01:00



```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)
--------------------------------------------------------------


***********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
***********************************************************

***************
Analysis Options
***************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... DYNWAVE
Starting Date ............ JAN-01-2000 00:00:00
Ending Date .............. JAN-02-2000 05:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Routing Time Step ........ 1.00 sec


WARNING 08: elevation drop exceeds length for Conduit 24

WARNING 08: elevation drop exceeds length for Conduit 25

WARNING 08: elevation drop exceeds length for Conduit 26

WARNING 08: elevation drop exceeds length for Conduit 27

WARNING 04: minimum elevation drop used for Conduit 16

WARNING 08: elevation drop exceeds length for Conduit 17

WARNING 03: negative offset ignored for Link GCPS

**************************        Volume        Volume
Flow Routing Continuity        acre-feet      10^6 gal
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.000         0.000
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........        10.471         3.412
External Outflow .........        10.243         3.338
Internal Outflow .........         0.239         0.078
Storage Losses ...........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.001         0.000
Continuity Error (%) .....        -0.116


************************
Highest Continuity Errors
************************
Node S2 (-16.59%)
Node S4 (1.16%)


*************************
Time-Step Critical Elements
*************************
None
```

****
Highest Flow Instability Indexes
****
All links are stable.

****
Routing Time Step Summary
****
Minimum Time Step : 0.50 sec
Average Time Step : 1.00 sec
Maximum Time Step : 1.00 sec
Percent in Steady State : 0.00
Average Iterations per Step : 2.02

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days	hr:min
J2	JUNCTION	0.90	10.78	12.16	0	06:18
I18	JUNCTION	0.84	10.58	12.25	0	06:18
J1	JUNCTION	0.72	11.92	14.52	0	06:15
I11-14	JUNCTION	0.32	6.62	12.20	0	06:16
I10	JUNCTION	0.14	6.38	14.94	0	06:18
I5	JUNCTION	0.33	6.62	13.18	0	06:17
I4	JUNCTION	0.24	4.90	10.86	0	06:17
I1	JUNCTION	0.24	4.29	10.50	0	06:17
S1	JUNCTION	0.00	0.00	12.40	0	00:00
S2	JUNCTION	0.00	0.09	10.89	0	06:24
S3	JUNCTION	0.00	0.04	10.99	0	06:17
S4	JUNCTION	0.01	0.27	10.37	0	06:18
S0	JUNCTION	0.00	0.00	14.00	0	00:00
J4	JUNCTION	0.42	11.12	12.02	0	06:18
J3	JUNCTION	0.92	10.86	12.08	0	06:18
I15-16	JUNCTION	0.69	9.43	12.47	0	06:18
I8-9	JUNCTION	0.67	8.29	12.03	0	06:18
I7	JUNCTION	0.54	6.12	10.89	0	06:17
I3-6	JUNCTION	0.53	6.08	11.12	0	06:17
I2	JUNCTION	0.35	4.97	10.37	0	06:18
St	OUTFALL	1.90	1.90	12.00	0	00:00
Ck	OUTFALL	0.00	0.00	0.90	0	00:00
I17	STORAGE	0.77	5.59	9.79	0	07:32

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
J2	JUNCTION	0.00	23.54	0	06:14	0.000	2.601
I18	JUNCTION	6.10	26.21	0	06:14	0.426	2.601
J1	JUNCTION	0.00	21.24	0	06:15	0.000	2.175
I11-14	JUNCTION	5.50	6.15	0	06:16	0.497	0.497
I10	JUNCTION	0.80	3.23	0	06:18	0.103	0.103
I5	JUNCTION	2.50	3.19	0	06:17	0.338	0.339
I4	JUNCTION	0.70	4.21	0	06:17	0.058	0.061
I1	JUNCTION	0.70	3.63	0	06:17	0.066	0.066
S1	JUNCTION	0.00	0.00	0	00:00	0.000	0.000

S2	JUNCTION	0.00	3.77	0	06:17	0.000	0.002
S3	JUNCTION	0.00	4.89	0	06:17	0.000	0.000
S4	JUNCTION	0.00	5.40	0	06:18	0.000	0.008
S0	JUNCTION	0.00	0.00	0	00:00	0.000	0.000
J4	JUNCTION	0.00	19.11	0	06:12	0.000	3.338
J3	JUNCTION	0.00	21.94	0	06:13	0.000	3.366
I15-16	JUNCTION	5.50	22.35	0	06:16	0.410	2.174
I8-9	JUNCTION	1.80	20.98	0	06:16	0.146	1.767
I7	JUNCTION	2.80	15.38	0	06:16	0.169	1.035
I3-6	JUNCTION	4.10	12.14	0	06:17	0.347	0.562
I2	JUNCTION	1.90	8.64	0	06:18	0.114	0.225
St	OUTFALL	0.00	0.00	0	00:00	0.000	0.000
Ck	OUTFALL	0.00	14.20	0	06:10	0.000	3.338
I17	STORAGE	3.70	3.82	0	06:17	0.737	0.765

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
J2	JUNCTION	1.54	7.783	2.707
I18	JUNCTION	1.48	7.577	2.963
J1	JUNCTION	1.40	9.418	2.022
I11-14	JUNCTION	1.04	5.370	0.000
I10	JUNCTION	0.90	5.380	0.000
I5	JUNCTION	1.03	5.620	0.000
I4	JUNCTION	1.04	3.900	0.000
I1	JUNCTION	1.02	3.290	0.000
J4	JUNCTION	1.63	8.121	2.979
J3	JUNCTION	1.57	7.863	2.577
I15-16	JUNCTION	1.31	6.932	2.128
I8-9	JUNCTION	1.15	5.787	0.573
I7	JUNCTION	1.07	4.120	0.000
I3-6	JUNCTION	1.03	4.081	0.079
I2	JUNCTION	1.14	3.720	0.000
I17	STORAGE	2.95	4.586	2.214

****
Node Flooding Summary
****

Flooding refers to all water that overflows a node, whether it ponds or not.

Node	Hours Flooded	Maximum Rate CFS	Time of Max Occurrence days	hr:min	Total Flood Volume 10^6 gal	Maximum Ponded Depth Feet
I11-14	0.01	4.84	0	06:16	0.000	6.62
I10	0.01	2.83	0	06:18	0.000	6.38
I5	0.01	1.64	0	06:17	0.000	6.62
I4	0.27	3.90	0	06:17	0.005	4.90
I1	0.04	3.54	0	06:17	0.001	4.29
I7	0.11	10.21	0	06:21	0.009	6.12
I2	0.82	8.45	0	06:18	0.062	4.97

****
Storage Volume Summary
****

	Average Volume	Avg Pcnt	E&I Pcnt	Maximum Volume	Max Pcnt	Time of Max Occurrence	Maximum Outflow

Storage Unit	1000 ft3	Full	Loss	1000 ft3	Full	days hr:min	CFS
I17	0.583	1	0	9.244	14	0 07:32	4.82

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
St	0.00	0.00	0.00	0.000
Ck	83.22	5.14	14.20	3.338
System	41.61	5.14	14.20	3.338

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
1	CONDUIT	4.82	0 08:14	6.14	1.57	1.00
3	CONDUIT	21.45	0 06:13	5.35	0.80	1.00
4	CONDUIT	23.54	0 06:14	5.08	0.73	1.00
5	CONDUIT	20.12	0 06:14	5.02	0.76	1.00
6	CONDUIT	21.24	0 06:15	5.87	0.78	1.00
7	CONDUIT	16.85	0 06:16	4.63	0.79	1.00
8	CONDUIT	5.98	0 06:16	5.11	0.50	1.00
9	CONDUIT	2.82	0 06:18	4.08	0.57	1.00
10	CONDUIT	10.00	0 06:16	3.91	0.81	1.00
11	CONDUIT	2.50	0 06:47	3.53	0.70	1.00
12	CONDUIT	7.00	0 06:16	2.86	1.01	1.00
13	CONDUIT	3.61	0 06:17	4.61	1.34	1.00
14	CONDUIT	4.04	0 06:18	3.30	1.33	1.00
15	CONDUIT	3.03	0 06:17	3.87	1.47	1.00
21	CHANNEL	0.00	0 00:00	0.00	0.00	0.11
22	CHANNEL	0.01	0 06:18	0.14	0.00	0.05
23	CHANNEL	0.03	0 06:17	0.97	0.00	0.09
24	CONDUIT	5.91	0 06:18	2.89	0.00	0.55
25	CONDUIT	8.15	0 06:21	3.54	0.00	0.61
26	CONDUIT	0.00	0 00:00	0.00	0.00	0.50
27	CONDUIT	5.39	0 06:18	1.78	0.00	0.84
16	CHANNEL	0.00	0 00:00	0.00	0.00	0.58
17	CONDUIT	0.00	0 00:00	0.00	0.00	0.50
18	CHANNEL	0.00	0 00:00	0.00	0.00	0.00
2	CONDUIT	19.11	0 06:12	13.67	0.63	1.00
GCPS	PUMP	14.20	0 06:10		1.00	

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Avg. Froude Number	Avg. Flow Change
1	1.00	0.07	0.18	0.00	0.74	0.00	0.00	0.00	0.34	0.0001
3	1.00	0.07	0.07	0.00	0.85	0.00	0.00	0.00	0.45	0.0000
4	1.00	0.07	0.00	0.00	0.93	0.00	0.00	0.00	0.51	0.0000
5	1.00	0.07	0.00	0.00	0.92	0.00	0.00	0.00	0.61	0.0000
6	1.00	0.08	0.00	0.00	0.44	0.48	0.00	0.00	0.75	0.0000

7	1.00	0.08	0.00	0.00	0.92	0.00	0.00	0.00	0.61	0.0001
8	1.00	0.08	0.16	0.00	0.75	0.02	0.00	0.00	0.50	0.0000
9	1.00	0.08	0.24	0.00	0.69	0.00	0.00	0.00	0.14	0.0000
10	1.00	0.08	0.00	0.00	0.92	0.00	0.00	0.00	0.49	0.0001
11	1.00	0.08	0.15	0.00	0.77	0.00	0.00	0.00	0.44	0.0000
12	1.00	0.08	0.00	0.00	0.92	0.00	0.00	0.00	0.33	0.0001
13	1.00	0.08	0.24	0.00	0.69	0.00	0.00	0.00	0.11	0.0000
14	1.00	0.08	0.03	0.00	0.89	0.00	0.00	0.00	0.22	0.0001
15	1.00	0.11	0.02	0.00	0.88	0.00	0.00	0.00	0.28	0.0000
21	1.00	0.99	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
22	1.00	0.99	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
23	1.00	0.97	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
24	1.00	0.08	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
25	1.00	0.08	0.91	0.00	0.01	0.00	0.00	0.00	0.00	0.0000
26	1.00	0.08	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
27	1.00	0.11	0.86	0.00	0.03	0.00	0.00	0.00	0.00	0.0000
16	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.0000
17	1.00	0.08	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
18	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000
2	1.00	0.07	0.00	0.00	0.20	0.72	0.00	0.00	2.22	0.0000

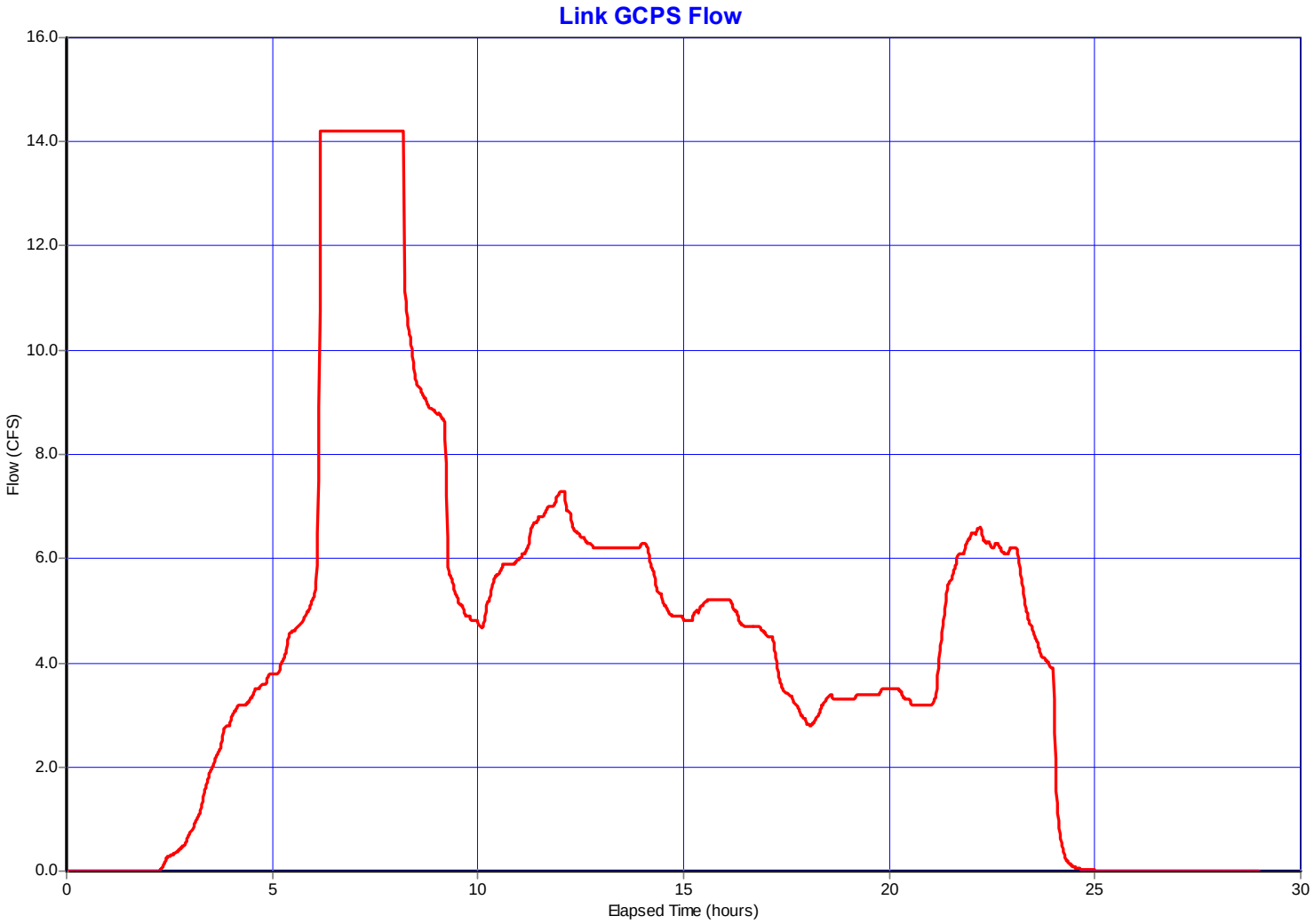
****
Conduit Surcharge Summary
****

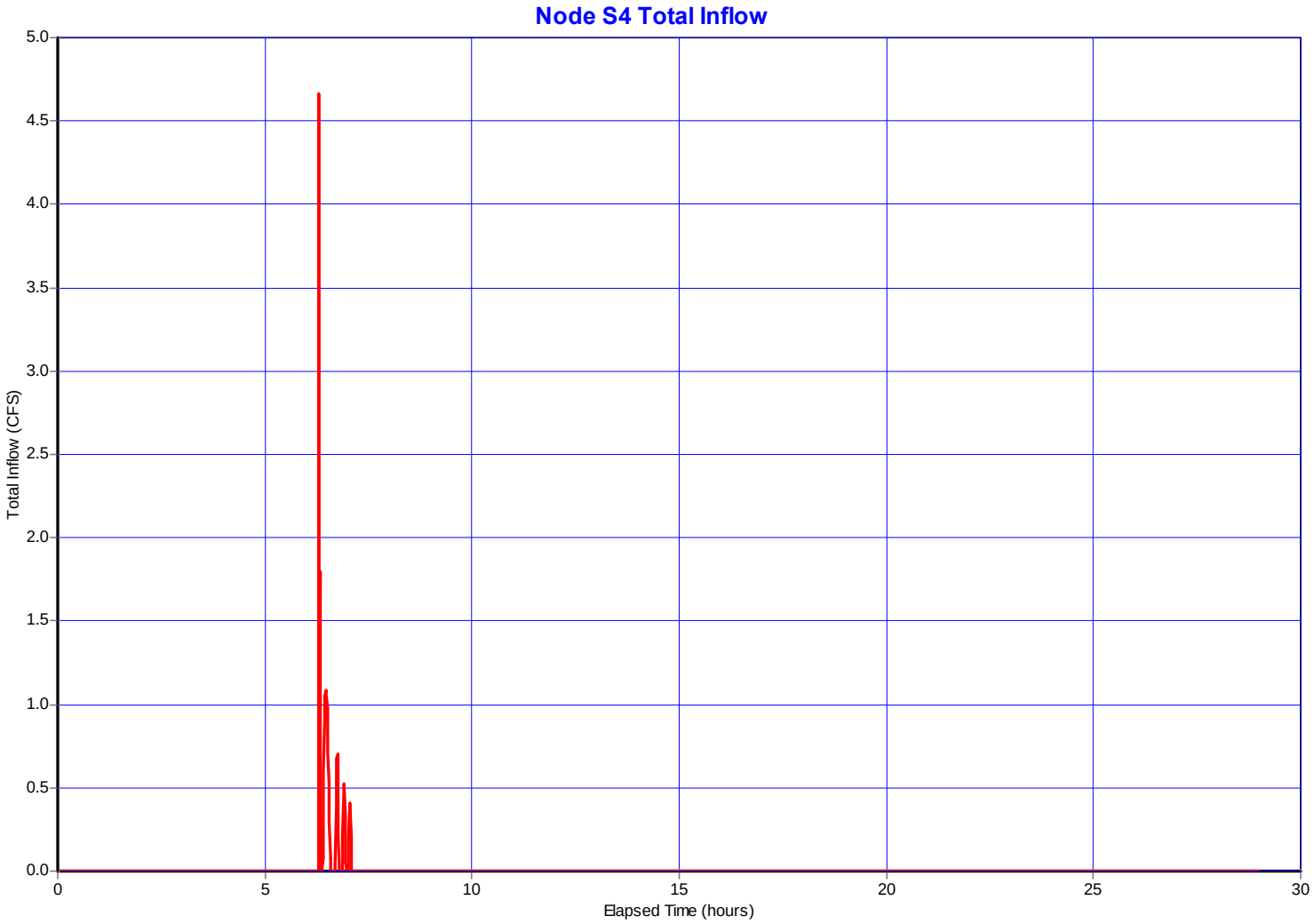
Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
1	2.41	2.41	2.41	1.93	1.38
3	1.54	1.54	1.54	0.01	0.01
4	1.48	1.48	1.48	0.01	0.01
5	1.40	1.40	1.40	0.01	0.01
6	1.31	1.31	1.31	0.01	0.01
7	1.15	1.15	1.15	0.01	0.01
8	1.04	1.04	1.04	0.01	0.01
9	0.90	0.90	0.90	0.01	0.01
10	1.07	1.07	1.07	0.01	0.01
11	1.03	1.03	1.03	0.01	0.01
12	1.03	1.03	1.03	0.01	0.01
13	1.04	1.04	1.04	0.01	0.01
14	1.14	1.14	1.14	0.29	0.01
15	1.02	1.02	1.02	0.01	0.01
2	1.57	1.57	1.57	0.01	0.01

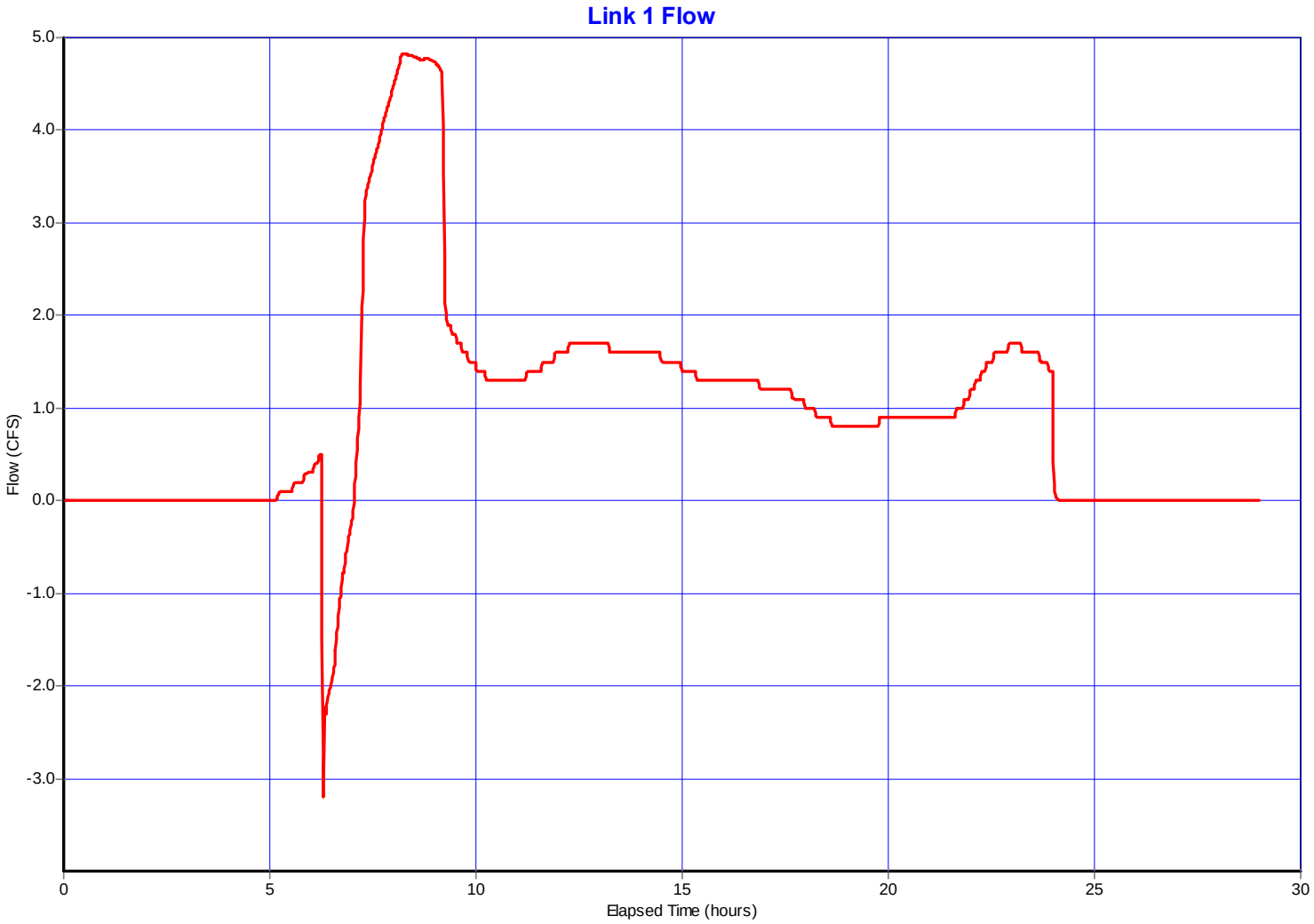
****
Pumping Summary
****

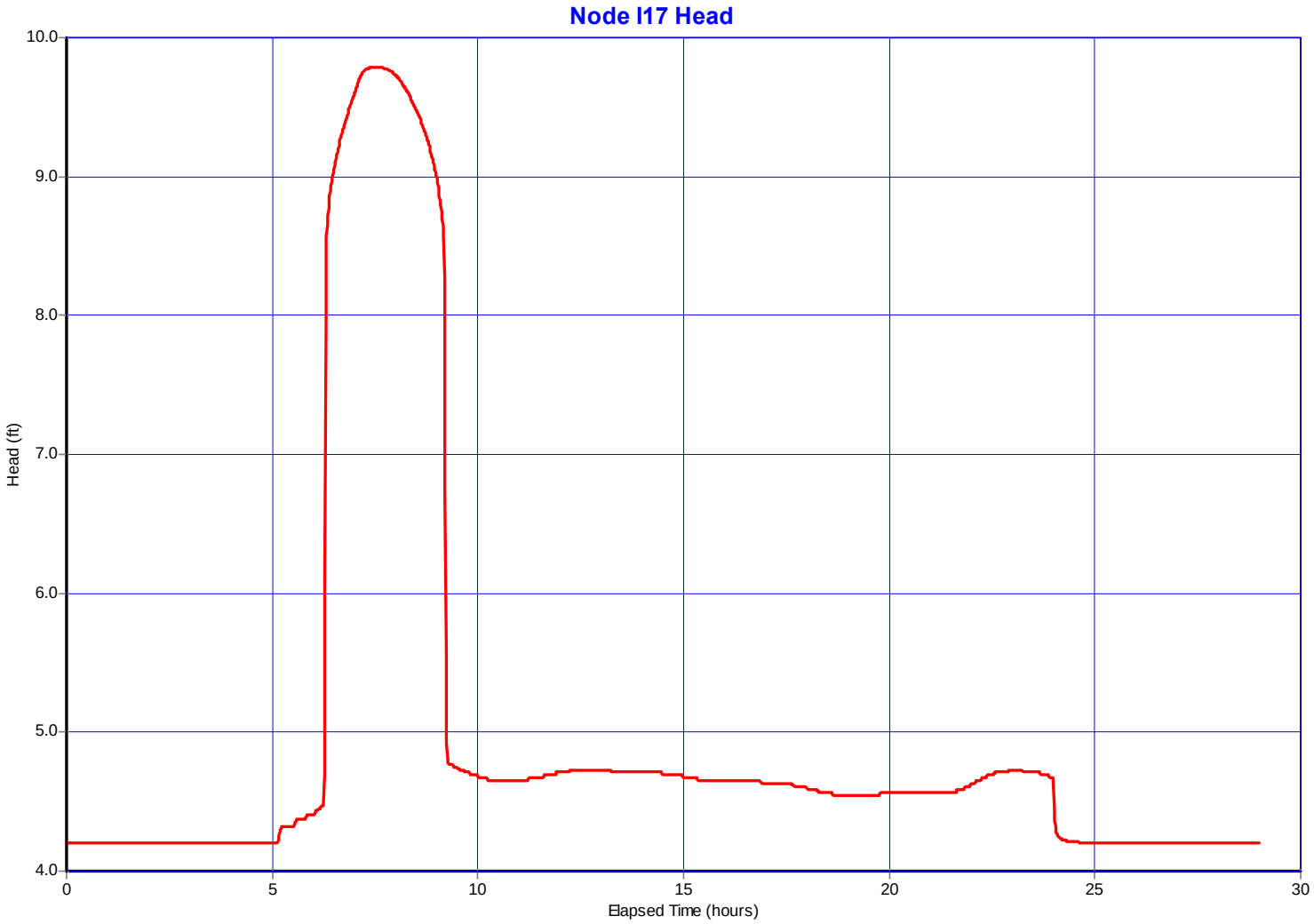
Pump	Percent Utilized	Number of Start-Ups	Min Flow CFS	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal	Power Usage Kw-hr	% Time Off Pump Curve: Low	% Time Off Pump Curve: High
GCPS	83.22	1	0.00	5.14	14.20	3.338	14.71	0.0	0.0

Analysis begun on: Fri Jul 13 13:19:36 2012
Analysis ended on: Fri Jul 13 13:19:43 2012
Total elapsed time: 00:00:07

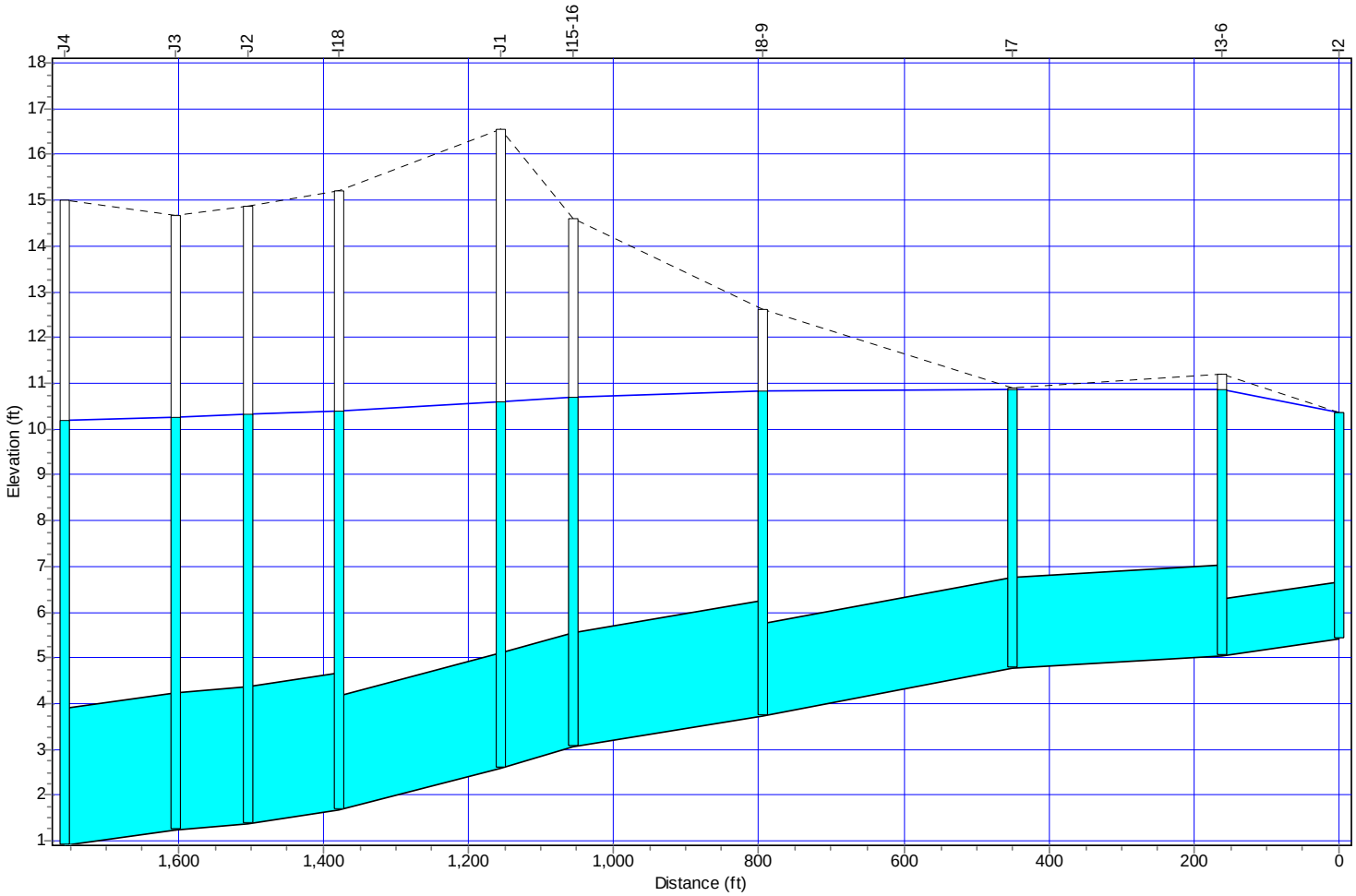

Link GCPS Flow
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Flow (CFS)
0
5
10
15
20
25
30
Elapsed Time (hours)


Node S4 Total Inflow
Total Inflow (CFS)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
Elapsed Time (hours)


Link 1 Flow
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
Flow (CFS)
0
5
10
15
20
25
30
Elapsed Time (hours)

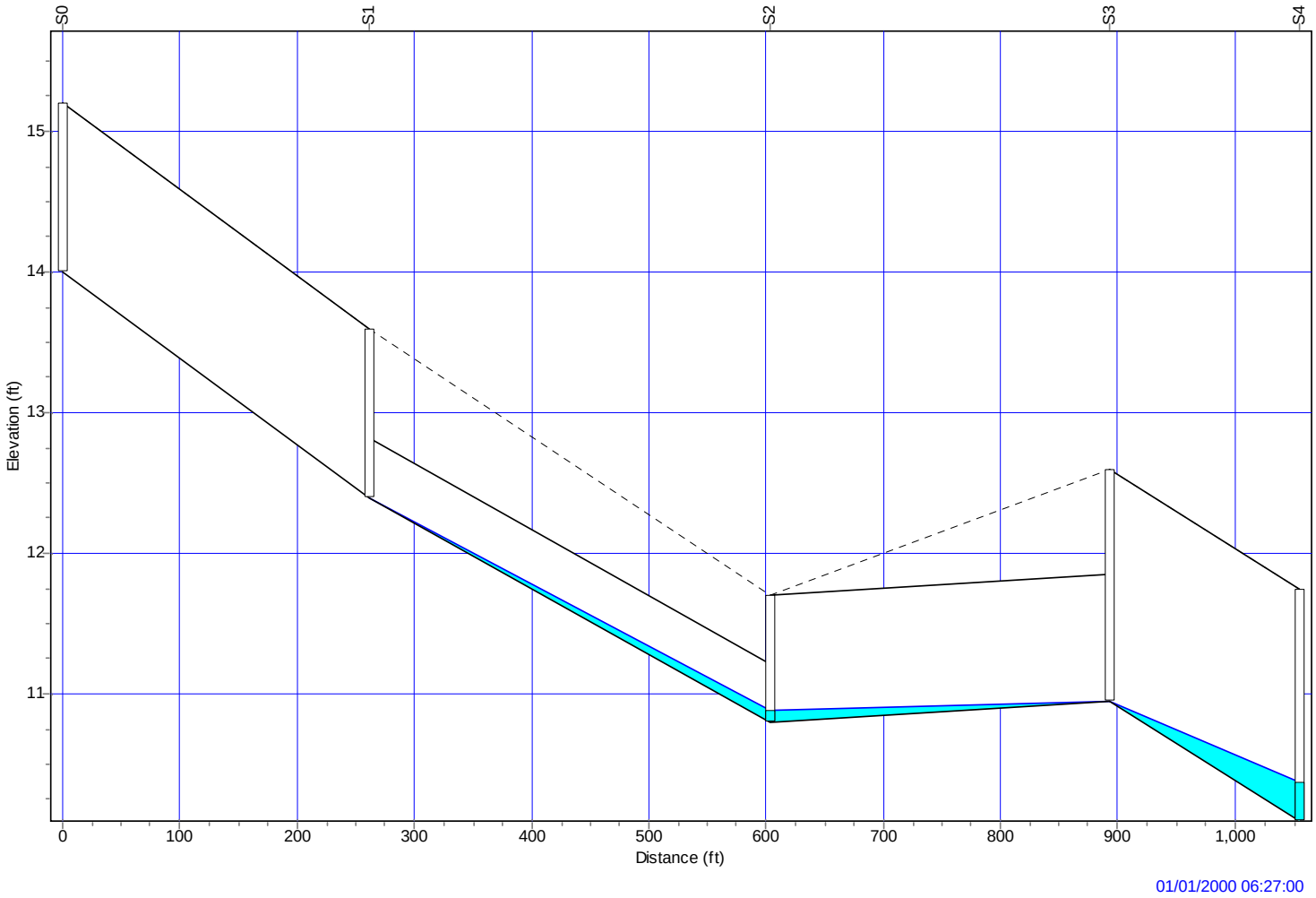

Node I17 Head
10.0
9.0
8.0
7.0
6.0
5.0
4.0
Head (ft)
0
5
10
15
20
25
30
Elapsed Time (hours)

Water Elevation Profile: Node I2 - J4



01/01/2000 06:27:00

Water Elevation Profile: Node S0 - S4



APPENDIX F

FEMA FIRM and Anderson Dam Inundation

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.
Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:24,000 from aerial photography dated 20005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

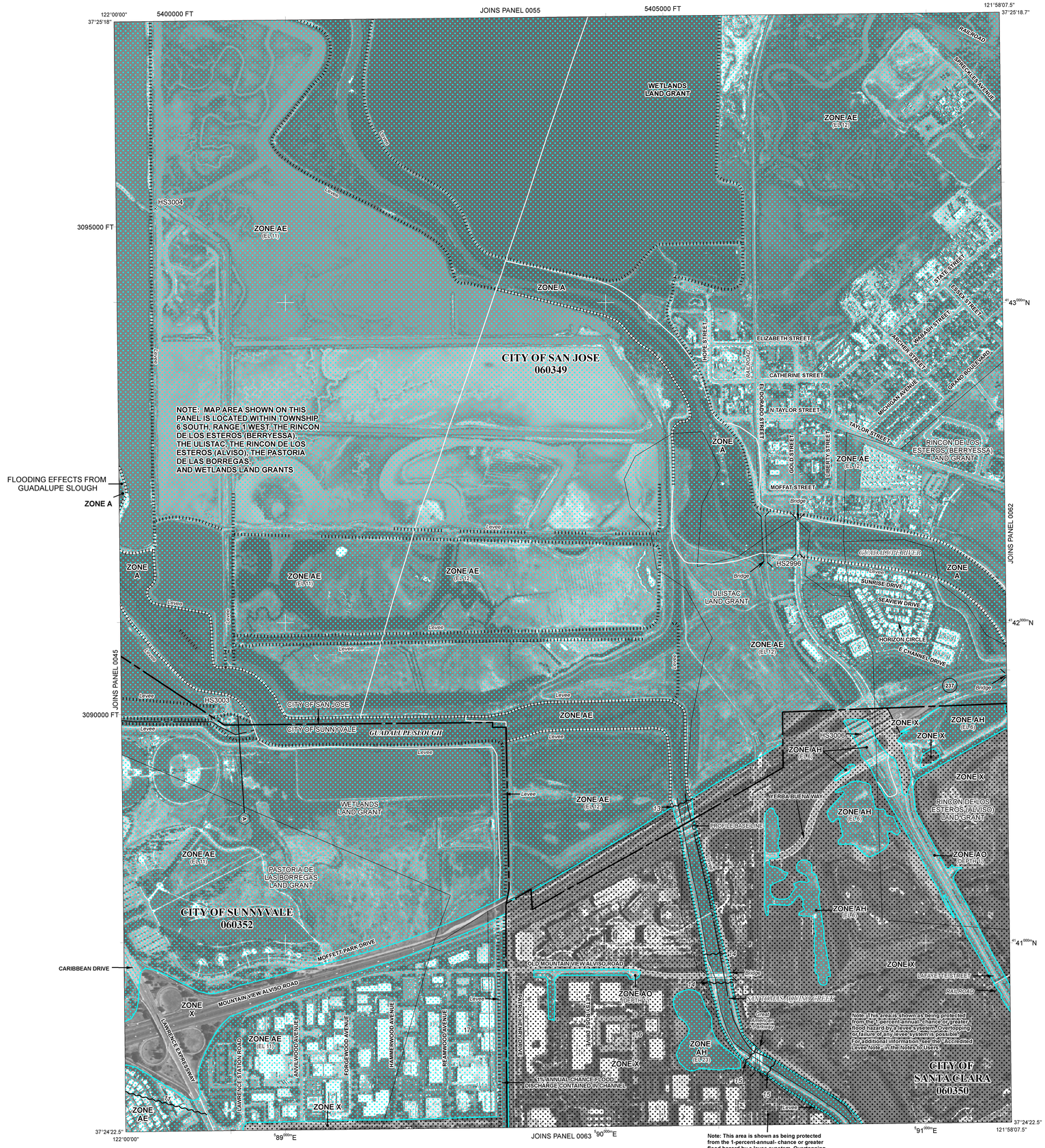
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A — Cross section line

23 — 23 — Transect line

87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

2°76'000mN — 1000-meter Universal Transverse Mercator grid values, zone 10N

600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone III (FIPSZONE 0403), Lambert Conformal Conic projection

DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)

● M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 18, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0061H

FIRM
FLOOD INSURANCE RATE MAP

SANTA CLARA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 61 OF 830
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN JOSE, CITY OF	060349	0061	H
SANTA CLARA, CITY OF	060350	0061	H
SUNNYVALE, CITY OF	060352	0061	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06085C0061H

EFFECTIVE DATE
MAY 18, 2009

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC–3, #9202
1315 East–West Highway
Silver Spring, MD 20910–3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713–3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:24,000 from aerial photography dated 2009.
This map may reflect more detailed or up to date stream channel configurations than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de–annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1–percent–annual–chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275 000m N — 1000-meter Universal Transverse Mercator grid ticks, zone 10
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, III zone (FIPSZONE 0403), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 18, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
February 19, 2014 –to incorporate previously issued Letters of Map Revision, to change zone designations, to add Base Flood Elevation, to update corporate limits, to reflect updated topographic information, and to change Special Flood Hazard Areas.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1–800–638–6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0062J

FIRM
FLOOD INSURANCE RATE MAP
SANTA CLARA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 62 OF 830
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN JOSE, CITY OF	060349	0062	J
SANTA CLARA, CITY OF	060350	0062	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06085C0062J

MAP REVISED
FEBRUARY 19, 2014

Federal Emergency Management Agency

NOTES TO USERS

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Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:24,000 from aerial photography dated 20005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

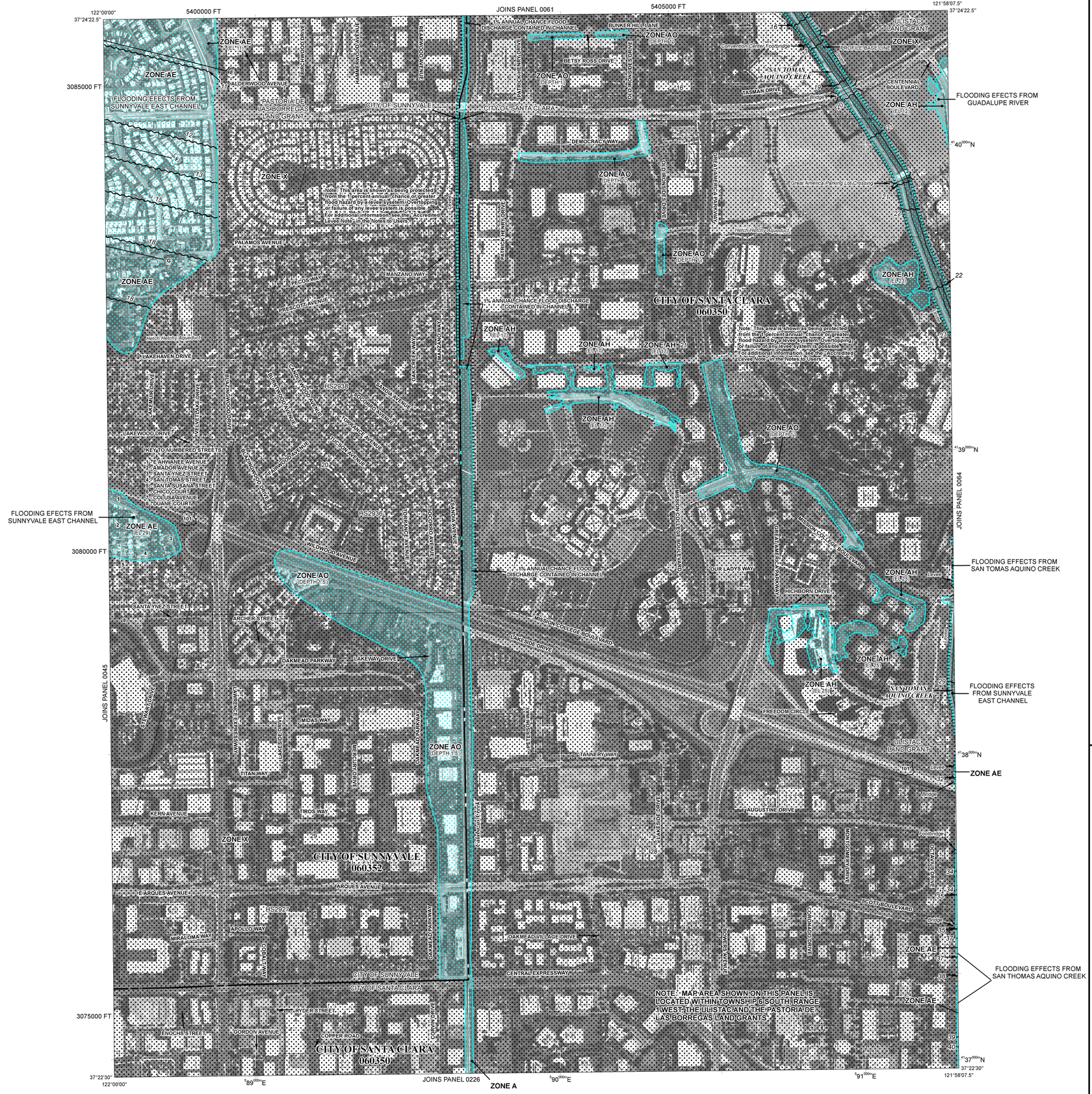
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A ⟷ A	Cross section line
23 ⟷ 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4376000mN	1000-meter Universal Transverse Mercator grid values, zone 10N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone III (FIPSZONE 0403), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 18, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0063H

FIRM
FLOOD INSURANCE RATE MAP

SANTA CLARA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 63 OF 830
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SANTA CLARA, CITY OF	060350	0063	H
SUNNYVALE, CITY OF	060352	0063	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06085C0063H

EFFECTIVE DATE
MAY 18, 2009

Federal Emergency Management Agency

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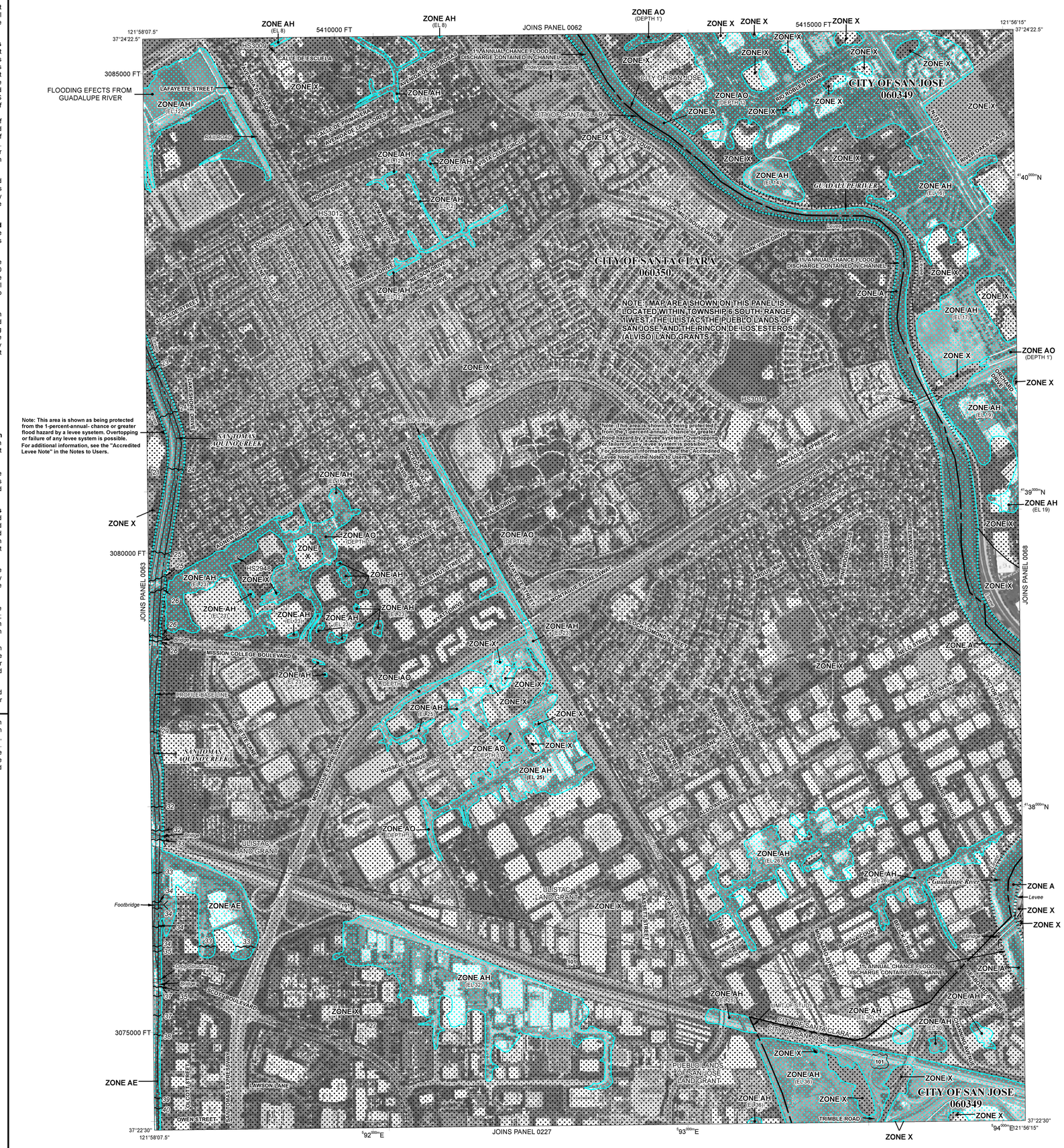

LEGEND

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EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 18, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0064H

FIRM

FLOOD INSURANCE RATE MAP

SANTA CLARA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 64 OF 830
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN JOSE, CITY OF	060349	0064	H
SANTA CLARA, CITY OF	060350	0064	H

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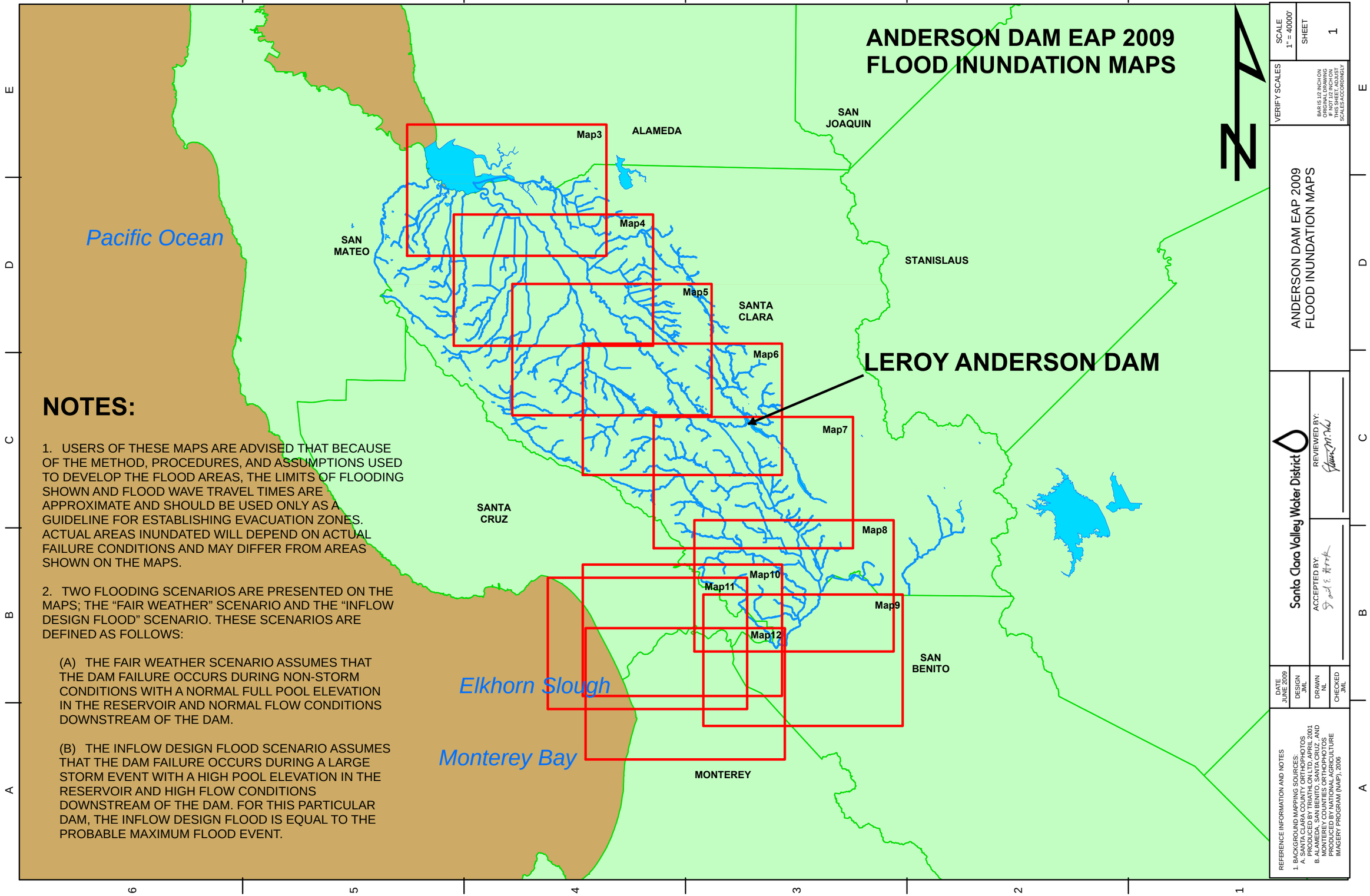
MAP NUMBER
06085C0064H

EFFECTIVE DATE
MAY 18, 2009

Federal Emergency Management Agency

ANDERSON DAM EAP 2009
FLOOD INUNDATION MAPS



NOTES:

1. USERS OF THESE MAPS ARE ADVISED THAT BECAUSE OF THE METHOD, PROCEDURES, AND ASSUMPTIONS USED TO DEVELOP THE FLOOD AREAS, THE LIMITS OF FLOODING SHOWN AND FLOOD WAVE TRAVEL TIMES ARE APPROXIMATE AND SHOULD BE USED ONLY AS A GUIDELINE FOR ESTABLISHING EVACUATION ZONES. ACTUAL AREAS INUNDATED WILL DEPEND ON ACTUAL FAILURE CONDITIONS AND MAY DIFFER FROM AREAS SHOWN ON THE MAPS.

2. TWO FLOODING SCENARIOS ARE PRESENTED ON THE MAPS; THE “FAIR WEATHER” SCENARIO AND THE “INFLOW DESIGN FLOOD” SCENARIO. THESE SCENARIOS ARE DEFINED AS FOLLOWS:

   (A) THE FAIR WEATHER SCENARIO ASSUMES THAT THE DAM FAILURE OCCURS DURING NON-STORM CONDITIONS WITH A NORMAL FULL POOL ELEVATION IN THE RESERVOIR AND NORMAL FLOW CONDITIONS DOWNSTREAM OF THE DAM.

   (B) THE INFLOW DESIGN FLOOD SCENARIO ASSUMES THAT THE DAM FAILURE OCCURS DURING A LARGE STORM EVENT WITH A HIGH POOL ELEVATION IN THE RESERVOIR AND HIGH FLOW CONDITIONS DOWNSTREAM OF THE DAM. FOR THIS PARTICULAR DAM, THE INFLOW DESIGN FLOOD IS EQUAL TO THE PROBABLE MAXIMUM FLOOD EVENT.

SCALE 1" = 40000'

SHEET 1

VERIFY SCALES

BAR IS 1/2 INCH ON ORIGINAL DRAWING IF NOT 1/2 INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

ANDERSON DAM EAP 2009
FLOOD INUNDATION MAPS

Santa Clara Valley Water District

REVIEWED BY:

ACCEPTED BY:

DATE	DESIGN	DRAWN	CHECKED
JUNE 2009	JML	NL	JML

REFERENCE INFORMATION AND NOTES

1. BACKGROUND MAPPING SOURCES:
   A. SANTA CLARA COUNTY ORTHOPHOTOS PRODUCED BY TRIATHLON LTD, APRIL 2001
   B. ALAMEDA, SAN BENITO, SANTA CRUZ, AND MONTEREY COUNTIES ORTHOPHOTOS PRODUCED BY NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP), 2006

PROFILE OF CRESTS AND TIMES FOR "FAIR WEATHER" BREACH FLOWS ALONG NORTHWEST VALLEY

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
0.5	0 HR. 0 MIN	2 HR. 8 MIN	594,000	428.5	402.9	25.6	14.4	369
2.0	0 HR. 18 MIN	2 HR. 14 MIN	580,780	377.8	342.9	34.9	11.3	394
4.0	0 HR. 42 MIN	2 HR. 32 MIN	535,847	323.5	302.9	20.6	7.1	146
6.0	1 HR. 2 MIN	2 HR. 50 MIN	492,860	284.2	265.9	18.3	8.0	146
8.0	1 HR. 20 MIN	3 HR. 23 MIN	339,723	270.8	244.9	25.9	6.3	163
8.5	1 HR. 24 MIN	3 HR. 26 MIN	332,886	266.0	242.9	23.1	10.3	238
9.0	1 HR. 34 MIN	3 HR. 29 MIN	327,132	258.1	233.9	24.2	10.6	257
10.0	1 HR. 53 MIN	3 HR. 53 MIN	291,529	244.4	210.9	33.5	11.8	395
12.0	2 HR. 33 MIN	4 HR. 44 MIN	247,500	199.2	177.9	21.3	5.6	119
14.0	3 HR. 28 MIN	5 HR. 44 MIN	206,593	170.6	157.9	12.7	3.7	47
16.0	4 HR. 14 MIN	6 HR. 38 MIN	179,244	143.2	137.9	5.3	6.3	33
18.0	4 HR. 48 MIN	7 HR. 23 MIN	170,171	113.5	107.9	5.6	3.2	18
20.0	5 HR. 48 MIN	8 HR. 11 MIN	163,146	85.1	77.9	7.2	4.9	35
22.0	6 HR. 22 MIN	8 HR. 47 MIN	159,005	56.1	52.9	3.2	3.4	11
24.0	6 HR. 48 MIN	9 HR. 50 MIN	149,912	32.0	24.9	7.1	2.6	18
26.0	7 HR. 57 MIN	11 HR. 17 MIN	132,810	16.8	10.9	5.9	2.6	15
27.5	8 HR. 42 MIN	13 HR. 23 MIN	115,596	9.9	6.9	3.0	1.0	3
32.0	12 HR. 42 MIN	16 HR. 35 MIN	70,129	7.7	6.9	0.8	0.6	0
33.9	14 HR. 12 MIN	16 HR. 50 MIN	69,610	6.9	6.9	0.0	0.6	0

PROFILE OF CRESTS AND TIMES FOR "FAIR WEATHER" BREACH FLOWS ALONG SOUTHEAST VALLEY

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
0.5	0 HR. 0 MIN	2 HR. 0 MIN	710,000	422.3	402.9	19.4	12.6	244
2.0	0 HR. 23 MIN	2 HR. 12 MIN	625,576	381.2	347.9	33.3	8.5	283
4.0	0 HR. 54 MIN	2 HR. 36 MIN	619,955	334.4	320.9	13.5	6.5	88
5.0	1 HR. 10 MIN	2 HR. 54 MIN	589,152	315.1	297.9	17.2	7.0	120
6.0	1 HR. 26 MIN	3 HR. 3 MIN	579,701	295.2	281.9	13.3	7.2	96
8.0	1 HR. 57 MIN	3 HR. 30 MIN	541,734	255.7	244.9	10.8	5.7	62
10.0	2 HR. 28 MIN	4 HR. 6 MIN	487,468	221.9	212.9	9.0	4.5	41
12.0	2 HR. 59 MIN	4 HR. 42 MIN	450,505	196.5	183.9	12.6	4.7	59
14.0	3 HR. 30 MIN	5 HR. 18 MIN	418,418	174.6	152.9	21.7	4.0	87
16.0	3 HR. 54 MIN	11 HR. 27 MIN	345,878	157.5	141.9	15.6	4.4	69
18.0	4 HR. 19 MIN	11 HR. 36 MIN	89,723	157.3	132.9	24.4	1.5	37
18.3	4 HR. 23 MIN	11 HR. 43 MIN	88,719	156.1	129.9	26.2	7.4	194
20.3	4 HR. 30 MIN	11 HR. 54 MIN	87,842	151.7	126.9	24.8	7.5	186

PROFILE OF CRESTS AND TIMES FOR "FAIR WEATHER" BREACH FLOWS ALONG PAJARO RIVER

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
20.3	4 HR. 30 MIN	11 HR. 54 MIN	87,842	151.7	126.9	24.8	7.5	186
20.8	4 HR. 35 MIN	11 HR. 59 MIN	87,826	141.3	125.9	15.4	8.6	132
21.1	4 HR. 38 MIN	12 HR. 2 MIN	88,784	141.3	125.9	15.4	5.0	77
22.2	4 HR. 53 MIN	12 HR. 17 MIN	88,803	135.9	123.9	12.0	6.4	77
24.1	5 HR. 21 MIN	12 HR. 45 MIN	88,757	111.1	99.9	11.2	4.7	53
26.0	5 HR. 45 MIN	13 HR. 9 MIN	88,643	98.2	86.9	11.3	11.2	127
28.1	6 HR. 4 MIN	13 HR. 28 MIN	88,610	87.2	80.9	6.3	11.2	71
30.1	6 HR. 19 MIN	13 HR. 43 MIN	88,539	66.2	54.9	11.3	7.4	84
32.0	6 HR. 40 Min	14 HR. 4 MIN	88,400	52.4	48.9	3.5	8.7	30
34.0	7 HR. 4 MIN	14 HR. 28 MIn	88,371	40.7	36.9	3.8	4.8	18
35.9	7 HR. 38 MIN	15 HR. 2 MIN	81,231	31.3	30.9	0.4	4.3	2
36.0	7 HR. 38 MIN	15 HR. 2 Min	81,218	31.0	30.9	0.1	5.7	1
38.0	9 HR. 14 MIN	16 HR. 38 MIN	73,604	20.9	18.9	2.0	6.8	14
40.0	11 HR. 5 MIN	18 HR. 29 MIN	69,172	19.4	13.9	5.5	1.7	9
41.9	12 HR. 24 MIN	19 HR. 48 MIN	68,698	17.0	10.9	6.1	5.0	31

PROFILE OF CRESTS AND TIMES FOR "FAIR WEATHER" BREACH FLOWS ALONG ELKHORN SLOUGH

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
35.9	7 HR. 38 MIN	15 HR. 2 MIN	7,348	31.3	22.9	8.4	5.4	45
37.2	9 HR. 43 MIN	17 HR. 7 MIN	6,790	26.0	19.9	6.1	0.6	4
39.1	12 HR. 15 MIN	19 HR. 39 MIN	6,698	19.9	14.9	5.0	4.3	22
41.3	14 HR. 27 MIN	21 HR. 51 MIN	6,545	12.8	9.9	2.9	1.1	3
44.1	18 HR. 12 MIN	25 HR. 36 MIN	6,527	7.5	7.5	0.0	0.1	0

PROFILE OF CRESTS AND TIMES FOR IDF BREACH FLOWS ALONG NORTHWEST VALLEY

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
0.5	0 HR. 0 MIN	2 HR. 0 MIN	746,884	431.0	402.9	28.1	16.1	452
2.0	0 HR. 14 MIN	2 HR. 6 MIN	718,169	378.9	342.9	36.0	12.1	436
4.0	0 HR. 34 MIN	2 HR. 24 MIN	679,674	325.5	302.9	22.6	7.5	170
6.0	0 HR. 55 MIN	2 HR. 42 MIN	642,079	286.2	265.9	20.3	9.0	183
8.0	1 HR. 16 MIN	3 HR. 18 MIN	478,490	276.6	244.9	31.7	6.4	203
8.5	1 HR. 20 MIN	3 HR. 24 MIN	474,044	271.8	242.9	28.9	11.2	324
9.0	1 HR. 30 MIN	3 HR. 27 MIN	462,948	265.1	233.9	31.2	11.6	362
10.0	1 HR. 37 MIN	3 HR. 42 MIN	437,163	250.2	210.9	39.3	12.6	495
12.0	1 HR. 56 MIN	4 HR. 24 MIN	406,081	202.2	177.9	24.3	5.9	143
14.0	2 HR. 22 MIN	5 HR. 24 MIN	361,461	174.0	157.9	16.1	4.6	74
16.0	2 HR. 39 MIN	6 HR. 0 MIN	325,542	146.5	137.9	8.6	5.7	49
18.0	3 HR. 16 MIN	6 HR. 36 MIN	395,347	116.4	107.9	8.5	4.0	34
20.0	3 HR. 56 MIN	7 HR. 24 MIN	382,838	90.5	77.9	12.6	5.6	71
22.0	4 HR. 30 MIN	7 HR. 48 MIN	378,840	59.5	52.9	6.6	4.4	29
24.0	5 HR. 15 MIN	8 HR. 30 MIN	372,912	35.0	24.9	10.1	3.1	31
26.0	6 HR. 16 MIN	9 HR. 18 MIN	359,640	19.9	10.9	9.0	2.7	24
27.5	7 HR. 13 MIN	11 HR. 30 MIN	322,930	14.0	6.9	7.1	1.6	11
32.0	11 HR. 59 MIN	13 HR. 48 MIN	234,172	10.3	6.9	3.4	1.3	4
33.9	13 HR. 55 MIN	14 HR. 6 MIN	232,021	6.9	6.9	0.0	1.9	0

PROFILE OF CRESTS AND TIMES FOR IDF BREACH FLOWS ALONG SOUTHEAST VALLEY

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
0.5	0 HR. 0 MIN	2 HR. 0 MIN	882,653	429.4	402.9	26.5	15.7	416
2.0	0 HR. 14 MIN	2 HR. 6 MIN	858,924	383.3	347.9	35.4	9.6	340
4.0	0 HR. 37 MIN	2 HR. 25 MIN	817,431	336.2	320.9	15.3	7.2	110
5.0	0 HR. 48 MIN	2 HR. 34 MIN	797,923	317.2	297.9	19.3	7.8	151
6.0	0 HR. 59 MIN	2 HR. 43 MIN	776,590	297.0	281.9	15.1	8.0	121
8.0	1 HR. 23 MIN	3 HR. 4 MIN	739,262	257.2	244.9	12.3	6.5	80
10.0	1 HR. 53 MIN	3 HR. 34 MIN	674,157	223.4	212.9	10.5	5.1	54
12.0	2 HR. 28 MIN	4 HR. 6 MIN	592,153	198.0	183.9	14.1	5.2	73
14.0	3 HR. 4 MIN	4 HR. 43 MIN	533,040	175.8	152.9	22.9	4.4	101
16.0	3 HR. 41 MIN	11 HR. 11 MIN	442,658	161.6	141.9	19.7	4.9	97
18.0	4 HR. 41 MIN	11 HR. 16 MIN	102,596	161.5	132.9	28.6	1.3	37
18.3	4 HR. 55 MIN	11 HR. 16 MIN	102,491	160.4	129.9	30.5	6.5	198
20.3	5 HR. 34 MIN	11 HR. 23 MIN	102,184	157.7	126.9	30.8	3.8	117

PROFILE OF CRESTS AND TIMES FOR IDF BREACH FLOWS ALONG PAJARO RIVER

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
20.3	5 HR. 34 MIN	11 HR. 23 MIN	102,184	157.7	126.9	30.8	3.8	117
20.8	5 HR. 44 MIN	11 HR. 32 MIN	180,393	156.1	125.9	30.2	7.9	239
21.1	5 HR. 47 MIN	11 HR. 35 MIN	258,874	156.1	125.9	30.2	7.9	239
22.2	5 HR. 57 MIN	11 HR. 45 MIN	258,607	144.2	123.9	20.3	17.0	345
24.1	6 HR. 12 MIN	12 HR. 1 MIN	258,366	132.3	99.9	32.4	6.8	220
26.0	6 HR. 27 MIN	12 HR. 16 MIN	258,490	110.5	86.9	23.6	19.7	465
28.1	6 HR. 43 MIN	12 HR. 32 MIN	258,010	104.4	80.9	23.5	13.9	327
30.1	6 HR. 53 MIN	12 HR. 41 MIN	257,828	72.9	54.9	18.0	11.2	202
32.0	7 HR. 8 Min	12 HR. 56 MIN	257,772	57.3	48.9	8.4	10.8	91
34.0	7 HR. 28 MIN	13 HR. 16 MIn	257,501	44.8	36.9	7.9	5.9	47
35.9	7 HR. 59 MIN	13 HR. 48 MIN	231,205	38.7	30.9	7.8	3.4	27
36.0	8 HR. 0 MIN	13 HR. 49 Min	231,183	38.6	30.9	7.7	3.8	29
38.0	9 HR. 38 MIN	15 HR. 26 MIN	229,693	27.9	18.9	9.0	3.6	32
40.0	11 HR. 2 MIN	16 HR. 51 MIN	227,548	27.1	13.9	13.2	2.5	33
41.9	11 HR. 50 MIN	17 HR. 39 MIN	227,134	23.9	10.9	13.0	7.3	95

PROFILE OF CRESTS AND TIMES FOR IDF BREACH FLOWS ALONG ELKHORN SLOUGH

DISTANCE FROM DAM-MILE	TIME OF WAVE ARRIVAL	TIME OF MAX ELEV	MAX FLOW CFS	MAX ELEV FEET	FLOOD ELEV FEET	MAX DEPTH FEET	MAX VEL FPS	MAX DEPTH x VEL
35.9	7 HR. 59 MIN	13 HR. 48 MIN	28,891	38.7	22.9	15.8	10.8	171
37.2	9 HR. 10 MIN	14 HR. 58 MIN	28,703	32.6	19.9	12.7	1.2	15
39.1	10 HR. 31 MIN	16 HR. 19 MIN	28,688	24.2	14.9	9.3	7.0	65
41.3	11 HR. 47 MIN	17 HR. 36 MIN	28,574	15.7	9.9	5.8	1.9	11
44.1	13 HR. 31 MIN	19 HR. 19 MIN	28,551	7.5	7.5	0.0	0.2	0

SHEET 2

ANDERSON DAM EAP 2009
FLOOD INUNDATION MAPS

Santa Clara Valley Water District

REVIEWED BY:

ACCEPTED BY:

DATE	DESIGN	DRAWN	CHECKED
JUNE 2009	JML	NL	JML

XS 33.9 - 33.9 Mile NW Downstream of Dam		
	Fair Weather	IDF
Arrival Time	14 HR. 12 MIN	13 HR. 55 MIN
Time to Peak	16 HR. 50 MIN	14 HR. 6 MIN
Max Elevation (ft)	6.94	6.94
Max Flood Depth (ft)	0	0
Peak Flow(cfs)	69,610	232,021

XS 32 - 32 Mile NW Downstream of Dam		
	Fair Weather	IDF
Arrival Time	12 HR. 42 MIN	11 HR. 59 MIN
Time to Peak	16 HR. 35 MIN	13 HR. 48 MIN
Max Elevation (ft)	7.74	10.34
Max Flood Depth (ft)	0.8	3.4
Peak Flow(cfs)	70,129	234,172

XS 27.5 - 27.5 Mile NW Downstream of Dam		
	Fair Weather	IDF
Arrival Time	8 HR. 42 MIN	7 HR. 13 MIN
Time to Peak	13 HR. 23 MIN	11 HR. 30 MIN
Max Elevation (ft)	9.94	14.04
Max Flood Depth (ft)	3	7.1
Peak Flow(cfs)	115,596	322,930

XS 26 - 26 Mile NW Downstream of Dam		
	Fair Weather	IDF
Arrival Time	7 HR. 57 MIN	6 HR. 16 MIN
Time to Peak	11 HR. 17 MIN	9 HR. 18 MIN
Max Elevation (ft)	16.84	19.94
Max Flood Depth (ft)	5.9	9
Peak Flow(cfs)	132,810	359,640

XS 24 - 24 Mile NW Downstream of Dam		
	Fair Weather	IDF
Arrival Time	6 HR. 48 MIN	5 HR. 15 MIN
Time to Peak	9 HR. 50 MIN	8 HR. 30 MIN
Max Elevation (ft)	32.04	35.04
Max Flood Depth (ft)	7.1	10.1
Peak Flow(cfs)	149,912	372,912

Dam Failure Inundation

Fair Weather

Inflow Design Flood

33.9

32.0

27.5

26.0

24.0

X = 6158522.228063
Y = 1983773.798719

X = 6115607.895997
Y = 1972007.300292

X = 6160983.058949
Y = 1967804.477542

N

ANDERSON DAM EAP 2009
FLOOD INUNDATION MAPS
24.0 TO 33.9 MILES NW OF DAM

SCALE 1" = 6000'

SHEET 3

VERIFY SCALES

BAR IS 1/2 INCH ON ORIGINAL DRAWING IF NOT 1/2 INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

Santa Clara Valley Water District

REVIEWED BY:

ACCEPTED BY:

DATE	DESIGN	DRAWN	CHECKED
JUNE 2009	JML	NL	JML

REFERENCE INFORMATION AND NOTES

1. BACKGROUND MAPPING SOURCES:
   A. SANTA CLARA COUNTY ORTHOPHOTOS PRODUCED BY TRIATHLON LTD, APRIL 2001
   B. ALAMEDA, SAN BENITO, SANTA CRUZ, AND MONTEREY COUNTIES ORTHOPHOTOS PRODUCED BY NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP), 2006

APPENDIX G

Preliminary Calculations

Existing (Landfill C=0.75)

San Tomas Network

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
65.83	0.78	51.41	16.10	1.38	71.02	65.83	51.41	14.00	2.19	112.70
2.23	0.75	1.67	16.10	1.38	2.31	2.23	1.67	14.00	2.19	3.66
4.89	0.73	3.57	16.10	1.38	4.93	4.89	3.57	14.00	2.19	7.83
72.95					**78.26**					**124.19**

East Basin Network

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
167.60	0.79	131.82	28.40	0.99	130.24	167.60	131.82	21.60	1.69	223.26
4.14	0.75	3.11	28.40	0.99	3.07	4.14	3.11	21.60	1.69	5.27
4.08	0.75	3.06	28.40	0.99	3.02	4.08	3.06	21.60	1.69	5.18
1.37	0.75	1.03	28.40	0.99	1.02	1.37	1.03	21.60	1.69	1.74
0.39	0.74	0.29	28.40	0.99	0.29	0.39	0.29	21.60	1.69	0.49
3.69	0.76	2.80	28.40	0.99	2.77	3.69	2.80	21.60	1.69	4.74
0.70	0.76	0.53	28.40	0.99	0.52	0.70	0.53	21.60	1.69	0.90
8.26	0.75	6.20	28.40	0.99	6.13	8.26	6.20	21.60	1.69	10.50
1.06	0.76	0.81	28.40	0.99	0.80	1.06	0.81	21.60	1.69	1.37
8.00	0.75	6.00	28.40	0.99	5.93	8.00	6.00	21.60	1.69	10.16
1.44	0.76	1.09	28.40	0.99	1.08	1.44	1.09	21.60	1.69	1.85
0.52	0.75	0.39	28.40	0.99	0.39	0.52	0.39	21.60	1.69	0.66
3.66	0.75	2.75	28.40	0.99	2.72	3.66	2.75	21.60	1.69	4.66
4.90	0.75	3.68	28.40	0.99	3.64	4.90	3.68	21.60	1.69	6.23
6.40	0.62	3.97	28.40	0.99	3.92	6.40	3.97	21.60	1.69	6.72
0.34	0.85	0.29	28.40	0.99	0.29	0.34	0.29	21.60	1.69	0.49
3.73	0.73	2.72	28.40	0.99	2.69	3.73	2.72	21.60	1.69	4.61
220.28					**168.50**					**288.84**

East Side Channel Network*

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
64.50	0.77	49.98	34.10	0.89	44.33	64.50	49.98	25.40	1.53	76.65
6.63	0.75	4.97	34.10	0.89	4.41	6.63	4.97	25.40	1.53	7.62
6.40	0.75	4.80	34.10	0.89	4.26	6.40	4.80	25.40	1.53	7.36
1.84	0.68	1.25	34.10	0.89	1.11	1.84	1.25	25.40	1.53	1.92
15.43	0.73	11.32	34.10	0.89	10.04	15.43	11.32	25.40	1.53	17.36
5.98	0.72	4.30	34.10	0.89	3.82	5.98	4.30	25.40	1.53	6.60
100.78					**67.96**					**117.51**

Draining Directly to East Basin

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
2.10	0.45	0.95	10	1.85	1.75	2.10	0.95	10.00	2.51	2.37
7.99	0.53	4.26	10	1.85	7.90	7.99	4.26	10.00	2.51	10.69
10.09					**9.65**					**13.05**

Proposed

San Tomas Network

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
40.43	0.80	32.43	33.00	0.91	29.45	40.43	32.43	26.80	1.48	48.12
34.00	0.80	27.20	33.00	0.91	24.70	34.00	27.20	26.80	1.48	40.36
25.93	0.81	21.13	33.00	0.91	19.19	25.93	21.13	26.80	1.48	31.35
100.36					**54.16**					**88.48**

East Basin Network

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
162.01	0.76	123.77	32.20	0.92	113.58	162.01	123.77	30.90	1.36	168.37
0.34	0.85	0.29	32.20	0.92	0.27	0.53	0.45	30.90	1.36	0.61
6.02	0.70	4.21	32.20	0.92	3.86	6.13	3.47	30.90	1.36	4.72
168.37					**117.71**					**173.70**

East Side Channel Network*

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
20.01	0.80	16.01	34.10	0.89	14.20	20.01	16.01	25.40	1.53	24.56
14.93	0.80	11.94	34.10	0.89	10.59	14.93	11.94	25.40	1.53	18.31
13.74	0.80	10.99	34.10	0.89	9.75	13.74	10.99	25.40	1.53	16.86
18.22	0.80	14.65	34.10	0.89	13.00	18.22	14.65	25.40	1.53	22.47
12.35	0.45	5.56	34.10	0.89	4.93	12.35	5.56	25.40	1.53	8.52
79.25					**52.47**					**90.72**

Eastside Channel Network* (Offsite)

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
42.62	0.79	33.66	34.10	0.89	29.86	42.62	33.66	25.40	1.53	51.63
1.13	0.45	0.510116632	34.10	0.89	0.45	1.13	0.5085	25.40	1.53	0.78
43.75					**30.31**					**52.41**

Draining Directly to East Basin

10-yr						100-yr				
Area	C	CxA	Tc	I	Q	Area	CxA	Tc	I	Q
2.55	0.80	2.04	10	1.85	3.77	2.55	2.04	10.00	2.51	5.10
2.10	0.45	0.94	10	1.85	1.75	2.10	0.94	10.00	2.51	2.36
7.69	0.45	3.46	10	1.85	6.41	7.69	3.46	10.00	2.51	8.67
12.33					**11.92**					**16.13**

	Existing (ac)	Proposed (ac)
San Tomas Network	72.95	100.36
East Basin Network	220.28	168.37
Eastside Channel Network	100.78	123.00
Basin Direct	10.09	12.33

	Existing		Proposed		% Difference	
Outfall Location	Q_{10}	Q_{100}	Q_{10}	Q_{100}	10-yr	100-yr
San Tomas Network	78.26	124.19	54.16	88.48	-31%	-29%
East Basin Network	168.50	288.84	117.71	173.70	-30%	-40%
Eastside Channel Network	67.96	117.51	82.78	143.13	22%	22%
Basin Direct	9.65	13.05	11.92	16.13	24%	24%

	100-yr Peak Inflow (cfs)		100-yr Basin Depth (NAVD88 - ft)		100-yr W.S. Elev (NGVD - ft); TOP OF BASIN = 3ft	
Eastside Retention Basin	Existing	Proposed	Existing	Proposed	Existing	Proposed
	325.75	333.13	9.94	10.05	2.44	2.55

Eastside Channel Capacity

Channel Parameters: b=6ft, d=5 to 9 ft, z=1.5:1, S=0.00096 per City SD Map No. 114

	Flow Depth based on channel condition (ft)	
	Design (n=0.025)	Observed (n=0.1)
Existing	4.09	7.84
Proposed	4.33	8.26

	Flow Capacity based on channel condition	
	d=5 ft	d = 9 ft
Design	252.70	908.20
Observed	63.17	227.00

	100-yr Peak Flow (cfs)	
	Existing	Proposed
Eastside Channel Network	177.15	204.03

	Existing Condition	
	Impervious	Pervious
Parcel 1	13.30%	86.70%
Parcel 2	4.10%	95.90%
Parcel 3	2.70%	97.30%
Parcel 4	11.20%	88.80%
Parcel 5	68.70%	31.30%

HEC-HMS Model - Existing

	Area (ac)	Sq mi	Tc (min)	Tc (hr)	R	R/(tc+R)	CN	% Imp
EB	220.33	**0.339**	20.4	**0.34**	**0.34**	0.5	**91.8**	**44.69%**
ES1	64.5	**0.099**	25.4	**0.42**	**0.42**	0.5	**86.6**	**52.12%**
ES2	14.7	**0.023**	10	**0.17**	**0.17**	0.5	**92.5**	**4.54%**
ES3	21.8	**0.034**	10	**0.17**	**0.17**	0.5	**86.6**	**3.48%**
DB	10.09	**0.016**	10	**0.17**	**0.17**	0.5	**87.7**	**5.15%**

HEC-HMS Model - Proposed

	Area (ac)	Sq mi	Tc (min)	Tc (hr)	R	R/(tc+R)	CN	% Imp
EB	168.37	**0.259**	30.9	**0.52**	**0.52**	0.5	**95.2**	**72.65%**
DB	12.33	**0.019**	10	**0.17**	**0.17**	0.5	**88.1**	**16.52%**
ES1	42.63	**0.066**	23.8	**0.40**	**0.40**	0.5	**95.7**	**77.20%**
ES2	20.84	**0.032**	18.2	**0.30**	**0.30**	0.5	**95.6**	**76.78%**
ES3	21.75	**0.033**	17	**0.28**	**0.28**	0.5	**94.4**	**66.99%**
ES4	16.60	**0.026**	14.44	**0.24**	**0.24**	0.5	**94.3**	**66.18%**
ES5	17.47	**0.027**	16.4	**0.27**	**0.27**	0.5	**94.6**	**68.43%**
ES6	3.72	**0.006**	10	**0.17**	**0.17**	0.5	**86.0**	**0.00%**
	303.70							

HEC-HMS Model - South of Tasman

	Area (ac)	Sq mi	Tc (min)	Tc (hr)	R	R/(tc+R)	CN	% Imp
SD4	344.50	**0.530**	72	**1.20**	**1.20**	0.50	**92.0**	**0.00%**
MONT	20.80	**0.032**	19.8	**0.33**	**0.04**	0.11	**99.0**	**0.00%**
SD3	192.80	**0.297**	37.2	**0.62**	**0.62**	0.50	**92.0**	**0.00%**

From City

	CN - AMC 2	CN - AMC 2.5
Residential	87	92
Commercial	93	96
Golf Course (good cover)	80	86
Landfill / Open	89	93
Pavement	98	98
Gravel	91	94
Dirt	89	93

From 2000 Report (City Datum)

Orginal Design				
Elev	**Volume**	**STAGE**	**Cum Vol**	**Cum Vol**
(City Datum)	**(ft^3)**	**(ft)**	**(ft^3)**	**(ac-ft)**
-7.5		0	0	0.00
	576			
-6.5		1	576	0.01
	1913			
-5.9		1.6	2489	0.06
	7136			
-5.5		2	9625	0.22
	19003			
-5.1		2.4	28628	0.66
	43736			
-4.7		2.8	72364	1.66
	51549			
-4.4		3.1	123913	2.84
	868463			
0		7.5	992376	22.78
	630890			
3		10.5	1623266	37.27
	45037			
3.2		10.7	1668303	38.30
	189806			
4		11.5	1858109	42.66

1978 Enlargement of Eastside Basin				
Elev	**Volume**	**STAGE**	**Cum Vol**	**Cum Vol**
(City Datum)	**(ft^3)**	**(ft)**	**(ft^3)**	**(ac-ft)**
-7.5		0	0	0.00
	0			
-6.5		1	0	0.00
	0			
-5.9		1.6	0	0.00
	0			
-5.5		2	0	0.00
	0			
-5.1		2.4	0	0.00
	0			
-4.7		2.8	0	0.00
	0			
-4.4		3.1	0	0.00
	181654			
0		7.5	181654	4.17
	129330			
3		10.5	310984	7.14
	43975			
4		11.5	354959	8.15

Land bound by 237, Eastside Basin and Sewer Pump Station				
Elev	**Volume**	**STAGE**	**Cum Vol**	**Cum Vol**
(City Datum)	**(ft^3)**	**(ft)**	**(ft^3)**	**(ac-ft)**
-7.5		0	0	0.00
	0			
-6.5		1	0	0.00
	0			
-5.9		1.6	0	0.00
	0			
-5.5		2	0	0.00
	0			
-5.1		2.4	0	0.00
	0			
-4.7		2.8	0	0.00
	0			
-4.4		3.1	0	0.00
0		7.5	0	0.00
	104550			
3		10.5	104550	2.40
	54285			
4		11.5	158835	3.65

From 2015 Eastside Basin Survey (NAVD88)

Elev	Volume	STAGE	Cum Vol	Cum Vol
(City Datum)	**(ft^3)**	**(ft)**	**(ft^3)**	**(ac-ft)**
-5		0	0	0.00
	44863.2			
-4		3.5	44863.2	1.03
	160920			
-3		4.5	205783	4.72
	208561			
-2		5.5	414344	9.51
	219841			
-1		6.5	634185	14.56
	226834			
0		7.5	861019	19.77
	231123			
1		8.5	1092142	25.07
	235188			
2		9.5	1327330	30.47
	239281			
3		10.5	1566611	35.96
	243401			
4		11.5	1810012	41.55
	247748			
5		12.5	2057760	47.24
	189936			
5.7		13.2	2247696	51.60

Combined Stage Storage		
Elev	**Cum Vol**	
(ft)	**(ac-ft)**	
-7.5	0.00	**Basin Bottom**
-6.5	0.01	
-5.9	0.06	
-5.5	0.22	
-5.1	0.66	
-4.7	1.66	
-4.4	2.84	
0	26.95	
3	46.80	**Top of Basin**
4	54.45	

2015 Survey Stage Storage		
Elev	**Cum Vol**	
(ft)	**(ac-ft)**	
-5	0.00	**Basin Bottom**
-4	1.03	
-3	4.72	
-2	9.51	
-1	14.56	
0	19.77	
1	25.07	
2	30.47	
3	35.96	
4	41.55	
5	47.24	
5.7	51.60	**Top of Basin**

HEC-HMS does not allow the input of negative elevation values; therefore the stage storage information shown in the two tables above have been adjusted in the program so that the lowest elevation point would be 0. The 2015 Survey Stage Storage information was used in the analysis of the existing and proposed condition models.

