

Addendum No. 1 to IFB 26-83



CITY OF SOMERVILLE, MASSACHUSETTS
Department of Procurement and Contracting Services
JAKE WILSON
MAYOR

To: Bidders of IFB 26-83 West Somerville Neighborhood School Roof Replacement

From: Thupten Chukhatsang, Senior Procurement Manager

Date: July 16, 2026

Re: Extension of the Submission Deadlines for Filed Sub Bids and General Bids
Change, Clarifications & Revisions to the Scope, Specifications, Plans and Details
Questions and Responses
Appendix A: Attachments –
1) Project Drawings: AD-101, AD-102, AD-401, A-105
2) Project Manual: Spec revisions
3) SGH 2023 Roof Report (included for reference, not part of project scope)

Addendum No. 1 to IFB 26-83

This addendum extends the submission deadlines of both Filed Sub Bids and General Bids and makes changes to the scope, provides clarifications and responses to bidder questions, and includes attachments.

**** Failure to acknowledge this addendum may result in bid disqualification.****

NAME OF COMPANY / INDIVIDUAL: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE/FAX/EMAIL: _____

SIGNATURE OF AUTHORIZED INDIVIDUAL: _____

ACKNOWLEDGEMENT OF ADDENDA:

Addendum #1 _____ #2 _____ #3 _____ #4 _____

Addendum No. 1 to IFB 26-83

Extension of Submission Deadlines for Filed Sub Bids and General Bids

Filed Sub-Bids are now due by 3:00 pm on Monday, July 20, 2026.

General Bids are now due by 3:00 pm on Monday, July 27, 2026.

Change to the Scope:

Existing river rock on roof to be salvaged and transported to a City of Somerville owned facility.

Clarifications on Scope, Specifications provided in this addendum:

- 1. Clarification of HVAC scope provided**
- 2. Addition of plumbing scope for clarification**

Revisions to Scope, Specifications, Plans and Details:

The following drawings, specifications and details are to replace any previous versions and are made part of this addendum and attached under APPENDIX A: ATTACHMENTS.

Architectural Drawings: AD-101, AD-102, AD-401, A-105

Project Manual: Spec section 024100 Demolition, Div 22 Plumbing

Questions and Responses:

#	Questions	Responses
1	We don't see any specification section for Plumbing. Please advise.	Plumbing spec has been added to clarify plumbing scope
2	Does the HVAC contractor have to temporarily lift fans and other equipment that has vertical roof membrane that will be replaced?	See AD-101, AD-102, A-104 and A-105 for equipment to be temporarily lifted. The required crane to temporarily lift the mechanical plenum falls under HVAC scope.
3	Is other HVAC equipment (like the H&V unit, chiller, etc.) staying in place, with no HVAC scope required?	Correct. HVAC scope includes raising the AHU/chiller piping at the building exterior only.
4	On drawing AD-101, at the intersection of column lines B and 4 there is a note to "Protect and temporarily lift equipment during reroofing." What equipment at that location is that note referring to, the large exhaust fan or the small mushroom fan or both?	The note arrow indicates the equipment that the note is referring to, which is the mechanical plenum. Access below the plenum is limited, so that piece must be lifted temporarily. It must be protected and not damaged since it will be reinstalled in place, on new sleepers. The required adjustments of nearby equipment is indicated in separate notes. See photo 2/AD-101, LR-1.

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5	Does the large AHU near the center of the low roof have to be lifted and reinstalled or no? Will the curb for the AHU be reflashed/reworked by the roofing contractor requiring the AHU to be removed and reinstalled, or can the AHU remain in place?	The AHU and Chiller (located at grids 5/G – 5/K) do not need to be lifted and reinstalled. Panels on a portion of the exterior of the AHU near grid 5/G will need to be removed to demo existing roofing and install new membrane roofing below the unit. The portion of the AHU that has membrane flashing around the perimeter will be replaced with new membrane flashing. See Photo LR-5 and LR-6 on AD-101. Replacing the piping that runs along the roof surface to these units is included in the project scope. No HVAC adjustments will to be made to the AHU or chiller units beyond piping replacement.
6	With change in roof elevation, is the height of the AHU curb (or any other equipment curbs) changing?	No changes to AHU curb. Temporary lifting and equipment support modifications are called out on AD-101, AD-102, A-104, A-105.
7	What trade/contractor should include electrical scope/costs? Should the general bidders include it or should the HVAC subcontractor or another subcontractor include it? Or should an Electrical filed sub bid be added?	General contractor scope
8	Which contractor should include the costs of a crane / hoisting of the equipment, the roofing contractor or HVAC contractor?	HVAC equipment shall be under HVAC contractor scope
9	Should the two unused condensing units associated with the elevator machine room and IT closet be demolished?	No
10	What is the desired elevation of the new refrigerant piping between the chiller and mechanical room?	The final height will be coordinated with the roof insulation shop drawings. The elevational difference between the existing and new piping location will be less than 12”.
11	Should the short run of refrigerant piping in the mechanical room be replaced as well?	No interior piping will be replaced.
12	Do the ductwork supports on high roof need to be lifted? Do temporary duct supports need to be utilized?	See notes on AD-102 and A-105. Temporary duct supports will be required to support the mechanical plenum during reroofing, prior to the installation of new mechanical plenum curbs.
13	Balancing specifications are included in the bid documents. Can you please confirm what the specific balancing scope is for the project?	See section 230593-1.2-A-1: <i>Testing and balancing existing cooling system equipment (existing AHU and Chiller) after installation and reconnection of new piping, piping insulation, and required accessories.</i> System testing and balancing is required after the replacement of the AHU/chiller piping.
14	Is there any other required HVAC scope besides what is noted on the architectural drawings?	HVAC scope is included on architectural drawings and within the project manual. There are no separate mechanical drawings included in project drawings.

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15	Can HVAC drawings or sketches be issued, or can a summary or list of the HVAC scope be provided to ensure that bidders are pricing the HVAC scope properly?	There will not be separate HVAC drawings issued for this project. For increased clarity, a summary is provided below, but all information included in drawings and spec remain within project scope even if not included in the list below. Facility Fuel Systems Allow for crane time for duration of HVAC removal Packaged Outdoor HVAC Equipment Exhaust fan -Reinstallation of existing Fan Packaged Outdoor HVAC Reinstallation of mechanical equipment w/associated piping work Packaged Outdoor HVAC Equipment Remove Existing Piping Packaged Outdoor HVAC Equipment Cut Cap Existing Feeds Packaged Outdoor HVAC Equipment Reinstall with New Pipe 6-8" Black Steel Packaged Outdoor HVAC Equipment Insulation for the Above Pipe Packaged Outdoor HVAC Equipment Restart and Balance Chiller System Building Management Systems Allow BMS control points to reinstalled equipment
16	Can a bid extension be given for the filed sub bids, based on these RFI responses?	A bid extension has been granted for the filed sub bids as part of this addendum. Filed Sub-Bids are now due by <u>3:00 pm on Monday, July 20, 2026.</u> Additionally, General Bids are now due <u>by 3:00 pm on Monday, July 27, 2026.</u>
17	The Filed sub section 077200 is not a category of filed sub. I noticed that you called it misc metals but there is already a misc metals section 055000. This section appears to not be filed. You may run across objection from a misc metals sub regarding his work. You will have trouble finding a bidder with a certification of this description.	The non-ballasted, non-penetrating roof rails are within the 077200 Roof Accessories spec, which shall be owned under the filed-sub bid category Miscellaneous and Ornamental Iron.
18	The roofer typically owns the items found within the 077200 Roof Accessories spec. Please consider having the roofer own this and misc metals owning their own work of 055000	The non-ballasted, non-penetrating roof rails are within the 077200 Roof Accessories spec, which shall be owned under the filed-sub bid category Miscellaneous and Ornamental Iron.
19	There is no plumbing spec but there appear to be roof drains involved. There is also a plumbing FSB bid form. Is it intended to be filed? If so will you offer a spec and a scope required to be by the plumber?	A plumbing spec has been included as part of Addendum 1 for scope clarification.
20	What is the demolition scope outside of the roofing FSB? If there is none, the roofer should own this spec.	See spec section 024100 Demolition and the AD series demolition drawings for demolition scope.

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21	The specs appear to direct us to hand-deliver bids but but also note bidexpress. Can you confirm both are acceptable.	Yes, both methods of submitting your bid are acceptable. Please choose one method. You do not need to submit both the hand delivered bid and also the online BidExpress version.
22	Please confirm the roofing FSB owns their own staging and hoisting. There is no way for GC to know the extent they will require and the duration. It will be more cost effective and efficient for the city of Somerville.	The GC is required to provide the necessary staging and hoisting equipment for sub bidders to get personnel and material access to the low and high roof. Roofing FSB is required to own their own staging and hoisting for roofing-specific materials once materials are on the low and high roof levels. See spec section 01 General Requirements for all access restrictions and requirements of the building, including that temporary facilities are required to be owned and operated by the General Contractor. Per General Requirements, interior access of the building is not permitted, and exterior access and temporary facilities must be maintained throughout the project by the General Contractor.
23	Please confirm FSB roofer owns wood blocking/framing for their work. It would be very inefficient to have two different subs in each other's way and waiting on each other.	Roofing Contractor shall own wood blocking/framing for all roofs, including at building façade perimeter and at asphalt shingle roofs. All wood blocking and framing not at roof shall be owned under the General Contractor scope.
24	Please define the 092110 Gypsum Board assembly scope.	See A-402 for 092110 scope at perimeter walls
25	Does the city want to save money on the pest control in the spec? Not typically needed for a roof renovation.	The Rodent Control specifications in the bid package are removed per this addendum.
26	Is the electrical scope limited to lightning protection? That is all we have for specs. If there are disconnects/reconnects for equipment the electrician would need to know.	Electrical scope includes lightning protection and all electrical scope shown on the drawings, including but not limited to 10/AD-401, showing all existing penetrations, including electrical, <8" from T.O. existing roof shall be relocated higher to be minimum 4" above new roof membrane.
27	Is existing rooftop equipment intended to remain in place for reroofing?	Yes, unless otherwise noted.
28	Can you confirm what is the misc, metals scope? Reattaching the roof ladder and the cable tie downs. That all I can find on the drawings. Please advise.	Miscellaneous and Ornamental Iron filed sub-bid scope includes the non-ballasted, non-penetrating roof rails (within the 077200 Roof Accessories spec). Misc metals scope shown on drawings, including, but not limited to, reattaching the roof ladder and cable tie downs, new supports under the existing mechanical plenum equipment.

(Continued on the Next Pages)

Appendix A: Attachments

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APPENDIX A: ATTACHMENTS

- 1) Project Drawings: AD-101, AD-102, AD-401, A-105**

WSNS - Roof Renovation

177 Powder House Blvd, Somerville,
MA 02144



PROJECT TEAM

OWNER:

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Somerville, MA 02145
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Debora Mitrano
tel: (617) 666-3311
email: DMitrano@somervillema.gov

ARCHITECT:

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email: CNGrey@sgh.com

CODE CONSULTANT:

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Austin Smith
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email: asmith@crclfir.com

SPECIFICATIONS:

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tel: (617) 964-5477
email: jford@kalinassociates.com

COST ESTIMATOR

DHARAM CONSULTING
One Beacon Street Floor 15
Boston, MA 02108
Contact:
Chris Hartnett
tel: (857) 895-2171
email: CHartnett@dharamconsulting.com

