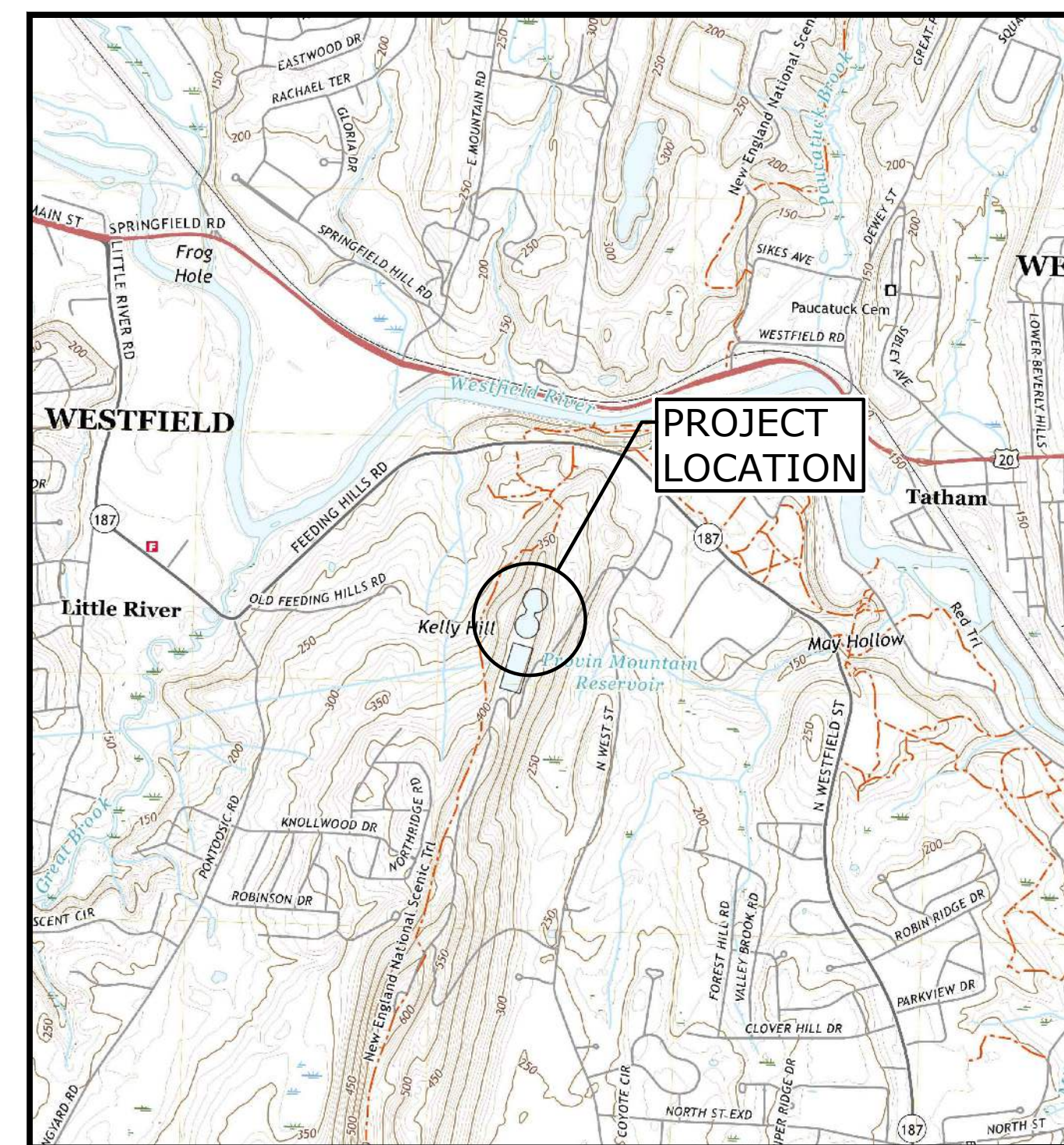


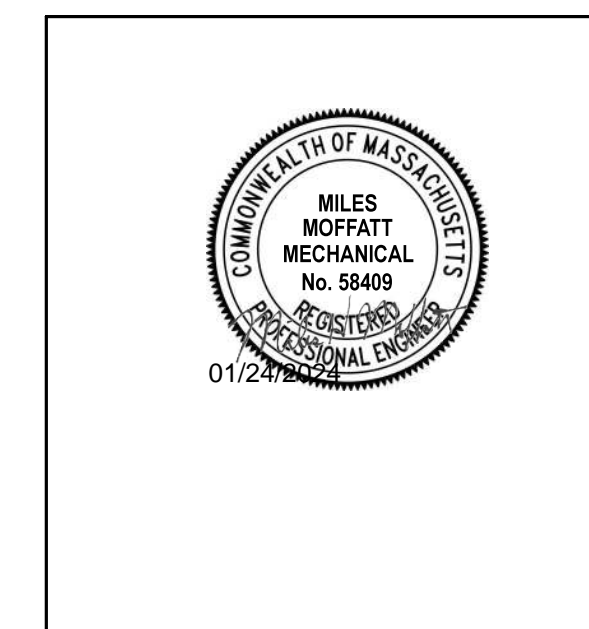
SPRINGFIELD WATER & SEWER COMMISSION PROVIN MOUNTAIN RESERVOIR RESERVOIR NOS. 3 AND 4 IMPROVEMENTS CONTRACT NO. 1 PROJECT NO: 24-12 JANUARY 2024

LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
CIVIL		
3	C-101	RESERVOIR NOS. 3 AND 4 EXISTING SITE PLAN AND EROSION CONTROLS
