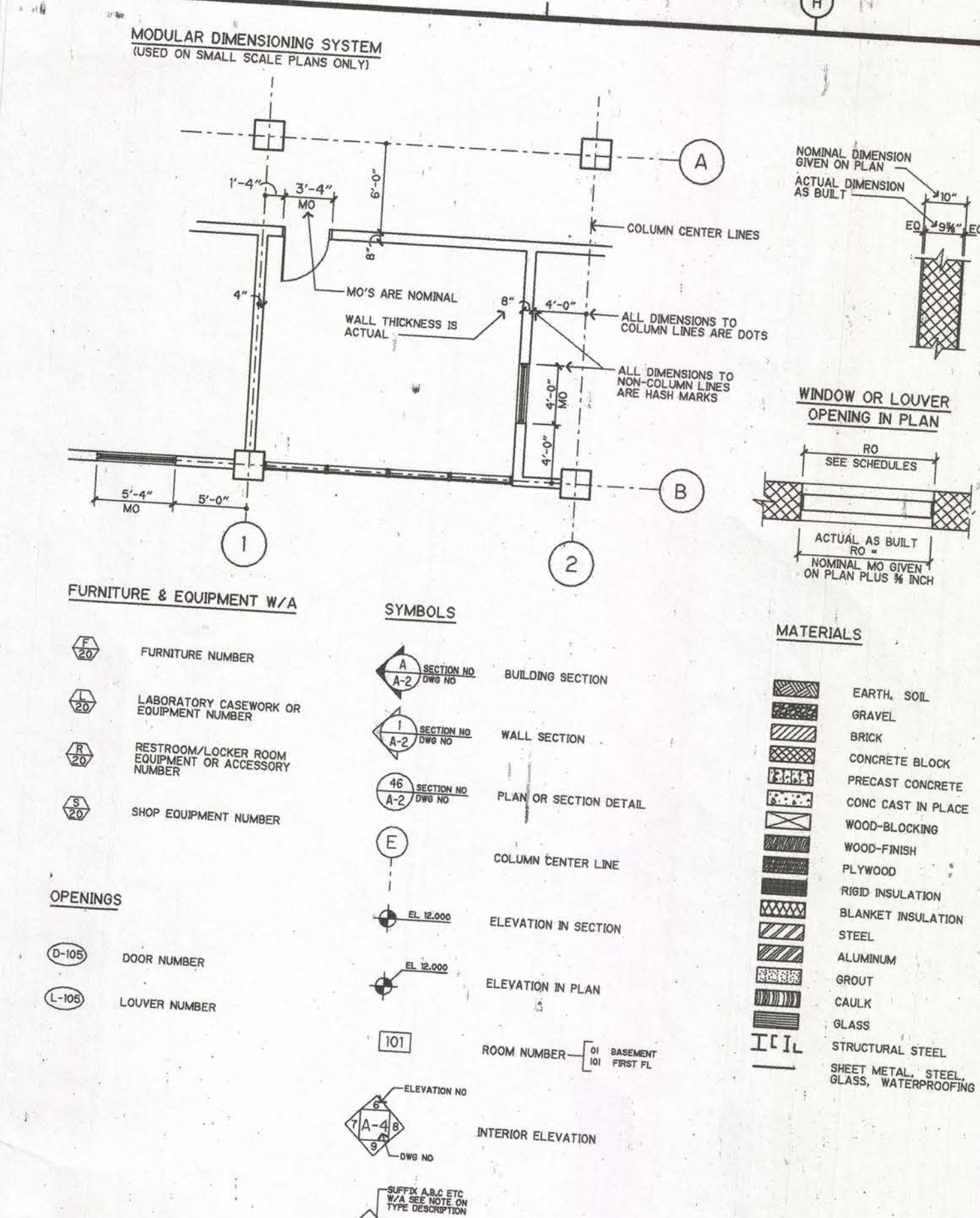
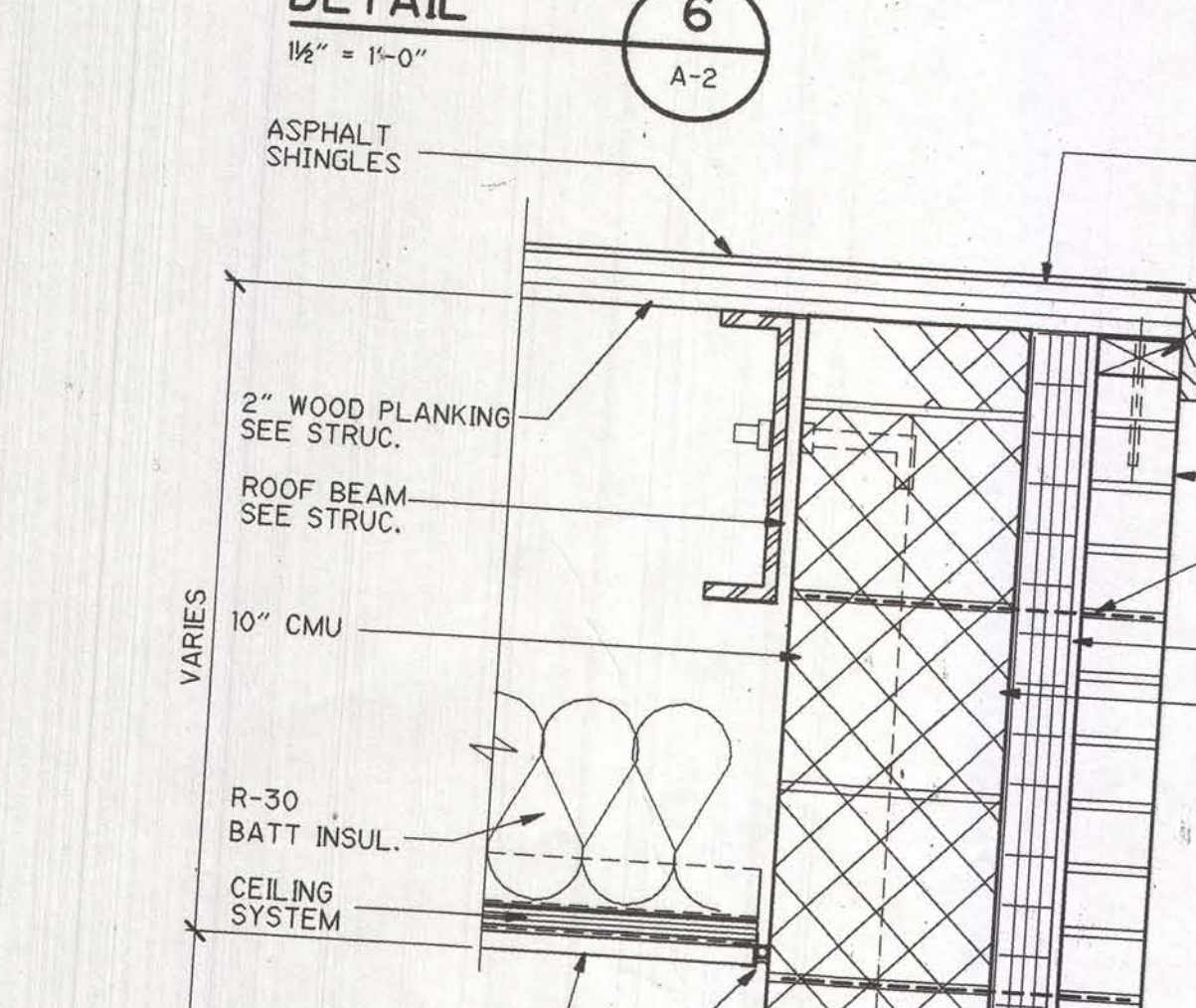
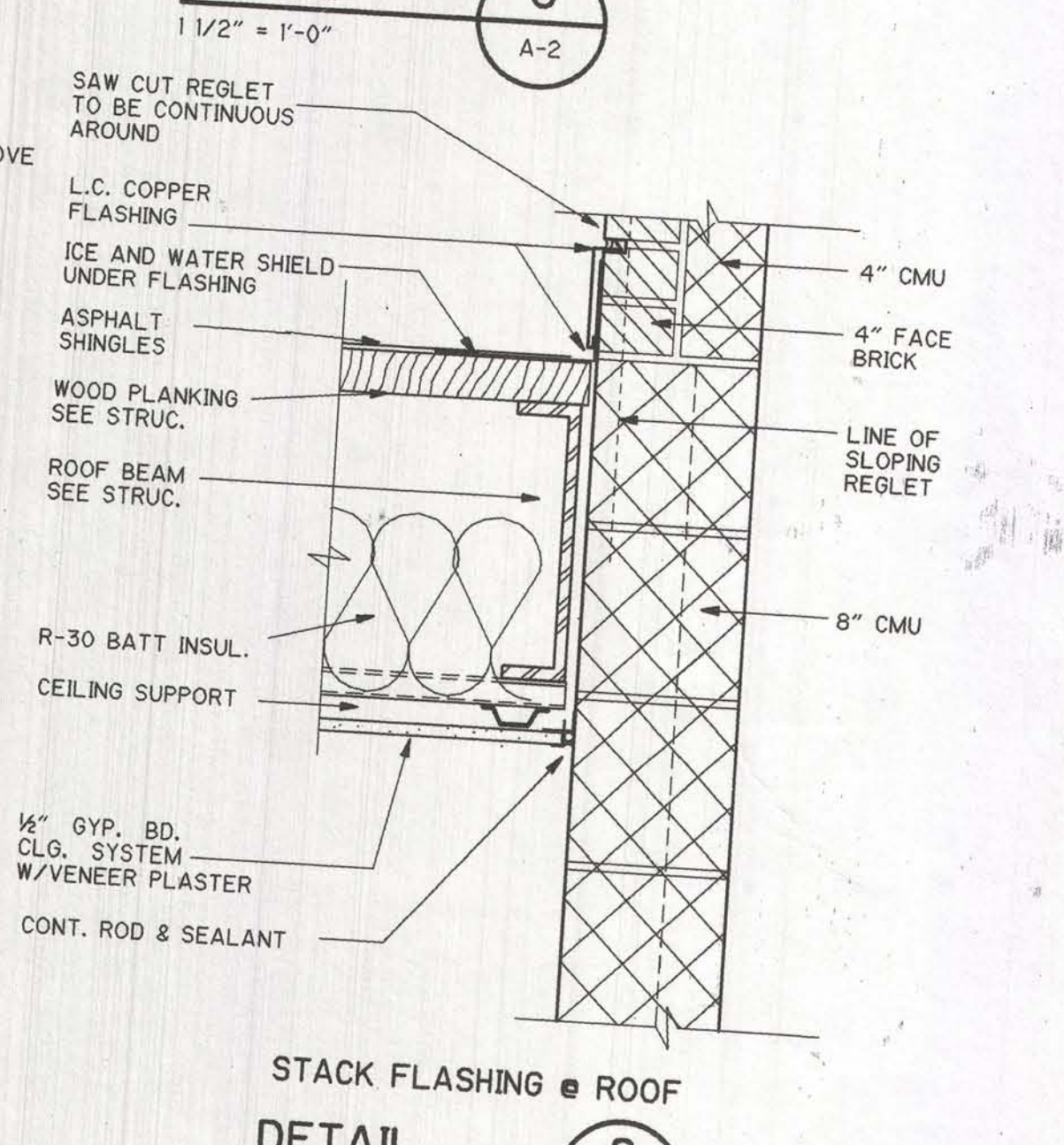
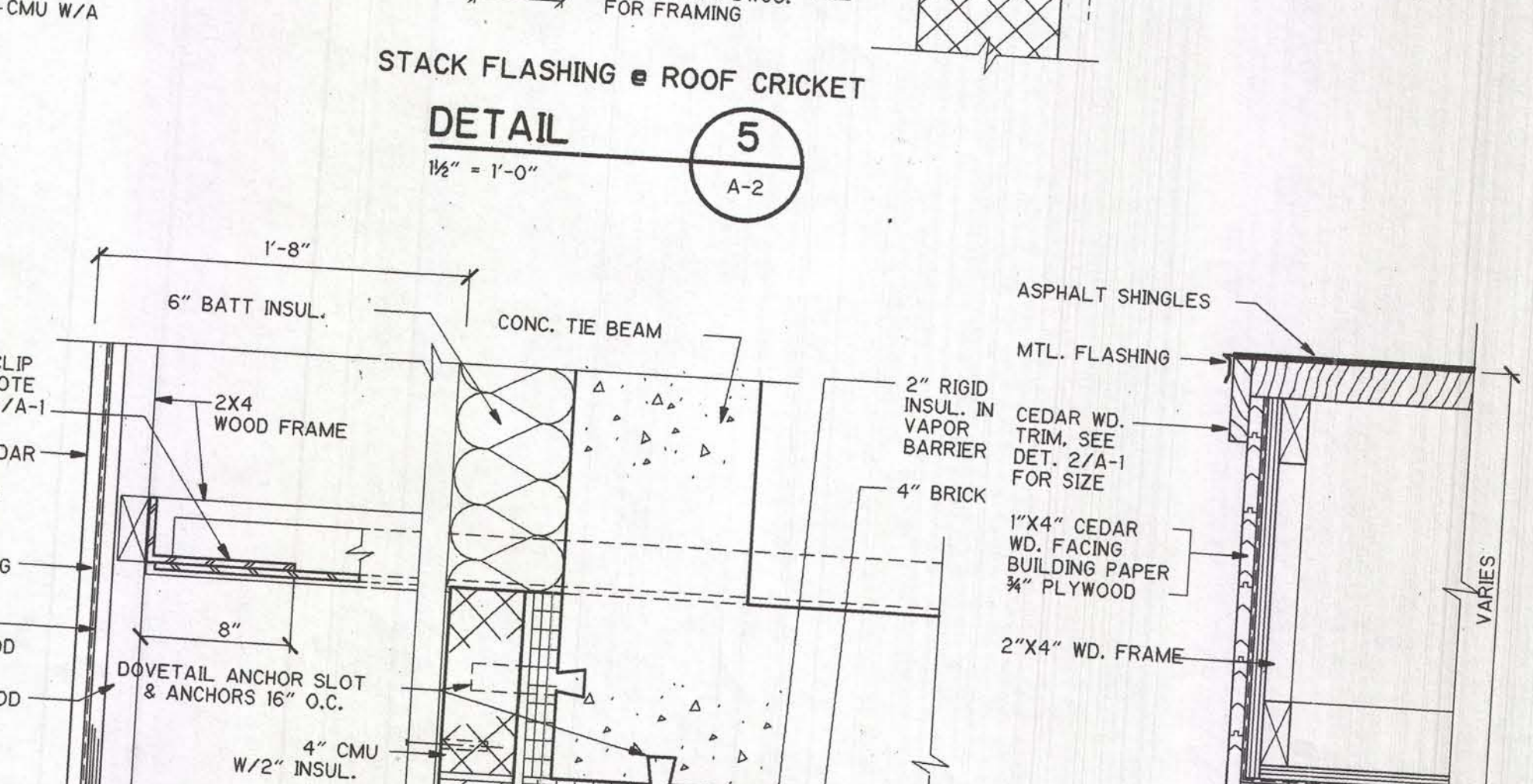
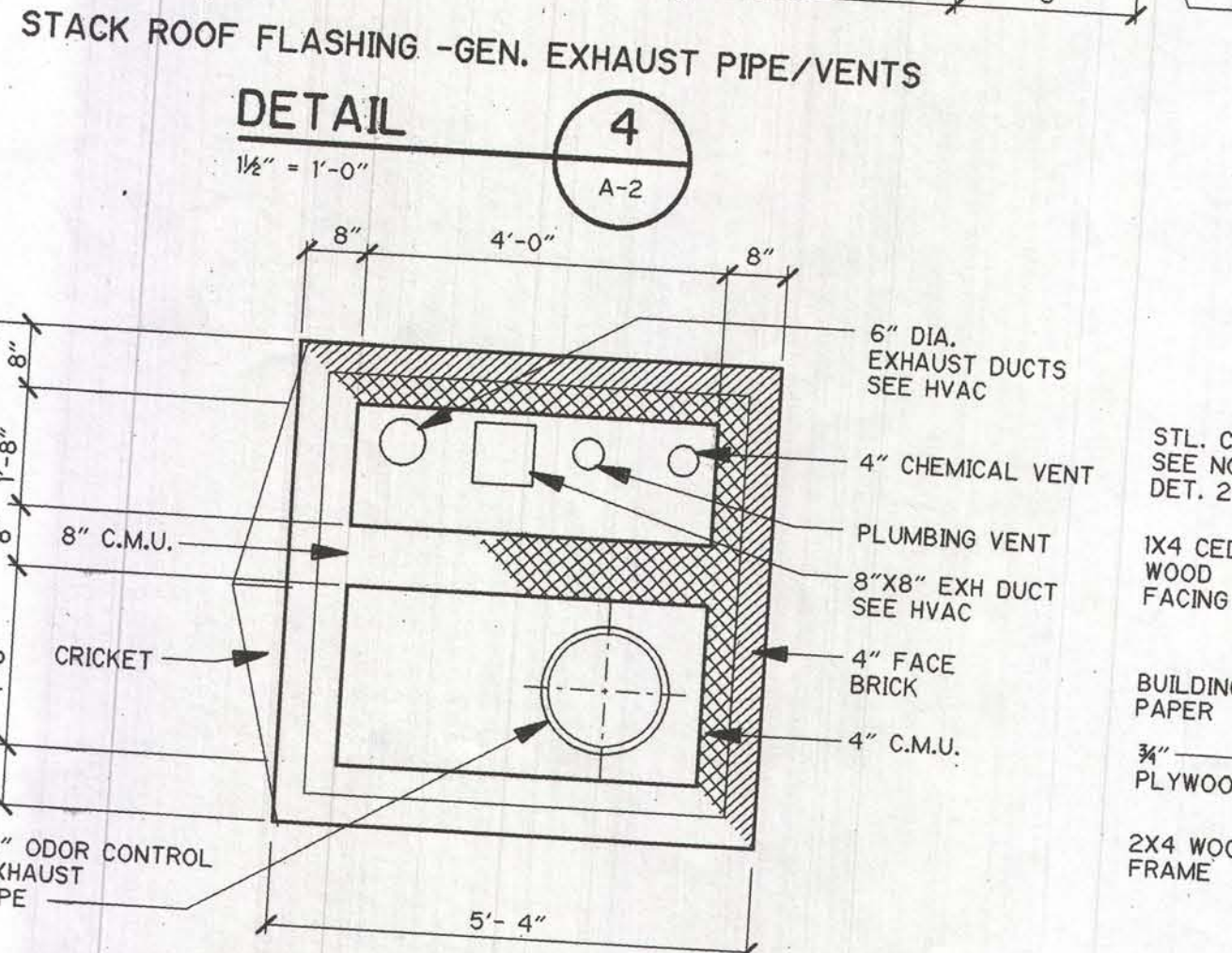
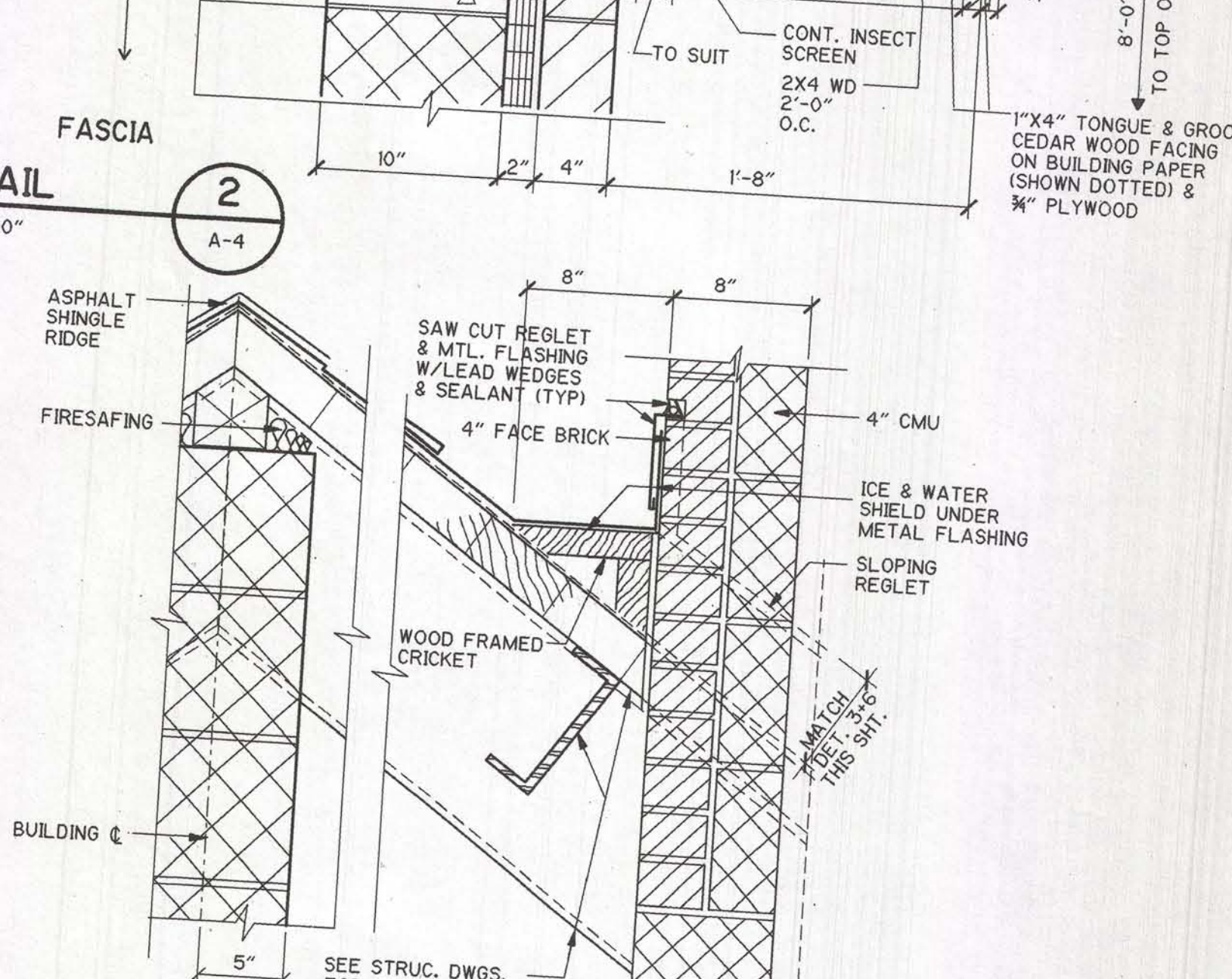
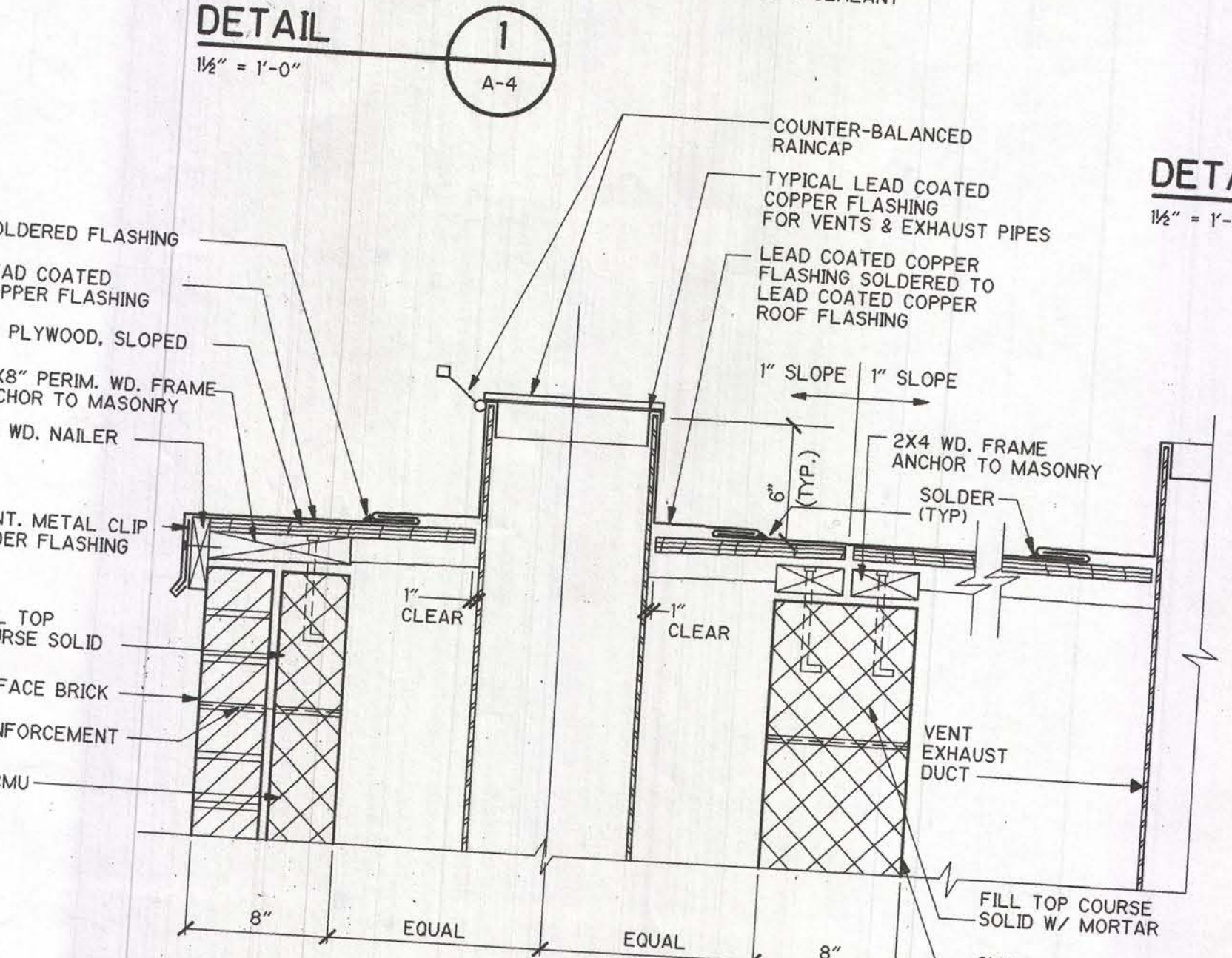
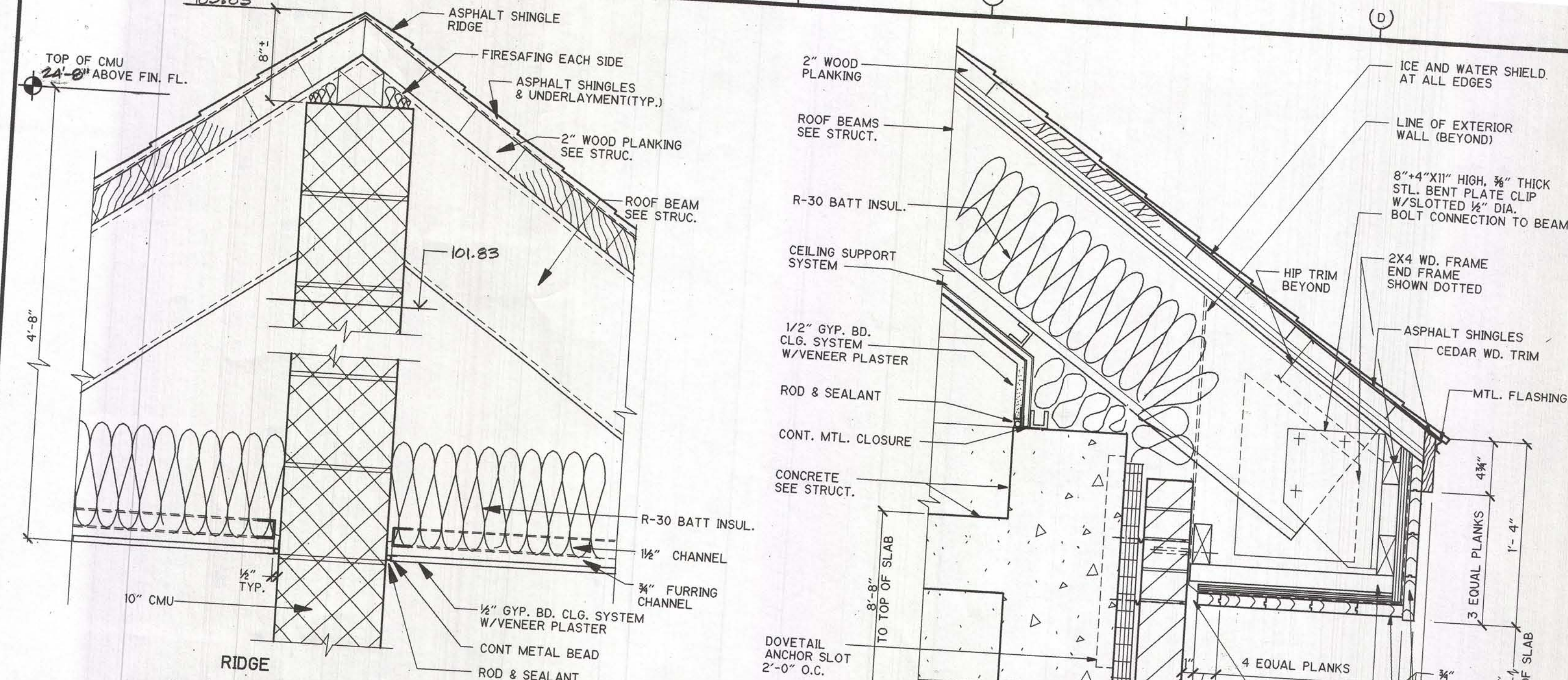


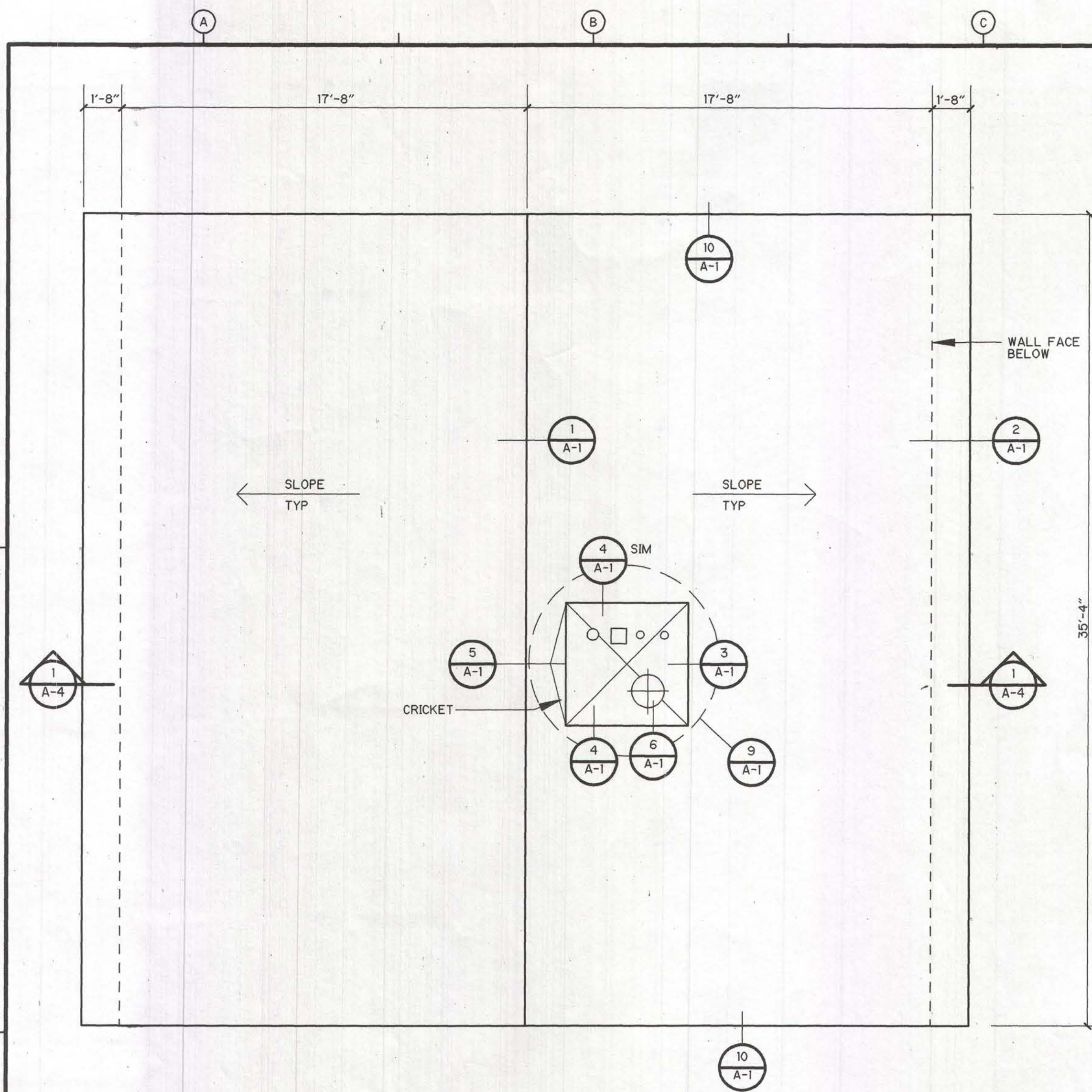


FURNITURE & EQUIPMENT W/A		SYMBOLS		MATERIALS	
1	FURNITURE NUMBER	1	BUILDING SECTION	1	EARTH SOIL
2	LABORATORY CASEWORK OR EQUIPMENT NUMBER	2	WALL SECTION	2	GRAVEL
3	RESTROOM/LOCKER ROOM EQUIPMENT OR ACCESSORY NUMBER	3	PLAN OR SECTION DETAIL	3	BRICK
4	SHOP EQUIPMENT NUMBER	4	COLUMN CENTER LINE	4	CONCRETE BLOCK
		5	ELEVATION IN SECTION	5	PRECAST CONCRETE
		6	ELEVATION IN PLAN	6	CONC CAST IN PLACE
		7	ROOM NUMBER - 1st FLOOR	7	WOOD-BLOCKING
		8	INTERIOR ELEVATION	8	WOOD-FINISH
		9	PARTITION TYPE	9	PLYWOOD
		10	BASEMENT	10	RIGID INSULATION
		11	BASEMENT	11	BLANKET INSULATION
		12	BASEMENT	12	STEEL
		13	BASEMENT	13	ALUMINUM
		14	BASEMENT	14	GROUT
		15	BASEMENT	15	CAULK
		16	BASEMENT	16	GLASS
		17	BASEMENT	17	STRUCTURAL STEEL
		18	BASEMENT	18	SHEET METAL, STEEL, GLASS, WATERPROOFING
		19	BASEMENT	19	
		20	BASEMENT	20	
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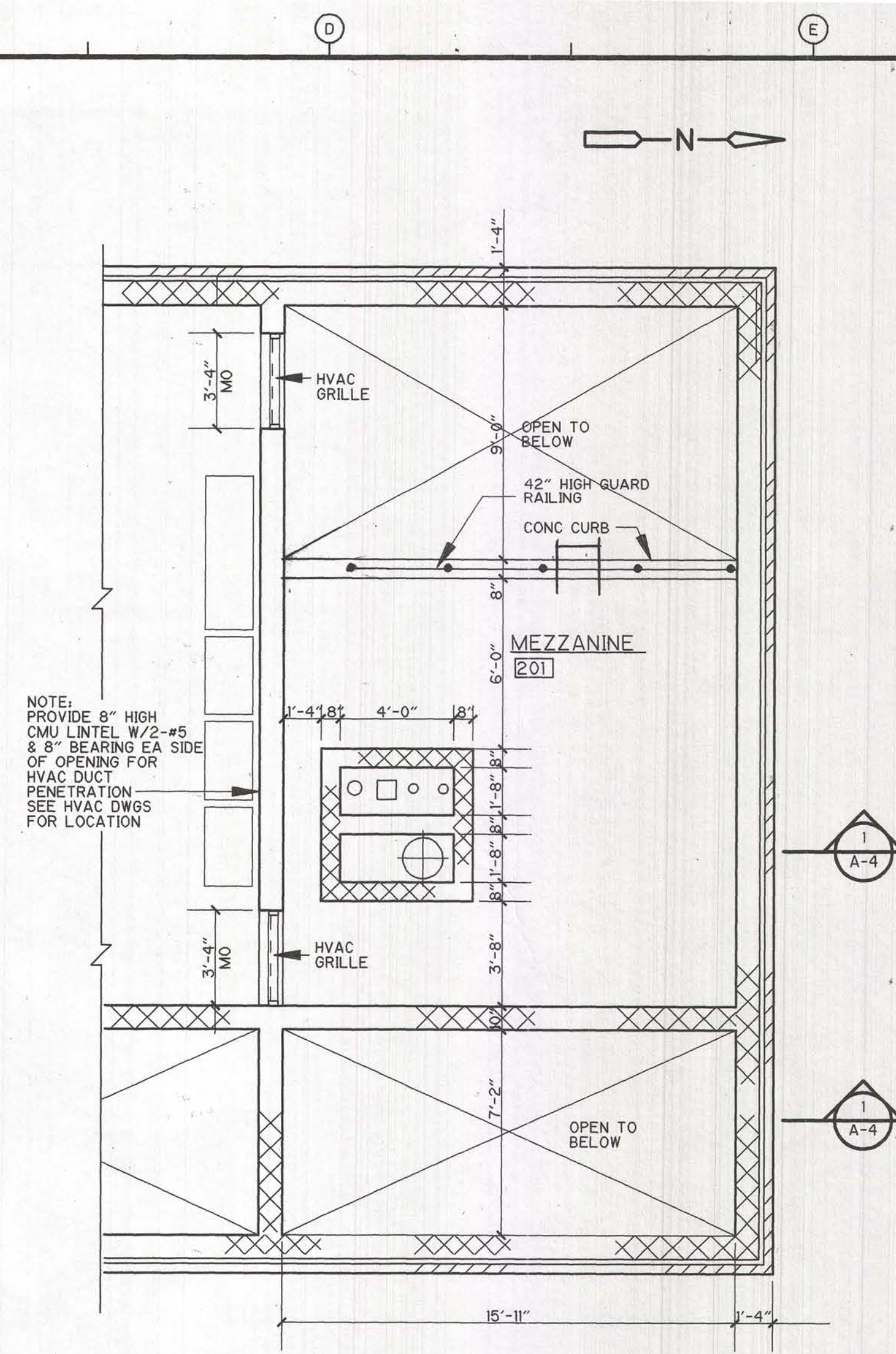
DESIGNED BY:	GIORGI, B.
DRAWN BY:	LEWIS, W.
SHEET CHK'D BY:	GIORGI, B.
CROSS CHK'D BY:	GIORGI, B.
APPROVED BY:	HICKOX, S.
DATE:	SEPTEMBER 1996

2-101	SME	AIM	REVISED FOR RECORD DRAWING
REV. NO.	DATE	DRWN	CHKD
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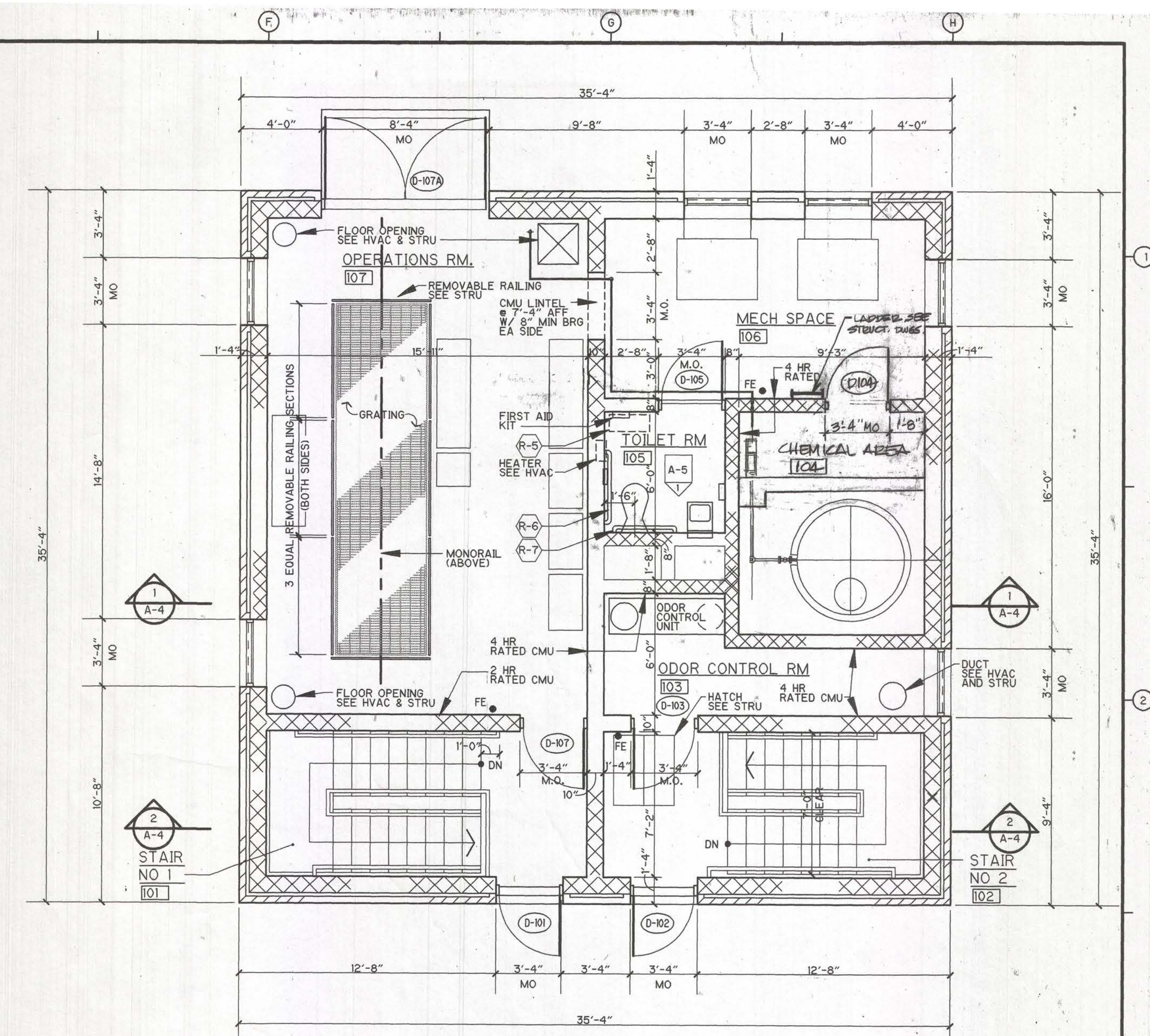
DESIGNED BY:	GIORGI, B.
DRAWN BY:	LEWIS, W.
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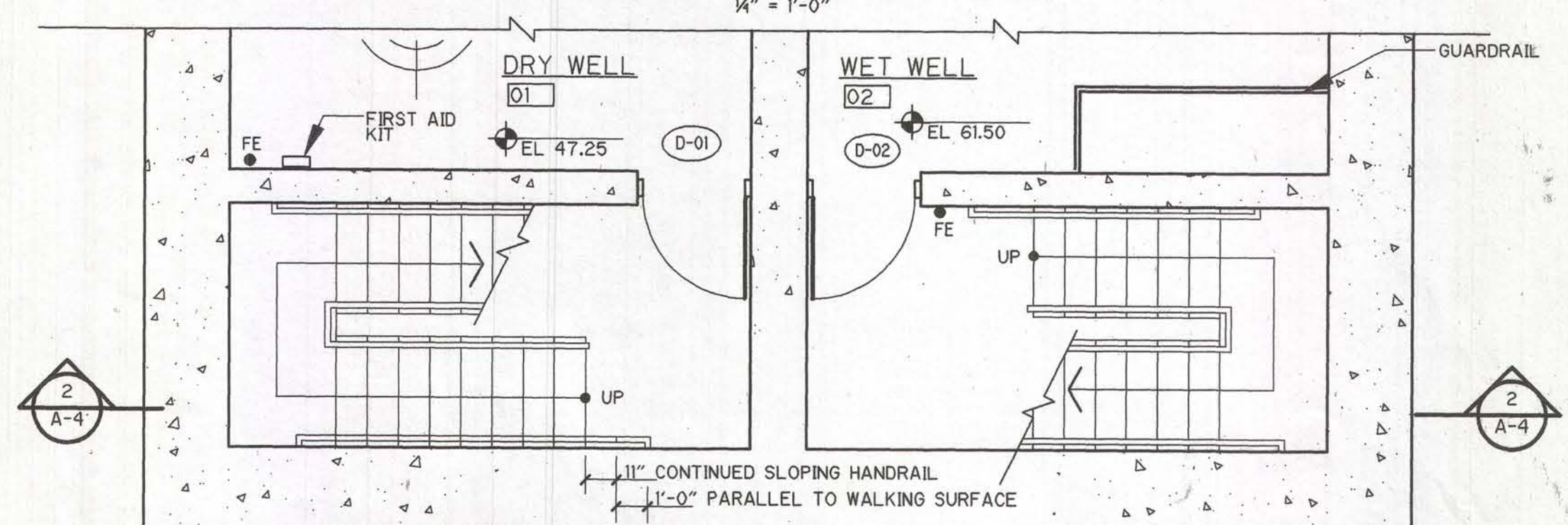
ROOF PLAN
1/4" = 1'-0"



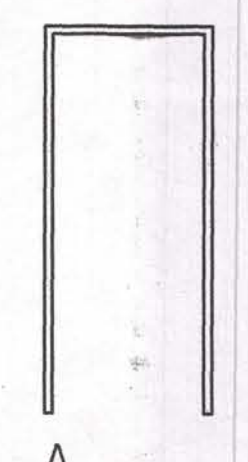
MEZZANINE PLAN AT ELEV. 87.17'
1/4" = 1'-0"



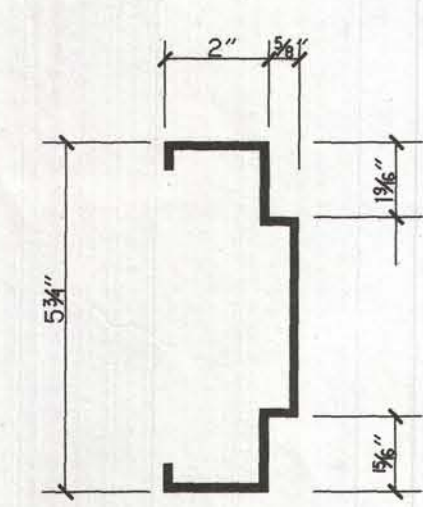
FLOOR PLAN AT ELEV. 78.50
1/4" = 1'-0"



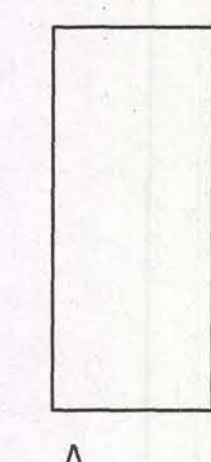
PARTIAL PLAN AT ELEV. 47.25 & 61.50
1/4" = 1'-0"



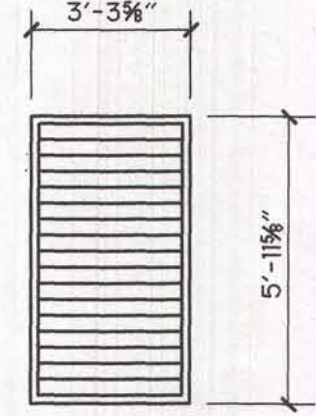
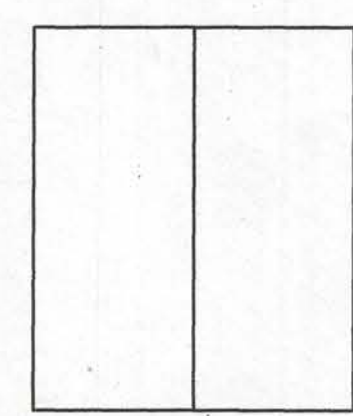
FRAME TYPES



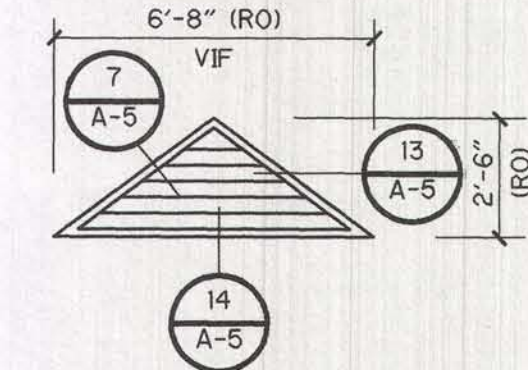
FRAME PROFILE



DOOR TYPES



LOUVER TYPES



FINISH SCHEDULE									
ROOM NUMBER	ROOM NAME	FLOORS	WALLS	CEILINGS	NOTE NO	NOTES	DOOR NUMBER	DOOR SIZE	DOORS
01	DRYWELL	CONC	SF	CONC	PTD	CONC	PTD	-	-
02	WETWELL	CONC	CH	-	CONC	PTD	CONC	PTD	-
101	STAIR NO. 1	CONC	CH	-	CONC	PTD	PLAS	PTD	-
102	STAIR NO. 2	CONC	CH	-	CONC	PTD	PLAS	PTD	-
103	ODOR CONTROL	CONC	SF	SF	CMU	PTD	CONC	PTD	-
104	CHEMICAL AREA	CONC	SF	SF	CMU	PTD	CONC	PTD	-
105	TOILET	CONC	SF	SF	CMU	PTD	CONC	PTD	-
106	MECH SPACE	CONC	CH	-	CMU	PTD	PLAS	PTD	-
107	OPERATIONS	CONC	CH	-	CMU	PTD	PLAS	PTD	-
201	MEZZANINE	CONC	CH	-	CMU	PTD	PLAS	PTD	-

DOOR SCHEDULE														
DOOR NUMBER	DOOR SIZE	DOORS	FRAMES	DETAILS (A-5)	UL LABEL	HARDWARE	NOTE NO	NOTES	DOOR NUMBER	DOOR SIZE	DOORS	FRAMES	DETAILS (A-5)	UL LABEL
D-01	3'-0" x 6'-8"	A HM PTD	A PM PTD	3 3 3 15	B	1	-	1. PAIR OF DOORS	D-01	3'-0" x 6'-8"	A HM PTD	A PM PTD	3 3 3 15	B
D-02	3'-0" x 6'-8"	A SS -	A SS -	3 3 3 -	B	1	-		D-02	3'-0" x 6'-8"	A SS -	A SS -	3 3 3 -	B
D-101	3'-0" x 7'-2"	A SS -	A SS -	1 9 9 8	-	1	-		D-101	3'-0" x 7'-2"	A SS -	A SS -	1 9 9 8	-
D-102	3'-0" x 7'-2"	A SS -	A SS -	1 9 9 8	-	1	-		D-102	3'-0" x 7'-2"	A SS -	A SS -	1 9 9 8	-
D-103	3'-0" x 7'-2"	A HM PTD	A PM PTD	3 10 10 15	A	1	-		D-103	3'-0" x 7'-2"	A HM PTD	A PM PTD	3 10 10 15	A
D-104	3'-0" x 7'-2"	A HM PTD	A PM PTD	2 10 10 15	A	1	-		D-104	3'-0" x 7'-2"	A HM PTD	A PM PTD	2 10 10 15	A
D-105	3'-0" x 7'-2"	A HM PTD	A PM PTD	2 10 10 15	-	3	-		D-105	3'-0" x 7'-2"	A HM PTD	A PM PTD	2 10 10 15	-
D-107	3'-0" x 7'-2"	A HM PTD	A PM PTD	3 10 10 -	B	1	-		D-107	3'-0" x 7'-2"	A HM PTD	A PM PTD	3 10 10 -	B
D-107A	8'-0" x 7'-2"	B SS -	A SS -	1 9 9 8	-	2	1		D-107A	8'-0" x 7'-2"	B SS -	A SS -	1 9 9 8	-

LOUVER SCHEDULE														
LOUVER NUMBER	ROUGH OPENING	TYPE	MAT'L	FIN	DETAILS (A-5)	NOTE NO	NOTES	LOUVER NUMBER	ROUGH OPENING	TYPE	MAT'L	FIN	DETAILS (A-5)	NOTE NO
L-1	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-1	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-2	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-2	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-3	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-3	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-4	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-4	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-5	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-5	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-6	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-		L-6	3'-4 3/4" x 6'-0"	A	ALUM	ANOD	4 5 5 11	-
L-7	6'-8" x 2'-6"	B	ALUM	ANOD	6,7 13 13 14	-		L-7	6'-8" x 2'-6"	B	ALUM	ANOD	6,7 13 13 14	-

DESIGNED BY: GIORGI B.	CAMP DRESSER & MCKEE INC.
DRAWN BY: LEWIS, W.	
SHEET CHECKED BY: GIORGI B.	
CROSS CHECKED BY: GIORGI B.	
APPROVED BY: HICKOX, S.	
DATE: SEPTEMBER 1996	

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-01	SMC	AdM	REVISED FOR RECORD DRAWING

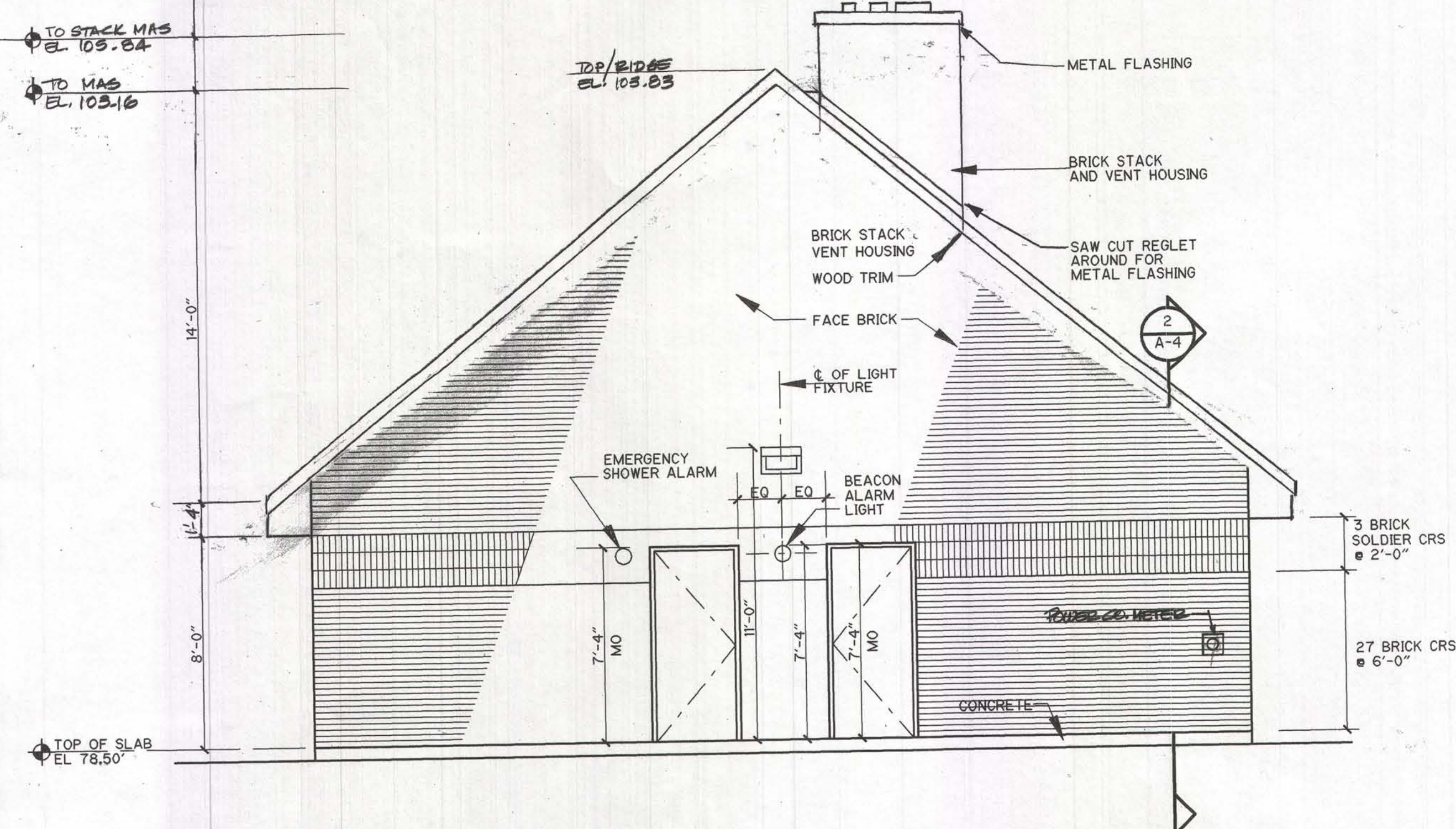
CITY OF NEW BEDFORD, MASSACHUSETTS WASTEWATER SYSTEM IMPROVEMENTS CONTRACT NO. 8 EDA PROJECT NO. 01-01-03529 NORTH END AND WELBY ROAD PUMPING STATION

NORTH END PUMPING STATION PLANS AND SCHEDULES
--

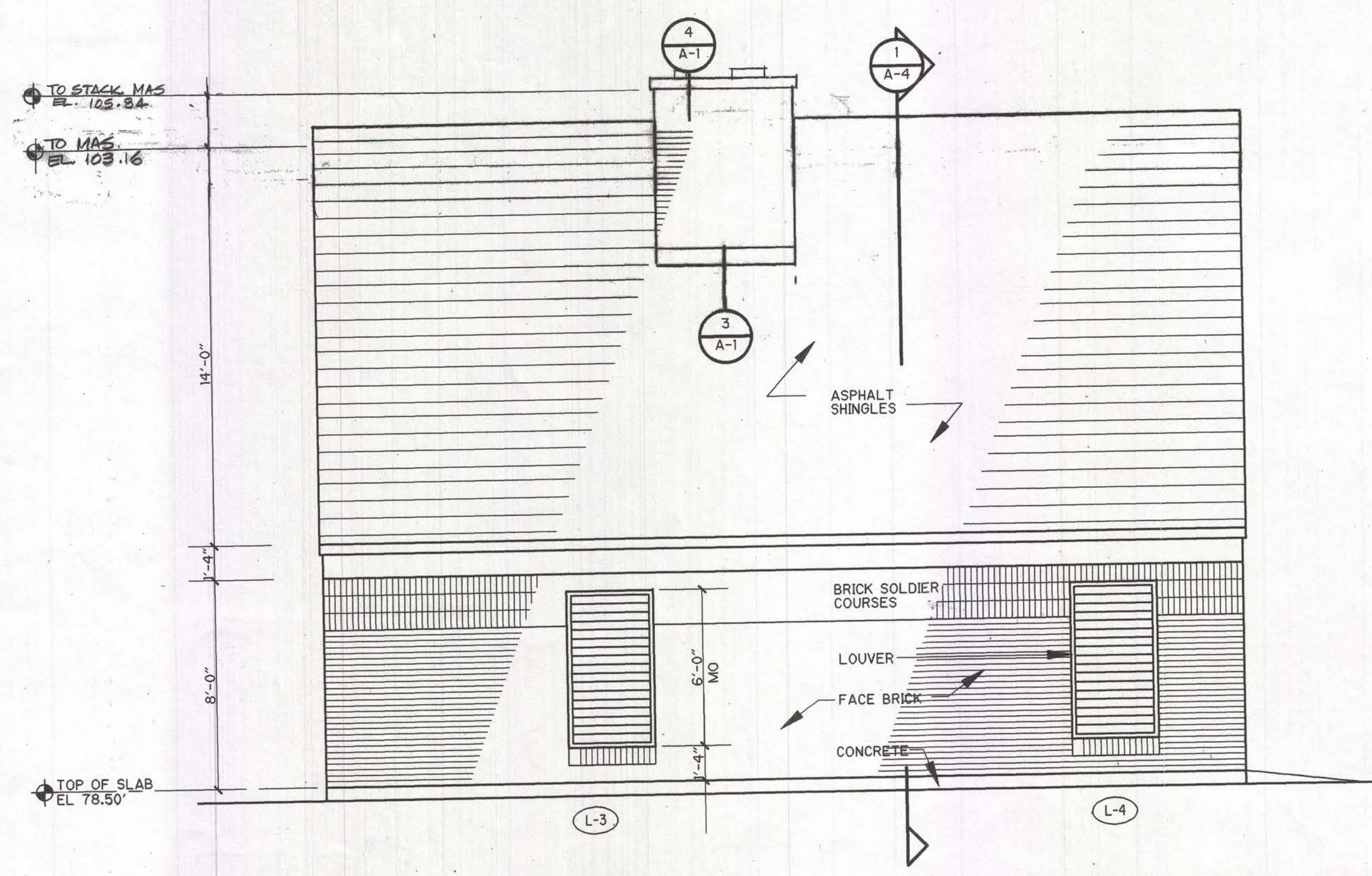
ASCENSION NO 309-54795 SHEET NO. A-2

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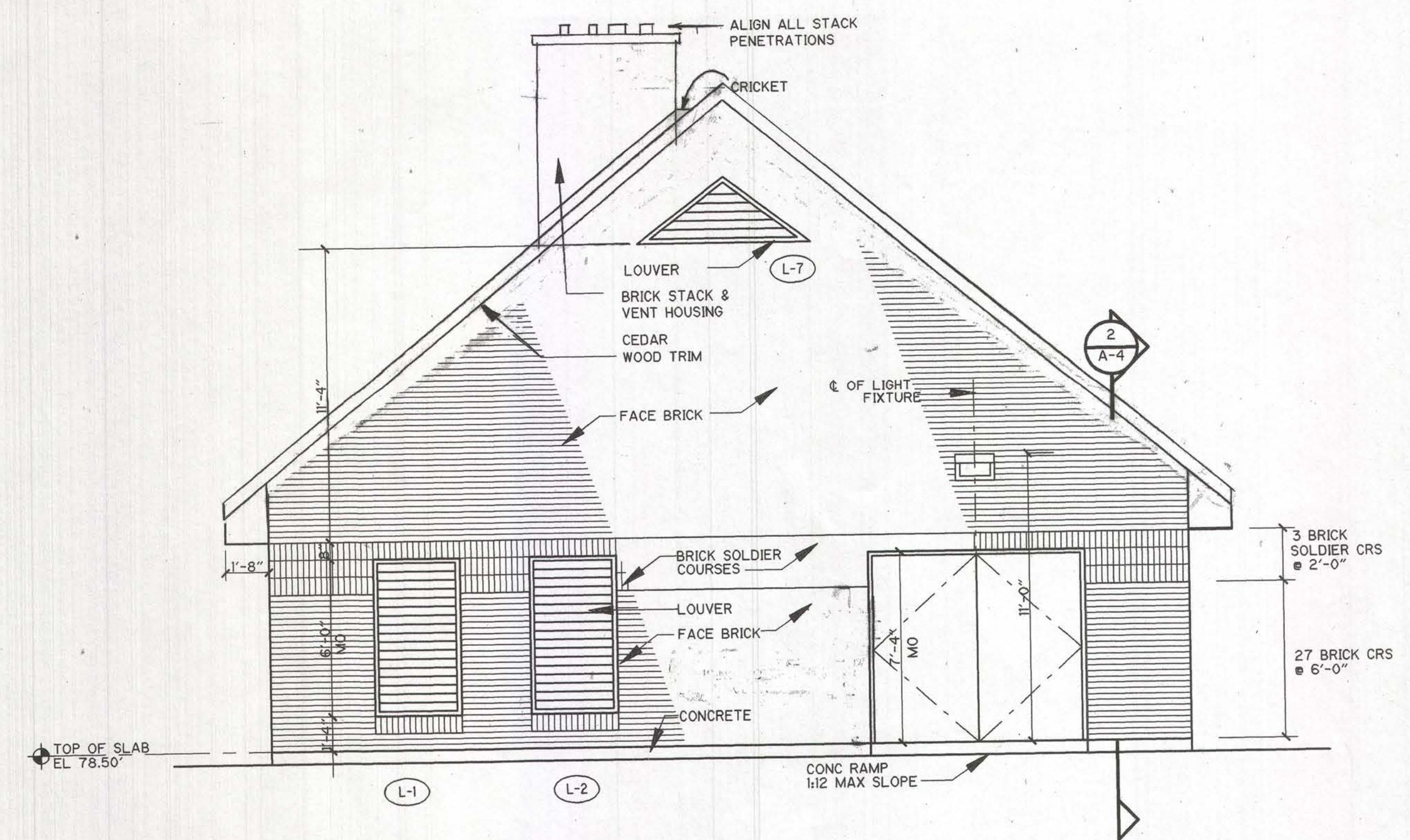




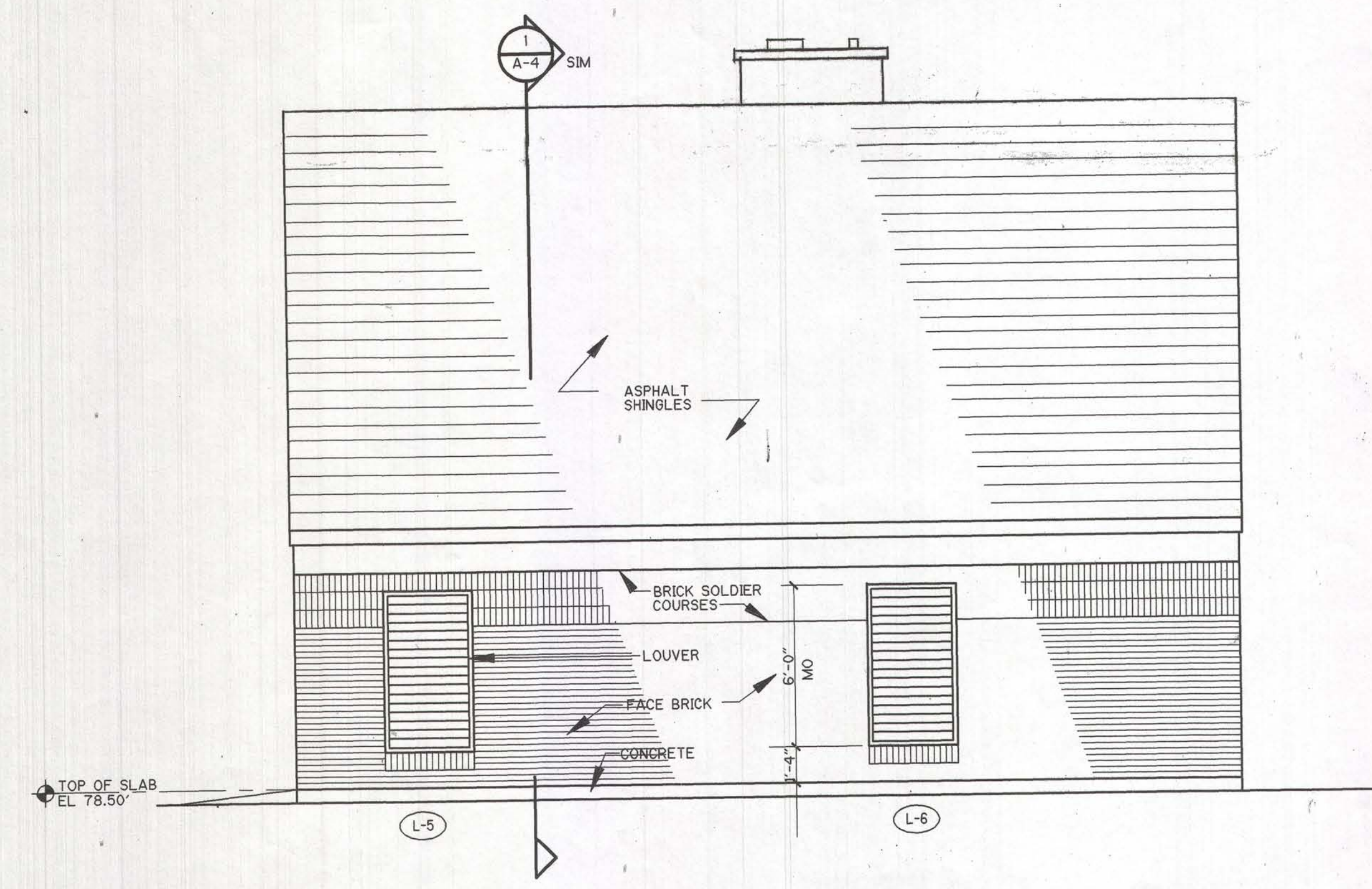
EAST
ELEVATION
1/4" = 1'-0"



NORTH
ELEVATION
1/4" = 1'-0"



WEST
ELEVATION
1/4" = 1'-0"



SOUTH
ELEVATION
1/4" = 1'-0"

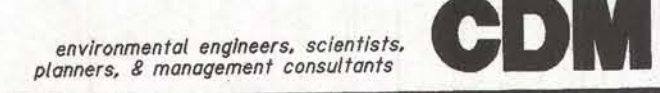
RECORD DRAWING



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	EMR	AWM	REVISED FOR RECORD DRAWING

DESIGNED BY: GIORGI, B.
DRAWN BY: LEWIS, W.
SHEET CHK'D BY: GIORGI, B.
CROSS CHK'D BY: GIORGI, B.
APPROVED BY: HICKOX, S.
DATE: SEPTEMBER 1996

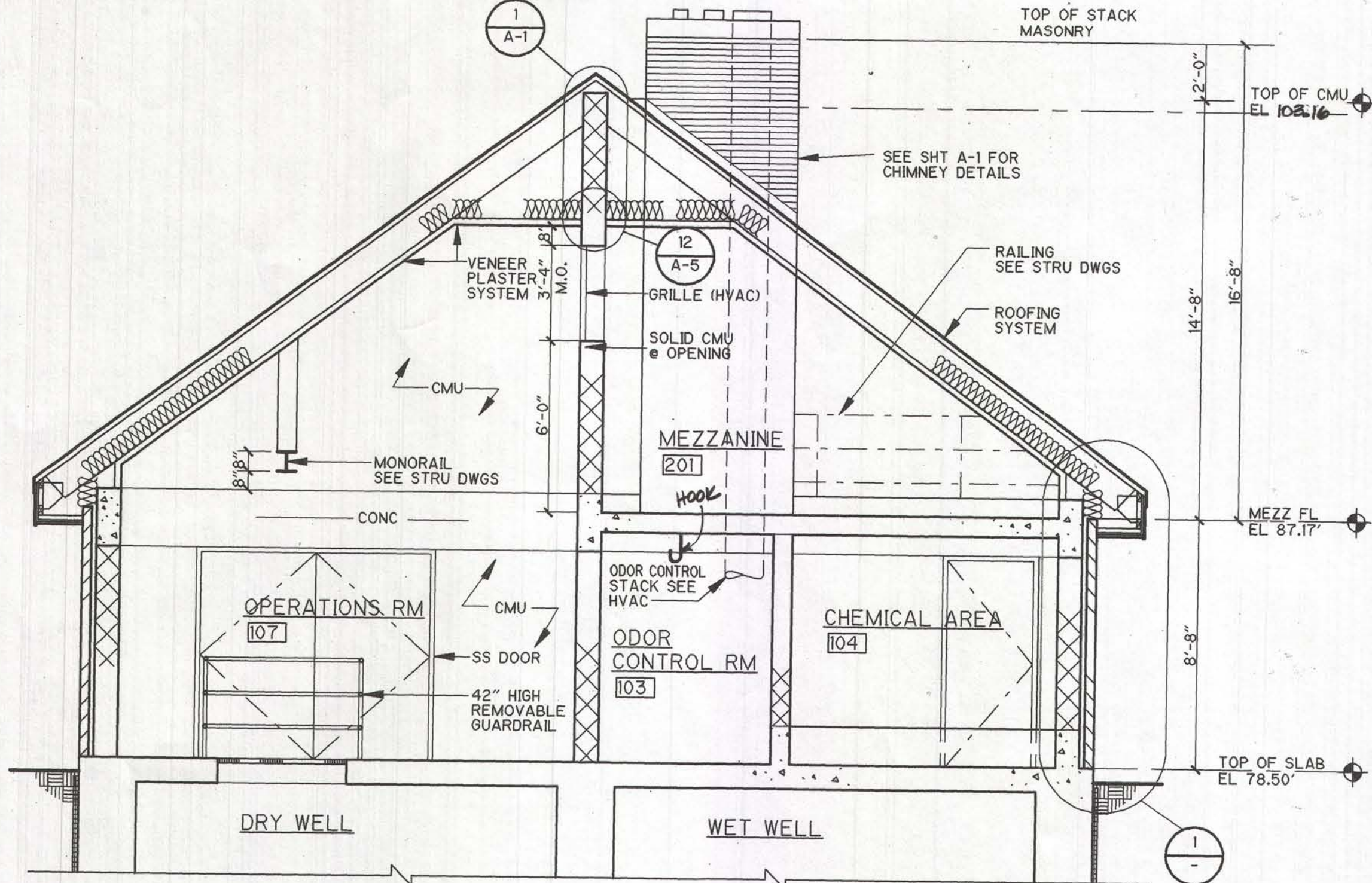
CAMP DRESSER & McKEE INC.