PUMP 1

ELEV	SH	TDH	WS + 7.5'	Qout	
-7.5	23.79	25.48	0	0	Basin Bottom
-6.5	22.79	24.48	1	0	
-5.5	21.79	23.48	2	0	
-5.1	21.39	23.08	2.4	0	
-4.7	20.99	22.68	2.8	0	
-4.5	20.79	22.48	3	0	
-4	20.29	21.98	3.5	0	
-3	19.29	20.98	4.5	17.81	
0	16.29	17.98	7.5	19.40	
3	13.29	14.98	10.5	20.72	Top of Basin
4	12.29	13.98	11.5	21.09	
5	11.29	12.98	12.5	21.44	
6	10.29	11.98	13.5	21.76	
7	9.29	10.98	14.5	22.05	
8	8.29	9.98	15.5	22.28	
9	7.29	8.98	16.5	22.28	
10	6.29	7.98	17.5	22.28	
11	5.29	6.98	18.5	22.28	
12	4.29	5.98	19.5	22.28	
13	3.29	4.98	20.5	22.28	
14	2.29	3.98	21.5	22.28	
15	1.29	2.98	22.5	22.28	
16	0.29	1.98	23.5	22.28	
			24.5	22.28	
			25.5	22.28	
			26.5	22.28	
			27.5	22.28	
			28.5	22.28	

-To simplify calculations, TDH = SH+1.69'

PUMP 2

ELEV	SH	TDH	WS + 7.5'	Qout	
-7.5	23.79	26.554	0	0	Basin Bottom
-6.5	22.79	25.554	1	0	
-5.5	21.79	24.554	2	0	
-5.1	21.39	24.154	2.4	0	
-4.7	20.99	23.754	2.8	0	
-4.5	20.79	23.554	3	0	
-4	20.29	23.054	3.5	0	
-3	19.29	22.054	4.5	0	
-2.5	18.79	21.554	5	38.72	
0	16.29	19.054	7.5	41.22	
3	13.29	16.054	10.5	43.88	Top of Basin
4	12.29	15.054	11.5	44.68	
5	11.29	14.054	12.5	45.44	
6	10.29	13.054	13.5	46.17	
7	9.29	12.054	14.5	46.85	
8	8.29	11.054	15.5	47.49	
9	7.29	10.054	16.5	48.09	
10	6.29	9.054	17.5	48.13	
11	5.29	8.054	18.5	48.13	
12	4.29	7.054	19.5	48.13	
13	3.29	6.054	20.5	48.13	
14	2.29	5.054	21.5	48.13	
15	1.29	4.054	22.5	48.13	
16	0.29	3.054	23.5	48.13	
			24.5	48.13	
			25.5	48.13	
			26.5	48.13	
			27.5	48.13	
			28.5	48.13	

-To simplify calculations, TDH = SH+2.764

Pump 3

ELEV	SH	TDH	WS + 7.5'	Qout	
-7.5	23.79	26.554	0	0	Basin Bottom
-6.5	22.79	25.554	1	0	
-5.5	21.79	24.554	2	0	
-5.1	21.39	24.154	2.4	0	
-4.7	20.99	23.754	2.8	0	
-4.5	20.79	23.554	3	0	
-4	20.29	23.054	3.5	0	
-3	19.29	22.054	4.5	0	
-2	18.29	21.054	5.5	39.24	
0	16.29	19.054	7.5	41.22	
3	13.29	16.054	10.5	43.88	Top of Basin
4	12.29	15.054	11.5	44.68	
5	11.29	14.054	12.5	45.44	
6	10.29	13.054	13.5	46.17	
7	9.29	12.054	14.5	46.85	
8	8.29	11.054	15.5	47.49	
9	7.29	10.054	16.5	48.09	
10	6.29	9.054	17.5	48.13	
11	5.29	8.054	18.5	48.13	
12	4.29	7.054	19.5	48.13	
13	3.29	6.054	20.5	48.13	
14	2.29	5.054	21.5	48.13	
15	1.29	4.054	22.5	48.13	
16	0.29	3.054	23.5	48.13	
			24.5	48.13	
			25.5	48.13	
			26.5	48.13	
			27.5	48.13	
			28.5	48.13	

-To simplify calculations, TDH = SH+2.764

Combined Stage Storage			Adjusted Elev - Combined Stage Storage		
Elev (ft)	Cum Vol (ac-ft)		Elev (ft)	Cum Vol (ac-ft)	
-7.5	0.00	Basin Bottom	0	0.00	Basin Bottom
-6.5	0.01		1	0.01	
-5.9	0.06		1.6	0.06	
-5.5	0.22		2	0.22	
-5.1	0.66		2.4	0.66	
-4.7	1.66		2.8	1.66	
-4.4	2.84		3.1	2.84	
0	26.95		7.5	26.95	
3	46.80	Top of Basin	10.5	46.80	Top of Basin
4	54.45		11.5	54.45	

2015 Survey Stage Storage			Adjusted Elev - 2015 Survey Stage Storage		
Elev (ft)	Cum Vol (ac-ft)		Elev (ft)	Cum Vol (ac-ft)	
-5	0.00	Basin Bottom	0	0.00	Basin Bottom
-4	1.03		1	1.03	
-3	4.72		2	4.72	
-2	9.51		3	9.51	
-1	14.56		4	14.56	
0	19.77		5	19.77	
1	25.07		6	25.07	
2	30.47		7	30.47	
3	35.96		8	35.96	
4	41.55		9	41.55	
5	47.24		10	47.24	
5.7	51.60	Top of Basin	10.7	51.60	Top of Basin

ELEVATIONS

	NGVD	+7.5 ft	
LEVEE	17.9	25.4	-From As-builts
OUTLET INVERT	8.75	16.25	-From As-builts
BASIN BOTTOM	-7.5	0	-From As-builts
INLET PIPE INVERT	-8	-0.5	-From As-builts

	NAVD	NVGD	NVGD + 7.5'	
100yr WS	18.99	16.29	23.79	-Tailwater (From Guadalupe HEC-RAS Model)
LEVEE	26.11	23.41	30.91	-Levee elev. (From Guadalupe HEC-RAS Model)

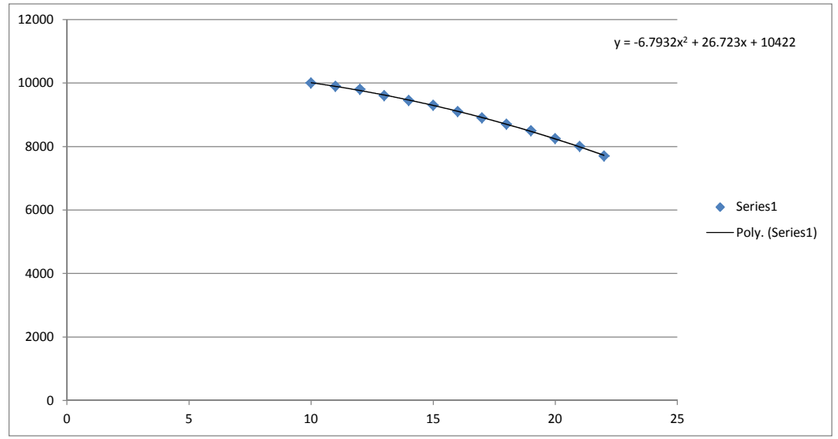
Results:

Assuming the water surface elevation and volume of water contained in the basin is at the brink of Pump #1 turning on (Elev. -3 ft NGVD; WS is 6 ft from top of basin)

	Existing	Proposed
NGVD	2.44	2.55
NAVD (+2.7 ft)	**5.14**	**5.25**

Pump 1 - Curve

	TOTAL HEAD	Q (gal/min)	Q (cfs)	V (ft/s)	V^2/2g	Minor Loss (ft)	Friction Loss	Total Loss	SH	WS	WS - 7.5'
PUMP OFF	22	7700	17.156	5.461	0.463	0.671	0.501	1.172	20.828	2.962	-4.538
	21	8000	17.824	5.674	0.500	0.725	0.538	1.262	19.738	4.052	-3.448
PUMP ON	20	8250	18.381	5.851	0.532	0.771	0.569	1.340	18.660	5.130	-2.370
	19	8500	18.938	6.028	0.564	0.818	0.601	1.420	17.580	6.210	-1.290
	18	8700	19.384	6.170	0.591	0.857	0.628	1.485	16.515	7.275	-0.225
	17	8900	19.829	6.312	0.619	0.897	0.655	1.552	15.448	8.342	0.842
	16	9100	20.275	6.454	0.647	0.938	0.682	1.620	14.380	9.410	1.910
	15	9300	20.721	6.596	0.675	0.979	0.711	1.690	13.310	10.480	2.980
	14	9450	21.055	6.702	0.697	1.011	0.732	1.743	12.257	11.533	4.033
	13	9600	21.389	6.808	0.720	1.044	0.754	1.797	11.203	12.587	5.087
	12	9800	21.835	6.950	0.750	1.088	0.783	1.870	10.130	13.660	6.160
	11	9900	22.057	7.021	0.765	1.110	0.798	1.908	9.092	14.698	7.198
	10	10000	22.280	7.092	0.781	1.132	0.813	1.945	8.055	15.735	8.235

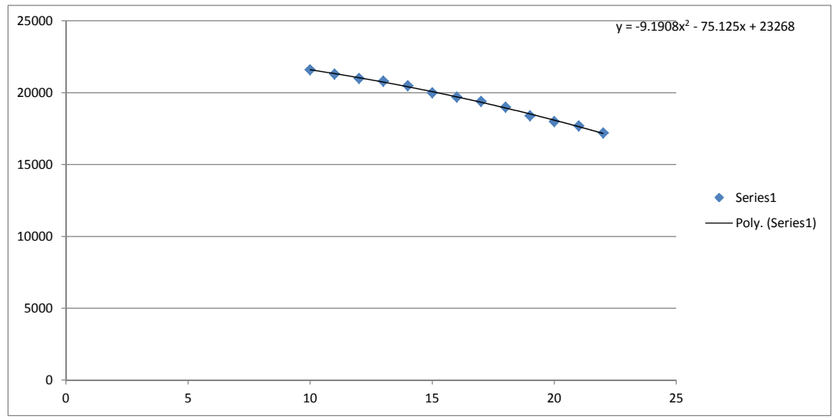


Pump 2 - Curve

	TOTAL HEAD	Q (gal/min)	Q (cfs)	V (ft/s)	V^2/2g	Minor Loss (ft)	Friction Loss	Total Loss	SH	WS	WS - 7.5'
PUMP OFF	22	17200	38.322	7.807	0.946	1.372	0.749	2.122	19.878	3.912	-3.588
	21	17700	39.436	8.034	1.002	1.453	0.790	2.243	18.757	5.033	-2.467
PUMP ON	20	18000	40.104	8.170	1.036	1.503	0.815	2.318	17.682	6.108	-1.392
	19	18400	40.995	8.352	1.083	1.570	0.849	2.419	16.581	7.209	-0.291
	18	19000	42.332	8.624	1.155	1.675	0.901	2.575	15.425	8.365	0.865
	17	19400	43.223	8.805	1.204	1.746	0.936	2.682	14.318	9.472	1.972
	16	19700	43.892	8.942	1.241	1.800	0.963	2.764	13.236	10.554	3.054
	15	20000	44.560	9.078	1.280	1.855	0.991	2.846	12.154	11.636	4.136
	14	20500	45.674	9.305	1.344	1.949	1.037	2.986	11.014	12.776	5.276
	13	20800	46.343	9.441	1.384	2.007	1.065	3.072	9.928	13.862	6.362
	12	21000	46.788	9.532	1.411	2.046	1.084	3.130	8.870	14.920	7.420
	11	21300	47.457	9.668	1.451	2.104	1.113	3.218	7.782	16.008	8.508
	10	21600	48.125	9.804	1.493	2.164	1.142	3.307	6.693	17.097	9.597

Pump 3 - Curve

	TOTAL HEAD	Q (gal/min)	Q (cfs)	V (ft/s)	V^2/2g	Minor Loss (ft)	Friction Loss	Total Loss	SH	WS	WS - 7.5'
PUMP OFF	22	17200	38.322	7.807	0.946	1.372	0.749	2.122	19.878	3.912	-3.588
	21	17700	39.436	8.034	1.002	1.453	0.790	2.243	18.757	5.033	-2.467
PUMP ON	20	18000	40.104	8.170	1.036	1.503	0.815	2.318	17.682	6.108	-1.392
	19	18400	40.995	8.352	1.083	1.570	0.849	2.419	16.581	7.209	-0.291
	18	19000	42.332	8.624	1.155	1.675	0.901	2.575	15.425	8.365	0.865
	17	19400	43.223	8.805	1.204	1.746	0.936	2.682	14.318	9.472	1.972
	16	19700	43.892	8.942	1.241	1.800	0.963	2.764	13.236	10.554	3.054
	15	20000	44.560	9.078	1.280	1.855	0.991	2.846	12.154	11.636	4.136
	14	20500	45.674	9.305	1.344	1.949	1.037	2.986	11.014	12.776	5.276
	13	20800	46.343	9.441	1.384	2.007	1.065	3.072	9.928	13.862	6.362
	12	21000	46.788	9.532	1.411	2.046	1.084	3.130	8.870	14.920	7.420
	11	21300	47.457	9.668	1.451	2.104	1.113	3.218	7.782	16.008	8.508
	10	21600	48.125	9.804	1.493	2.164	1.142	3.307	6.693	17.097	9.597



HEC-HMS

Project : Related - Eastside Basin

Basin Model : Existing - Survey Basin

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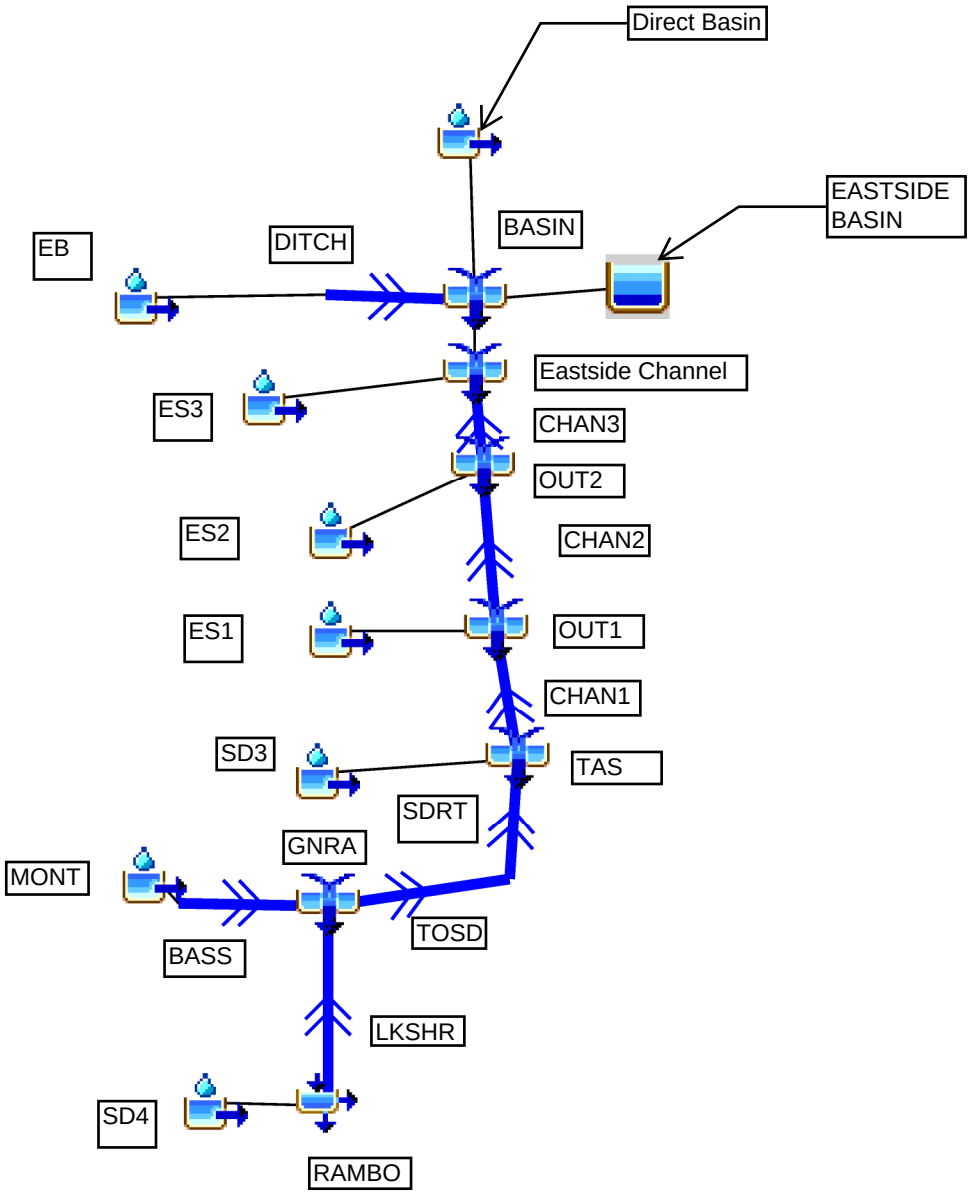


Project: Related Simulation Run: EX - 100yr - SC - Survey

Start of Run: 01Jan2000, 00:00 Basin Model: Existing - Survey Ba
End of Run: 05Jan2000, 02:45 Meteorologic Model: 100 yr - SC Dist
Compute Time: 02Jul2015, 10:28:28 Control Specifications: SC - Dist

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SD4	0.53	150.9104	01Jan2000, 07:25	90.8382
RAMBO	0.53	10.9104	01Jan2000, 07:25	0.4664
LKSHR	0.53	10.8608	01Jan2000, 07:55	0.5819
MONT	0.032	33.3660	01Jan2000, 06:20	6.7936
BASS	0.032	29.7591	01Jan2000, 06:55	6.9449
GNRA	0.562	29.7591	01Jan2000, 06:55	7.5268
TOSD	0.562	29.6740	01Jan2000, 07:00	7.5229
SDRT	0.562	27.7381	01Jan2000, 07:10	7.5183
SD3	0.297	114.1743	01Jan2000, 06:45	50.9036
TAS	0.859	133.0619	01Jan2000, 07:10	58.4219
CHAN1	0.859	132.1624	01Jan2000, 07:15	58.4179
ES1	0.099	46.0746	01Jan2000, 06:35	18.0848
OUT1	0.958	164.4816	01Jan2000, 07:15	76.5027
CHAN2	0.958	161.7305	01Jan2000, 07:25	76.4662
ES2	0.023	16.8192	01Jan2000, 06:15	4.0514
OUT2	0.981	168.1616	01Jan2000, 06:55	80.5176
CHAN3	0.981	167.8249	01Jan2000, 07:00	80.5133
ES3	0.034	18.8738	01Jan2000, 06:15	4.9689
Eastside Channel	1.015	177.1504	01Jan2000, 07:00	85.4822
EB	0.339	188.5446	01Jan2000, 06:25	65.0556
DITCH	0.339	187.9577	01Jan2000, 06:30	65.0507
Direct Basin	0.016	9.4722	01Jan2000, 06:15	2.4409
BASIN	1.370	325.7524	01Jan2000, 06:50	152.9737
EASTSIDE BASIN	1.370	118.5300	01Jan2000, 06:20	159.9919

Project: Related Simulation Run: EX - 100yr - SC - Survey

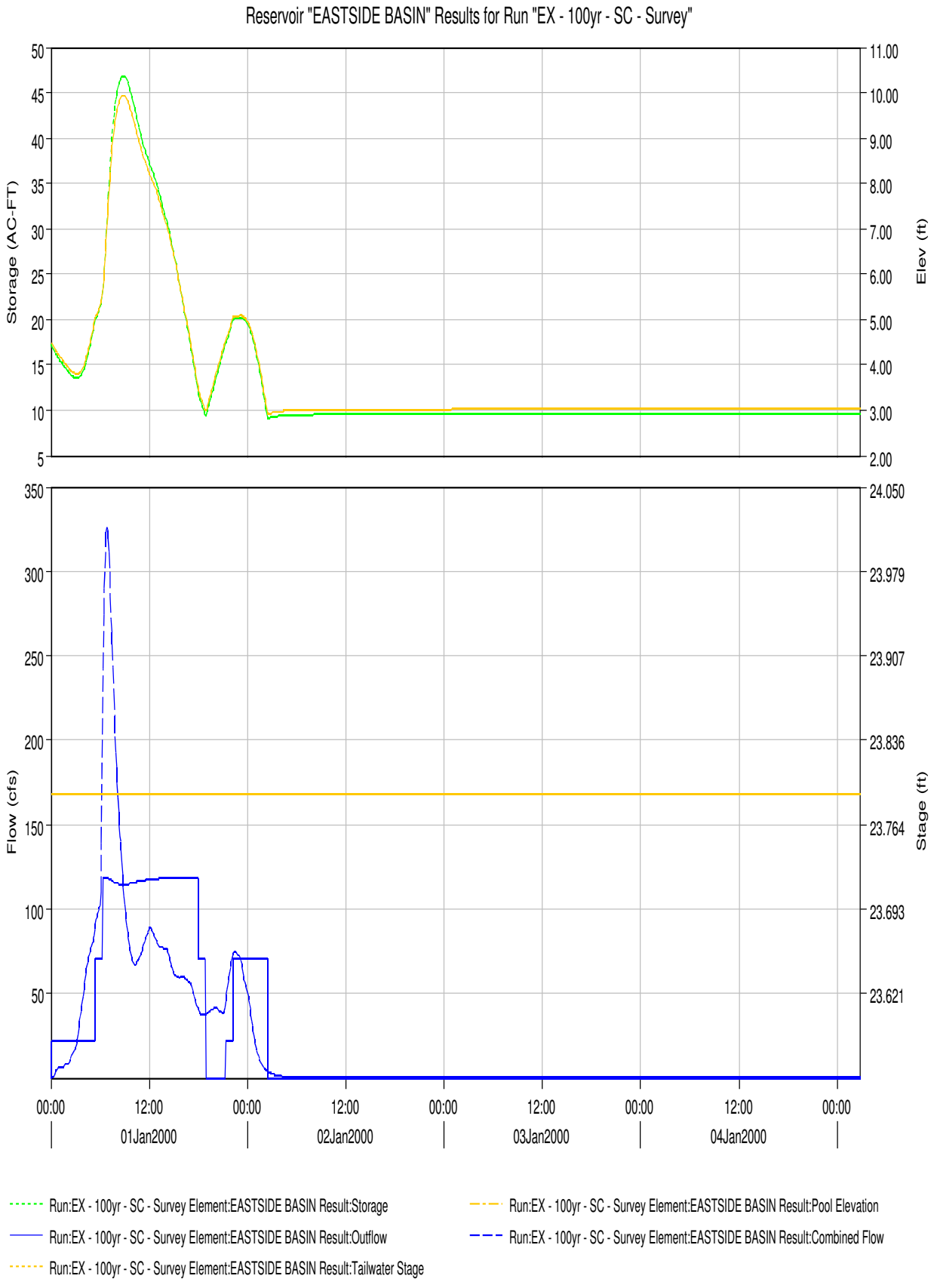
Reservoir: EASTSIDE BASIN

Start of Run:	01Jan2000, 00:00	Basin Model:	Existing - Survey Basin
End of Run:	05Jan2000, 02:45	Meteorologic Model:	100 yr - SC Dist
Compute Time:	02Jul2015, 10:28:28	Control Specifications:	SC - Dist

Volume Units: IN

Computed Results

Peak Inflow:	325.7524 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 06:50
Peak Discharge:	118.5300 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 06:20
Inflow Volume:	2.0936 (IN)	Peak Storage:	46.8945 (AC-FT)
Discharge Volume:	2.1897 (IN)	Peak Elevation:	9.9393 (FT)


Reservoir "EASTSIDE BASIN" Results for Run "EX - 100yr - SC - Survey"
Storage (AC-FT)
Elev (ft)
Flow (cfs)
Stage (ft)
50
45
40
35
30
25
20
15
10
5
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
350
300
250
200
150
100
50
24.050
23.979
23.907
23.836
23.764
23.693
23.621
00:00
12:00
00:00
12:00
00:00
12:00
00:00
12:00
00:00
01Jan2000
02Jan2000
03Jan2000
04Jan2000
Run:EX - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Storage
Run:EX - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Pool Elevation
Run:EX - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Outflow
Run:EX - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Combined Flow
Run:EX - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Tailwater Stage

Project: Related Simulation Run: EX - 100yr - SC - Survey
Reservoir: EASTSIDE BASIN

Start of Run: 01Jan2000, 00:00 Basin Model: Existing - Survey Ba
End of Run: 05Jan2000, 02:45 Meteorologic Model: 100 yr - SC Dist
Compute Time: 02Jul2015, 10:28:28 Control Specifications: SC - Dist

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	00:00	0.0000	17.1625	4.5000	0.0000
01Jan2000	00:05	0.0087	17.0858	4.4853	22.2800
01Jan2000	00:10	0.0317	16.9325	4.4558	22.2800
01Jan2000	00:15	0.0556	16.7794	4.4264	22.2800
01Jan2000	00:20	0.2330	16.6269	4.3971	22.2800
01Jan2000	00:25	1.4345	16.4792	4.3688	22.2800
01Jan2000	00:30	2.9817	16.3410	4.3422	22.2800
01Jan2000	00:35	3.9843	16.2115	4.3174	22.2800
01Jan2000	00:40	4.6593	16.0878	4.2936	22.2800
01Jan2000	00:45	5.1768	15.9683	4.2706	22.2800
01Jan2000	00:50	5.5674	15.8518	4.2483	22.2800
01Jan2000	00:55	5.8691	15.7378	4.2264	22.2800
01Jan2000	01:00	6.1028	15.6255	4.2048	22.2800
01Jan2000	01:05	6.2833	15.5147	4.1836	22.2800
01Jan2000	01:10	6.4162	15.4050	4.1625	22.2800
01Jan2000	01:15	6.4897	15.2960	4.1415	22.2800
01Jan2000	01:20	6.5137	15.1874	4.1207	22.2800
01Jan2000	01:25	6.5311	15.0788	4.0998	22.2800
01Jan2000	01:30	6.6453	14.9708	4.0791	22.2800
01Jan2000	01:35	6.9179	14.8640	4.0586	22.2800
01Jan2000	01:40	7.4638	14.7601	4.0386	22.2800
01Jan2000	01:45	7.9546	14.6598	4.0194	22.2800
01Jan2000	01:50	8.2662	14.5622	4.0006	22.2800
01Jan2000	01:55	8.4165	14.4662	3.9816	22.2800
01Jan2000	02:00	8.4687	14.3709	3.9627	22.2800
01Jan2000	02:05	8.4989	14.2759	3.9439	22.2800

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	02:10	8.6773	14.1816	3.9252	22.2800
01Jan2000	02:15	9.2371	14.0898	3.9070	22.2800
01Jan2000	02:20	10.2597	14.0035	3.8899	22.2800
01Jan2000	02:25	11.6260	13.9254	3.8745	22.2800
01Jan2000	02:30	12.8827	13.8564	3.8608	22.2800
01Jan2000	02:35	13.9168	13.7952	3.8487	22.2800
01Jan2000	02:40	14.7969	13.7406	3.8379	22.2800
01Jan2000	02:45	15.5955	13.6919	3.8282	22.2800
01Jan2000	02:50	16.3779	13.6485	3.8196	22.2800
01Jan2000	02:55	17.1976	13.6107	3.8121	22.2800
01Jan2000	03:00	18.0857	13.5787	3.8058	22.2800
01Jan2000	03:05	19.1046	13.5534	3.8007	22.2800
01Jan2000	03:10	20.5493	13.5365	3.7974	22.2800
01Jan2000	03:15	22.8871	13.5326	3.7966	22.2800
01Jan2000	03:20	26.1164	13.5479	3.7997	22.2800
01Jan2000	03:25	29.8312	13.5871	3.8074	22.2800
01Jan2000	03:30	33.3668	13.6513	3.8201	22.2800
01Jan2000	03:35	36.4300	13.7382	3.8374	22.2800
01Jan2000	03:40	39.2702	13.8454	3.8586	22.2800
01Jan2000	03:45	42.1393	13.9723	3.8838	22.2800
01Jan2000	03:50	45.1932	14.1196	3.9129	22.2800
01Jan2000	03:55	48.5713	14.2890	3.9465	22.2800
01Jan2000	04:00	52.1350	14.4824	3.9848	22.2800
01Jan2000	04:05	55.7340	14.7004	4.0272	22.2800
01Jan2000	04:10	59.1685	14.9426	4.0737	22.2800
01Jan2000	04:15	62.2168	15.2072	4.1245	22.2800
01Jan2000	04:20	64.7416	15.4909	4.1790	22.2800
01Jan2000	04:25	66.9993	15.7911	4.2366	22.2800
01Jan2000	04:30	69.0959	16.1063	4.2972	22.2800
01Jan2000	04:35	71.1903	16.4359	4.3605	22.2800
01Jan2000	04:40	73.0711	16.7793	4.4264	22.2800

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	04:45	74.8159	17.1351	4.4947	22.2800
01Jan2000	04:50	76.4575	17.5025	4.5653	22.2800
01Jan2000	04:55	77.9693	17.8809	4.6380	22.2800
01Jan2000	05:00	79.3848	18.2693	4.7126	22.2800
01Jan2000	05:05	80.7857	18.6674	4.7890	22.2800
01Jan2000	05:10	82.3623	19.0757	4.8674	22.2800
01Jan2000	05:15	84.6153	19.4973	4.9484	22.2800
01Jan2000	05:20	87.9088	19.9379	5.0324	22.2800
01Jan2000	05:25	91.3347	20.0775	5.0587	70.4050
01Jan2000	05:30	93.7401	20.2299	5.0874	70.4050
01Jan2000	05:35	95.3832	20.3963	5.1188	70.4050
01Jan2000	05:40	96.8029	20.5732	5.1521	70.4050
01Jan2000	05:45	98.1672	20.7597	5.1873	70.4050
01Jan2000	05:50	99.4855	20.9554	5.2242	70.4050
01Jan2000	05:55	100.7420	21.1600	5.2627	70.4050
01Jan2000	06:00	101.9164	21.3730	5.3029	70.4050
01Jan2000	06:05	109.7338	21.6169	5.3488	70.4050
01Jan2000	06:10	138.8314	21.9880	5.4188	70.4050
01Jan2000	06:15	190.8311	22.6383	5.5413	70.4050
01Jan2000	06:20	242.2112	23.3364	5.6729	118.5300
01Jan2000	06:25	274.3912	24.2990	5.8543	118.5300
01Jan2000	06:30	289.8696	25.4257	6.0655	118.5300
01Jan2000	06:35	301.3837	26.6454	6.2914	118.5300
01Jan2000	06:40	314.1242	27.9487	6.5328	118.5126
01Jan2000	06:45	323.0161	29.3265	6.7880	118.4942
01Jan2000	06:50	325.7524	30.7446	7.0498	118.4754
01Jan2000	06:55	324.0574	32.1664	7.3086	118.4368
01Jan2000	07:00	319.4513	33.5677	7.5637	118.1307
01Jan2000	07:05	311.3229	34.9272	7.8113	117.8337
01Jan2000	07:10	299.3177	36.2194	8.0457	117.5524
01Jan2000	07:15	284.7064	37.4218	8.2609	117.2941

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	07:20	271.4216	38.5300	8.4592	117.0038
01Jan2000	07:25	264.1599	39.5695	8.6452	116.7228
01Jan2000	07:30	257.0685	40.5614	8.8227	116.4546
01Jan2000	07:35	243.0878	41.4825	8.9876	116.2055
01Jan2000	07:40	227.9198	42.3049	9.1324	115.9867
01Jan2000	07:45	214.3935	43.0299	9.2598	115.7941
01Jan2000	07:50	202.5905	43.6689	9.3722	115.6129
01Jan2000	07:55	192.2741	44.2330	9.4713	115.4491
01Jan2000	08:00	183.3120	44.7317	9.5590	115.3042
01Jan2000	08:05	175.1332	45.1723	9.6365	115.1763
01Jan2000	08:10	166.4569	45.5558	9.7039	115.0649
01Jan2000	08:15	157.5604	45.8794	9.7608	114.9709
01Jan2000	08:20	149.3591	46.1447	9.8074	114.8938
01Jan2000	08:25	143.1560	46.3610	9.8455	114.8310
01Jan2000	08:30	139.7995	46.5447	9.8778	114.7777
01Jan2000	08:35	134.5711	46.6991	9.9049	114.7328
01Jan2000	08:40	127.5858	46.8118	9.9247	114.7001
01Jan2000	08:45	120.5751	46.8765	9.9361	114.6813
01Jan2000	08:50	114.0140	46.8945	9.9393	114.6761
01Jan2000	08:55	108.0045	46.8692	9.9348	114.6834
01Jan2000	09:00	102.6820	46.8048	9.9235	114.7021
01Jan2000	09:05	97.9558	46.7057	9.9061	114.7309
01Jan2000	09:10	93.7302	46.5755	9.8832	114.7687
01Jan2000	09:15	89.8076	46.4169	9.8553	114.8148
01Jan2000	09:20	86.1678	46.2320	9.8228	114.8685
01Jan2000	09:25	82.9159	46.0229	9.7860	114.9292
01Jan2000	09:30	80.0746	45.7924	9.7455	114.9962
01Jan2000	09:35	77.6057	45.5432	9.7017	115.0686
01Jan2000	09:40	75.4401	45.2774	9.6550	115.1457
01Jan2000	09:45	73.5063	44.9970	9.6057	115.2272
01Jan2000	09:50	71.7537	44.7034	9.5540	115.3125

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	09:55	70.1444	44.3975	9.5003	115.4013
01Jan2000	10:00	68.6405	44.0803	9.4445	115.4934
01Jan2000	10:05	67.3740	43.7530	9.3870	115.5885
01Jan2000	10:10	66.6339	43.4180	9.3281	115.6858
01Jan2000	10:15	66.5511	43.0796	9.2686	115.7809
01Jan2000	10:20	67.0854	42.7421	9.2092	115.8706
01Jan2000	10:25	67.9187	42.4087	9.1506	115.9591
01Jan2000	10:30	68.7093	42.0802	9.0929	116.0464
01Jan2000	10:35	69.4175	41.7564	9.0359	116.1324
01Jan2000	10:40	70.1672	41.4369	8.9794	116.2178
01Jan2000	10:45	71.0083	41.1224	8.9231	116.3029
01Jan2000	10:50	71.9043	40.8132	8.8678	116.3865
01Jan2000	10:55	72.8373	40.5098	8.8135	116.4685
01Jan2000	11:00	73.7652	40.2122	8.7602	116.5490
01Jan2000	11:05	74.7517	39.9207	8.7081	116.6278
01Jan2000	11:10	75.9629	39.6362	8.6572	116.7047
01Jan2000	11:15	77.4230	39.3604	8.6078	116.7793
01Jan2000	11:20	79.0304	39.0946	8.5602	116.8512
01Jan2000	11:25	80.6070	38.8393	8.5146	116.9202
01Jan2000	11:30	81.9963	38.5938	8.4706	116.9866
01Jan2000	11:35	83.2132	38.3568	8.4282	117.0507
01Jan2000	11:40	84.3509	38.1275	8.3872	117.1127
01Jan2000	11:45	85.4518	37.9054	8.3474	117.1727
01Jan2000	11:50	86.5068	37.6904	8.3089	117.2309
01Jan2000	11:55	87.5103	37.4821	8.2717	117.2812
01Jan2000	12:00	88.4468	37.2801	8.2355	117.3246
01Jan2000	12:05	89.1128	37.0834	8.2003	117.3668
01Jan2000	12:10	89.1781	36.8889	8.1655	117.4086
01Jan2000	12:15	88.5934	36.6923	8.1303	117.4508
01Jan2000	12:20	87.5640	36.4898	8.0941	117.4943
01Jan2000	12:25	86.4045	36.2796	8.0565	117.5394

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	12:30	85.3804	36.0614	8.0174	117.5863
01Jan2000	12:35	84.4773	35.8364	7.9768	117.6351
01Jan2000	12:40	83.5640	35.6047	7.9346	117.6857
01Jan2000	12:45	82.5964	35.3662	7.8912	117.7378
01Jan2000	12:50	81.5873	35.1205	7.8464	117.7915
01Jan2000	12:55	80.5803	34.8675	7.8004	117.8467
01Jan2000	13:00	79.6136	34.6073	7.7530	117.9036
01Jan2000	13:05	78.7563	34.3405	7.7044	117.9619
01Jan2000	13:10	78.0816	34.0679	7.6548	118.0214
01Jan2000	13:15	77.6291	33.7911	7.6044	118.0819
01Jan2000	13:20	77.3675	33.5114	7.5535	118.1430
01Jan2000	13:25	77.2302	33.2299	7.5023	118.2045
01Jan2000	13:30	77.1523	32.9472	7.4508	118.2663
01Jan2000	13:35	77.0994	32.6636	7.3992	118.3282
01Jan2000	13:40	77.0545	32.3793	7.3474	118.3903
01Jan2000	13:45	77.0145	32.0943	7.2955	118.4526
01Jan2000	13:50	76.9876	31.8088	7.2435	118.4614
01Jan2000	13:55	76.9805	31.5231	7.1915	118.4652
01Jan2000	14:00	76.9853	31.2374	7.1395	118.4689
01Jan2000	14:05	76.8256	30.9511	7.0874	118.4727
01Jan2000	14:10	76.1857	30.6621	7.0348	118.4764
01Jan2000	14:15	74.9601	30.3666	6.9807	118.4803
01Jan2000	14:20	73.3126	30.0612	6.9241	118.4844
01Jan2000	14:25	71.5343	29.7440	6.8653	118.4886
01Jan2000	14:30	69.9136	29.4150	6.8044	118.4930
01Jan2000	14:35	68.4815	29.0755	6.7415	118.4976
01Jan2000	14:40	67.1294	28.7263	6.6769	118.5022
01Jan2000	14:45	65.8179	28.3680	6.6105	118.5070
01Jan2000	14:50	64.5608	28.0008	6.5425	118.5119
01Jan2000	14:55	63.3648	27.6251	6.4729	118.5169
01Jan2000	15:00	62.2493	27.2414	6.4018	118.5220

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	15:05	61.2754	26.8505	6.3294	118.5272
01Jan2000	15:10	60.5339	26.4536	6.2559	118.5300
01Jan2000	15:15	60.0419	26.0525	6.1816	118.5300
01Jan2000	15:20	59.7698	25.6487	6.1068	118.5300
01Jan2000	15:25	59.6354	25.2436	6.0318	118.5300
01Jan2000	15:30	59.5455	24.8377	5.9558	118.5300
01Jan2000	15:35	59.4761	24.4312	5.8792	118.5300
01Jan2000	15:40	59.4553	24.0244	5.8026	118.5300
01Jan2000	15:45	59.4806	23.6177	5.7259	118.5300
01Jan2000	15:50	59.5355	23.2112	5.6493	118.5300
01Jan2000	15:55	59.6142	22.8051	5.5728	118.5300
01Jan2000	16:00	59.7106	22.3997	5.4964	118.5300
01Jan2000	16:05	59.7761	21.9949	5.4201	118.5300
01Jan2000	16:10	59.7295	21.5901	5.3438	118.5300
01Jan2000	16:15	59.5305	21.1844	5.2673	118.5300
01Jan2000	16:20	59.1993	20.7769	5.1905	118.5300
01Jan2000	16:25	58.7970	20.3669	5.1133	118.5300
01Jan2000	16:30	58.3824	19.9541	5.0355	118.5300
01Jan2000	16:35	57.9728	19.5385	4.9563	118.5300
01Jan2000	16:40	57.5770	19.1200	4.8759	118.5300
01Jan2000	16:45	57.2026	18.6990	4.7951	118.5300
01Jan2000	16:50	56.8482	18.2754	4.7137	118.5300
01Jan2000	16:55	56.5169	17.8494	4.6319	118.5300
01Jan2000	17:00	56.2128	17.4213	4.5497	118.5300
01Jan2000	17:05	55.7719	16.9906	4.4670	118.5300
01Jan2000	17:10	54.8887	16.5553	4.3834	118.5300
01Jan2000	17:15	53.4761	16.1122	4.2983	118.5300
01Jan2000	17:20	51.6660	15.6579	4.2110	118.5300
01Jan2000	17:25	49.7561	15.1908	4.1213	118.5300
01Jan2000	17:30	48.0531	14.7113	4.0293	118.5300
01Jan2000	17:35	46.5827	14.2209	3.9330	118.5300

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	17:40	45.2067	13.7206	3.8339	118.5300
01Jan2000	17:45	43.8647	13.2110	3.7329	118.5300
01Jan2000	17:50	42.5590	12.6923	3.6301	118.5300
01Jan2000	17:55	41.2943	12.1647	3.5256	118.5300
01Jan2000	18:00	40.0915	11.7115	3.4358	70.4050
01Jan2000	18:05	39.0217	11.4991	3.3937	70.4050
01Jan2000	18:10	38.2199	11.2802	3.3503	70.4050
01Jan2000	18:15	37.7326	11.0568	3.3061	70.4050
01Jan2000	18:20	37.5852	10.8313	3.2614	70.4050
01Jan2000	18:25	37.5897	10.6053	3.2166	70.4050
01Jan2000	18:30	37.6256	10.3794	3.1719	70.4050
01Jan2000	18:35	37.6209	10.1536	3.1271	70.4050
01Jan2000	18:40	37.6451	9.9279	3.0824	70.4050
01Jan2000	18:45	37.6867	9.7025	3.0377	70.4050
01Jan2000	18:50	37.7923	9.4775	2.9928	70.4050
01Jan2000	18:55	37.9335	9.4958	2.9966	0.0000
01Jan2000	19:00	38.1296	9.7577	3.0487	0.0000
01Jan2000	19:05	38.3634	10.0212	3.1009	0.0000
01Jan2000	19:10	38.6709	10.2864	3.1534	0.0000
01Jan2000	19:15	39.0317	10.5540	3.2065	0.0000
01Jan2000	19:20	39.4275	10.8242	3.2600	0.0000
01Jan2000	19:25	39.8194	11.0971	3.3141	0.0000
01Jan2000	19:30	40.1529	11.3724	3.3686	0.0000
01Jan2000	19:35	40.4245	11.6499	3.4236	0.0000
01Jan2000	19:40	40.6283	11.9290	3.4789	0.0000
01Jan2000	19:45	40.7860	12.2094	3.5345	0.0000
01Jan2000	19:50	40.9119	12.4907	3.5902	0.0000
01Jan2000	19:55	41.0276	12.7729	3.6461	0.0000
01Jan2000	20:00	41.1477	13.0558	3.7022	0.0000
01Jan2000	20:05	41.2213	13.3395	3.7584	0.0000
01Jan2000	20:10	41.1697	13.6232	3.8146	0.0000

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	20:15	40.9697	13.9060	3.8706	0.0000
01Jan2000	20:20	40.6295	14.1870	3.9263	0.0000
01Jan2000	20:25	40.2435	14.4655	3.9815	0.0000
01Jan2000	20:30	39.8958	14.7415	4.0350	0.0000
01Jan2000	20:35	39.6090	15.0153	4.0876	0.0000
01Jan2000	20:40	39.3343	15.2871	4.1398	0.0000
01Jan2000	20:45	39.0741	15.5571	4.1917	0.0000
01Jan2000	20:50	38.8033	15.8253	4.2432	0.0000
01Jan2000	20:55	38.5414	16.0916	4.2943	0.0000
01Jan2000	21:00	38.2861	16.3562	4.3451	0.0000
01Jan2000	21:05	38.3774	16.6202	4.3958	0.0000
01Jan2000	21:10	39.4293	16.8881	4.4473	0.0000
01Jan2000	21:15	41.7415	17.1676	4.5010	0.0000
01Jan2000	21:20	45.2011	17.3903	4.5437	22.2800
01Jan2000	21:25	48.9701	17.5611	4.5766	22.2800
01Jan2000	21:30	52.2407	17.7562	4.6140	22.2800
01Jan2000	21:35	54.9473	17.9718	4.6554	22.2800
01Jan2000	21:40	57.5231	18.2057	4.7003	22.2800
01Jan2000	21:45	60.0722	18.4572	4.7486	22.2800
01Jan2000	21:50	62.9172	18.7273	4.8005	22.2800
01Jan2000	21:55	65.7229	19.0168	4.8561	22.2800
01Jan2000	22:00	68.5830	19.3258	4.9155	22.2800
01Jan2000	22:05	71.0781	19.6533	4.9784	22.2800
01Jan2000	22:10	72.8839	19.9956	5.0433	22.2800
01Jan2000	22:15	73.9029	20.0234	5.0485	70.4050
01Jan2000	22:20	74.2943	20.0488	5.0533	70.4050
01Jan2000	22:25	74.3157	20.0757	5.0584	70.4050
01Jan2000	22:30	74.2496	20.1024	5.0634	70.4050
01Jan2000	22:35	74.1200	20.1284	5.0683	70.4050
01Jan2000	22:40	73.8814	20.1532	5.0730	70.4050
01Jan2000	22:45	73.5349	20.1759	5.0773	70.4050

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	22:50	73.1057	20.1960	5.0810	70.4050
01Jan2000	22:55	72.6193	20.2129	5.0842	70.4050
01Jan2000	23:00	72.1203	20.2265	5.0868	70.4050
01Jan2000	23:05	71.3931	20.2358	5.0885	70.4050
01Jan2000	23:10	70.0145	20.2378	5.0889	70.4050
01Jan2000	23:15	67.9224	20.2279	5.0871	70.4050
01Jan2000	23:20	65.3421	20.2019	5.0822	70.4050
01Jan2000	23:25	62.6861	20.1579	5.0739	70.4050
01Jan2000	23:30	60.3608	20.0968	5.0623	70.4050
01Jan2000	23:35	58.4328	20.0210	5.0480	70.4050
01Jan2000	23:40	56.7798	19.9328	5.0314	70.4050
01Jan2000	23:45	55.2816	19.8338	5.0128	70.4050
01Jan2000	23:50	53.7884	19.7245	4.9920	70.4050
01Jan2000	23:55	52.1746	19.6045	4.9690	70.4050
02Jan2000	00:00	50.5082	19.4732	4.9438	70.4050
02Jan2000	00:05	48.7122	19.3300	4.9163	70.4050
02Jan2000	00:10	46.4164	19.1727	4.8861	70.4050
02Jan2000	00:15	43.4485	18.9973	4.8524	70.4050
02Jan2000	00:20	40.0039	18.7998	4.8144	70.4050
02Jan2000	00:25	36.4612	18.5782	4.7719	70.4050
02Jan2000	00:30	33.2719	18.3334	4.7249	70.4050
02Jan2000	00:35	30.4853	18.0681	4.6739	70.4050
02Jan2000	00:40	27.9608	17.7845	4.6194	70.4050
02Jan2000	00:45	25.5634	17.4839	4.5617	70.4050
02Jan2000	00:50	23.2992	17.1673	4.5009	70.4050
02Jan2000	00:55	21.1545	16.8355	4.4372	70.4050
02Jan2000	01:00	19.1509	16.4894	4.3707	70.4050
02Jan2000	01:05	17.3033	16.1300	4.3017	70.4050
02Jan2000	01:10	15.6068	15.7585	4.2304	70.4050
02Jan2000	01:15	14.1071	15.3759	4.1569	70.4050
02Jan2000	01:20	12.7663	14.9836	4.0815	70.4050

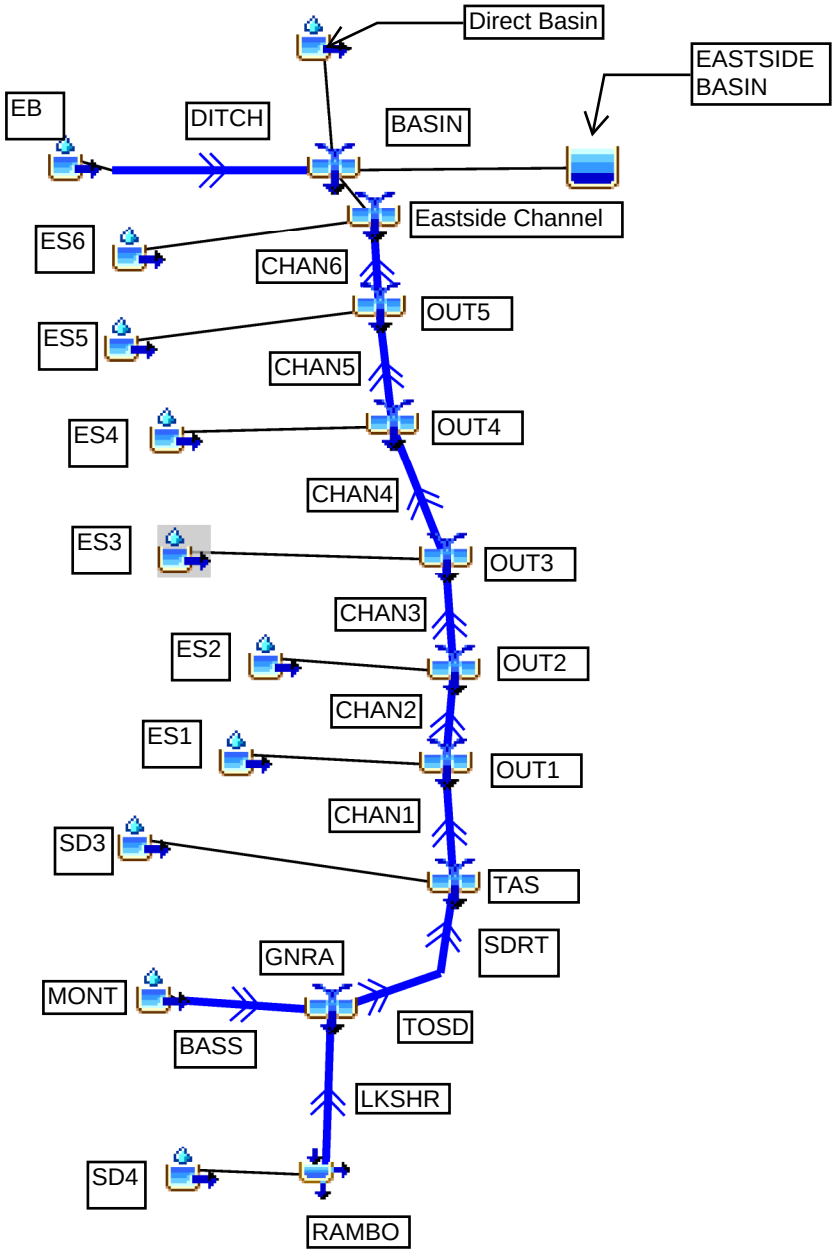
Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
02Jan2000	01:25	11.5724	14.5825	4.0045	70.4050
02Jan2000	01:30	10.5131	14.1737	3.9237	70.4050
02Jan2000	01:35	9.5497	13.7579	3.8413	70.4050
02Jan2000	01:40	8.6766	13.3357	3.7576	70.4050
02Jan2000	01:45	7.8948	12.9079	3.6729	70.4050
02Jan2000	01:50	7.1863	12.4750	3.5871	70.4050
02Jan2000	01:55	6.5406	12.0374	3.5004	70.4050
02Jan2000	02:00	5.9602	11.5955	3.4128	70.4050
02Jan2000	02:05	5.4492	11.1499	3.3245	70.4050
02Jan2000	02:10	4.9913	10.7010	3.2356	70.4050
02Jan2000	02:15	4.5788	10.2491	3.1460	70.4050
02Jan2000	02:20	4.2209	9.7945	3.0560	70.4050
02Jan2000	02:25	3.9017	9.3376	2.9636	70.4050
02Jan2000	02:30	3.6120	9.1210	2.9183	0.0000
02Jan2000	02:35	3.3624	9.1450	2.9234	0.0000
02Jan2000	02:40	3.1364	9.1674	2.9280	0.0000
02Jan2000	02:45	2.9339	9.1883	2.9324	0.0000
02Jan2000	02:50	2.7526	9.2079	2.9365	0.0000
02Jan2000	02:55	2.5867	9.2263	2.9403	0.0000
02Jan2000	03:00	2.4385	9.2436	2.9439	0.0000
02Jan2000	03:05	2.3032	9.2599	2.9473	0.0000
02Jan2000	03:10	2.1746	9.2753	2.9506	0.0000
02Jan2000	03:15	2.0506	9.2899	2.9536	0.0000
02Jan2000	03:20	1.9294	9.3036	2.9565	0.0000
02Jan2000	03:25	1.8131	9.3165	2.9592	0.0000
02Jan2000	03:30	1.7013	9.3286	2.9617	0.0000
02Jan2000	03:35	1.5939	9.3399	2.9641	0.0000
02Jan2000	03:40	1.4914	9.3505	2.9663	0.0000
02Jan2000	03:45	1.4011	9.3605	2.9684	0.0000
02Jan2000	03:50	1.3158	9.3699	2.9703	0.0000
02Jan2000	03:55	1.2346	9.3786	2.9721	0.0000

HEC-HMS

Project : Related - Eastside Basin

Basin Model : Proposed - Survey Basin

Apr 02 16:02:09 PDT 2015



Project: Related Simulation Run: PR - 100yr - SC - Survey

Start of Run: 01Jan2000, 00:00 Basin Model: Proposed - Survey E
End of Run: 05Jan2000, 02:45 Meteorologic Model: 100 yr - SC Dist
Compute Time: 02Jul2015, 10:26:10 Control Specifications: SC - Dist

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SD4	0.53	150.9104	01Jan2000, 07:25	90.8382
RAMBO	0.53	10.9104	01Jan2000, 07:25	0.4664
LKSHR	0.53	10.8608	01Jan2000, 07:55	0.5819
MONT	0.032	33.3660	01Jan2000, 06:20	6.7936
BASS	0.032	29.7591	01Jan2000, 06:55	6.9449
GNRA	0.562	29.7591	01Jan2000, 06:55	7.5268
TOSD	0.562	29.6740	01Jan2000, 07:00	7.5229
SDRT	0.562	27.7381	01Jan2000, 07:10	7.5183
SD3	0.297	114.1743	01Jan2000, 06:45	50.9036
TAS	0.859	133.0619	01Jan2000, 07:10	58.4219
CHAN1	0.859	132.1624	01Jan2000, 07:15	58.4179
ES1	0.066	37.7841	01Jan2000, 06:30	14.0335
OUT1	0.925	156.4915	01Jan2000, 07:15	72.4514
CHAN2	0.925	155.2750	01Jan2000, 07:15	72.4550
ES2	0.032	20.9366	01Jan2000, 06:25	6.7962
OUT2	0.957	166.8949	01Jan2000, 06:45	79.2512
CHAN3	0.957	166.8251	01Jan2000, 06:50	79.2439
ES3	0.033	21.7188	01Jan2000, 06:25	6.8461
OUT3	0.990	181.8081	01Jan2000, 06:50	86.0900
CHAN4	0.990	181.2635	01Jan2000, 06:55	86.0839
ES4	0.026	18.6771	01Jan2000, 06:20	5.3817
OUT4	1.016	191.8013	01Jan2000, 06:55	91.4656
CHAN5	1.016	191.6822	01Jan2000, 06:55	91.4611
ES5	0.027	18.1310	01Jan2000, 06:20	5.6242
OUT5	1.043	203.0448	01Jan2000, 06:55	97.0854
CHAN6	1.043	202.4029	01Jan2000, 06:55	97.0851
ES6	0.006	3.1532	01Jan2000, 06:15	0.8437

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
Eastside Channel	1.049	204.0263	01Jan2000, 06:55	97.9287
EB	0.259	130.5913	01Jan2000, 06:40	54.5539
DITCH	0.259	130.0628	01Jan2000, 06:40	54.5499
Direct Basin	0.019	12.1104	01Jan2000, 06:15	3.0809
BASIN	1.327	333.1263	01Jan2000, 06:50	155.5595
EASTSIDE BASIN	1.327	118.5300	01Jan2000, 06:00	162.4570

Project: Related Simulation Run: PR - 100yr - SC - Survey

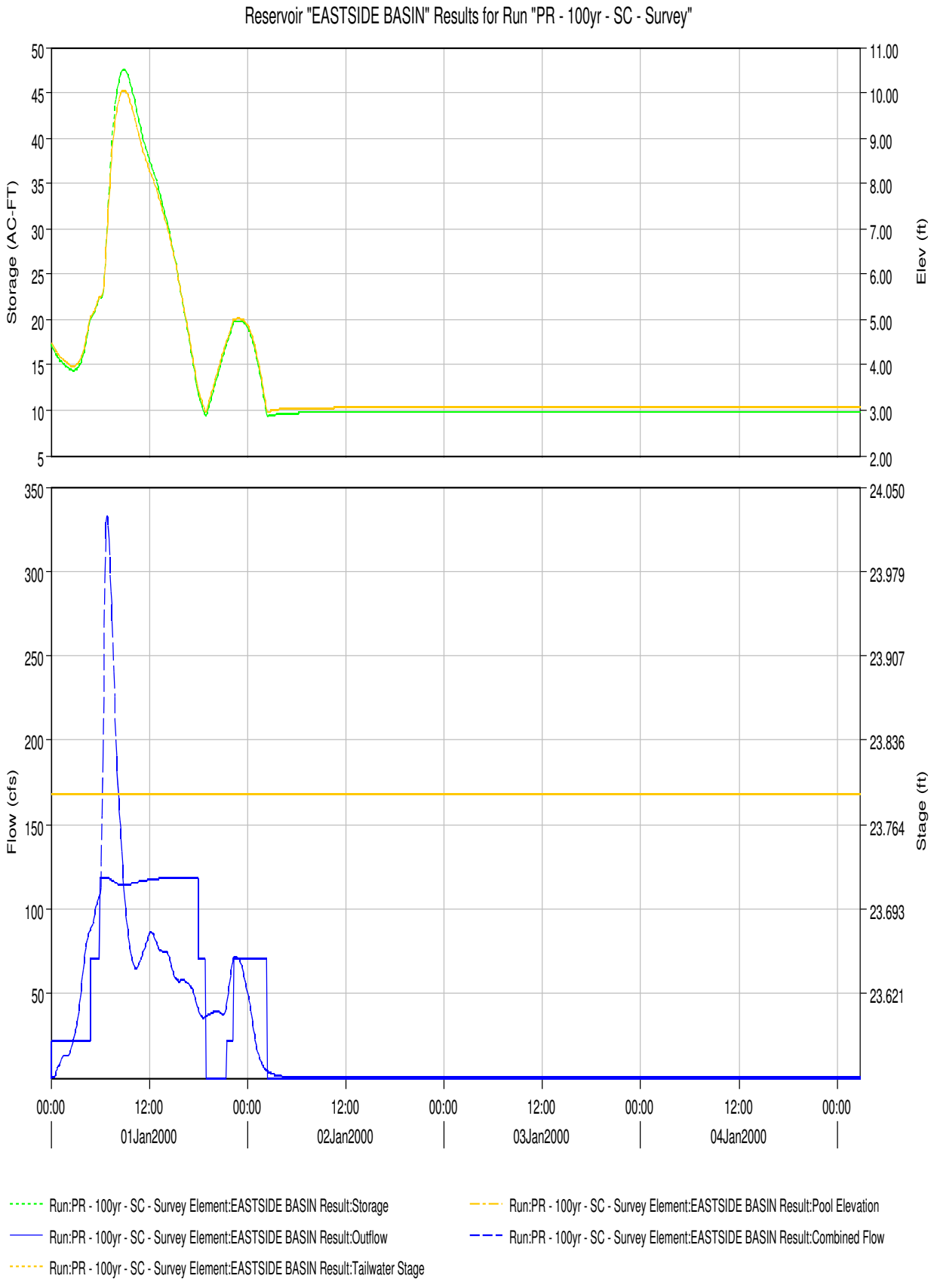
Reservoir: EASTSIDE BASIN

Start of Run:	01Jan2000, 00:00	Basin Model:	Proposed - Survey Basin
End of Run:	05Jan2000, 02:45	Meteorologic Model:	100 yr - SC Dist
Compute Time:	02Jul2015, 10:26:10	Control Specifications:	SC - Dist

Volume Units: IN

Computed Results

Peak Inflow:	333.1263 (CFS)	Date/Time of Peak Inflow:	01Jan2000, 06:50
Peak Discharge:	118.5300 (CFS)	Date/Time of Peak Discharge:	01Jan2000, 06:00
Inflow Volume:	2.1980 (IN)	Peak Storage:	47.5354 (AC-FT)
Discharge Volume:	2.2955 (IN)	Peak Elevation:	10.0474 (FT)


Reservoir "EASTSIDE BASIN" Results for Run "PR - 100yr - SC - Survey"
Storage (AC-FT)
Elev (ft)
Flow (cfs)
Stage (ft)
50
45
40
35
30
25
20
15
10
5
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
350
300
250
200
150
100
50
24.050
23.979
23.907
23.836
23.764
23.693
23.621
00:00
12:00
00:00
12:00
00:00
12:00
00:00
12:00
00:00
01Jan2000
02Jan2000
03Jan2000
04Jan2000
Run:PR - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Storage
Run:PR - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Outflow
Run:PR - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Tailwater Stage
Run:PR - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Pool Elevation
Run:PR - 100yr - SC - Survey Element:EASTSIDE BASIN Result:Combined Flow

Project: Related Simulation Run: PR - 100yr - SC - Survey
Reservoir: EASTSIDE BASIN

Start of Run: 01Jan2000, 00:00 Basin Model: Proposed - Survey E
End of Run: 05Jan2000, 02:45 Meteorologic Model: 100 yr - SC Dist
Compute Time: 02Jul2015, 10:26:10 Control Specifications: SC - Dist

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	00:00	0.0000	17.1625	4.5000	0.0000
01Jan2000	00:05	0.0135	17.0858	4.4853	22.2800
01Jan2000	00:10	0.0495	16.9326	4.4558	22.2800
01Jan2000	00:15	0.0857	16.7796	4.4265	22.2800
01Jan2000	00:20	0.1217	16.6269	4.3971	22.2800
01Jan2000	00:25	0.4519	16.4754	4.3680	22.2800
01Jan2000	00:30	1.6242	16.3291	4.3400	22.2800
01Jan2000	00:35	3.0456	16.1918	4.3136	22.2800
01Jan2000	00:40	4.2434	16.0634	4.2889	22.2800
01Jan2000	00:45	5.3392	15.9430	4.2658	22.2800
01Jan2000	00:50	6.2848	15.8296	4.2440	22.2800
01Jan2000	00:55	7.0305	15.7220	4.2233	22.2800
01Jan2000	01:00	7.7583	15.6195	4.2037	22.2800
01Jan2000	01:05	8.5597	15.5222	4.1850	22.2800
01Jan2000	01:10	9.6243	15.4314	4.1675	22.2800
01Jan2000	01:15	11.0046	15.3490	4.1517	22.2800
01Jan2000	01:20	11.9823	15.2747	4.1374	22.2800
01Jan2000	01:25	12.4684	15.2054	4.1241	22.2800
01Jan2000	01:30	12.7493	15.1388	4.1114	22.2800
01Jan2000	01:35	12.9360	15.0738	4.0989	22.2800
01Jan2000	01:40	13.0667	15.0099	4.0866	22.2800
01Jan2000	01:45	13.1583	14.9468	4.0745	22.2800
01Jan2000	01:50	13.2232	14.8842	4.0625	22.2800
01Jan2000	01:55	13.2675	14.8220	4.0505	22.2800
01Jan2000	02:00	13.3028	14.7600	4.0386	22.2800
01Jan2000	02:05	13.3543	14.6984	4.0268	22.2800

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	02:10	13.5471	14.6376	4.0151	22.2800
01Jan2000	02:15	14.0430	14.5791	4.0039	22.2800
01Jan2000	02:20	14.9514	14.5255	3.9934	22.2800
01Jan2000	02:25	16.2812	14.4796	3.9843	22.2800
01Jan2000	02:30	17.9333	14.4440	3.9772	22.2800
01Jan2000	02:35	19.7399	14.4203	3.9725	22.2800
01Jan2000	02:40	21.5732	14.4091	3.9703	22.2800
01Jan2000	02:45	23.3975	14.4105	3.9706	22.2800
01Jan2000	02:50	25.2541	14.4246	3.9734	22.2800
01Jan2000	02:55	27.0693	14.4513	3.9787	22.2800
01Jan2000	03:00	28.6843	14.4899	3.9863	22.2800
01Jan2000	03:05	30.1106	14.5389	3.9960	22.2800
01Jan2000	03:10	31.6178	14.5980	4.0075	22.2800
01Jan2000	03:15	33.5657	14.6690	4.0211	22.2800
01Jan2000	03:20	36.1473	14.7557	4.0378	22.2800
01Jan2000	03:25	39.3304	14.8621	4.0582	22.2800
01Jan2000	03:30	42.9896	14.9921	4.0832	22.2800
01Jan2000	03:35	47.0281	15.1487	4.1132	22.2800
01Jan2000	03:40	51.3701	15.3341	4.1489	22.2800
01Jan2000	03:45	55.7884	15.5496	4.1903	22.2800
01Jan2000	03:50	60.0806	15.7952	4.2374	22.2800
01Jan2000	03:55	64.0992	16.0694	4.2901	22.2800
01Jan2000	04:00	67.9127	16.3705	4.3479	22.2800
01Jan2000	04:05	71.4688	16.6970	4.4106	22.2800
01Jan2000	04:10	74.6868	17.0469	4.4778	22.2800
01Jan2000	04:15	77.4871	17.4174	4.5490	22.2800
01Jan2000	04:20	79.8546	17.8058	4.6235	22.2800
01Jan2000	04:25	81.8147	18.2091	4.7010	22.2800
01Jan2000	04:30	83.4550	18.6247	4.7808	22.2800
01Jan2000	04:35	84.8455	19.0509	4.8627	22.2800
01Jan2000	04:40	86.0726	19.4860	4.9462	22.2800

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	04:45	87.2035	19.9292	5.0308	22.2800
01Jan2000	04:50	88.2578	20.0557	5.0546	70.4050
01Jan2000	04:55	89.2474	20.1821	5.0784	70.4050
01Jan2000	05:00	90.1960	20.3151	5.1035	70.4050
01Jan2000	05:05	91.2038	20.4549	5.1298	70.4050
01Jan2000	05:10	92.5630	20.6028	5.1577	70.4050
01Jan2000	05:15	94.6603	20.7626	5.1878	70.4050
01Jan2000	05:20	97.3991	20.9391	5.2211	70.4050
01Jan2000	05:25	99.9377	21.1338	5.2578	70.4050
01Jan2000	05:30	101.7476	21.3434	5.2973	70.4050
01Jan2000	05:35	103.0882	21.5639	5.3388	70.4050
01Jan2000	05:40	104.2551	21.7930	5.3820	70.4050
01Jan2000	05:45	105.3497	22.0299	5.4267	70.4050
01Jan2000	05:50	106.3874	22.2741	5.4727	70.4050
01Jan2000	05:55	107.3607	22.5253	5.5200	70.4050
01Jan2000	06:00	108.2528	22.4746	5.5105	118.5300
01Jan2000	06:05	112.6793	22.4191	5.5000	118.5300
01Jan2000	06:10	127.9278	22.4313	5.5023	118.5300
01Jan2000	06:15	155.2325	22.5900	5.5322	118.5300
01Jan2000	06:20	190.1428	22.9630	5.6025	118.5300
01Jan2000	06:25	228.7654	23.5892	5.7205	118.5300
01Jan2000	06:30	267.1404	24.4806	5.8885	118.5300
01Jan2000	06:35	298.6930	25.6127	6.1001	118.5300
01Jan2000	06:40	318.9314	26.9232	6.3429	118.5263
01Jan2000	06:45	329.2378	28.3390	6.6051	118.5074
01Jan2000	06:50	333.1263	29.8037	6.8764	118.4879
01Jan2000	06:55	332.1927	31.2788	7.1471	118.4684
01Jan2000	07:00	327.2863	32.7341	7.4120	118.3128
01Jan2000	07:05	319.2093	34.1466	7.6691	118.0042
01Jan2000	07:10	308.8313	35.4976	7.9151	117.7091
01Jan2000	07:15	297.8698	36.7771	8.1455	117.4326

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	07:20	288.4605	37.9883	8.3623	117.1503
01Jan2000	07:25	280.6693	39.1423	8.5688	116.8383
01Jan2000	07:30	270.7536	40.2375	8.7648	116.5421
01Jan2000	07:35	256.4907	41.2514	8.9462	116.2680
01Jan2000	07:40	240.5506	42.1631	9.1074	116.0244
01Jan2000	07:45	225.6713	42.9702	9.2493	115.8100
01Jan2000	07:50	212.4525	43.6820	9.3745	115.6091
01Jan2000	07:55	200.8081	44.3095	9.4848	115.4269
01Jan2000	08:00	190.6424	44.8631	9.5821	115.2661
01Jan2000	08:05	181.6185	45.3516	9.6680	115.1242
01Jan2000	08:10	173.1923	45.7810	9.7435	114.9995
01Jan2000	08:15	165.2269	46.1547	9.8092	114.8909
01Jan2000	08:20	158.1804	46.4774	9.8659	114.7972
01Jan2000	08:25	152.7266	46.7577	9.9152	114.7158
01Jan2000	08:30	147.9822	47.0034	9.9584	114.6445
01Jan2000	08:35	141.6273	47.2113	9.9950	114.5841
01Jan2000	08:40	133.7642	47.3706	10.0210	114.5411
01Jan2000	08:45	125.9318	47.4762	10.0379	114.5131
01Jan2000	08:50	118.6380	47.5297	10.0465	114.4989
01Jan2000	08:55	112.0077	47.5354	10.0474	114.4974
01Jan2000	09:00	106.0879	47.4978	10.0414	114.5073
01Jan2000	09:05	100.8680	47.4218	10.0292	114.5275
01Jan2000	09:10	96.1802	47.3115	10.0115	114.5568
01Jan2000	09:15	91.8238	47.1698	9.9877	114.5961
01Jan2000	09:20	87.9564	46.9995	9.9577	114.6456
01Jan2000	09:25	84.5864	46.8039	9.9233	114.7024
01Jan2000	09:30	81.5065	46.5856	9.8850	114.7658
01Jan2000	09:35	78.7057	46.3467	9.8429	114.8352
01Jan2000	09:40	76.2034	46.0890	9.7976	114.9100
01Jan2000	09:45	73.9892	45.8145	9.7494	114.9897
01Jan2000	09:50	71.9854	45.5250	9.6985	115.0738

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	09:55	70.1418	45.2215	9.6451	115.1620
01Jan2000	10:00	68.4222	44.9053	9.5895	115.2538
01Jan2000	10:05	66.8796	44.5771	9.5318	115.3491
01Jan2000	10:10	65.6539	44.2387	9.4723	115.4474
01Jan2000	10:15	64.8701	43.8927	9.4115	115.5479
01Jan2000	10:20	64.5579	43.5423	9.3499	115.6497
01Jan2000	10:25	64.7117	43.1906	9.2881	115.7514
01Jan2000	10:30	65.2205	42.8405	9.2265	115.8444
01Jan2000	10:35	65.9917	42.4942	9.1656	115.9364
01Jan2000	10:40	66.9244	42.1531	9.1057	116.0270
01Jan2000	10:45	67.9221	41.8181	9.0468	116.1160
01Jan2000	10:50	68.9515	41.4894	8.9888	116.2036
01Jan2000	10:55	69.9896	41.1673	8.9312	116.2907
01Jan2000	11:00	70.9985	40.8516	8.8747	116.3761
01Jan2000	11:05	71.9925	40.5422	8.8193	116.4598
01Jan2000	11:10	73.0415	40.2393	8.7651	116.5417
01Jan2000	11:15	74.1635	39.9433	8.7121	116.6217
01Jan2000	11:20	75.3497	39.6547	8.6605	116.6997
01Jan2000	11:25	76.6123	39.3740	8.6102	116.7756
01Jan2000	11:30	77.9314	39.1017	8.5615	116.8493
01Jan2000	11:35	79.2711	38.8380	8.5143	116.9206
01Jan2000	11:40	80.5773	38.5830	8.4687	116.9895
01Jan2000	11:45	81.8204	38.3362	8.4245	117.0562
01Jan2000	11:50	82.9955	38.0974	8.3818	117.1208
01Jan2000	11:55	84.0954	37.8660	8.3404	117.1834
01Jan2000	12:00	85.1100	37.6414	8.3002	117.2441
01Jan2000	12:05	85.9347	37.4227	8.2610	117.2939
01Jan2000	12:10	86.4151	37.2082	8.2227	117.3400
01Jan2000	12:15	86.5215	36.9955	8.1846	117.3857
01Jan2000	12:20	86.2757	36.7819	8.1464	117.4316
01Jan2000	12:25	85.7063	36.5652	8.1076	117.4781

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	12:30	84.8867	36.3434	8.0679	117.5257
01Jan2000	12:35	83.8976	36.1150	8.0270	117.5748
01Jan2000	12:40	82.8080	35.8792	7.9846	117.6257
01Jan2000	12:45	81.6728	35.6353	7.9402	117.6790
01Jan2000	12:50	80.5313	35.3832	7.8943	117.7341
01Jan2000	12:55	79.4097	35.1229	7.8469	117.7909
01Jan2000	13:00	78.3436	34.8547	7.7981	117.8495
01Jan2000	13:05	77.3918	34.5791	7.7479	117.9097
01Jan2000	13:10	76.6014	34.2972	7.6966	117.9713
01Jan2000	13:15	75.9911	34.0099	7.6443	118.0341
01Jan2000	13:20	75.5613	33.7187	7.5912	118.0977
01Jan2000	13:25	75.2778	33.4245	7.5377	118.1620
01Jan2000	13:30	75.1034	33.1284	7.4838	118.2267
01Jan2000	13:35	74.9959	32.8308	7.4296	118.2917
01Jan2000	13:40	74.9162	32.5321	7.3752	118.3569
01Jan2000	13:45	74.8485	32.2325	7.3207	118.4224
01Jan2000	13:50	74.7978	31.9321	7.2660	118.4598
01Jan2000	13:55	74.7676	31.6312	7.2112	118.4637
01Jan2000	14:00	74.7490	31.3302	7.1564	118.4677
01Jan2000	14:05	74.6418	31.0287	7.1015	118.4716
01Jan2000	14:10	74.2789	30.7256	7.0464	118.4756
01Jan2000	14:15	73.6049	30.4189	6.9904	118.4796
01Jan2000	14:20	72.6309	30.1065	6.9325	118.4838
01Jan2000	14:25	71.3907	29.7864	6.8732	118.4881
01Jan2000	14:30	69.9510	29.4571	6.8122	118.4925
01Jan2000	14:35	68.4091	29.1174	6.7493	118.4970
01Jan2000	14:40	66.8684	28.7672	6.6844	118.5017
01Jan2000	14:45	65.3879	28.4064	6.6176	118.5065
01Jan2000	14:50	63.9774	28.0357	6.5489	118.5114
01Jan2000	14:55	62.6463	27.6556	6.4785	118.5165
01Jan2000	15:00	61.4102	27.2665	6.4065	118.5217

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	15:05	60.3121	26.8694	6.3329	118.5270
01Jan2000	15:10	59.4008	26.4653	6.2581	118.5300
01Jan2000	15:15	58.6852	26.0556	6.1822	118.5300
01Jan2000	15:20	58.1610	25.6416	6.1055	118.5300
01Jan2000	15:25	57.8091	25.2247	6.0283	118.5300
01Jan2000	15:30	57.5984	24.8058	5.9498	118.5300
01Jan2000	15:35	57.5005	24.3858	5.8707	118.5300
01Jan2000	15:40	57.4776	23.9654	5.7914	118.5300
01Jan2000	15:45	57.5003	23.5450	5.7122	118.5300
01Jan2000	15:50	57.5558	23.1249	5.6330	118.5300
01Jan2000	15:55	57.6358	22.7052	5.5539	118.5300
01Jan2000	16:00	57.7291	22.2862	5.4750	118.5300
01Jan2000	16:05	57.8068	21.8677	5.3961	118.5300
01Jan2000	16:10	57.8210	21.4495	5.3173	118.5300
01Jan2000	16:15	57.7523	21.0312	5.2384	118.5300
01Jan2000	16:20	57.5874	20.6120	5.1594	118.5300
01Jan2000	16:25	57.3163	20.1914	5.0802	118.5300
01Jan2000	16:30	56.9417	19.7685	5.0005	118.5300
01Jan2000	16:35	56.5059	19.3429	4.9187	118.5300
01Jan2000	16:40	56.0626	18.9142	4.8364	118.5300
01Jan2000	16:45	55.6423	18.4825	4.7535	118.5300
01Jan2000	16:50	55.2505	18.0480	4.6701	118.5300
01Jan2000	16:55	54.8858	17.6110	4.5861	118.5300
01Jan2000	17:00	54.5519	17.1715	4.5017	118.5300
01Jan2000	17:05	54.1677	16.7296	4.4169	118.5300
01Jan2000	17:10	53.5880	16.2843	4.3313	118.5300
01Jan2000	17:15	52.7839	15.8343	4.2449	118.5300
01Jan2000	17:20	51.7368	15.3779	4.1573	118.5300
01Jan2000	17:25	50.4621	14.9135	4.0681	118.5300
01Jan2000	17:30	49.0025	14.4397	3.9764	118.5300
01Jan2000	17:35	47.4328	13.9554	3.8804	118.5300

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	17:40	45.8441	13.4603	3.7823	118.5300
01Jan2000	17:45	44.3048	12.9544	3.6821	118.5300
01Jan2000	17:50	42.8304	12.4381	3.5798	118.5300
01Jan2000	17:55	41.4183	11.9119	3.4755	118.5300
01Jan2000	18:00	40.0773	11.6745	3.4285	70.4050
01Jan2000	18:05	38.8620	11.4615	3.3863	70.4050
01Jan2000	18:10	37.8453	11.2407	3.3425	70.4050
01Jan2000	18:15	37.0522	11.0137	3.2976	70.4050
01Jan2000	18:20	36.4835	10.7821	3.2517	70.4050
01Jan2000	18:25	36.1295	10.5472	3.2051	70.4050
01Jan2000	18:30	35.9526	10.3106	3.1582	70.4050
01Jan2000	18:35	35.9112	10.0732	3.1112	70.4050
01Jan2000	18:40	35.9564	9.8358	3.0641	70.4050
01Jan2000	18:45	36.0533	9.5988	3.0172	70.4050
01Jan2000	18:50	36.1938	9.3627	2.9688	70.4050
01Jan2000	18:55	36.3771	9.3702	2.9704	0.0000
01Jan2000	19:00	36.5952	9.6215	3.0217	0.0000
01Jan2000	19:05	36.8407	9.8744	3.0718	0.0000
01Jan2000	19:10	37.1122	10.1290	3.1223	0.0000
01Jan2000	19:15	37.3994	10.3856	3.1731	0.0000
01Jan2000	19:20	37.6942	10.6442	3.2243	0.0000
01Jan2000	19:25	37.9951	10.9048	3.2760	0.0000
01Jan2000	19:30	38.2921	11.1675	3.3280	0.0000
01Jan2000	19:35	38.5670	11.4322	3.3805	0.0000
01Jan2000	19:40	38.7992	11.6986	3.4332	0.0000
01Jan2000	19:45	38.9854	11.9665	3.4863	0.0000
01Jan2000	19:50	39.1433	12.2355	3.5396	0.0000
01Jan2000	19:55	39.2898	12.5056	3.5931	0.0000
01Jan2000	20:00	39.4315	12.7767	3.6469	0.0000
01Jan2000	20:05	39.5463	13.0486	3.7007	0.0000
01Jan2000	20:10	39.5948	13.3211	3.7547	0.0000

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	20:15	39.5685	13.5937	3.8087	0.0000
01Jan2000	20:20	39.4591	13.8659	3.8627	0.0000
01Jan2000	20:25	39.2683	14.1370	3.9164	0.0000
01Jan2000	20:30	39.0146	14.4065	3.9698	0.0000
01Jan2000	20:35	38.7164	14.6742	4.0221	0.0000
01Jan2000	20:40	38.3987	14.9398	4.0731	0.0000
01Jan2000	20:45	38.0810	15.2031	4.1237	0.0000
01Jan2000	20:50	37.7705	15.4643	4.1739	0.0000
01Jan2000	20:55	37.4715	15.7234	4.2236	0.0000
01Jan2000	21:00	37.1895	15.9805	4.2730	0.0000
01Jan2000	21:05	37.0973	16.2363	4.3221	0.0000
01Jan2000	21:10	37.4899	16.4932	4.3715	0.0000
01Jan2000	21:15	38.4634	16.7547	4.4217	0.0000
01Jan2000	21:20	40.0498	17.0251	4.4736	0.0000
01Jan2000	21:25	42.2414	17.3084	4.5280	0.0000
01Jan2000	21:30	44.9053	17.5318	4.5709	22.2800
01Jan2000	21:35	47.9204	17.6980	4.6028	22.2800
01Jan2000	21:40	51.0856	17.8855	4.6389	22.2800
01Jan2000	21:45	54.2743	18.0949	4.6791	22.2800
01Jan2000	21:50	57.4838	18.3263	4.7235	22.2800
01Jan2000	21:55	60.6632	18.5797	4.7722	22.2800
01Jan2000	22:00	63.6877	18.8544	4.8249	22.2800
01Jan2000	22:05	66.3944	19.1489	4.8815	22.2800
01Jan2000	22:10	68.5836	19.4603	4.9413	22.2800
01Jan2000	22:15	70.2149	19.7848	5.0035	22.2800
01Jan2000	22:20	71.2951	19.7944	5.0054	70.4050
01Jan2000	22:25	71.8755	19.8025	5.0069	70.4050
01Jan2000	22:30	72.0735	19.8133	5.0089	70.4050
01Jan2000	22:35	71.9713	19.8245	5.0110	70.4050
01Jan2000	22:40	71.6704	19.8342	5.0129	70.4050
01Jan2000	22:45	71.2633	19.8415	5.0142	70.4050

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
01Jan2000	22:50	70.7867	19.8458	5.0150	70.4050
01Jan2000	22:55	70.2685	19.8466	5.0152	70.4050
01Jan2000	23:00	69.7414	19.8439	5.0147	70.4050
01Jan2000	23:05	69.1179	19.8372	5.0134	70.4050
01Jan2000	23:10	68.2136	19.8252	5.0112	70.4050
01Jan2000	23:15	66.9912	19.8059	5.0075	70.4050
01Jan2000	23:20	65.4608	19.7771	5.0021	70.4050
01Jan2000	23:25	63.6466	19.7368	4.9944	70.4050
01Jan2000	23:30	61.6605	19.6834	4.9841	70.4050
01Jan2000	23:35	59.6357	19.6162	4.9712	70.4050
01Jan2000	23:40	57.7337	19.5355	4.9557	70.4050
01Jan2000	23:45	55.9681	19.4422	4.9378	70.4050
01Jan2000	23:50	54.2059	19.3367	4.9175	70.4050
01Jan2000	23:55	52.3790	19.2188	4.8949	70.4050
02Jan2000	00:00	50.5590	19.0884	4.8699	70.4050
02Jan2000	00:05	48.7306	18.9454	4.8424	70.4050
02Jan2000	00:10	46.7249	18.7892	4.8124	70.4050
02Jan2000	00:15	44.4925	18.6185	4.7796	70.4050
02Jan2000	00:20	42.0370	18.4316	4.7437	70.4050
02Jan2000	00:25	39.3452	18.2269	4.7044	70.4050
02Jan2000	00:30	36.4893	18.0032	4.6614	70.4050
02Jan2000	00:35	33.5638	17.7595	4.6147	70.4050
02Jan2000	00:40	30.7078	17.4960	4.5640	70.4050
02Jan2000	00:45	28.0057	17.2133	4.5097	70.4050
02Jan2000	00:50	25.4662	16.9125	4.4520	70.4050
02Jan2000	00:55	23.0983	16.5949	4.3910	70.4050
02Jan2000	01:00	20.8900	16.2614	4.3270	70.4050
02Jan2000	01:05	18.8544	15.9134	4.2601	70.4050
02Jan2000	01:10	16.9960	15.5520	4.1907	70.4050
02Jan2000	01:15	15.3138	15.1784	4.1189	70.4050
02Jan2000	01:20	13.8213	14.7938	4.0451	70.4050

Date	Time	Inflow (CFS)	Storage (AC-FT)	Elevation (FT)	Outflow (CFS)
02Jan2000	01:25	12.4918	14.3995	3.9684	70.4050
02Jan2000	01:30	11.3038	13.9966	3.8886	70.4050
02Jan2000	01:35	10.2354	13.5859	3.8072	70.4050
02Jan2000	01:40	9.2721	13.1682	3.7244	70.4050
02Jan2000	01:45	8.4005	12.7441	3.6404	70.4050
02Jan2000	01:50	7.6177	12.3144	3.5553	70.4050
02Jan2000	01:55	6.9119	11.8796	3.4691	70.4050
02Jan2000	02:00	6.2879	11.4401	3.3820	70.4050
02Jan2000	02:05	5.7267	10.9966	3.2942	70.4050
02Jan2000	02:10	5.2247	10.5495	3.2056	70.4050
02Jan2000	02:15	4.7800	10.0990	3.1163	70.4050
02Jan2000	02:20	4.3844	9.6457	3.0265	70.4050
02Jan2000	02:25	4.0374	9.3110	2.9580	0.0000
02Jan2000	02:30	3.7268	9.3378	2.9636	0.0000
02Jan2000	02:35	3.4527	9.3625	2.9688	0.0000
02Jan2000	02:40	3.2077	9.3854	2.9736	0.0000
02Jan2000	02:45	2.9882	9.4068	2.9780	0.0000
02Jan2000	02:50	2.7930	9.4267	2.9822	0.0000
02Jan2000	02:55	2.6168	9.4453	2.9861	0.0000
02Jan2000	03:00	2.4574	9.4628	2.9897	0.0000
02Jan2000	03:05	2.3135	9.4792	2.9931	0.0000
02Jan2000	03:10	2.1787	9.4947	2.9964	0.0000
02Jan2000	03:15	2.0489	9.5092	2.9994	0.0000
02Jan2000	03:20	1.9235	9.5229	3.0022	0.0000
02Jan2000	03:25	1.8010	9.5357	3.0047	0.0000
02Jan2000	03:30	1.6855	9.5477	3.0071	0.0000
02Jan2000	03:35	1.5754	9.5590	3.0093	0.0000
02Jan2000	03:40	1.4749	9.5695	3.0114	0.0000
02Jan2000	03:45	1.3814	9.5793	3.0133	0.0000
02Jan2000	03:50	1.2947	9.5885	3.0152	0.0000
02Jan2000	03:55	1.2159	9.5972	3.0169	0.0000

APPENDIX H

Stormwater Collection and Treatment Examples

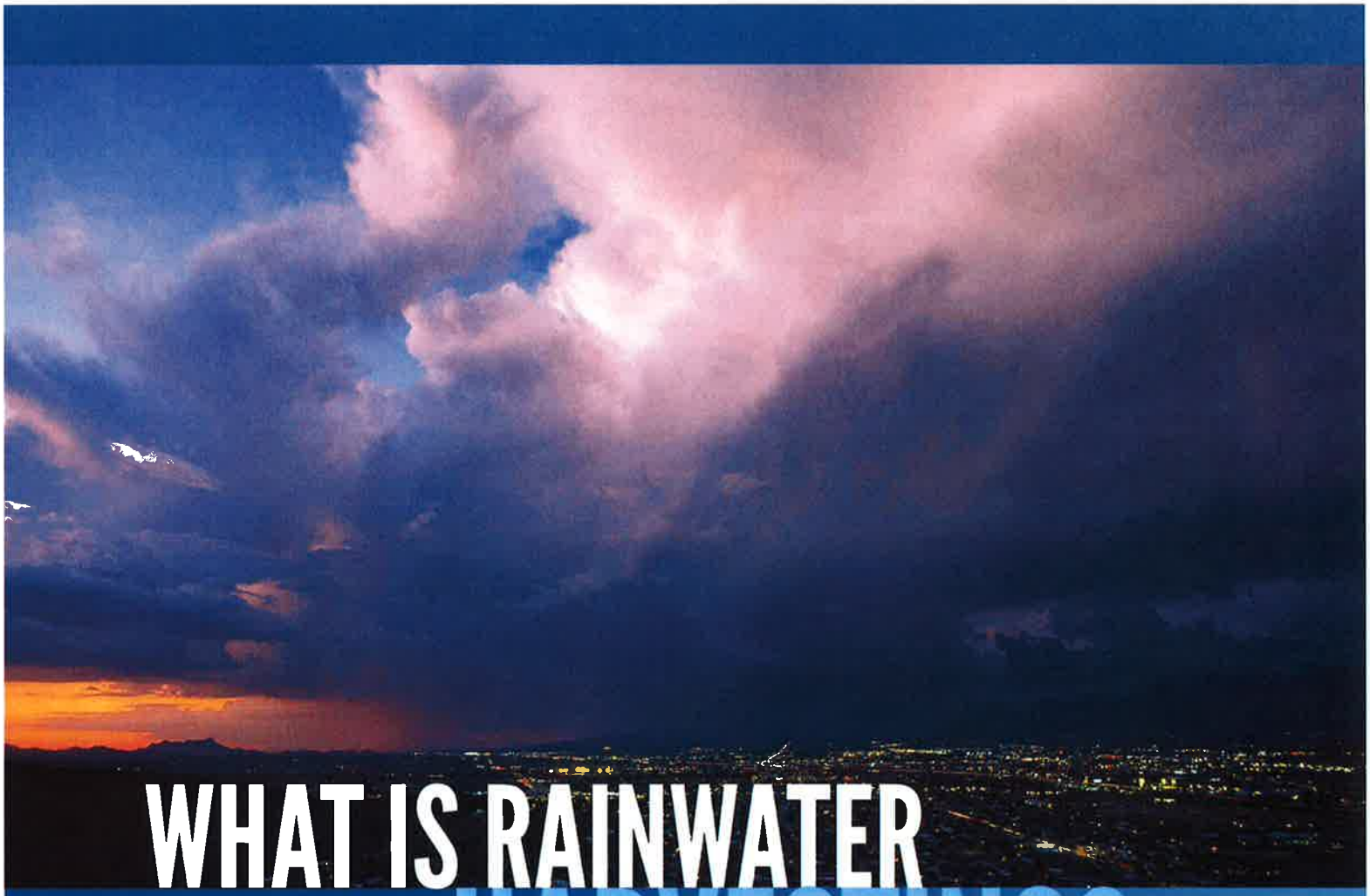


BRAE™ | RAINWATER HARVESTING

Complete Solutions for RAINWATER HARVESTING





WHAT IS RAINWATER HARVESTING?

Rainwater harvesting is just what it sounds like: The process of capturing rainwater to supplement the non-potable water needs of businesses, institutions, industrial facilities, and agriculture.

Although the idea of capturing rainwater for secondary use has been around for thousands of years, today it offers building owners, architects, and design engineers a number of important benefits.

Implementing a rainwater harvesting system in your next project can help supplement existing stormwater management plans and ensure adequate water for operations. By reducing dependence on municipal water supplies a rainwater harvesting system can help lower water bills. Adding a rainwater harvesting system to your specifications for energy-efficient plumbing and water-saving equipment can also help your project achieve LEED certification and serve as an important cornerstone in a corporate sustainability strategy.

Typical rainwater uses



- Irrigating landscapes
- Commercial process water
- Cooling tower make-up
- Flushing toilets
- Laundry systems
- Onsite water storage for fire suppression
- Agricultural process water
- Public fountains
- Washing vehicles
- Custodial services
- Ice rinks
- Chiller make-up supply

Case Study: Rainwater Harvesting Systems in Action

Border Patrol facility captures rainwater for flushing toilets and irrigating plantings

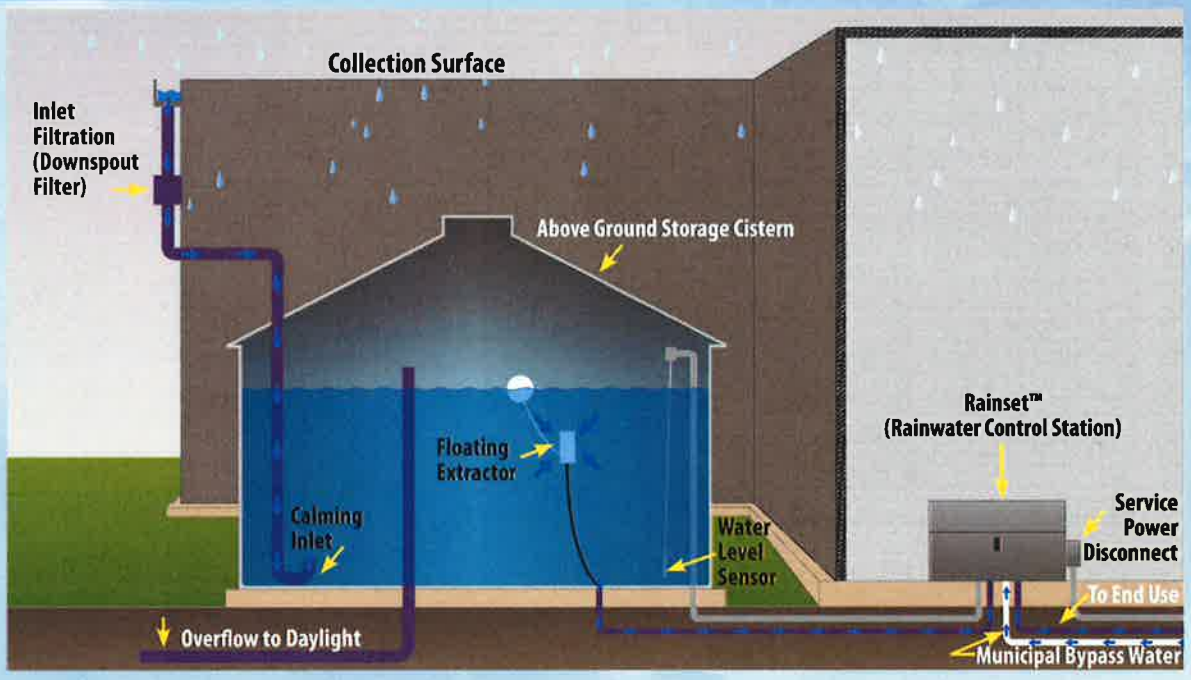


Every drop of water counts in the Chihuahuan desert, which straddles the U.S.-Mexico border. So when the Naco, Arizona Border Patrol designed its new $40 million, 58,000 sq. ft. facility, sustainability was a key design criterion. The solution: A BRAE rainwater harvesting system with three main components: Inlet filtration (rainwater capture), storage tanks, and a Rainset™ for pumping & treatment. The system's rainwater capture equipment is buried just below grade (and accessed via a manhole cover), and rainwater is stored in two underground 25,000-gallon fiberglass tanks. The system's Rainset™, found in the mechanical room, serves as the control station, the treatment station, and the pressure booster pack all in one; the skid containing the Rainset™ also includes monitoring, pumping, and cleaning controls. The NACO Border Patrol expects to collect nearly half a million gallons of rainwater each year which it will use for flushing toilets and irrigating outdoor plants.

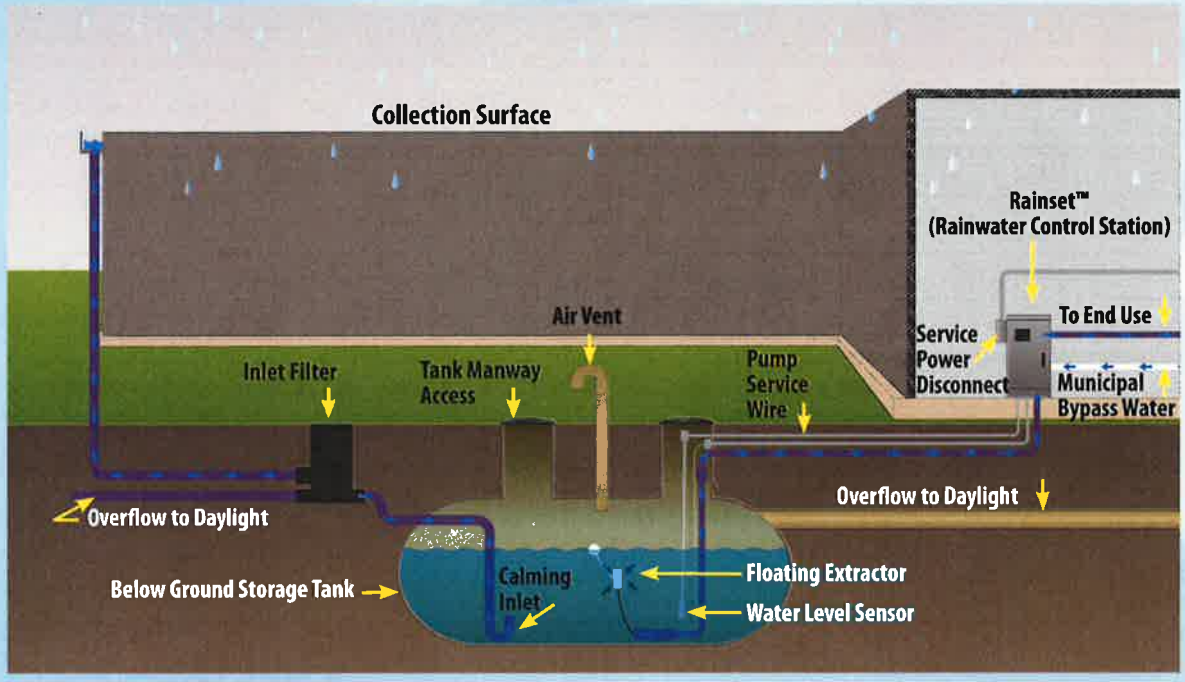
What form do rainwater harvesting systems take?

Rainwater harvesting systems can be very simple: An above ground storage tank attached to a downspout for irrigating landscapes. They can also be complex: A fully-engineered series of storage cisterns with custom data and power supply management delivering water to multiple end uses—including toilets, irrigation, cooling towers, and process water—while at the same time supporting a site's stormwater management objectives.

BRAE Typical Above Ground System



BRAE Typical Below Ground System



How do rainwater harvesting systems work?

All rainwater harvesting systems must do three things: Capture rainwater, store rainwater, and pump & treat rainwater.



Step one: Capture rainwater

Rainwater is captured off rooftops and other surfaces, then sent through an inlet filtration device designed to remove debris before storage in a tank. Inlet filters can be located in a variety of locations depending on site constraints.

BRAE's line of inlet filtration products can be used for a diverse range of projects, regardless of size or scope. The line includes:

- Commercial rain heads designed to filter out mosquitoes, vermin, and debris
- Commercial downspout filters designed to remove sediment, gravel, and oil and grease from stormwater runoff



Step two: Store rainwater

Collected rainwater is stored in a tank or cistern which can be located above or below ground. Depending on the project's requirements, tanks are available in a variety of materials, with plastic (polyethylene), fiberglass, or galvanized steel the most common.

BRAE's storage tank & cistern product line includes a range of solutions for above and below ground rainwater storage. The line includes:

- Above and below ground high density polyethylene (HDPE) tanks offering superior corrosion resistance and a wide range of storage capacities
- Below ground fiberglass tanks designed to meet AWWA D120, NFPA 22, NSF 61, and IAPMO standards
- Above ground galvanized steel cisterns with capacities up to 600,000 gallons/tank



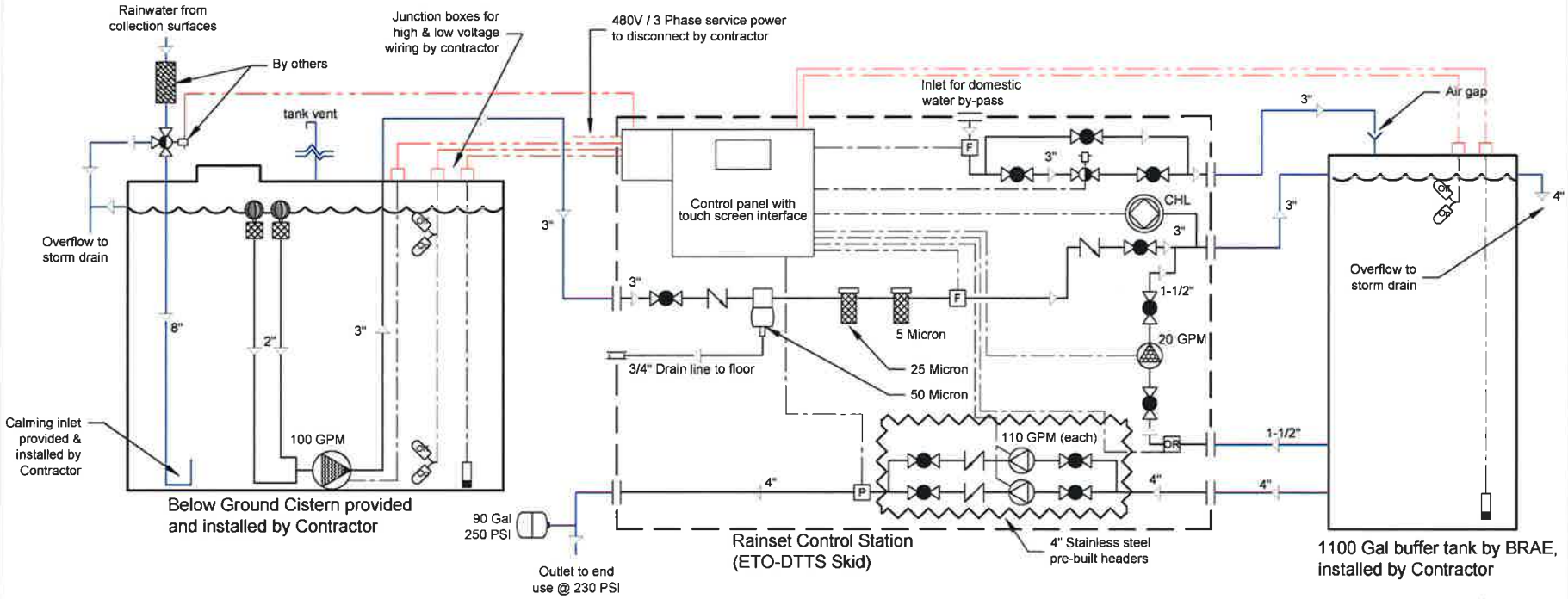
Step three: Pump & treat rainwater

All rainwater harvesting systems require a rainwater control station to manage the system as well as treat and pump water. Water is distributed from the storage tank via pumps. Many applications also require filtering the water before pumping in order to safeguard non-potable water quality.

BRAE refers to rainwater control stations as Rainsets™, and ours are designed to manage pressurized pumping for water distribution, filter/disinfect rainwater for non-potable use, and manage power supplies/connections to ensure continuous operation. The BRAE Rainset™ line includes:

- Compact Rainsets™ offering an economical and space-saving design
- Compact Rainsets™ with integrated constant pressure pump controls
- Modular Rainsets™ designed for indoor installations with limited mechanical room space
- Custom skid-mounted systems





SYMBOLS LEGEND

P	Pressure Sensor		Check Valve
F	Flow Sensor		Pressure Relief Valve
OR	Oxygen Reduction Sensor		Inlet Pre-Filter
	Level Sensor		Ball Valve
	Floating Extractor		Flange Connection
	Vertical Centrifugal Pump		Union Connection
	Submersible Pump		Manual Cleaning Sediment Strainer
	Recirculation Pump		Bag Filter Housing
NO/NC	Electronically Controlled Solenoid Ball Valve		Hydro-Pneumatic Pressure Tank
	Electronically Controlled 3-way Solenoid Ball Valve	CHL	Chlorine Storage Tank with Injector Kit
LW OFF	Float Switch		

FIELD NOTES:

1. Contractor is responsible for providing and installing all piping that is outside of Rainset skid.
2. Contractor is responsible for providing and installing all electrical wiring that is outside of Rainset skid.
3. Contractor is responsible for installing the submersible pump, level sensors, floating extractor, and float switches that are provided by BRAE.

PIPING LEGEND

- Type "L" Copper Piping by Brae with direction of water flow
- Perimeter of Rainset Skid
- Piping Installed by Contractor with direction of water flow
- Elec Wiring by Brae
- Elec Wiring Installed by Contractor

340 Fremont

Process Flow Diagram

San Francisco CA

Drawn By: JW
Draw Date: 01/20/14
Approved By: SB
Date Approved: 01/21/14

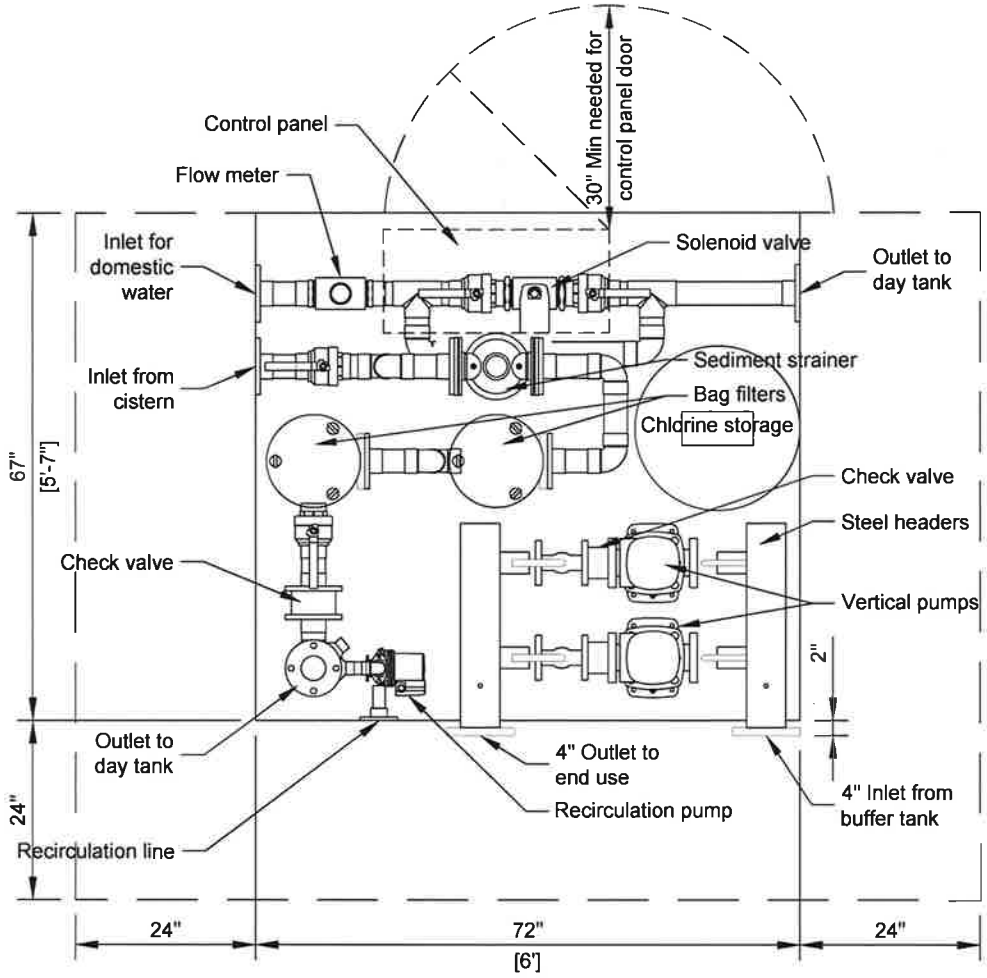
Blue Ridge Atlantic Enterprises (BRAE)
2850 Fairfax Trafficway
Kansas City, KS 66115

BRAE™

Revision	Description	Date	Approved
	Updated pump flow and pipe size, added pressure tank & pre-built header	04/01/14	SB

Skid Layout

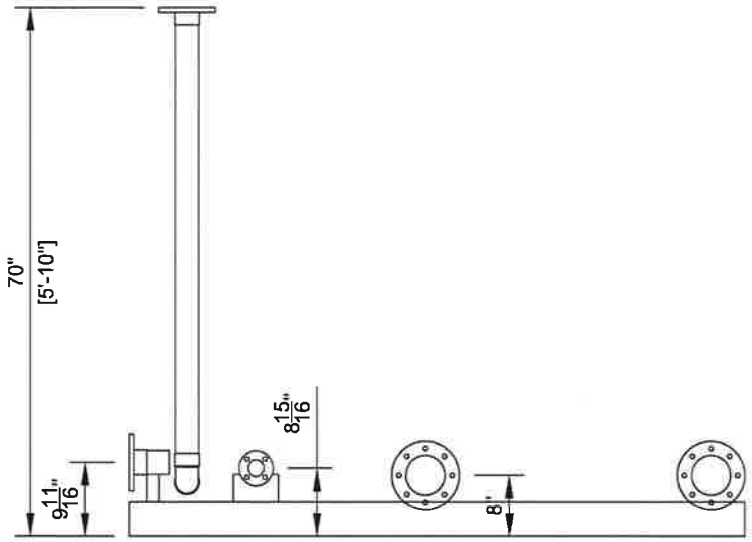
Scale: 3/4" = 1' - 0"



Dimensions are for construction reference only

Flange Dimensions

Scale: 3/4" = 1' - 0"



BRAE

DRAWING NAME	DRAWN BY	DATE
ETO-DTTS Skid	JW	01/28/2014

340 Fremont, San Francisco CA
Component & Piping Layout

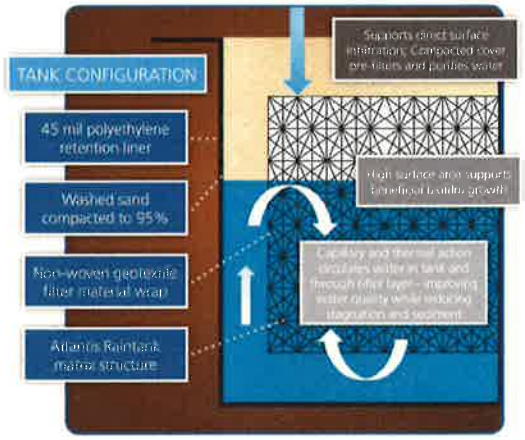
DRAWING SCALE: 3/4" = 1' - 0"

wahaso™
WATER HARVESTING SOLUTIONS

Atlantis Raintank







Atlantis Underground Tank System from Wahaso

The Atlantis Raintank® system is the superior method for storing harvested water for reuse below grade. In addition to being more economical than sealed tanks, it creates a "living system" below the ground that can actually improve the quality of the water being stored.