4	C-102	RESERVOIR NO. 3 PROPOSED SITE PLAN
5	C-103	RESERVOIR NO. 4 PROPOSED SITE PLAN
6	C-201	MISCELLANEOUS CIVIL DETAILS
STRUCTURAL		
7	S-001	STRUCTURAL NOTES, LEGEND, AND ABBREVIATIONS
8	S-201	MISCELLANEOUS STRUCTURAL DETAILS

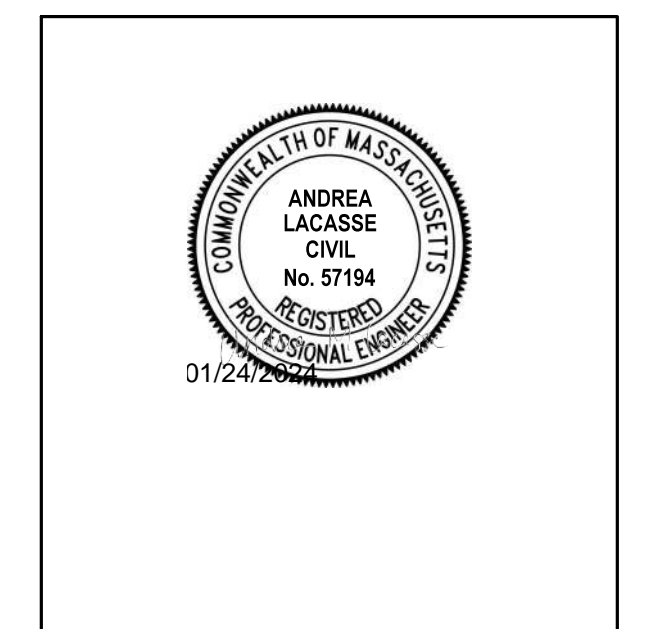


LOCATION MAP
 SCALE: 1" = 2000'