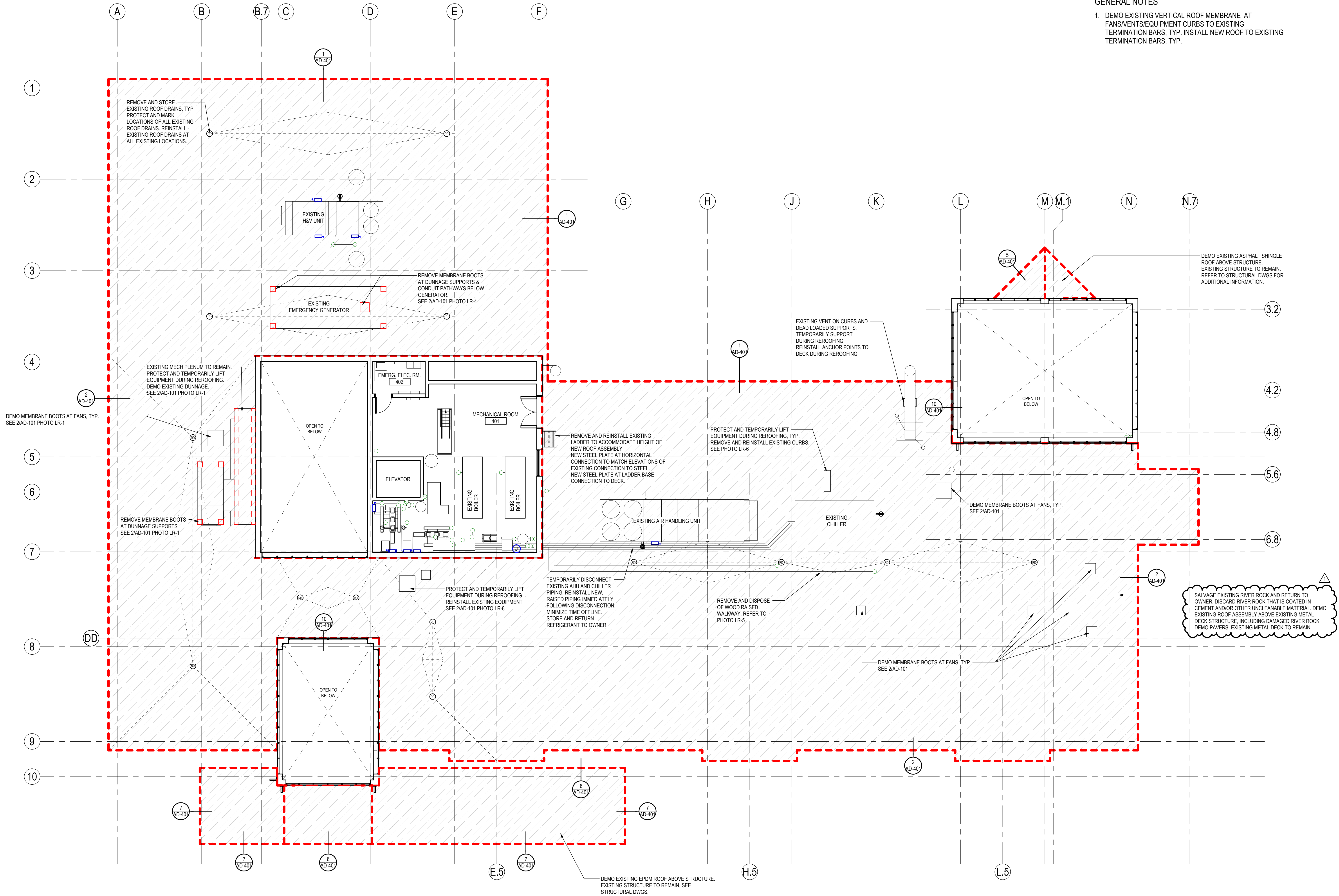
DRAWING INDEX	
NO.	DRAWING NAME
GENERAL	
G-011	EXISTING FLOOR PLANS
LIFE SAFETY	
LS-001	CODE REPORT
ARCHITECTURAL DEMOLITION	
AD-001	DEMOLITION LEGENDS & NOTES
AD-101	DEMOLITION LOW ROOF PLAN
AD-102	DEMOLITION HIGH ROOF PLAN
AD-401	DEMOLITION VERTICAL DETAILS
ARCHITECTURAL	
A-001	STANDARD ABBREVIATIONS & SYMBOLS
A-104	FLOOR PLAN - LOW ROOF
A-105	FLOOR PLAN - HIGH ROOF
A-105A	FLOOR PLAN - ROOF'S - INSULATION & DRAINAGE
A-200	BUILDING EXTERIOR AXON
A-201	BUILDING ELEVATIONS - NORTH & SOUTH
A-202	BUILDING ELEVATIONS - EAST & WEST
A-203	EXTERIOR ELEVATIONS - ROOF
A-211	BUILDING SECTIONS
A-300	ROOF SYSTEM TYPES
A-301	TYP RMS - ROOF DTLS, SINGLE PLY MEMBER ON STL DECK
A-401	VERTICAL DETAILS
A-402	VERTICAL DETAILS
A-403	ARCHITECTURAL AXONOMETRIC DETAILS



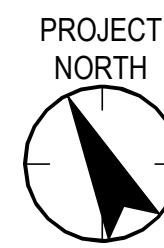
2 LOW ROOF EXISTING CONDITIONS - LR-X PHOTOS - FOR REFERENCE ONLY
AD-101 NTS

GENERAL NOTES

1. DEMO EXISTING VERTICAL ROOF MEMBRANE AT FANS/VENTS/EQUIPMENT CURBS TO EXISTING TERMINATION BARS, TYP. INSTALL NEW ROOF TO EXISTING TERMINATION BARS, TYP.



1 DEMO PLAN - LOW ROOF
AD-101 1/8" = 1'-0"

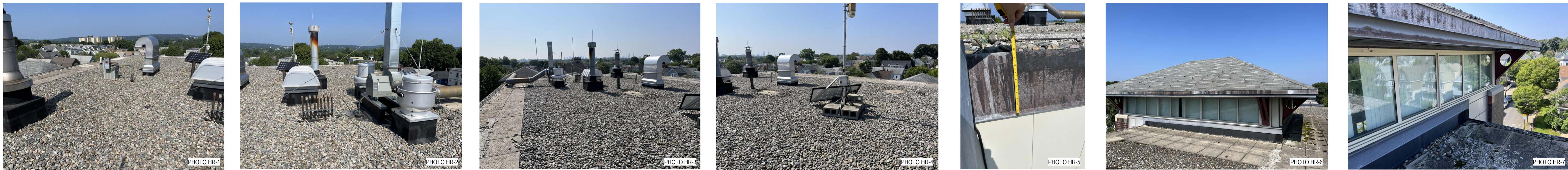


1	ADDENDUM 1	2026.07.14
RD	DOCUMENT	2026.07.14
Issued/Revision		YYYY.MM.DD
Permit/Seal		

Scale	As indicated
Project No.	218421578

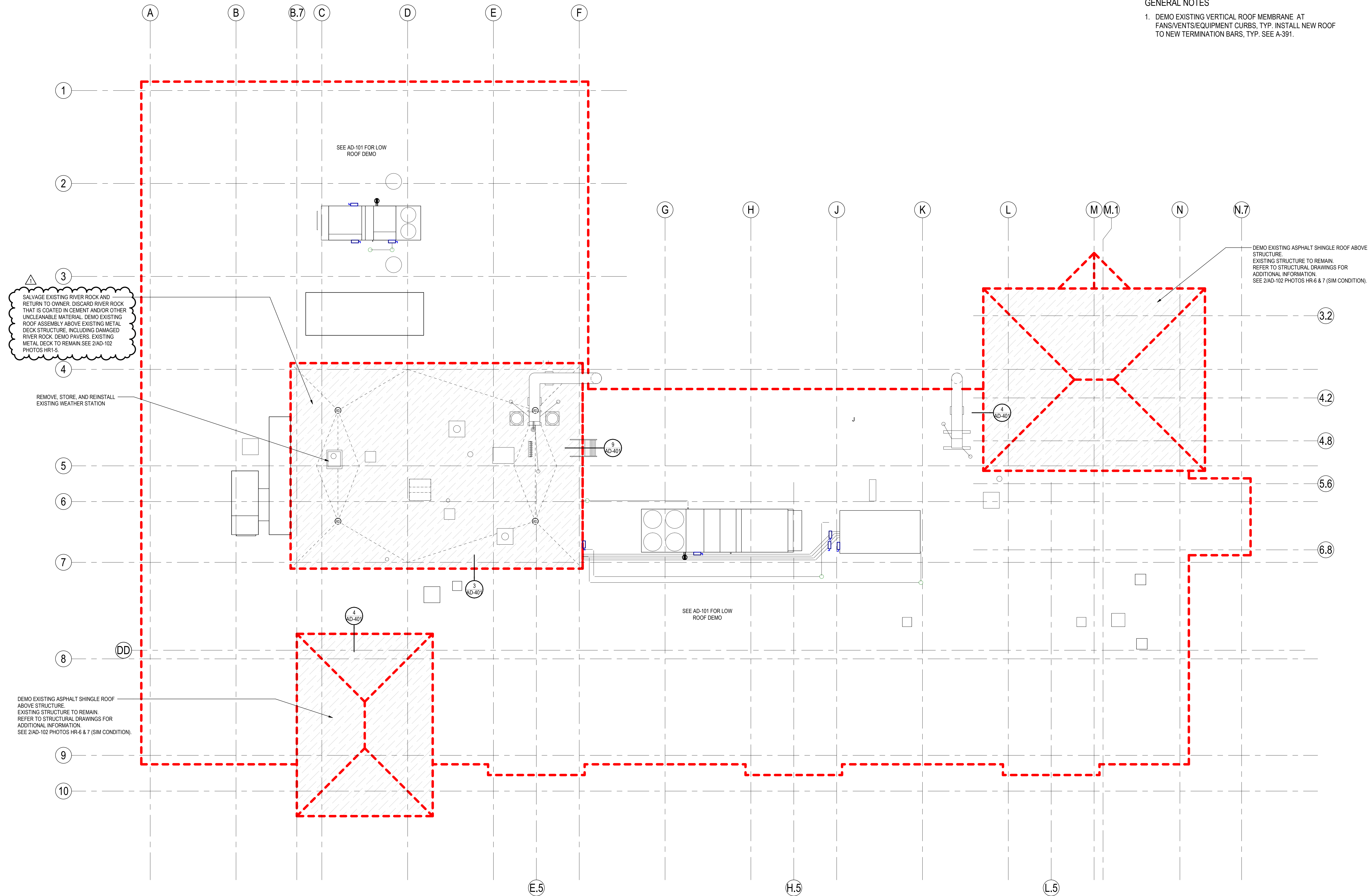
DEMOLITION HIGH
ROOF PLAN

AD-102



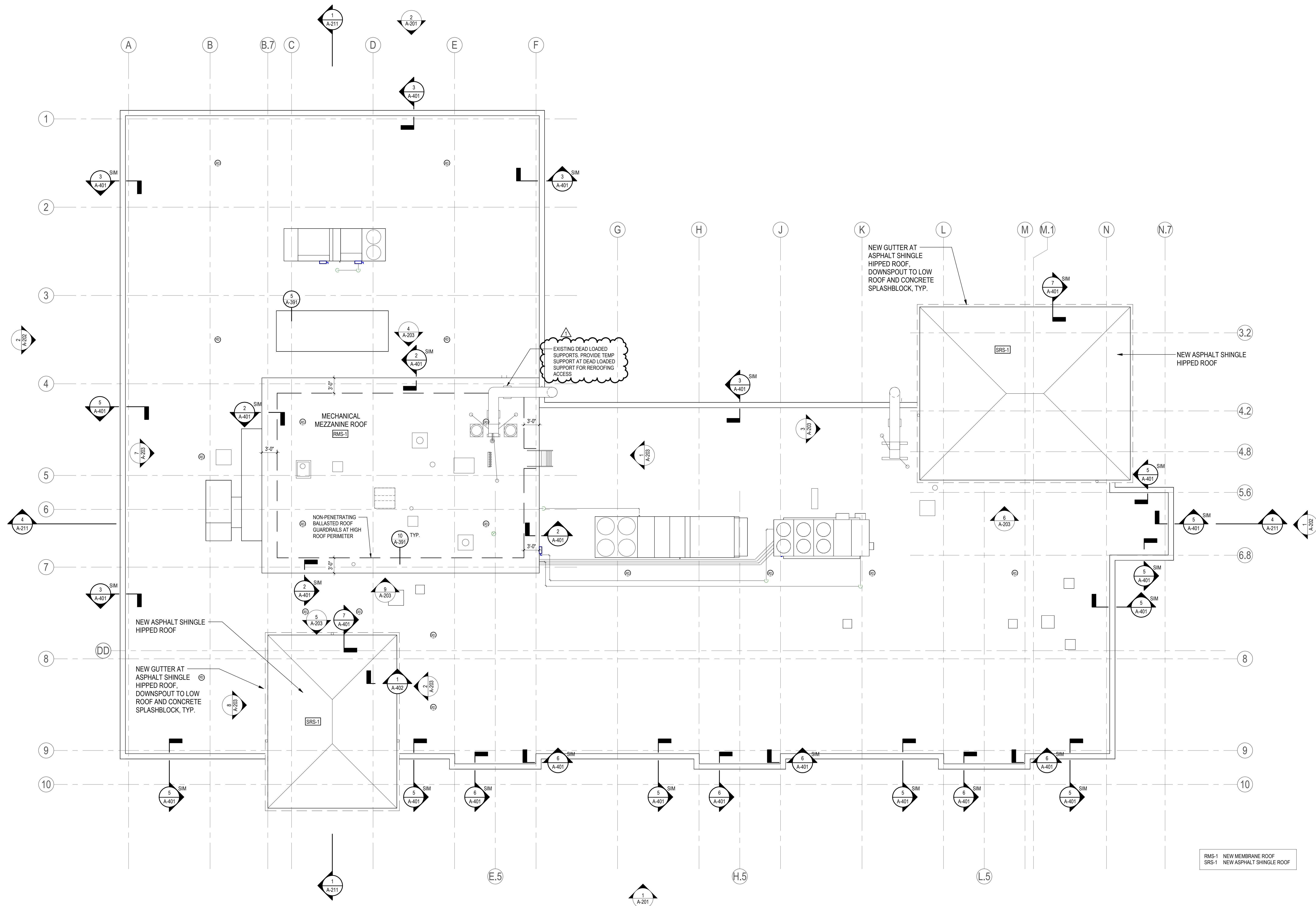
2 HIGHROOF EXISTING CONDITIONS - HR-X PHOTOS - FOR REFERENCE ONLY
AD-102 NTS

- GENERAL NOTES
- DEMO EXISTING VERTICAL ROOF MEMBRANE AT FANS/VENTS/EQUIPMENT CURBS. TYP. INSTALL NEW ROOF TO NEW TERMINATION BARS. TYP. SEE A-391.