System Features

- Modular design for highly flexible tank shape and depth.
- Certified to support HS-20 surface loads for installation below parking areas and roadways.
- 95% space-efficient—reduces excavation and fill by 40% or more compared to cylinder and pipe systems.
- Ships flat for low-cost transport and assembles fast without heavy lifting equipment.
- Extra LEED credits available — made with up to 85% recycled polypropylene is manufactured and sourced in Mid-West U.S.
- Surface water can filter directly into top of tank through planted areas and permeable pavers.
- "Living" system
    - Beneficial micro-organisms in sand layer and bio-film on tank matrix help digest organic material and some pollutants.
    - Capillary and thermal action circulates and oxygenates water-eliminating need for tank sanitation or mechanical recirculation.
- Atlantis invented the modular tank system—don't be fooled by imitations!

Atlantis

Wahaso.com

304 South Lincoln Street | Hinsdale, IL 60521 | P 800.580.5350 | E info@wahaso.com

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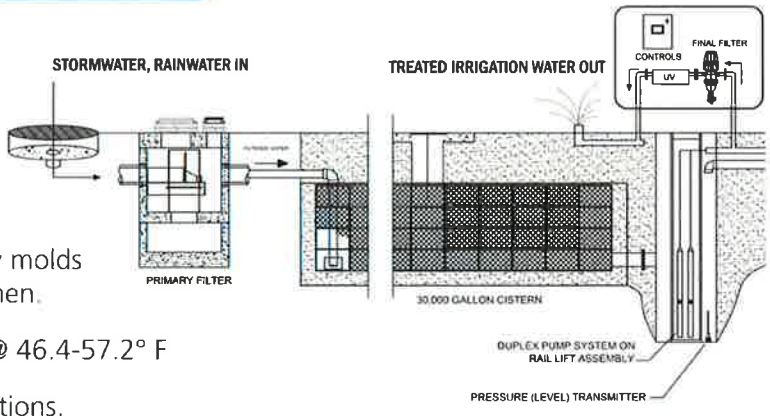
wahaso
WATER HARVESTING SOLUTIONS

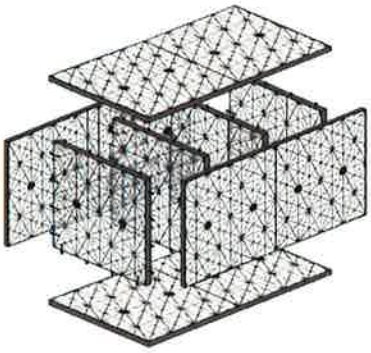
Wahaso Integrates Raintanks into Systems for Sustainable Irrigation and Other Uses

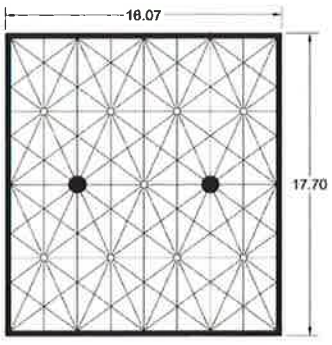
Atlantis

Specifications

- Surface area: 95% void
- Material: 85% recycled polypropylene & 15% proprietary Atlantis materials
- Biological and Chemical Resistance: Unaffected by molds and algae, soil-born chemicals, bacteria and bitumen.
- Ultimate crush load: 34 PSI, Displacement .433" @ 46.4-57.2° F
- Tested and certified by IAPMO and other organizations. Test result documentation available on request.







Module	Width	Length	Height (inches)	Tank Volume (cf)	Water Storage (cf)	Water Storage (gal)	Tank Weight (lbs)
Single (1)	16.06	26.97	17.72	4.44	4.22	31.56	14.0
Double (2)	16.06	26.97	34.65	8.69	8.25	61.72	26.0
Triple (3)	16.06	26.97	51.57	12.93	12.28	91.88	38.0
Quad (4)	16.06	26.97	68.50	17.17	16.31	122.03	50.0
Penta (5)	16.06	26.97	85.43	21.42	20.35	152.19	62.0

Technical Notes:
1. To support stated surface loads, tanks must be properly installed with 95% compacted sand below tanks and around sides and top. Minimum top cover 500-700 mm (20-28") required. Standard 4-plate matrix supports loads to HS-20; an additional fifth plate can be added to increase the structural strength of the system for heavier loads. See Installation Guidelines for all requirements. It is the responsibility of the customer to have a qualified engineer calculate and review loads and safety factors to suit each specific project. 2. For proper operation, water entering tank must be pre-screened to remove particulates greater than 350 microns in size. Failure to properly pre-filter water can result in sediment build up and anaerobic bacteria contamination. 3. Atlantis® Matrix® tank modules are manufactured using recycled products. Atlantis recommends a structural capacity incorporating a minimum safety factor of 2 to allow for variation in recycled plastic batches. Engineering support is available through Wahaso and Atlantis.

Manufactured by Atlantis Water Management, 3/19-21 Gibbes Street, Chatswood, NSW 2067 Australia. U.S. Manufacturing facility is located in Victor, IA. Wahaso is an authorized reseller of Atlantis products.

Disclaimer: All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. This information is intended only as a general guide, no responsibility can be accepted for any errors, omissions or incorrect assumption. As each project is unique, and as Rebirth Pty Ltd, Atlantis Water Management and Atlantis Corporation Pty Ltd have no control over the final design and no control over the methods employed by the user in specifying, installing or supervising of its products, hence no responsibility is accepted by Wahaso™ Water Harvesting Solutions, Inc., Rebirth Pty Ltd, Atlantis Water Management, Atlantis Corporation Pty Ltd. Users should satisfy themselves as to the suitability of the product for their purpose. All product designs, and specification are subject to change without further notice. All Atlantis® products are tested in approved NATA laboratories, and safe allowed tolerances should be practiced in the actual field to compensate for any unforeseen situations, on site and on products.

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304 South Lincoln Street | Hinsdale, IL 60521 | **P** 800.580.5350 | **E** info@wahaso.com

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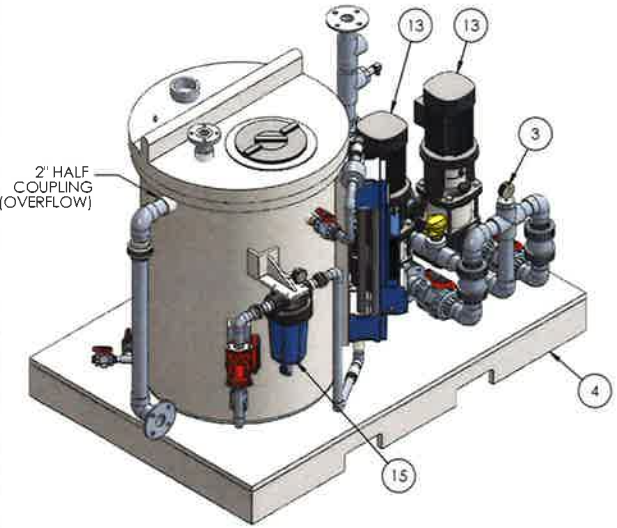
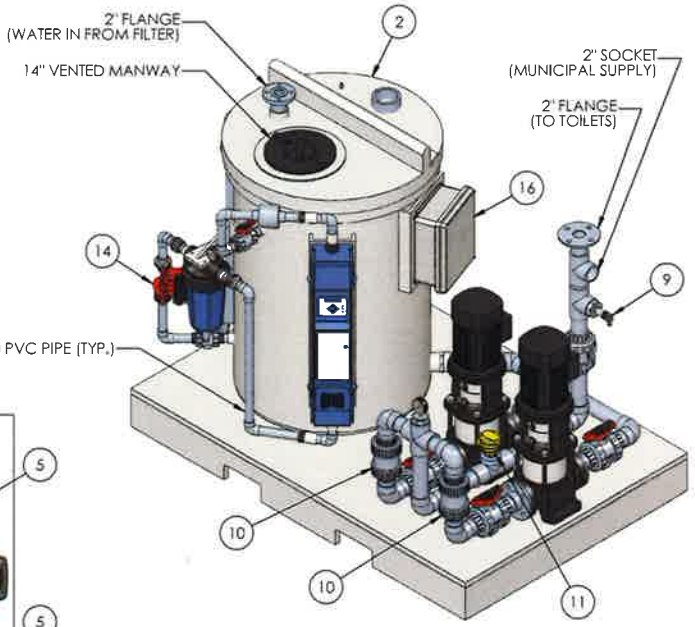
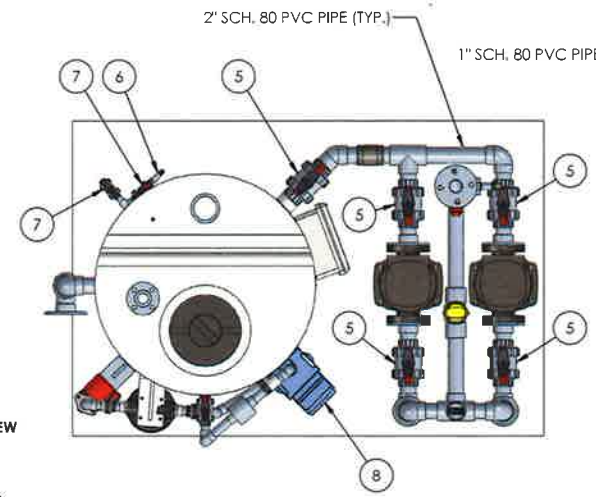
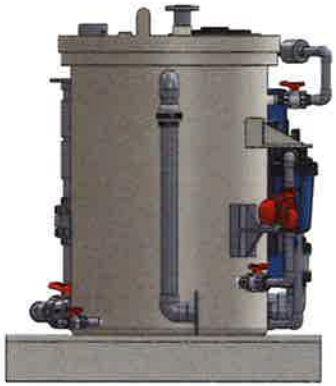
ITEM NO.	DESCRIPTION
1	FLOW CONTROL VALVE, 10 GPM
2	120 GALLON HDPE TANK
3	PRESSURE GAUGE
4	PLATFORM - PP
5	2" BALL VALVE
6	LEVEL TRANSMITTER
7	1/2" BALL VALVE
8	UV STERILIZER, 10 GPM, SELF-CLEANING
9	PRESSURE TRANSMITTER
10	2" CHECK VALVE
11	PADDLEWHEEL FLOWMETER
12	1" BALL VALVE
13	PUMP, 7.5 HP, 90 GPM @ 65 PSI
14	PUMP, RECIRCULATION - 1/6 HP, 25 GPM @ 10 PSI
15	BAG FILTER WITH 1" CONNECTIONS, 10 MICRON BAG
16	ELECTRICAL ENCLOSURE



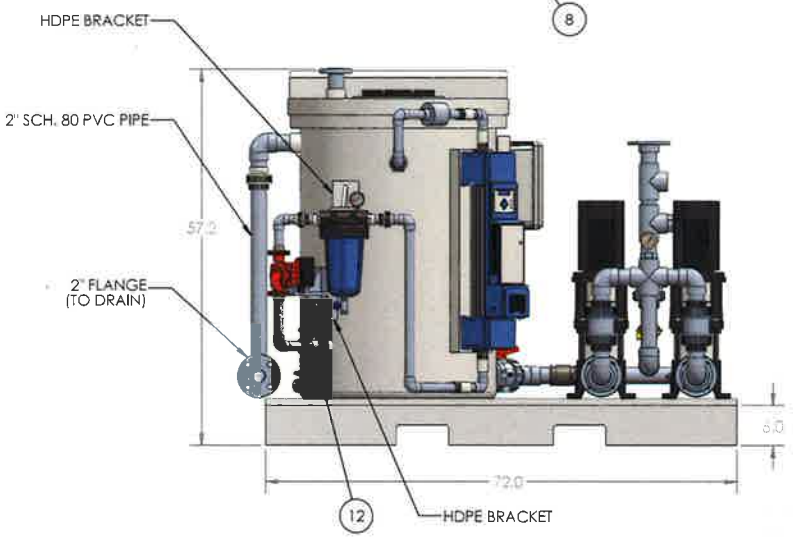




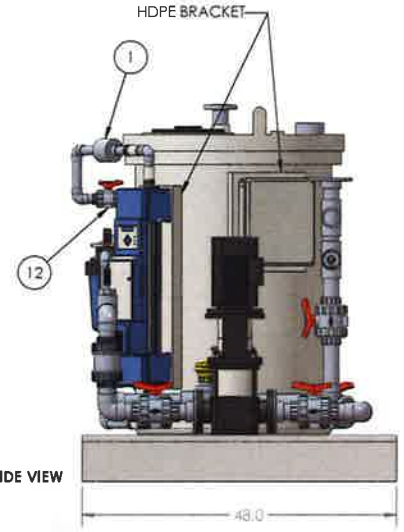
TOP VIEW



LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW

REV	DATE	DESCRIPTION
A	03/27/12	PRELIMINARY DESIGN

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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONALS
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
NEXT ASSY | USED ON
APPLICATION
DO NOT SCALE DRAWING

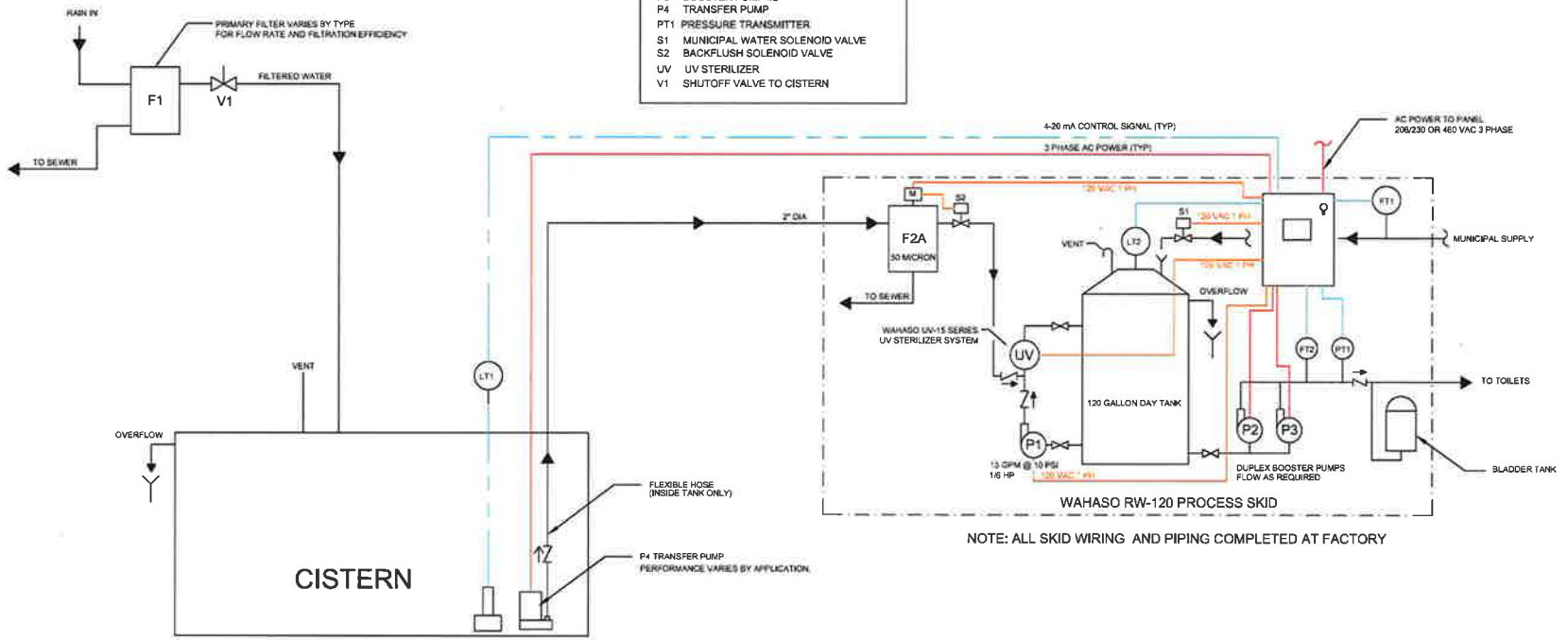
	NAME	DATE
DRAWN	DKE	03/27/13
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

TITLE:
TANK AND BOOSTER PUMP SKID

wahaso

SIZE C | DWG. NO. W00100 | REV A
SCALE: 1:14 WEIGHT: | SHEET 1 OF 1

F1 PRELIMINARY FILTER
F2A FINAL FILTER 50 MICRON - AUTOMATIC
LT1 LEVEL TRANSMITTER - CISTERN
LT2 LEVEL TRANSMITTER - DAY TANK
FT1 DOMESTIC WATER FLOW TRANSMITTER
FT2 BUILDING FLOW TRANSMITTER
P1 RECIRCULATION PUMP 15 GPM @ 10 PSI
P2 BOOSTER PUMP #1
P3 BOOSTER PUMP #2
P4 TRANSFER PUMP
PT1 PRESSURE TRANSMITTER
S1 MUNICIPAL WATER SOLENOID VALVE
S2 BACKFLUSH SOLENOID VALVE
UV UV STERILIZER
V1 SHUTOFF VALVE TO CISTERN



NOTE: ALL SKID WIRING AND PIPING COMPLETED AT FACTORY

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DATE:	SCALE:	BY:	CHECKED:			
6/8/2013	NONE	SLB				

wahaso

RW 120 RAINWATER HARVEST FLOW SCHEMATIC

120 GALLON SYSTEM

REV	DATE	DESCRIPTION

COLUMBIA GREEN TECHNOLOGIES

INNOVATIVE GREEN ROOF TECHNOLOGY



Columbia Green Technologies endeavors to provide the most appropriate green roof for your project, rather than a one-size-fits-all approach. Each comprehensive green roof solution has been engineered to meet the unique challenges of the rooftop growing environment.



Green roofs, also known as eco-roofs or vegetative roofs, are increasingly common. There are many environmental and economic benefits to the implementation of green roofs that contribute to the rapid industry growth. The plantings provide elements of design to an otherwise un-used space and the plant material improves air quality by sequestering air-borne particulates and pollutants. The green roof can reduce the temperature of the surrounding ambient air, thereby reducing the heat island effect. The green roof protects the roof membrane, increasing its useful life. Perhaps most importantly, green roofs can reduce both the amount and rate of stormwater run-off, making them a real asset to cities struggling with aging storm and sewer infrastructure.

Summary of the benefits of a green roof

- Reduce the amount of stormwater runoff and also delay the time at which runoff occurs. In summer, depending on the plants and depth of growing medium, green roofs retain up to 70% of the precipitation that falls on them; in winter they retain between 25-40%. Green roofs can sustain a variety of plants and invertebrates, and provide a habitat for various bird species.
- 2x-3x Prolonged life of roof membrane
- Provide year-round energy savings; the thermal blanket saves energy and costs for both heating and cooling – as many as fourteen Leadership in Energy & Environmental Design (LEED) credits
- Aesthetics; Attractive Amenity Spaces and Increased Property Values, Occupancy Rates

WHY COLUMBIA GREEN?

Columbia Green Technologies has a long history of innovation in the industry; our products are engineered specifically for the unique requirements of a roof environment, taking everything from wind uplift to irrigation into consideration. We offer comprehensive green roof solutions for a variety of situations: extensive, semi-intensive and intensive roof gardens. Designers appreciate the flexibility to use trays or layered assemblies, as the project requirements dictate. Building owners love the single source 'Roof to Green Roof' warranty options provided through our roofing partners.

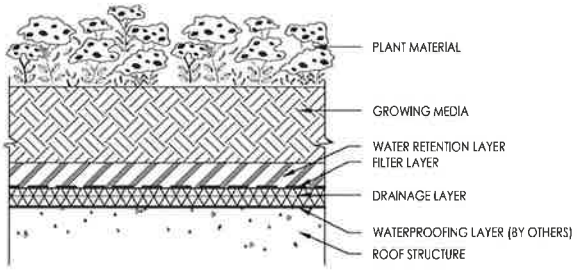
FM APPROVED Declare.





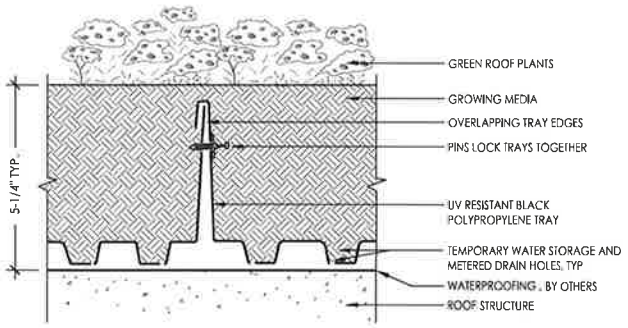
LAYERED ASSEMBLY

- Layered systems are built-in-place systems that are consist of following components
  - » Growing Media
  - » Retention Layer, which provides supplemental moisture retention for plant available water, high porosity for root aeration, and anchorage for plant root. Available in .5-inch or 1-inch thicknesses.
  - » Filter Layer, which prevents gravitational erosion of the growing media.
  - » Drainage Layer for preventing ponding and moving excess water across the roof surface to the nearest drain. Available in .40-inch, .75-inch, or 1.5-inch increments.
  - » Edger for perimeter stability
- Layered systems are most compatible with curvilinear or organically shaped roof layouts.
- Layered systems offer maximum soil depth flexibility. We recommend anywhere from 3-inches to 24-inches+ of media depth.



TRAY SYSTEMS: PRE-GROWN AND PLANTED-IN-PLACE

- Our patented interlocking and overlapping tray system was designed by landscape architects, stormwater engineers, horticulturists and roofing experts specifically for the unique challenges of the rooftop environment- just fill it with growing media and plants. Each of the individual functions found in the layered assembly is inherent to the tray, thus eliminating the need for separate drainage mats, root barriers, filter fabric, etc.
- Can be pre-grown as well as planted at the job site.
- Maximum stormwater retention capability.
- Easily installed.
- Integrated drip irrigation available.
- Optimal growing environment for plants.



PLANTING OPTIONS



Custom matched and most often regionally-sourced to meet each project's design and installation parameters. Plants are available in un-rooting sedum cuttings, plugs, pre-grown sedum tiles (15"x20") and pre-grown sedum mats (4'x 6'). Media depth permitting, we can also source regionally appropriate accent plants such as bulbs, grasses, perennials and shrubs.

ROOFING PARTNERS

Our roofing membrane partnerships allow us to offer single-source warranties on our assemblies. We partner with leading manufacturers of roofing materials to offer a complete solution for every type of roof construction. Regardless of your region, roof type or price point, we can find a solution for you. Our roofing partners are listed to the right.

Partner	Available Membranes
Fiberlite Green	PVC
Henry	Hot Rubber
BAKOR	Mod Bit, SBS
Malarkey Roofing Products	Mod Bit, SBS
DERBIGUM MAKING BUILDINGS SMART	Mod Bit, SBS
KEMPER SYSTEM	Cold Applied

ABOUT COLUMBIA GREEN TECHNOLOGIES

Columbia Green is a green roof development company whose core technologies are based in vegetative roofs and sustainable functions that help manage the quality/quantity of storm water, energy use, and air/water pollution. Cities across the world are using vegetative roofs to manage these environmental issues. Columbia Green is a USA manufacturer — delivering product through both domestic and international channels to meet these needs.

Contact:
79 SE Taylor, Suite 201 | Portland, OR 97214
503 327 8723 | info@columbia-green.com
www.columbia-green.com



COLUMBIA GREEN TECHNOLOGIES

TECHNICAL INFORMATION SHEET

Pre-Grown Tray System

(Patented: 7,603,808)

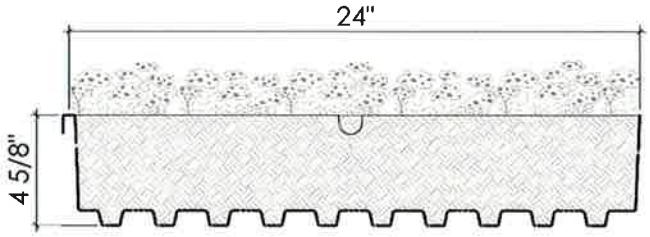
Product NUMBER: TR1000



Description:

The pre-grown tray provides a turnkey solution that meets or exceeds all guidelines for Green Roofs. The trays are easy to install and feature interlocking edges which prevent shifting or migration of growing media onto the roof membrane. At 24" x 24" x 4.625" deep, the pre-grown tray is appropriate for extensive and semi-intensive vegetative roof profiles. The modules are pre-grown with plants (most commonly sedum) selected by the project designer and shipped to the job site with approximately 90%+ vegetation coverage.

Comprised of a heavy duty recycled polypropylene, the Columbia Green Technologies' Tray system is designed with a channelized bottom to maximize stormwater retention. It can reduce both the amount and rate of stormwater run-off and is capable of retaining up to 70% of annual precipitation. Detailed stormwater retention calculations and hydrographs are available upon request.



Planting Options:

- Plants are grown per the project specifications, provided they are appropriate for the local climate zone and sufficient lead time has been provided. Please contact Columbia Green Technologies for more information.

LEED Information:

- Post-Consumer Recycled Content: 88%
- Manufacturing Location: Washougal, WA 98671

FM Fire Rating:

FM APPROVED

FM is a third party, objective testing program to certify that building products and services meet rigorous loss prevention standards. These standards are particularly important within the roofing industry. We are pleased to offer FM approval for our Tray system under Approval Standard 4470.

Declare Label for Materials Transparency:

Declare.

The Declare Label is a voluntary disclosure of building material ingredients which offers Living Building Challenge and other project teams concerned about building product ingredients a guide for product specification. We are pleased to announce that our tray system is 'Red List Free' which means it doesn't contain "worst in class" materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem. www.declareproducts.com

Wind Uplift:

- *ANSI/SPRI RP-14 Wind Design Standard for Vegetative Roof Systems* is the only Wind Uplift standard for the United States.
- Due to the interlocking design, The Planted-In-Place Tray is considered a #2 Ballast system (Increased wind uplift resistance).
- Please request a copy of our ANSI/SPRI RP-14 User Guide.

COLUMBIA GREEN TECHNOLOGIES

TECHNICAL INFORMATION SHEET

System Weight:

System Depth	Dry Weight	Saturated Weight	Typical Field Weights
4.625" Media Depth	14 lbs./ft^2	27 lbs./ft^2	20 lbs./ft^2

** System weights vary by region due to variances in growing media weight contact your local representative for more information.*

Packaging/Component Size:

Empty Tray:	
Thickness:	100 MIL.
Dimension:	24"W. x 24"L. X 4.625"
Coverage:	4 ft^2
Weight:	3.6lbs.
Packaging:	Stacked – 400 trays/pallet
Pre-Vegetated Tray:	
Typical Weight for Handling Purposes Only:	+/- 80lbs each

Installation:

1. Prior to installation it is the Project Representative's responsibility to determine whether the structure is adequately reinforced to withstand the added weight of a fully saturated vegetative tray. This decision should be completed with the aid of a registered structural engineer.
2. Perform tray installation only after a representative from the roofing membrane manufacturer has inspected the membrane and found it to be in accordance with the membrane manufacture's Specifications.
3. Place the vegetative trays directly on the roofing membrane or protective layer as determined by the membrane manufacture.
4. Using the interlocking sides, overlap the vegetative trays.
5. Secure the trays to each other using the removable pin fastener.
6. After all trays have been installed sufficiently irrigate plant material to ensure growth.

Storage:

- Immediately move plants out of direct sun to a cool location and remove cellophane wrapping.
- Trays may be left unstacked for a maximum of 12-hours, provided they are kept in the shade.
- Water 2-3 times/week until the trays are installed on the roof.
- Store away from sources of ignition and extremely high temperatures.

Precautions:

- Confirm with a certified Structural Engineer that the structure can support the saturated weight of the vegetative roof system.
- To facilitate drainage a minimum roof slope of 1/8" in 12" min. must be provided.
- Typical installation of Vegetative Roofing Trays is between April 1 and November 1. It is advised that system components not be installed when the weather is below 45 ºF (7.2 ºC) or above 95 ºF (35 ºC).
- Do not drag modules into position.
- Use caution when lifting trays.
- Check roof drains regularly to ensure there are no obstructions to impede water flow.
- Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
- Wear impermeable protective clothing, eye wear and self-contained breathing apparatus when cutting trays.

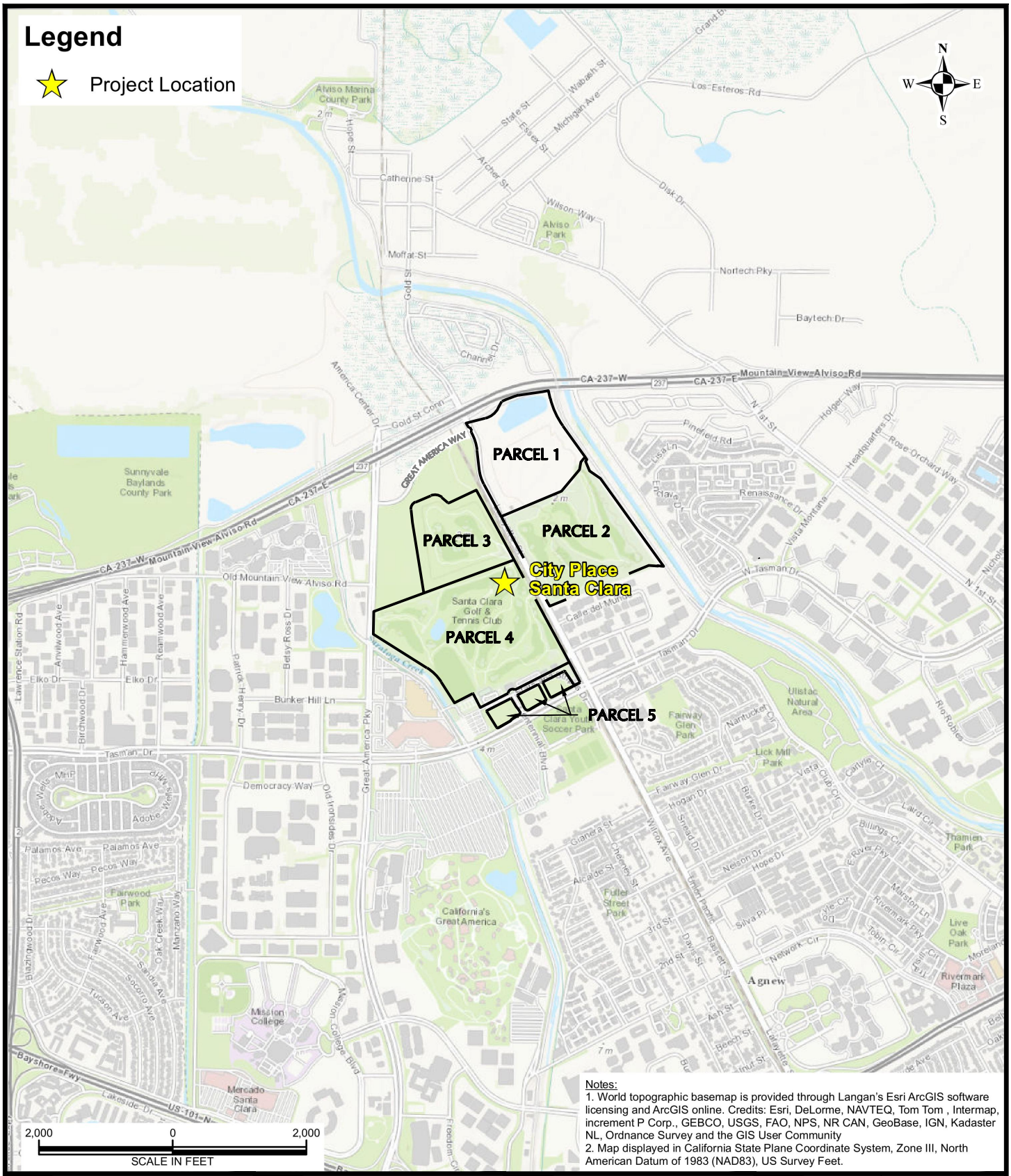
DOMESTIC WATER PHASING MATRIX											
								Booster Pumps			
Phase / Parcel	Gross Sq. Footage	Water Main (16-inch) (LF)	Laterals (8-inch) (LF)	Settlement Vault (#)	Water Meter (#)	Back Flow Preventer (#)	FD Connection (#)	Infrastructure (#)	Building (#)	Fire Hydrant (#)	Off-Site
1 / 5	825,000	5,860	505	-	4	4	4	-	4	3	See Note 1
2 / 4	2,411,470	2,900	3,645	10	23	23	23	-	23	8	-
3 / 4	752,030	1,330	2,775	6	14	14	14	-	14	3	-
4 / 4	1,095,900	240	650	4	4	4	4	-	4	3	See Note 2
5 / 3	750,000	4,076	610	5	5	5	5	1	5	3	-
6 / 1	1,200,000	5,445	1,585	8	8	8	8	1	8	10	-
7 / 2	1,080,000	5,052	1,075	6	6	6	6	1	6	9	
8 / 2	1,080,000	1,800	400	6	6	6	6	-	6	3	-

Notes:

1. Approximately 1,500 LF of existing water mains along Stars and Stripes Dive and Centennial Boulevard need to be raised or replaced based on the amount of fill needed. Existing domestic mains may be required to be upsized on sections of Great America Parkway. Lafayette Street, Calle de Luna, and Calle del Mundo, see attached exhibit.
2. Possible improvements required on an existing abandoned 12-inch main connecting to Great America Parkway.

RECYCLED WATER PHASING MATRIX					
Phase / Parcel	**Gross Sq. Footage**	**Recycled Water Main (12-inch) (LF)**	**Laterals (8-inch) (LF)**	**Settlement Vaults (#)**	**Water Meters (#)**
1 / 5	825,000	5,075	221	-	4
2 / 4	2,411,470	1,880	1,548	9	23
3 / 4	752,030	945	1,178	7	14
4 / 4	1,095,900	1,380	160	4	4
5 / 3	750,000	4,318	230	5	5
6 / 1	1,200,000	5,532	490	8	8
7 / 2	1,080,000	4,470	216	6	6
8 / 2	1,080,000	4,556	232	6	6

FIGURES



Notes:
1. World topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Esri, DeLorme, NAVTEQ, Tom Tom , Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR CAN, GeoBase, IGN, Kadaster NL, Ordnance Survey and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
CITY PLACE
SANTA CLARA
SANTA CLARA CALIFORNIA

SITE LOCATION MAP

Project No. 770611601	Figure No. 1
Date 9/22/2015	
Scale 1" = 2000	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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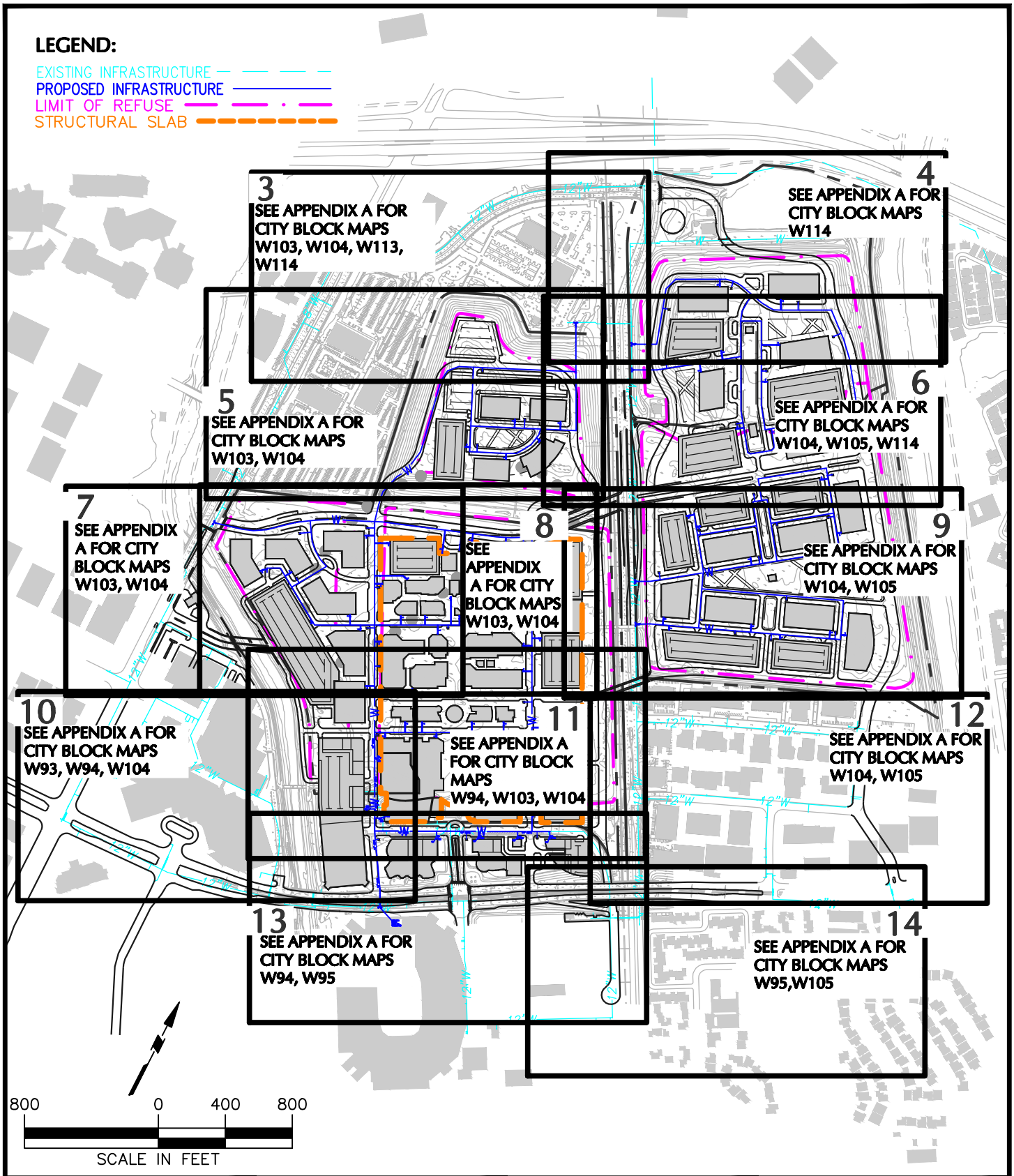

LANGAN
4030 Moorpark Avenue, Suite 210
San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
CITY PLACE
SANTA CLARA
SANTA CLARA CALIFORNIA

PRELIMINARY DOMESTIC WATER KEY

Project No. 770611601	Figure No. 2
Date 9/22/2015	
Scale 1" = 800	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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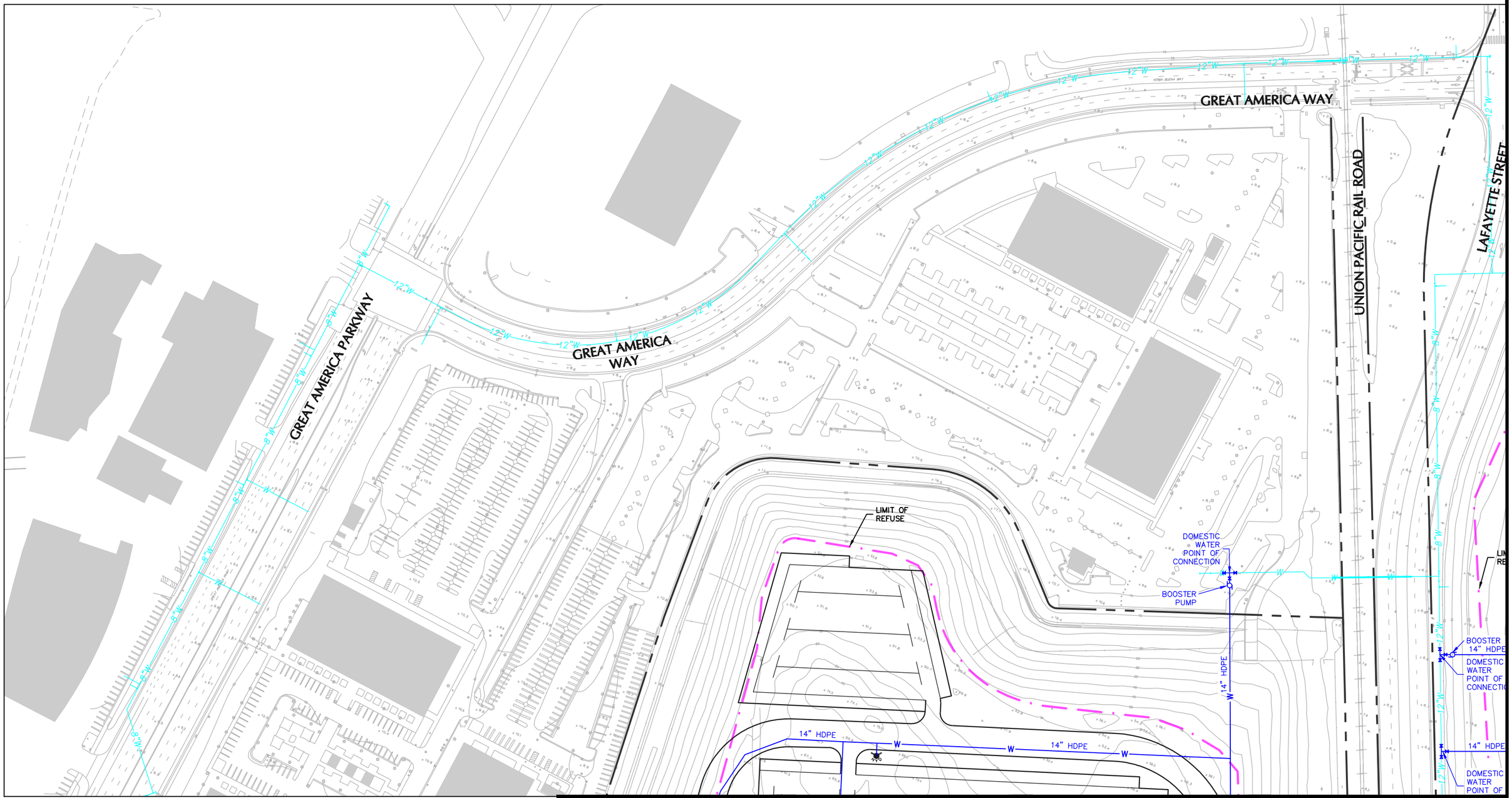

LEGEND:

EXISTING INFRASTRUCTURE ——— xx" w ———

PROPOSED INFRASTRUCTURE ——— W —xx" HDPE———

LIMIT OF REFUSE — — · — — · — —

STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

150 0 75 150

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SANTA CLARA CA

PRELIMINARY DOMESTIC WATER

Project No. 770611601	Figure No. 3
Date 9/22/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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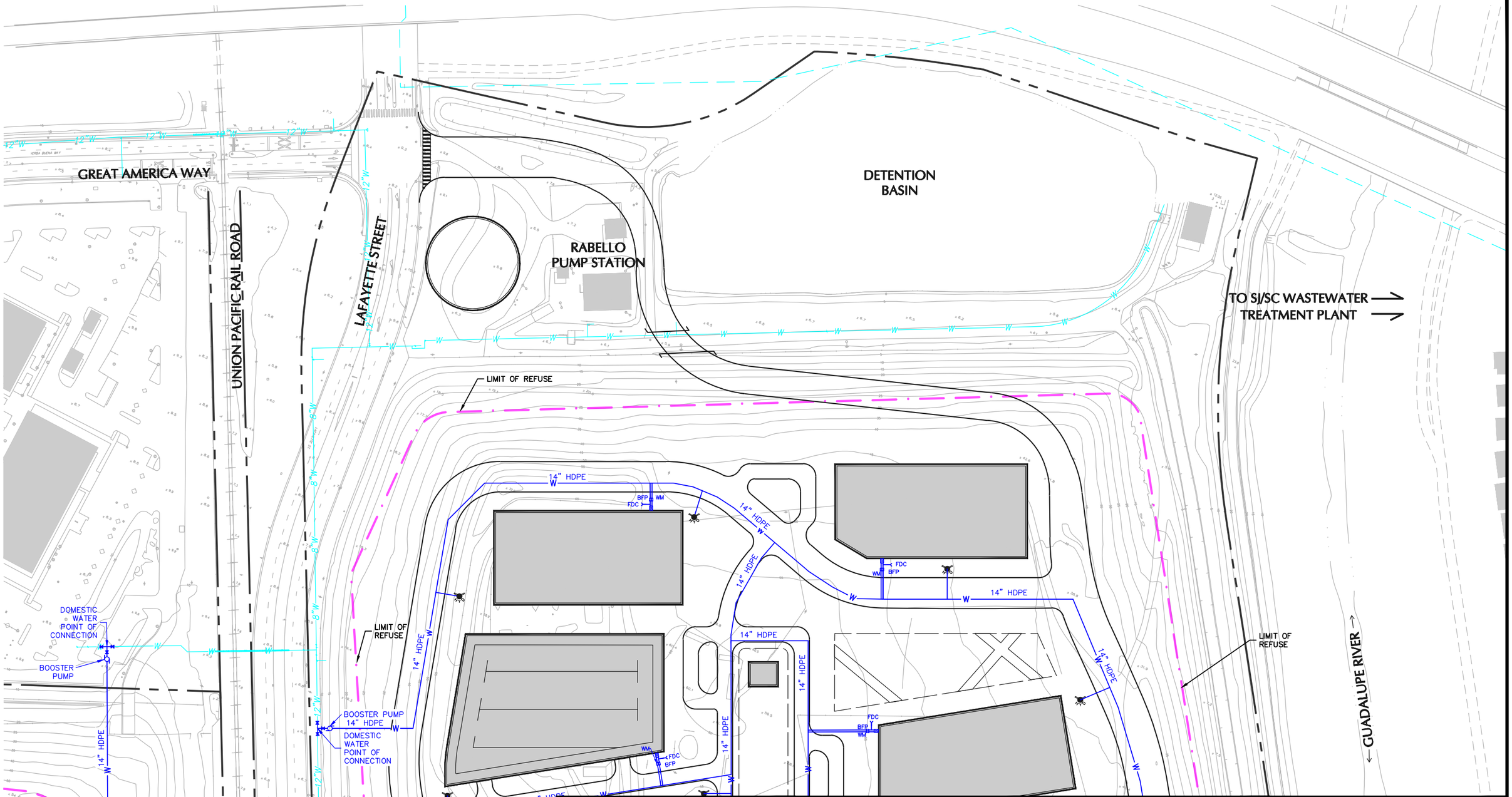

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬▬▬

150 0 75 150

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Project No. 770611601	Figure No. 4
Date 9/22/2015	
Scale 1" = 150'	
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Submission Date 9/22/2015	

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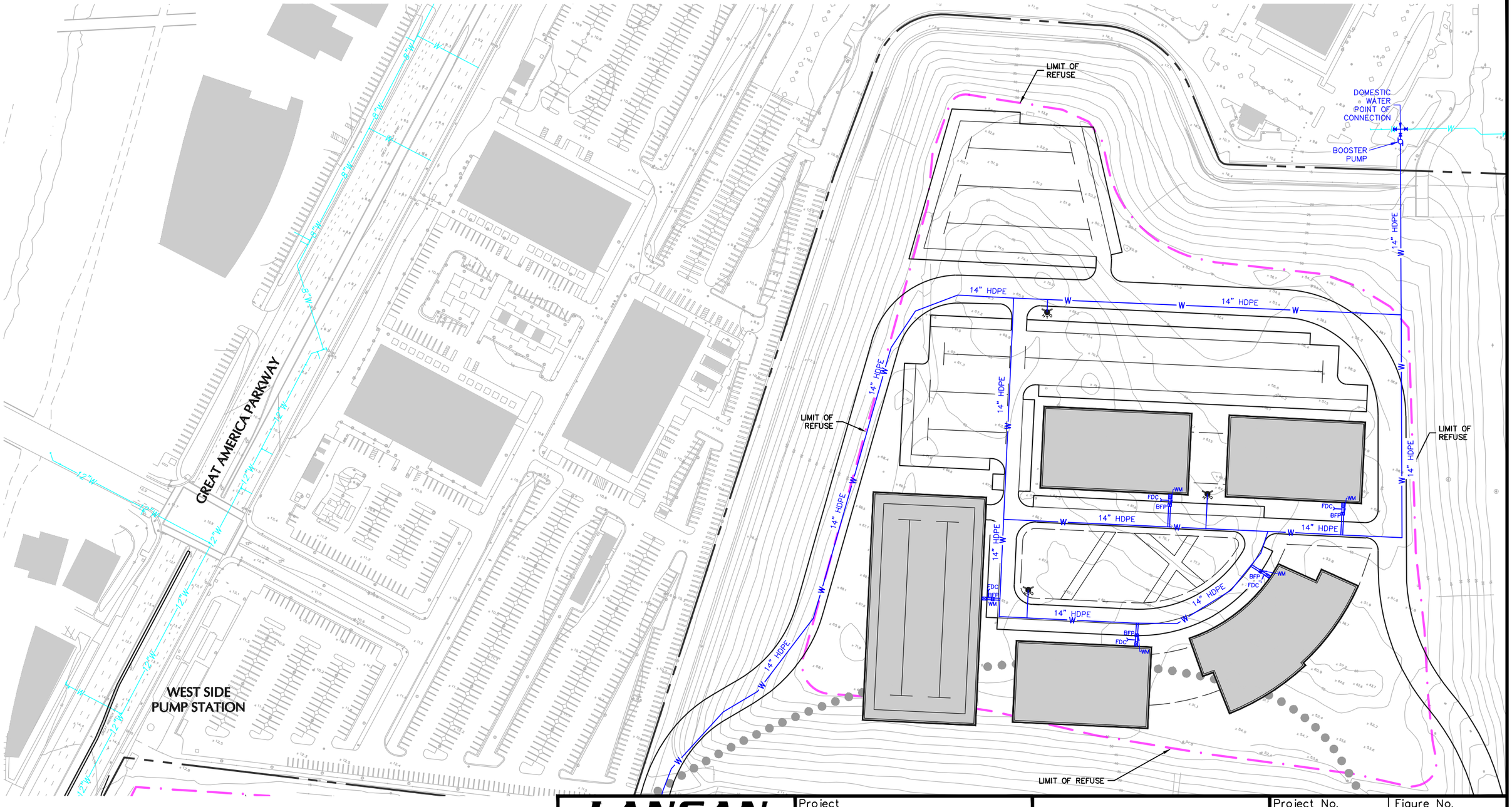

LEGEND:

- EXISTING INFRASTRUCTURE ——— xx" w
- PROPOSED INFRASTRUCTURE ——— W —xx" HDPE———
- LIMIT OF REFUSE — — — — —
- STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬ ▬ ▬

150 0 75 150

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Project No. 770611601	Figure No. 5
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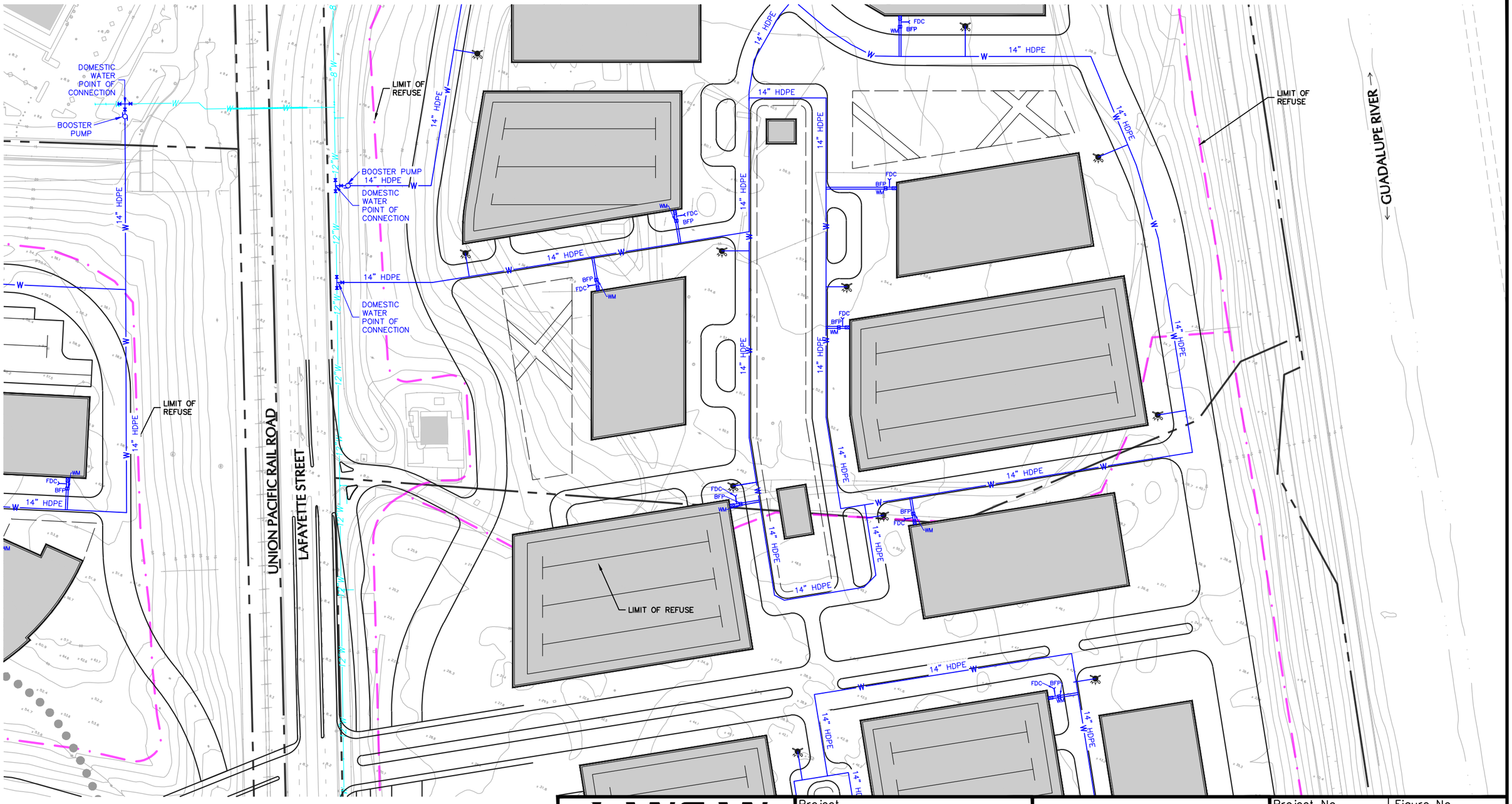

LEGEND:

EXISTING INFRASTRUCTURE — XX" W

PROPOSED INFRASTRUCTURE — W — XX" HDPE

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 6
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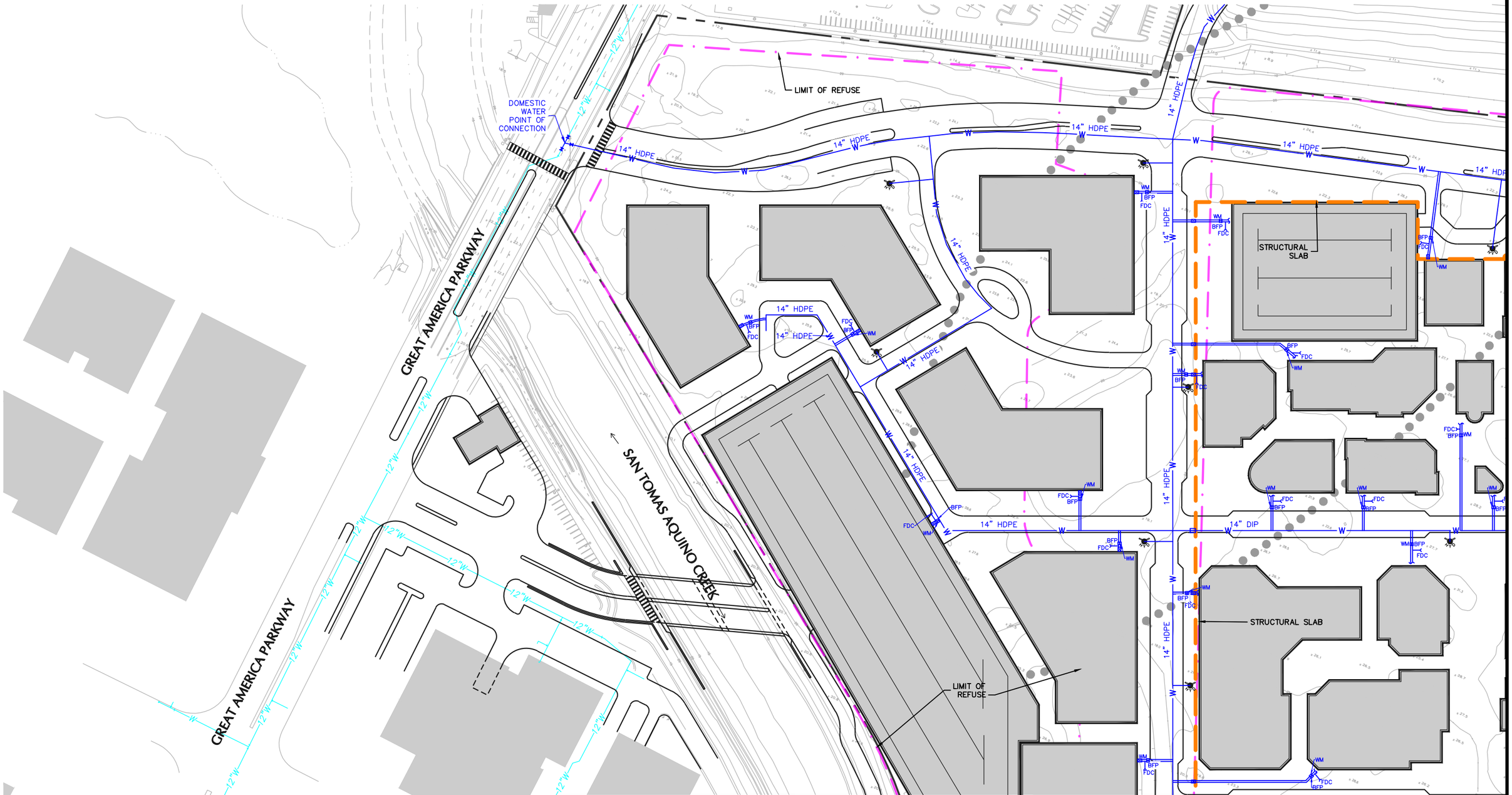

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

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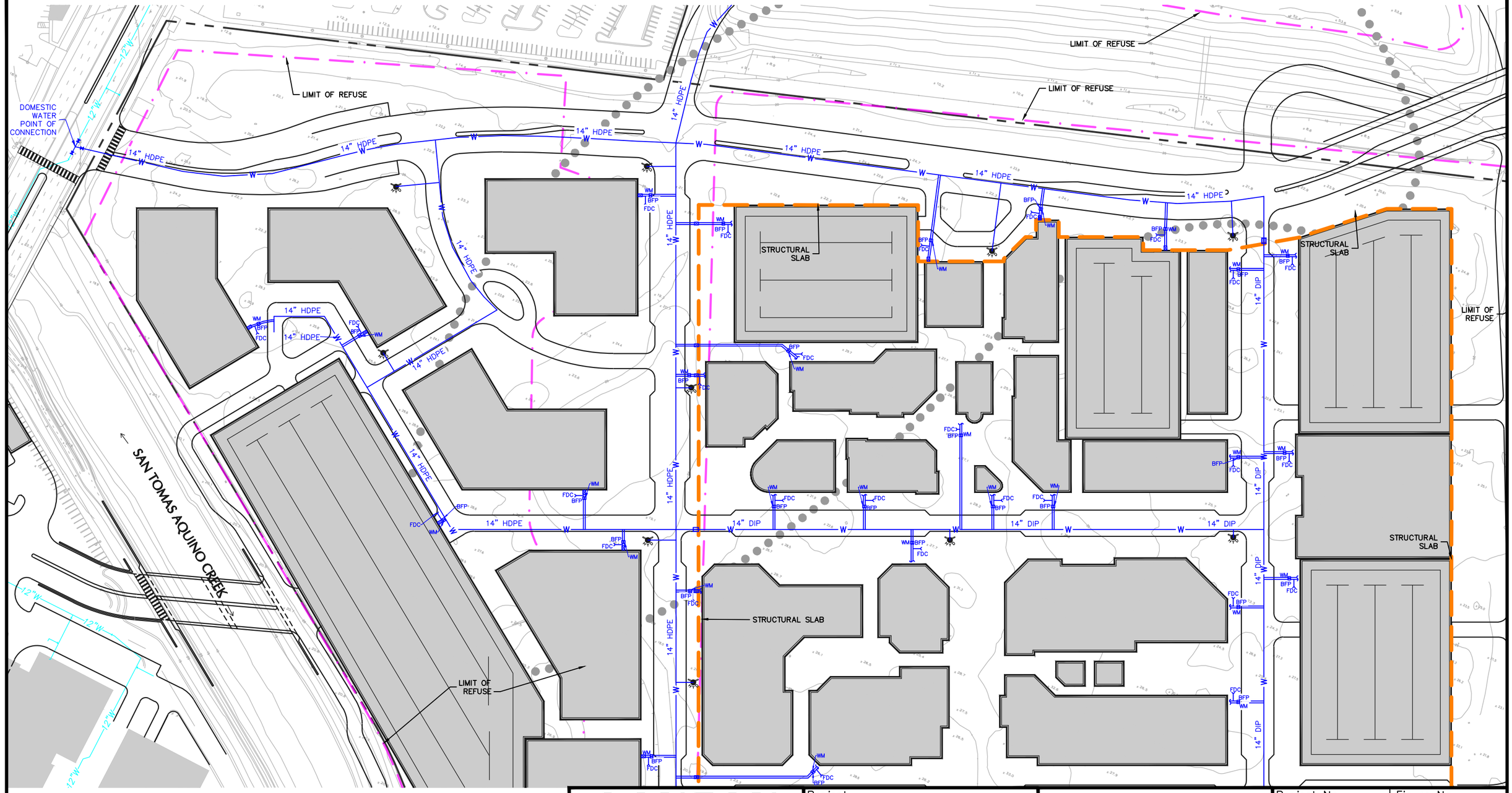

LEGEND:

EXISTING INFRASTRUCTURE ——— xx" W

PROPOSED INFRASTRUCTURE ——— W —xx" HDPE———

LIMIT OF REFUSE — — — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬▬▬

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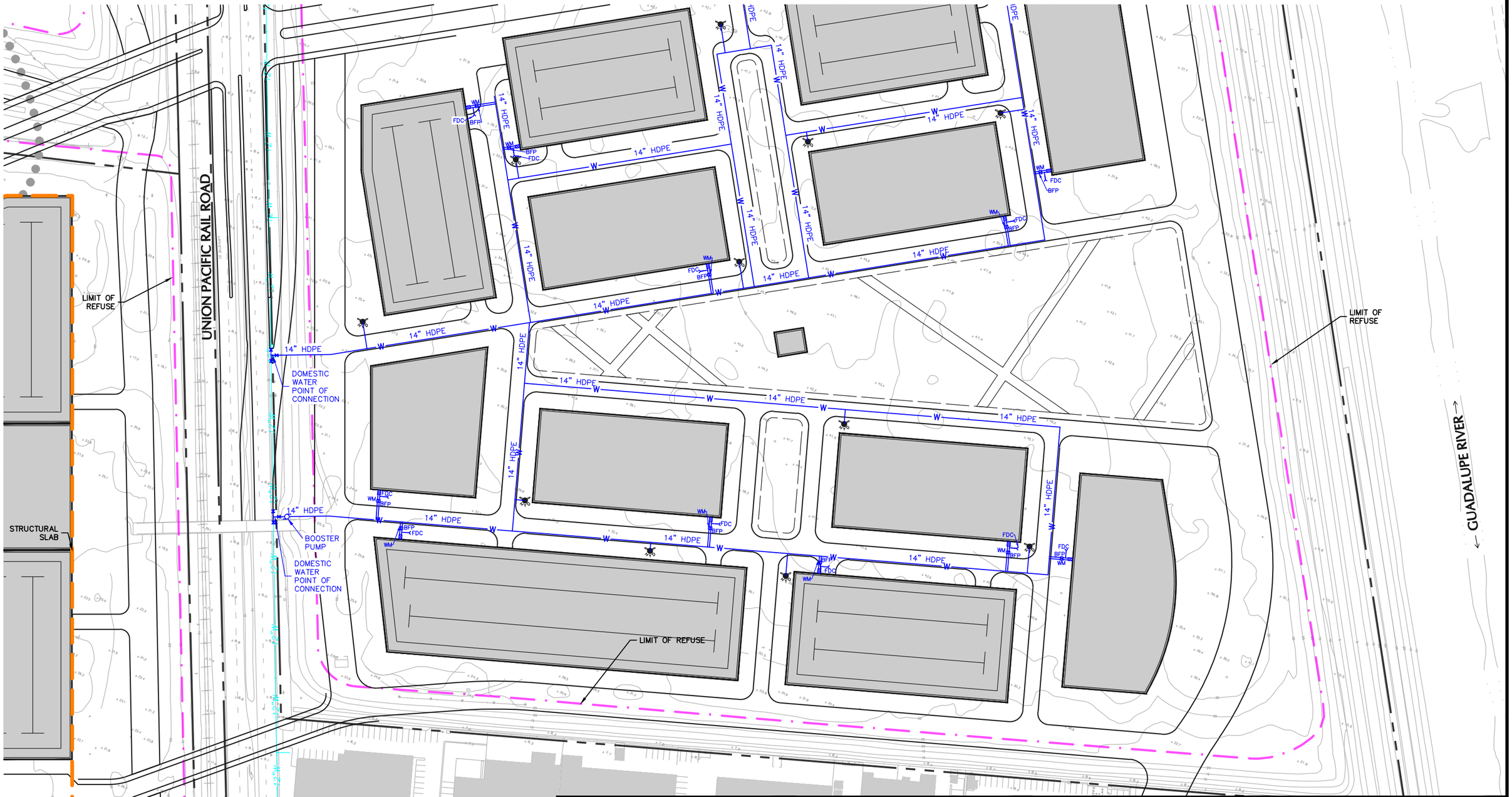

LEGEND:

- EXISTING INFRASTRUCTURE ——— XX" W ———
- PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———
- LIMIT OF REFUSE — — · — — · —
- STRUCTURAL SLAB

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Project No. 770611601	Figure No. 9
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Submission Date 9/22/2015	

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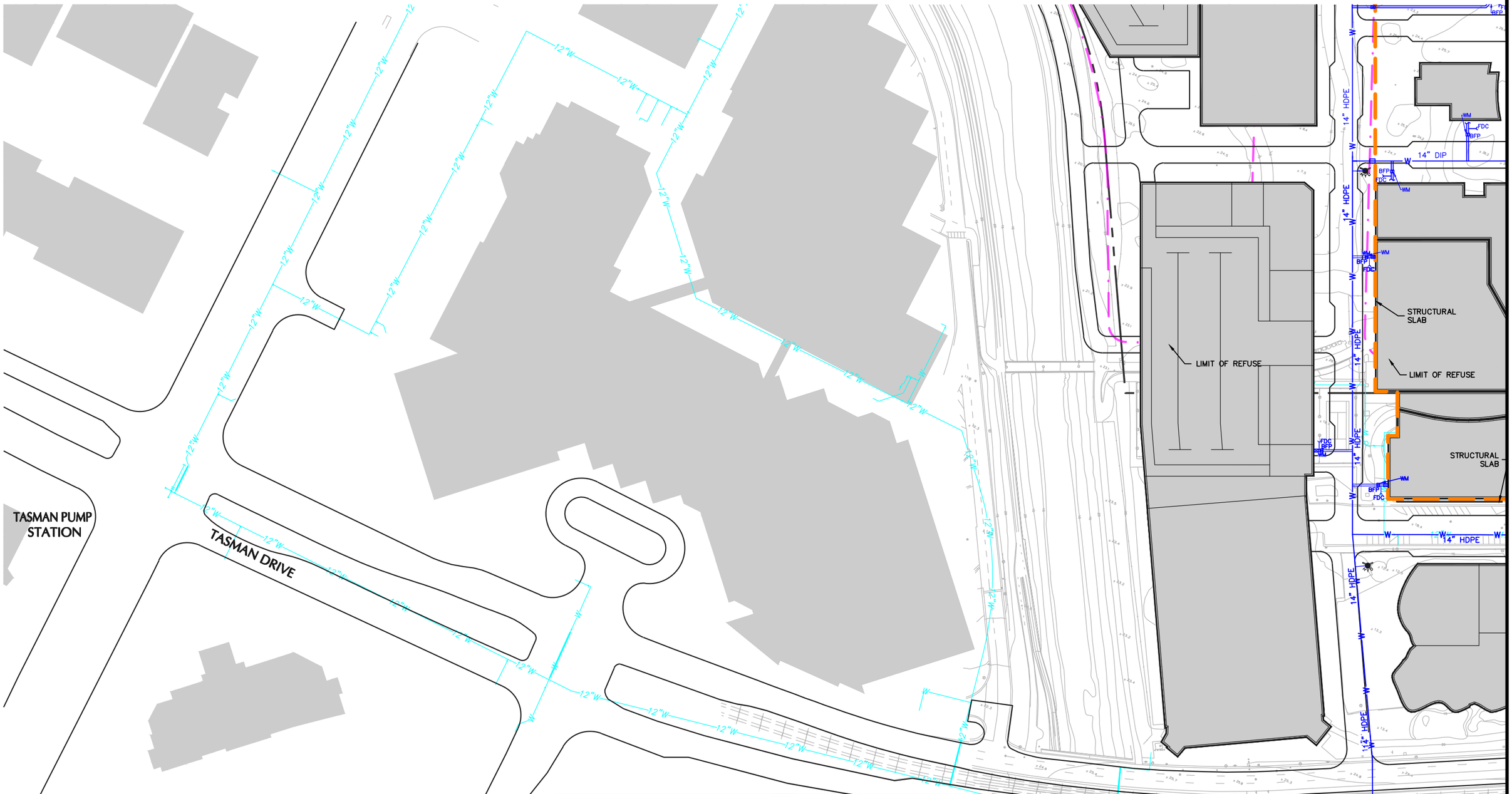

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

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Project No. 770611601	Figure No. 10
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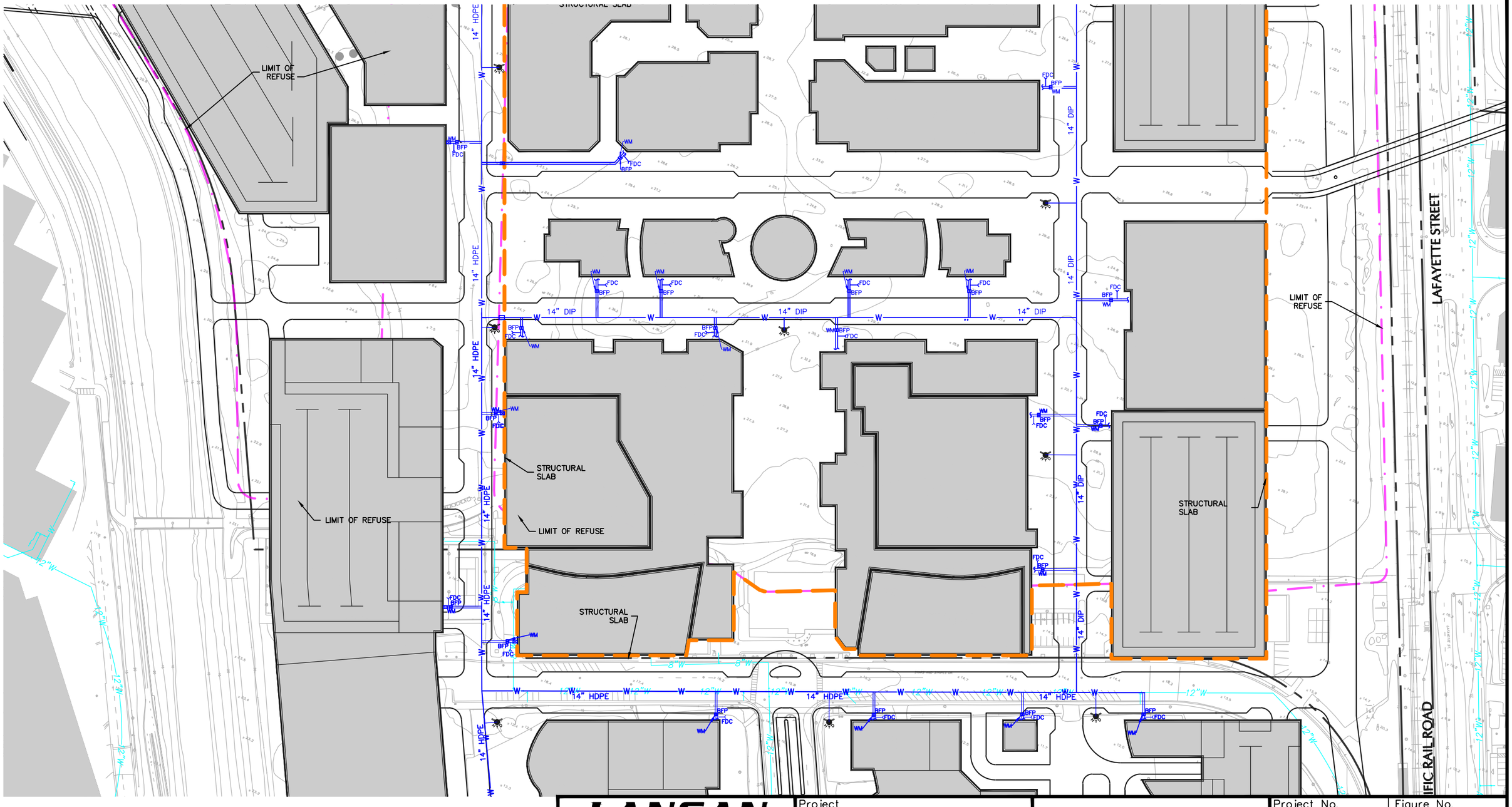

LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W ———

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB

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Project No. 770611601	Figure No. 11
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Submission Date 9/22/2015	

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LEGEND:

EXISTING INFRASTRUCTURE ——— XX" W

PROPOSED INFRASTRUCTURE ——— W —XX" HDPE———

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

150 0 75 150

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Project No. 770611601	Figure No. 12
Date 9/22/2015	
Scale 1" = 150'	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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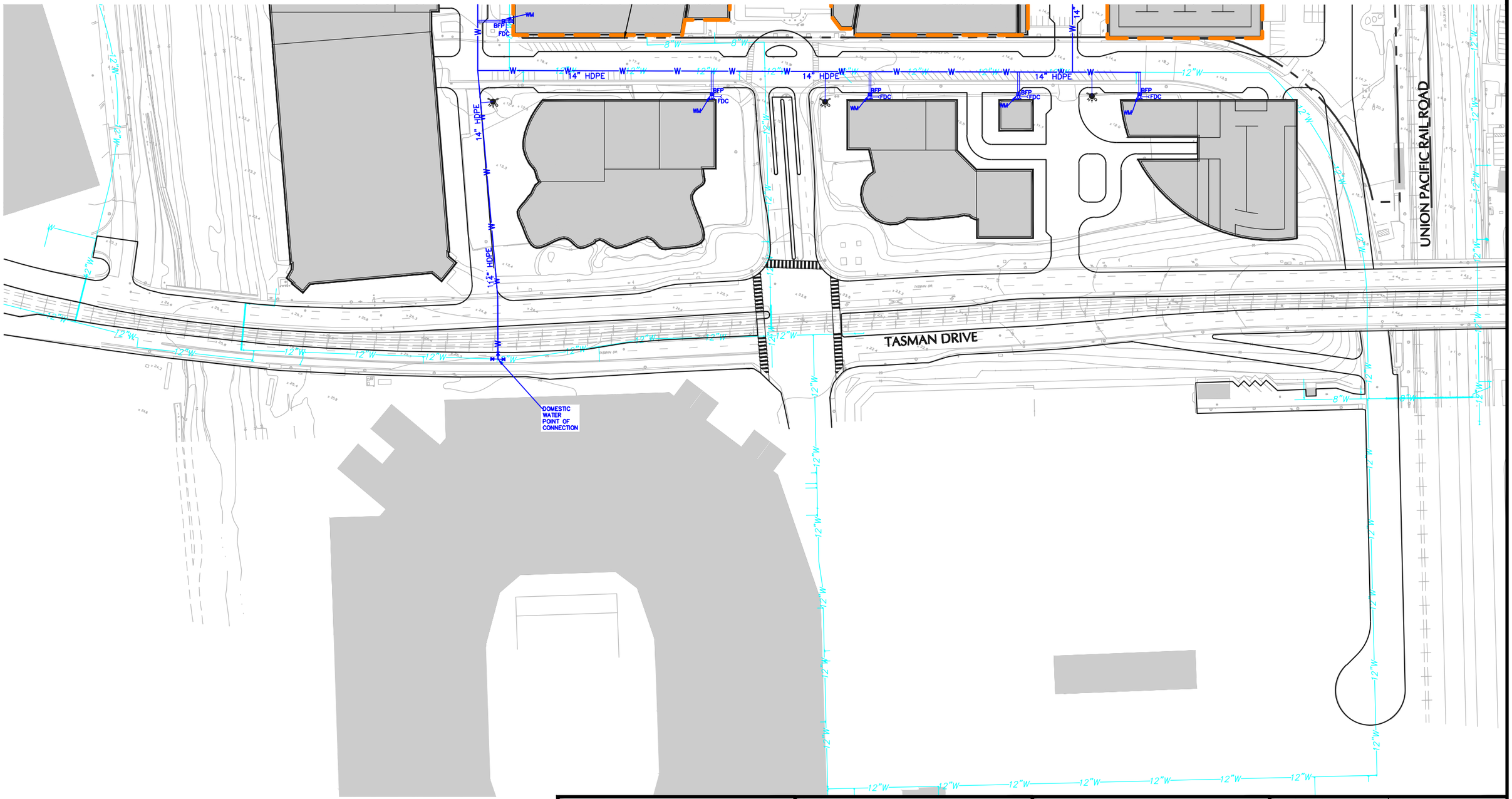

LEGEND:

- EXISTING INFRASTRUCTURE — XX" W
- PROPOSED INFRASTRUCTURE — W — XX" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY DOMESTIC WATER

Project No. 770611601	Figure No. 13
Date 9/22/2015	
Scale 1" = 150'	
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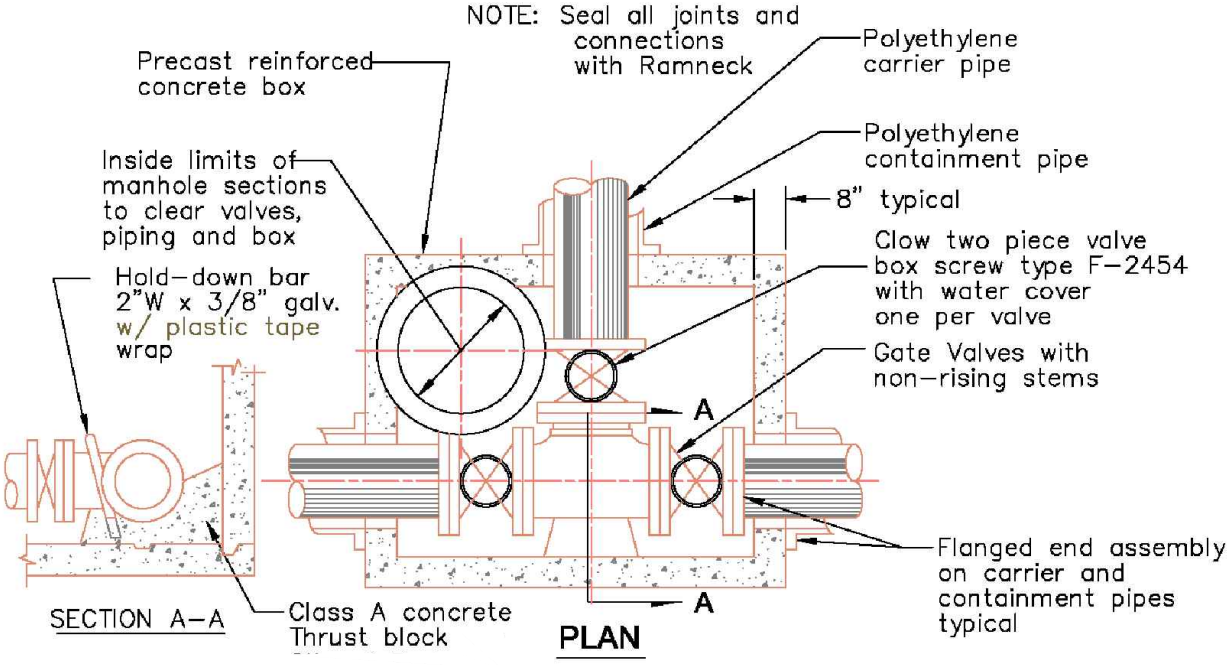
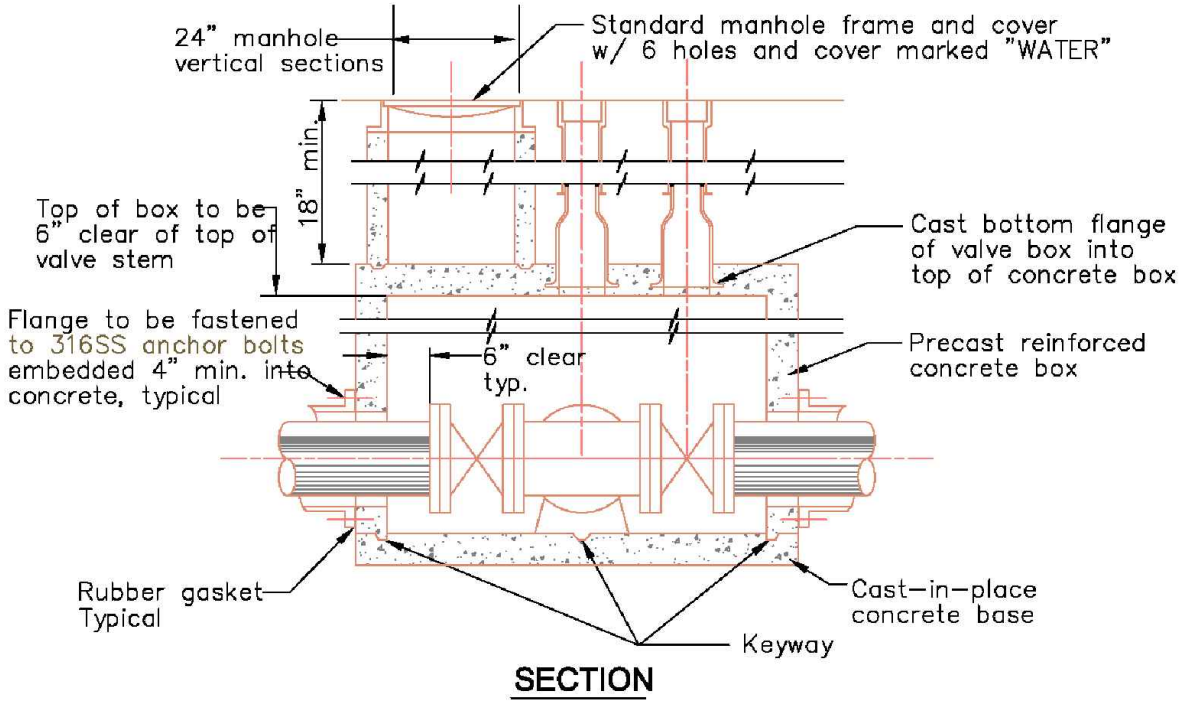
UNION
TASMAN DRIVE
8"W
12"W
12"W
12





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LEAK DETECTION VAULT AT WATER VALVES AND METER SERVICE CONNECTIONS TO MAIN

Project No. 770611601	Figure No. 15
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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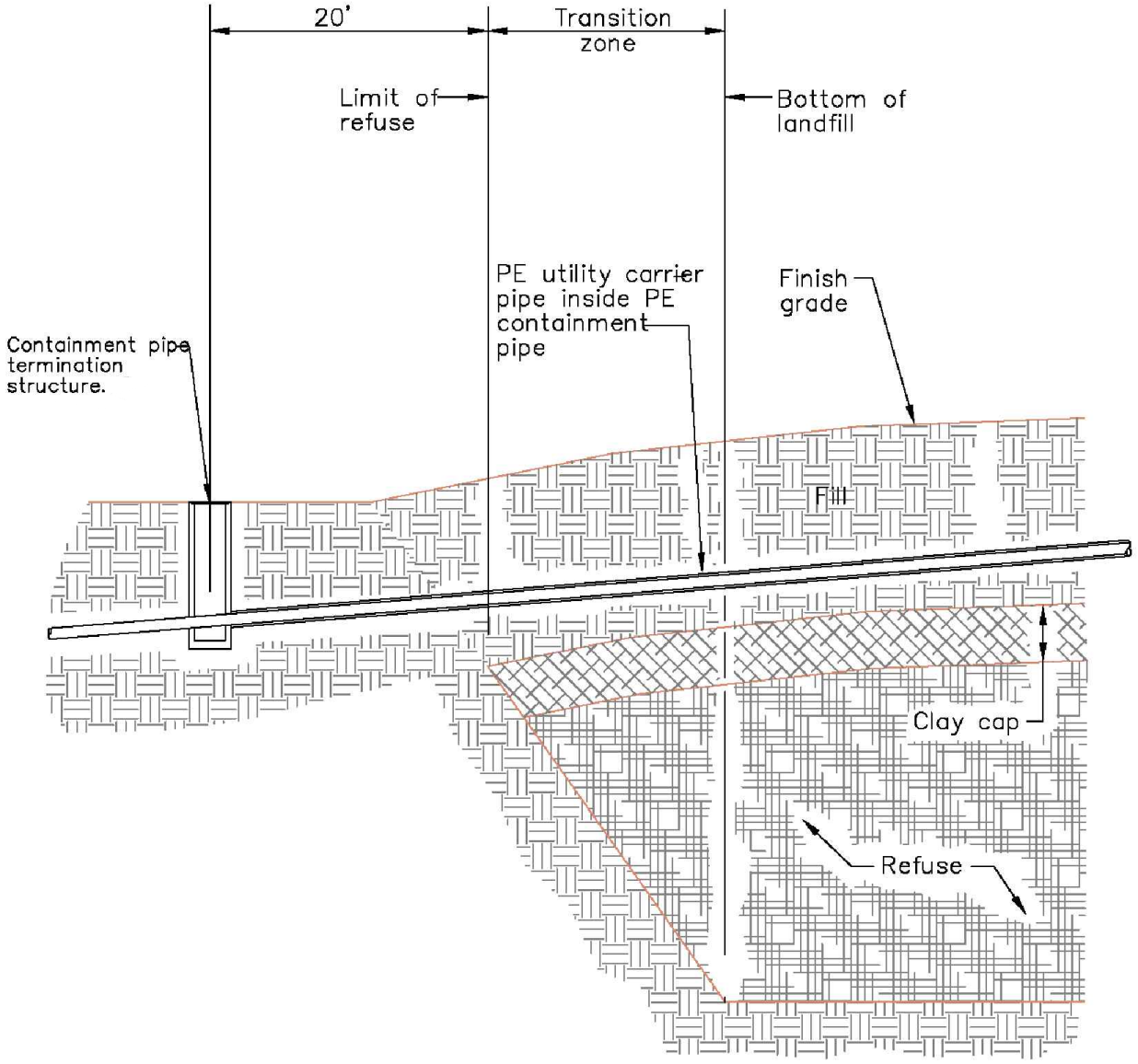

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TERMINATION OF CONTAINMENT PIPE AT LIMITS OF REFUSE

Project No. 770611601	Figure No. 16
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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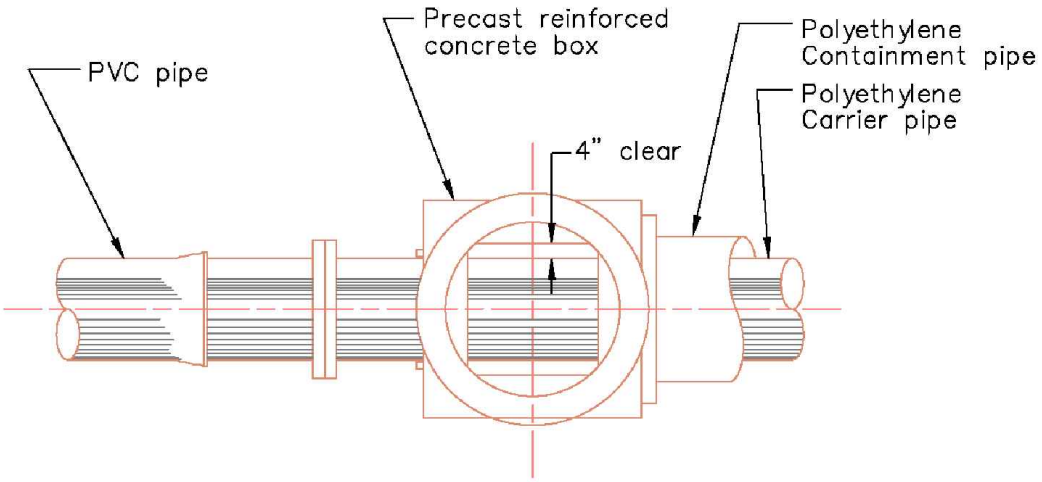

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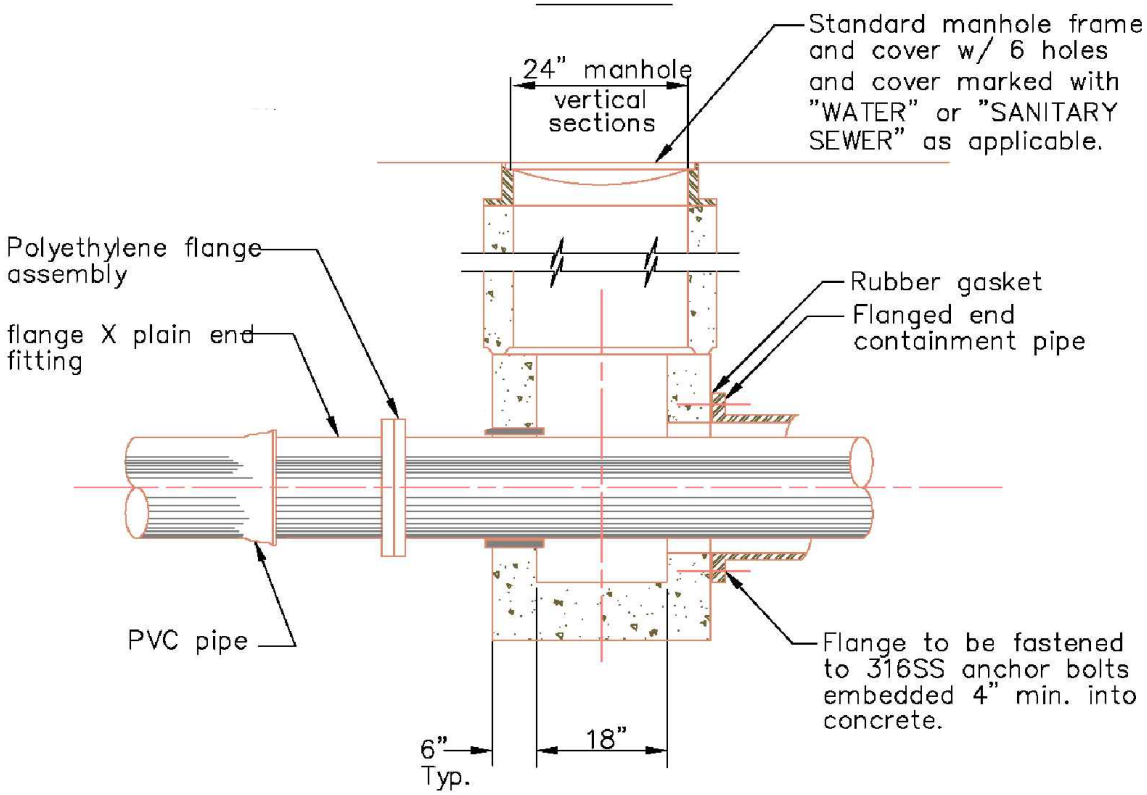

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CONTAINMENT PIPE TERMINATION STRUCTURE

Project No. 770611601	Figure No. 17
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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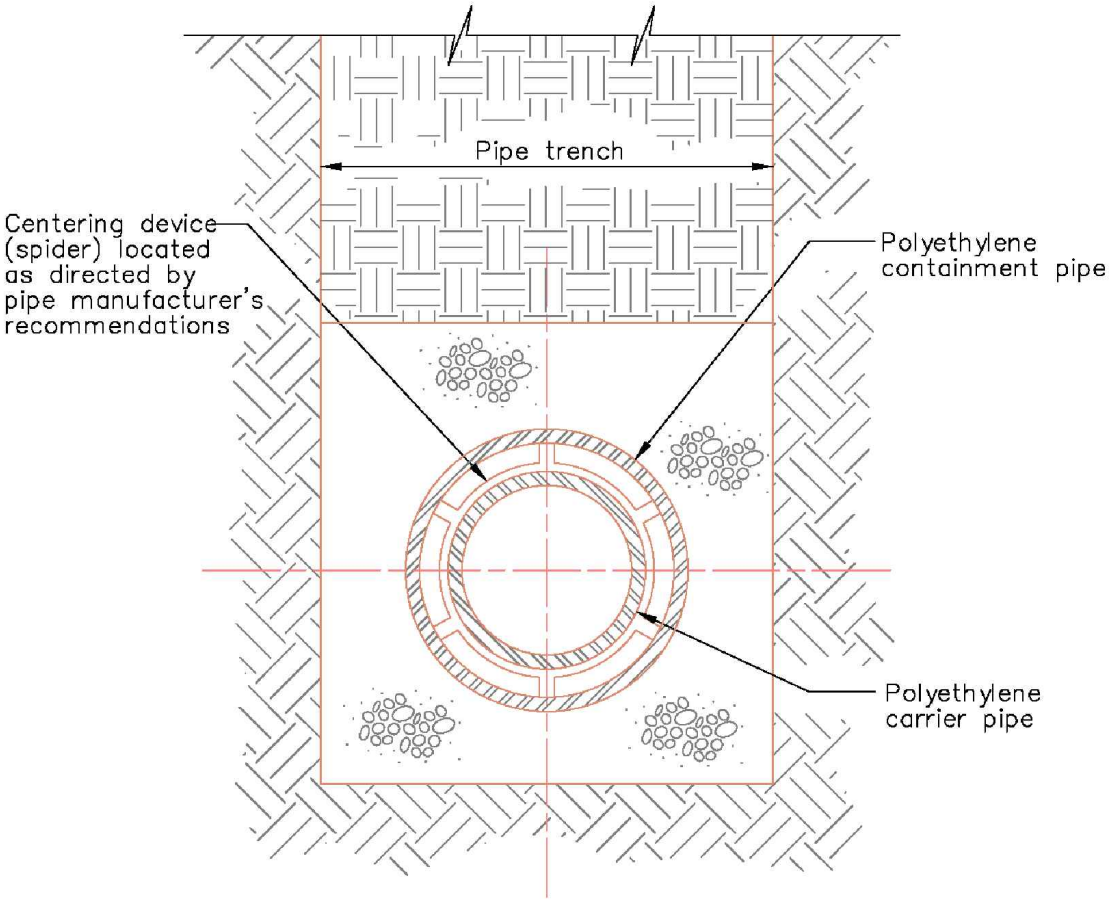

