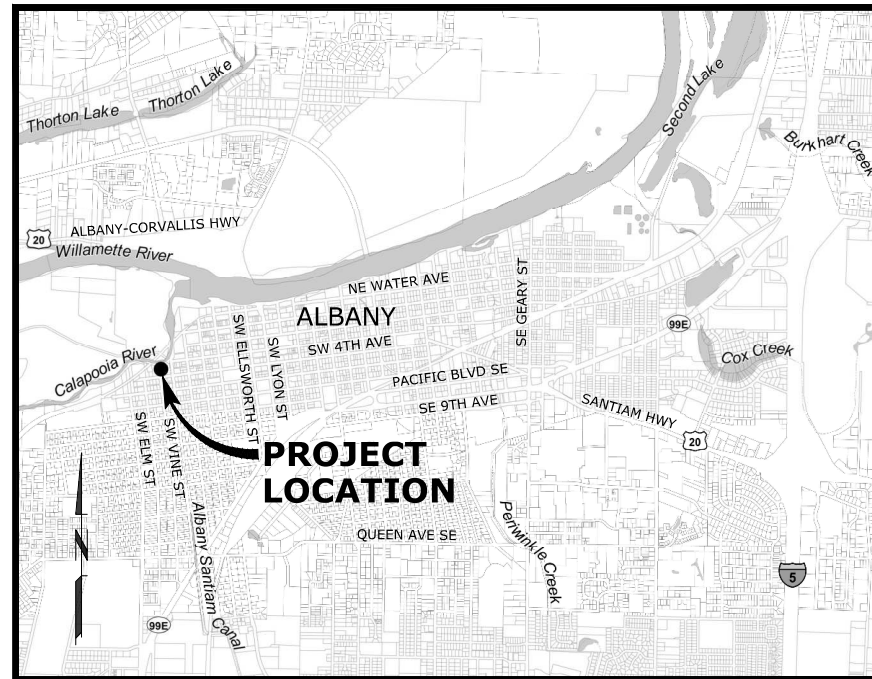


VINE STREET WATER TREATMENT PLANT CLEAR WELL REHABILITATION WTP-20-01

OCTOBER 2020



LOCATION MAP

SCALE: 1"=2,000'

INDEX OF DRAWINGS

SHEET DRAWING DESCRIPTION

GENERAL

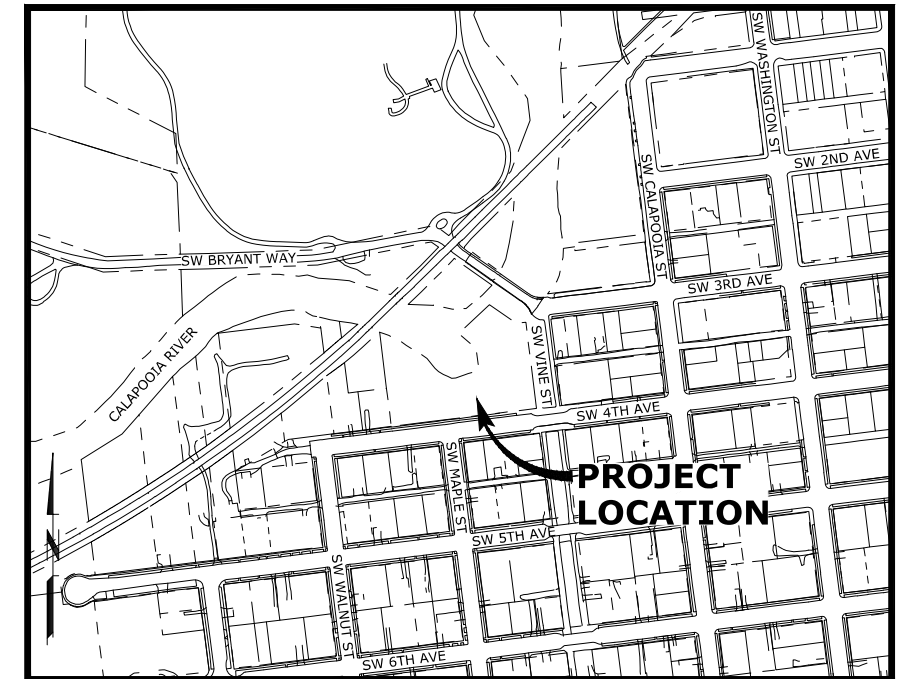
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VICINITY MAP

SCALE: 1"=250'

murraysmith



888 SW 5TH AVENUE, SUITE 1170
PORTLAND, OREGON 97204
P 503.225.9010

ATTENTION: OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-246-6699.)

G:\PDX_Projects\19\2645 - Albany Vine Street Clear Well\CAD\Sheets\19-2645-OR-G.dwg G-2 10/22/2020 11:22 PM ALEX.BARGMEYER 23.0s (LMS Tech)

PIPE & FITTING SYMBOLS

PLANT	SCHEMATIC	DESCRIPTION
		WELDED JOINT
		FLANGED JOINT
		GROOVED END JOINT
		MECHANICAL JOINT
		PUSH-ON JOINT (RUBBER GASKET)
		FLANGED COUPLING ADAPTER
		DOUBLE BALL FLEXIBLE EXTENSION COUPLING
		FLEXIBLE COUPLING W/ THRUST RING
		90° BEND UP
		90° BEND DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		BLIND FLANGE
		CAP
		LONG SLEEVE
		FLEXIBLE COUPLING
		FITTING (45°)

TOPOGRAPHIC LEGEND

	EXISTING	PROPOSED
WATERLINE		
ELECTRICITY		
GAS		
TELEPHONE/TELEMETRY		
CABLE TELEVISION		
SANITARY SEWER LINE		
SANITARY SEWER FORCE MAIN		
STORM DRAIN		
CULVERT		
ABANDON PIPE		
DRAINAGE DITCH		
BARBWIRE FENCE		
CHAIN LINK FENCE		
TEMPORARY SILT FENCE		
GUARDRAIL		
ROCK WALL		
TREE/BUSH LINE		
CENTERLINE		
EASEMENT/PROPERTY LINE		
RIGHT-OF-WAY		
EDGE OF PAVEMENT/AC		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
STRUCTURE OR FACILITY		
CONTOUR MINOR		
CONTOUR MAJOR		
MANHOLE		
CLEAN-OUT		
CATCH BASIN/FIELD INLET		
THRUST BLOCK		
VALVE		
AIR INJECTION ASSEMBLY		
BLOW-OFF ASSEMBLY		
AIR RELEASE ASSEMBLY		
FIRE HYDRANT ASSEMBLY		
WATER METER		
PULL BOX/JUNCTION BOX		
UTILITY POLE		
GUY WIRE		
LIGHT POST		
MAILBOX		
SIGN		
BENCHMARK		
TREE DECIDUOUS		
TREE CONIFEROUS		
TREE TO BE REMOVED		
SURFACE ELEVATION		

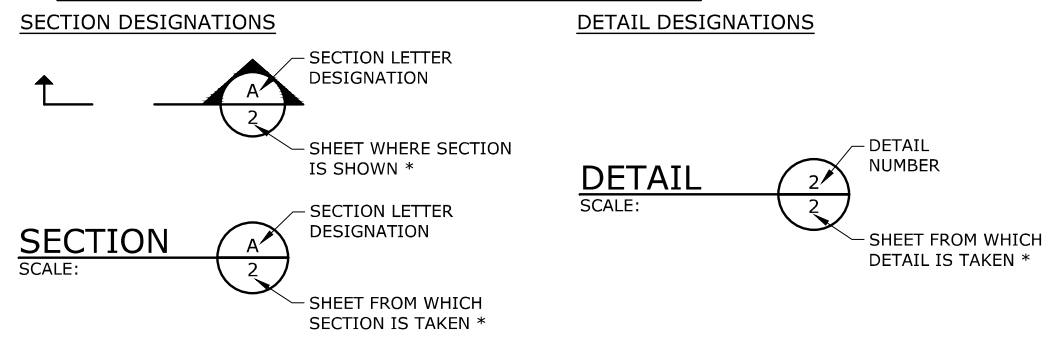
VALVE SYMBOLS

PLANT	SCHEMATIC	DESCRIPTION
		BUTTERFLY VALVE
		GATE VALVE
		GLOBE VALVE
		BALL VALVE
		BALANCING VALVE
		PLUG VALVE (TOP)
		PLUG VALVE (SIDE)
		3-WAY PLUG VALVE
		CHECK VALVE
		SWING CHECK VALVE
		DOUBLE CHECK ASSEMBLY
		BALL SWING CHECK
		SILENT CHECK VALVE
		PRESSURE REDUCING VALVE
		ALTITUDE CONTROL VALVE
		SOLENOID VALVE
		RELIEF VALVE
		NEEDLE VALVE
		HOSE VALVE
		REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES
		HOSE BIBB

MISCELLANEOUS PIPING SYMBOLS

	STRAINER
	SIGHT GLASS
	PRESSURE GAUGE W/ COCK
	PRESSURE SWITCH W/ COCK
	METER
	SLIP-ON JOINT PIPE
	RESTRAINED JOINT PIPE

SECTION AND DETAIL DESIGNATIONS



* NOTE: IF PLAN AND SECTION FOR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON THE SAME DRAWING, DRAWING NUMBER IS REPLACED WITH A DASH.

NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

KAU DESIGNED
CAD DRAWN
AMB CHECKED

REGISTERED PROFESSIONAL ENGINEER
ALEX M. BARGMEYER
RENEWS 12-31-21

murraysmith

ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

SYMBOLS AND LEGEND

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET

G-2

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@	AT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT
ABAN(D)	ABANDON(ED)
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABV	ABOVE / ALCOHOL BY VOLUME
AC	ASPHALTIC CONCRETE
ACP	ASPHALTIC CONCRETE PAVING
ADJ	ADJUSTABLE
ADJC	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHR	ANCHOR
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APPVD	APPROVED
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSN	ASSOCIATION
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B&S	BELL & SPIGOT
BC	BOLT CIRCLE
BD	BOARD
BETW	BETWEEN
BF	BOTH FACE
BFD	BACKFLOW PREVENTION DEVICE
BFILL	BACKFILL
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BKGD	BACKGROUND
BLDG	BUILDING
BLK	BLOCK
BLVD	BOULEVARD
BM	BENCHMARK / BEAM
BMP	BEST MANAGEMENT PRACTICES
BO	BLOW-OFF
BOC	BACK OF CURB
BS	BOTH SIDES
BSMT	BASEMENT
BTF	BOTTOM FACE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BW	BOTH WAYS
C	CELSIUS
C TO C	CENTER TO CENTER
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CARV	COMBINATION AIR RELEASE VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CCP	CONCRETE CYLINDER PIPE
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAN	CHANNEL
CHEM	CHEMICAL
CHFR	CHAMFER
CHKV	CHECK VALVE
CI	CAST IRON
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CL OR C/L	CENTER LINE
CL2	CHLORINE
CLG	CEILING
CLJ	CONTROL JOINT
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL

CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CO	ANCHOR BOLT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS / CONTINUATION
CONTR	CONTRACT(OR)
COORD	COORDINATE
COP	COPPER
CORP	CORPORATION
CORR	CORRUGATED
CP	CONTROL POINT
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CRUSHED ROCK
CS	COMBINED SEWER
CSP	CONCRETE SEWER PIPE
CT	COURT
CTR	CENTER
CU	CUBIC
CULV	CULVERT
CV	CONTROL VALVE
CW	CLOCKWISE / COLD WATER
CY	CUBIC YARDS
CYL	CYLINDER LOCK
D	DRAIN
DC	DIRECT CURRENT
DEFL	DEFLECTION
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DIST	DISTANCE
DN	DOWN
DR	DRIVE
DS	DOWNSPOUT
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE AND VENT
DWY	DRIVEWAY
E / ELEC	ELECTRICAL
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EL	ELEVATION
ELB	ELBOW
ENCL	ENCLOSURE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ESMT	EASEMENT
EW	EACH WAY
EXC	EXCAVATE
EXIST	EXISTING
EXP	EXPANSION
EXP BT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F	FAHRENHEIT
F TO F	FACE TO FACE
FAB	FABRICATE
FB	FLAT BAR
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE
FGL	FIBERGLASS
FH	FIRE HYDRANT
FIN	FINISH(ED)
FIPT	FEMALE IRON PIPE THREAD
FITG	FITTING
FL	FLOOR LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLL	FLOW LINE
FLR	FLOOR
FM	FORCE MAIN

FO	FIBER OPTIC
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET / FOOT
FTG	FOOTING
FUT	FUTURE
FXTR	FIXTURE
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GROOVED COUPLING
GFA	GROOVED FLANGE ADAPTER
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GJ	GRIP JOINT
GL	GLASS
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GR LN	GRADE LINE
GRTG	GRATING
GV	GATE VALVE
GRVL	GRAVEL
GYP	GYPSUM
HB	HOSE BIBB
HC	HOLLOW CORE
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWE	HARDWARE
HGR	HANGER
HGT	HEIGHT
HH	HANDHOLD
HM	HOLLOW METAL
HMAC	HOT MIX ASPHALT CONCRETE
HNDRL	HANDRAIL
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE / HORSEPOWER
HPG	HIGH PRESSURE GAS
HPT	HIGH POINT
HR	HOUR
HSB	HIGH STRENGTH BOLT
HV	HOSE VALVE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWL	HIGH WATER LINE
HWY	HIGHWAY
HYD	HYDRANT
HYDR	HYDRAULIC
I&C	INSTRUMENTATION & CONTROL
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IMPVT	IMPROVEMENT
IN	INCH
INCC	INCLUDE(D)(ING)
INFL	INFLUENT
INJ	INJECTION
INSTL	INSTALLATION / INSTALL
INSUL	INSULATION
INTER	INTERCEPTOR
INTR	INTERIOR
INV	INVERT
IP	IRON PIPE
IPT	IRON PIPE THREAD
IR	IRON ROD
IRRIG	IRRIGATION
ITD	IDAHO TRANSPORTATION DEPARTMENT
JT	JOINT
JUNC	JUNCTION
KPL	KICK PLATE
KVA	KILOVOLT AMPERE

KW	KILOWATT
KWY	KEYWAY
L	LENGTH
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LF	LINEAR FOOT
LIN	LINEAL
LN	LANE
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW PRESSURE
LPT	LOW POINT
LRG	LARGE
LS	LONG SLEEVE / LUMP SUM
LT	LEFT
LVL	LEVEL
LWL	LOW WATER LINE
MAN	MANUAL
MAT	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MASTER CONTROL PANEL
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MIPT	MALE IRON PIPE THREAD
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT / MONOLITHIC
MOT	MOTOR
MP	MILEPOST
MSL	MEAN SEAL LEVEL
MTD	MOUNTED
NA	NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO / NO.	NORMALLY OPEN / NUMBER
NOM	NOMINAL
NORM	NORMAL
NRS	NON-RISING STEM
NTS	NOT TO SCALE
O TO O	OUT TO OUT
OAR	OREGON ADMINISTRATIVE RULES
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
OF	OVERFLOW / OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OVHD	OVERHEAD
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PCVC	POINT OF CURVATURE ON VERTICAL CURVE
PE	PLAIN END
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PG	PRESSURE GAUGE
PH	PIPE HANGER
PI	POINT OF INTERSECTION
PIVC	POINT OF INTERSECTION ON VERTICAL CURVE
PL OR P/L	PROPERTY LINE / PLATE / PLASTIC
PLBG	PLUMBING
PNL	PANEL
POC	POINT OF CURVATURE
POLY	POLYETHYLENE
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PRCST	PRECAST
PREP	PREPARATION

PRESS	PRESSURE
PRKG	PARKING
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE
PS	PUMP STATION
PSIG	POUNDS PER SQUARE INCH GAUGE
PSL	PIPE SLEEVE
PSPT	PIPE SUPPORT
PT	POINT OF TANGENCY
PTVC	POINT OF TANGENCY ON VERTICAL CURVE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QTY	QUANTITY
RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD / ROOF DRAIN
RDCR	REDUCER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REQ'D	REQUIRED
RESTR	RESTRAINED
RFCA	RESTRAINED FLANGE COUPLING ADAPTER
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
R/W	RIGHT-OF-WAY
RPBPD	REDUCED PRESSURE BACKFLOW PREVENTION DEVICE
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RST	REINFORCED STEEL
RT	RIGHT
SALV	SALVAGE
SAN	SANITARY
SC	SOLID CORE
SCHED	SCHEDULE
SD	STORM DRAIN
SDL	SADDLE
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SHLDR	SHOULDER
SHT	SHEET
SIM	SIMILAR
SLP	SLOPE
SLV	SLEEVE
SOLN	SOLUTION
SP	SOIL PIPE / SEWER PIPE
SPCL	SPECIAL
SPEC(S)	SPECIFICATION(S)
SPG	SPACING
SPL	SPOOL
SPRT	SUPPORT
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR	STRAIGHT
STRUCT	STRUCTURE / STRUCTURAL
SUBMG	SUBMERGED
SUCT	SUCTION
SV	SOLENOID VALVE
S/W	SIDEWALK
SWD	SIDEWATER DEPTH
SWGR	SWITCH GEAR
SYMM	SYMMETRICAL
SYS	SYSTEM
T OR TEL	TELEPHONE
T&B	TOP & BOTTOM
TAN	TANGENCY
TB	THRUST BLOCK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CONCRETE / TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT

TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE / TEMPORARY
T&G	TONGUE & GROOVE
THK	THICK / THICKNESS
THRD	THREAD (ED)
THRU	THROUGH
TP	TEST PIT / TOP OF PAVEMENT / TURNING POINT
TRANS	TRANSITION
TSP	TRI-SODIUM PHOSPHATE
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UN	UNION
UON	UNLESS OTHERWISE NOTED
USGS	UNITED STATES GEOLOGIC SURVEY
V	VENT / VOLT
VAC	VACUUM
VB	VACUUM BREAKER
VBOX	VALVE BOX
VC	VERTICAL CURVE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VCP	VITRIFIED CLAY PIPE
VTR	VENT THROUGH ROOF
W	WATER
W/	WITH
W/IN	WITHIN
W/O	WITHOUT
W/W	WALL TO WALL
WD	WOOD
WF	WIDE FLANGE
WH	WATER HEATER
WI	WROUGHT IRON
WM	WATER METER
WP	WORKING POINT / WATERPROOFING
WS	WATER SERVICE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WT	WEIGHT
WTP	WATER TREATMENT PLANT
WTRT	WATERTIGHT
WWF	WELED WIRE FABRIC
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT
X SECT	CROSS SECTION
XFMR	TRANSFORMER
YD	YARD DRAIN / YARD
YH	YARD HYDRANT
YR	YEAR
ZN	ZINC

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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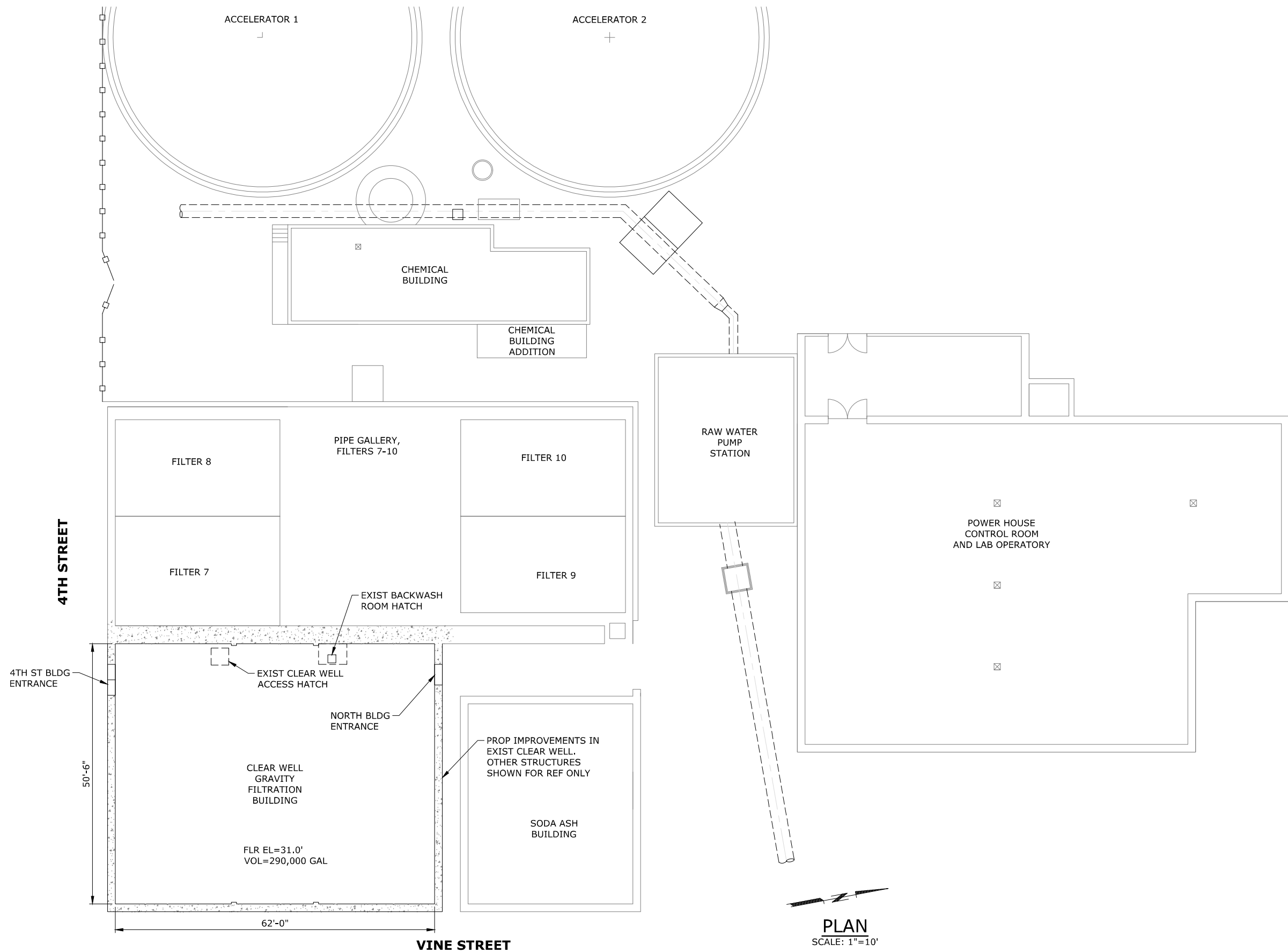
ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

GENERAL NOTES AND ABBREVIATIONS

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
G-3
3 of 16

G:\PDX_Projects\19\2645 - Albany Vine Street Clear Well\CAD\Sheets\19-2645-OR-M.dwg M-1 10/23/2020 1:48 PM ALEX.BARGMEYER 23.0s (LMS Tech)

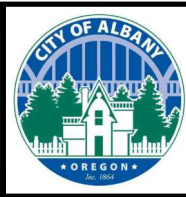


PLAN
SCALE: 1"=10'

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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DESIGNED
CAD
DRAWN
AMB
CHECKED



**ALBANY
VINE STREET WTP
CLEAR WELL
REHABILITATION**

WTP SITE PLAN			
PROJECT NO.:	19-2645	SCALE:	AS SHOWN
DATE:	OCTOBER 2020		

SHEET
M-1
4 of 16

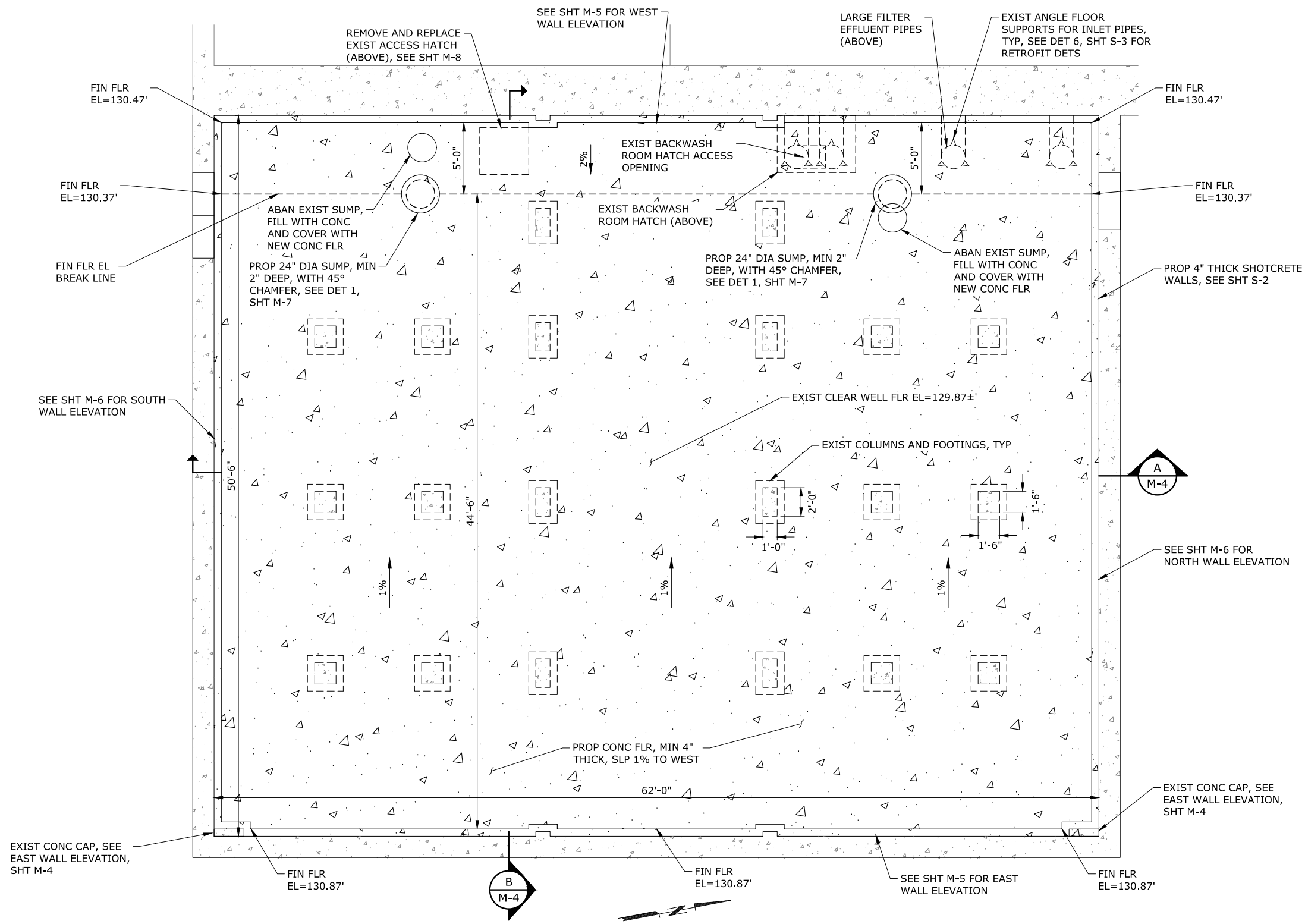
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SHEET NOTES:

1. DIMENSION AND LOCATION OF CLEAR WELL STRUCTURAL COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION OF CONCRETE WALLS AND FLOOR AND EPOXY COATING OF COLUMNS AND SUBMERGED AREAS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.
2. REMOVE AND REPLACE EXISTING ACCESS HATCH AND LADDER WITH NEW STAINLESS STEEL HATCH AND LADDER, SEE DETAILS ON SHEET M-8.
3. MECHANICALLY REMOVE MINERAL BUILD UP FROM WALLS NEAR BACKWASH ROOM HATCH, AS REQUIRED TO PROPERLY ACCESS CONCRETE SUBSTRATE FOR PROPER INSTALLATION OF SHOTCRETE AND EPOXY COATING.
4. MINIMUM FLOOR THICKNESS SHALL BE 4 INCHES. PERIMETER HYDROPHILIC WATER STOP MAY INCREASE MINIMUM COVER REQUIREMENTS IN CERTAIN LOCATIONS. REFER TO STRUCTURAL SHEETS FOR DETAILS.
5. CONTRACTOR SHALL REMOVE ALL STANDING WATER AND ALLOW TIME AND MEANS TO ASSESS FOR ACTIVE LEAKS. ALL ACTIVE LEAKS SHALL BE MITIGATED USING EPOXY INJECTIONS OR OTHER METHODS PRIOR TO SHOTCRETE APPLICATION.
6. IF CLEARANCE BETWEEN EXISTING PUMP INLET BELLS AND NEW FLOOR IS LESS THAN MINIMUM ALLOWABLE CLEARANCE FOR PUMP SUCTION, A DEPRESSION SHALL BE INSTALLED IN PROPOSED FLOOR TOPPING SLAB. SEE DETAIL 2, SHEET M-7 FOR ADDITIONAL DETAILS.

PRELIMINARY CONSTRUCTION SEQUENCING:

1. PRELIMINARY CONSTRUCTION SEQUENCE IS PROVIDED FOR REFERENCE AND TO OUTLINE THE KEY STEPS FOR PROJECT COMPLETION. THE CONTRACTOR SHALL PROVIDE PROPOSED CONSTRUCTION SEQUENCE FOR REVIEW.
2. DEMOLISH AND TEMPORARILY REMOVE ALL NECESSARY APPURTENANCES TO FACILITATE WORK INCLUDING BUT NOT LIMITED TO THE EXISTING LADDER, ACCESS HATCH, CHEMICAL FEED PIPING, AND ACCESS HATCH PIPING.
3. PREPARE EXISTING CONCRETE SURFACE AND INSTALL SHOTCRETE WALLS.
4. PREPARE EXISTING CONCRETE SURFACE AND INSTALL CONCRETE FLOOR.
5. PREPARE EXISTING CONCRETE SURFACE AND INSTALL EPOXY COATING AT COLUMNS AND SUBMERGED CEILING.
6. INSTALL NEW LADDER AND HATCH
7. INSTALL NEW CHEMICAL FEED AND ALL INCIDENTAL PIPING. COORDINATE WITH CITY CREWS TO TEST PIPING, DISINFECT, AND PLACE CLEAR WELL BACK ONLINE.



PLAN
SCALE: 1/4"=1'-0"

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

KAU DESIGNED
CAD DRAWN
AMB CHECKED



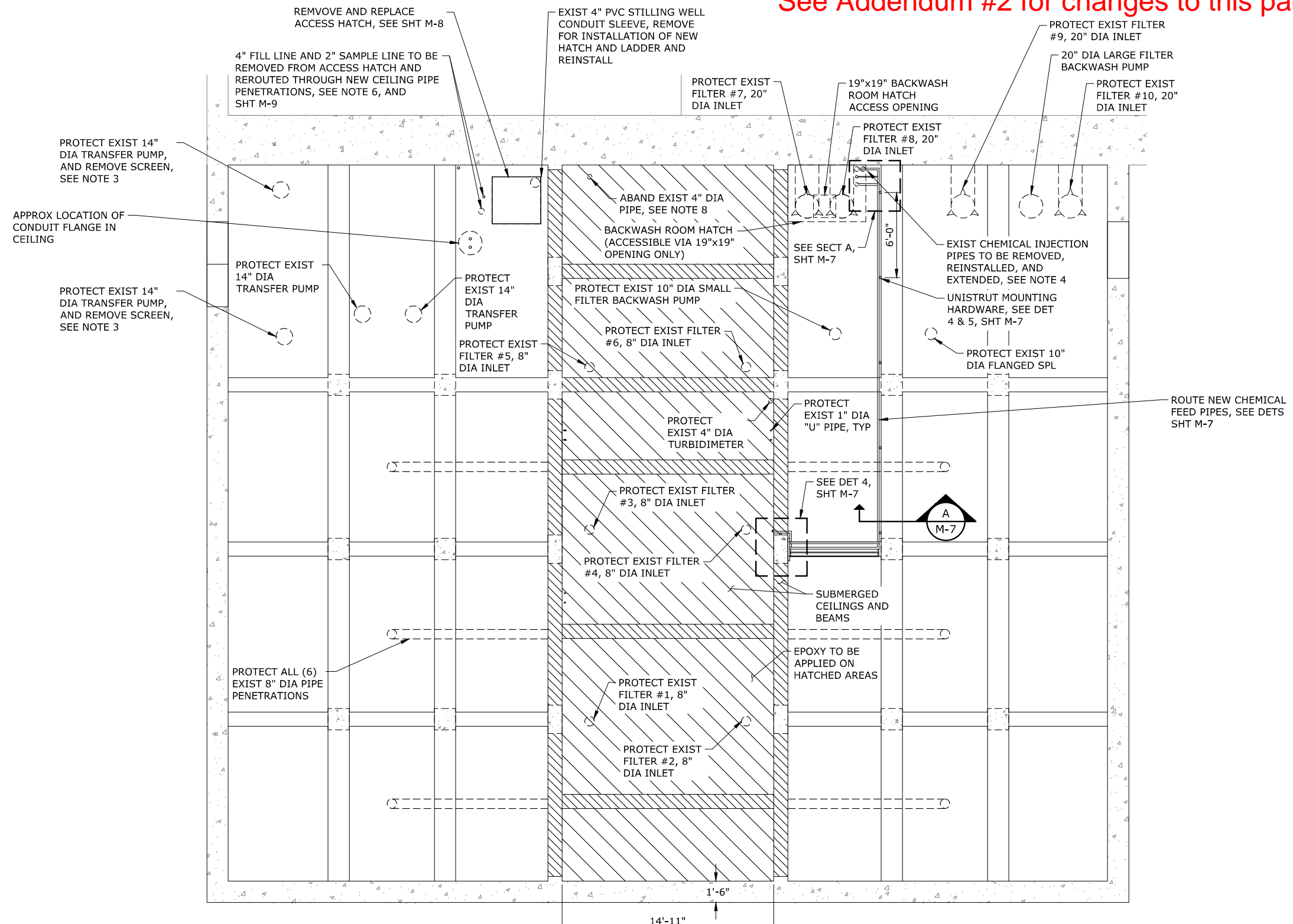
CLEAR WELL FLOOR PLAN

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

See Addendum #2 for changes to this page.