1 DEMO PLAN - HIGH ROOF
AD-102 1/8" = 1'-0"





1 FLOOR PLAN - HIGH ROOF
A-105 1/8" = 1'-0"

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APPENDIX A: ATTACHMENTS

- 2) Project Manual: Spec section 024100 Demolition, Div 22 Plumbing**

PROJECT MANUAL

WEST SOMERVILLE NEIGHBORHOOD SCHOOL

ROOF REPLACEMENT

Somerville, MA

Bid Documents - Addendum 1
July 14, 2026

ARCHITECT
Stantec Architecture and Engineering PC
40 Water Street, Third Floor
Boston, MA 02109
617-234-3100

PROJECT MANUAL

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By Owner

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Section 013000	Submittals
Section 014100	Testing Agency
Section 015000	Construction Facilities and Temporary Controls
Section 015300	Barriers, Enclosures and Access
Section 015600	Traffic Control and Construction Signage
Section 016000	Product Requirements
Section 016200	Substitution Request Form
Section 017000	Project Closeout and Warranties
Section 017400	Construction Waste Management
Section 019100	General Commissioning Requirements

DIVISION 02 - EXISTING CONDITIONS

Section 024100 Demolition

DIVISION 05 - METALS

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DIVISION 06 - WOOD, PLASTICS AND COMPOSITES

Section 061000	Rough Carpentry
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DIVISION 07 - THERMAL AND MOISTURE PROTECTION

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* Filed Sub-Bid Required

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APPENDICES

To be determined

END OF TABLE OF CONTENTS

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included:
 - 1. Demolition and removal of selected portions of buildings and structures and as required for new work. Refer to the Drawings for additional requirements.
 - 2. Salvage of existing items to be reused or turned over to the facility.
 - 3. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the facility, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at their expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
 - 4. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.
 - 5. Scheduling and sequencing operations without interruption to utilities serving occupied areas. If interruption is required, obtain written permission from the utility company and the Owner.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 011000 - GENERAL REQUIREMENTS for temporary facilities and controls, for maintenance of access, for cleaning during construction, and for dust and noise control.
 - 2. Section 017400 - CONSTRUCTION WASTE MANAGEMENT for waste management and recycling.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to the Owner ready for reuse, at a location designated by the Owner. Protect from weather until accepted by Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain property of the Owner as applicable. Carefully remove each item or object in a manner to prevent damage and deliver promptly to a location acceptable to the Owner.

1.5 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with early and late starting and finishing dates for each activity. Ensure Owner's on-site operations are uninterrupted if applicable.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. **Use of building elevator and stairs is not permitted.**
 - 5. Locations of proposed dust- and noise-control temporary partitions and means of egress, including for other occupants affected by selective demolition operations.
 - 6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
 - 7. Means of protection for items to remain and items in path of waste removal from building.
- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged, and turned over the Owner.
- C. Predemolition Video and Pictures: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Comply with Division 01 requirements. Submit before Work begins.

1.6 QUALITY ASSURANCE

- A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.
- B. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Predemolition Conference: Conduct conference at Project site to comply with requirements in Section 011000 - GENERAL REQUIREMENTS, Project Meetings. Review methods and procedures related to selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed

by selective demolition operations.

5. Review areas where existing construction is to remain and requires protection.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 SALVAGING

- A. Salvaged for Reinstallation: Materials indicated on the Drawings to be salvaged and reinstalled shall be carefully removed and stored at a location acceptable to the Architect and Owner.
This is including, but not limited to, the existing ladder to the high roof and the weather station located at the high roof.
- B. Salvaged for Storage: Materials indicated on the Drawings or designated in the field by the Owner to be salvaged and stored shall be carefully removed and delivered to the Owner at locations determined by Owner. **This is including, but not limited to, the existing river rock.**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer registered in the state that the project is located to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction videotapes.
 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 1. Arrange to shut off indicated utilities with utility companies and Owner.
 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area

of selective demolition and that maintain continuity of services/systems to other parts of building.

3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
4. Prior to commencing cutting work in existing surfaces, take all precautionary measures to assure that mechanical and electrical services to the particular area have been made inactive. Coordinate with Fire Suppression, Plumbing, HVAC, and Electrical subcontractors. Only licensed tradesmen of that particular trade shall disconnect and cap existing mechanical and electrical items that are to be removed, abandoned and/or relocated.
5. If, during the process of cutting work, existing utility lines are encountered which are not indicated on the Drawings, regardless of their condition, immediately report such items to the Architect. Do not proceed with work in such areas until instructions are issued by the Architect. Continue work in other areas.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Comply with requirements for access and protection specified in Section 011000 - GENERAL REQUIREMENTS, Temporary Facilities and Controls.
 2. Maintain adequate passage to and from all exits at all times. Before any work is done which significantly alters access or egress patterns, consult with the Architect and obtain approval of code required egress. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.
- B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 1. Strengthen or add new supports when required during progress of selective demolition.
 2. Remove temporary shoring, bracing and structural supports when no longer required.
 3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.
- C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).
 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
 2. Protect existing site improvements, appurtenances, and landscaping to remain.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Maintain clear unimpeded passage through the work area for safety and emergency egress.
 10. Saw cut overruns in concrete and masonry for new door, window and other finish openings is not permitted. Core drill corners and finish square to match required opening.
 11. Dispose of demolished items and materials promptly.
 - a. Comply with requirements in Section 017400 - CONSTRUCTION WASTE MANAGEMENT.
- B. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to storage area designated by the Owner.
 5. Protect items from damage during transport and storage.
- C. Removed Items for Reinstallation by the Respective Trade.
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to storage area designated by the Owner.
 5. Protect items from damage during transport and storage.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

E. Items for Re-use and Preservation of Existing Surfaces to Remain:

1. The Contractor shall inspect closely each item specifically designated to be relocated, re-used, or turned over to the Owner prior to its removal, and immediately report damages and defects to the Architect and the Owner. The Contractor shall be responsible for any subsequent damage to the same other than latent defects not readily apparent from close inspection, and shall bear responsibility for its repair or same replacement as directed by the Architect, to the satisfaction of the Owner.
2. Unless special surface preparation is specified under other Specification Sections, leave existing surfaces that are to remain in a condition suitable to receive new materials and/or finishes.

3.5 PROTECTION OF PUBLIC AND PROPERTY

- A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Owner's employees during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.
- B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Architect, and to the satisfaction of the Owner.
- C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other cause and so as not to cause interference with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.
- D. Every precaution shall be taken to protect against movement or settlement of the building, of adjacent buildings, sidewalks, roads, streets, curbs and pavements. Provide and place at the Contractor's own expense, all necessary bracing and shoring in connection with demolition and removal work.
- E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing and adjacent building structures, both internal and external of the particular work area.
- F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress. Dust barriers shall prevent the dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.

3.6 DISCOVERY OF HAZARDOUS MATERIALS

- A. If hazardous materials, such as chemicals, asbestos-containing materials, or other hazardous materials are discovered during the course of the work, cease work in affected area only and immediately notify the Architect and the Owner of such discovery. Do not proceed with work in such areas until instructions are issued by the Architect. Continue work in other areas.

- B. If unmarked containers are discovered during the course of the work, cease work in the affected area only and immediately notify the Architect and the Owner of such discovery. Do not proceed with work in such areas until instructions are issued by the Architect. Take immediate precautions to prohibit endangering the containers integrity. Continue work in other areas.

3.7 CUTTING

- A. Perform all cutting of existing surfaces in a manner which will ensure a minimal difference between the cut area and new materials when patched. Use extreme care when cutting existing surfaces containing concealed utility lines which are indicated to remain and bear full responsibility for repairing or replacement of all such utilities that are accidentally damaged.
- B. Provide a flush saw cut edge where pavement, curb and concrete removals abut new construction work or existing surfaces to remain undisturbed.
- C. All slurry and water shall be contained and managed to avoid damage to existing conditions when using a wet saw or wet core driller.
- D. Obtain and pay for a hot work permit and arrange to have on-site a Fire Watch when using a cutting torch or similar item.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Comply with requirements of Section 017400 - CONSTRUCTION WASTE MANAGEMENT and the following:
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.9 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

END OF SECTION

SECTION 220000

PLUMBING

(Filed Sub-Bid Required)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Specification Section.
- B. Where paragraphs of this Section conflict with similar paragraphs of Division 01, the more stringent specification shall prevail.
- C. This Specification addresses the following items and Bidders shall make themselves fully informed of all the requirements of the following Sections, as they relate to plumbing roof drain scope.
 - 1. Specification Section 02 41 00 - Demolition
 - 2. Specification Section 07 00 02 – Roofing and Flashing
 - 3. Specification Section 07 01 50 – Removal of Existing Roofing
 - 4. Specification Section 07 54 00 – Thermoplastic Membrane Roofing
 - 5. Specification Section 07 71 00 – Roof Specialties
 - 6. Specification Section 07 72 00 – Roof Accessories
 - 7. Roof drains shall be removed, stored, and reinstalled with extensions as required as part of section 22 00 00.

1.2 WORK INCLUDED

- A. The intention of the specifications and plans is to provide for finished systems, properly tested and ready for operation, including necessary minor details and accessories required to make the work complete, even though such items may not be expressly shown or specified for all systems herein specified and shown on the drawings.
- B. The general work scope shall include, but shall not be limited to:
 - 1. Develop the required field coordination for the Plumbing Scope and assist others major Trade Sub-Contractors with their field coordination (i.e. Roofing and Mechanical)
 - 2. Prepare all Shop Drawings and Material/Product Submittals for specified and scheduled equipment to be furnished under this Specification Section for the Owner's Engineer review and approval.
 - 3. Provide fully coordinated demolition of existing roof drains as described in and shown on Project Drawings.
 - 4. Provide Equipment and system maintenance during construction and through warranty period.
 - 5. Provide record As-built drawings.

6. Provide Project Warranty as defined in the Division 01 Specifications and as outlined by the Owner's CM.
- C. The following general systems and equipment shall be provided as a minimum, but not be limited to:
 1. Roof drains and drain extensions
 2. Testing of existing roof drain system prior to installation and of completed roof drainage system after completion of roofing installation.
- D. The work covered by this section of the specifications includes the furnishing of all labor and materials and in performing all operations in connection with the installation of the plumbing work shown on the drawings and as described herein and shall be interpreted as work to be done by the Plumbing Contractor. Work to be performed by other trades will always be specifically referenced to a particular Contractor and/or section.

1.3 COORDINATION OF WORK

A. General

1. Plumbing Contractor shall compare his drawings and specifications with those for other Trades and report any discrepancies between them to the Architect and obtain from written instructions, changes necessary in the plumbing work. All work shall be installed in cooperation with other Trades installing interrelated work. Before installation, Plumbing Contractor shall make proper provisions to avoid interferences in a manner approved by the Architect and General Contractor. All changes required in the work of the Plumbing Contractor caused by their neglect, shall be made by them at their own expense.
2. Cooperate with other trades in order that all systems may be installed in the best arrangement. Coordinate as required with all other trades to share space in common areas and to provide the maximum of access to each system.

B. Coordination with Owner's CM and General Construction Sub-Contractor

1. The Plumbing Contractor shall coordinate timing of testing and review of existing conditions.
2. Plumbing Contractor shall confirm all existing roof drains are in good working condition and do not require replacement prior to beginning demolition.
3. Plumbing Contractor shall install required length of roof drain extension coordinated with roofing shop drawings.
4. Plumbing Contractor shall provide testing of reinstalled roof drain system after roofing is complete to confirm the new system is free of obstructions.

C. Coordination with Roofing Contractor

1. Coordinate with the Roofing Contractor the length of roof drain extensions.

1.4 CODES, ORDINANCES AND PERMITS

- A. Refer to Division 01 for Codes, Standards and other Project Requirements.
- B. Perform Work in strict accordance with rules, regulations, standards, codes, ordinances, and laws of local, state, and federal governments, and other authorities that have lawful jurisdiction, and be responsible for compliance therewith.
- C. In case of difference between Building Codes, State Laws, Local Ordinances, and the Contract Documents, the Contractor shall promptly notify the Architect in writing of any such difference. In case of conflict between the Contract Documents and the requirements of any Code or Authorities having jurisdiction, the most stringent requirements of the aforementioned shall govern. Any changes required in the intent of Drawings and Specifications by any properly authorized inspection agency shall be brought to Engineer's attention for review.
- D. Include in work, without extra cost, any minor changes from the Contract Documents required in order to comply with applicable laws, ordinances, rules and regulations.
- E. Materials furnished, work installed shall comply with rules, recommendations of NFPA, requirements of local utility companies, recommendations of fire insurance rating organization having jurisdiction, requirements of governmental departments having jurisdiction.
- F. Should the Contractor perform any work that does not comply with the requirements of the applicable Building Codes, State Laws, Local Ordinances, Industry Standards, and Utility Company regulations, he shall bear all costs arising in correcting the deficiencies, approved by the Engineer/Owner.
- G. Applicable Codes and Standards shall include all State Laws, Local Ordinances, Utility Company regulations, and the applicable requirements of the following accepted Codes and Standards, without limiting the number, as follows. Where code references are given, the latest issue of that code in effect at the time of bidding shall be used. Refer to the following Codes, Standards and Regulations:
 - 1. American National Standards Institute (ANSI).
 - 2. American Society for Testing and Materials (ASTM).
 - 3. National and State Electrical Code (NEC)
 - 4. National Electrical Manufacturer's Association (NEMA)
 - 5. National Fire Protection Association Codes and Standards (NFPA)
 - 6. Occupational Safety and Health Act (OSHA)
 - 7. Massachusetts State Building Code
 - 8. Massachusetts Fuel Gas and Plumbing Code
 - 9. Standards of Underwriters Laboratories (UL)
 - 10. State Department of Public Safety
 - 11. Town/City Water and Sewer Commission requirements
 - 12. Accessibility Requirements Code
 - 13. Environmental Protection Agency
 - 14. Local Ordinances, Regulations of the Cambridge Fire Dept.

- H. Permits: All permitting shall be submitted through the City of Somerville (Owner) and General Contractor. Review all filing all documents and necessary inspections and approvals necessary for the installation and operation of all systems furnished under this section with the City of Somerville (Owner) and General Contractor prior to filing any permits with the City of Somerville. Do not submit permits directly to the City of Somerville without prior approval from the Owner and General Contractor.