Carrier pipe diameter	2"	3"	4"	6"	8"	10"	12"
Containment pipe diameter	6"	8"	8"	10"	14"	16"	18"

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PRESSURE PIPE ENCLOSED IN CONTAINMENT PIPE

Project No. 770611601
Date 9/22/2015
Scale N.T.S.
Drawn By STAFF
Checked By DJH
Submission Date 9/22/2015

Figure No. 18

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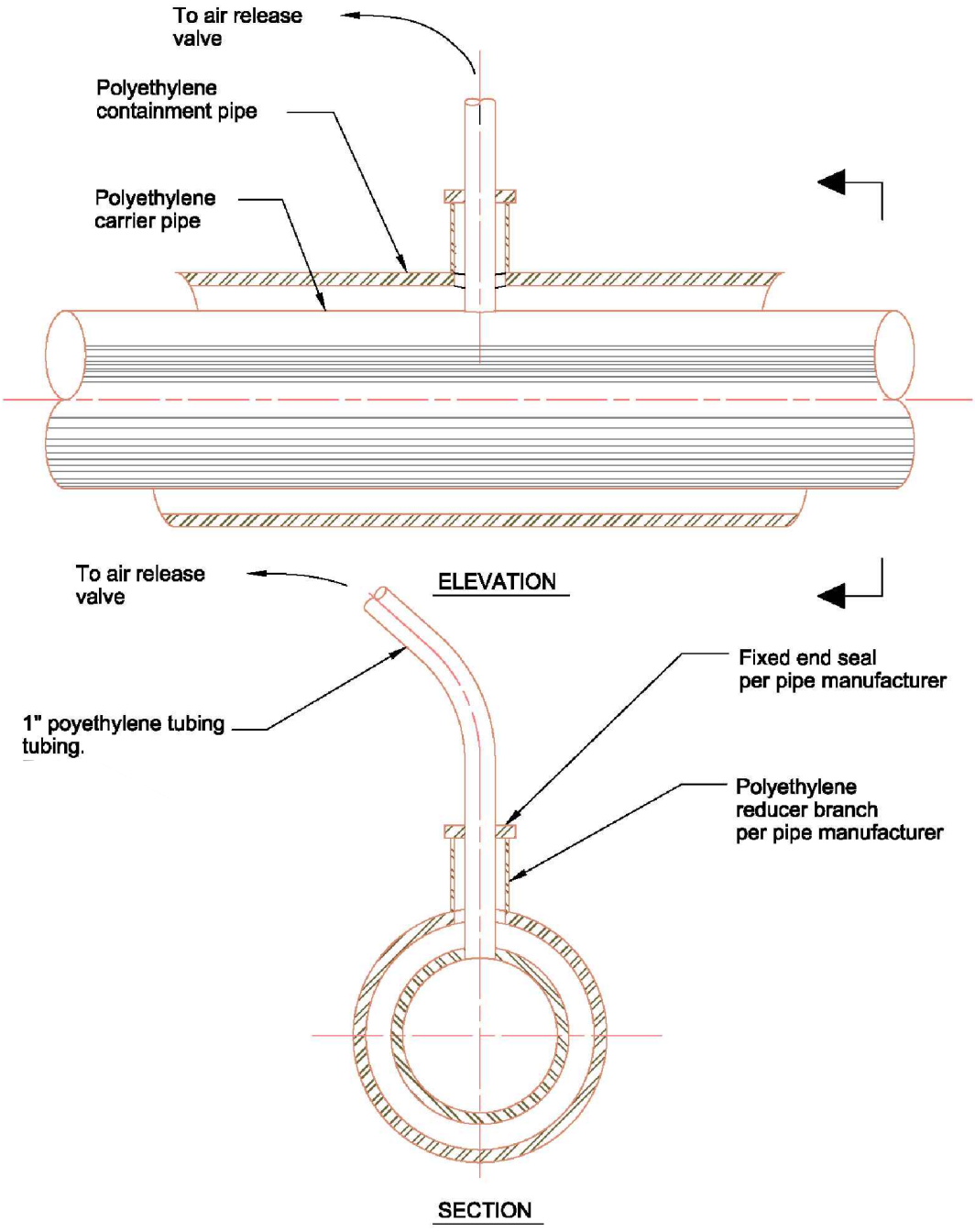

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TERMINATION OF CONTAINMENT PIPE AT AIR RELEASE VALVE

Project No.	770611601
Date	9/22/2015
Scale	N.T.S.
Drawn By	STAFF
Checked By	DJH
Submission Date	9/22/2015
Figure No.	19

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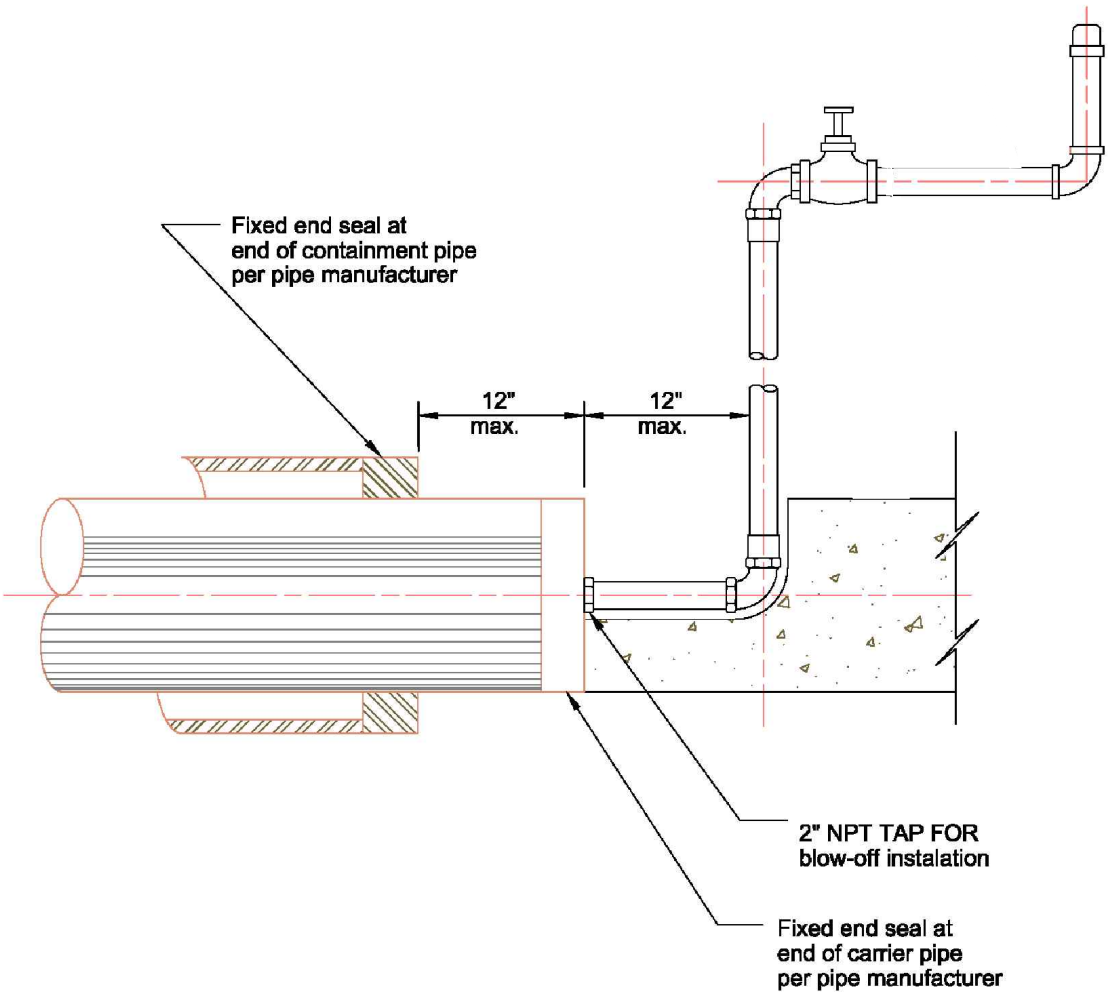

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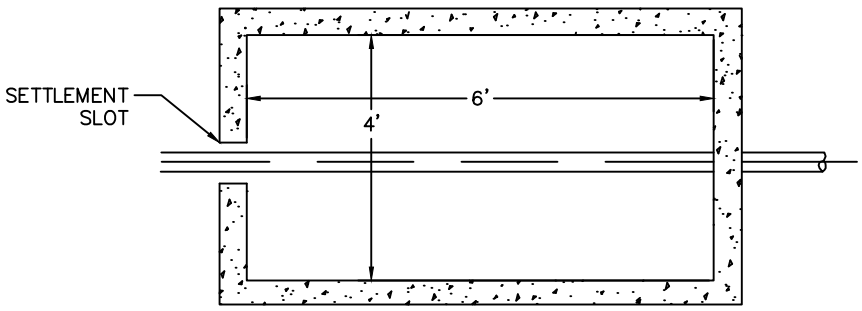
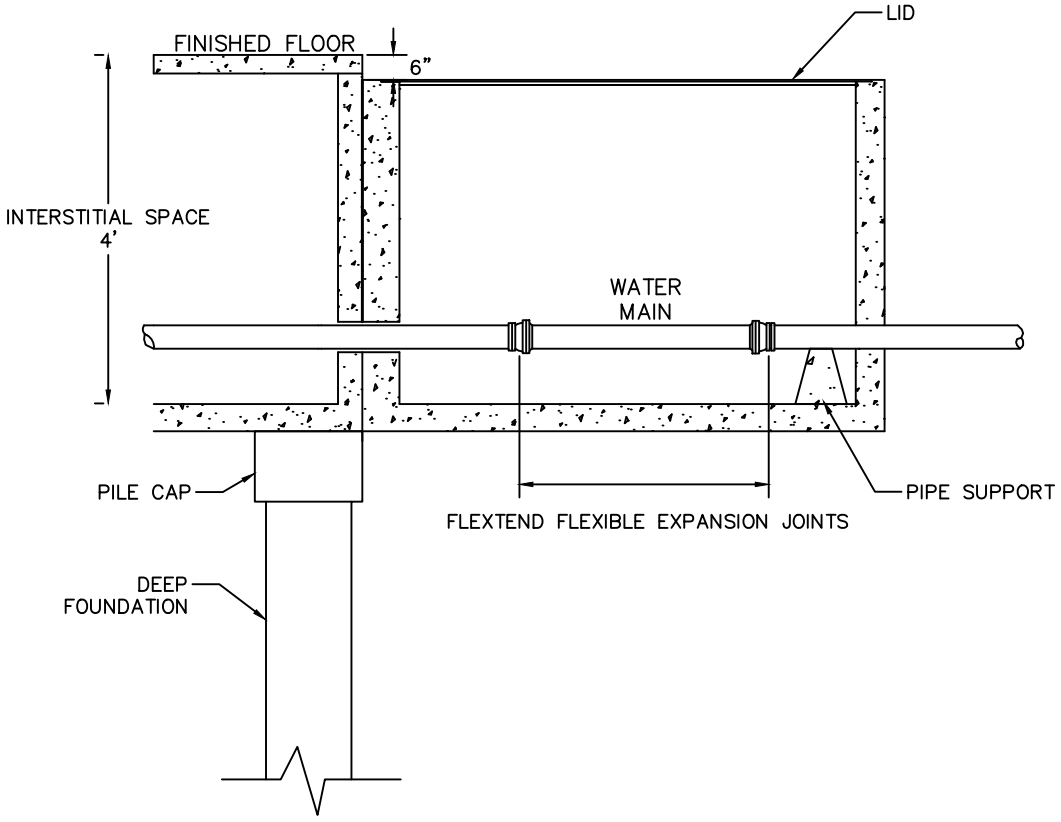
TERMINATION OF CONTAINMENT PIPE AT BLOW-OFFS

Project No. 770611601	Figure No. 20
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Water\Utility - Water Details.dwg Date: 9/22/2015 Time: 12:53 User: dhodson Style Table: Langan.stb Layout: Fig 20





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SETTLEMENT VAULT-TYPE 1

Project No. 770611601	Figure No. 21
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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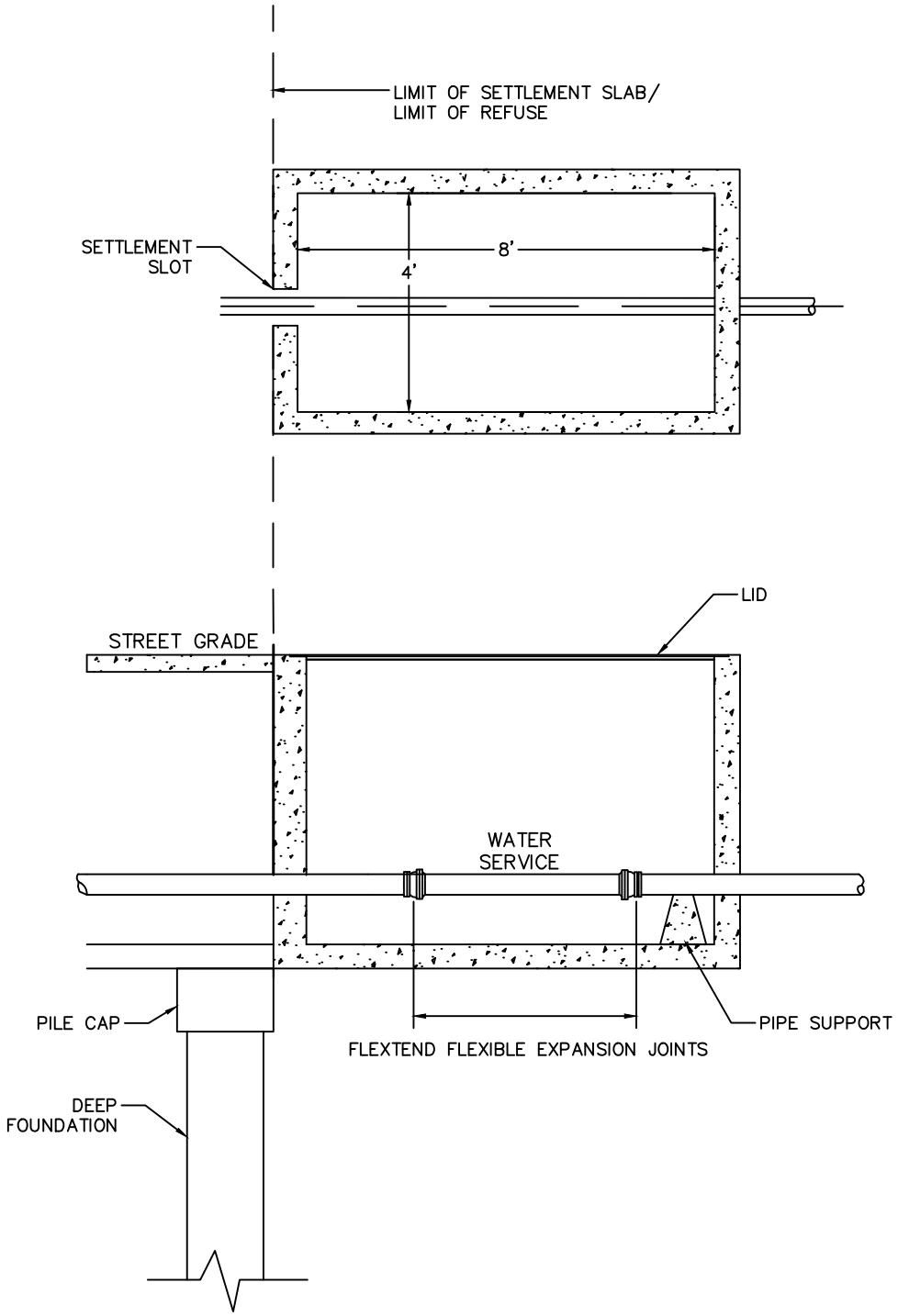

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SETTLEMENT VAULT-TYPE II

Project No. 770611601	Figure No. 22
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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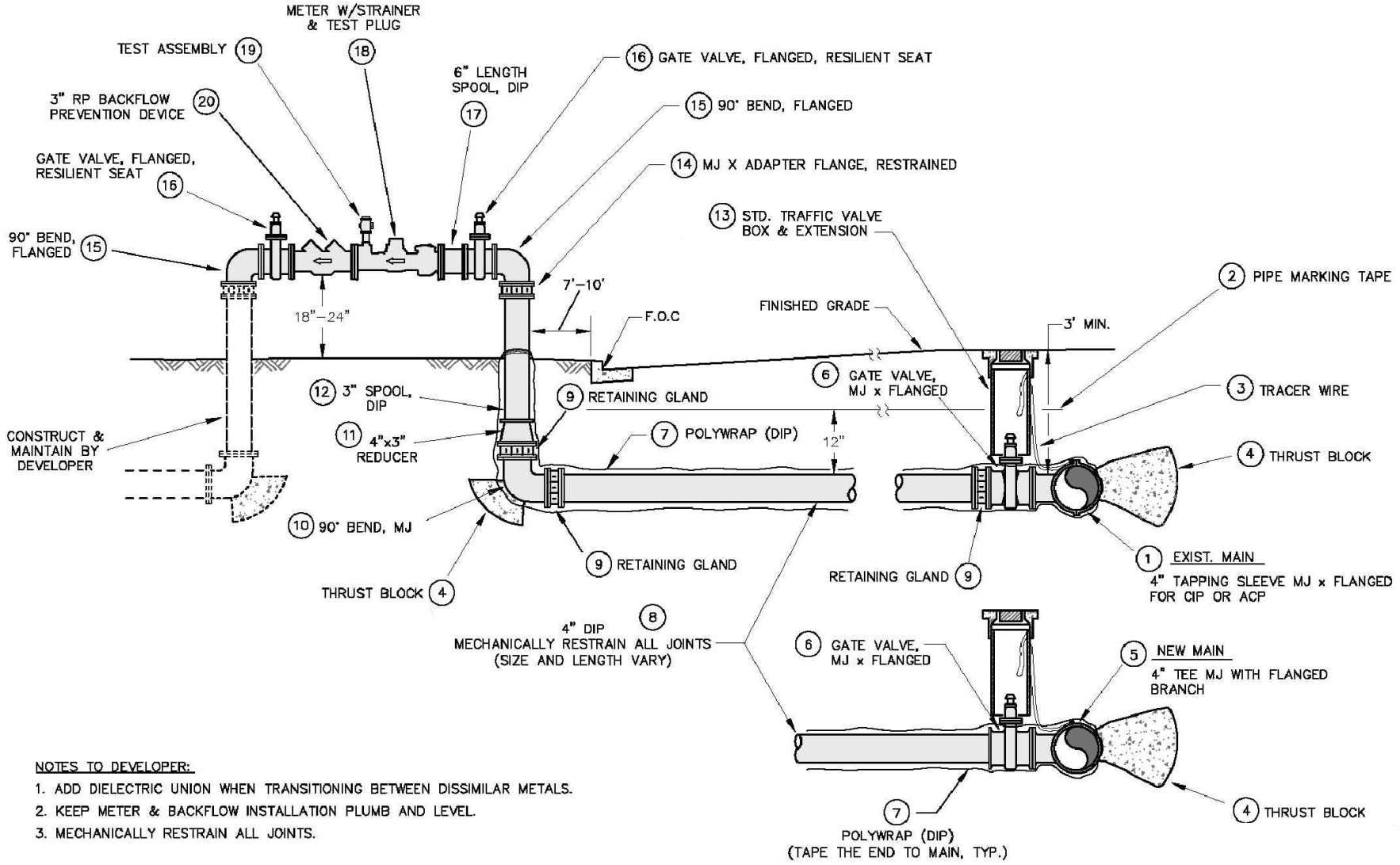

NOTES TO DEVELOPER:

1. ADD DIELECTRIC UNION WHEN TRANSITIONING BETWEEN DISSIMILAR METALS.
2. KEEP METER & BACKFLOW INSTALLATION PLUMB AND LEVEL.
3. MECHANICALLY RESTRAIN ALL JOINTS.

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3" WATER SERVICE WITH RP

Project No. 770611601	Figure No. 23
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By DJH	
Submission Date 9/22/2015	

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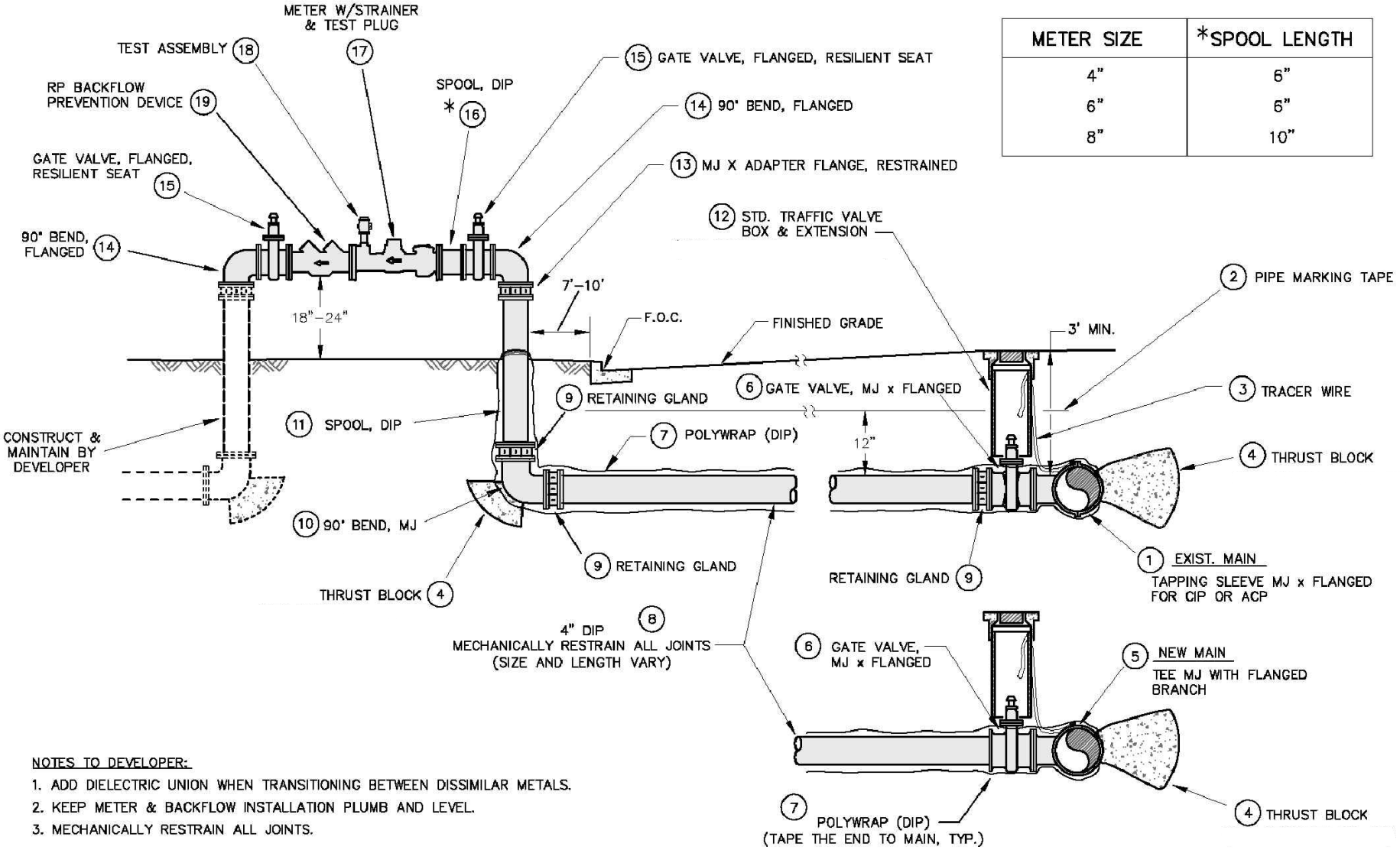

METER SIZE	*SPOOL LENGTH
4"	6"
6"	6"
8"	10"

NOTES TO DEVELOPER:

1. ADD DIELECTRIC UNION WHEN TRANSITIONING BETWEEN DISSIMILAR METALS.
2. KEEP METER & BACKFLOW INSTALLATION PLUMB AND LEVEL.
3. MECHANICALLY RESTRAIN ALL JOINTS.

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4", 6" & 8" WATER SERVICE W/ RP

Project No. 770611601	Figure No. 24
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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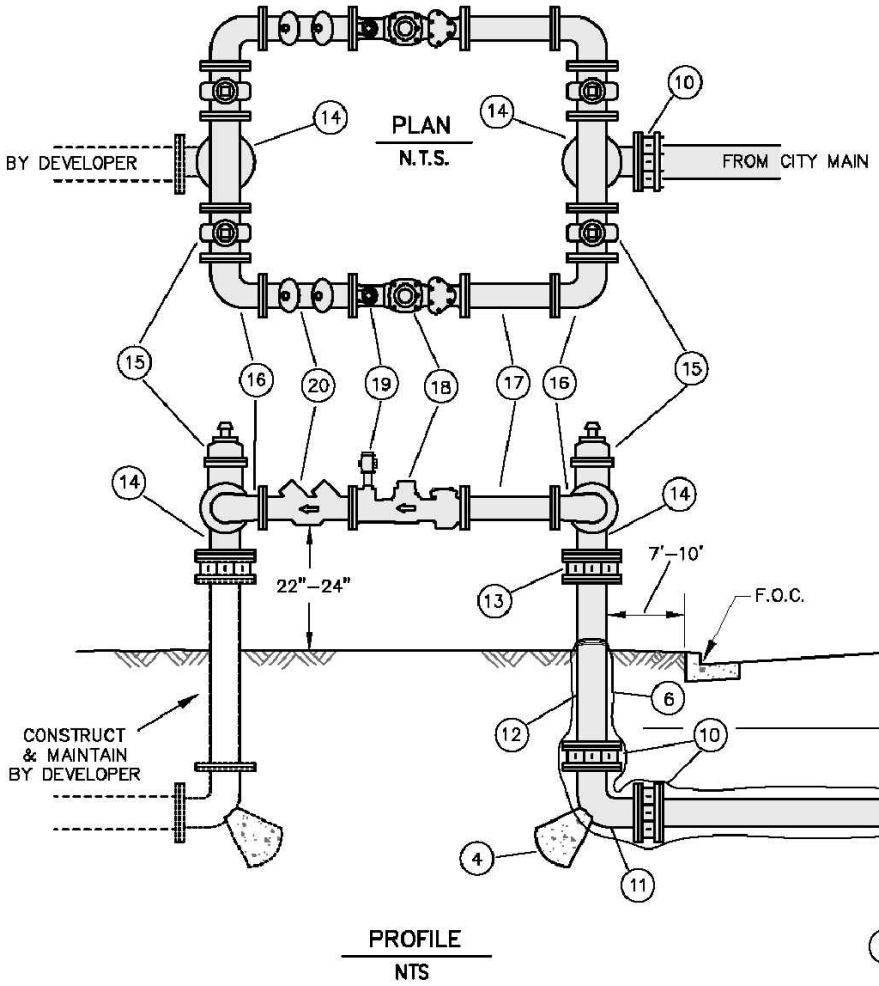
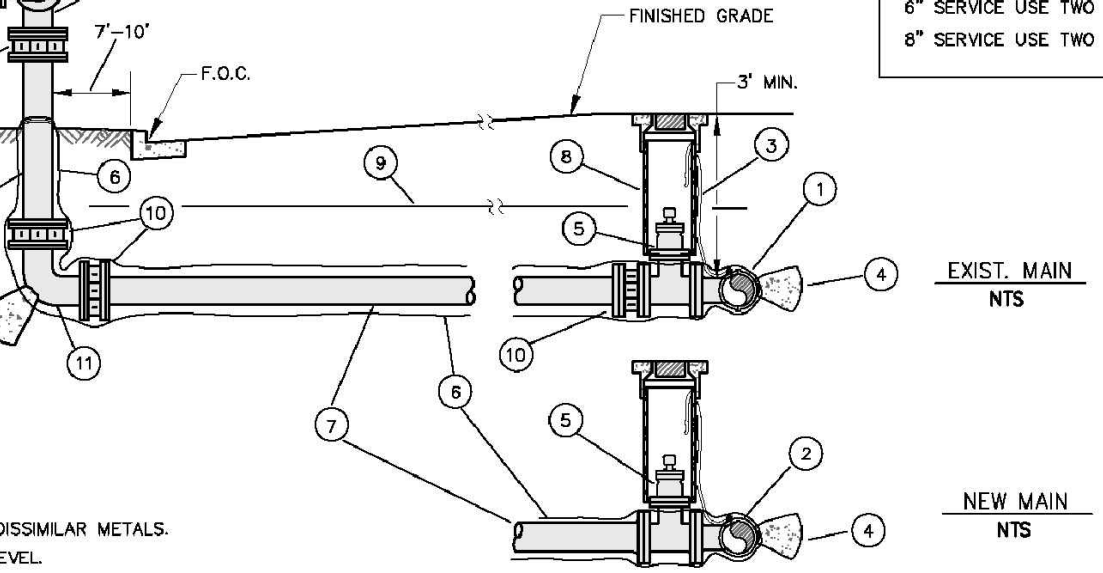


1. TAPPING SLEEVE, MJ
2. TEE MJ WITH FLANGED BRANCH
3. TRACER WIRE
4. THRUST BLOCK (SEE STANDARD NO. 21)
5. GATE VALVE, MJ X FLANGED
6. POLYWRAP (TAPE THE END TO MAIN)
7. DUCTILE IRON PIPE
8. STD. TRAFFIC VALVE BOX & EXTENSION (SEE STANDARD NO. 19 & 20)
9. PIPE MARKING TAPE
10. RETAINING GLAND
11. 90° BEND, MJ X FLANGED
12. SPOOL, DIP
13. MJ X FLANGE ADAPTER, RESTRAINED
14. TEE, FLANGED
15. GATE VALVE, FLANGED
16. REDUCING 90° BEND, FLANGED
17. 6" FLANGED X PE SPOOL PIECE
18. TURBINE METER
19. TEST ASSEMBLY
20. RP BACKFLOW PREVENTION DEVICE, SAME SIZE AS METER

NOTE:
4" SERVICE USE TWO 3" METERS
6" SERVICE USE TWO 4" METERS
8" SERVICE USE TWO 6" METERS



NOTES TO DEVELOPER:
1. ADD DIELECTRIC UNION WHEN TRANSITIONING BETWEEN DISSIMILAR METALS.
2. KEEP METER & BACKFLOW INSTALLATION PLUMB AND LEVEL.
3. MECHANICALLY RESTRAIN ALL JOINTS.

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4", 6", & 8" WATER SERVICE W/ RP (DUAL METER SERVICE)

Project No. 770611601	Figure No. 25
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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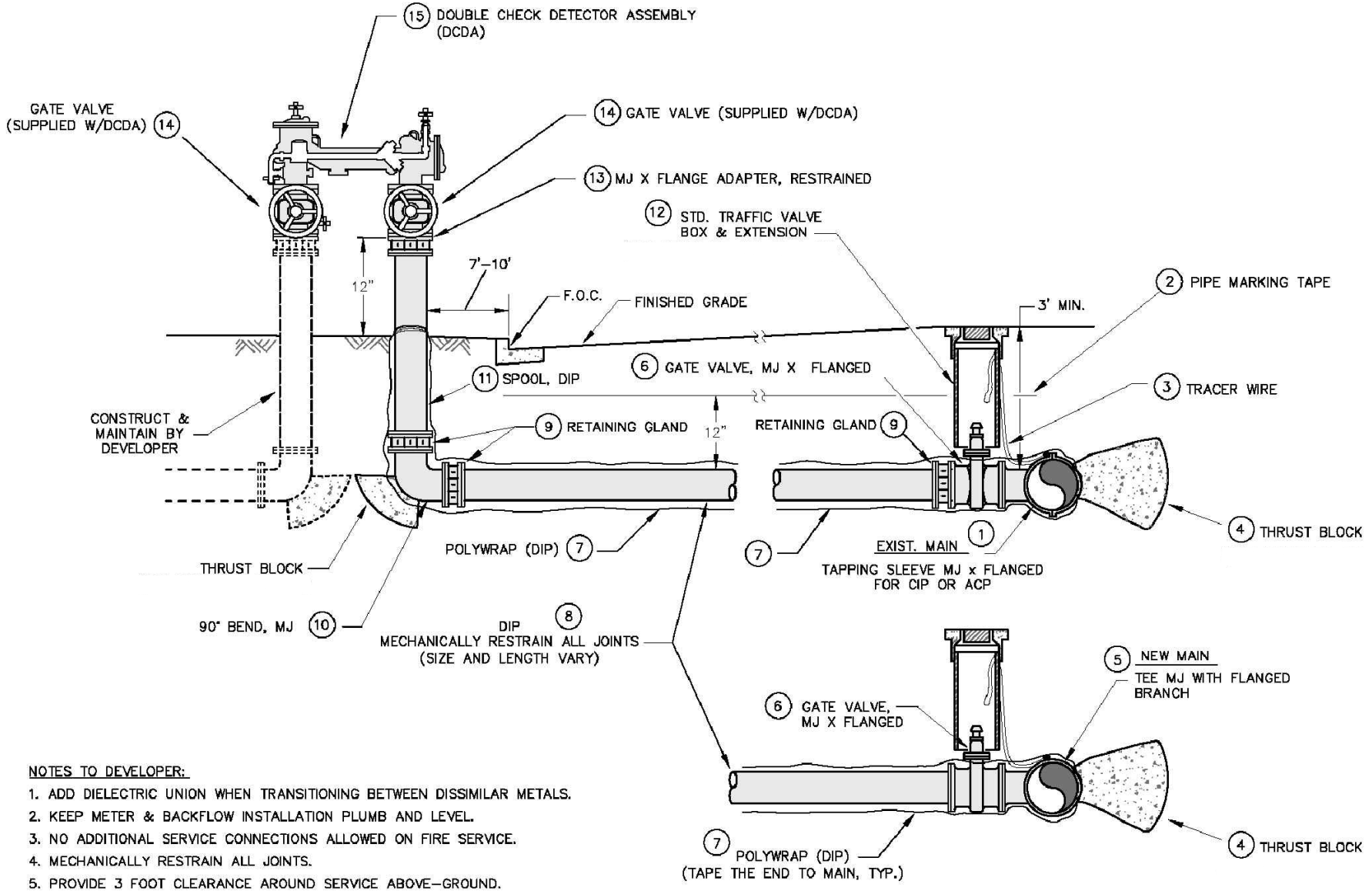

NOTES TO DEVELOPER:

1. ADD DIELECTRIC UNION WHEN TRANSITIONING BETWEEN DISSIMILAR METALS.
2. KEEP METER & BACKFLOW INSTALLATION PLUMB AND LEVEL.
3. NO ADDITIONAL SERVICE CONNECTIONS ALLOWED ON FIRE SERVICE.
4. MECHANICALLY RESTRAIN ALL JOINTS.
5. PROVIDE 3 FOOT CLEARANCE AROUND SERVICE ABOVE-GROUND.

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4" - 10" FIRE SERVICE ASSEMBLY (W/ DCDA)

Project No. 770611601	Figure No. 26
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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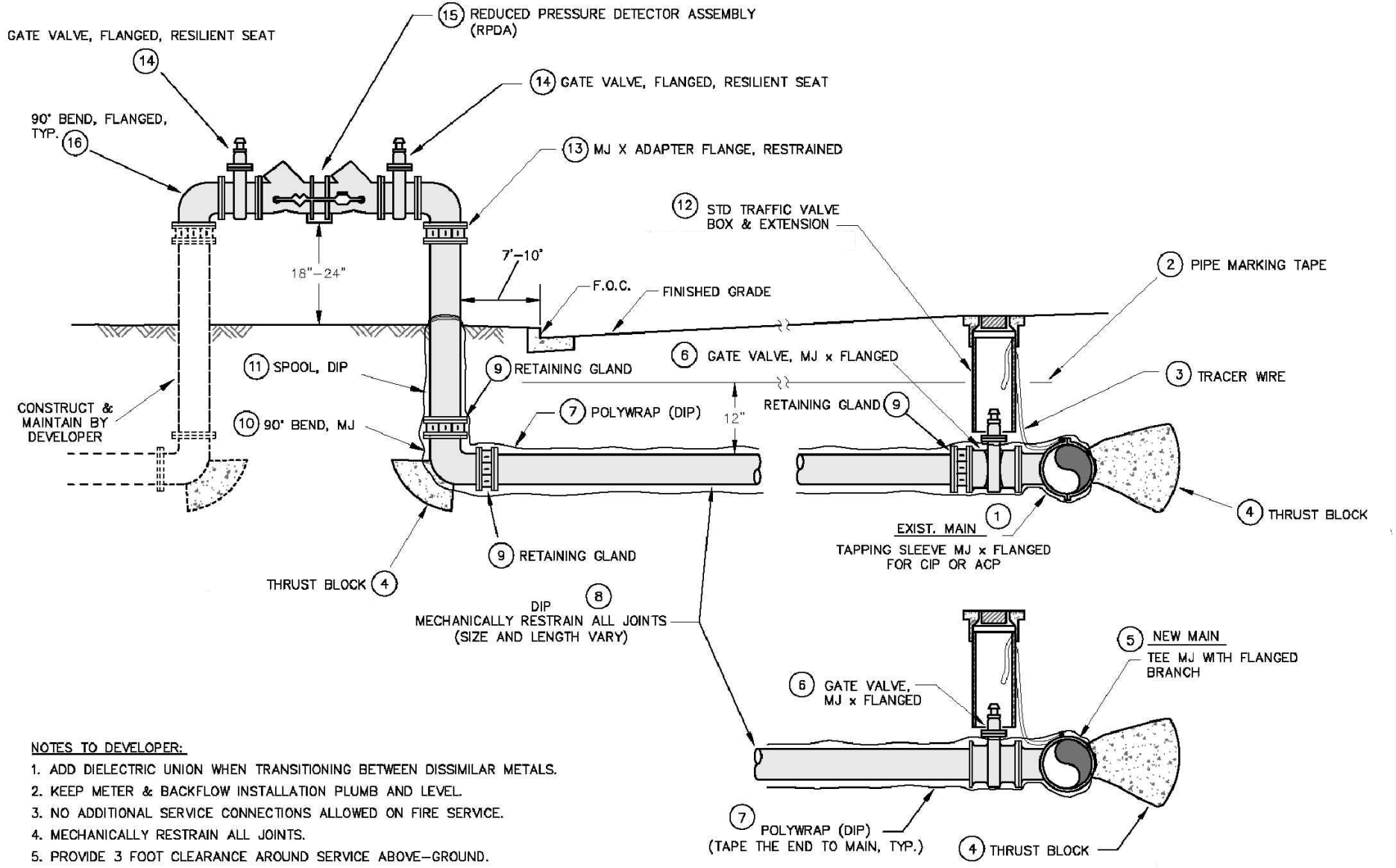

NOTES TO DEVELOPER:

1. ADD DIELECTRIC UNION WHEN TRANSITIONING BETWEEN DISSIMILAR METALS.
2. KEEP METER & BACKFLOW INSTALLATION PLUMB AND LEVEL.
3. NO ADDITIONAL SERVICE CONNECTIONS ALLOWED ON FIRE SERVICE.
4. MECHANICALLY RESTRAIN ALL JOINTS.
5. PROVIDE 3 FOOT CLEARANCE AROUND SERVICE ABOVE–GROUND.

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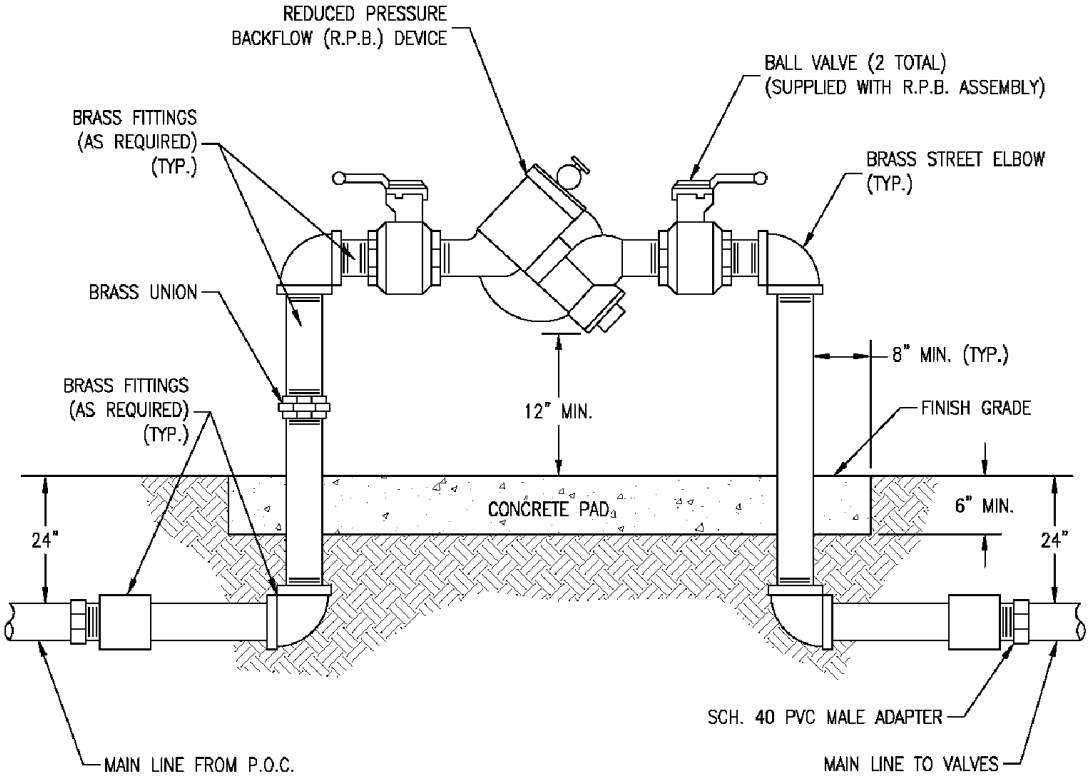
4" - 10" FIRE SERVICE ASSEMBLY (W/ RPDA)

Project No. 770611601	Figure No. 27
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Water\Utility - Water Details.dwg Date: 9/22/2015 Time: 12:51 User: dhodson Style Table: Langan.stb Layout: Fig 27



ELEVATION VIEW
NO SCALE

NOTES:

1. EVENLY COAT METAL FITTINGS EXPOSED TO SOIL AND CONCRETE WITH 3M SCOTCHRAP PIPE PRIMER AND THEN WRAP WITH 3M SCOTCHRAP NO. 51 BLACK TAPE (3/4" OVERLAP).
2. FOR SERVICE CONNECTION, REFER TO WATER & SEWER DEPARTMENT STANDARD DETAILS.

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REDUCED PRESSURE BACKFLOW ASSEMBLY

Project No. 770611601	Figure No. 28
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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HYDRANT LOCATIONS

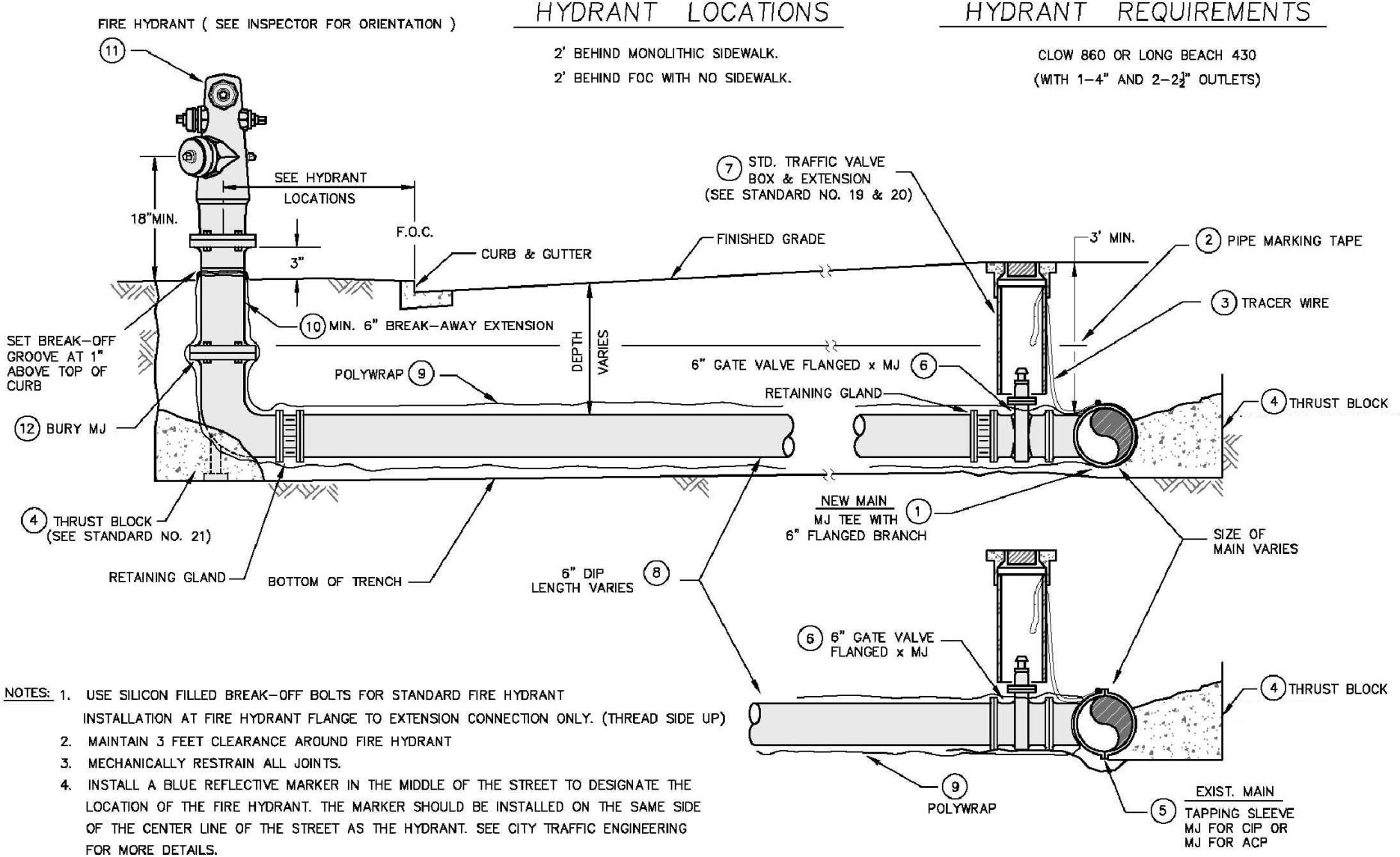
2' BEHIND MONOLITHIC SIDEWALK.

2' BEHIND FOC WITH NO SIDEWALK.

HYDRANT REQUIREMENTS

CLOW 860 OR LONG BEACH 430

(WITH 1–4" AND 2–2½" OUTLETS)



NOTES:

1. USE SILICON FILLED BREAK–OFF BOLTS FOR STANDARD FIRE HYDRANT INSTALLATION AT FIRE HYDRANT FLANGE TO EXTENSION CONNECTION ONLY. (THREAD SIDE UP)
2. MAINTAIN 3 FEET CLEARANCE AROUND FIRE HYDRANT
3. MECHANICALLY RESTRAIN ALL JOINTS.
4. INSTALL A BLUE REFLECTIVE MARKER IN THE MIDDLE OF THE STREET TO DESIGNATE THE LOCATION OF THE FIRE HYDRANT. THE MARKER SHOULD BE INSTALLED ON THE SAME SIDE OF THE CENTER LINE OF THE STREET AS THE HYDRANT. SEE CITY TRAFFIC ENGINEERING FOR MORE DETAILS.

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FIRE HYDRANT ASSEMBLY

Project No. 770611601	Figure No. 29
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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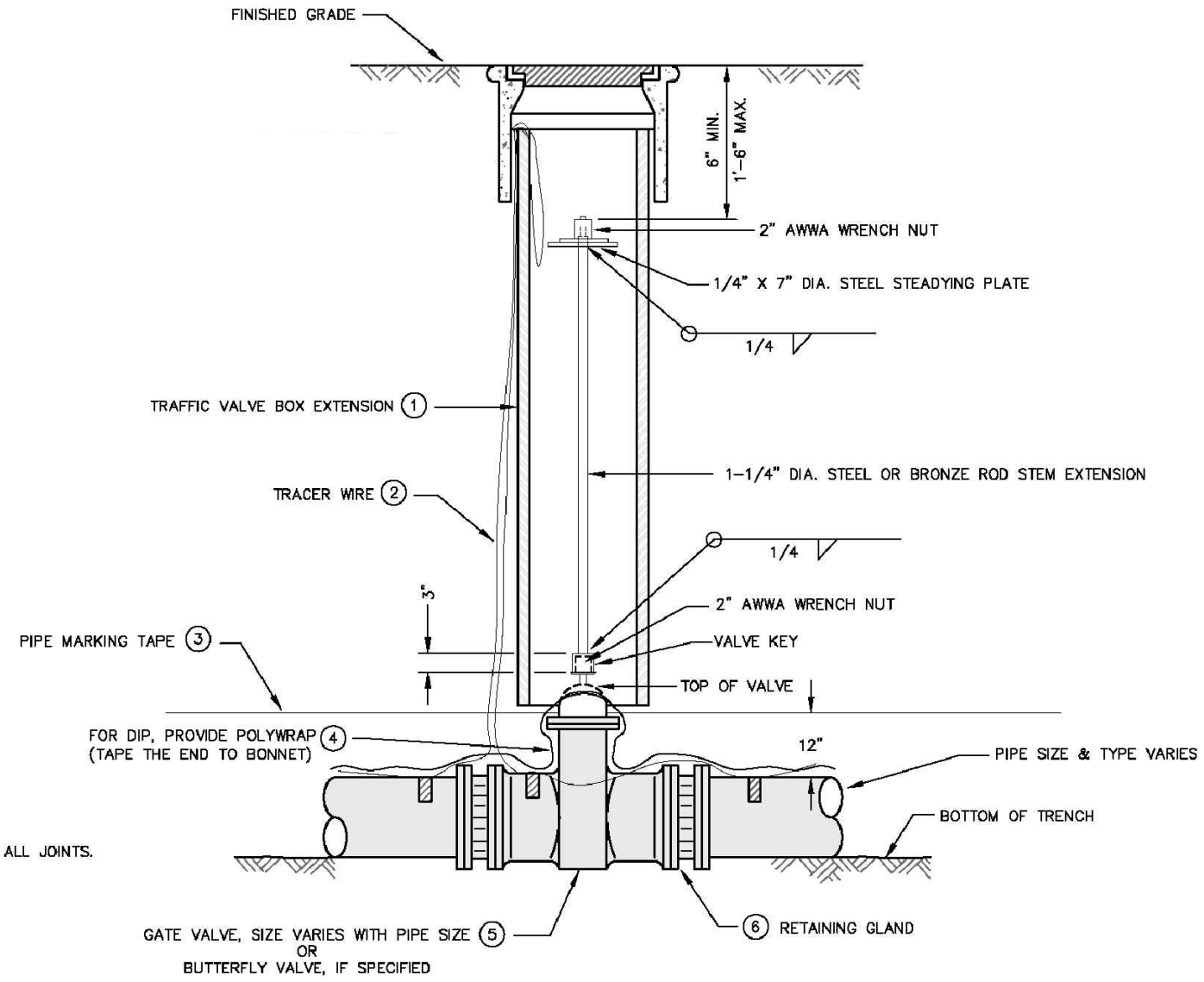

NOTE TO DEVELOPER:

1. MECHANICALLY RESTRAIN ALL JOINTS.

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GATE VALVE INSTALLATION

Project No. 770611601	Figure No. 30
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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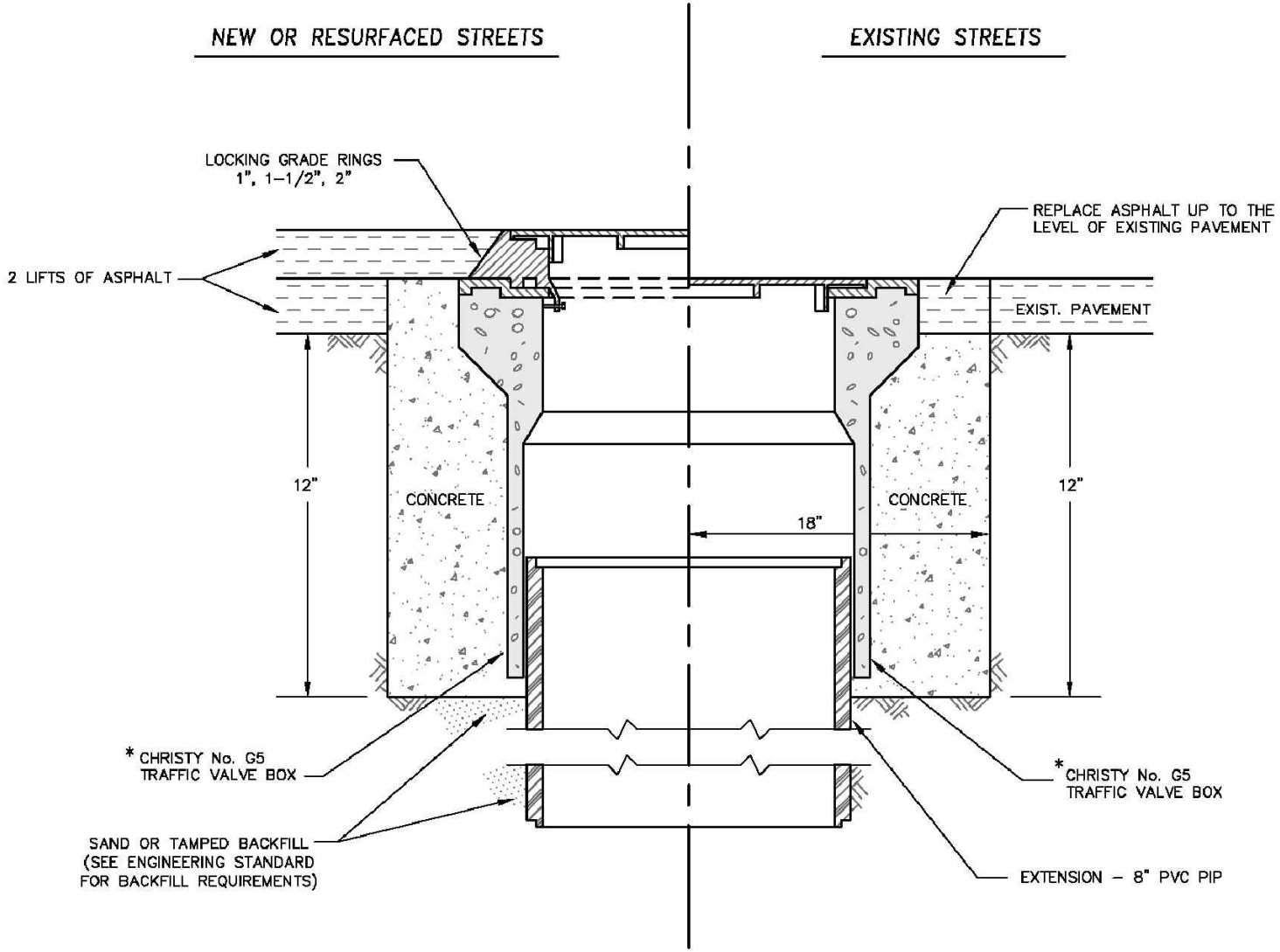

* FOR POTABLE WATER, PROVIDE LID MARKED "WATER"
FOR RECYCLED WATER, PAINT INSIDE OF THE VALVE BOX PURPLE AND PROVIDE PURPLE LID MARKED "CSC–RW"

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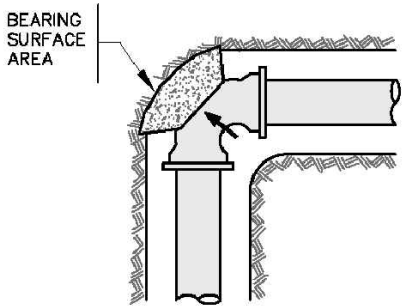
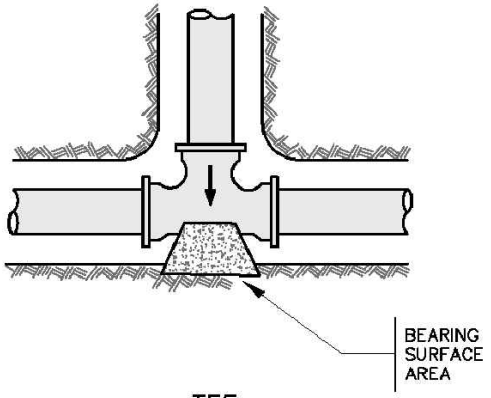
TRAFFIC VALVE BOX

Project No.	770611601
Date	9/22/2015
Scale	N.T.S.
Drawn By	STAFF
Checked By	AP
Submission Date	9/22/2015
Figure No.	31

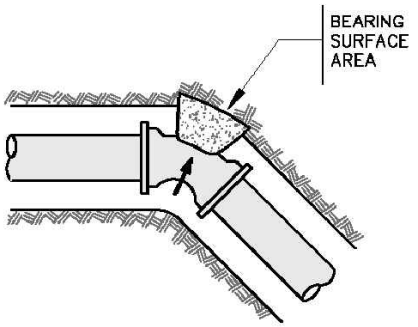
Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Water\Utility - Water Details.dwg Date: 9/22/2015 Time: 12:50 User: dhodson Style Table: Langan.stb Layout: Fig 31.



90°
ELBOW



TEE



(45° – 22 1/2° – 11 1/4°)
ELBOW

MIN. BEARING SURFACE AREA (sq. ft. of undisturbed earth) [2,3]

PIPE SIZE	TEES[1], PLUG OR DEAD END	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW
2"	1/2	1/2	1/2	1/2	1/2
4"	1	1–1/2	1	1/2	1/2
6"	2	3	2	1	1
8"	4	5	3	1–1/2	1
10"	6	8	5	3	2
12"	8	12	6	3	3

NOTES:

1. BRANCH OUTLET SIZE.
2. AREAS BASED ON 150 PSI. WATER PRESSURE AND 2000 PSF. ALLOWABLE SOIL BEARING CAPACITY.
3. FOR SOFT OR DAMP CLAY, DOUBLE THE MIN. BEARING SURFACE AREA.
4. PORTLAND CEMENT SHALL BE – 6 SACK – 2" SLUMP – 3/4" ROCK.

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THRUST BLOCKING

Project No. 770611601	Figure No. 32
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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NOTES:

1. FOR DIP & PVC, USE DEADMAN W/ SOCKET CLAMP WITHOUT 3/4"ø 316 STAINLESS STEEL THREADED RODS. USE RETAINING GLANDS ON FITTINGS AS INSTRUCTED BY WATER DEPT. INSPECTOR.

	MANUFACTURER	MODEL
RETAINING GLAND	US PIPE EBAA UNIFLANGE	MJ FIELD LOK MEGA LUG SERIES 1100 SERIES 1400 (DIP) SERIES 1500 (PVC)

2. FOR ACP & CIP, USE DEADMAN W/ SOCKET CLAMP AND 3/4"ø 316 STAINLESS STEEL THREADED RODS TO FITTINGS, EQUALLY SPACED.

3. USE OTHER ADDITIONAL RESTRAINTS AS DIRECTED BY WATER DEPT. INSPECTOR.

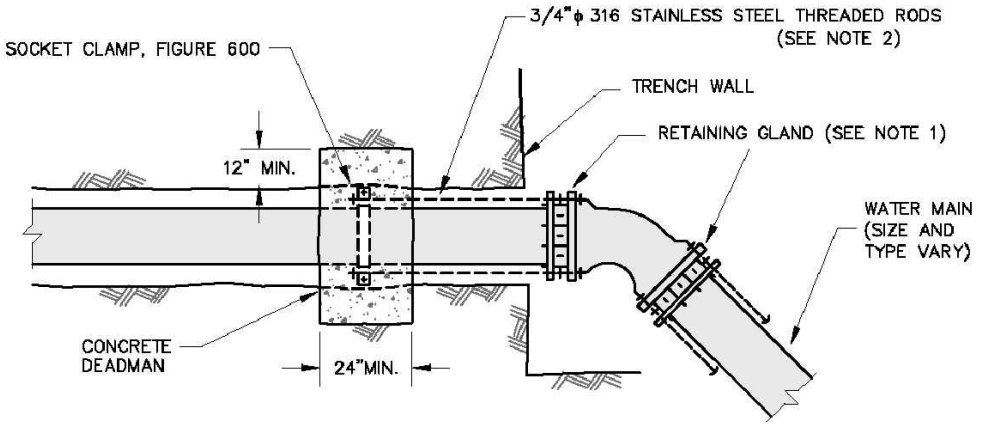
4. FOR MAINS 8" OR LESS, USE ONE SOCKET CLAMP AND TWO 3/4"ø 316 STAINLESS STEEL THREADED RODS, WHERE REQUIRED.

5. FOR 10" & 12" MAINS, USE TWO SOCKET CLAMPS AND FOUR 3/4"ø 316 STAINLESS STEEL THREADED RODS, WHERE REQUIRED.

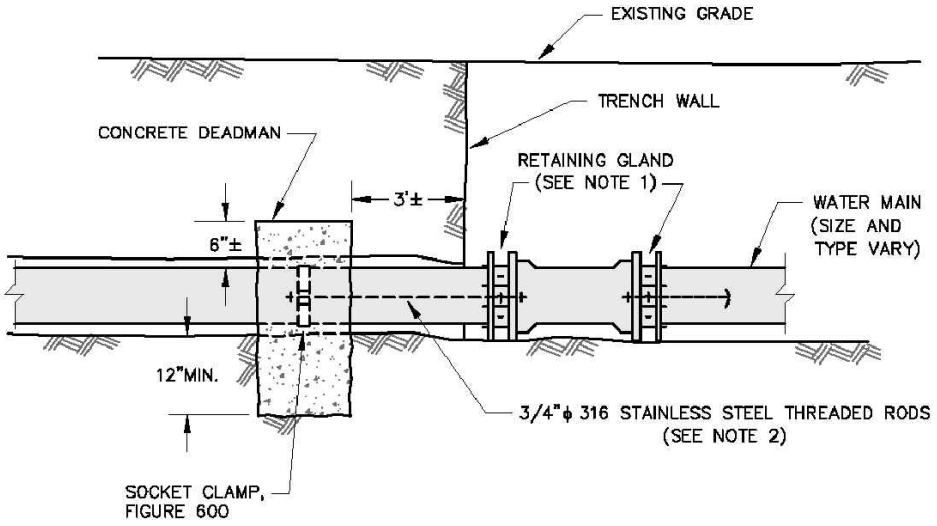
6. CONCRETE SHALL BE SACK – 2" SLUMP – 3/4" ROCK WITH NO ADDITIVES FOR HIGH EARLY STRENGTH.

7. DIMENSIONS BASED ON 150 PSI. WATER PRESSURE AND 2000 PSF. ALLOWABLE SOIL BEARING CAPACITY FOR 12" MAIN.

8. USE SS BOLTS, NUTS AND WASHERS FOR ALL FLANGE CONNECTIONS.



PLAN
NTS



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San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com

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CONCRETE REVERSE THRUST BLOCK

Project No. 770611601	Figure No. 33
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Water\Utility - Water Details.dwg Date: 9/22/2015 Time: 12:50 User: dhodson Style Table: Langan.stb Layout: Fig 33.

NOTES:

1. USE PUBLIC WORKS DEPT. STANDARD DRAWING ST-19 FOR TRENCH BACKFILL AND PAVEMENT REPLACEMENT. FOR PAVED SURFACE, USE ONLY OPTION A.

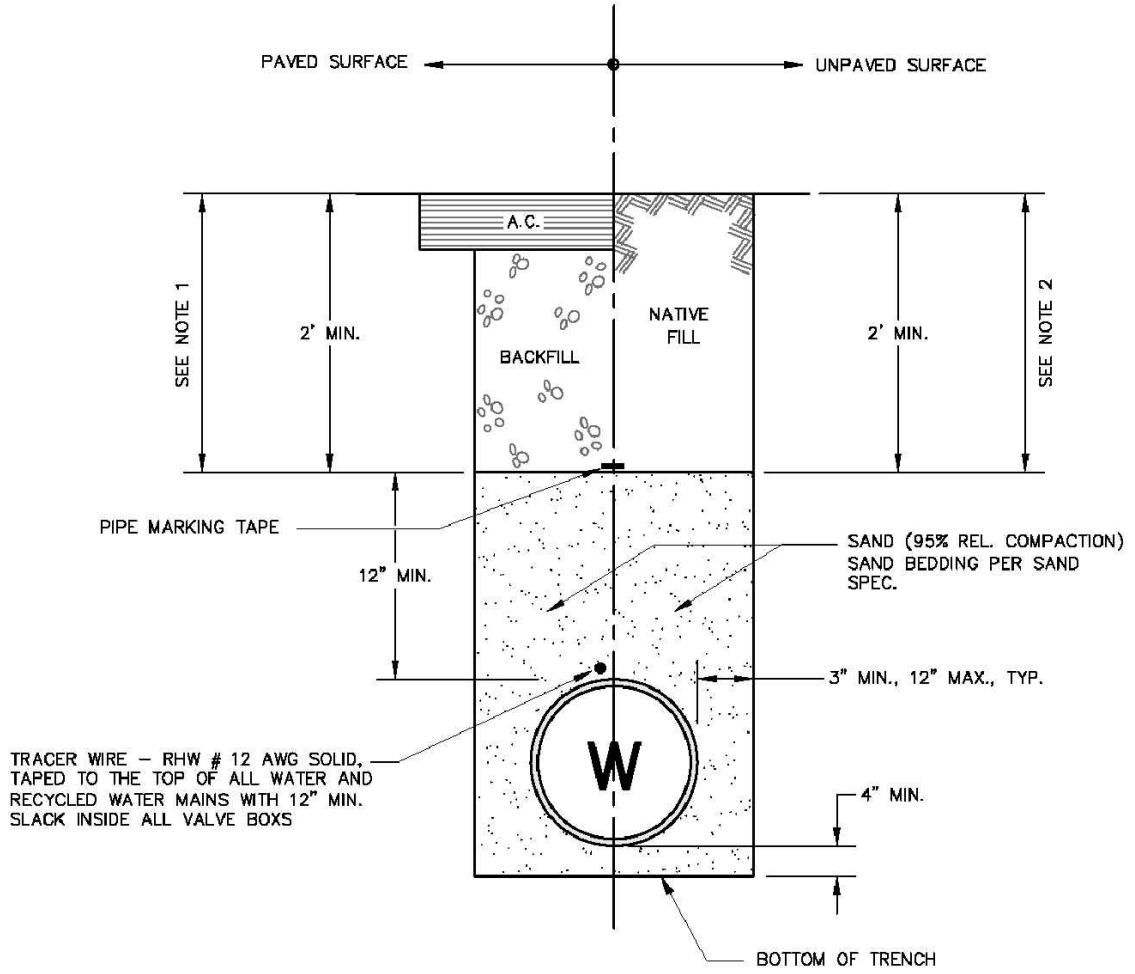
2. FOR UNPAVED SURFACE, CONTRACTOR CAN PROPOSE SUITABLE NATIVE BACKFILL MATERIAL.

3. FOR PCC SURFACE, REPLACE PCC TO MATCH EXISTING. INSTALL DOWELS PER ENGINEERING DEPT. STANDARD DRAWING ST-12 AND ST-13. REPLACE PCC PER CALTRANS STANDARD SPECS SECTION 90, CLASS 2. USE ONLY PORTLAND CEMENT, NO FLY ASH.

SAND SPEC.

SAND SHALL BE CLEAN AND FREE FROM CLAY AND ORGANICS. IT SHALL BE A CLEAN, HARD, DURABLE MATERIAL RESULTING FROM NATURAL DISINTEGRATION AND ABRASION OF GRANITE, QUARTZ, OR SIMILAR HARD ROCK OR BY THE PROCESSING OF COMPLETELY FRIABLE SANDSTONE. IT SHALL HAVE A SAND EQUIVALENT VALUE OF NOT LESS THAN 35. THE PERCENTAGE COMPOSITION BY WEIGHT AS DETERMINED BY LABORATORY SIEVES SHALL CONFORM TO THE FOLLOWING GRADING LIMITS:

SIEVE SIZE	% PASSING
# 4	100
# 10	95 – 100
# 40	20 – 65
# 100	5 – 30
# 200	0 – 10



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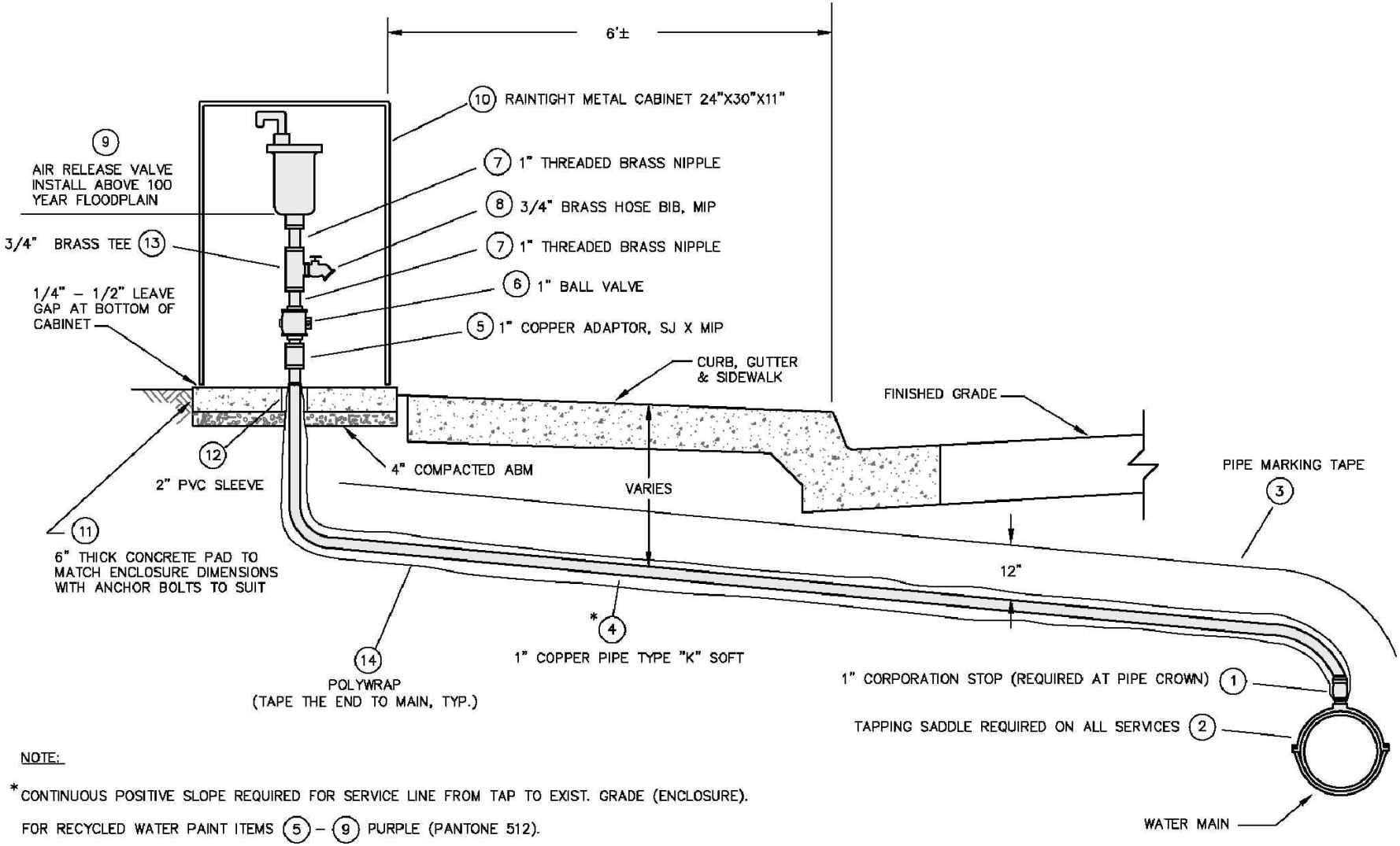
TRENCH BACKFILL

Project No.	770611601
Date	9/22/2015
Scale	N.T.S.
Drawn By	STAFF
Checked By	AP
Submission Date	9/22/2015
Figure No.	34

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Water\Utility - Water Details.dwg Date: 9/22/2015 Time: 12:50 User: dhodson Style Table: Langan.stb Layout: Fig 34.



NOTE:

*CONTINUOUS POSITIVE SLOPE REQUIRED FOR SERVICE LINE FROM TAP TO EXIST. GRADE (ENCLOSURE).

FOR RECYCLED WATER PAINT ITEMS (5) – (9) PURPLE (PANTONE 512).

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San Jose, CA 95117
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AIR RELEASE VALVE

Project No. 770611601	Figure No. 35
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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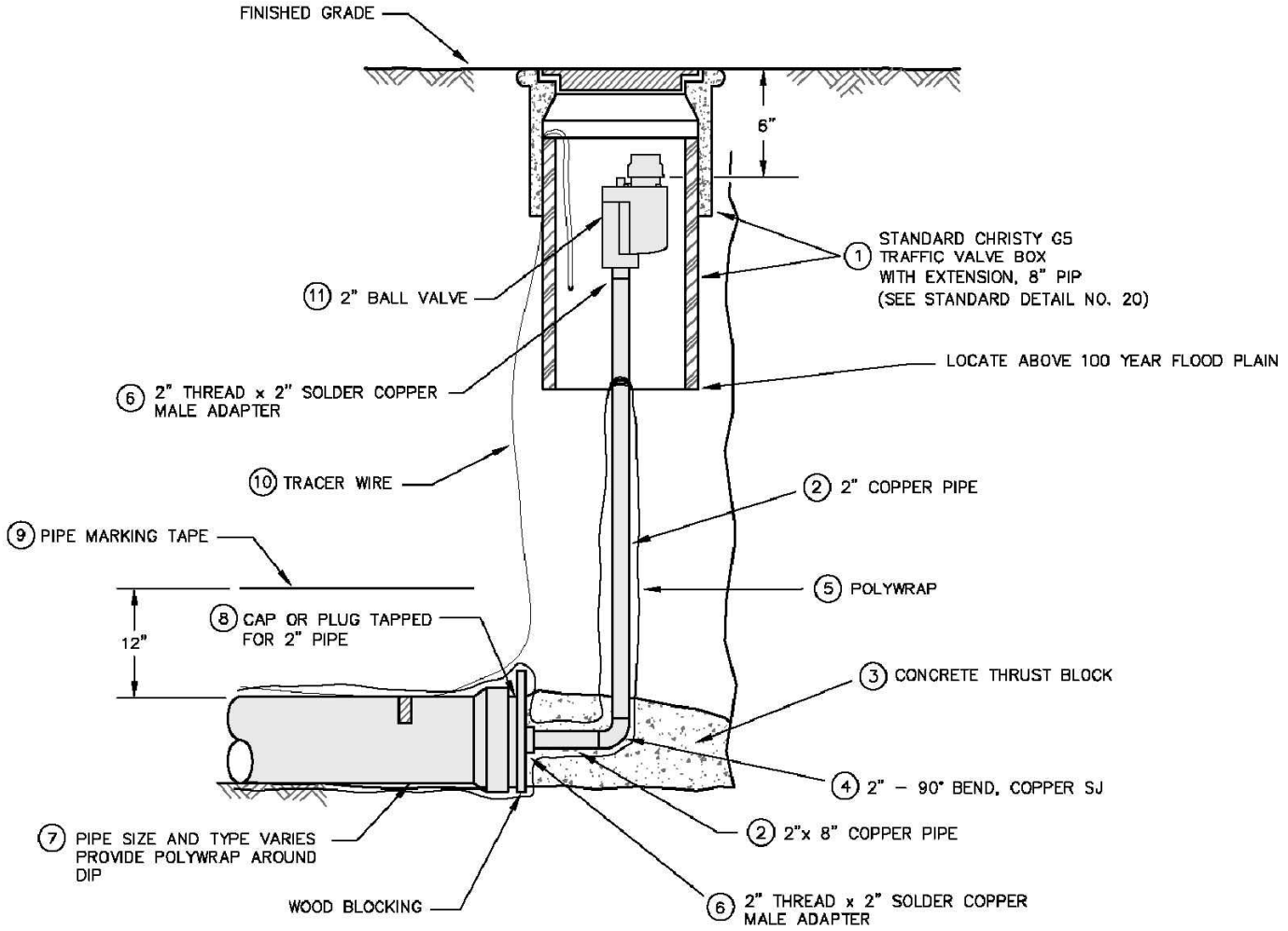

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BLOW-OFF ASSEMBLY

Project No. 770611601	Figure No. 36
Date 9/22/2015	
Scale N.T.S.	
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Submission Date 9/22/2015	

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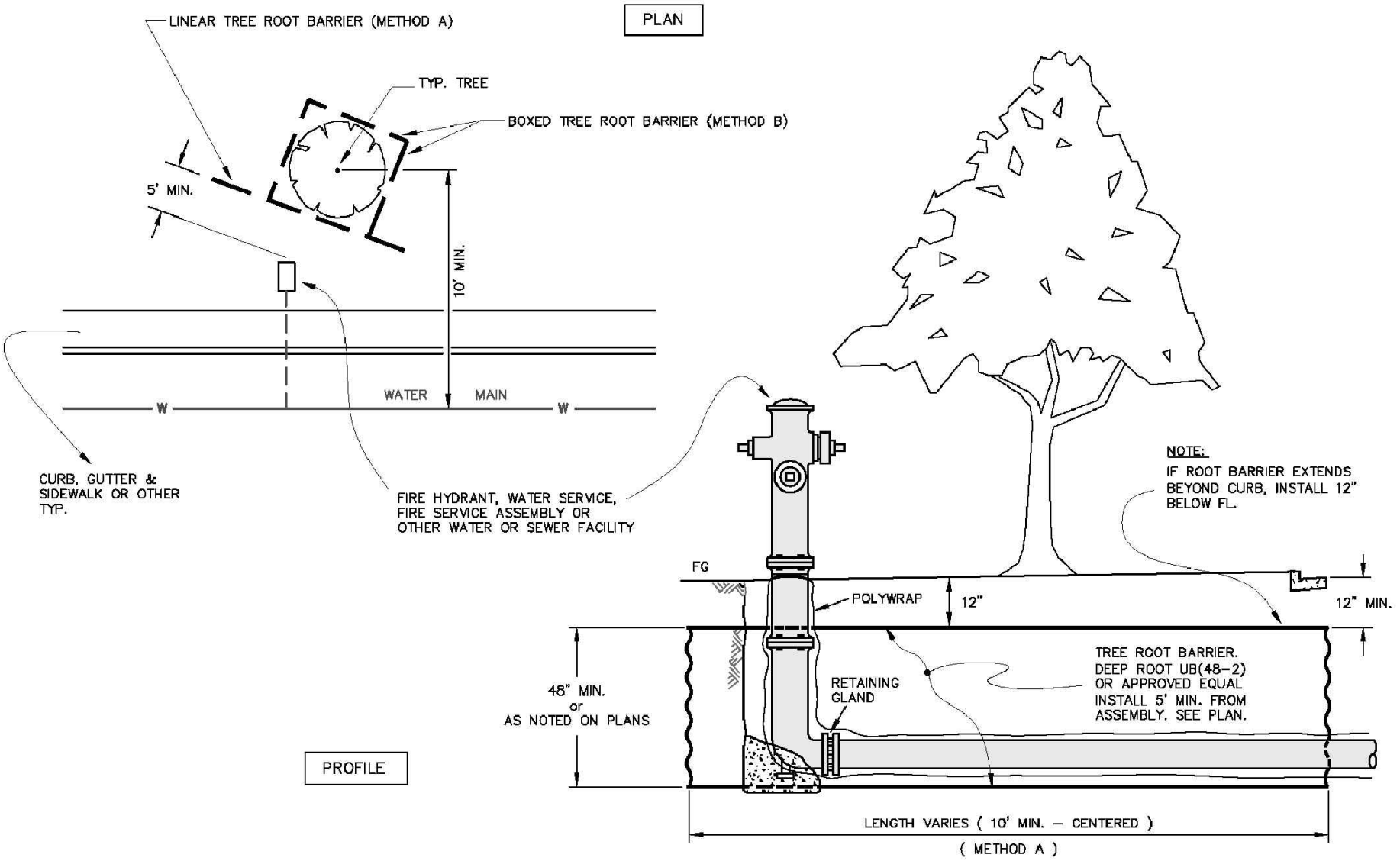

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TREE ROOT BARRIER

Project No. 770611601	Figure No. 37
Date 9/22/2015	
Scale N.T.S.	
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Submission Date 9/22/2015	

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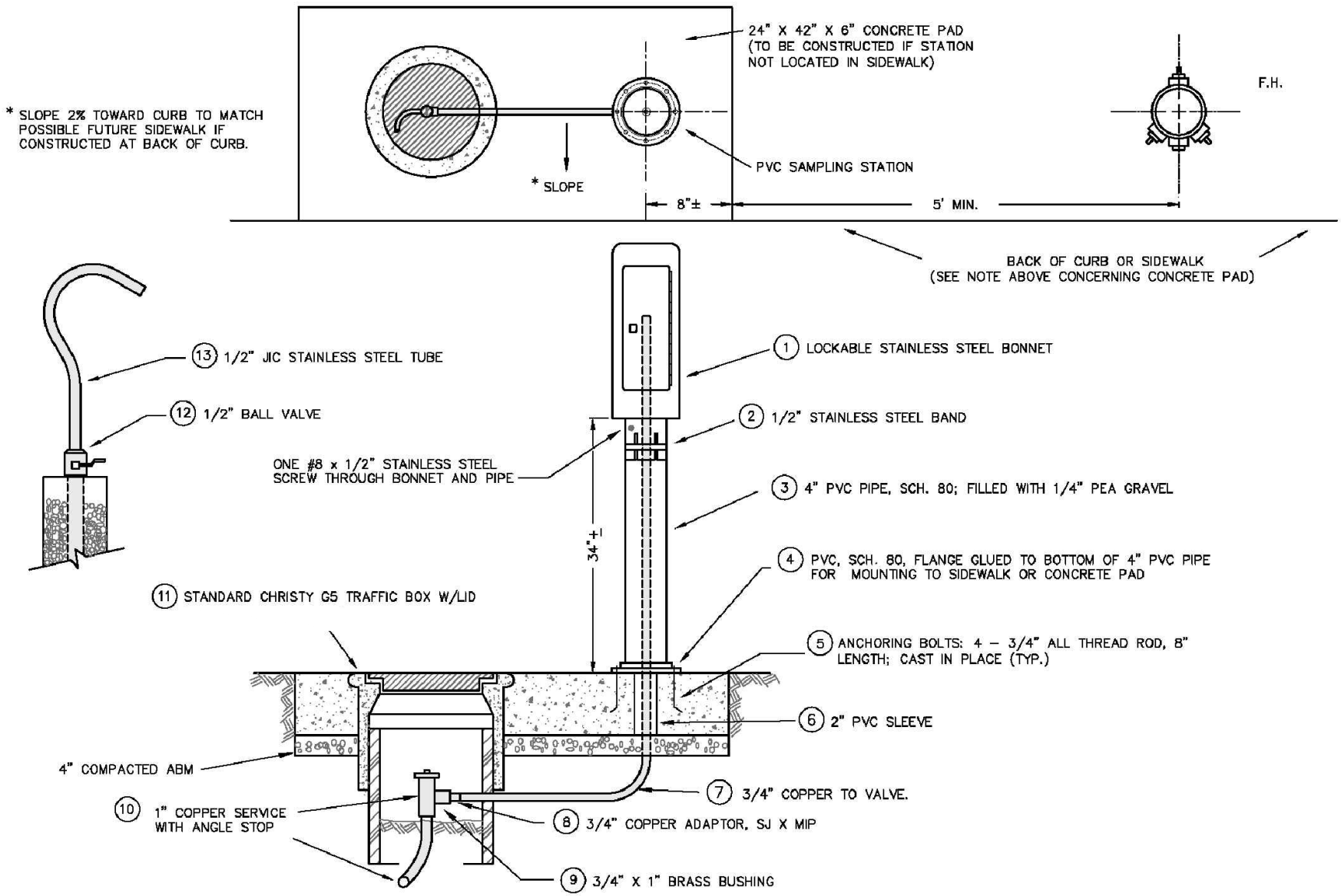

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WATER SAMPLING STATION

Project No. 770611601	Figure No. 38
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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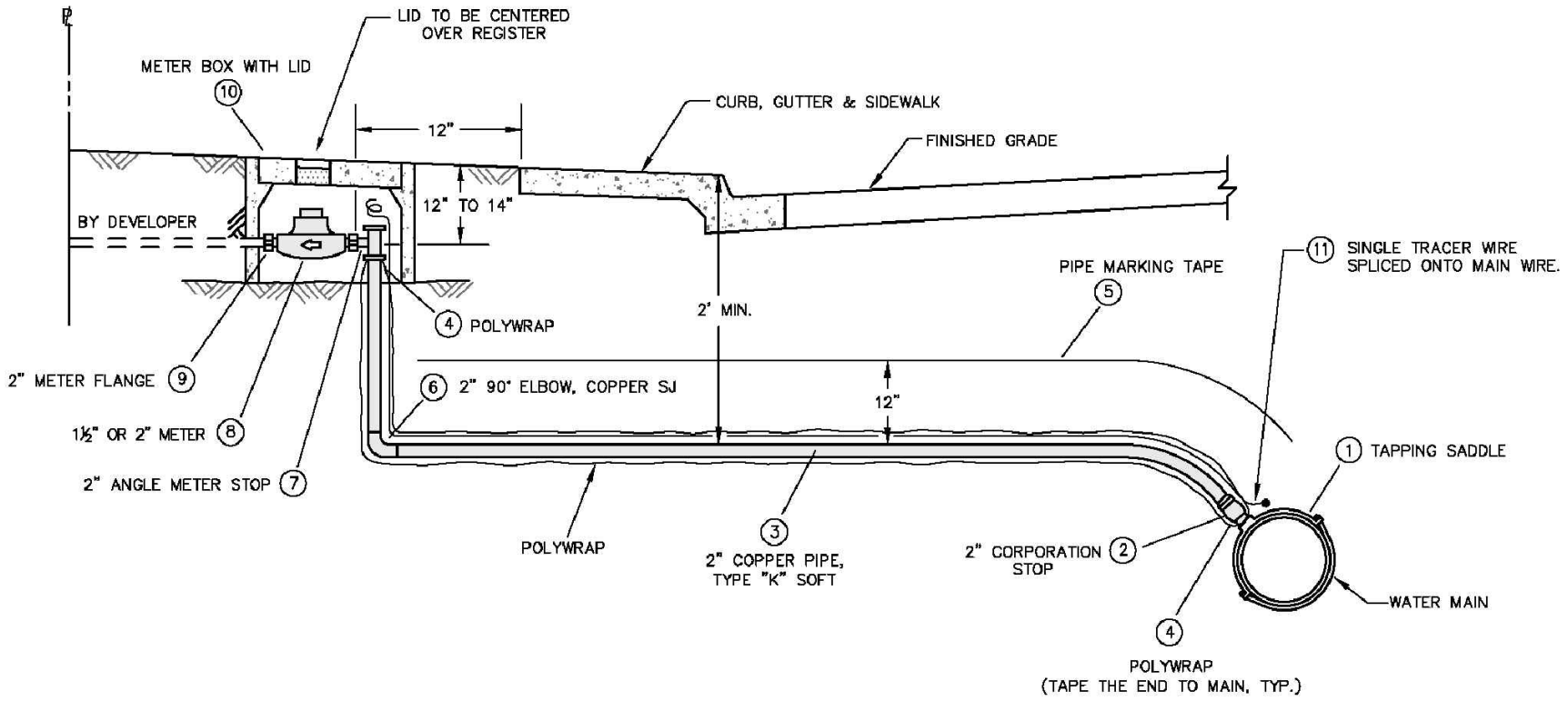

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1 ½" & 2" RECYCLED WATER SERVICE

Project No. 770611601	Figure No. 39
Date 9/22/2015	
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Submission Date 9/22/2015	

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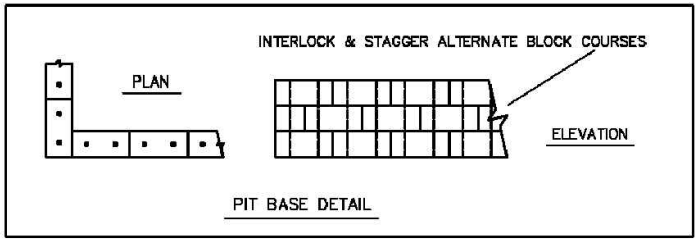
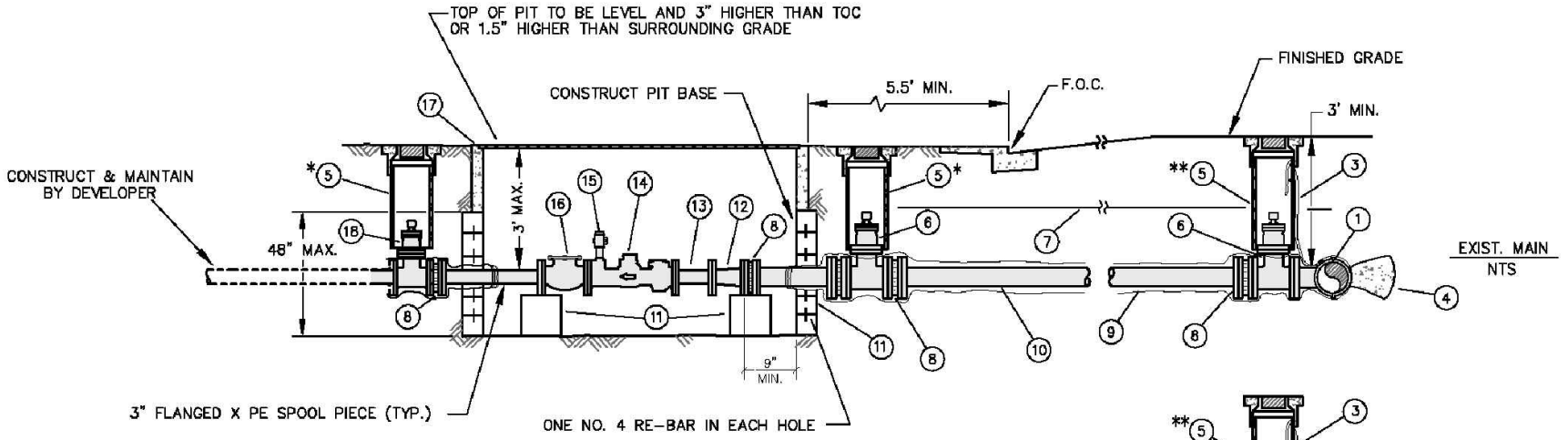
1. TAPPING SLEEVE
2. TEE MJ WITH FLANGED BRANCH
3. TRACER WIRE
4. THRUST BLOCK
5. STD. TRAFFIC VALVE BOX & EXTENSION
6. 4" GATE VALVE, MJ X FLANGED
7. PIPE MARKING TAPE
8. RETAINING GLAND, TYP.
9. POLYWRAP (TAPE THE END TO MAIN)
10. 4" DUCTILE IRON PIPE
11. 8" X 8" X 16" STD. CONC. BUILD. BLOCK
12. REDUCER (4"x3"), FLANGED
13. 3" FLANGED X PE SPOOL PIECE (6" LENGTH)
14. 3" TURBINE METER AND STRAINER
15. TEST ASSEMBLY
16. 3" CHECK VALVE, FLANGED
17. CHRISTY R-33 PIT WITH LID (4' X 5')
18. 3" GATE VALVE, MJ X FLANGED





NOTES TO DEVELOPER:

1. METER SHALL BE TAGGED AND LABELED TO INDICATE RECYCLED WATER, PAINT PURPLE (PANTONE 512)
2. MECHANICALLY RESTRAIN ALL JOINTS.

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San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
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3" RECYCLED WATER SERVICE

Project No. 770611601	Figure No. 40
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Submission Date 9/22/2015	

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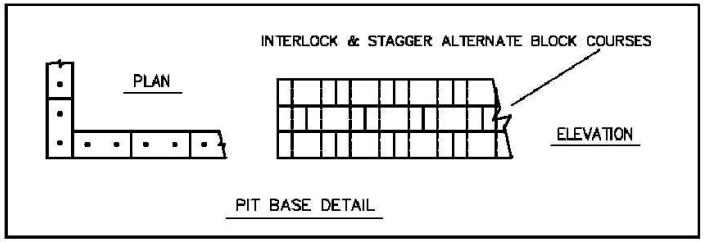
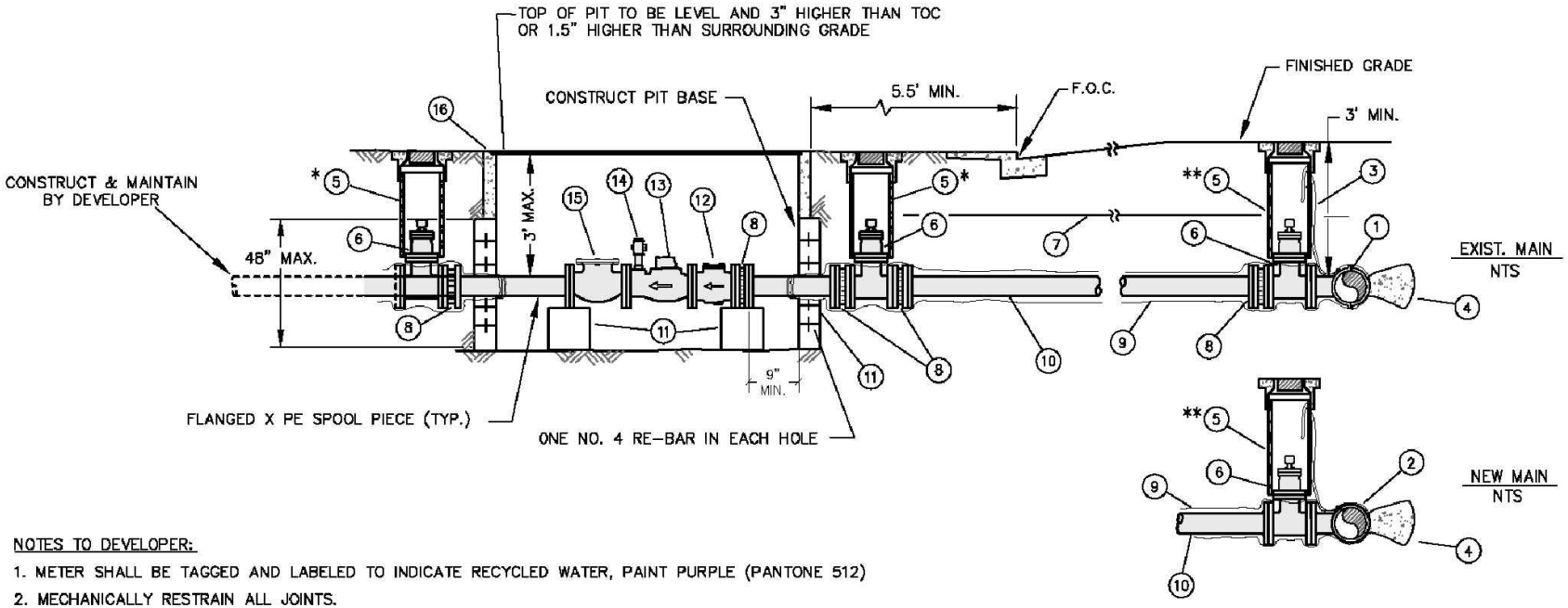
1. TAPPING SLEEVE
2. TEE MJ WITH FLANGED BRANCH
3. TRACER WIRE
4. THRUST BLOCK
5. STD. TRAFFIC VALVE BOX & EXTENSION
6. GATE VALVE, MJ X FLANGED
7. PIPE MARKING TAPE
8. RETAINING GLAND, TYP.
9. POLYWRAP (TAPE THE END TO MAIN), TYP.
10. DUCTILE IRON PIPE
11. 8" X 8" X 16" STD. CONC. BUILD. BLOCK
12. STRAINER, FLANGED
    (FOR USE WITH 6" & 8" BADGER METERS)
13. TURBINE METER
14. TEST ASSEMBLY
15. CHECK VALVE, FLANGED
16. CHRISTY R-33 PIT WITH LID (4' X 5') FOR 4" & 6" SERVICE
    CHRISTY R-37 PIT WITH LID (4' X 7') FOR 8" SERVICE





NOTES TO DEVELOPER:

1. METER SHALL BE TAGGED AND LABELED TO INDICATE RECYCLED WATER, PAINT PURPLE (PANTONE 512)
2. MECHANICALLY RESTRAIN ALL JOINTS.