SHEET NOTES:

1. ALL AREAS IDENTIFIED ON PLANS TO BE EPOXY COATED SHALL BE SURFACE PREPARED AND COATED WITH NSF 61 APPROVED COATING PER THE SPECIFICATIONS. THESE AREAS INCLUDE BUT MAY NOT BE LIMITED TO: ALL COLUMNS AND SUBMERGED CEILINGS AND BEAMS FROM ABOVE THE PROPOSED CONCRETE FLOOR TO THE CEILING, OR THE HIGHEST VERTICAL SURFACE, WHERE BEAMS ARE PRESENT. GRINDING DOWN SHARP EDGES AND BUMPS IN CONCRETE TO A 3/16" MIN RADIUS AND FILLING ROCK POCKETS LARGER THAN 1/2" WITH GROUT SHALL BE INCLUDED IN SURFACE PREPARATION. ENGINEER TO INSPECT COMPLETION OF SURFACE PREPARATION PRIOR TO INSTALLATION OF COATING.
2. MECHANICALLY REMOVE EFFLORESCENCE AND MINERAL BUILD UP FROM WALLS NEAR BACKWASH ROOM HATCH, AS REQUIRED TO PROPERLY ACCESS CONCRETE SUBSTRATE FOR PROPER INSTALLATION OF SHOTCRETE AND EPOXY COATING.
3. DEMOLISH EXISTING CORRODED PUMP INTAKE SCREENS.
4. REMOVE, REINSTALL, AND EXTEND CHEMICAL FEED PIPING AT BACKWASH ROOM HATCH, PER DETAIL 4 ON SHEET M-7. FURNISH AND INSTALL PIPE SPOOLS, FITTINGS, AND PIPE SUPPORT BRACKETS AS REQUIRED.
5. COORDINATE ON SITE WITH OWNER AND ENGINEER FOR DEMOLITION OF ANY ADDITIONAL MISCELLANEOUS PIPING.
6. REMOVE AND REINSTALL CONDUITS AT ACCESS HATCH AS NEEDED TO PERFORM WORK.
7. DIMENSIONS AND LOCATION OF CLEAR WELL STRUCTURE COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION OF CONCRETE WALLS AND FLOOR AND EPOXY COATING OF COLUMNS AND SUBMERGED AREAS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.
8. TO ABANDON MISCELLANEOUS PIPING, GRIND DOWN PIPE 1/4-INCH INTO CONCRETE AND FILL WITH DRY PACK NON-SHRINK GROUT. COVER GROUT WITH A POLYMER-MODIFIED, TROWEL-GRADE CEMENTITIOUS MORTAR SUCH AS SIKATOP-122, SIKATOP-123, OR APPROVED EQUAL.



PLAN
SCALE: 1/4"=1'-0"

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NOTICE
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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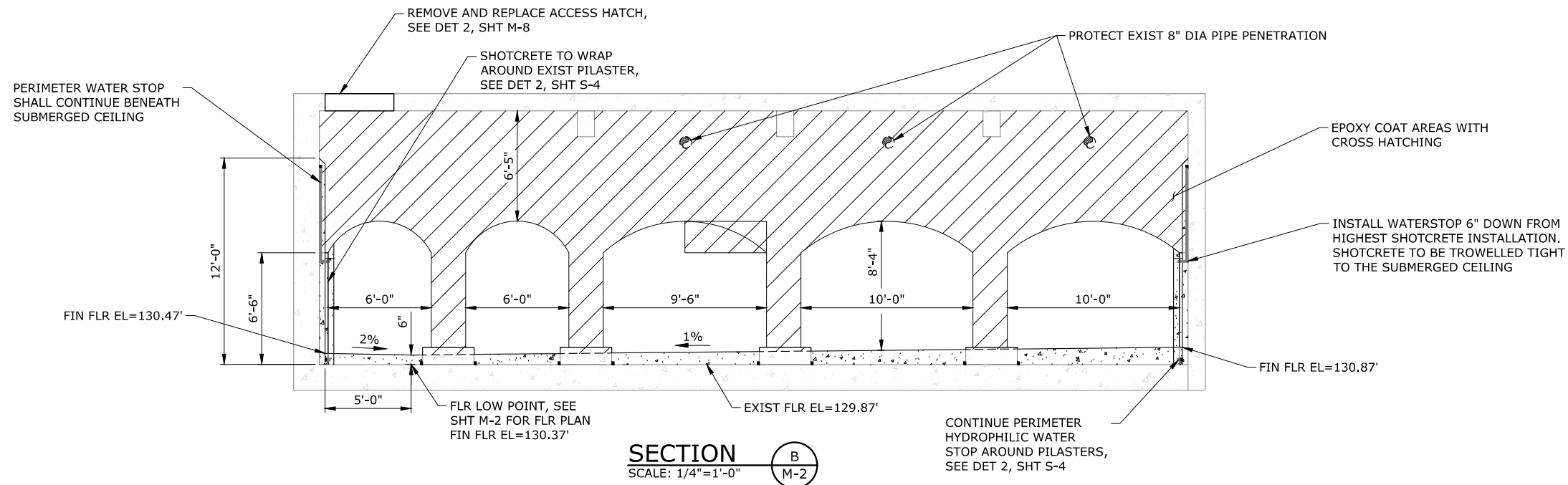
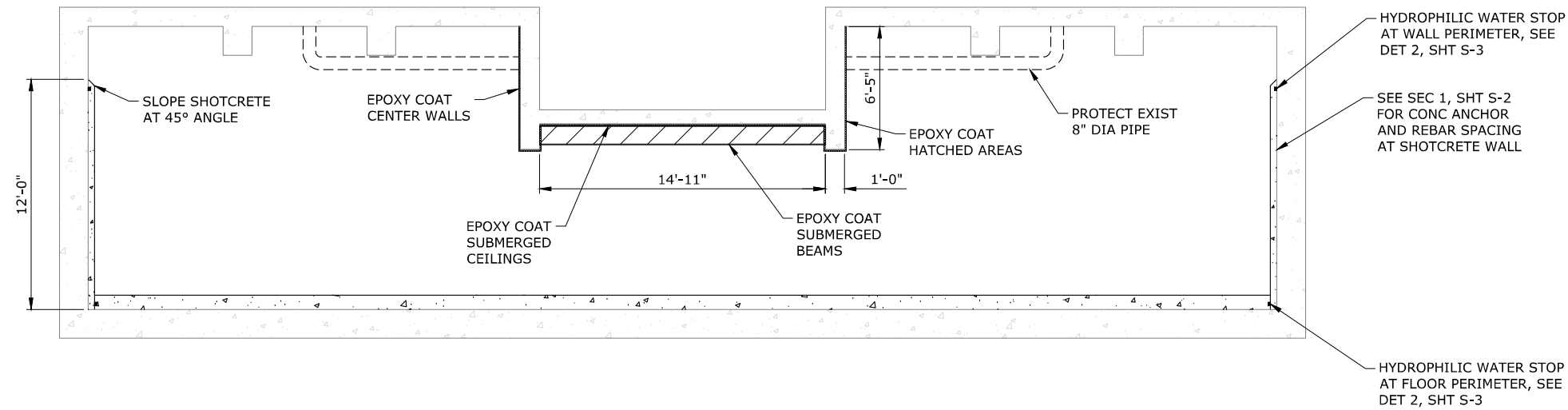
CLEAR WELL CEILING PLAN

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

See Addendum #2 for changes to this page.

SHEET NOTES:

1. ALL AREAS IDENTIFIED ON PLANS TO BE EPOXY COATED SHALL BE SURFACE PREPARED AND COATED WITH NSF 61 APPROVED COATING PER THE SPECIFICATIONS. THESE AREAS INCLUDE BUT MAY NOT BE LIMITED TO: ALL COLUMNS AND SUBMERGED CEILINGS AND BEAMS FROM ABOVE THE PROPOSED CONCRETE FLOOR TO THE CEILING, OR THE HIGHEST VERTICAL SURFACE, WHERE BEAMS ARE PRESENT. GRINDING DOWN SHARP EDGES AND BUMPS IN CONCRETE TO A 3/16" MIN RADIUS AND FILLING ROCK POCKETS LARGER THAN 1/2" WITH GROUT SHALL BE INCLUDED IN SURFACE PREPARATION. ENGINEER TO INSPECT COMPLETION OF SURFACE PREPARATION PRIOR TO INSTALLATION OF COATING.
2. FURNISH AND INSTALL HYDROPHILIC WATER STOP AT FLOOR PERIMETER, AND COLUMN FOOTING PERIMETERS, AND TOP OF SHOTCRETE WALL PERIMETER. SEE STRUCTURAL SHEETS FOR DETAILS INCLUDING MINIMUM COVER REQUIREMENTS.
3. DIMENSIONS AND LOCATION OF CLEAR WELL STRUCTURE COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION OF CONCRETE WALLS AND FLOOR AND EPOXY COATING OF COLUMNS AND SUBMERGED AREAS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.

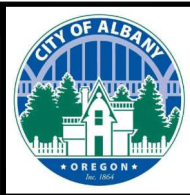


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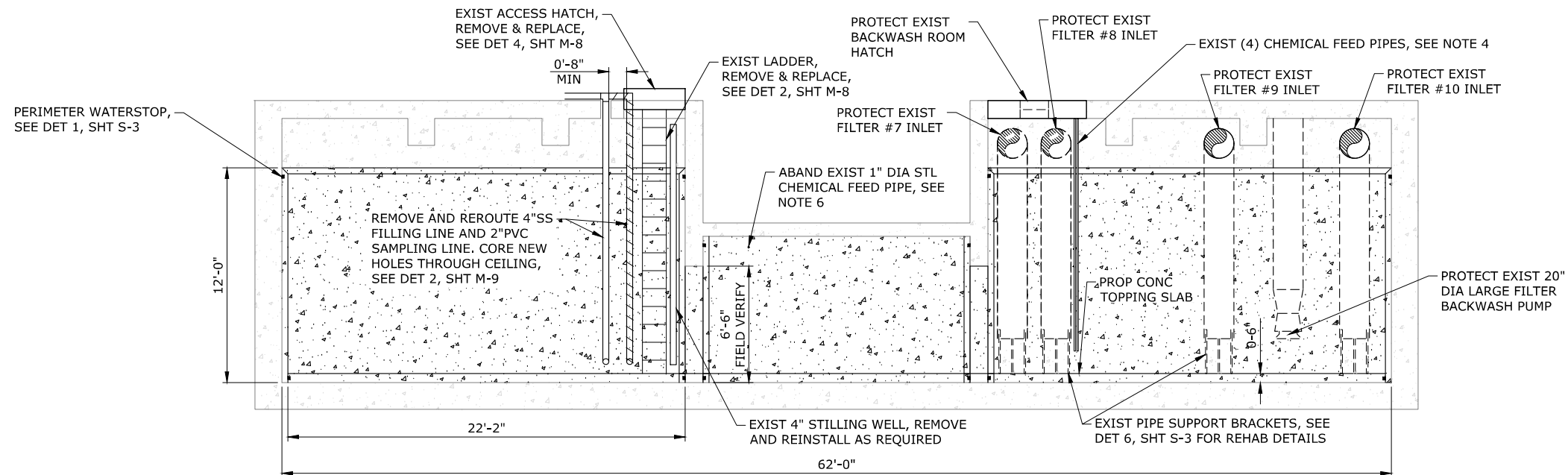


ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

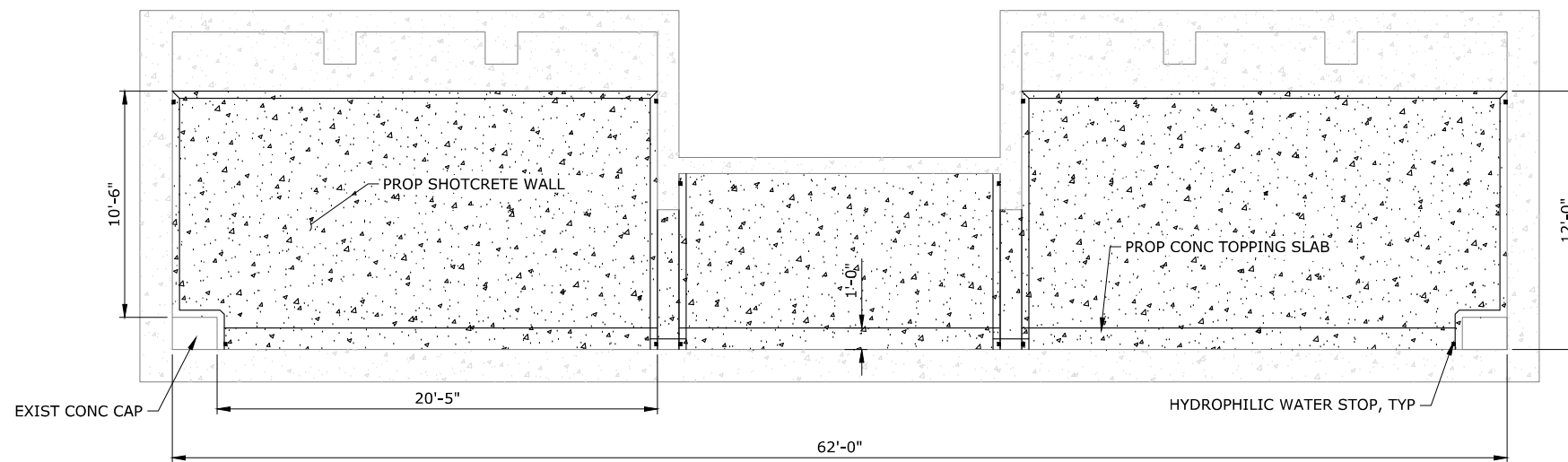
CLEAR WELL BUILDING SECTIONS

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
M-4
7 of 16



WEST WALL ELEVATION
SCALE: 1/4" = 1'-0"



EAST WALL ELEVATION
SCALE: 1/4" = 1'-0"

SHEET NOTES:

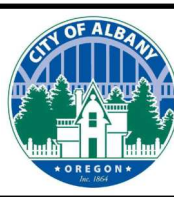
1. DIMENSIONS AND LOCATION OF CLEAR WELL STRUCTURE COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION OF CONCRETE WALLS AND FLOOR AND EPOXY COATING OF COLUMNS AND SUBMERGED AREAS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.
2. MINIMUM FLOOR THICKNESS SHALL BE 4 INCHES. PERIMETER HYDROPHILIC WATER STOP MAY INCREASE MINIMUM COVER REQUIREMENTS IN CERTAIN LOCATIONS. REFER TO STRUCTURAL SHEETS FOR DETAILS.
3. REMOVE AND REPLACE EXISTING ACCESS HATCH AND LADDER WITH NEW STAINLESS STEEL HATCH AND LADDER, SEE DETAILS ON SHEET M-8.
4. REMOVE, REINSTALL, AND EXTEND CHEMICAL FEED PIPING AT BACKWASH ROOM HATCH, PER DETAIL 4 ON SHEET M-7. FURNISH AND INSTALL PIPE SPOOLS, FITTINGS, AND PIPE SUPPORT BRACKETS AS REQUIRED.
5. REMOVE AND REROUTE 4-INCH FILLING LINE AND 2-INCH SAMPLING LINE PIPING AT ACCESS HATCH FOR OSHA COMPLIANCE. CORE THROUGH CEILING OF CLEAR WELL ADJACENT TO HATCH PER SHEET M-9. FURNISH AND INSTALL PIPE SPOOLS, FITTINGS, AND PIPE SUPPORT BRACKETS AS REQUIRED.
6. TO ABANDON MISCELLANEOUS PIPING, GRIND DOWN PIPE 1/4-INCH INTO CONCRETE AND FILL WITH DRY PACK NON-SHRINK GROUT. COVER GROUT WITH A POLYMER-MODIFIED, TROWEL-GRADE CEMENTITIOUS MORTAR SUCH AS SIKATOP-122, SIKATOP-123, OR APPROVED EQUAL.