PREPARED BY:
Tighe & Bond



MILES H. MOFFATT



ANDREA M. LACASSE

PREPARED FOR:
 SPRINGFIELD WATER AND
 SEWER COMMISSION

COMPLETE SET 8 SHEETS



GENERAL NOTES

1. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS IS BASED ON THE FOLLOWING:
 - 1.1. RECORD DRAWINGS TITLED ADDITIONS PROVIN MOUNTAIN RESERVOIR, PREPARED BY BOGERT AND CHILDS AND DATED MARCH 1958
 - 1.2. FIELD INVESTIGATIONS PERFORMED BY TIGHE & BOND ON OCTOBER 14, 2022
 - 1.3. SATELLITE IMAGERY DATED SEPTEMBER 2019
2. UTILITY LOCATIONS SHOWN WERE PLOTTED FROM INFORMATION SUPPLIED BY RESPECTIVE UTILITY COMPANIES AND DATA OBTAINED FROM THE FIELD AND RECORD DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT CONSTRUCTION OPERATIONS.
3. THE EXISTING CONDITIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.
4. PER MASSACHUSETTS LAW, CALL 1-888-DIG-SAFE. (1-888-344-7233) PRIOR TO ANY UNDERGROUND EXCAVATION ON SITE. THE DIG-SAFE VERIFICATION NUMBER SHALL BE SUBMITTED TO SWSC PRIOR TO ANY EXCAVATION, DEMOLITION, AND REMOVAL OR CONSTRUCTION WORK. NOTIFY ANY OTHER UTILITY OWNERS IN THE AREA NOT ON THE DIGSAFE LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS.
5. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IN ADDITION, SOME UTILITIES MAY NOT BE SHOWN. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND/OR INTERRUPTIONS IN UTILITY SERVICE. PERFORM TEST PIT EXCAVATIONS AND OTHER INVESTIGATIONS TO LOCATE UTILITIES, AND PROVIDE THIS INFORMATION TO THE ENGINEER, PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS. LOCATE ALL EXISTING UTILITIES TO BE CROSSED OR ENCOUNTERED BY HAND EXCAVATION. EXCAVATE ADDITIONAL TEST PITS TO LOCATE EXISTING UTILITIES AS DIRECTED OR APPROVED BY THE ENGINEER.
6. NOT ALL OF THE UTILITY SERVICES TO VALVE VAULTS AND BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THAT EACH VALVE VAULT AND BUILDING HAS SERVICE CONNECTIONS FOR VARIOUS UTILITIES.
7. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
8. TIGHE & BOND AND OWNER ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND AND OWNER.
9. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION. NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
10. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
11. OBTAIN, PAY FOR AND COMPLY WITH PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK. ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE JURISDICTIONAL AUTHORITIES.
12. SHORE TRENCHES WHERE FIELD CONDITIONS DICTATE AND/OR WHERE REQUIRED BY LOCAL, STATE AND FEDERAL HEALTH AND SAFETY CODES.
13. PROTECT AND MAINTAIN ALL UTILITIES IN THE AREAS UNDER CONSTRUCTION DURING THE WORK. LEAVE ALL PIPES, CONDUITS, AND STRUCTURES WITHIN THE LIMITS OF THE CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK.
14. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE DRAWINGS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.
16. TAKE NECESSARY MEASURES AND PROVIDE CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL WORK AND STAGING AREAS AT THE COMPLETION OF EACH DAYS WORK.
17. OPEN TRENCHES WILL BE ALLOWED OVERNIGHT WITH MEASURES PUT IN PLACE NECESSARY TO PREVENT ACCESS TO THE OPEN TRENCH AND STOCKPILING AREAS. SEE NOTE 16, THIS SHEET.
18. NO OPEN HATCHES OR OTHER STRUCTURE OPENINGS WILL BE ALLOWED OVERNIGHT.
19. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
20. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
21. THE TERM "DEMOLISH" USED ON THE DRAWINGS MEANS TO REMOVE AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
22. THE TERM "ABANDON" USED ON THE DRAWINGS MEANS TO LEAVE IN PLACE AND TAKE APPROPRIATE MEASURES TO DECOMMISSION AS SPECIFIED OR NOTED ON THE DRAWINGS.
23. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER TO MEET EXISTING CONDITIONS.
24. PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, REQUIRED BY PERMIT, AND/OR REQUIRED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED. INSPECT AFTER EACH RAINSTORM AND DURING MAJOR STORM EVENTS TO CONFIRM THAT ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED ARE IN PLACE AND EFFECTIVE.
25. COMPACT, STABILIZE, AND LOAM AND SEED DISTURBED VEGETATED AREAS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS REQUIRED BY PERMITS.
26. REMOVE AND PROPERLY DISPOSE OF SILT TRAPPED AT BARRIERS IN UPLAND AREAS. RESTORE ALL DISTURBED AREAS TO THEIR PRECONSTRUCTION CONDITION.
27. LOAM AND SEED ALL DISTURBED VEGETATED AREAS TO ESTABLISH COVER AND STABILIZATION AS SOON AS POSSIBLE FOLLOWING DISTURBANCE.
28. MAINTAIN AN ADDITIONAL SUPPLY OF EROSION CONTROL MEASURES ON-SITE FOR EMERGENCY REPAIRS.
29. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE TO A SECURE LOCKED AND COVERED AREA DURING NON-WORK HOURS. DO NOT REFUEL MACHINERY OR TRANSFER OTHER HAZARDOUS MATERIALS OVER THE RESERVOIRS ROOF SLABS.
30. ALL SURFACES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN KIND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
31. PROTECT PROJECT FEATURES (E.G., WALLS, FENCES, SIGNS, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS, WHEN APPROPRIATE.
32. IF REMOVAL OF PROJECT FEATURES IS REQUIRED IN ORDER TO PERFORM THE PROPOSED WORK, REMOVE THOSE SITE FEATURES ONLY UPON APPROVAL OF ENGINEER. REPLACE ALL REMOVED PROJECT FEATURES; NEW ITEMS SHALL BE EQUAL OR BETTER IN QUALITY AND CONDITION TO THE ITEMS REMOVED.