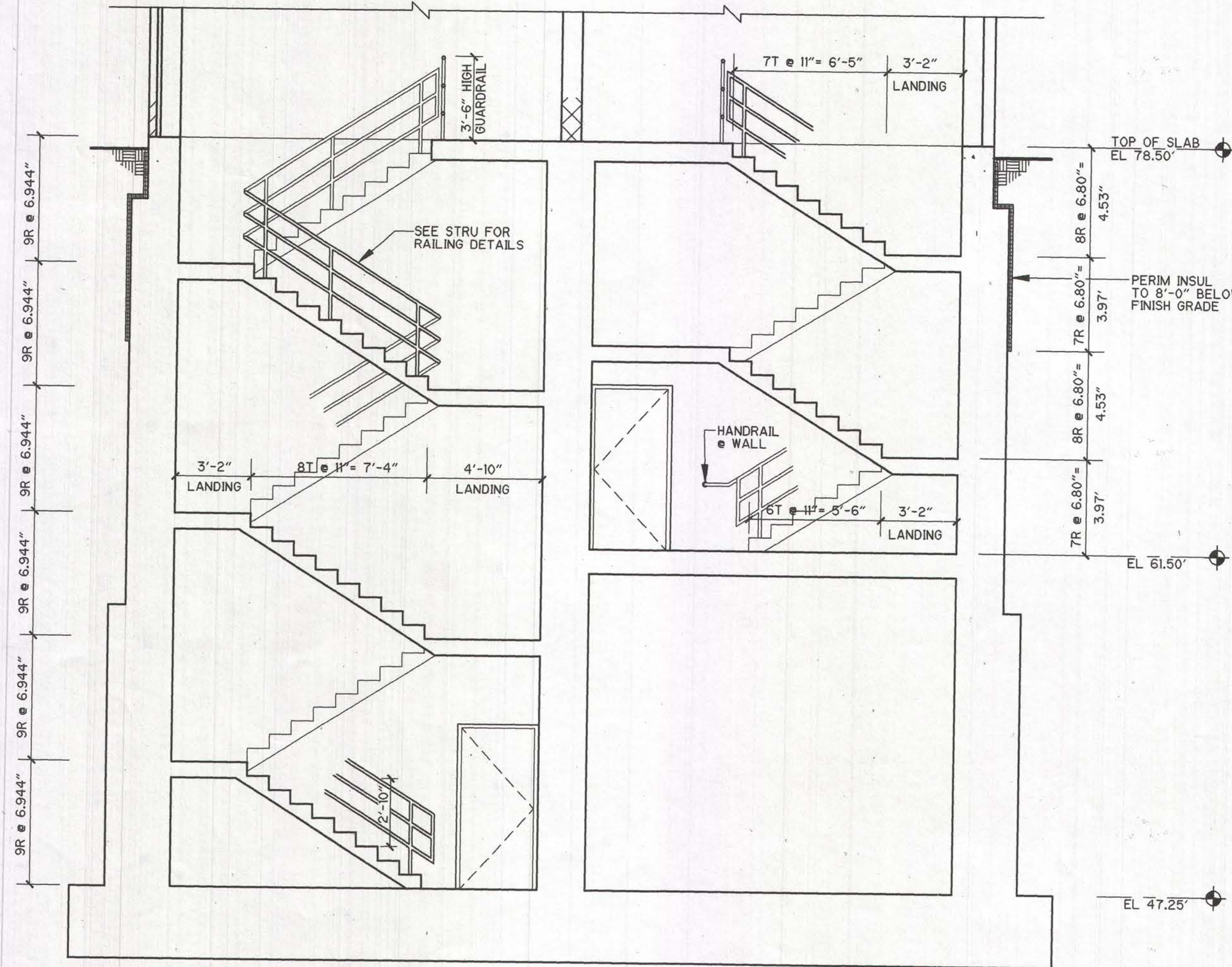
CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATION

NORTH END PUMPING STATION
ELEVATIONS

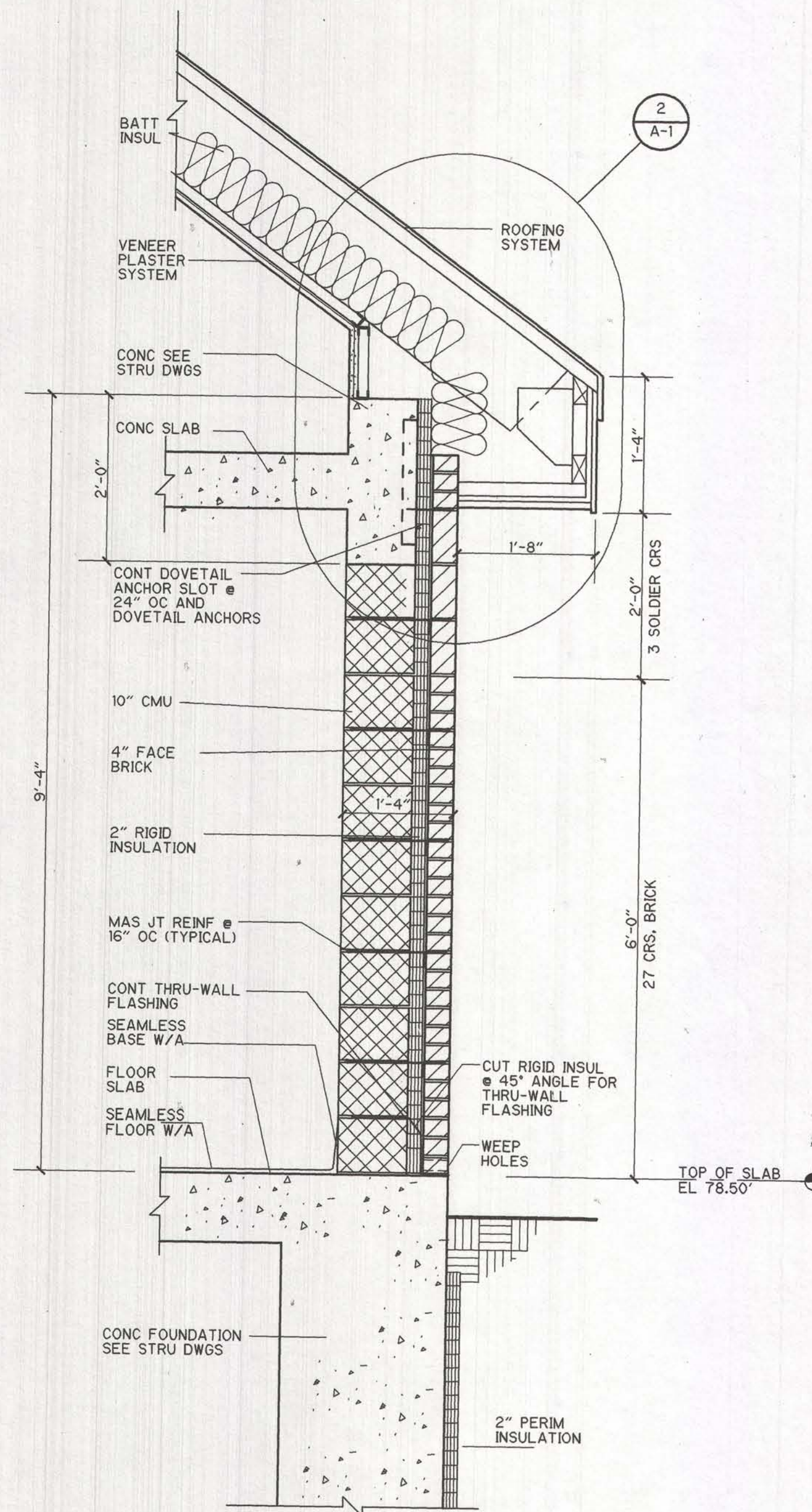
PROJECT NO.
309-54796
SHEET NO.
A-3



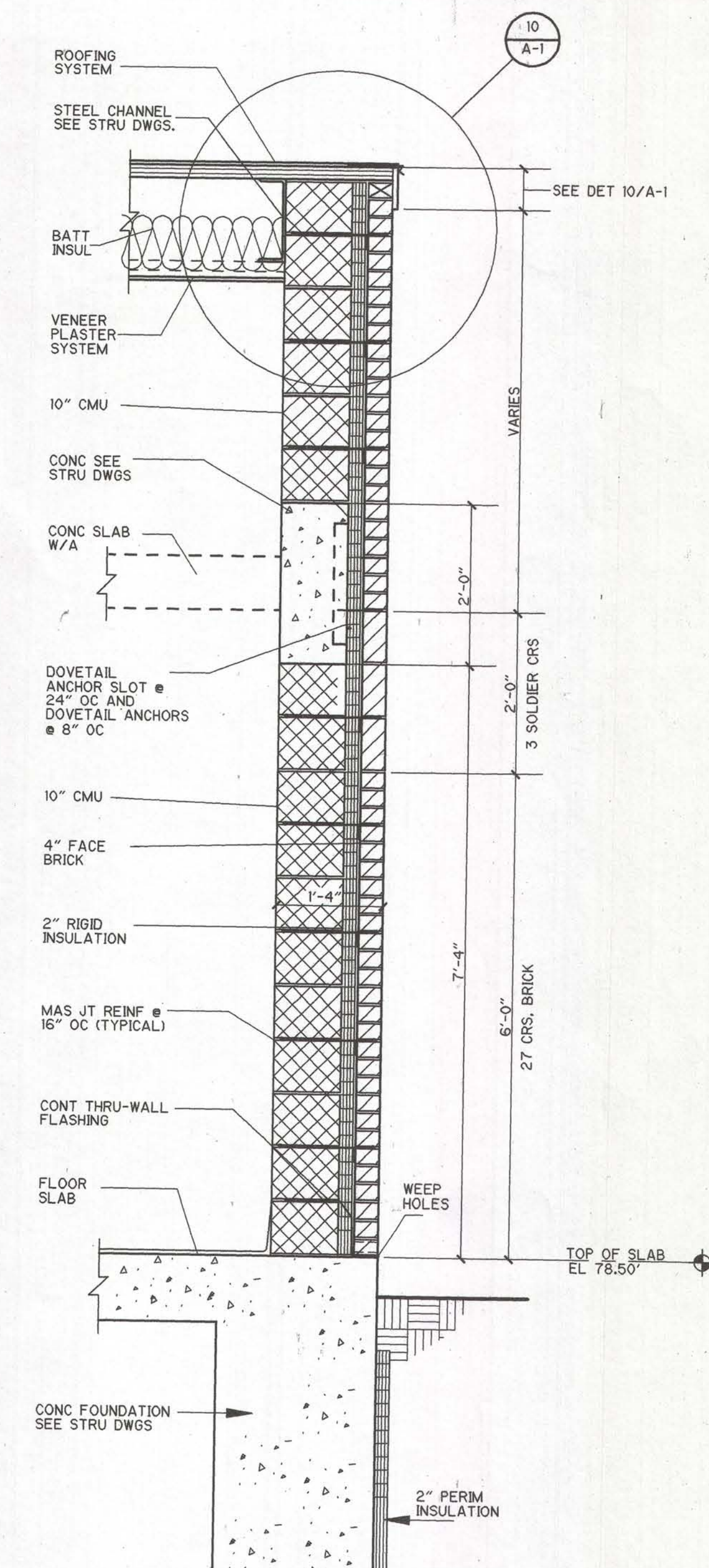
BUILDING SECTION
SECTION 1
1/4"=1'-0"



BUILDING SECTION
SECTION 2
1/4"=1'-0"



WALL SECTION
SECTION 1
1/4"=1'-0"



WALL SECTION
SECTION 2
1/4"=1'-0"

CA0309-RES-ARCH
AFSSC401
15/08/25
09/25/96 16-4138
PCN17

REV. NO.	DATE	DRWN	CHKD	REMARKS
2-101	9/25/96	AJM		REVISED FOR RELOAD DRAWING

DESIGNED BY: GIORGI, B.
DRAWN BY: LEWIS, W.
SHEET CHK'D BY: GIORGI, B.
CROSS CHK'D BY: GIORGI, B.
APPROVED BY: HICKOX, S.
DATE: SEPTEMBER 1996

CAMP DRESSER & McKEE INC.

environmental engineers, scientists,
planners, & management consultants

CDM

NORTH END AND WELBY ROAD PUMPING STATION

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

NORTH END PUMPING STATION
BUILDING AND WALL SECTIONS

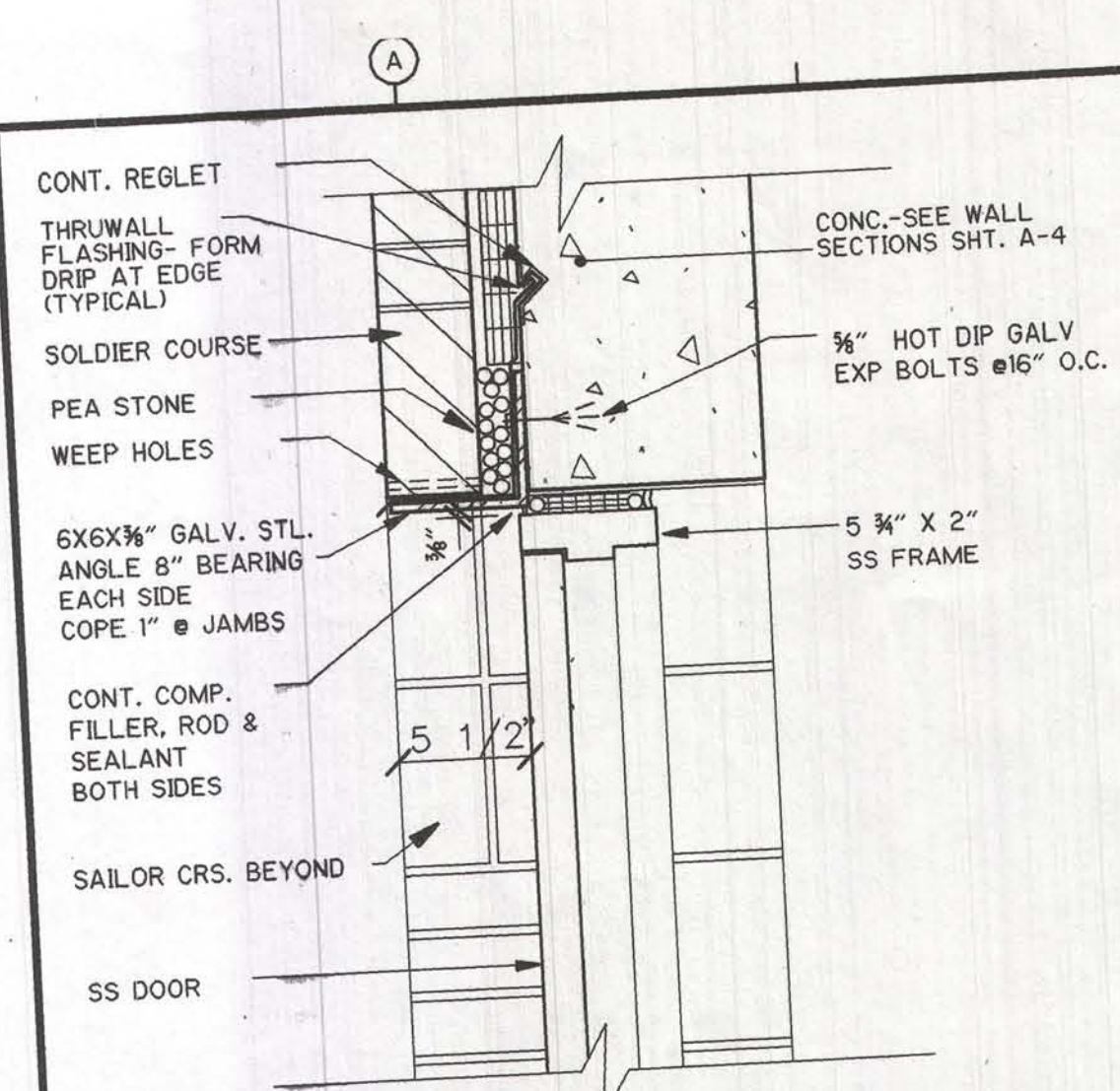
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ASCENSION NO
309-54797

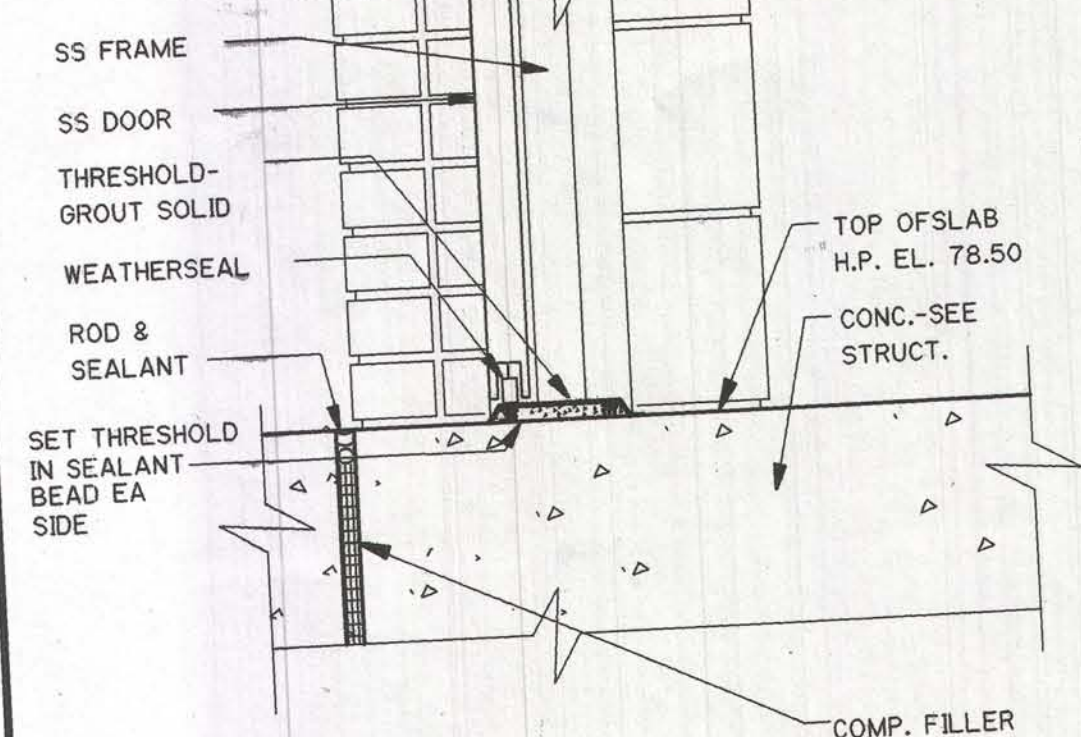
SHEET NO.

A-4

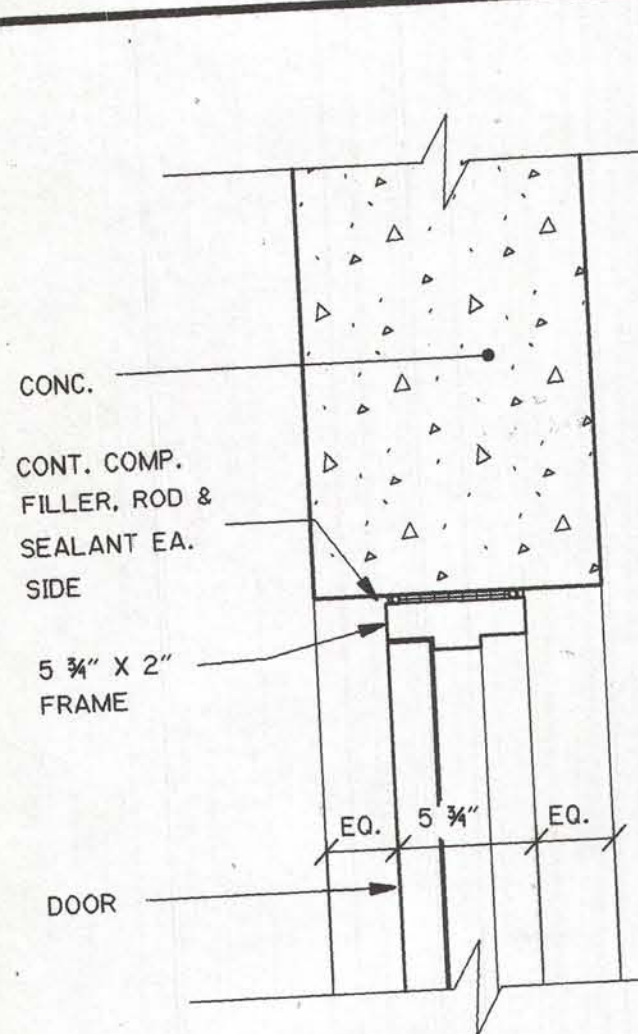




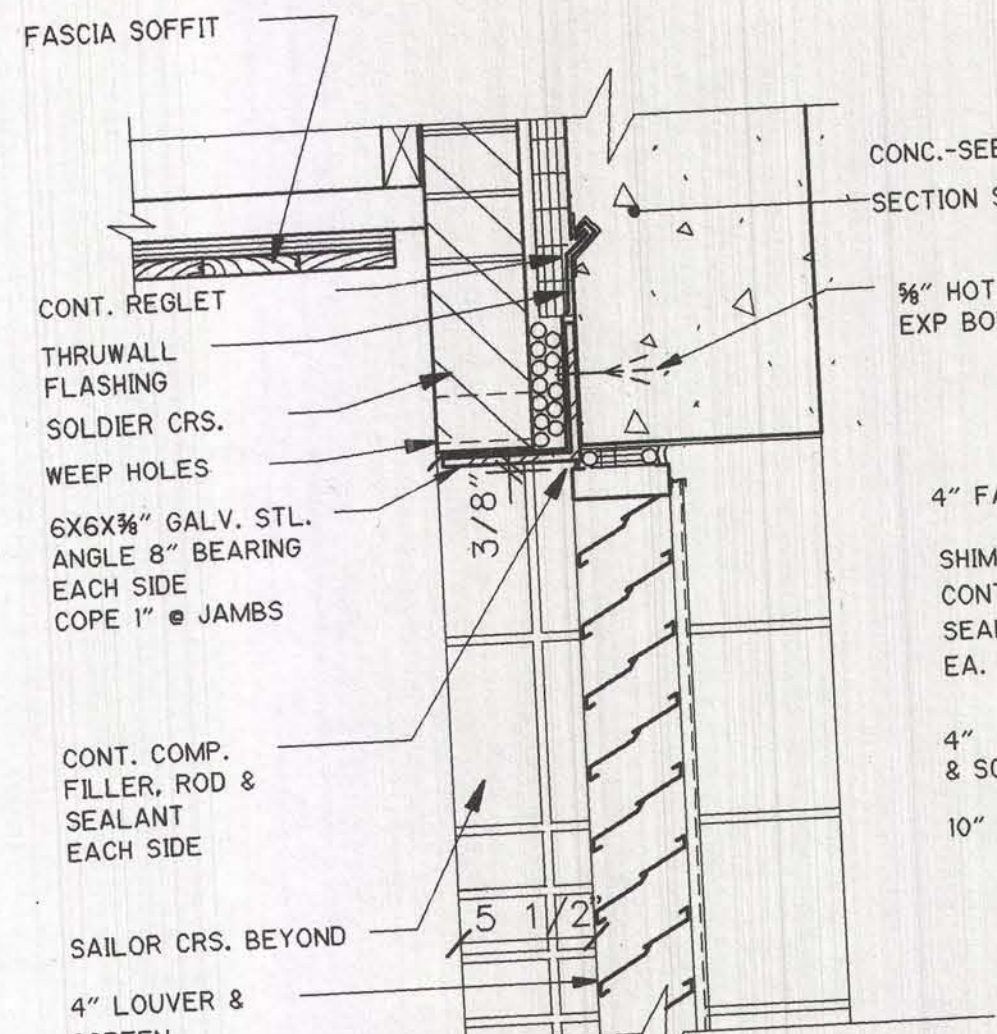
DETAIL 1
1 1/2" = 1'-0"



DETAIL 2
1 1/2" = 1'-0"

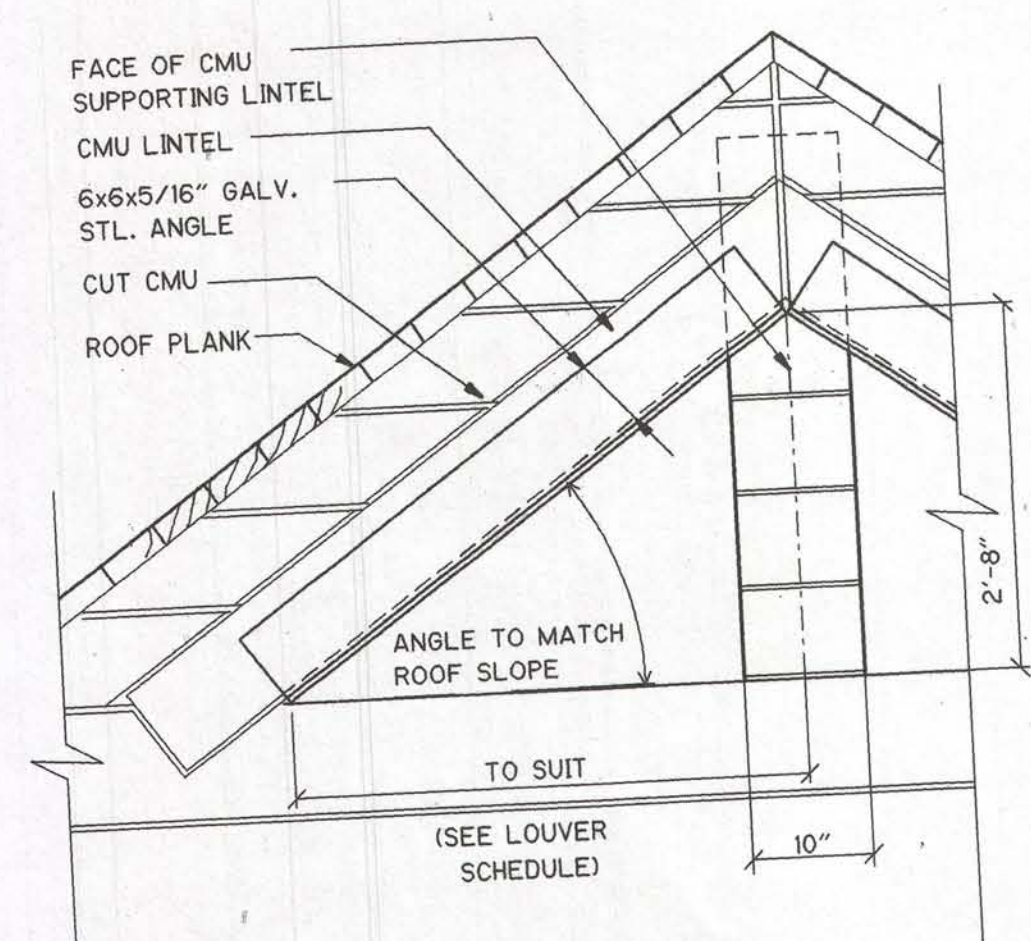


DETAIL 3
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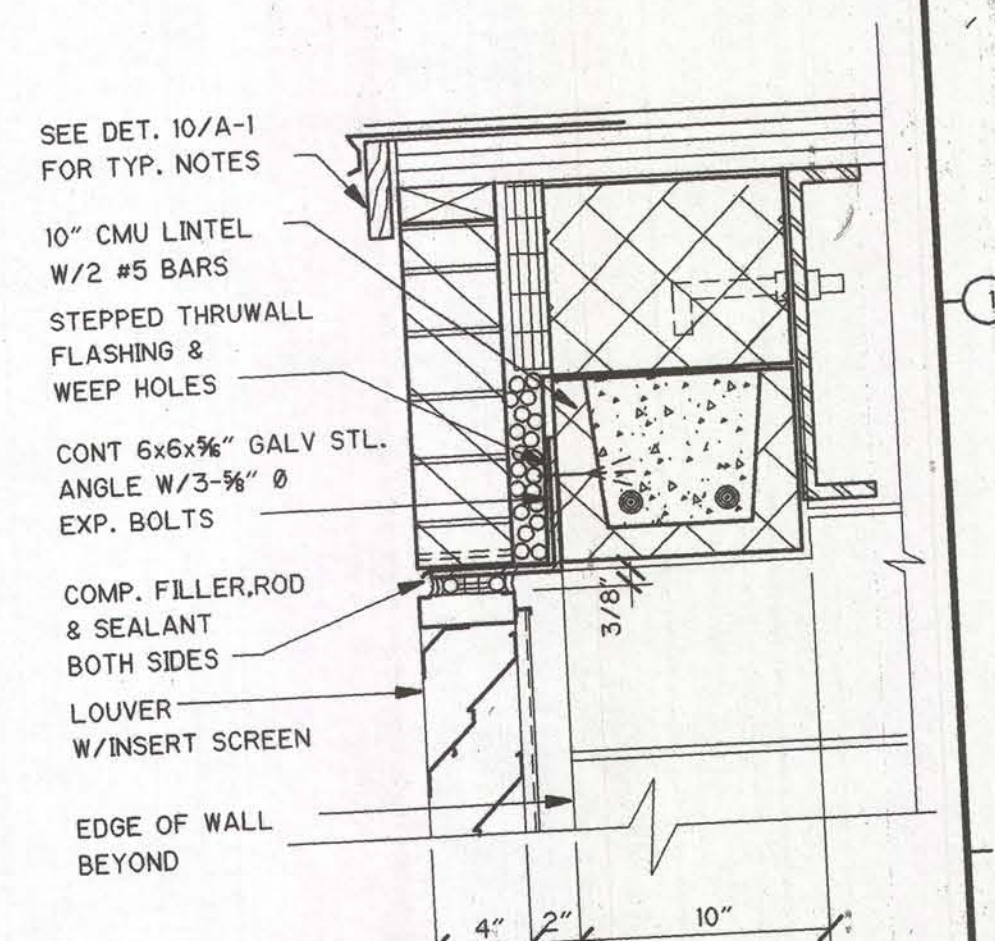


DETAIL 4
1 1/2" = 1'-0"

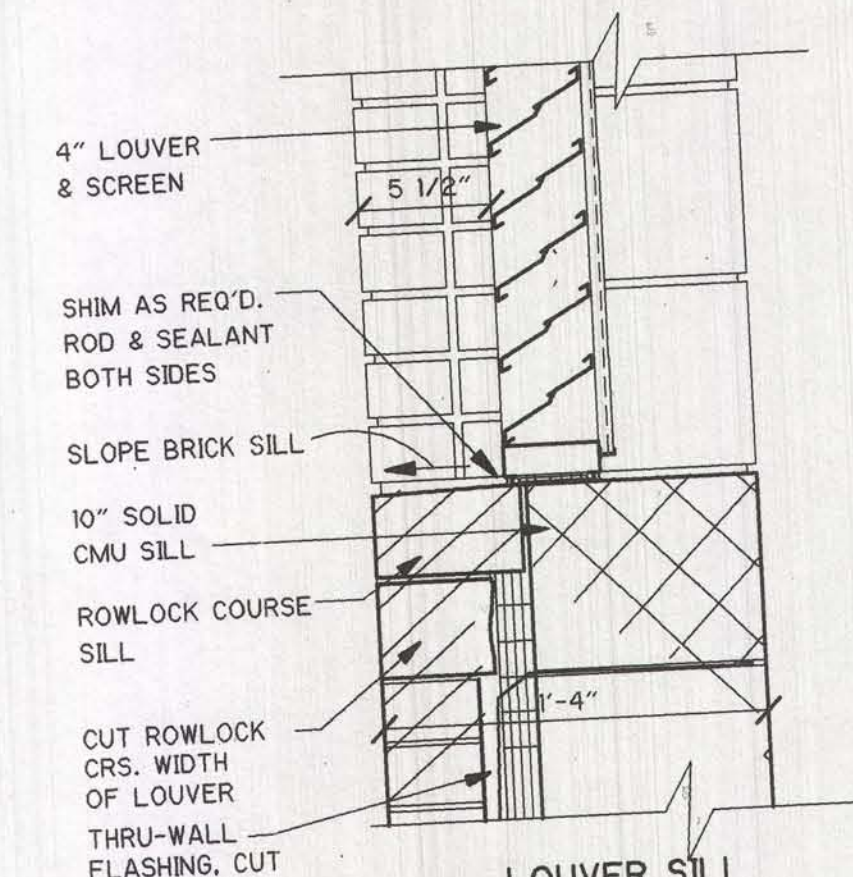
DETAIL 5
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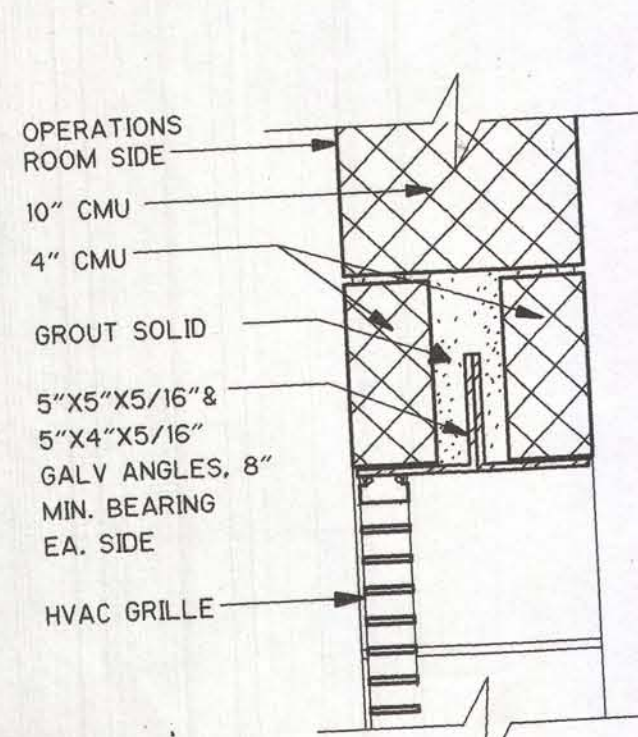
DETAIL 6
1 1/2" = 1'-0"



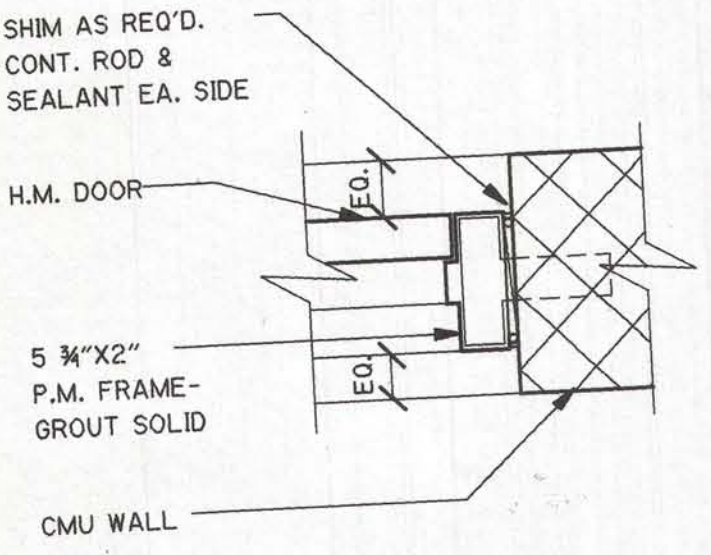
DETAIL 7
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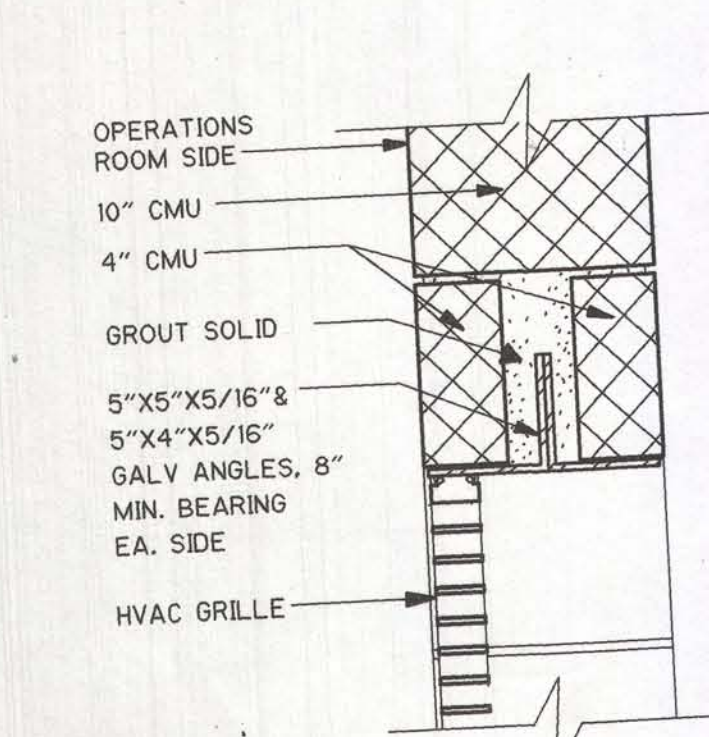
DETAIL 8
1 1/2" = 1'-0"



DETAIL 9
1 1/2" = 1'-0"

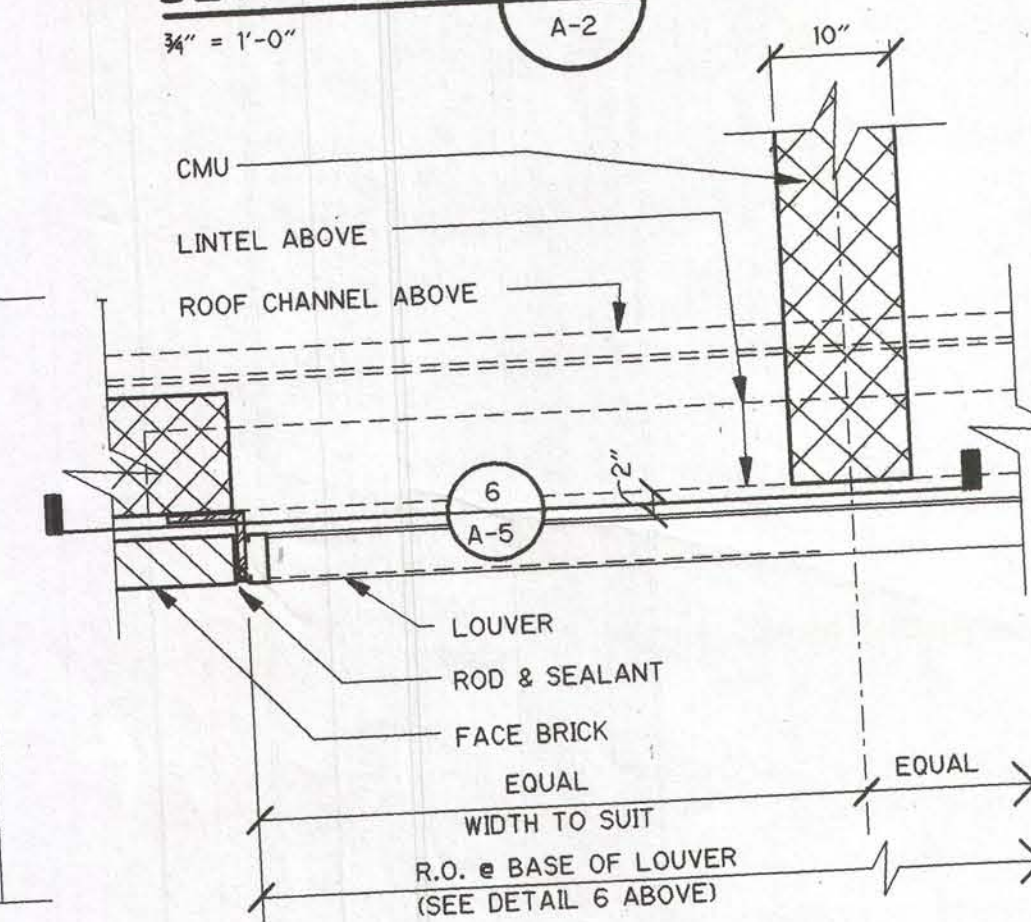


DETAIL 10
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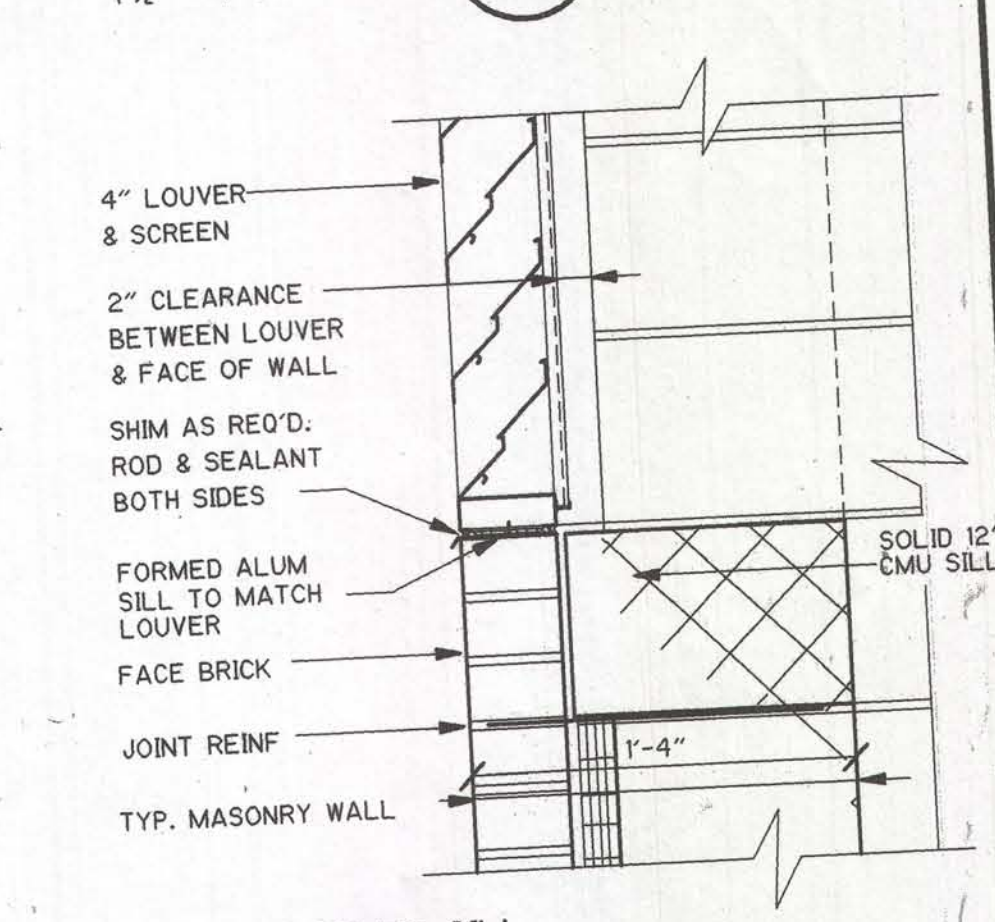


DETAIL 11
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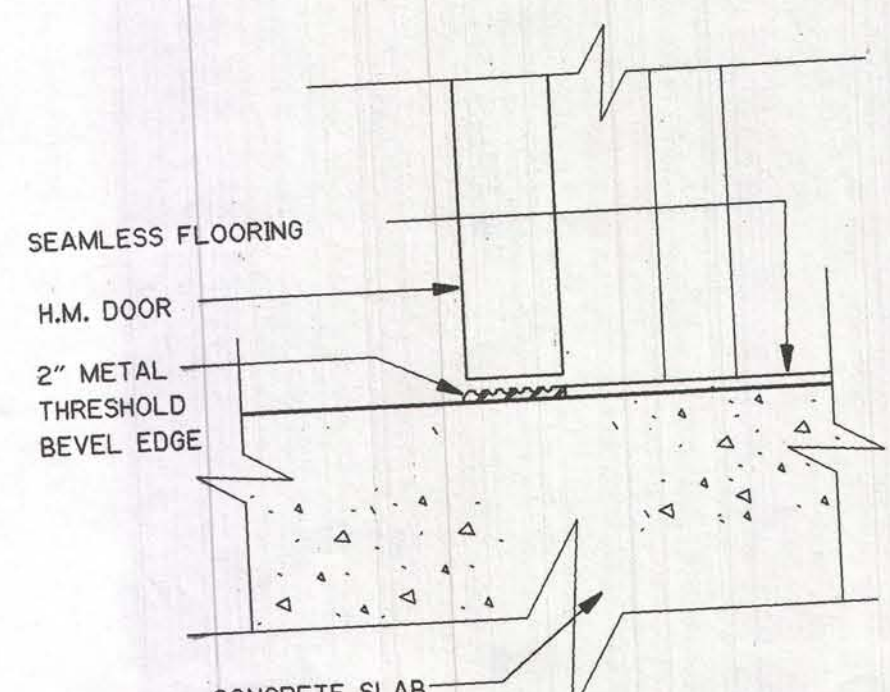
DETAIL 12
1 1/2" = 1'-0"



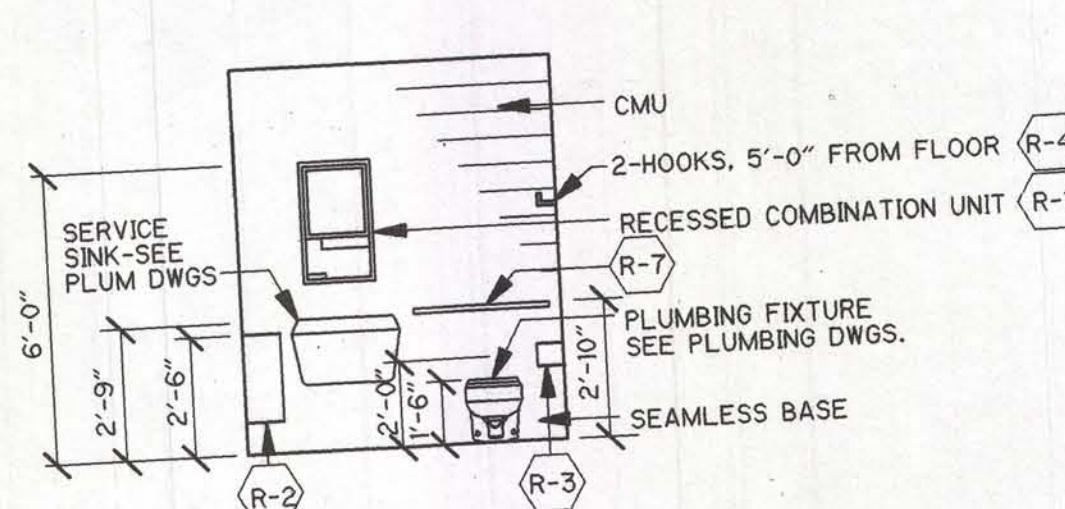
DETAIL 13
1 1/2" = 1'-0"



DETAIL 14
1 1/2" = 1'-0"



DETAIL 15
3" = 1'-0"



ELEVATION 1
1/4" = 1'-0"



RECORD DRAWING

NORTH END PUMPING STATION
MISCELLANEOUS DETAILS

ASCENSION NO
309-54798
SHEET NO.
A-5

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03528
NORTH END AND WELBY ROAD PUMPING STATION

CAMP DRESSER & MCKEE INC.

DESIGNED BY: GIORGI, B.
DRAWN BY: LEWIS, W.
SHEET CHECKED BY: GIORGI, B.
CROSS CHECKED BY: GIORGI, B.
APPROVED BY: HICKOX, S.
DATE: SEPTEMBER 1996



20101 SMC AUM REVISED FOR RECORD DRAWING

SYMBOL	DESCRIPTION
	CEILING OUTLET AND INCANDESCENT OR H.I.D. TYPE LUMINAIRE, "3" INDICATES BRANCH CIRCUIT NUMBER, "o" INDICATES CONTROLLING SWITCH
	CEILING FIXTURE, OUTLET AND FLUORESCENT LUMINAIRE, NOTATIONS SAME AS ABOVE.
	WALL OUTLET AND INCANDESCENT OR H.I.D. LUMINAIRE, NOTATIONS SAME AS ABOVE.
	EMERGENCY LIGHTING BATTERY UNIT NO. 1 WITH TWO LAMP HEADS
	REMOTE ADJUSTABLE EMERGENCY WALL LAMP HEAD
	HID OR INCANDESCENT LUMINAIRE ON EMERGENCY CIRCUIT
	WALL OUTLET AND EXIT SIGN, DIRECTIONAL ARROWS AS NOTED
	SHORT DASH FOR EACH PHASE CONDUCTOR, LONG DASH FOR NEUTRAL CONDUCTOR, NO. 12 AWG, 3/4" UNLESS OTHERWISE NOTED. EQUIPMENT GROUNDING CONDUCTOR IS SHOWN. NOTE: DASH MARKS ARE OMITTED FOR CIRCUITS CONSISTING OF 2#12, 1#12G, 3/4"C.
	CONDUIT TURNING UP (2#12, 1#12G, 3/4"C UNLESS OTHERWISE NOTED)
	CONDUIT TURNING DOWN (2#12, 1#12G, 3/4"C UNLESS OTHERWISE NOTED)
	CONDUIT STUBBED OUT AND CAPPED
	CONDUIT RUN EXPOSED, (2#12, 1#12G, 3/4"C UNLESS OTHERWISE NOTED) DOES NOT APPLY TO UNDERGROUND DUCT BANK.
	CONDUIT RUN CONCEALED, (2#12, 1#12G, 3/4"C UNLESS OTHERWISE NOTED) DOES NOT APPLY TO UNDERGROUND DUCT BANK.
	LIQUIDTIGHT FLEXIBLE CONDUIT OR FLEXIBLE METALIC CONDUIT
	FUSE, AMPERE RATING AS NOTED
	HOMERUN, CIRCUITS 1 AND 3 RUN TO PANEL L1 (IF CIRCUIT NUMBERS ARE SHOWN)
	HOMERUN TO EMERGENCY BATTERY UNIT NO. 1
	HOMERUN TO TELEPHONE SERVICE PANEL
	LIGHTING PANELBOARD
	JUNCTION BOX
	PULL BOX OR (TB) TERMINAL BOX
	CONDUIT, SIZE AND FILL AS NOTED.
	THREE (3) NO.12 AWG CONDUCTORS AND ONE (1) NO.12 EQUIPMENT GROUNDING CONDUCTOR
	MULTI-CONDUCTOR, JACKETED POWER OR CONTROL CABLE, NUMBER AND SIZE OF CORE CONDUCTORS AS NOTED, QUANTITY AS NOTED IF MORE THAN ONE.
	INSTRUMENT CABLE, TWISTED PAIR OR TRIPLEX AS NOTED WITH OVERALL SHIELD AND JACKET, CONDUCTOR SIZE AND QUANTITY AS NOTED
	SINGLE POLE SWITCH, "o" INDICATES CONTROL OF LIGHTS "o"
	THREE WAY SWITCH, "o" INDICATES CONTROL OF LIGHTS "o"
	DUPLEX RECEPTACLE, 120V, 3W, SINGLE PHASE * C - MOUNTED ABOVE COUNTER TOP * GF - GROUND FAULT INTERRUPTER TYPE * WP - WEATHERPROOF * 3 - BRANCH CIRCUIT NUMBER
	SINGLE RECEPTACLE, 240V, 3W, SINGLE PHASE, AMPERE RATING AS NOTED * TL - LOCKING TYPE (TWIST-LOCK) * WP - WEATHERPROOF
	SINGLE RECEPTACLE, 240V, 4W, THREE PHASE, AMPERE RATING AS NOTED IF OTHER THAN 20 * WP - WEATHERPROOF
	DUPLEX RECEPTACLE AND FLOOR BOX
	TELEPHONE OUTLET, SURFACE MOUNTED
	TELEPHONE OUTLET, FLUSH MOUNTED
	INTERCOM STATION
	TELEPHONE CABINET OR BACKBOARD AS SPECIFIED
	LIGHTING CONTACTOR, MECHANICALLY HELD TYPE
	TIME SWITCH
	PHOTOCELL
	MANUAL FIRE ALARM STATION
	HEAT ACTUATED FIRE DETECTOR
	PHOTOELECTRIC SMOKE DETECTOR
	IONIZATION SMOKE DETECTOR
	FIRE ALARM HORN AND LIGHT COMBINATION
	SPRINKLER FLOW ALARM SWITCH
	VALVE SUPERVISORY SWITCH
	INTERCOM STATION SPEAKER HORN
	DOOR SWITCH
	HAZARDOUS GAS AUDIO/VISUAL ALARM
	PASSIVE INFRARED MOTION DETECTOR
	DIGITAL METERING & PROTECTION MODULE
	SWITCHGEAR DRAW OUT EQUIPMENT ONE LINE DIAGRAMS

ONE LINE OR ELEMENTARY DIA.	PLAN	DESCRIPTION
	CB	LOW VOLTAGE CIRCUIT BREAKER, 3 POLE UNLESS NOTED OTHERWISE
	MS	COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING * FVR - FULL VOLTAGE REVERSING * RVR - REDUCED VOLTAGE NON-REVERSING * 2S1W - TWO SPEED, ONE WINDING * 2S2W - TWO SPEED, TWO WINDING
	DS	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A
	FD	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING AND FUSE SIZE AS NOTED
	MS	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER
	T	TRANSFORMER, RATING AND CONNECTIONS AS NOTED
	CT	CURRENT TRANSFORMER * QUANTITY AND CURRENT RATIO
	PT	POTENTIAL TRANSFORMER * QUANTITY AND VOLTAGE RATIO
	LA	LIGHTNING ARRESTER
	SC	SURGE CAPACITOR
	GR	GROUND OR GROUND ROD
	M	INDUCTION MOTOR, NUMERAL INDICATES HORSEPOWER RATING
	WM	WOUND ROTOR INDUCTION MOTOR, NUMERAL INDICATES HORSEPOWER RATING
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
	TG	TACHOMETER GENERATOR
	VM	VOLTMETER WITH SWITCH, 3 PHASE * RANGE AS NOTED
	AM	AMMETER WITH SWITCH, 3 PHASE * RANGE AS NOTED
	M	METER - INDICATING/RECORDING TYPE * WM - WATTMETER * WH - WATT-HOUR METER * WDM - WATT-HOUR DEMAND METER * PF - POWER FACTOR METER * RT - RUNNING TIME METER * TRANSducer * AX - CURRENT TRANSDUCER * WX - WATT TRANSDUCER * WHX - WATT/WATT-HOUR TRANSDUCER
	REL	PROTECTIVE RELAY, NO. AS INDICATED 25 - SYNCHRONIZING OR SYNCHRONISM CHECK DEVICE 27 - UNDERVOLTAGE RELAY 38 - BEARING PROTECTIVE DEVICE 42 - COMBINATION MCP & NEMA SIZED STARTER 43 - REVERSE PHASE OR PHASE BALANCE, CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 49 - MACHINE OR TRANSFORMER THERMAL RELAY 49 - INSTANTANEOUS OVERCURRENT, OR RATE-OF-RISE RELAY 50G - INSTANTANEOUS GROUND RELAY, ZERO SEQUENCE 51 - AC TIME OVERCURRENT RELAY 51N - AC TIME OVERCURRENT RELAY, NEUTRAL GROUND 62 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY ST - SHUNT TRIP
	UH	UNIT HEATER - ELECTRIC HEATING COIL AND FAN
	UH	UNIT HEATER - STEAM OR WATER HEATING COIL AND FAN
	KI	KIRK KEY INTERLOCK
	CTB	VOLTAGE POTENTIAL OR CURRENT TEST BLOCK (CTB)
	MECH	MECHANICAL CONNECTION INTERLOCK OR EQUIPMENT BOUNDARIES
	CC	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	EC	CONDUCTORS ELECTRICALLY CONNECTED
	DS	DRAW OUT TYPE SWITCHGEAR CIRCUIT BREAKER (OR FUSE)
	PB	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN NORMALLY CLOSED
	PO	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN NORMALLY OPEN
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR, MAINTAINED CONTACT, PUSH-TO-STOP PULL TO RESET.
	PB	START-STOP PUSHBUTTON CONTROL STATION, MOMENTARY CONTACT TYPE
	PBL	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT TYPE, WITH LOCKOUT DEVICE ON STOP
	PBM	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT TYPE, WITH LOCKOUT DEVICE ON STOP
	LR	TWO POSITION SELECTOR SWITCH, MAINTAINED CONTACT POSITION 1-CONTACT 2-CONTACT A X O X X-CLOSED B O O X O-OPEN * NAMEPLATE (A/B) LR - LOCAL/REMOTE HA - HAND/AUTO
	HOA	THREE POSITION SELECTOR SWITCH, MAINTAINED CONTACT POSITION 1-CONTACT 2-CONTACT 3-CONTACT A X O O X-CLOSED B O O O O-OPEN C O O O X * NAMEPLATE (A/B/C) HOA - HAND/OFF/AUTO LOR - LOCAL/OFF/REMOTE RSL - RAISE/STOP/LOWER
	MS	INDICATES MOTOR STARTER OR MOTOR CONTROL EQUIPMENT WITHIN ENCLOSURES

ONE LINE OR ELEMENTARY DIA.	PLAN	DESCRIPTION
	LS	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSSES ON RISING LEVEL NORMALLY CLOSED, OPENS ON RISING LEVEL
	PS	PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSSES ON RISING PRESSURE NORMALLY CLOSED, OPENS ON RISING PRESSURE
	T	TEMPERATURE ACTUATED SWITCH (THERMOSTAT) NORMALLY OPEN, CLOSSES ON RISING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
	FS	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSSES ON INCREASED FLOW NORMALLY CLOSED, OPENS ON INCREASED FLOW
	ZS	POSITION (LIMIT) SWITCH NORMALLY OPEN NORMALLY OPEN - HELD CLOSED NORMALLY CLOSED NORMALLY CLOSED - HELD OPEN
	SV	SOLENOID OPERATED VALVE
	HTR	STRIP HEATER OR HEATING ELEMENT
	SCV	SURGE CONTROL VALVE
	PL	PILOT LIGHT, COLOR AS NOTED * R - RED * G - GREEN * A - AMBER * B - BLUE * W - WHITE
	PL	PILOT LIGHT, PUSH TO TEST TYPE * COLOR AS NOTED ABOVE
	REL	RELAY COIL, NUMBER AS INDICATED
	MS	MOTOR STARTER COIL, NUMBER AS INDICATED
	NO	CONTACT, NORMALLY OPEN (NO) OR CONTACTOR
	NC	CONTACT, NORMALLY CLOSED (NC)
	OL	OVERLOAD RELAY HEATER (OL)
	TD	TIME DELAY RELAY, RANGE AS NOTED NTO - NORMALLY OPEN, TIMED CLOSE WHEN ENERGIZED NCTO - NORMALLY CLOSED, TIMED OPEN WHEN ENERGIZED NCTO - NORMALLY CLOSED, TIMED OPEN WHEN DE-ENERGIZED NCTC - NORMALLY CLOSED, TIMED CLOSE WHEN DE-ENERGIZED
	RTD	RESISTANCE TEMPERATURE DETECTOR
	MOV	MOTOR OPERATED VALVE
	FI	FIELD INSTRUMENT, TAG NO. AS INDICATED # - INDICATES LOOP NO. - INDICATES INSTRUMENT TYPE AE - ANALYZING ELEMENT (PH, ORP, DO, ETC.) AI - ANALYZING TRANSMITTER DI - DENSITY TRANSMITTER FE - FLOW ELEMENT FI - FLOW SWITCH FIT - FLOW INDICATING TRANSMITTER FY - FLOW TRANSDUCER LE - LEVEL ELEMENT LS - LEVEL SWITCH PS - PRESSURE SWITCH PIT - PRESSURE INDICATING TRANSMITTER SI - SPEED INDICATOR ST - TACH GENERATOR OR SPEED TRANSMITTER TE - TEMPERATURE ELEMENT TS - TEMPERATURE SWITCH TT - TEMPERATURE TRANSMITTER ZS - POSITION SWITCH ZH - HAND SWITCH ZT - POSITION TRANSMITTER
	DM	DAMPER MOTOR
	TYPE A	INDICATES ALL LUMINAIRES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED
	DAMP	INDICATES ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 3R CONSTRUCTION AND SUITABLE FOR USE IN A DAMP OR WET LOCATION
	WET	INDICATES ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION, UNLESS NOTED OTHERWISE
	CORROSIVE	INDICATES ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE DUSTTIGHT
	HAZ	INDICATES ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN

ABBREVIATIONS	
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
ALUM	ALUMINUM
AMP	AMPERE
ATC	AUTOMATIC TEMP. CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUT	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BLOG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL SWITCH
CS	CURRENT TRANSFORMER
CTB	CURRENT TEST BLOCK
CU	COPPER
CWS	CONDUIT WALL SEAL
DI	DOOR INTERLOCK
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
EC	EMPTY CONDUIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
ELEV.	ELEVATION
EM, EMERG.	EMERGENCY
EP	ELECTROPNEUMATIC
EF	EACH FACE
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
FSD	FURNISHED BY OTHERS
F&I	FURNISH AND INSTALL
FT	FOOT
FU	FUSE
FURN	FURNISHED
GEN	GENERATOR
G, GRD	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GNC	GROUNDING NEUTRAL CONDUCTOR
GF	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HT	HEIGHT
HZ	HERTZ
IN	INCH
INST	INSTRUMENTATION OR INSTANTANEOUS
L	LINE
LA	LIGHTNING ARRESTER
LBS	POUNDS
LCP	LOCAL CONTROL PANEL
LGTS	LIGHTS
LP	LIGHTING PANEL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MMU	MICROPROCESSOR METERING UNIT
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NOT	NOT TO SCALE
NTS	ON CENTER
OL	OVERLOAD
PB	PUSH BUTTON
PFC	POWER FACTOR CAPACITOR
PH	PHASE
PT	POTENTIAL TRANSFORMER
PTB	POTENTIAL TEST BLOCK
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
RTU	REMOTE TRANSMITTING UNIT
SC	SURGE CAPACITOR
SEC	SECONDS OR SECONDARY
SH	SHIELDED
SN	SOLID NEUTRAL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T&B	TOP AND BOTTOM
TEL	TELEPHONE
TM	TIME DELAY ON CLOSING
TO	TELEPHONE SERVICE BACKBOARD
TS	TIME DELAY ON OPENING
TYP	TYPICAL
UG	UNDERGROUND
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
WP	WEATHERPROOF
YSS	VALVE SUPERVISORY SWITCH
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

SHEET NO. WHERE SECTION IS TAKEN

SHEET NO. WHERE DETAIL IS TAKEN

SECTION SYMBOL

DETAIL SYMBOL

SYM	LAMP	MOUNTING	DESCRIPTION	MANUFACTURER
A	2-F40	WALL BRACKET	FLUORESCENT ENCLOSED AND GASKETED INDUSTRIAL UNIT WITH ACRYLIC LENS AND CORROSION RESISTANT CONSTRUCTION (WITH LOW TEMPERATURE BALLAST WHERE INDICATED)	DAY-BRITE/BENJAMIN FV-4324-4
B	150W PAR-38	WALL SURFACE	EXPLOSION-PROOF INCANDESCENT FLOOD LIGHT	APPLETON 6-EFJB-30
C	150/99	WALL BRACKET	EXPLOSION-PROOF INCANDESCENT UNIT	APPLETON ASB1550
D	100/99	CEILING SURFACE	ENCLOSED AND GASKETED INCANDESCENT UNIT	APPLETON JBV100
E	2-F40	CEILING PENDANT	FLUORESCENT INDUSTRIAL UNIT WITH 25X UP LIGHT	DAY-BRITE/BENJAMIN FL-2024-4U
F	100LU	WALL SURFACE	HIGH PRESSURE SODIUM WALL UNIT WITH POLYCARBONATE LENS	HOLOPHANE WL2KPA-100HP-12-BZ-F1
G	2-12W HALOGEN	WALL SURFACE	EMERGENCY BATTERY UNIT "BU"	EMERGI-LITE I2LC300-2
H	12W HALOGEN	WALL SURFACE	EMERGENCY LIGHT	EMERGI-LITE EF18
I	2-12W HALOGEN	WALL SURFACE	EMERGENCY LIGHT	EMERGI-LITE EF18D
J	2-12V 25A	WALL SURFACE	EXPLOSION PROOF EMERGENCY LIGHT	LIGHTALARMS EPF401D

PANEL: "LPA"