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**ALBANY
VINE STREET WTP
CLEAR WELL
REHABILITATION**

**CLEAR WELL WALL ELEVATIONS
(EAST AND WEST)**

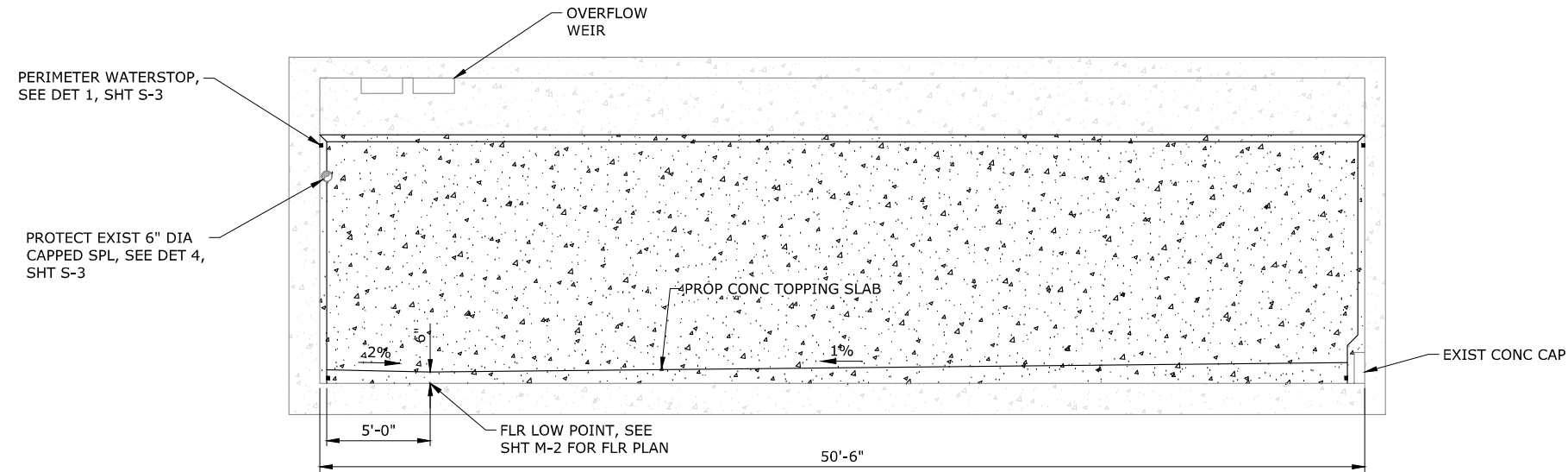
PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
M-5
8 of 16

SHEET NOTES:

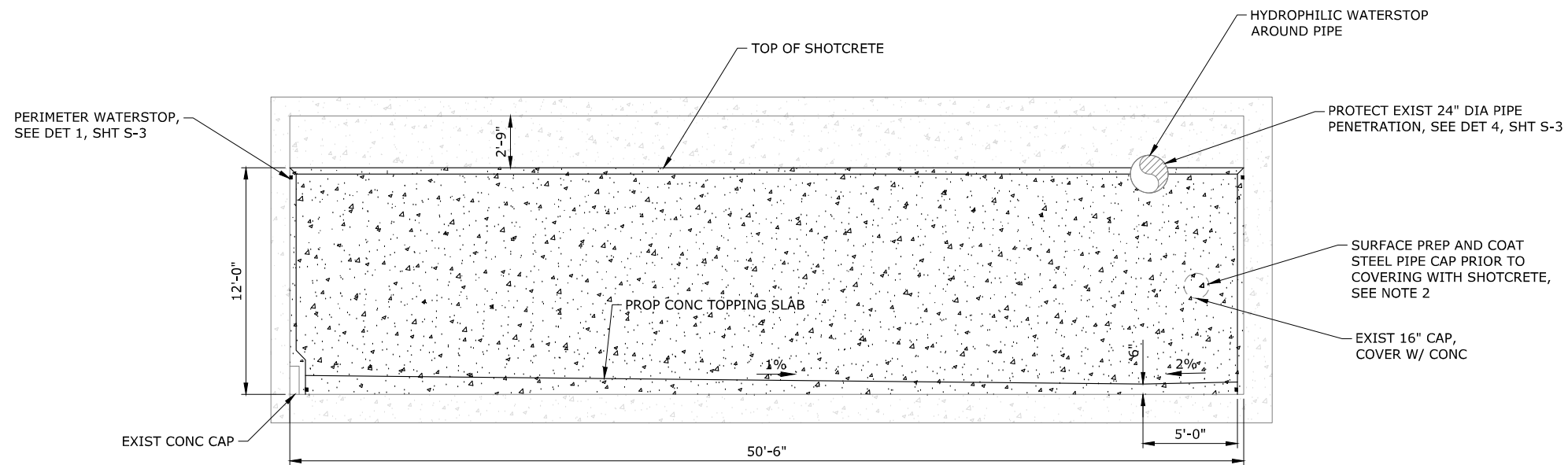
1. DIMENSIONS AND LOCATION OF CLEAR WELL STRUCTURE COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION OF CONCRETE WALLS AND FLOOR AND EPOXY COATING OF COLUMNS AND SUBMERGED AREAS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.

2. COVER EXISTING STEEL PIPE CAPS FLUSH WITH WALL, WITH SHOTCRETE AS REQUIRED. STEEL PIPE CAPS SHALL BE SURFACE PREPARED WITH SIKA ARMATEC-110 EPOCEM, OR APPROVED EQUAL. SEE SHEET S-2. CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ABANDONED PIPE CAP LOCATIONS AND PROVIDE AS-BUILT INFORMATION TO THE ENGINEER.



NORTH WALL ELEVATION

SCALE: 1/4" = 1'-0"



SOUTH WALL ELEVATION

SCALE: 1/4" = 1'-0"

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ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

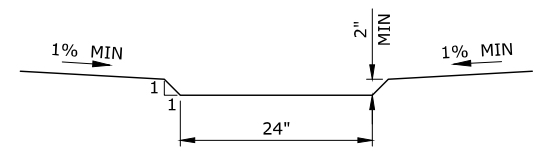
CLEAR WELL WALL ELEVATIONS (NORTH AND SOUTH)

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
 M-6
 9 of 16

See Addendum #2 for changes to this page.

- NOTES:
1. INSTALL ANCHOR BRACKETS 6' ON CENTER ALONG ROUTE.
 2. VERIFY LOCATION AND SIZE OF ALL CHEMICAL PIPING AND LAYOUT WITH ENGINEER OR OWNER PRIOR TO INSTALLATION.
 3. SIZE ALL PIPING SUPPORT BRACKETS AS NEEDED TO ACCOMMODATE PIPES AND FACILITATE MAINTENANCE.
 4. ALL CHEMICAL PIPING TO BE SCHEDULE 80 PVC.
 5. ALL UNISTRUT AND FASTENER MATERIALS SHALL BE 316 STAINLESS STEEL.

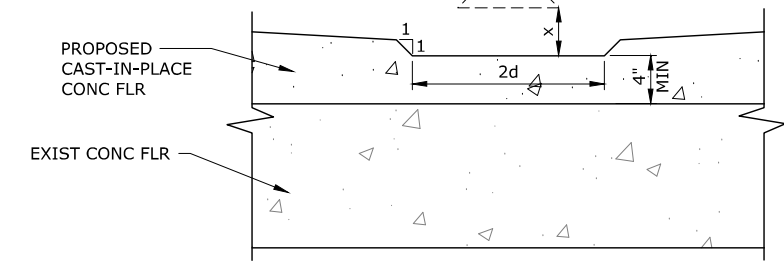


NOTE:
1. SUMP SHALL BE 24 INCHES IN DIAMETER AND MINIMUM 2 INCHES DEEP.

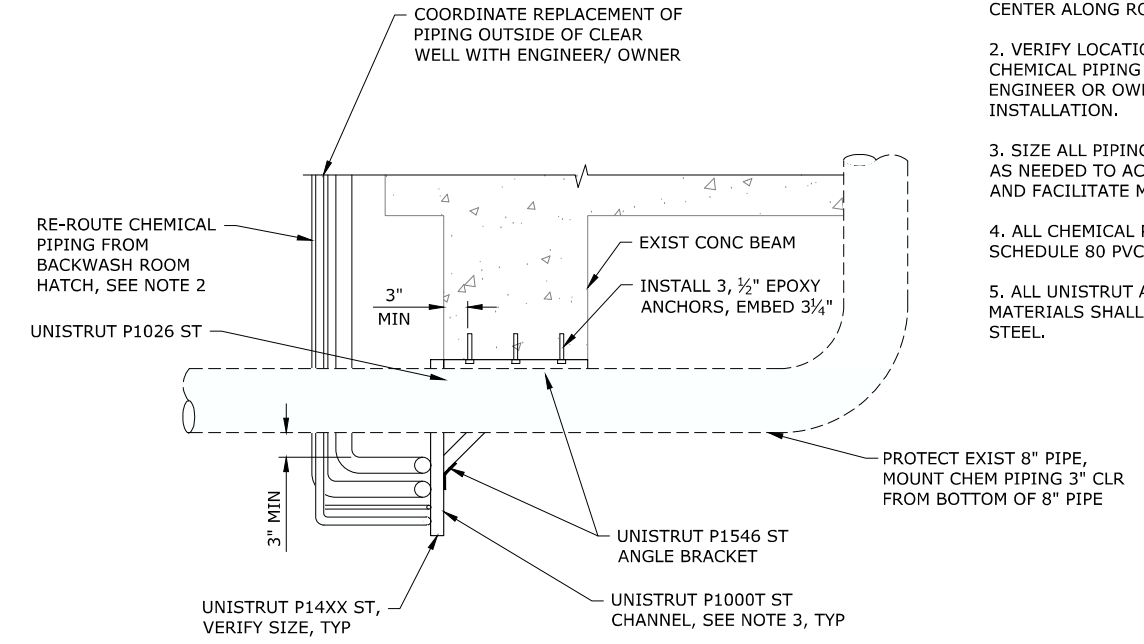
SUMP DETAIL
SCALE: 1"=1'-0"
1

- NOTES:
1. DEPRESSION AROUND PUMP IS REQUIRED IF MINIMUM CLEARANCE BETWEEN INLET BELL AND FLOOR IS INSUFFICIENT DUE TO NEW FLOOR THICKNESS.
 2. FIELD VERIFY EXISTING PUMP TO FLOOR DIMENSIONS AND REVIEW WITH ENGINEER. THE TABLE BELOW DEPICTS THE MINIMUM BELL TO FLOOR CLEARANCE, x, BASED ON SHAFT DIAMETER, d:

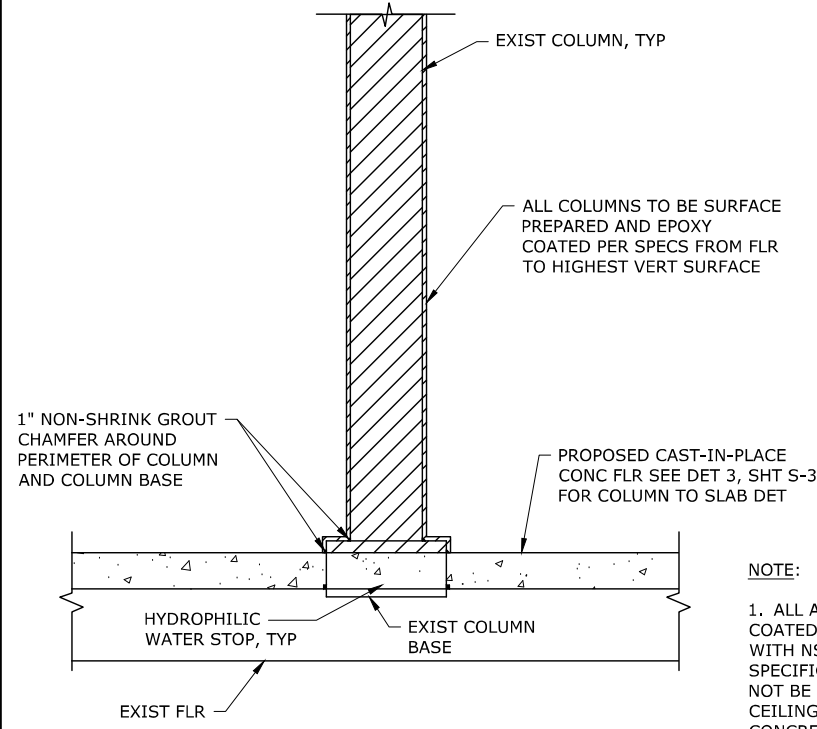
d	x (MIN)
14"	4.2"
20"	6"



PUMP CLEARANCE DETAIL
SCALE: 1"=1'-0"
2

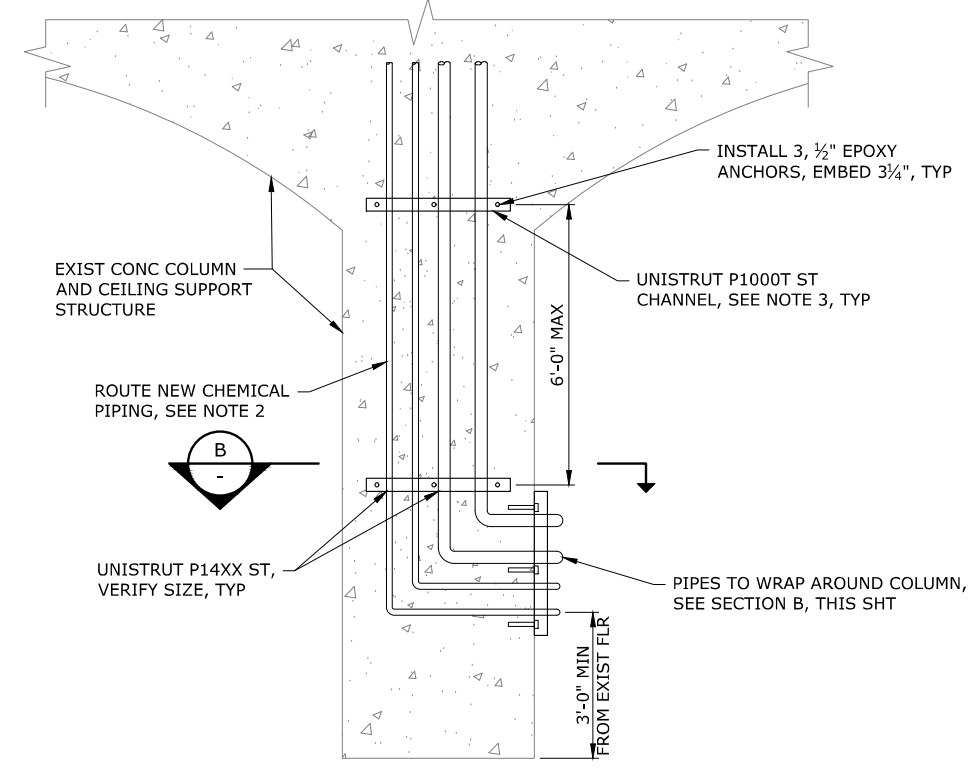


BEAM CHEMICAL PIPE MOUNT SECTION
SCALE: NTS
A
M-3

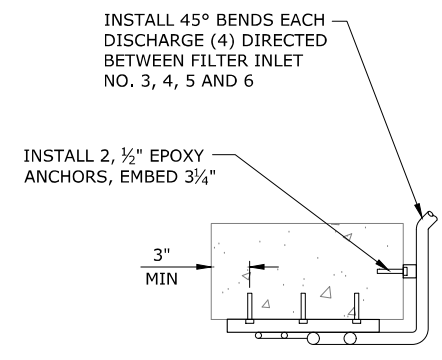


FLOOR-TO-COLUMN DETAIL
SCALE: 1/2"=1'-0"
3

- NOTE:
1. ALL AREAS IDENTIFIED ON PLANS TO BE EPOXY COATED SHALL BE SURFACE PREPARED AND COATED WITH NSF 61 APPROVED COATING PER THE SPECIFICATIONS. THESE AREAS INCLUDE BUT MAY NOT BE LIMITED TO: ALL COLUMNS AND SUBMERGED CEILINGS AND BEAMS FROM ABOVE THE PROPOSED CONCRETE FLOOR TO THE CEILING, OR THE HIGHEST VERTICAL SURFACE, WHERE BEAMS ARE PRESENT. GRINDING DOWN SHARP EDGES AND BUMPS IN CONCRETE TO A 3/16" MIN RADIUS AND FILLING ROCK POCKETS LARGER THAN 1/2" WITH GROUT SHALL BE INCLUDED IN SURFACE PREPARATION. ENGINEER TO INSPECT COMPLETION OF SURFACE PREPARATION PRIOR TO INSTALLATION OF COATING.