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T: 408.551.6700 F: 408.551.0344 www.langan.com
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4", 6" & 8" RECYCLED WATER SERVICE

Project No. 770611601	Figure No. 41
Date 9/22/2015	
Scale N.T.S.	
Drawn By STAFF / Checked By AP	
Submission Date 9/22/2015	

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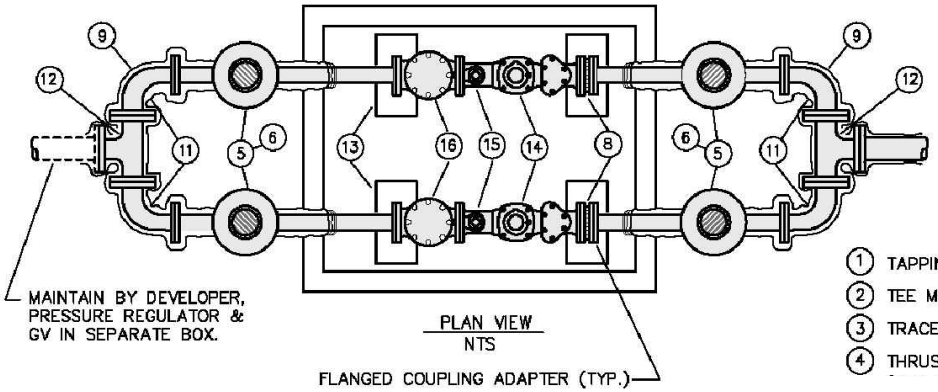
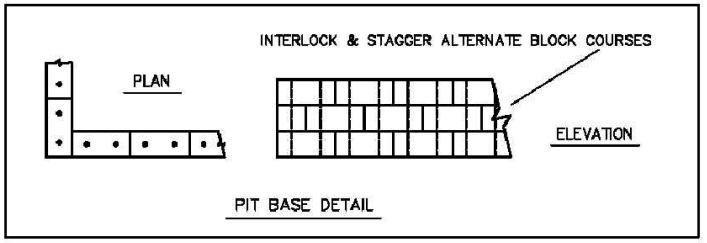
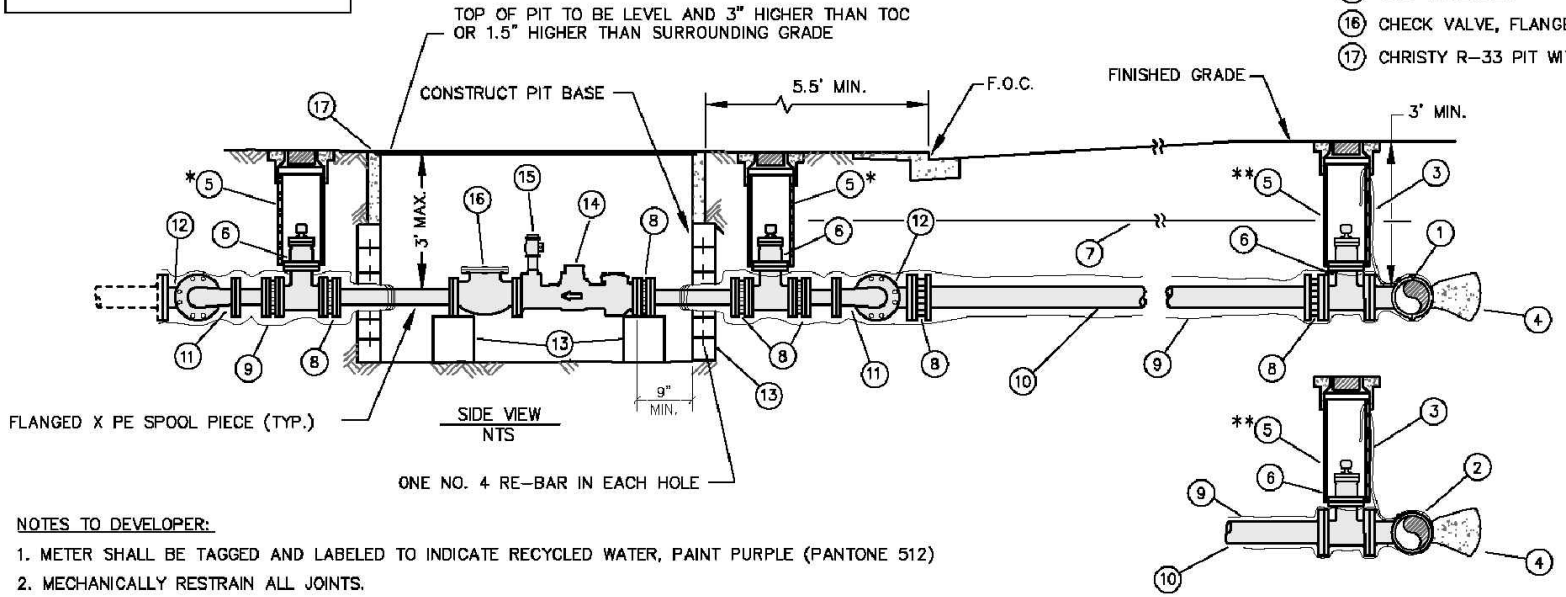




1. TAPPING SLEEVE
2. TEE MJ WITH FLANGED BRANCH
3. TRACER WIRE
4. THRUST BLOCK
5. STD. TRAFFIC VALVE BOX & EXTENSION
6. GATE VALVE, MJ X FLANGED
7. PIPE MARKING TAPE
8. RETAINING GLAND, TYP.
9. POLYWRAP (TAPE THE END TO MAIN)
10. DUCTILE IRON PIPE
11. REDUCING 90° BEND, FLANGED
12. TEE, FLANGED
13. 8" X 8" X 16" STD. CONC. BUILD. BLOCK
14. TURBINE METER AND STRAINER
15. TEST ASSEMBLY
16. CHECK VALVE, FLANGED
17. CHRISTY R-33 PIT WITH LID (4' X 5')

NOTE:
4" SERVICE USE TWO 3" METER
6" SERVICE USE TWO 4" METER



NOTES TO DEVELOPER:

1. METER SHALL BE TAGGED AND LABELED TO INDICATE RECYCLED WATER, PAINT PURPLE (PANTONE 512)
2. MECHANICALLY RESTRAIN ALL JOINTS.

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4" & 6" RECYCLED WATER SERVICE (DUAL METER SERVICE)

Project No. 770611601	Figure No. 42
Date 9/22/2015	
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Submission Date 9/22/2015	

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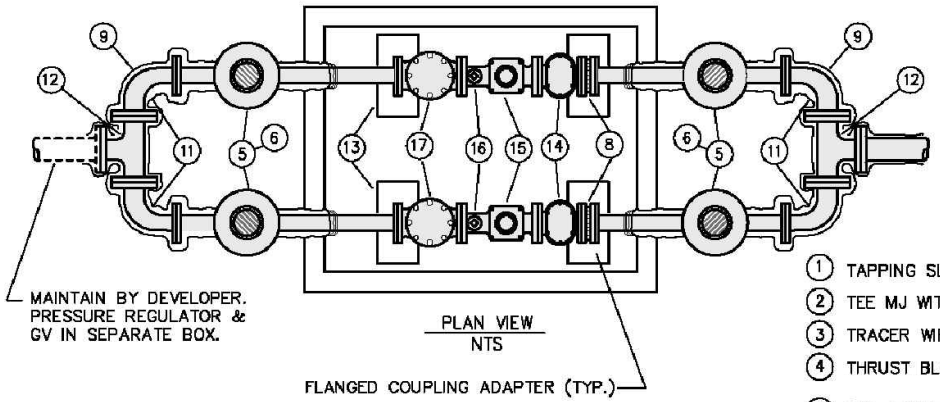
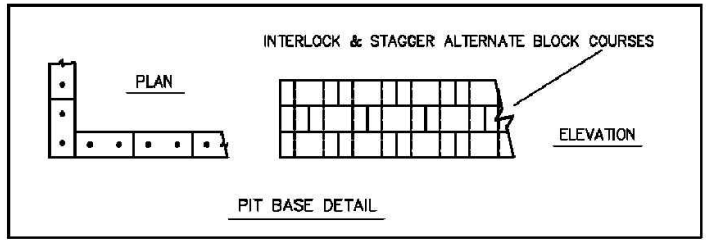


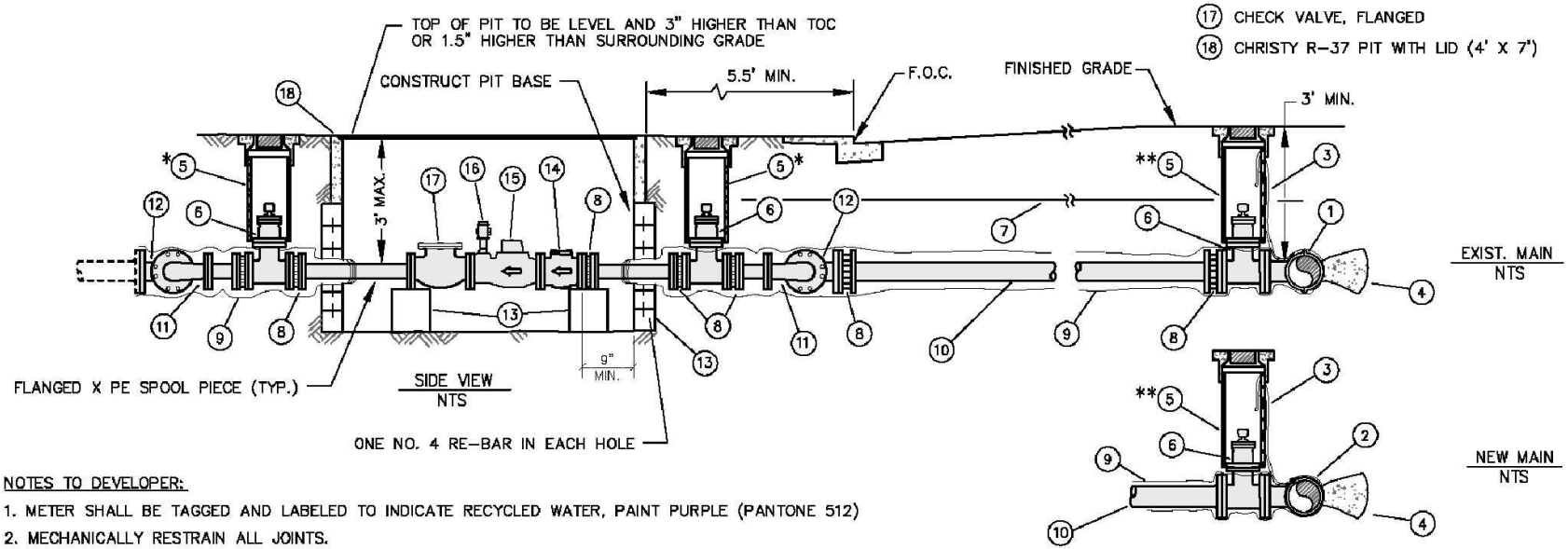
PLAN VIEW
NTS



PIT BASE DETAIL

1. TAPPING SLEEVE
2. TEE MJ WITH FLANGED BRANCH
3. TRACER WIRE
4. THRUST BLOCK
5. STD. TRAFFIC VALVE BOX & EXTENSION
6. GATE VALVE, MJ X FLANGED
7. PIPE MARKING TAPE
8. RETAINING GLAND, TYP.
9. POLYWRAP (TAPE THE END TO MAIN)
10. DUCTILE IRON PIPE
11. REDUCING 90° BEND, FLANGED
12. TEE, FLANGED
13. 8" X 8" X 16" STD. CONC. BUILD. BLOCK
14. STRAINER, FLANGED (FOR USE WITH BADGER METER
15. TURBINE METER
16. TEST ASSEMBLY
17. CHECK VALVE, FLANGED
18. CHRISTY R-37 PIT WITH LID (4' X 7')

NOTE:
8" SERVICE USE TWO 6" METER, STRAINERS



SIDE VIEW
NTS

EXIST. MAIN
NTS

NEW MAIN
NTS

NOTES TO DEVELOPER:

1. METER SHALL BE TAGGED AND LABELED TO INDICATE RECYCLED WATER, PAINT PURPLE (PANTONE 512)
2. MECHANICALLY RESTRAIN ALL JOINTS.

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8" RECYCLED WATER SERVICE (DUAL METER SERVICE)

Project No. 770611601	Figure No. 43
Date 9/22/2015	
Scale N.T.S.	
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Submission Date 9/22/2015	

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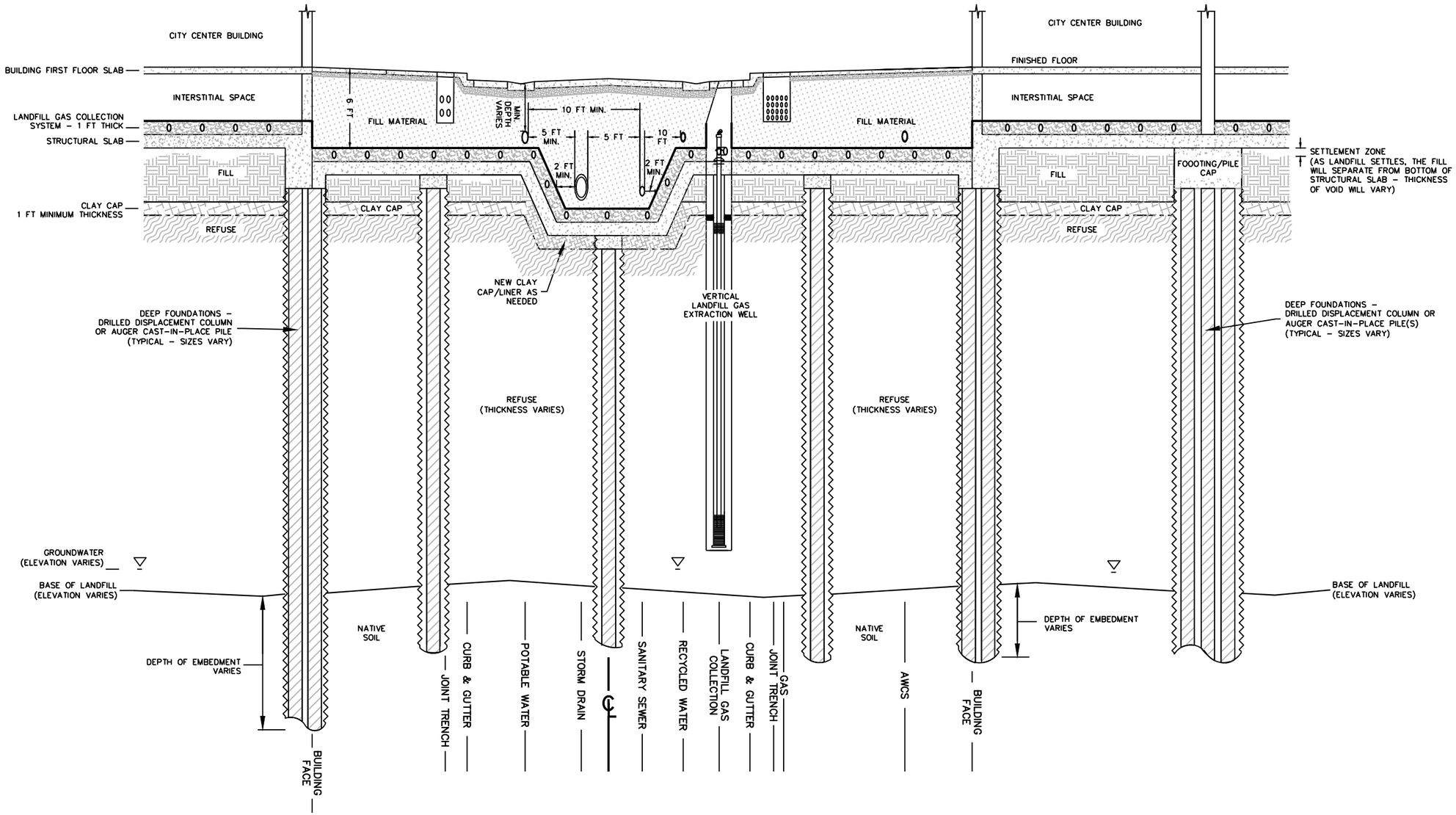

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SANTA CLARA CA

FOUNDATION CONCEPT TYPE 1

Project No. 770611601	Figure No. 44
Date 9/22/2015	
Scale N.T.S.	
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Submission Date 9/22/2015	

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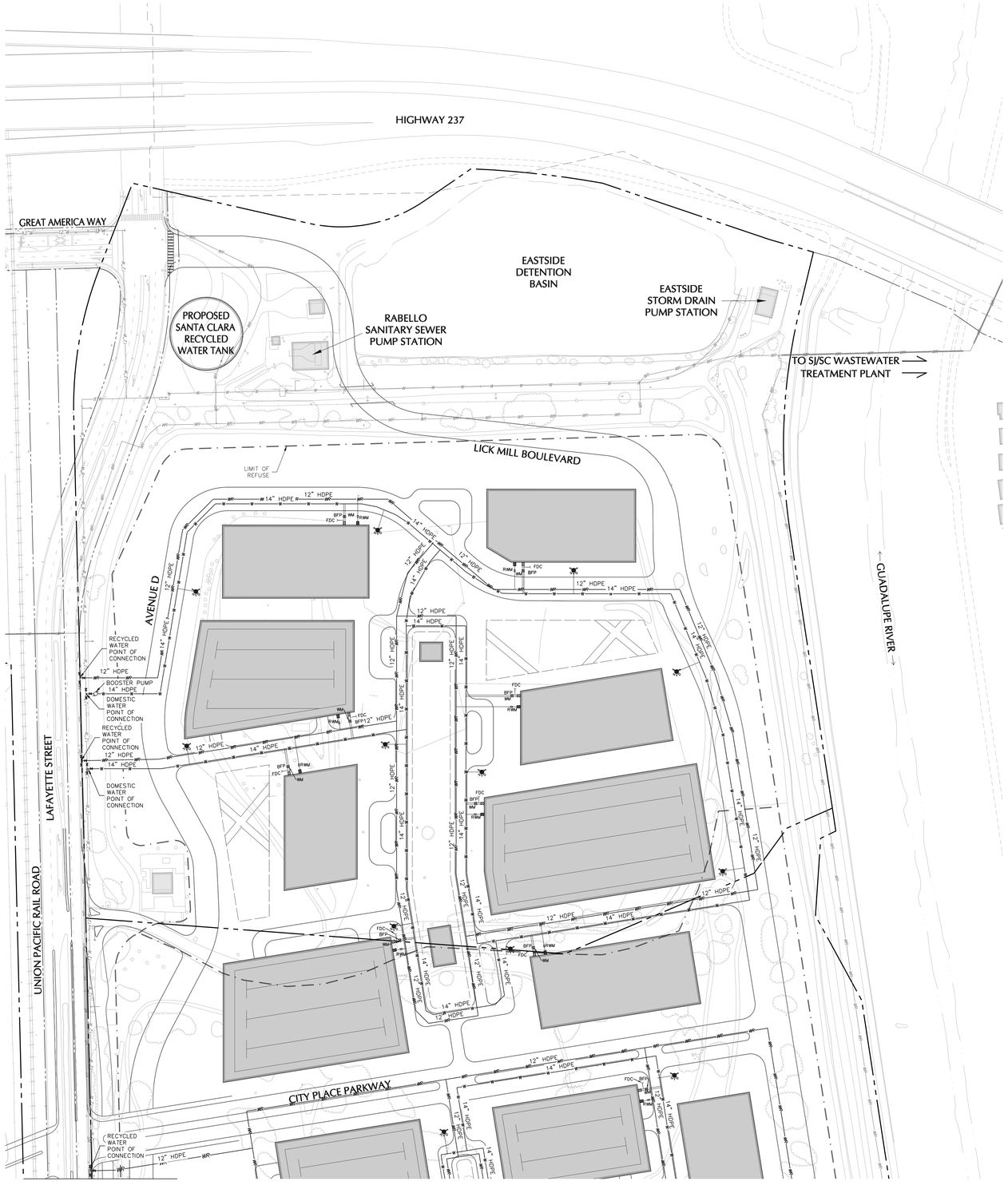
DRAWINGS



DOMESTIC WATER LEGEND

- EXISTING DOMESTIC WATER — xx"-W
- EXISTING RECYCLED WATER — xx"-RW
- PROPOSED DOMESTIC WATER — xx" HDPE
- PROPOSED RECYCLED WATER — xx" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- VOLATILE ORGANIC CHEMICAL PLUME
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. — 1 / CU5.07

ABBREVIATIONS

WM	WATER METER
RMW	RECYCLED WATER METER
BFP	BACK FLOW PREVENTER

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

LEAK DETECTION VAULT AT WATER VALVES AND METER SERVICE CONNECTION TO MAIN 1/CU5.09
TERMINATION OF CONTAINMENT PIPE AT LIMITS OF REFUSE 2/CU5.09
CONTAINMENT PIPE TERMINATION STRUCTURE 3/CU5.09
PRESSURE PIPE ENCLOSED IN CONTAINMENT PIPE 4/CU5.09
TERMINATION OF CONTAINMENT PIPE AT AIR RELEASE VALVE 5/CU5.09
TERMINATION OF CONTAINMENT PIPE AT BLOW-OFFS 6/CU5.09
SETTLEMENT VAULT – TYPE I 5/CU5.10
SETTLEMENT VAULT – TYPE II 6/CU5.10
3" WATER SERVICE WITH RP 1/CU5.09
4", 6", & 8" WATER SERVICE W/RP 2/CU5.09
4", 6", & 8" WATER SERVICE W/ RP (DUAL METER SERVICE) 3/CU5.09
4"-10" FIRE SERVICE ASSEMBLY (W/DCDA) 4/CU5.09
4"-10" FIRE SERVICE ASSEMBLY (W/RPDA) 5/CU5.09
REDUCED PRESSURE BACKFLOW ASSEMBLY 6/CU5.09
FIRE HYDRANT ASSEMBLY 7/CU5.09
GATE VALVE INSTALLATION 8/CU5.09
TRAFFIC VALVE BOX 1/CU5.09
THRUST BLOCKING 2/CU5.09
CONCRETE REVERSE THRUST BLOCK 3/CU5.09
TRENCH BACKFILL 4/CU5.09
AIR RELEASE VALVE 5/CU5.09
BLOW-OFF ASSEMBLY 6/CU5.09
TREE ROOT BARRIER 7/CU5.09
WATER SAMPLING STATION 8/CU5.09
1 1/2" & 2" RECYCLE WATER SERVICE 1/CU5.07
3" RECYCLED WATER SERVICE 2/CU5.07
4", 6", & 8" RECYCLED WATER SERVICE 3/CU5.07
4" & 6" RECYCLED WATER SERVICE (DUAL METER SERVICE) 4/CU5.07
8" RECYCLED WATER SERVICE (DUAL METER SERVICE) 5/CU5.07
FOUNDATION TYPE 1 5/CU5.07

SCALE IN FEET: 100 0 50 100

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4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 1 PRELIMINARY WATER PLAN

Project No. 770611601	Figure CDW2.01
Date 3/20/2015	
Scale AS SHOWN	
Drawn By NT / Checked By DJH	
Submission Date 3/20/2015	Sheet 1 of 4

PROJECT No. 770611601

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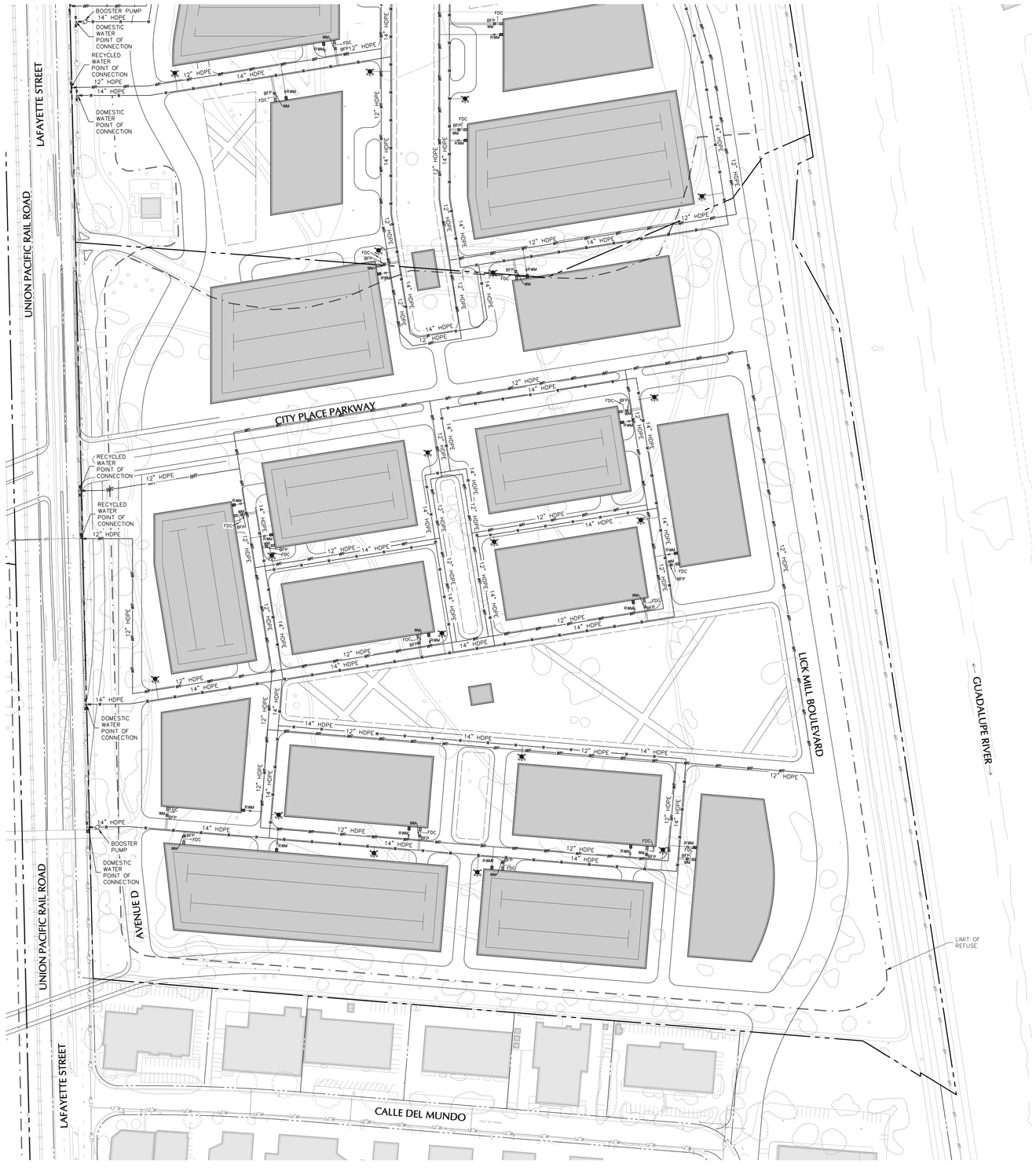

DOMESTIC WATER LEGEND

- EXISTING DOMESTIC WATER — xx" W
- EXISTING RECYCLED WATER — WR — xx" RW — WR
- PROPOSED DOMESTIC WATER — W xx" HDPE
- PROPOSED RECYCLED WATER — WR xx" HDPE WR
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- VOLATILE ORGANIC CHEMICAL PLUME
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. — 1 / CU5.01

ABBREVIATIONS

WM	WATER METER
RMW	RECYCLED WATER METER
BFP	BACK FLOW PREVENTER

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

LEAK DETECTION VAULT AT WATER VALVES AND METER SERVICE CONNECTION TO MAIN — 1 / CU5.04
TERMINATION OF CONTAINMENT PIPE AT LIMITS OF REFUSE — 2 / CU5.04
CONTAINMENT PIPE TERMINATION STRUCTURE — 3 / CU5.04
PRESSURE PIPE ENCLOSED IN CONTAINMENT PIPE — 4 / CU5.04
TERMINATION OF CONTAINMENT PIPE AT AIR RELEASE VALVE — 5 / CU5.04
TERMINATION OF CONTAINMENT PIPE AT BLOW-OFFS — 6 / CU5.04
SETTLEMENT VAULT – TYPE I — 5 / CU5.01
SETTLEMENT VAULT – TYPE II — 6 / CU5.01
3" WATER SERVICE WITH RP — 1 / CU5.02
4", 6", & 8" WATER SERVICE W/RP — 2 / CU5.02
4", 6", & 8" WATER SERVICE W/ RP (DUAL METER SERVICE) — 3 / CU5.02
4"–10" FIRE SERVICE ASSEMBLY (W/DCDA) — 4 / CU5.02
4"–10" FIRE SERVICE ASSEMBLY (W/RPDA) — 5 / CU5.02
REDUCED PRESSURE BACKFLOW ASSEMBLY — 6 / CU5.02
FIRE HYDRANT ASSEMBLY — 7 / CU5.02
GATE VALVE INSTALLATION — 8 / CU5.02
TRAFFIC VALVE BOX — 1 / CU5.03
THRUST BLOCKING — 2 / CU5.03
CONCRETE REVERSE THRUST BLOCK — 3 / CU5.03
TRENCH BACKFILL — 4 / CU5.03
AIR RELEASE VALVE — 5 / CU5.03
BLOW-OFF ASSEMBLY — 6 / CU5.03
TREE ROOT BARRIER — 7 / CU5.06
WATER SAMPLING STATION — 8 / CU5.06
1 1/2" & 2" RECYCLE WATER SERVICE — 1 / CU5.07
3" RECYCLED WATER SERVICE — 2 / CU5.07
4", 6", & 8" RECYCLED WATER SERVICE — 3 / CU5.07
4" & 6" RECYCLED WATER SERVICE (DUAL METER SERVICE) — 4 / CU5.07
8" RECYCLED WATER SERVICE (DUAL METER SERVICE) — 5 / CU5.07
FOUNDATION TYPE 1 — 5 / CU5.07

100 0 50 100
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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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Figure Title
PARCEL 2 PRELIMINARY WATER PLAN

Project No. 770611601	Figure CDW2.02
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Submission Date	Sheet 2 of 4

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PROJECT No. 770611601

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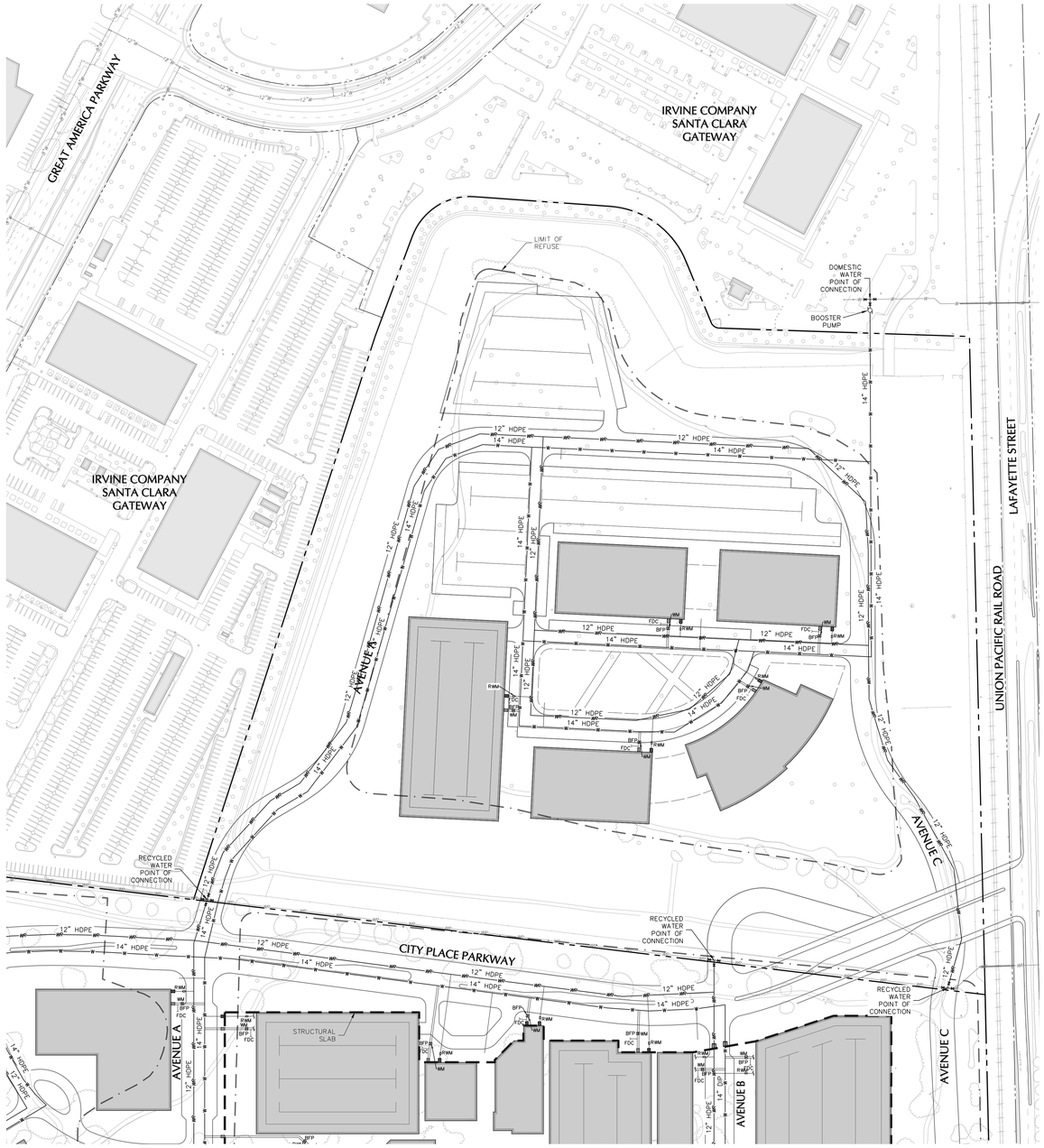

DOMESTIC WATER LEGEND

- EXISTING DOMESTIC WATER — xx" W
- EXISTING RECYCLED WATER — xx" RW
- PROPOSED DOMESTIC WATER — xx" HDPE
- PROPOSED RECYCLED WATER — xx" HDPE
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- VOLATILE ORGANIC CHEMICAL PLUME
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. — 1 / CU5.52

ABBREVIATIONS

WM	WATER METER
RMW	RECYCLED WATER METER
BFP	BACK FLOW PREVENTER

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- LEAK DETECTION VAULT AT WATER VALVES AND METER SERVICE CONNECTION TO MAIN — 1 / CU5.56
- TERMINATION OF CONTAINMENT PIPE AT LIMITS OF REFUSE — 2 / CU5.56
- CONTAINMENT PIPE TERMINATION STRUCTURE — 3 / CU5.56
- PRESSURE PIPE ENCLOSED IN CONTAINMENT PIPE — 4 / CU5.56
- TERMINATION OF CONTAINMENT PIPE AT AIR RELEASE VALVE — 5 / CU5.56
- TERMINATION OF CONTAINMENT PIPE AT BLOW-OFFS — 6 / CU5.56
- SETTLEMENT VAULT – TYPE I — 5 / CU5.57
- SETTLEMENT VAULT – TYPE II — 6 / CU5.57
- 3" WATER SERVICE WITH RP — 1 / CU5.59
- 4", 6", & 8" WATER SERVICE W/RP — 2 / CU5.59
- 4", 6", & 8" WATER SERVICE W/ RP (DUAL METER SERVICE) — 3 / CU5.59
- 4"–10" FIRE SERVICE ASSEMBLY (W/DCDA) — 4 / CU5.59
- 4"–10" FIRE SERVICE ASSEMBLY (W/RPDA) — 5 / CU5.59
- REDUCED PRESSURE BACKFLOW ASSEMBLY — 6 / CU5.59
- FIRE HYDRANT ASSEMBLY — 7 / CU5.59
- GATE VALVE INSTALLATION — 8 / CU5.59
- TRAFFIC VALVE BOX — 1 / CU5.59
- THRUST BLOCKING — 2 / CU5.59
- CONCRETE REVERSE THRUST BLOCK — 3 / CU5.59
- TRENCH BACKFILL — 4 / CU5.59
- AIR RELEASE VALVE — 5 / CU5.59
- BLOW-OFF ASSEMBLY — 6 / CU5.59
- TREE ROOT BARRIER — 7 / CU5.59
- WATER SAMPLING STATION — 8 / CU5.59
- 1 1/2" & 2" RECYCLE WATER SERVICE — 1 / CU5.57
- 3" RECYCLED WATER SERVICE — 2 / CU5.57
- 4", 6", & 8" RECYCLED WATER SERVICE — 3 / CU5.57
- 4" & 6" RECYCLED WATER SERVICE (DUAL METER SERVICE) — 4 / CU5.57
- 8" RECYCLED WATER SERVICE (DUAL METER SERVICE) — 5 / CU5.57
- FOUNDATION TYPE 1 — 5 / CU5.51

100 0 50 100
SCALE IN FEET

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4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
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CITY PLACE SANTA CLARA
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Figure Title
PARCEL 3 PRELIMINARY WATER PLAN

Project No. 770611601	Figure CDW2.03
Date 3/20/2015	
Scale AS SHOWN	
Drawn By NT / Checked By DJH	
Submission Date 3/20/2015	Sheet 3 of 4

PROJECT No. 770611601

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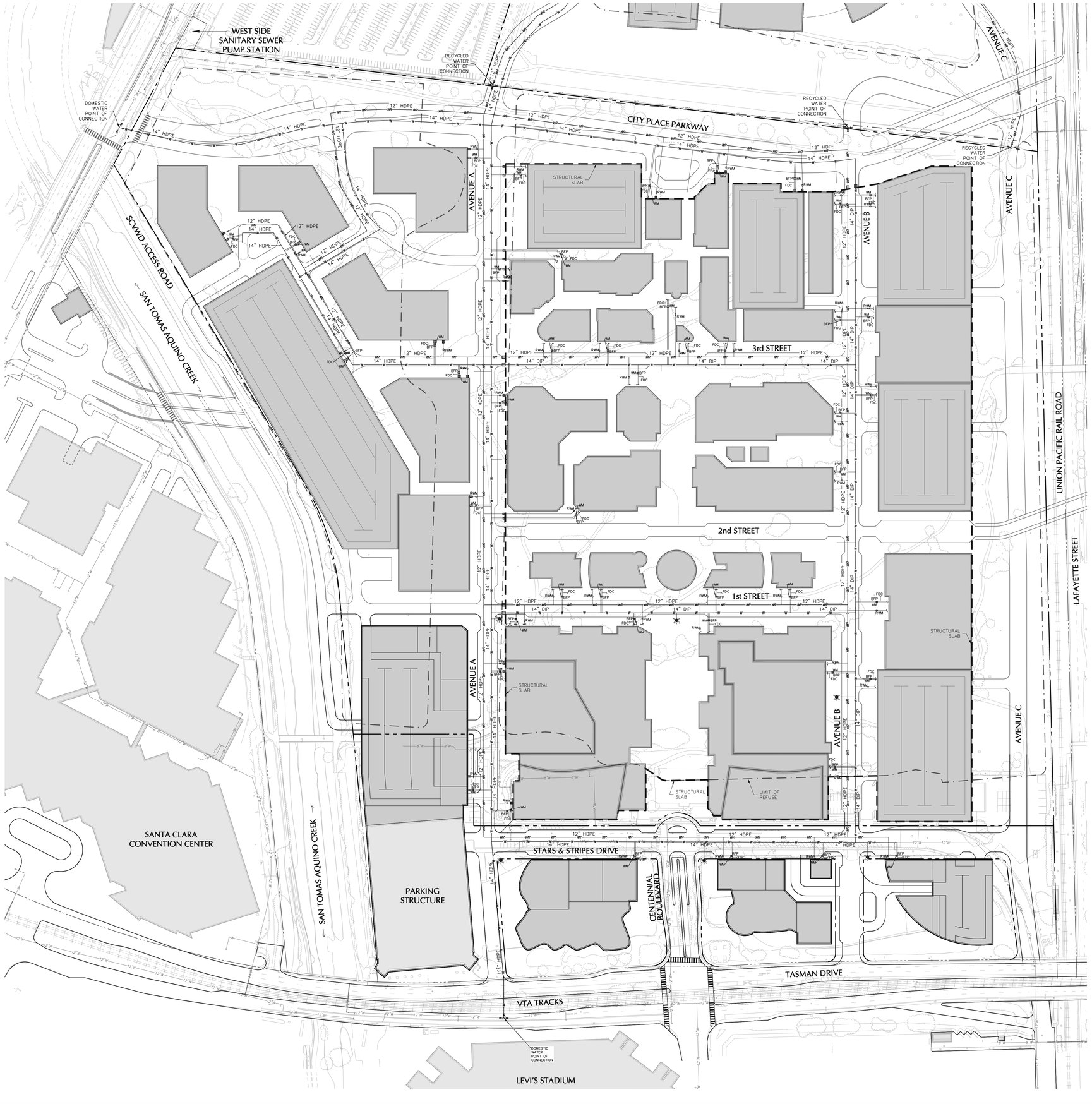

DOMESTIC WATER LEGEND

- EXISTING DOMESTIC WATER
- EXISTING RECYCLED WATER
- PROPOSED DOMESTIC WATER
- PROPOSED RECYCLED WATER
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- VOLATILE ORGANIC CHEMICAL PLUME
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- SETTLEMENT VAULT TYPE I
- SETTLEMENT VAULT TYPE II
- DETAIL No. / SHEET No. (1 / CU5.02)

ABBREVIATIONS

WM	WATER METER
RMW	RECYCLED WATER METER
BFP	BACK FLOW PREVENTER

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- LEAK DETECTION VAULT AT WATER VALVES AND METER SERVICE CONNECTION TO MAIN (1 / CU5.04)
- TERMINATION OF CONTAINMENT PIPE AT LIMITS OF REFUSE (2 / CU5.04)
- CONTAINMENT PIPE TERMINATION STRUCTURE (3 / CU5.04)
- PRESSURE PIPE ENCLOSED IN CONTAINMENT PIPE (4 / CU5.04)
- TERMINATION OF CONTAINMENT PIPE AT AIR RELEASE VALVE (5 / CU5.04)
- TERMINATION OF CONTAINMENT PIPE AT BLOW-OFFS (6 / CU5.04)
- SETTLEMENT VAULT – TYPE I (5 / CU5.02)
- SETTLEMENT VAULT – TYPE II (6 / CU5.02)
- 3" WATER SERVICE WITH RP (1 / CU5.05)
- 4", 6", & 8" WATER SERVICE W/RP (2 / CU5.05)
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- REDUCED PRESSURE BACKFLOW ASSEMBLY (6 / CU5.05)
- FIRE HYDRANT ASSEMBLY (7 / CU5.05)
- GATE VALVE INSTALLATION (8 / CU5.05)
- TRAFFIC VALVE BOX (1 / CU5.06)
- THRUST BLOCKING (2 / CU5.06)
- CONCRETE REVERSE THRUST BLOCK (3 / CU5.06)
- TRENCH BACKFILL (4 / CU5.06)
- AIR RELEASE VALVE (5 / CU5.06)
- BLOW-OFF ASSEMBLY (6 / CU5.06)
- TREE ROOT BARRIER (7 / CU5.06)
- WATER SAMPLING STATION (8 / CU5.06)
- 1 1/2" & 2" RECYCLE WATER SERVICE (1 / CU5.07)
- 3" RECYCLED WATER SERVICE (2 / CU5.07)
- 4", 6", & 8" RECYCLED WATER SERVICE (3 / CU5.07)
- 4" & 6" RECYCLED WATER SERVICE (DUAL METER SERVICE) (4 / CU5.07)
- 8" RECYCLED WATER SERVICE (DUAL METER SERVICE) (5 / CU5.07)
- FOUNDATION TYPE 1 (5 / CU5.03)

100 0 50 100
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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
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Project
CITY PLACE SANTA CLARA

SANTA CLARA CALIFORNIA

Figure Title
PARCEL 4 & 5 PRELIMINARY WATER PLAN

Project No. 770611601	Figure CDW2.04
Date	
Scale AS SHOWN	
Drawn By NT / Checked By DJH	
Submission Date	Sheet 4 of 4

PROJECT No. 770611601

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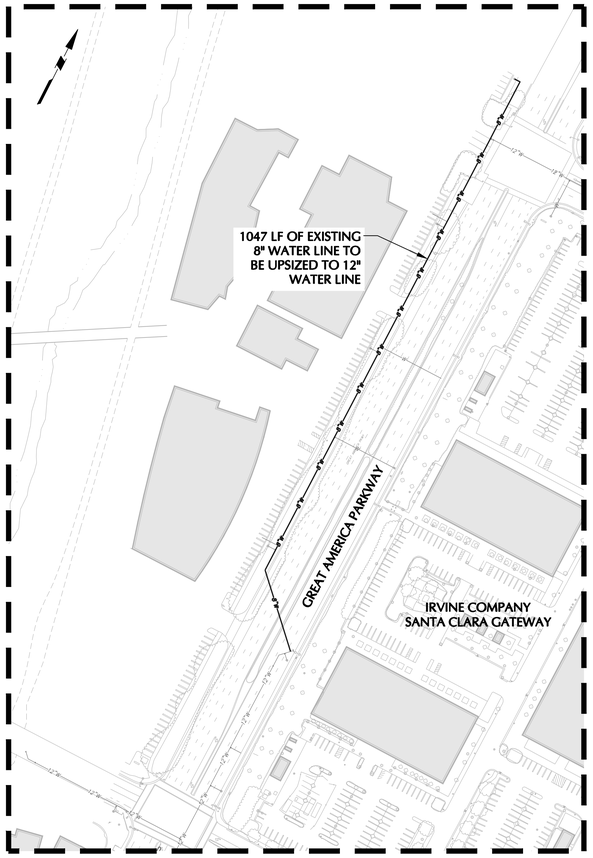
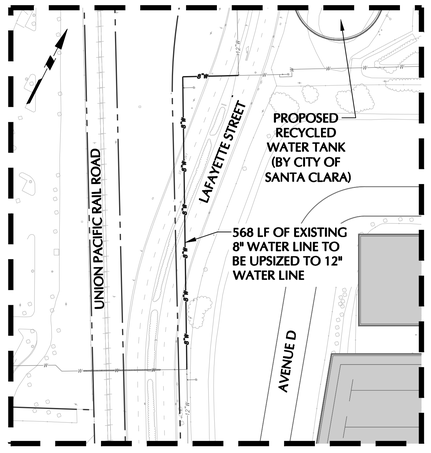
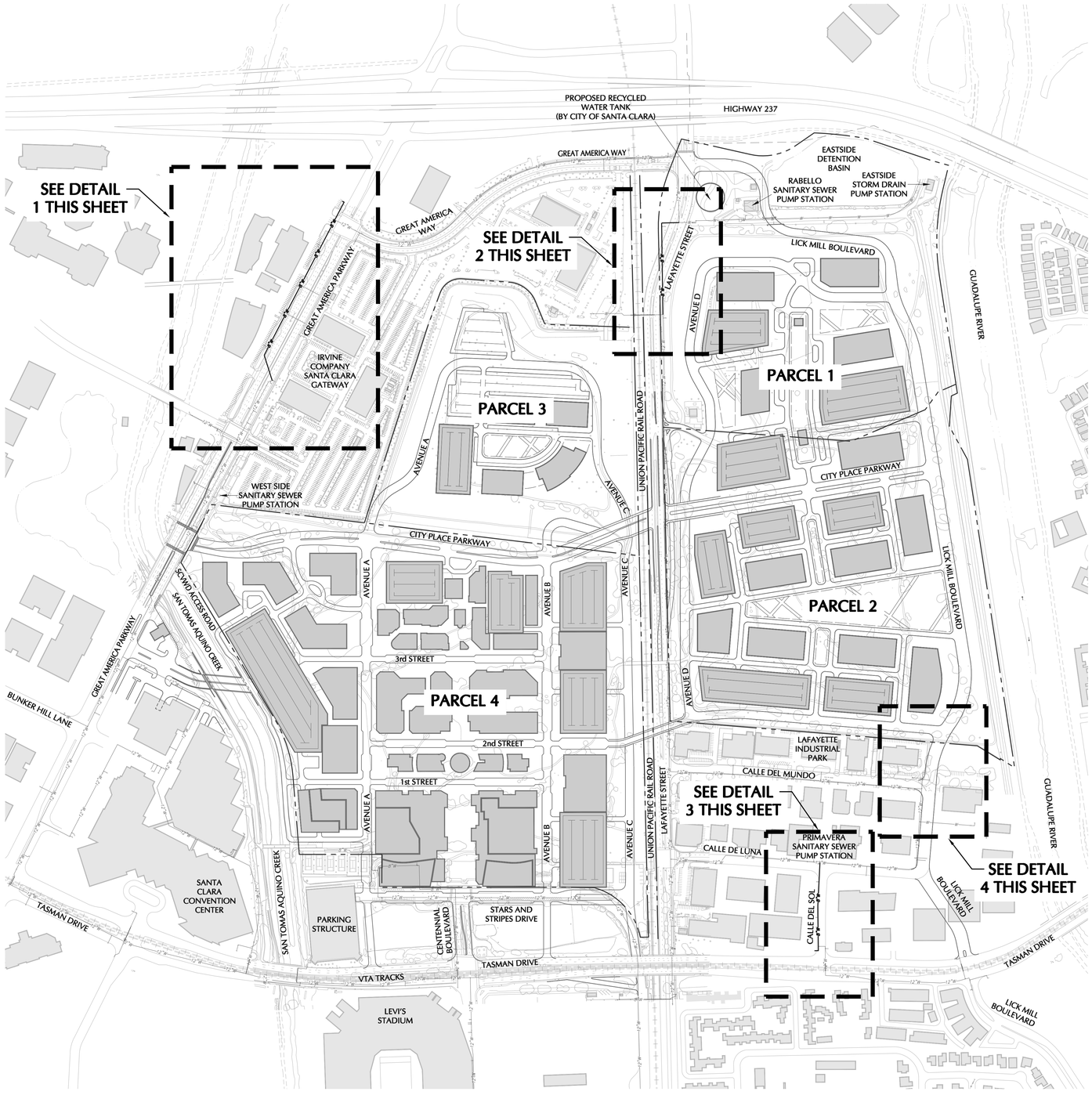
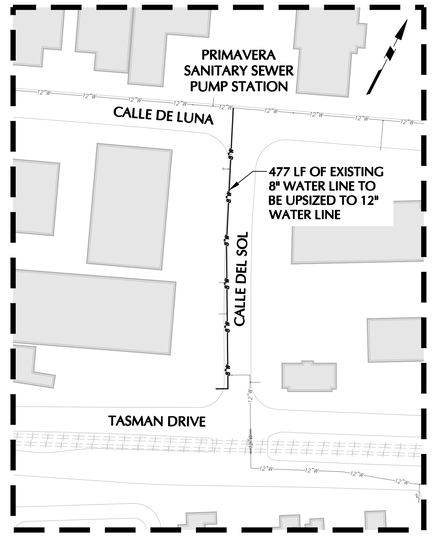


DETAIL 1
SCALE: 1"=100'

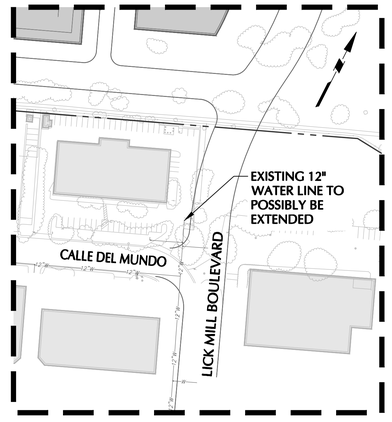


DETAIL 2
SCALE: 1"=100'





DETAIL 3
SCALE: 1"=100'



DETAIL 4
SCALE: 1"=100'

DOMESTIC WATER LEGEND

- EXISTING DOMESTIC WATER
- EXISTING DOMESTIC WATER LINE TO BE UPSIZED
- PARCEL LINE
- PROPOSED IMPROVEMENTS
- PROPOSED BUIDLING
- EXISTING BUILDING

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP.
2. FOR MORE INFORMATION, REFER TO THE "CITY OF SANTA CLARA COUNCIL/STAFF WORK STUDY SESSION INFRASTRUCTURE REQUIREMENTS WATER AND SEWER UTILITIES" REPORT, DATED NOVEMBER 20, 2013.

250 0 125 250
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Date	Description	No.
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LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
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Figure Title
WATER MAIN UPSIZE EXHIBIT

Project No. 770611601	Figure EX-01
Date 1/23/2015	
Scale AS SHOWN	
Drawn By AGL / Checked By AP	
Submission Date 1/23/2015	Sheet 1 of 1

PROJECT No. 770611601

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APPENDIX A

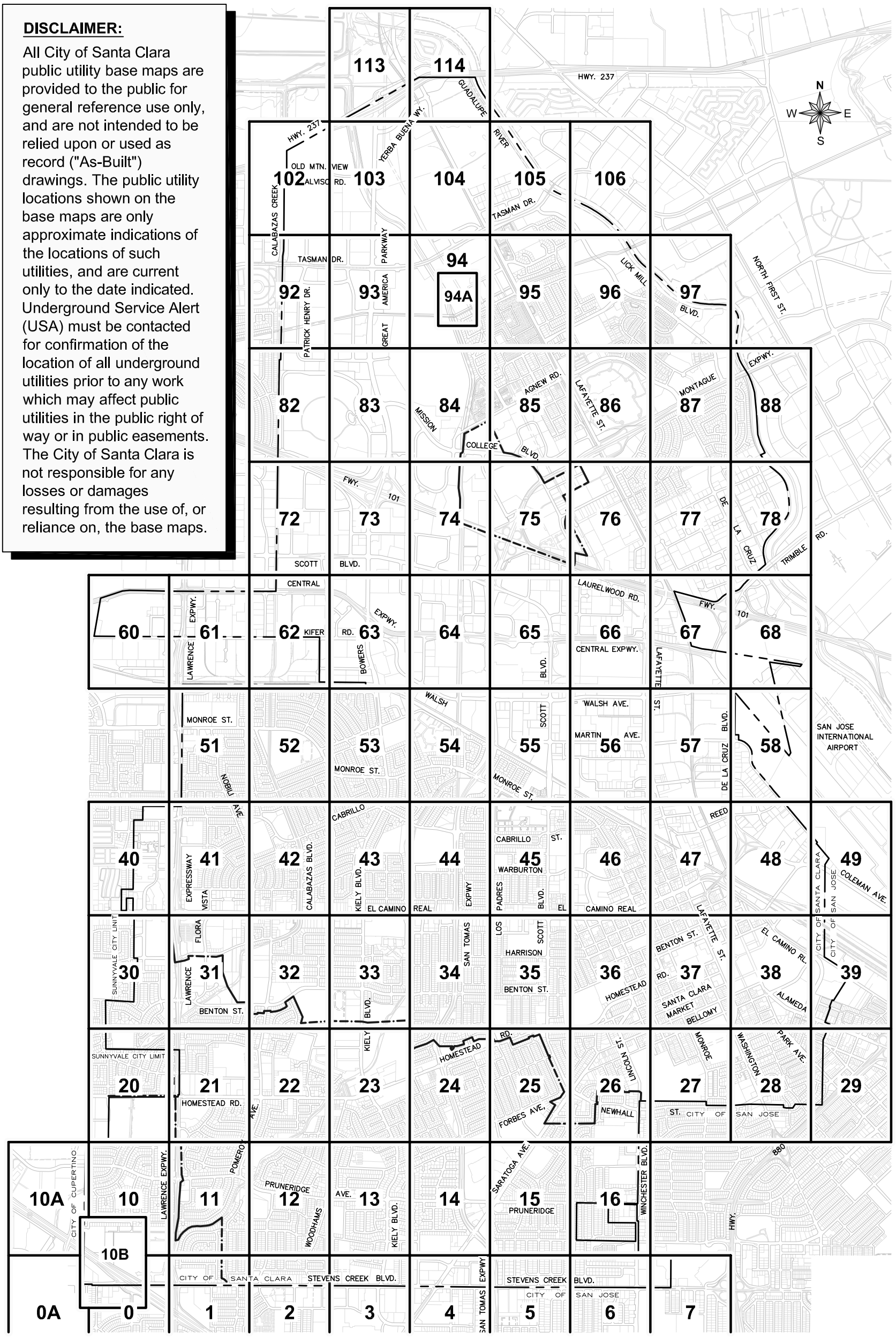
City of Santa Clara Domestic Water and Recycled Water Index and Basic Information Maps

JULY 2012

CITY OF SANTA CLARA WATER DISTRIBUTION SYSTEM - INDEX MAP

DISCLAIMER:

All City of Santa Clara public utility base maps are provided to the public for general reference use only, and are not intended to be relied upon or used as record ("As-Built") drawings. The public utility locations shown on the base maps are only approximate indications of the locations of such utilities, and are current only to the date indicated. Underground Service Alert (USA) must be contacted for confirmation of the location of all underground utilities prior to any work which may affect public utilities in the public right of way or in public easements. The City of Santa Clara is not responsible for any losses or damages resulting from the use of, or reliance on, the base maps.



WATER SYSTEM LEGEND

- MAIN
- ABANDONED MAIN
- VALVE
- CLOSED VALVE
- BUTTERFLY VALVE
- CLOSED BF. VALVE
- CITY LIMIT
- METER
- REGULATOR
- REDUCER
- AIR RELEASE VALVE
- BLOW OFF
- HYDRANT & NO.
- WELL & NO.
- PRESSURE ZONE
- SAMPLING STATION WATER SERVICES (FIRE & DOMESTIC) 2" AND LARGER WILL BE INDICATED
- DIMENSIONS ARE TO THE NEAREST FOOT FROM PROPERTY LINES AND BETWEEN VALVES, HYDRANTS, ETC.
- IRRIGATION CROSS OVER
- EASEMENT LINE PUE—PUBLIC UTILITY EASEMENT WUE—WATER UTILITY EASEMENT

8AC–65–623 PIPE DESIGNATION (SEE NOTE)

NOTE:

The first element of pipe designation grouping will express the size of the pipe. The second element will be the letter code describing kind and coating (if other than cast iron or copper services). The third element will be the year installation and the fourth element will be the job number.

Examples:
- 8AC–65–635 — 8" asbestos cement, installed in 1965, job number 635
- 12–63–700 — 12" cast iron, installed in 1963, job number 700
- XX — Project under construction. Final dimension to be obtained from as–builts.

PIPE CODE

Asbestos cement	AC
Cast Iron	None
Copper	K
Ductile Iron	D
Plastic	P
Wrapped Steel	WS
Concrete Cylinder	CCP
(Cement Lined Steel)	
Cement Lined and Coated Steel	SC

COATING CODE

Mortar or cement	C
Insulating material (coal tar, somastic, etc.)	A

SERVICE CODE

Copper	None
Plastic	P
Steel	S
Galvanized	G

I:\Water\CAD\AutoCad Drawings\Block Books\w0-Index-Page.dwg - 11x17 - (10-BB-Water-Index-BLK-B.ctb) - 0.3000 Plot date: 6.26.2012

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED 7-2012

MAP NO. W 93

N 336,500

E 1,569,850

103

92

94

83

N 330,000

E 1,572,150

Bunker Hill Ln.

Old Ironsides Dr.

COUNTY TRANSIT CORRIDOR JOB 1169

Democracy Wy.

Old Glory Ln.

Tasman Dr.

GREAT AMERICA PARKWAY

S.F.W.D. Hetch Hetchy R/W

Convention Center

Theme Park

VERTICAL TAP 4.5° TO 90° BEND

VALVE IN PIT

Tee Capped

T Capped

HH Meter

HH1-GAP Connection

CLA. CHK. VAL.

MOTOR BFV

PRES. RED. CLAY VAL.

METER

36", 20" diam. Steel Casing

THIS PARCEL ABAND. SERVICES BUT LATERAL REMAINS

12 AC-78-981

12 AC-75-830 & 1169

12 D-99-1698

12 AC-66-586

12 AC-76-917

12 P-86-1299

2624 2623 2622 2627 2628 2629 2326 2324 2892 2891 2323 2470 2471 2469 2468 2467 2466 2488 2489 2487 2402 2401 2400 2399 2398 2397 1854 1853 2842 2843 2844 2845 2846 3202 3201 2331 3303

J1397 J1366 J1311 J1110 J1171 J1155 J1210 J1746 J1024 J1046 J2736 J1211 J1138 J1233 J1202 J1189 J30021 J2737 J2797

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7-2012

MAP NO.

W 94

104

N 333,250

E 1,572,150

93

95

84

N 330,000

E 1,574,450

Stars & Stripes Dr.

Centennial Blvd.

Tasman Dr.

SAN TOMAS AQUINO CREEK

Hetch Hetchy R/W

Gianera St.

Lass Dr.

Silveria Ct.

Alcalde St.

Lakeshore Dr.

Gillmor St.

Fuller St.

Klune Ct.

Klune Cr.

Villa Pl. (Pvt.)

WHARF HYDRANT

2" WM

TRANSITION COUPLING J1169

ABANDONED

20" CASING

NORTH SIDE WATER STORAGE TANKS SEE PAGE W94A FOR MORE DETAIL

4.7 MG II

4.7 MG I

WELL

PUMP

VALVE NORMALLY CLOSED

2" CLA. VAL

2" BALL VALVE

H.H.-2. CONNECTION

CLA. VAL.

10" STRAINER

H.H. MAIN

10"

16S

S.F.H.H.-2 CONNECTION

S.S.

12P-86-1299

12AC-75-830 & 1169

12D-12-30115

16D-12-30115

24D-12-30115

8D-12-30115

24 D-79-974

8 AC-77-956

8 D-77-956

8 P-96-1722

8 AC-78-1047

2 K-90-1525

J1778 J819 J861 J2786 J30115 J1169

2850 2851 2852 3114 3209 3400 3401 3402 3403 3395 3396 3397 3398 3399 3410 3411 3412 3428 3413 3414 2536 2537 2538 2534 2535 2533 3116 3117 3118 3138 2666

I:\Water\CAD\AutoCad Drawings\Block Books\w094.dwg - 11x17 - (10-BB-Water-BLK-B.ctb) - Ltscale: 0.5000 Plot date 7.31.2012

W 94

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7-2012

MAP NO.

W 95

105

N 333,250

E 1,574,450

94

96

85

E 1,576,750

N 330,000

Av. De Guadalupe
Calle De Escuela
Katheryn Hughes School
Corte De Primavera
Fairway Glen Park
Av. De Los Arboles
Av. De Carmen
Av. De Los Rosas
Nantucket Cir.
Av. De Los Arboles
Lafayette St.
U. P. R. R.
Calle De Primavera
Av. Del Prado (Pvt)
Av. De Las Flores
Av. De Las Flores
Hetch Hetchy R/W
Fairway Glen Dr.
Hogan Dr.
Burke Dr.
Mangrum Dr.
Armour Dr.
Demaret Dr.
Snead Dr.
Eisenhower Dr.
Nelson Dr.
Hope Dr.
Alcalde St.
Lass Dr.
Fuller St.
Gianera St.
Duvall Ct. (Pvt.)
Wilcox Ave.
Lenox Pl. (Pvt.)
Cheeney St.
Esperanca Ave.
Payne Pl. (Pvt.)
Kingsbury Cir. (Pvt.)
N. 3rd St.
St. Palais Pl. (Pvt.)
Garzoni Pl. (Pvt.)
PLAZA ESCUELA
(.8 AC Aband.)

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

W 103

113

N 336,500

E 1,569,850

237

Highway 237

(Mt. View–Alviso Rd.)

San Tomas Aquino Creek

Yerba Buena Wy.

GREAT AMERICA PARKWAY

MARVELL LANE (pvt)

Betsy Ross Dr.

Hill Bunker Ln.

(OLD) MT VIEW – ALVISO RD

WESTSIDE RETENTION BASIN

ABAND. 12" A.C. J731

8AC–75–830

12AC–75–846

12AC–66–586

12P–90–1500

12P–92–1544

12P–86–1299

12S–75–846 BRIDGE PROFILE

8' PLASTIC '83

Trans. Coupl.

45° Bend Horiz.

PROFILE

F.C.

90° UP 2' TO 90° WEST

10F

6F

8F

2404 3019 3020 3018 3145 J1765 3146 J30132 3147 3001 3000 2999 3002 J2722 3004 J2988 J1158 2641 3148 J2701 2702 3084 J1354 2840 2841 2403

102

104

93

N 333,250

E 1,572,150

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W 103

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

W 104

114

N 336,500

E 1,572,150

103

105

94

N 333,250

E 1,574,450

F.S. (10)

LAFAYETTE ST.

Stars and Stripes Dr.

Tasman Dr.

Calle Del Mundo

Calle De Luna

San Tomas

12AC–70–731

ABAND. 12" AC

125' 20" CASING

12AC–71–650

12P–86–1299

12 AC–71–650

12AC–73–781

4' OF 10" CIP

2343

2344

J1354

2345

J1213

J1170

J985

J1633

2679

J1568

2269

2266

J1115

J1226

2263

J1778

2849

J2720

2848

2847

I:\Water\CAD\AutoCad Drawings\Block Books\w104.dwg - 11x17 - (10-BB-Water-BLK-B.ctb) - Ltscale: 0.50 Plot date 7.31.2012

W 104

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

W 105

115

N 336,500

E 1,574,450

104

106

95

N 333,250

E 1,576,750

Calle Del Mundo

Calle De Luna

Calle Del Sol

Calle De Escuela

Av. De Guadalupe (Pvt.)

Av. De. Los Alumnos (Pvt.)

Av. De Lago

Av. De Los Arboles

Av. De Carmen

Plaza Corona (Pvt.)

Tasman Dr.

Renaissance Dr.

Lick Mill Blvd.

GUADALUPE RIVER

SANTA CLARA CITY LIMIT

SAN JOSE CITY LIMIT

ULISTAC NATURAL AREA

ARBOLES

J959 J1229 J1008 J1259 J1263 J1711 J1271 J1296 J1638 J1193 J1714 J1735 J1264 J2906 J2707

2451 2268 2518 2267 2678 2265 2882 2947 2881 2948 2949 2950 2155 2154 2156 2157 2424 2425 2426 2427 2423

SEE PROFILE

8x6 TEE

HYD. HYD. TEE

RCW

24 RCP

12-73-819

I:\Water\CAD\AutoCad Drawings\Block Books\w105.dwg - 11x17 - (10-BB-Water-BLK-B.ctb) - Ltscale: 0.5000 Plot date 6.12.2012

W 105

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7-2012

MAP NO.

W 113

N 339,750

E 1,569,850

Guadalupe River

IND. BLDG.

El Dorado Ct.

Gold St.

AMTRAK / U.P.R.R.

112

114

SANTA CLARA CITY LIMIT

SAN JOSE CITY LIMIT

(Mt. View - Alviso Rd.)

Highway 237

GREAT AMERICA PARKWAY

Yerba Buena Way

3021

14

2

5

17

345

388

12 P-92-1544

237

103

N 336,500

E 1,572,150

I:\Water\CAD\AutoCad Drawings\Block Books\w113.dwg - 11x17 - (10-BB-Water-BLK-B.ctb) - Ltscale: 0.5000 Plot date 7.31.2012

W 113

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7–2012

MAP NO.

W 114

N 339,750

E 1,572,150

North First St.

Guadalupe River

GUADALUPE TRAILER PARK

113

115

MT. VIEW–MILPITAS

Highway 237 (Mt. View – Alviso Rd.)

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

CSJ

Lafayette St.

CITY OF SAN JOSE 12" DIP WATER MAIN (Dwg. # ALV 110)

EASTSIDE RETENTION BASIN

2" PLASTIC STRAPPED TO SOUTHERLY SIDE OF PUMP FACILITY PIT.

2 P–72–778

611

3023

3022

50'–20" STL. CASING

12 P–92–1544

336

345

Yerba Buena Way

U.P.R.R.

8 AC–74–861

257

140

238

2342

2149

8 AC–71–650

451

Guadalupe River

E 1,574,450

N 336,500

104

I:\Water\CAD\AutoCad Drawings\Block Books\w114.dwg - 11x17 - (10-BB-Water-BLK-B.ctb) - Ltscale: 0.5000 Plot date 7.31.2012

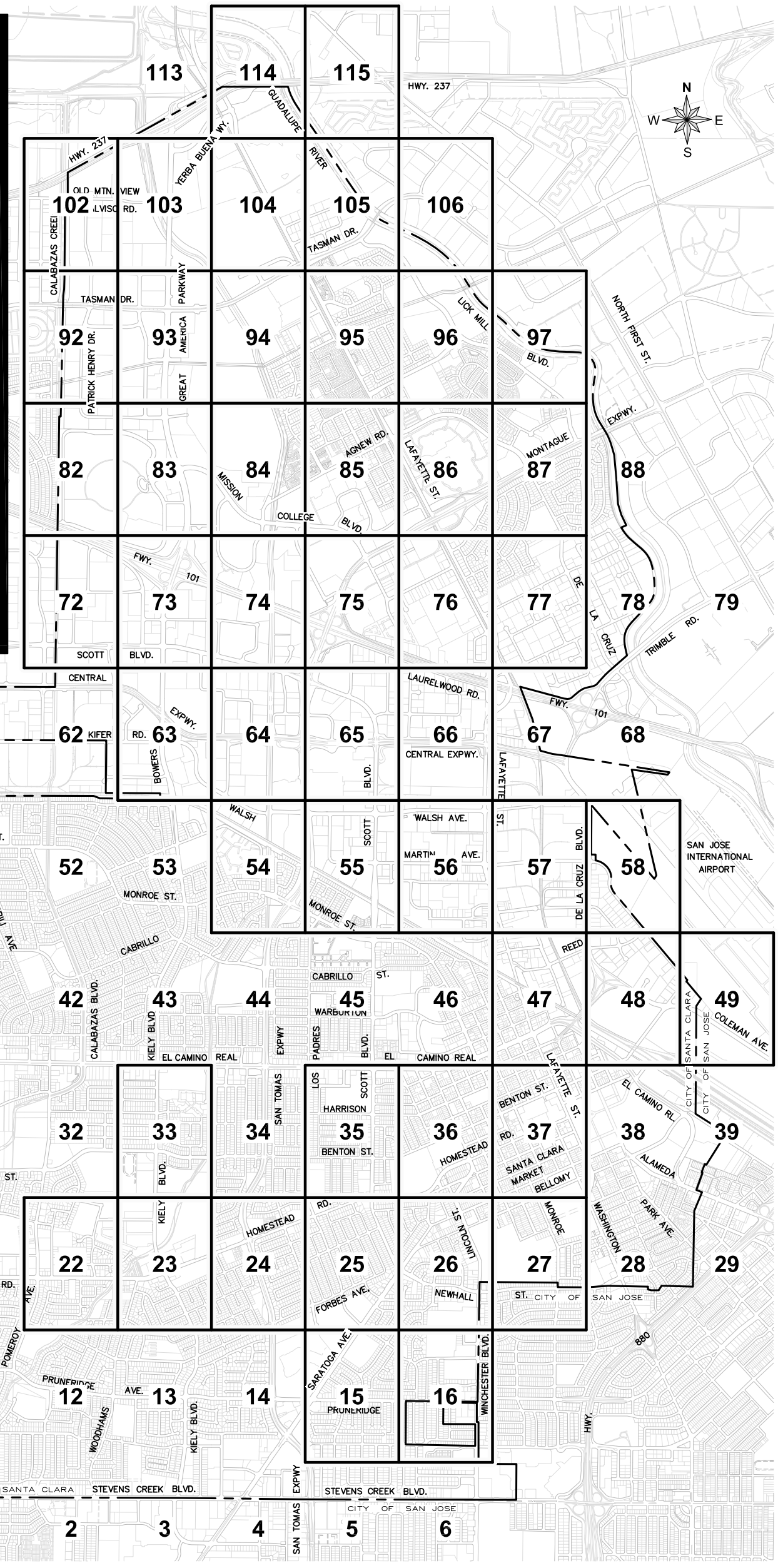
W 114

JULY 2012

CITY OF SANTA CLARA RECYCLED WATER SYSTEM - INDEX MAP

DISCLAIMER:

All City of Santa Clara public utility base maps are provided to the public for general reference use only, and are not intended to be relied upon or used as record ("As-Built") drawings. The public utility locations shown on the base maps are only approximate indications of the locations of such utilities, and are current only to the date indicated. Underground Service Alert (USA) must be contacted for confirmation of the location of all underground utilities prior to any work which may affect public utilities in the public right of way or in public easements. The City of Santa Clara is not responsible for any losses or damages resulting from the use of, or reliance on, the base maps.



RECYCLED WATER SYSTEM LEGEND

- MAIN
- ABANDONED MAIN
- VALVE
- CLOSED VALVE
- BUTTERFLY VALVE
- CLOSED BF. VALVE
- REDUCER
- SURGE RELIEF VALVE
- PUMP OUT
- BLOW OFF
- CORR. TEST STA.
- JTS ATS FPTS CATS — JTS–INSULATING JOINT TEST STA. ATS– ANODE TEST STA. FPTS–FOREIGN PIPELINE TEST STA. CATS–CASING TEST STA.
- DIMENSIONS ARE TO THE NEAREST FOOT FROM PROPERTY LINES AND BETWEEN VALVES, HYDRANTS, ETC.
- AMH / BAMH — AMH–ACCESS MANHOLE, BAMH–BURIED ACCESS MANHOLE
- 4 2 — WATER SERVICES 2" AND LARGER WILL BE INDICATED
- 17 / 30 — DIMENSIONS ARE TO THE NEAREST FOOT FROM PROPERTY LINES AND BETWEEN VALVES, HYDRANTS, ETC.
- MARV ARV — ARV–COMBINATION AIR VALVE, MARV–MANUAL AIR RELEASE VALVE
- 8Y–92–1592 — PIPE DESIGNATION (SEE NOTE)
- CITY LIMIT
- EASEMENT LINE — PUE–PUBLIC UTILITY EASEMENT, RWUE–RECYCLED WATER UTILITY EASEMENT

NOTE: The first element of pipe designation grouping will express the size of the pipe. The second element will be the letter code describing kind and coating (if other than cast iron or copper services). The third element will be the year installation and the fourth element will be the job number.

Examples: 8Y–92–1592 — 8" Yellowmine, installed in 1992, job number 1592

PIPE CODE	
Yellowmine	Y
Ductile Iron	D
	P
Plastic	K
Copper	S
Steel	

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw0-Index-Page.dwg - 11x17 PDF - (10-BB-Recycle-Index-BLK-B.ctb) - Ltscale: 0.3000 - Plot day: 6/14/12

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED 7-2012

MAP NO. RCW 93

103

92

94

83

N 336,500

E 1,569,850

E 1,572,150

N 330,000

4S-2M

8 P-99-1825

716

508

60 D

233

29

32

8

343 B

2

Bunker Hill Ln.

Old Ironsides Dr.

COUNTY TRANSIT CORRIDOR JOB 1169

Convention Center

Tasman Dr.

Democracy Wy.

Theme Park

8 P-99-1824

25

27

522

422

40

523

17

GREAT AMERICA PARKWAY

780

13

462

6 P-99-1819

782

86' of 6 D

104

Old Glory Ln.

213

211

53

244

12 Y-94-1604

2070

248

S.F.W.D. Hetch Hetchy R/W

132

12 Y-94-1604

1253

696

8P-01-1827(SEE J2797)

804 806 808

812

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw093.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 1.0000 - Plot day: 6/7/12

RCW 93

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

RCW 94

104

N 333,250

E 1,572,150

E 1,574,450

Stars & Stripes Dr.

Centennial Blvd.

Tasman Dr.

SAN TOMAS AQUINO CREEK

105S

68

37

110

18D–12–1842

18P–12–1842

671

301

12"D

6"

4"

12Y–92–1592

468

12Y–94–1604

2314

95±

Hetch Hetchy R/W

Villa Pl. (Pvt.)

Gianera St.

Lass Dr.

Silveria Ct.

Lakeshore Dr.

Alcalde St.

Gillmor St.

Fuller St.

Klune Ct.

Klune Cr.

93

95

84

N 330,000

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RCW 94

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED 7–2012

MAP NO. RCW 95

105

94

96

85

N 333,250

E 1,574,450

N 330,000

E 1,576,750

Av. De Guadalupe

Calle De Escuela

Katheryn Hughes School

Av. De Carmen

Av. De Los Arboles

Av. De Angelina

Av. De Los Rosas

Nantucket Cir.

Corte De Primavera

Fairway Glen Park

PLAZA ESCUELA

Lafayette St.

U. P. R. R.

Calle De Primavera

Av. Del Prado (Pvt)

Av. Del os Flores

Corte De Flores

Av. De Las Flores

Hetch Hetchy R/W

Fairway Glen Dr.

Hogan Dr.

Burke Dr.

Mangrum Dr.

Armour Dr.

Demaret Dr.

Snead Dr.

Payne Pl. (pvt)

Eisenhower Dr.

Nelson Dr.

Hope Dr.

St. Palais Pl. (Pvt.)

Garzoni Pl. (Pvt.)

Kingsbury Cir. (Pvt.)

N. 3rd St.

Gianera St.

Duvall Ct. (Pvt.)

Wilcox Ave.

Lenox Pl. (Pvt.)

Cheeney St.

Lass Dr.

Alcalde St.

Esperanca Ave.

Fuller St.

Esperanca Ave.

8P–99–1822

8P–97–1820

4P–97–1820

8D–12–1842

18P–12–1842

12Y–92–1592

24S–96–1812

30S–96–1812

60'–20" CASING

68'–48" CASING

80'–20" CASING

90° B. ROLLED DOWN

PLAN

PROFILE

TEE

PVC

ATS

FP

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw095.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 0.5000 - Plot day: 6/29/12

RCW 95

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED 7–2012

MAP NO. RCW 103

113

N 336,500

E 1,569,850

237

Highway 237 (Mt. View–Alviso Rd.)

Yerba Buena Wy.

San Tomas Aquino Creek

MARVELL LANE (pvt)

GREAT AMERICA PARKWAY

45° ROLLED UP

8P–97–1811

138 STL.

(OLD) MT VIEW – ALVISO RD

8D–99–1825 (253')

8P–12–1843

4" RISER

12P–88–1470

8P–88–1470

8" RISER

12P–88–1470

WESTSIDE RETENTION BASIN

Betsy Ross Dr.

8P–99–1825

Hill Bunker Ln.

102

104

93

N 333,250

E 1,572,150

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw103.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 0.5000 - Plot day: 6/14/12

RCW 103

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

RCW 104

114

N 336,500

E 1,572,150

16P–88–1470
1171

5' B/O FOC

6
8
1
15
12' B/O FOC

12P–88–1470
408

3.5

LAFAYETTE

62' OF 24" CASING

2
60
4
83

83
6 2 8
PROFILE
Casing

12P–88–1470
1671

ST.

Calle Del Mundo

Calle De Luna

103

105

F.S. (10)

Stars and Stripes Dr.

Tasman Dr.

San Tomas

2
93
30S–96–1812
43
79
FP/S
30S–96–1812
66
A/S
266

E 1,574,450

N 333,250

94

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw104.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 0.5000 - Plot day: 6/7/12

RCW 104

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED 7-2012

MAP NO. RCW 105

115

N 336,500

E 1,574,450

104

106

95

N 333,250

E 1,576,750

12Y-90-1531 3660

SANTA CLARA CITY LIMIT

SAN JOSE CITY LIMIT

GUADALUPE RIVER

Renaissance Dr.

Tasman Dr.

CSJ 30"

40'-24" STL CASING

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

ULISTAC NATURAL AREA

12Y-90-1531

10 198 218 2 10.2 256 8 5 56 29 63 94 63 ATS 40'-24" STL CASING 115 72 35 17 3 54 8 10 66

Tasman Dr. 30S-96-1812 715 76

Calle Del Sol

Calle Del Mundo

Calle De Luna

Calle De Luna

20 787 ATS 20 30S-96-1812 530

12P-90-1493

Lick Mill Blvd.

2 767 286 130 88 2 599 2 105 45 6.36

10'-18" STL CASING, 5' DEEP

8P-02-2906

8P-99-1822

405 14 2 95 26 140

Av. De Lago

Av. De Lago

Av. De Carmen

Av. De Los Arboles

ARBOLES 278

Calle De Escuela

Av. De. Guadalupe (Pvt.)

Av. De. Los Alumnos (Pvt.)

Plaza Corona (Pvt.)

P 82

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw105.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 0.5000 - Plot day: 6/7/12

RCW 105

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7–2012

MAP NO.

RCW 114

N 339,750

E 1,572,150

North First St.

Guadalupe River

GUADALUPE TRAILER PARK

113

115

MT. VIEW–MILPITAS

Highway 237 (Mt. View – Alviso Rd.)

16D–88–1470

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

292 in 24" Casing

CSJ

370 in 24" Casing

CSJ

Lafayette St.

EASTSIDE RETENTION BASIN

GENERAL NOTE

3 or 4 (18 foot segments of 16" D.I.P.) ARE USED UPSTREAM & DOWNSTREAM OF EACH BEND.

4 P–96–1810

6 D–89–1498

16 P–88–1470

12Y–90–1531

22.5° Bend Used (In Profile)

11.25° Bend Used (In Profile)

Yerba Buena Way

U.P.R.R.

Guadalupe River

Slv'S

41 TO 90°

PROFILE J1615

HWY 237 CROSSING

GUADALUPE RIVER CROSSING

PROFILE DETAIL

N 336,500

E 1,574,450

I:\Water\CAD\AutoCad Drawings\Block Books\Rcw114.dwg - 11x17 (PDF) - (10-BB-Recycle-BLK-B.ctb) - LTscale: 0.5000 - Plot day: 7/19/12

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7-2012

MAP NO.

RCW 115

N 339,750

E 1,574,450

Nortech Parkway

TO TREATMENT PLANT
SEE DETAIL "A"

2004

Disk Ct.

27

CORR. TST. STA.

4

J1653

PROFILE

CSJ

397

FLUSHING HYDRANT

NORTH SIDE PUMP STATION

N. First St.

FORMERLY CSC PIPELINE
16" P-88-1470
573

114

116

Alviso - Milpitas

Highway 237 (Mt. View - Alviso Rd.)

Los Esteros Rd.

SJ/SC
Water Pollution Control Plant

Zanker Rd.

50'-24" CASING
AT RR CROSSING

CSJ
16P-91

RECLAIMED WATER
PUMP STATION

Continue from above

Nortech Parkway

Disk Ct.

N. 1st St.

Highway 237

Guadalupe River
16" P-88-1470
573

DETAIL "A"
(N.T.S)

E 1,576,750

N 336,000

105

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RCW 115

APPENDIX B

Correspondence from City of Santa Clara Water & Sewer Utility

Santa Clara All-America City 2001

Water & Sewer Utilities

April 28, 2015

DJ Hodson PE
Langan Treadwell Rollo
555 Montgomery Street Suite 1300
San Francisco, CA 94111-2554
Email: dhodson@Langan.com

SUBJECT: Water Pressure Information for City Place Project, Santa Clara

Dear Mr. Hodson:

Per your request, this letter is in response to the project ("project") named City Place Project, located north of Tasman Drive, east of Great American Parkway and San Tomas Aquino Creek, west of the Guadalupe River and south of Great America Way and State Route 237. The existing project site currently experiences a water pressure within the public potable water distribution system of approximately 80 psi (pounds per square inch). This water pressure is an average day water demand at the public water main.

Please note that the aforementioned potable water distribution system pressure of 80 psi, may undergo pressure fluctuations within the City's main as a function of demand within the neighborhood project, unplanned and emergency events. It is a function of the City's existing hydraulic grade line, existing public street elevations, and additional operational factors. Any pressure fluctuations that occur downstream of water or fire services delivering water to the project site are beyond control of the City and therefore the sole responsibility of the property owner.

If you have any questions, please contact me at (408) 615-2000.

Sincerely,

Shilpa Mehta
Principal Engineer – Water and Sewer

cc: Chron

I:\Water\Shilpa\Water Pressure - Related.doc

1500 Warburton Avenue
Santa Clara, CA 95050
(408) 615-2000
FAX (408) 247-0784
www.santaclaraca.gov

APPENDIX C

City of Santa Clara Council/Staff Work Study Session Infrastructure Requirements Water and Sewer Utilities

City of Santa Clara Council/Staff Work Study Session

Infrastructure Requirements Water and Sewer Utilities

November 20, 2013

Both Projects - Assumptions

- Developments will cover cost of utility infrastructure to provide service to the development
  - On site water distribution system
  - Changes to existing infrastructure triggered by development

- On site water system would be constructed as part of development

Centennial Gateway - Montana Group

- Relocation or modification of existing infrastructure
  - Approximately 1,500 ft. of water mains on Centennial Blvd. and Stars and Stripes must be raised if significant fill is added to the site.

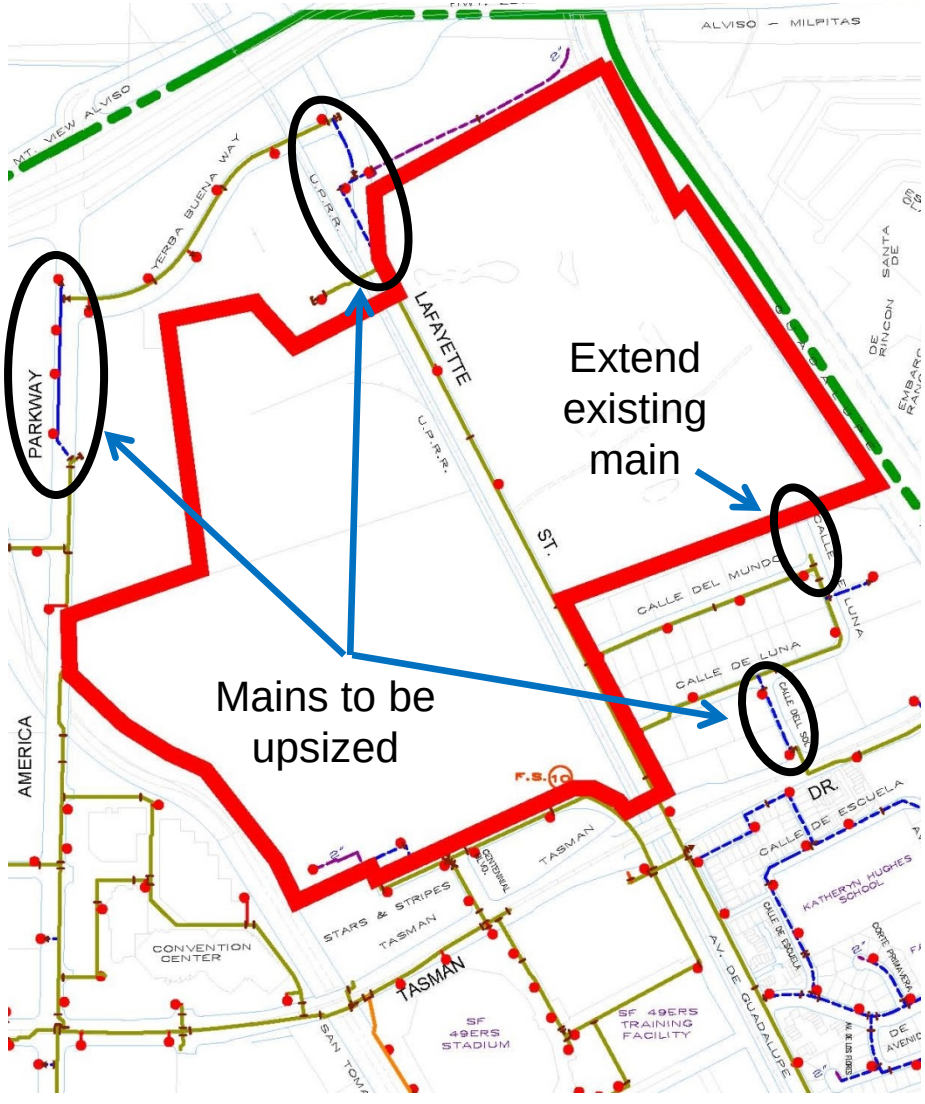


City Place – Related
On Site Infrastructure

- On site water system must be on top of and not under the podium(s) to be accessible for repair, replacement, and service
- Booster Pump Stations
- Approximately 33,000 to 38,000 linear feet of water mains, with associated valves, hydrants etc. will need to be constructed based on most recent proposal
- Costs for water mains will be dependent on required construction materials and techniques

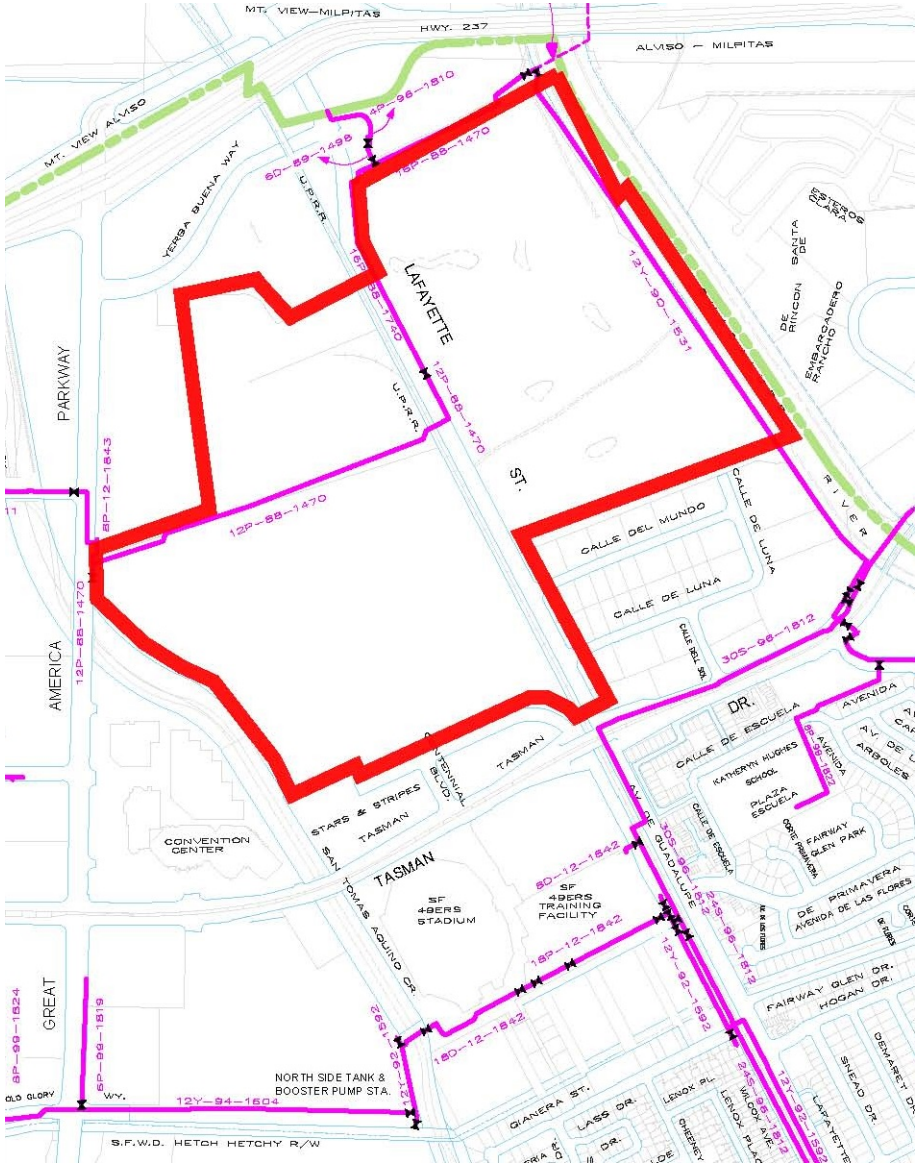
City Place – Related
Off Site Infrastructure

- Approximately 2,000 ft. of water mains will need to be upsized to improve hydraulic capacity
- Extension of existing water main
- Connections to the existing City water mains – number of connections and locations will be dependent on the projected on site demands and whether the water system is public or private



Both Projects – Recycled Water

- Recycled water is adjacent to both sites and must be used for uses such as landscape irrigation and cooling towers if economically feasible.
- Permitting process for recycled water can take 6 to 12 months to gain approval from the State.



City Place - Related

- Public vs. Private Water System

  Public Water System

  - Permitting may be difficult and require additional engineering studies, soil sampling, and analysis to gain approval from CDPH
  - Alternate construction techniques may be required

  Private Water System

  - Connection points would be provided
  - Related would own and operate the on-site water system
  - Permitting would be more streamlined
  - Standard construction techniques may be used

Both Projects - Other Requirements

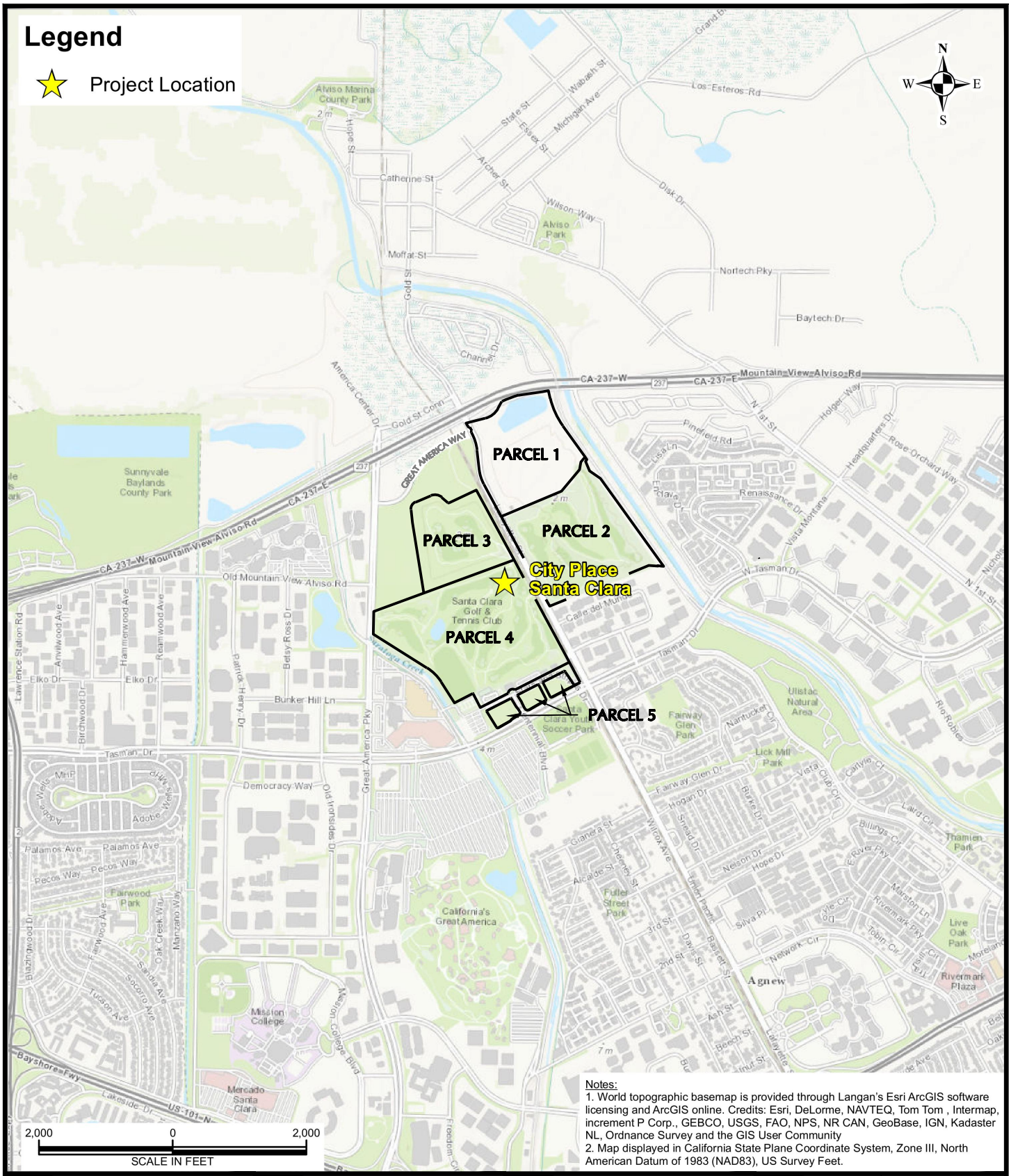
- Water Supply Assessments
  Water Supply Assessments will need to be completed for each phase or the project as a whole.

Questions ?