NAMEPLATE MARKING	WATTS LOAD	BKR.	CABLE	BKR.	WATTS LOAD	NAMEPLATE MARKING
		AMP NO		NO AMP		
LIGHTING - DRY WELL	700	20 1		2 20	540	RECEPTACLE - DRYWELL
LIGHTING - DRYWELL STAIRWAY	600	20 3		4 20	360	RECEPTACLES - OPERATION, MECH.
LIGHTING - WET WELL	1350	20 5		6 20	900	CHEMICAL, TOILET, MEZZANINE
LIGHTING - OUTSIDE	300	20 7		8 20	1100	EF-3, EF-4 (1/6 HP)
*EMERGENCY LIGHT "BU"	350	20 9		10 20	3000	CUH-1
LIGHTING - OPERATION ROOM	600	20 11		14 20	1500	WH-1
LIGHTING - MECH, TOILET, CHEMICAL	600	20 13		18 30	2000	ELECTRIC WATER HEATER
LIGHTING - MEZZANINE	500	20 15		20 20	1500	PUMP No.1,2,3 HEATERS
LIGHTING - VAULTS	500	20 17		22 20	1900	XEUH-1
INTRUSION ALARM CONTROL PANEL	500	20 19		26 20	550	EF-5 (1/6 HP)
*EMERGENCY SHOWER ALARM (FA)	650	20 23		28 20	800	TF-1 (1/3 HP)
FIT & FLOW ELEMENT - MAG. METER	20 25			30 20	650	INSTRUMENT AIR COMP. (1/4 HP)
*AL-015 & AL-016	20 27			32 20	950	*TIME SWITCH
LEVEL SWITCH & ANNUNCIATOR	20 31			36 20	650	CHEMICAL FEED PUMP (1/4 HP)
INSTRUMENT PANEL	2000	2P 33		38 20	650	CHEMICAL FEED PUMP (1/4 HP)
SPARE		20 37		40 20		SPARE
SPARE		20 39		42 20		SPARE
SPARE		20 41				SPARE

MAINS: CB AMPS: 225 VOLTS: 208/120

NO. OF SPACES: _____

TYPE: _____

NOTES: * LOCKING HARDWARE

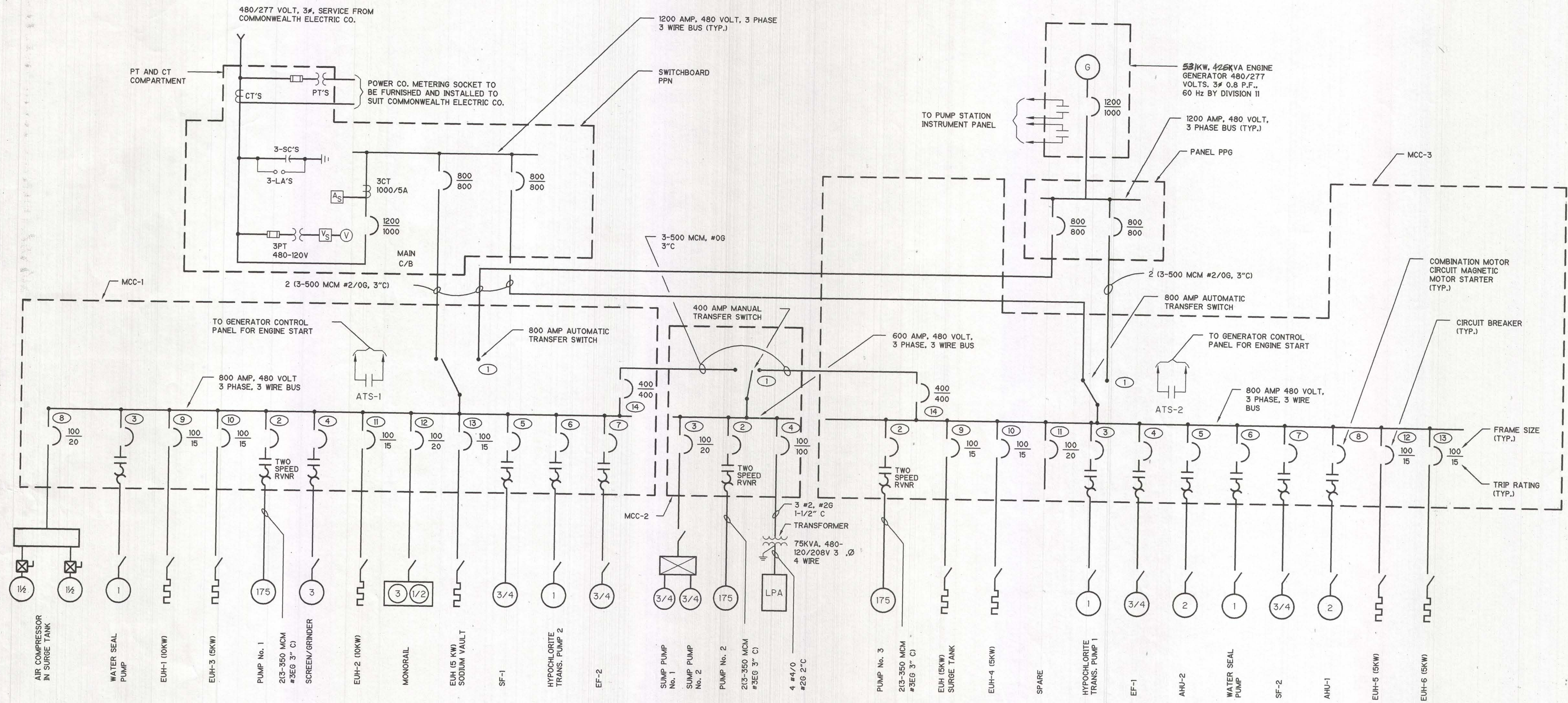
WATTS LOADING

Φ A = _____

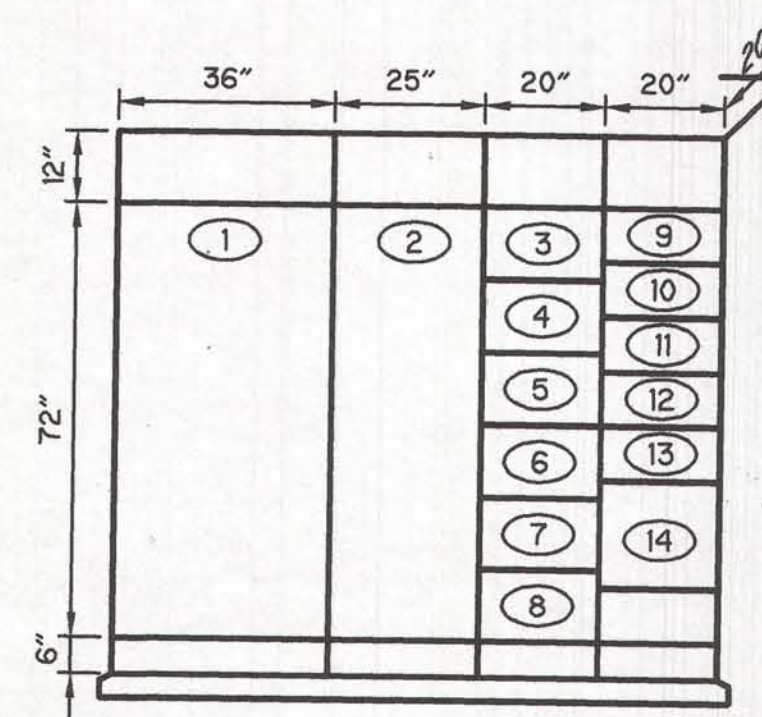
Φ B = _____

Φ C = _____

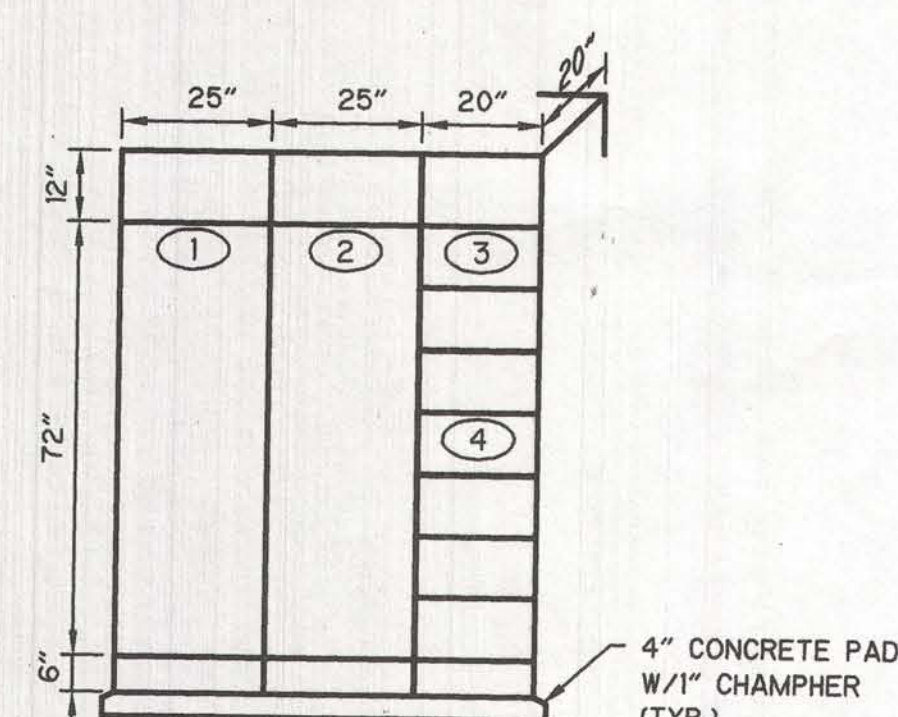
TOTAL = _____



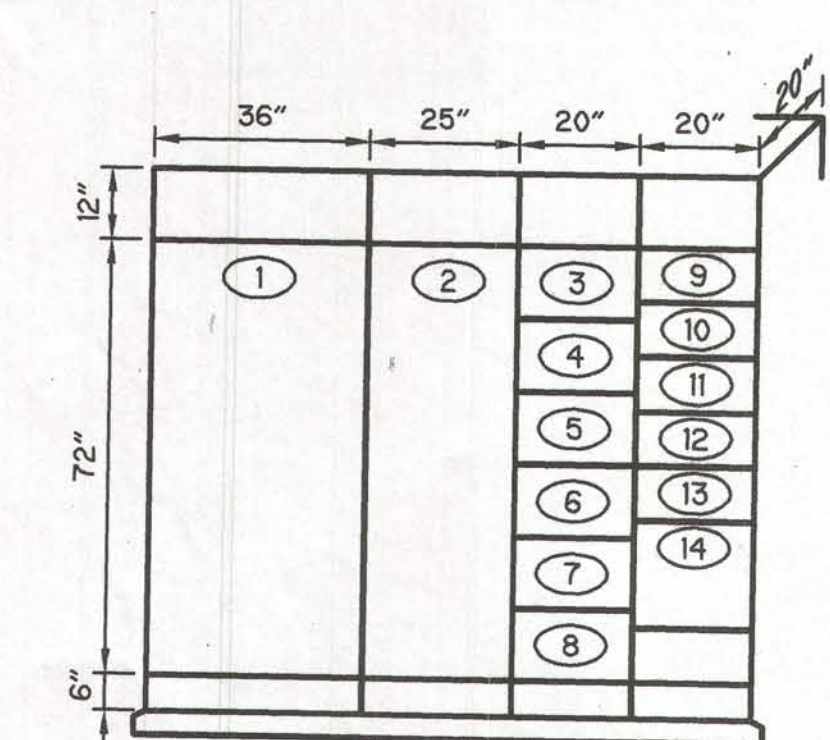
- NOTES:**
1. ALL CIRCUIT BREAKERS AND COMPONENTS SHALL BE FULLY RATED FOR 65,000 AMPS.
 2. BUSES SHALL BE BRACED FOR 65,000 AMPS RMS SYMMETRICAL
 3. EACH MOTOR STARTER SHALL HAVE A RED RUNNING LIGHT, ONE SPARE NORMALLY OPEN AND ONE SPARE NORMALLY CLOSED AUX. CONTACT AS STANDARD EQUIPMENT. SEE SHEET E-4 FOR ADDITIONAL CONTROL CIRCUIT COMPONENTS



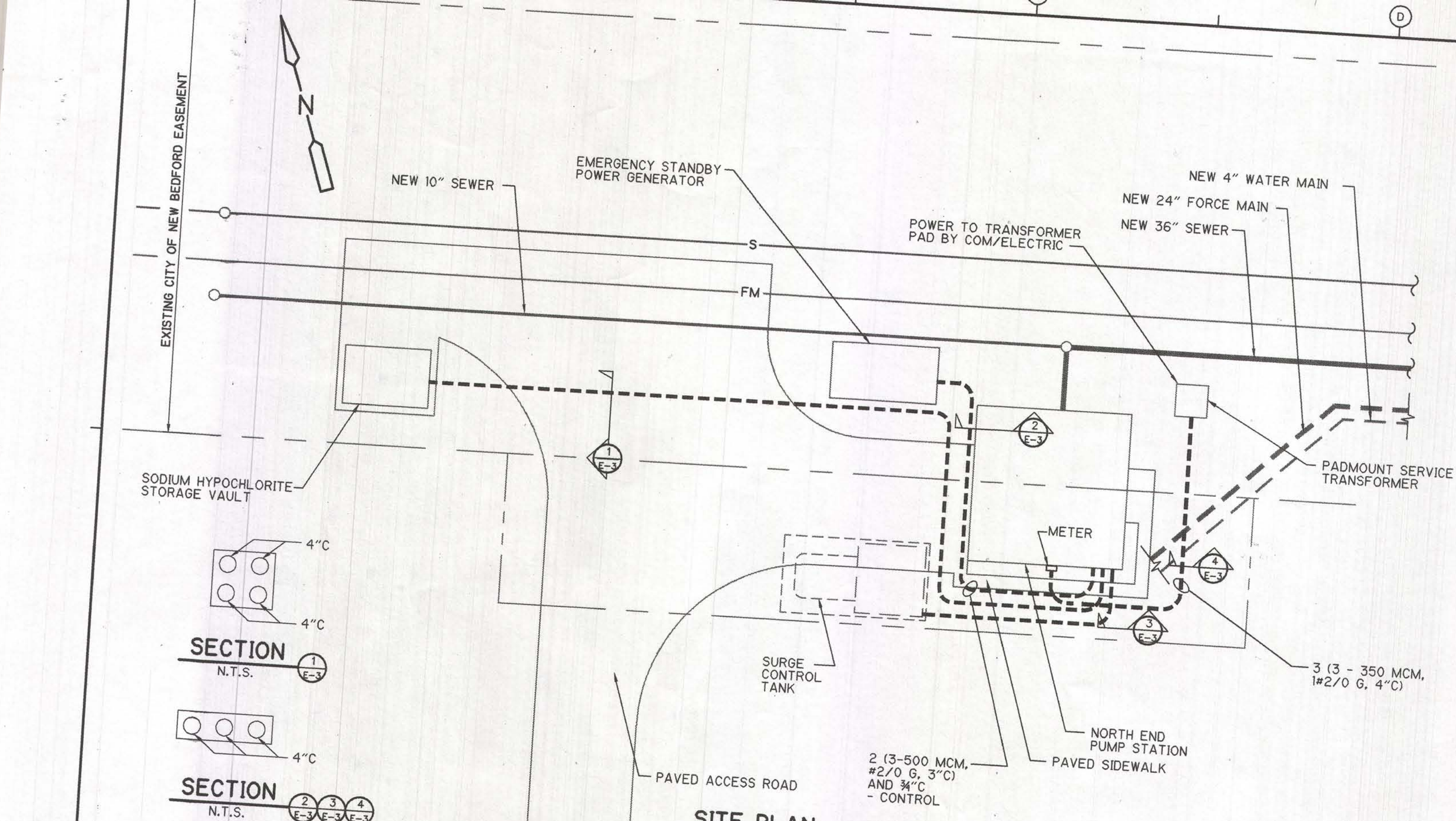
MCC-1 ELEVATION
NOT TO SCALE



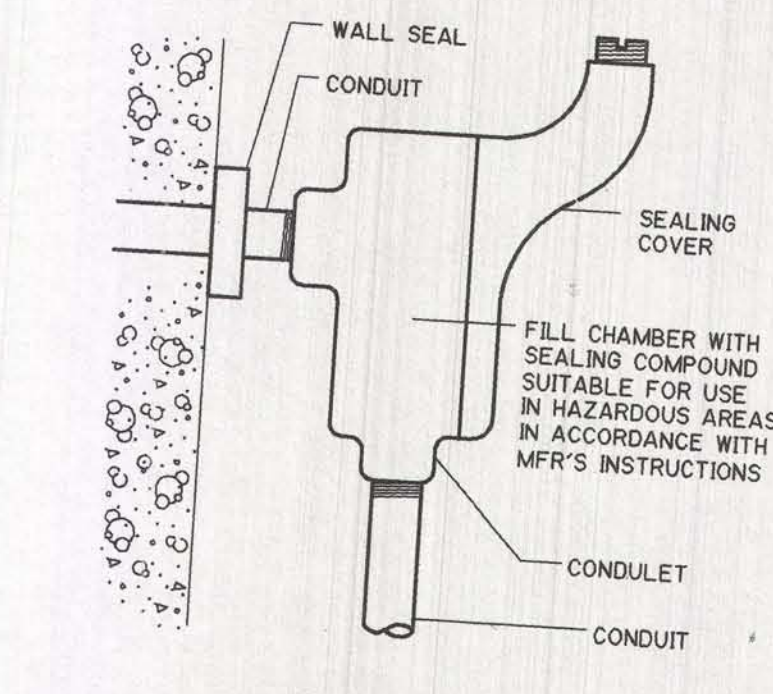
MCC-2 ELEVATION
NOT TO SCALE



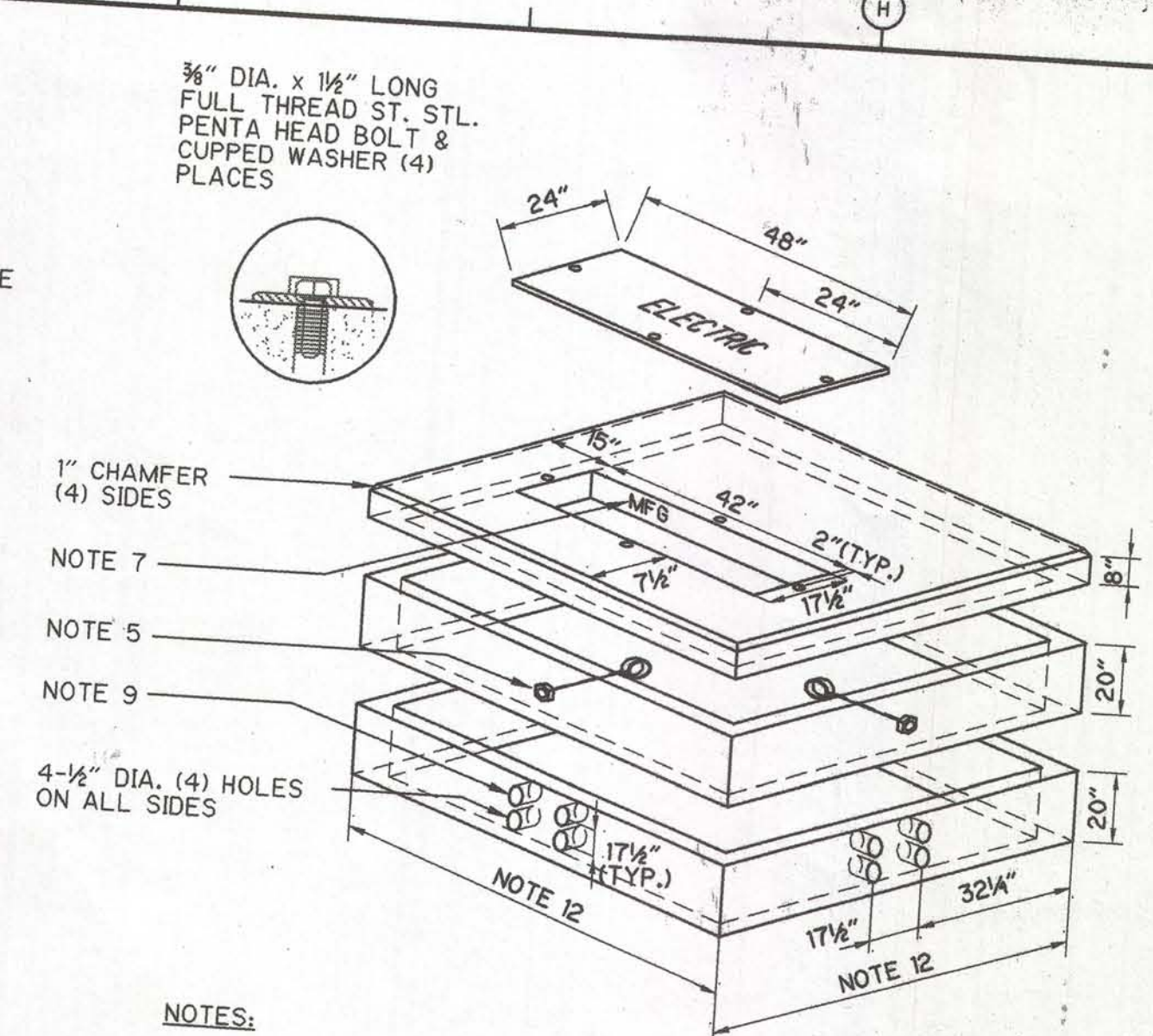
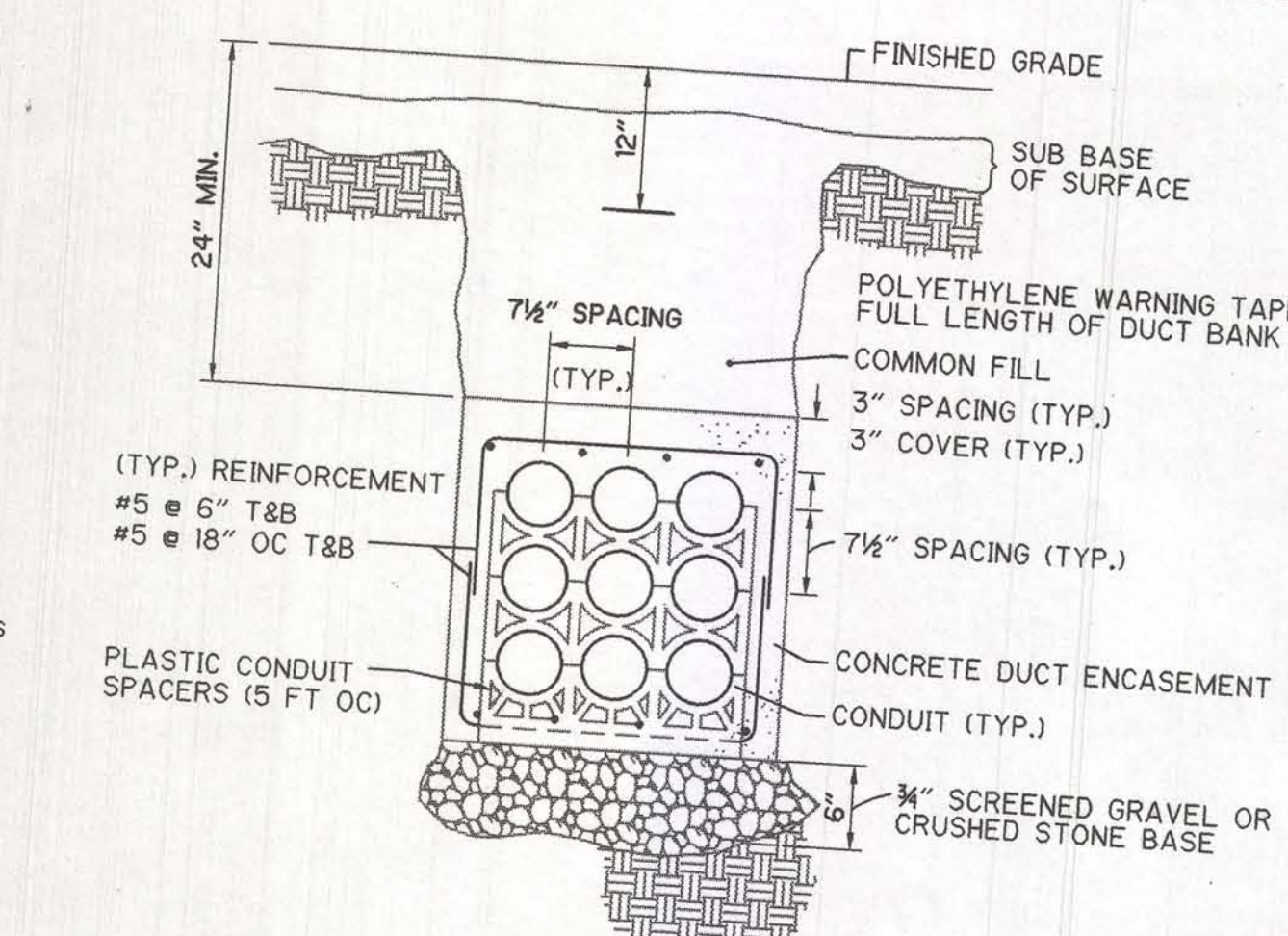
MCC-3 ELEVATION
NOT TO SCALE



CONDUIT SEALOFF FITTING
N.T.S.

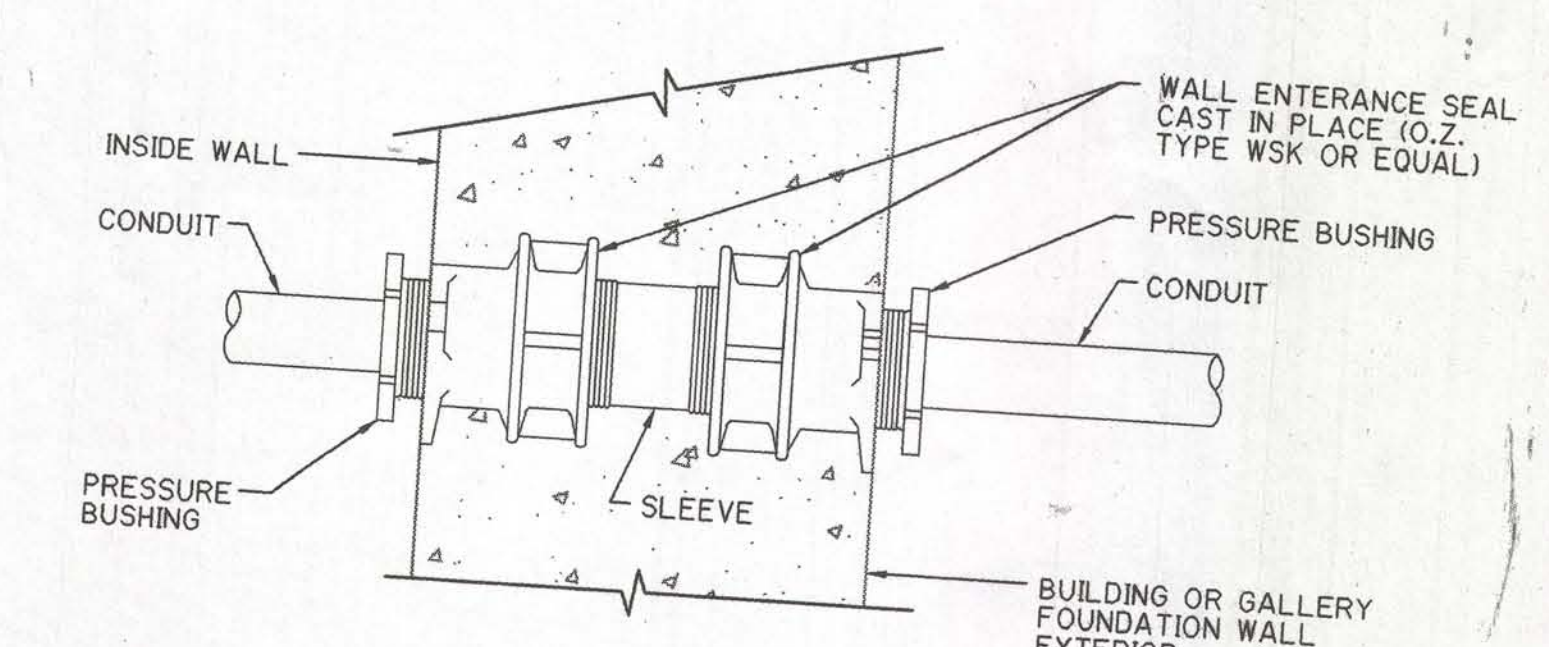


UNDERGROUND DUCT BANK
N.T.S.

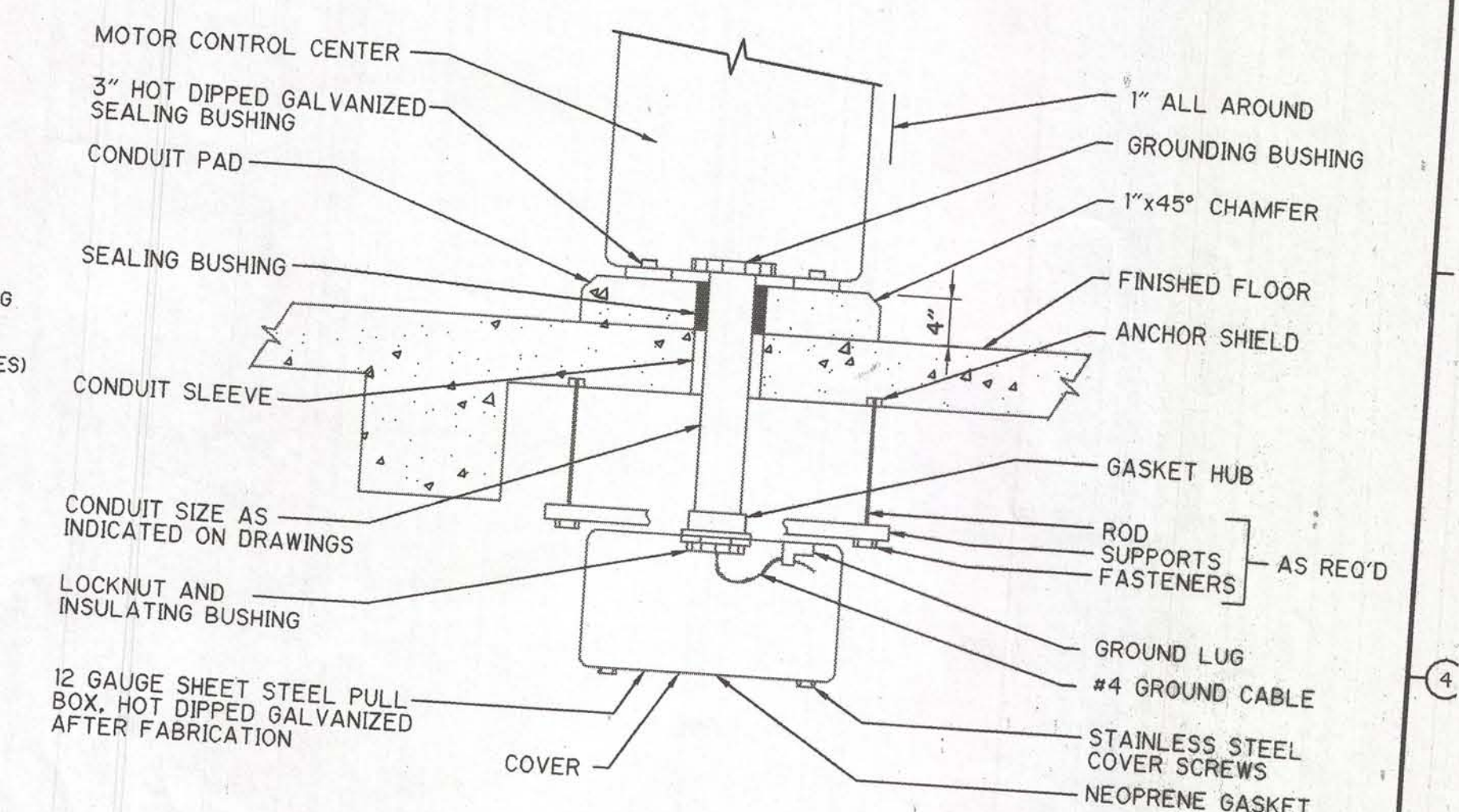


- NOTES:**
1. CONCRETE TO BE 5000 PSI HIGH EARLY STRENGTH
 2. COVER TO BE 3/8\"/>

TRANSFORMER PAD
N.T.S.



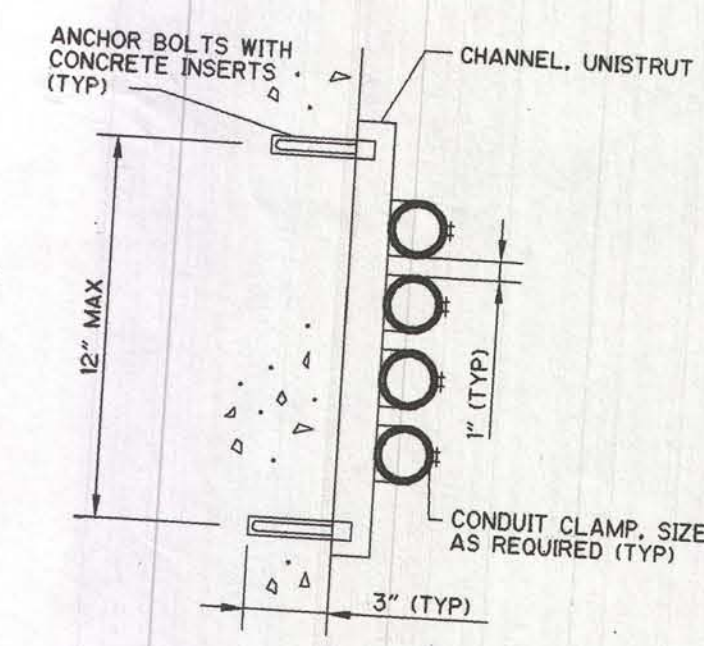
CONDUIT WALL ENTRANCE SEAL DETAIL
N.T.S.



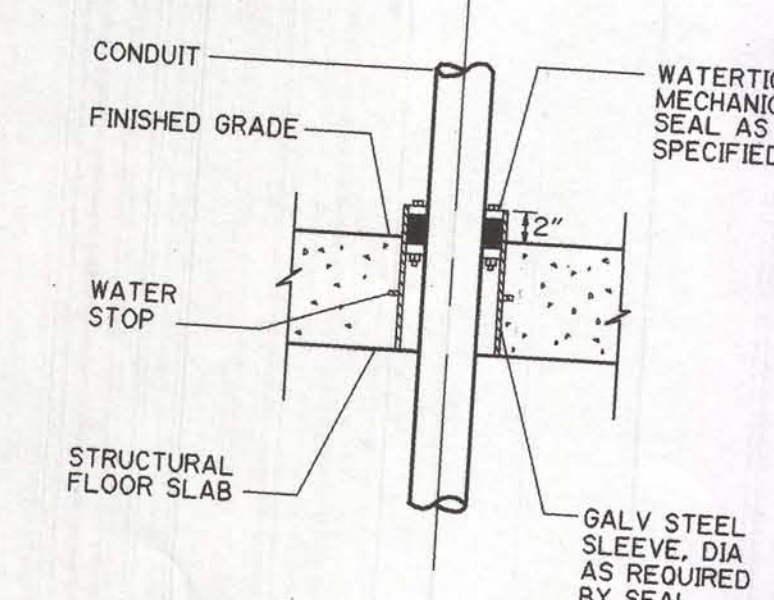
DETAIL OF PULL BOX BELOW MOTOR CONTROL CENTER
N.T.S.

RECORD DRAWING

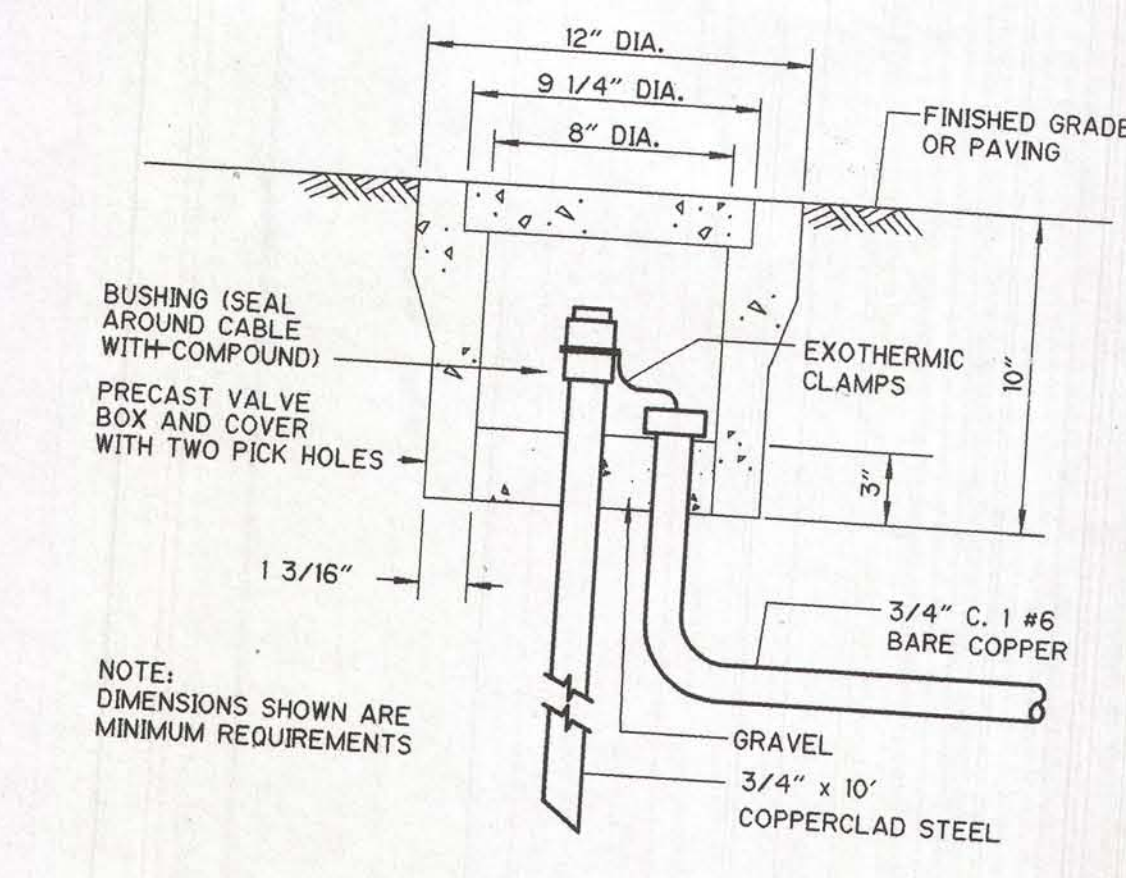
CONDUIT RACK - WALL MOUNTED
N.T.S.



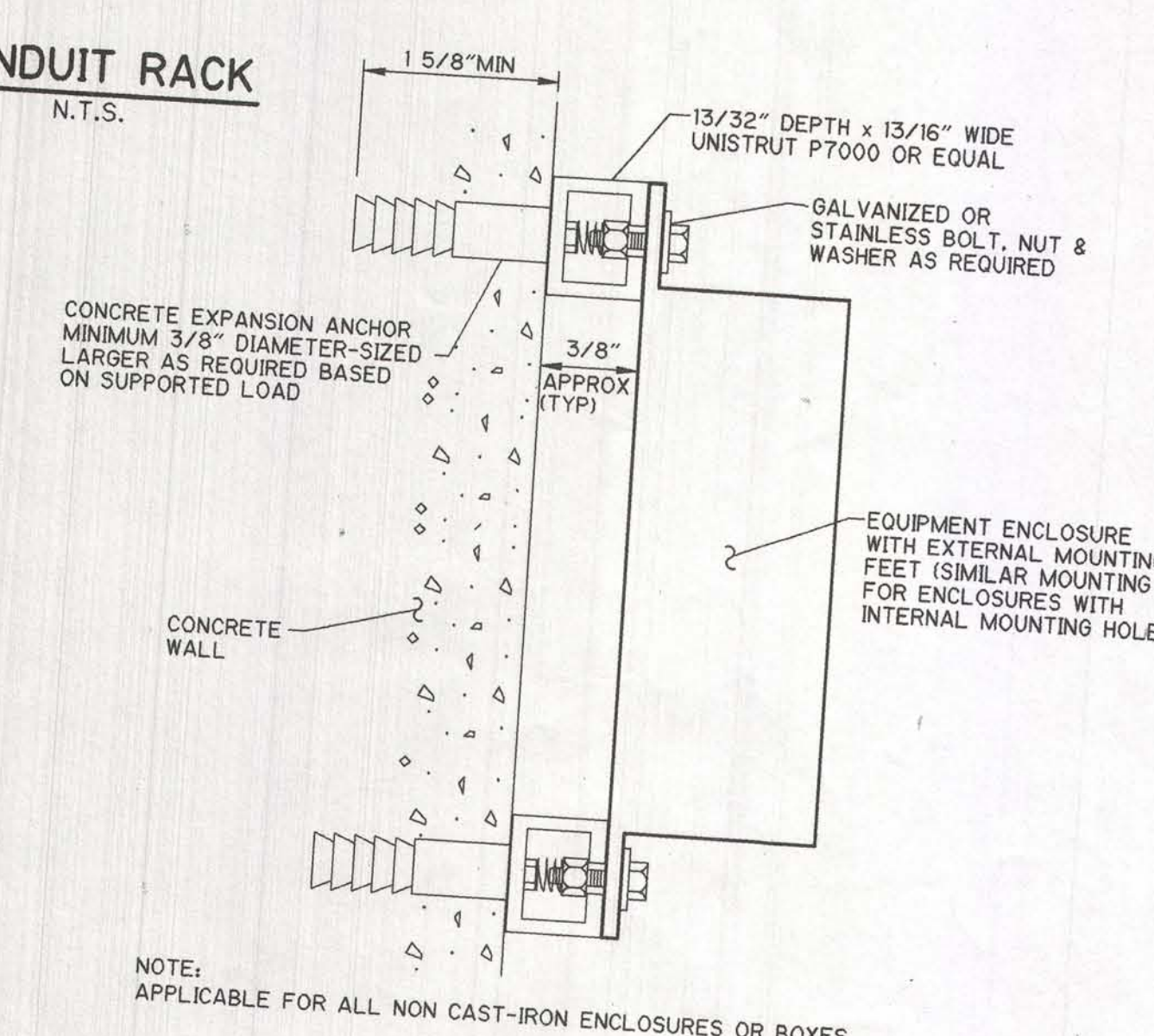
CONDUIT PENETRATION
N.T.S.



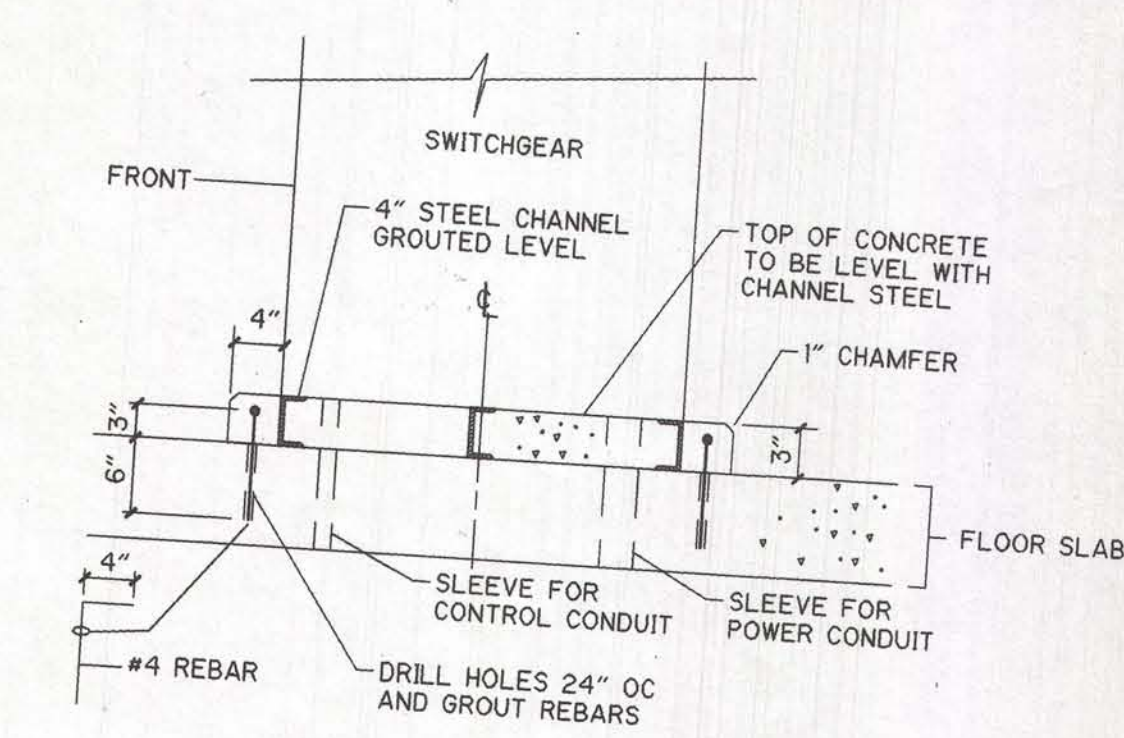
GROUND ROD
N.T.S.



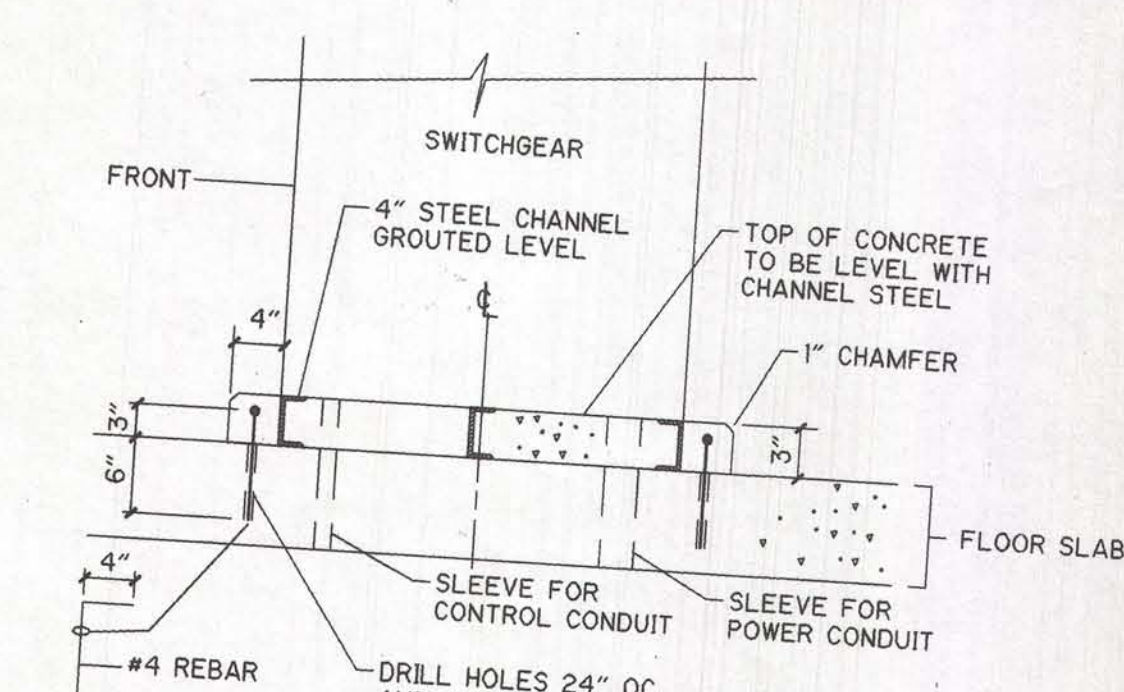
CONDUIT RACK
N.T.S.



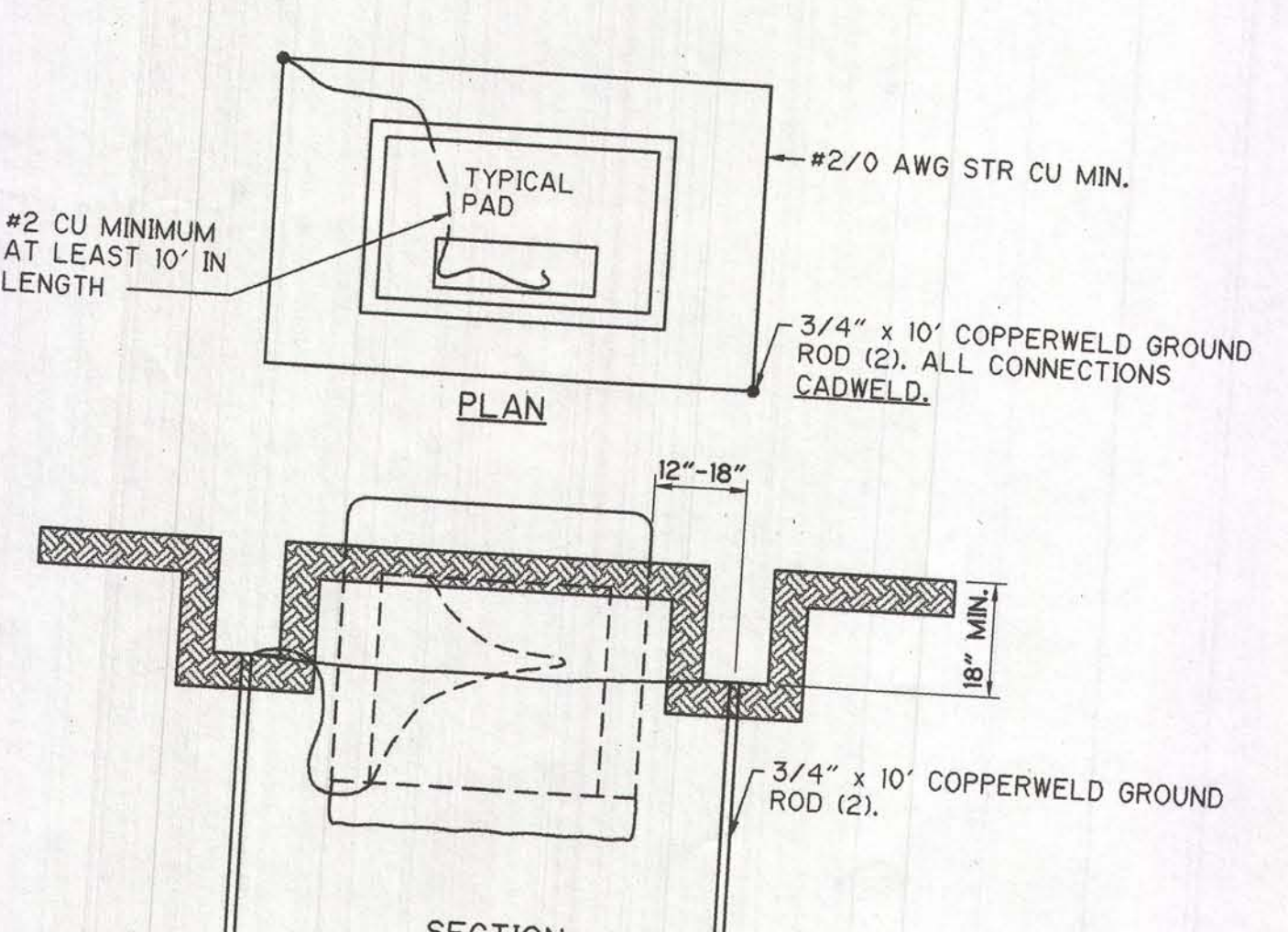
EQUIPMENT ENCLOSURE MOUNTING ON CONCRETE WALL
N.T.S.



SWITCH GEAR PAD
N.T.S.



GROUNDING RING
N.T.S.



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-10-96	SMZ	ADM	DESIGNED FOR RECORD DRAWING
2	9-1-96	CHENG P.	CHENG P.	REVISIONS

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: CHENG P.
APPROVED BY: CHENG P.
DATE: SEPT. 1996

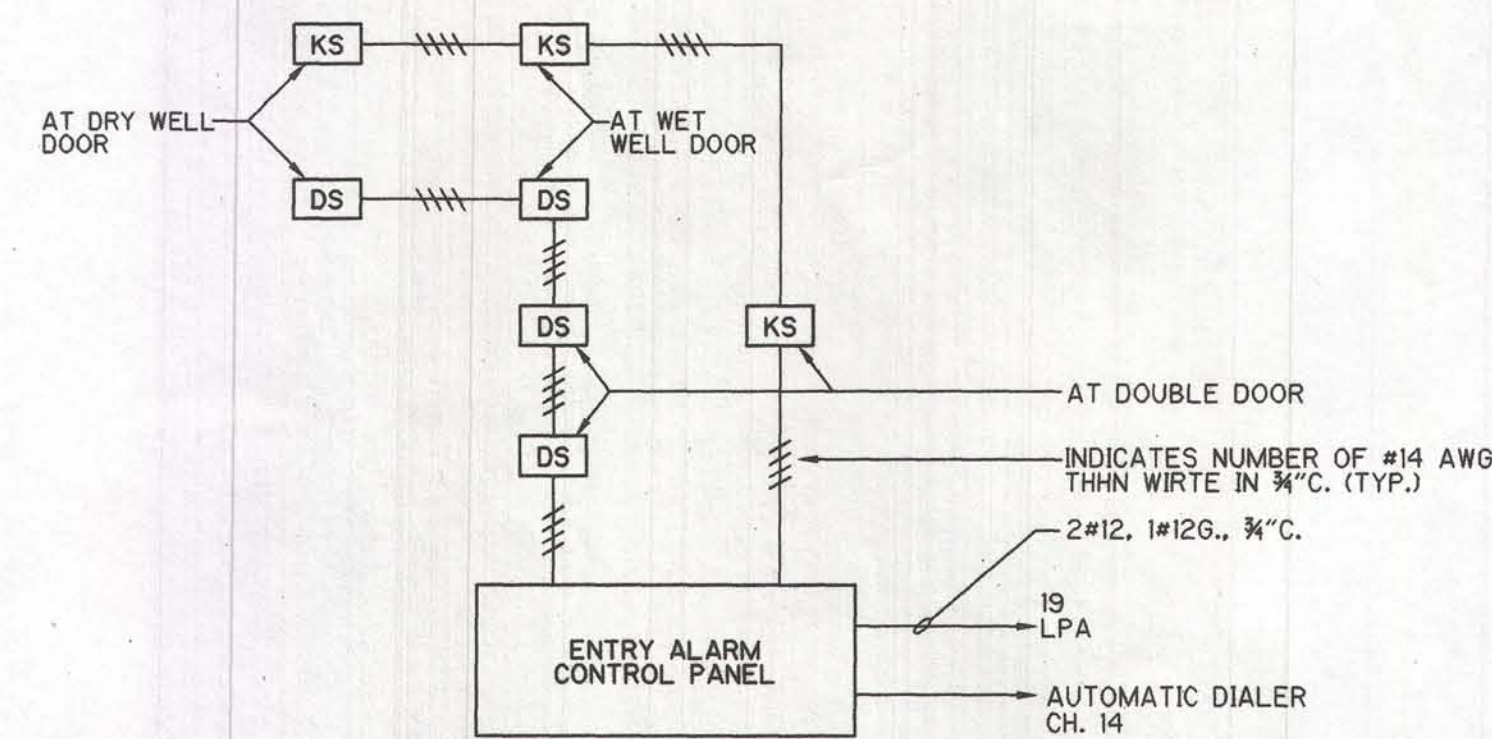
CAMP DRESSER & McKEE INC.

CDM
environmental engineers, scientists,
planners, & management consultants

NORTH END AND WELBY ROAD PUMPING STATIONS

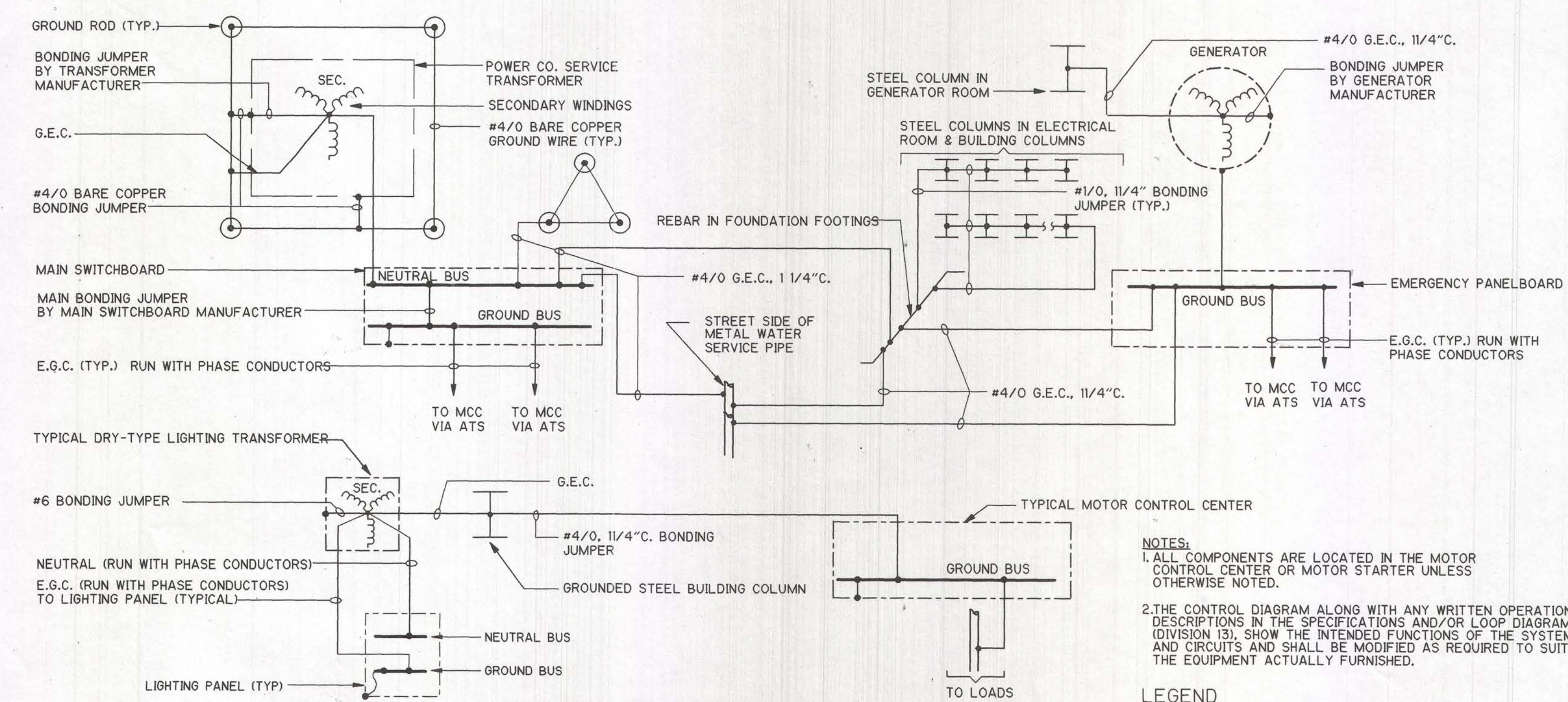
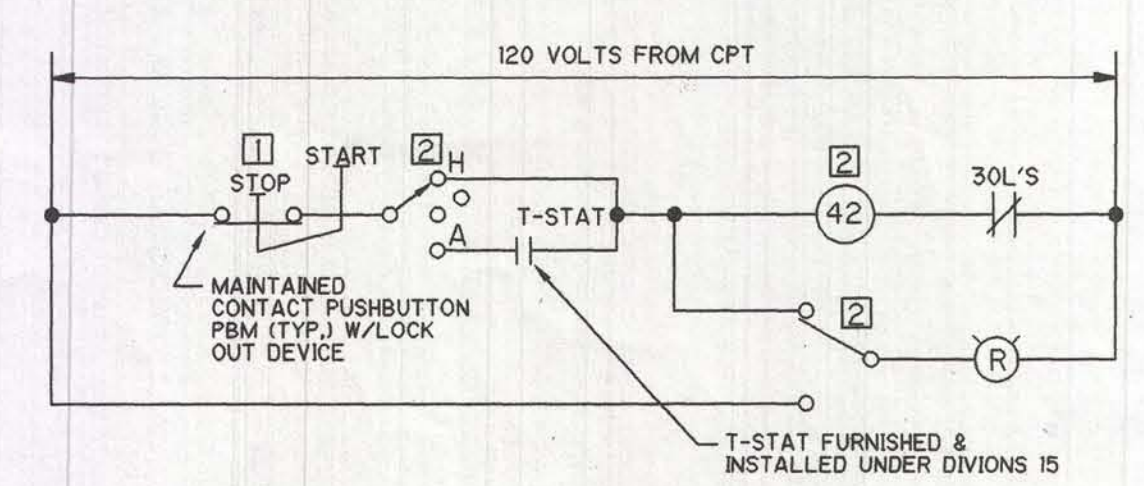
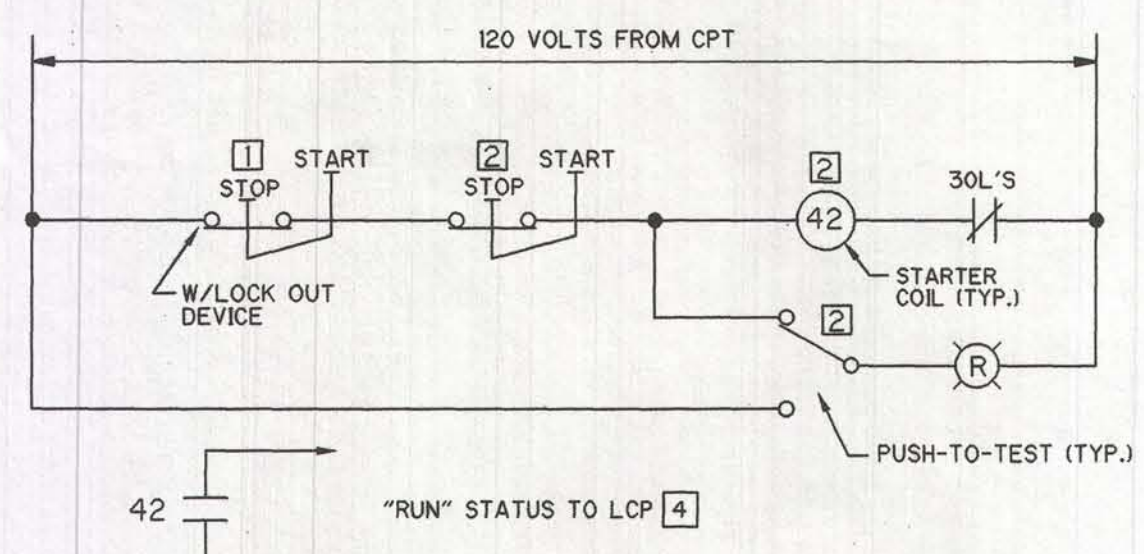
**NORTH END PUMPING STATION
SITE PLAN AND SITE DETAILS**

PROJECT NO.:
309-54816
SHEET NO.



NOTES:
1. ALL WIRING SHALL BE 3/4" RIGID STEEL CONDUIT.

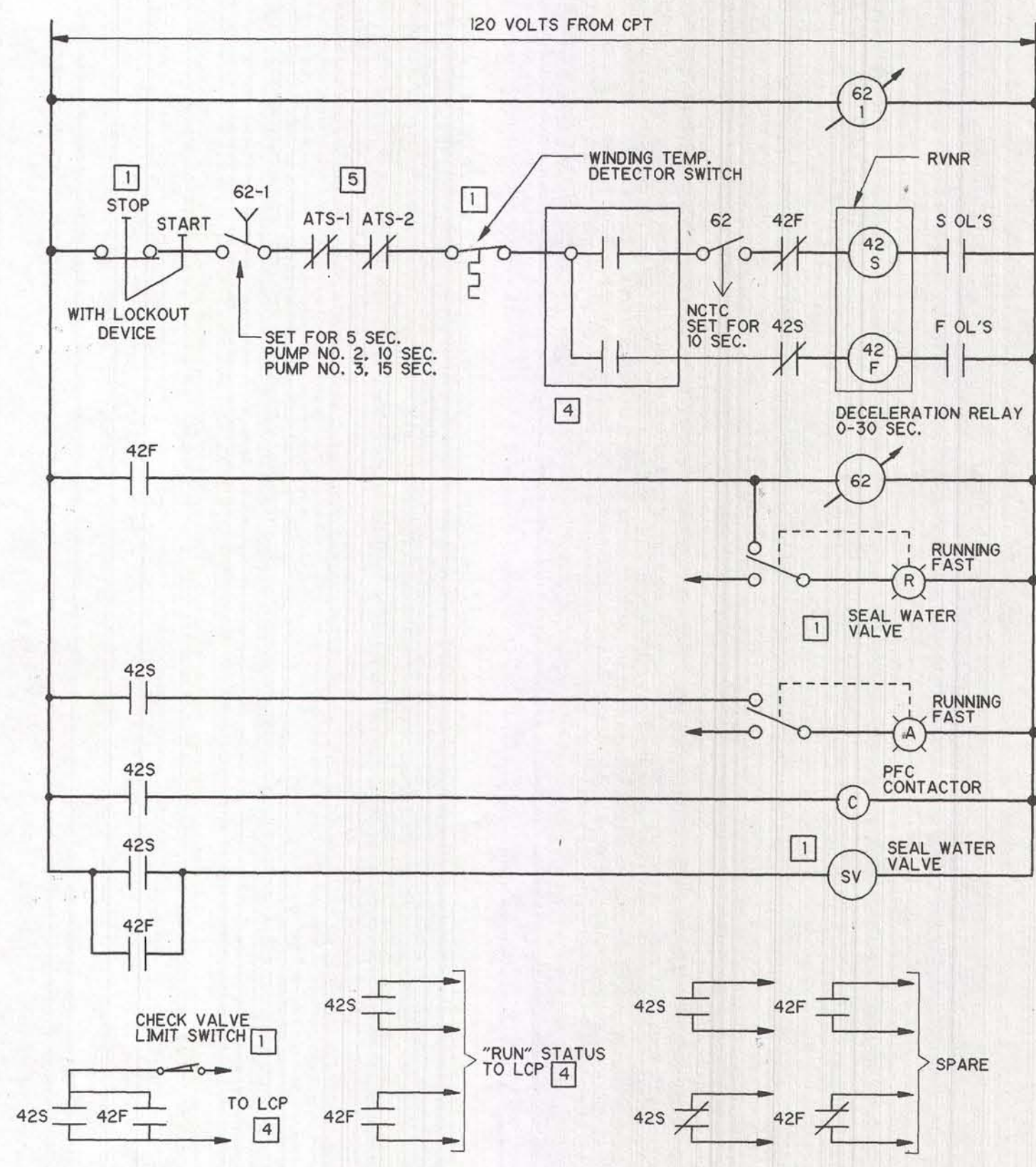
ENTRY ALARM RISER DIAGRAM
N.T.S.



NOTES:
1. ALL COMPONENTS ARE LOCATED IN THE MOTOR CONTROL CENTER OR MOTOR STARTER UNLESS OTHERWISE NOTED.
2. THE CONTROL DIAGRAM ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS (DIVISION 13), SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS AND SHALL BE MODIFIED AS REQUIRED TO SUIT THE EQUIPMENT ACTUALLY FURNISHED.