COLUMN CHEMICAL PIPE BRACKET DETAIL
SCALE: NTS
4
M-3



COLUMN CHEMICAL PIPE BRACKET SECTION
SCALE: NTS
B

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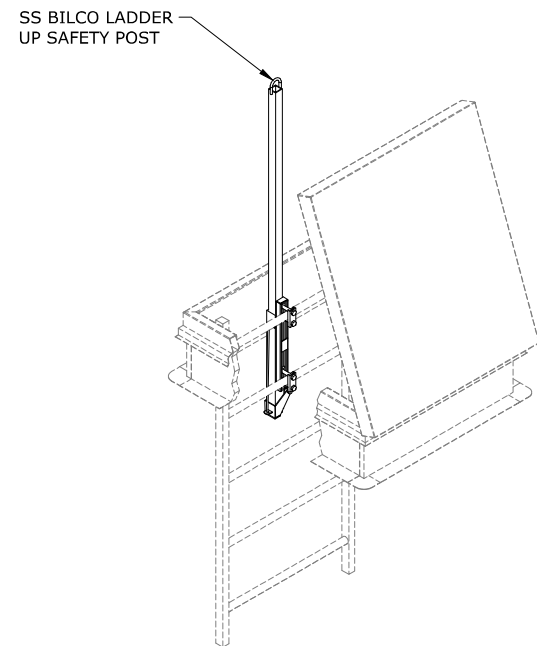
PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

MECHANICAL DETAILS

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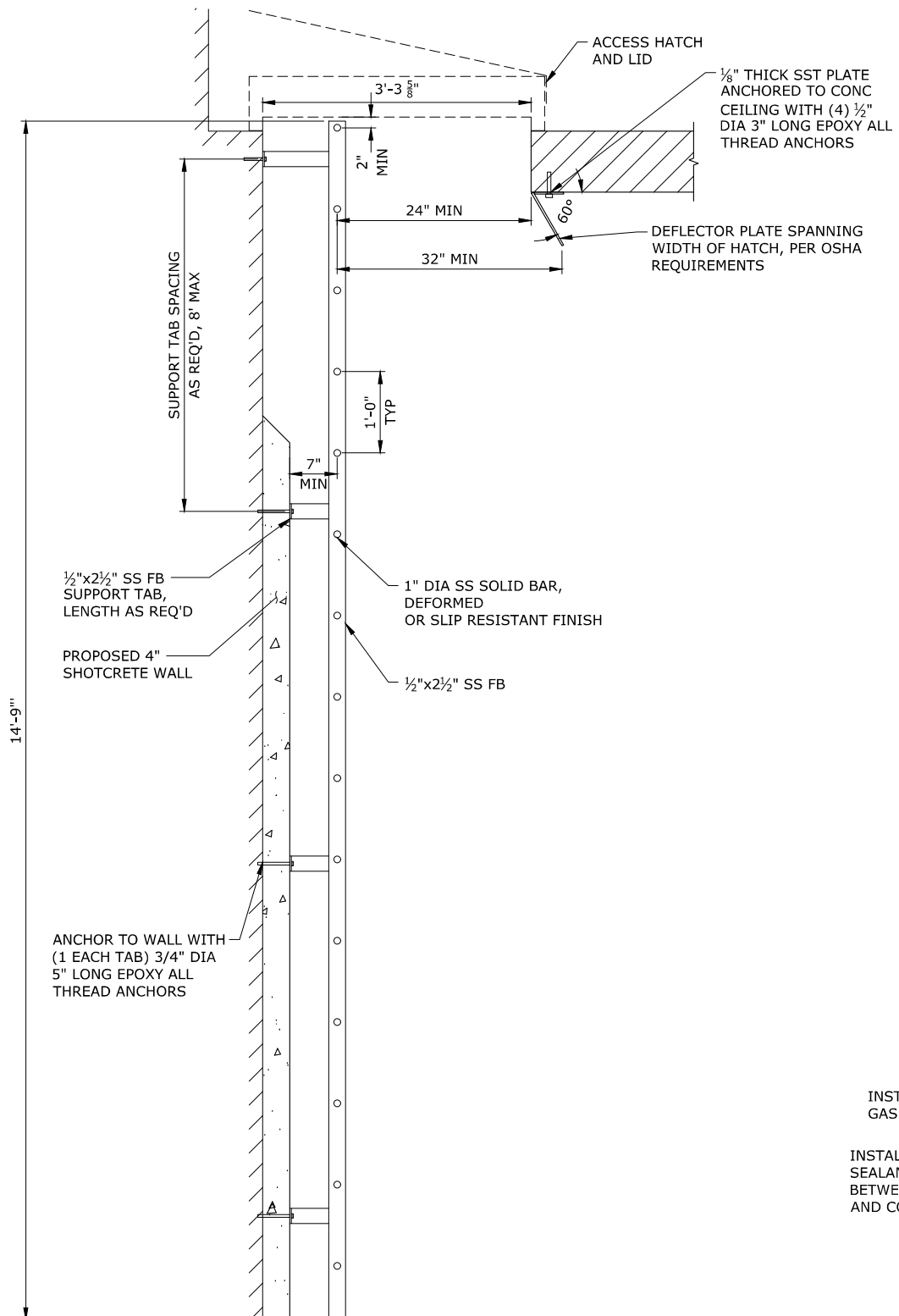
SHEET NOTES:

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIALS.
2. INSTALL HATCH PER MANUFACTURER INSTRUCTIONS. APPLY SIKAFLEX 221, OR APPROVED EQUAL BETWEEN HATCH FLANGE AND CONCRETE.
3. ALL MATERIALS AND FASTENERS SHALL BE 316 STAINLESS STEEL.



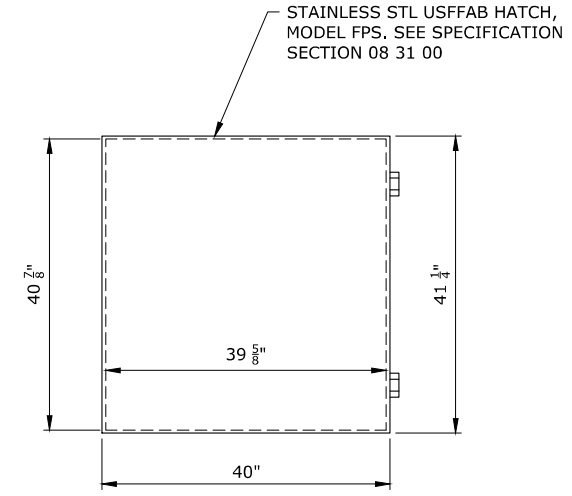
TYPICAL LADDER W/ EXTENSION
SCALE: NTS

1
-



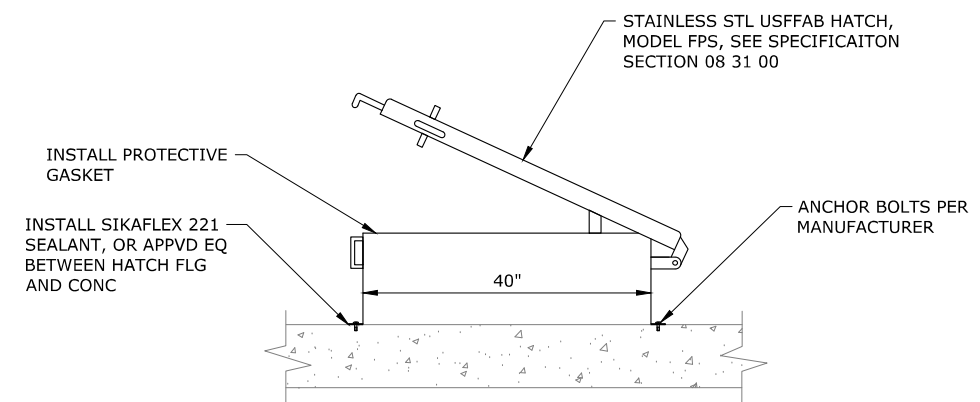
LADDER ELEVATION
SCALE: 1"=1'-0"

2
-



ACCESS HATCH PLAN
SCALE: NTS

3
-



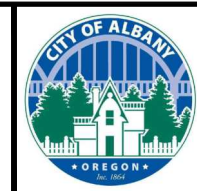
ACCESS HATCH ELEVATION
SCALE: NTS

4
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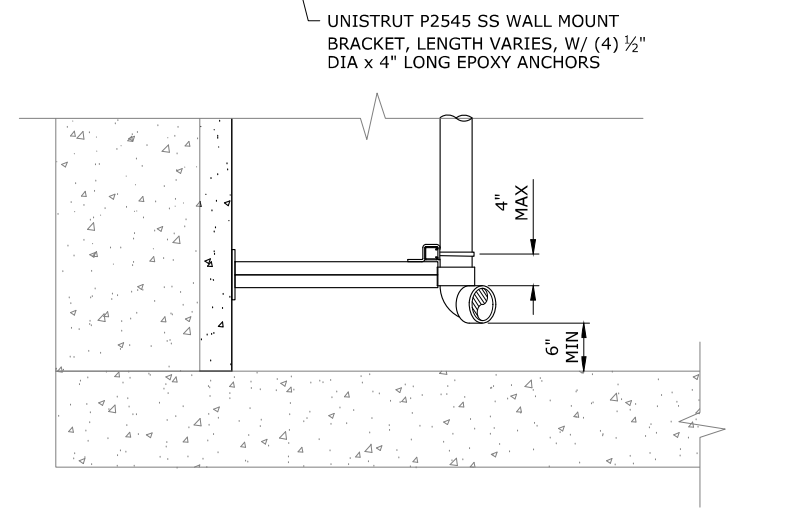
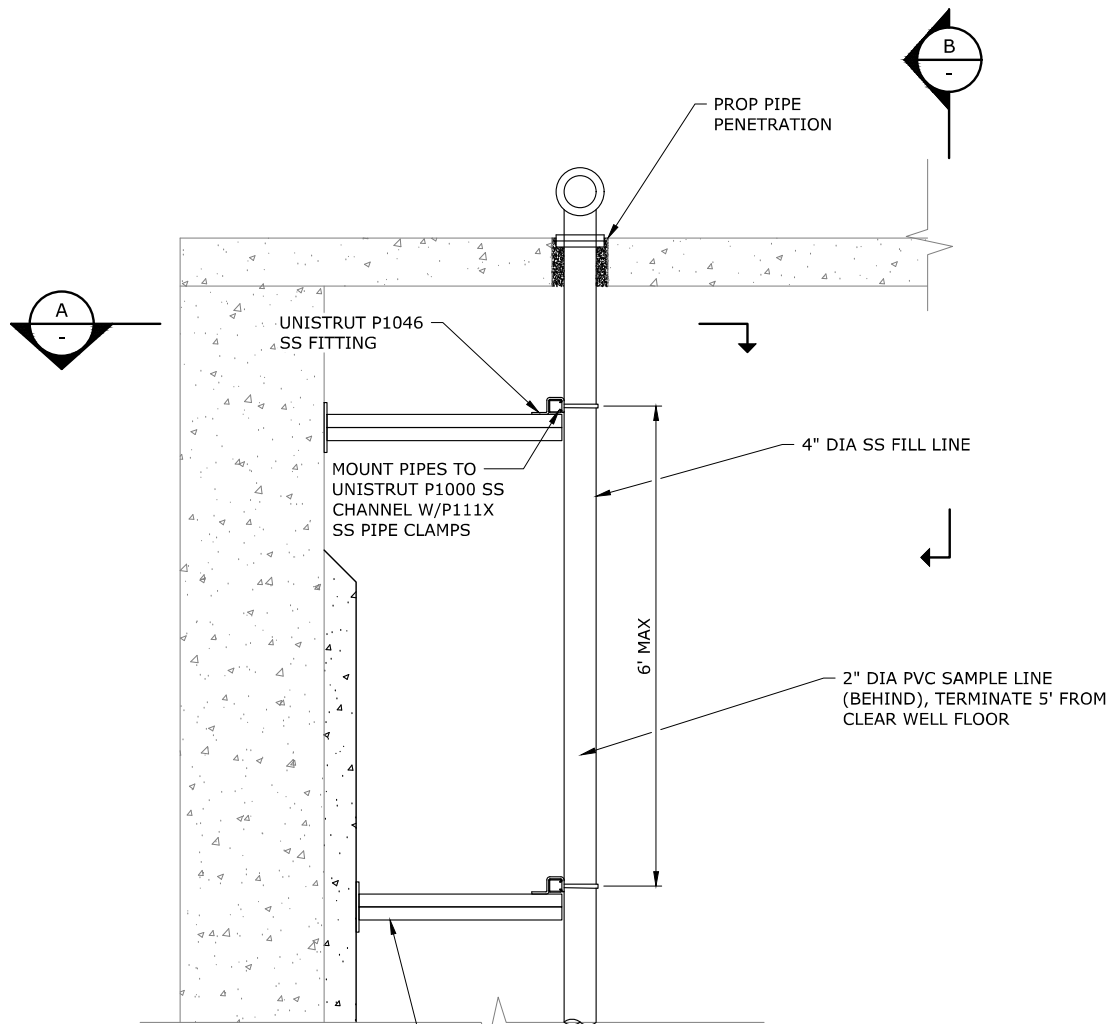


ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

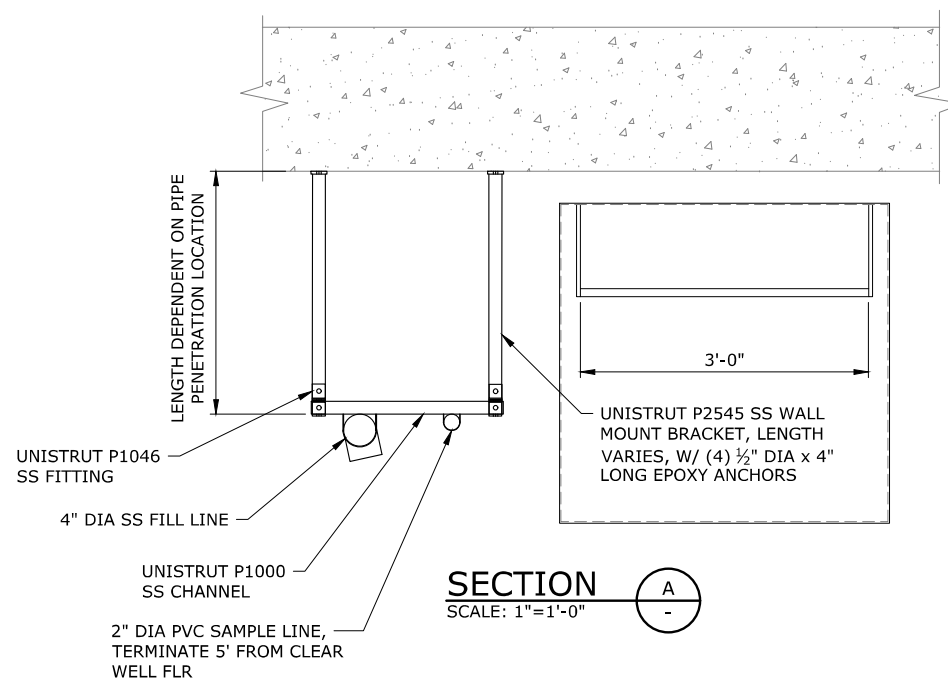
ACCESS LADDER AND HATCH DETAILS
PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
M-8
11 of 16