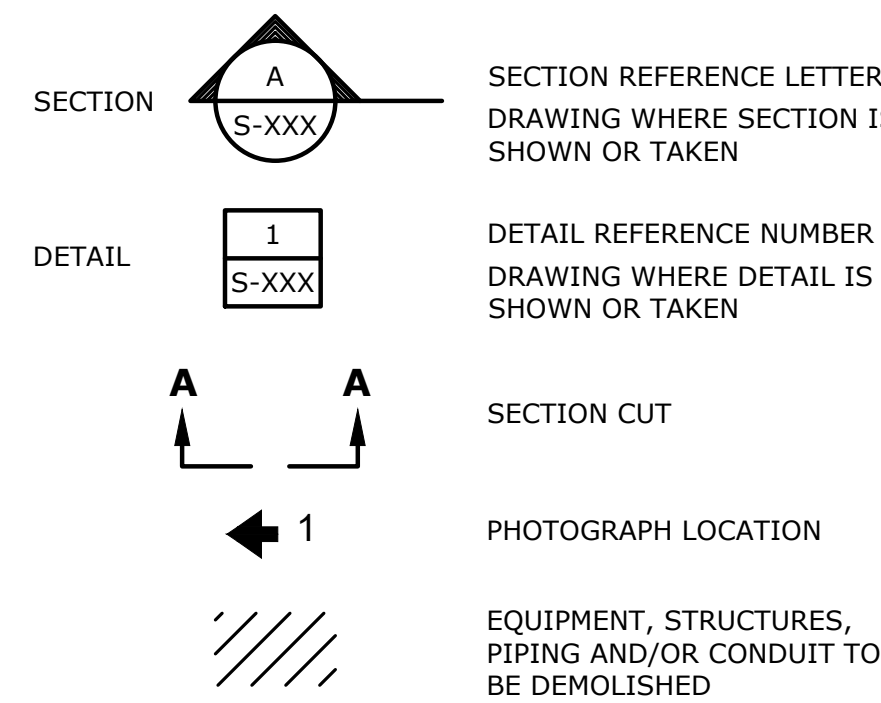
LEGEND

DESCRIPTION	EXISTING	PROPOSED
LIMITS OF WORK		-----
STAGING AREA		-----
POTABLE WATER	----- PW -----	
UNDERGROUND ELECTRIC	----- E ----- E -----	
UNDERGROUND HYDRAULIC	----- H ----- H -----	
EDGE OF PAVEMENT	-----	-----
DEMOLITION		XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DIRT ROAD	-----	-----
FENCE - CHAIN LINK	----- X ----- X ----- X -----	----- X ----- X ----- X -----
CONSTRUCTION JOINT	-----	-----
EXPANSION JOINT	-----	-----
JOINT REPAIR	-----	-----
EROSION CONTROL	-----	-----
TEST PIT		■
TREELINE	~~~~~	
INTERMEDIATE CONTOURS	-----	
INDEX CONTOURS	-----	

ABBREVIATIONS

BLDG	BUILDING
BOT	BOTTOM
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
CI	CAST IRON PIPE
CIP	CAST IN PLACE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CY	CUBIC YARD
DI	DUCTILE IRON PIPE
DIA	DIAMETER
E	EAST
EF	EACH FACE
EG	EXISTING GRADE
EL/ELEV	ELEVATION
ELEC	ELECTRIC
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FT	FEET
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
IN	INCHES
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N/F	NOW OR FORMERLY
OC	ON CENTER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYLCHLORIDE
RCP	REINFORCED CONCRETE PIPE
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
S	SOUTH
SCH	SCHEDULE
SF	SQUARE FOOT
SS	STAINLESS STEEL
STL	STEEL
TS	TOP OF STEP
TW	TOP OF WALL
TYP	TYPICAL

GENERAL SYMBOLS



**Provin
Mountain
Reservoir Nos.
3 and 4
Improvements
Contract No. 1**
Springfield
Water and
Sewer
Commission
Agawam,
Massachusetts

MARK	DATE	DESCRIPTION
0	12/1/2023	ISSUED FOR BIDDING

PROJECT NO:	S2057-067
DATE:	12/1/2023
FILE:	S2057-067-CT1-G002.dwg
DRAWN BY:	GNM
DESIGNED/CHECKED BY:	GNM, AML
APPROVED BY:	MHM

**GENERAL NOTES, LEGEND,
AND ABBREVIATIONS**

SCALE: NO SCALE

G-002
SHEET 2 OF 8



Provin Mountain Reservoir Nos. 3 and 4 Improvements Contract No. 1

Springfield Water and Sewer Commission
 Agawam, Massachusetts

MARK	DATE	DESCRIPTION
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PROJECT NO: S2057-067