1.5 CORING/CUTTING/PATCHING/FIRESTOPPING

- A. There shall be no coring, cutting, or patching as part of this project scope. If an area requires new coring, cutting, and/or patching, the Plumbing Contractor shall promptly notify the Architect in writing of any such difference

1.6 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA & SAMPLES

- A. Refer to the Division 01 Specification Section that addresses Submittal Requirements/Procedures. Certified Shop Drawings and Product Submittals of the following for review and approval:
 - 1. Roof drain extensions and all required attachments and accessories for reinstallation (confirm compatibility with existing piping and drains).
 - 2. Roof drain system testing results

PART 2 - MATERIALS AND PRODUCTS

2.1 PIPE AND FITTINGS

- A. Project scope includes installation of roof drain extensions, no adjustments to existing piping nor to installation of new piping. In the event that roof drain system testing of the existing system reveals existing leaks or damage within the drainage system, any new required piping and fittings (not currently within project scope) shall follow the specifications below:
- B. Pipe and fittings shall be of U.S. manufactured and shall conform to the latest ANSI, ASTM, CS and/or FS standards.
- C. All Above Ground Soil, Waste, Vent and Storm Piping Greater than 2" in size: No-Hub Cast Iron Soil Pipe and Fittings, Uncoated with mechanical Joint-Husky or Clamp-All.
- D. All Above Ground Soil, Waste, Vent and Storm Piping 2" or less in size: Type "L" Hard Tempered Copper Tube.
- E. Type "L" Hard Tempered Copper Tubing: All hot, cold, and recirculating water piping, except exposed pipes at fixtures.
- F. Fittings for the sweat drainage pipe shall be cast bronze or wrought copper of the recessed drainage pattern.
- G. Fittings for copper tubing shall be cast bronze or wrought copper sweat type
- H. Fittings for piping not specifically mentioned shall be of the same material and type as the piping they are installed in.
- A. "Propress" style fittings are allowed.
- B. CPVC, Pex tubing, etc. are not allowed.

2.2 PIPE JOINTS

- A. All threaded pipe joints shall be made with Teflon tape wrapped on male threads only.
- B. No-Hub Cast Iron: Above ground, all joints shall be made up using Anaco "Husky", heavy duty SD-4000, Clamp-All 120# couplings or MG couplings.
- C. Type "L" copper tubing and sweat fittings shall be assembled with 95-5 tin and antimony solder, 450 degrees F. melting point and a non-corrosive flux or 96-4 tin and silver at 430 degrees F. (95.5/.5/4 copper).
- D. Joints between steel and cast iron shall be made with Manhoff type fittings screwed into threaded pipe and caulked into the cast iron pipe.
- E. Joints between copper tubing and iron pipe or at joints to tanks shall be made with a combination of iron and brass flanges with composition gasket and iron bolts.
- F. Joints between floor and wall flanges and fixtures shall be made with one-piece special molded gasket, saturated to prevent rotting and drying.

2.3 PIPE CLEANING & TESTING

- A. Prior to testing of new roof drains, clean pipe thoroughly of all construction debris/weld slag

PART 3 - EXECUTION

3.1 MATERIALS AND WORKMANSHIP

- A. All existing materials (i.e. existing roof drain bodies, existing roof drain accessories required for reinstallation) shall be safely stored until reinstallation. New materials installed in this work shall be new without damaged functional or aesthetic components. Equipment or material subject to severe deterioration shall be completely refinished or replaced as directed by the Architect.
- B. All labor utilized in the installation of the work shall be experienced in the respective trade required. The installation of exposed finished materials shall be neatly done flush, straight and/or plumb, without distortion, meeting the building finished surfaces.
- C. All plumbing materials and equipment shall conform to the Standards listed within this section of the specifications and wherever such standards have been established, items shall bear its respective label.
- D. Where labor to be furnished must meet specific code requirements, only individuals certified to do such shall be used.
- E. All equipment shall be installed in accordance with the manufacturer's instructions and recommendations with adequate clearance for access for maintenance.

3.2 COORDINATION

- A. This Contractor shall give full cooperation to the Owner's CM and all other trades and shall furnish any information necessary to permit the work of all trades to be installed satisfactorily and with the least possible interference or delay. If this Contractor installs his work before coordinating with other trades or so as to cause interference with work of other trades, he shall make necessary changes in the work to correct the condition without extra charge. Location and positioning shall be done prior to installation and to the satisfaction of the Architect. If any changes to the existing locations of roof drains is required, the General Contractor and Architect shall be notified in writing immediately.
- B. The work to be accomplished under this section includes work at an occupied, existing building roof. Continuity of services within the existing areas shall be maintained. Any interruption of services necessary to accomplish the work shall be made only with the consent of the Owner, with 10 days written notice.
- C. This Contractor shall not unnecessarily disturb or interfere with the Owner's use of the facilities associated with or adjacent to this contract. When interference is necessary, permission shall be obtained from the General Contractor before any operation or service line is disturbed or disconnected.
- D. This Contractor shall include, under coordination work, the installation of all systems in conformance with governing codes.

3.2 PROTECTION AND CLEAN-UP

- A. This Contractor shall be responsible for the maintenance and protection of all materials and equipment furnished by him during the construction period from loss, damage, or deterioration until final acceptance by the Owner. All materials and equipment on the job site shall be suitably stored and protected from the weather. All piping and equipment openings shall be temporarily closed during construction to prevent obstruction and damage.
- B. All equipment with damaged finished surfaces shall be cleaned and repainted with the same paints as was factory applied.

3.3 TESTING PIPING SYSTEMS

- A. Test roof drainage system in the presence of the Architect and/or Owner and the Plumbing Inspector, as called for in local codes and in the following manner:
 - 1. After soil, waste and vent and storm piping is in place, and before being furred in, plug lower ends and fill. The system shall be left tight under these conditions and water level shall be maintained intact for a period of at least two (2) hours.
 - 2. Any leaks in joints or evidence of defective pipe or fittings disclosed by tests shall be immediately corrected by replacing defective parts with new joints or material. No makeshift repairs effected by caulking threaded pipe with lead wool, application of wicking or patented compounds being permitted. Perform smoke tests if required by local code or by the Architect.
 - 3. As the systems or portion of systems are tested, submit certified reports stating results of testing. In addition, copies of these certified reports shall be included with the maintenance instructions.

3.4 CORING/CUTTING/PATCHING

- A. As noted in Part 1 of this Specification, there shall be no drilling, coring, cutting, patching as part of this project scope. In the event that coring, cutting, patching is required, this Contractor shall notify the Architect immediately, and prior to beginning any coring, cutting, patching work.
- B. This Contractor shall provide all core drilling necessary to install new piping through existing building roof.
- C. Structural elements such as beams, floors, walls, etc. shall not be cored or drilled.
- D. This Contractor shall be careful and schedule this work so as not to affect adjacent areas with this phase of construction.
- E. Core drilled holes shall be sized to provide a total of not less than 1/2-inch clearance around the piping.
- F. Core drilled holes shall not be used as support points for any piping.

3.5 SAFETY REQUIREMENTS

- A. This Contractor shall comply with the provisions of the "Construction Safety Act" and the "Occupational Safety and Health Act of 1970", as well as all other applicable Federal, State, and local requirements.
- B. This Contractor shall be responsible for the safety, efficiency and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.
- C. This Contractor shall notify the General Contractor of any flammable, combustible and/or toxic materials intended for use on this project and shall furnish the General Contractor literature pertinent to the use and control of such materials.

END OF SECTION

Addendum No. 1 to IFB 26-83

APPENDIX A: ATTACHMENTS

- 3) SGH 2023 Roof Report (included for reference, not part of project scope)**



HOUSE DOCTOR CONTRACT (C#210335) CONCEPTUAL PHASE ENGINEERING CONSULTING SERVICES FOR MECHANICAL SYSTEM UPDATES AND ROOF EVALUATION FOR SOLAR

West Somerville Neighbourhood School
177 Powder House Boulevard
Somerville, MA
27 October 2023

SGH Project 210209.13

PREPARED FOR
City of Somerville
Somerville City Hall
93 Highland Avenue
Somerville, MA 02143

PREPARED BY
Simpson Gumpertz & Heger Inc.
480 Totten Pond Road
Waltham, MA 02451
o: 781.907.9000



27 October 2023

Ms. Debora Mitrano
City of Somerville
Somerville City Hall
93 Highland Avenue
Somerville, MA 02143

Project 210209.13 – House Doctor Contract (C#210335) Conceptual Phase Engineering
Consulting Services for Mechanical System Upgrades and Roof
Evaluation for Solar at West Somerville Neighborhood School,
177 Powder House Boulevard, Somerville, MA

Dear Ms. Mitrano:

The enclosed report summarizes our roofing condition assessment of the West Somerville Neighborhood School based on our site visit on 6 July 2023. We look forward to working with you to provide design and construction administration phase services for the roofing replacement and will provide a proposal for these additional services upon your request.

Sincerely yours,

A handwritten signature in black ink that reads 'Katherine Wissink'.

Katherine S. Wissink, P.E.
Associate Principal
MA License 49016

\\sgh.com\offices\BOS\Projects\2021\210209.13-WSNS\WP\002KSWissink-L-210209.13.cpe.docx

Encls.

A handwritten signature in blue ink that reads 'Blerina Doucette'.

Blerina Doucette
Project Consultant

EXECUTIVE SUMMARY

The city of Somerville retained Simpson Gumpertz & Heger Inc. (SGH) to provide roofing consulting at the West Somerville Neighborhood School. SGH conducted a field survey consisting of a limited interior survey and an exterior survey and reviewed exploratory openings in the roofing system. This report provides a summary of our field observations of and recommendations for the existing roofing systems.

The building has two levels of low-sloped roofs identified at the main roof and mezzanine mechanical roof in this report. The building also has two lower canopies covered with EPDM roofing membrane that we did not review due to lack of access. The existing roofing system typically consists of stone ballast with concrete paver ballast at the roof perimeter, loose-laid EPDM membrane and insulation supported on a sloped metal deck. The roofing system at the canopy roofs does not have ballast and appears to be an adhered EPDM membrane roofing system. We observed a few minor deficiencies in the existing roofing system including deteriorated concrete paver ballast, unevenly distributed stone ballast, partially unadhered seams in the EPDM membrane, and low flashing heights at walls and penetrations. Our interior survey found only a few localized areas of staining indicative of leakage below the roof areas. The roof insulation was dry at the ten exploratory openings made in the roofing system.

The building also has two hipped roofs covered with asphalt shingles. We observed a few areas where the bottom edge of the asphalt shingles are unadhered, but observed no missing or damaged shingles. We observed a few locations of staining indicative of leakage below the hipped roofs. We did not review exploratory openings in the asphalt shingle roofing.

Both the ballasted EPDM roofing and asphalt shingle roofing systems are in fair condition but are nearing the end of their anticipated service lives. The existing roofing systems (membrane and shingle roofing) should be replaced within the next few years and localized repairs should be implemented to help maintain the existing roofing systems until they can be replaced. The cost for the roofing replacement is estimated to be \$6,206,860.

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Letter of Transmittal

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APPENDICES

APPENDIX A – West Somerville Neighborhood School – Annotated Third Floor and Roof Plans

APPENDIX B – Roof Replacement Concept Sketch

1. BACKGROUND

West Somerville Neighborhood School was originally constructed in 1995 as a public-school serving pre-kindergarten through eighth-grade students. The building is located at 177 Powder House Boulevard, Somerville, Massachusetts. The West Somerville Neighborhood School is a three-story building constructed of steel frame and concrete slab on metal deck. The building has two levels of low-sloped roofs (main and mechanical mezzanine roof - Figure 1) covered with ballasted EPDM membranes, and two small hipped roofs covered with asphalt shingles.

The building has two canopy roofs, a lower and higher canopy, above the main entrance at the south elevation of the building. We did not have access to these roofs to assess the condition of the roofing. From an aerial view, the canopy roofs appear to be covered with an EPDM roofing system (no ballast) and are likely the same age as the roofing on the main building roof. Similarly, we did not have access to assess the condition of the lower hipped roof, however, it is likely the same age as the asphalt shingle roofing on the hipped roofs on the main building.

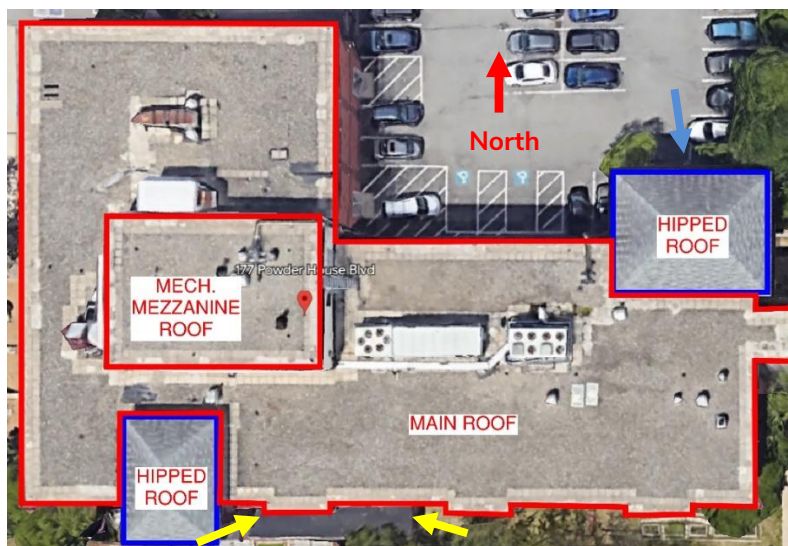


Figure 1: Aerial View of West Somerville Neighborhood School with roof identifications used for the purposes of this report Note the lower canopy roofs (yellow arrows) and location of lower hipped roof (blue arrow).