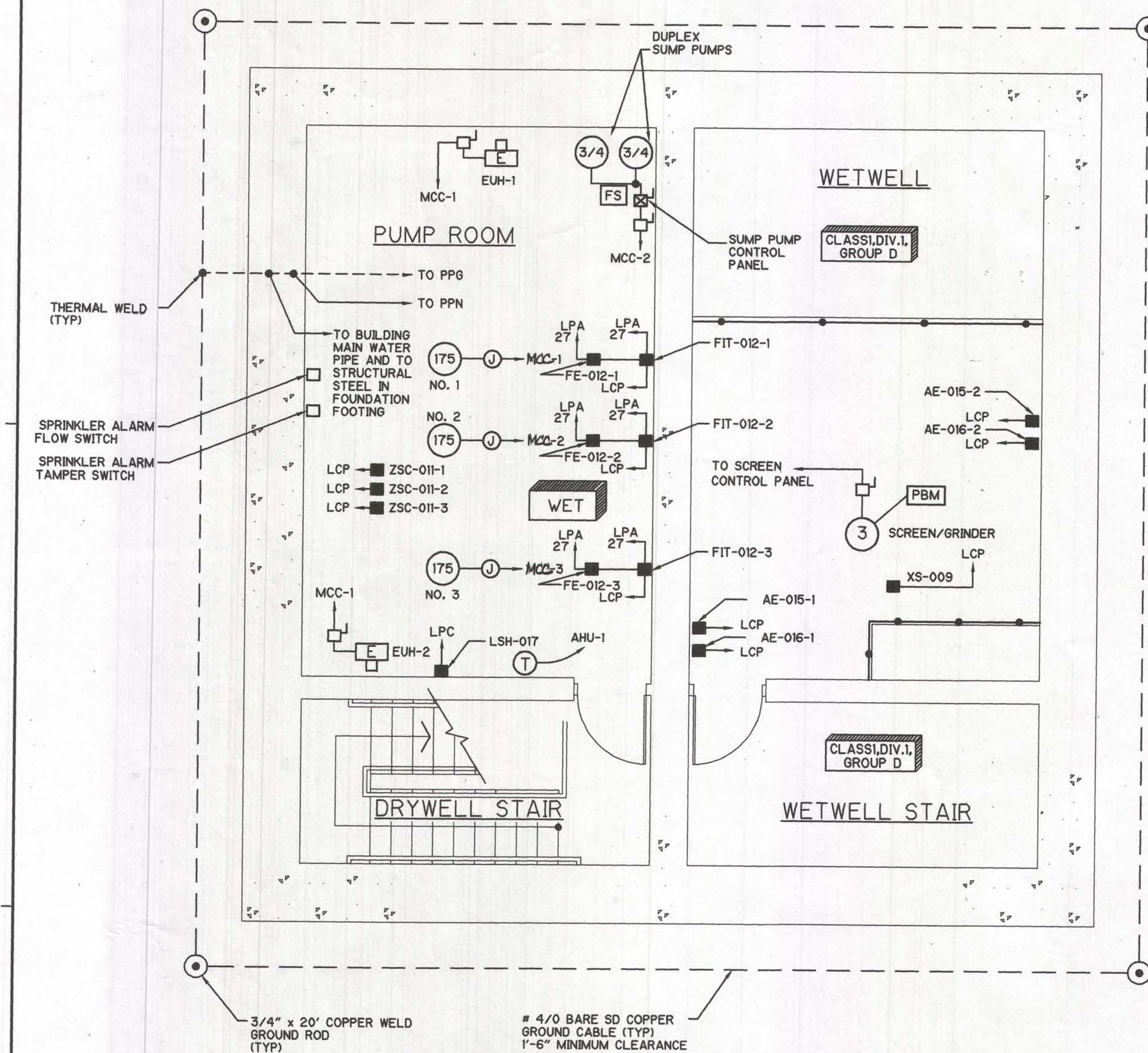
LEGEND
E.G.C. = EQUIPMENT GROUNDING CONDUCTOR
G.E.C. = GROUNDING ELECTRODE CONDUCTOR

- LOCATION LEGEND
- 1 AT MOTOR OR EQUIPMENT
 - 2 AT MCC
 - 3 AT AUTOMATIC TEMPERATURE CONTROL PANEL "ATC"
 - 4 AT LOCAL CONTROL PANEL "LCP"
 - 5 AT AUTOMATIC TRANSFER SWITCHES
 - 6 AT BAR SCREEN

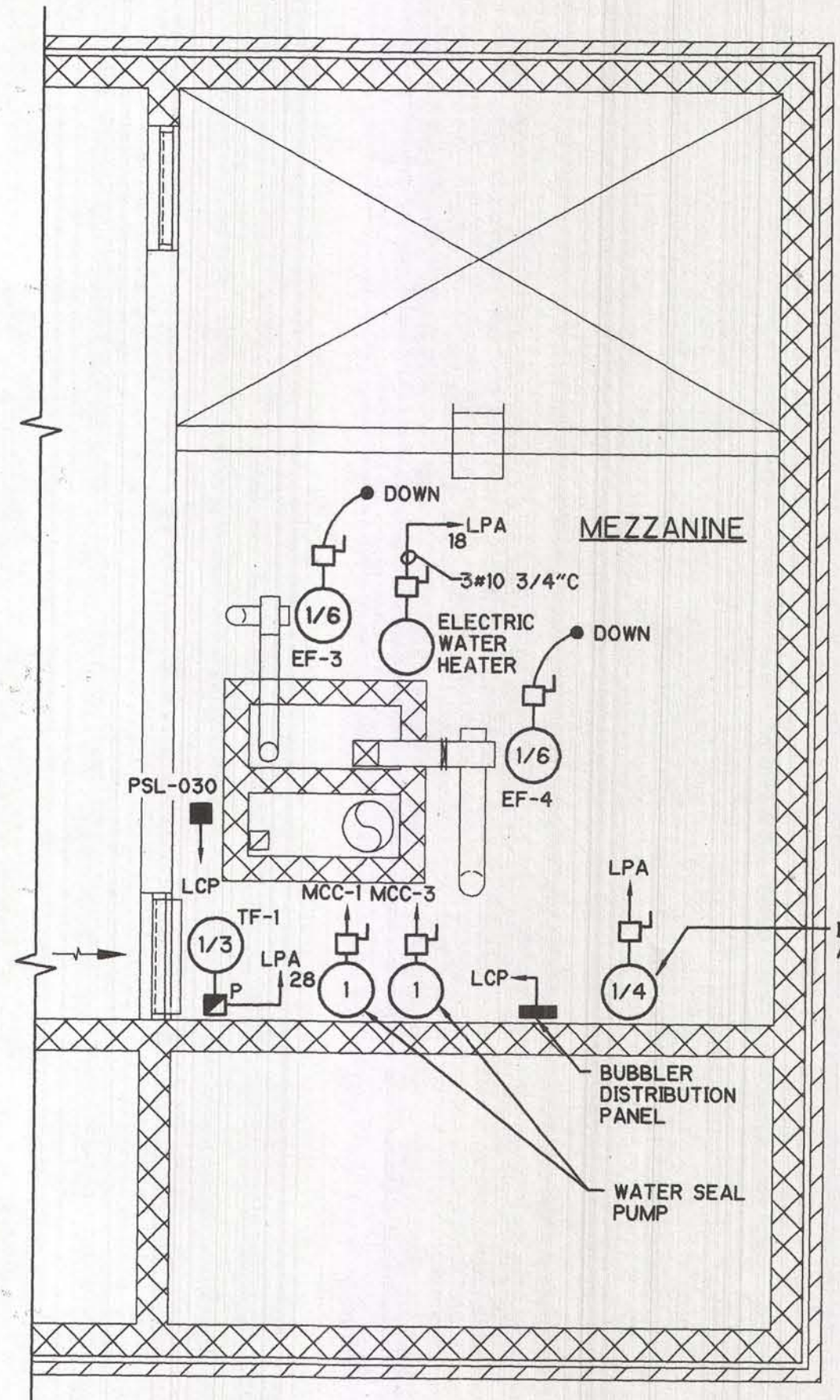


RECORD DRAWING

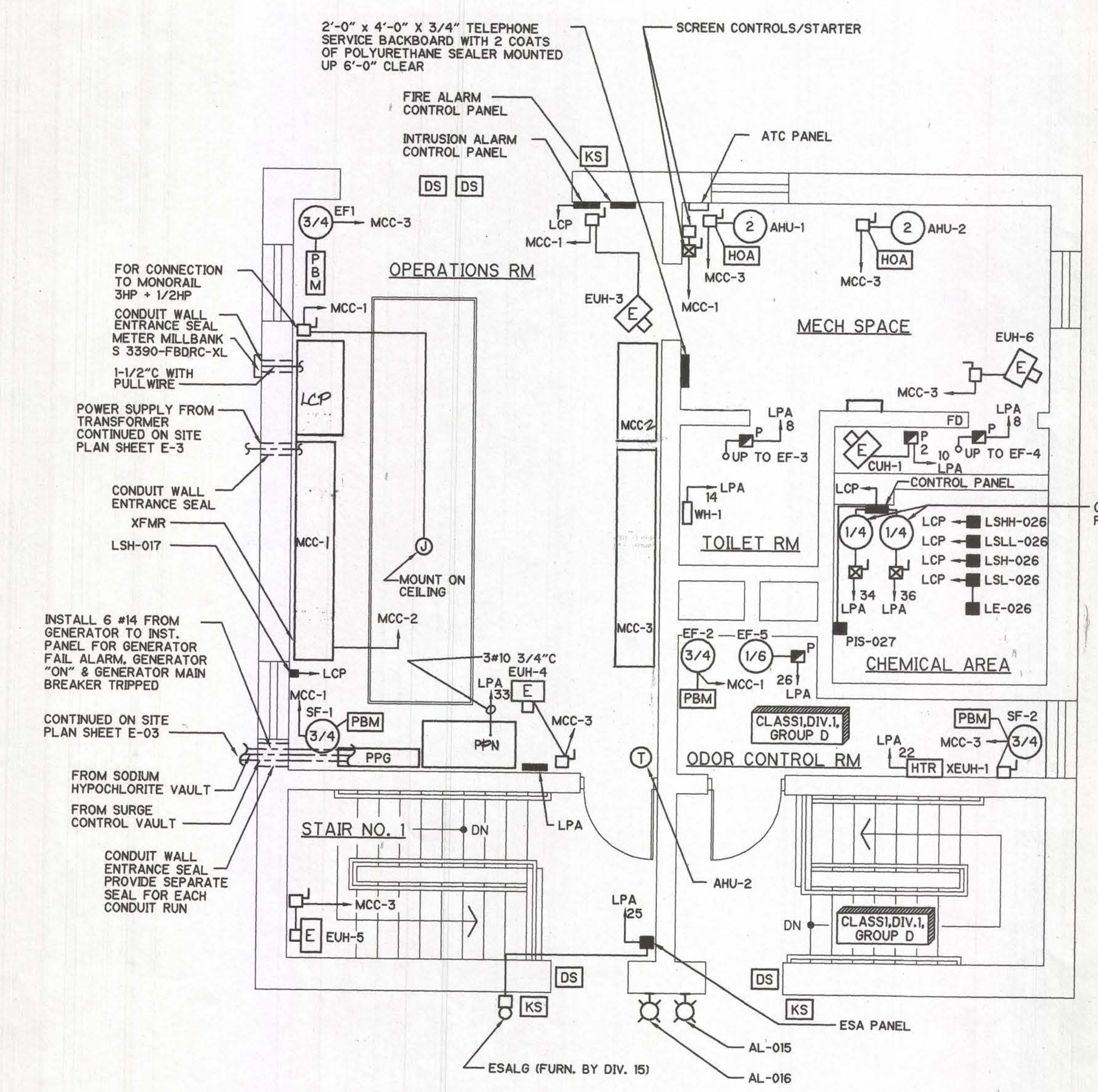
1 REV. NO. DATE DRWN CHKD	2-1-01 SMB ADM REVISED FOR RECORD DRAWING REMARKS	DESIGNED BY: PITTA J. DRAWN BY: PITTA J. SHEET CHK'D BY: BEYER S. CROSS CHK'D BY: CHENG P. APPROVED BY: CHENG P. DATE: SEPT. 1996	CAMP DRESSER & McKEE INC. 	CITY OF NEW BEDFORD, MASSACHUSETTS WASTEWATER SYSTEM IMPROVEMENTS CONTRACT NO. 8 EDA PROJECT NO. 01-01-03529 NORTH END AND WELBY ROAD PUMPING STATIONS	NORTH END PUMPING STATION CONTROL DIAGRAMS E-4	PROJECT NO. 309-54817 SHEET NO. E-4
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PLAN AT ELEV. 47.25 & 61.50
1/4" = 1'-0"

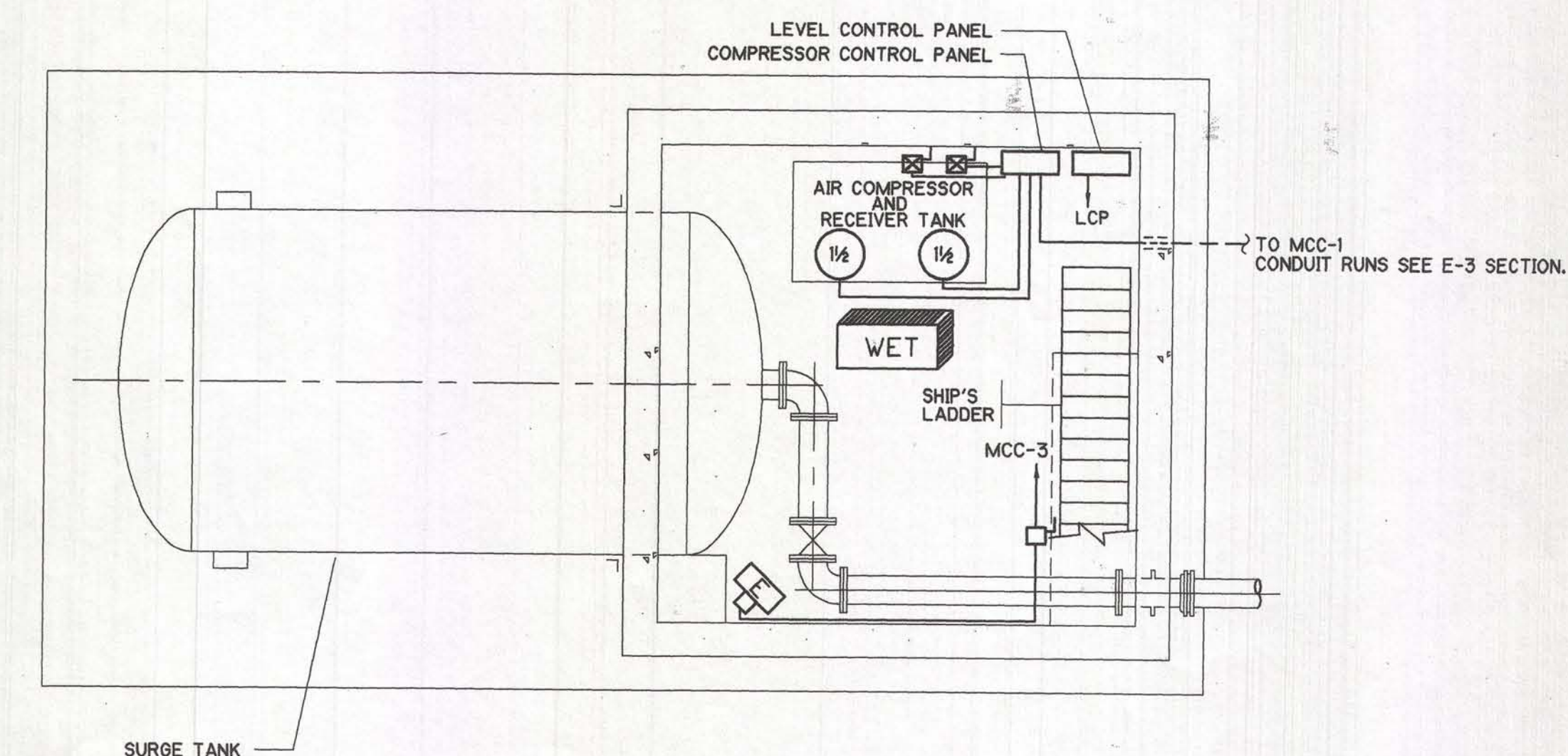


MEZZANINE - POWER PLAN
1/4" = 1'-0"

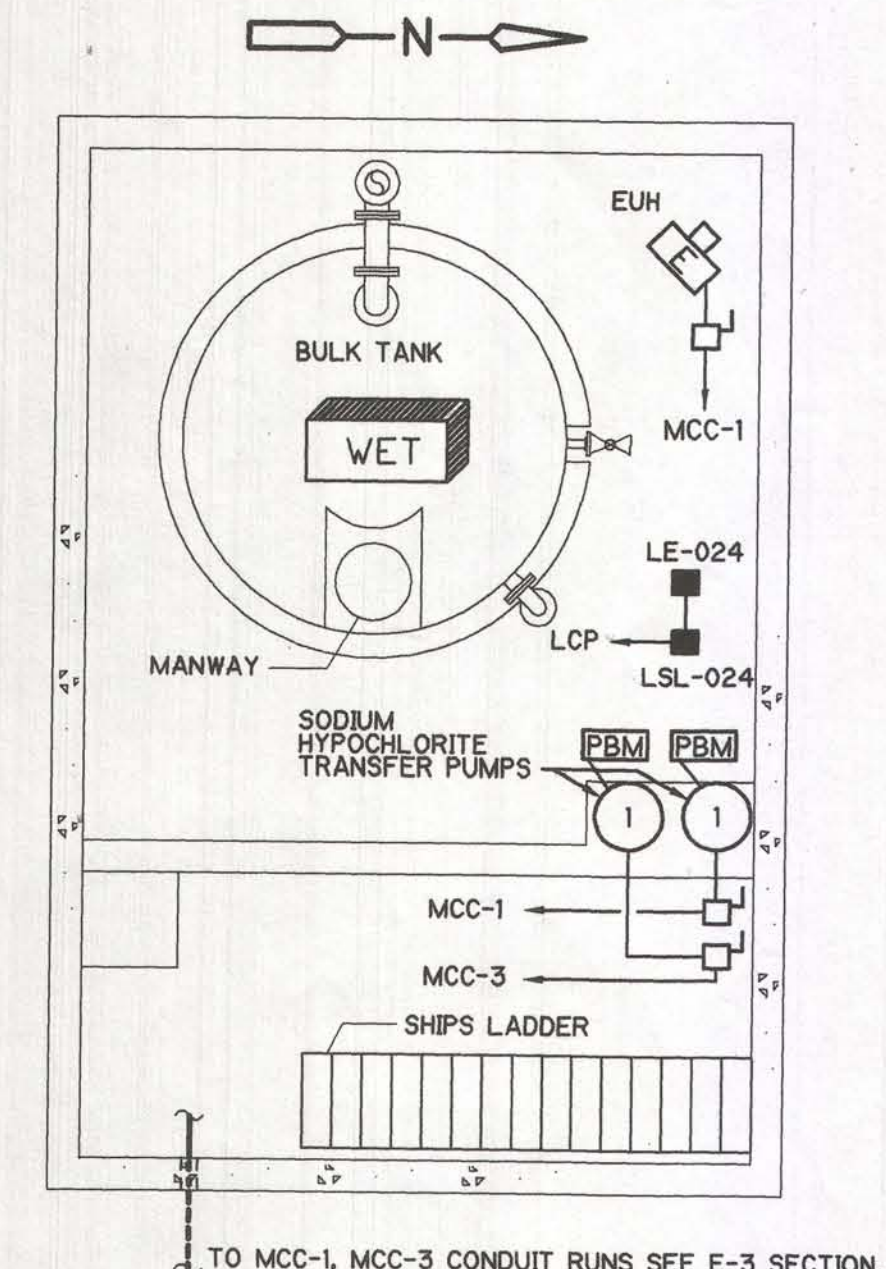


FLOOR PLAN @ ELEVATION 78.50
1/4" = 1'-0"

NOTES:
1. FURNISH & INSTALL "EYS" TYPE SEAL FITTING FOR ALL CONDUITS PASSING FROM HAZARDOUS TO NON-HAZARDOUS AREAS.



SURGE TANK ELECTRICAL PLAN
1/4" = 1'-0"



SODIUM HYPOCHLORITE VAULT ELECTRICAL PLAN
1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	SME	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: CHENG P.
APPROVED BY: CHENG P.
DATE: SEPT, 1996

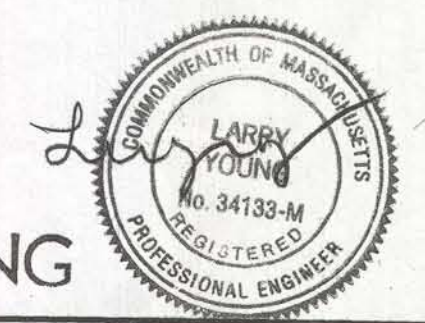
CAMP DRESSER & MCKEE INC.

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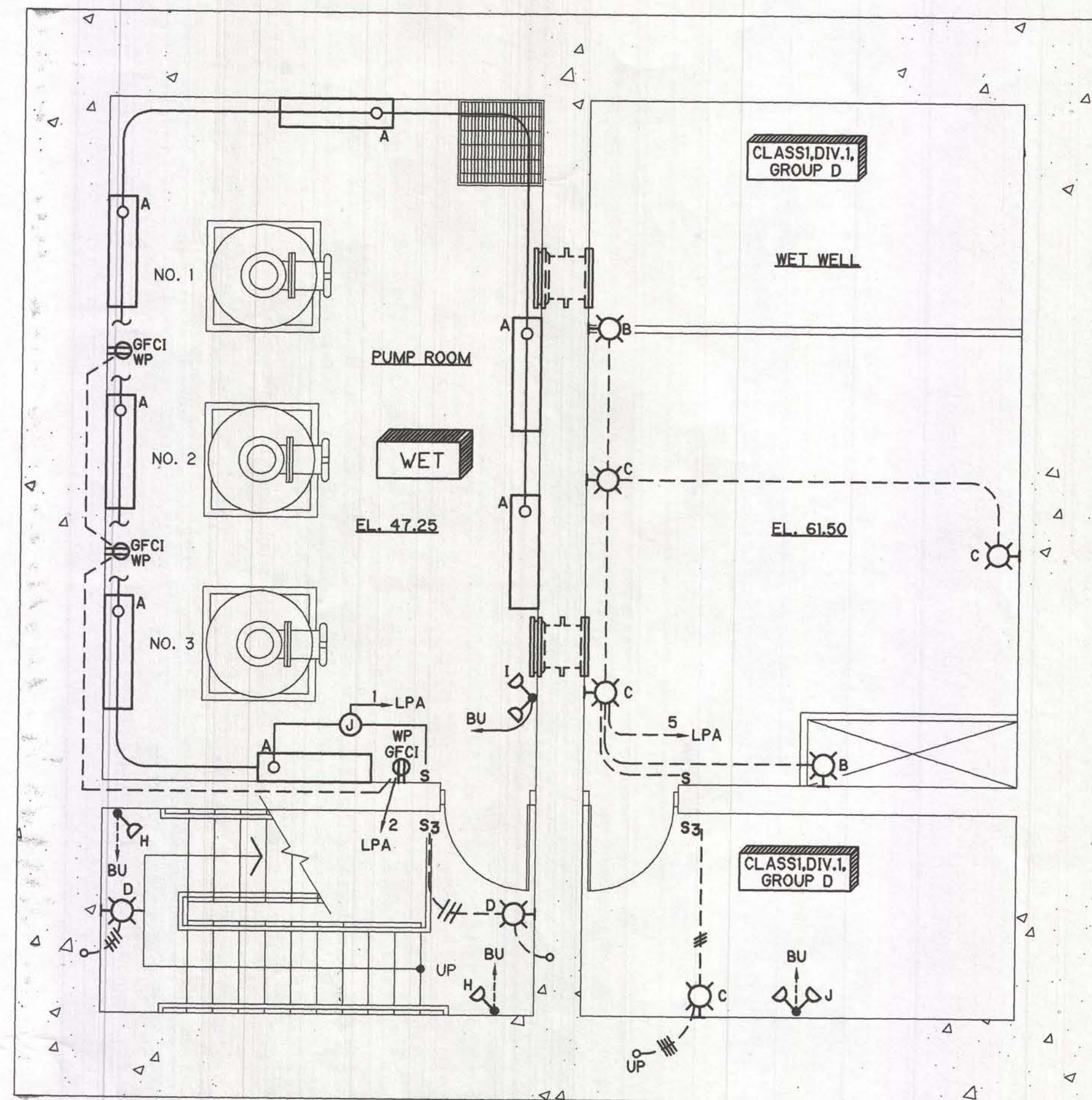
CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION
FLOOR PLANS - POWER

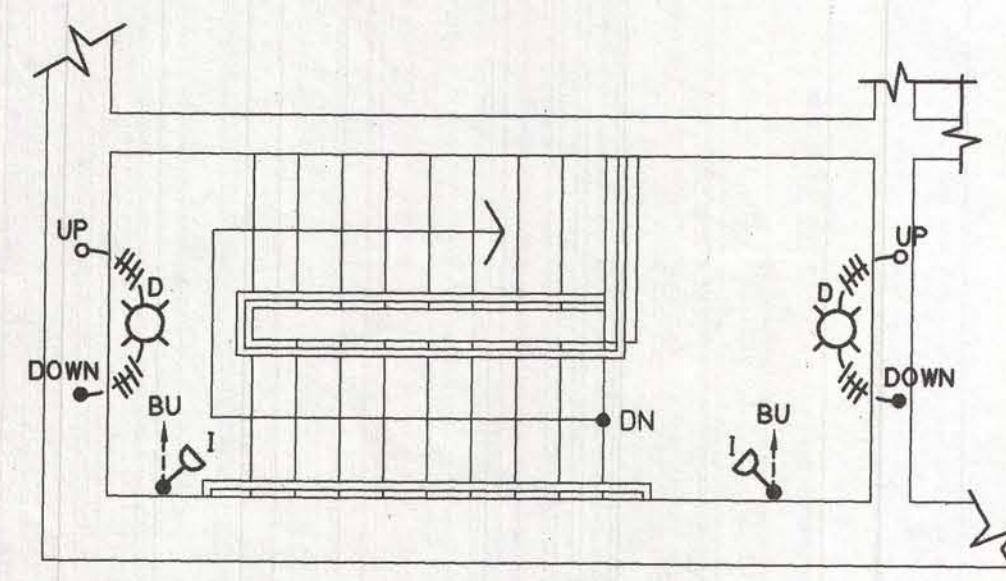
RECORD DRAWING



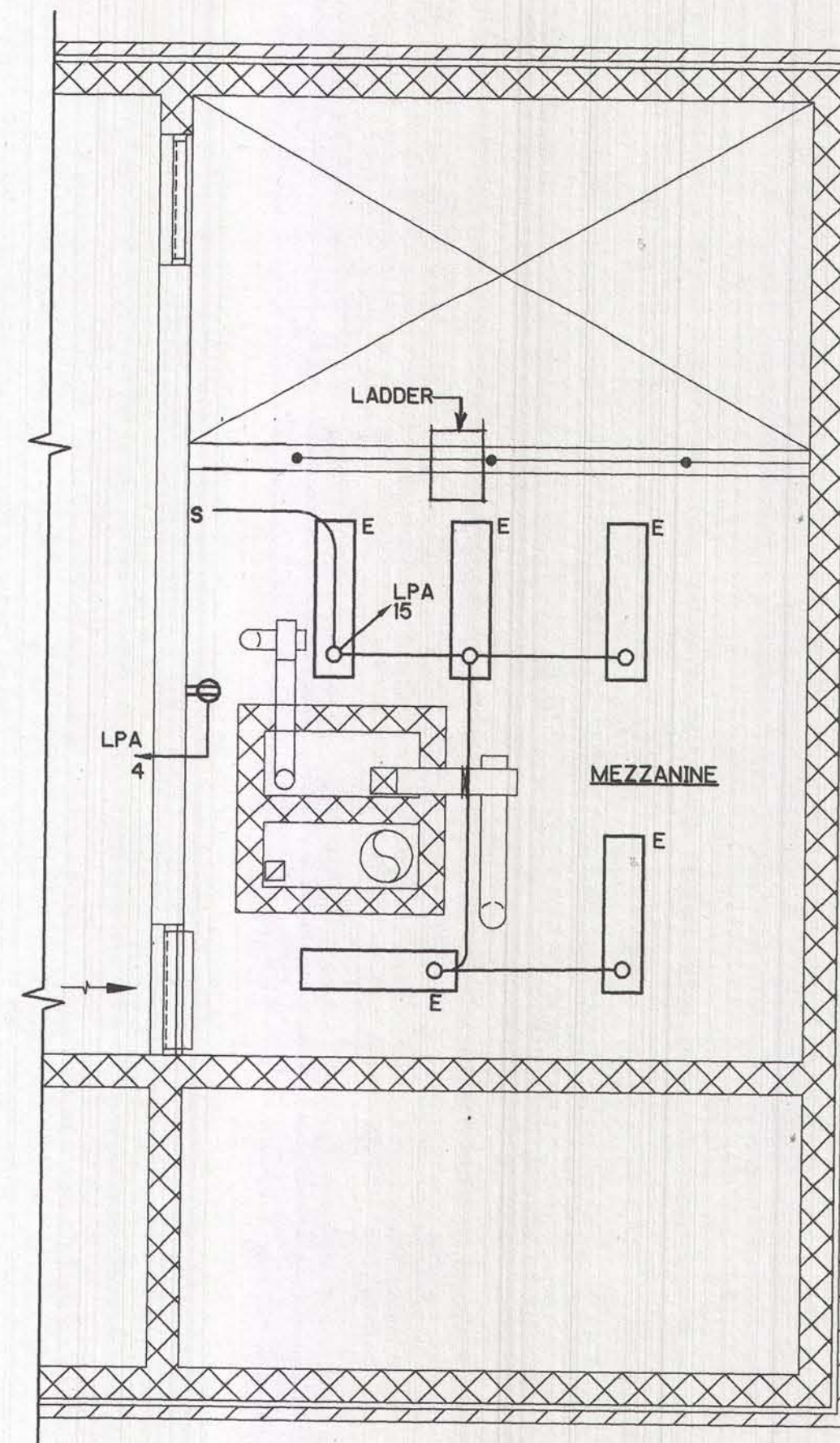
PROJECT NO. 309-54818
SHEET NO. E-5



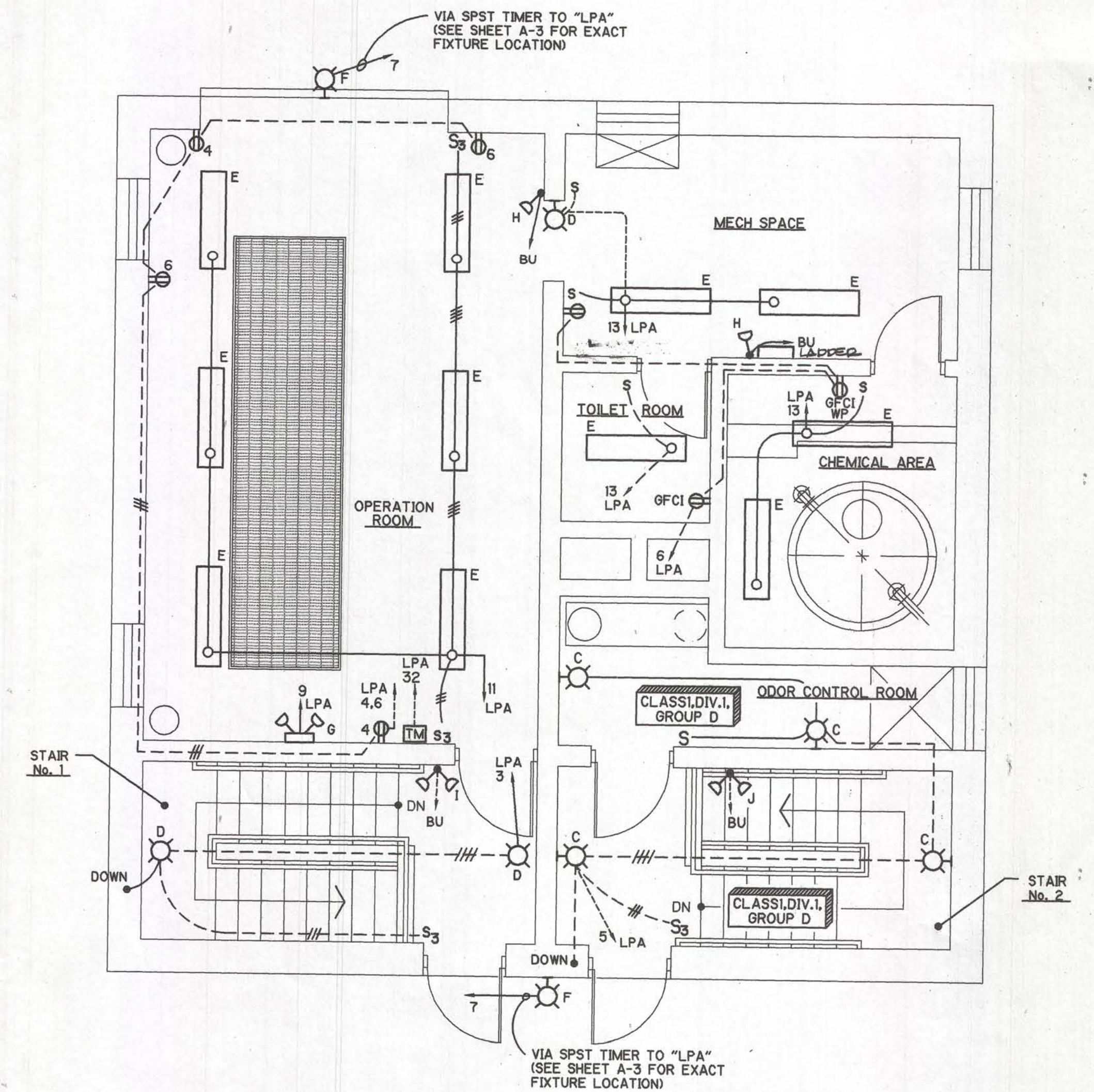
FLOOR PLAN @ ELEVATION 47.25 & 61.50
1/4" = 1'-0"



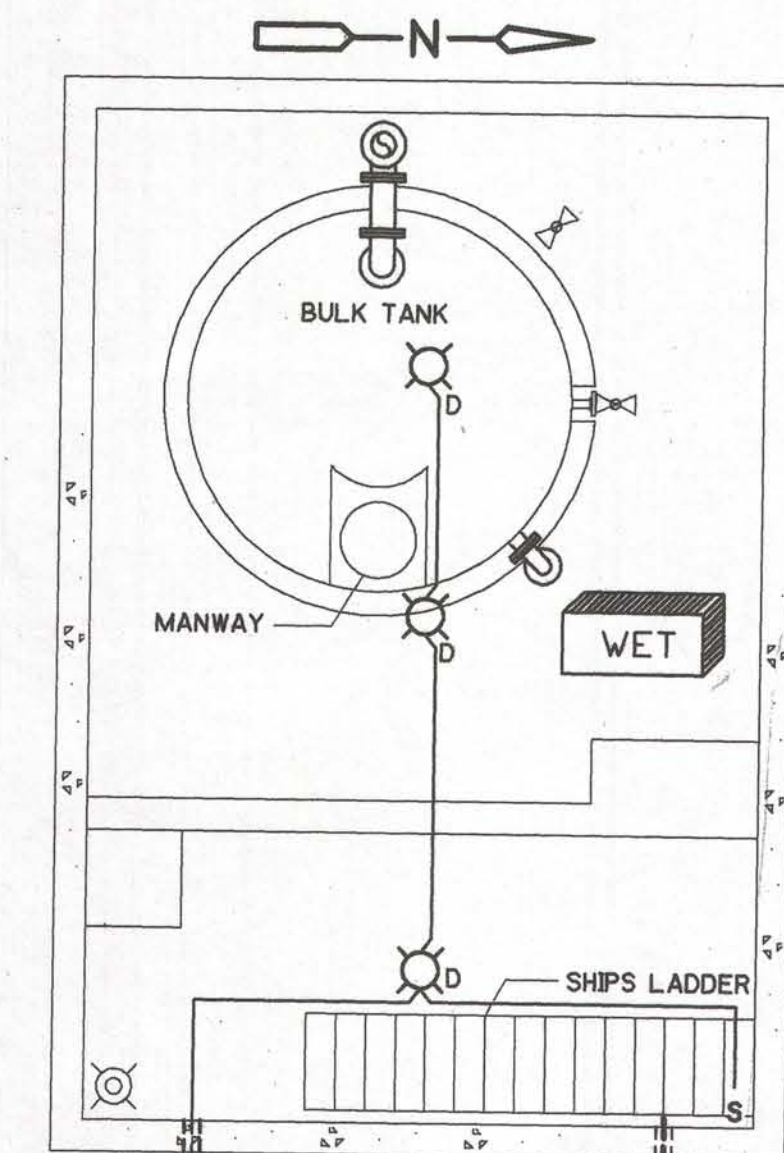
STAIR - LIGHTING PLAN
1/4" = 1'-0"



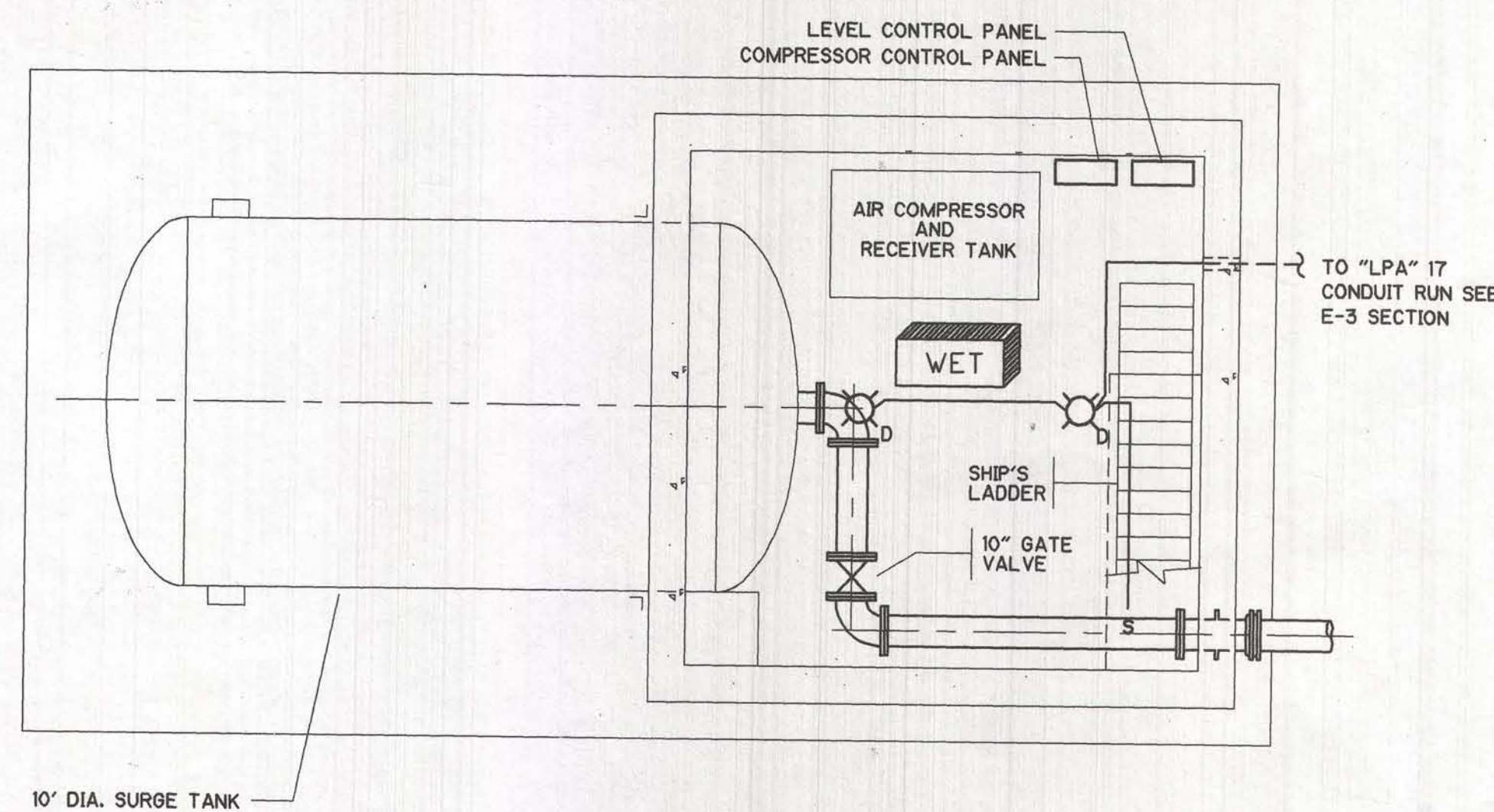
MEZZANINE - LIGHTING PLAN
1/4" = 1'-0"



FLOOR PLAN @ ELEVATION 78.50
1/4" = 1'-0"



SODIUM HYPOCHLORITE
VAULT LIGHTING PLAN
1/4" = 1'-0"



SURGE TANK
LIGHTING PLAN
1/4" = 1'-0"

DESIGNED BY:	PITTA J.
DRAWN BY:	PITTA J.
SHEET CHK'D BY:	BEYER S.
CROSS CHK'D BY:	CHENG P.
APPROVED BY:	CHENG P.
DATE:	SEPT. 1996

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WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION
FLOOR PLANS-LIGHTING

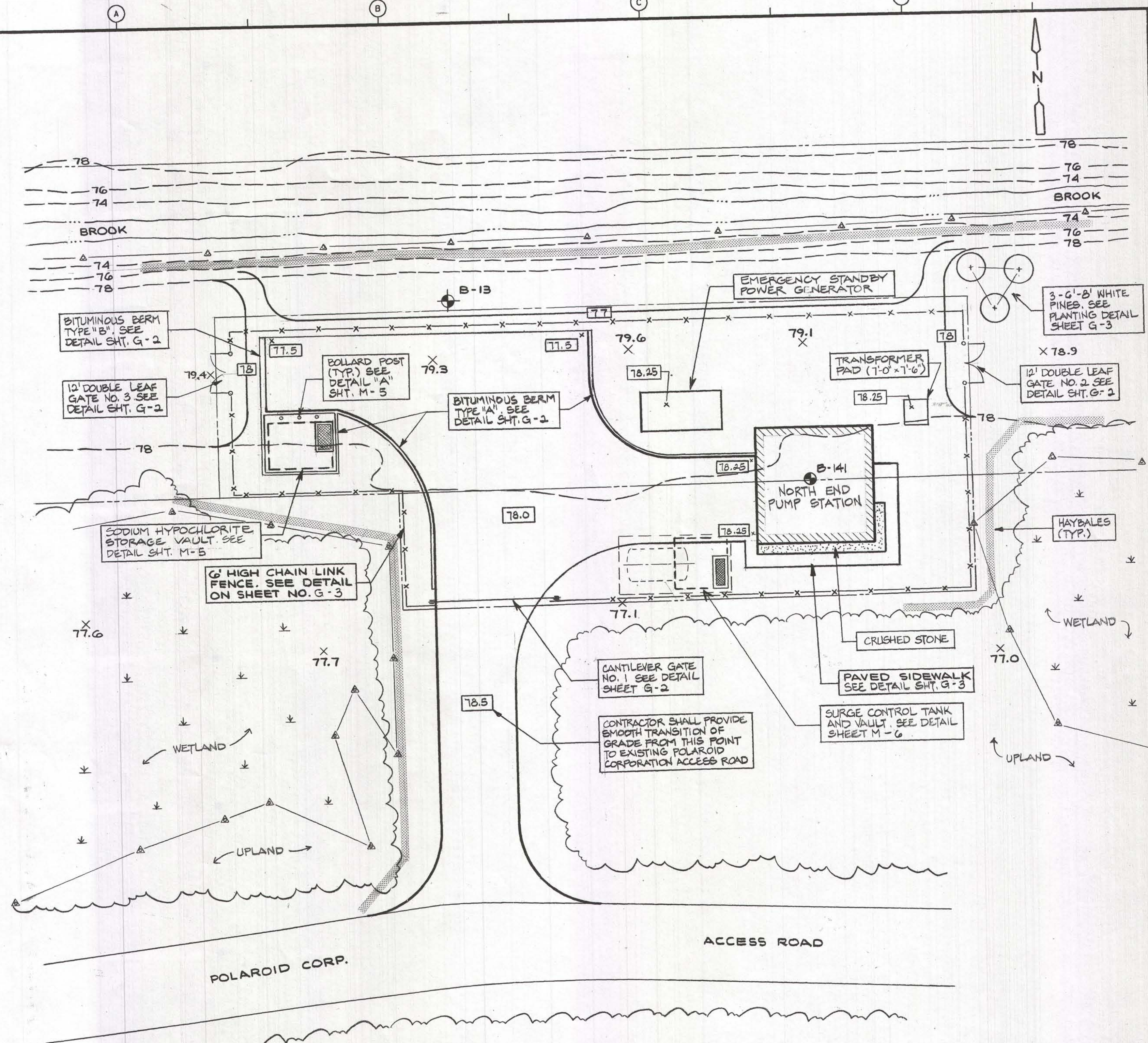
RECORD DRAWING

PROJECT NO.
309-54819

SHEET NO.

E-6

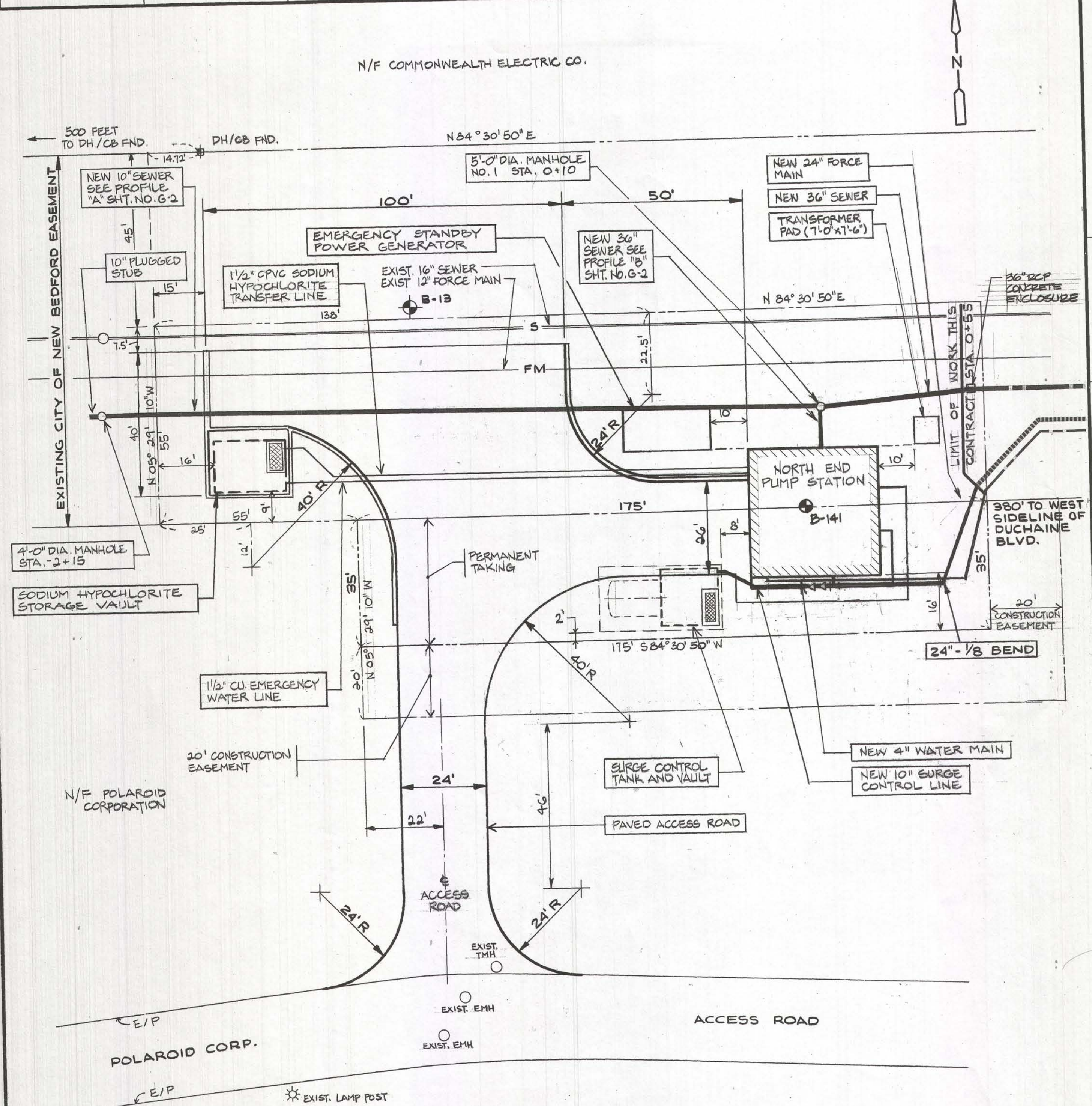




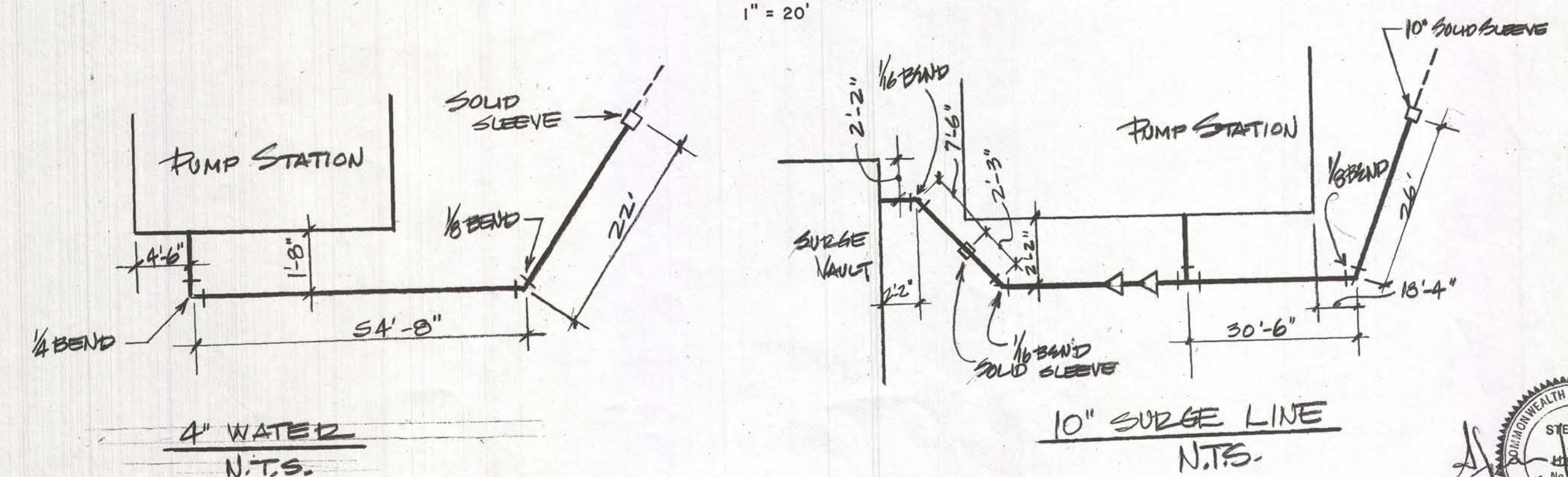
GRADING, PLANTING AND EROSION CONTROL PLAN
1" = 20'

NOTES:

- ALL NEW WORK SHOWN THUS: [Symbol]
- ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED AS SPECIFIED.



SITE PLAN
1" = 20'



PIPING DETAILS

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-10-01	SMR	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY:	DEYER S.
DRAWN BY:	PITTA J.
SHEET CHK'D BY:	DEYER S.
CROSS CHK'D BY:	SMALL J.
APPROVED BY:	HICKOX S.
DATE:	SEPT. 1990

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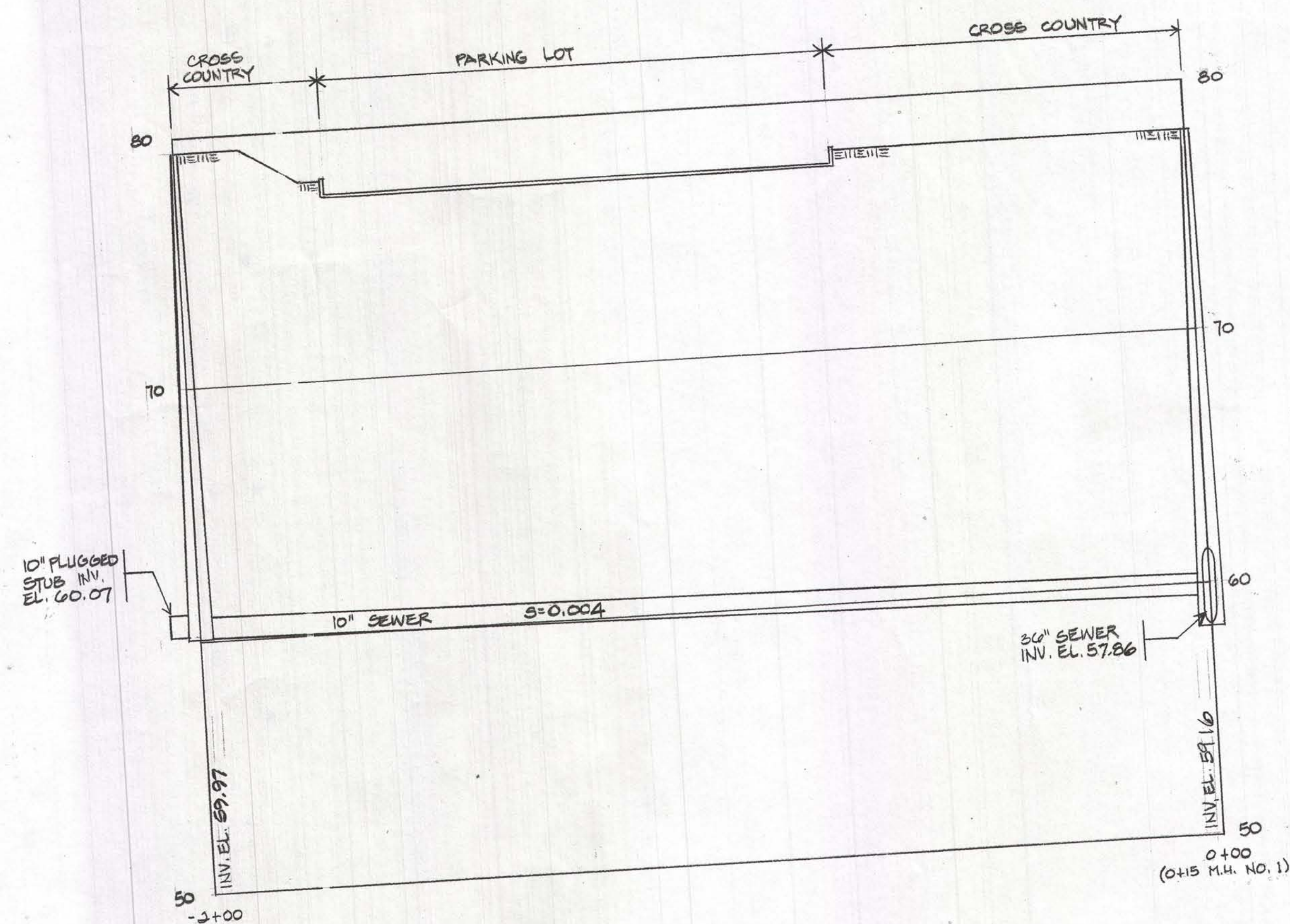
CDM

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

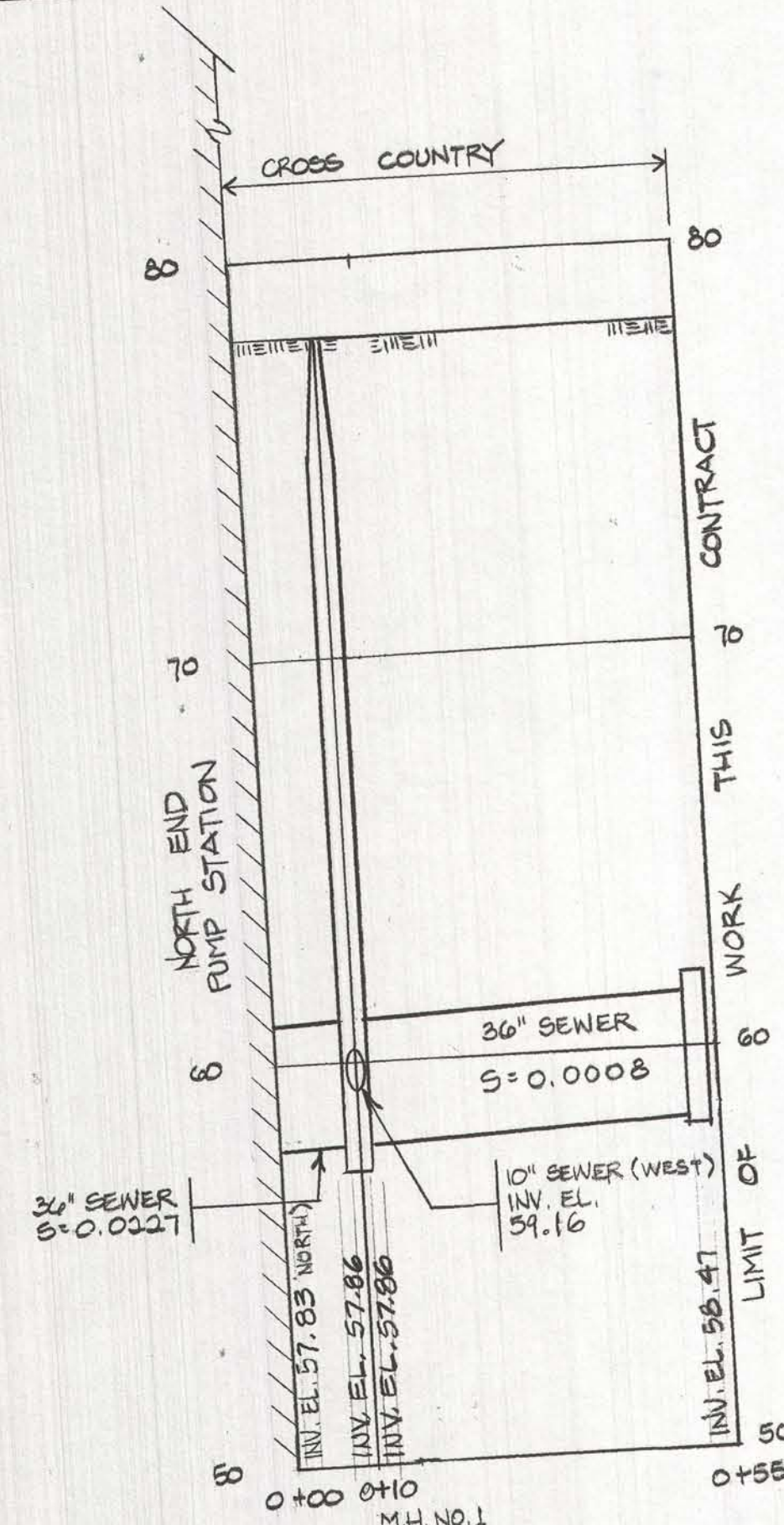
NORTH END PUMPING STATION
SITE PLANS

PROJECT NO.
309-54791
SHEET NO.
G-1

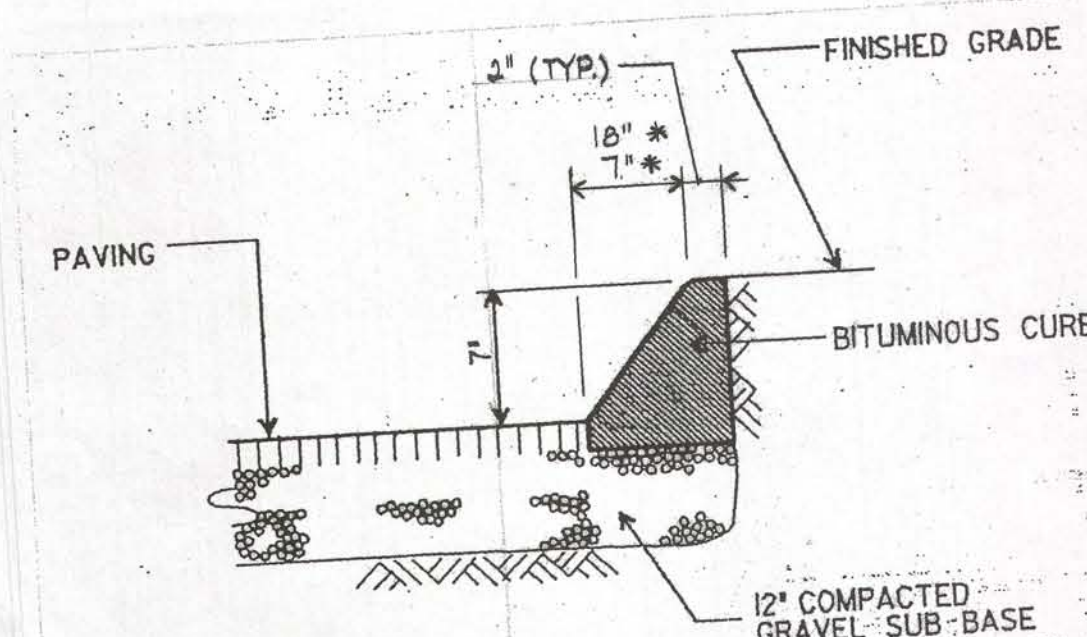




PROFILE "A"
 HOR: 1" = 20'
 VER: 1" = 4'

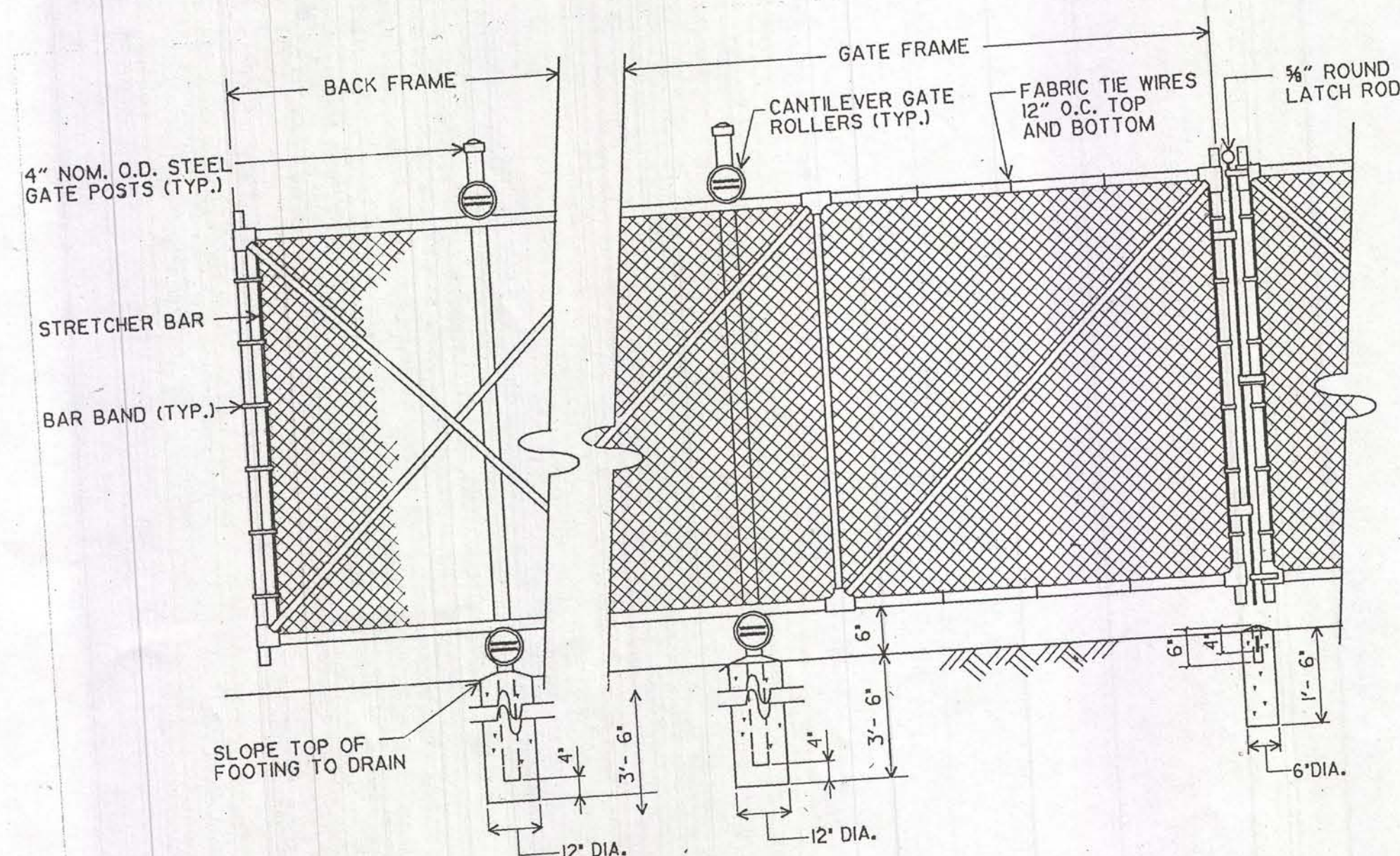


PROFILE "B"
 HOR: 1" = 20'
 VER: 1" = 4'

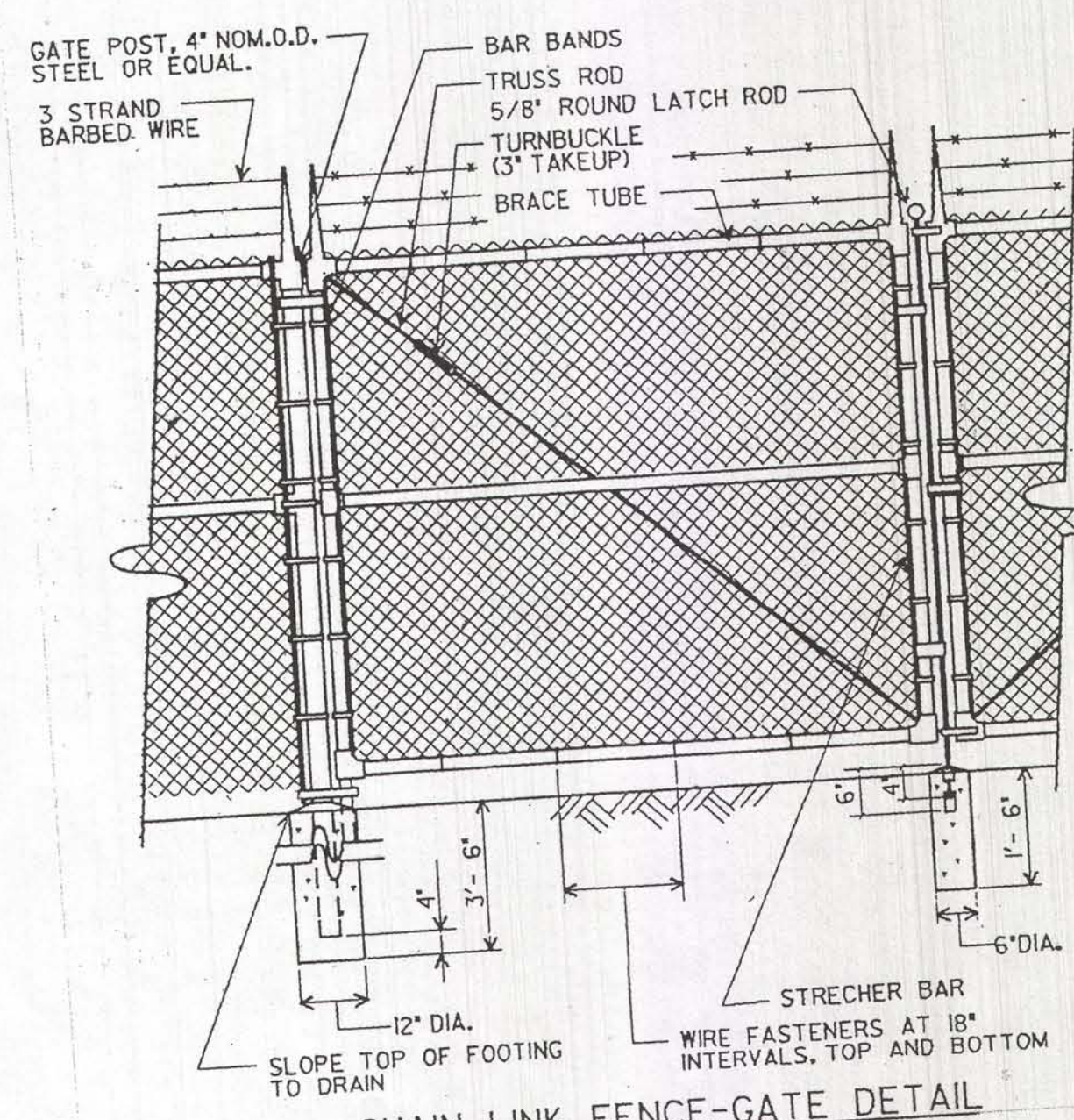


BITUMINOUS CONCRETE CURB DETAIL
 N.T.S.