DATE: 12/1/2023

FILE: S2057-067-CT1-C100.dwg

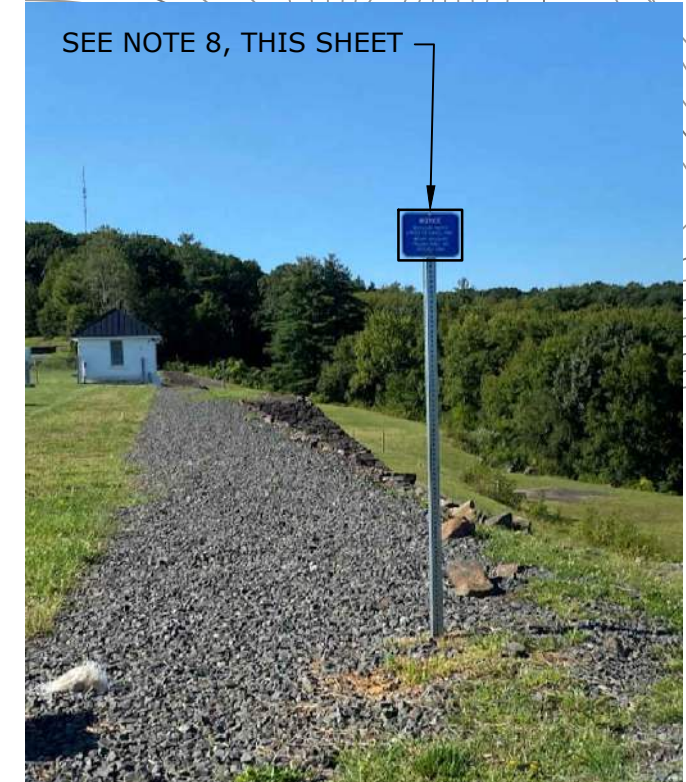
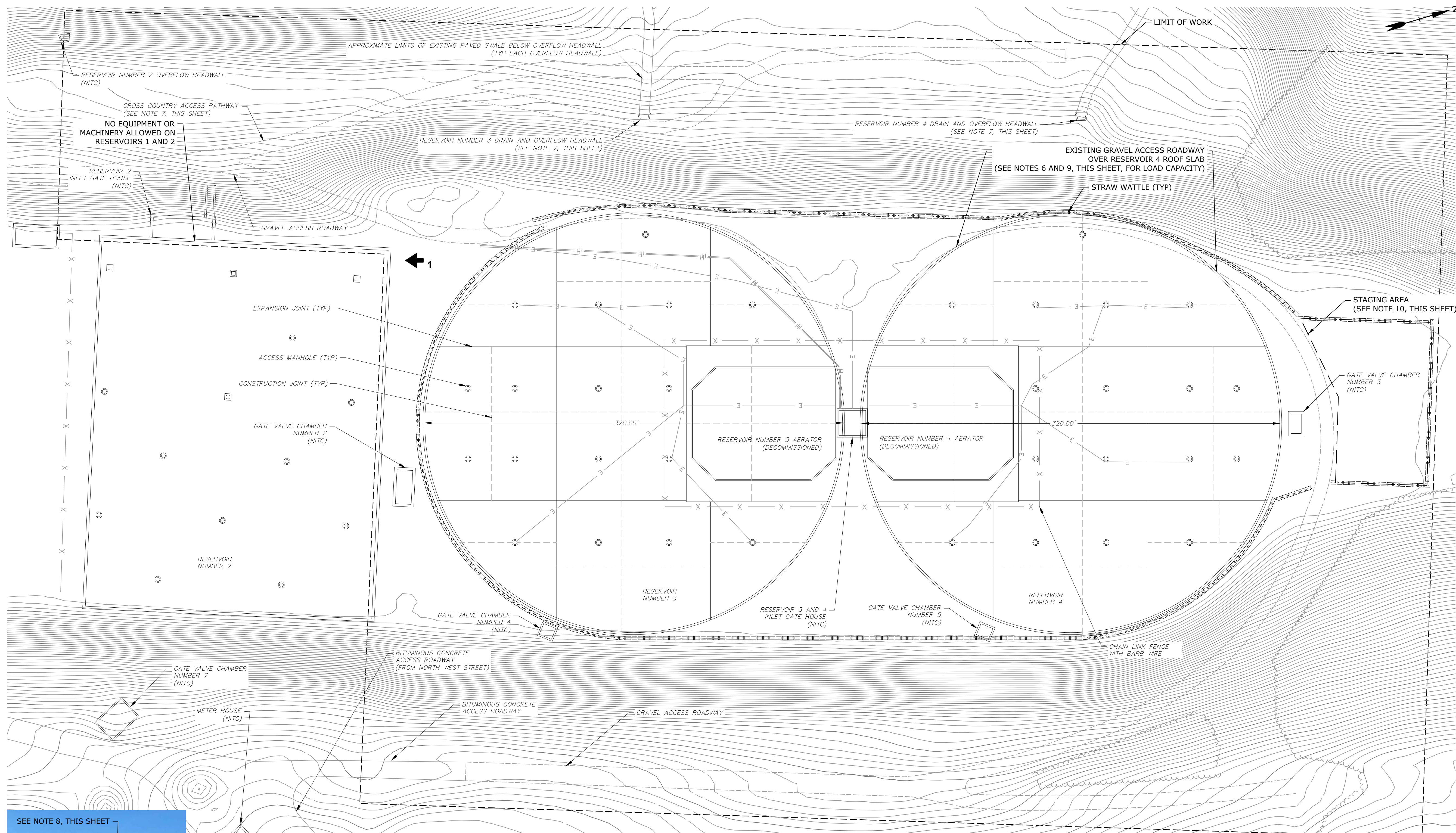
DRAWN BY: GNM