SANITARY SEWER PHASING MATRIX								
Phase / Parcel	**Gross Sq. Footage**	**Sewer Pipe (LF)**	**Manholes (#)**	**Laterals (LF)**	**Clenaouts (#)**	**Settlement Vaults/Flexible Connections (#)**	**Refuse Trenching (CY) Note 2**	**Off-Site Improvements**
1 / 5	825,000	1,418 – 14″	4	332	2	0	0	New Stars and Stripes Sewer
2 / 4	2,411,470	941 – 10″ 2,980 – 12″ 1,586 – 14″	20	1,556	24	10	7,500	Two MH Connections to P3/P4 42 inch sewer See Note 1
3 / 4	752,030	947 – 10″	5	1,133	14	7	1,000	See Note 1
4 / 4	1,095,900	489 – 12″	2	183	4	4	0	See Note 1
5 / 3	750,000	2,235 – 12″ 894 – 14″	17	240	5	5	0	One MH Connection to P3/P4 33 inch sewer.
6 / 1	1,200,000	1,636 – 10″ 686 – 12″	15	489	8	8	9,200	One MH Connection to Lafayette Street sewer
7 / 2	1,080,000	1,692 – 10″ 606 – 12″	10	253	6	6	6,600	One MH Connection to Lafayette Street sewer
8 / 2	1,080,000	1,343 – 10″	6	231	6	6	4,600	-

Notes:
1. Depending on pace of development in the City improvements to Rabello and Northside pump stations may be required. (The potential timing of the upgrades is discussed in Section 5.3).
2. Refuse Trenching for settlement slab include average width of 20-ft and depth of 5-ft.

FIGURES



Notes:
1. World topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Esri, DeLorme, NAVTEQ, Tom Tom , Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR CAN, GeoBase, IGN, Kadaster NL, Ordnance Survey and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

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T: 408.551.6700 F: 408.551.0344 www.langan.com
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SITE LOCATION MAP

Project No. 770611601	Figure No. 1
Date 8/24/2015	
Scale 1" = 2000	
Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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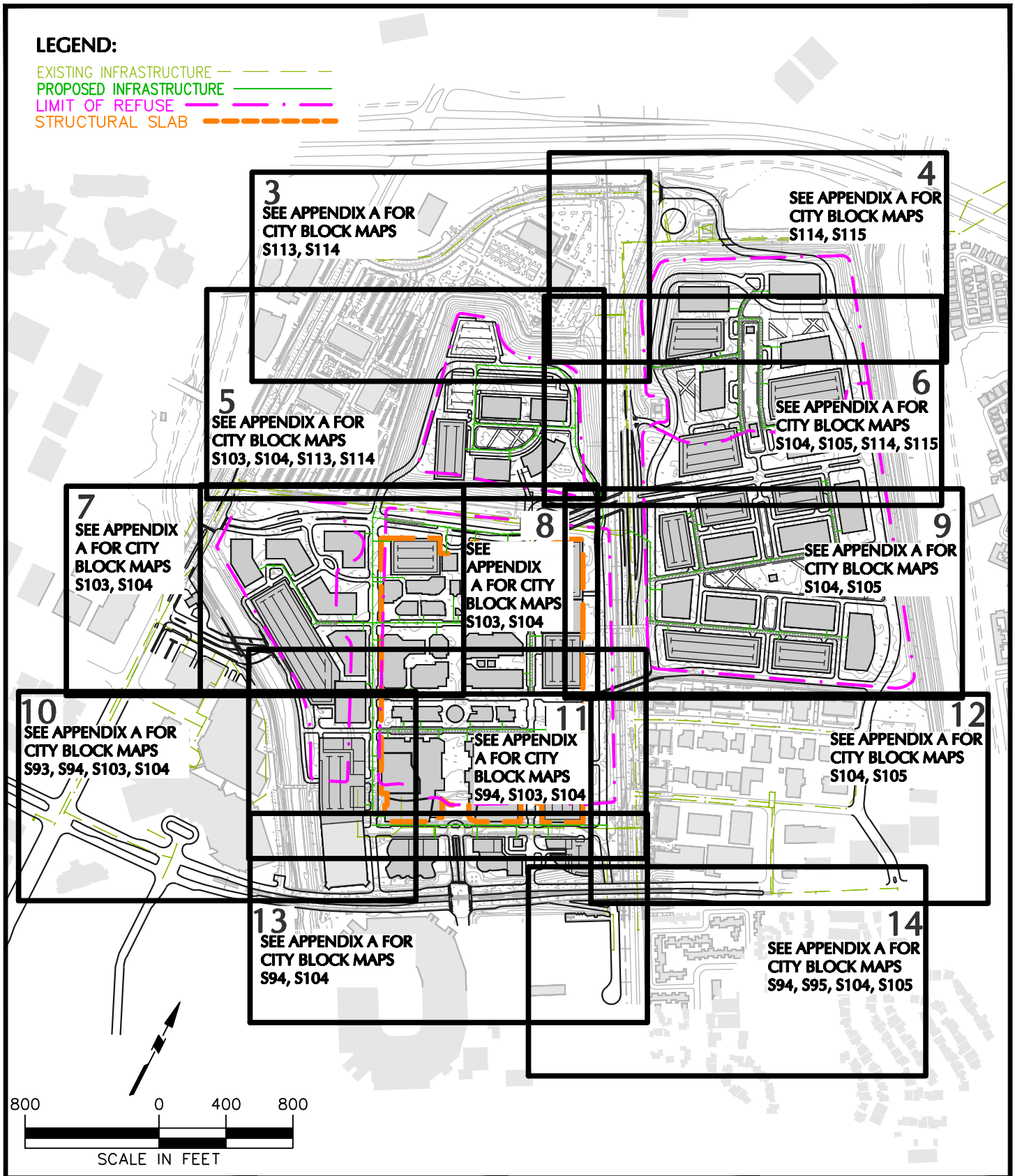
Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\FIGURE 1.dwg Date: 8/24/2015 Time: 07:02 User: dhodson Style Table: Langan.stb Layout: Fig 1



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PRELIMINARY SANITARY SEWER KEY

Project No. 770611601	Figure No. 2
Date 8/24/2015	
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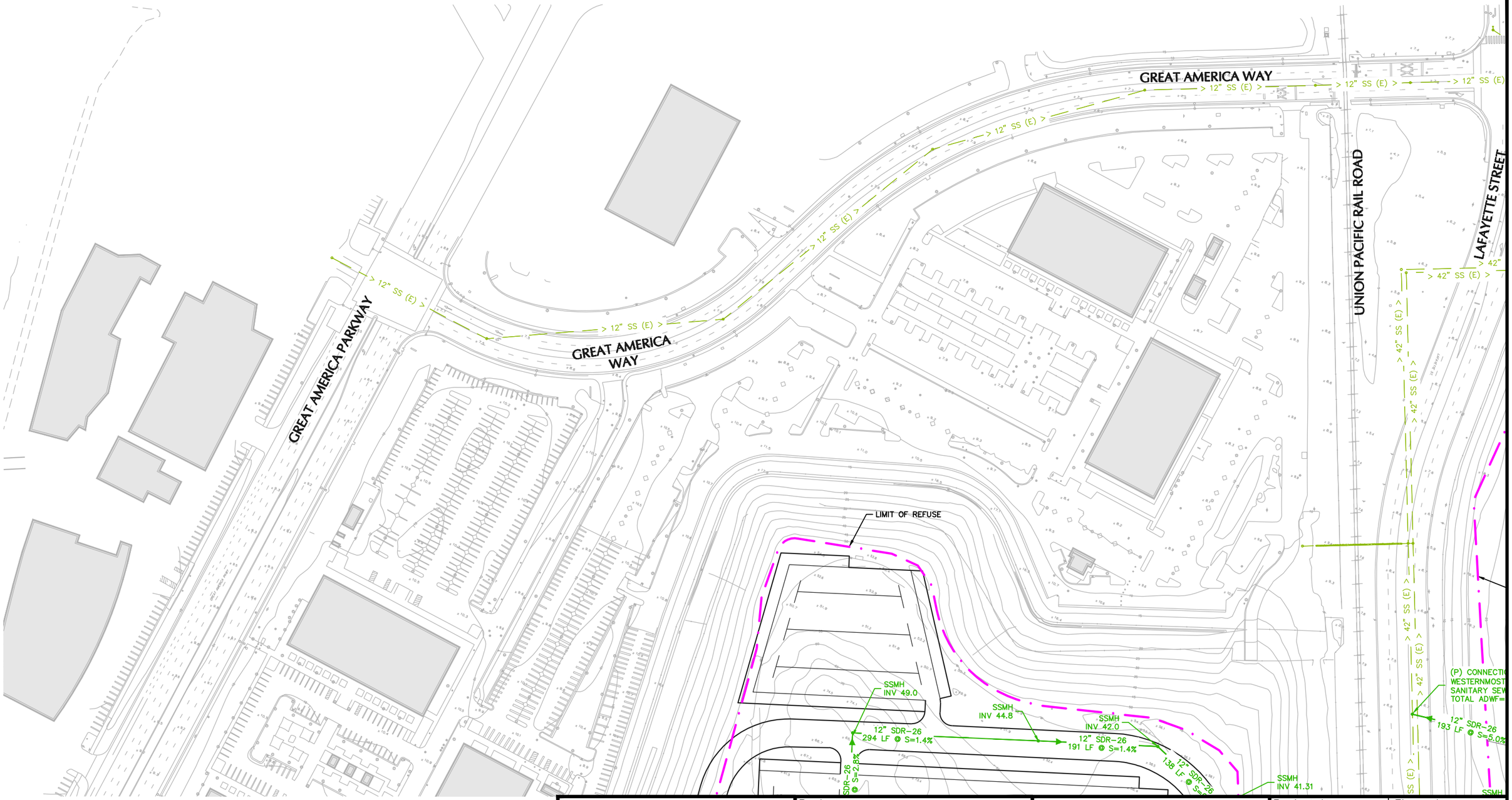

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE → XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

SCALE IN FEET

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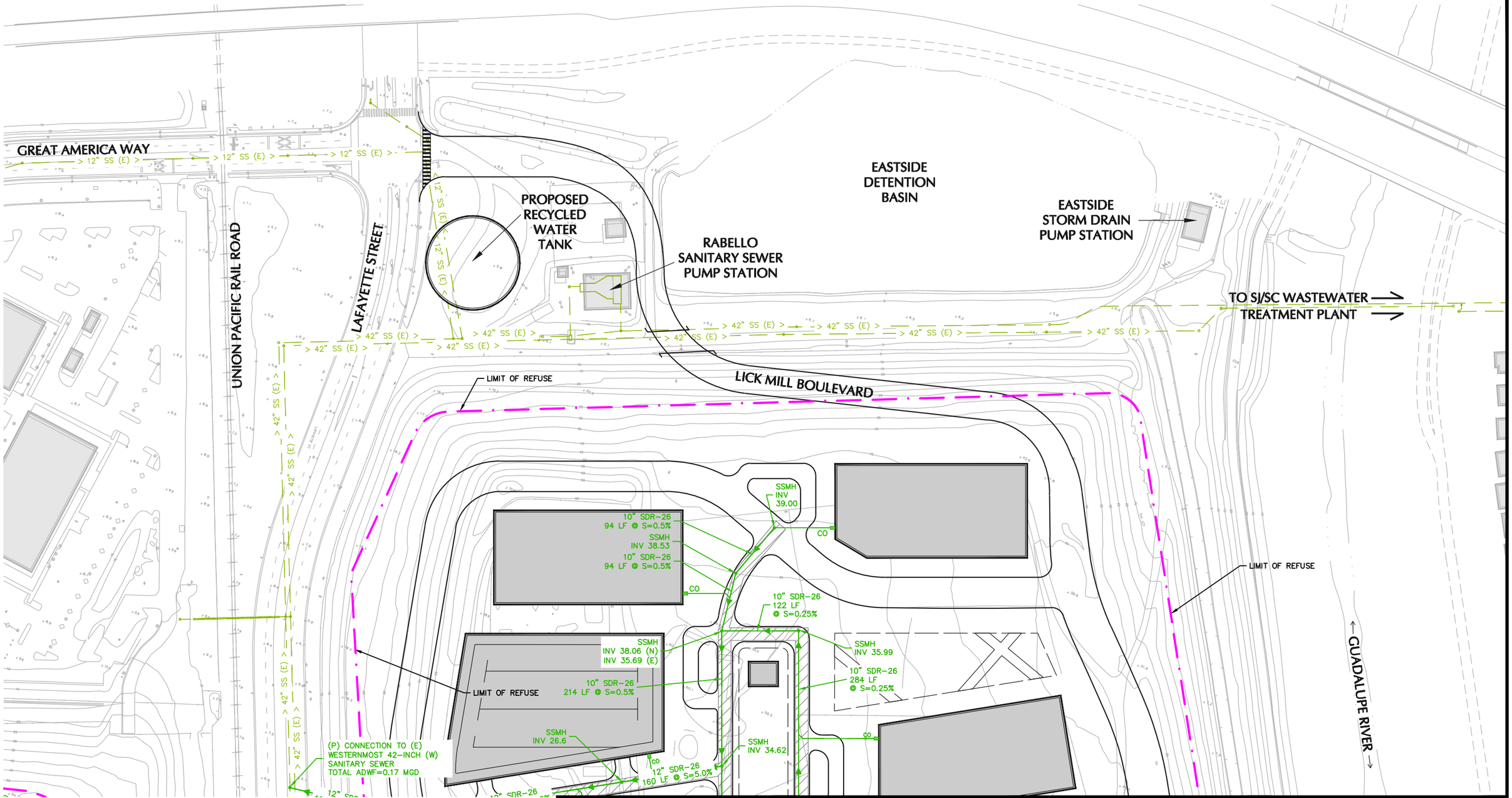

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — — — — —

STRUCTURAL SLAB ▬▬▬▬▬▬▬▬▬▬

150 0 75 150

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Submission Date 8/24/2015	

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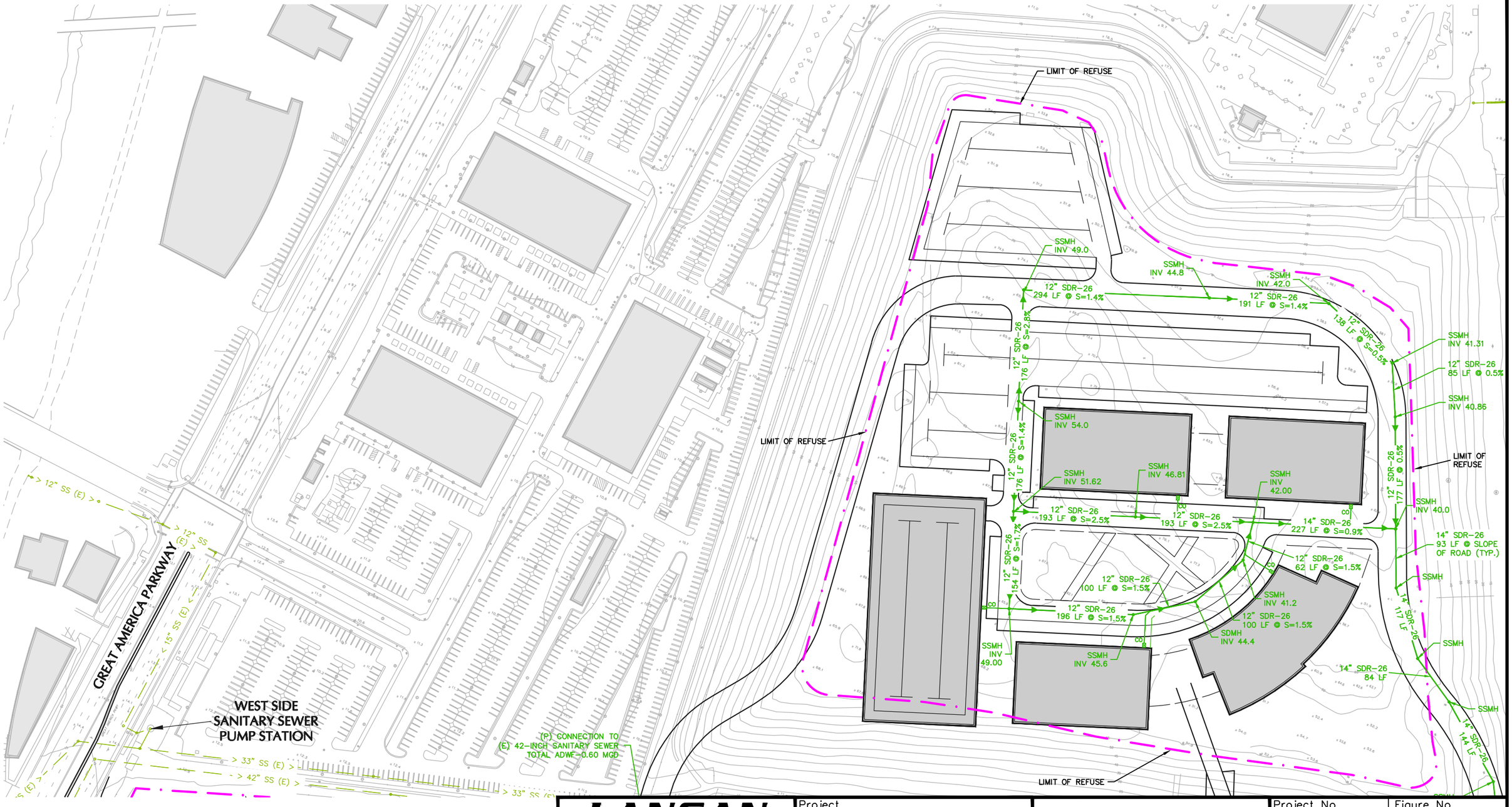

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB ▬▬▬▬▬▬

150 0 75 150

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Project No. 770611601	Figure No. 5
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Submission Date 8/24/2015	

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EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% —

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB — — — —

150 0 75 150

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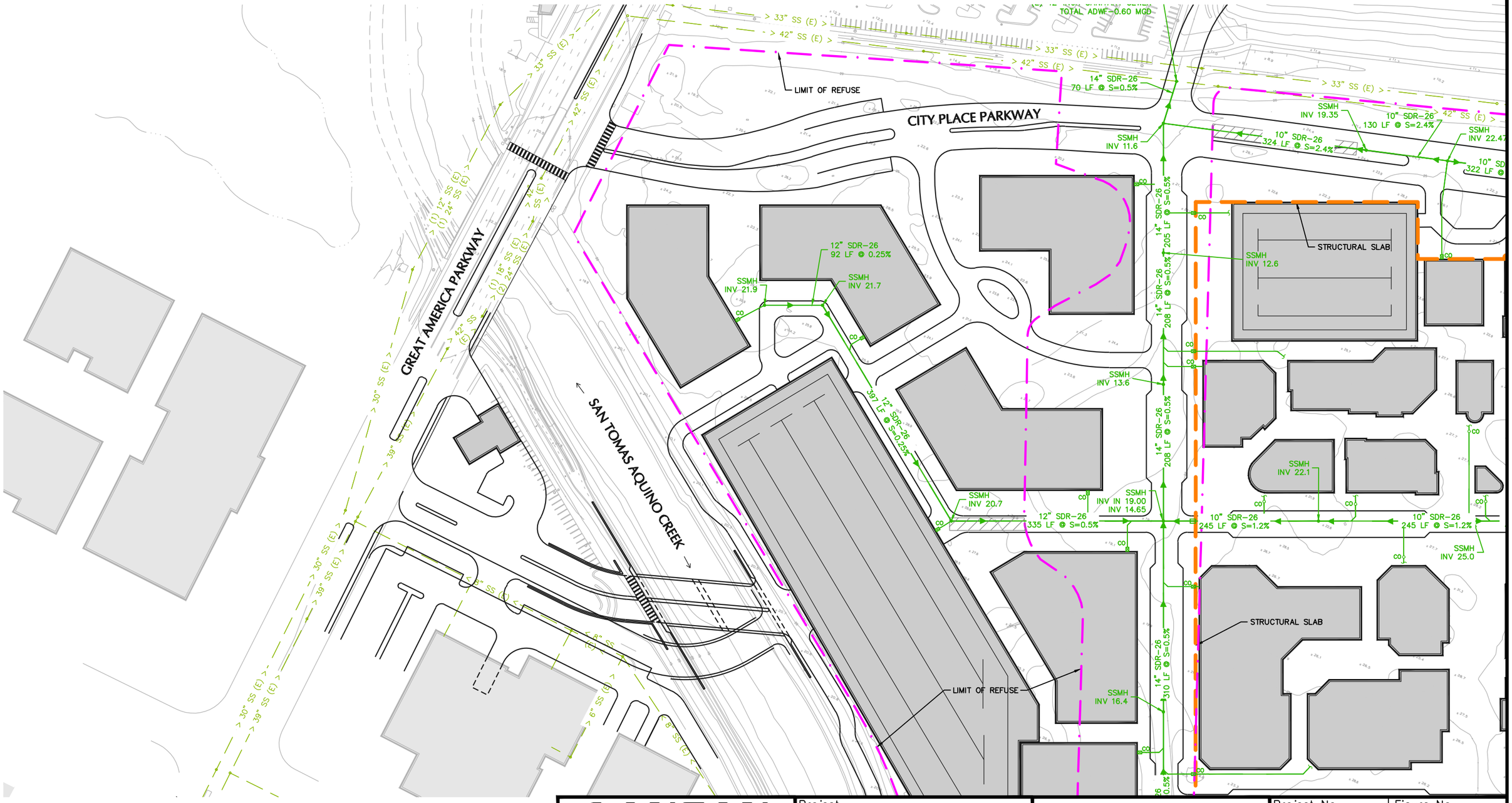

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PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — — · — — · —

STRUCTURAL SLAB

150 0 75 150

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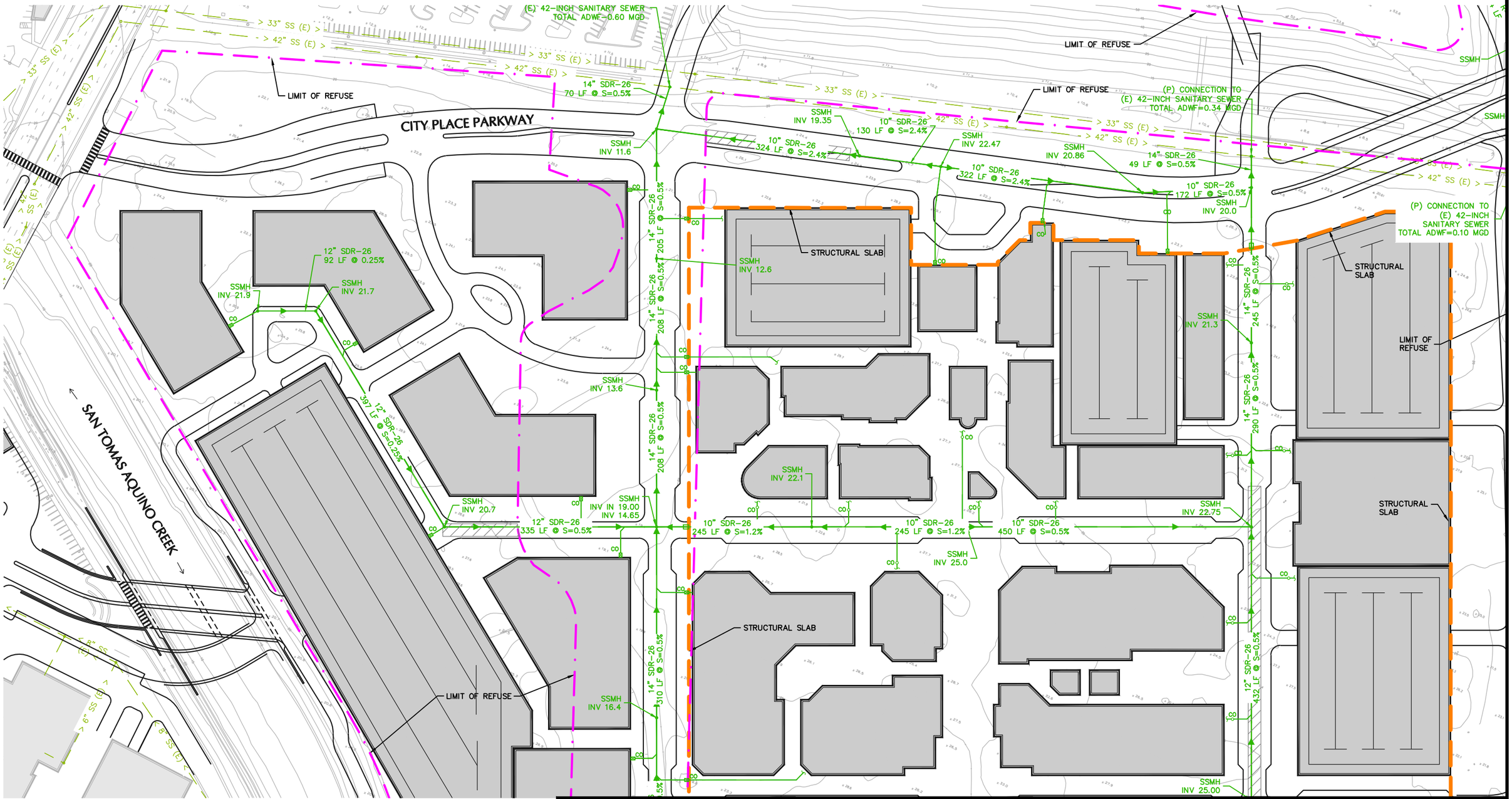

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — · — · —

STRUCTURAL SLAB

150 0 75 150

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LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE → XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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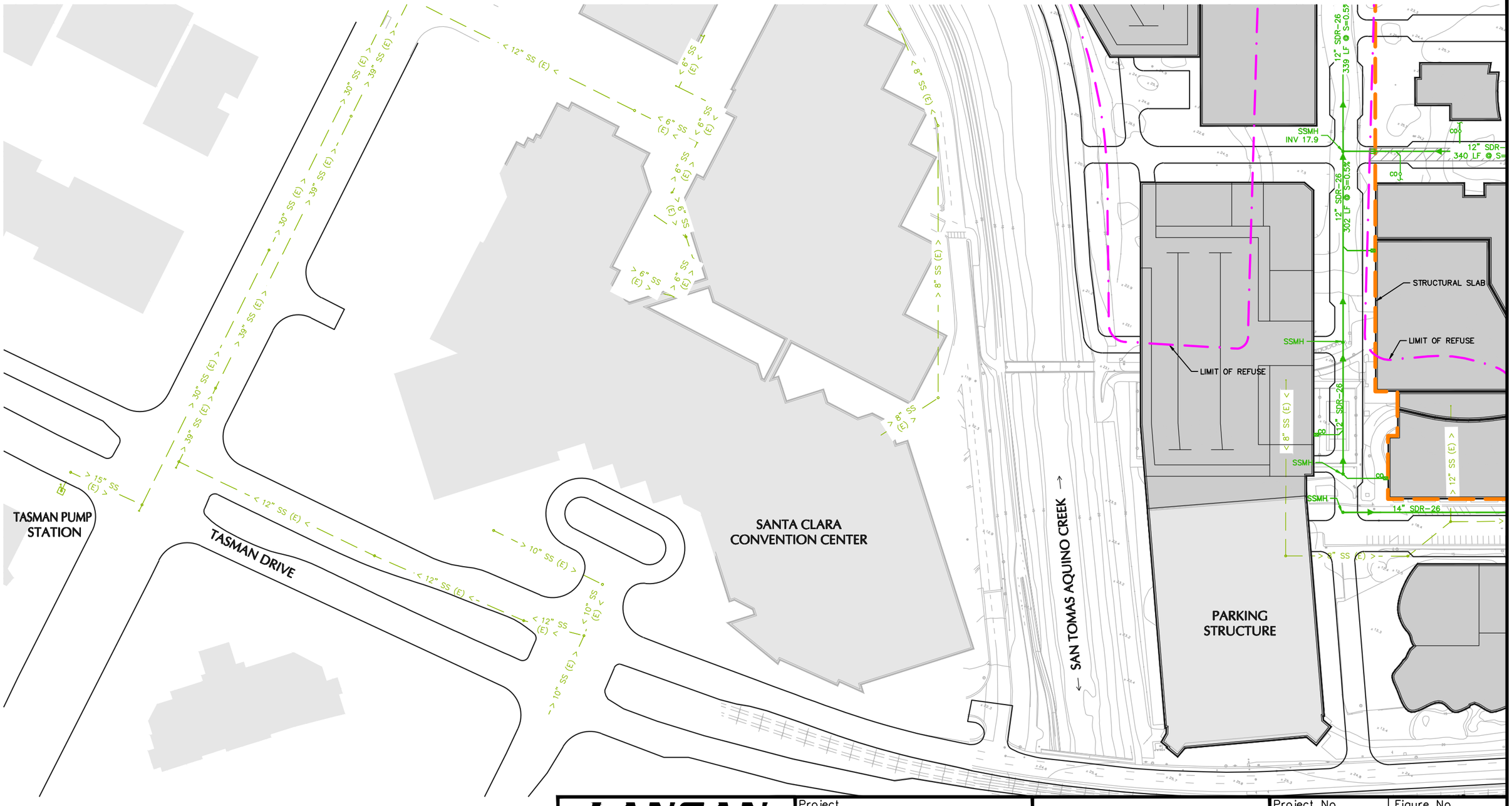

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE → XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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LIMIT OF REFUSE
SSMH
INV 16.4
14" SDR-26
310 LF @ S=0.5%
12" SDR-26
339 LF @ S=0.5%
SSMH
INV 17.9
12" SDR-26
340 LF @ S=0.25%
SSMH
INV 18.9
12" SDR-26
300 LF @ S=0.25%
SSMH
INV 19.6
12" SDR-26
300 LF @ S=0.25%
SSMH
INV 20.3
12" SDR-26
432 LF @ S=0.5%
SSMH
INV 25.00
12" SDR-26
302 LF @ S=0.5%
STRUCTURAL SLAB
LIMIT OF REFUSE
REFUSE
TRENCHING
STRUCTURAL SLAB
STRUCTURAL SLAB
LIMIT OF REFUSE
< 8" SS (E) <
> 8" SS (E) >
> 8" SS (E) >
> 12" SS (E) >
< 12" SS (E) <
> 12" SS (E) >
> 12" SS (E) >
> 12" SS (E) >
> 16" SS (E) >
> 36" SS (E) >
> 36" SS (E) >
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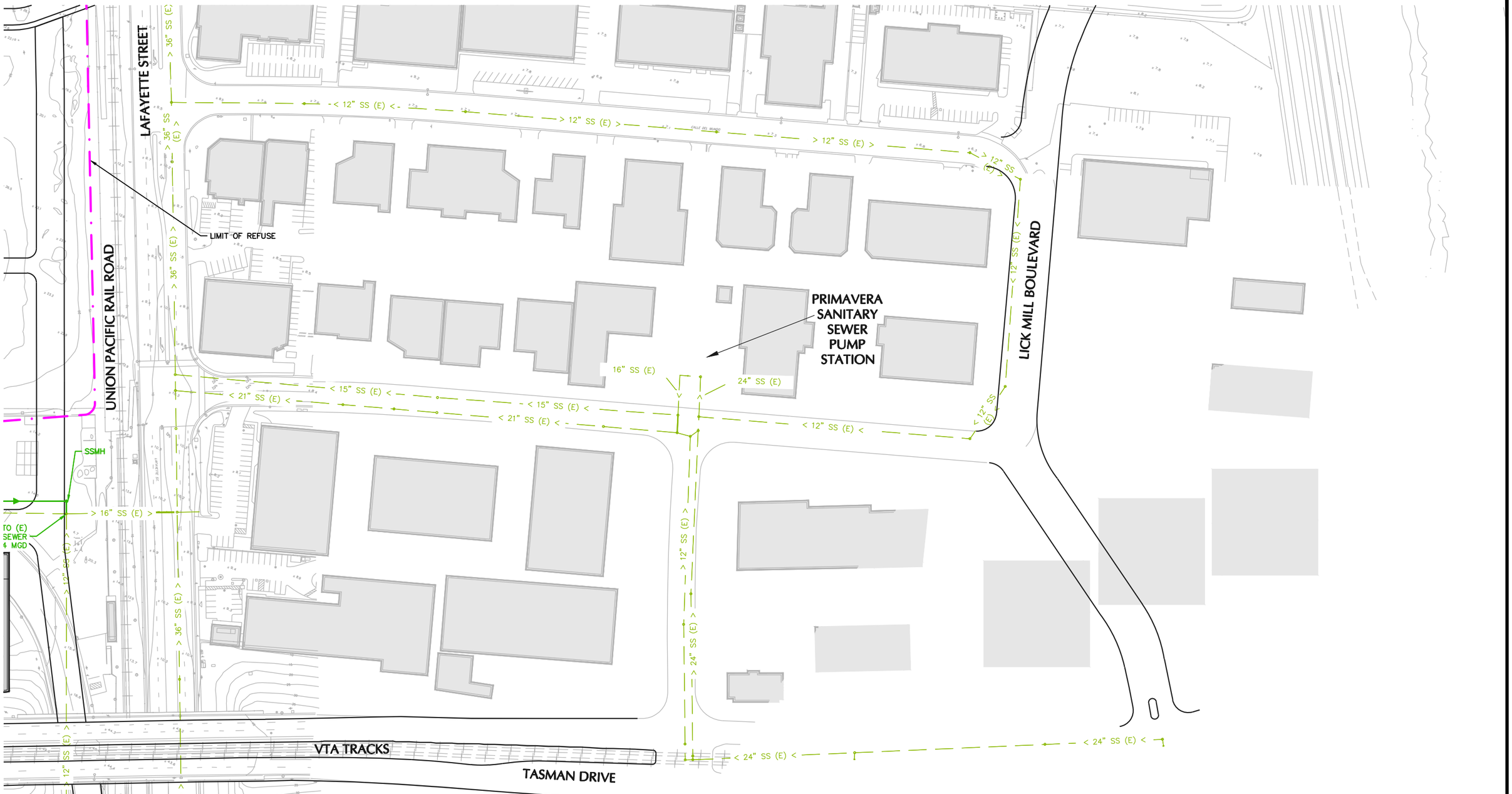
SSMH
SSMH
SSMH



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PROPOSED INFRASTRUCTURE — XX" SDR-26, XX LF @ S=X%

LIMIT OF REFUSE

STRUCTURAL SLAB

150 0 75 150

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Project No. 770611601	Figure No. 12
Date 8/24/2015	
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Submission Date 8/24/2015	

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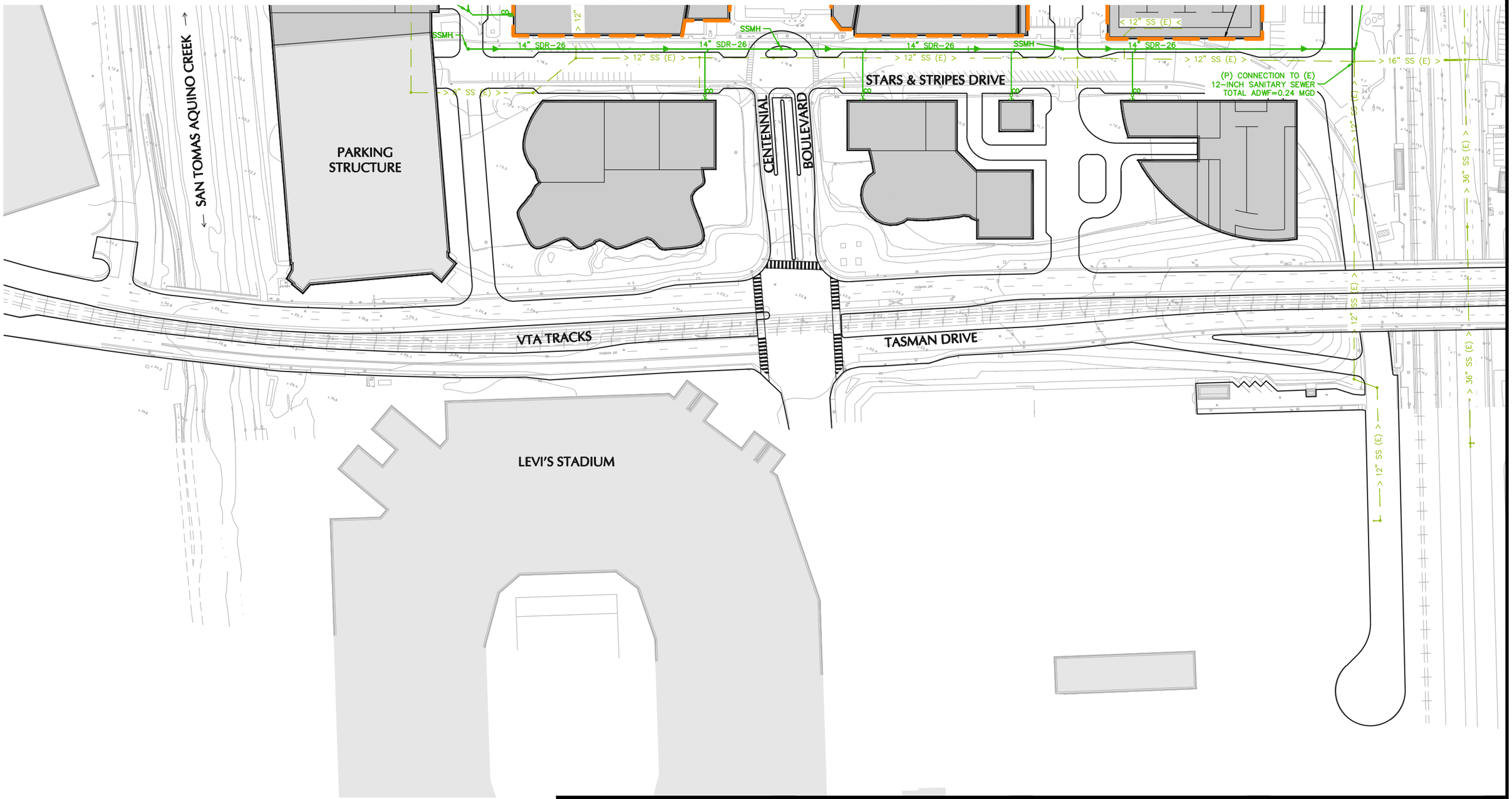

LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE → XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — — · — — · — —

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY SANITARY SEWER

Project No. 770611601	Figure No. 13
Date 8/24/2015	
Scale 1" = 150'	
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LEGEND:

EXISTING INFRASTRUCTURE — — > XX" SS (E) > — —

PROPOSED INFRASTRUCTURE — XX" SDR-26 XX LF @ S=X% →

LIMIT OF REFUSE — — · — — · — —

STRUCTURAL SLAB

150 0 75 150

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PRELIMINARY SANITARY SEWER

Project No. 770611601	Figure No. 14
Date 8/24/2015	
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Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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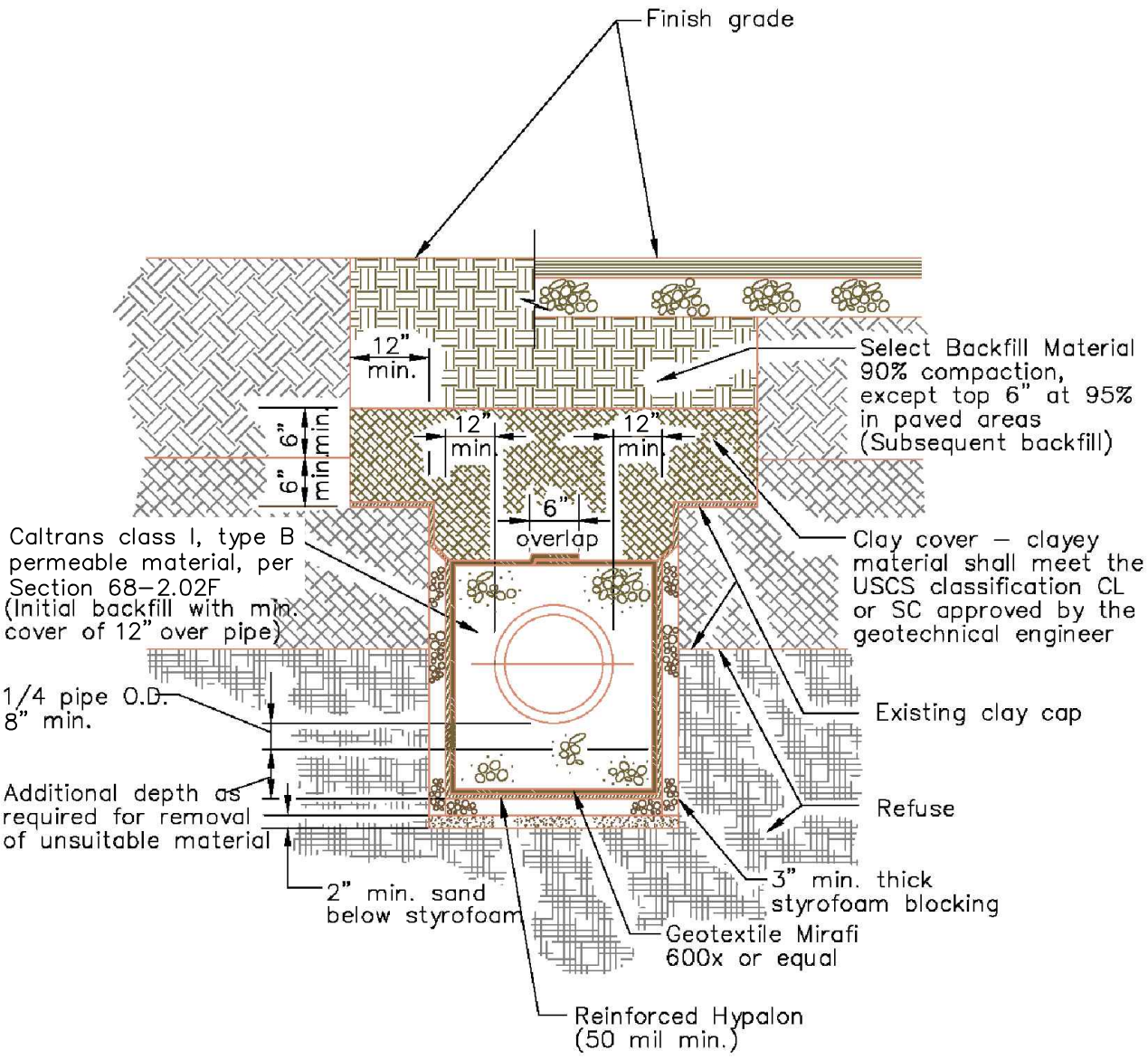

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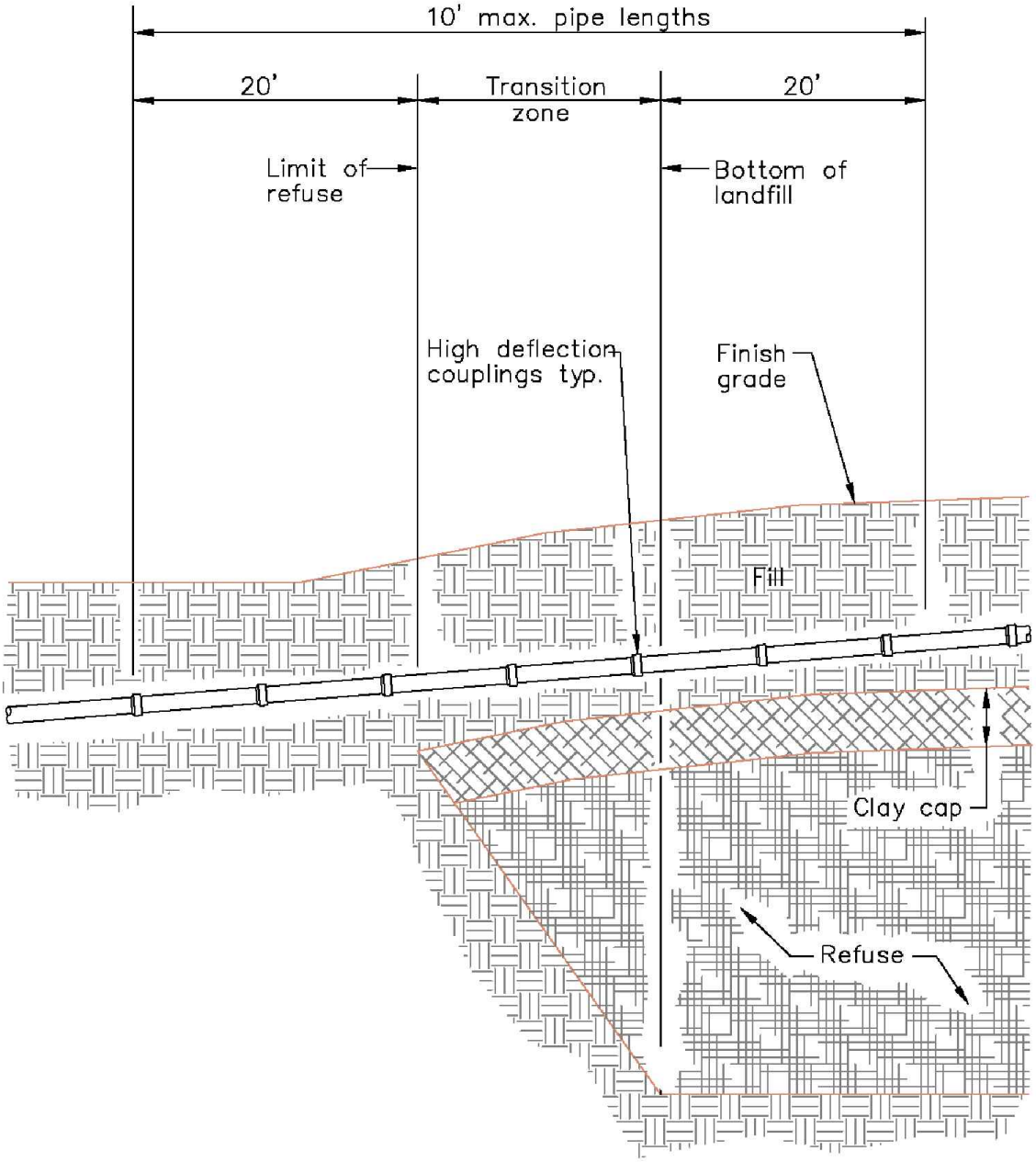
UTILITY TRENCH PENETRATING CLAY CAP

Project No. 770611601	Figure No. 15
Date 8/24/2015	
Scale NOT TO SCALE	
Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Sanitary Sewer\Utility - Sanitary Sewer Details.dwg Date: 8/24/2015 Time: 08:04 User: dhodson Style Table: Langan.stb Layout: Fig 15 Utility Trench Penetrating Clay Cap



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SANITARY SEWER GRAVITY PIPES THROUGH TRANSITION ZONE

Project No. 770611601	Figure No. 16
Date 8/24/2015	
Scale NOT TO SCALE	
Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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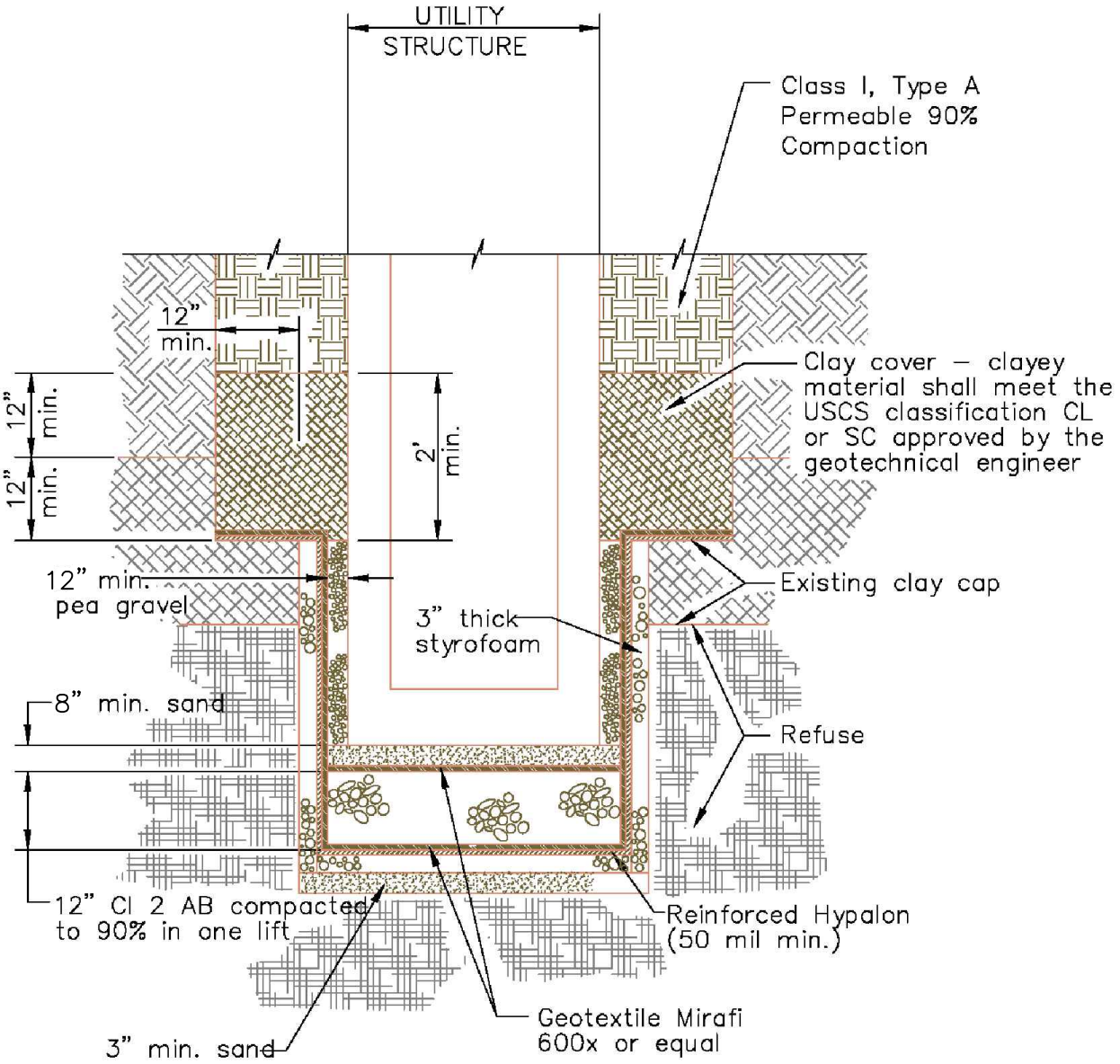

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UTILITY STRUCTURE PENETRATING CLAY CAP

Project No. 770611601	Figure No. 17
Date 8/24/2015	
Scale NOT TO SCALE	
Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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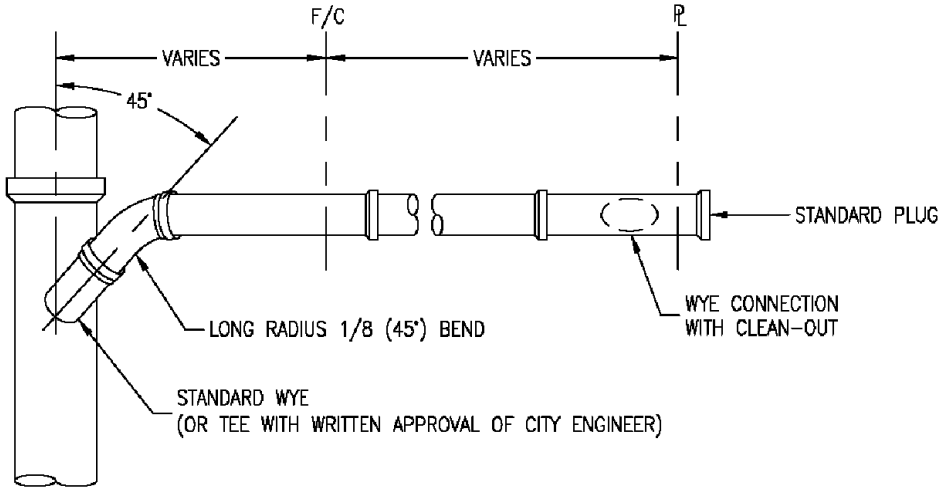
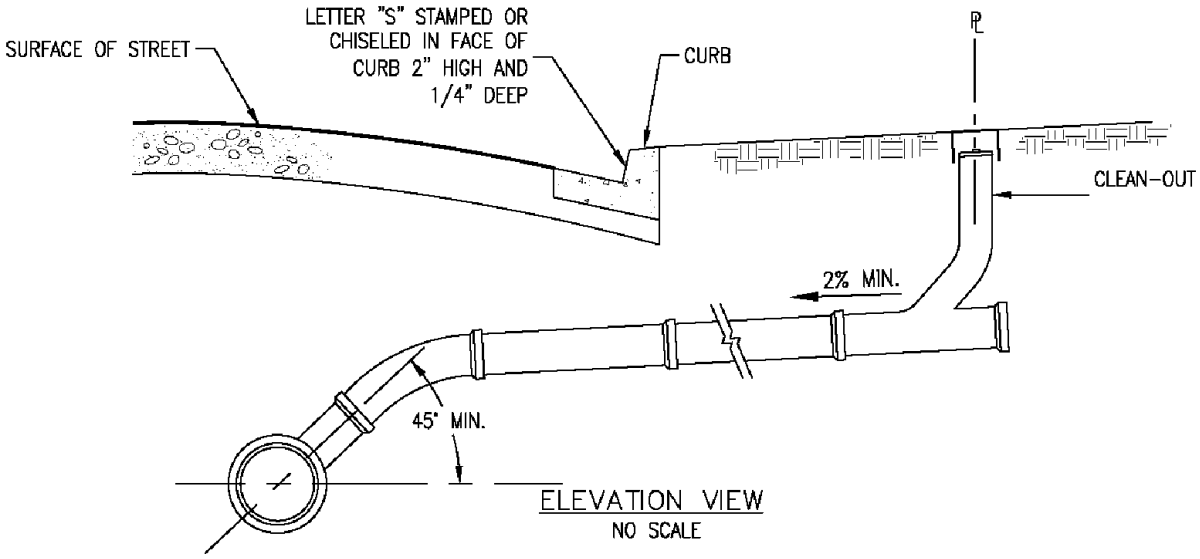
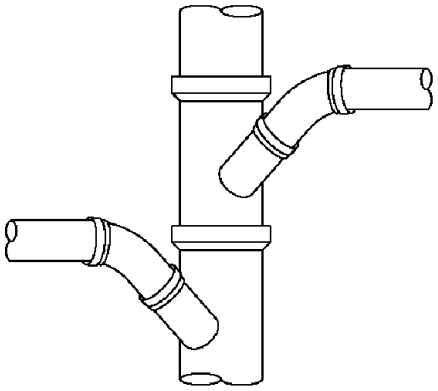


PLAN VIEW
NO SCALE



ELEVATION VIEW
NO SCALE



NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SANITARY SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. ONLY ONE CONNECTION MAY BE MADE IN EACH SECTION OF SANITARY SEWER MAIN.
3. SANITARY SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ALL LATERAL PIPE JOINTS SHALL BE COMPRESSION TYPE.
5. LATERAL SHALL EXTEND TO PROPERTY LINE UNLESS OTHERWISE NOTED, AND A CLEANOUT SHALL BE INSTALLED AT THE PROPERTY LINE.

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SANITARY SEWER LATERAL CONNECTION

Project No. 770611601	Figure No. 18
Date 8/24/2015	
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Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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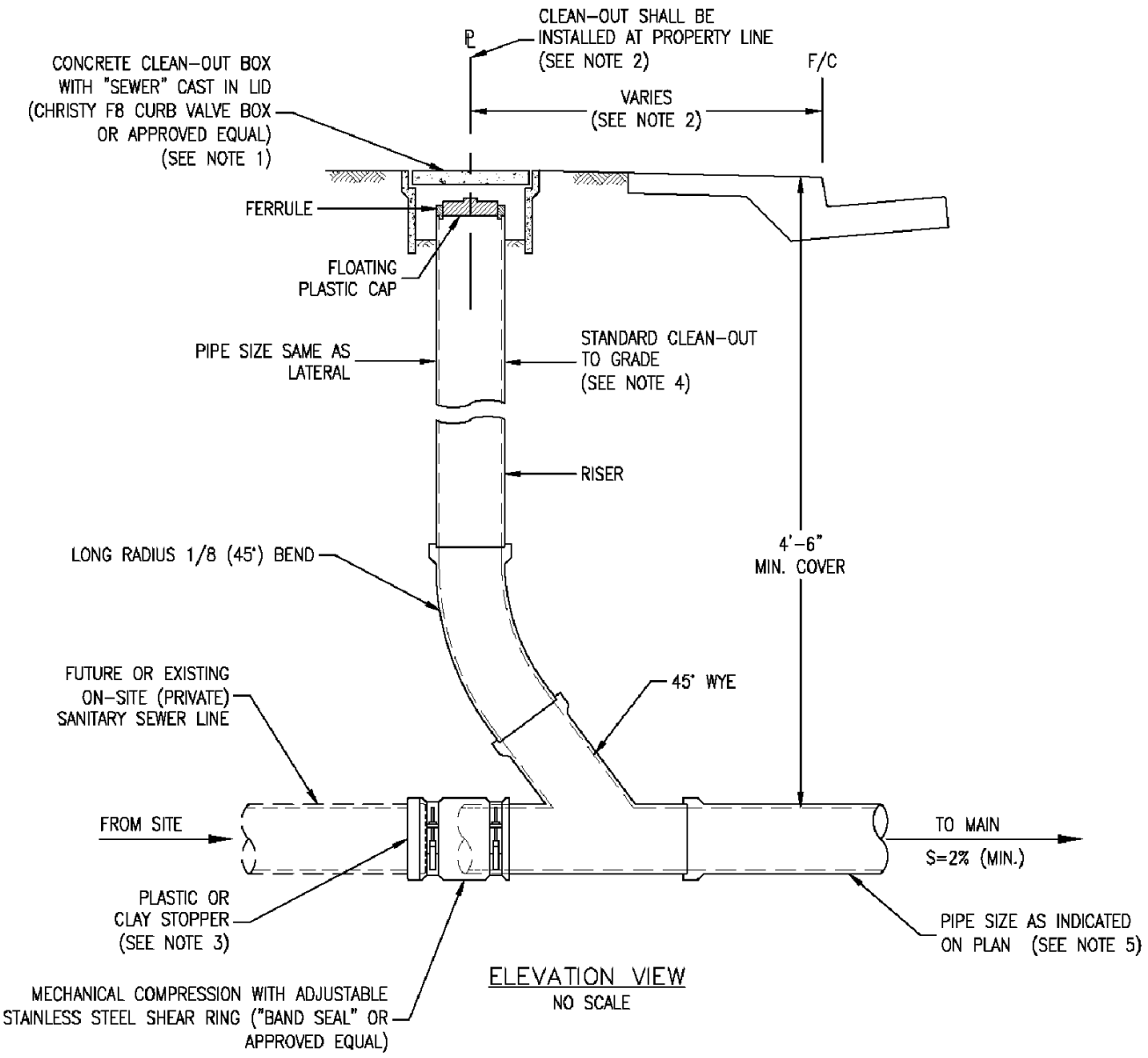

ELEVATION VIEW
NO SCALE

NOTES:

1. IF CLEAN-OUT IS INSTALLED IN DRIVEWAY OR FOR 6" LATERALS, USE CHRISTY G5 TRAFFIC VALVE BOX WITH "SEWER" CAST IN LID (OR APPROVED EQUAL). BOX SHALL HAVE A CONCRETE COLLAR.
2. WHEN PROPERTY LINE IS AT BACK OF WALK, INSTALL CLEAN-OUT BEHIND BACK OF WALK.
3. PROVIDE STOPPER WHEN THERE IS NO ON-SITE LATERAL CONNECTION.
4. MATERIAL FOR THE CLEANOUT PIPE SHALL MATCH THE MATERIAL FOR THE LATERAL. SEE CITY'S SPECIFICATIONS FOR MATERIALS.
5. FOR 8" OR LARGER LATERALS, A STANDARD MANHOLE SHALL BE INSTALLED AT OR NEAR THE PROPERTY LINE.

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SANITARY SEWER CLEAN-OUT

Project No. 770611601	Figure No. 19
Date 8/24/2015	
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Submission Date 8/24/2015	

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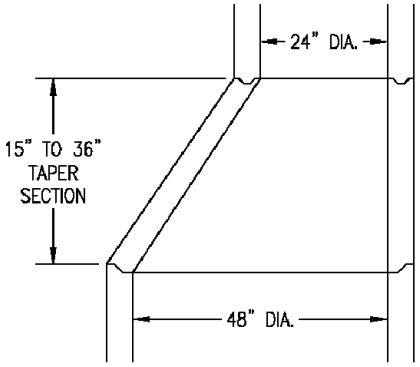
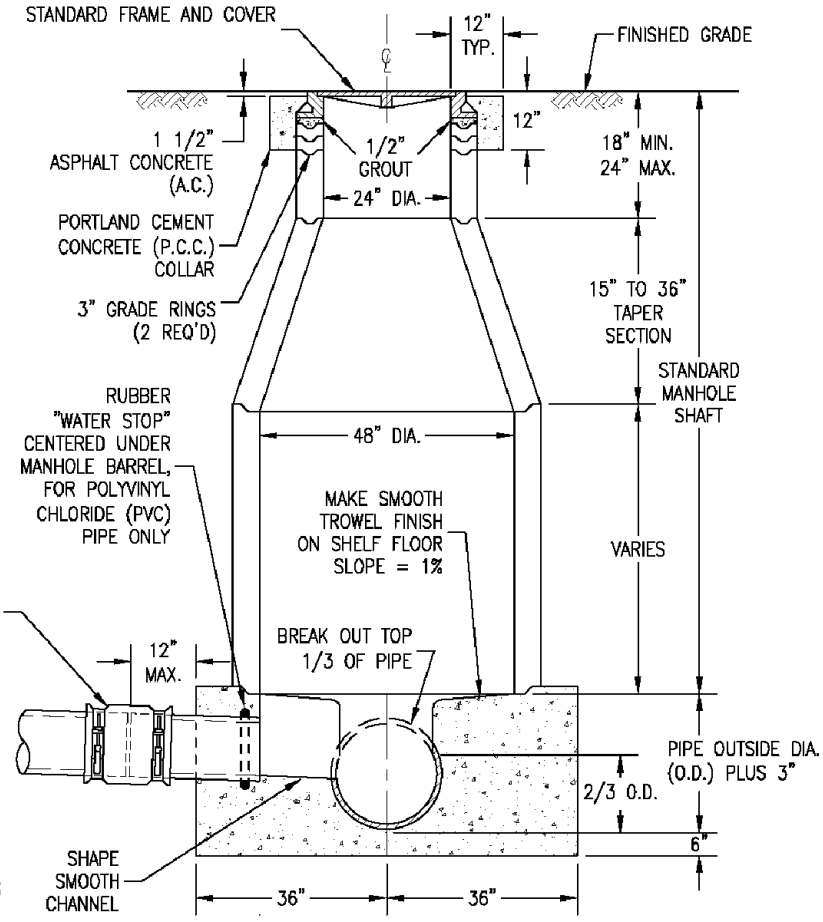


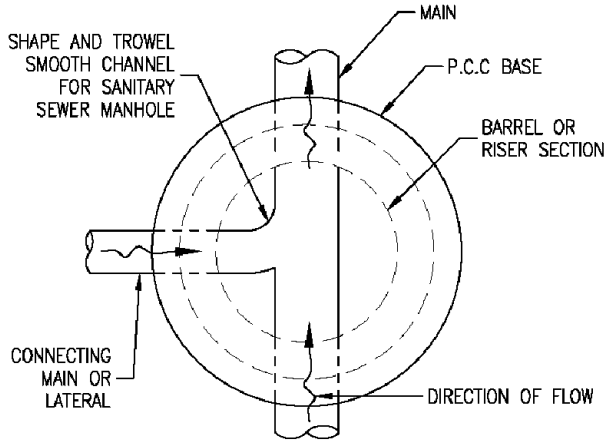
ECCENTRIC MANHOLE
(OPTION FOR STORM DRAIN MANHOLE ONLY)



CONCENTRIC MANHOLE – ELEVATION VIEW
NO SCALE

NOTES:

1. MANHOLE BASE SHALL BE POURED ON UNDISTURBED GROUND. IF OVER EXCAVATION OCCURS BELOW MANHOLE BASE, BACKFILL WITH CONCRETE. AN APPROVED 'IMPRESSION RING' MUST BE USED TO FORM KEYWAY FOR MANHOLE BARREL SECTION.
2. INTERSECTING LATERALS' AND MAINS' CROWNS SHALL MATCH.
3. ALL JOINTS SHALL BE SEALED WITH "RAMNEK" OR APPROVED EQUAL.
4. CENTER OF ECCENTRIC MANHOLE COVER SHALL BE LOCATED OVER THE CENTER OF THE MAIN ON THE UPSTREAM SIDE.
5. TYPE V PORTLAND CEMENT FOR SANITARY SEWER STRUCTURES AND TYPE II PORTLAND CEMENT FOR STORM DRAIN STRUCTURES.
6. BELL END OF PIPE SHALL BE 12" MAX. FROM WALL OF MANHOLE
7. THIS DESIGN IS USABLE FOR PIPES UP TO 39" DIA. ONLY.
8. ALL SANITARY SEWER MANHOLES SHOULD BE LINED WITH INTEGRALLY LOCKING PVC (T-LOCK) OR APPROVED EQUAL. GRADE RINGS SHALL BE PVC LINED VIA THE MANHOLE TOPPER BY AMERON OR APPROVED EQUAL.



BOTTOM VIEW
NO SCALE

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MANHOLE

Project No.	Figure No.
770611601	20
Date: 8/24/2015	
Scale: NOT TO SCALE	
Drawn By: STAFF / Checked By: DJH	
Submission Date: 8/24/2015	

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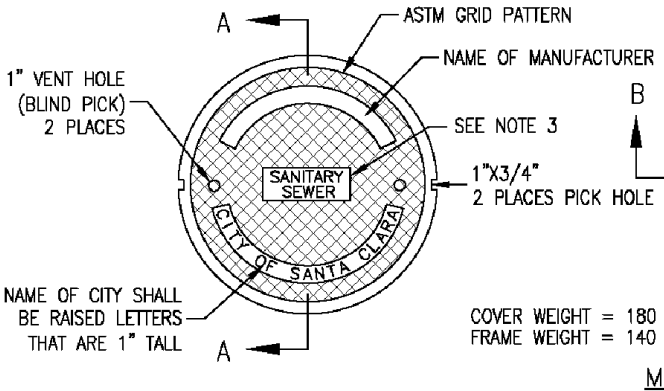
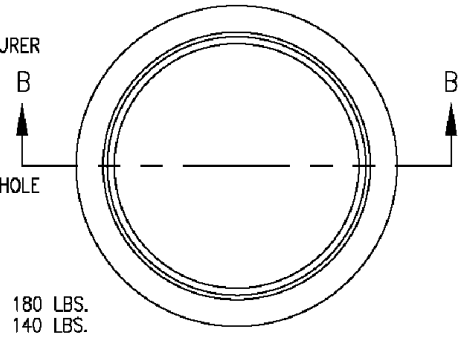
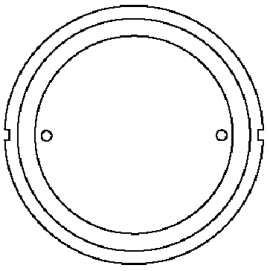


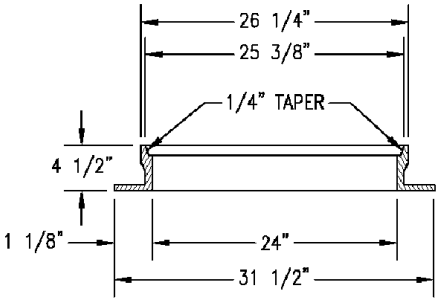
MANHOLE COVER – PLAN VIEW
NO SCALE



MANHOLE FRAME – PLAN VIEW
NO SCALE



MANHOLE COVER – BOTTOM VIEW
NO SCALE



SECTION B–B
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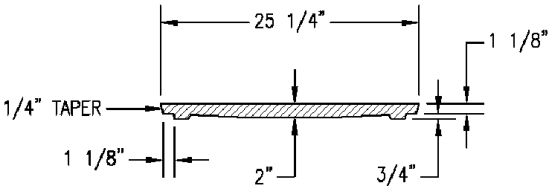

SECTION A–A
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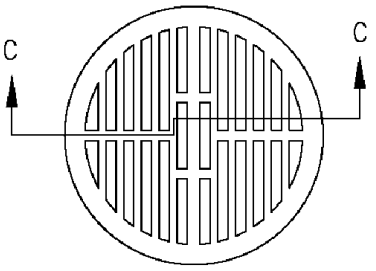
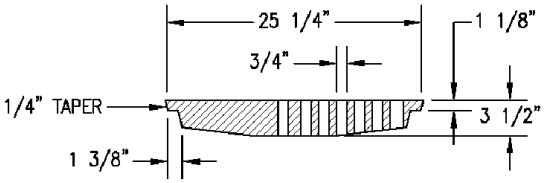


MANHOLE GRATE – PLAN VIEW
NO SCALE



SECTION C–C
NO SCALE

NOTES:

1. ALL MATERIAL TO BE CAST IRON DIPPED IN ASPHALT PAINT.
2. FRAME, GRATE AND COVER SHALL BE SUITABLE FOR H–20 LOADING.
3. COVER SHALL HAVE EITHER "SANITARY SEWER" FOR SANITARY SEWERS OR "STORM DRAIN" FOR STORM DRAINS IN RAISED LETTERS THAT ARE 1–1/2" TALL.

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MANHOLE FRAME, COVER, & GRATE

Project No. 770611601	Figure No. 21
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Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

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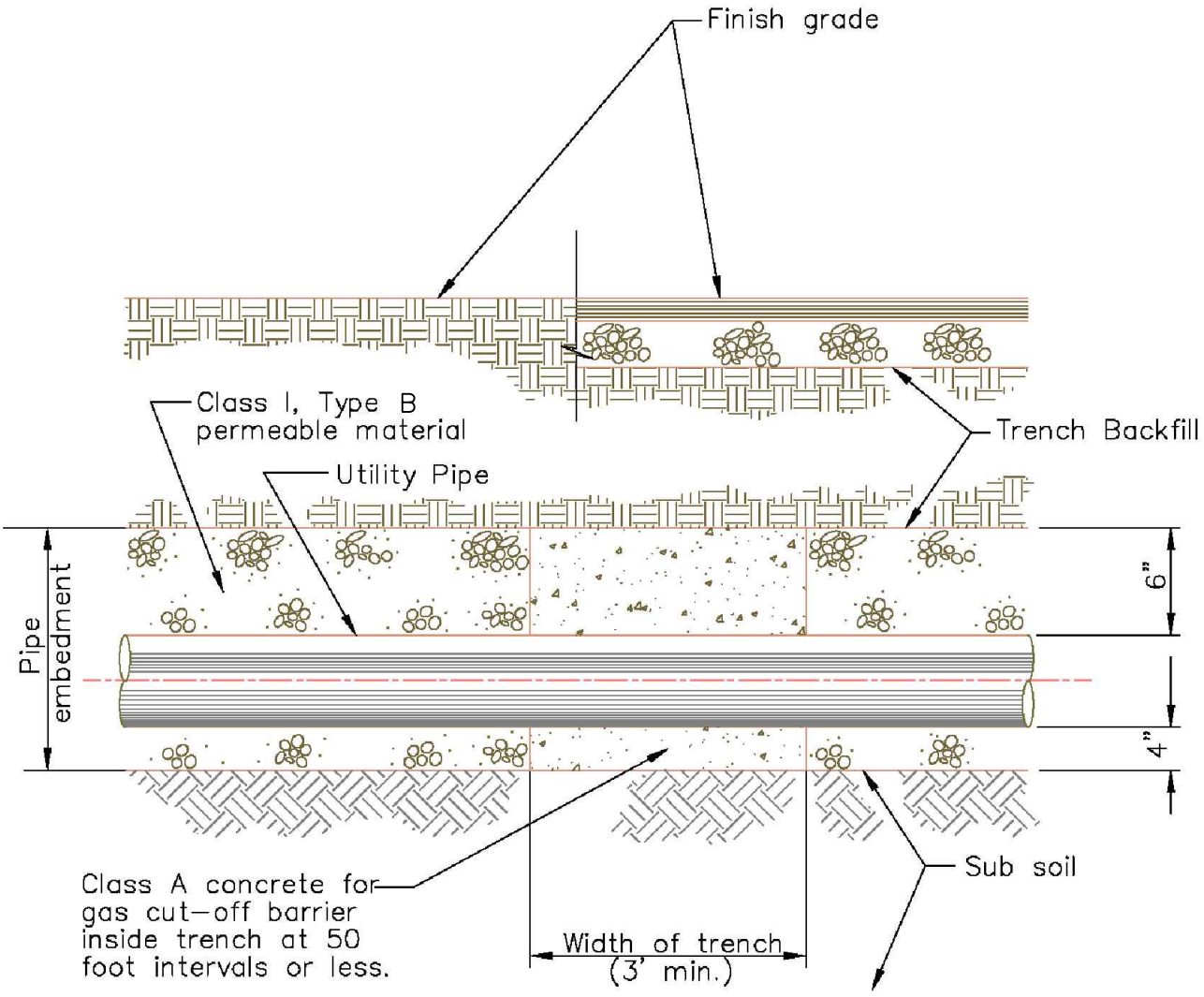

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METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH

Project No. 770611601	Figure No. 22
Date 8/24/2015	
Scale NOT TO SCALE	
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Submission Date 8/24/2015	

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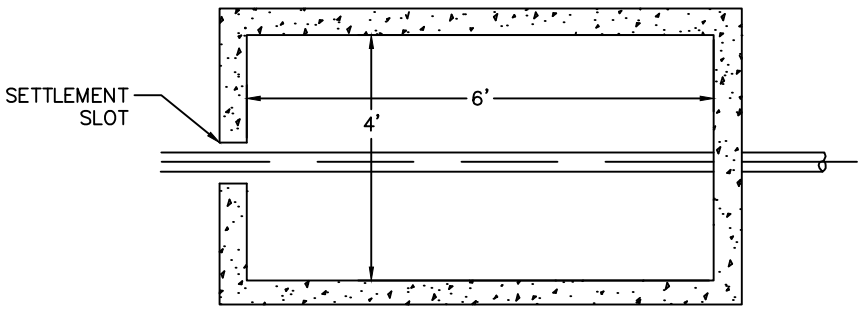

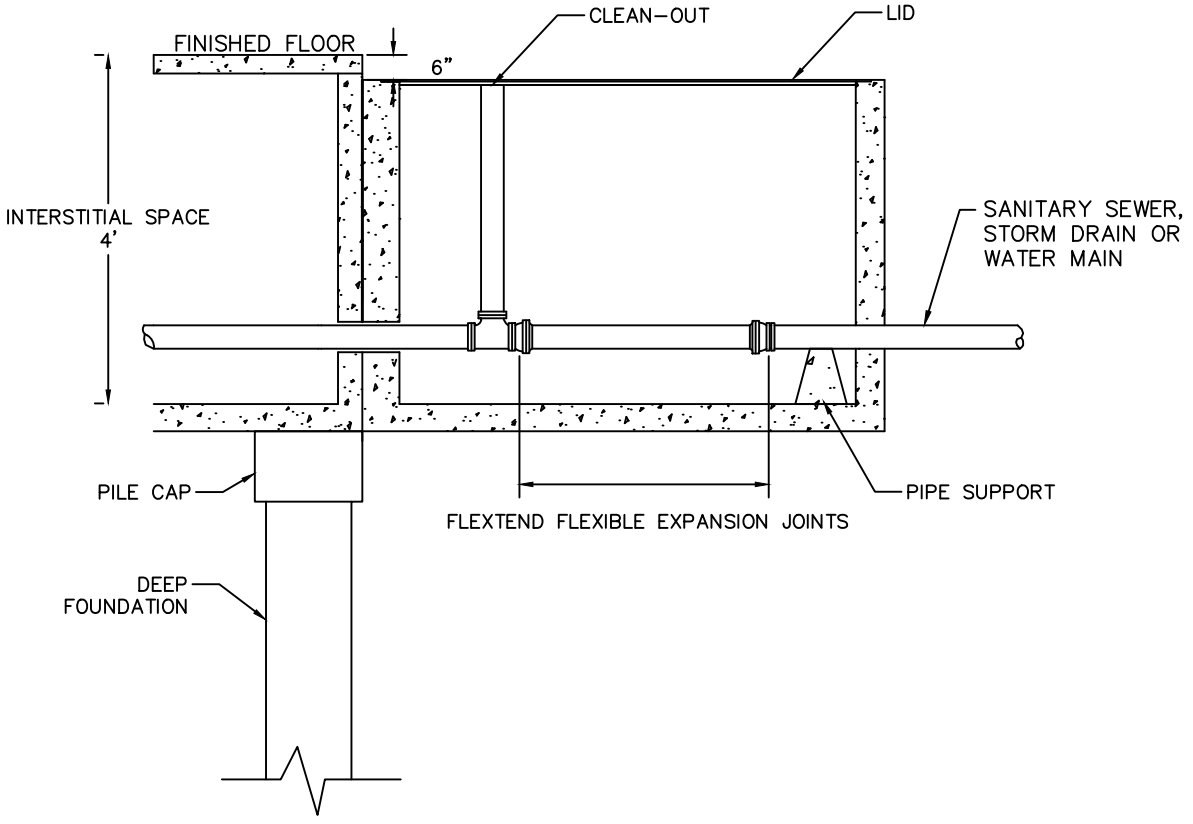

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SETTLEMENT VAULT-TYPE 1

Project No. 770611601	Figure No. 23
Date 8/24/2015	
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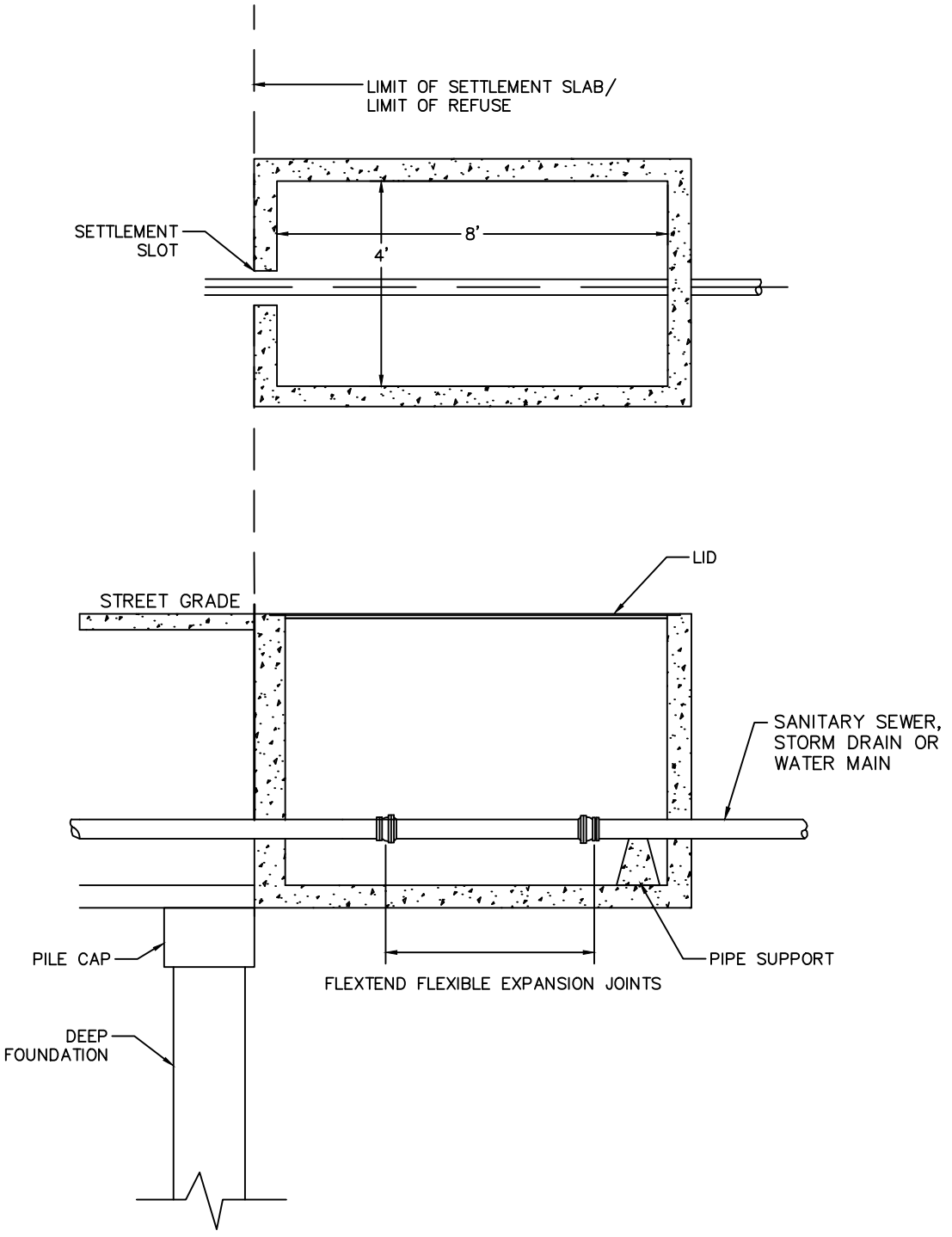
Drawn By STAFF / Checked By DJH	
Submission Date 8/24/2015	

Filename: \\langan.com\data\SJ\data6\770611601\Cadd Data - 770611601\SheetFiles\Technical Memo and Report Figures\Sanitary Sewer\Utility - Sanitary Sewer Details.dwg Date: 8/24/2015 Time: 08:07 User: dhodson Style Table: Langan.stb Layout: Fig 23 Settlement Vault 1



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SETTLEMENT VAULT-TYPE II

Project No. 770611601	Figure No. 24
Date 8/24/2015	
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Submission Date 8/24/2015	

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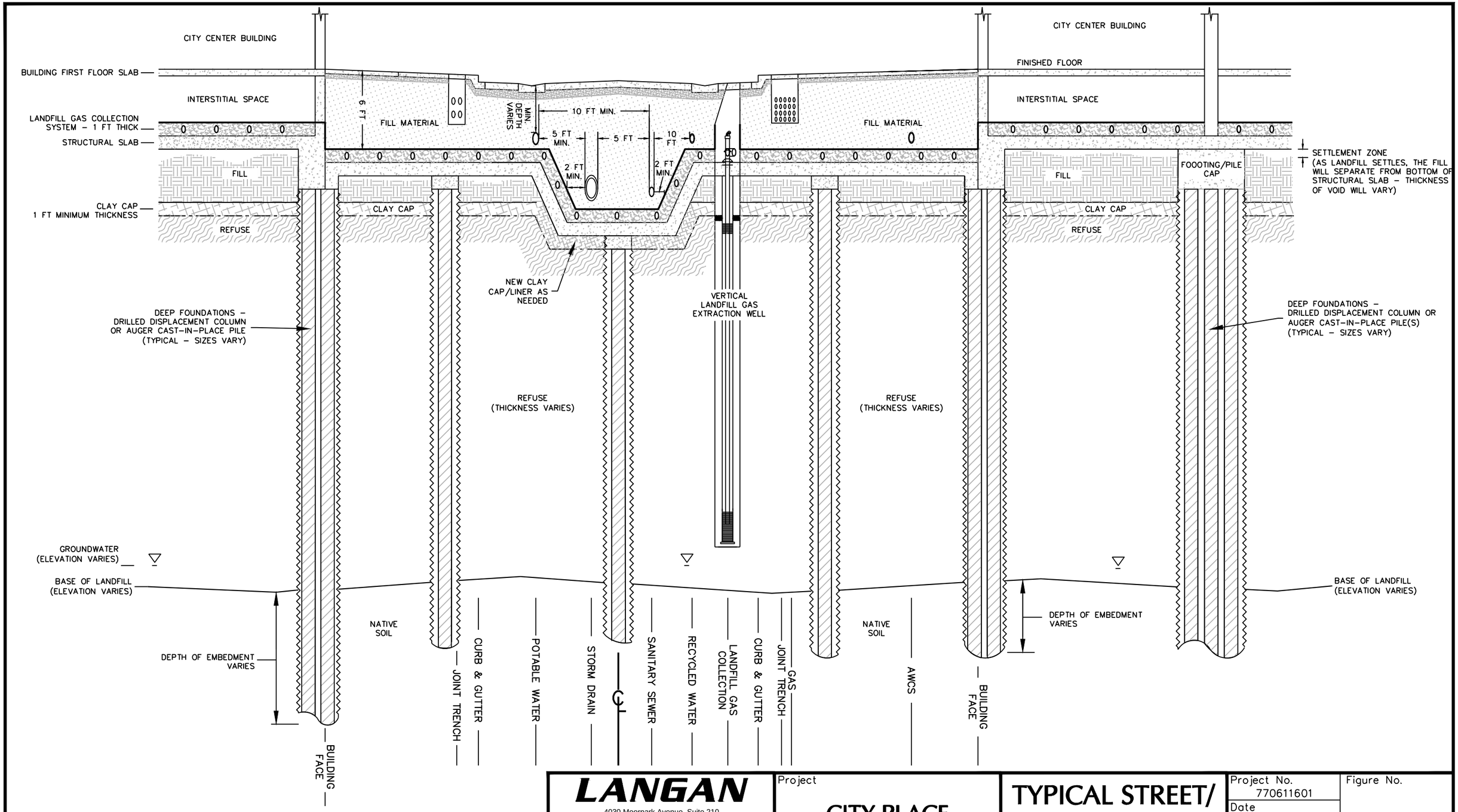

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TYPICAL STREET/ UTILITY SECTION ON SETTLEMENT SLAB

Project No. 770611601	Figure No. 25
Date 8/24/2015	
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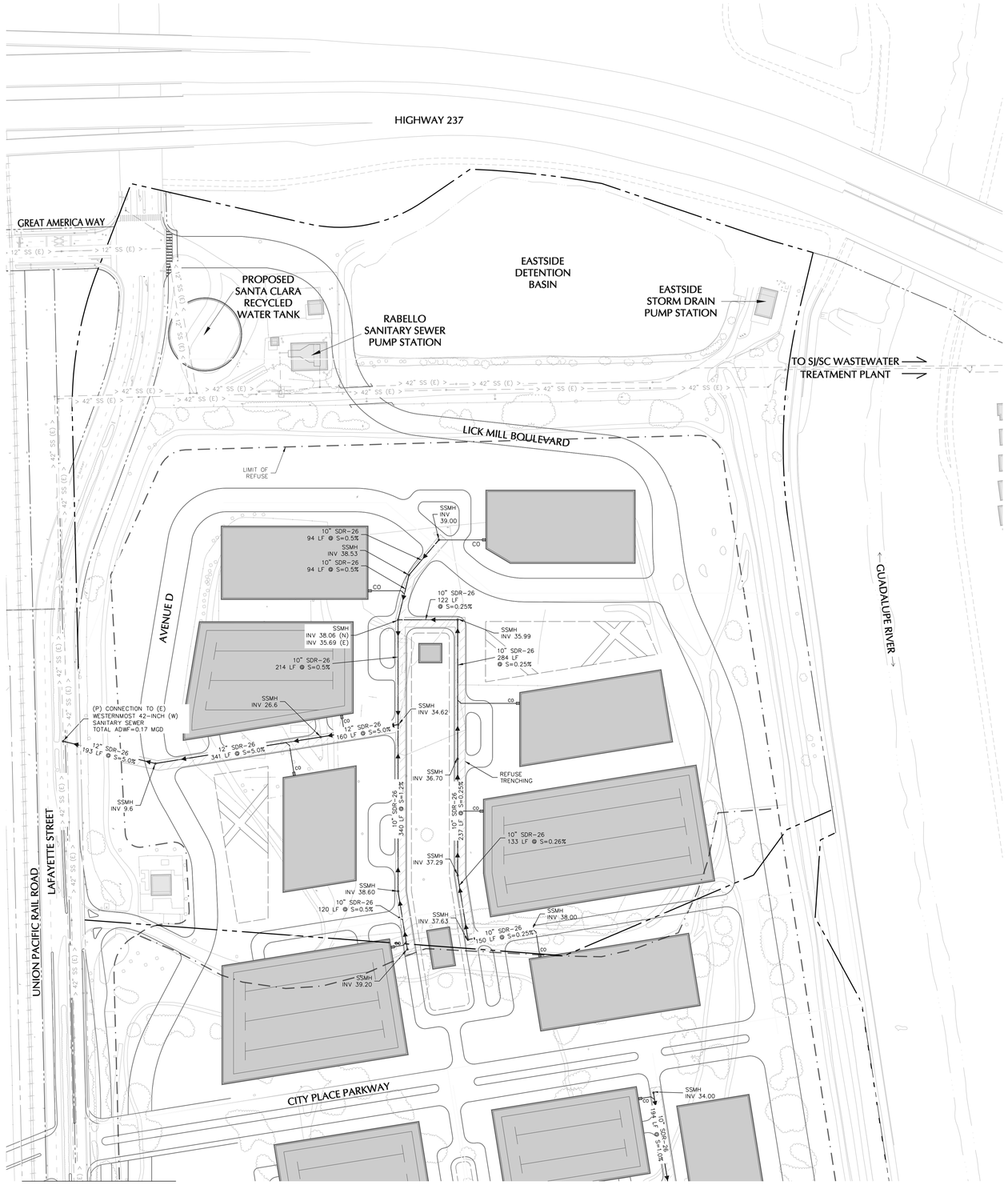
DRAWINGS



SANITARY SEWER LEGEND

- EXISTING SANITARY SEWER — — — > XX" SS (E) > — — —
- PROPOSED SANITARY SEWER — X" SDR-26, X LF @ S=X% —
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SANITARY SEWER CLEAN-OUT
- SETTLEMENT VAULT TYPE 1
- SETTLEMENT VAULT TYPE 2
- DETAIL No. / SHEET No. — 1 / CUS.03

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CUS.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CUS.01
- SANITARY SEWER GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CUS.01
- SANITARY SEWER LATERAL CONNECTION — 3 / CUS.02
- SANITARY SEWER CLEAN-OUT — 4 / CUS.02
- MANHOLE — 1 / CUS.02
- MANHOLE FRAME, COVER, & GRATE — 2 / CUS.02
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CUS.01
- SETTLEMENT VAULT – TYPE 1 — 5 / CUS.02
- SETTLEMENT VAULT – TYPE 2 — 6 / CUS.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CUS.01

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

No.	Description	Date
	REVISIONS	

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4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
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Figure Title
PARCEL 1 PRELIMINARY SANITARY SEWER PLAN

Project No. 770611601	Figure CSS2.01
Date 3/20/2015	
Scale AS SHOWN	
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Submission Date 3/20/2015	Sheet 1 of 4

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PROJECT No. 770611601

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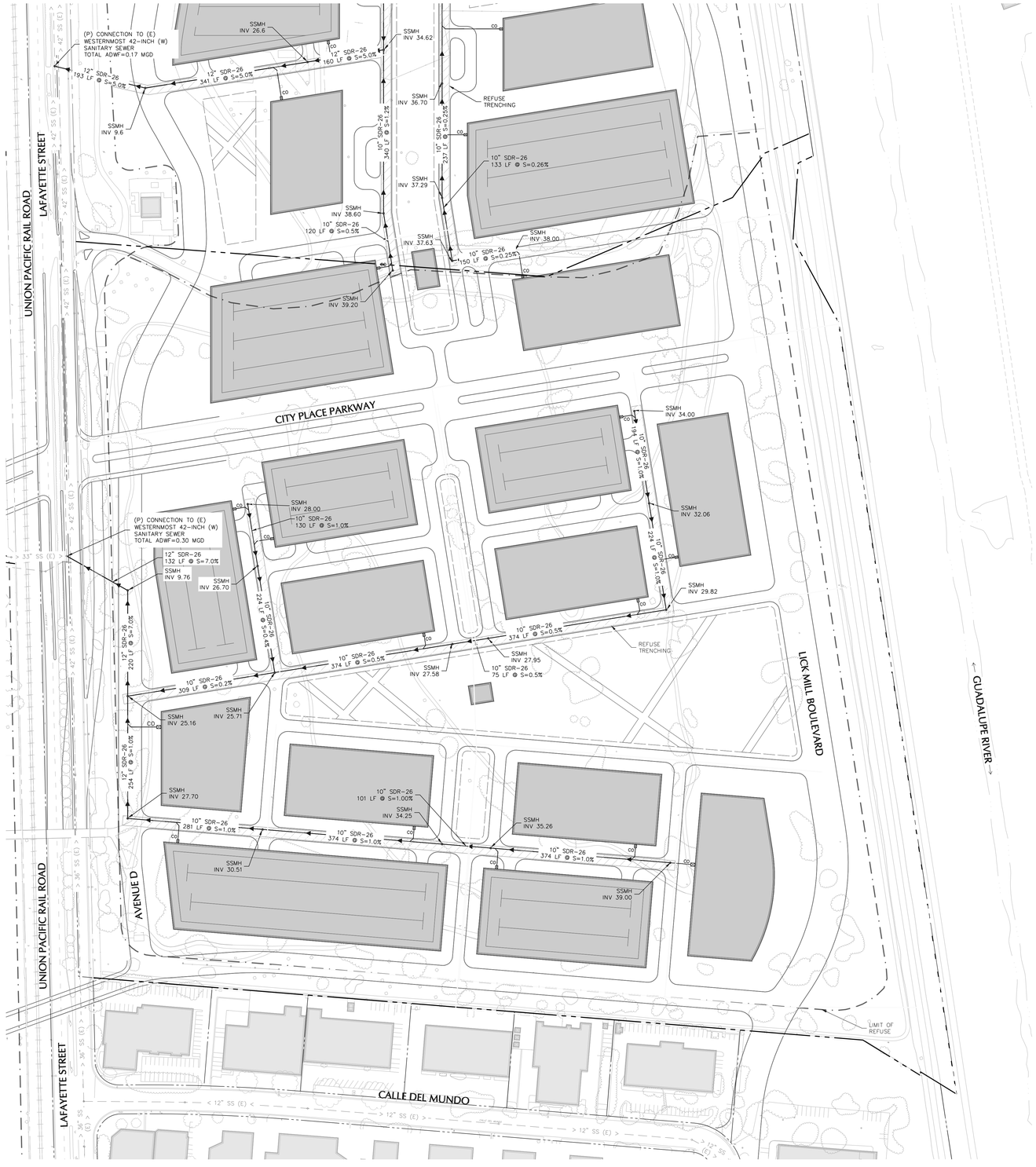

SANITARY SEWER LEGEND

- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER — X" SDR-26, X LF @ S=X%
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SANITARY SEWER CLEAN-OUT
- SETTLEMENT VAULT TYPE 1
- SETTLEMENT VAULT TYPE 2
- DETAIL No. / SHEET No. — 1 / CUS.03

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CUS.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CUS.01
- SANITARY SEWER GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CUS.01
- SANITARY SEWER LATERAL CONNECTION — 3 / CUS.02
- SANITARY SEWER CLEAN-OUT — 4 / CUS.02
- MANHOLE — 1 / CUS.02
- MANHOLE FRAME, COVER, & GRATE — 2 / CUS.03
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CUS.03
- SETTLEMENT VAULT – TYPE 1 — 5 / CUS.02
- SETTLEMENT VAULT – TYPE 2 — 6 / CUS.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CUS.01

100 0 50 100
SCALE IN FEET

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

No.	Description	Date

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T: 408.551.6700 F: 408.551.0344 www.langan.com
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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan Treaty, LLC
Collectively known as Langan

Project
CITY PLACE
SANTA CLARA
SANTA CLARA CALIFORNIA

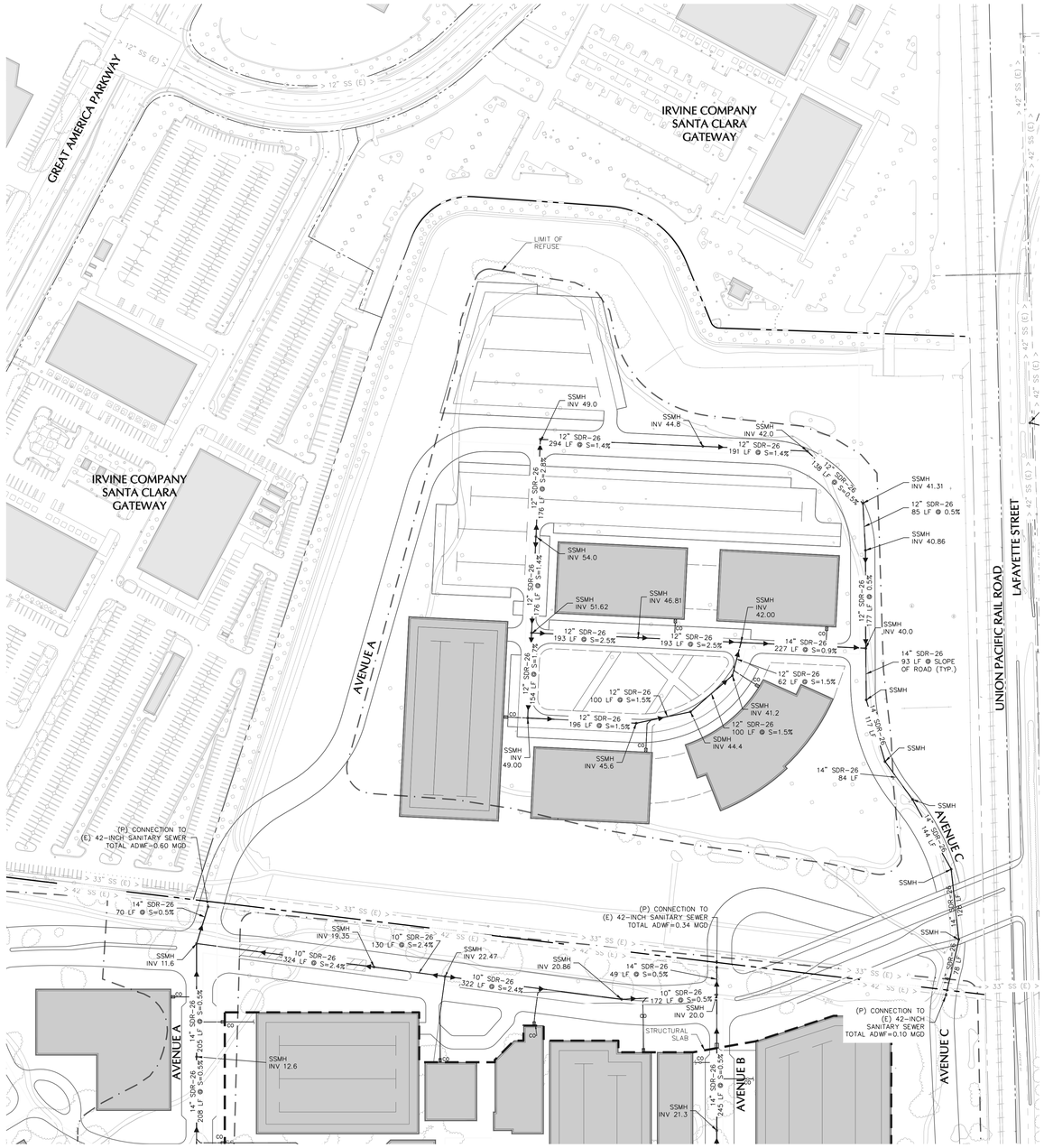
Figure Title
PARCEL 2
PRELIMINARY
SANITARY SEWER
PLAN

Project No. 770611601	Figure CSS2.02
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 2 of 4

PROJECT No. 770611601

© 2015 Langan

Filename: \\langan.com\data\SJ\data5\770611601\Cadd Data - 770611601\SheetFiles\Post Closure Land Use Plan\09-CU1 - SS Utility Plan.dwg Date: 8/11/2015 Time: 15:58 User: dhodson Style Table: Langan.stb Layout: PARCEL 2



SANITARY SEWER LEGEND

- EXISTING SANITARY SEWER — > XX" SS (E) >
- PROPOSED SANITARY SEWER — X" SDR-26, X LF @ S=X.X%
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SANITARY SEWER CLEAN-OUT
- SETTLEMENT VAULT TYPE 1
- SETTLEMENT VAULT TYPE 2
- DETAIL No. / SHEET No. — 1 / CUS.03

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CUS.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CUS.01
- SANITARY SEWER GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CUS.01
- SANITARY SEWER LATERAL CONNECTION — 3 / CUS.02
- SANITARY SEWER CLEAN-OUT — 4 / CUS.02
- MANHOLE — 1 / CUS.02
- MANHOLE FRAME, COVER, & GRATE — 2 / CUS.02
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CUS.01
- SETTLEMENT VAULT – TYPE 1 — 5 / CUS.02
- SETTLEMENT VAULT – TYPE 2 — 6 / CUS.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CUS.01

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

No.	Description	Date
	REVISIONS	

LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan Treadwell LLC
Collectively known as Langan

Project
CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCEL 3 PRELIMINARY SANITARY SEWER PLAN

Project No. 770611601	Figure CSS2.03
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 3 of 4

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SCALE IN FEET

PROJECT No. 770611601

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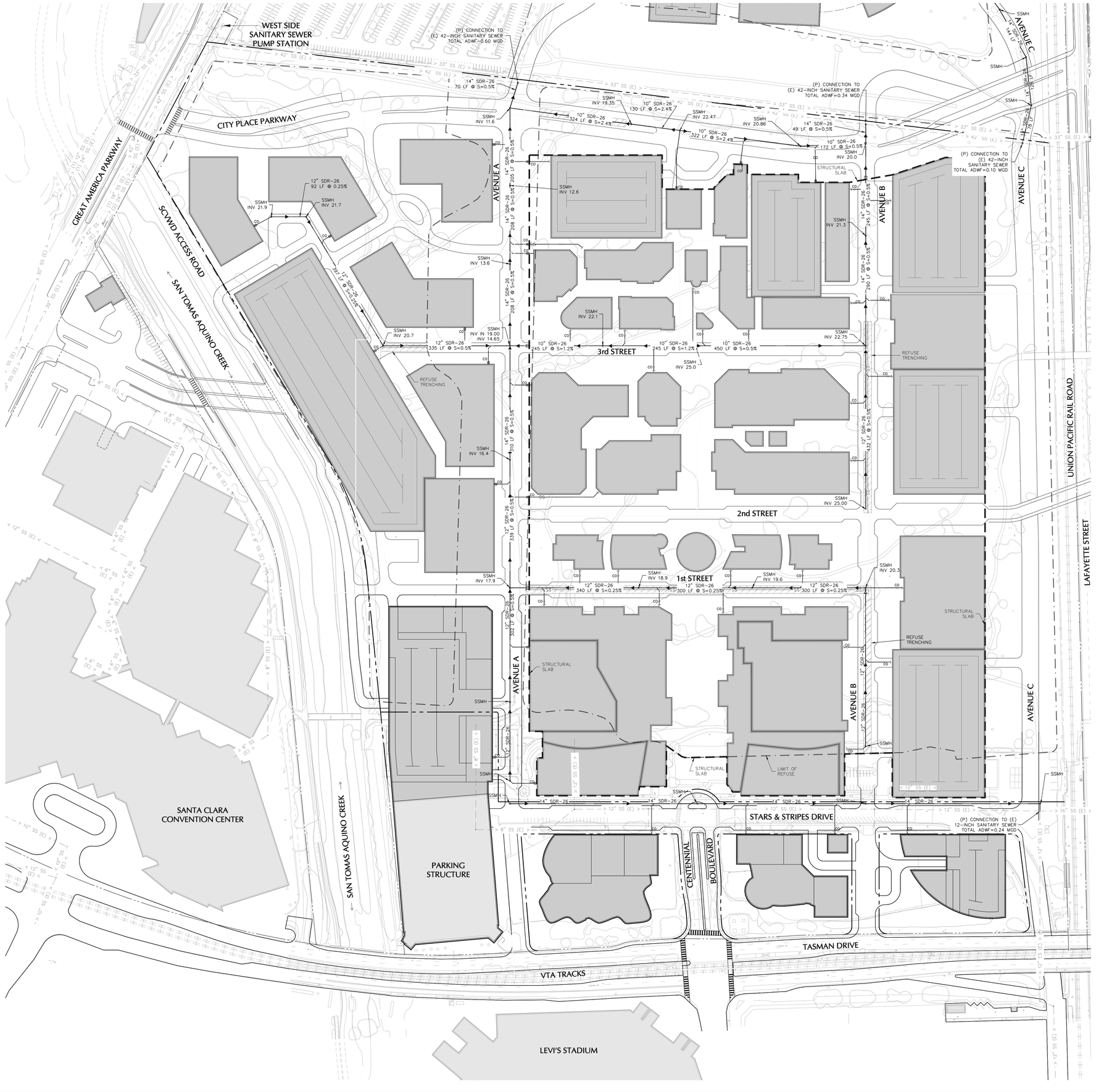

SANITARY SEWER LEGEND

- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER — X" SDR-26, X LF @ S=X.X%
- LIMIT OF REFUSE
- STRUCTURAL SLAB
- REFUSE TRENCHING
- EXISTING MANHOLE
- PROPOSED MANHOLE
- SANITARY SEWER CLEAN-OUT
- SETTLEMENT VAULT TYPE 1
- SETTLEMENT VAULT TYPE 2
- DETAIL No. / SHEET No. — 1 / CU5.03

UTILITY NOTES

1. EXISTING UTILITY INFORMATION OBTAINED FROM CITY OF SANTA CLARA SYSTEM MAP. FIELD VERIFY PRIOR TO CONSTRUCTION.

LIST OF DETAILS

- UTILITY TRENCH PENETRATING CLAY CAP — 1 / CU5.01
- UTILITY STRUCTURE PENETRATING CLAY CAP — 2 / CU5.01
- SANITARY SEWER GRAVITY PIPES THROUGH TRANSITION ZONE — 3 / CU5.01
- SANITARY SEWER LATERAL CONNECTION — 3 / CU5.02
- SANITARY SEWER CLEAN-OUT — 4 / CU5.02
- MANHOLE — 1 / CU5.02
- MANHOLE FRAME, COVER, & GRATE — 2 / CU5.03
- METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH — 4 / CU5.03
- SETTLEMENT VAULT – TYPE 1 — 5 / CU5.02
- SETTLEMENT VAULT – TYPE 2 — 6 / CU5.02
- TYPICAL STREET/UTILITY SECTION ON SETTLEMENT SLAB — 5 / CU5.01

PRELIMINARY DRAFT, NOT FOR CONSTRUCTION

Date	Description	No.
REVISIONS		

LANGAN
4030 Moorpark Avenue, Suite 210, San Jose, CA 95117
T: 408.551.6700 F: 408.551.0344 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO VIRGINIA WASHINGTON DC FLORIDA NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
CITY PLACE SANTA CLARA
SANTA CLARA CALIFORNIA

Figure Title
PARCELS 4 & 5 PRELIMINARY SANITARY SEWER PLAN

Project No. 770611601	Figure CSS2.04
Date 3/20/2015	
Scale AS SHOWN	
Drawn By JJM / Checked By DJH	
Submission Date 3/20/2015	Sheet 4 of 4

PROJECT No. 770611601

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APPENDIX A

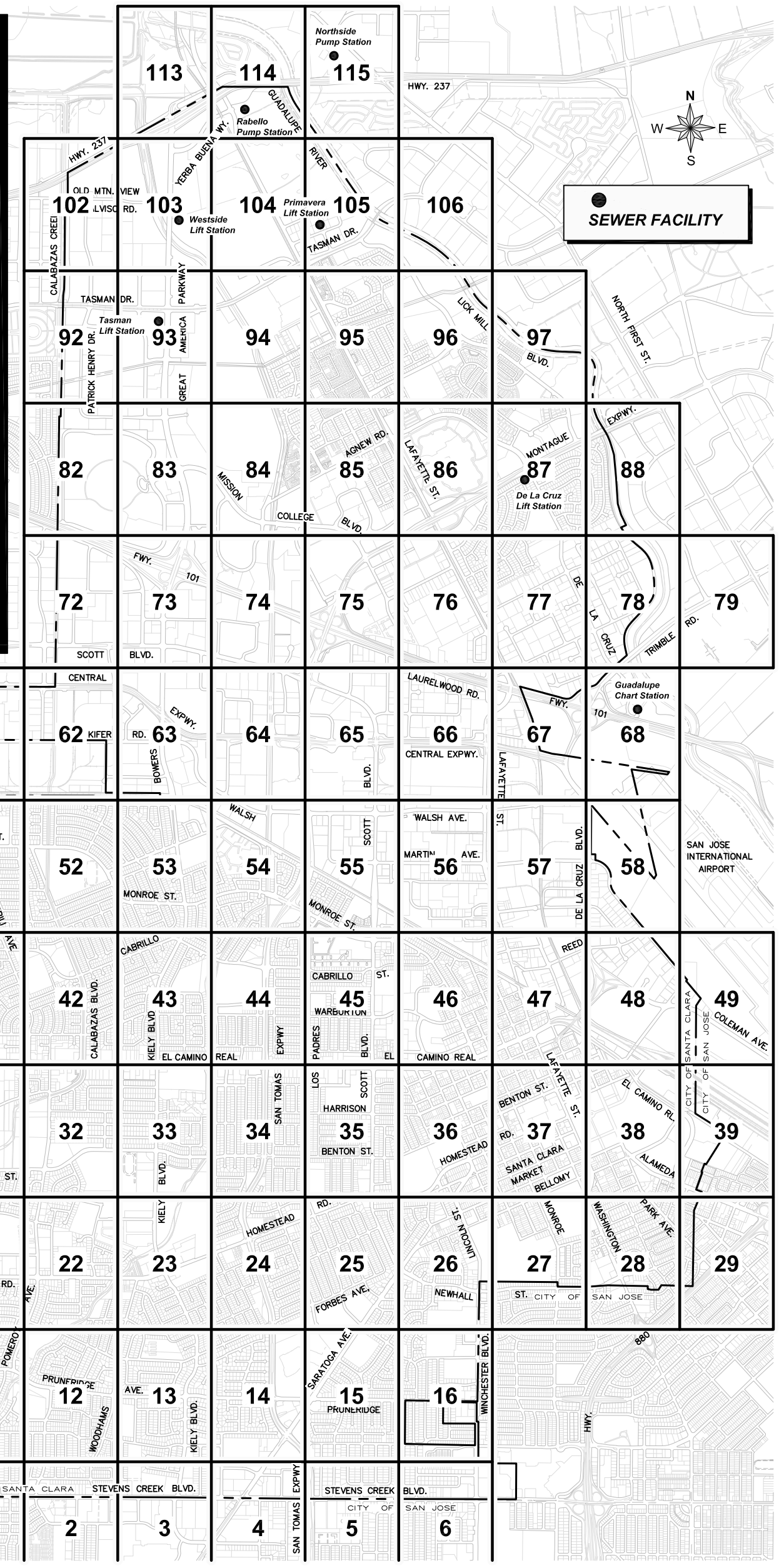
City Sewer Record Block Maps

JULY 2012

CITY OF SANTA CLARA SANITARY SEWER SYSTEM - INDEX MAP

DISCLAIMER:

All City of Santa Clara public utility base maps are provided to the public for general reference use only, and are not intended to be relied upon or used as record ("As-Built") drawings. The public utility locations shown on the base maps are only approximate indications of the locations of such utilities, and are current only to the date indicated. Underground Service Alert (USA) must be contacted for confirmation of the location of all underground utilities prior to any work which may affect public utilities in the public right of way or in public easements. The City of Santa Clara is not responsible for any losses or damages resulting from the use of, or reliance on, the base maps.