2. DOCUMENT REVIEW

We reviewed the following drawings you provided us of the West Somerville Neighborhood School:

- Original architectural construction drawings prepared by HMFH Architects, dated 12 December 1994.
- Original structural construction drawings prepared by Foley & Buhl Engineering, Inc., dated 12 December 1994.
- Original plumbing drawings prepared by TMP Consulting Engineers, Inc., dated 15 December 1994.

Key observations of the construction drawings are included below.

- The original structural drawings show the main roof framing slopped at several locations throughout the roof, with the exception of the southeast corner, which is shown as flat. The original structural drawings show the mechanical mezzanine roof framing peak at the center of the roof and sloping to the west and east sides.
- The original architectural drawings show the main and mezzanine roofs consisting of the following, from exterior-to-interior:
 - Ballast
 - EPDM membrane, loose-laid
 - Rigid roof insulation, 3-1/2 in. thick with crickets between drains and at the upslope side of mechanical units.
 - Metal deck, 1-1/2 in thick
- Detail 5/A 6.1 of the original architectural drawings shows the edge of the main roof (Figure 2). This detail shows tapered edge strip and lead-coated copper edge flashing, striped-in with roofing membrane flashing. The detail also shows concrete pavers at the edge of the roof with a bar below the roofing membrane, likely to help prevent the pavers from shifting toward the edge of the roof. The roof edge detail at the mechanical mezzanine roof is similar but has metal panel cladding at the exterior wall instead of brick veneer. Note that the detail does not show air/water barrier membrane on the exterior side of the sheathing.

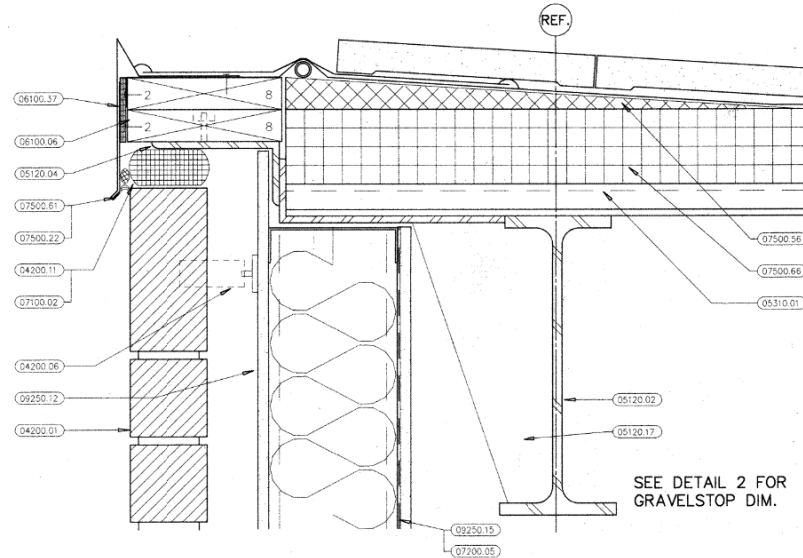


Figure 2: Detail 5/A 6.1 from Original Architectural Drawings.

- Detail 20/A 5.4 from the original architectural drawings shows the base of wall detail at the mechanical mezzanine. This detail shows metal flashing fastened through the gypsum exterior sheathing behind the metal panel cladding. The detail shows roofing membrane applied to the sheathing below the flashing. The detail does not show air/water barrier membrane on the sheathing behind the metal wall panels. Also, the detail does not show required roof perimeter anchorage of the single-ply membrane.

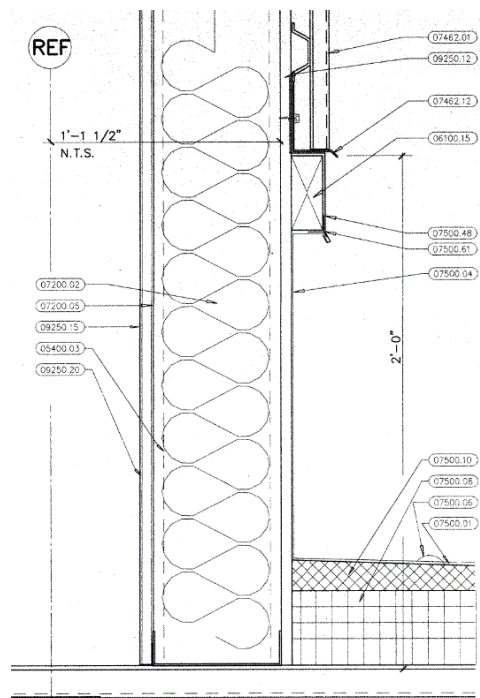


Figure 3: Detail 20/A 5.4 from Original Architectural Drawings.

- The original architectural drawings show the hipped roof with a 6 in. in 12 in. roof pitch, consisting of the following, from exterior-to-interior:
 - Asphalt shingles
 - Roofing felt
 - Plywood sheathing, 3/4 in. thick
 - Rigid roof insulation, 3-1/2 in. thick
 - Metal deck, 1-1/2 in. thick, oriented perpendicular to the roof slope
 - Snow guards ("snow cleats")
- Detail 25/A 5.4 from the original architectural drawings shows the eave of the hipped roof (Figure 4). This detail shows ice and watershed underlayment at the bottom 3 ft. of the roof. This detail shows a large overhang of the roof relative to the rising wall below with batt insulation at the bottom and side of the soffit. This detail also shows a line of wood blocking interrupting the roof insulation; likely shear blocking to prevent the insulation from sliding down the roof slope.

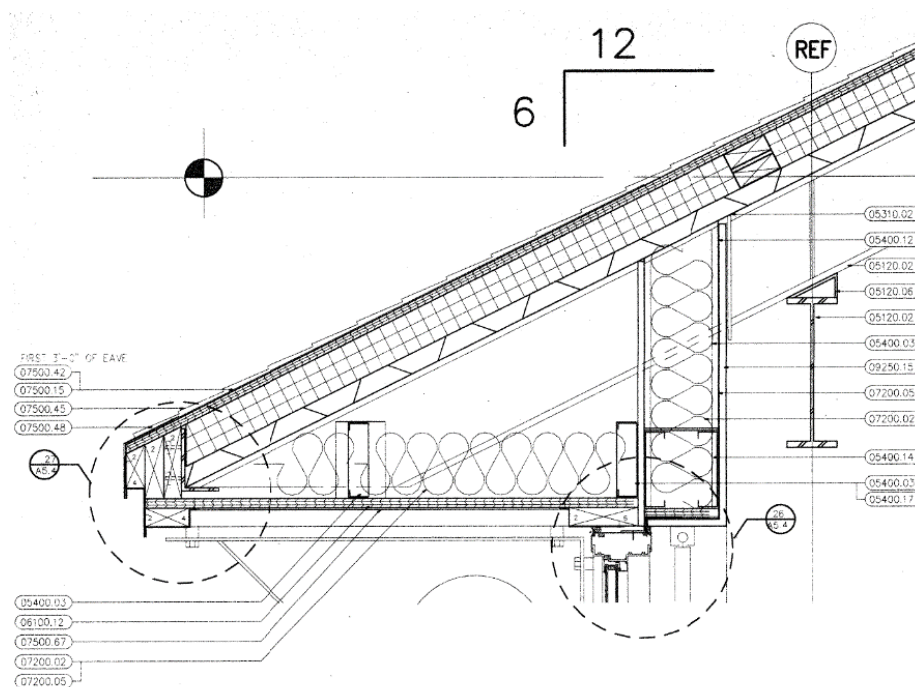


Figure 4: Detail 25/A 5.4 from Original Architectural Drawings.

3. OBSERVATIONS

Katherine S. Wissink and Blerina Doucette, both of SGH, visited the site on 6 July 2023 to perform a condition assessment of the West Somerville Neighborhood School roofs. Our condition assessment consisted of a visual survey of interior spaces below roofs and an exterior survey of the roof areas. We also reviewed exploratory openings in the low-sloped roofing system, made at our direction by Titan Roofing, who was retained by SGH.

3.1 Interior Observations

We performed a visual survey of the interior areas below the building roofs where we had access to identify staining and damage indicative of possible leakage from the building roofs. Appendix A includes an annotated floor plan showing locations of observed damage. Our key observations from our interior survey are included below.

- A few areas of damaged interior wall finishes below the roof (Photo 1).

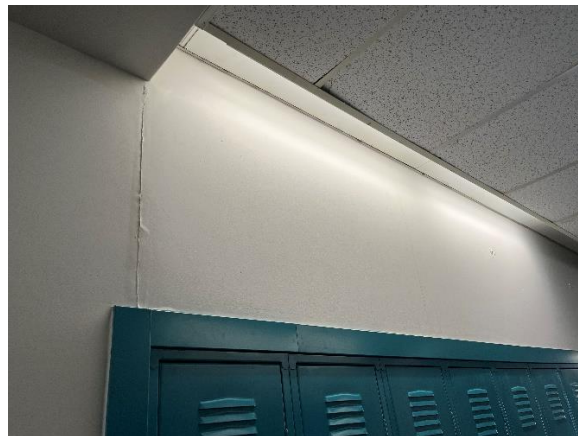


Photo 1: Damaged drywall tape at wall below roof.

- A few areas of stained ceiling tiles below the roof (Photo 2). We generally observed no staining or indications of leakage at the underside of the roof deck and at roof framing above the



Photo 2: Stained ceiling tile below roof.

stained ceiling tiles
(Photo 3).



Photo 3: Underside of the roof deck in the general area of the stained ceiling tile in Photo 2 (above).

- At one area above a stained ceiling tile, at a metal duct we observed corrosion and staining indicative of leakage or condensation at or inside the metal duct.



Photo 4: Staining and corrosion on metal duct above ceiling in an area of stained ceiling tiles.

- No staining or damage indicative of apparent leakage at the underside of the hipped roofs (Photo 5).



Photo 5: Overview of underside of hipped roof.

- Potential damaged interior finishes at corners below clerestory windows at hipped roofs (Photo 6).



Photo 6: Potential damaged interior finishes at corners below clerestory windows at hipped roofs (circled).

3.2 Exterior Observations

We performed an exterior survey of the roof areas to document areas of damage and review exploratory openings in the low-sloped roofing systems. Key observations for our exterior survey of the existing roof areas are below. Appendix A includes an annotated roof plan showing locations of observed damage and the approximate locations of the roofing exploratory openings.

3.2.1 Low-Sloped Roofing

- Roof flashing heights at the base of rising walls are 13-1/2 in. or greater in many locations above the top surface of the roofing membrane.
- Precast concrete pavers are located at the perimeter of the roof, base of walls, and around mechanical units at the main roof. The rooftop equipment on the mechanical mezzanine roof does not have precast concrete pavers around them.
- The roof edge has no curb or parapet and lacks a railing or fall arrest system that would provide workers safe access to the edge of the roof.
- The main and mechanical mezzanine roof corner zones did not appear to be denser in stone or precast concrete paver ballast compared to the field and perimeter zones.
- The door leading to the main roof has a threshold height of 18 in. above the top surface of the EPDM roofing membrane.
- No areas of standing water on the roofing membrane. However, shallow amounts of standing water may be concealed by the stone ballast.

- The existing internal roof drains at the main roof consist of 13-1/2 in. and 14 in. diameter drain bowls with 3 in. and 4 in. diameter drainpipes, respectively, at different areas of the roof. The existing internal roof drains at the mechanical mezzanine roof consist of a 13 in. diameter drain bowl with 3 in. diameter drainpipes.

- Deteriorated precast concrete pavers and resulting debris, loose rebar, and small paver pieces in extensive areas at the mechanical mezzanine roof and numerous locations at the main roof (Photo 7).



Photo 7: Deteriorated precast concrete pavers at the perimeter of the main roof.

- A few areas where the stone ballast has been cleared away, exposing the EPDM membrane at the main roof (prior to our survey), resulting in some areas with high concentrations of stone ballast and other areas with no ballast (Photo 8).



Photo 8: Areas with a high concentration of stone ballast (circled) and adjacent area with no ballast.

- Biological growth at several locations typically aligned with the shadow of rooftop equipment at the main roof (Photo 9).

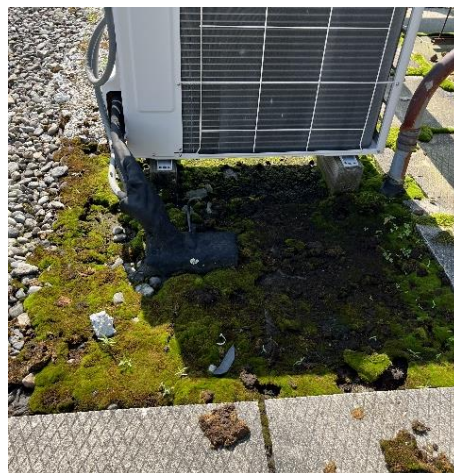


Photo 9: Biological growth around the rooftop equipment at the main roof.

- Conduit and condensate lines are flashed with sealant-filled pockets as are guy wire penetrations at tall vent stacks. The sealant in the flashing pockets is cracked and pulled away from the pocket edges at a few areas (Photo 10).



Photo 10: Cracked sealant at a few sealant-filled flashing pockets.