DESIGNED/CHECKED BY: GNM, AML

APPROVED BY: MHM

RESERVOIR NOS. 3 AND 4 EXISTING SITE PLAN AND EROSION CONTROLS

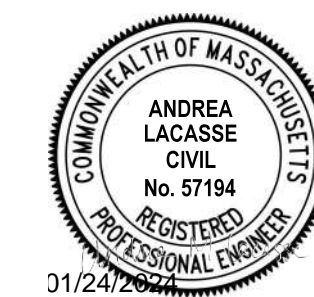
SCALE: 1" = 40'
C-101
 SHEET 3 OF 8



RESERVOIR NO. 2 PHOTO #1

- NOTES:**
- WORK THAT HAS THE POTENTIAL TO IMPACT THE WATER STORAGE SYSTEM SHALL OCCUR ON ONE RESERVOIR AT A TIME AND NOT CONCURRENTLY. ANY WORK THAT IS PERFORMED ON THE TOP OF THE RESERVOIR HAS THE POTENTIAL TO IMPACT THE WATER STORAGE SYSTEM AND THEREFORE WORK WILL ONLY BE ALLOWED ON ONE TANK AT A TIME.
 - KEEP VEHICULAR AND MACHINERY TRAFFIC TO ACCESS ROADS TO THE BEST EXTENT AS POSSIBLE. NO VEHICLES OR MACHINERY SHALL BE PARKED OVER ANY RESERVOIR, ALL VEHICLES AND MACHINERY SHALL BE REMOVED FROM THE RESERVOIRS AT THE END OF THE WORKING DAY.
 - SOIL STOCKPILED ON THE RESERVOIR SHALL COMPLY WITH THE SUPERIMPOSED LOAD LIMITATION OF NOTE 6 IN COMBINATION WITH THE EXISTING EARTH LOAD AND EQUIPMENT LOADS.
 - RESERVOIR 1 AND SITE FEATURES ASSOCIATED WITH RESERVOIR 1 AND 2 ARE NOT SHOWN FOR CLARITY.
 - THE CONTRACTOR SHALL PROVIDE CUT SHEETS AND LOAD CALCULATIONS FOR ALL PROPOSED VEHICLES AND MACHINERY THAT WILL BE USED ON TOP OF RESERVOIR STRUCTURES 3 AND 4 FOR REVIEW AND WRITTEN APPROVAL PRIOR TO USE. LOADING ON RESERVOIRS 3 AND 4 SHALL BE RESTRICTED TO THE CAPACITIES LISTED IN NOTE 6. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
 - EXISTING RESERVOIRS 3 AND 4 ROOF SLAB CAPACITY:
 - ROOF SLAB WEIGHT: 100 PSF
 - SUPERIMPOSED EARTH LOAD (2- FEET): 240 PSF
 - SUPERIMPOSED LIVE LOAD: 130 PSF
 - NO CONSTRUCTION LOADS, VEHICLES, EQUIPMENT, AND OR MACHINERY SHALL BE PERMITTED ON TOP OF RESERVOIR NO. 1, RESERVOIR NO. 2, AND OVERFLOW OUTLET STRUCTURES. SUPPORTING CALCULATION WILL NOT BE ACCEPTED.
 - THE POSTED SIGN IN PHOTO 1, THIS SHEET, READS "NOTICE VEHICULAR TRAFFIC LIMITED TO GRAVEL ROAD WEIGHT INCLUDING PAYLOAD SHALL NOT EXCEED 2 TONS". THIS APPLIES TO THE CRUSHED STONE OVER THE PERIMETER DRAINS ON RESERVOIR NO. 2.
 - THE ACCESS ROAD THAT CIRCUMVENTS THE SITE OVERLAPS WITH RESERVOIR 4. WITHIN THE ACCESS ROAD, OVER RESERVOIR 4, THE WEIGHT LIMIT WILL BE RESTRICTED TO CONCENTRATED LOADS OF 2 KIPS LOCATED NO CLOSER THAN 4 FEET APART OR 4 KIPS PER AXLE.
 - STAGING AREAS AND STORED MATERIALS ARE TO BE SECURED FROM HIGH WINDS.