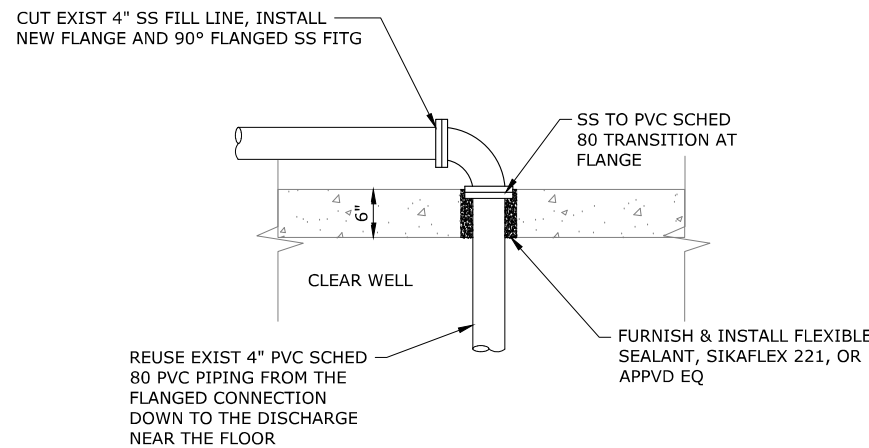
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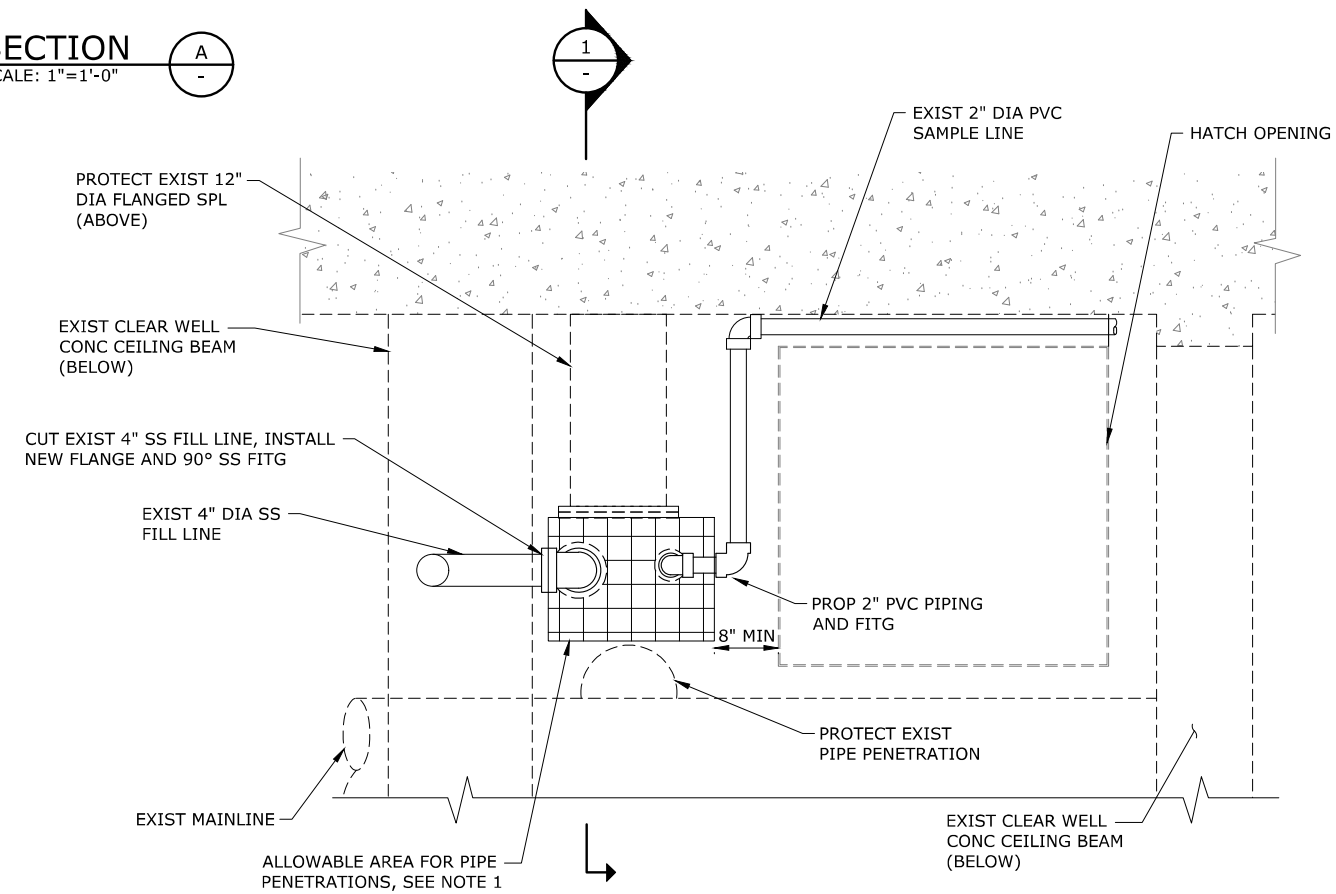
PROPOSED CEILING PIPE PENETRATIONS
SCALE: 1"=1'-0"



SECTION A-A
SCALE: 1"=1'-0"



SECTION B-B
SCALE: 1"=1'-0"



NOTE:
1. CORE PIPE PENETRATION HOLE MINIMUM 1 INCH LARGER THAN WIDEST OUTSIDE DIAMETER OF FITTING, AND SEAL WITH SIKAFLEX 221, OR APPROVED EQUAL.

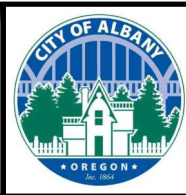
PIPE REROUTE PLAN
SCALE: 1"=1'-0"

- SHEET NOTES:**
1. REBAR IN ALLOWABLE PENETRATION AREA TO BE LOCATED USING NON-DESTRUCTIVE TECHNIQUE SUCH AS GPR (GROUND PENETRATING RADAR)
 2. VERIFY THERE IS ADDITIONAL REINFORCEMENT AROUND HATCH OPENING AND REPORT FINDINGS TO ENGINEER.
 3. LOCATE PENETRATIONS TO AVOID CUTTING THROUGH MORE THAN ONE BAR FOR BOTH PENETRATIONS.
 4. DIMENSIONS AND LOCATION OF CLEAR WELL STRUCTURE COMPONENTS AND APPURTENANCES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR CHANGES IN DESIGN AS REQUIRED.
 3. ALL MATERIALS AND FASTENERS SHALL BE 316 STAINLESS STEEL.

NO.	DATE	BY	REVISION

NOTICE
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ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

PIPING DETAILS

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

SHEET
M-9
12 of 16

See Addendum #2 for changes to this page.

STRUCTURAL SHEETS:

- S-1 GENERAL NOTES
- S-2 WALL SECTION & ELEVATION
- S-3 STRUCTURAL DETAILS
- S-4 STRUCTURAL DETAILS

GENERAL STRUCTURAL NOTES:

1. THESE NOTES ARE GENERAL IN NATURE AND ARE INTENDED TO SET MINIMUM STANDARDS FOR CONSTRUCTION. THE CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH THE CONTRACT DOCUMENTS AND HAVE A COPY OF THEM ON SITE AT ALL TIMES.
2. FOR ANY PORTION OF THE CONSTRUCTION WHICH THE CONTRACTOR IS UNABLE TO ASCERTAIN THE REQUIRED CONSTRUCTION OR WHERE CONFLICTS EXIST, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST ADDITIONAL INFORMATION (RFIs) AND/OR CLARIFICATIONS BEFORE CONSTRUCTION.
3. ALL WORK SHALL BE IN STRICT CONFORMANCE WITH THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC). ALL BUILDING ELEMENTS AND COMPONENTS NOT SPECIFICALLY DETAILED IN THESE STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE FABRICATED AND CONSTRUCTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CONTAINED IN THE IBC AS AMENDED BY THE STATE OF OREGON.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE CONSTRUCTION. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
5. THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS SHALL ENSURE COORDINATION OF CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND DEFERRED SUBMITTALS WITH ALL DESIGN DISCIPLINES WITHIN THE CONSTRUCTION SET. COORDINATION SHALL IDENTIFY AND RECONCILE CONFLICTS BETWEEN THE CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION AND DELIVERY TO THE PROJECT SITE. THE PROJECT ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST.
6. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. METHODS, PROCEDURES, AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
7. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD FOR THE STRUCTURE. PROVIDE SHORING AND/OR BRACING WHERE LOADS EXCEED DESIGN CAPACITY AND WHERE STRUCTURES HAVE NOT ATTAINED DESIGN STRENGTH.
8. CLADDING, WATERPROOFING, AND ARCHITECTURAL FEATURES ARE OUTSIDE THE STRUCTURAL SCOPE OF WORK. ANY DEPICTION OF SUCH FEATURES ON THE STRUCTURAL DRAWINGS ARE NOT INTENDED TO BE USED FOR CONSTRUCTION. REPRESENTATION OF SUCH FEATURES ON THESE DRAWINGS MAY OR MAY NOT BE ACCURATE. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS.

JOB SITE CONDITIONS AND SAFETY:

1. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER AND ITS REPRESENTATIVE HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.

DESIGN LOADS: PER 2018 IBC & 2019 OSSC

HYDROSTATIC LOADS
 WATER DENSITY 62.4 PCF

SHOTCRETE:

1. SHOTCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

TYPE	f'c	w/c	AIR
WALLS	4,000 psi	0.42	7.5%
2. SHOTCRETE SHALL BE APPLIED IN A STEADY, UNINTERRUPTED FLOW
3. SHOULD THE FLOW BECOME INTERMITTENT FOR ANY CAUSE, THE MACHINE OPERATOR SHALL DIRECT THE NOZZLE AWAY FROM THE WORK UNTIL IT AGAIN BECOMES CONSTANT OR SHUT OFF THE FLOW OF MATERIALS.
4. TO ENSURE PROPER PENETRATION AROUND REINFORCING, THE PROPER CONVEYANCE OF THE MATERIAL THROUGH THE HOSE, A 5-INCH TO 7-INCH SLUMP OF THE MORTAR AT THE PUMP IS RECOMMENDED (WET MIX ONLY).
5. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE MINIMUM SHOTCRETE COVER OVER ALL REINFORCING SHALL BE MINIMUM 1.5-INCH.
6. REBOUND MATERIALS MAY NOT BE REUSED IN ANY FORM FOR SHOTCRETE.
7. SHOTCRETE MAY BE APPLIED IN COLD WEATHER PROVIDED THE SURFACES ARE NOT FROZEN.
8. THE TEMPERATURE DURING THE DAY MUST BE EXPECTED TO RISE TO AT LEAST 40°F AND THE NIGHT TEMPERATURE OF THE FIRST NIGHT AFTER THE SHOTCRETE APPLICATION MUST NOT BE EXPECTED TO DROP BELOW 32°F.
9. WHENEVER RAIN OR FROST HAS DAMAGED SHOTCRETE WHICH HAS NOT HAD A CHANCE TO SET UP, SUCH SHOTCRETE SHALL BE REMOVED AND REPLACED.
10. WALL SURFACES TO RECEIVE SMOOTH TROWEL FINISH.



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CONCRETE:

1. ALL CONCRETE SHALL BE HARD ROCK CONCRETE MEETING REQUIREMENTS OF ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS". MIX PROPORTIONS SHALL BE PER ACI-301, METHOD 2 OR THE ALTERNATE PROCEDURE. SUBMIT MIX DESIGN FOR REVIEW BY STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. STRUCTURAL CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

TYPE	f'c	SLUMP	w/c	AIR
SLABS	4,000 psi	1-4"	0.45	0%
3. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 6% (±) 1% AIR ENTRAINMENT BY VOLUME. AIR ENTRAINMENT SHALL BE IN CONFORMANCE WITH ASTM C260 AND C494.
4. COLD WEATHER PLACEMENT SHALL CONFORM TO ACI-306. HOT WEATHER PLACEMENT SHALL CONFORM TO ACI-305. MECHANICALLY VIBRATE ALL FORMED CONCRETE. DO NOT OVER-VIBRATE. PLACE CONCRETE MONOLITHICALLY BETWEEN CONSTRUCTION OR CONTROL JOINTS. PROTECT ALL CONCRETE FROM PREMATURE DRYING.
5. CHAMFER ALL EXTERIOR CORNERS 1/2" UNLESS SHOWN OTHERWISE.
6. SLUMP LIMITS MAY BE INCREASED BY ADDITION OF ADMIXTURES PROVIDED THAT THE WATER/CEMENT RATIO OF THE ORIGINAL MIX DESIGN IS NOT EXCEEDED. WATER REDUCING ADMIXTURE SHALL BE IN CONFORMANCE WITH ASTM494, USED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. SUBMIT ADMIXTURES TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
7. CEMENT SHALL BY TYPE I OR II IN CONFORMANCE WITH ASTM C150. AGGREGATES SHALL BE IN CONFORMANCE WITH ASTM C33 AND USE CRUSHED (NOT ROUND) GRAVEL OR STONE. COARSE AGGREGATES SHALL NOT EXCEED 3/4". WATER SHALL BE CLEAN AND POTABLE.
8. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. GRADE 40 MAY BE USED FOR #3 AND SMALLER TIES AND STIRRUPS. DETAIL AND PLACE ACCORDING TO ACI MANUAL SP-66.
9. UNLESS OTHERWISE NOTED, MINIMUM COVER SHALL BE 1 1/2" FOR #5 AND SMALLER BARS, 2" FOR #6 AND LARGER BARS AND 3" WHEN POURED AGAINST EARTH. SUPPORT REINFORCEMENT WITH APPROVED CHAIRS, SPACERS, OR TIES.
10. PROVIDE MINIMUM 48 BAR DIAMETERS AT SPLICES. NO MORE THAN 50% OF REINFORCING SHALL BE SPLICED AT ANY LOCATION. UNLESS OTHERWISE NOTED, BEND ALL HORIZONTAL REINFORCING A MINIMUM OF 2'-0" AT CORNERS AND WALL/FOOTING INTERSECTIONS WITH MIN. EMBEDMENT BEYOND INTERFACE PER DEVELOPMENT LENGTH SPECIFIED IN ACI 318.
11. FORMWORK SHALL BE IN ACCORDANCE WITH ACI-347 "GUIDE TO FORMWORK FOR CONCRETE". FORMS SHALL BE DESIGNED BY THE CONTRACTOR. BRACING SHALL BE PROVIDED AS REQUIRED OR UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED 28-DAY STRENGTH. ALL SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FORMWORK, SUPPORTS, AND SHORING SHALL PROVIDE FINISHED CONCRETE SURFACES AT ALL FACES: LEVEL, PLUMB, AND TRUE TO DIMENSIONS AND ELEVATIONS SHOWN IN THE DRAWINGS.

POST-INSTALLED CONCRETE ANCHORS:

1. ADHESIVE:
 - 1.1. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WITH STRICT ADHERENCE TO THE PROVISIONS WITHIN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
 - 1.2. AT THE TIME OF ANCHOR INSTALLATION, IN ACCORDANCE WITH ACI 318-14 SECTION 17.1.2, ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS.
 - 1.3. WHERE THE AUTHORITY HAVING JURISDICTION OVER THIS PROJECT REQUIRES ADHERENCE TO ACI 318-14 SECTION 17.8.2.2, INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-14 SECTION 17.8.2.2. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION. NOTE: THE STATE OF OREGON DOES NOT REQUIRE ADHERENCE TO ACI 318-14 SECTION 17.8.2.2.
2. MECHANICAL:
 - 2.1. MECHANICAL ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL MECHANICAL ANCHORS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WITH STRICT ADHERENCE TO THE PROVISIONS WITHIN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

STRUCTURAL OBSERVATION REQUIREMENTS:

1. THE OWNER SHALL EMPLOY THE ENGINEER OF RECORD OR AN ALTERNATE OREGON LICENSED PROFESSIONAL ENGINEER, APPROVED BY THE ENGINEER OF RECORD, TO PERFORM STRUCTURAL OBSERVATIONS IN ACCORDANCE WITH SECTION 1704.6 OF THE INTERNATIONAL BUILDING CODE.
2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY OTHER INSPECTION CRITERIA, INCLUDING SPECIAL INSPECTION, AS REQUIRED BY THE BUILDING OFFICIAL OR AS INDICATED WITHIN THE INTERNATIONAL BUILDING CODE.
3. DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER AND THE BUILDING OFFICIAL (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION). AT THE CONCLUSION OF THE STRUCTURAL WORK INCLUDED WITHIN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL AND THE OWNER (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION) A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
4. THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE STRUCTURAL OBSERVER TO PERFORM THE REQUIRED STRUCTURAL OBSERVATIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND STRUCTURAL OBSERVER A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED STRUCTURAL OBSERVATIONS MAY BE PERFORMED. IN ADDITION THE CONTRACTOR SHALL UPDATE THE STRUCTURAL OBSERVER OF THE CONSTRUCTION PROGRESS.
5. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED FOR THE FOLLOWING AREAS OF WORK:
 - 5.1. FOLLOWING THE INSTALLATION OF WALL DOWELS AND WALL REINFORCING PERIOD TO THE FIRST SHOTCRETE APPLICATION
 - 5.2. FOLLOWING THE COMPLETION OF ALL STRUCTURAL ELEMENTS CONTAINED HEREIN.

SUBMITTALS:

THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL SUBMITTALS FOR APPROVAL, PRIOR TO CONSTRUCTION, FOR THE FOLLOWING ITEMS:

1. CONCRETE MIX DESIGN AND PROPOSED ADMIXTURES

SPECIAL INSPECTIONS:

AN INDEPENDENT TESTING LABORATORY, SELECTED AND ENGAGED BY THE OWNER, SHALL PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE AND OF THE TYPE AND FREQUENCY OUTLINED IN THE QUALITY CONTROL SECTION OF THESE GENERAL NOTES.

EACH SPECIAL INSPECTION AND MATERIAL TESTING REPORT SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, BUILDING OFFICIAL AND ENGINEER OF RECORD IN A TIMELY FASHION.

THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE SPECIAL INSPECTOR TO PERFORM THE REQUIRED INSPECTIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND SPECIAL INSPECTOR A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED SPECIAL INSPECTIONS MAY BE PERFORMED.