- A lightning protection cable is present on the roof and typically runs along the edges of the roof, connects to rooftop equipment, and penetrates the roof and the base of rising walls at the hipped roofs. The lightning cable penetrates the curb walls below the hipped roofs and are located only a few inches above the top surface of the roofing membrane (Photo 11).



Photo 11: Low lightning cable wall penetration (arrow).

- Rooftop equipment curbs flashing heights are typically more than 8 in. minimum above the top surface of the roofing membrane at the main roof (Photo 12).



Photo 12: Rooftop equipment curb roof flashing height about 8 in. above the roofing membrane.

- Rooftop equipment is mounted on wood sleepers above the roofing membrane and appear to be unsecured to the existing metal deck (Photo 13).



Photo 13: Rooftop equipment supported on wood sleepers above the roofing membrane.

- Roof flashing heights at the base of the vent pipes are typically 6 in. to 7 in. above the top surface of the roofing membrane (Photo 14). The tops of the vent pipes are typically 20 in. or more above the top of the roofing membrane



Photo 14: Roof flashing heights at the base of vent pipe.

- Rooftop equipment electrical conduit and pipe are typically 5 in. above the top surface of the roofing membrane (Photo 15).



Photo 15: Low electrical conduits and pipes.

- Abandoned equipment curbs and capped conduit penetrations at the northwest side of the main building (Photo 16).



Photo 16: Abandoned rooftop equipment curbs and capped conduit penetration.

- A mechanical duct at the main roof is mounted on wood dunnage, constructed on top of precast concrete pavers, and appears to be unsecured to the roof metal deck or structural framing (Photo 17).



Photo 17: Light-frame dunnage appearing unsecured to the roof metal deck or structural framing.

- Unsecured rooftop equipment (arrow) mounted on a precast concrete paver at the mechanical mezzanine roof (Photo 18).



Photo 18: Unsecured rooftop equipment at the mechanical mezzanine roof.

- Several loose miscellaneous items, such as a folding chair, loose sheet metal, and metal grilles on the roof (Photo 19).



Photo 19: Loose metal grilles on the main roof, held down with precast concrete pavers.

At areas where the existing stone ballast was cleared away (prior to our survey or by us during our survey), we observed the following conditions related to the exposed EPDM membrane:

- The edges of a few seams in EPDM membrane are partially unadhered (Photo 20).



Photo 20: Edge of EPDM membrane seam is partially unadhered.

- Some areas with membrane patches and membrane strips over seams from apparent previous repairs (Photo 21).

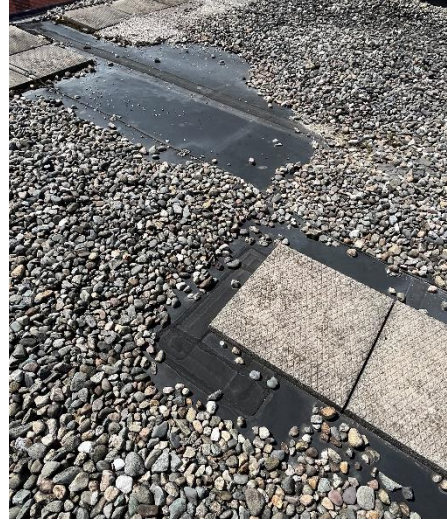


Photo 21: Apparent previous patches in EPDM roofing membrane.

Under SGH direction, the roofing contractor made ten exploratory openings, eight in the main roof and two in the mechanical mezzanine roof. The approximate locations of the exploratory openings are shown on the annotated roof plan in Appendix A. We observed the following at the exploratory openings in the roofing membrane.

- From our review of the exploratory roof openings, the existing low-sloped roofing system consists of the following, from exterior-to-interior (Photo 21):
 - Stone ballast
 - EPDM membrane, loose-laid
 - Polyiso insulation, 3-1/2 in. total thickness
 - Metal deck, 1-1/2 in. thickness



Photo 21: Typical Roofing system.

- Two exploratory openings (R5 and R8) were located at the base of the mechanical mezzanine rising walls. At the base of the wall the EPDM flashing is adhered to plywood sheathing (Photo 22). The field membrane is secured with a RUSS strip fastened to the plywood sheathing.



Photo 22: Roofing system at the base of a rising wall.

- The roofing materials were dry at the ten exploratory openings we reviewed. We observed no water stains indicative of leakage on the underlying roofing materials.
- The metal deck in the main roof appears to be sloped at exploratory openings R1, R2, R6, R7, and R8 and not sloped at exploratory openings R3, R4, and R5, consistent with the original structural drawings. The metal deck at the mechanical mezzanine roof appears to be sloped at both exploratory openings, R9 and R10, consistent with the original structural drawings.

3.2.2 Roofing at Hipped Roofs

Our observations of the asphalt shingle roofing at the hipped roofs was limited to what we could see at the edges of the roofs where the roofs extended above the low-sloped roof areas. We did not review exploratory openings in the asphalt shingle roofing. We did not make exploratory openings in the asphalt shingle roofing.

- Two hipped roof that are slightly higher than the main low-sloped roof are covered with asphalt shingle roofing (Photo 23). The roofs have staggered snow cleats at the lower several feet along the eave.



Photo 23: Overview of hipped roof covered with asphalt shingle roofing.

- The bottom course of the shingles is not well-adhered and can be easily lifted, but no apparent leakage on the interior of the hipped roofs (Photo 24).



Photo 24: The bottom of the lowest course of shingles is not adhered to the metal flashing.

- At a few locations, corners of the asphalt shingles are unadhered (Photo 25). We observed no missing or broken/cracked shingles.



Photo 25: Unadhered corner of asphalt shingle.

- The granular surfacing on the shingles generally appears intact with no apparent loss of the granular surfacing.
- We observed no areas of missing or broken shingles.

4. DISCUSSION

4.1 Low-sloped Roofing

The ballasted EPDM roofing is in fair condition but is nearing the end of its anticipated service life, based on the large amount of patching and areas of partially unadhered seams, and given that the roof is approximately thirty years old. Based on the limited staining and damaged interior finishes we observed at interior spaces below the roofs, and the lack of moisture observed in the roofing system at the exploratory roof cuts, the existing roofing generally appears to be watertight. However, it would be prudent to begin planning for the replacement of the ballasted EPDM roofing to occur within the next few years.

The few locations of stained interior finishes below the ballasted EPDM roofing may be the result of an unadhered seam in the EPDM membrane (now patched) or a breach in a sealant-filled flashing pocket. The few locations of damaged interior finishes below the rising walls below the hipped roofs may be the result of leakage at the clerestory windows at these walls, the low lightning protection system penetrations, or recently patched membrane or flashing seams.

Areas where the precast concrete pavers are deteriorated and where the stone ballast is shifted likely lack adequate securement and are at risk of partial blow-off during high wind events, which can cause the ballast at adjacent areas to become airborne. Additionally, miscellaneous other loose materials and items on the roof are at risk of becoming airborne during a high wind event and risk damaging the existing roofing system or other building enclosure systems. Similarly, mechanical equipment that is not mechanically attached to the roof deck or building structure can also become displace and cause significant damage to the building or adjacent property.

The roof deck generally appears to be sloped to the drains, consistent with the structural drawings, and we observed no areas of apparent standing water. However, the stone ballast may conceal shallow areas of standing water, particularly at areas of biological growth on the

roof. Roof flashing heights are generally sufficient with the exception of a few locations of low conduit, pipe, and low lightning protection cable penetrations through the base of the rising walls.

The internal roof drains at the low-sloped roofs are generally consistent with the original architectural and plumbing drawings. If the roof drains were to become clogged, water could readily flow over the edge of the roof due to the lack of a roof curb or parapet; providing overflow drainage capability to satisfy the roof drainage requirements in the current Code.

4.2 Roofing at Hipped Roofs

The asphalt shingle roofing at the hipped roofs appears to be in similarly fair condition but nearing the end of its remaining service life. From our limited view, we observed a few areas where the bottom of the asphalt shingles were not adhered. Unbonded shingles have a greater risk for wind blow off during a design level wind event. However, the asphalt shingles do not exhibit significant section loss or deterioration and we observed no leakage at the interior that we would attribute to defects in the asphalt shingle roofing. Water at the asphalt shingle roofs drains off the edge of the roof onto the ballasted EPDM roofing or canopy roofs below.

5. RECOMMENDATIONS

5.1 Low-Sloped Roofing

We recommend the City of Somerville budget and plan to replace the existing ballasted EPDM roofing system within the next few years. In the meantime, the City of Somerville should implement the following measures to help maintain the existing roofing system until it can be replaced:

- Monitor areas of observed damaged interior finishes during rain events to determine if leakage is ongoing. If so, investigate the potential sources of the leakage and make repairs as appropriate.
- Replace deteriorated precast concrete pavers with new pavers.
- Redistribute the stone ballast in areas where it has shifted or been cleared from surrounding surfaces for inspection and repairs. The re-distribution of stone ballast should provide a uniform thickness and coverage of ballast across the roof.
- Remove all loose materials from the roof and secure rooftop equipment to the roof deck/structure as appropriate or provide adequate ballast to hold it down. This last option is only feasible if the weight of ballast does not diminish the structural capacity of the roofing.
- Seal the unadhered asphalt shingle along the eave and unadhered edges and corners to help preserve the integrity of the shingles and maintaining weathertight conditions within the building until replacement.

We recommend consideration for the following replacement roofing systems (from exterior-to-interior):

- PVC or TPO roofing membrane, fully adhered.
- Coverboard, mechanically fastened.
- Tapered insulation (at crickets between drains and the upslope side of mechanical units and curbs, and where needed to improve slope-to-drain).
- Base insulation with thickness to provide min. R-value, as required by the International Energy Conservation Code (Current version at the time of permitting).
- Air/vapor barrier membrane, fully adhered.

- Roof substrate board, mechanically fastened.
- Existing metal roof deck.

The new roofing system must meet the current building code and may need to meet specific insurance requirements (e.g., FM-rated roofing assembly). A concept plan showing the full roof replacement, for use to develop preliminary budget numbers, is included in Appendix B.

The entrance canopies, which were not included in our roofing condition assessment, appear to be covered with an adhered EPDM roofing system, and are likely the same age as the roofing on the main building. The roofing at the entrance canopies should be replaced in conjunction with the roofing replacement on the main building.

We recommend exploratory openings in the exterior walls to review the construction and condition of concealed materials and determine if an air/water barrier is present on the exterior sheathing. If no air/water barrier is present on the exterior sheathing, damaged interior finishes below the roof may be attributed to leakage at the exterior walls.

Code Requirements and Other Considerations for the New Roofing System

- **Adhered roofing membrane.** Adhering the roofing membrane eliminates the need for roof ballast and allows the membrane to be fully exposed, which is easier to inspect and repair in the event of a leak. Eliminating the stone ballast will also reduce the gravity load of the roofing system on the roof structure and reduce the risk of unsecured areas of membrane that are at risk of blow-off in a high wind event.
- **Roof Insulation.** The existing rigid insulation is 3-1/2 in. thick and does not meet the requirements of the energy code (R-30 per IECC 2015). The new roofing system will be required to have base insulation with thickness to meet or exceed the energy code requirements (about 5-1/2 in. minimum thickness). Thus, the height of the replacement roofing system will be about 2 in. above the current roofing system. Given the sloped roof structure, we do not anticipate the new roofing system will significantly reduce the existing roof flashing heights at the base of rising walls and mechanical equipment. However, the new insulation thickness will reduce the clearance of the already low penetrations which will need to be relocated so as to not conflict with the new thicker roofing assembly and to provide sufficient flashing height. We understand that many of the mechanical systems on the roof will be replaced in conjunction with the replacement roofing project. This will provide a good opportunity to provide roof

curbs and dunnage with optimum height to help prevent leakage and to facilitate future reroofing when insulation thicknesses might further increase. Roof vent pipes should also be raised with the new higher roofing if required to meet the building code.

- **Air/Vapor Barrier Membrane.** The existing roofing system relies on the existing EPDM roof membrane to also serve as the roof air barrier. This can be problematic because warm interior air can leak into the cold roof assembly and potentially result in condensation beneath the roof membrane, which is more problematic with adhered membrane roofing systems. We did not find evidence of past or ongoing condensation at our exploratory openings. However, a dedicated air/vapor barrier membrane, properly detailed at penetrations and rising walls, will mitigate air leakage from the interior and will add a level of redundant protection from roof leakage into the building. The air/vapor barrier membrane requires a roof substrate board (e.g., DensDeck) to support the membrane, which can also act as a thermal barrier between the interior and the roofing system. The roof substrate board must be fastened to the metal deck.
- **Roof Drainage:** During the design phase, the internal roof drains must be checked to determine if they meet the requirements of the current plumbing code, or if additional drains will need to be added. Overflow drainage is currently provided at the roof edge, which lacks a curb or parapet, allowing the water to freely drain over the edge if drains become clogged. While this works well to prevent water build-up on the roof, if water frequently flows over the roof edge, it can accelerate damage of the cladding systems and could result in interior leakage. The replacement roofing system can be designed similarly with flat edges or could incorporate a small roof curb with discrete gaps to act as scuppers for overflow drainage. Collector boxes and downleaders could be provided at the scuppers to direct water to grade or lower roofs without draining over the wall cladding systems.
- **Lightning Protection:** The existing lightning protection system appears to generally be in good condition and can likely be reused. The existing system will need to be temporarily removed to facilitate the installation of the new roofing system and should be re-certified when it is reinstalled. The City of Somerville should consider raising the heights of the grounding clamp pipes where they penetrate the roof curbs so that the roof flashing is 8 in. minimum above the roof surface.
- **Roof Access Safety:** The low-sloped roofs lack a parapet or safety line tie-back points to provide safe access to the roof edge. The City of Somerville should consider including in the roof replacement project, either a permanent or ballasted railing system at locations where workers are expected to be within 10 ft of the roof edge (e.g., to maintain rooftop equipment). Alternatively, roof anchors that are part of an engineered fall arrest or fall restraint system could be provided, but these systems require the workers to understand and properly use the system to be effective.