SANITARY SEWER LEGEND

(FM) MAIN (FORCE MAIN)		
ABANDONED MAIN		
PRIVATE MAIN		
MANHOLE		
1 MANHOLE NUMBER		
DIRECTION OF FLOW		
FLUSHING INLET		
	Sp / 39 LATERAL	The location of each lateral will be shown and dimensioned from a lot line, a manhole, or end of return, whichever is readily available. Sp indicates Septic
	6.5 DEPTH OF MANHOLE	The depth shown will be from rim of manhole to invert
	12–123 PIPE – DIMENSIONS	The first element of the dimension grouping will express the size of the pipe and the second element will be the distance between each manhole. Note A 'P' after the size indicates P.V.C , a 'RCP' after the size indicates Reinforced Concrete Pipe, lines where there is no indication are Vitrified Clay Pipe (VCP).
	9587D–86 PIPE DESIGNATION	The first element of the pipe designation grouping will be the tract, tracing or job number and the second element will be the year of installation.

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CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7-2012

MAP NO.

S 93

103

92

94

83

N 336,500

E 1,569,850

N 330,000

E 1,572,150

Bunker Hill Ln.

Old Ironsides Dr.

COUNTY TRANSIT CORRIDOR JOB 1169

Democracy Wy.

Old Glory Ln.

Tasman Dr.

Convention Center

Theme Park

GREAT AMERICA PARKWAY

S.F.W.D. Hetch Hetchy R/W

TASMAN LIFT STATION

PUMPS
TASMAN LIFT STATION

OIL & GREASE INTERCEPTOR

SIPHON DETAIL
6500D-75

PLAN VIEW

PROFILE VIEW

HETCH HETCHY WATER PIPE

CONCRETE ENCASEMENT

I:\Water\CAD\AutoCad Drawings\Block Books\s093.dwg - 11x17 (PDF) - (10-BB-Sewer-BLK-B.ctb) - LTscale: 0.5000 - Plot date: 6.7.2012

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

S 94

104

N 333,250

E 1,572,150

93

95

84

E 1,574,450

N 330,000

Stars & Stripes Dr.

Centennial Blvd.

Tasman Dr.

SAN TOMAS AQUINO CREEK

Hetch Hetchy R/W

Villa Pl. (Pvt.)

Gianera St.

Lass Dr.

Silveria Ct.

Lakeshore Dr.

Alcalde St.

Gillmor St.

Fuller St.

Klune Ct.

Klune Cr.

S 94

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7-2012

MAP NO.

S 95

105

N 333,250

E 1,574,450

94

96

85

E 1,576,750

N 330,000

Av. De Guadalupe

Calle De Escuela

Katheryn Hughes School

Av. De Los Arboles

Av. De Carmen

Av. De Los Angelina

Av. De Los Rosas

Nantucket Cir.

Corte De Primavera

Fairway Glen Park

PLAZA ESCUELA

Lafayette St.

U. P. R. R.

Calle De Primavera

Av. Del Prado (Pvt)

Av. De Las Flores

Corte De Flores

Hetch Hetchy R/W

Fairway Glen Dr.

Hogan Dr.

Burke Dr.

Mangrum Dr.

Armour Dr.

Nantucket Cir.

Av. De Los Arboles

Gianera St.

Duvall Ct. (Pvt.)

Wilcox Ave.

Lass Dr.

Lenox Pl. (Pvt.)

Cheeney St.

Alcalde St.

Esperanca Ave.

Fuller St.

Snead Dr.

Demaret Dr.

Payne Pl. (pvt)

Kingsbury Cir. (Pvt.)

N. 3rd St.

Eisenhower Dr.

Nelson Dr.

Hope Dr.

St. Palais Pl. (Pvt.)

Garzoni Pl. (Pvt.)

Concrete Encased

SIPHON PROFILE

PLAN VIEW

SYSTEM 272 (FLAP GATE) 3-28

FLAP GATE

PRIVATE

I:\Water\CAD\AutoCad Drawings\Block Books\s095.dwg - 11x17(PDF) - (10-BB-Sewer-BLK-B.ctb) - LTscale: 0.5000 - Plot date: 7.3.2012

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

S 103

113

N 336,500

E 1,569,850

237

Highway 237

(Mt. View–Alviso Rd.)

San Tomas Aquino Creek

Yerba Buena Wy.

12–430

12–375

12–276

9695D–91

GREAT AMERICA PARKWAY

MARVELL LANE (pvt)

70'–24" Steel Casing
8" PVC Lateral
10,683D

12–465

12–200

12–252

12–113

12–107

12–95

(OLD) MT VIEW – ALVISO RD

6415D–76

LIFT STA.
7440 D

15–22

15–24

TWO 8"
DISCHARGE

12" 0'flow

15–35

15–310

6500D–75

33–470

42–470

1408D–60

33–372

42–471

33–98

WESTSIDE
LIFT STATION

SIPHON DETAIL
1408D–60

WESTSIDE RETENTION
BASIN

33–246

42–291

SHIPON DETAIL
6415D

12–288
24–286

42–69

42–72

1408D–60

24–170
18–170
24–170

PLAN VIEW

SAN TOMAS
CREEK

24",18",24"

CONCRETE ENCASEMENT

PROFILE VIEW

39–396

39–300

8–407

8–91

9001D–86

8–279

8–164

39–172

30–441

39–272

6500D–75

12–453

12–336

12–104

12–445

7440D–78

12–82

12–465

Betsy Ross Dr.

Hill Bunker Ln.

102

104

93

E 1,572,150

N 333,250

S 103

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CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N
W E
S

DATE LAST CORRECTED

7–2012

MAP NO.

S 104

114

N 336,500

E 1,572,150

103

105

94

N 333,250

E 1,574,450

LAFAYETTE ST.

Calle Del Mundo

Calle De Luna

Stars and Stripes Dr.

Tasman Dr.

San Tomas

F.S. (10)

8 10.5 9 14 8–16.7 56680–72 136'20" CASING 7 9

9 8–7 8

8 42–435 54150–74 14 12 15 14 42–200 16 12 42–400 42–429 17 12.5 18 14

42–393 7070–56 19 13 11 22 42–7 42–12 20 21 42–7

23 11 33–115 42–44 30 20 21

26 10.5 33–420 6500D–75 33–470 42–470 24 10 10 25 1408D–60

10.5 42–470 27

28 11.5 7070–56 36–404

29 11.5 36–266 31 12 11.5 36–94 34

12–210 32 8 12–255 12–398 33

58730–73

35 11.5 36–326 7070–56 56040–72 15–400 21–81 48

21–250 95180–89

49 11.5 36–25 36–36 11.5 36

36–132 37 16–175 115' 20" CASING

38 14 36–264 42

39 40 12–79 12–15 41 12–442 12–74 44 12–47 43

12–480 90010–86 46 12.5 12–47 45 47

12–500 90010–86 36–342

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7–2012

MAP NO.

S 105

115

N 336,500

E 1,574,450

104

106

95

N 333,250

E 1,576,750

GUADALUPE RIVER

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

Renaissance Dr.

Tasman Dr.

Calle Del Mundo

Calle De Luna

Calle Del Sol

Calle De Escuela

Av. De. Guadalupe (Pvt.)

Av. De. Los Alumnos (Pvt.)

Plaza Corona (Pvt.)

PRIVATE

SYSTEM

PRIMAVERA LIFT STATION

DETAIL

WET WELL

ULISTAC NATURAL AREA

Lick Mill Blvd.

Av. De Lago

Av. De Carmen

Av. De Los Arboles

ARBOLES

I:\Water\CAD\AutoCad Drawings\Block Books\s105.dwg - 11x17 (PDF) - (10-BB-Sewer-BLK-B.ctb) - LTscale: 0.5000 - Plot date: 6.7.2012

S 105

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7-2012

MAP NO.

S 113

N 339,750

E 1,569,850

Guadalupe River

IND. BLDG.

El Dorado Ct.

Gold St.

AMTRAK / U.P.R.R.

112

114

SANTA CLARA CITY LIMIT

SAN JOSE CITY LIMIT

(Mt. View - Alviso Rd.)

Highway 237

GREAT AMERICA PARKWAY

Yerba Buena Way

12-348

37

10

2

96950-91

12-430

237

E 1,572,150

N 336,500

103

S 113

I:\Water\CAD\AutoCad Drawings\Block Books\s113.dwg - 11x17 (PDF) - (10-BB-Sewer-BLK-B.ctb) - LTscale: 0.5000 - Plot date: 7.18.2012

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

7-2012

MAP NO.

S 114

N 339,750

E 1,572,150

North First St.

Guadalupe River

GUADALUPE TRAILER PARK

113

115

MT. VIEW-MILPITAS

Highway 237 (Mt. View - Alviso Rd.)

SAN JOSE CITY LIMIT

SANTA CLARA CITY LIMIT

Lafayette St.

EASTSIDE RETENTION BASIN

1320± FT. 36" POLYETHYLENE LINER

RABELLO PUMP STATION

Yerba Buena Way

U.P.R.R.

Guadalupe River

50' 18" CASING

12" CSU

Normally Closed Gate Valve 7798D-78

RCP

(FM)

(GRAVITY)

53X34 Oval- 367

E 1,574,450

N 336,500

104

S 114

I:\Water\CAD\AutoCad Drawings\Block Books\s114.dwg - 11x17 (PDF) - (10-BB-Sewer-BLK-B.ctb) - LTscale: 0.5000 - Plot date: 7.18.2012

CITY OF SANTA CLARA

BASIC INFORMATION MAP

100 50 0 100 200 300 400 500 FT.

SCALE

N W E S

DATE LAST CORRECTED

11-15-2013

MAP NO.

S 115

N 339,750

E 1,574,450

Nortech Parkway

Disk Ct.

TO TREATMENT PLANT

SEE DETAIL "A"

36-2515

8"

779D, 780D-783D, 789D, 790D, 793D-57

36-2515 (32" PE LINER, '84 W-2234 J 803) (FM)

(FM)

7798D-80

N. First St.

31.5" O.D.P.E.IN36"RCP J803 1984

24"X28" + 28"X32" RED'S

18"-24" O.D. STEEL

7-24" O.D. P.E.

6

7

36"

42"

48"

42"

8

6

7

NORTH SIDE PUMP STATION

9093D-87

5641D-65

2202D-60

36-155

48"

16

8

9

10

42-206

15.5

10

7798D-80

36-709

(FM)

42-494

(GRAVITY)

779D-57

11

14

42-241

114

116

Alviso - Milpitas

Highway 237 (Mt. View - Alviso Rd.)

NOTE:

16 INCH PVC RECYCLED WATER MAIN ~ 7 FT NORTH OF NORTHERN SEWER FORCE MAIN FROM NORTHSIDE PUMP STATION TO PLANT

Los Esteros Rd.

SJ/SC

Water Pollution Control Plant

Zanker Rd.

1

36-283

JUNCTION BOX

TO TREATMENT PLANT

2

3

8"

8"

Los Esteros Rd.

Disk Ct.

36-2396 (FM)

36-2395 (FM)

7798D-80

4

5

7

Continue from above

32 PE LINER BTW. MH6 AND MH4

36-2509(FM)

36-2509 (FM)

Nortech Parkway

Disk Ct.

6

7

N. 1st St.

NORTH SIDE PUMP STATION

Highway 237

Guadalupe River

DETAIL "A" (N.T.S)

E 1,576,750

N 336,000

105

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As-Built color = 241

S 115

APPENDIX B

San Jose – Santa Clara Water Pollution Control Plan Specific Use Code & Sewage Coefficient Table

SAN JOSE - SANTA CLARA WATER POLLUTION CONTROL PLANT
SPECIFIC USE CODE & SEWAGE COEFFICIENT

CODE	SPECIFIC BUILDING USE CODE	SEWAGE GPD/DU	COEFF. GPD/SF
2951	ASPHALT BATCH PLANT		0.500
5510	AUTO DEALERS		0.110
5931	AUTO DISMANTLERS		0.072
7531	AUTO BODY SHOP		0.110
8399	ALCOHOLIC REHABILITATION	85/BED	
8640	AUDITORIUM, HALLS, SOCIAL & FRATERNAL		0.110
2051	BAKERIES - DONUT SHOP		0.600
5160	BAKERIES		0.600
5813	BARS		0.350
6020	BANKS		0.150
7230	BEAUTY PARLORS		0.470
7240	BARBER SHOP		0.140
7332	BLUEPRINT SERVICE		0.140
7930	BOWLING ALLEY		0.280
8361	BOARD AND CARE HOME	85/BED	
3272	CONCRETE MANUFACTURING		0.500
3471	CHROME PLATING SHOP		2.090
5810	CAFETERIAS - DAY USE		0.710
7542	CAR WASHES		1.700
8660	CHURCHES		0.280
300	DWELLINGS - 2 TO 4 UNITS	176	
40	DWELLINGS - 5+ UNITS	121	
5912	DRUG STORES		0.040
7210	DRY CLEANERS		0.800
8351	DAY CARE CENTER (NURSERY SCHOOL)		0.183
3674	ELECTRONICS FABRICATION		6.360
3675	ELECTRONICS - ASSEMBLY		1.000
3676	ELECTRONICS - STRGE, WAREH'SE, DESIGN, ENG'G		0.180
3677	ELECTRONICS - COMBINATION OF ABOVE		1.070
5540	GAS STATIONS		0.500
742	HOSPITALS (VETERINARY)		0.230
8059	HOSPITALS (CONVALESCENT)		0.520
8060	HOSPITALS (GENERAL)		0.230
7997	HEALTH STUDIO		0.420
5710	HOME FURNISHINGS (RETAIL)		0.027
7011	HOTELS (SMALL)		0.350
7012	HOTELS (LARGE, W/CONVENTION FACILITIES)		0.480
7218	INDUSTRIAL LAUNDRY		1.000
2000	INDUSTRIAL SHELL - UNKNOWN USE		0.120
3231	INDUSTRIAL GLASS WORK		0.053
7215	LAUNDRY (COIN-OP)		2.520

SAN JOSE - SANTA CLARA WATER POLLUTION CONTROL PLANT
SPECIFIC USE CODE & SEWAGE COEFFICIENT

CODE	SPECIFIC BUILDING USE CODE	SEWAGE GPD/DU	COEFF. GPD/SF
800	MOBILE HOME	139	
3440	METAL FABRICATION		0.053
3540	METALWORKING MACHINERY EQUIPMENT		0.370
3541	MACHINE SHOP		0.053
3599	MACHINERY - MISC., EXCEPT ELECTRICAL		0.053
4224	MINI -STORAGE WAREHOUSE		0.020
5411	MARKETS (GROCERY)		0.240
5421	MEAT AND FISH (SEAFOOD) MARKETS		0.248
7010	MOTEL		0.480
7260	MORTUARY		0.100
7832	MOVIE THEATER (INDOOR)	4.8/SEAT	
8010	MEDICAL (DOCTORS)		0.400
8015	MEDICAL (DENTAL BUILDING)		0.510
8020	MEDICAL (DENTIST)		1.600
723	NUTSHELL PROCESSING		0.110
2711	OFFICE BUILDING		0.140
3470	PLATING SHOP		2.090
5074	PLUMBING SUPPLY		0.076
5261	PLANT NURSERY		0.076
9100	PUBLIC AGENCY		0.210
9501	PARKS - COMMUNITY CENTER		0.110
4832	RADIO STATION		0.085
5093	RECYCLE CENTER		0.072
5311	RETAIL (LARGE STRUCTURE)		0.073
5390	RETAIL (SMALL STRUCTURE)		0.076
5730	RADIO TV & MUSIC STORES		0.020
7690	REPAIR SHOP (MISCELLANEOUS)		0.140
5811	RESTAURANT (FAST FOOD)		0.900
5812	RESTAURANT (FULL SERVICE)		1.040
7033	RV PARK	121/RV	
100	SINGLE FAMILY (DETACHED)	237	
150	SINGLE FAMILY (ATTACHED - TOWNHOUSES)	180	
1790	TRADE CONTRACTORS		0.072
4231	TRUCK TERMINAL		0.052
4833	TV STATION		0.080
7394	TOOL & EQUIPMENT RENTAL		0.110
2084	WINERY		1.??0
2591	WINDOW SHADE MANUFACTURING		0.052
2431	WOODWORKING SHOP		0.052
4225	WAREHOUSES		0.052

APPENDIX C

Sanitary Sewer Capacity Evaluation for the City Place Development Site

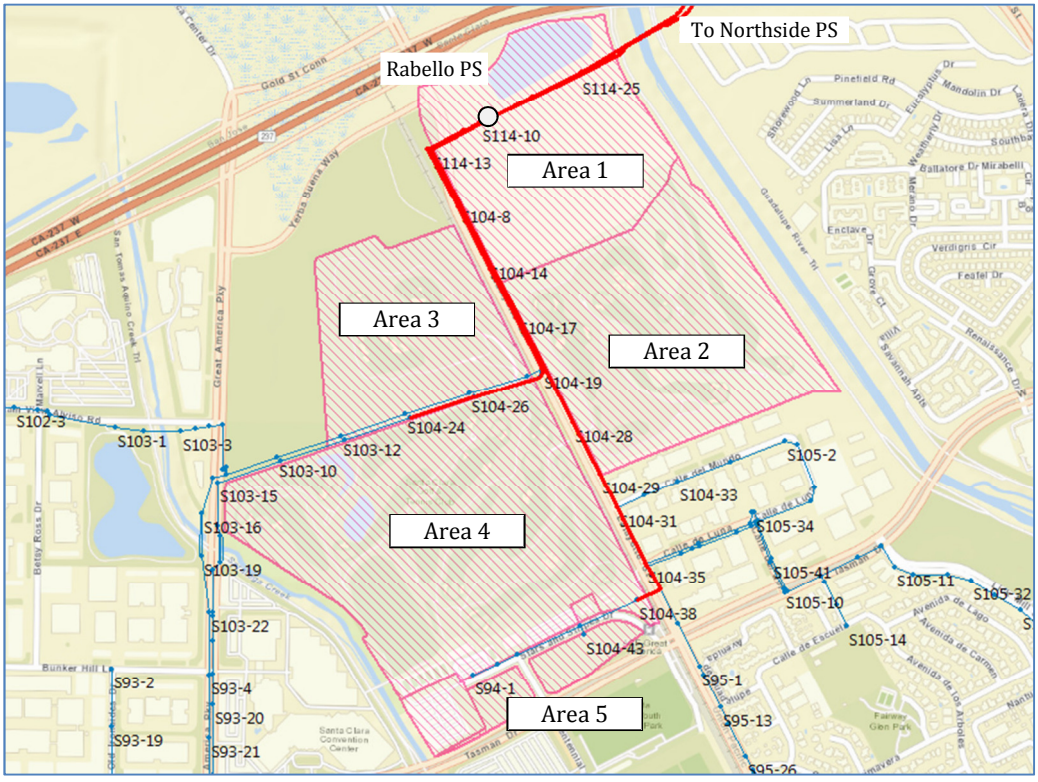
Technical Memorandum

Subject:	**Sanitary Sewer Capacity Evaluation for the City Place Development (APN: 097-01-039 and -073, 104-01-102, -036 through 040)**
Prepared For:	Evelyn Liang, City of Santa Clara
Prepared by:	Winola Cheong, P.E. California License No. C71669
Reviewed by:	Gisa Ju, P.E. California License No. C31823
Date:	August 6, 2015

At the request of the City of Santa Clara (City), RMC evaluated the potential sanitary sewer capacity impact of the proposed City Place development project near Lafayette Street, Stars and Stripes Drive, and Great America Way using the City's updated sanitary sewer hydraulic model. This technical memorandum (TM) summarizes the approach, model input, and results of the analysis.

The development site consists of five areas that encompass eight parcels (APN 097-01-039 and -073; 104-01-102, -036 through -040), shown in **Figure 1** below as Areas 1 through 5. Flow from the development would enter the City's sanitary sewer system at multiple manholes in or near Lafayette Street, and drain northward to Rabello and Northside pump stations via two 42-inch lines. **Figure 1** shows the sewer lines that are affected by the additional flow from this development (affected lines in red). Note that the Rabello and Northside pump stations are included in the model but are subject to further study as part of the City's Master Plan Update effort. As such, this analysis only evaluated the capacity impact of the development to its downstream pipes, but did not include any evaluation of the capacities of the two pump stations or force mains.

Figure 1: Trunk Sewers Downstream of the Proposed City Place Development Site



1 Approach

To evaluate the potential sewer capacity impact of the proposed development, the following model configurations were used:

- *Sewer network*: the City's most current network was used. The network consists of the City's expanded trunk sewer system, which also includes all constructed improvements (e.g., Phase I and Phase II Improvement Projects, Walsh, etc.). The network also has all the pump stations and force mains in the system, including the recently constructed pump station at the Levi's Stadium that is immediately upstream of the proposed development. As noted previously, although this network includes the Rabello and Northside pump stations, the modeling parameters of these two stations are subject to further study as part of the City's Master Plan Update project, and are therefore not ready to be evaluated at this time.
- *Sanitary sewer load*: the Updated General Plan Phase 3 Loads (aka 2035 Loads) were used for this analysis. These loads were recently developed for the City's Master Plan Update effort, which included updated base loads, updated development assumptions consistent with the City's 2035 General Plan, as well as projected loads for additional developments that were approved between 2009 (after the completion of the original 2035 Loads) and now. In addition, it was noted that since the City Place development is still in its conceptual stage with no definite timeline for implementation, other developments that are currently pending approval could be implemented before it. As such, all proposed developments, whether approved or not, were added to the model for this analysis.
- *Design storm*: System capacity was evaluated based on the ability of the sanitary sewer system to convey peak wet weather flow (PWWF) under design storm conditions. This analysis used the same 10-year design storm that is being used for the City's Master Plan Update project.

2 Model Input

The City Place development was modeled as five subcatchments, representing the five areas shown in Figure 1. The following settings were used:

- *Sanitary Sewer load*: The development consists of a mix of residential, hotel, commercial, and office uses. Table 1 provides a detailed summary of the square footage or number of units of each parcel, their corresponding unit flow factor, and the estimated sewer flow. Total average daily wastewater flow contributed by the development was estimated to be about 1.52 mgd.
- *Diurnal Profile:* A residential diurnal curve was applied to the residential flows, and a commercial diurnal curve was applied to retail and offices flows.
- *Rainfall Profile:* The City's design storm profile was applied to the model to predict system performance under peak wet weather flow. The storm was timed to cause peak rainfall-dependent infiltration/inflow (RDI/I) at approximately the same time as the peak base wastewater flow of the system.
- *Contributing Area and I/I Parameters*: The I/I contributing area was set to be equal to the subcatchment area. Considering that the development would install new sewer lines, there should be minimal I/I flow. As such, the development's I/I parameters were set to be the same as an area in the vicinity with the lowest I/I values.

Table 1: Development Flow Estimates by Parcel

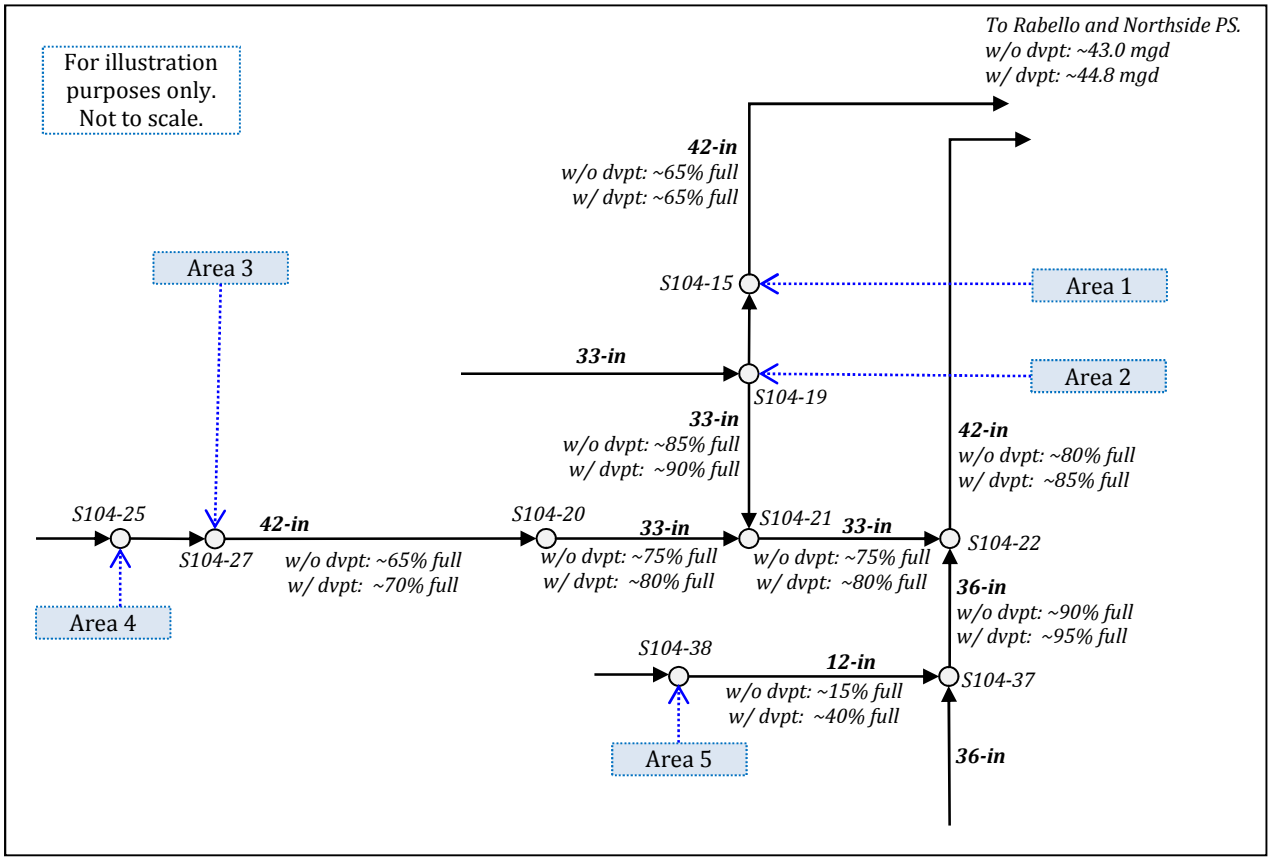
Area	Building Type [1]	Gross Square Footage [1]	Unit Flow Factor (gpd/sf)	Est. Flow (gpd) [3]	Residential Units [2]	Unit Flow Factor (gpd/unit)	Est. Flow (gpd) [4]	Total Non-Residential Flow (mgd)	Total Residential Flow (mgd)	Total Flow (mgd)
1	Office	1,200,000	0.100 [5]	120,000	--	--	--	0.120	0.000	0.120
2	Office	2,160,000	0.100 [5]	216,000	--	--	--	0.216	0.000	0.216
3	Office	720,000	0.100 [5]	72,000	--	--	--	0.072	0.000	0.072
4	Retail - Anchor	330,000	0.073 [6]	24,090	--	--	--	0.682	0.203	0.885
	Retail - Inline	670,000	0.076 [6]	50,920	--	--	--			
	Retail - Restaurant	225,000	1.040 [6]	234,000	--	--	--			
	Retail - Entertainment	190,000	0.480 [6]	91,200	--	--	--			
	Office	1,386,400	0.100 [5]	138,640	--	--	--			
	Hotel	298,000	0.480 [6]	143,040	--	--	--			
	Residential	--	--	--	1,160	175 [5]	203,000			
5	Residential	--	--	--	200	175 [5]	35,000	0.191	0.035	0.226
	Retail - Inline	62,000	0.076 [6]	4,712	--	--	--			
	Retail - Restaurant	25,000	1.040 [6]	26,000	--	--	--			
	Office	258,000	0.100 [5]	25,800	--	--	--			
	Hotel	280,000	0.480 [6]	134,400	--	--	--			
	Total:	**7,804,400**	**n/a**	**1,280,802**	**1,360**	**n/a**	**238,000**	**1.281**	**0.238**	**1.519**

1. Source: CU1 – Overall Utility Plan.pdf, provided by City staff via email
2. Source: Information from developer, provided by City staff via email
3. Estimated Non-Residential Flow = Gross Square Footage x Unit Flow Factor
4. Estimated Residential Flow = Number of Units x Unit Flow Factor
5. Source: City of Santa Clara 2007 Sanitary Sewer Capacity Assessment, Table 2-5.
6. Source: San Jose/Santa Clara Water Pollution Control Plant – Sewage Treatment Plant Connection Fees, Coefficients, and Rates, Exhibit E.

3 Model Results

As described earlier, the development discharges sewer into five loading manholes, and the flow is conveyed northward to the Rabello and Northside pump stations via two 42-inch lines. Hydraulic profiles of the sewers downstream of each loading manhole under PWWF conditions were reviewed. **Figure 2** below illustrates the loading manholes of each parcel and the downstream network configuration, and the PWWF results predicted by the model.

Figure 2: Summary of Model Results (2035 Loads and Design Storm PWWF)



As shown above, the model predicted that the downstream pipes of the development would be approaching full capacity with the additional flow, but no surcharge was triggered.

As previously stated, this analysis did not include any evaluation of the pump capacities of the Rabello and Northside pump stations. According to City staff, the total firm capacity[1] for both the Rabello and Northside stations is approximately 38.2 MGD[2]. The City is in the process of completing its Master Plan Update, which would determine the required improvements to increase the stations' firm capacity to accommodate the flow.

[1] Firm capacity is defined as the capacity of a pump station with the largest pump out of service.
[2] Source: Table 1- Pump Station Firm Capacities and Inflows, City of Santa Clara Sanitary Sewer Pump Station Evaluation, Schaaf & Wheeler, December 3, 2010.

Attachment to Development Agreement Ordinance and Rezoning Resolution
(City Place Santa Clara)

Between the City of Santa Clara
And
Related Santa Clara LLC

Purpose of This Attachment

Applicant Related Santa Clara LLC (Related) proposes to convert approximately 240 acres of property owned by the City of Santa Clara (City) to a new use: a multi-phased, mixed-use development called City Place Santa Clara (the Project). If approved by the City Council and regulatory agencies, the Project would demolish the existing buildings and on-site features and establish a new mixed-use City neighborhood with a defined center to serve as a focal point for a pedestrian-oriented "live, work, and play" environment. The Project would include up to 9.16 million gross square feet of office buildings, retail and entertainment facilities, residential units, and hotel rooms, and would also include surface and structured parking facilities. Parkland development and the provision of open space within the project site boundaries are included with Project implementation. In addition, the Project would include: large, shared gathering spaces throughout the Project site; new pedestrian and vehicular entrances and roadway networks; new roads; new, upgraded, and expanded infrastructure; and new utilities, with improvements to off-site connections.

Construction of the Project will proceed in phases in accordance with the above-identified Development Agreement between the City and Related. This Development Agreement and its associated Enacting Ordinance, along with a General Plan Amendment and rezoning of the site, constitute Project approvals that will be duly considered by the City Council when it exercises its discretion to approve the Project, disapprove the Project or approve the Project with modifications. Section 17.10.180 of the Santa Clara City Code (the City Code) provides that: "[b]efore the City Council may approve a development agreement with or without modifications, it must find that its provisions are consistent with the general plan and any applicable specific plans and relevant City policies and guidelines for development."

In Accordance with Sections 17.10.180, 18.56.040(a) and 18.56.060 of the City Code, this Attachment documents, based on substantial evidence contained in the whole of the record of proceedings, the Project's consistency with Major Strategies, Prerequisite Goals and Policies, and Individual Goals and Policies of the City General Plan.[1]

[1] The Project site is not located within any City Specific Plan Area or City Focus Area. Therefore, the goals and policies of the City's Specific Plan and Focus Areas are not applicable to the Project and are not further discussed.

Applicable Legal Standard

The ultimate finding of General Plan consistency for the purpose of project approval does not require that a project be entirely consistent with each individual General Plan policy. The law is clear that that no project could completely satisfy every policy stated in a general plan, and that state law does not impose such a requirement.[2] This is so because "policies in a general plan reflect a range of competing interests, [and] the [city] must be allowed to weigh and balance the plan's policies when applying them, and it has broad discretion to construe its policies in light of the plan's purposes."[3] Consequently, once a general plan is in place, it is the province of elected city officials to examine the specifics of a proposed project to determine whether it would be "in harmony" with the policies stated in the plan. *Id.*

A proposed project can have an overarching consistency with a general plan even though the project may not promote every single applicable goal and policy within that general plan. A project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment.[4] Project consistency can take at least two forms: (1) a project can be "actively consistent" with a general plan policy or goal where a project feature responds directly to that policy or goal; and (2) a project can be "passively consistent" with a general plan policy or goal where the project does not obstruct fulfillment of the policy or goal.

There are some minor discrepancies between the conclusions reached in this document and the land use discussion in the Draft Environmental Impact Report (DEIR). However, the DEIR is an informational document, whereas this is a decisional document. Further analysis, reflection, and determinations with respect to General Plan consistency have informed these findings.

Organization of This Attachment

The General Plan identifies three classes of objectives that will guide City development through 2035 as follows: (1) Major Strategies; (2) Prerequisite Goals and Policies; and (3) Individual Goals and Policies. Accordingly, this attachment first documents the Project's consistency (active and passive) with all applicable strategies, goals and policies. Thereafter, the attachment also identifies the goals and policies that do not apply to the Project and the reason(s) such goals and policies do not apply. Finally, this attachment identifies those goals and policies that the Project does not necessarily promote.

General Plan Consistency Findings

Major Strategies – Project Consistency

The Project is consistent with all seven of the Major Strategies defined in the General Plan. Major Strategies form the "foundation for [the City's] civic priorities and a framework for

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[2] *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.
[3] *See also, Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1510–1511; *Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal.App.4th 807, 816
[4] *Clover Valley Foundation v. City of Rocklin*, 197 Cal. App. 4th 200, 238.

decisions that shape the future growth and development of the City of Santa Clara." (General Plan, page 4-1) The seven Major Strategies are as follows:

Major Strategy 1 Enhance the City's High Quality of Life.

Major Strategy 2 Preserve and Cultivate Neighborhoods.

Major Strategy 3 Promote Sustainability.

Major Strategy 4 Enhance City Identity.

Major Strategy 5 Support Focus Areas and Community Vitality.

Major Strategy 6 Maintain the City's Fiscal Health and Quality Services.

Major Strategy 7 Maximize Health and Safety Benefits.

The Project will create mixed-use, transit-oriented development that will contribute to the City both economically and socially. Specifically, the Project will establish a new mixed-use City neighborhood with a defined center to serve as a focal point for a pedestrian-oriented "live, work, and play" environment complete with office buildings, retail and entertainment facilities, residential units, and hotel rooms. Thus, the Project will provide the City with a significant, new source of revenue and will create a place for City residents to work and socialize. Improving the City's fiscal health improves the kinds of services and amenities the City can provide to residents, which in turn improves their quality of life. Likewise, provision of a space where residents can gather, socialize and obtain a variety of goods and services also improves quality of life in the City overall.

The Project will not impair the preservation of existing neighborhoods. To the contrary, the Project will create a new, mixed-use urban neighborhood where none currently exists. As a mixed use project that includes office and retail uses, the Project will fit appropriately within the nearby commercial uses (Tasman East, Levi's Stadium and the City Convention Center). (Project EIR at 2-2.)

The Project will further the City's sustainability goals in numerous ways. The Project will construct bicycle and pedestrian pathways throughout to promote the use alternative forms of transportation. (Project EIR at 2-18.) The Project will pursue Leadership in Energy and Environmental Design (LEED) construction certification for the Project, including Neighborhood Development certification for the proposed City Center, LEED Gold certification for the proposed commercial buildings, and LEED Silver for the proposed residential buildings. (Project EIR at 2-20.) On-site solar is proposed as part of the Project design and it is expected that this will reduce electricity consumption by 10 percent. (Project EIR at 2-21.) The Project would also include water reduction strategies, such as the use of low-flow fixtures for faucets, water closets, and urinals. In addition, water for landscaping on the Project site would be irrigated by recycled water and the plants would be drought tolerant. Recycled water could also be considered for use in water features, mechanical cooling systems, and toilet flushing. The combined implementation of water conversation strategies could reduce indoor water demand by 10 percent and outdoor water demand by 20 percent. It is anticipated that on-site composting

and recycling programs would divert at least 50 percent of Project waste from regional landfills. (Project EIR at 2-21.) Thus, the Project will incorporate a multitude of features that will promote sustainability in water consumption, energy consumption, transportation and waste generation.

The Project will enhance City identity and vitality. The Project will create a unique entertainment space that will complement the other entertainment and destination centers in the immediate area (Levi's Stadium, the Convention Center, Great America, etc.) The Project could employ up to 29,230 people at buildout and would also provide venues for those employees and other City residents to enjoy food, beverages and entertainment during and after regular business hours. Thus, the Project site would facilitate sustained activity for large numbers of people year-round. The Project would enhance the City's image as a thriving metropolitan hub in the greater Silicon Valley where people can obtain high-quality goods and services and partake in a variety of leisure activities.

The Project will provide a new and significant source of lease and tax revenues for the City, thereby promoting its fiscal health and its capability to provide quality public services to its residents.

The Project will maximize health and safety benefits by implementing state of the art landfill protection systems and promoting a multi-modal environment for workers, residents, and those seeking recreation.

Prerequisite Goals and Policies – Project Consistency

The Project is consistent with the majority of the General Plan's Prerequisite Goals and Policies. Prerequisite Goals and Policies support the Major Strategies and generally recognize the importance of planning from the "big picture" perspective. They are intended to take into account the availability of public resources and infrastructure in order to enable the development identified in each phase of the Plan in the long-term, and not overburden existing community resources, such as schools, parks and utilities, in the short-term. The applicable Prerequisite Goals and Policies are identified below, and an explanation of Project consistency is provided.

Prerequisite Goal 5.1.1-G1 Cohesive, integrated planning that restrains premature development prior to the necessary supportive infrastructure has been programmed for each phase of the Progressive General Plan.

Prerequisite Goal 5.1.1-G2 General Plan policies that address changing community conditions or values.

Prerequisite Goal 5.1.1-G3 Adequate planning and implementation of infrastructure, services, amenities and public facilities for new neighborhoods and intensified development.

The Project will construct and/or fund upgraded transportation, utility, water and wastewater infrastructure to support all proposed development. For example, the Project will fund its fair share of the cost to upgrade City wastewater delivery system infrastructure to adequately accommodate all wastewater generated by the Project. (Project EIR at 3.14-28 to 3.14-30.) The Project will likewise fund and/or construct other upgrades and/or improvements to City utilities

and service systems so as not to overburden existing City infrastructure. (*See generally* Project EIR Section 3.14.) Thus, the Project will not create a situation where existing infrastructure is inadequate to serve the needs of new development. The Project will also set aside land within the project boundaries and provide funding for a new public park amenity on Parcel 3. The Project will construct streets, bike paths and walkways that will permit Project employees, Project visitors and members of the public to freely access the park.

The Project is responsive to, and consistent with the City's vision of the Project site and surrounding area as supporting a variety of entertainment uses. The uses in close proximity to the Project site include the Great America amusement park, the Levi's Stadium football, concert and event venue as well as the Convention Center and hotels. (Project EIR 2-2.) A portion of the Project is being designed as an entertainment district that will offer a variety of leisure activities (such as movie theaters and live entertainment venues), which will complement and support the surrounding entertainment venues.

> ***Prerequisite Goal 5.1.1-G4*** Development of a multimodal transportation system that reduces the reliance on owning and driving single-occupant vehicles.

The Project will support development and use of multi-modal transportation systems. The Project will provide bicycle facilities, bike paths, bike lanes and bike routes throughout the Project site to encourage the use of this mode of transportation over the use of the single-occupant vehicle. (*See* Project EIR Figure 3.3-28.) The Project will also be located within walking distance of Great America VTA light rail station, and the multi-modal Great America station served by the ACE commuter rail line and the AMTRAK Capitol Corridor commuter rail line. The Project is located within walking distance of the connecting terminal for eight different ACE public shuttle routes. (Project EIR at 3.3-169.) The Project will also make enhancements to the public transit station facilities, including capital improvements to the light rail station (Project EIR at 3.3-193) and signal improvements to support rapid shuttle bus facilities (Project EIR at 3.3-195). The fact that visitors to the Project and Project employees will have easy access to myriad forms of alternative transport will reduce the need for single-occupancy vehicle transport to and from the Project site.

> ***Prerequisite Policy 5.1.1-P1*** Prior to the implementation of Phase III of the General Plan, evaluate appropriate measures to maintain a parkland ratio of between 2.53 to 3.0 acres per 1,000 residents, consistent with City regulations.

> ***Prerequisite Policy 5.1.1-P2*** Prior to the implementation of Phase III of the General Plan, update and adopt the applicable Housing Element, in accordance with State law.

> ***Prerequisite Policy 5.1.1-P3*** Prior to the implementation of Phase III of the General Plan, undertake a comprehensive assessment of water, sanitary sewer conveyance, wastewater treatment, solid waste disposal, storm drain, natural gas, and energy demand and facilities in order to ensure adequate capacity and funding to implement the necessary improvements to support development in the next phase.

Prerequisite Policy 5.1.1-P4 Prior to the implementation of Phase III of the General Plan, evaluate the fiscal health and potential for a balanced budget in order to ensure ongoing adequate public services for existing, as well as for new, development.

Prerequisite Policy 5.1.1-P5 Prior to the implementation of Phase III of the General Plan, evaluate appropriate measures to maintain emergency response time standards.

Prerequisite Policy 5.1.1-P6 Prior to the implementation of Phase III of the General Plan, identify bicycle, pedestrian and transit improvements that could off-set at least ten percent of anticipated vehicle miles traveled from development assumed in that phase.

Prerequisite Policy 5.1.1-P24 Prior to the implementation of Phase III, the City will include a Community Risk Reduction Plan ("CRRP") for acceptable Toxic Air Contaminant ("TAC") concentrations, consistent with the Bay Area Air Quality Management District ("BAAQMD") CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participation process

The Project will not obstruct any of the above-described pre-Phase III implementation and evaluation activities. Moreover, the Project will promote a number of these policies in specific ways. The "Enhanced Open Space" Project variant will retain Parcel 3 as parkland, which the City did not include in its parkland inventory when it established its parkland dedication requirements, fees in lieu of parkland dedication, and parkland-to-resident ratio of 2.53:1000. Therefore the addition of Parcel 3 to the City's parkland inventory would significantly increase this ratio of parkland to residents, which supports Prerequisite Policy 5.1.1-P1. As already discussed above, the Project will fund and/or construct all utility and service infrastructure needed for its operation. (*See generally,* Project EIR at Section 3.14.) Thus, the Project will do its fair share to "ensure adequate capacity and funding to implement the necessary improvements to support development" in accordance with 5.1.1-P3 above. The Project will create a new, significant tax and revenue base, which furthers the City's policy of maintaining fiscal health (5.1.1-P4). The Project will construct a bicycle network throughout the Project site and connecting to offsite facilities in furtherance of Policy 5.1.1-P6 (Project EIR at Figure 3.3-28). Finally, the Project will provide for the hiring of additional firefighting personnel at the onsite Fire Station 10 or, alternatively, expand and modernize that fire station, either in its current position or elsewhere within the vicinity of the Project Site, in furtherance of Policy 5.1.1-P5. (Project EIR at 3.13-15 to 3.13.-17.)

Prerequisite Policy 5.1.1-P10 Prior to 2023, update the City's Climate Action Plan in order to continue to implement the City's sustainability and environmental quality Goals and Policies, including any necessary health impact assessment.

Prerequisite Policy 5.1.1-P11 Prior to 2023, update the City's Urban Water Management Plan and continue to encourage reduction in consumption.

Prerequisite Policy 5.1.1-P12 Prior to 2023, implement a mechanism to provide options for alternate vehicular Level of Service standards or other substantiated threshold as a City-wide criteria for streets and intersections under the City's jurisdiction, with exemptions for new development in Focus Areas identified in Section 5.4 for transit, pedestrian and/or bicycle priority.

Prerequisite Policy 5.1.1-P13 Prior to 2023, implement level of service standards for transit, bicycle and pedestrian facilities that support the vehicular level of service standard.

Prerequisite Policy 5.1.1-P14 Prior to 2023, complete, adopt, and regularly update a Regional Transportation Plan to address the Sustainable Community Strategy goals of AB32 (2006) and SB 375 (2008) by continuing to work with the Valley Transportation Authority and other responsible agencies.

Prerequisite Policy 5.1.1-P15 Prior to 2023, update the Bicycle and Pedestrian Master Plan to support the City's vision for improving walkability and pedestrian safety, including identification of potential funding opportunities for implementation.

Prerequisite Policy 5.1.1-P17 Prior to 2023, identify measures and funding opportunities for transportation services that connect transit stations to major attractions, hotels, commercial services, employment centers and residential neighborhoods within the City of Santa Clara.

Prerequisite Policy 5.1.1-P18 Prior to 2023, evaluate the potential effects of climate change trends and identify any available mechanisms to address sea level rise, if any.

Prerequisite Policy 5.1.1-P20 Prior to 2023, identify the location for new parkland and/or recreational facilities to serve employment centers and pursue funding to develop these facilities by 2035.

Prerequisite Policy 5.1.1-P21 Prior to 2023, identify and secure adequate solid waste disposal facilities to serve development in Phase III.

Prerequisite Policy 5.1.1-P23 Prior to 2023, complete a Parks and Open Space Needs Assessment (Parks Master Plan), or similar planning effort, to implement General Plan park and recreation policies, including potential adjustment to the parks/population ratio as well as identification of potential funding opportunities for new parkland and/or recreational facilities.

The Project will not obstruct the above pre-2023 identification, evaluation or updating activities. Moreover, the Project furthers several of the above policies in specific ways. The Project will create an extensive bike and pedestrian network throughout the Project site which will promote walkability to and from and well as across the site in furtherance of Policy 5.1.1-P15. (Project EIR Figure 3.3-28.) The Project will utilize a host of water reduction strategies including low-flow faucets and toilets as well as recycled water for all landscaping in furtherance of Policy 5.1.1-P11. (*See* Project EIR Chapter 2, Project Description; 3.14-25, fn 65.) The Project is

being constructed on a site that is within walking distance of three commuter rail lines, a light rail commuter line and a depot serving eight public shuttle routes (Project EIR 3.3-169.) in furtherance of Policy 5.1.1-P17. The Project will also make enhancements to the public transit station facilities, including capital improvements to the light rail station (Project EIR at 3.3-193) and signal improvements to support rapid shuttle bus facilities (Project EIR at 3.3-195). The Project will create a new park on Parcel three that will serve the Project employees and residents, as well as the public at large in furtherance of Policy 5.1.1-P20. The addition of this parkland to the City's inventory of parks will also significantly increase the ratio of parkland to residents, in furtherance of Policy 5.1.1-P23.

Individual Goals and Policies – Project Consistency

The General Plan contains individual goals and policies pertaining to: (1) land uses generally; (2) mixed uses specifically; (3) neighborhood compatibility generally; (4) mobility and transportation generally; (5) public facilities and services generally; and (6) environmental quality generally. The Project is consistent with the majority of the applicable individual goals and policies in each of these categories, as explained below.

Land Use Goals and Policies

Land Use Goal 5.3.1-G1 Reduced dependence on the single-occupant automobile

Land Use Goal 5.3.1-G3 Development that minimizes vehicle miles traveled, capitalizes on public investment in transit and infrastructure, and is compatible with surrounding uses.

As discussed above, the Project will support development and use of multi-modal transportation systems. The Project will provide bicycle facilities, bike paths, bike lanes and bike routes throughout the Project site to encourage the use of this mode of transportation over the use of the single-occupant vehicle. (*See* Project EIR Figure 3.3-28.) The Project will also be located within walking distance of Great America VTA light rail station, and the multi-modal Great America station served by the ACE commuter rail line and the AMTRAK Capitol Corridor commuter rail line. The Project is located within walking distance of the connecting terminal for eight different ACE public shuttle routes. (Project EIR at 3.3-169.) The Project will also make enhancements to the public transit station facilities, including capital improvements to the light rail station (Project EIR at 3.3-193) and signal improvements to support rapid shuttle bus facilities (Project EIR at 3.3-195). The fact that visitors to the Project and Project employees will have easy access to myriad forms of alternative transport will reduce the need for single-occupancy vehicle transport to and from the Project site. Although some Project visitors and employees will nevertheless elect to travel to and from the Project by car, which would incrementally increase overall vehicle miles traveled, the adjacency of the Project to numerous forms of public transit, as well as the Project's construction of infrastructure to support alternative forms of transportation makes the Project consistent with Goals 5.3.1-G1 and 5.3.1-G3.

Land Use Goal 5.3.1-G2 Consistency between new development, the General Plan, Zoning Ordinance, Capital Improvements Program and other implementing regulations.

The Project site is well situated within an area hosting a variety of entertainment venues and business-related facilities including the Hyatt Regency Hotel, the Hilton Hotel, the Convention Center, Great America Amusement Park, and the Santa Clara Gateway office complex and Levi's Stadium.[5] (Project EIR at Figure 2-1.) The surrounding land is zoned to accommodate these uses. The Project proposes uses similar to those surrounding it, including office uses, retail and entertainment uses and hotel uses. (Project EIR at 2-1.) As part of the Project approval process the General Plan will be amended and the Project site will be rezoned for "Urban Center/Entertainment District" uses within the Mixed-Use land use classification. The Project will not only be consistent with the General Plana and applicable zoning regulations, but will also be consistent with the types of uses surrounding it.

Land Use Goal 5.3.1-G4 Opportunities for public participation in the review process for new development and other related planning efforts.

Land Use Policy 5.3.1--P2 Encourage advance notification and neighborhood meetings to provide an opportunity for early community review of new development proposals.

Land Use Policy 5.3.1-P26 Support a community-initiated planning process so that existing neighborhoods can participate in developing more detailed plans for street, landscape and pedestrian facility improvements.

Members of the public were able to participate in the Project review process in accordance with the State CEQA statutes and guidelines. An NOP for Parcel 5 was published on July 10, 2014, for a 30-day review period, with a public scoping meeting on July 31, 2014. An NOP for Parcels 1-4 was released on July 30, 2014, and the public scoping meeting was held on August 12, 2014. The comments received during the NOP comment periods have been considered and addressed throughout the Draft EIR, which was released for a 60-day public review period from October 9, 2015 to December 8, 2015, during which time public participation and comment was strongly encouraged. Comments received during that period were addressed in the Final EIR, which was released to the public for review on April 19, 2016. Members of the public were given 20 days to review and comment on the Final EIR.

Notice of public meetings on the Project were delivered to all properties and neighborhoods located in proximity to the Project site. Meetings related to Project development and environmental review were advertised in the local City newspaper. In addition to the EIR public review process, public participation will also occur throughout Project development, including at public hearings for Project entitlement approvals and design review. (Project EIR at 3.1-22.) Moreover, in addition to the public hearings before the Planning Commission and City Council

[5] The Project is separated from residential uses to the East by the Guadalupe River.

to consider the Project Approvals, the City conducted five study sessions, during which members of the public were given an opportunity to participate.

Land Use Policy 5.3.1-P1 Preserve the unique character and identity of neighborhoods through community-initiated neighborhood planning and design elements incorporated in new development.

Land Use Policy 5.3.1-P3 Support high quality design consistent with adopted design guidelines and the City's architectural review process.

Land Use Policy 5.3.1-P4 Encourage new development that meets the minimum intensities and densities specified in the land use classifications or as defined through applicable Focus Area, Neighborhood Compatibility or Historic Preservation policies of the General Plan.

Land Use Policy 5.3.1-P5 Implement a range of development densities and intensities within General Plan land use classification requirements to provide diversity, use land efficiently and meet population and employment growth.

Land Use Policy 5.3.1-P6 Allow planned development only if it is consistent with General Plan land use density and intensity requirements and provides a means to address unique situations to achieve high community design standards that would otherwise not be feasible.

Land Use Policy 5.3.1-P8 Work with property owners to improve or redevelop underutilized and vacant properties.

Land Use Policy 5.3.1-P19 Maximize opportunities for the use and development of publicly-owned land to achieve the City's economic development objectives and to provide public services and amenities.

Land Use Policy 5.3.1-P20 Encourage uses and development on City-owned and leased land that is consistent with the General Plan land use classification or applicable Focus Area, Neighborhood Compatibility or Historic Preservation Policies.

Land Use Policy 5.3.1-P25 Provide gateway signage at key entries into the City of Santa Clara, if feasible.

Project buildings, as seen from residential neighborhoods across the Guadalupe River and south of Tasman Drive, would not be a significant feature. Because of distance and intervening river, structures and vegetation, views of the buildings from existing neighborhoods would be largely blocked. (*See generally,* Project EIR section 3.2.) The proposed buildings would reflect an architectural design that would be similar to that of existing compatible development in the area. Moreover, the Master Community Plan for the Project will include design guidelines and development standards for site planning, architectural character, landscaping, signage, and lighting. Individual parcel development would be required to adhere to the design guidelines in the Master Community Plan adopted by the City for the Project. Therefore, the Project would not

change the unique character or identity of neighborhoods and will necessarily construct high quality, visually pleasing structures consistent with design guidelines. (*Id.*)

As discussed above, the Project will be consistent with the General Plan's Mixed-Use sub classification of Urban Center/Entertainment District that will apply to the Project site and development density, intensity and diversity will be consistent with this land use classification. (*See also,* Project EIR at 3.1-17 to 3.1-18.) As also noted above, the Project site is not within a Focus Area or Future Focus Area and therefore those specific policies are not applicable to the Project. As discussed below, the Project site does not contain any historic resources and will therefore not impair any policies pertaining to their preservation.

The City owns the land on which the Project will be constructed and operated. The land currently generates little revenue for the City as compared to the lease and tax revenues that will be generated once the Project's high-quality office, retail and entertainment uses are constructed on this City land. Thus, the Project will improve and redevelop underutilized City property to provide the City with increased revenue so that it can provide improved services to City residents.

Under the Master Community Plan, the Project is obligated to provide major gateway signage in accordance with Policy 5.3.1-P25. The purpose of such signage is to enhance Project identity and establish a welcoming point of arrival.

> ***Land Use Policy 5.3.1-P9*** Require that new development provide adequate public services and facilities, infrastructure, and amenities to serve the new employment or residential growth.

As discussed above, the Project will fund and/or construct all utility and services infrastructure necessary to serve it. The Project also will provide extensive amenities as part of the City Center retail/entertainment district.

> ***Land Use Policy 5.3.1-P10*** Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

Construction and operation of the Project would necessarily result in removal of trees at the Project site in order to provide updated landfill monitoring systems and the construction of project infrastructure. However, the Project will replace removed trees at a 2:1 ratio. Therefore, the Project would plant approximately 2,810 trees, either at the Project site or off-site in accordance with Policy 5.3.1-P10. (Project EIR at 3.1-23.)

> ***Land Use Policy 5.3.1-P11*** Encourage new developments proposed within a reasonable distance of an existing or proposed recycled water distribution system to utilize recycled water for landscape irrigation, industrial processes, cooling and other appropriate uses to reduce water use consistent with the CAP.

The Project site is currently connected to a recycled water system for irrigation of the golf course. The Project site would be irrigated with recycled water, which may also be considered

for use in water features, mechanical cooling systems, and toilet flushing. The San José/Santa Clara Water Pollution Control Plant's South Bay Water Recycling facility is located northeast of the Project site. The proposed recycled water distribution system for the Project site would be designed so that each parcel would have its own internal distribution system. The recycled water system for each parcel would have two points of connection to maintain recycled water service at all times. (Project EIR at 3.1-23.)

> ***Land Use Policy 5.3.1-P12*** Encourage convenient pedestrian connections within new and existing developments.

> ***Land Use Policy 5.3.1-P13*** Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.

As discussed above, the Project will construct and maintain a complete bike and pedestrian pathway network throughout the Project site. As discussed above, the Project is located within walking distance of light rail commuter transit, commuter train transit and public shuttle transit.

> ***Land Use Policy 5.3.1-P14*** Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the CAP.

Transportation Demand Management (TDM) strategies will be required for the Project in accordance with Mitigation Measure TRA-1.1 and would help reduce the number of vehicle trips to/from the Project site. On-site design measures may include secured bicycle facilities and preferred carpool and vanpool parking. Participation by major employers in programs that would reduce VMT would be encouraged, potentially including efforts that would promote private commuter bus service, carpooling, vanpooling, ridesharing, parking management, subsidized transit passes for employees, telecommuting, and flexible work schedules. Additionally, bicycle and pedestrian connections and amenities would be constructed throughout the Project site to encourage alternate modes of transportation. With an amendment to the Climate Action Plan (CAP), as discussed in Section 3.5, *Greenhouse Gas Emissions*, it is considered feasible for the Project to meet the VMT reductions called for by CAP Measure 6.1. (Project EIR at 3.1-24.)

> ***Land Use Policy 5.3.1-P15*** Require new developments and major public infrastructure projects to include adequate rights-of-way to accommodate all modes of transportation.

A new on-site street network, composed of both public and private streets, and improvements to some of the off-site roadways and intersections outside of the Project site would be constructed to serve the Project. Refer to Policy 5.3.1-P12 for a discussion of pedestrian amenities. The proposed bicycle facilities are described in Chapter 2, *Project Description*. Adequate rights-of-way would be provided to accommodate all modes of transportation. (Project EIR at 3.1-24.)

> ***Land Use Policy 5.3.1-P16*** Consolidate curb cuts with new development on arterial roadways to minimize pedestrian/vehicle conflicts at driveway locations and improve traffic flow.

New driveways/vehicular access points would be provided on Great America Parkway (from the Convention Center and, potentially, from Santa Clara Gateway), Lafayette Street, and Tasman Drive (via Tasman East). The Project would install signalized intersections and appropriate pedestrian facilities at these new access points on the existing arterial roadways, as described in Chapter 2, *Project Description.* Therefore, the pedestrian/ vehicle conflicts at driveway locations would be minimized, and traffic flow would most likely be minimally affected. (Project EIR at 3.1-24.)

> ***Land Use Policy 5.3.1-P17*** Promote economic vitality by maintaining the City's level of service for public facilities and infrastructure, including affordable utilities and high quality telecommunications.

As discussed above, the Project will fund and/or construct all utility and services infrastructure necessary for Project operation so as not to burden existing City infrastructure.

> ***Land Use Policy 5.3.1-P24*** Coordinate sign programs for commercial uses to promote continuity, improve streetscape design and reduce visual clutter.

Signage installed at the Project site would be required to adhere to the design guidelines in the Master Community Plan for the Project to be adopted by the City Council. Individual parcel development would be required to adhere to the design guidelines in the Master Community Plan and Development Area Plan for each parcel. (Project EIR at 3.1-25.)

> ***Land Use Policy 5.3.1-P27*** Encourage screening of above-ground utility equipment to minimize visual impacts.

The Project would include screening of aboveground utility equipment to minimize visual impacts. Screening would be consistent with the design guidelines adopted for the Project in the Master Community Plan for the Project and Development Area Plan for each parcel. (Project EIR at 3.1-25.)

> ***Land Use Policy 5.3.1-P29*** Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

As discussed above, Project development would be required to adhere to the design guidelines and development standards in the Master Community Plan for the Project. Adherence to the design guidelines in the Master Community Plan for the Project and Development Area Plan for each parcel would integrate the Project with nearby development, which includes Levi's Stadium, the Convention Center, Santa Clara Gateway, and other nearby developments. (Project EIR at 3.1-25.)

> ***Land Use Policy 5.3.1-P30*** Resolve any conflicts between proposed development, plans or funding for improvements and the Land Use Diagrams, Transportation and Mobility Diagrams or text through a General Plan Amendment in order to evaluate the implications of the proposal as well as to ensure the required internal consistency for the Plan.

As discussed above, the Project approval proposal includes amendment of the General Plan land use designation for the Project site to ensure Project consistency with the applicable General Plan Land Use Diagrams, Transportation and Mobility Diagrams and text such that the Project will be consistent with Policy 5.3.1-P30.

> ***Land Use Policy 5.3.1-P33*** Implement, and regularly update, the City's adopted Climate Action Plan to reduce greenhouse gas emissions and meet the established goals consistent with State regulations.

As discussed in Section 3.5, *Greenhouse Gas Emissions*, with implementation of Mitigation Measure GHG-1.2 and the Climate Action Plan amendment, the Project would be consistent with all of the required CAP measures for new development. Please refer to the discussion in Impact GHG-3 in Section 3.5, *Greenhouse Gas Emissions*.

Mixed Use Goals and Policies

> ***Mixed Use Goal 5.3.4-G1*** Mixed-use development that is located and designed to support high quality uses and the City's economic development.
>
> ***Mixed Use Goal 5.3.4-G2*** Mixed-use development of a scale and character that is compatible with surrounding neighborhoods.
>
> ***Mixed Use Goal 5.3.4-G3*** Mixed-use development that maximizes accessibility to alternate transportation modes and integrates pedestrian, bicycle, transit, open space and outdoor uses to encourage active centers.
>
> ***Mixed Use Goal 5.3.4-G4*** Commercial uses that provide a pedestrian-oriented streetscape, with residential uses either above or behind.
>
> ***Mixed Use Policy 5.3.4-P13*** Encourage pedestrian linkages in mixed-use areas through measures such as enhanced lighting, curb bulb-outs, mid-block pedestrian crossings, pedestrian "refuge" areas in planted medians and pedestrian-oriented building frontages.
>
> ***Mixed Use Policy 5.3.4-P14*** Provide a network of streets and pedestrian connections in large mixed-use developments.
>
> ***Mixed Use Policy 5.3.4-P15*** Maximize opportunities to connect streets, bicycle facilities and pedestrian pathways to improve accessibility between mixed-use development and surrounding neighborhoods, parks, open spaces, transit and public amenities. Provide clear signage, high visibility, adequate lighting and special paving to enhance pedestrian and bicycle facilities.
>
> ***Mixed Use Policy 5.3.4-P11*** Foster active, pedestrian-oriented uses at the ground level, such as retail shops, offices, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development.

As discussed above, the Project will boast a variety of uses that will provide a significant, new source of revenue for the City. As discussed above, Project compliance with the Master Community Plan is mandatory and will ensure that Project development and character is compatible with the surrounding uses. As discussed above the Project will construct a robust bicycle and pedestrian network throughout the site to create a pedestrian-oriented streetscape and promote alternative modes of transportation.

As already discussed above, the Project will construct internal streets throughout the Project as well as pedestrian and bicycle pathways. These thoroughfares will connect Project visitors to the City operated park on Parcel three as well as to the adjacent entertainment, office and commercial uses. As already discussed above, the Project is within walking (and biking) distance from multiple forms of public transit. Although the Project is not adjacent to any neighborhood, residents in the neighborhoods east and south of the Project site and across the Guadalupe River could access the Project by bike or by foot via river overcrossings and public streets and paths.

Mixed Use Policy 5.3.4-P2 Encourage mixed-use development in proximity to employment centers and residential neighborhoods throughout the City.

Mixed Use Policy 5.3.4-P4 Require mixed-use development to meet the density and intensity specified in the land use classifications.

The Project will be located in an area that functions as an employment center (e.g. adjacent office uses and hotel uses employ a number of people full-time), but will also, in and of itself, create an employment center because it include proposed office, retail and hotel uses. The Project also proposes construction of residential units, and those residential units would be in very close proximity to the Project employment uses. Although not directly adjacent to the Project site, there are residential uses to the south of the Project that would be in general proximity to the employment opportunities offered by the Project in conformance with Policy 5.3.4-P2.

The Project site will be rezoned as an Urban Center/Entertainment District mixed use location. Master planned projects such as this Project are encouraged in Urban Center/Entertainment District areas because this zoning designation is meant to accommodate a higher density urban form that includes a variety and mix of commercial activities serving residents, businesses and visitors from the local community and surrounding region. (Project EIR 3.1-17 to 3.1-18). Because the Project proposes to establish a density of uses specified in this land use classification, the Project is consistent with Policy 5.3.4-P4.

Mixed Use Policy 5.3.4-P5 Encourage mixed-use development site planning and design to implement the elements illustrated in Figures 7.3-2 and 7.3-3, including street tree planting along all streets.

Mixed Use Policy 5.3.4-P6 Locate a neighborhood square or plaza within large mixed-use developments.

Mixed Use Policy 5.3.4-P7 Use design techniques, such as stepping down building heights, and siting incompatible activities, such as loading and unloading, away from residential uses.

Mixed Use Policy 5.3.4-P8 Encourage building heights of up to five stories in large mixed-use developments along arterial street frontages, with the potential for taller buildings north of the Caltrain corridor.

Mixed Use Policy 5.3.4-P9 Encourage ground-level windows and building entries that support a visual connection to activities.

Mixed Use Policy 5.3.4-P10 Require parking to be substantially below-grade or in structures with active uses along streets.

Mixed Use Policy 5.3.4-P12 Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation.

As discussed above, compliance with the Master Community Plan for the Project is required. The Master Community Plan for the Project includes design guidelines and development standards for site planning, architectural character, landscaping, signage, and lighting. Compliance with the Master Community Plan will ensure that the Project is consistent with the foregoing policies.

Commercial and Residential Goals and Policies

Residential Goal 5.3.2-G1 Equitable housing opportunities within the community for persons of all economic levels, regardless of religion, gender, sexual orientation, marital status, national origin, ancestry, familial status, race, color, age, source of income or mental or physical disability.

Residential Goal 5.3.2-G2 A variety of housing types, sizes, location and tenure in order to maintain social and economic diversity in the City.

Residential Goal 5.3.2-G3 Affordable housing units dispersed throughout the City to avoid a concentration in any one neighborhood.

Residential Goal 5.3.2-G4 Respect for the existing character and quality of adjacent neighborhoods from new residential development and redevelopment.

Residential Goal 5.3.2-G5 Compliance with all State and federal regulations related to housing opportunities and the prevention of discrimination.

Residential Policy 5.3.2-P1 Encourage the annual construction of the housing units necessary to meet the City's regional housing needs assessment by reducing constraints to housing finance and development.

Residential Policy 5.3.2-P2 Encourage higher-density residential development in transit and mixed-use areas and in other locations throughout the City where appropriate.

Residential Policy 5.3.2-P3 Encourage below-grade parking and parking structures for development in Medium Density and High Density designations.

Residential Policy 5.3.2-P4 Encourage indoor and outdoor private and common spaces as part of all new residential developments, including clustering of units to maximize open space opportunities where appropriate.

Residential Policy 5.3.2-P6 Provide adequate choices for housing tenure, type and location, including higher density, and affordability for low- and moderate-income and special needs households.

Residential Policy 5.3.2-P7 Construct and preserve affordable housing for low- and moderate-income households through the use of public subsidies, regulatory incentives and flexible development standards.

Residential Policy 5.3.2-P8 Require new residential development to comply with applicable regulations for the provision of affordable housing.

Residential Policy 5.3.2-P9 Encourage senior and group residential facilities, and affordable housing developments near neighborhood retail, support services and transit facilities.

Residential Policy 5.3.2-P10 Create opportunities for affordable housing and housing to support special needs populations, including Extremely Low Income households.

Residential Policy 5.3.2-P11 Maintain the existing character and integrity of established neighborhoods through infill development that is in keeping with the scale, mass and setbacks of existing or planned adjacent development.

Residential Policy 5.3.2-P12 Participate in housing programs that provide support services to residents in need.

Residential Policy 5.3.2-P13 Participate in local, regional, State and federal programs that support affordable, transitional and permanent housing.

Residential Policy 5.3.2-P14 Foster public outreach efforts to inform residents and potential developers of available City housing programs.

Residential Policy 5.3.2-P15 Ensure that developments receiving public subsidies maintain an equitable distribution of unit types between market rate and affordable units.

Residential Policy 5.3.2-P16 Continue to evaluate and provide programs that encourage upkeep and investment of residential properties throughout the City.

Residential Policy 5.3.2-P17 Provide code enforcement support for residential neighborhoods in conformance with City regulations.

Residential Policy 5.3.2-P21 Encourage new housing developments to incorporate design features, programs and incentives for increased transit ridership and decreased parking demand.

Residential Policy 5.3.2-P22 Allow residential gardens to be credited toward development landscaping requirements where appropriate

The Project would not obstruct the implementation of the foregoing goals and policies and will specifically further several of the foregoing policies.

As discussed above, the Project will construct residential housing units in a high-quality, mixed-use entertainment venue project within walking distance of myriad forms of public transportation consistent with Policy 5.3.2-P2. The Project proposes underground parking on parcels not located above the landfill and a parking structure for the mixed uses on site consistent with Policy 5.3.2-P3. (Project EIR at 3.1-26.) The Project will construct a park on Parcel three and will also contain a number of outdoor plazas for Project residents to enjoy consistent with Policy 5.3.2-P4. (Project EIR at 2-35.)

Views of the Project site are largely blocked from nearby residential neighborhoods in Santa Clara (to the south), San José (to the north and east), and Sunnyvale (to the west). However, because of the building heights proposed, some buildings might be visible at a distance. The Project buildings would appear integrated and visually consistent with surrounding development in the overall landscape. In addition, individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan and Development Area Plan for each parcel, which would integrate the Project with nearby residential development consistent with Goal 5.3.2-G4.

The Project would include mixed-use development that would be compatible in scale and character with surrounding buildings and surrounding uses, including Levi's Stadium and the Convention Center, and the Santa Clara Gateway office complex. Because of distance and intervening vegetation and structures, the Project site is separated from surrounding residential neighborhoods. Individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan and Development Area Plan for each parcel, which would allow for the Project to be similar to existing or planned adjacent development with respect to scale, mass, and setbacks, consistent with Policy 5.3.2-P11.

Housing tenure on the project site will be limited to rental tenancy insofar as the underlying land remains in City ownership. Should rental units be converted to owner-occupancy units in the future, such conversion would be subject to all applicable affordable housing regulations in accordance with Policy 5.3.2-P8 as documented in the Development Agreement for the Project.

The Project would include appropriate design features and incentives for increased transit ridership, such as pedestrian connections to nearby transit stops and decreased parking demand. The residential units would be located within walking distance (i.e., 5 to 10 minutes)

of several local and regional transit facilities, which would encourage their use. In addition, the Project Developer would be required to implement a TDM plan, which would help increase transit ridership consistent with Policy 5.3.2-P21.

Commercial Goal 5.3.3-G1 A variety of retail, commercial and neighborhood office uses throughout the City, consistent with the intensities defined in the commercial land use classifications.

Commercial Goal 5.3.3-G2 Quality commercial uses throughout the City, particularly along key transportation corridors.

Commercial Goal 5.3.3-G3 Sufficient commercial services for residents and businesses that are accessible using alternate transportation modes.

Commercial Goal 5.3.3-G4 New commercial uses that respect surrounding neighborhoods and are sited to reduce potential land use conflicts.

Commercial Policy 5.3.3-P1 Provide a mix of retail and commercial uses to meet the needs of local customers and draw patrons from the greater region.

Commercial Policy 5.3.3-P2 Promote the consolidation of retail uses at key locations in order to increase the synergy with existing businesses and attract new complementary establishments.

Commercial Policy 5.3.3-P3 Encourage all commercial development to include neighborhood-oriented stores and amenities.

Commercial Policy 5.3.3-P4 Promote community events, such as farmers' markets and street festivals within the public right-of-way and on City-owned land, in order to support economic development, business retention, and healthy food options within the City.

Commercial Policy 5.3.3-P5 Encourage public amenities and active uses in commercial centers and along commercial corridors.

Commercial Policy 5.3.3-P6 Encourage neighborhood retail uses within a ten-minute walk of residential uses throughout the City.

Commercial Policy 5.3.3-P7 Encourage adequate protection of adjacent residential uses from incompatible commercial activities, such as loading, unloading and trash storage areas.

Commercial Policy 5.3.3-P8 Require quality design for new and redeveloped commercial uses to support the City's economic development objectives.

Commercial Policy 5.3.3-P9 Encourage below-grade parking in higher intensity commercial centers.

Commercial Policy 5.3.3-P10 Encourage new grocery stores near residential neighborhoods to provide Santa Clara residents with access to fresh and healthy food options.

Commercial Policy 5.3.3-P11 Encourage the addition of cultural and entertainment uses and mid-sized grocery stores to the City's retail mix, particularly in Neighborhood, Community and Regional Commercial designations.

Commercial Policy 5.3.3-P12 Support the continued tourist-oriented commercial uses in the Bayshore North area, including lodging, entertainment, sports facilities, recreation and retail uses.

Commercial Policy 5.3.3-P13 Provide opportunities for commercial businesses, particularly in pedestrian oriented development, to increase outdoor activities, such as dining or public plazas within adjacent on-street parking areas

Commercial Policy 5.3.3-P14 Allow convenience commercial uses and service stations, existing as of January 1, 2010, to conform to General Plan classification of Neighborhood Commercial, Community Commercial and Regional Commercial. New convenience commercial uses and service stations are restricted to the Community Commercial and Regional Commercial designations.

Commercial Policy 5.3.3-P15 Discourage auto-oriented uses, such as repair shops and service stations, from properties abutting residential uses and in areas with a pedestrian or mixed-use emphasis.

The Project will not obstruct the implementation of the foregoing policies and will specifically further the majority of these policies.

As discussed above, the Project will provide a variety of retail, and office uses throughout the City, consistent with the Urban Center/Entertainment District land use Designation in furtherance of Goal 5.3.3-G1. These amenities and service are intended to attract regional visitors from across Silicon Valley in furtherance of Policy 5.3.3-P12.

The Project will provide quality commercial uses adjacent to VTA light-rail service, local bus routes, and a regional train station that is served by Amtrak, Capital Corridor, and ACE consistent with Goal 5.3.3-G3.

The Project will create a complete pedestrian network throughout the Project that will also link to pedestrian networks beyond the Project site. Thus, the Project will make it possible for pedestrians to easily access the commercial, retail and office uses the Project proposes to construct in furtherance of Policy 5.3.3-P13.

Retail and commercial uses on the site would be accessible for bicyclists and pedestrians with the construction of new sidewalks and bicycle paths. Additionally, because density would be increased, retail and commercial uses would be more concentrated on the site and, therefore, more accessible to alternate transportation modes consistent with Policy 5.3.3-P13.

New commercial (retail) uses would be concentrated mainly in the southern portion of the Project site (Parcels 2, 4, and 5), which would help reduce potential land use conflicts by concentrating retail uses in areas that would be most accessible by alternate modes of transit. This would encourage a reduction in the amount of vehicle traffic generated from the new retail uses on the Project site by diverting vehicle traffic to alternate modes of transit. In addition, the retail uses would be easily accessible from the neighborhoods to the south of Tasman Drive. Regardless, the Project site would be visually and physically separated from the surrounding residential neighborhoods. Office uses would be distributed throughout the Project site, with the largest concentration in the northern parcels. These commercial uses would still be accessible to local and regional public transit and located away from neighborhoods to reduce land use conflicts consistent with Goal 5.3.3-G4 and Policy 5.3.3-P2.

Office and Industrial Land Use Goals and Policies

Office and Industrial Goal 5.3.5-G1 A City that continues to be a major employment center in Silicon Valley.

Office and Industrial Goal 5.3.5-G2 Sufficient industrial land that meets the demand for local employment and retains the City's economic base.

Office and Industrial Goal 5.3.5-G3 Higher-intensity employment centers located near major transit services and major transportation corridors to reduce vehicle miles traveled.

Office and Industrial Goal 5.3.5-G4 Heavy and Light Industrial areas that reduce exposure to hazardous materials by precluding sensitive receptors and places of assembly.

Office and Industrial Policy 5.3.5-P1 Work with existing Santa Clara businesses to retain and expand employment opportunities and strengthen the existing tax base.

Office and Industrial Policy 5.3.5-P2 Encourage existing businesses that may be displaced by new development to relocate within Santa Clara.

Office and Industrial Policy 5.3.5-P3 Encourage industrial development to participate in the identification and funding of 25 acres for park and recreational facilities to serve employment centers north of the Caltrain railroad tracks.

Office and Industrial Policy 5.3.5-P4 Allow Office/Research and Development uses existing as of January 1, 2010, to conform to the General Plan intensity provisions of either the Low Intensity classification or High Intensity Office/Research and Development classification, regardless of the designation of the property.

Office and Industrial Policy 5.3.5-P5 Allow the development of Office/Research and Development uses in varied configurations and intensities to meet the needs of existing and new businesses.

Office and Industrial Policy 5.3.5-P6 Encourage innovative design of new office space to promote higher-intensity new development and on-site expansion of existing uses.

Office and Industrial Policy 5.3.5-P7 Require building heights to conform to the requirements of the Federal Aviation Administration, where applicable.

Office and Industrial Policy 5.3.5-P8 Encourage the provision of services and amenities as part of larger developments in employment areas that cater to lunchtime and service needs, such as dry cleaners, to reduce vehicle miles traveled.

Office and Industrial Policy 5.3.5-P10 Encourage employee-serving amenities, such as restaurants, cafes and supporting commercial uses, to meet the needs of employees in High Intensity Office/Research and Development areas by excluding such uses from the Floor Area Ratio for development.

Office and Industrial Policy 5.3.5-P12 Promote development, such as manufacturing, auto services and data centers, in Light and Heavy Industrial classifications to compliment employment areas and retail uses.

Office and Industrial Policy 5.3.5-P13 Prohibit development on Heavy Industrial designated properties from exceeding the intensity or including uses beyond those defined in the land use classification.

Office and Industrial Policy 5.3.5-P14 Prohibit Data Centers from properties designated High Intensity Office/Research and Development except as support to the primary use on the property.

Office and Industrial Policy 5.3.5-P15 Require a comprehensive and cumulative analysis of the potential effects on the City's economic development objectives for any proposed conversion of industrially designated land to nonindustrial uses, except those designated as Future Focus Areas on the Land Use Diagram.

Office and Industrial Policy 5.3.5-P16 Protect the industrial land use designations from incompatible uses in order to maintain the City's strong fiscal health and quality services that are supported by new businesses and technologies and retention of well-established existing businesses.

Office and Industrial Policy 5.3.5-P17 Prohibit places of assembly, such as religious institutions, schools and uses catering predominately to sensitive receptors, such as children and the elderly, as well as entertainment uses south of U.S. Highway 101, such as clubs, theaters and sports venues, from sites designated as Light or Heavy Industrial and in areas designated High or Low Intensity Office/Research and Development outside the Exception Areas.

The Project would not obstruct the implementation of the foregoing goals and policies, and would specifically further several of the goals and policies.

As discussed above the project will construct office uses within walking distance of a numerous forms of public transit consistent with Goal 5.3.5-G3. The Project will create thousands of permanent jobs consistent with Goal 5.3.5-G1.

As discussed above, compliance with the Master Community Plan for the Project is required. The Master Community Plan for the Project includes design guidelines and development standards for site planning, architectural character, landscaping, signage, and lighting. Compliance with the Master Community Plan will ensure the office space is constructed using innovative designs and a variety of configurations in furtherance of Policies 5.3.5-P5 and 5.3.5-P6.

Project building heights would not exceed 219 feet above msl, which is consistent with FAA hazard height limits at SJC consistent with Policy 5.3.5-P7.

At a minimum, lunchtime and service needs would be provided at Parcels 4 and 5 to reduce VMT during the workday. In addition, retail and restaurant services on Parcel 4 would be easily accessible for employees at Parcels 1, 2, 3, and 5, consistent with Policy 5.3.5-P8 and Policy 5.3.5-P10. (Project EIR at 3.1-29.)

The Project would include a 34.8 acre park encompassing all of Parcel 3 and Parcel 3 would be reserved exclusively for park uses in furtherance of Policy 5.3.5-P3.

Neighborhood Compatibility Goals and Policies

Neighborhood Compatibility Goal 5.5.2-G1 High quality, enjoyable and livable neighborhoods

Neighborhood Compatibility Goal 5.5.2-G2 Preservation of the character of individual neighborhoods.

Neighborhood Compatibility Policy 5.5.2-G3 New development that is compatible with adjacent existing and planned residential neighborhoods.

As discussed above, the Project will construct a high quality mixed-use development with hotel, retail, office and entertainment uses similar to those surrounding the Project site to ensure Project compatibility with adjacent uses.

Neighborhood Compatibility Policy 5.5.2-P1 Require that new development incorporate building articulation and architectural features, including front doors, windows, stoops, porches or bay windows along street frontages, to integrate new development into existing neighborhoods.

Neighborhood Compatibility Policy 5.5.2-P2 Implement design review guidelines for setback, heights, materials, massing, articulation and other standards to support Transition Policies and promote neighborhood compatibility.

Neighborhood Compatibility Policy 5.5.2-P9 Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility.

Neighborhood Compatibility Policy 5.5.2-P10 Encourage below-grade parking to accommodate parking demand in order to reduce overall building height and massing in transition areas.

Neighborhood Compatibility Policy 5.5.2-P11 Restrict loading, trash and noise-generating activities to protect adjacent residential uses.

Neighborhood Compatibility Policy 5.5.2-P12 Screen loading and trash areas to preclude visibility from off-site and public streets.

As discussed above, compliance with the Master Community Plan for the Project is required. The Master Community Plan for the Project includes design guidelines and development standards for site planning, architectural character, landscaping, signage, and lighting. Compliance with the Master Community Plan will ensure that the Project is consistent with the foregoing policies. For example, compliance with the Master Community Plan would ensure that trash collection areas and loading areas were properly screened from public streets and the residences constructed on the Project site. (Project EIR at 3.2-29.)

Neighborhood Compatibility Policy 5.5.2-P3 Implement site design solutions, such as landscaping and increased building setbacks, to provide a buffer between non-residential and residential uses.

Neighborhood Compatibility Policy 5.5.2-P5 Require that new development provide an appropriate transition to surrounding neighborhoods

No residential uses are adjacent to the Project site. Residential uses to the east are separated from the Project site by the Guadalupe River. As discussed above, because of distance and intervening river, structures and vegetation, views of the buildings from existing neighborhoods would be largely blocked, creating a visual buffer. (*See generally,* Project EIR section 3.2.)

With respect to the surrounding, similar office and entertainment venue uses, the Project's compliance with the Master Community Plan will ensure that all Project buildings would reflect an architectural design that would be similar to that of existing surrounding development

Neighborhood Compatibility Policy 5.5.2-P13 Offer opportunities for developed neighborhoods to initiate planning efforts to provide a vision for future streetscape design and neighborhood character.

As discussed above, if the Project is approved, all members of the public, including those residing in nearby neighborhoods will have the opportunity to participate in the subsequent entitlement and design review processes for the Project.

Archeological and Cultural Resources Goals and Policies

Archeological and Cultural Resources Goal 5.6.3-G1 Protection and preservation of cultural resources, as well as archaeological and paleontological sites.

Archeological and Cultural Resources Goa 5.6.3-G2 Appropriate mitigation in the event that human remains, archaeological resources or paleontological resources are discovered during construction activities.

Archeological and Cultural Resources Policy 5.6.3-P1 Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.

Archeological and Cultural Resources Policy 5.6.3-P2 Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.

Archeological and Cultural Resources Policy 5.6.3-P3 Consult with California Native American tribes prior to considering amendments to the City's General Plan.