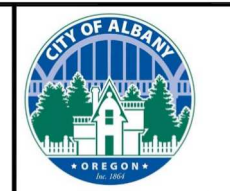
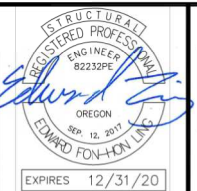
TABLE 2						
REQUIRED STRUCTURAL SPECIAL INSPECTIONS						
SYSTEM or MATERIAL	INSPECTION		FREQUENCY		REMARKS	
	IBC CODE REFERENCE	CODE or STANDARD REFERENCE	Continuous	Periodic		
FABRICATORS						
CONCRETE						
INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE	1909.1 TABLE 1705.3	ACI 318: 3.8.6, 8.1.3, 21.1.8			X (a)	SPECIAL INSPECTIONS APPLY TO ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, ADHESIVE EXPIRATION DATE, ANCHOR/ADHESIVE INSTALLATION, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE
REINFORCING STEEL AND PRESTRESSING TENDON PLACEMENT	1705.3 1910.4 1901.3.2	ACI 318: 3.5 ACI 318: 7.1-7.7			X	TOLERANCES AND REINFORCING PLACEMENT PER ACI 7.5; SPACING LIMITS FOR REINFORCING ACI 7.6 PROTECTION OF REINFORCEMENT PER ACI 7.7
VERIFYING USE OF REQUIRED MIX DESIGN(S)	TABLE 1705.3 1904 1904.2 1910.2 1910.3	ACI 318: CHAPTER 4 ACI 318: 5.2-5.4			X	
CONCRETE PLACEMENT	TABLE 1705.3	ACI 318: 1.3.2.D ACI 318: 5.9-5.10			X	
SHOTCRETE PLACEMENT	TABLE 1705.3 1910.6-8				X	
CONCRETE/SHOTCRETE CURING	TABLE 1705.3 1910.9.1-3	ACI 318: 5.11-5.13			X (a)	

TABLE 5						
REQUIRED TESTING FOR SPECIAL INSPECTIONS						
SYSTEM or MATERIAL	TESTING		FREQUENCY		REMARKS	
	IBC CODE REFERENCE	CODE or STANDARD REFERENCE	Continuous	Periodic		
CONCRETE						
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	TABLE 1705.3	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8			X	FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED ONCE EACH DAY FOR A GIVEN CLASS OF CONCRETE, OR LESS THAN ONCE FOR EACH 150 YDS OF CONCRETE, OR LESS THAN ONCE FOR EACH 5,000 FT2 OF SURFACE AREA FOR SLABS/WALLS. ONCE EACH SHIFT FROM IN-PLACE WORK OR FROM TEST PANEL AND MINIMUM ONE SPECIMEN FOR EACH 50 CUBIC YARDS. "PRECONSTRUCTION TESTS AS REQUIRED PER THE BUILDING OFFICIAL."
CONCRETE STRENGTH	TABLE 1705.3	ASTM C39			X	
CONCRETE SLUMP		ASTM C143			X	
CONCRETE AIR CONTENT	TABLE 1705.3	ASTM C231			X	
CONCRETE TEMPERATURE		ASTM C1064			X	
SHOTCRETE STRENGTH	1910.10	ASTM C42			X	IBC 1910.10: SPECIMENS SHALL BE TAKEN FROM THE IN-PLACE OR FROM TEST PANELS, AND SHALL BE TAKEN AT LEAST ONCE EACH SHIFT, BUT NOT LESS THAN ONE FOR EACH 50 CUBIC YARDS OF SHOTCRETE

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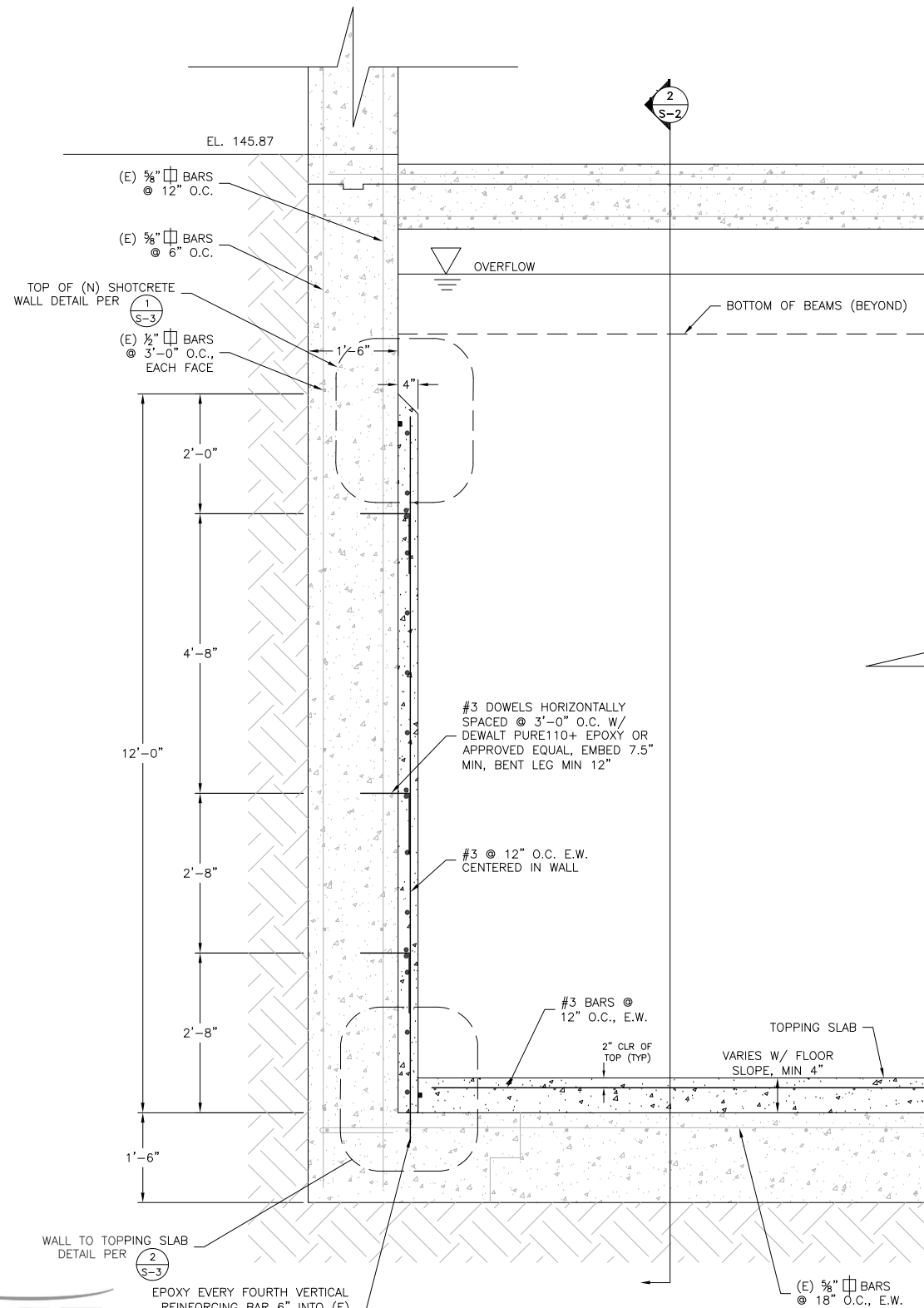
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ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

GENERAL NOTES

PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020



EL. 145.87 (EXTERIOR GRADE)
 EL. 145.37
 EL. 143.87 (OVERFLOW LEVEL)
 EL. 141.87 (TOP OF SHOTCRETE)

WATERPROOFING ADDITIVE:
 ALL CONCRETE AND SHOTCRETE MIXES USED FOR CLEAR WELL SURFACES SHALL INCLUDE CRYSTALLINE WATERPROOFING ADMIXTURE (XYPEX OR APPROVED EQUAL)

SURFACE PREPARATION:

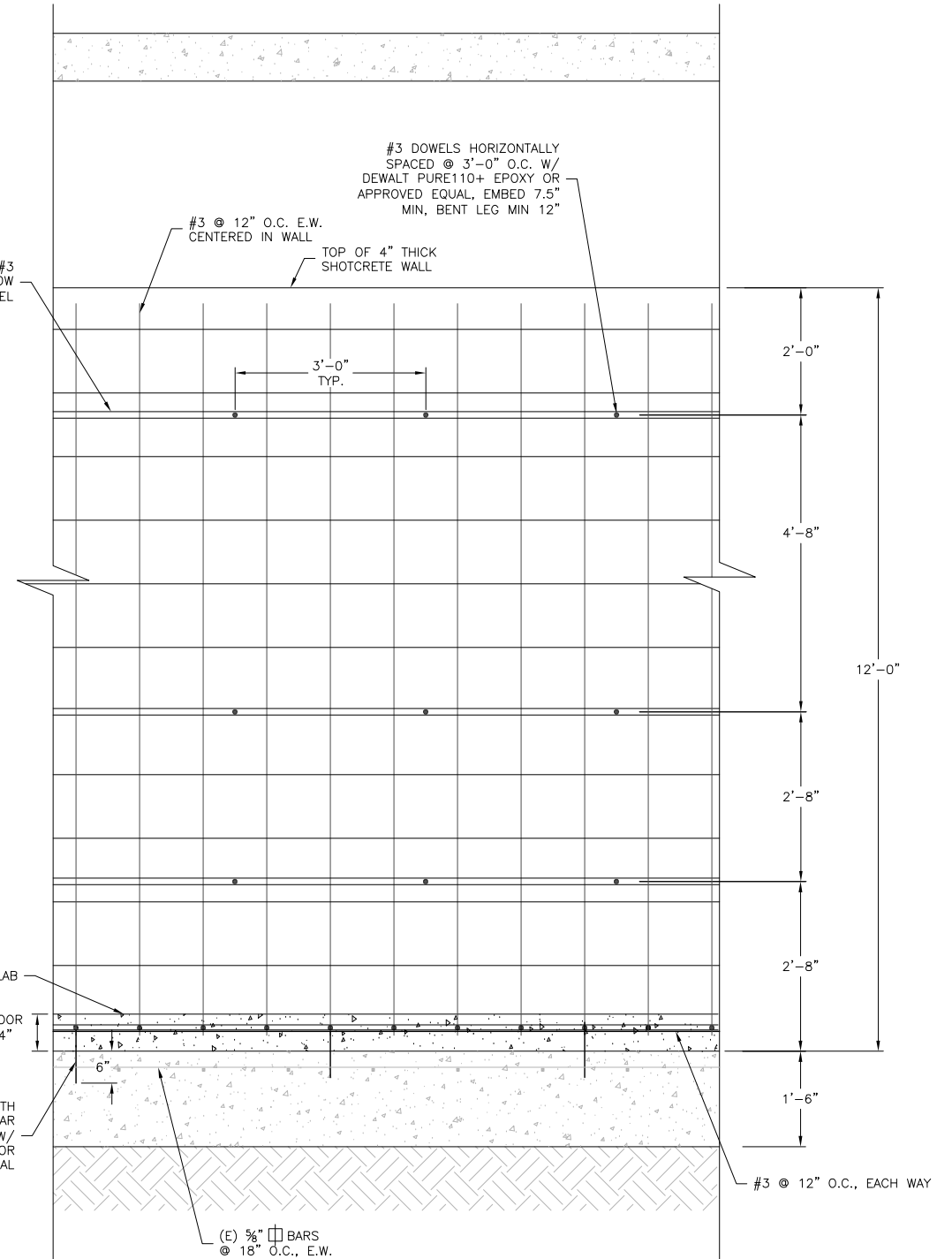
1. REMOVE CHEMICAL BUILDUP FROM EXISTING WALL SURFACES
2. MECHANICALLY REMOVE ANY CORROSION FROM EXPOSED METAL SURFACES THAT WILL BE IN CONTACT WITH FRESH CONCRETE
3. ROUGHEN EXISTING WALL SURFACES TO 1/8" AMPLITUDE
4. CLEAN BONDING SURFACES OF ANY DIRT, CONTAMINANTS, OR LOOSE DEBRIS. IF REQUIRED, CHIP AREAS TO REMOVE OFFSETS CAUSING ABRUPT CHANGES IN THICKNESS.
5. EPOXY INJECT OR OTHERWISE REPAIR ACTIVE LEAKS PRIOR TO SHOOTING
6. SURFACE SHALL BE SATURATED SURFACE DRY PRIOR TO SHOOTING
7. APPLY CORROSION INHIBITOR (SIKA ARMATEC-110 EPOCEM OR APPROVED EQUAL) TO EXPOSED METAL SURFACES TO BE FULLY COVERED BY FRESH CONCRETE.
8. FOR PIPING EXTENDING THROUGH NEW WALL OR FLOOR SURFACES, APPLY NSF APPROVED POTA-POX COATING TO METAL SURFACES
9. APPLY BONDING AGENT (SIKA ARMATEC-110 EPOCEM OR APPROVED EQUAL) TO HARDENED CONCRETE PER MANUFACTURER GUIDELINES WHERE NEW CONCRETE WILL BE POURED AGAINST HARDENED CONCRETE
10. CONTRACTOR TO PROTECT EXISTING SURFACES FROM REBOUND AND OVERSPRAY PRIOR TO SHOOTING.

TOLERANCES AND FINISHES

1. FLOOR TO RECEIVE TROWEL FINISH PER SPECIFICATIONS. FLOOR TOLERANCE SHALL NOT EXCEED 1/8" OVER 10' AS TESTED WITH A 10' STRAIGHTEDGE.
2. SHOTCRETE WALL SURFACES TO RECEIVE STEEL TROWEL FINISH. FINISH SURFACE TO BE UNIFORM IN TEXTURE AND APPEARANCE AND SHALL MAINTAIN A SURFACE SMOOTHNESS OF MAXIMUM ±1/8".
3. WALL DEPTH AND ALIGNMENT SHALL BE ESTABLISHED BY USE OF NON-CORRODING ALIGNMENT WIRES AND THICKNESS CONTROL PINS PER ACI 506.2. INSPECTOR SHALL VERIFY PROPER ALIGNMENT AND DEPTHS OF WIRES AND PINS PRIOR TO SHOOTING. WALLS MUST MAINTAIN MINIMUM THICKNESS OF 4". PLUMBNESS OF WALL SHALL NOT EXCEED 1/4" IN 10' WHEN TESTED WITH A 10' STRAIGHTEDGE.

NOTE: COLUMN TO TOPPING SLAB DETAIL PER (3) S-3

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



PLACE (1) HORIZONTAL #3 BAR ABOVE AND BELOW EACH #3 DOWEL

TOPPING SLAB VARIES W/ FLOOR SLOPE, MIN 4"

EPOXY EVERY FOURTH VERTICAL REINFORCING BAR 6" INTO (E) BASE SLAB W/ DEWALT PURE110+ EPOXY OR APPROVED EQUAL

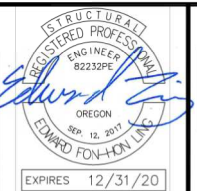
ELEVATION 2
 3/4" = 1'-0" M-4



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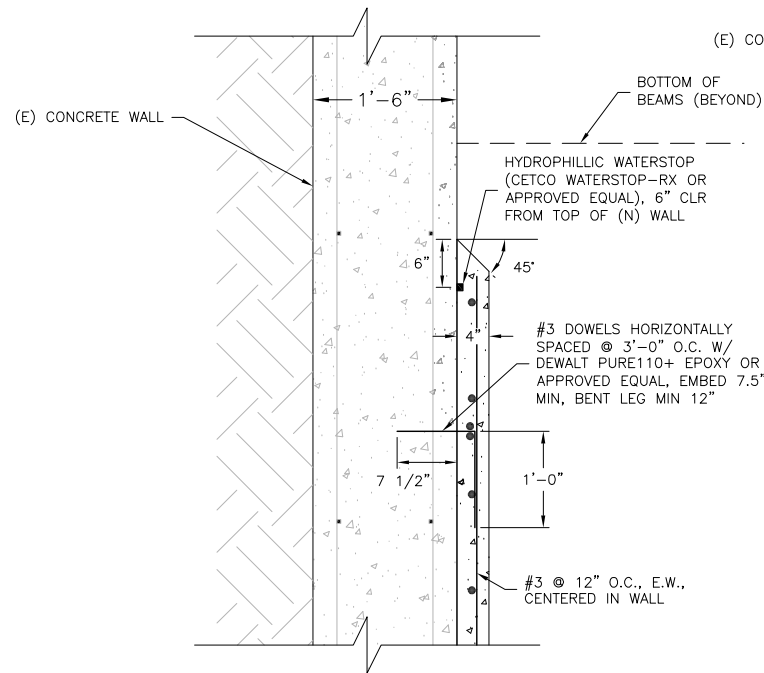
ALBANY VINE STREET WTP CLEAR WELL REHABILITATION