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 Project: Provin Mountain Reservoir Facility Improvements Drawings - Figures AutoCAD Sheets
 Figure & Detail: S2057-SH35-067 - Provin Reservoirs Facility Improvements Drawings - Figures AutoCAD Sheets
 Figure & Detail: S2057-SH35-067-CT1-C100.dwg



Provin Mountain Reservoir Reservoir Nos. 3 and 4 Improvements Contract No. 1
Springfield Water and Sewer Commission
Agawam, Massachusetts

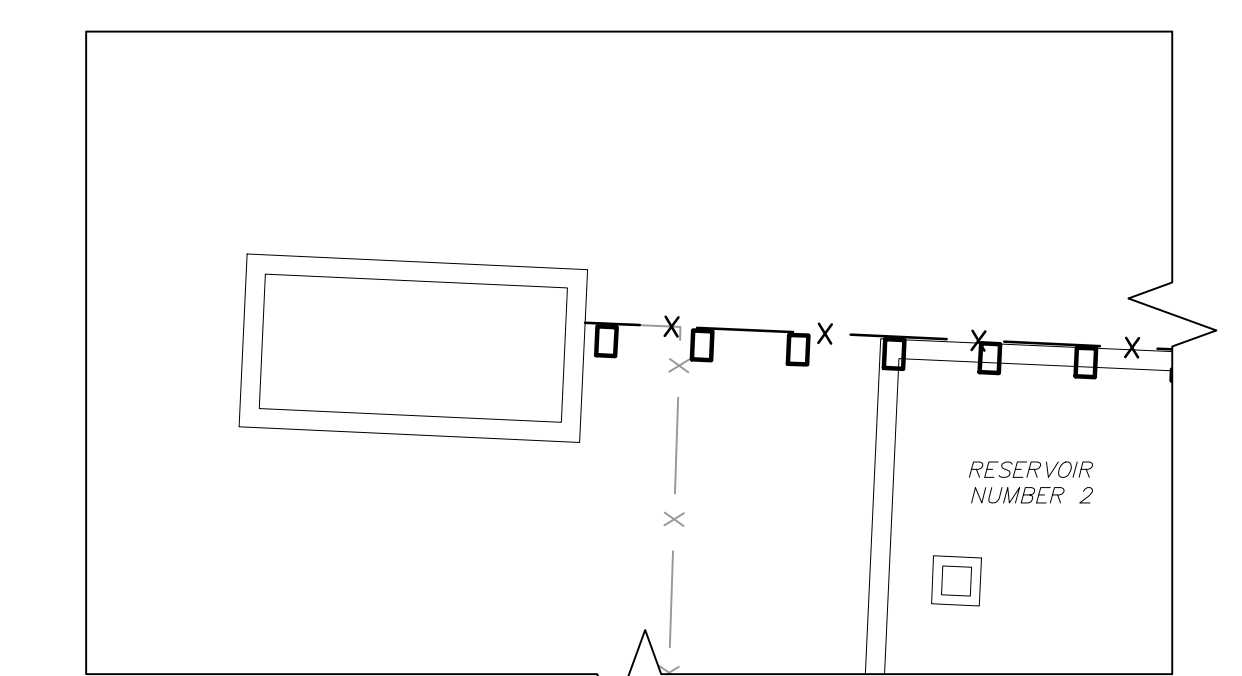
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PROJECT NO:	S2057-067
DATE:	12/1/2023
FILE:	S2057-067-CT1-C100.dwg
DRAWN BY:	GNM
DESIGNED/CHECKED BY:	GNM, AML
APPROVED BY:	MHM

RESERVOIR NO. 3 PROPOSED SITE PLAN

SCALE: 1" = 20'

NOTE:
NO VEHICLES AND MACHINERY SHALL BE PERMITTED ON TOP OF RESERVOIRS 1 AND 2.