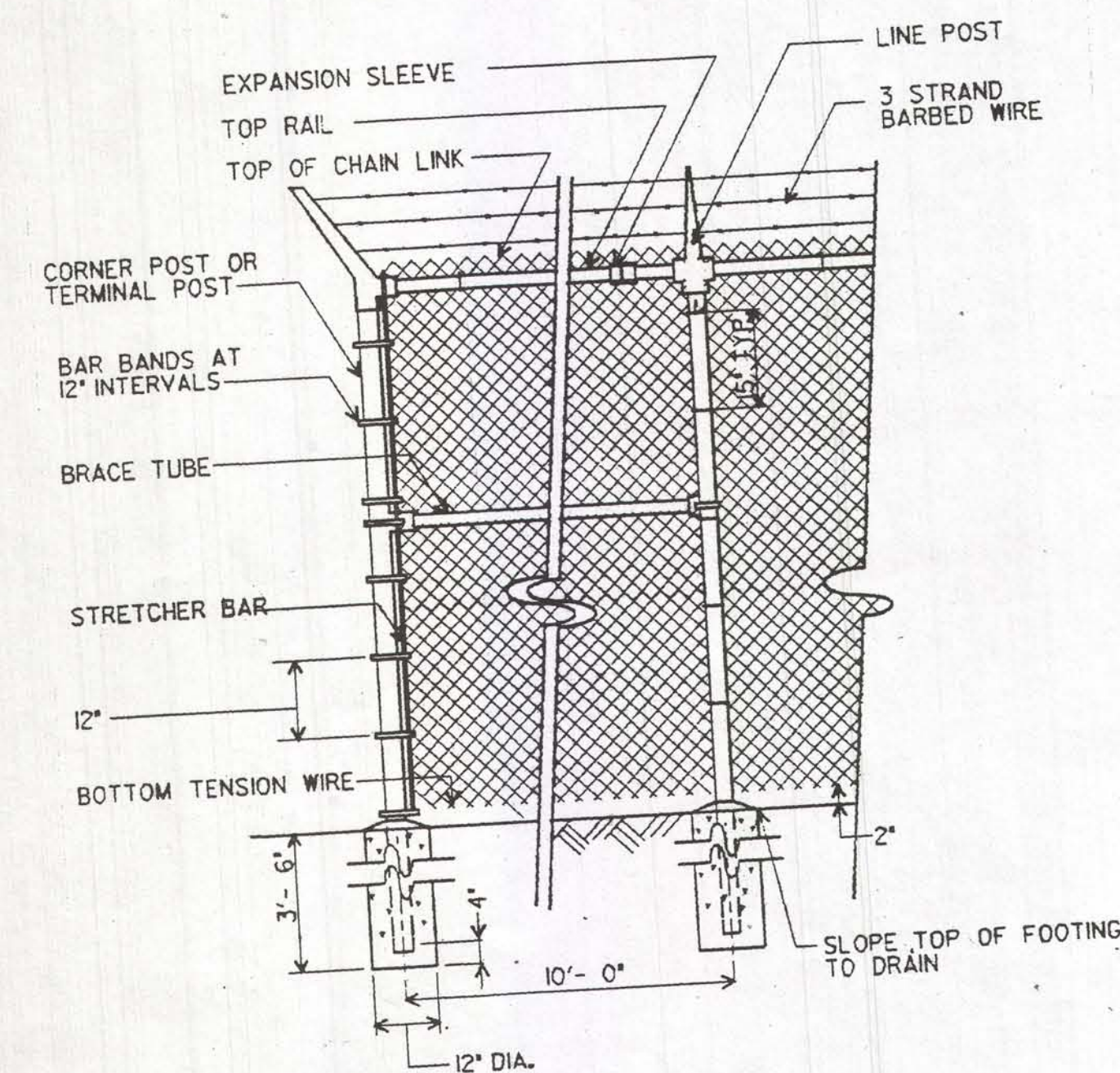
* 7" DIMENSION FOR TYPE "A" BERM
 18" DIMENSION FOR TYPE "B" BERM



CHAIN LINK FENCE CANTILEVER GATE DETAIL
GATE NO. 1
 N.T.S.



CHAIN LINK FENCE-GATE DETAIL
GATE NO. 2
 N.T.S.



CHAIN LINK FENCE DETAIL
 N.T.S.

RECORD DRAWING

NORTH END PUMPING STATION
 PROFILES AND DETAILS

PROJECT NO.
 309-54792

SHEET NO.

G-2

CITY OF NEW BEDFORD, MASSACHUSETTS
 WASTEWATER SYSTEM IMPROVEMENTS

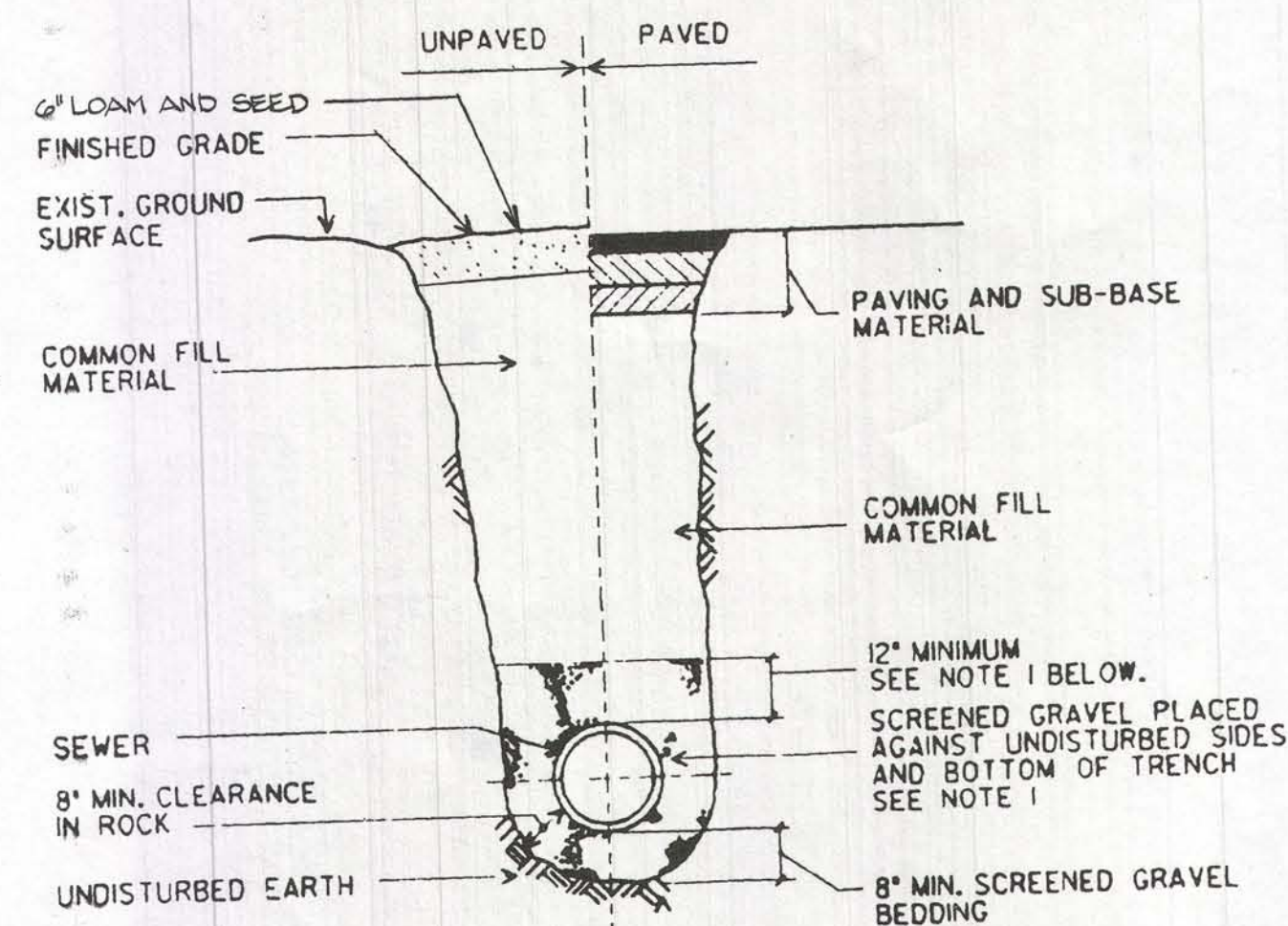
CONTRACT NO. 8
 EDA PROJECT NO. 01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

CAMP DRESSER & MCKEE INC.

CDM

DESIGNED BY: BEYER S.
 DRAWN BY: PITTA J.
 SHEET CHECKED BY: BEYER S.
 CROSS CHECKED BY: SMALL J.
 APPROVED BY: HICKOX S.
 DATE: SEPT. 1996

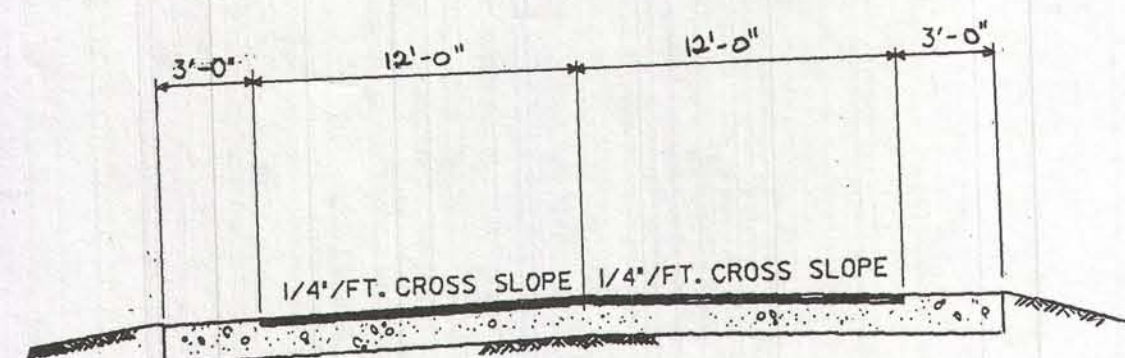
2-101 SMP/ANM REVISED FOR RECORD DRAWING



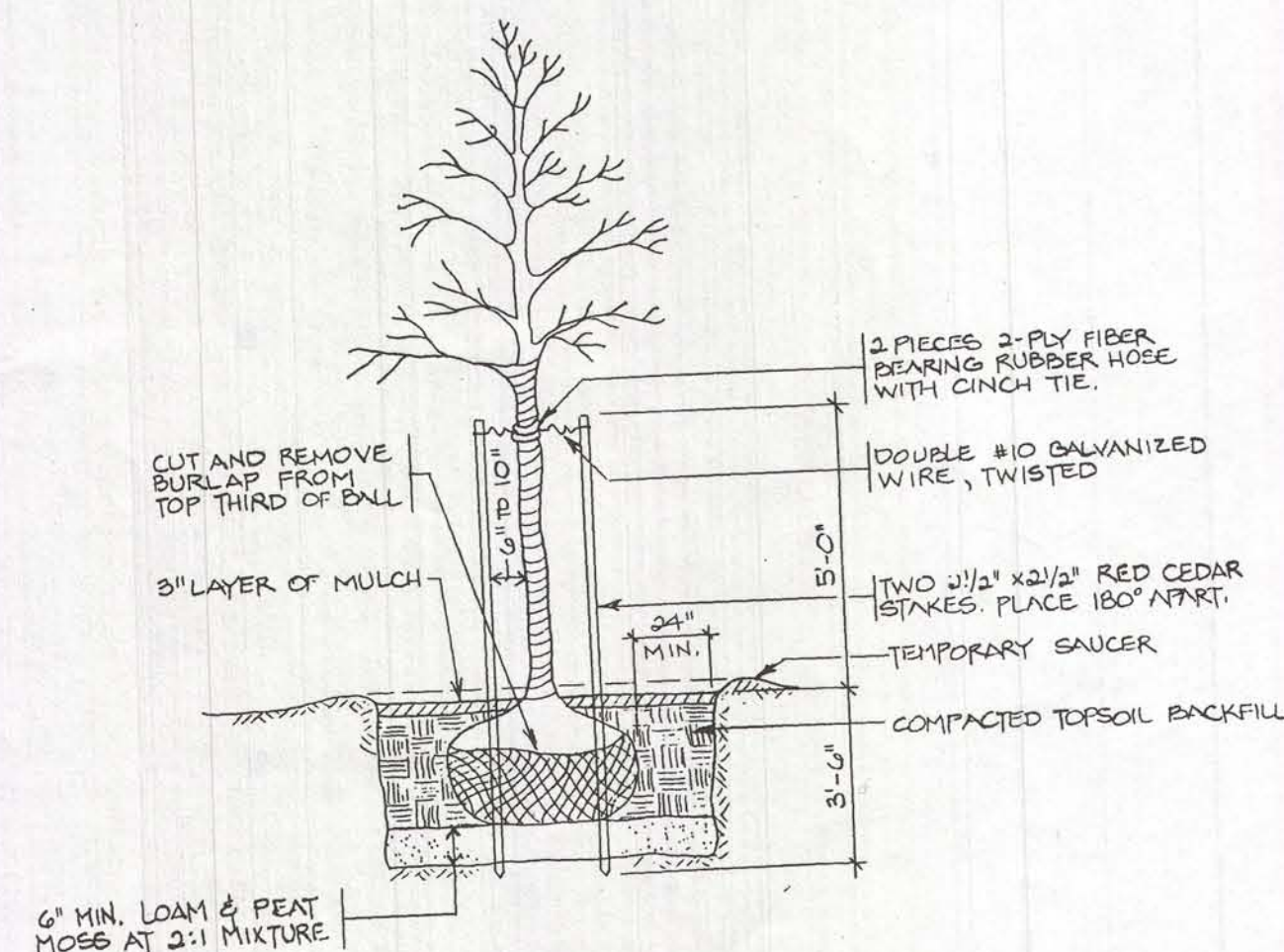
TYPICAL TRENCH DETAIL
FOR SEWER PIPE

NOTES

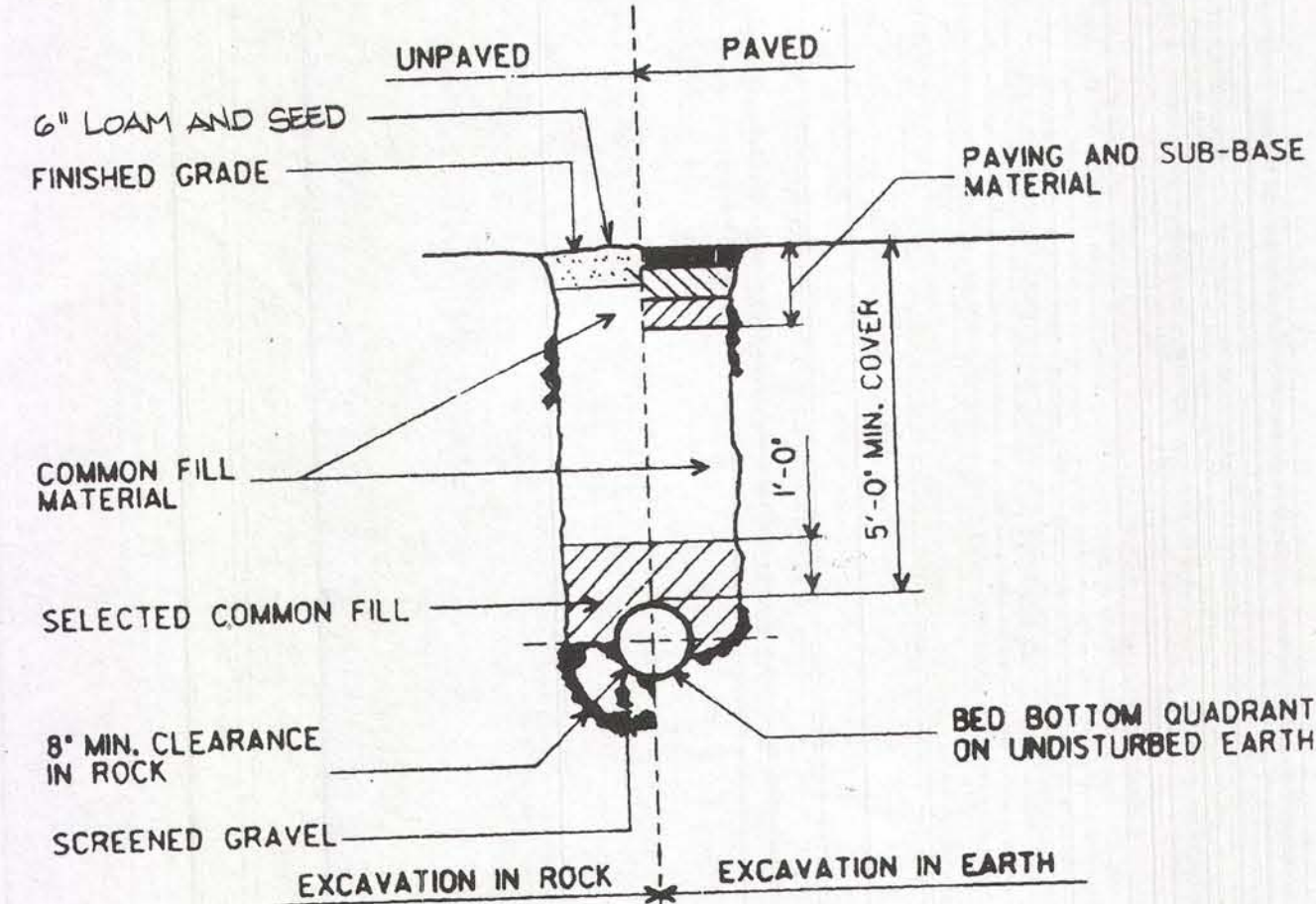
1. FOR PIPES OTHER THAN P.V.C., SELECTED COMMON FILL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE
2. TRENCHES LOCATED ON THE ROAD SHOULDER SHALL BE TREATED THE SAME AS STREET EXCEPT FOR PAVING.
3. PROVIDE AT LEAST ONE IMPERVIOUS DAM IN GRAVEL BEDDING BETWEEN EACH MANHOLE OR EVERY 300 FT., WHICHEVER IS LESS. SEE DETAIL THIS SHEET.



TYPICAL ACCESS ROAD CROSS SECTION



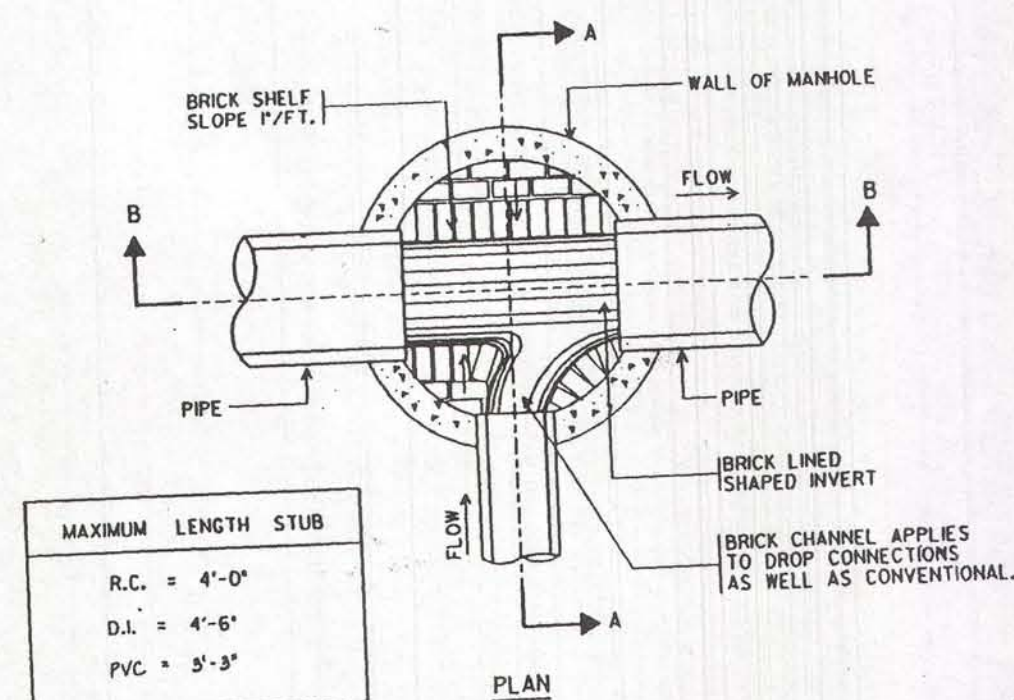
TREE PLANTING DETAIL



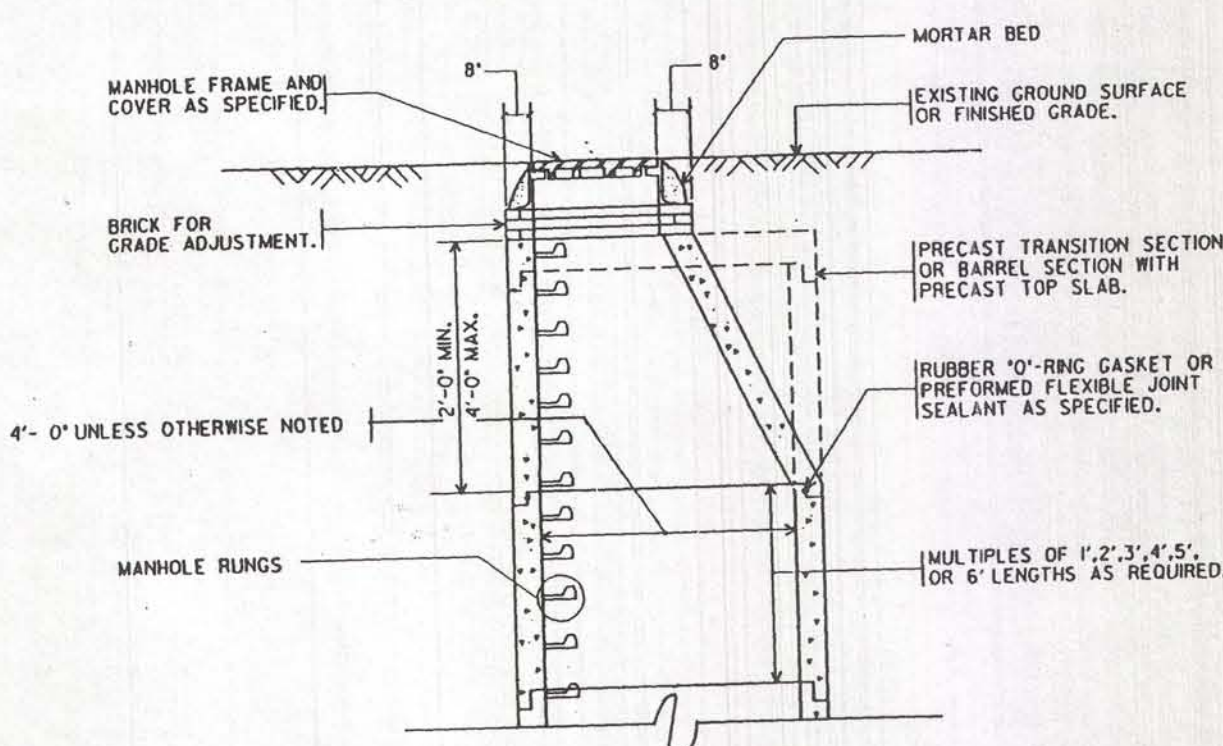
TYPICAL TRENCH DETAIL
FOR D.I. FORCE MAIN

NOTE: FOR P.V.C. FORCE MAIN, SEE
TYPICAL TRENCH DETAIL FOR SEWER PIPE

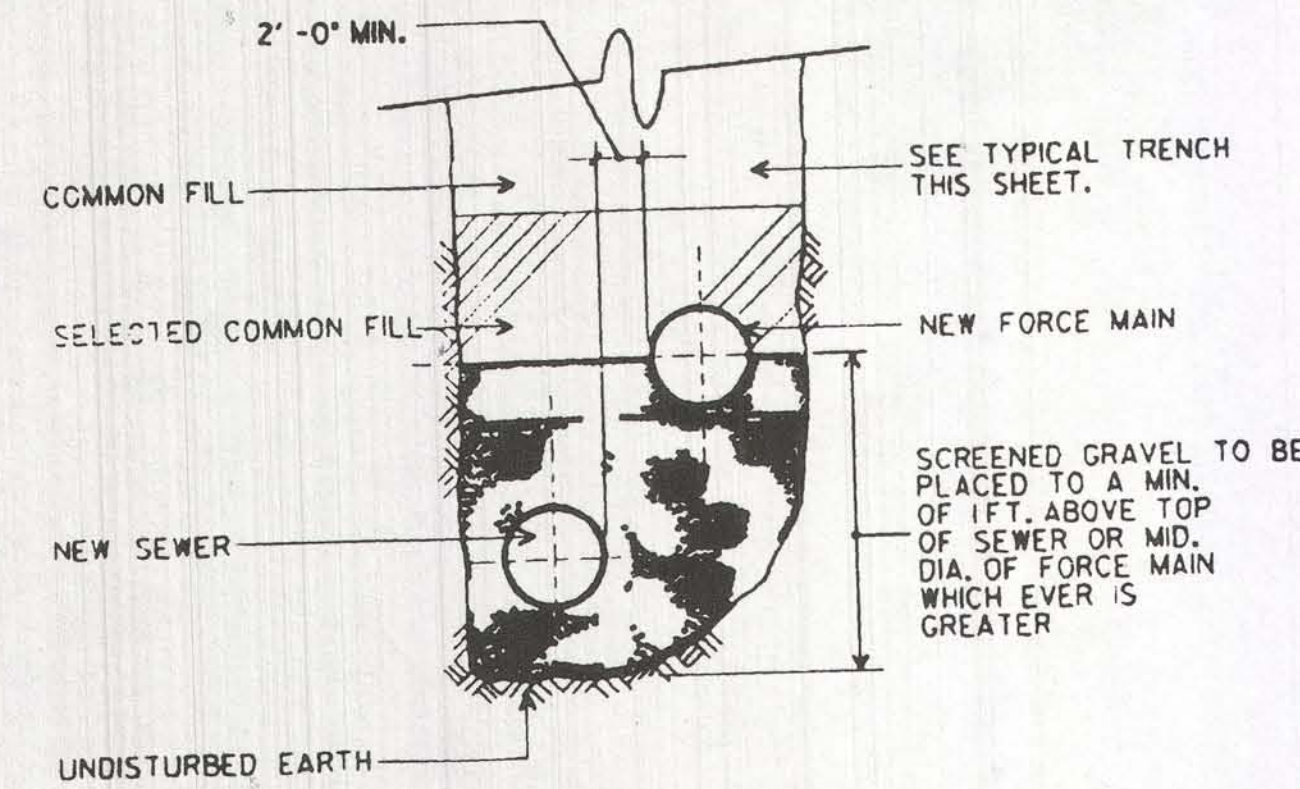
TYPICAL PRECAST SEWER MANHOLE



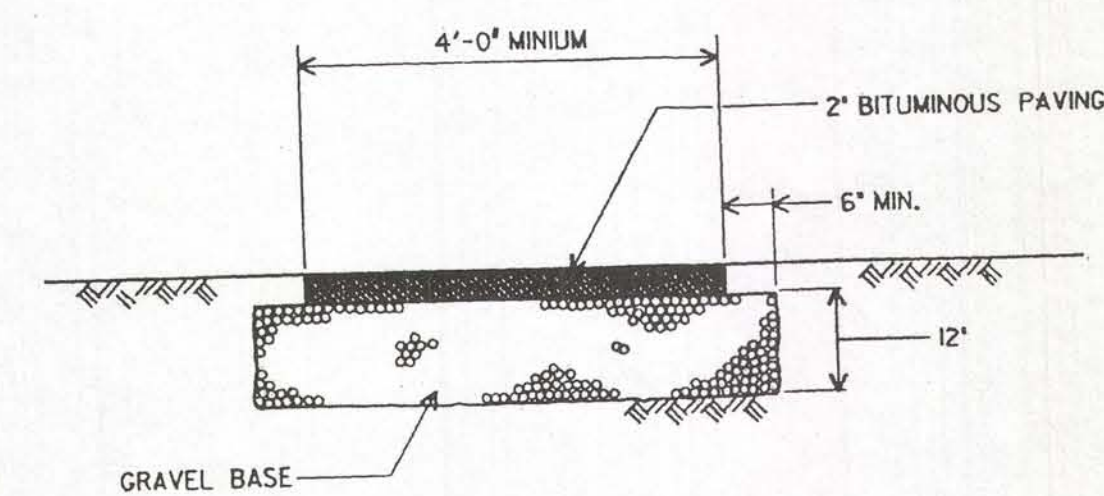
MAXIMUM LENGTH STUB
R.C. = 4'-0"
D.I. = 4'-6"
PVC = 3'-0"



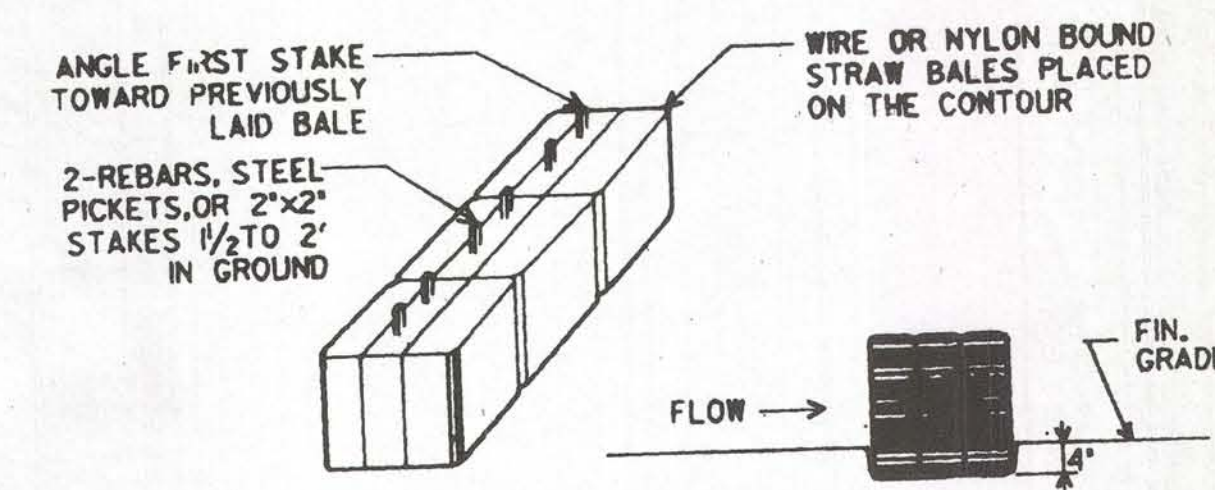
SECTION: TYPICAL PRECAST MANHOLE
WITH PRECAST BASE



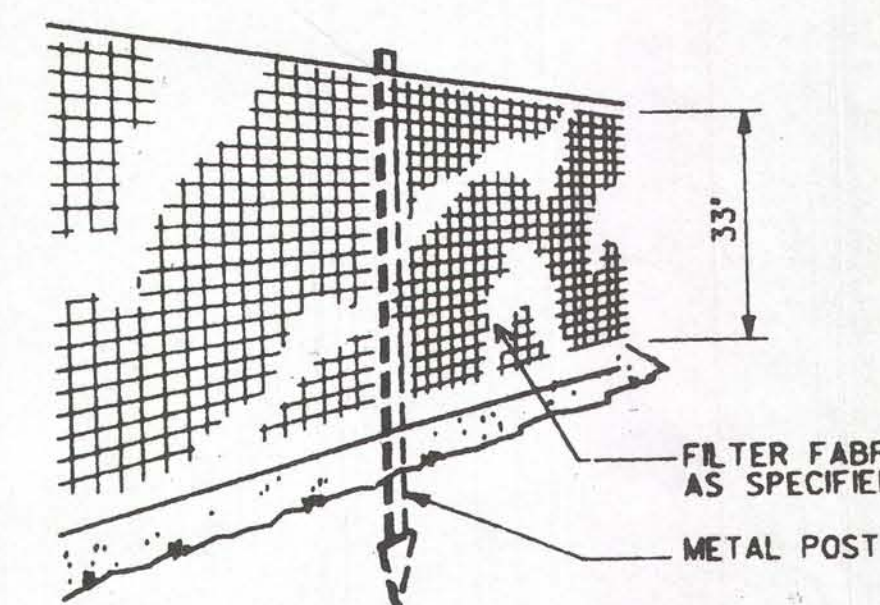
COMMON TRENCH FOR
SEWER AND FORCE MAIN



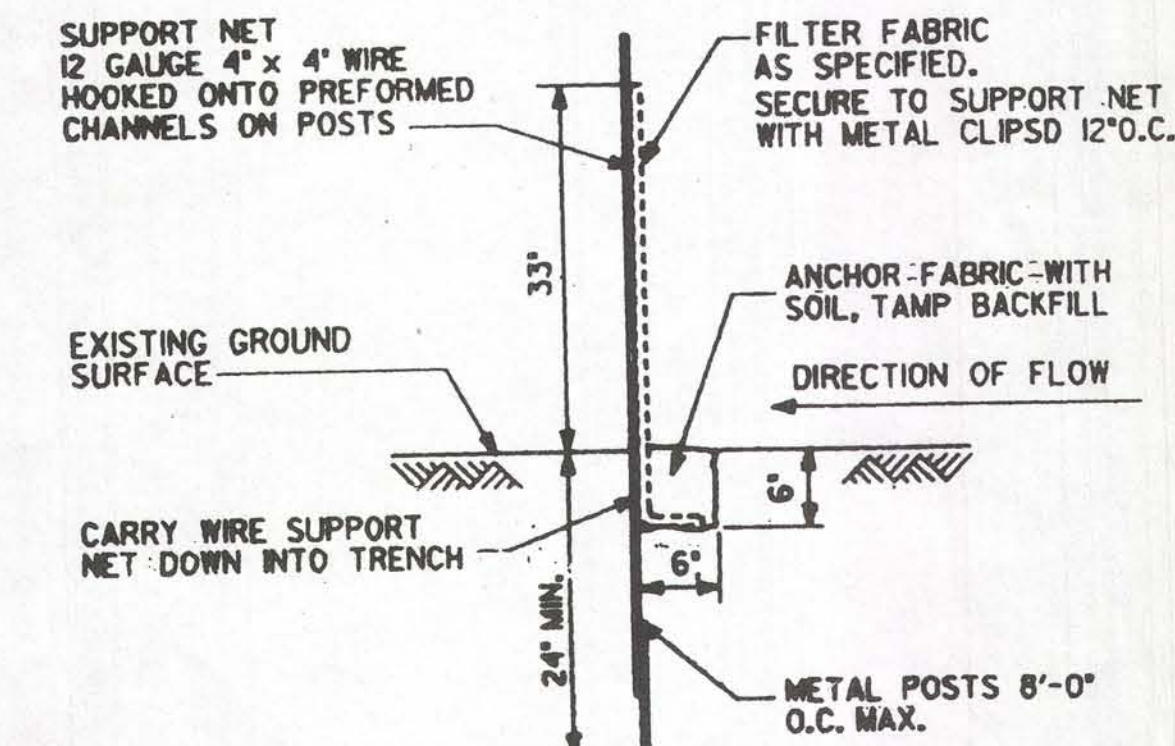
BITUMINOUS SIDEWALK DETAIL



HAY BALE DETAIL



SEDIMENT CONTROL FENCE DETAIL



SEDIMENT CONTROL FENCE DETAIL

REV.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	SMR	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: BEYER S.
DRAWN BY: PITTA J.
SHEET CHECKED BY: BEYER S.
CROSS CHECKED BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT. 1996

CAMP DRESSER & MCKEE INC.

environmental engineers/scientists,
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CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END AND WELBY ROAD PUMPING STATIONS
MISCELLANEOUS DETAILS

PROJECT NO.

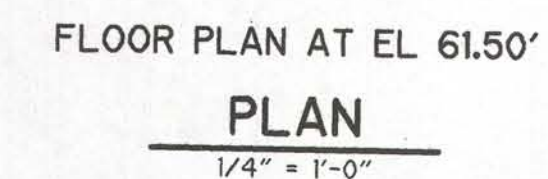
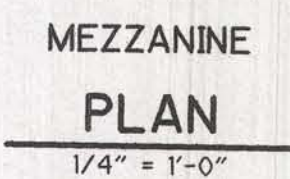
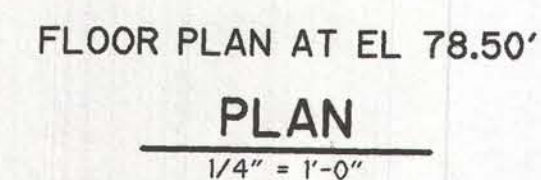
309-54793

SHEET NO.

G-3



RECORD DRAWING



RECORD DRAWING

NORTH END PUMPING STATION

PLANS

PROJECT NO.
309-54812

SHEET NO.

HV-1

EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

CAMP DRESSER & McKEE INC.

DESIGNED BY: A CHIUCCARIELLO

DRAWN BY: V NOEL

SHEET CHK'D BY: A. CHIUCCARIELLO

CROSS CHK'D BY: J JACOBS

APPROVED BY: HICKOX S.

DATE: SEPT. 1996

environmental engineers, scientists,
planners, & management consultants

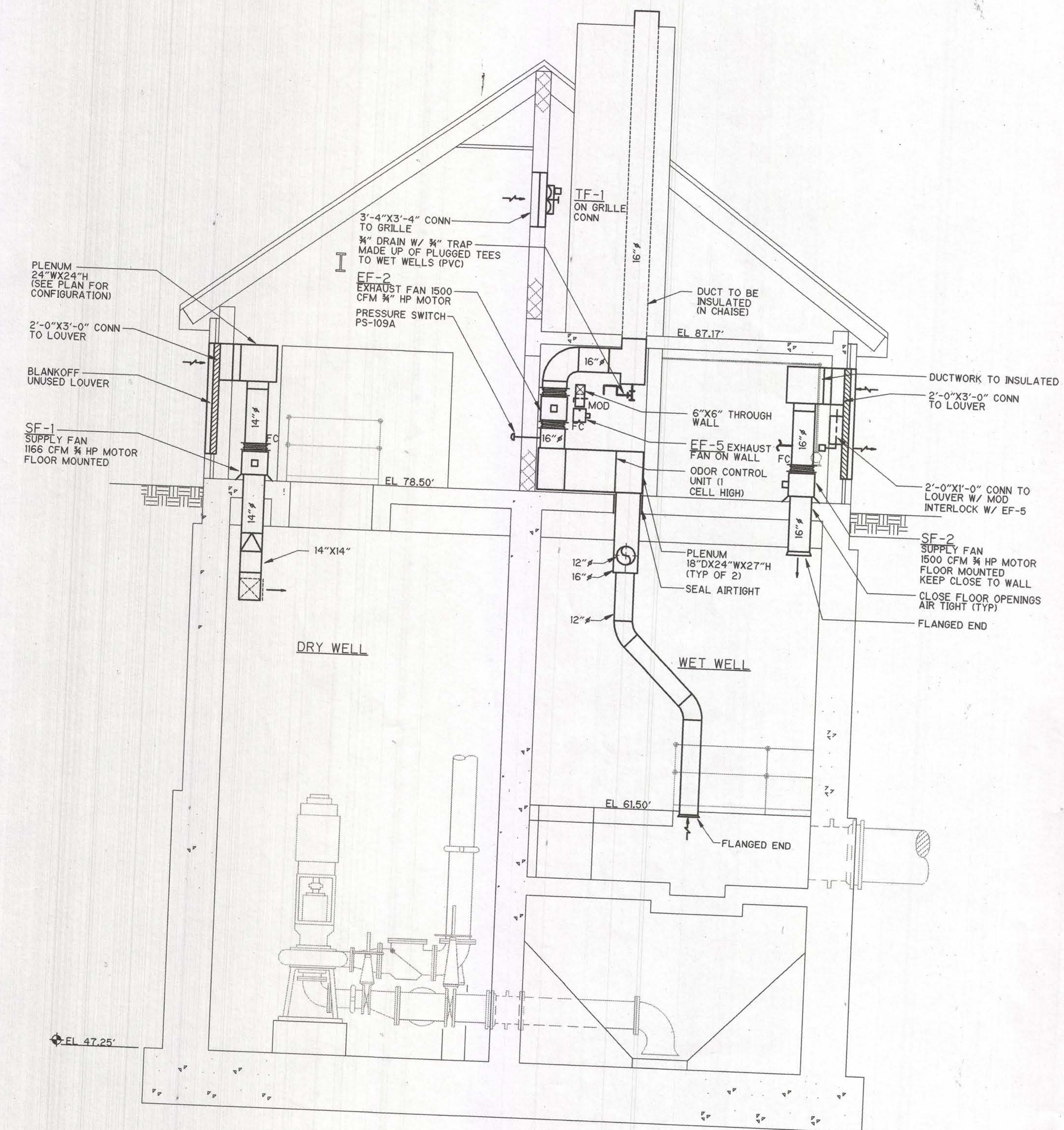
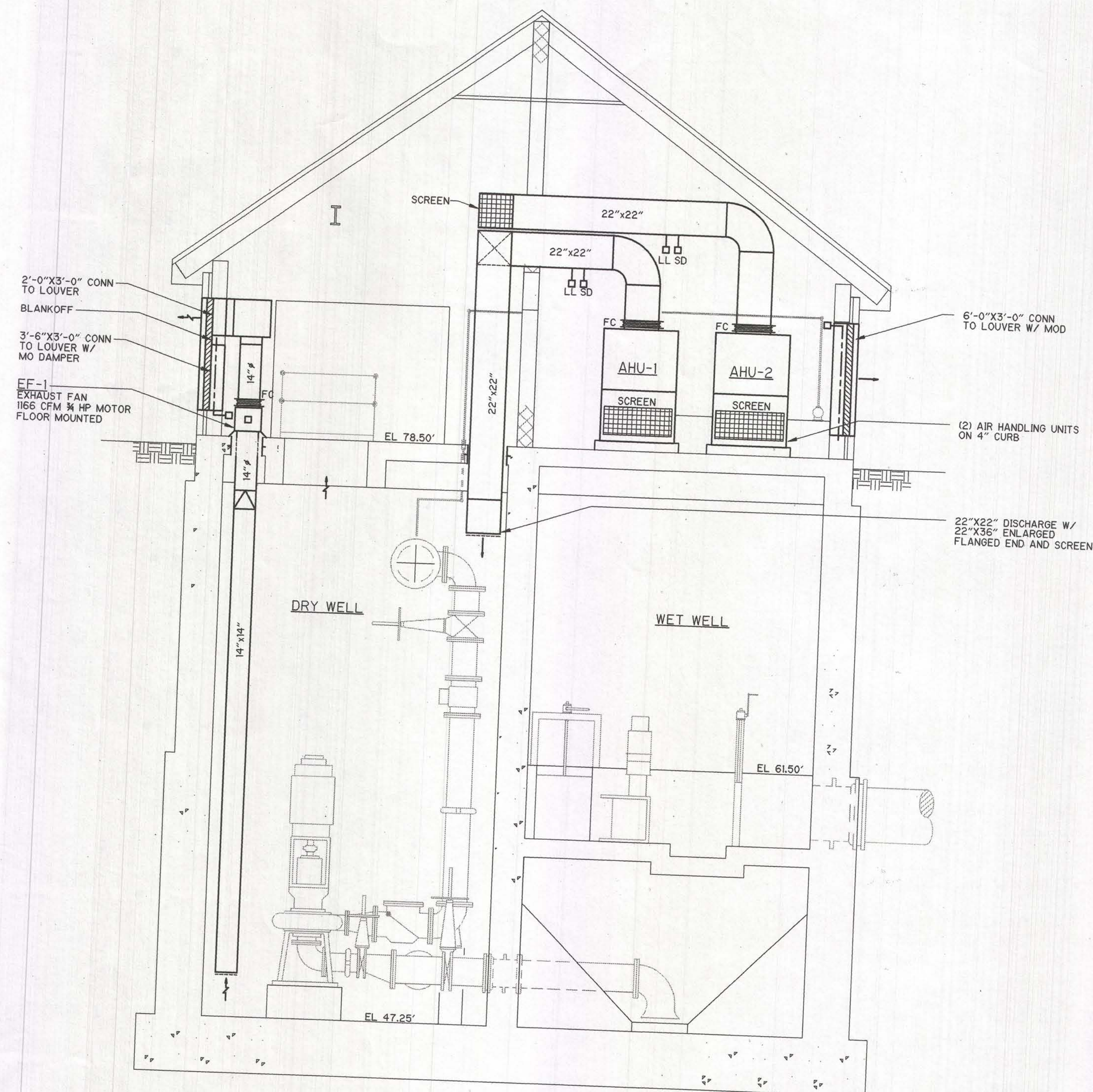
CDM

CITY OF NEW BEDFORD
WASTEWATER SYSTEMS IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

1	2-101	SMB	AJM	REVISED FOR RECORD DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS



1	2-101	5MB	A4M	REVISED FOR RECORD DRAWING	
REV. NO.	DATE	DRWN	CHKD	REMARKS	

HPSSCH02.DWG

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CITY OF NEW BEDFORD
WASTEWATER SYSTEMS IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

NORTH END AND WELBY ROAD PUMPING STATIONS

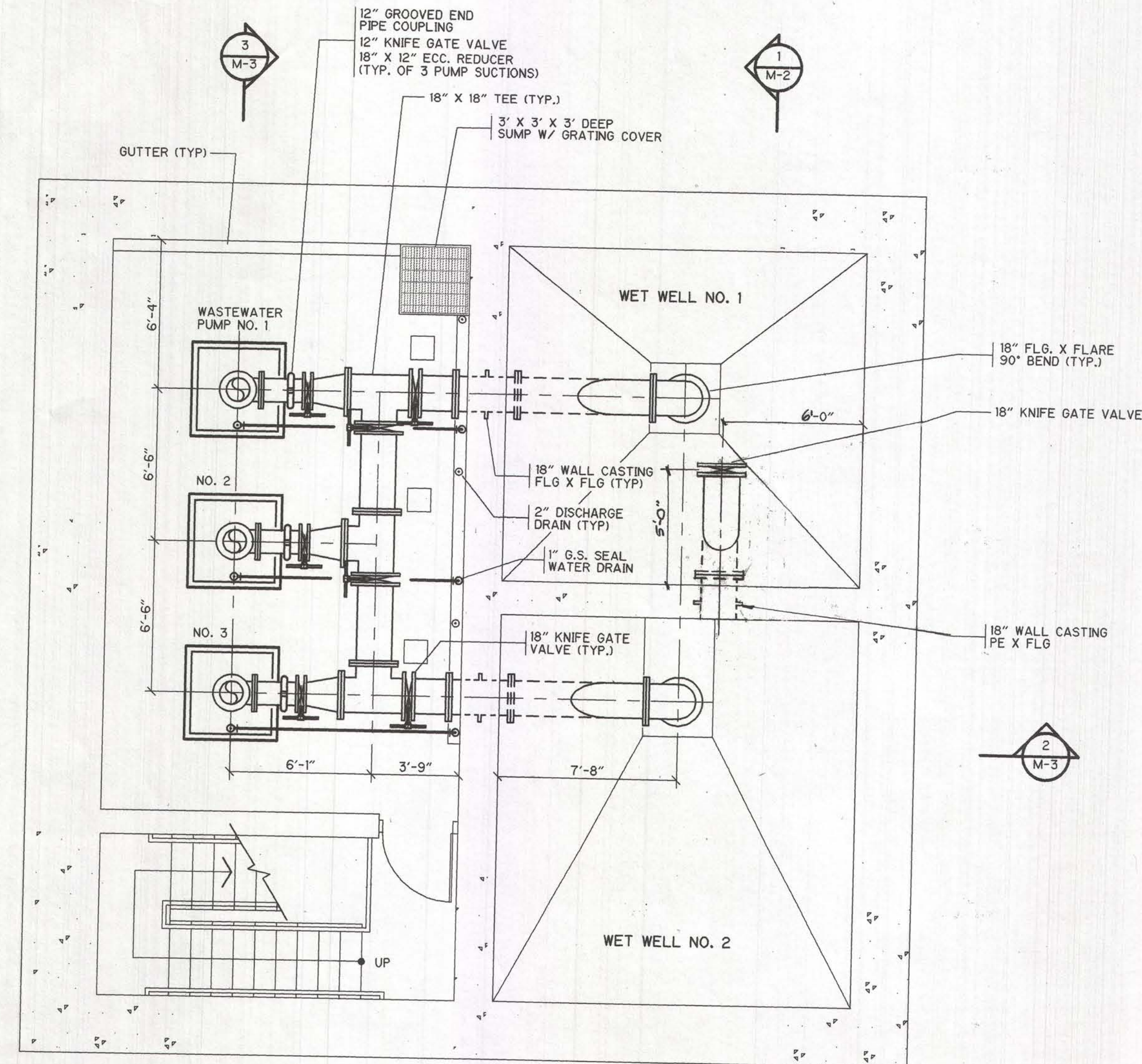
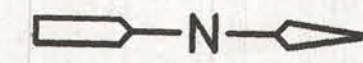
RECORD DRAWING

NORTH END PUMPING STATION
SECTIONS

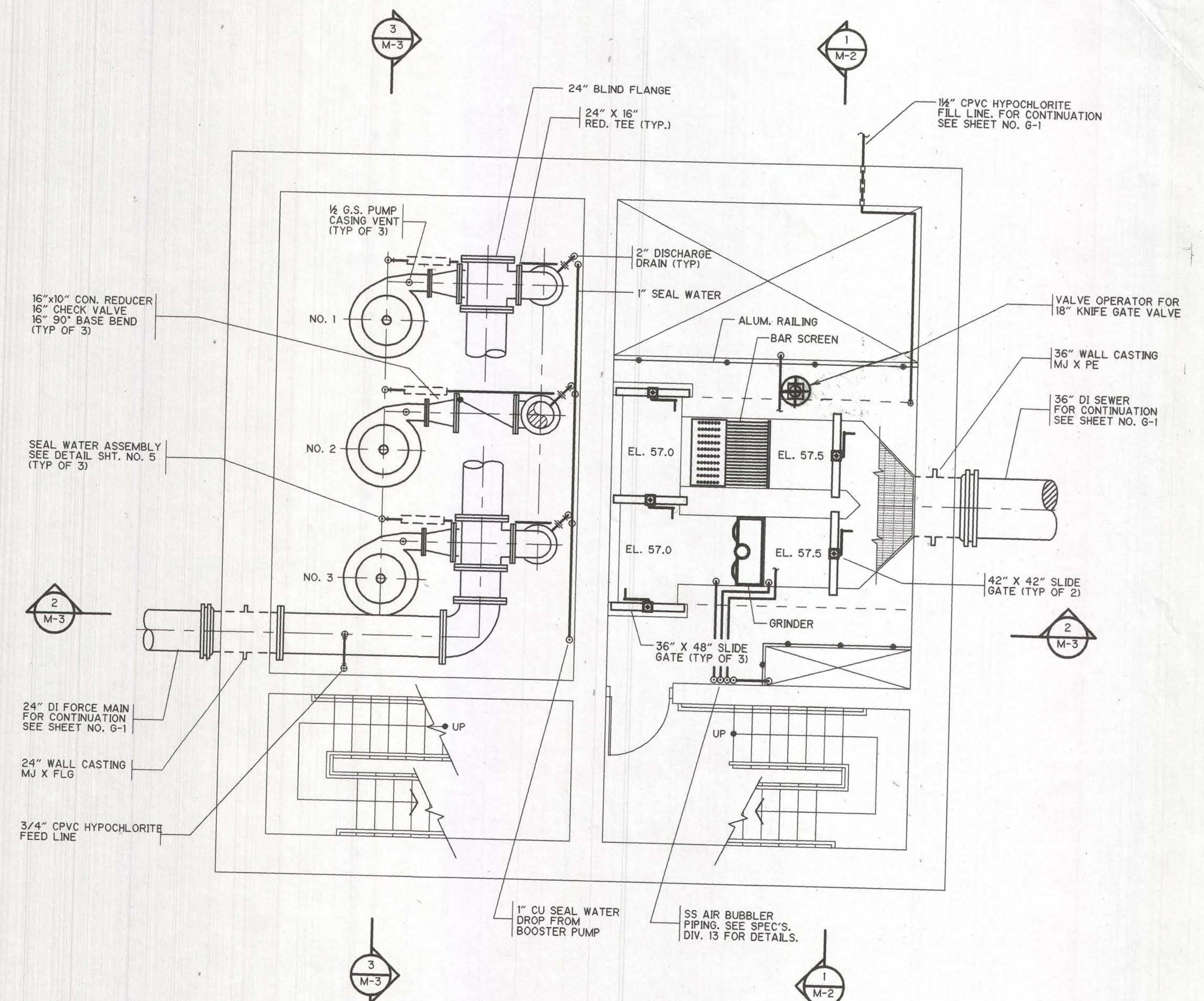
PROJECT NO.
309-54813

SHEET NO.

HV-2



PLAN AT ELEV. 47.25
1/4" = 1'-0"



PLAN AT ELEV. 61.50
1/4" = 1'-0"

JOE PITTA, CAMP DRESSER & MCKEE

01/24/97 233102

MPSP/LMO

CIA-PROJ/NEWD-PFS

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	DM2	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT. 1996

CAMP DRESSER & MCKEE INC.

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CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

RECORD DRAWING

NORTH END PUMPING STATION
PLANS

PROJECT NO.
309-54803

SHEET NO.

M-1



PLAN AT ELEV. 78.50
1/4" = 1'-0"

PLAN AT ELEV. 87.17
 $1/4" = 1'-0"$

SECTION 1
1/4" = 1'-0" M-1

[illegible]

RECORD DRAWING

NORTH END PUMPING STATION
PLANS AND SECTION

PROJECT NO.
309-54804

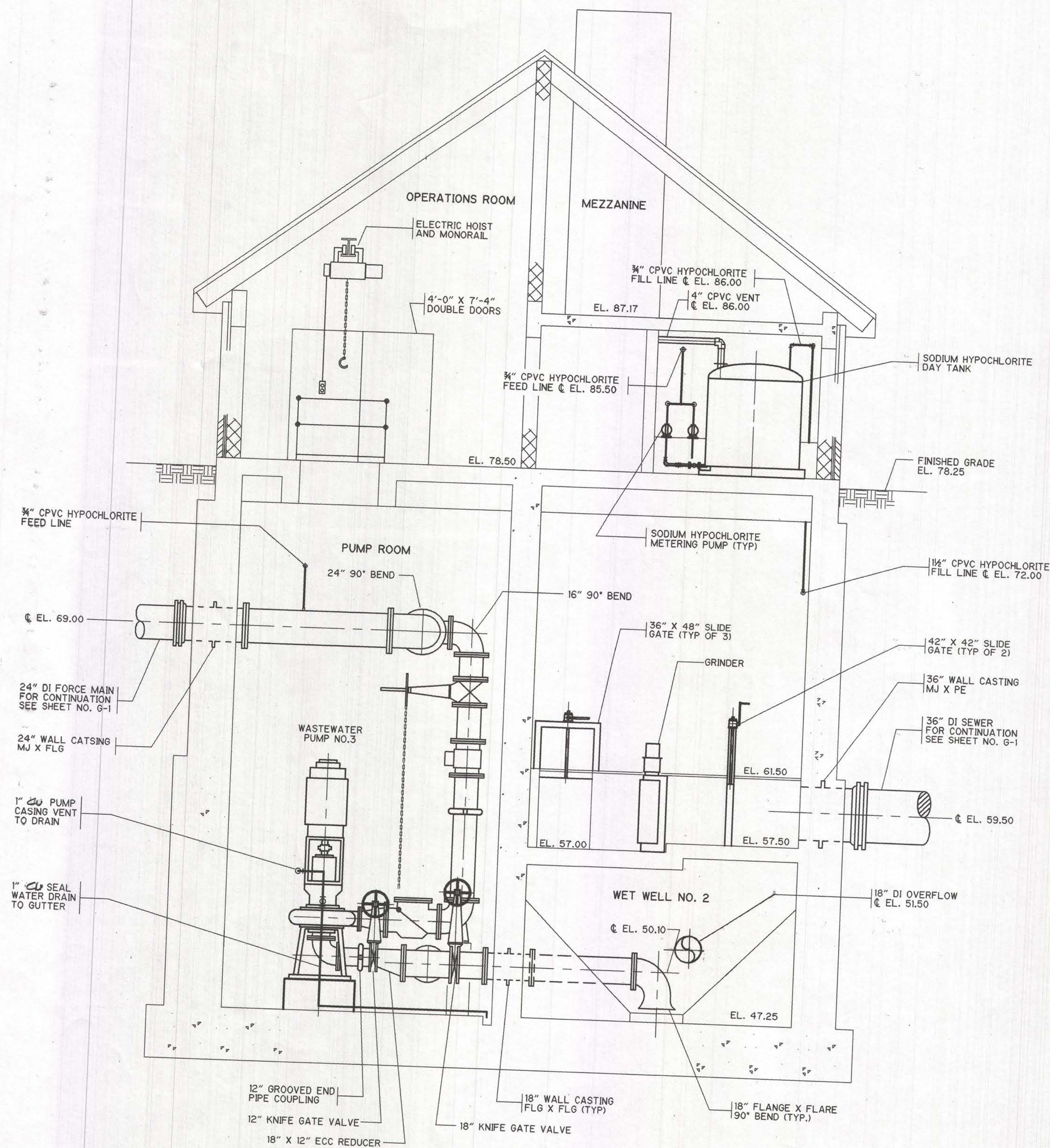
SHEET NO.
M-2

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

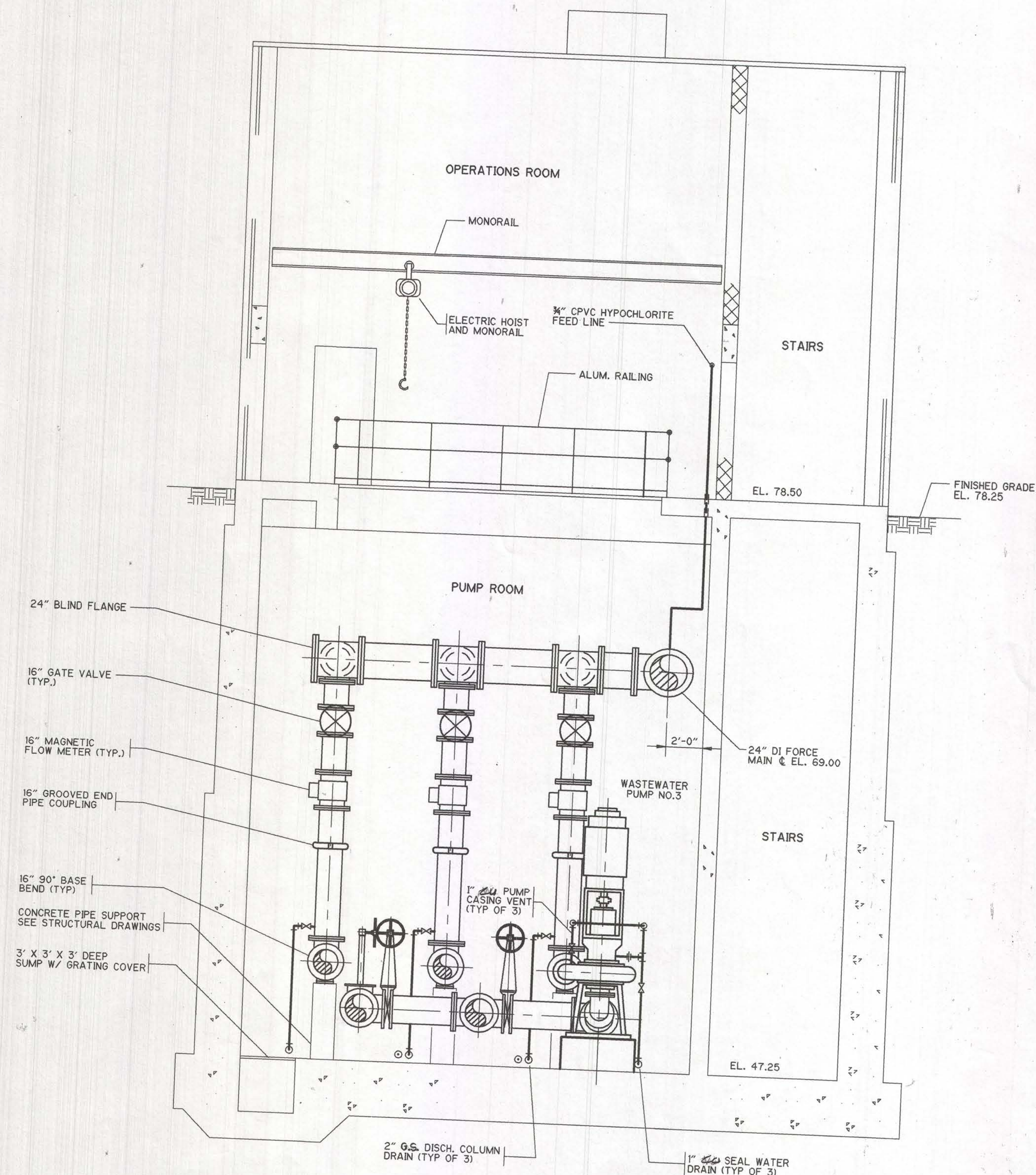
CAMP DRESSER & McKEE INC.

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT, 1996

		SMP	AJM	REVISED FOR RECORD DRAWING	REMARKS
I	2-101				



SECTION 2 2
1/4" = 1'-0"



SECTION 3 3
1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-10-97	SMR	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT, 1996

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EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

RECORD DRAWING

NORTH END PUMPING STATION
SECTIONS

PROJECT NO.
309-54805

SHEET NO.

M-3



2" FILL CONNECTION w/
QUICK-CONNECT COUPLING

3/4" PROTECTED WATER-CU
BY PLUMBING BY MECHANICAL

RAIN HOOD WITH
STAINLESS STEEL
INSECT SCREEN
6" CPVC VENT

2" CPVC FILL LINE
FLEXIBLE HOSE
LE 000-00
SODIUM HYPOCHLORITE
STORAGE TANK

SODIUM HYPOCHLORITE
STORAGE VAULT

4" CPVC
OVERFLOW
CONTAINMENT
FLOOR

2" CPVC
2" CPVC DRAIN
CONTAINMENT
FLOOR

2"x1 1/2" RED. (TYP.)
SODIUM HYPOCHLORITE
TRANSFER PUMPS
FLEXIBLE CONNECTION

RAIN HOOD WITH
STAINLESS STEEL
INSECT SCREEN
4" CPVC VENT

1 1/2" CPVC
LE 000
DAY TANK

3" CPVC
OVERFLOW
CONTAINMENT
FLOOR

2" CPVC DRAIN
CONTAINMENT
FLOOR
2"x1" RED. (TYP.)
FLEXIBLE CONNECTION

BACK PRESSURE VALVE (TYP.)
PRESSURE RELIEF VALVE (TYP.)
1/2" MOTIVE WATER - CU
ROTAMETER (TYP.)

SODIUM HYPOCHLORITE
FEED PUMP NO. 1

PUMP CALIBRATION TUBE
(TYP.)

CONTAINMENT
FLOOR

1/2" MOTIVE WATER - CU
ROTAMETER (TYP.)

SODIUM HYPOCHLORITE
FEED PUMP NO. 2

3/4" STRAINER (TYP.)

1"x3/4" RED. (TYP.)

CONTAINMENT
FLOOR

PRESSURE RELIEF LINE
(LINE SIZE AS REQ'D.
BY VALVE MFR.) TYP.

1/2" BALL DRAIN
VALVE w/ HOSE
END CONN. (TYP.)

REDUCING BUSHING
AS REQ'D BY PUMP
VENDOR (TYP.)