WALL SECTION & ELEVATION

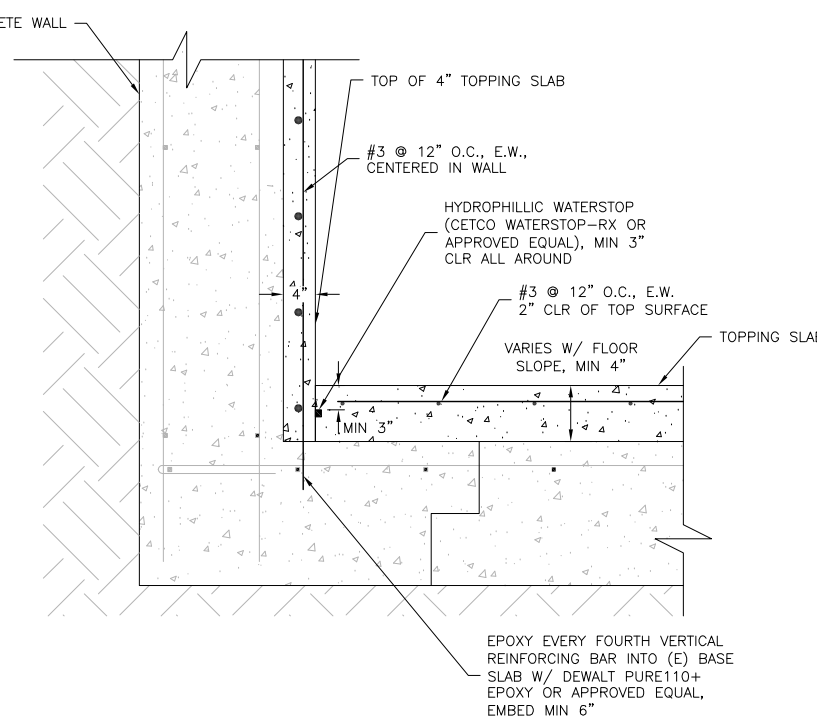
SHEET S-2
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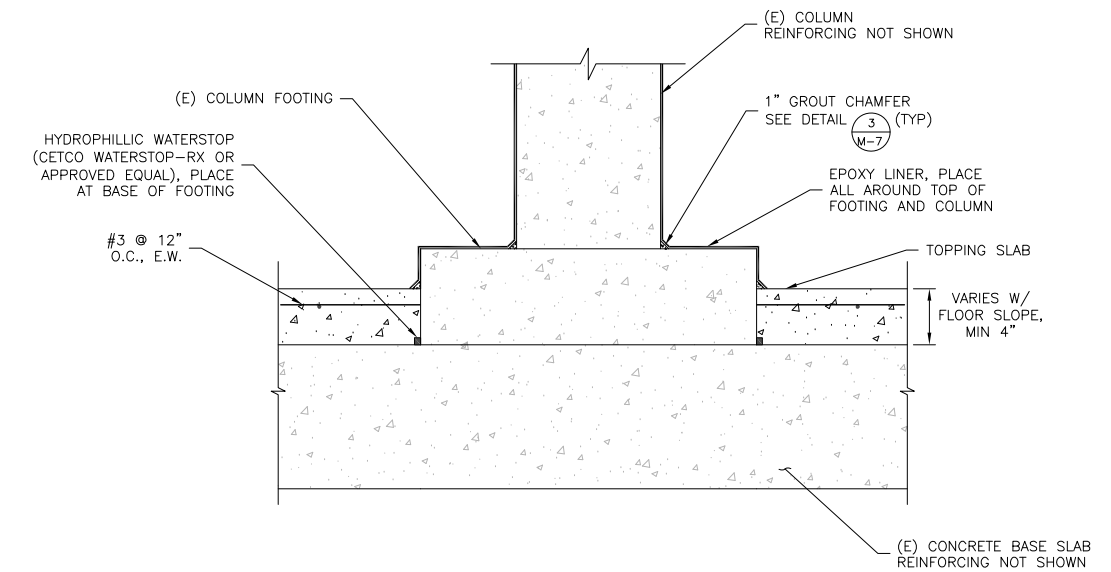
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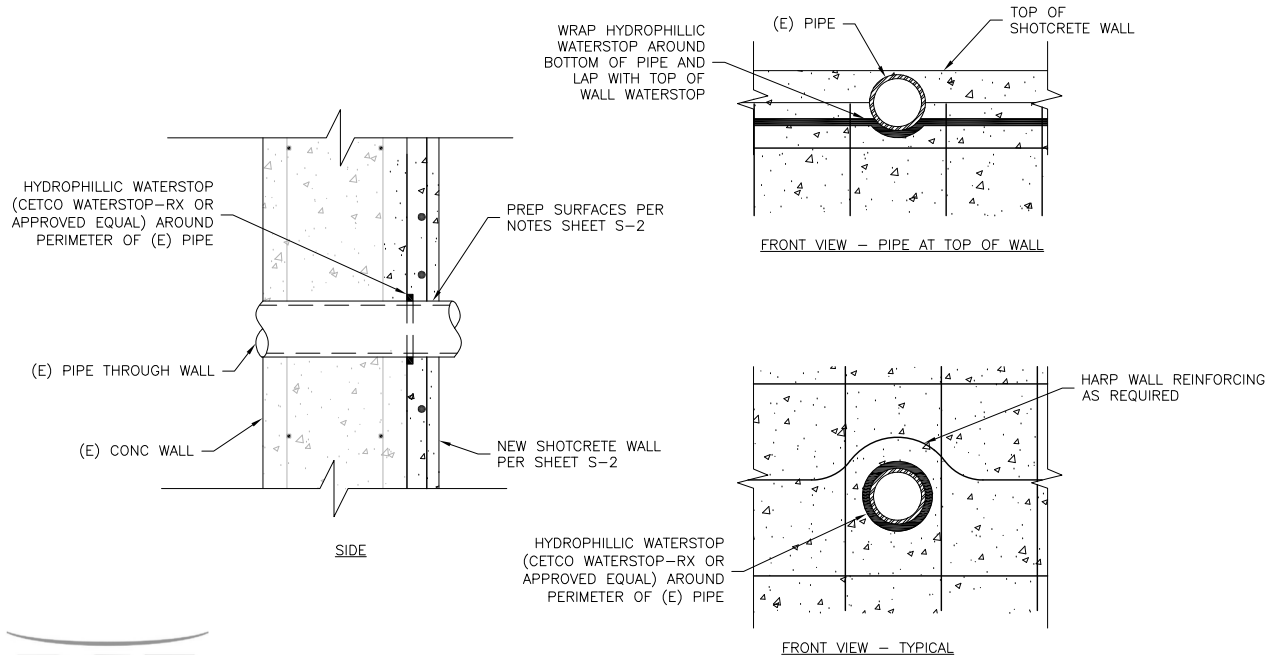
TOP OF SHOTCRETE WALL DETAIL (1)
1" = 1'-0" S-2



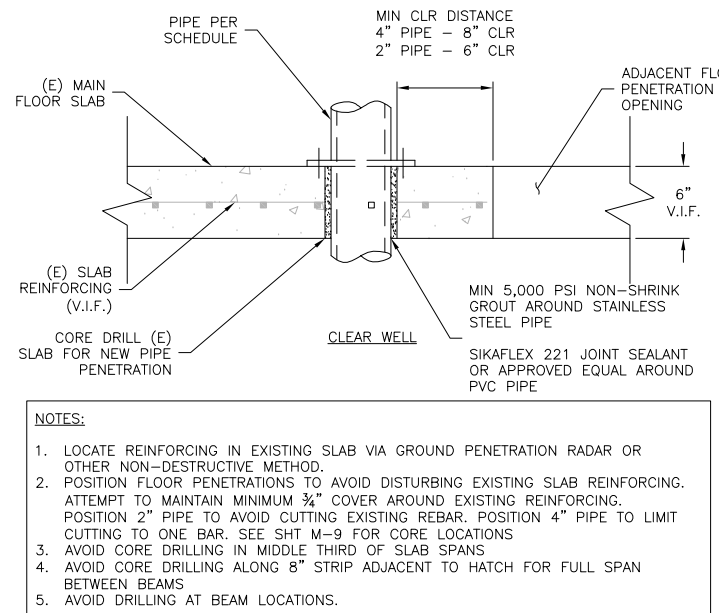
WALL TO SLAB DETAIL (2)
1" = 1'-0" S-2



COLUMN TO SLAB DETAIL (3)
1" = 1'-0" S-2

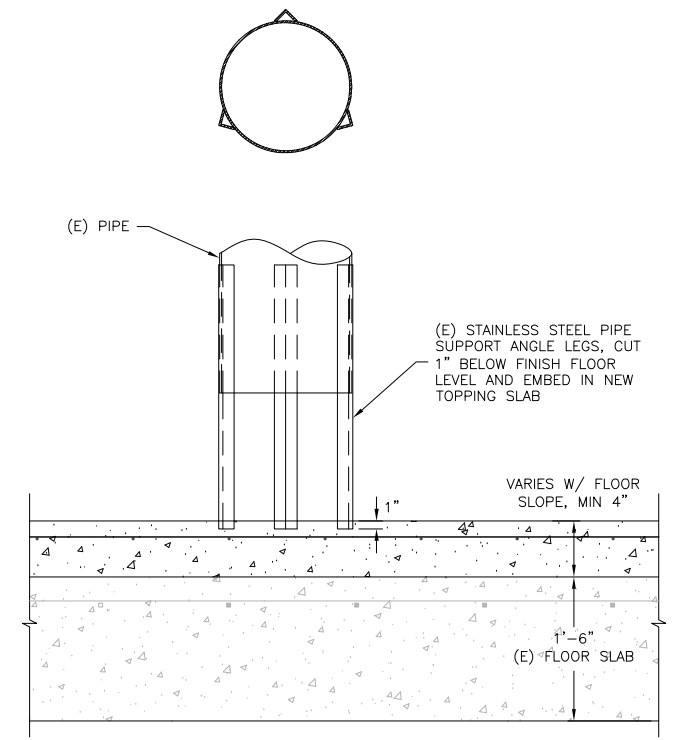


WALL PENETRATION DETAIL (4)
1" = 1'-0" M-6



- NOTES:
- LOCATE REINFORCING IN EXISTING SLAB VIA GROUND PENETRATION RADAR OR OTHER NON-DESTRUCTIVE METHOD.
 - POSITION FLOOR PENETRATIONS TO AVOID DISTURBING EXISTING SLAB REINFORCING. ATTEMPT TO MAINTAIN MINIMUM 3/4" COVER AROUND EXISTING REINFORCING. POSITION 2" PIPE TO AVOID CUTTING EXISTING REBAR. POSITION 4" PIPE TO LIMIT CUTTING TO ONE BAR. SEE SHT M-9 FOR CORE LOCATIONS
 - AVOID CORE DRILLING IN MIDDLE THIRD OF SLAB SPANS
 - AVOID CORE DRILLING ALONG 8" STRIP ADJACENT TO HATCH FOR FULL SPAN BETWEEN BEAMS
 - AVOID DRILLING AT BEAM LOCATIONS.

CEILING PENETRATION DETAIL (5)
1-1/2" = 1'-0" M-9



PIPE FLOOR SUPPORT DETAIL (6)
1" = 1'-0" M-5

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REGISTERED PROFESSIONAL ENGINEER
EDWARD FON-HON, INC.
EXPIRES 12/31/20

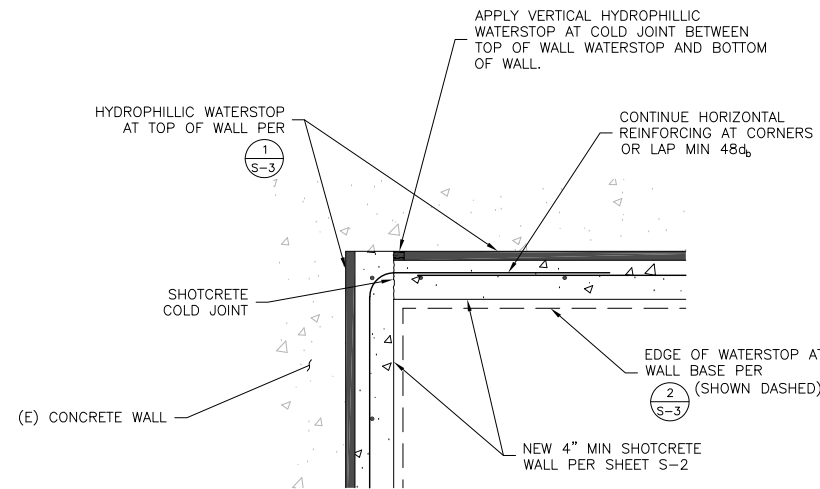
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OREGON

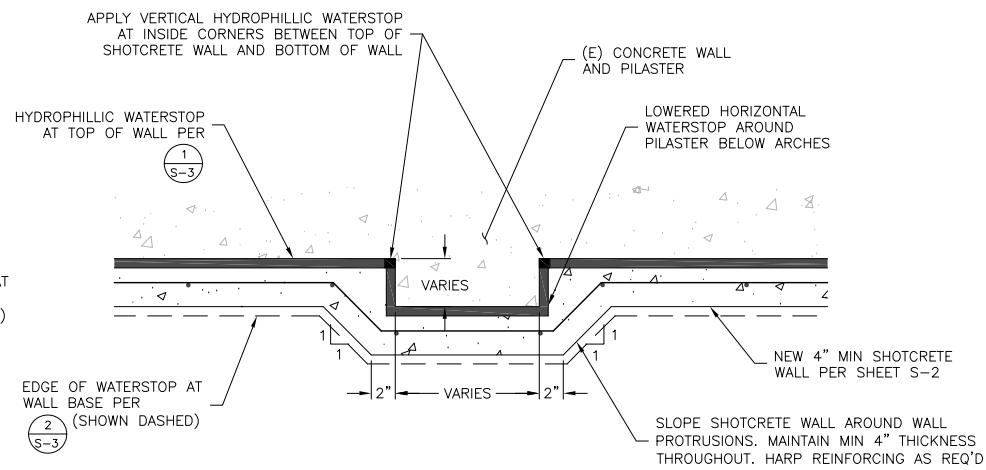
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STRUCTURAL DETAILS
PROJECT NO.: 19-2645 SCALE: AS SHOWN DATE: OCTOBER 2020

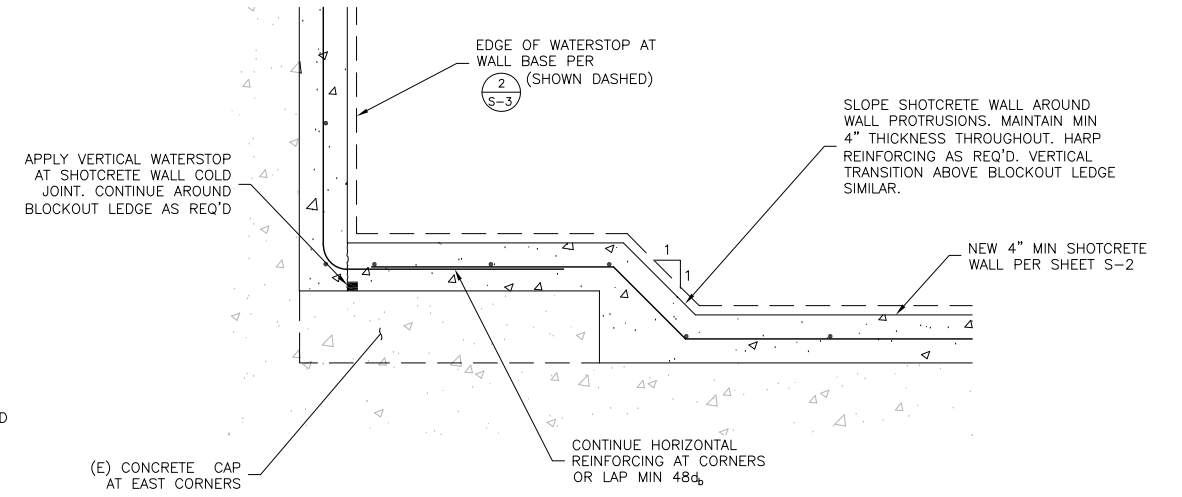
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TYPICAL CORNER DETAIL 1
 1-1/2" = 1'-0" M-2



WALL PILASTER DETAIL 2
 1-1/2" = 1'-0" M-2



SHOTCRETE AROUND CONCRETE CAP DETAIL 3
 @1'-0" ABOVE EXISTING SLAB 1-1/2" = 1'-0" M-2

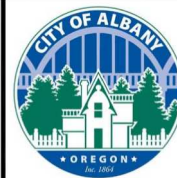
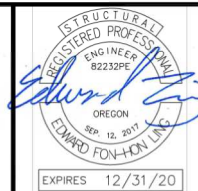


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STRUCTURAL DETAILS			
PROJECT NO.:	19-2645	SCALE:	AS SHOWN
DATE:	OCTOBER 2020		

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