Archeological and Cultural Resources Policy 5.6.3-P4 Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.

Archeological and Cultural Resources Policy 5.6.3-P5 In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.

Archeological and Cultural Resources Policy 5.6.3-P6 In the event that human remains are discovered, work with the appropriate Native American representative and follow the procedures set forth in State law.

The majority of the project construction and operation will take place on highly disturbed landfill soil. Nevertheless, the Project has proposed comprehensive mitigation measures to ensure that, in the unlikely event that archeological or paleontological resources are discovered, those resources will be adequately protected. (Project EIR 3.7-16 to 3.7-20.)

Likewise, the Project has imposed adequate mitigation measures to ensure that, if human remains are discovered, those remains will be dealt with appropriately. (Project EIR at 3.7-20 to 3.7-21.)

The City has engaged in consultation with the California Native American Tribes in accordance with Policy 5.6.3-P3. (Project EIR at 3.7-15; Project EIR Appendix 3.7.)

Transportation-Related Goals and Policies

General Mobility and Transportation Goal 5.8.1-G1 Transportation networks that support the General Plan Major Strategies as well as the Goals and Policies for Prerequisites, Land Use, Focus Areas, Neighborhood Compatibility, Public Services and Environmental Quality.

General Mobility and Transportation Goal 5.8.1-G2 Transportation networks that provide a safe, efficient, convenient and integrated system to move people and goods.

General Mobility and Transportation Goal 5.8.1-G3 Transportation networks that promote a reduction in the use of personal vehicles and vehicle miles traveled.

General Mobility and Transportation Policy 5.8.1-P1 Create accessible transportation network systems to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

General Mobility and Transportation Policy 5.8.1-P2 Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.

General Mobility and Transportation Policy 5.8.1-P8 Support efficient and effective use of revenue sources to adequately meet all transportation modes and needs.

Roadway Network Goal 5.8.2-G1 A street system that supports the safe and efficient movement of people, goods and services.

Roadway Network Goal 5.8.2-G2 Roadway design, construction, operation and maintenance that supports the goals for "Full-Service Streets" throughout the City.

Roadway Network Goal 5.8.2-G3 A roadway network designed to accommodate alternate transportation modes in addition to vehicles.

Roadway Network Goal 5.8.2-G4 Technological advances applied to the roadway infrastructure to maximize the use of the existing roadway and support efficient traffic flow.

Roadway Network Policy 5.8.2-P10 Support roadway improvements that add missing links or correct non-standard design features for safety.

As discussed above, the Project will construct a complete roadway, bike path and pedestrian sidewalk network throughout the Project site. The new roadways, bicycle paths, and sidewalks throughout the site would connect to existing transit options that are currently within walking distance of the site. VTA operates three local, one limited-stop, and two express bus routes at the Old Ironsides/Great America stop located south of the Project site. VTA operates several light-rail stops along Tasman Drive, south of the Project site, including Champion Station, Lick Mill Station, and Great America Station. Amtrak, Capitol Corridor, and ACE operate in the UPRR right-of way and provide service to the Project area at the heavy-rail Great America Station. Construction of minor arterials, collector roads, and local streets with sidewalks and bike paths that connect to existing major arterials would allow greater access to the Project site and greater access to different modes of transit. (Project EIR at 3.1-31.)

With respect to pedestrian and bicycle paths specifically, the Project proposes constructing new pedestrian paseos and sidewalks throughout the Project site. These new pedestrian facilities would connect the Project site to regional bus and rail systems, including VTA, Amtrak, Capitol Corridor, and ACE. New bicycle networks would also be constructed throughout the Project site, linking major north–south and east–west arterials. Proposed bicycle lanes would connect SR 237 to Tasman Drive in the north–south direction as well as Great America Parkway to Lick Mill Boulevard in the east–west direction. Other bike lanes would be constructed within the Project site as well, which would also connect to regional rail systems.

Thus, the Project would expand transportation options and improve alternate modes of transit, which would help reduce GHG emissions by constructing new bicycle lanes, paths, and routes as well as new pedestrian paseos and sidewalks. A dense, compact bicycle and pedestrian network that links to the bus and rail system south and east of the Project site would allow greater flexibility and transportation choices.

General Mobility and Transportation Policy 5.8.1-P3 Identify opportunities to connect people to supportive services, public amenities and transit.

General Mobility and Transportation Policy 5.8.1-P4 Expand transportation options and improve alternate modes that reduce greenhouse gas emissions.

General Mobility and Transportation Policy 5.8.1-P5 Work with local, regional, State and private agencies, as well as employers and residents, to encourage programs and services that reduce vehicle miles traveled.

General Mobility and Transportation Policy 5.8.1-P6 Implement Level of Service standards that support increased transit ridership, biking and walking, in order to decrease vehicle miles traveled and reduce air pollution, energy consumption and greenhouse gas emissions.

General Mobility and Transportation Policy 5.8.1-P7 Explore options to apply traffic fees toward bicycle, pedestrian, transit and roadway improvements in order to implement a circulation system that optimizes travel by all modes.

General Mobility and Transportation Policy 5.8.1-P9 Adopt a Capital Improvement Program that includes mobility and transportation improvements consistent with the City's General Plan.

Roadway Network Policy 5.8.2-P11 Implement street standards that remove barriers and increase accessibility.

The Project will not obstruct any of the foregoing future City traffic planning activities. In fact, the Project specifically furthers many of these planning and implementation policies. As discussed above, the Project will construct a comprehensive bike and pedestrian network throughout the site that connects the site to adjacent, similar uses and public transit hubs. This promotes the use of transit modes that will reduce use of single occupancy vehicles and thereby reduce pollution and greenhouse gasses in furtherance of Policies 5.8.1-P4 and 5.8.1-P5. As discussed above, the Project will create a robust street, sidewalk, and pedestrian/bicycle network

throughout the Project site that also connects to exterior street networks for increased access in accordance with Policy 5.8.2-P11.

Roadway Network Policy 5.8.2-P1 Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.

Roadway Network Policy 5.8.2-P2 Discourage widening of existing roadway or intersection rights-of-way without first considering operational improvements, such as traffic signal modifications, turn-pocket extensions and intelligent transportation systems.

Roadway Network Policy 5.8.2-P3 Encourage undergrounding of utilities and utility equipment within the public right-of-way and site these facilities to provide opportunities for street trees and adequate sidewalks.

Roadway Network Policy 5.8.2-P4 Facilitate the implementation of the street system based on the roadway classifications and illustrated in the Roadway Diagram in Figure 5.7-1.

Roadway Network Policy 5.8.2-P5 Support "traffic calming" and other neighborhood traffic management techniques to enhance the quality of life within existing neighborhoods and to discourage through-traffic on local streets.

Roadway Network Policy 5.8.2-P6 Interconnect and coordinate traffic signals to maximize vehicle flow on the City's roadway network to reduce the need for roadway widening.

Roadway Network Policy 5.8.2-P7 Concentrate through traffic on major streets and encourage traffic distribution that maximizes the efficiency of the existing roadway network.

Roadway Network Policy 5.8.2-P8 Minimize disruption of traffic flow resulting from truck traffic and deliveries, particularly during commute hours.

Roadway Network Policy 5.8.2-P9 Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.

Roadway Network Policy 5.8.2-P12 Coordinate transportation planning with emergency service providers to ensure continued emergency service operations and services.

All new roadways constructed by the Project would implement full service street standards and include minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities and lighting and signage. Sidewalks would be constructed on both sides of each new street and non-motorized pedestrian paseos would be constructed to connect Stars and Stripes Drive and Parcel 5 to the majority of Parcel 4 and the Proposed City Place Parkway.

All pedestrian and bike facilities would connect to the offsite facilities surrounding the site. Bicycle paths, lanes and routes would bisect the Project site and conform to the City's standards (Project EIR at 3.1-32.)

New intersections on- and off-site would be constructed with implementation of the Project, and traffic signals would be coordinated to maximize vehicle flows. It is currently anticipated that the Project would not require existing roadway widening. (Project EIR 3.1-33.)

Truck deliveries to the Project would be timed so as not to interfere with commute hours. (Project EIR at 3.1-33.)

The Project would include construction of new roadways, sidewalks, and bicycle lanes that would connect to public amenities and destinations. The new streets and sidewalks would meet City goals and standards. The design guidelines in the Master Community Plan would require Project streets to include detached sidewalks with planting strips or wider attached sidewalks with tree wells to encourage pedestrian use and safety. Individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan for the Project and Development Area Plan for each parcel. (Project EIR at 3.1-33.)

The existing Fire Station 10 is within the Project site and the optional replacement Fire Station 10 would be located either on the Project site or immediately adjacent. Therefore response times to emergencies on the Project site would not be affected by traffic. (Project EIR at 3.1-33.)

Transit Network Goal 5.8.3-G1 Transit services that are accessible to all segments of the City's population.

Transit Network Goal 5.8.3-G2 A transit network that supports a reduction in automobile dependence for residents, employees and visitors.

Transit Network Goal 5.8.3-G3 Transit options that are available to provide commuter services throughout the City.

Transit Network Policy 5.8.3-P1 Support a coordinated regional transit system that circles the South Bay and the Peninsula, including existing and planned Bay Area Rapid Transit, Amtrak, Altamont Commuter Express, Caltrain, Valley Transportation Authority and High Speed Rail facilities.

Transit Network Policy 5.8.3-P2 Support continued and upgraded Caltrain, Valley Transportation Authority, Altamont Commuter Express, and Capitol Corridor transit facilities and services.

Transit Network Policy 5.8.3-P3 Support transit priority for designated Bus Rapid Transit, or similar transit service, through traffic signal priority, bus queue jump lanes, exclusive transit lanes and other appropriate techniques.

Transit Network Policy 5.8.3-P4 Encourage the continued efforts by other agencies to provide transit services that are accessible and meet the needs of all segments of

the population, including youth, seniors, persons with disabilities and low-income households.

Transit Network Policy 5.8.3-P5 Facilitate implementation of the transit system defined in the transit network classifications and illustrated on the Transit Network Diagram in Figure 5.7-2.

Transit Network Policy 5.8.3-P6 Encourage additional multimodal transit centers and stops in order to provide convenient access to commuter rail, buses, shuttle and taxi services.

Transit Network Policy 5.8.3-P7 Provide transit stops at safe, efficient and convenient locations to maximize ridership, including near employment centers, higher-density residential developments and Downtown.

Transit Network Policy 5.8.3-P8 Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.

Transit Network Policy 5.8.3-P9 Require new development to incorporate reduced onsite parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.

Transit Network Policy 5.8.3-P10 Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.

Transit Network Policy 5.8.3-P11 Encourage feeder services to carry commuters to transit stations, including shuttle connections from businesses, residences, and attractions to bus and rail services.

Transit Network Policy 5.8.3-P12 Improve the existing public transit system and support expanded services to increase ridership.

Transit Network Policy 5.8.3-P13 Advocate for frequent, direct transit service to all points in Santa Clara, particularly between residential and employment centers, as well as along the El Camino Real and Stevens Creek Boulevard corridor.

Transit Network Policy 5.8.3-P14 Changes made to transit services which do not require associated infrastructure are deemed consistent with the Transit Network Diagram.

As discussed above, the Project would include construction of new roadways, sidewalks, and bicycle lanes that would connect to the transit network south of the Project site. With the proposed pedestrian paseos, Parcels 2, 4, and 5 would be a 5-minute walk from the heavy-rail Great America Station on the UPRR right-of-way. All parcels would be a 10-minute walk from

the Great America Station and Lick Mill VTA Station. Parcels 4 and 5 would be a 10-minute walk from the Great America VTA Station. (Project EIR 3.1-34.)

The Project would include parking, as allowed for within the proposed Urban Center/Entertainment District. Pedestrian access to transit would be provided throughout the Project site to increase access to transit services. Benches and lighting would also be provided on all of the parcels to facilitate pedestrian access. (Project EIR at 3.1-34.)

As part of the TDM plan required per Mitigation Measure TRA-1.1, the Project would be required to reduce Project office-generated daily traffic by a minimum of 4 percent and peak-hour traffic by a minimum of 10 percent, compared with the traffic estimates used in this EIR, with an overall target of reducing Project residential-generated daily traffic by a minimum of 2 percent and peak-hour traffic by a minimum of 4 percent, compared with the traffic estimates used in this EIR. The TDM Plan shall also include and implement TDM BMPs for retail uses. Section 3.3, *Transportation/Traffic*, outlines possible TDM measures, which could include public/private partnerships to provide new transit options for residents and businesses. On-site design measures may include preferred carpool and vanpool parking. Participation by major employers in programs that would reduce the amount of driving would be encouraged, potentially including efforts that would promote private commuter bus service, carpooling, vanpooling, ridesharing, parking management, subsidized transit passes for employees, telecommuting, and flexible work schedules. (Project EIR at 3.1-34 to 3.1-35.)

Although the public transit stations are within walking distance of the Project site, the TDM plan for the Project required by Mitigation Measure TRA-1.1 also proposes a shuttle service to/from the nearby transit stations and the on-site businesses and residences. This would further promote the use of public transportation for those who may not be able to walk even the short distance to the transit stops.

Bicycle and Pedestrian Network Goal 5.8.4-G1 Pedestrian and bicycle connections that are accessible throughout the City to all segments of the population.

Bicycle and Pedestrian Network Goal 5.8.4-G2 A bicycle and pedestrian network that provides links from neighborhoods to public amenities and destinations.

Bicycle and Pedestrian Network Goal 5.8.4-G3 Walking and bicycling as alternatives to driving to reduce vehicle commute and non-commute trips, and to improve community health and reduce vehicle use.

Bicycle and Pedestrian Network Policy 5.8.4-P1 Provide a comprehensive, integrated bicycle and pedestrian network that is accessible for all community members.

Bicycle and Pedestrian Network Policy 5.8.4-P2 Provide a system of pedestrian and bicycle friendly facilities that supports the use of alternative travel modes and connects to activity centers as well as residential, office and mixed-use developments.

Bicycle and Pedestrian Network Policy 5.8.4-P3 Link City pedestrian and bicycle circulation to existing and planned regional networks.

Bicycle and Pedestrian Network Policy 5.8.4-P4 Facilitate implementation of the bicycle and pedestrian classifications as illustrated on the Bicycle and Pedestrian Network Diagram in Figure 5.7-3.

Bicycle and Pedestrian Network Policy 5.8.4-P5 Design streets to include detached sidewalks with planting strips or wider, attached sidewalks with tree-wells to encourage pedestrian use and safety, as well as to remove barriers and increase accessibility.

Bicycle and Pedestrian Network Policy 5.8.4-P6 Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

Bicycle and Pedestrian Network Policy 5.8.4-P7 Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.

Bicycle and Pedestrian Network Policy 5.8.4-P8 Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

Bicycle and Pedestrian Network Policy 5.8.4-P9 Encourage pedestrian- and bicycle-oriented amenities, such as bicycle racks, benches, signalized mid-block crosswalks, and bus benches or enclosures.

Bicycle and Pedestrian Network Policy 5.8.4-P10 Encourage safe, secure and convenient bicycle parking and end-of-trip, or bicycle "stop" facilities, such as showers or bicycle repair near destinations for all users, including commuters, residents, shoppers, students and other bicycle travelers.

Bicycle and Pedestrian Network Policy 5.8.4-P11 Provide pedestrian crossings that are well-marked using measures, such as audio/visual warnings, bulb-outs and median refuges, to improve safety.

Bicycle and Pedestrian Network Policy 5.8.4-P12 Include pedestrian and bicycle facilities when making improvements or modifications to railroad crossings, grade separations, interchanges and freeways.

Bicycle and Pedestrian Network Policy 5.8.4-P13 Promote pedestrian and bicycle safety through "best practices" or design guidelines for sidewalks, bicycle facilities, landscape strips and other buffers, as well as crosswalk design and placement.

Bicycle and Pedestrian Network Policy 5.8.4-P14 Promote bicycling and walking through education, safety publications, and information about health and environmental benefits.

Bicycle and Pedestrian Network Policy 5.8.4-P15 Work with school districts to implement a "Safe Routes to Schools" program to encourage children to walk to school.

As discussed at length above, the Project will create a robust pedestrian and bike network throughout the Project site that connects to the surrounding uses as well as public transit hubs. (Project EIR at 3.1-35.) For example, Project bike and pedestrian paths would connect to public amenities and destinations, such as the Guadalupe River Trail, the San Tomas Aquino Creek Trail, the Convention Center, nearby open spaces and parks. (*Id.*)

All new roadways associated with the Project would contain appropriate pedestrian facilities. Additionally, bicycle lanes would be constructed along City Place Parkway, Avenue A, 2nd Street, Lick Mill Boulevard, and around the plazas on Parcels 1 and 2 within the Project site. (Project EIR at 3.1-36.)

The design guidelines in the Master Community Plan would require Project streets to include detached sidewalks with planting strips or wider attached sidewalks with tree wells to encourage pedestrian use and safety. Individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan for the Project and Development Area Plan for each parcel. (Project EIR at 3.1-36 to 3.1-37.)

Well-marked pedestrian crossings would be provided at all interior streets. To improve safety, the crossings could include audio/visual warnings, consistent with Americans with Disabilities Act (ADA) standards; bulb-outs; and median refuges. (Project EIR 3.1-37.) The Project would promote bicycle and pedestrian safety at the Project site, consistent with City requirements. Individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan for the Project and Development Area Plan for each parcel. The design standards for the Project site would provide guidelines for sidewalks, bicycle facilities, and landscape strips and other buffers as well as guidelines for crosswalk design and placement. The adopted design guidelines would promote bicycle and pedestrian safety. (*Id.*)

Although the Project would not include improvements or modifications to existing railroad and freeway infrastructure, new interchanges and grade separations would be constructed. Bicycle and pedestrian facilities would be included in the new streets and on the new Urban Interchange/City Place Parkway. (Project EIR 3.1-37.)

Transportation Demand Management Goal 5.8.5-G1 Transportation demand management programs for all new development in order to decrease vehicle miles traveled and single occupant vehicle use.

Transportation Demand Management Goal 5.8.5-G2 Transportation demand management programs that promote an increase in vehicle occupancy and a decrease in vehicle trips during commute hours.

Transportation Demand Management Policy 5.8.5-P1 Require new development and City employees to implement transportation demand management programs that

can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.

Transportation Demand Management Policy 5.8.5-P2 Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.

Transportation Demand Management Policy 5.8.5-P3 Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.

Transportation Demand Management Policy 5.8.5-P4 Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.

Transportation Demand Management Policy 5.8.5-P5 Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.

Transportation Demand Management Policy 5.8.5-P6 Encourage transportation demand management programs that include shared bicycle and autos for part-time use by employees and residents to reduce the need for personal vehicles.

Transportation Demand Management Policy 5.8.5-P7 Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, home-based businesses and off-site business centers, and encourage businesses to provide alternate, off-peak hours for operations.

Transportation Demand Management Policy 5.8.5-P8 Encourage local events that connect employees and residents with local transit providers and ridesharing options.

Transportation Demand Management Policy 5.8.5-P9 Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities

As discussed above, The Project would implement a TDM plan, per Mitigation Measure TRA-1.1 to reduce the number of vehicle trips per each development parcel and/or Project site. On-site design measures may include preferred carpool and vanpool parking. Participation by major employers in programs that would reduce the amount of driving would be encouraged, potentially including efforts that would promote private commuter bus service, carpooling, vanpooling, ridesharing, subsidized transit passes for employees, secure bicycle facilities, telecommuting, and flexible work schedules. (Project EIR at 3.1-38.)

The Project site would include on-site services. Although the exact types of services are currently unknown, it is likely that the Project site would include ATMs, dry cleaning facilities, exercise rooms, cafeterias, and concierge services. Providing such services on-site would reduce the number of daytime vehicular trips. (Project EIR at 3.1-39.)

As already discussed above, A TDM plan is required for the Project per Mitigation Measure TRA-1.1 and will ensure that the Project is developed to provide residents and employees with information regarding alternate transportation opportunities. Participation by major employers in programs that would reduce the amount of driving would be encouraged, potentially including efforts that would promote private commuter bus service, carpooling, vanpooling, ridesharing, parking management, subsidized transit passes for employees, secure bicycle facilities, telecommuting, and flexible work schedules. (Project EIR at 3.1-40.)

Parking Goal 5.8.6-G1 Parking provided for new development and along public streets that does not exceed average demands.

Parking Goal 5.8.6-G2 A parking supply that encourages the use of alternate transportation modes.

Parking Goal 5.8.6-G3 Flexible parking standards that address unique development types and locations within the City.

Parking Policy 5.8.6-P1 Allow alternate parking standards for mixed-use development, development that meets specified transportation demand management criteria, and senior/group and affordable housing developments, as well as in the Downtown and areas within one-quarter mile of transit centers and stops.

Parking Policy 5.8.6-P2 Identify parking supply standards that promote economic development, neighborhood compatibility, environmental quality and public safety, while reducing dependence on the automobile.

Parking Policy 5.8.6-P3 Encourage flexible parking standards that meet business and resident needs as well as avoid an oversupply in order to promote transit ridership, bicycling and walking.

Parking Policy 5.8.6-P4 Encourage shared, consolidated and/or reduced parking in mixed-use centers and within one-quarter mile of transit centers and stops.

Parking Policy 5.8.6-P5 Allow alternative parking techniques, such as parking lifts, automated and tandem parking, in order to reduce the land area devoted to parking.

Parking Policy 5.8.6-P6 Provide direct access or offer clear signage to connect local streets with parking supplies.

Parking Policy 5.8.6-P7 Encourage private property owners to share underutilized off-street parking resources with the general public.

Parking Policy 5.8.6-P8 Prohibit on-site parking space reservations for individual tenants in commercial centers.

Parking Policy 5.8.6-P10 Support time limits for on-street parking to encourage alternate transportation modes to access destinations, such as Downtown, parks and libraries.

Parking Policy 5.8.6-P11 Encourage development to "unbundle" parking spaces from leases and purchases to provide greater choices

Parking Policy 5.8.7-P12 Encourage below-grade or structured parking with active uses along street frontages.

Parking Policy 5.8.6-P13 Restrict lighting and noise generation associated with surface and structured parking from intrusion into adjacent residential neighborhoods.

Parking Policy 5.8.6-P14 Require new multi-family residential and non-residential development to accommodate electric vehicle charging stations in parking lots.

Parking Policy 5.8.6-P15 Require new parking lots to be surfaced with materials to reduce heat gain, consistent with the Building Code and CAP.

The Project will comply with new parking ratios provided for the Urban Center/Entertainment District. Therefore, the parking supply needed at these parcels would be less than the existing City Code requirements for other zoning designations. The Master Community Plan parking supply rates are informed by the City Code parking supply rates, with adjustments for the shared use nature of a mixed-use development. Parking would not exceed average demands. (Project EIR at 3.1-40.)

A new parking standard would be provided for the Urban Center/Entertainment District in the Master Community Plan. Because of the opportunity for shared parking at the Project site, parking ratios would be lower than the City Code requirements that would otherwise have been applicable. The Project is being designed to meet, but not exceed, these minimum parking requirements. By not providing excess parking, and by implementing a TDM plan, as required per Mitigation Measure TRA-1.1 in Section 3.3, *Transportation*, the Project would encourage the use of alternative travel modes to reduce the number of single-occupant vehicles. (Project EIR at 3.1-40.)

As a mixed-use development, the Project would include alternate (i.e., shared) parking standards. A flexible and shared parking approach is contemplated by the Urban Center/Entertainment District and new parking standards are called for in the PD-MC ordinance governing the MCP. The Project site is within 0.25 mile of local and regional transit stops and, therefore, easily accessible from public transportation. (Project EIR at 3.1-40.)

The Master Community Plan parking supply rates are informed by the City Code parking supply rates, with adjustments for the shared use nature of a mixed-use development. By not providing excess parking, and by implementing a TDM plan, the new parking supply requirements consider potential economic development at the Project site, neighborhood compatibility, environmental quality, and public safety. (Project EIR at 3.1-41.) By not providing excess parking, and by implementing a TDM plan, as required per Mitigation Measure

TRA-1.1, the Project would encourage the use of alternative travel modes to reduce the number of single-occupant vehicles. (Project EIR at 3.1-41.)

The Project would include parking below street level (in non-landfill areas) and in parking structures to reduce the amount of land area devoted to parking. Alternative parking techniques, such as parking lifts, automated parking, and tandem parking, could be considered (but may not ultimately be implemented) in the context of Development Area Plans for the Project. (Project EIR at 3.1-41.)

The Project would create a mixed-use development. Residential uses would be located on Parcels 4 and 5, along with commercial and retail development. Neighborhood parking programs, such as permit-only and timed parking zones, would be considered (but may not ultimately be implemented) in the context of Development Area Plans for the Project. There are no existing neighborhoods that would be affected by Project parking; all parking would be provided at the Project site. (Project EIR at 3.1-41.)

Lighting for surface parking lots and parking structures is essential for security and safety purposes; therefore, it will be provided as part of Project design. The Project would include trees and hedges in the surface parking lots that would minimize light from fixtures and vehicle headlights. In addition, implementation of Mitigation Measure AES-2.4 (see Section 3.2, *Aesthetics*) would obstruct glare from vehicle headlights in the proposed garages. There are no existing adjacent residential neighborhoods that would be affected by light and noise from the proposed surface parking lots and parking structures. Regarding noise, the closest residential neighborhoods to the Project site are located approximately 500 feet east of Parcels 1 and 2 (measured conservatively from the eastern boundary of these parcels). Future parking areas could be located more than 500 feet from adjacent neighborhoods. Typical parking operations on the Project parcels would involve passenger cars for office workers and retail users and occasional large trucks for deliveries and loading. Typical day-to-day operations on Parcels 1 and 2 would not generate vehicle noise that would be uncommon in office parking areas. Given this, as well as the distance between potential parking areas and residential neighborhoods, the Project would be consistent with Policy 5.8.6-P13. (Project EIR at 3.1-42.)

Electric vehicle charging locations will be identified in the Master Community Plan and Development Area Plans for the Project in accordance with Policy 5.8.6-P14. (Project EIR at 3.1-42.) Project mitigation measure GHG-1.2, as outlined in Section 3.5 implements CAP strategies and mandates the use of light-colored pavement for uncovered parking lots or spaces, per CAP Measure 7.2 in accordance with Policy 5.8.6-P15. (Project EIR at 3.1-42.)

Public Facilities and Services Goals and Policies

Parks, Open Space and Recreation Goal 5.9.1-G1 Ample facilities for physical activities that promote community health.

Parks, Open Space and Recreation Goal 5.9.1-G2 Parks, trails and open space located within a ten-minute walk to residential neighborhoods and employment centers.

Parks, Open Space and Recreation Goal 5.9.1-G3 New parks, open space and recreation provided with new development so that existing facilities are not overburdened.

Parks, Open Space and Recreation Goal 5.9.1-G4 Park, trail and open space facilities that are accessible and provide connections to destination points and activity centers within the City.

Parks, Open Space and Recreation Policy 5.9.1-P1 Develop additional parkland in the City so that it is integrated into neighborhoods and meets the standards for size, amenities and location to serve residents and employees.

Parks, Open Space and Recreation Policy 5.9.1-P2 Develop new parks to serve the needs of the surrounding community based on the criteria defined on Table 5.9-1.

Parks, Open Space and Recreation Policy 5.9.1-P3 Provide trails along creeks and other rights-of-way to link parks, open spaces, bicycle facilities and transit services with residential neighborhoods and employment centers.

Parks, Open Space and Recreation Policy 5.9.1-P4 Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

Parks, Open Space and Recreation Policy 5.9.1-P5 Encourage public visibility for all parks, trails and open spaces.

Parks, Open Space and Recreation Policy 5.9.1-P6 Support construction of trails within the City of Santa Clara that connect to the Bay Trail, the Saratoga/San Tomas Aquino Creek and the Guadalupe River trails.

Parks, Open Space and Recreation Policy 5.9.1-P7 Allow new parks in the general locations shown on the Land Use Diagram in all General Plan designations, except in areas designated for Light and Heavy Industrial uses.

Parks, Open Space and Recreation Policy 5.9.1-P8 Encourage the extension of the San Tomas Aquino Creek Trail with new development, where feasible. If it is not physically or environmentally feasible to extend the trail along the creek, utilize adjacent or near-by City right-of-way to accommodate an extension.

Parks, Open Space and Recreation Policy 5.9.1-P9 Support access to local food sources by providing opportunities for community gardening and farmers' markets.

Parks, Open Space and Recreation Policy 5.9.1-P10 Explore opportunities to partner with local private non-profits and public agencies, such as school districts, to provide community gardens and opportunities for community socialization in the City.

Parks, Open Space and Recreation Policy 5.9.1-P11 Encourage the shared use of open space resources, such as school grounds, for neighborhood recreation to maximize public accessibility.

Parks, Open Space and Recreation Policy 5.9.1-P13 Encourage public and quasi-public agencies to provide public access onto their property for trails and other appropriate recreational purposes.

Parks, Open Space and Recreation Policy 5.9.1-P14 Encourage publicly accessible open space in new development.

Parks, Open Space and Recreation Policy 5.9.1-P15 Provide opportunities for private maintenance of publicly accessible open space and trails.

Parks, Open Space and Recreation Policy 5.9.1-P16 Encourage non-residential development to contribute toward new park facilities to serve the needs of their employees.

Parks, Open Space and Recreation Policy 5.9.1-P17 Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

Parks, Open Space and Recreation Policy 5.9.1-P18 Promote open space and recreation facilities in large-scale developments in order to meet a portion of the demand for parks generated by new development.

Parks, Open Space and Recreation Policy 5.9.1-P20 Promote the continuation of a parks per population ratio of 2.4 per 1,000 residents and explore the potential to increase the ratio to 3.0, based on the Parks and Recreation Needs Assessment (Parks Master Plan), referenced in Plan Prerequisite 5.1.1-P24.

Parks, Open Space and Recreation Policy 5.9.1-P21 Explore options for incorporating an outdoor theater within one of the City's neighborhood parks

The Project site would be a 10-minute walk from the Guadalupe River Trail and San Tomas Aquino Creek Trail. The Project site would provide direct connections to these resources. In addition, the Ulistac Natural Preserve and Fairway Glen Park would be a 10-minute walk from Parcels 4 and 5. Therefore, residents and employees at the Project site would have access to existing parks, trails, and open space. In addition, the Project site would include open space areas and spaces for active and passive recreation. (Project EIR at 3.1-43)

The Project site would include open space areas and spaces for recreation. At buildout, approximately 74.1 acres would be devoted to usable public open space and would include at-grade plazas, greens, parkways, and similar shared outdoor spaces that would be suitable for formal and informal gatherings, pedestrian-friendly streetscapes, upper-/podium-level courtyards and terraces, and public and private rooftop gardens. (Project EIR at 3.1-44) On-site open space would be accessible from trails, pathways, streets, and sidewalks. (Project EIR at 3.1-44)

The Project site would include linkages to the regional Guadalupe River Trail and San Tomas Aquino Creek Trail. Given the proposed new land use designation, open spaces and landscape features that would enhance the public realm and meet the recreational needs of multiple users would be incorporated throughout the Project site. (Project EIR at 3.1-43 to 3.1-44)

The Project would also include 34.8 acre park encompassing all of Parcel 3. After the initial public release of the Draft Master Community Plan, the Project Master Developer proposed an additional land use scheme, referred to as the Enhanced Open Space ("EOS") Variant, in contrast to Scheme A and Scheme B as they are described in Chapter 3.2. Under the EOS Variant, Parcel 3 would be set aside by the developer for the City and reserved for park uses, as depicted in Exhibit S-2 1 (the "City Place Park"), instead of being developed by the Master Developer for up to 720,000 square feet of office building uses and associated parking. The 720,000 square feet of office that had been planned for Parcel 3 would be reallocated to other Project parcels as further described in the Master Community Plan Supplement.

Building heights would range from one to 17 stories and could overshadow some new parks and plazas. However, individual parcel development would be required to adhere to the design guidelines and development standards in the Master Community Plan and Development Area Plans for the Project. This would prevent building height and massing to overshadow new parks and plazas to the maximum extent feasible. (Project EIR at 3.1-44)

The Project would also School and Community Facilities Goal 5.9.2-G1 Schools and community facilities that meet the needs of all segments of the population

School and Community Facilities Goal 5.9.2-G2 Appropriate arts, cultural, recreational, schools and other community facilities in concert with new development.

School and Community Facilities Policy 5.9.2-P1 Provide a diverse range of community, art, cultural and recreational facilities to meet the varying needs of residents in the City, including youth and seniors.

School and Community Facilities Policy 5.9.2-P2 Periodically evaluate library services and facilities in order to respond to changing community demands.

School and Community Facilities Policy 5.9.2-P3 Provide library services that are accessible and of adequate size to serve community residents, particularly for Future Focus Areas, north of the Caltrain corridor.

School and Community Facilities Policy 5.9.2-P4 Work with the school districts as part of the planning process for Future Focus Areas.

School and Community Facilities Policy 5.9.2-P5 Coordinate with Santa Clara Unified School District, Santa Clara University and Mission College to develop mutually supportive long range plans for school facilities.

School and Community Facilities Policy 5.9.2-P6 Coordinate with local school districts to share school district-owned facilities during non-school hours.

School and Community Facilities Policy 5.9.2-P7 Support efforts by school districts to maintain, improve and expand educational facilities and services, to meet the demands of new development.

School and Community Facilities Policy 5.9.2-P8 Cooperate with local school districts in collecting fees for development projects as required by State regulations.

School and Community Facilities Policy 5.9.2-P9 Prohibit new public and quasi-public facilities on land designated for Light or Heavy Industrial uses on the Land Use Diagram, excluding public utility facilities.

The Project will not obstruct the City's implementation any of the foregoing School and Community Facilities policies. The Project will further the provision of high quality school services and facilities within the City by paying all required school impact fees in accordance with SB 50 and Government Code section 65996. (Project EIR at 3.13-18 to 3.13-19.)

Public Service Goal 5.9.3-G1 A safe and secure environment for people and property in the community.

Public Safety Goal 5.9.3-G2 Public safety response-time goals met throughout the City.

Public Safety Goal 5.9.3-P1 Encourage design techniques that promote public and property safety in new development and public spaces.

Public Safety Policy 5.9.3-P1 Encourage design techniques that promote public and property safety in new development and public spaces.

Public Safety Policy 5.9.3-P2 Provide police and fire services that respond to community goals for a safe and secure environment for people and property.

Public Safety Policy 5.9.3-P3 Maintain a City-wide average three minute response time for 90 percent of police emergency service calls.

Public Safety Policy 5.9.3-P4 Maintain a City-wide average three minute response time for fire emergency service calls.

Public Safety Policy 5.9.3-P5 Maintain emergency traffic preemption controls for traffic signals.

Public Safety Policy 5.9.3-P6 Maintain the fire and hazardous materials mutual aid agreements with surrounding jurisdictions.

Public Safety Policy 5.9.3-P7 Encourage property maintenance and pursue appropriate code enforcement to reduce crime associated with blight.

As discussed above, Fire Station 10 is located on the Project Site, and the fire station will be will be replaced and upgraded, either in its current position or elsewhere within the vicinity of the Project Site. Thus, with construction and operation of the Project, emergency response time will

be maintained. The Project will promote a secure environment and discourage blight by developing a high-end mixed use entertainment area with modern amenities. (*See* Project EIR Chapter 2.0.) The Project would include exterior lighting for added security. (Project EIR at 3.2-26 to 3.2-27.) As discussed above, the Project will implement a Master Community Plan, which will obligated the project to design buildings, thoroughfares gathering spaces in accordance with City regulations and in ways that promote community security goals and policies.

Environmental Quality Goals and Policies

Conservation Goal 5.10.1-G1 The protection of fish, wildlife and their habitats, including rare and endangered species.

Conservation Goal 5.10.1-G2 Conservation and restoration of riparian vegetation and habitat.

Conservation Goal 5.10.1-G3 Adequate solid waste disposal capacity through effective programs for recycling and composting.

Conservation Goal 5.10.1-G4 Adequate wastewater treatment and conveyance capacities.

Conservation Policy 5.10.1-P1 Require environmental review prior to approval of any development with the potential to degrade the habitat of any threatened or endangered species.

Conservation Policy 5.10.1-P2 Work with Santa Clara Valley Water District and require that new development follow the "Guidelines and Standards for Lands Near Streams" to protect streams and riparian habitats.

Conservation Policy 5.10.1-P3 Require preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.

Conservation Policy 5.10.1-P5 Encourage enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible.

Conservation Policy 5.10.1-P6 Require adequate wastewater treatment and sewer conveyance capacity for all new development.

Conservation Policy 5.10.1-P7 Encourage the use of local recycling facilities to divert waste from landfills.

Conservation Policy 5.10.1-P8 Increase to 80 percent reduction for solid waste tonnage by 2020, or as consistent with the CAP.

Conservation Policy 5.10.1-P9 Encourage curbside recycling and composting of organic and yard waste.

Conservation Policy 5.10.1-P10 Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness and through an increase in hazardous waste collection events.

Conservation Policy 5.10.1-P11 Require use of native plants and wildlife-compatible non-native plants, when feasible, for landscaping on City property.

Conservation Policy 5.10.1-P12 Encourage property owners and landscapers to use native plants and wildlife-compatible nonnative plants, when feasible.

The Project will take several steps to protect listed or threatened species and their habitat. With respect to the burrowing owl, the Project will implement Mitigation Measures BIO-2.1 and BIO-2.2, which will reduce impacts to this species. The Retention Basin and drainage swale, golf course ponds, San Tomas Aquino Creek, and the Guadalupe River could provide habitat for the western pond turtle. Although this species could be affected during construction, implementation of Mitigation Measure BIO-3.1 would reduce impacts. Mitigation Measure BIO-C.1 would reduce impacts on serpentine grasslands as well as Bay checkerspot butterfly and other rare species that are dependent on serpentine grasslands. In addition, the Guadalupe River is used as a migratory route for central California coast steelhead and Central Valley fall-run Chinook salmon to upstream spawning habitat. Critical habitat for steelhead is present in the Guadalupe River. Although these species could be affected during Project construction and operation, compliance with the Stormwater Pollution Prevention Plan (SWPPP), San Francisco Bay Municipal Separate Storm Sewer Systems Permit, Provision C.3, Stormwater Technical Guidance (SF Bay MS4 Permit), and Mitigation Measure BIO-4.1 would reduce the impacts. (Project EIR at 3.1-45.)

There is currently no riparian or other sensitive vegetation on the Project site. In addition, there are no other sensitive land cover types on the Project site, other than the wetland areas on and surrounding the site. The ponds, wetlands, and drainage ditch on the Project site total 6.4 acres. Roadway construction and bridge footings could affect the Retention Basin and San Tomas Aquino Creek. In addition, the internal golf course pond would be removed. As such, the Project could result in the loss of wetlands; however, Mitigation Measure BIO-5.2 would reduce the impacts on wetlands. (Project EIR at 3.1-45)

During construction, it is expected that 100 percent of demolition material would be recycled or reused during all phases, except for Phase 2 on Parcel 4. Only approximately 40 percent of demolition material from the existing buildings at Parcel 4 would be recycled. The majority of demolition material from the Project site would be recycled at the Zanker Material Processing Facility. Organic materials removed during clearing and grubbing would be re-used on-site in landscaped areas. During operation, the Project would reduce the amount of operational waste that goes to landfills by 50 percent by implementing strategies that involve purchasing policies, container/bag programs for the proposed retail and entertainment facilities, grease collection/recycling for off-site biofuel conversion, and triple-chute waste collection in residential/hotel buildings. (Project EIR 3.1-45 to 3.1-47.)

Rehabilitation and expansion of existing sanitary sewer systems (i.e., pipes and both of the sanitary sewer pump stations) would be required with implementation of the Project. The

systems are proposed as a looped system to provide redundancy, as required by the City. A new sanitary sewer system would be required for each development parcel. Parcels 1 and 2 would connect to the existing gravity sewer in Lafayette Street. Parcels 3 and 4 would connect to the existing gravity sewers between the two sites. Parcel 5 would connect to the Stars and Stripes Drive system. (Project EIR at 4.1-46.)

This Draft EIR represents the environmental review for the Project. Section 3.8, *Biological Resources* discusses the Project's potential to degrade the habitat of any threatened or endangered species. Although burrowing owl, western pond turtle, Bay checkerspot butterfly, central California coast steelhead, and Central Valley fall-run Chinook salmon could be affected as a result of the Project, Mitigation Measures BIO-2.1, BIO-2.2, BIO-3.1, BIO-4.1, and BIO-C.1 would reduce the impacts on these species. (Project EIR at 3.1-46.)

The Project Developer has coordinated the preliminary Project plan with the Santa Clara Valley Water District (SCVWD) and will continue to coordinate as the plan evolves. As required, the Project Developer would follow the Guidelines and Standards for Lands Near Streams to protect streams and riparian habitats. (Project EIR at 3.1-46.)

The proposed sanitary sewer system for the Project would connect to the existing City gravity trunk sewers between Parcels 3 and 4. Parcels 1 and 2 would connect to the existing gravity sewer in Lafayette Street. Parcel 3 would connect to the sewer located between Parcels 3 and 4, which would connect to the existing gravity sewers between the two sites. Parcel 5 would connect to the Stars and Stripes Drive system. The Stars and Stripes Drive system would need to be completely replaced to accommodate the proposed below-grade parking structures. The system is proposed as a looped system to provide redundancy, as required by the City. Because the Project would contribute to peak flows at the existing sanitary sewer pump stations and, therefore, would contribute considerably to the need for additional off-site wastewater delivery systems related to future insufficient pumping capacity, the Project would contribute to a portion of the improvement costs. (Project EIR at 3.1-47.)

The goal to reduce solid waste by 80 percent is a citywide goal. The Project would contribute to this goal by diverting the majority of construction waste that normally goes to landfills. Although operation of the Project would occur after 2020, waste reduction strategies and recycling would reduce the projected amount of landfill waste by approximately 50 percent. Operation of the Project would include curbside recycling and waste reduction strategies, such as an on-site composting program. (Project EIR at 3.1-47.)

The Project would include the use of small quantities of commercially available hazardous materials, such as household cleaning and landscaping supplies, as well as diesel fuel for backup generators. The relatively low toxicity and small quantities of these kinds of hazardous materials do not generally pose a threat to human health or the environment. The management of larger quantities of hazardous materials is subject to laws and regulations, particularly the Unified Program administered by the Santa Clara Fire Department (SCFD). The Unified Program ensures that facilities properly manage and disclose information regarding the hazardous materials they use to minimize the risk of a hazardous materials

release and improve emergency response actions in the event of a release. Compliance with existing regulations is mandatory. (Project EIR 3.1-47 to 3.1-48.)

Under the Project, the Project site would continue to be owned by the City but leased to the Project Developer. Current Project site plans do not include information regarding landscaping materials and species types. However, the Master Community Plan for the Project site includes design standards that would require the Project to use native plants and wildlife-compatible nonnative plants, when feasible, on City property. (Project EIR at 3.1-48.)

The current Project site plan does not include information regarding landscaping materials and species types. However, the Master Community Plan and Development Area Plans for the Project site would include their own design standards, which would require landscapers to use native plants and wildlife-compatible nonnative plants, when feasible. (Project EIR 3.1-48.)

> ***Air Quality Policy 5.10.2-P1*** Support alternative transportation modes and efficient parking mechanisms to improve air quality.
>
> ***Air Quality Policy 5.10.2-P3*** Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.
>
> ***Air Quality Policy 5.10.2-P4*** Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.
>
> ***Air Quality Policy 5.10.2-P5*** Promote regional air pollution prevention plans for local industry and businesses.
>
> ***Air Quality Policy 5.10.2-P6*** Require "Best Management Practices" for construction dust abatement.

The Project site would support the alternative transportation modes and efficient parking mechanisms outlined for the new land use designation to improve air quality. New bicycle and pedestrian facilities proposed for the Project site would connect it to regional bus and rail systems, including VTA, Amtrak, Capitol Corridor, and ACE. With the proposed pedestrian connections, Parcels 2, 4, and 5 would be a 5-minute walk from the heavy-rail Great America Station on the UPRR right-of-way. All parcels would be a 10-minute walk from the Great America Station and Lick Mill VTA Station. Parcel 4 would be a 10- minute walk from the Great America VTA Station. Easy connections and accessibility to public transportation stations would help reduce the number of vehicle trips and air quality emissions. In addition, the Project could include electric vehicle charging stations in the surface parking lots and/or parking structures. (Project EIR 3.1-49.)

Mitigation Measure GHG-1.2, requires the implementation of technological advances to reduce the generation of air pollutants. These technological advances include purchasing green power, energy efficiency, on-site solar energy, electric landscaping equipment, and electric vehicle charging stations. In addition, the Project Developer would pursue Leadership in Energy & Environmental Design (LEED) for Neighborhood Development (LEEDND) certification for the

proposed City Center, LEED v2009 Gold for the proposed commercial buildings, and LEED v2009 Silver for the proposed residential buildings. (Project EIR at 3.1-50.)

As discussed in Section 3.5, *Greenhouse Gas Emissions*, the BAAQMD's efficiency -based thresholds, which are derived from the AB 32 target of reducing global warming emissions to 1990 by 2020. (Project EIR 3.1-50.)

Mitigation Measure AQ-2.3, as presented in Section 3.4, *Air Quality*, requires measures to reduce construction-related dust emissions. The Project Developer would require all construction contractors to implement these measures to reduce fugitive dust emissions. The measures include, but are not limited to, watering to retain soil moisture, installing wind breaks, and suspending work when wind speeds exceed 20 mph. (Project EIR 3.1-50.)

Energy Goal 5.10.3-G1 Energy supply and distribution maximizes the use of renewable resources.

Energy Goal 5.10.3-G2 Implementation of energy conservation measures to reduce consumption.

Energy Goal 5.10.3-G3 Adequate energy service to residents, businesses, and municipal operations.

Energy Policy 5.10.3-P1 Promote the use of renewable energy resources, conservation and recycling programs.

Energy Policy 5.10.3-P4 Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

Energy Policy 5.10.3-P5 Reduce energy consumption through sustainable construction practices, materials and recycling.

Energy Policy 5.10.3-P6 Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

Energy Policy 5.10.3-P7 Encourage installation of solar energy collection through solar hot water heaters and photovoltaic arrays.

Energy Policy 5.10.3-P8 Provide incentives for LEED certified, or equivalent development.

Energy Policy 5.10.3-P9 Incorporate criteria for sustainable building and solar access into the City's ordinances and regulations.

Energy Policy 5.10.3-P10 Maintain the City's level of service for high quality utilities and telecommunications infrastructure.

Energy Policy 5.10.3-P11 Continue innovative energy programs to develop cost effective alternative power sources and encourage conservation.

Energy Policy 5.10.3-P15 Explore opportunities for alternative energy "fueling stations" and promote participation in shuttle services that use new technology vehicles to reduce greenhouse gas emissions.

The Project includes on-site photovoltaic solar system to meet 10 percent of electricity demand. In addition, as part of Mitigation Measure GHG-1.2, as included in Section 3.5, *Greenhouse Gas Emissions*, the Project would obtain renewable energy electricity corresponding to 29 percent of on-site electricity demand by 2030 through a combination of on-site solar, purchase of renewable energy, or other measures. This would increase the use of renewable resources and add to the on-site energy supply. (Project EIR at 3.1-50.)

The Project Developer would obtain LEED certification as part of the Project. The Project Developer will pursue LEED-ND certification for the proposed City Center, LEED v2009 Gold for the proposed commercial buildings, and LEED v2009 Silver for the proposed residential buildings. The Project would reduce electricity use by 10 percent. The energy reduction strategies that would be implemented include energy efficiency measures for the building envelope, HVAC, and lighting. (Project EIR at 3.1-50.)

The Project would include an on-site solar photovoltaic system. The energy reduction strategies that would be implemented include energy efficiency measures for the building envelope, HVAC, and lighting. In addition, the Project would implement recycling and composting programs to reduce the amount of operational waste that goes to the landfill by 50 percent. (Project EIR at 3.1-50.)

Compliance with LEED certification standards, as described above, would help to achieve the desired electrical and natural gas efficiencies. LEED certification is part of the Project. Mitigation Measure GHG-1.2, as presented in Section 3.5, *Greenhouse Gas Emissions*, would require that the Project energy efficiency shall be 15 percent better than the 2013 Title 24 requirements, per CAP Measure 2.1. (Project EIR 3.1-51.)

Compliance with the LEED certification standards, as described above, and inclusion of an on-site solar photovoltaic system would help to achieve the desired sustainable building design, site planning, and construction practices. (Project EIR at 3.1-51.) Compliance with the LEED certification standards associated with sustainable construction practices, material selections, and recycling would help reduce energy consumption. Compliance with the LEED certification standards, as described above, would include incorporating sustainable planning and building features, which would reduce both energy and water consumption. The Project would reduce indoor water use from the City baseline by 10 percent and outdoor water use from the City baseline by 20 percent. The Project would incorporate features to reduce per capita water use, such as low-flow fixtures and native, drought-resistant plants. The Project would include an on-site solar photovoltaic system. To meet the proposed LEED certification standards, the Project Developer is considering solar water heaters. These systems could be included at the Project site. (Project EIR at 3.1-51.)

The Project would consider effective alternate means of energy generation, including the use of the methane gas produced by the landfill and potential geothermal advantages associated with the planned pile system for the proposed buildings. The energy reduction strategies that would be implemented include energy efficiency measures for the building envelope, HVAC, and lighting. (Project EIR at 3.1-52.)

It is expected that four new 600-amp, 12-kilovolt feeder lines would be needed to serve Parcels 4 and 5. Two more feeder lines would be required for Parcel 2, one for Parcel 1, and one for Parcel 3, for a total of eight new feeders. The Project Developer would be responsible for trenching and installing all new SVP conduits and substructures. Once these are installed, the energy distribution facilities would meet the demand generated by the Project. (Project EIR at 3.1-52.)

If the total expected gas loads of the Project are large enough, PG&E may require the installation of a new gas regulator station to serve the Project. PG&E gas mains would typically be extended in a joint trench with SVP electric facilities. The Project Developer is responsible for all trenching and has the option to install gas facilities. Once the needed infrastructure is installed, an adequate supply of natural gas would be provided to meet the demand generated by Project. (Project EIR at 3.1-52.)

Water Goal 5.10.4-G1 A reliable, safe supply of potable water adequate to meet present and future needs.

Water Goal 5.10.4-G2 High water quality maintained throughout the City.

Water Goal 5.10.4-G3 A reduction in the demand and consumption of water resources.

Water Policy 5.10.4-P1 Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance, incentives, and other applicable City-wide policies and programs.

Water Policy 5.10.4-P2 Expand water conservation and reuse efforts throughout the City in order to meet the conservation goals in the City's adopted Urban Water Management Plan and CAP to reduce per capita water use by 2020.

Water Policy 5.10.4-P3 Promote water conservation, recycled water use and sufficient water importation to ensure an adequate water supply.

Water Policy 5.10.4-P4 Require an adequate water supply and water quality for all new development.

Water Policy 5.10.4-P5 Prohibit new development that would reduce water quality below acceptable State and local standards.

Water Policy 5.10.4-P6 Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications.

Water Policy 5.10.4-P7 Require installation of native and low-water-consumption plant species when landscaping new development and public spaces to reduce water usage.

Water Policy 5.10.4-P8 Require all new development within a reasonable distance of existing or proposed recycled water distribution systems to connect to the system for landscape irrigation.

Water Policy 5.10.4-P12 Encourage diversion of run-off from downspouts, and replacement of hardscapes to landscaped areas and permeable surfaces.

Each development parcel would include a combined domestic and fire water system, which would be a looped network with multiple points of connection to the existing system. Connections to the public system, provided by Santa Clara Water and Sewer Utilities, would be at existing lines along Great America Parkway, Stars and Stripes Drive, Tasman Drive, and Lafayette Street. Each connection to the existing public water system would require a master meter and backflow preventer to keep water from flowing from the Project back into the public system. Current State Water Resources Control Board Division of Drinking Water regulations would restrict the construction of public water mains over a landfill, unless the department grants the City a waiver. Specific water utility materials, methods of construction, locations of appurtenances such as valves, and meters backflow devices must be approved by the City. When taking into account other approved development and Project water demand along with existing demand, there is adequate projected water supply to provide water out to 2035 under normal-year, single-dry-year, and multiple-dry-year scenarios. There are also available water supplies to meet cumulative demand when taking into account supply conditions as well as existing practices during drought years. As such, there is a safe supply of potable water for present and future needs. (Project EIR at 3.1-53.)

Scheme A would result in a total water demand of 1,911 acre-feet per year (afy), which represents an increase of 1,599 afy compared with existing water demand on the Project site (311 afy). Scheme B would result in a total water demand of 1,921 afy, which represents an increase of 1,610 afy compared with existing water demand on the Project site (311 afy). The Project would reduce indoor water use from the City baseline by 10 percent and outdoor water use from the City baseline by 20 percent. The Project would incorporate features to reduce per capita water use, such as low-flow fixtures and native, drought-resistant plants. In addition, the Project site would be irrigated with recycled water, which may also be used to meet indoor flushing and cooling demands. (Project EIR at 3.1-53.)

The Project would reduce indoor water use from the City baseline by 10 percent and outdoor water use from the City baseline by 20 percent. The Project would incorporate features to reduce per capita water use, such as low-flow fixtures and native, drought-resistant plants. In addition, the Project would be required to comply with applicable development standards, building requirements, landscape design guidelines, the State Water Conservation Landscaping Ordinance, and City policies and programs. (Project EIR at 3.1-53.)

In addition, the Project site would be irrigated with recycled water, which may also be used to meet indoor flushing and cooling demands. As such, the Project would include

conservation and reuse efforts that would comply with the water conservation goals in the 2010 Urban Water Management Plan and the CAP. (Project EIR at 3.1-54.)

The Project site is currently connected to a recycled water system for irrigation of the golf course. The recycled water distribution system for the Project site would be designed so that each parcel would have its own internal system. The recycled water system for each parcel would have two points of connection to maintain recycled water service at all times. (Project EIR at 3.1-54 to 3.1-55.)

As explained above, there are available water supplies to meet cumulative demand when taking into account supply conditions as well as existing practices during drought years. As such, there is adequate water supply for all new development. The Project would be designed and maintained in accordance with City, County, and San Francisco Bay Regional Water Quality Control Board water quality requirements. (Project EIR at 3.1-54.)

To prevent construction impacts on water quality, the Project would be designed to comply with the requirements of the Construction General Permit, the SF Bay MS4 Permit, and City of Santa Clara requirements. A SWPPP to address the construction impacts would be prepared, implemented, and enforced. The Project would be designed and maintained in accordance with City, County, and San Francisco Bay Regional Water Quality Control Board water quality requirements. Therefore, the Project will not reduce water quality below acceptable State and local standards. (Project EIR at 3.1-54.)

The Project will adhere to the design guidelines and development standards in the Master Community Plan and Development Area Plans for the Project. This would require native and low-water-consumption plant species to be installed when landscaping to reduce water use. (Project EIR at 3.1-55.)

Implementation of the Project foundation support systems within the landfill area would reduce any potential adverse impacts related to aquifers and subsidence. The Project applicant will work with SCVWD in installing and maintaining the Project support systems. (Project EIR 3.1-55.)

The Project would install a storm drainage system that will include an underground gravity network of pipes, catch basin, manholes, water quality treatment measures and other appurtenances. The Project would also be required to comply with San Francisco Bay MS4 Permit Provision C.3, Stormwater Technical Guidance. The Project's stormwater drainage system shall employ technologies to reduce and divert runoff to permeable surfaces including, Rainwater Harvesting and Reuse, Green Roofs, Green Streets (with bioretention, impermeable liner, and underdrain) and Pervious Pavements. (Project EIR at 3.10-27 to 3.10-29.)

Safety Goal 5.10.5-G1 Protection of life, the environment and property from natural catastrophes and man-made hazards.

Safety Goal 5.10.5-G2 Adequate emergency preparedness plans.

Safety Goal 5.10.5-G3 Availability of emergency services in the event of a disaster.

Safety Goal 5.10.5-G4 City codes and regulations that are consistent with applicable regional, State and federal regulations for safety.

Safety Policy 5.10.5-P1 Use the City's Local Hazard Mitigation Plan as the guide for emergency preparedness in Santa Clara.

Safety Policy 5.10.5-P4 Identify appropriate evacuation routes so people can be efficiently evacuated in the event of a natural disaster.

Safety Policy 5.10.5-P5 Regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards, including flooding, seismic, erosion, liquefaction and subsidence dangers.

Safety Policy 5.10.5-P6 Require that new development is designed to meet current safety standards and implement appropriate building codes to reduce risks associated with geologic conditions.

Safety Policy 5.10.5-P7 Implement all recommendations and design solutions identified in project soils reports to reduce potential adverse effects associated with unstable soils or seismic hazards.

Safety Policy 5.10.5-P10 Support efforts by the Santa Clara Valley Water District to reduce subsidence.

Safety Policy 5.10.5-P11 Require that new development meet stormwater and water management requirements in conformance with State and regional regulations.

Safety Policy 5.10.5-P12 Continue to participate in the National Flood Insurance Program and encourage all property owners within flood hazard areas to carry flood insurance.

Safety Policy 5.10.5-P13 Require that development complies with the Flood Damage Protection Code.

Safety Policy 5.10.5-P14 Coordinate with the Federal Emergency Management Agency to ensure appropriate designation and mapping of floodplains.

Safety Policy 5.10.5-P15 Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water run-off.

Safety Policy 5.10.5-P16 Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.

Safety Policy 5.10.5-P17 Require that grading and other construction activities comply with the Association of Bay Area Governments' Manual of Standards for Erosion

and Sediment Control Measures and with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction.

Safety Policy 5.10.5-P18 Implement the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program and the Urban Runoff Management Plan.

Safety Policy 5.10.5-P19 Limit development activities within riparian corridors to those necessary for improvement or maintenance of stream flow.

Safety Policy 5.10.5-P20 Maintain, upgrade and replace storm drains throughout the City to reduce potential flooding.

Safety Policy 5.10.5-P21 Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.

Safety Policy 5.10.5-P22 Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants and the environment are adequately protected from hazards associated with contamination, in accordance with applicable regulations.

Safety Policy 5.10.5-P23 Require appropriate clean-up and remediation of contaminated sites.

Safety Policy 5.10.5-P24 Protect City residents from the risks inherent in the transport, distribution, use and storage of hazardous materials.

Safety Policy 5.10.5-P28 Continue to require all new development and subdivisions to meet or exceed the City's adopted Fire Code provisions.

Safety Policy 5.10.5-P29 Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.

Safety Policy 5.10.5-P30 Review the location and design of development within Airport Land Use Commission jurisdiction for compatibility with the Airport Land Use Compatibility Plan.

Safety Policy 5.10.5-P32 Encourage all new projects within the Airport Influence Area to dedicate an aviation easement.

Safety Policy 5.10.5-P33 Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.

Safety Policy 5.10.5-P34 Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems,

and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.

Safety Policy 5.10.5-P35 Establish minimum buffers between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless a project-specific study demonstrates that these risks can be reduced to acceptable levels.

During construction, material would be disturbed; this could expose soil and buried refuse, resulting in a significant impact related to soil erosion. However, Mitigation Measure GEO-1.1, as presented in Section 3.9, *Geology and Soils*, would reduce potential erosion impacts. Because the Project site is located on a landfill, settlement beneath buildings and other improvements could occur, which could result in man-made hazards. The placement of new structures, including residential and commercial buildings, in areas that would be subject to liquefaction could expose people to injury or death and result in substantial damage to physical improvements. Project features could also be damaged by expansive and corrosive soils. Implementation of Mitigation Measures GEO-2.1 through GEO-2.5 would reduce these hazards to less than significant. Project construction and excavation could expose construction workers to constituents of potential concern (COPCs) in the soil; however, implementation of Mitigation Measure HAZ-2.1, as included in Section 3.11, *Hazards and Hazardous Materials*, would reduce this impact. In addition, the Project is located on a landfill where subsurface hazardous materials could pose a significant hazard to human health. Mitigation Measures HAZ-4.1 through HAZ-4.6 would reduce these impacts to less than significant. (Project EIR at 3.1-56.)

The Project would be required to comply with the City's Local Hazard Mitigation Plan, which would serve as a guide for emergency preparedness at the Project site. (Project EIR at 3.1-56.)

Because the landfill is elevated above its surroundings, the majority of the Project site would not be subject to flooding. Therefore, the Project site (including Parcel 5) would be outside of the FEMA-designated 100 year flood zone. (Project EIR at 3.1-56.)

With respect to seismic activity, all Project structure will meet the design parameters of the California Building Code (CBC), as enforced by the City Building Official. Though the Project site could also be subject to erosion, liquefaction, and subsidence, but implementation of Mitigation Measures GEO-2.1 through GEO-2.5 would reduce these impacts. (Project EIR at 3.1-56 to 3.1-57.)

The Project would require implementation of Mitigation Measure GEO-2.4 (Section 3.9, *Geology and Soils*). Final Project design plans that cover both the Project site and off-site areas would be submitted to the City Building Department. Project site structures would be designed to accommodate predicted ground settlement, as determined in the design-level geotechnical investigation for the Project improvements. In addition, Project site buildings and improvements shall be constructed in accordance with the CBC, at the time of development, as required by the Santa Clara City Code. Preliminary geotechnical investigations have been prepared for Parcels 1 through 5. However, Mitigation Measure GEO-2.1, which calls for a design-level geotechnical investigation, would require further field exploration. Mitigation Measure GEO-2.2 requires a final geotechnical report that includes

measures to address issues related to unstable soils and seismic hazards. These design solutions would reduce potential adverse effects associated with these hazards. (Project EIR at 3.1-57.)

The Project would comply with Santa Clara Valley Urban Runoff Pollution Prevention Plan (SCVURPPP) Provision C.3 requirements through the incorporation of low-impact development (LID) measures into the design to reduce stormwater runoff. The SCVURPPP Hydromodification Management Plan (HMP) complies with the SF Bay MS4 permit. The HMP delineates areas where increases in runoff are most likely to affect channel health and water quality and provides management options to maintain pre-project runoff patterns. The Project would also be designed to comply with the requirements of San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit Order R2-2009- 0074, NPDES Permit No. CAS612008; SCVURPPP; and City requirements. (Project EIR at 3.1-57.)

All proposed structures on Parcels 1-4 would be constructed on top of the landfill mounds, which are at higher elevations than their surroundings. Therefore, the Project would not place housing or structures within a 100-year flood hazard area, as mapped on a flood insurance rate map (FIRM). The Project design would use the 1 percent (100-year flood) water surface elevations for the Guadalupe River and San Tomas Aquino Creek to ensure that waterways would not be affected. Therefore, the Project site (including Parcel 5) would be outside of the FEMA-designated 100-year flood zone. (Project EIR at 3.1-58.)

As listed in Section 3.10, *Hydrology and Water Quality*, the following stormwater treatment measures and best management practices (BMPs) would be considered as part of the design: bioretention areas (with underdrain), flow-through planters, tree well and media filters, infiltration trenches, rainwater harvesting and reuse, green roofs, green streets (with bioretention and underdrain), and pervious pavements (with underdrain). BMPs would be implemented to prevent soil erosion. During construction, these measures would include installing erosion and sediment control devices, such as silt fences, staked straw wattles, and geofabric, to prevent silt runoff to storm drains and waterways. Post-project runoff would not exceed estimated pre-project rates and/or durations or result in increased potential for erosion. (Project EIR at 3.1-58.)

Project construction activities will comply with the Association of Bay Area Governments' Manual of Standards for Erosion and Sediment Control Measures and with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction. (Project EIR at 3.1-58.)

The Project would be required to comply with SCVURPPP (formerly known as the Santa Clara Valley Nonpoint Source Pollution Control Program) Provision C.3 Stormwater Technical Guidance because it would involve the creation of an impervious surface area equal to 50 percent or more of the pre-project impervious surface area. The Project would reduce total runoff rates through the implementation of LID measures and, therefore, would be in compliance with Provision C.3. (Project EIR at 3.1-59.)

A new bridge would be constructed over San Tomas Aquino Creek, connecting Great America Parkway and the Convention Center to Parcel 4. Therefore, impacts on San Tomas Aquino Creek would occur because of in-stream work and new bridge footings in the creek. However, Mitigation Measure BIO-5.1 would reduce impacts on this area. (Project EIR at 3.1-59.)

The Project would include new stormwater collection and conveyance infrastructure on all parcels as part of the overall Stormwater Management Plan, which would include stormwater treatment measures to satisfy NPDES Municipal Regional Permit Provision C.3. A complete storm drain study for the 10-year and 100-year storm events would be prepared and submitted for review and approval by the City. (Project EIR at 3.1-59.)

The Eastside Retention Basin and pump station has the capacity to serve the Project. However, depending on the final configuration of the on-site stormwater management and drainage system for Parcel 3, improvements to the ditch and some of the City storm drain system through the existing commercial property to the north may be required. The drainage swale that connects the Tasman lift station to the Retention Basin would need to be upgraded to allow for sufficient conveyance. In addition, the Golf Course Storm Pump Station would most likely be abandoned and removed. A complete storm drain study for the 10-year and 100-year storm events would be prepared and submitted for review and approval by the City. (Project EIR at 3.1-59.)

According to a conceptual site model prepared as part of the site investigation and environmental risk assessment, the potential receptors who could be exposed to soil contamination on Parcels 1, 2, 3, and 4 were identified as groundskeepers and construction workers. Project construction and excavation could expose construction workers to COPCs in the soil; however, implementation of Mitigation Measure HAZ-2.1, as included in Section 3.11, *Hazards and Hazardous Materials*, would reduce this impact. In addition, the majority of the Project site (with the exception of Parcel 5) is located on a landfill where subsurface hazardous materials could pose a significant hazard to human health. Mitigation Measures HAZ-4.1 through HAZ-4.6 would reduce these impacts to less than significant. Project construction would also disturb the existing leachate collection and removal systems and, as a result, create a significant impact related to groundwater quality. Mitigation Measure HAZ-5.1 would reduce the impact. (Project EIR at 3.1-59 to 3.1-60.)

The Project site is located at a former landfill. As discussed in Section 3.11, *Hazards and Hazardous Materials*, although landfill gas control systems are included in the Project design and are regulatory requirements for post-closure landfill management under 27 CCR, the design requirements for these systems focus primarily on the mitigation of explosion hazards associated with methane gases and not health risks associated with the inhalation of toxic air contaminants. As a result, the Project could have a significant impact on the health of residents and commercial workers who could be exposed to volatile COPCs in indoor air. However, Mitigation Measures HAZ-4.1 through HAZ-4.6 would promote appropriate cleanup and remediation of the Project site to reduce impacts on on-site residents, workers, and visitors. (Project EIR at 3.1-60.)

Project construction activities would include the routine transport, use, or disposal of hazardous materials, such as motor fuels, oils, solvents, and lubricants. These construction

activities would take place at both the Project site and in off-site areas. The Project would include residential (Parcels 4 and 5 only), commercial, office, hotel, and entertainment land uses (all parcels). Therefore, small quantities of commercially available hazardous materials, such as household cleaning and landscaping supplies, as well as diesel fuel for backup generators, would routinely be handled and used. If rebuilt, Fire Station 10 would use hazardous materials similar to those used at the existing fire station. However, because compliance with existing regulations would be mandatory, the routine transport, use, or disposal of hazardous materials during Project construction and operation would have a less-than-significant impact on the public or the environment. (Project EIR at 3.1-60.)

As detailed in Section 3.10, *Hydrology and Water Quality*, the SWPPP requires implementation of BMPs related to hazardous materials. The BMPs pertain to storage and soil stockpiles, inspections, maintenance, training of employees, and containment of releases to prevent runoff into existing stormwater collection systems and waterways. Because compliance with existing regulations is mandatory, the routine transport, use, or disposal of hazardous materials during Project construction and operation would have a less-than-significant impact on the public or the environment. (Project EIR at 3.1-61.)

The buildings that are currently located on the Project site were constructed after 1980. Therefore, lead-based paint and asbestos are not expected to be present in existing buildings that are to be demolished. Regardless, demolition of the existing buildings would be conducted in compliance with all applicable regulations. (Project EIR 3.1-61.)

The Project Developers have coordinated with SCFD regarding site plans and the design of the Project. Consultation with SCFD will continue throughout the development process. All new structures as well as open space, circulation, and site access areas would meet or exceed City fire code regulations. (Project EIR at 3.1-61.)

The Project has been reviewed by the ALUC for compatibility with the Airport Land Use Compatibility Plan, per the requirements of this policy. The residential part of the Project was deemed inconsistent with ALUC noise policies because of the proposed location of residential uses within the 65 dBA CNEL. Regardless, review by the ALUC has occurred. (Project EIR 3.1-61.)

The Project's tallest building is approximately 17 stories, or a maximum of 190 feet above the future on-site street grade. Project building heights would not exceed 219 feet above msl, which is consistent with FAA hazard height limits at SJC. (Project EIR at 3.1-61.)

Potential odor sources from Project operations would include diesel exhaust from weekly trash pick-up and the use of architectural coatings during routine maintenance; limited odors may also result from residential cooking appliances. When compared to existing odor sources in the surrounding area, which include commercial and residential uses, odor impacts from Project operation would be similar. Accordingly, Project operation is not expected to result in odor impacts that exceed BAAQMD thresholds. Finally, potential odors from the disturbance of landfill soil would be controlled through Mitigation Measure HAZ-2.1, as presented in Section 3.11, *Hazardous Materials*, which includes on-site odor monitoring during excavation. (Project EIR at 3.1-61.)

Noise Goal 5.10.6-G3 Land use, development and design approvals that take noise levels into consideration.

Noise Policy 5.10.6-P1 Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels defined on Table 5.10-1.

Noise Policy 5.10.6-P2 Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan "normally acceptable" levels, as defined on Table 5.10-1.

Noise Policy 5.10.6-P3 New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls).

Noise Policy 5.10.6-P4 Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.

Noise Policy 5.10.6-P5 Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.

Noise Policy 5.10.6-P6 Discourage noise sensitive uses, such as residences, hospitals, schools, libraries and rest homes, from areas with high noise levels, and discourage high noise generating uses from areas adjacent to sensitive uses.

Noise Policy 5.10.6-P7 Implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/Research and Development uses compatible with the Norman Y. Mineta International Airport land use restrictions.

Noise Policy 5.10.6-P10 Encourage transit agencies to develop and apply noise reduction technologies for their vehicles to reduce the noise and vibration impacts of Caltrain, Bay Area Rapid Transit, future High Speed Rail, light rail and bus traffic.

Mitigation Measure NOI-1.3, as included in Section 3.6, *Noise*, would require a Noise Control Plan.[6] This plan would be developed by an acoustical design professional. Design features and treatments would be identified to ensure that exterior and interior noise levels at proposed uses would be in compliance with the noise standards and mitigation measures are effective. The Project would be designed to reduce noise levels to the maximum amount feasible. (Project EIR at 3.1-62.)

[6] Although NOI-1.3 is termed a "Mitigation Measure" in the DEIR, the FEIR converted NOI-1.3 to a Condition of Approval.

The Project EIR reviews the Project's consistency with General Plan compatibility standards and acceptable noise exposure levels in the City. Section 3.6, *Noise*, discusses the noise impacts associated with the Project. (Project EIR 3.1-62.)

Section 3.6, *Noise*, includes mitigation measures to reduce noise levels. Mitigation Measure NOI-1.1 addresses construction noise impacts, Mitigation Measure NOI-1.2 addresses off-site noise, and Mitigation Measure NOI-1.3 reduces noise impacts on noise-sensitive uses. (Project EIR at 3.1-63.)

The Project would be required to implement a Noise Control Plan, per Mitigation Measure NOI-1.3 and as outlined in Section 3.6, *Noise*. This mitigation measure would require, but not be limited to, the construction of enclosures around noise-generating equipment, the use of setbacks, and the installation of high-performance windows as well as sound-rated exterior walls, doors, roofs, and ceilings. This would reduce interior noise impacts from roadway, heavy-rail, and light-rail noise for on-site residences, hotels, and office/commercial land uses. However, exterior noise levels, such as from balconies or open areas, would not be mitigated because of the inability to shield exterior levels from all adjacent traffic and rail noise. Because sound walls (or other solid noise barriers) are not considered feasible to fully mitigated on-site impacts, the Project is inconsistent with this policy. (Project EIR at 3.1-63.)

Noise from non-transportation sources would include on-site noise generated by residences; commercial and other non-residential uses, primarily HVAC; and minor building-related sources. Implementation of Mitigation Measure NOI-1.3 would ensure that potential noise impacts would be addressed through design (i.e., enclosures around noise-generating equipment, setbacks to maximize distances to residences, and noise-reducing treatments in new buildings), which would reduce this impact to a less-than-significant level. (Project EIR at 3.1-63.)

The Project site is located 2.7 miles north of SJC and included in the CLUP for the airport. Mitigation Measure NOI-1.3, as presented in Section 3.6, *Noise*, would reduce interior noise levels. This would allow the office component of the Project to be compatible with the CLUP. (Project EIR 3.1-64.)

The Project has been reviewed by the ALUC for compatibility with the Airport Land Use Compatibility Plan. The residential part of the Project was deemed inconsistent with ALUC noise policies because of the proposed location of residential uses within the 65 dBA CNEL. Implementation of Mitigation Measure NOI-1.3 would not adequately reduce exterior noise from aircraft noise for residential areas. However, the Project Developer would continue to work with SJC to reduce aircraft noise to the fullest extent possible. (Project EIR 3.1-64.)

Housing Goals and Policies

Goal A Create and maintain high-quality, livable, and unique residential neighborhoods and preserve established single-family neighborhoods.

Policy A1 Maintain and improve the quality of residential neighborhoods, eliminate housing deficiencies and prevent future blight through the encouragement of ongoing maintenance, rehabilitation and conservation of existing housing stock.

Policy A3 Promote compatibility between neighborhoods while Respecting differences in neighborhood character.

Policy A4 Promote consensus with City Design Guidelines

Goal B Manage growth in the City by designating suitable vacant or underutilized sites for new residential development and ensuring compatibility with community goals and existing neighborhoods.

Policy B1 Disperse affordable housing units throughout the City to Avoid a concentration in any one neighborhood.

Policy B2 Encourage the building of higher density housing on appropriate vacant or underutilized sites.

Policy B3 Encourage the annual construction of the number of housing units necessary to meet the City's regional housing needs determination through housing finance and reducing development constraints.

Policy B4 Promote compatibility between neighborhoods while respecting differences in neighborhood character.

Policy B5 Work towards the mitigation of jobs/housing ratio impacts created by developments with significant employment.

Policy B6 Encourage higher density residential development in transit oriented and mixed use areas where appropriate.

Policy B7 Encourage a mix of unit types and sizes in new housing development.

Goal C Provide housing within the community for persons of all economic levels, regardless of religion, gender, sexual orientation, marital status, national origin, ancestry, familial status, source of income, or mental or physical disability.

Policy C1 Construct and preserve affordable housing for lower and moderate income households through the use of public subsidies, regulatory incentives and flexible development standards.

Policy C2 Participate in local, regional, State and federal programs that support affordable, transitional, supportive and permanent housing.

Policy C3 Create opportunities for affordable housing and housing to support special needs populations and extremely low income households.

Policy C4 Ensure equitable housing opportunities for all residents.

Goal D Provide an adequate variety of individual choices of housing tenure, type and location, including higher density where possible, especially for low and moderate income and special needs households.

Policy D1 Promote a variety of housing types, in different locations to maintain social and economic diversity in the City.

Policy D2 Participate in programs that provide support services to residents in need.

Policy D3 Increase public outreach efforts to inform residents and potential developers of available City housing programs.

Policy D4 Encourage early participation from residents and other stakeholders in development of long range plans and review of new development proposals.

Policy D5 Ensure compliance with all State and federal regulations relating to housing opportunities and the prevention of discrimination.

The Project will not obstruct any of the foregoing housing policies. Although the Project site has not been previously designated as a site for residential development, the 240 acres are currently underutilized. The proposed General Plan designation and zoning for the Project site would allow the Project to be compatible with City goals and policies (i.e., promoting new residential development on currently underutilized sites). Up to 1,680 dwelling units are proposed on Parcels 4 and 5 of the Project site. These units would increase density on the Project site, which is currently underutilized compared with adjacent development. (Project EIR at 3.1-65.) The Project Site was not included in the inventory of available sites for residential housing development when the City adopted its most recent housing element, and so the potential addition of the 1,680 dwelling units will further the City's goal of meeting its regional housing needs allocation, in furtherance of Policy B3. As also discussed above, the Project is physically and visually separated from residential neighborhoods and instead abuts properties that house similar office and entertainment uses. Therefore the Project would be compatible with and in character with surrounding neighborhoods. The Project would include up to 1,680 units in a mixed-use development that would be adjacent to major local and regional transit lines. The Project site is currently within walking distance of two VTA light-rail stations and the heavy-rail Great America Amtrak Station. (Project EIR at 3.1-66.)

Policy B5 obligates the City to explore ways to alleviate a jobs/housing imbalance created by the Project, and the City is presently fulfilling its obligations under this policy. Per the General Plan Housing Element, the City will carry out Policy B5 by complying with the terms of Housing Element Implementation Action #13. Implementation Action #13 directs the City to:

- Continue to require housing impact studies as part of project-related environmental reviews for new developments or businesses that generate a high number of jobs.

- Continue to require Housing Impact Studies through development agreements with new projects, to address the impact on the affordable housing supply.

- Consider, in 2015-2016, establishing an affordable housing mitigation fee for office and industrial developments that propose a significant square footage of area where persons are to be employed.

The Draft EIR contains the required housing impacts study in the form of the jobs/housing balance analysis and resulting impact conclusions. The City has taken the steps necessary to establish an affordable housing mitigation fee for office development. On October 27, 2015, the City Council authorized the City Manager to enter into an MOU with the Silicon Valley Community Foundation to fund a multi-jurisdictional effort to develop a nexus study for an affordable housing impact fee. The City Manager signed the final agreement on April 12, 2016. In accordance with the terms of the Development Agreement between the City and the Developer, the Developer has agreed to set aside 10% of its residential units as affordable units at a moderate affordability level or below. In the event that residential development is either not allowed on Parcel 4 (Phases 2 and 3) or proves infeasible on Parcel 4 as a result of the environmental regulatory agency controls on the landfill, then the Developer will pay an in lieu fee to satisfy the 10% housing commitment for housing provided on Parcel 5 (Phase 1). In sum, Housing Policy B5 does not prohibit the construction of projects that worsen the jobs/housing ratio or render such project inconsistent with Policy B5. Rather the policy obligates the city to take a series of steps to mitigate any ratio imbalance created. The City has taken such steps and the Project is therefore consistent with Housing Policy B5.

With respect to affordable housing, the Project Master Developer has agreed in the Development Agreement to construct 10% of its residential units as affordable units at a moderate affordability level or below. In the event that residential development is either not allowed on Parcel 4 (Phases 2 and 3) or proves infeasible on Parcel 4 as a result of the environmental regulatory agency controls on the landfill, then the Developer will pay an in lieu fee to satisfy the 10% housing commitment for housing provided on Parcel 5 (Phase 1). This agreement supports Housing Policy C2 above.

Goals and Policies Not Implicated by the Project

Some General Plan goals and policies are simply not implicated by the Project. For example, goals and policies relating to the preservation of historic resources are not implicated by the Project because no historic resources exist on or near the Project site. General Plan goals and policies that do not apply to the Project are identified below and an explanation of their inapplicability is provided.

Prerequisite Goals and Policies Not Implicated

Prerequisite Goal 5.1.1-G5 A balanced community in terms of jobs, housing, supporting infrastructure and public services.

Prerequisite Policy 5.1.1-P9 Prior to the implementation of any net new industrial or commercial development beyond that identified as "Approved/Not Constructed and Pending Projects" on Figure 2.3-1,[7] establish a mechanism to meter development, consistent with the assumptions in Appendix 8.6: General Plan Land Use Assumptions, in order to maintain the City's projected jobs/housing balance and ensure adequate infrastructure and public services.

The Project will be identified as one of the "Approved/Not Constructed and Pending Projects" upon project approval. (General Plan at Figure 2.3-1.) Thus, the Project will not be within the scope of Prerequisite Policy 5.1.1-P9. Likewise, Prerequisite Goal 5.1.1-G5 is not implicated.

Prerequisite Policy 5.1.1-P7 Prior to the implementation of Phase III of the General Plan, initiate the planning process for one or more of the Future Focus Areas included in that Phase.

Prerequisite Policy 5.1.1-P8 Prior to approval of residential development for Phase III in any Future Focus Area, complete a comprehensive plan for each area that specifies:

Land Uses, with the location of residential, retail, mixed-uses, public facilities, schools and parks.

Street System, with the location of neighborhood circulation elements, connections to existing roadways, pedestrian and bicycle amenities, and access to alternate transportation modes.

Community Design, with appropriate design guidelines for private development, public facilities, streetscapes and transitions to adjacent land uses.

Infrastructure and Utilities, with provisions for sufficient storm drain, sanitary sewer conveyance, wastewater treatment, water, solid waste disposal and energy capacity.

Public Services, with provisions that new development: does not have adverse impacts on libraries; arts, cultural and community facilities; police services; and fire and life safety services; and avoids impacts on schools and requires mitigation consistent with State regulations.

Fiscal Health, with an evaluation of projected costs and revenues associated with implementation of the Future Focus Area development and its potential effects on the City's budget.

Public Participation, with opportunities for community input at each stage of the planning process.

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[7] The General Plan currently contains a misprint listing this Figure as 2.1.1, which does not exist in the General Plan. This misprint will be corrected as a part of the General Plan Amendment.

The Project is not within a Future Focus Area and thus, the above goals and policies applicable to such areas are not implicated by the Project.

Prerequisite Policy 5.1.1-P16 Prior to 2023, work with Valley Transportation Authority to implement a transit loop for Downtown from the Santa Clara Transit Station

Prerequisite Policy 5.1.1-P19 Prior to 2023, if the Downtown Core has not developed in accordance with the Downtown Focus Area plan, complete a planning study to determine the feasibility of civic uses.

Prerequisite Policy 5.1.1-P22 Prior to 2023, comprehensively update the City's list of Architecturally or Historically Significant Properties (Appendix 8.9), including evaluation of historic significance and statement of historic context for historic resources.

The Project does not implicate the City's work within the Downtown loop and Downtown Core areas as the Project is not located in these areas. The Project does not implicate any update of the list of Historic Resources because the Project site does not contain any historic resources.

Individual Goals and Policies Not Implicated

Land Use Goals and Policies

Land Use Policy 5.3.1-P18 Meter net new industrial and commercial development excluding "Approved/Not Constructed and Pending Projects" identified on Figure 2.1-1 so as not to exceed 2.75 million square feet in Phase I, 5.5 million square feet in Phase II and 5.5 million square feet in Phase III in order to maintain the City's jobs/housing balance and ensure adequate infrastructure and public services.

Because the Project will be included on the list of "Approved/Not Constructed and Pending Projects" (*see* General Plan at Figure 2.3-1.), this land use policy is not implicated.

Land Use Policy 5.3.1-P7 Work with State and regional agencies to ensure that their plans and projects are consistent with the City's General Plan.

Because the Project does not a State or Regional agency project, this land use policy is not implicated.

Land Use Policy 5.3.1-P21 Allow Public/Quasi Public uses, including places of assembly such as places of worship, schools, emergency shelters and convalescent homes, in all General Plan designations, provided that access is from a Collector or larger roadway, and that they are compatible with planned uses on neighboring properties and other applicable General Plan policies. Such uses not associated with government operations are prohibited in areas designated Light Industrial or Heavy Industrial, and in areas designated High or Low Intensity Office/Research and Development outside the Exception Area.

Because the Project does not propose any public uses such as places of worship, schools, emergency shelters and convalescent homes, this land use policy is not implicated.[8]

> ***Land Use Policy 5.3.1-P22*** Encourage conveniently located child care and other family support services in the community, except in areas designated for Light and Heavy Industrial Uses.

Because the Project does not propose any child care or family support services facilities, this land use policy is not implicated.

> ***Land Use Policy 5.3.1-P23*** Maintain adequate separation between Specified Regulated Businesses and existing and planned residential and school uses, and other Specified Regulated Businesses.

> ***Land Use Policy 5.3.1-P32*** Prohibit new, and expansion of existing, Specified Regulated Businesses, as defined under this General Plan, in all land use designations, unless the new or expanded use is replacing an existing, legal, similar business and is located in a commercial land use designation, and meets all other applicable General Plan policies.

Because the Project does not propose any Specified Regulated Businesses on site and is not located near any such businesses, the above land use policies are not implicated.

> ***Land Use Policy 5.3.1-P28*** Encourage undergrounding of new utility lines and utility equipment throughout the City.

Because the Project will not be constructing above-ground utility equipment, this land use policy is not implicated.

> ***Land Use Policy 5.3.1-P31*** Allow emergency shelters in the light industrial land use designation.

Because the Project is not located in a light industrial zone, this land use policy is not implicated.

> ***Land Use Policy 5.3.1-P34*** Annually review those areas of the General Plan that are subject to flooding identified by the floodplain mapping prepared by the Federal Emergency Management Agency or the State Department of Water Resources, and amend the Plan, as appropriate to reflect any changes.

Because the Project is not located in an area identified by the Federal Emergency Management Agency as subject to flooding, this land use policy is not implicated.

Mixed Use Goals and Policies

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[8] The Project proposes to include a city-operated park located on parcel three, and access to the park will be provided via a larger roadway. (Project EIR at Figure 2-12.)

Mixed Use Policy 5.3.4-P1 Transform underutilized commercial centers into new mixed-use destinations, consistent with applicable land use classifications.

Because the Project does not propose to construct on an underutilized commercial site, this policy is inapplicable.

Mixed Use Policy 5.3.4-P3 Prohibit single-use development in mixed-use classifications unless allowed under Focus Area or Neighborhood Compatibility Policies.

Because the Project does not propose to construct single-use development, this policy is inapplicable.

Mixed Use Policy 5.3.4-P16 Discourage auto-oriented uses, such as drive-through retail establishments, auto repair, and service stations in mixed-use designations, except under certain circumstances within the Community Mixed-Use designation in the El Camino Real Focus Area.

Mixed Use Policy 5.3.4-P17 For Neighborhood and Community Mixed Use properties under one-half acre, allow mixed-use development of entirely residential uses or development of entirely commercial or community serving office uses in order to facilitate development on smaller lots, consistent with the required density and intensity ranges as well as other applicable General Plan policies.

Mixed Use Policy 5.3.4-P18 Prohibit Specified Regulated Businesses, as defined under this General Plan, in all developments in Mixed-Use designations that include residential uses.

The foregoing three policies are not applicable because: (1) the Project does not propose drive-through and auto repair establishments; (2) the Project site is not less than one-half acre; and (3) the Project does not propose to construct any Specified Regulated Uses.

Residential Use Goals and Policies

Residential Policy 5.3.2-P5 Allow development of second units in single-family neighborhoods, provided that the development complies with the General Plan Transition policies and that it is compatible with surrounding neighborhoods

The Project will not be constructed in a single-family neighborhood; therefore this policy is not applicable.

Residential Policy 5.3.2-P18 Promote Santa Clara University stewardship to provide adequate management oversight of off-campus student housing.

Residential Policy 5.3.2-P19 Work with Santa Clara University to provide adequate student housing on-site or contiguous to the University facilities, including a potential student housing district, and to facilitation adoption of University standards for property owner compliance with housing operations and conditions.

Residential Policy 5.3.2-P20 Encourage expansion of Santa Clara University's residency opportunities and its enforcement of minimum standards for off-campus housing as a requirement for undergraduate and graduate student enrollment.

The Project does not implicate the City's coordination with Santa Clara University; therefore, the foregoing two policies are not applicable.

Office and Industrial Goals and Policies

Office and Industrial Policy 5.3.5-P19 Restrict the use and storage of hazardous materials for industrial uses within 500 feet of existing residential uses.

Office and Industrial Policy 5.3.5-P20 Prohibit Specified Regulated Businesses from all office/industrial designated properties.

The foregoing two policies are not applicable because: (1) the Project does not propose to act as a storage site for hazardous materials; and (2) the Project does not propose to construct any Specified Regulated Businesses.

Office and Industrial Policy 5.3.5-P9 Allow additional square footage of up to ten percent, but not less than 2,500 square feet, of a proposed Office/R&D Development for commercial uses provided that such commercial uses have the potential to reduce daytime vehicle trips.

The amendment to the General Plan designating the Project site as Urban Center/Entertainment District renders this policy inapplicable.

Office and Industrial Policy 5.3.5-P11 Construct sidewalks in industrial areas, with priority along streets served by existing or planned transit services.

The Project will not be located in an industrial area (but will construct sidewalks for its interior streets). Therefore, this policy is inapplicable.

Office and Industrial Policy 5.3.5-P18 Allow residential uses existing as of January 1, 2010, located between the Caltrain corridor and Richard Avenue, within 500 feet of Lafayette Street, as a conforming use in the Light Industrial classification, with the requirement that any future redevelopment or intensification on those properties conform to the provisions in the Light Industrial land use classification.

There are no pre-existing residential uses on the Project site; therefore this policy is not applicable.

Neighborhood Compatibility Goals and Policies

Neighborhood Compatibility Policy 5.5.2-P4 Provide adequate separation between incompatible land uses in order to minimize negative effects on surrounding existing and planned development.

Neighborhood Compatibility Policy 5.5.2-P6 Adjust new building height, scale and massing along the site perimeter abutting planned lower-intensity uses.

Neighborhood Compatibility Policy 5.5.2-P7 For buildings of three stories or greater, increase the setback of upper stories where they abut lower-intensity residential uses.

Neighborhood Compatibility Policy 5.5.2-P8 Encourage enhanced streetscape design and reduced building mass for non-residential uses located across the street from lower-intensity residential neighborhoods.

The foregoing policies are not applicable because: (1) the Project is adjacent to similar uses, not incompatible uses; (2) the Project is not adjacent to low-intensity uses; (3) the Project will not abut residential uses; add (4) the Project is not situated across from low-intensity residential uses.

Transportation Goals and Policies

General Mobility and Transportation Policy 5.8.1-P10 Resolve conflicts between any plans, construction or funding for improvements and the Transportation and Mobility Diagrams or text, including those that alter the classification of a transportation facility, through a General Plan Amendment in order to evaluate the broader implications of the proposal and maintain internal consistency of the Plan.

Because the Project does not create a conflict with the Transportation Mobility Diagram, this policy is inapplicable

Parking Policy 5.8.6-P9 Consider neighborhood parking programs, such as "permit-only" and timed parking zones, to minimize parking intrusion on residential streets.

The foregoing policy does not apply because: (1) the Project does not propose construction of residential-only streets and is not located near residential streets; and (2) the Project is not adjacent to residential neighborhoods.

Parks, Open Space and Recreation Goals and Policies

Parks, Open Space and Recreation Policy 5.9.1-P12 Promote the preservation of open space and recreational areas on existing and closed school sites.

Parks, Open Space and Recreation Policy 5.9.1-P19 Encourage comparable parkland outside the City, near jurisdictional boundaries, that is accessible to City residents and employees, and allow it to contribute to the 2.4 acres per 1,000 population standard if controlled, or partially controlled, by the City.

The foregoing policies do not apply because: (1) the Project will not be constructed on a closed school site; and (2) the Project proposes construction of park space within the Project site and outside the City or near City boundaries.

Environmental Quality Goals and Policies

Energy Policy 5.10.3-P2 Transition away from using coal as an energy source to renewable resources by replacing coal in Silicon Valley Power's portfolio, exploring City owned property for renewable energy projects, developing solar projects, and incentivizing solar projects for residents and businesses, consistent with the CAP.

Energy Policy 5.10.3-P3 Maximize the efficient use of energy throughout the community by achieving adopted electricity efficiency targets and promoting natural gas efficiency, consistent with the CAP.

The Project does not implicate the City's ability to transition away from coal as an energy source or the City's adoption of electricity efficiency targets. Therefore, these policies are not applicable.

Energy Policy 5.10.3-P12 Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.

Energy Policy 5.10.3-P13 Work with the City of San Francisco to explore opportunities to share the Hetch-Hetchy right-of-way for electrical facilities.

Energy Policy 5.10.3-P14 Work with Pacific Gas and Electric to ensure an adequate supply of natural gas to meet the demand generated by new development.

Water Policy 5.10.4-P9 Work with Santa Clara Valley Water District to improve the Santa Clara Distributary.

Water Policy 5.10.4-P10 Work with Santa Clara Valley Water District to minimize undesirable compaction of aquifers and subsidence of soils.

The Project does not implicate the City's ability to work with energy providers, water districts or other cities; therefore these policies do not apply.

Water Policy 5.10.4-P11 Require that any unused wells be abandoned properly.

Because there are no wells on the Project site, this policy is not applicable:

Safety Policy 5.10.5-P31 Discourage schools, hospitals, sensitive uses and critical infrastructure, such as power plants, electric substations and communications facilities, from locating within specified safety zones for the Airport as designated in the Airport Comprehensive Land Use Plan.

Safety Policy 5.10.5-P2 Work with school districts and other public/quasi-public building owners to use facilities as shelters in the event of emergencies.

Safety Policy 5.10.5-P3 Require that special occupancy buildings, and other structures that support protection of community health and safety, remain operative during emergencies.

Safety Policy 5.10.5-P8 Encourage property owners to retrofit potentially hazardous structures, such as unreinforced masonry buildings, and to abate or remove structural hazards.

Safety Policy 5.10.5-P9 Encourage all hospitals, schools and other public buildings to adequately retrofit for seismic shaking in accordance with State regulations.

Safety Policy 5.10.5-P25 Use Best Management Practices to control the transport of hazardous substances and to identify appropriate haul routes to minimize community exposure to potential hazards.

Safety Policy 5.10.5-P26 Survey pre-1980 buildings and abate any lead-based paint and asbestos prior to structural renovation and demolition, in compliance with all applicable regulations.

Safety Policy 5.10.5-P27 Locate hazardous waste management facilities in areas designated as Heavy Industrial on the Land Use Diagram if compatible with surrounding uses and consistent with the County Hazardous Waste Management Plan.

The foregoing policies do not apply to the Project because: (1) the Project does not propose to construct schools or hospitals; (2) the Project developer is not a school district or quasi-public building owner; (3) the Project does not propose to construct special occupancy buildings; (4) the Project does not contain hazardous structures or pre-1980 structures; (5) the Project does not propose construction of public buildings; and (6) the Project does not propose construction of a hazardous waste management facility.

All Focus and Future Focus Area Goals and Policies

As discussed above, the Project is not located in a Focus Area or Future Focus Area. Therefore, Future Focus Area Goals 5.4.7-G1 through 5.4.7-G3 and Future Focus Area Policies 5.4.7-P1 through 5.4.7-P10 are not implicated.

All Historic Resource Goals and Policies

There are no historic resources located on or near the Project site. Therefore Historic Preservation Goals 5.6.1-G1 through 5.6.1-G3 and Historic Preservation Policies 5.6.1-P1 through 5.6.1-P10 are not implicated. Likewise, Historic Sensitivity Goals 5.6.2-G1 through 5.6.2-G2 and Historic Sensitivity Policies 5.6.2-P1 through 5.6.2-P6 are not implicated.

All Rail and Freight Goals and Policies

The Project does not propose any rail or freight uses. Therefore, Rail and Freight Goals 5.8.7-G1 through 5.8.7-G2 and Rail and Freight Policies 5.8.7-P1 through 5.8.7-P7 are not implicated.

All Discretionary Use Goals and Policies

The Project does not propose an alternate land use classification as compared to the General Plan land use designation for the Project site. The General Plan was amended to designate the Project site as Mixed-Use, Urban Center/Entertainment District. The Project proposes uses permitted under this land use classification. Thus, Discretionary Use Goals 5.5.1-G1 through 5.5.1-G2 and Discretionary Use Policies 5.5.1-P1 through 5.5.1-P17 are not implicated.

Housing Goals and Policies

Policy A2 Provide code enforcement support for residential neighborhoods in conformance with City Code and Zoning Ordinance regulations.

The Project does not implicate the City's ability to enforce its laws; therefore this policy is not applicable.

Goals and Policies Not Fully Promoted by the Project

Conservation Policy 5.10.1-P4 Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way.

Air Quality Goal 5.10.2-G1 Improved air quality in Santa Clara and the region.

Air Quality Goal 5.10.2-G2 Reduced greenhouse gas emissions that meet the State and regional goals and requirements to combat climate change.

Air Quality Policy 5.10.2-P2 Encourage development patterns that reduce vehicle miles traveled and air pollution.

Noise Goal 5.10.6-G1 Noise sources restricted to minimize impacts in the community.

Noise Goal 5.10.6-G2 Sensitive uses protected from noise intrusion.

Noise Policy 5.10.6-P8 Continue to encourage safe and compatible land uses within the Norman Y. Mineta International Airport Noise Restriction Area.

Noise Policy 5.10.6-P9 Work with the City of San José Norman Y. Mineta International Airport to implement mitigation from aircraft noise to the fullest extent possible.

Noise Policy 5.10.6-P11 Develop and include noise reduction measures with improvements and extensions of City streets.