24" D.I. FORCE MAIN

RECORD DRAWING



PROJECT NO.
309-54806

SHEET NO.
M-4

DESIGNED BY: BEYER S.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT. 1996

CAMP DRESSER & McKEE INC.

environmental engineers, scientists,
planners, & management consultants
CDM

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION
SODIUM HYPOCHLORITE SCHEMATIC

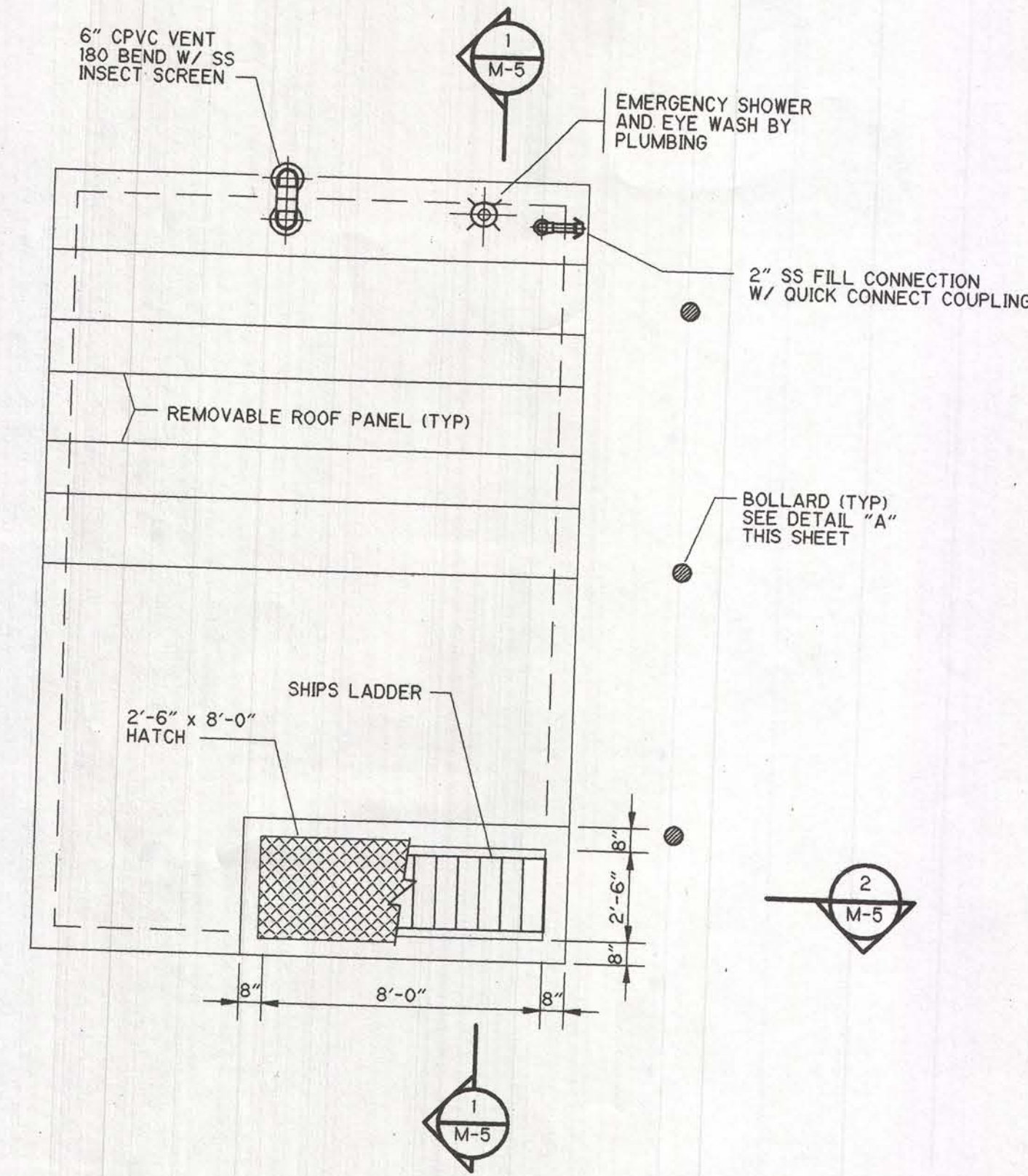
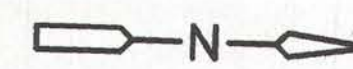
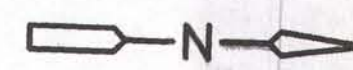
REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	SMR	AUM	REVISED FOR RECORD DRAWING

JOE PITTA, CAMP DRESSER & McKEE

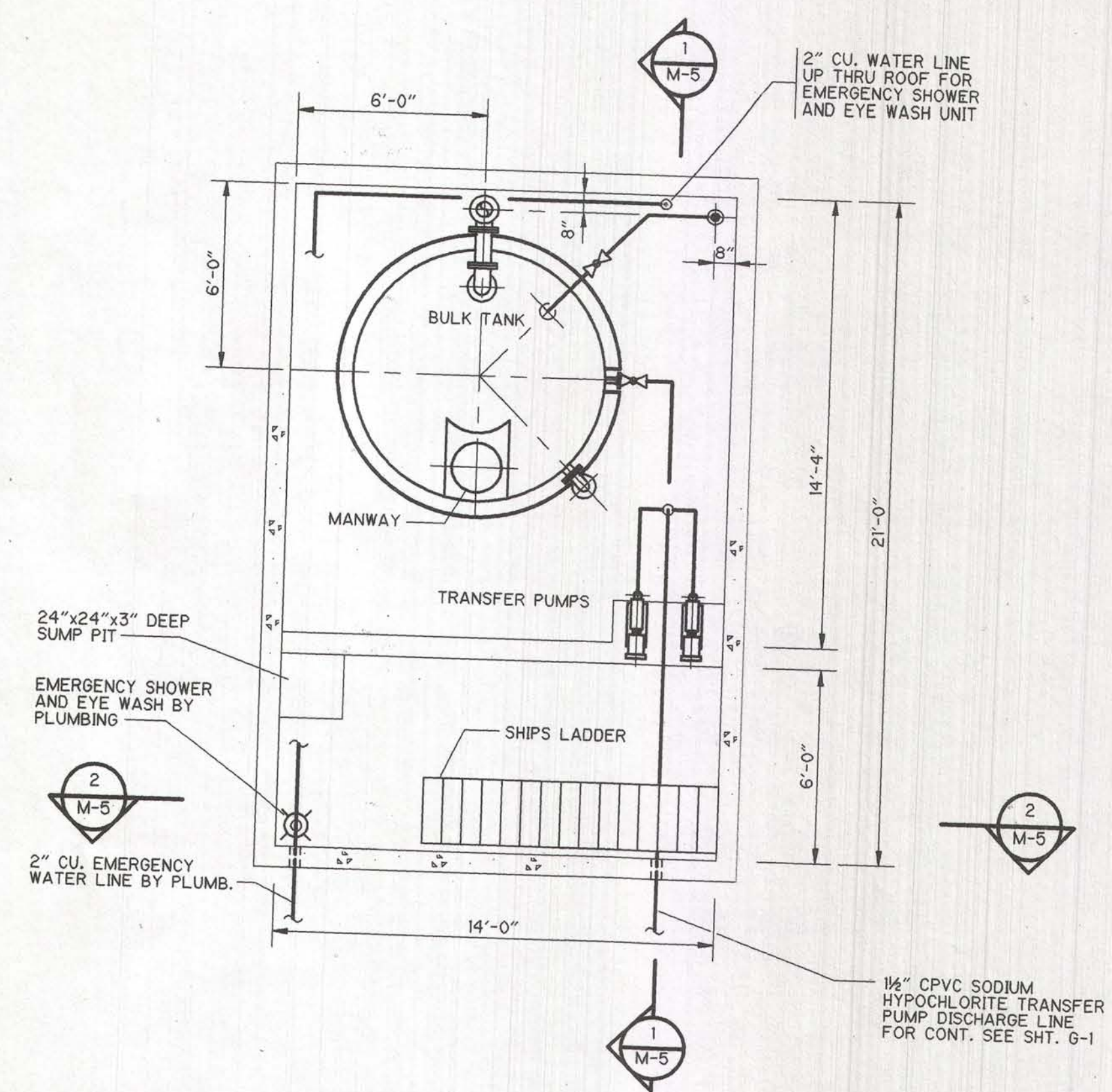
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MPSDM04

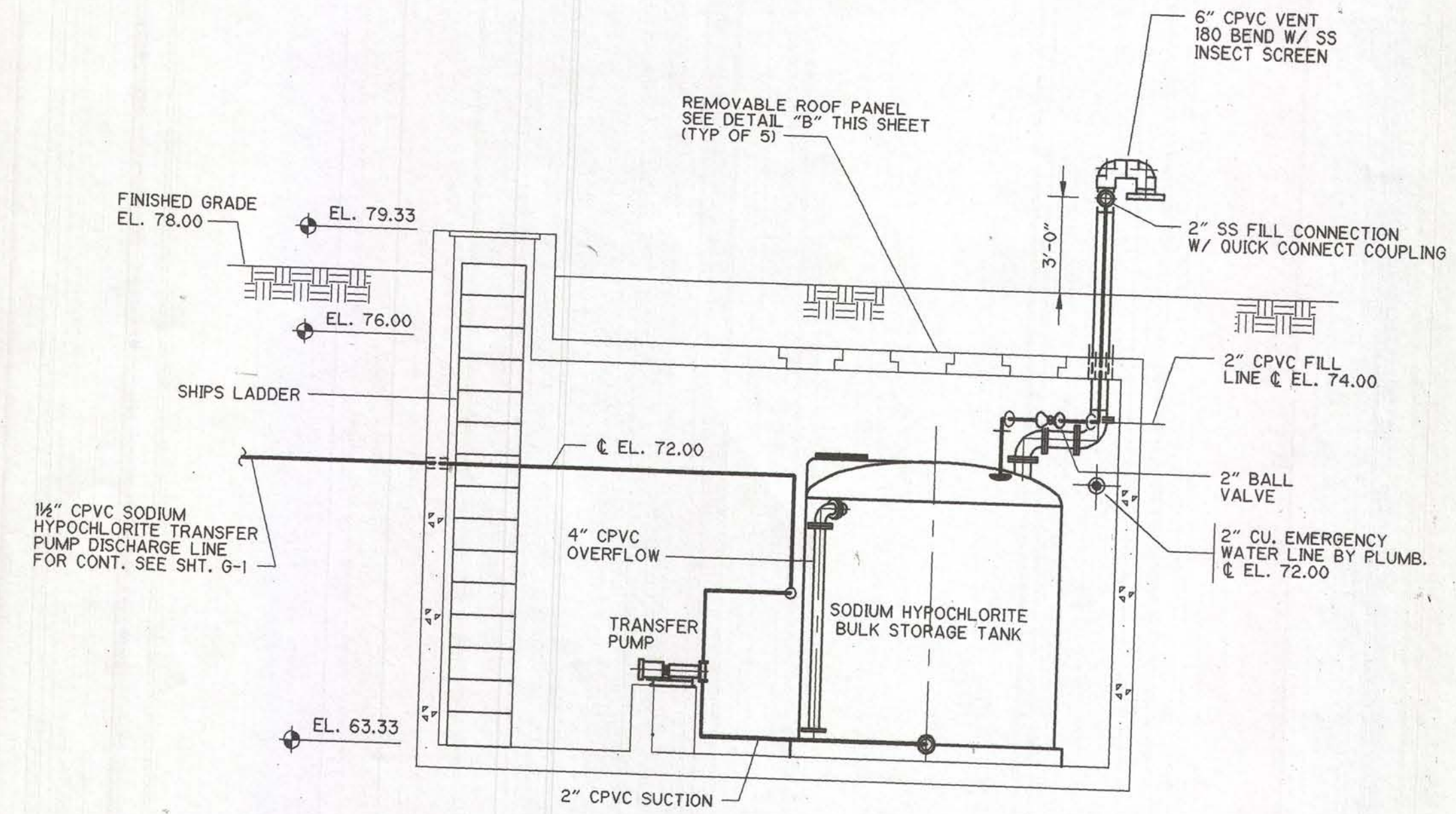
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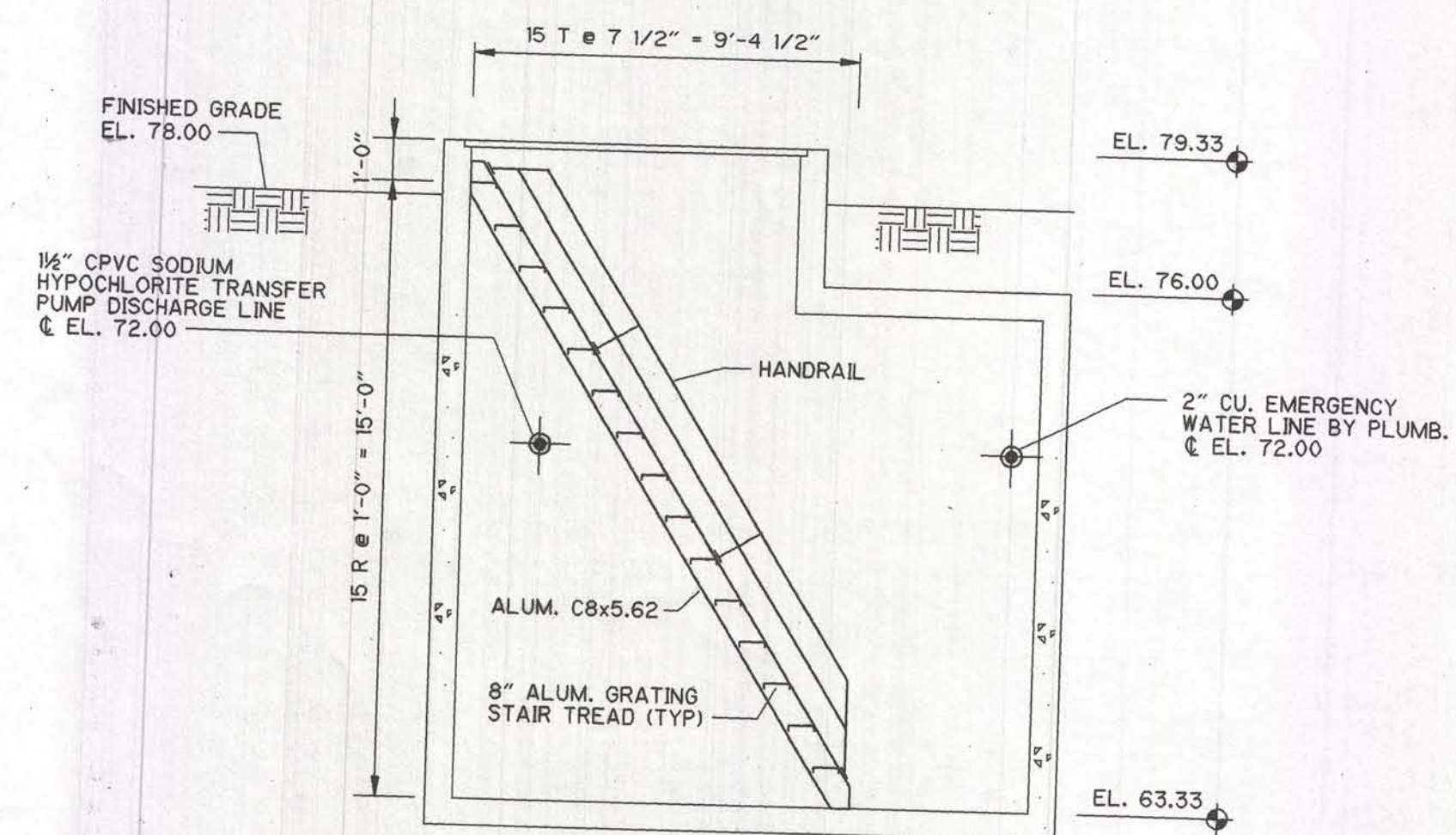
ROOF PLAN
1/4" = 1'-0"



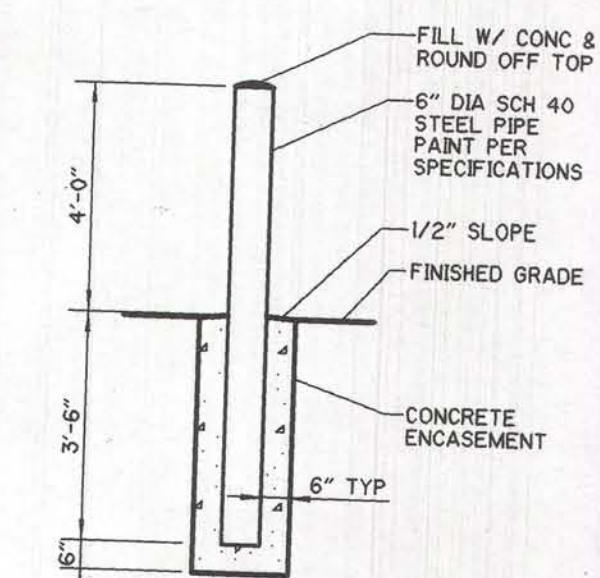
PLAN
1/4" = 1'-0"



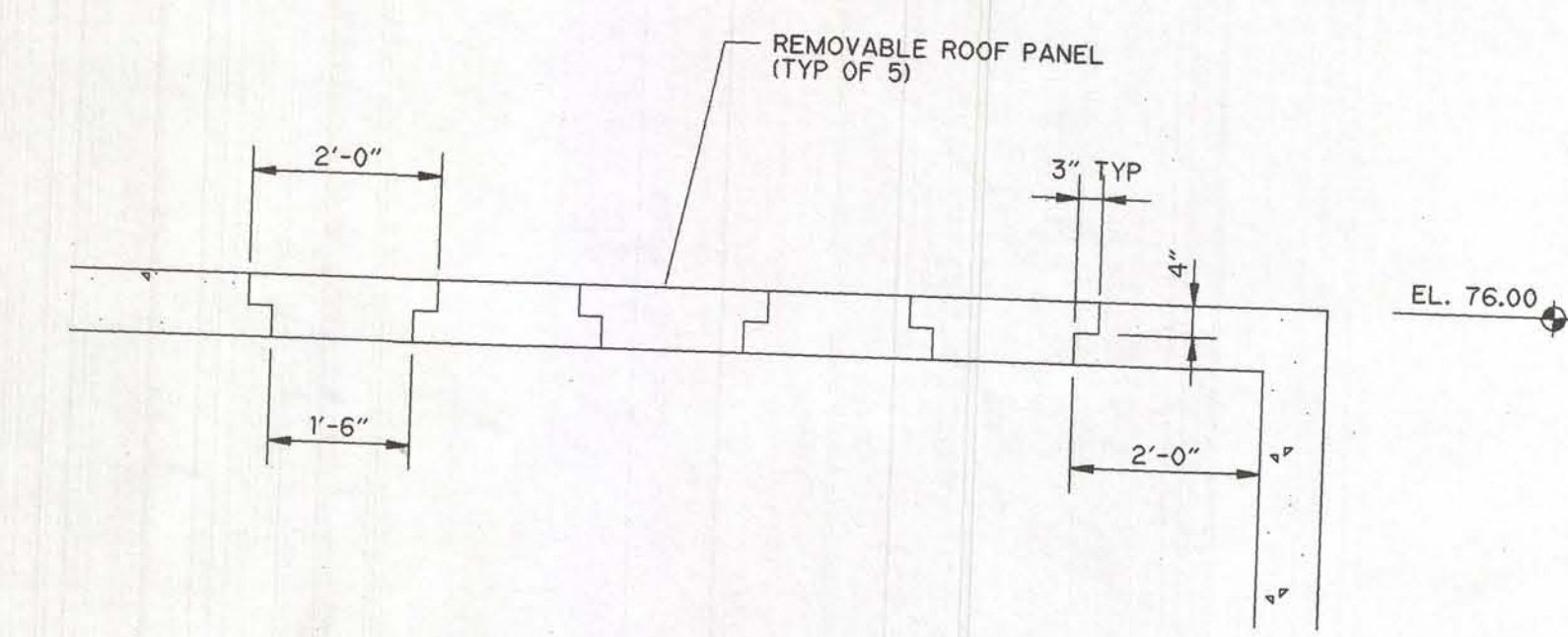
SECTION 1
1/4" = 1'-0"



SECTION 2
1/4" = 1'-0"



BOLLARD POST
DETAIL A
NTS



ROOF PANEL
DETAIL B
1/2" = 1'-0"

NOTES: 1. LADDER TO BE ALUMINUM CONSTRUCTION
2. FASTEN LADDER TO WALL AND FLOOR WITH 2 3/4" SS EXP. BOLTS

JOE PITTA, CAMP DRESSER & MCKEE
01/15/97 175518
MSVT1003

REV. NO.	DATE	DRAWN	CHKD	REMARKS
1	2-1-01	SME	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: PITTA J.
DRAWN BY: PITTA J.
SHEET CHK'D BY: BEYER S.
CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT, 1996

CAMP DRESSER & MCKEE INC.

environmental engineers, scientists,
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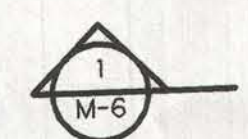
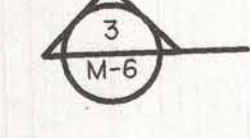
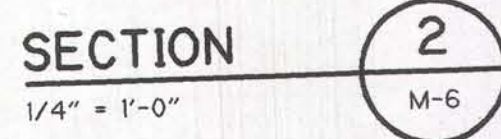
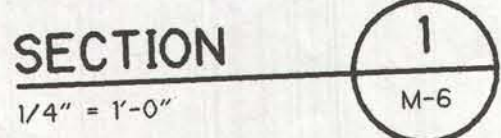
CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

RECORD DRAWING

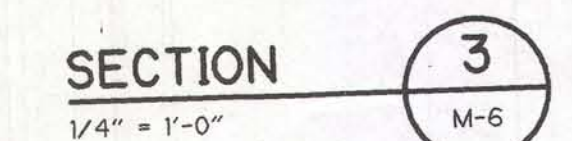
NORTH END PUMPING STATION
SODIUM HYPOCHLORITE VAULT



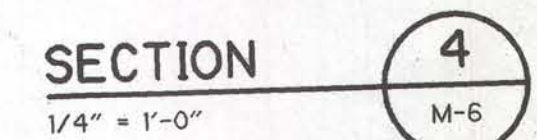
PROJECT NO. 309-54807
SHEET NO. M-5


$$\frac{1}{4}'' = 1'-0''$$

$$1/4'' = 1'-0''$$


2
M-6



3
M-6



4
M-6

A circular professional engineer seal for the Commonwealth of Massachusetts. The outer ring contains the text "COMMONWEALTH OF MASSACHUSETTS" at the top and "PROFESSIONAL ENGINEER" at the bottom. The center of the seal contains the name "STEPHEN H. COX" and the number "No. 28171". The seal is stamped over a document that includes a signature and the date "11/11/01".

REV. NO.	DATE	DRWN	CHKD
1	2-1-01	SMZ	ADM

CROSS CHK'D BY: SMALL J.
APPROVED BY: HICKOX S.
DATE: SEPT. 1996

CAMP DRESSER & McKEE INC.

CDM

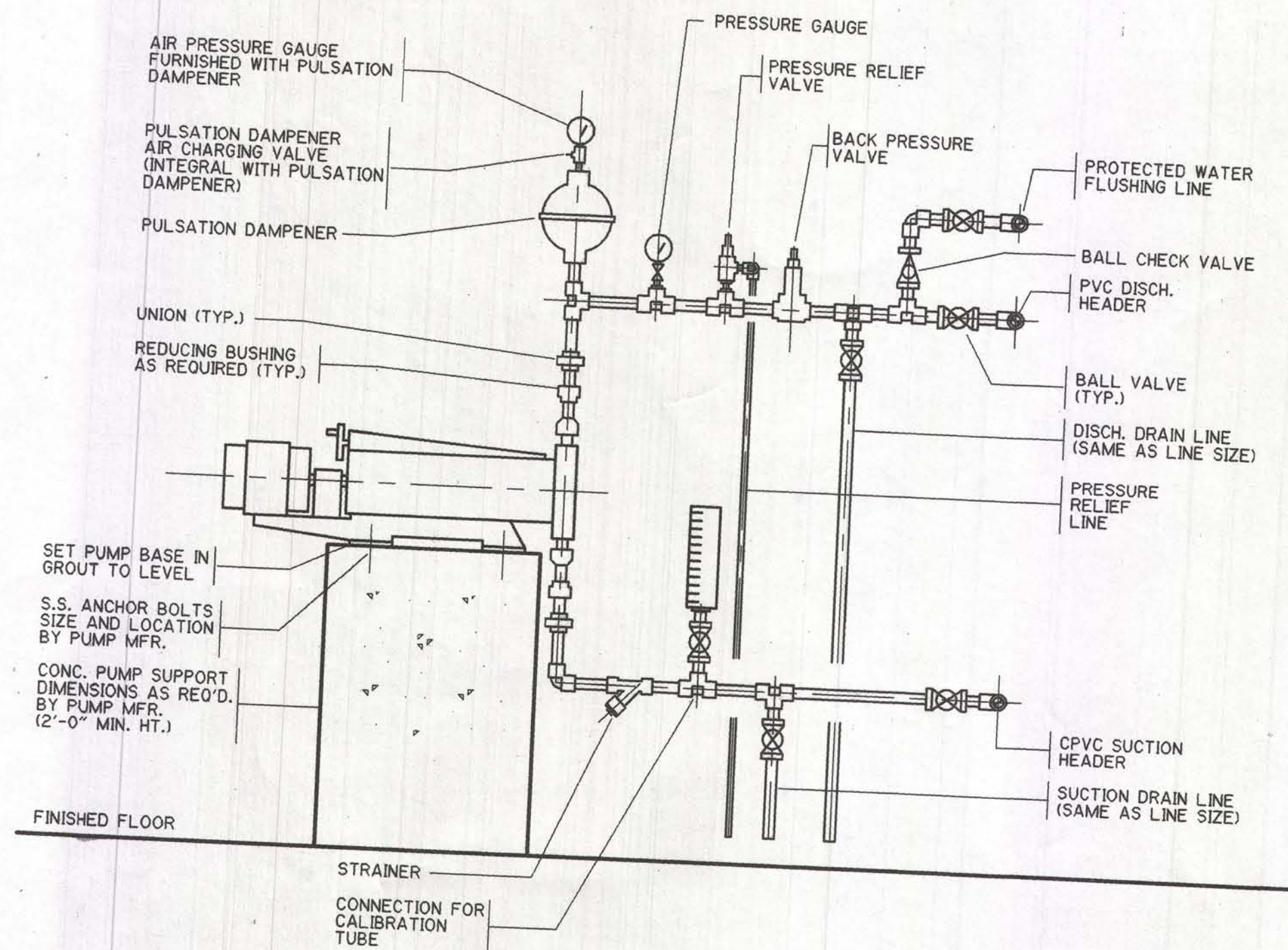
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

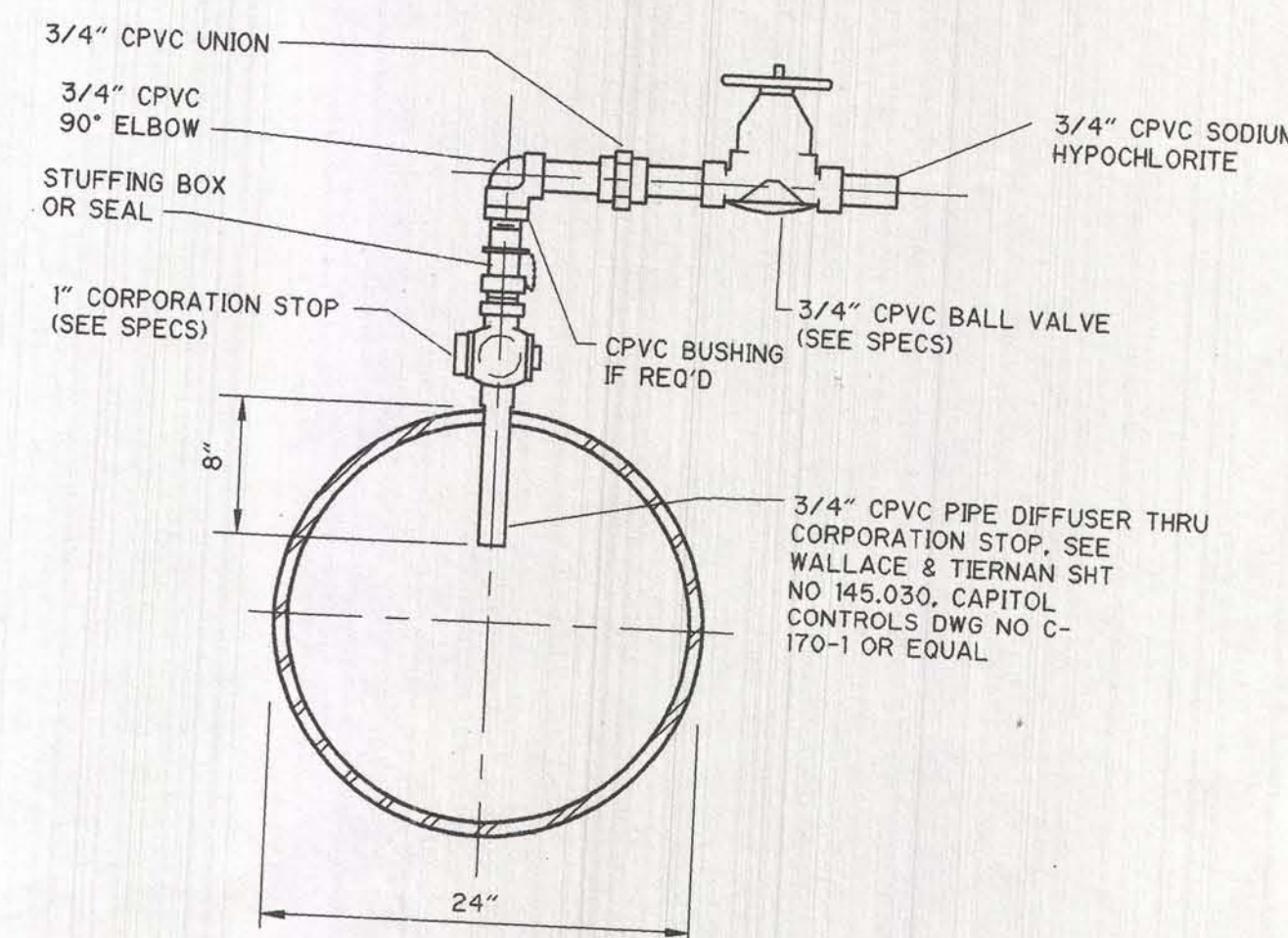
NORTH END AND WELBY ROAD PUMPING STATIONS
SURGE TANKS PLANS AND SECTIONS

SHEET NO.

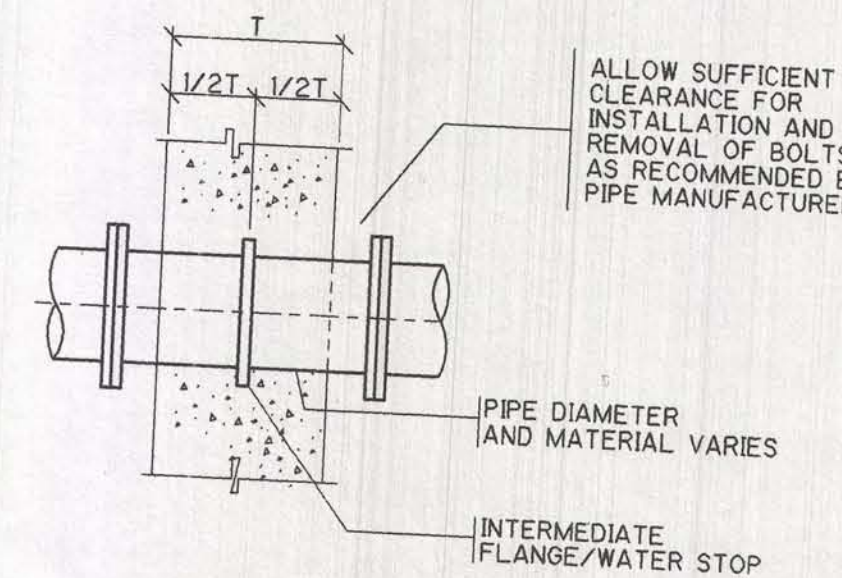
M-6



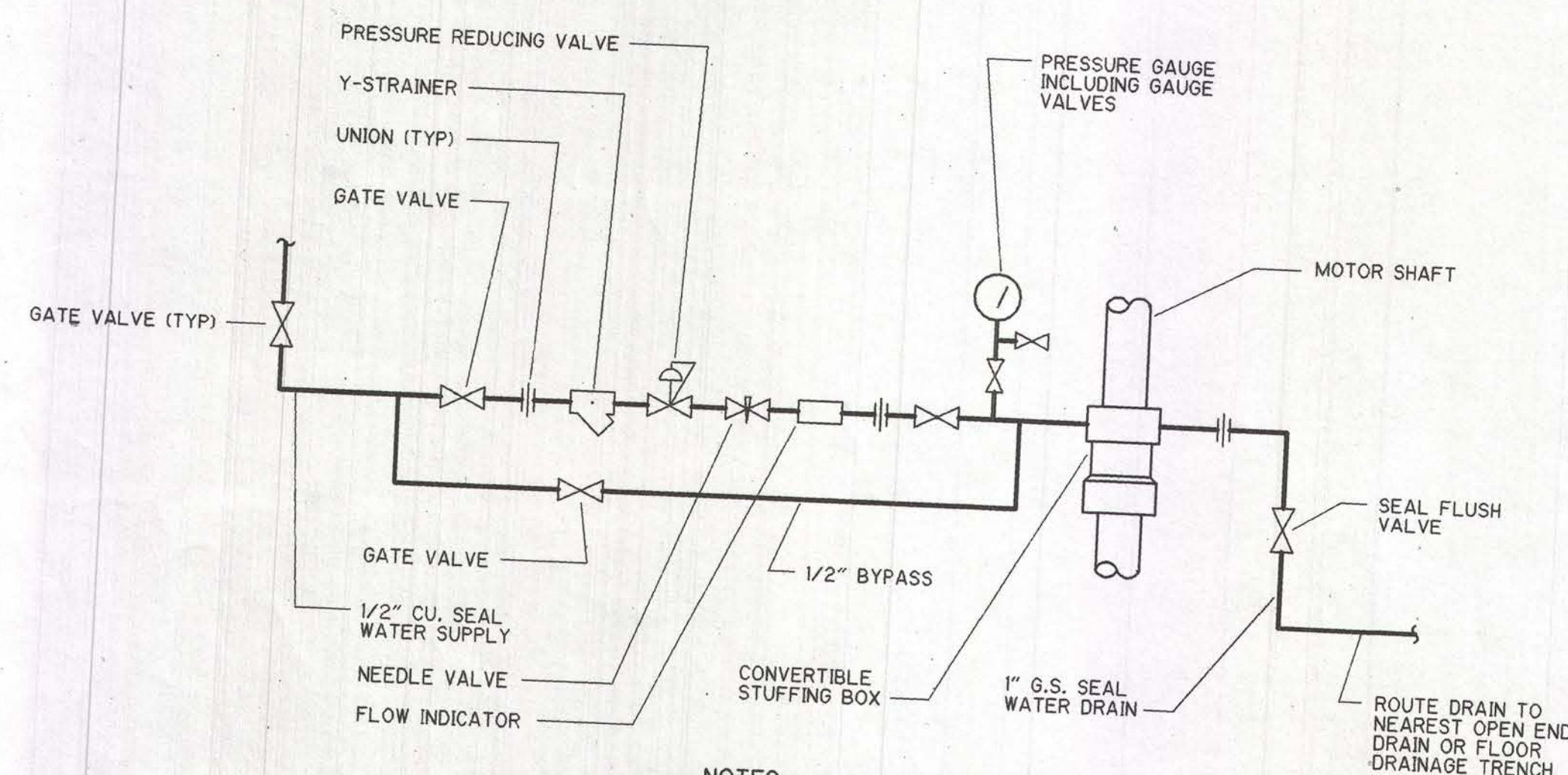
CHEMICAL FEED PUMP DETAIL
DETAIL 1
N.T.S.



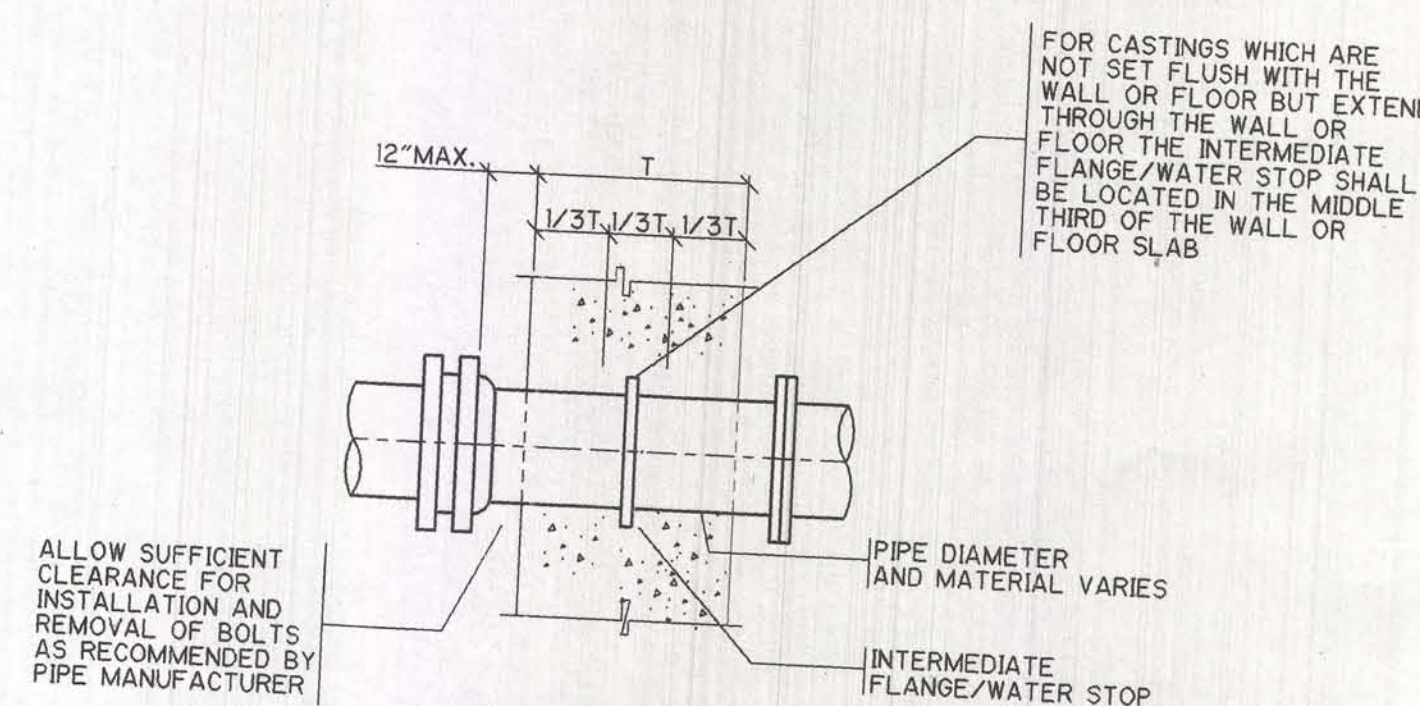
CHEMICAL DIFFUSER IN PIPE
DETAIL 2
N.T.S.



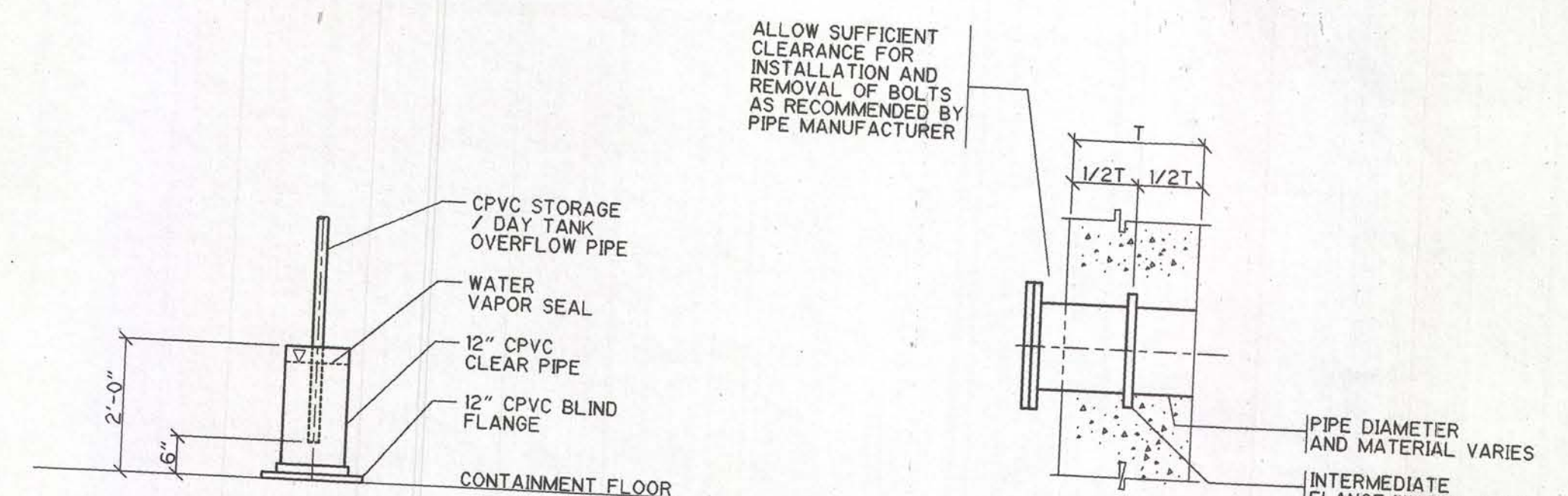
FLANGE X FLANGE CASTING
DETAIL 5
N.T.S.



WASTEWATER STUFFING BOX SEAL WATER ARRANGEMENT
DETAIL 7
N.T.S.

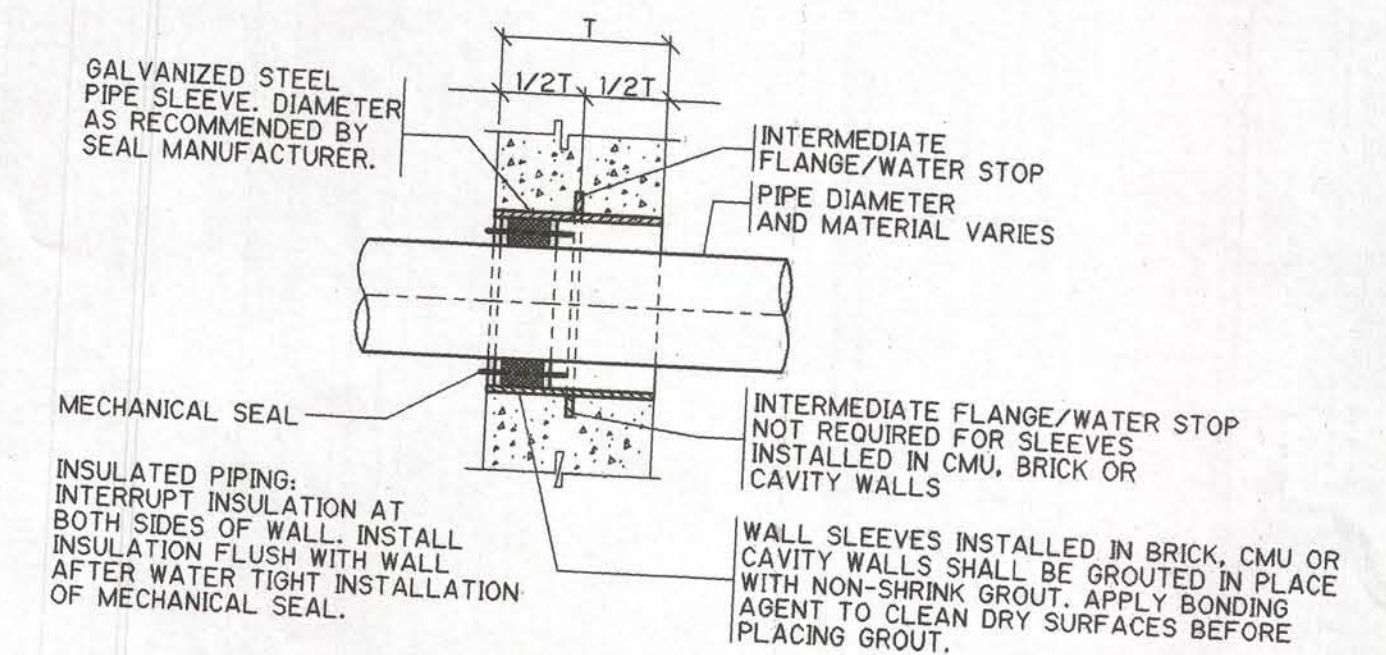


MECHANICAL JOINT X FLANGE CASTING
DETAIL 8
N.T.S.

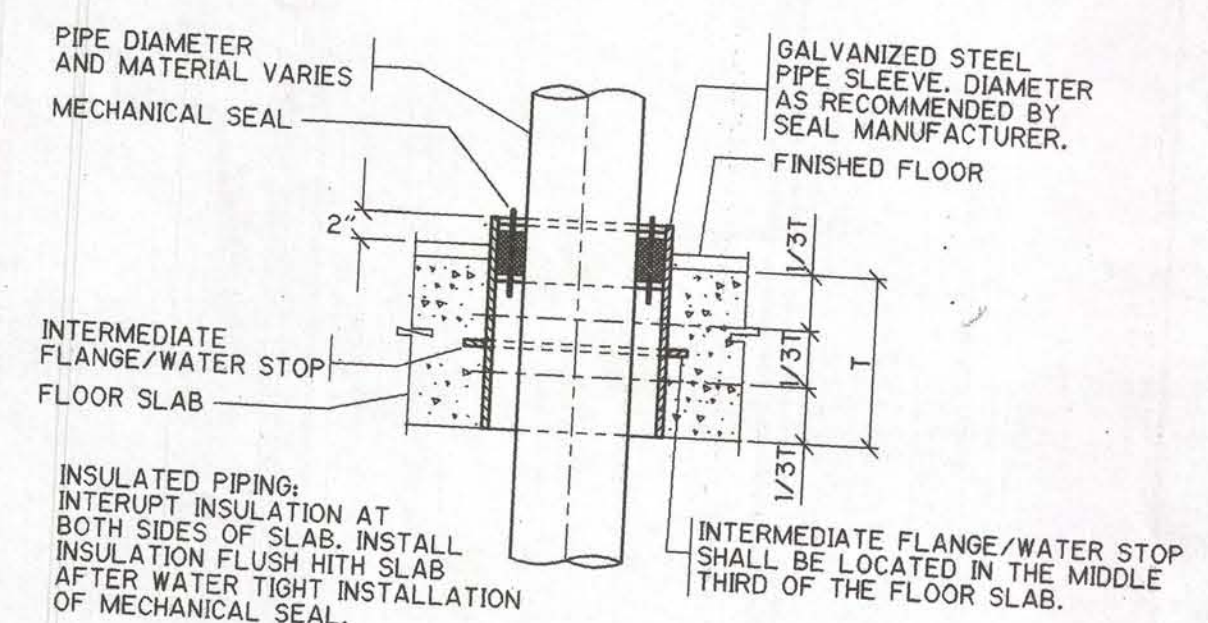


CHEMICAL VAPOR TRAP DETAIL
DETAIL 3
N.T.S.

FLANGE X PLAIN END CASTING
DETAIL 4
N.T.S.



WALL SLEEVE WITH MECHANICAL SEAL FOR CONCRETE, BRICK, CMU OR CAVITY WALLS
DETAIL 6
N.T.S.



FLOOR SLEEVE WITH MECHANICAL SEAL
DETAIL 9
N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	SMR	AJM	REVISED FOR RECORD DRAWING

DESIGNED BY: BEYER, S.
DRAWN BY: PITTA, J.
SHEET CHK'D BY: BEYER, S.
CROSS CHK'D BY: SMALL, J.
APPROVED BY: HICKOX, S.
DATE: SEPT, 1996

CAMP DRESSER & McKEE INC.

environmental engineers, scientists, planners, & management consultants

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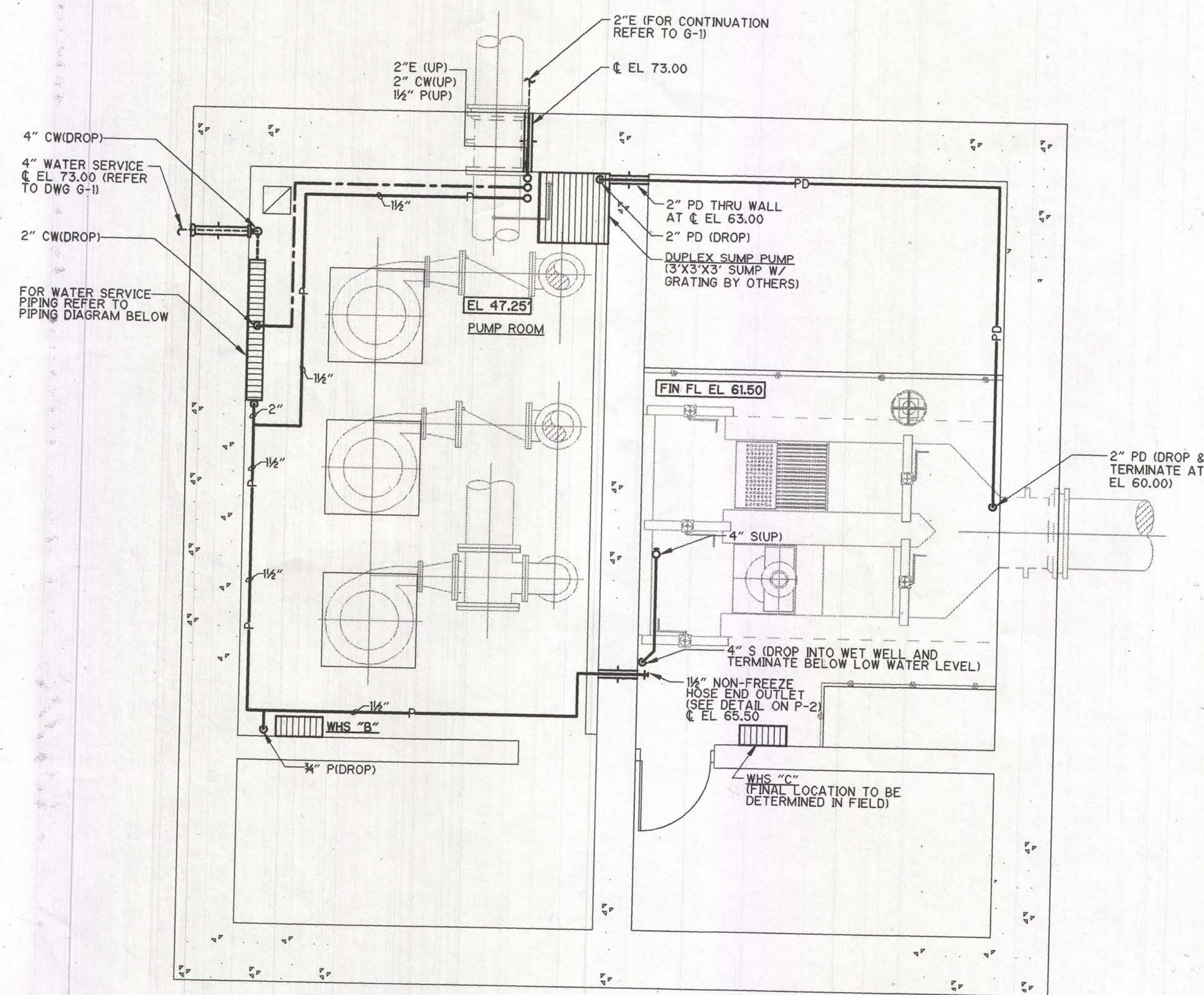
CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END AND WELBY ROAD PUMPING STATIONS
MISCELLANEOUS DETAILS

PROJECT NO.
309-54809
SHEET NO.
M-7

RECORD DRAWING

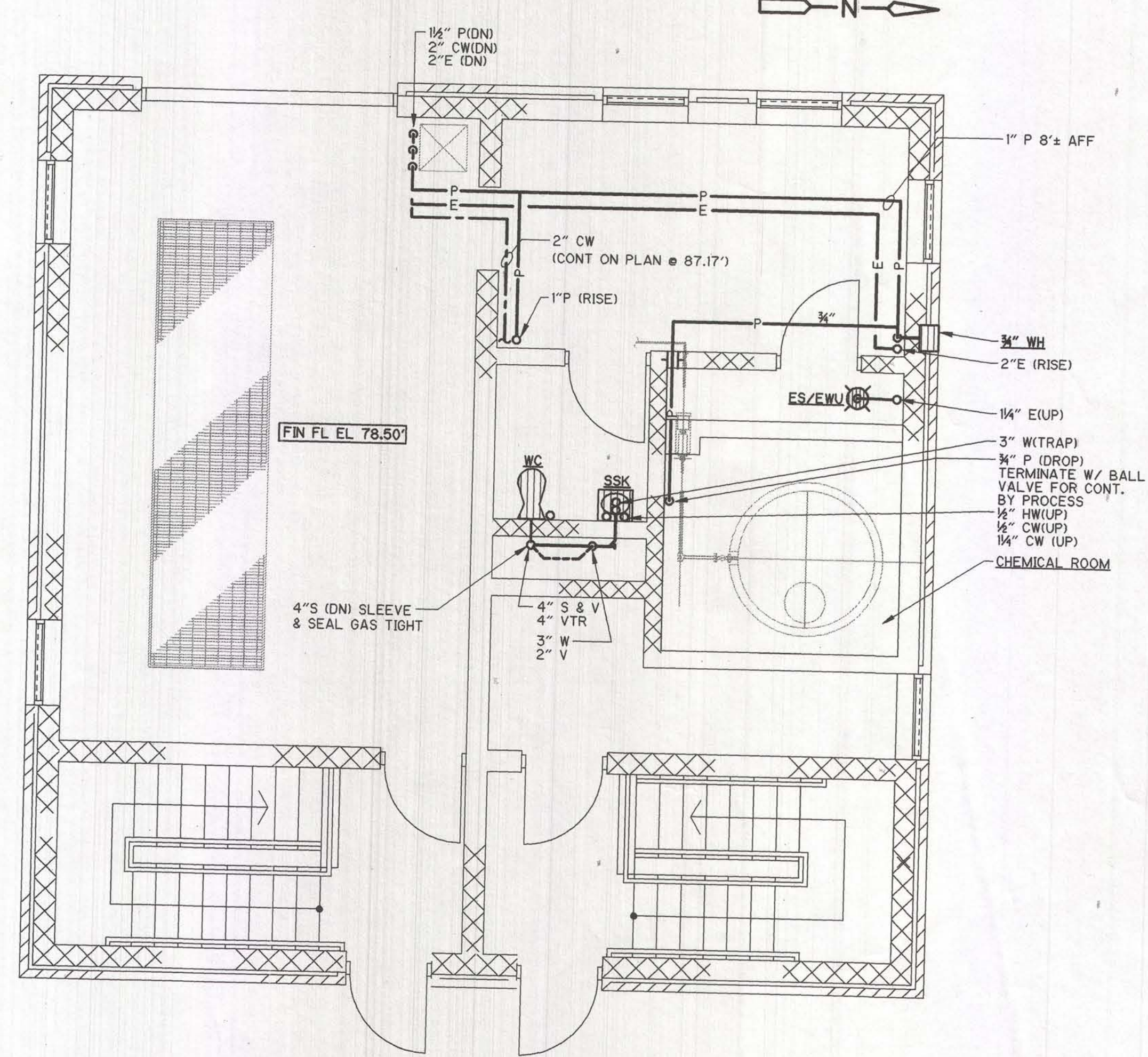




PLAN AT EL. 61.50

PLAN

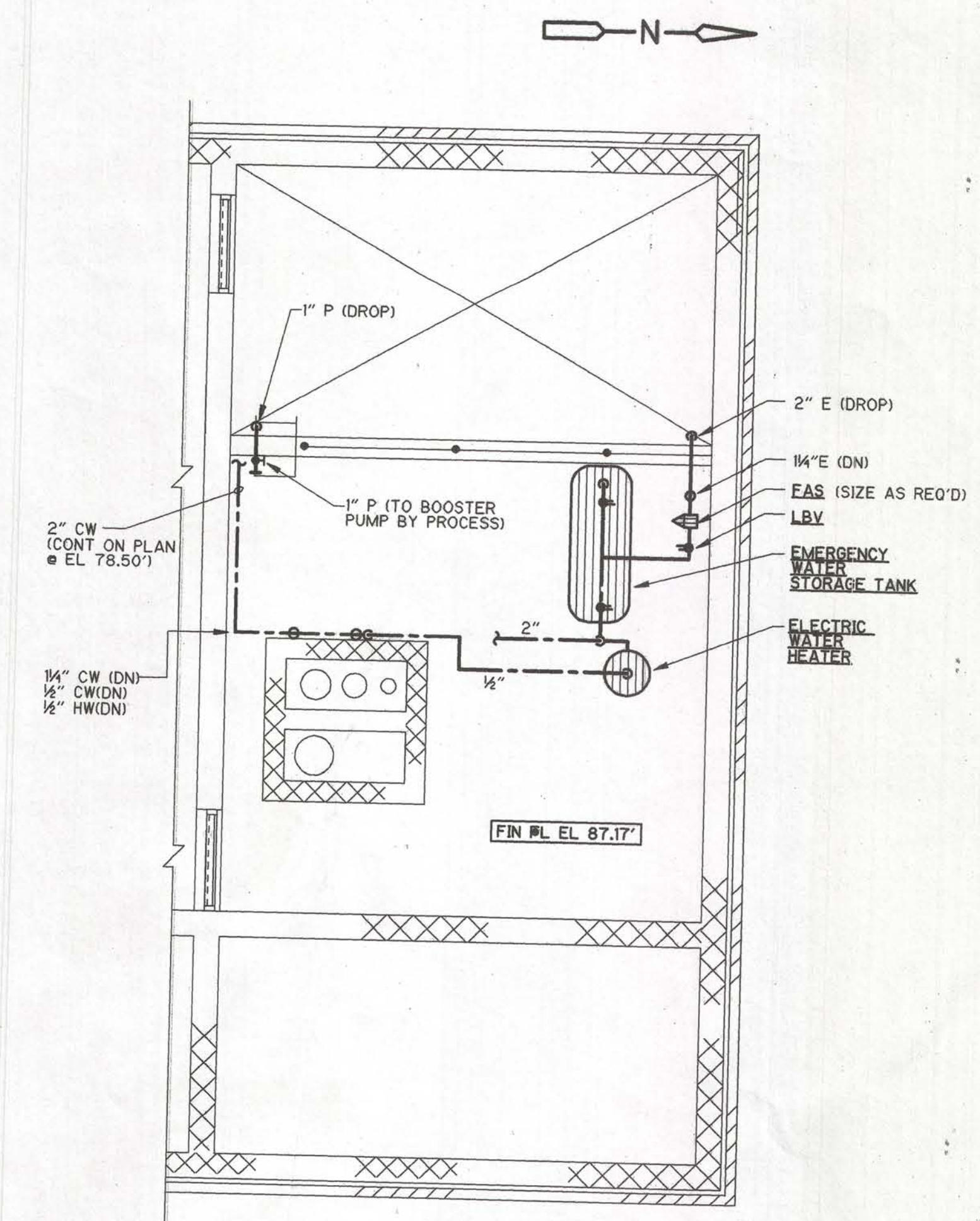
$1/4" = 1'-0"$



PLAN AT EL. 78.50'

PLAN

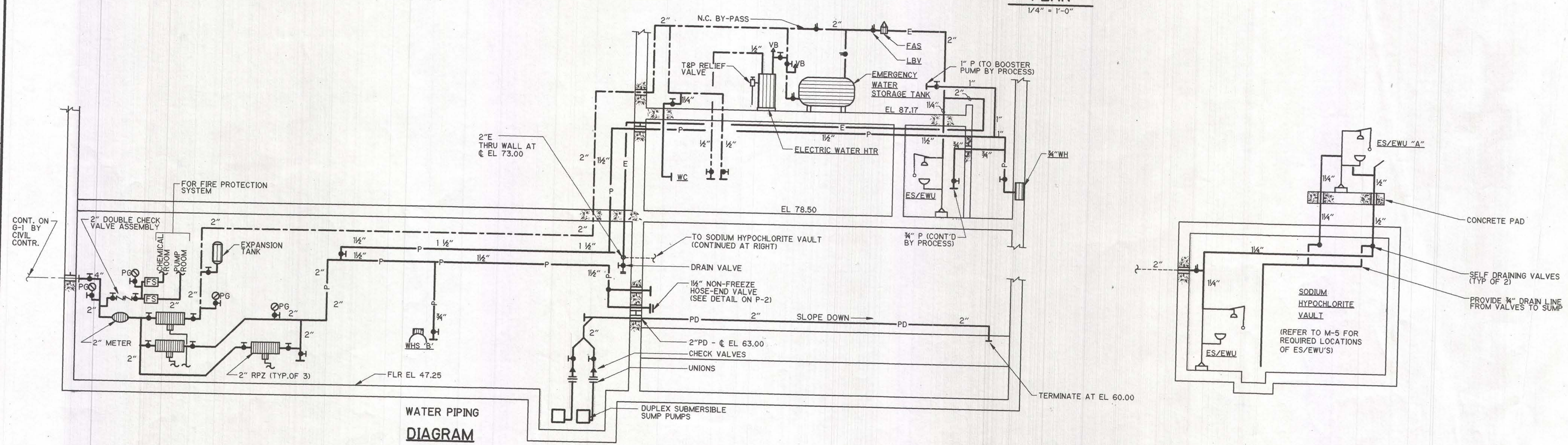
$1/4" = 1'-0"$



MEZZANINE PLAN (EL. 87.17')

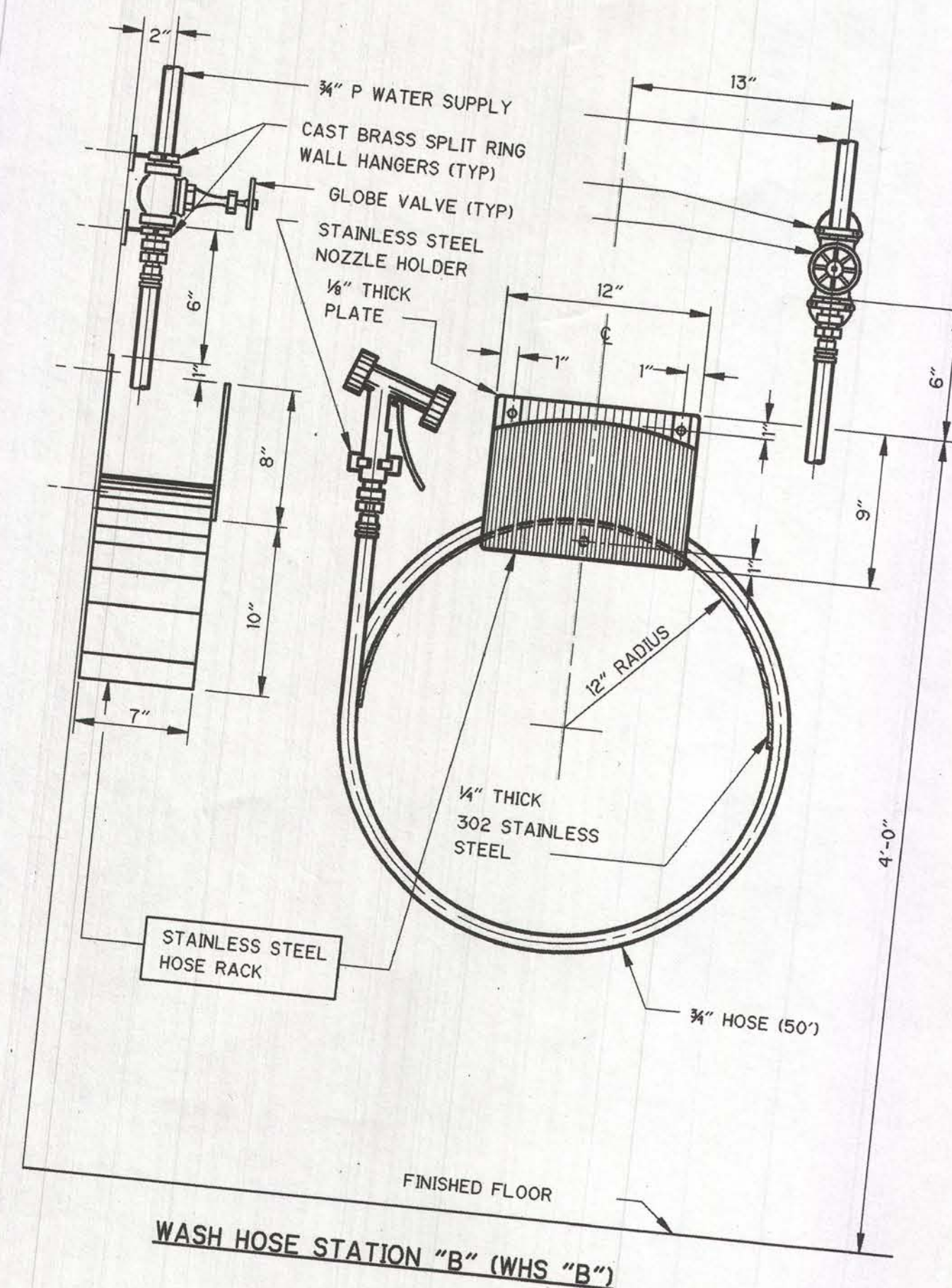
PLAN

1/4" = 1'-0"

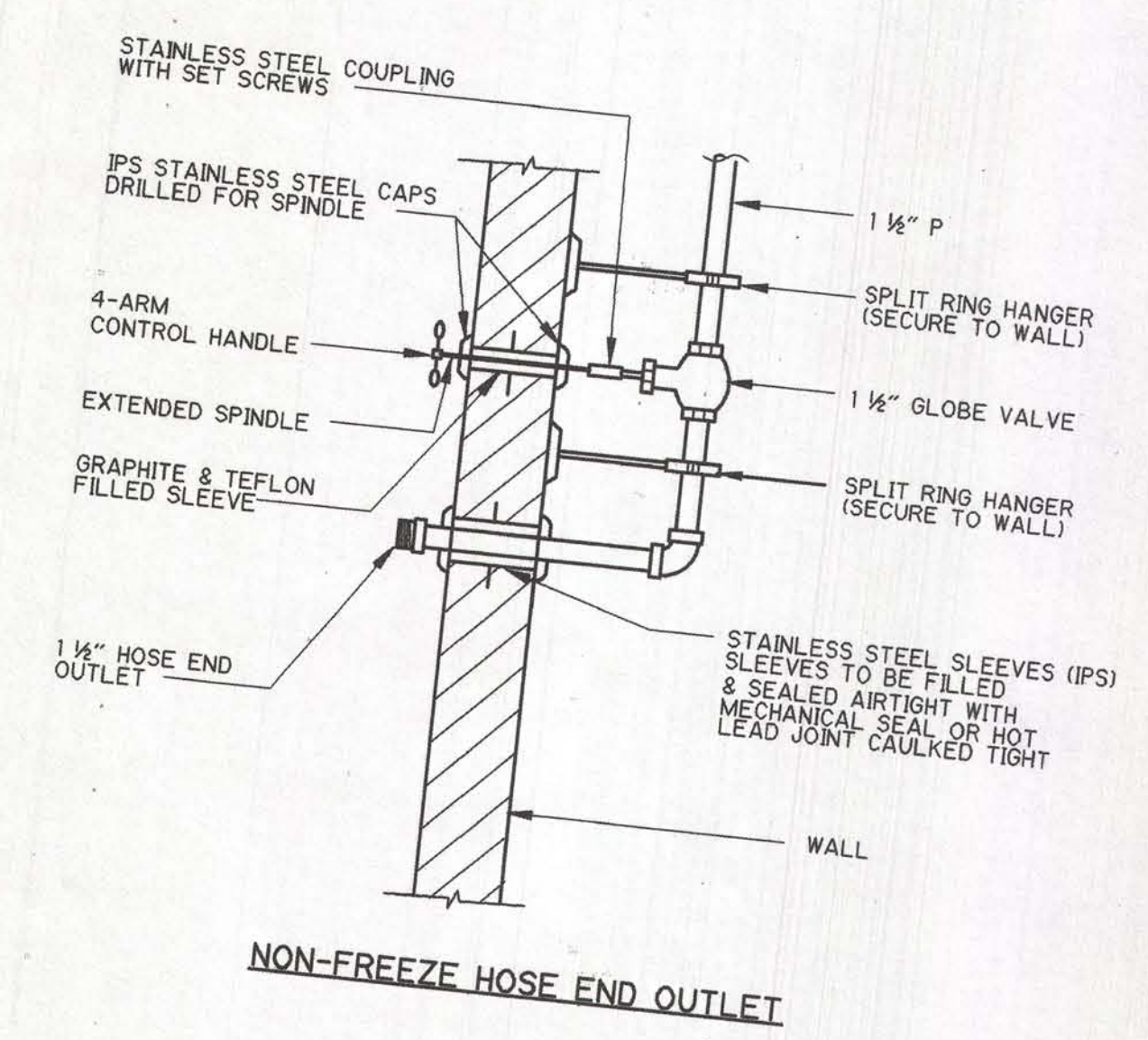


WATER PIPING
DIAGRAM
NTS

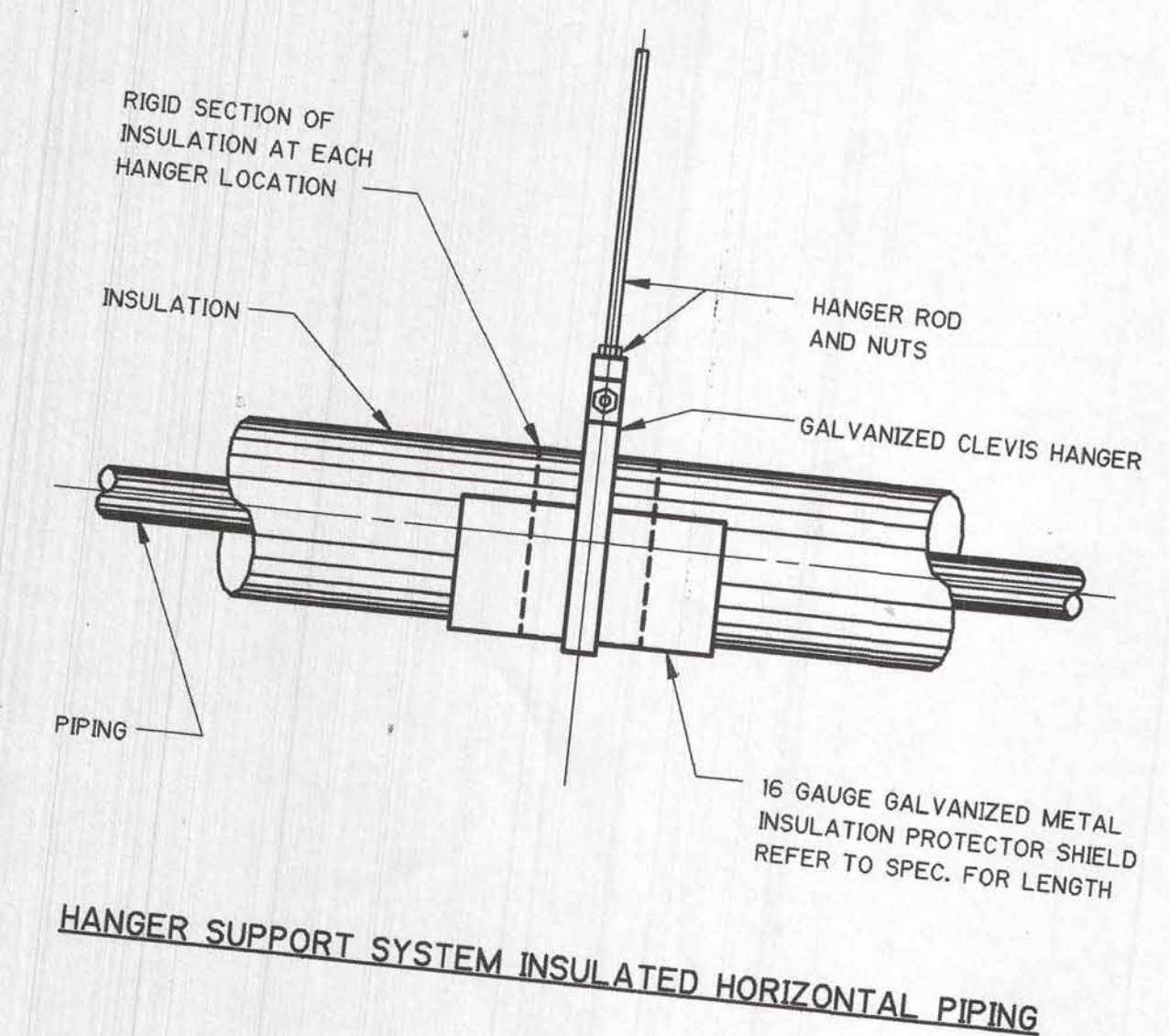
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							DRAWN BY: <u>V. NOEL/P. MATHIEU</u>						NORTH END PUMPING STATION		SHEET NO.	
							SHEET CHK'D BY: <u>T. LAQUIDARA</u>									
							CROSS CHK'D BY: <u>R. DELANEY</u>									
							APPROVED BY: <u>HICKOX S.</u>				CONTRACT NO. 8 EDA PROJECT NO. 01-01-03529		PLANS AND DIAGRAM		P-1	
							DATE: <u>SEPT. 1996</u>				NORTH END AND WELBY ROAD PUMPING STATIONS					
									environmental engineers, scientists, planners, & management consultants							