- **Walkway Pads:** Walkway pads, adhered to the roofing membrane, should be provided in anticipated high-traffic areas and around rooftop equipment. Walkway pads help protect the roofing membrane from puncture, such as from a fastener on the surface of the roof that could be stepped on or from a dropped sharp object (e.g., utility knife) being used when servicing rooftop equipment.
- **Solar Panels:** We understand that the City of Somerville is considering adding rooftop solar panels to areas of the School roof. The solar panels should be supported on metal dunnage designed to limit the number of penetrations in the roofing membrane; dunnage penetrations should be round if possible and must be watertight. The layout of the solar panels must allow for maintenance of roof drains and must not inhibit drainage. Finally, roof-mounted solar panels should meet the requirements of Factory Mutual Data Sheet 1-15.
- **Securement of Rooftop Equipment:** To reduce the risk of damage to the replacement roof (and the current roof and wall cladding and fenestration systems as well), all items on the roof should be reliably secured to the building structure. Wherever possible, rooftop equipment should be mechanically fastened to the roof deck or building structure in a way that reduces the risk for leakage (e.g., locating the fastener penetrations on a curb 8 in. above the surface of the roofing). Where it is impractical to fasten equipment, it should be secured with ballast that is designed based on the code-prescribed wind loads and is not at risk of depletion or deteriorating over time.

5.2 Roofing at Hipped Roofs

The existing asphalt shingle roofing at the hipped roofs should be replaced in conjunction with the replacement of the membrane roofing at the low-sloped roof areas. The building code requires an airspace of at least 1 in. between the roof insulation and roof sheathing, which is not present in the existing roofing system, based on the original architectural drawings. Thus, the replacement roofing system should consist of the following (from exterior-to-interior):

- Roof covering (either asphalt shingles to match the existing or standing seam sheet metal to provide a roof with a longer expected service life.
- Self-adhered membrane underlayment.
- Plywood sheathing.
- 1 in. air gap to allow for venting below the plywood sheathing. This requires vents at the eave and a vented ridge cap in the roof covering.
- Insulation with thickness to meet the energy code requirements.

- Vapor permeable air barrier membrane.
- Roof substrate board.
- Existing steel roof deck.

The lower hipped roof, which was not included in our roofing condition assessment, appears to be covered with asphalt shingles, likely of the same age as the roofing on the hipped roofs on the main building. Replacement of the roofing at the lower hipped roofs should be performed in conjunction with the roofing replacement of the hipped roofs of the main building, using a similar system to that described above.

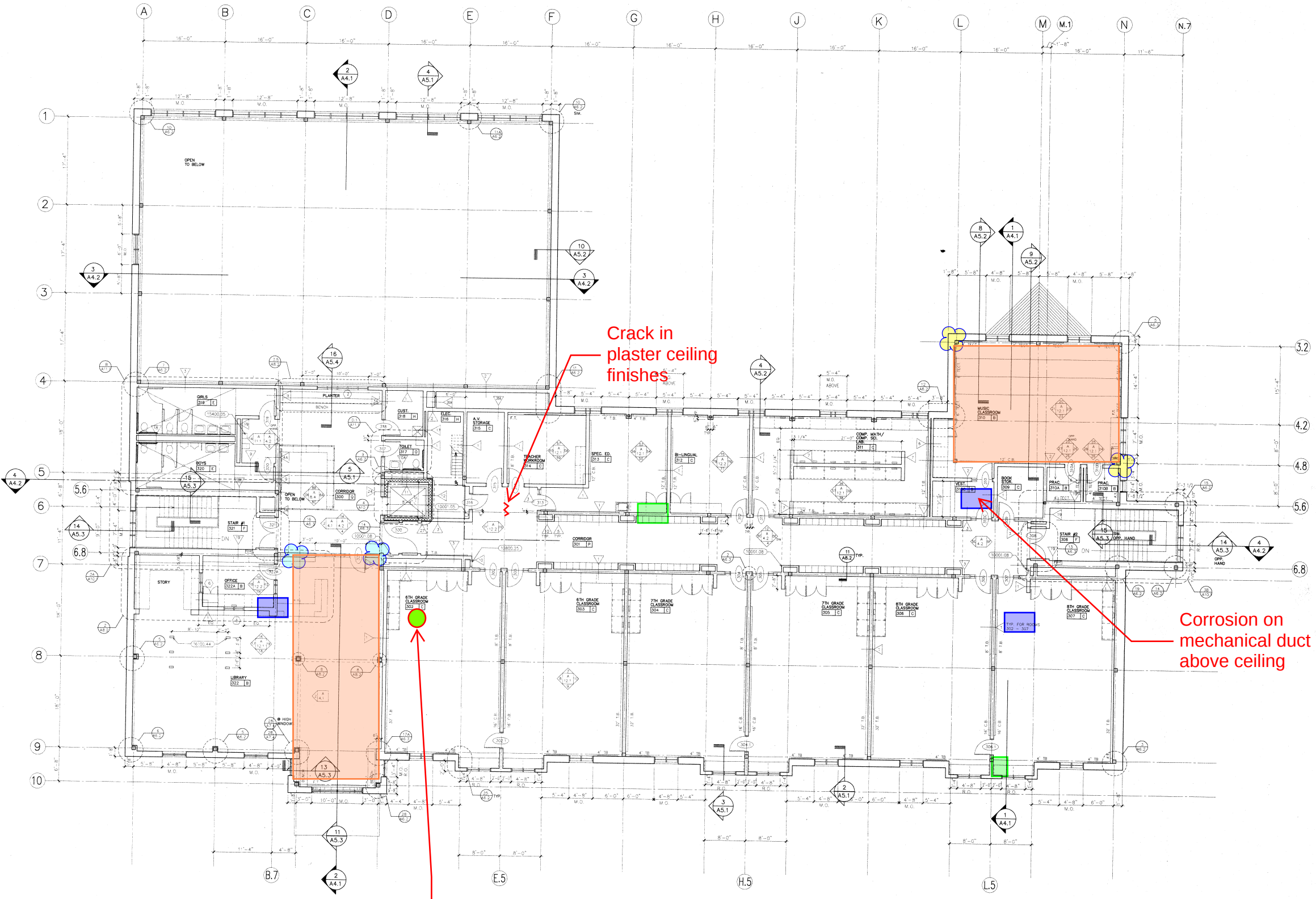
The City of Somerville should consider including gutters and downleaders along the eave of the hipped roofs to collect and direct drainage from those roofs onto the low-sloped roof, or grade at the lower hipped roof.

5.3 Cost Estimate

Keville Enterprises, Inc. (Keville) prepared a cost estimate for the roofing system replacement based on the recommendations included in this report and concept design included in Appendix B. The cost estimate prepared by Keville dated 10 October 2023 estimates the roofing system replacement cost to be \$6,206,860 based on 56,426 sq ft of roof area. The cost estimate does not include detailed breakdown of the roofing cost and appears to be based on a general square-footage unit cost basis. As such, this estimate is likely conservative, and the actual bid cost of the work may be less.

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APPENDIX A

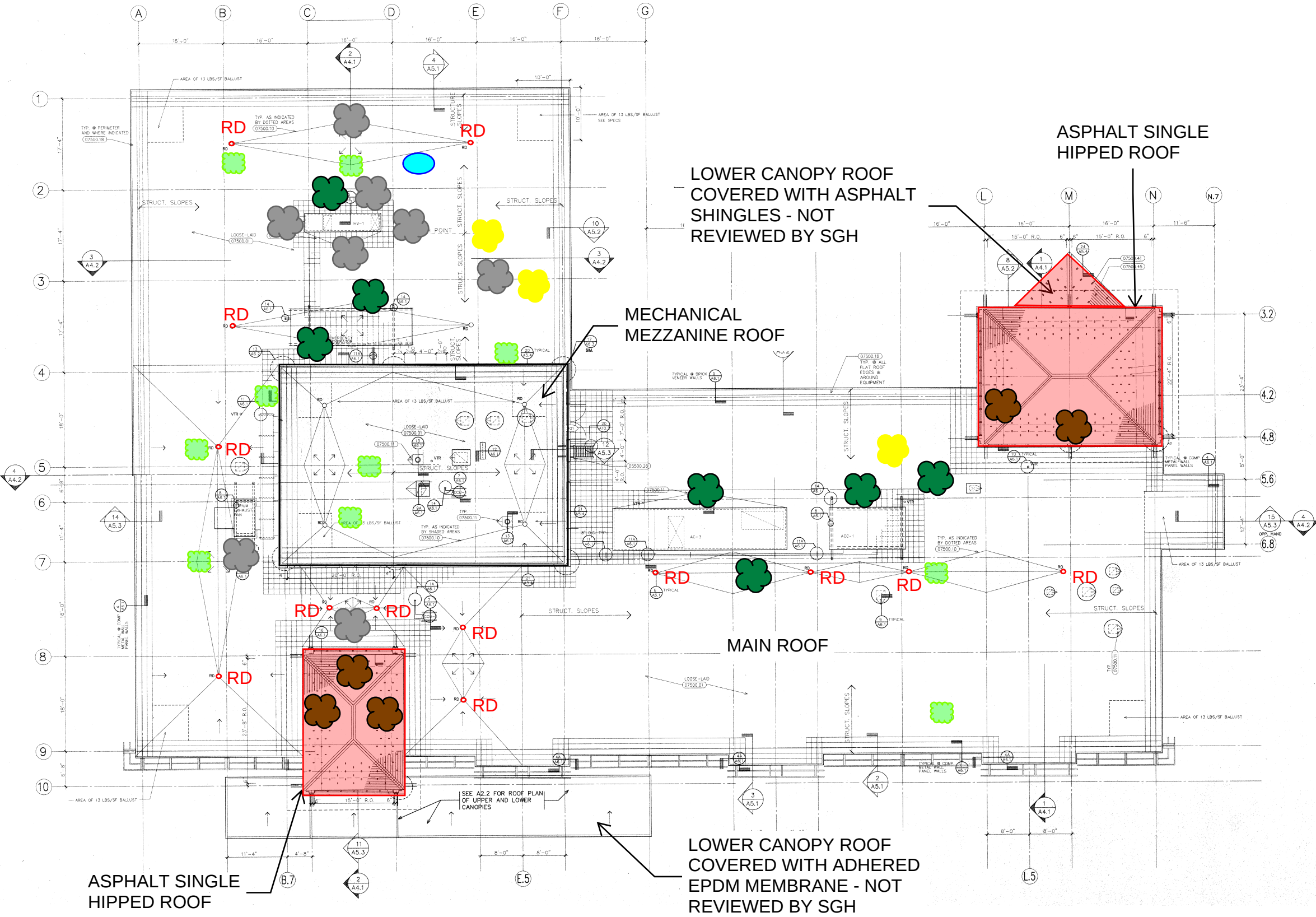


LEGEND

-  Staining at sill of clerestory
-  Damaged plaster at sill of clerestory
-  Stained ceiling tile or
-  Damaged interior wall finishes below roof
-  Approximate areas below hipped roofs (all other areas are below low-sloped roofs)

WEST SOMERVILLE NEIGHBORHOOD SCHOOL - THIRD FLOOR PLAN





LEGEND

- Exploratory Opening
- Unadhered Seam
- Patches/Membrane Strips Over Seams from Apparent Previous Repairs.
- Biological Growth around Rooftop Equipment
- Exposed EPDM Membrane
- Shingles Not Well-Adhered
- Roof Drain (RD)

GENERAL NOTES:

- We observed the following typical conditions at the ballasted EPDM roof areas:
1. Presence of gravel on the roof causes difficulty assessing the EPDM roofing membrane.
 2. Cracked sealant at sealant-filled flashing pockets.
 3. Deteriorated precast concrete pavers and resulting debris, loose rebars, and small paver pieces.

WEST SOMERVILLE NEIGHBORHOOD SCHOOL - ROOF PLAN



APPENDIX B

NOTES:

1. REMOVE THE EXISTING ROOFING SYSTEM DOWN TO THE EXISTING METAL ROOF DECK, INCLUDING THE FOLLOWING:
BALLAST, EPDM ROOFING MEMBRANE,
POLYISOCYANURATE INSULATION (THICKNESS VARIES).
2. PROVIDE A NEW ROOFING SYSTEM, AS SHOWN IN DETAIL 2/CSK-02, INCLUDING ALL ASSOCIATED ACCESSORIES AND METAL FLASHINGS (FOR PRICING PURPOSES ASSUME ANSI-SPRI TESTED ALUMINUM PERIMETER FLASHING AND COPPER FLASHING EVERYWHERE ELSE).