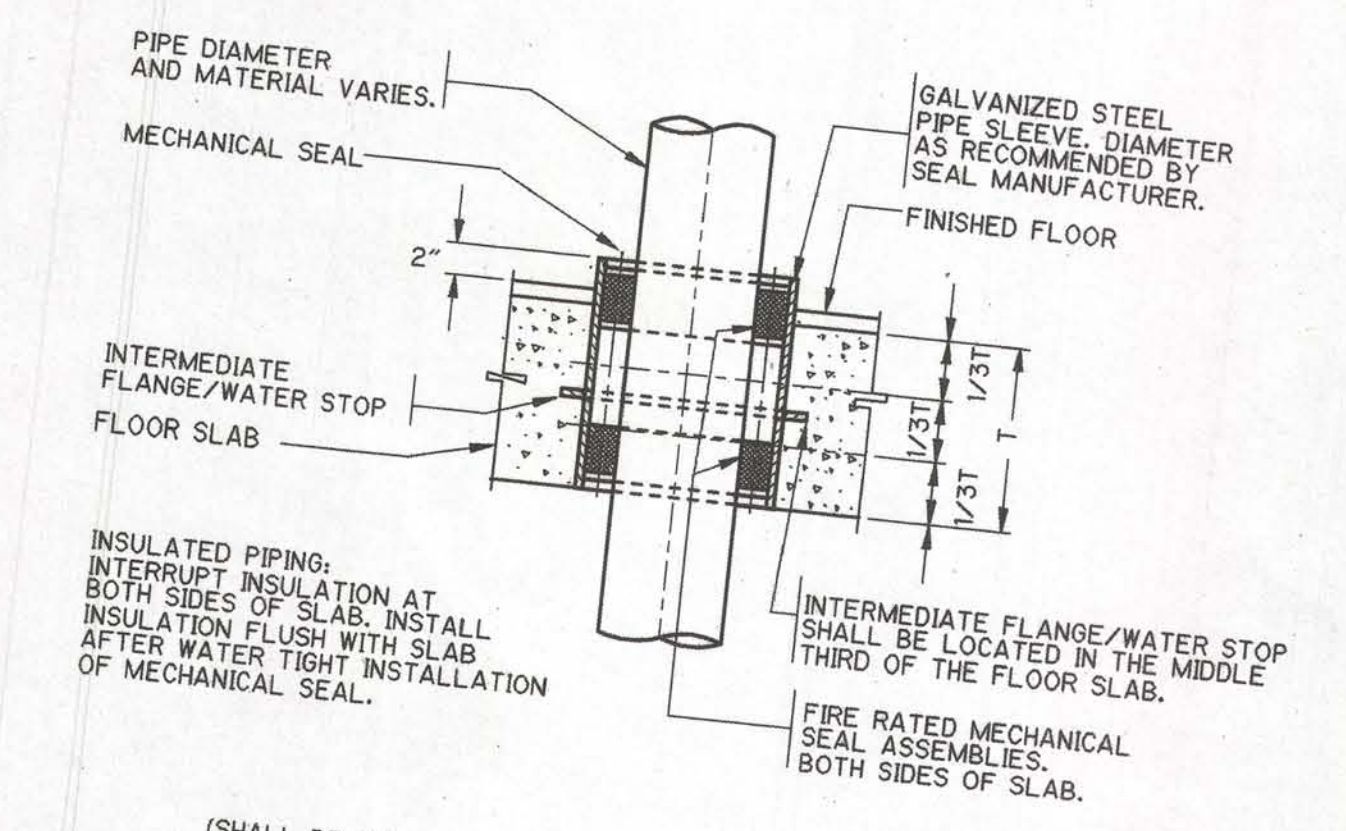
WASH HOSE STATION "B" (WHS "B")



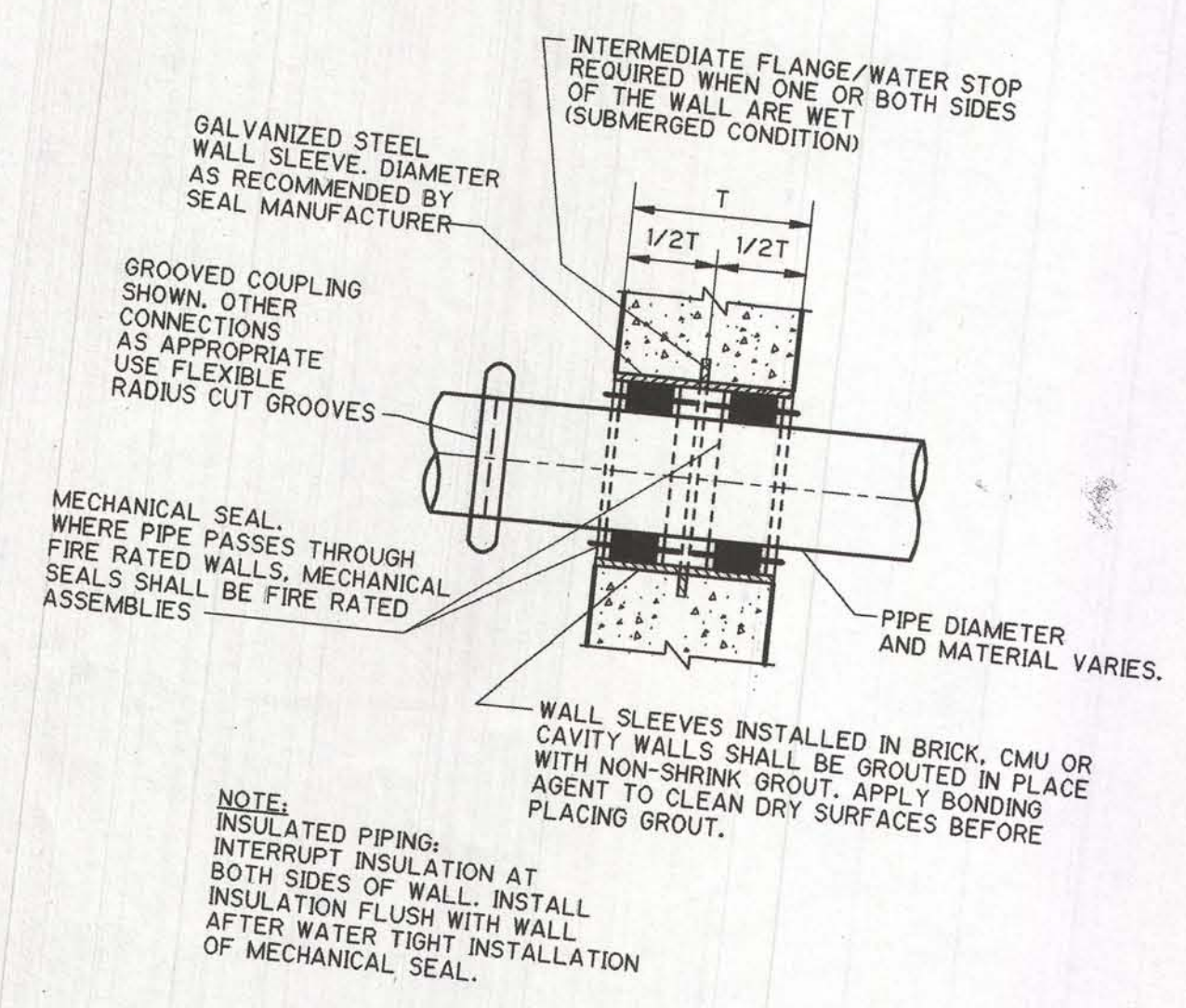
NON-FREEZE HOSE END OUTLET



HANGER SUPPORT SYSTEM INSULATED HORIZONTAL PIPING



(SHALL BE USED FOR ALL AREAS WHICH HAVE FIRE RATED WALLS.)
FLOOR SLEEVE WITH FIRE RATED MECHANICAL SEALS



WALL SLEEVE WITH MECHANICAL SEAL FOR CONCRETE, BRICK CMU OR CAVITY WALLS

GENERAL ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
- CL CENTERLINE
- CW COLD WATER
- DN DOWN
- E EMERGENCY WATER
- ES EMERGENCY SHOWER
- EL/ELEV ELEVATION
- EWU EYE WASH UNIT
- HW HOT WATER
- IOS INSTALLED BY OTHER SECTION
- LBV LOCKABLE BALL VALVE
- P PROTECTED WATER
- PD PUMP DISCHARGE
- PG PRESSURE GAUGE
- RPZ REDUCED PRESSURE ZONE BACKFLOW PREVENTER
- S SOIL
- SSK SERVICE SINK
- V VENT
- VB VACUUM BREAKER
- VTR VENT THROUGH ROOF
- WC WATER CLOSET
- WH WALL HYDRANT
- WHS WASH HOSE STATION

SYMBOLS

- SOIL (S) WASTE (W) EQUIPMENT DRAIN
- VENT
- COLD WATER (CW) (POTABLE)
- HOT WATER (HW) (POTABLE)
- PUMP DISCHARGE (PD)
- PROTECTED WATER (P) (NON-POTABLE)
- VALVE
- LOCKABLE BALL VALVE (LBV)
- CHECK VALVE (CV)
- CLEANOUTS (CO)
- WATER PROOF SLEEVE

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	GMZ	AJM	REVISED FOR RECORD DRAWING
DESIGNED BY: T. LAQUIDARA DRAWN BY: V. NOEL SHEET CHK'D BY: T. LAQUIDARA CROSS CHK'D BY: R. DELANEY APPROVED BY: HICKOX S. DATE: SEPT. 1996				

CAMP DRESSER & MCKEE INC.

environmental engineers, scientists, planners, & management consultants

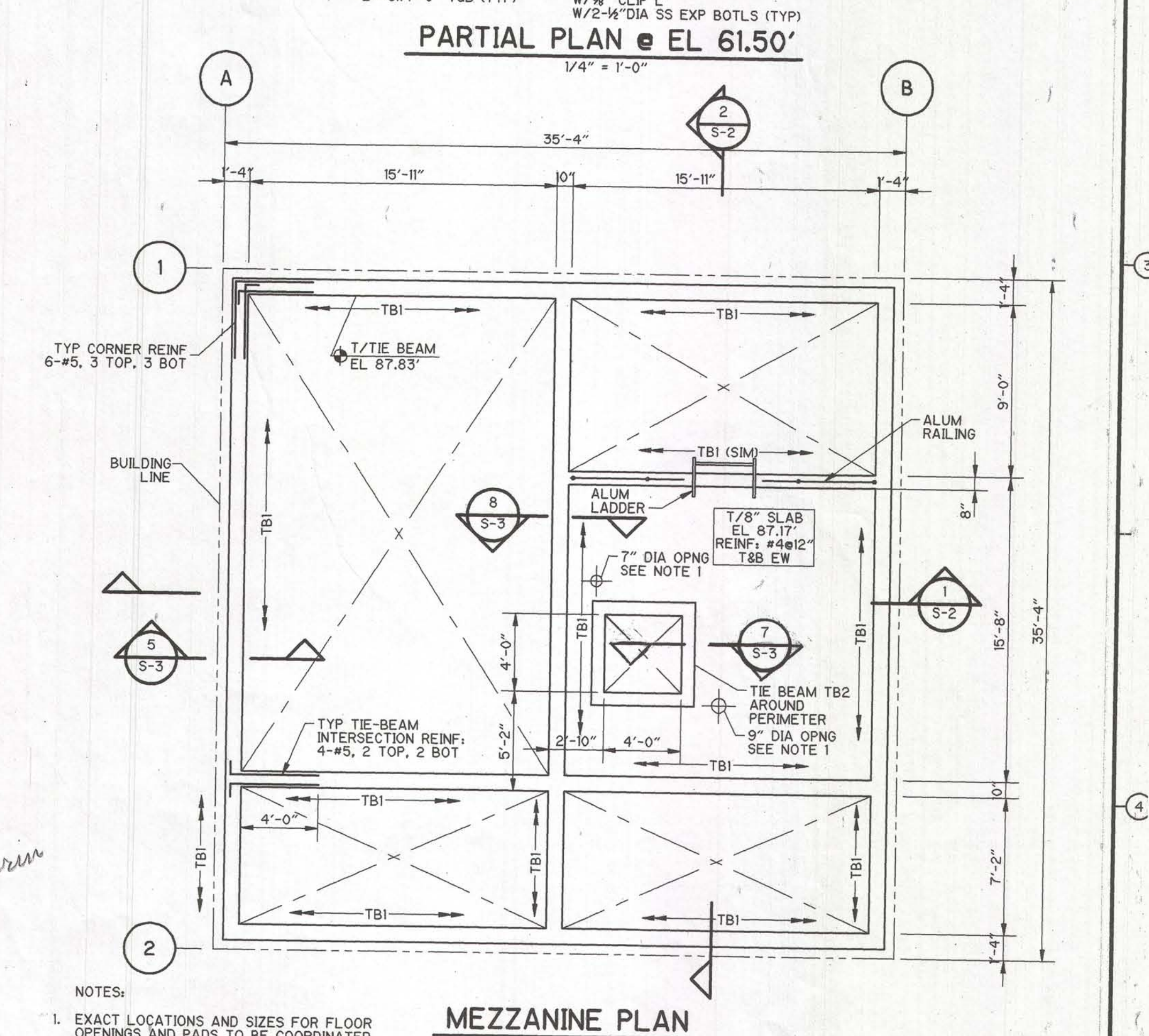
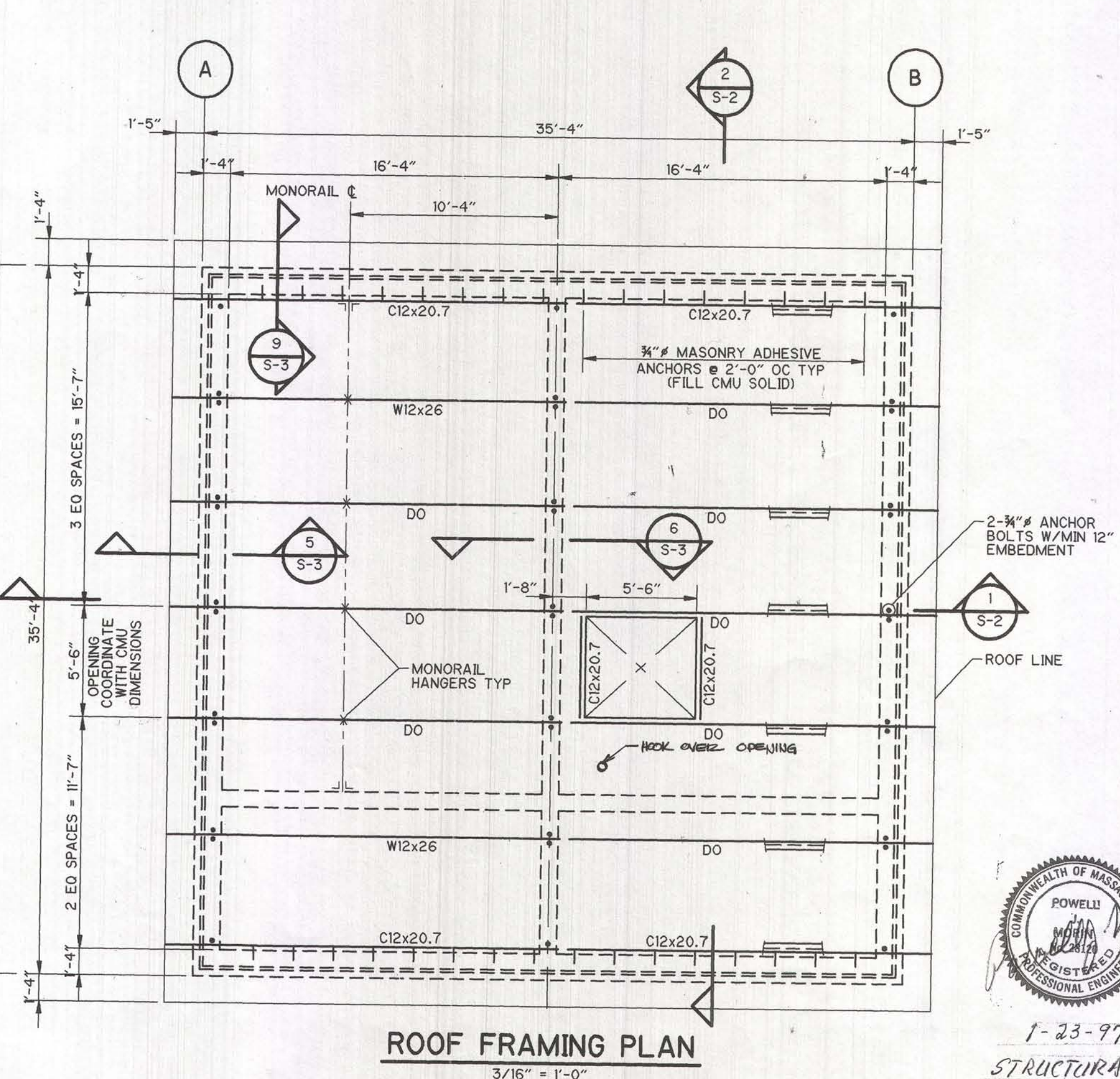
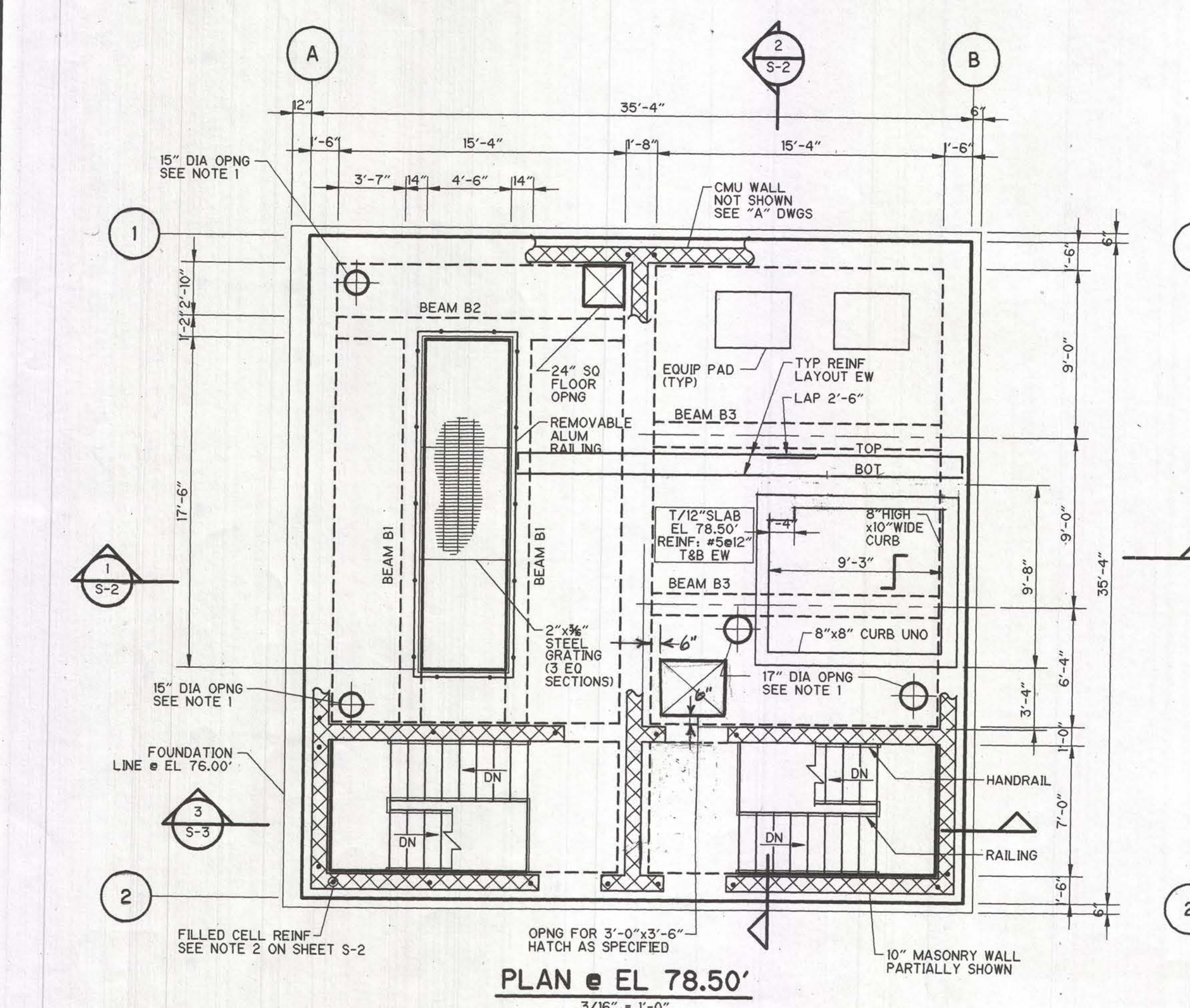
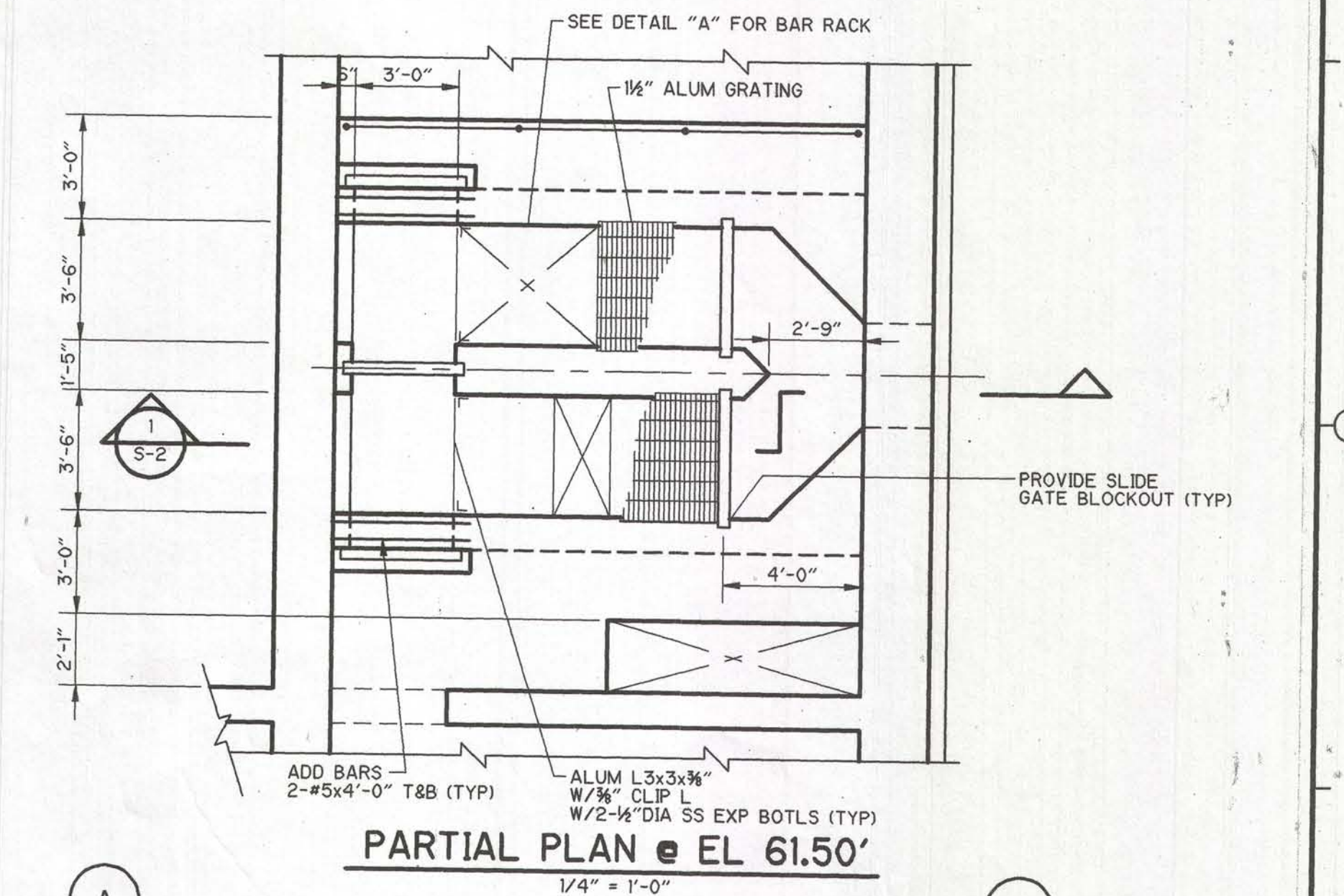
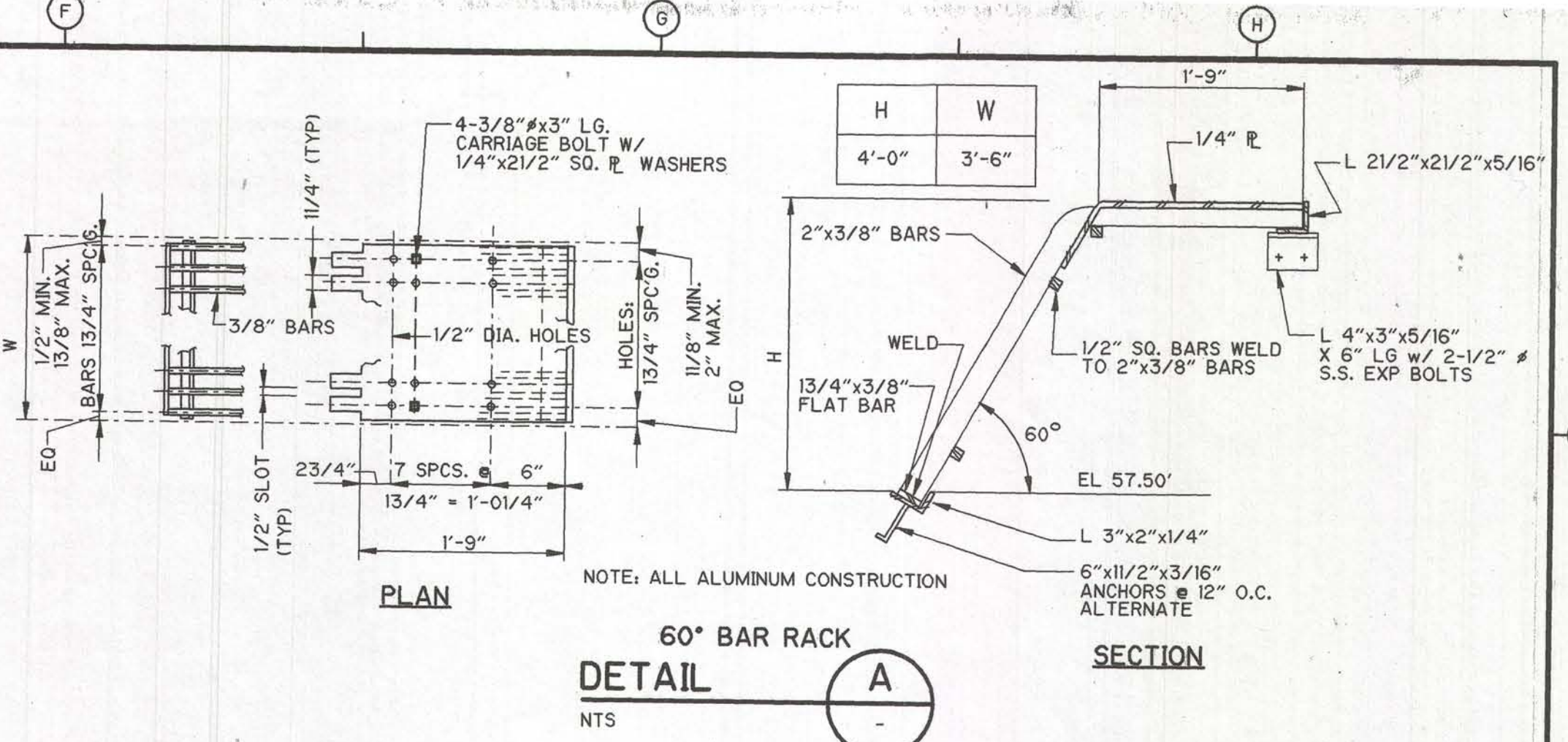
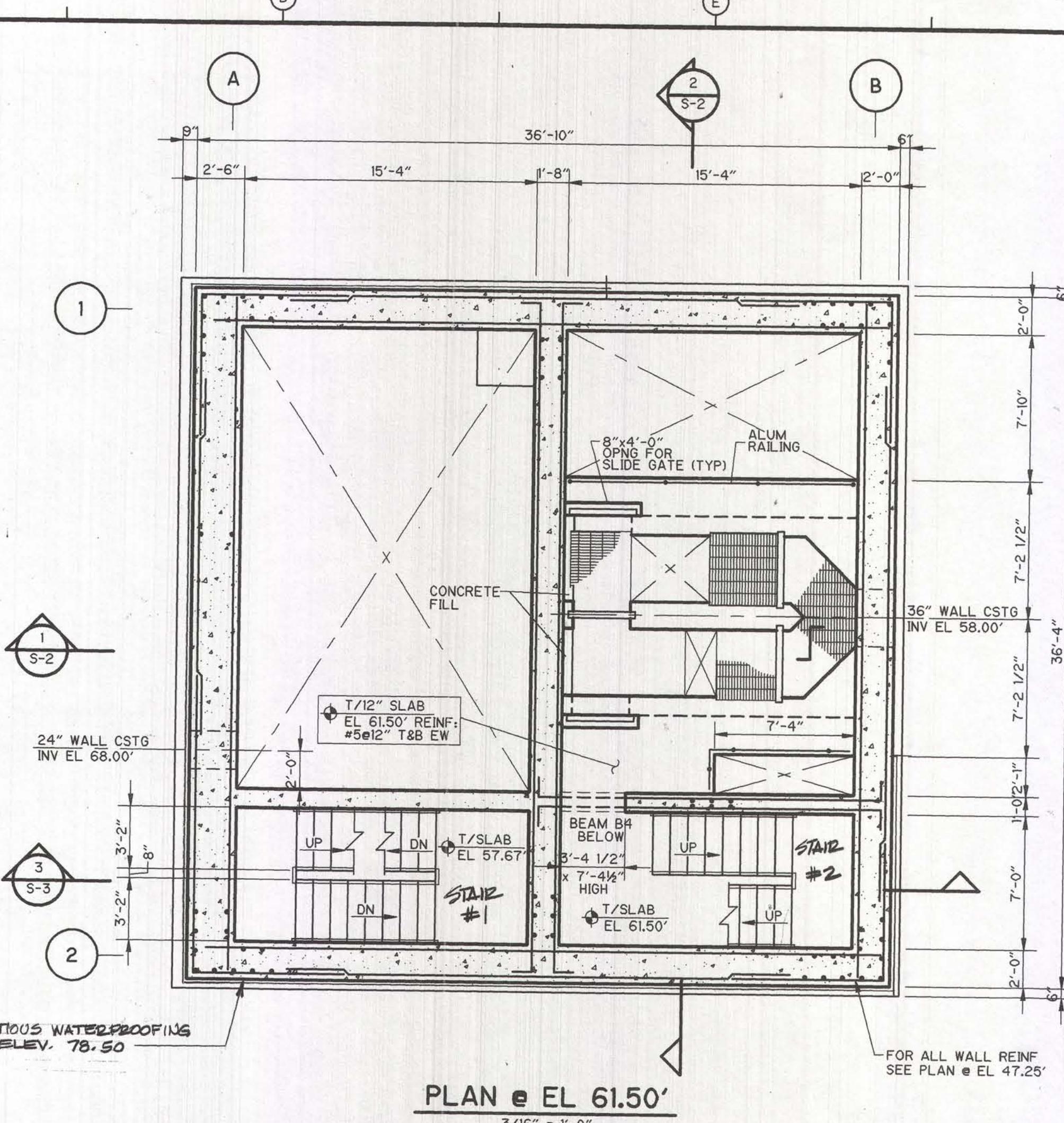
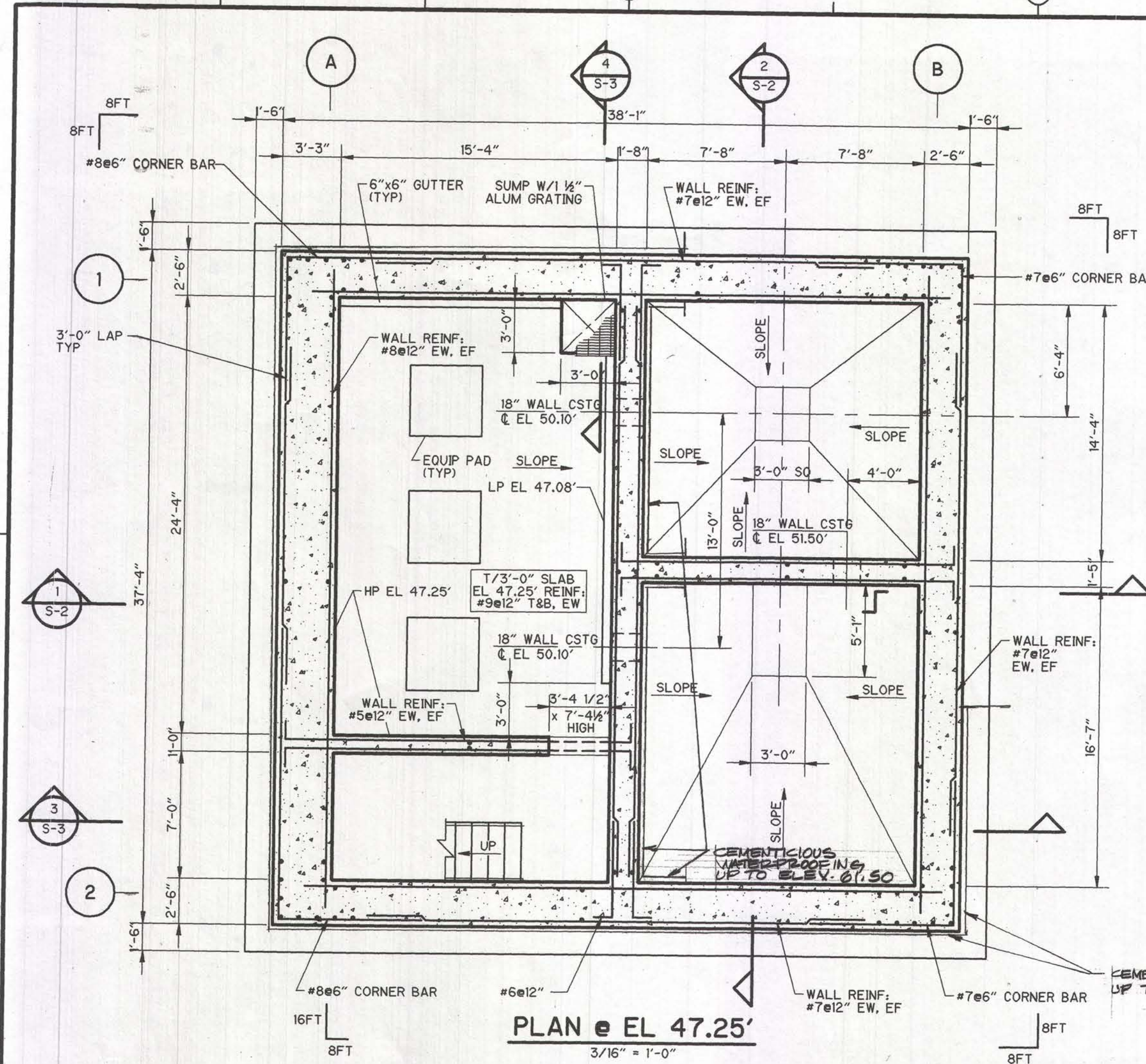
CDM

CITY OF NEW BEDFORD
WASTEWATER SYSTEMS IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION
RECORD DRAWING
STANDARD DETAILS, SYMBOLS & GENERAL NOTES



PROJECT NO. 309-E



1-23-97
STRUCTURAL

NOTES:
1. EXACT LOCATIONS AND SIZES FOR FLOOR OPENINGS AND PADS TO BE COORDINATED WITH MECHANICAL EQUIPMENT.

RECORD DRAWING

KHALID MOTIWALA
53547
10/04/96 18:56:53
SPSPLOI
01AES0309-02-STRU

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-1-01	SMR	AUM	REVISED FOR RECORD DRAWING

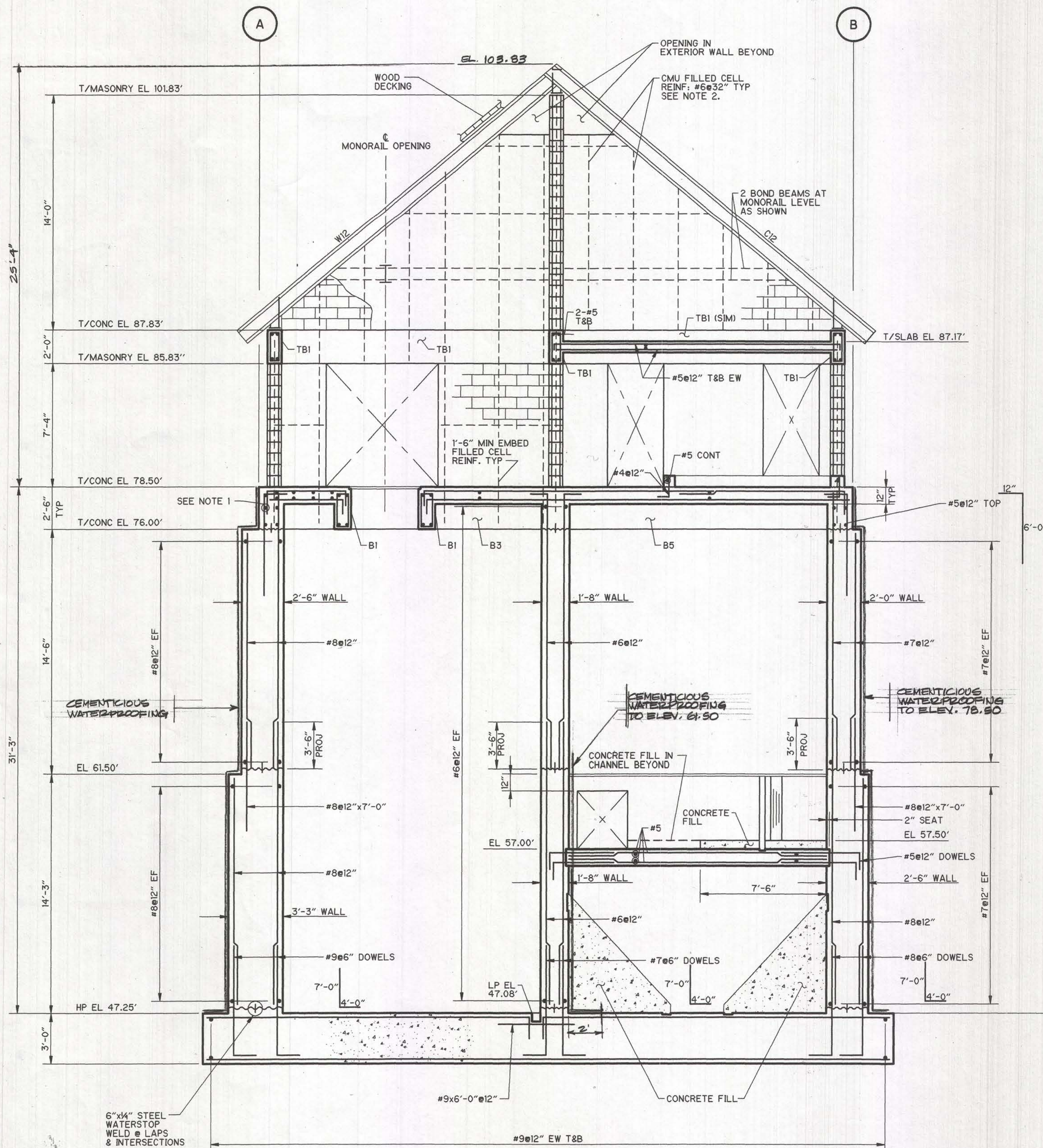
DESIGNED BY: K. MOTIWALA
DRAWN BY: K. MOTIWALA
SHEET CHK'D BY: B. EREL
CROSS CHK'D BY: P. MORIN
APPROVED BY: S. HICKOX
DATE: SEPT. 1996

CAMP DRESSER & McKEE INC.

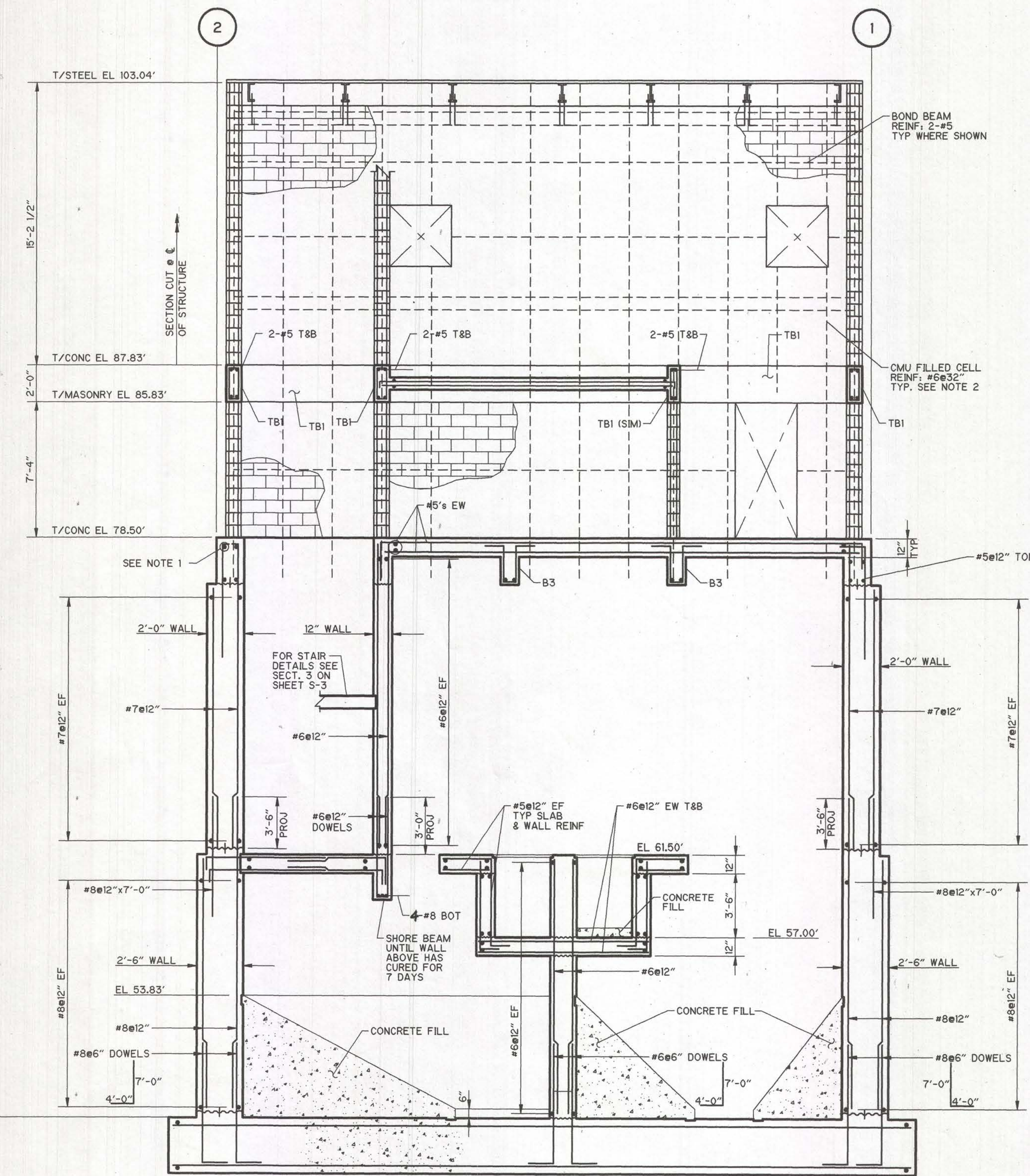
CDM
environmental engineers, scientists, planners, & management consultants

CITY OF NEW BEDFORD
WASTEWATER SYSTEMS IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION PLANS
PROJECT NO. 0309-54799
SHEET NO. S-1

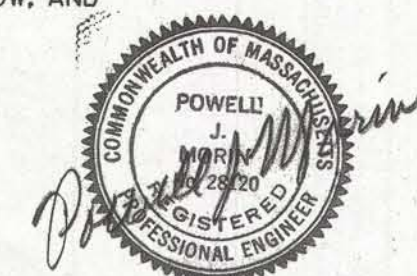


SECTION 1
1/4" = 1'-0"



SECTION 2
1/4" = 1'-0"

- NOTES:
- 1- 2-#8 HORIZ REINF EF CORNER REINF: #8x4'-0"x4'-0" OUTSIDE FACE
 - 2- FILLED CELL REINF: #6e32" OC ADD A FILLED CELL AT EACH SIDE OF DOOR, WINDOW, AND LOUVER OPENINGS.



RECORD DRAWING 1-28-97
STRUCTURAL

DESIGNED BY: K. MOTIWALA DRAWN BY: K. MOTIWALA SHEET CHK'D BY: B. EREL CROSS CHK'D BY: P. MORIN APPROVED BY: S. HICKOX DATE: SEPT. 1996	CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners, & management consultants	CITY OF NEW BEDFORD WASTEWATER SYSTEMS IMPROVEMENTS CONTRACT NO. 8 EDA PROJECT NO. 01-01-03529 NORTH END AND WELBY ROAD PUMPING STATIONS	NORTH END PUMPING STATION SECTIONS	PROJECT NO. 0309-54800 SHEET NO. S-2
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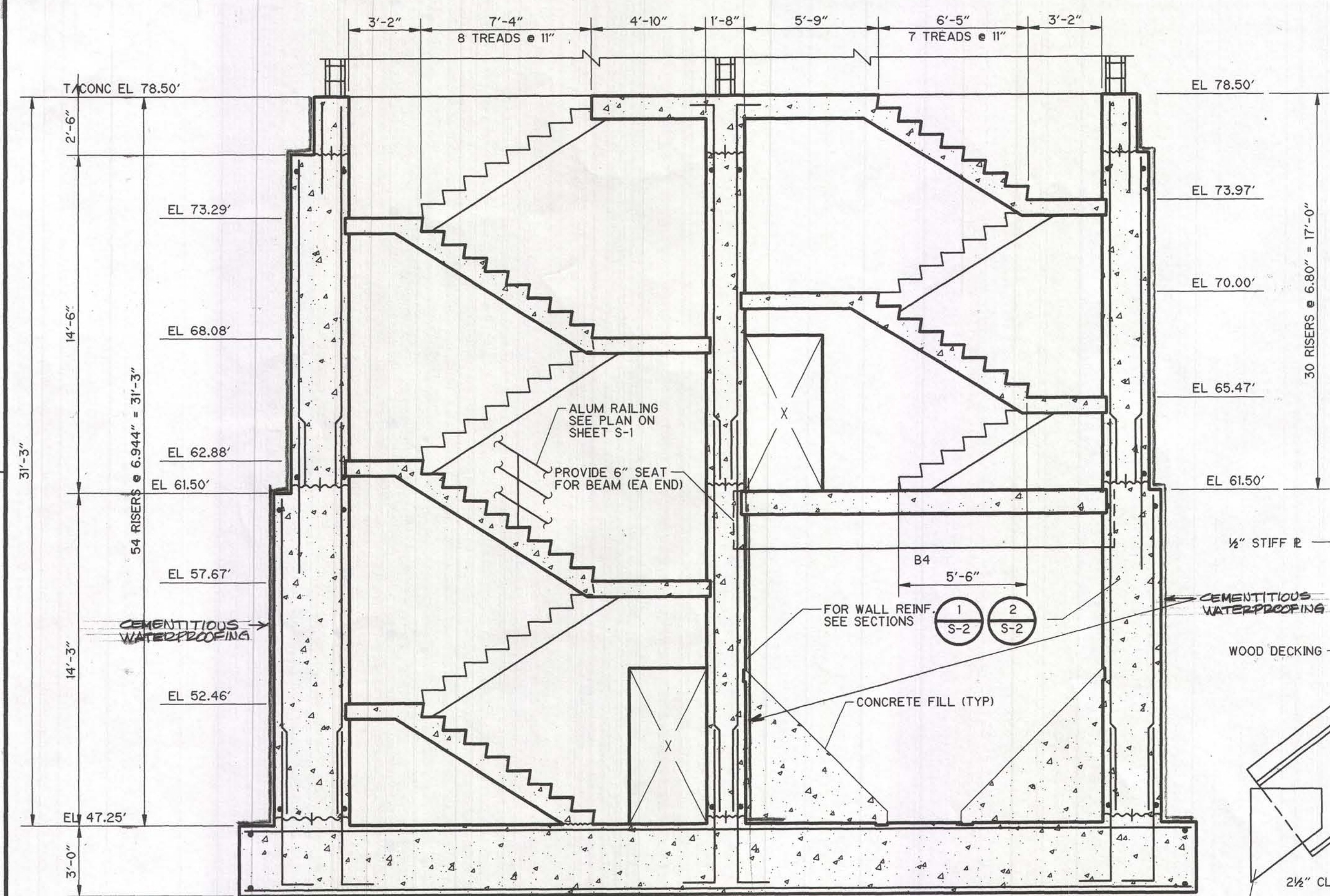
Kenneth D. Potts

20.07.43

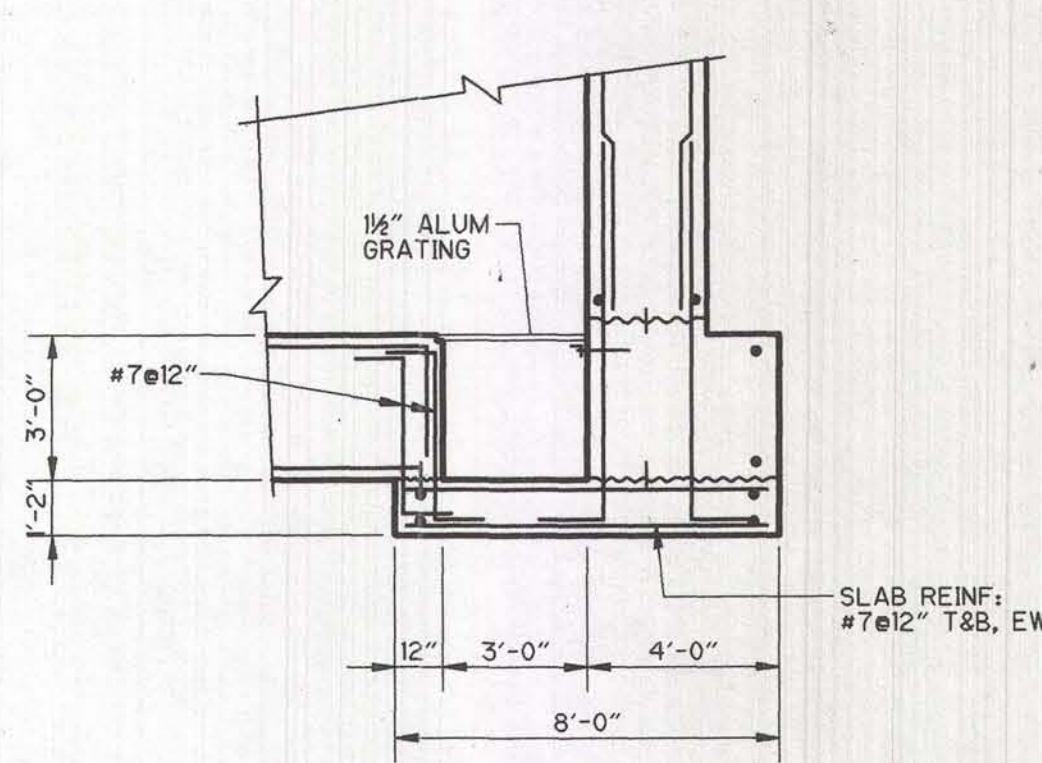
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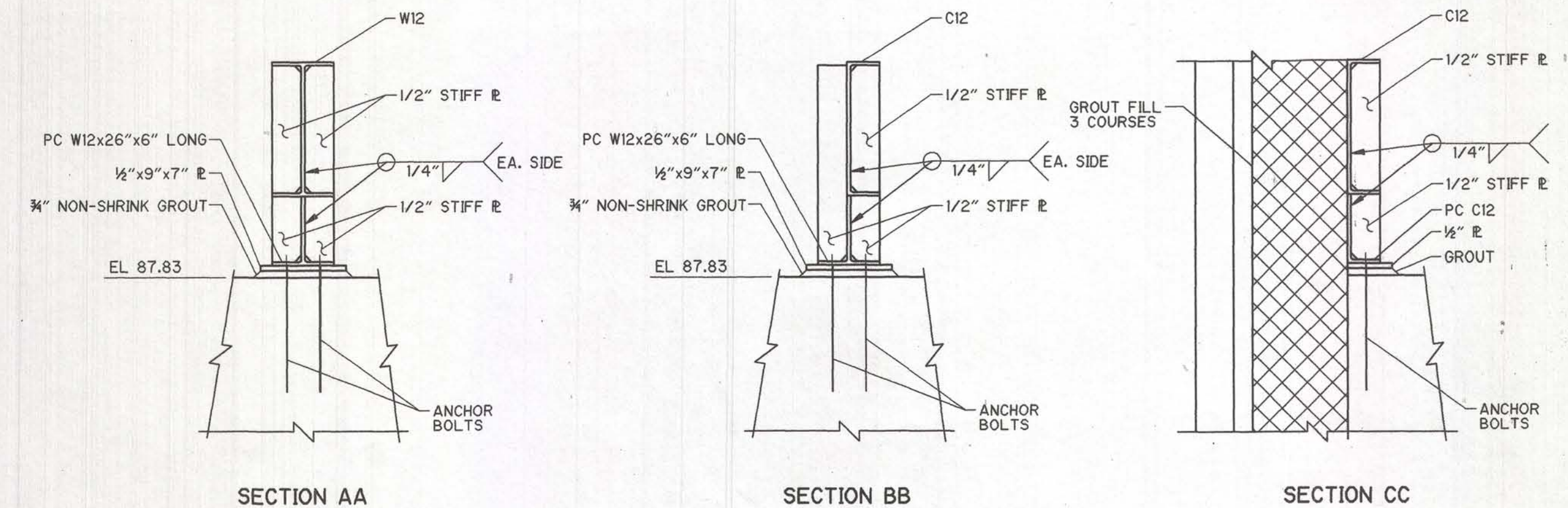
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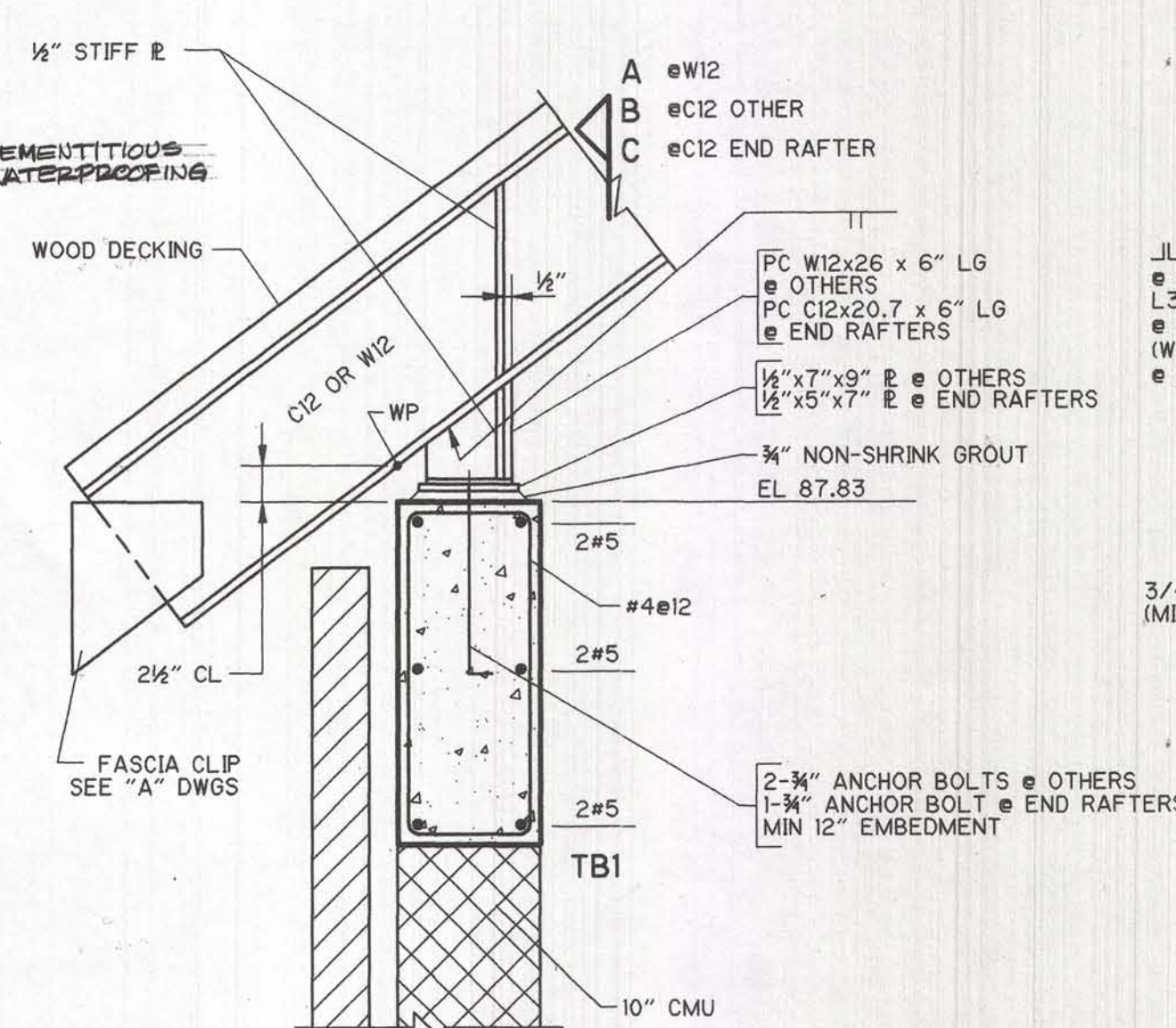
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1/4" = 1'-0"



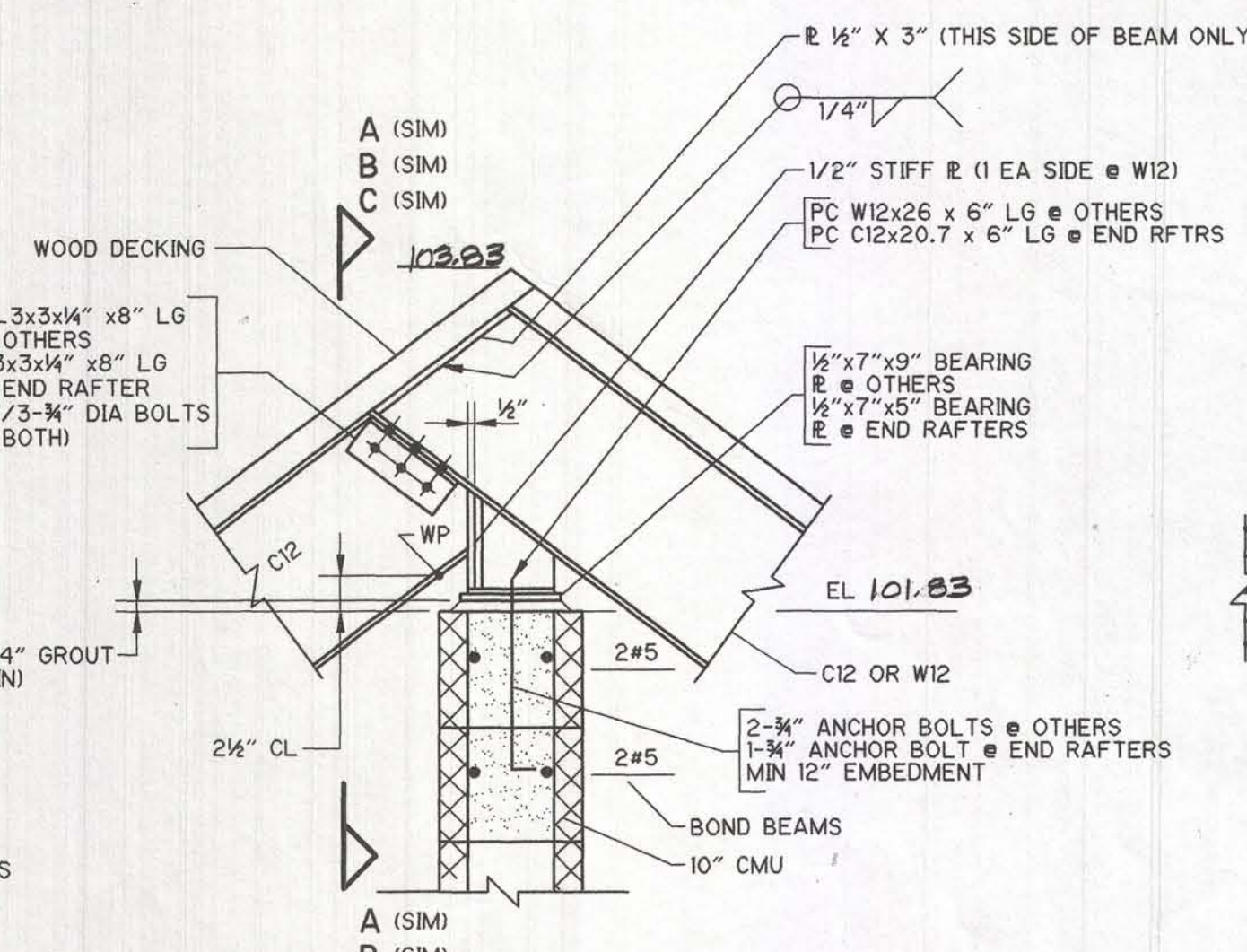
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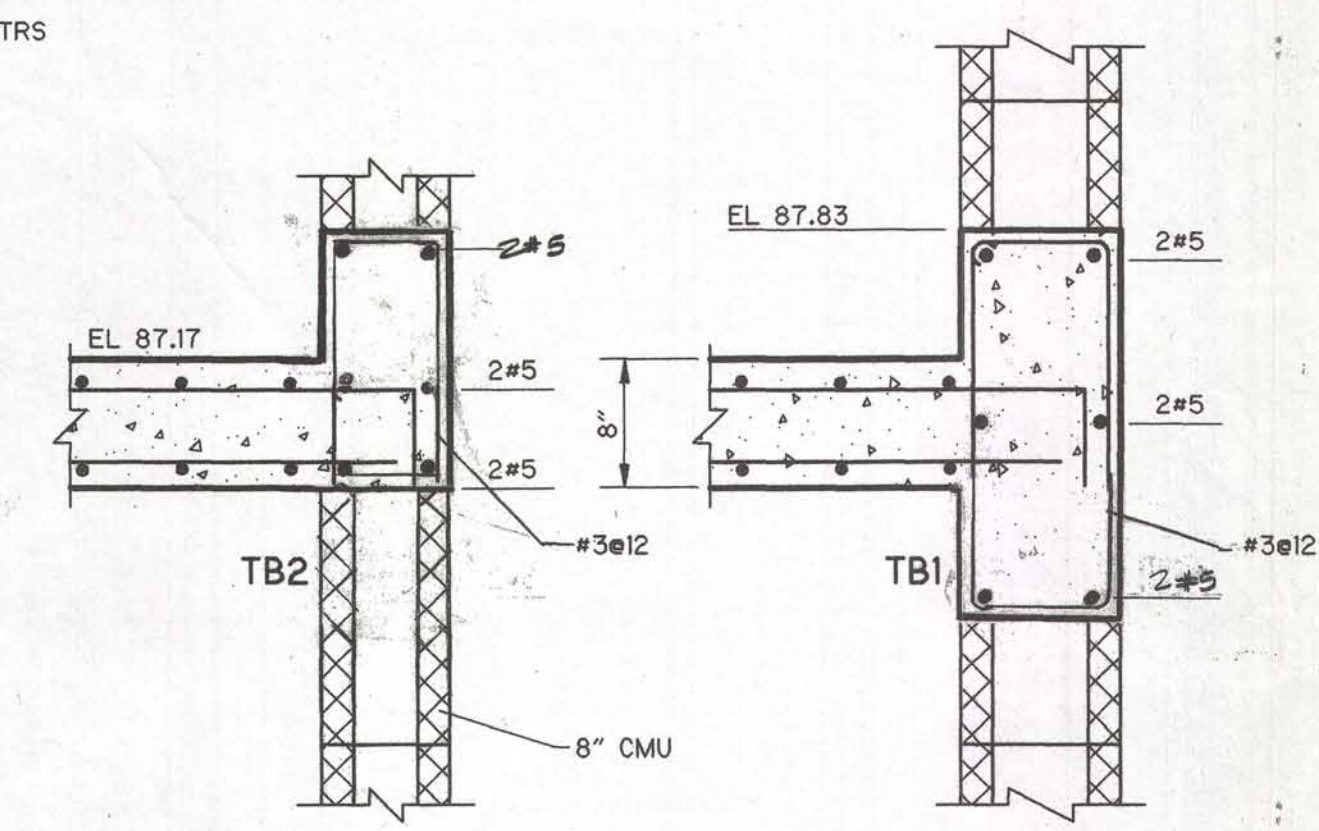
RAFTER DETAILS
1" = 1'-0"



SECTION 5
1" = 1'-0"

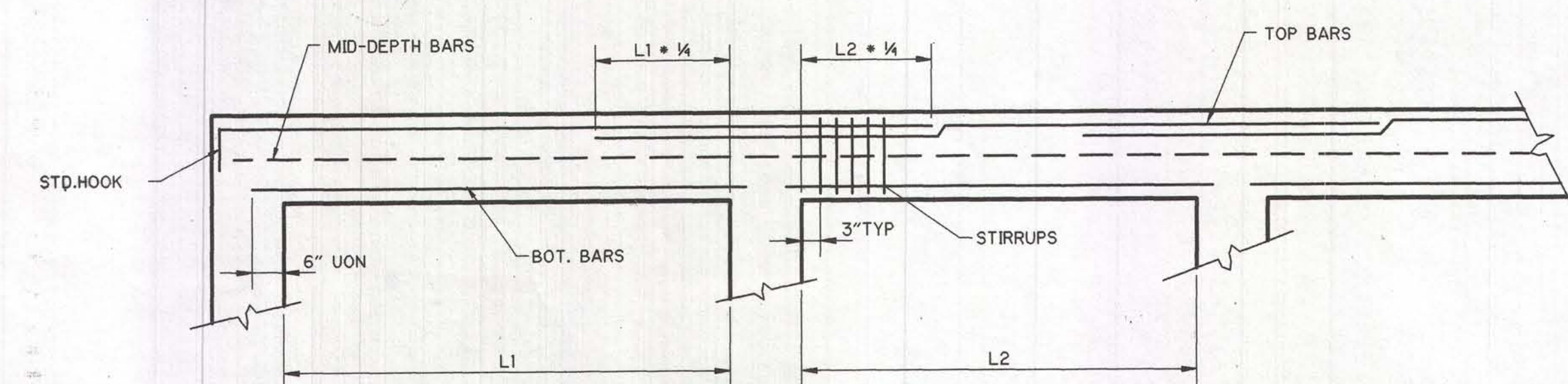


SECTION 6
1" = 1'-0"



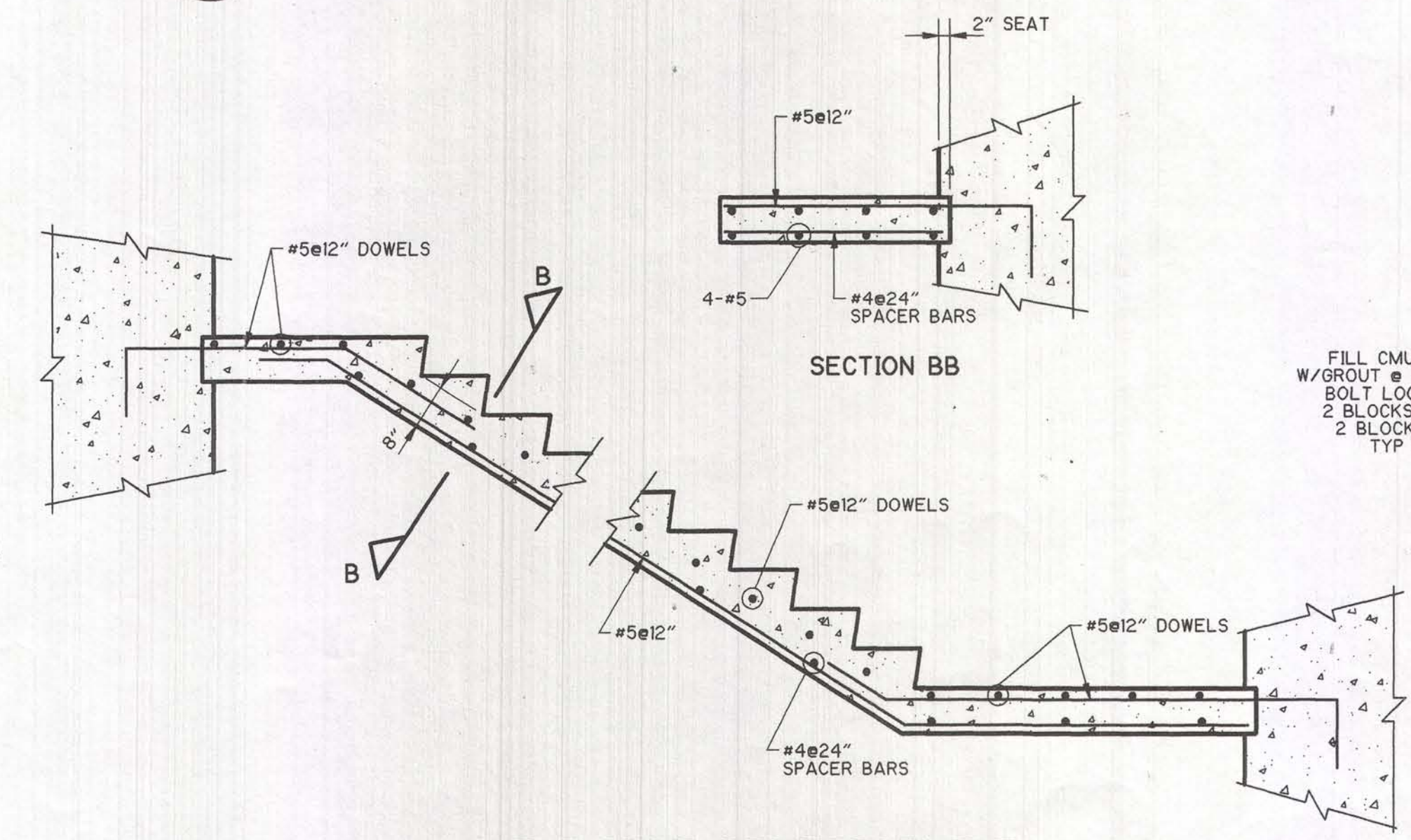
SECTION 7
1" = 1'-0"

SECTION 8
1" = 1'-0"

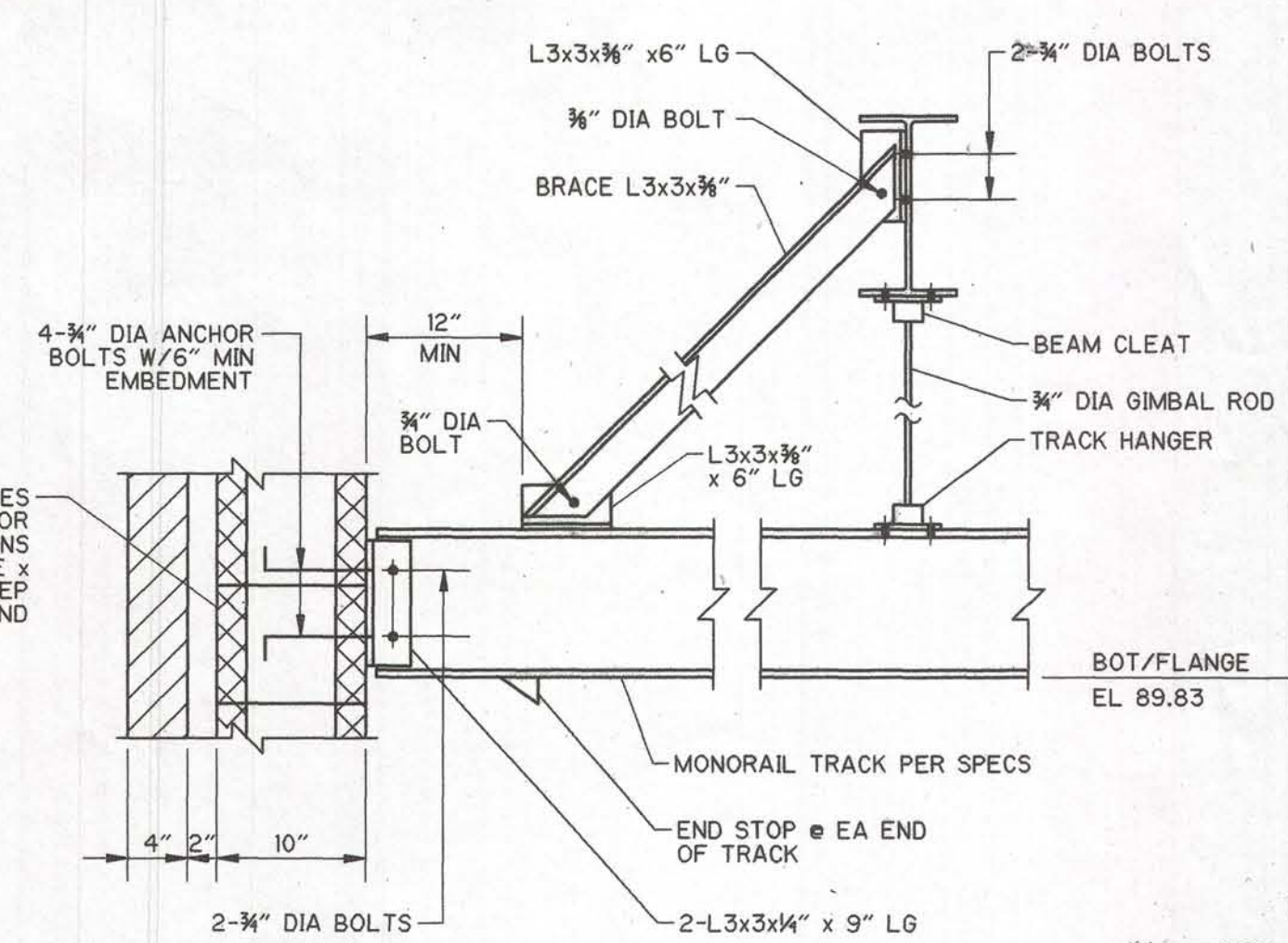


BEAM SCHEDULE									
MARK	ELEV. T/BEAM	SIZE	BOT BARS	TOP BARS	MID-DEPTH BARS	STIRRUPS			REMARKS
						SIZE	TYPE	SPACING	
B1	EL 78.50'	14x30	3#8	2#6	2#5 E.F.	#4		12" O.C.	TOP BARS LAP=3'-0"
B2	EL 78.50'	14x30	4#9	2#7	2#5 E.F.	#4		12" O.C.	
B3	EL 78.50	14x30	4#8	2#6	2#5 E.F.	#4		12" O.C.	
B4	EL 61.50'	12x30	4#8	-	2#5 E.F.	-	-	-	WALL DWLS USED AS STIRRUPS

BEAM DETAIL & SCHEDULE
NTS



TYP STAIR REINFORCEMENT
1/2" = 1'-0"

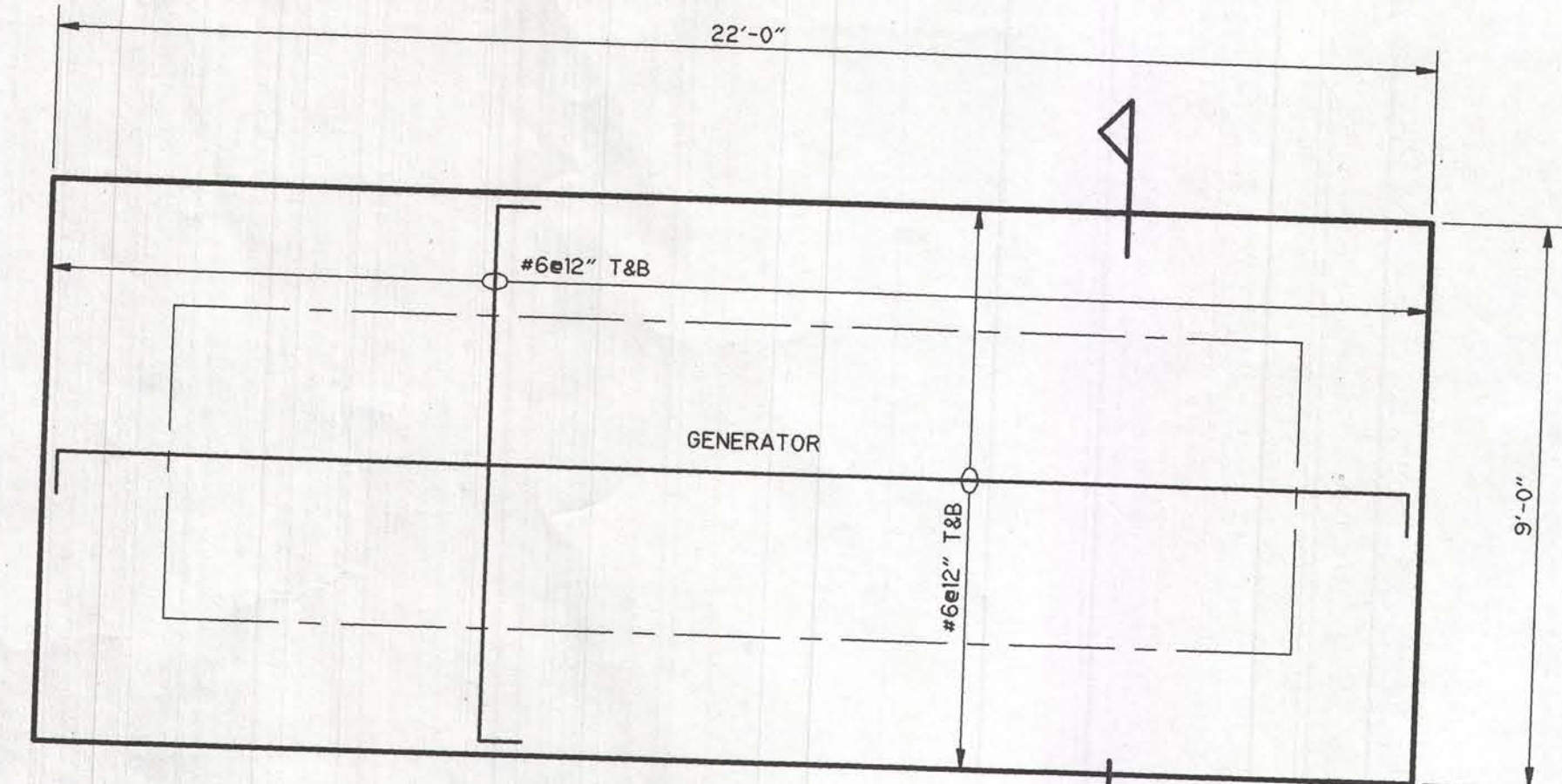


SECTION 9
1" = 1'-0"

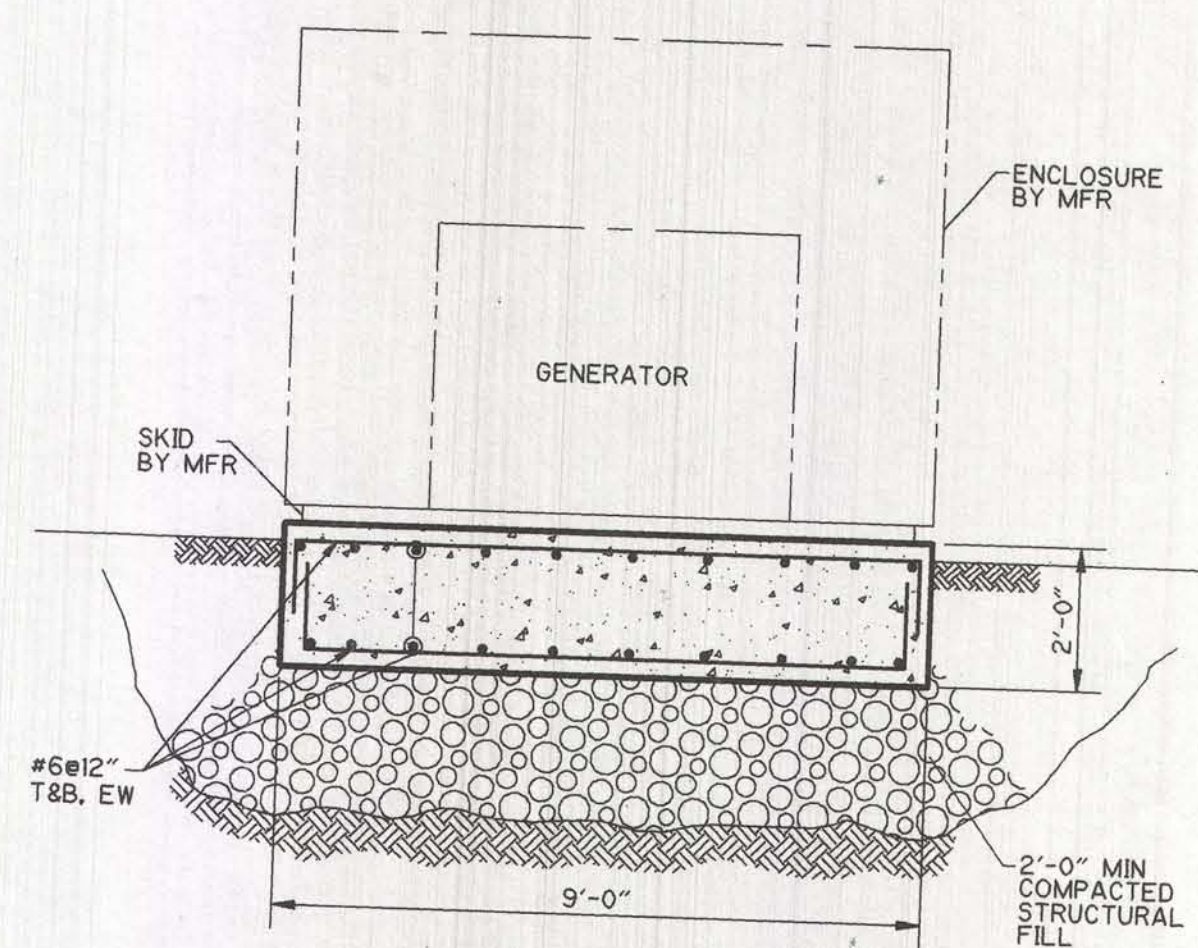


RECORD DRAWING

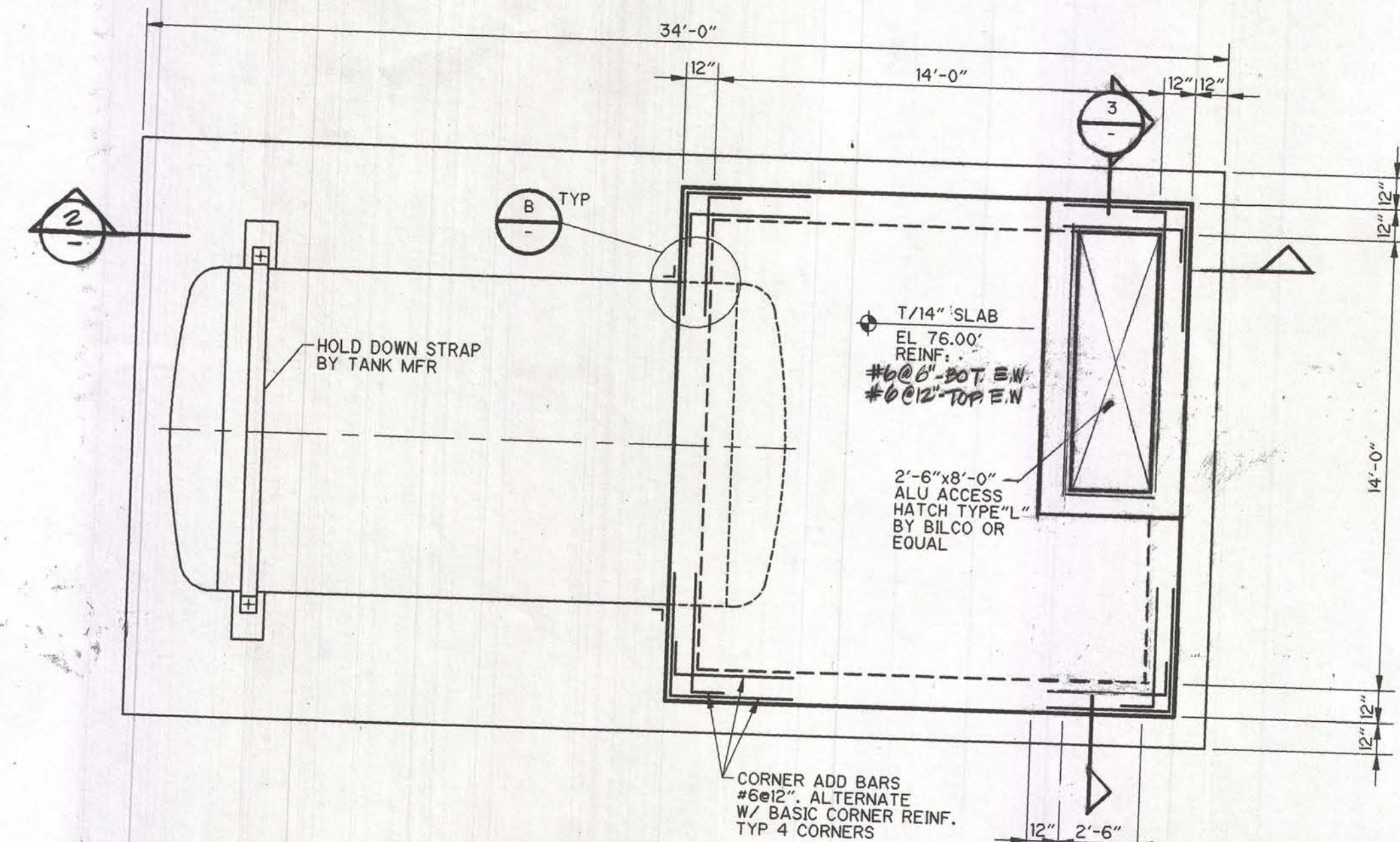
DESIGNED BY: K. MOTIWALA DRAWN BY: K. MOTIWALA SHEET CHECKED BY: B. EREL CROSS CHECKED BY: P. MORIN APPROVED BY: S. HICKOX DATE: SEPT. 1996	CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners, & management consultants	CITY OF NEW BEDFORD WASTEWATER SYSTEMS IMPROVEMENTS CONTRACT NO. 8 EDA PROJECT NO. 01-01-03529	NORTH END AND WELBY ROAD PUMPING STATIONS	NORTH END PUMPING STATION SECTIONS AND DETAILS	PROJECT NO. 0309-54801 SHEET NO. S-3
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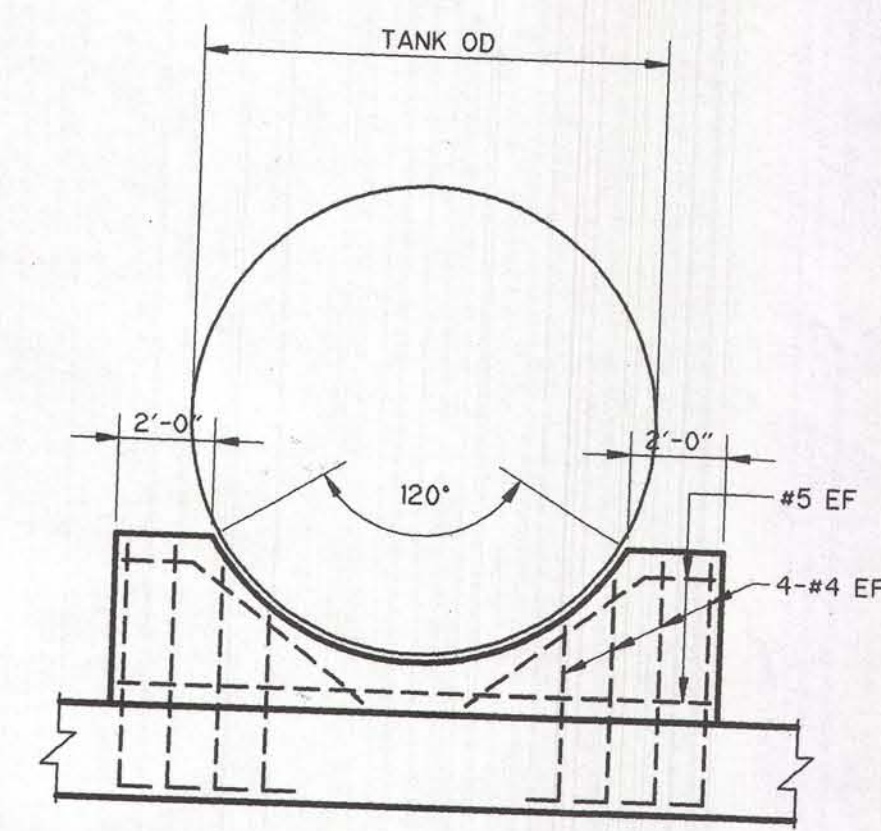
NORTH END PUMPING STATION
GENERATOR PAD
PLAN
3/8" = 1'-0"



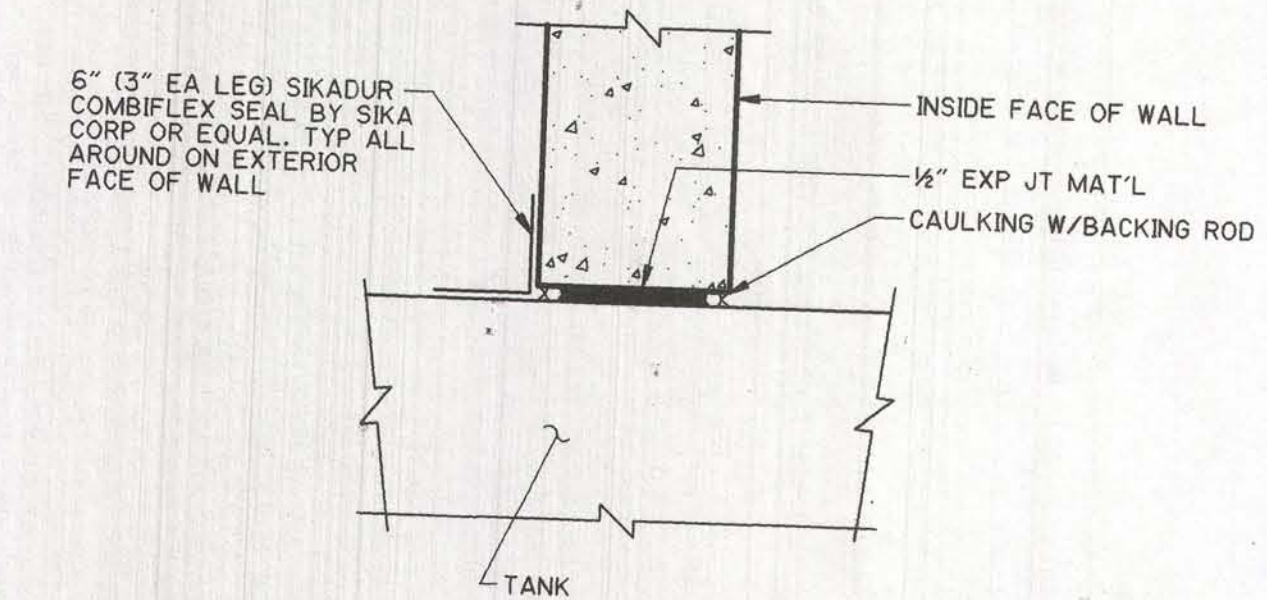
NORTH END PUMPING STATION
GENERATOR PAD
SECTION 1
3/8" = 1'-0"



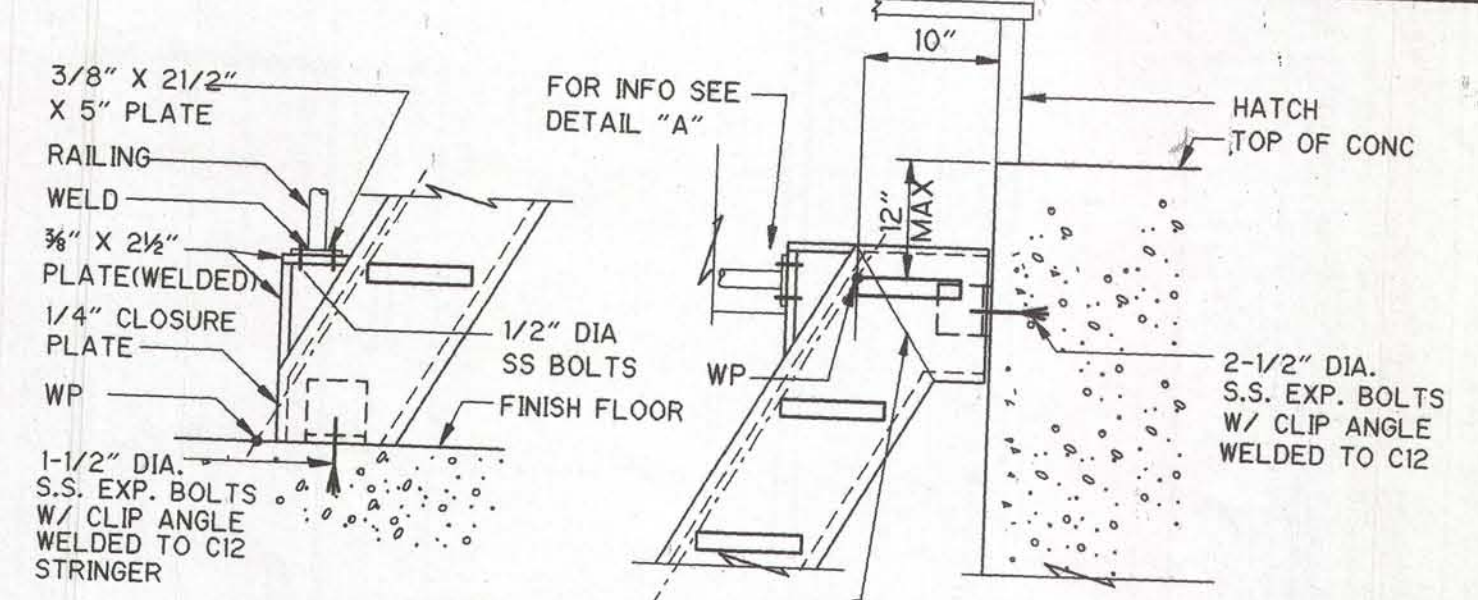
NORTH END PUMPING STATION
TOP OF SURGE CONTROL STRUCTURE
PLAN
1/4" = 1'-0"



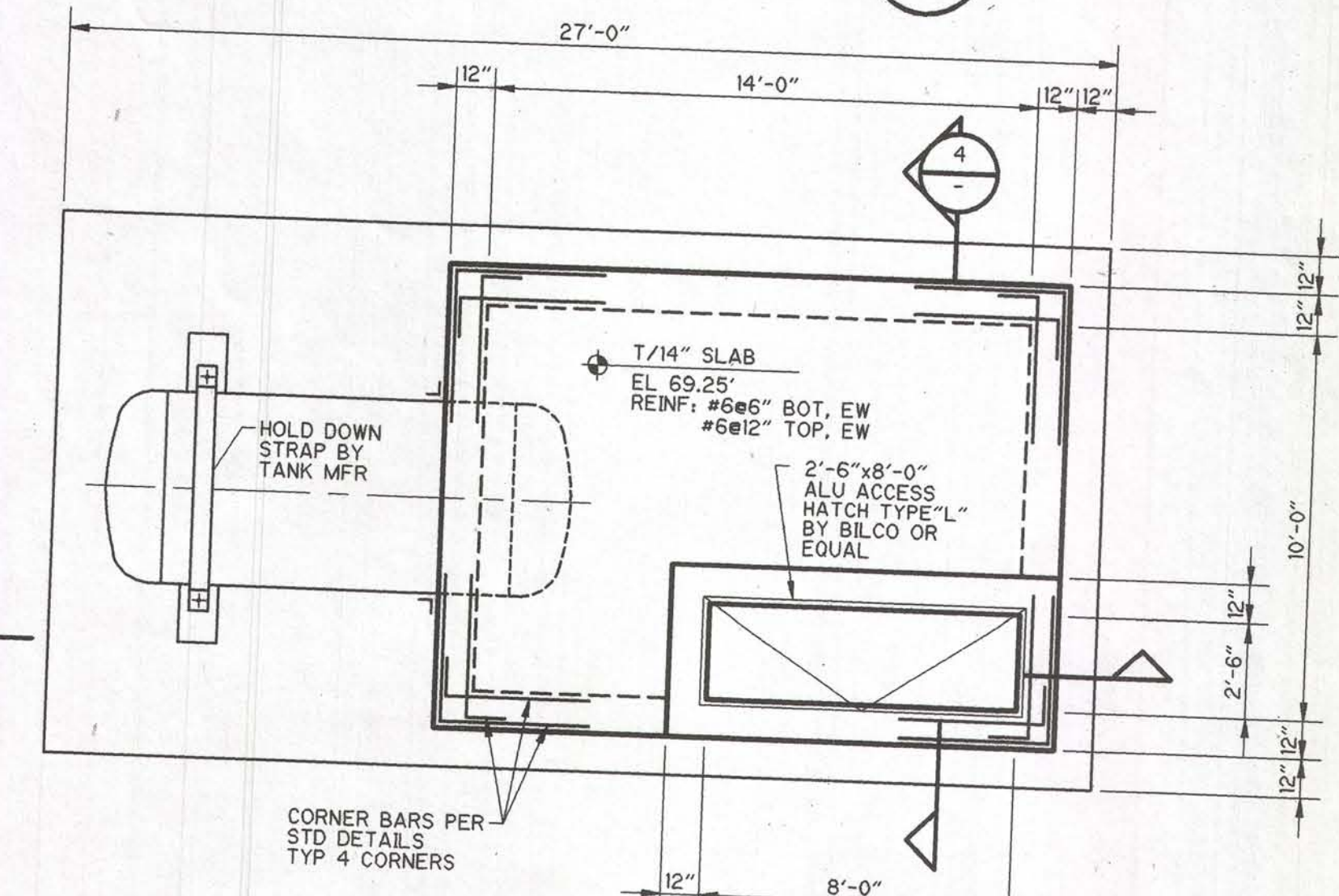
DETAIL A
1/4" = 1'-0"



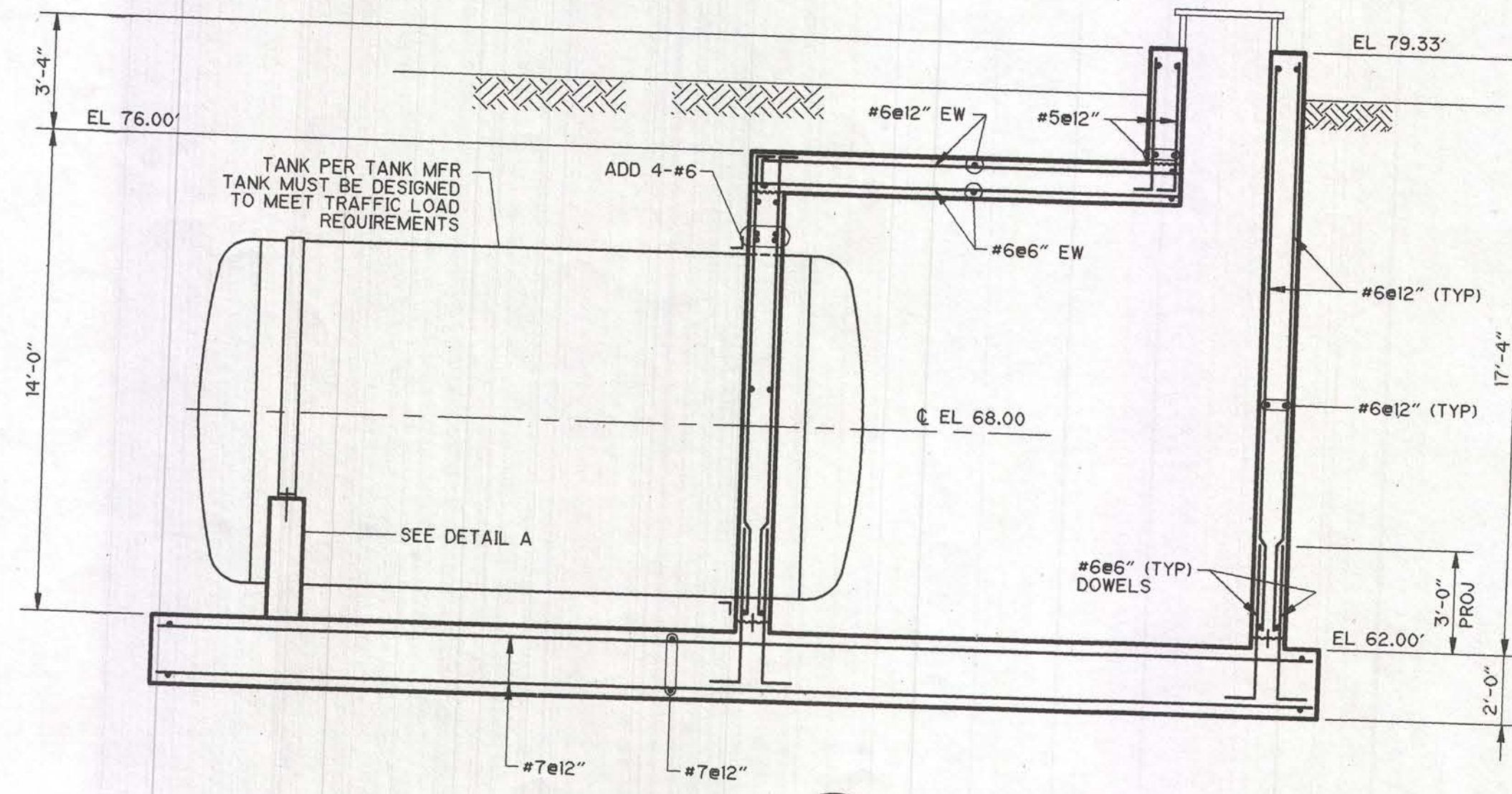
DETAIL B
NTS



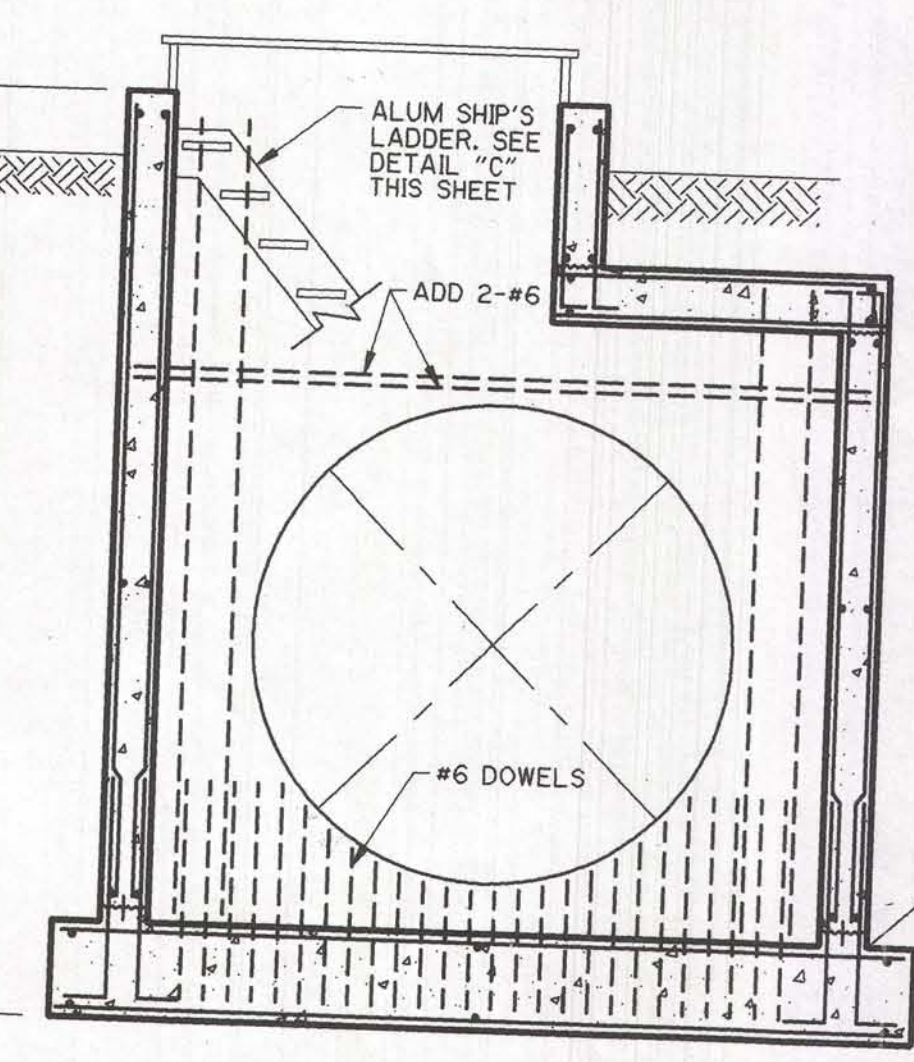
DETAIL "A" DETAIL "B"
SECTION ALUMINUM SHIPS LADDER
DETAIL C
NTS



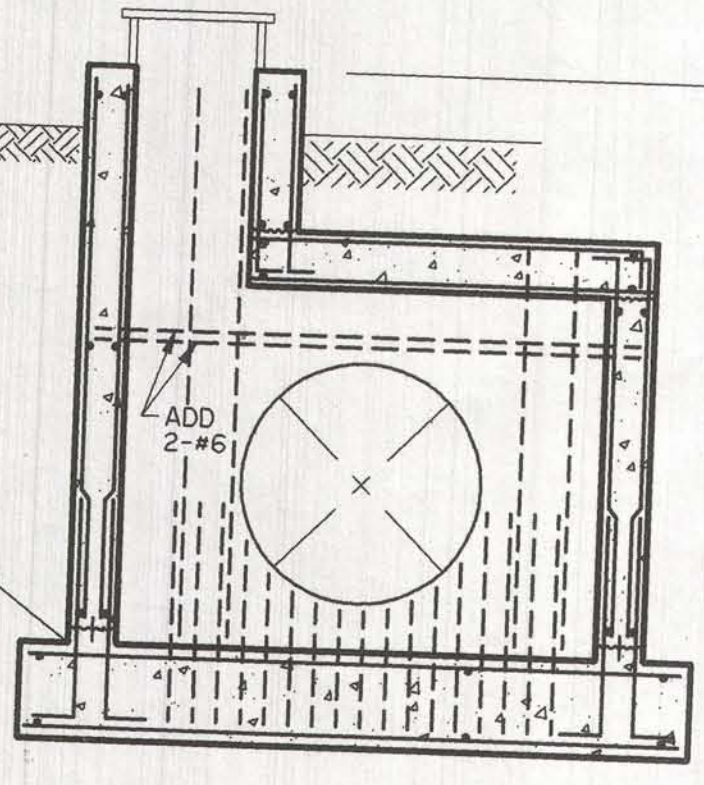
WELBY ROAD PUMPING STATION
TOP OF SURGE CONTROL STRUCTURE
PLAN
1/4" = 1'-0"



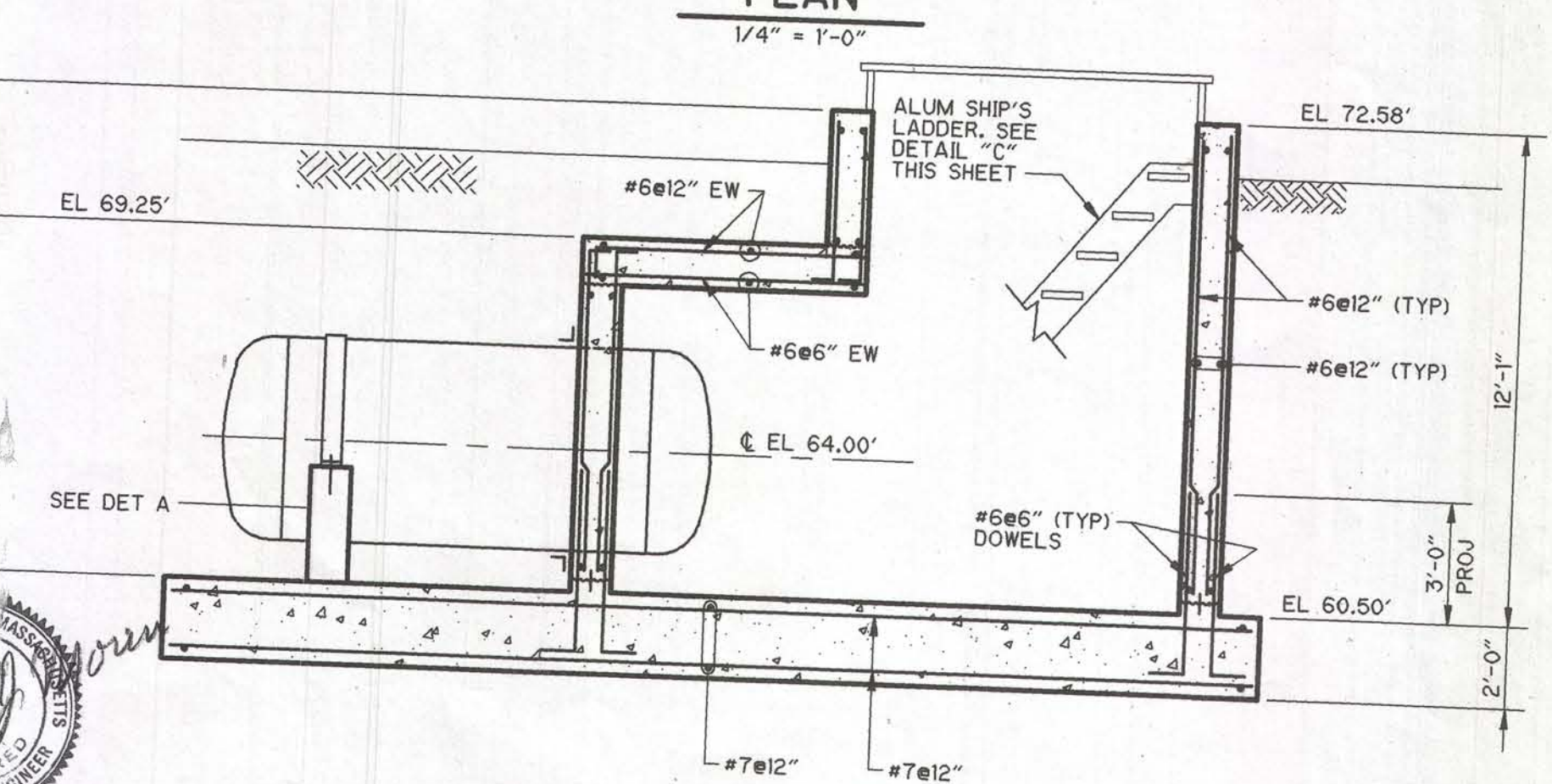
SECTION 2
1/4" = 1'-0"



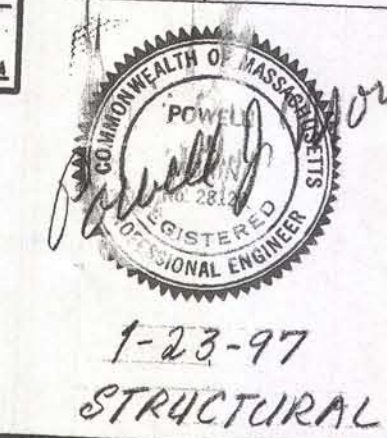
SECTION 3
1/4" = 1'-0"



SECTION 4
1/4" = 1'-0"



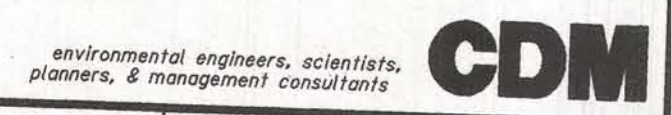
SECTION 5
1/4" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-10-97	SMZ	ADM	REVISED FOR RECORD DRAWING

DESIGNED BY: K. MOTIWALA
DRAWN BY: K. MOTIWALA
SHEET CHK'D BY: B. EREL
CROSS CHK'D BY: P. MORIN
APPROVED BY: S. HICKOX
DATE: SEPT. 1996

CAMP DRESSER & MCKEE INC.



CITY OF NEW BEDFORD
WASTEWATER SYSTEMS IMPROVEMENTS
CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529
NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END AND WELBY ROAD PUMPING STATIONS
PLANS AND SECTIONS

PROJECT NO.
0309-54802
SHEET NO.

STRUCTURAL NOTES

GENERAL NOTES

ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS.

SEE MECHANICAL, ELECTRICAL, ARCHITECTURAL AND BUILDING SERVICES DRAWINGS FOR ANCHORS, PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED IN OR PASS THROUGH THE CONCRETE. IN GENERAL, EMBEDMENTS AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

STANDARD DETAILS SHOWN SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

SEE CIVIL SITE PLANS FOR STRUCTURE LOCATION.

PLANS ON THESE DRAWINGS ARE TREATED AS HORIZONTAL SECTIONS (i.e. "PLAN AT EL 625.00" SHOWS ITEMS BELOW ELEVATION 625.00).

DESIGN CRITERIA

BUILDING CODES:

MASSACHUSETTS STATE BUILDING CODE

SNOW LOADS: 30 PSF GROUND SNOW LOAD

WIND LOADS: BASIC WIND SPEED = 90 MPH ZONE 3, EXPOSURE CATEGORY C

SEISMIC LOADS: K VALUE 1.33, C VALUE 0.10

LIVE LOADS:

CONCRETE SLABS IN PROCESS AREAS: LL = 200 PSF, UNO

GRATING AND CHECKERED PLATE: LL = 100 PSF, UNO

SEE INDIVIDUAL FLOOR/ROOF PLANS FOR SPECIFIC DESIGN LOADS IN OTHER AREAS

AT REST LATERAL SOIL LOADS (EQUIVALENT FLUID PRESSURE):

60 PCF ABOVE GROUNDWATER

95 PCF BELOW GROUNDWATER

REFER TO THE GEOTECHNICAL REPORT INCLUDED IN THE CONTRACT DOCUMENTS FOR ADDITIONAL SOIL'S INFORMATION

CAST-IN-PLACE CONCRETE NOTES

REINFORCED CONCRETE SHALL CONFORM TO ACI 318-89.

MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS:

(SEE SPECIFICATIONS FOR CLASSES OF CONCRETE)

CONCRETE FILL $f'_c = 2500$ PSI

STRUCTURAL CONCRETE $f'_c = 4000$ PSI

REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO THE LATEST EDITION OF ASTM A-615, GRADE 60.

REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI MANUAL OF STANDARD PRACTICE.

REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM CLEAR CONCRETE COVER, UNLESS OTHERWISE SHOWN:

- CONCRETE CAST AGAINST EARTH (i.e. BOTTOM OF SLABS, FOOTINGS, DRILLED PIERS, etc.) - 3 INCHES
- CONCRETE SURFACES EXPOSED TO SOIL, WATER, SEWAGE, SLUDGE, CHEMICAL SPILLS, AND/OR WEATHER (INCLUDING BOTTOM OF SLABS OVER LIQUID-CONTAINING STRUCTURES) - 2 INCHES
- CONCRETE SURFACES NOT EXPOSED TO SOIL, WATER, SEWAGE, SLUDGE, CHEMICAL SPILLS AND/OR WEATHER
 - SLABS (TOP AND BOTTOM COVER),
 - WALLS, JOISTS AND SHELLS - 1 INCH
 - BEAMS AND COLUMNS (TIES, SPIRALS, STIRRUPS AND OTHER REINFORCEMENT) - 1-1/2 INCHES

SPLICED BARS SHALL HAVE A MINIMUM LAP OF CLASS B TENSION LAP SPICE UNLESS OTHERWISE NOTED.

ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

FOR SURFACE FINISHES, SEE SPECIFICATION 03350.

CONCRETE JOINT NOTES

CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

CONSTRUCTION JOINTS AND SURFACES TO BE ROUGHENED SHALL BE PREPARED IN ACCORDANCE WITH SPECIFICATION SECTION 03250.

UNLESS OTHERWISE NOTED, PROVIDE WATERSTOPS IN JOINTS AS SHOWN ON THE DRAWINGS AND AS FOLLOWS:

- BETWEEN ANY LIQUID CONTAINMENT AREA AND AN ADJACENT DRY AREA OF A STRUCTURE.
- IN ALL EXTERIOR BELOW GRADE WALLS AND SLABS.

STEEL NOTES

STRUCTURAL SHAPES, PLATES AND BARS SHALL CONFORM TO ASTM A 36, UNLESS OTHERWISE NOTED.

ALL STRUCTURAL STEEL SHALL BE FABRICATED, ERECTED AND CONNECTED IN COMPLIANCE WITH THE LATEST AISC MANUAL OF STEEL CONSTRUCTION (ASD).

STANDARD FRAMED BEAM CONNECTIONS SHALL BE DESIGNED (UNLESS DESIGN LOADS OR DETAILS ARE SHOWN IN THE PLANS) FOR ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY FOR A GIVEN MEMBER AND SPAN AS INDICATED IN THE "ALLOWABLE LOADS ON BEAMS" TABLES OF THE AISC MANUAL OF STEEL CONSTRUCTION. MINIMUM THICKNESS OF CLIP ANGLES OR CONNECTOR PLATES SHALL BE 1/4".

BOLTED CONNECTIONS SHALL BE MADE USING ASTM A 325 HIGH-STRENGTH BOLTS AS SHOWN ON THE DRAWINGS OR AS SPECIFIED. ALL BOLTS SHALL BE 3/4" IN 13/16" HOLES UNLESS OTHERWISE SPECIFIED. PROVIDE A MINIMUM OF TWO BOLTS PER CONNECTION.

ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE STRUCTURAL WELDING CODE, AWS D11. WELD FILLER METAL SHALL BE ETOXX ELECTRODES, UNLESS OTHERWISE SPECIFIED. MINIMUM WELD SIZE SHALL BE 3/16 INCH FILLET WELD, UNLESS OTHERWISE NOTED.

HOT-DIP GALVANIZING, SHOP PAINTING AND FIELD PAINTING, IF REQUIRED, SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

METAL GRATING, COVER PLATES, AND MISCELLANEOUS METALS NOTES

STAIRWAYS AND RAILINGS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF LOCAL BUILDING CODE. LADDERS SHALL CONFORM TO OSHA REQUIREMENTS.

METAL STAIRS, LADDERS, RAILINGS, GRATINGS, COVER PLATES AND EMBEDDED SUPPORTS SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTED. FASTENERS FOR ALUMINUM CONSTRUCTION SHALL BE TYPE 316 STAINLESS STEEL, UNLESS OTHERWISE NOTED.

ALL STRUCTURAL ALUMINUM SHAPES AND PLATES SHALL BE ALLOY 6061-T6, UNLESS OTHERWISE NOTED.

GRATING SEATS AND SUPPORTS SHALL BE OF THE SAME TYPE MATERIAL AS THE GRATING SUPPORTED THEREON UNLESS OTHERWISE NOTED. ALL ANGLE FRAMES AND COVER PLATES ARE TO BE MITERED AND WELDED AT CORNERS.

GRATING PANEL LAYOUT SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS.

ALL GRATING SHALL BE SECURELY FASTENED TO SUPPORTS WITH STAINLESS STEEL GRATING CLIPS AND ANCHORS, UNLESS OTHERWISE NOTED.

MASONRY NOTES

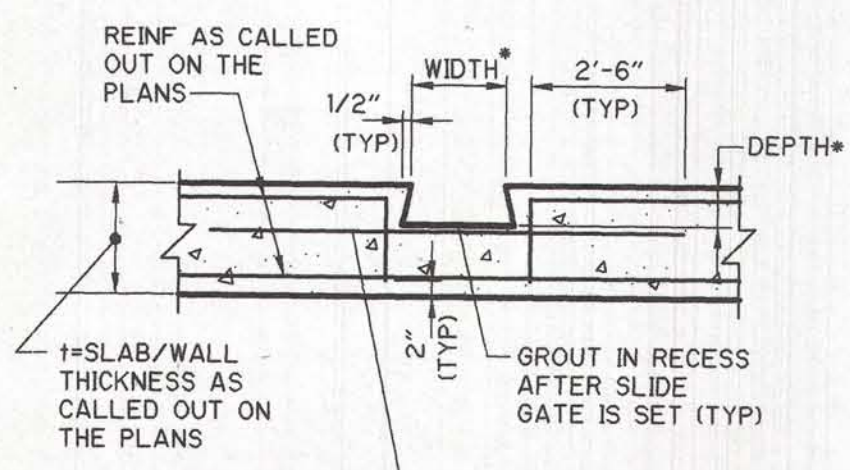
MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE MASONRY, $f'_m = 1500$ PSI.

HOLLOW, LOAD-BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE I, NORMAL WEIGHT UNITS.

MORTAR FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C270, TYPE S, UNLESS OTHERWISE NOTED. GROUT SHALL CONFORM TO ASTM C476.

PREFABRICATED HORIZONTAL JOINT REINFORCEMENT SHALL BE PROVIDED AT A VERTICAL SPACING OF 16 INCHES ON CENTER, UNLESS OTHERWISE NOTED. DEFORMED REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. REFER TO PLANS AND SPECIFICATIONS FOR ADD'L MASONRY REINFORCEMENT REQUIREMENTS.

BOND BEAMS SHALL BE PROVIDED AT ALL FLOOR AND ROOF LEVELS AND TOPS OF WALLS, UNLESS OTHERWISE NOTED.



DETAIL A

DETAIL B

DETAIL C

DETAIL D

DETAIL E

DETAIL F

CONNECTIONS

- TOEBOARD SHALL BE PROVIDED UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN SPECS. TOEBOARD NOT REQUIRED WHEN CONCRETE CURBS 4" OR HIGHER ARE PROVIDED.

RAILING

DETAIL G

DETAIL H

DETAIL I

DETAIL J

DETAIL K

DETAIL L

DETAIL M

RECORD DRAWING

CAMP DRESSER & MCKEE INC.

CITY OF NEW BEDFORD

WASTEWATER SYSTEMS IMPROVEMENTS

CONTRACT NO. 8

EDA PROJECT NO. 01-01-03529

NORTH END AND WELBY ROAD PUMPING STATIONS

NORTH END PUMPING STATION

GENERAL NOTES AND STRUCTURAL DETAILS

PROJECT NO.

0309-54802A

SHEET NO.

S-5

DEBORAH PANDELIN

6/16/95

10/04/96 11:39:39

SS03D005

01-AER-0306-182-STRU

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2-10-97	SMR	ADM	REVISED FOR RECORD DRAWING

DESIGNED BY:	D. PANDELIN
DRAWN BY:	D. PANDELIN
SHEET CHK'D BY:	B. EREL
CROSS CHK'D BY:	P. MORIN
APPROVED BY:	S. HICKOX
DATE:	SEPT. 1996

environmental engineers, scientists, planners, & management consultants

CDM

CITY OF NEW BEDFORD, MASSACHUSETTS

WASTEWATER SYSTEM IMPROVEMENTS

NORTH END AND WELBY ROAD PUMPING STATIONS

CONTRACT NO. 8

MAYOR

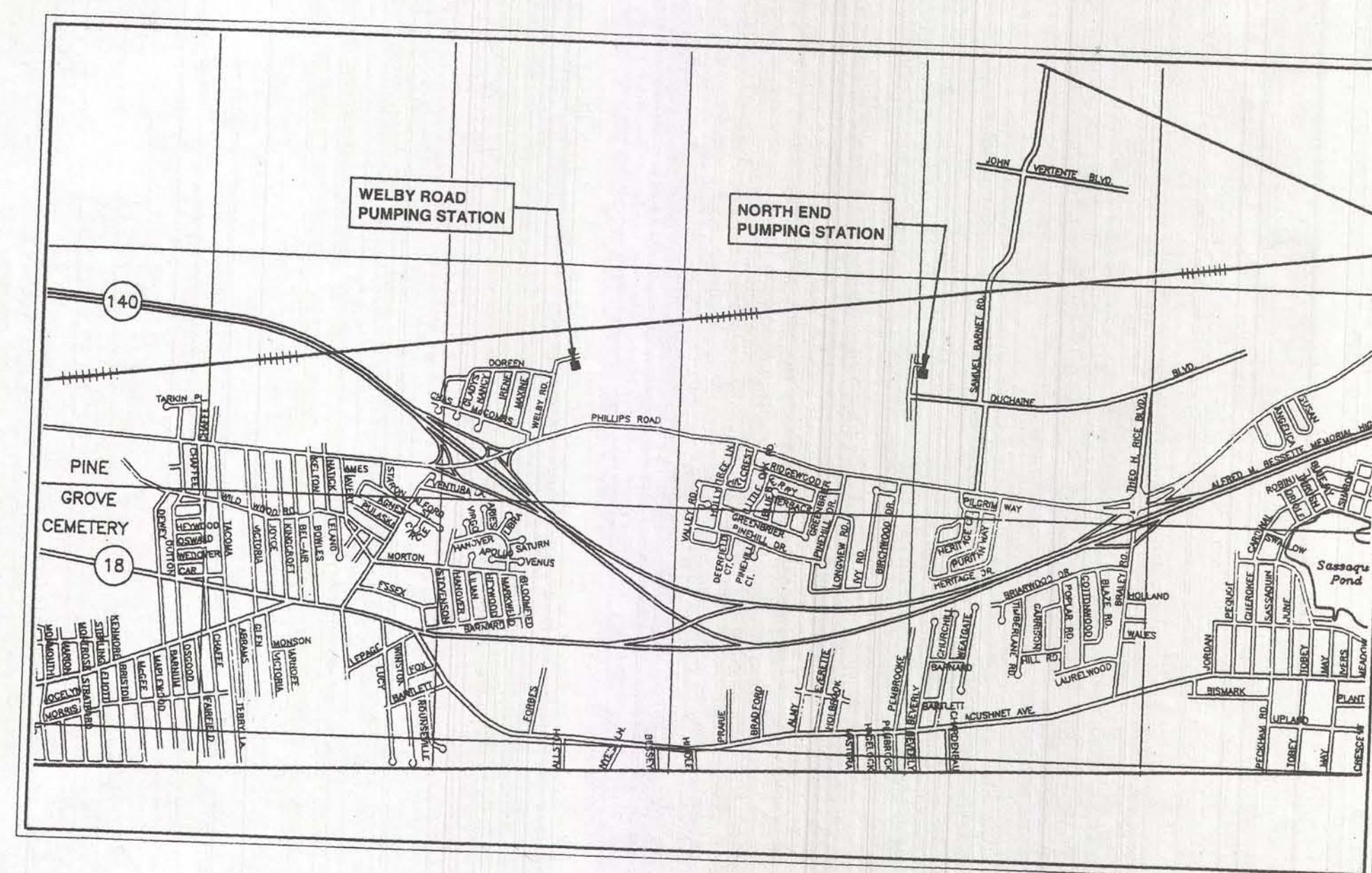
HONORABLE ROSEMARY S. TIERNEY

COMMISSIONER - DEPARTMENT OF PUBLIC WORKS

LAWRENCE D. WORDEN

BMF 20-514-09

EDA PROJECT NO. 01-01-03529



LIST OF DRAWINGS

- | | | | |
|-----|---|------|---|
| G-1 | NORTH END PUMPING STATION
SITE PLANS | M-5 | NORTH END PUMPING STATION
SODIUM HYPOCHLORITE VAULT |
| G-2 | NORTH END PUMPING STATION
PROFILES AND DETAILS | M-6 | NORTH END AND WELBY ROAD PUMPING STATIONS
SURGE TANKS PLANS AND SECTIONS |
| G-3 | NORTH END AND WELBY ROAD PUMPING STATIONS
MISCELLANEOUS DETAILS | M-7 | NORTH END AND WELBY ROAD PUMPING STATIONS
MISCELLANEOUS DETAILS |
| A-1 | NORTH END PUMPING STATION
ABBREVIATIONS AND SYMBOLS AND ROOF DETAILS | P-1 | NORTH END PUMPING STATION
PLANS AND DIAGRAM |
| A-2 | NORTH END PUMPING STATION
PLANS AND SCHEDULES | P-2 | NORTH END PUMPING STATION
STANDARD DETAILS, SYMBOLS AND
GENERAL ABBREVIATIONS |
| A-3 | NORTH END PUMPING STATION
ELEVATIONS | HV-1 | NORTH END PUMPING STATION
PLANS |
| A-4 | NORTH END PUMPING STATION
BUILDING AND WALL SECTIONS | HV-2 | NORTH END PUMPING STATION
SECTIONS |
| A-5 | NORTH END PUMPING STATION
MISCELLANEOUS DETAILS | E-1 | NORTH END AND WELBY ROAD PUMPING STATIONS
ELECTRICAL SYMBOL LIST |
| S-1 | NORTH END PUMPING STATION
PLANS | E-2 | NORTH END PUMPING STATION
SINGLE LINE DIAGRAM |
| S-2 | NORTH END PUMPING STATION
SECTIONS | E-3 | NORTH END PUMPING STATION
SITE PLAN AND SITE DETAILS |
| S-3 | NORTH END PUMPING STATION
SECTIONS AND DETAILS | E-4 | NORTH END PUMPING STATION
CONTROL DIAGRAMS |
| S-4 | NORTH END AND WELBY ROAD PUMPING STATIONS
PLANS AND SECTIONS | E-5 | NORTH END PUMPING STATION
FLOOR PLANS - POWER |
| S-5 | NORTH END PUMPING STATION
GENERAL NOTES AND STRUCTURAL DETAILS | E-6 | NORTH END PUMPING STATION
FLOOR PLANS - LIGHTING AND LIGHT
FIXTURE SCHEDULE |
| M-1 | NORTH END PUMPING STATION
PLANS | W-1 | WELBY ROAD PUMPING STATION
SITE AND GRADING PLANS, SECTIONS AND DETAILS |
| M-2 | NORTH END PUMPING STATION
PLANS AND SECTION | W-2 | WELBY ROAD PUMPING STATION
PLANS AND ELECTRICAL DETAIL |
| M-3 | NORTH END PUMPING STATION
SECTIONS | W-3 | WELBY ROAD PUMPING STATION
SECTIONS AND DETAILS |
| M-4 | NORTH END PUMPING STATION
SODIUM HYPOCHLORITE SCHEMATIC | | |



RECORD DRAWING

FEB. 1, 2001

SEPTEMBER 1996

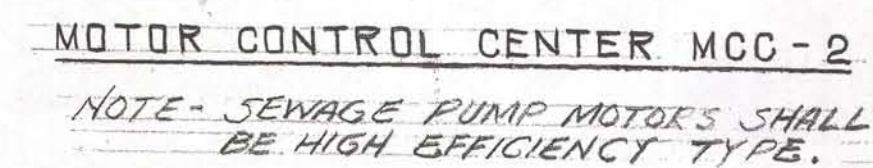
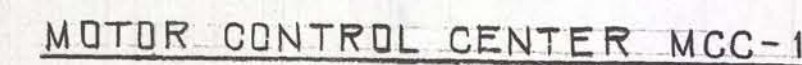
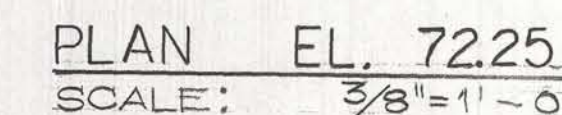
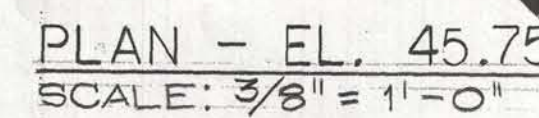
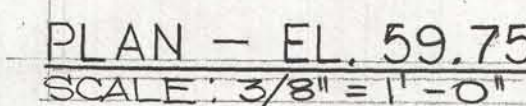
CAMP DRESSER & MCKEE INC.

CONSULTING ENGINEERS CAMBRIDGE, MASSACHUSETTS

3-646 - North End
Pumping Sta.
Welby Rd.

1. ELECTRIC CONDUITS
EL. 69.75, SEAL
SLEEVES THRU WALLS
WITH SKIGONE FOAM.
2. MOUNT HAZARDOUS
GAS SENSORS + SIREN
BEACON ALARM AT
EL. 67.75.

ALL CHANNEL AND OPENINGS
IN WET WELL SHALL BE
GRADED AT EL. 59.75



RECORD DRAWING

I	2-10-	SMP	AJM	<u>REVISED FOR RELOAD DRAWING</u>	
REV. NO.	DATE	DWNN	CHKD	REMARKS	

DESIGNED BY: C.N.
DRAWN BY: S.M.
SHEET CHK'D BY: F.C.
CROSS CHK'D BY: BEYER S
APPROVED BY: HICKOX S
DATE: SEPT. 1990

CAMP DRESSER & McKEE INC.

environmental engineers, scientists,
planners, & management consultants

CITY OF NEW BEDFORD, MASSACHUSETTS
WASTEWATER SYSTEM IMPROVEMENTS

CONTRACT NO. 8
EDA PROJECT NO. 01-01-03529

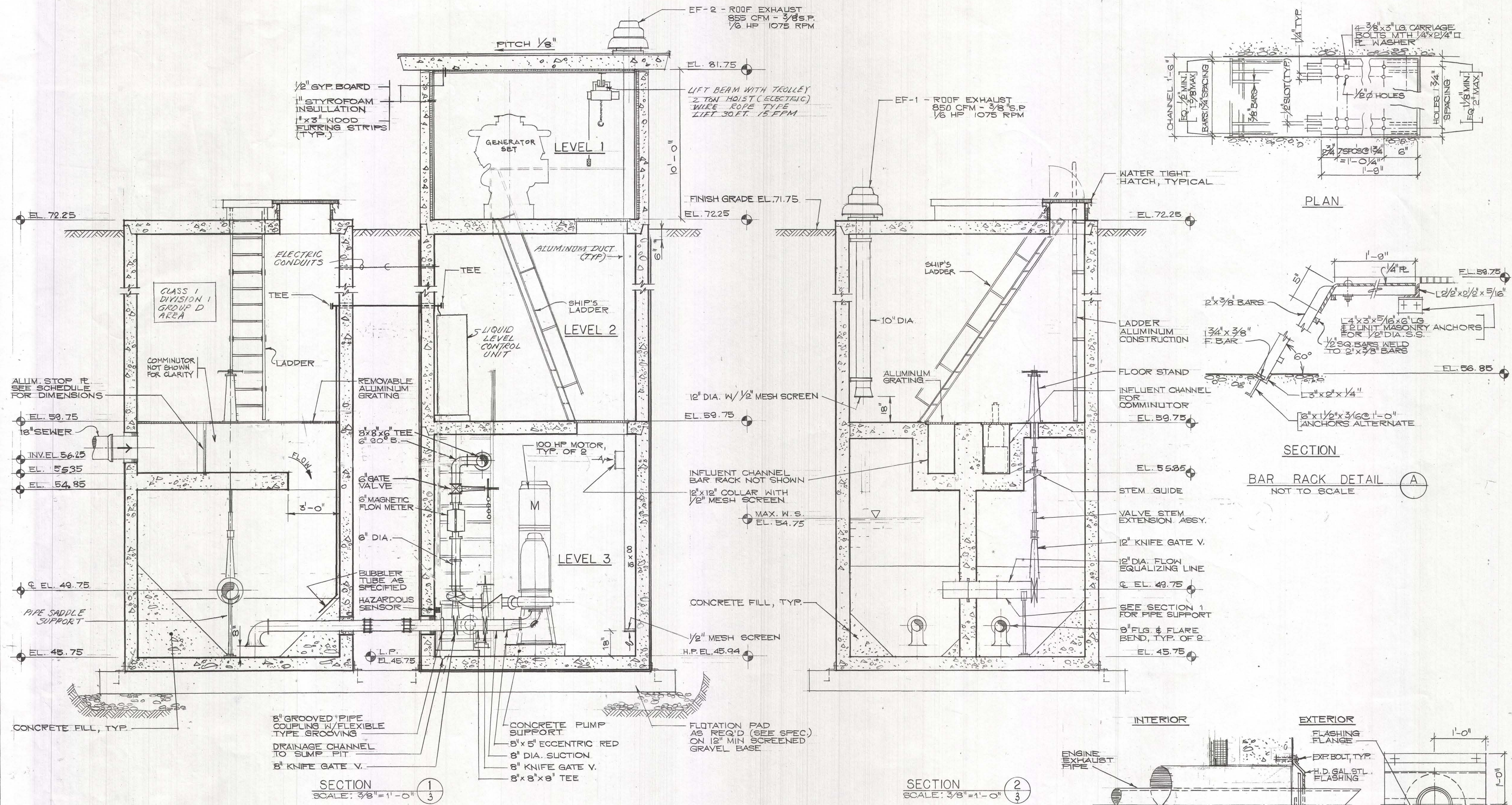
NORTH END AND WELBY ROAD PUMPING STATIONS

WELBY ROAD PUMP STATION
PLANS AND ELECTRICAL DETAIL

PROJECT NO.
309-54821

SHEET NO.

W-2

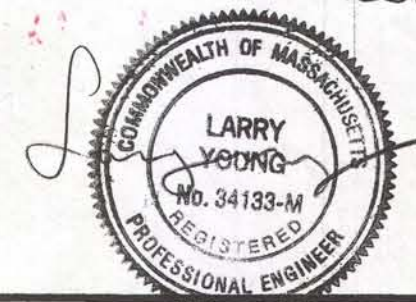


STOP PLATE SCHEDULE
(ALUMINUM CONST. AS SPECIFIED)

STOP PL. NO.	TYPE	CHANNEL WIDTH	CHANNEL INV.	TOP OF STOP PL.
1	EMBEDDED GUIDE FRAME	1'-6"	56.85	59.75

WET WELL LIQUID LEVEL CONTROL ELEVATIONS

HIGH WATER ALARM	EL. 56.75
START LAG PUMP	EL. 56.25
MAX. SPEED LEAD PUMP	EL. 55.75
START LEAD PUMP	EL. 54.75
STOP LAG PUMP	EL. 51.25
STOP LEAD PUMP	EL. 50.75
LOW WATER ALARM	EL. 50.25



12/5/96

RECORD DRAWING