SCOPE OF WORK LEGEND:

- FIELD OF ROOF
- PERIMETER OF ROOF (13'-6" WIDE)
- CORNER OF ROOF (13'-6" WIDE)
- (E) HIPPED ROOF, PROVIDE NEW ASPHALT SHINGLE ROOFING, REFER TO DETAIL 3/CSK-03

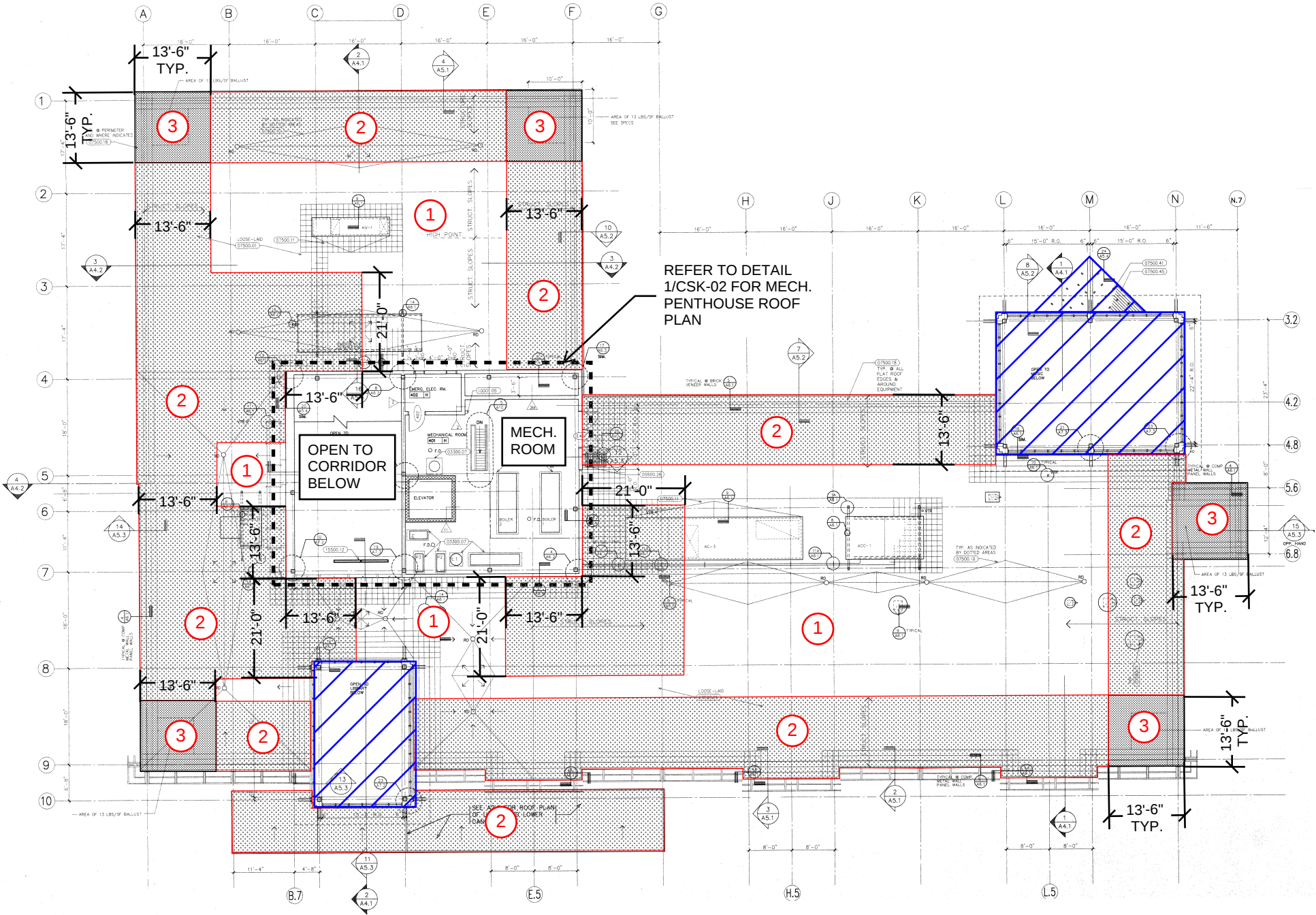
WIND REFERENCE PRESSURE FOR ROOF LEGEND:

- 1

ZONE 1: -42 psf
- 2

ZONE 2: -71 psf
- 3

ZONE 3: -106 psf



1

ROOF PLAN
NTS

CONCEPT SKETCH - NOT FOR CONSTRUCTION



SIMPSON GUMPERTZ & HEGER
480 Totten Pond Road
Waltham, MA 02451
781.907.9000
sgh.com

Project:
**WEST SOMERVILLE NEIGHBORHOOD
SCHOOL, SOMERVILLE, MA**

Title:
FULL ROOF REPLACEMENT

Drawn: BD Checked: KSW Approved: KSW Project No.: 210209.13

Drawing No.:
CSK-01

Scale:
AS NOTED

Date:
08/04/2023

NOTES:

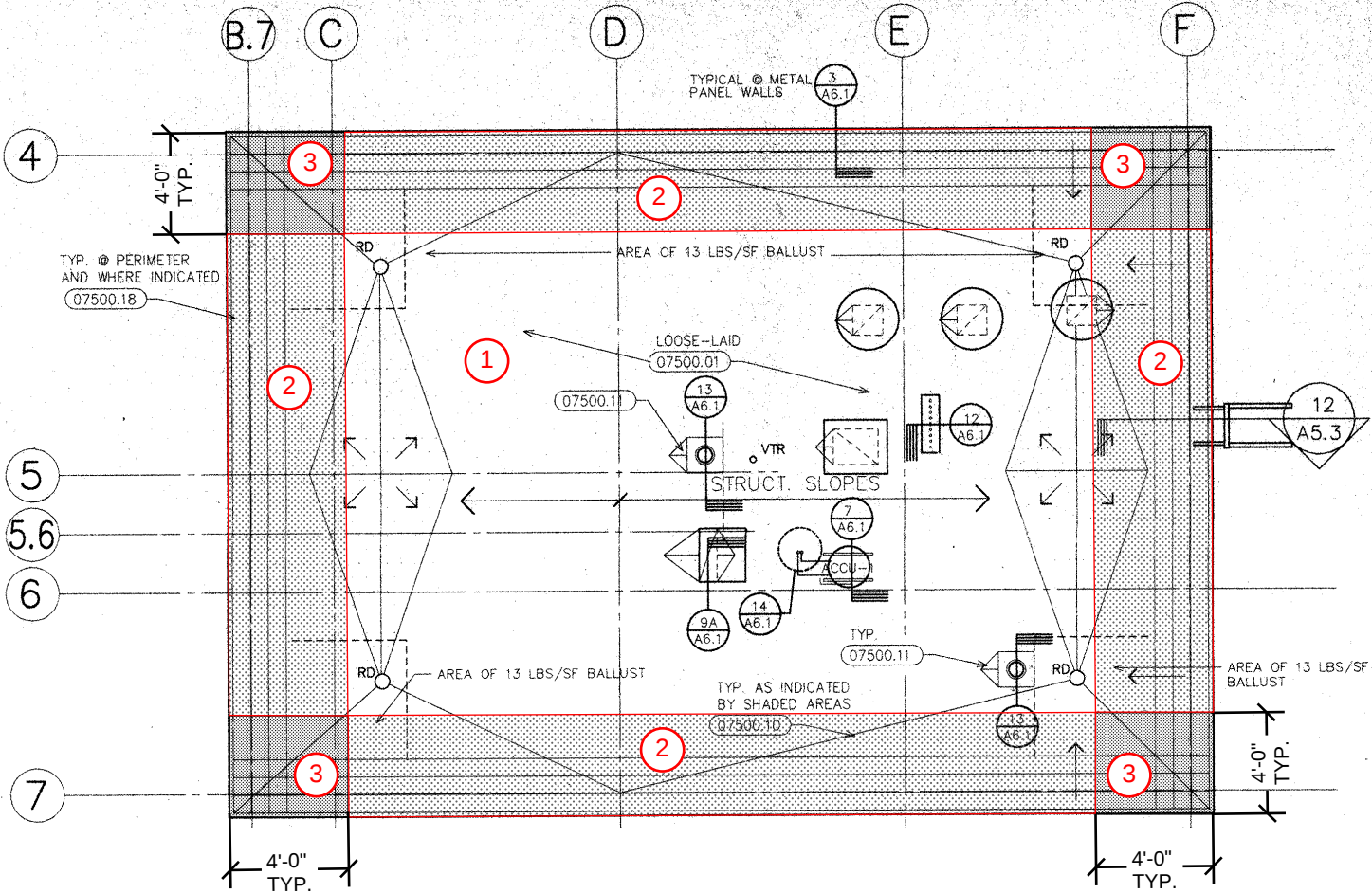
- 1. REMOVE THE EXISTING ROOFING SYSTEM DOWN TO THE EXISTING METAL ROOF DECK, INCLUDING THE FOLLOWING: STONE BALLAST, EPDM ROOFING MEMBRANE, POLYISOCYANURATE INSULATION (THICKNESS VARIES).
- 2. PROVIDE A NEW ROOFING SYSTEM, AS SHOWN IN DETAIL 2/CSK-02, INCLUDING ALL ASSOCIATED ACCESSORIES AND METAL FLASHINGS (FOR PRICING PURPOSES ASSUME ANSI-SPRI TESTED ALUMINUM PERIMETER FLASHING AND COPPER FLASHING EVERYWHERE ELSE).

SCOPE OF WORK LEGEND:

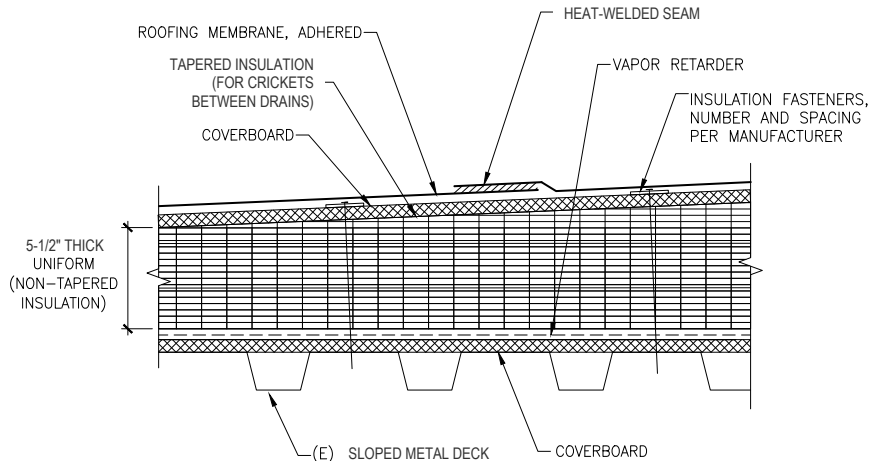
- FIELD OF ROOF
- PERIMETER OF ROOF (4'-0" WIDE)
- CORNER OF ROOF (4'-0" WIDE)

WIND REFERENCE PRESSURE FOR ROOF LEGEND:

- ZONE 1: -42 psf
- ZONE 2: -71 psf
- ZONE 3: -106 psf

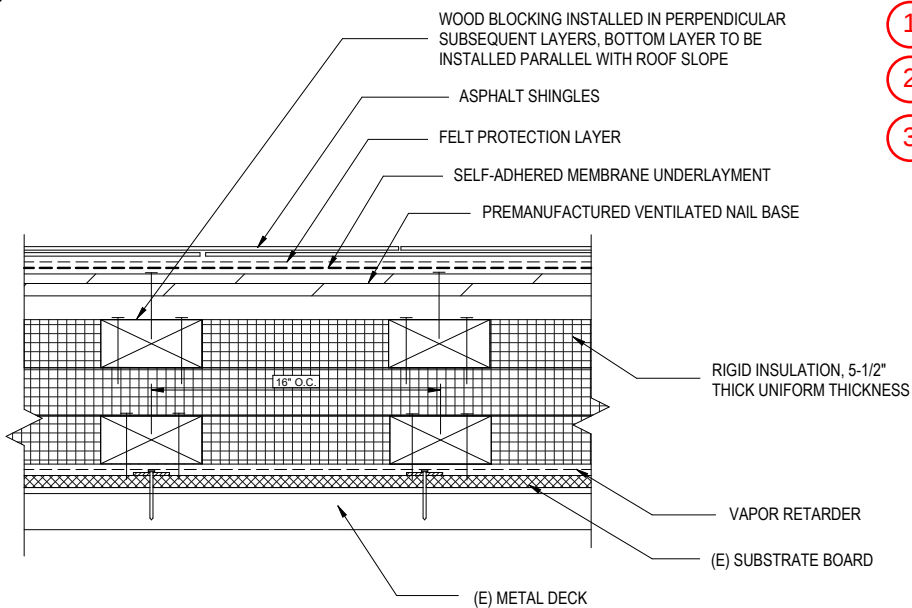


1 MECH. PENTHOUSE ROOF PLAN
NTS



NOTE: PROVIDE PRICING FOR REPLACEMENT WITH THE FOLLOWING NEW ROOFING SYSTEMS:
1. PVC ROOFING SYSTEM (BOD SIKI SARNAFIL SYSTEM)
2. TPO ROOFING SYSTEM (BOD CARLISLE SYSTEM)

2 TYPICAL NEW ROOFING SYSTEM - SECTION
NTS



3 TYPICAL NEW ROOFING SYSTEM - SECTION
NTS

CONCEPT SKETCH - NOT FOR CONSTRUCTION



SIMPSON GUMPERTZ & HEGER
480 Totten Pond Road
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sg.h.com

Project: WEST SOMERVILLE NEIGHBORHOOD SCHOOL, SOMERVILLE, MA				Drawing No.: CSK-02
Title: FULL ROOF REPLACEMENT				Scale: AS NOTED
Drawn: BD	Checked: KSW	Approved: KSW	Project No.: 210209.13	Date: 08/04/2023