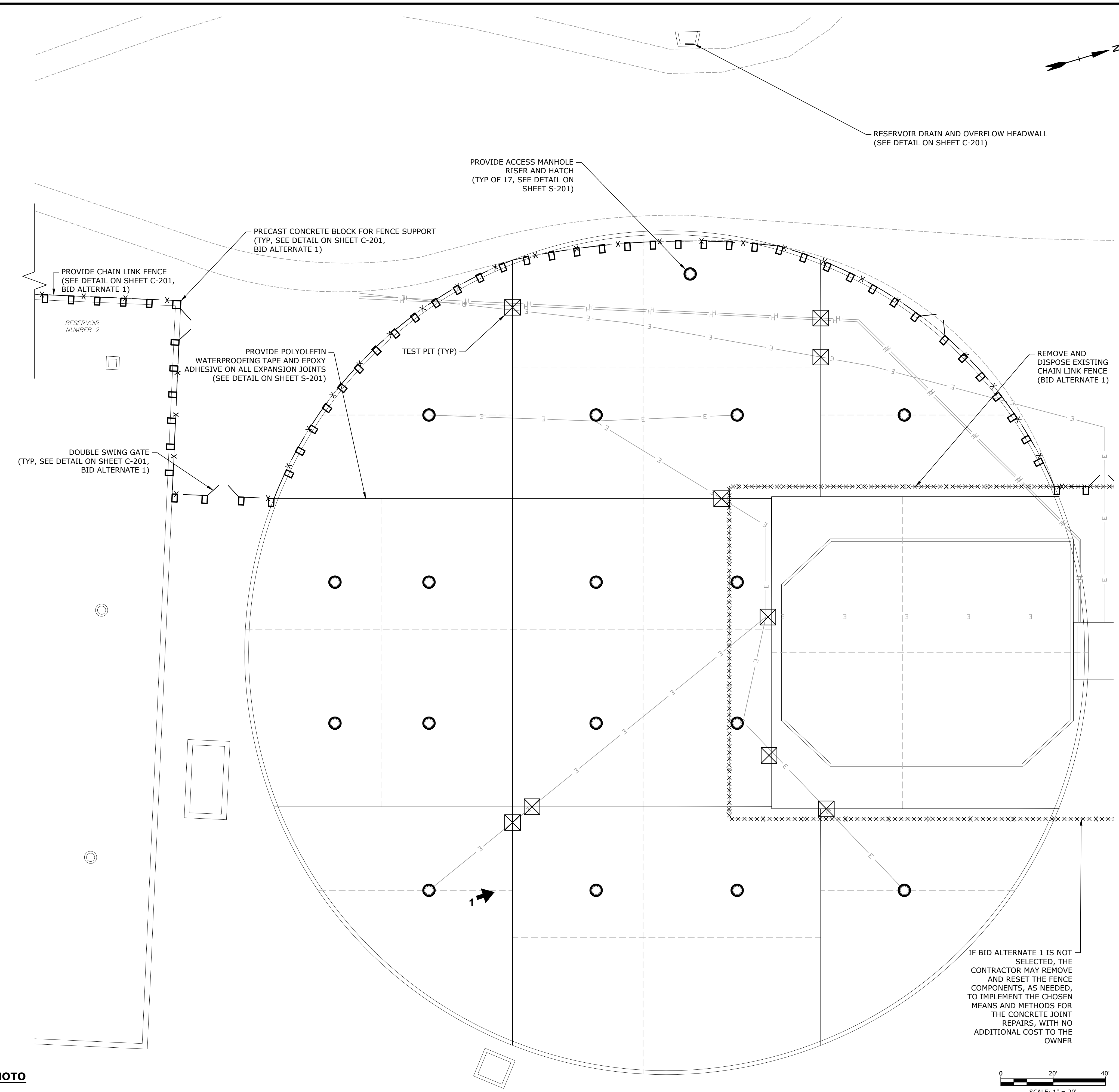
FENCE TERMINATION AT RESERVOIR NO. 2 (BID ALTERNATE 1)



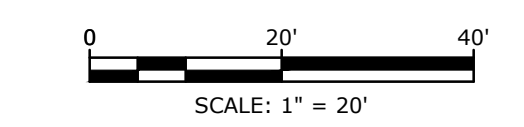
RESERVOIR NO. 3 PHOTO #1



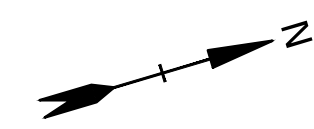
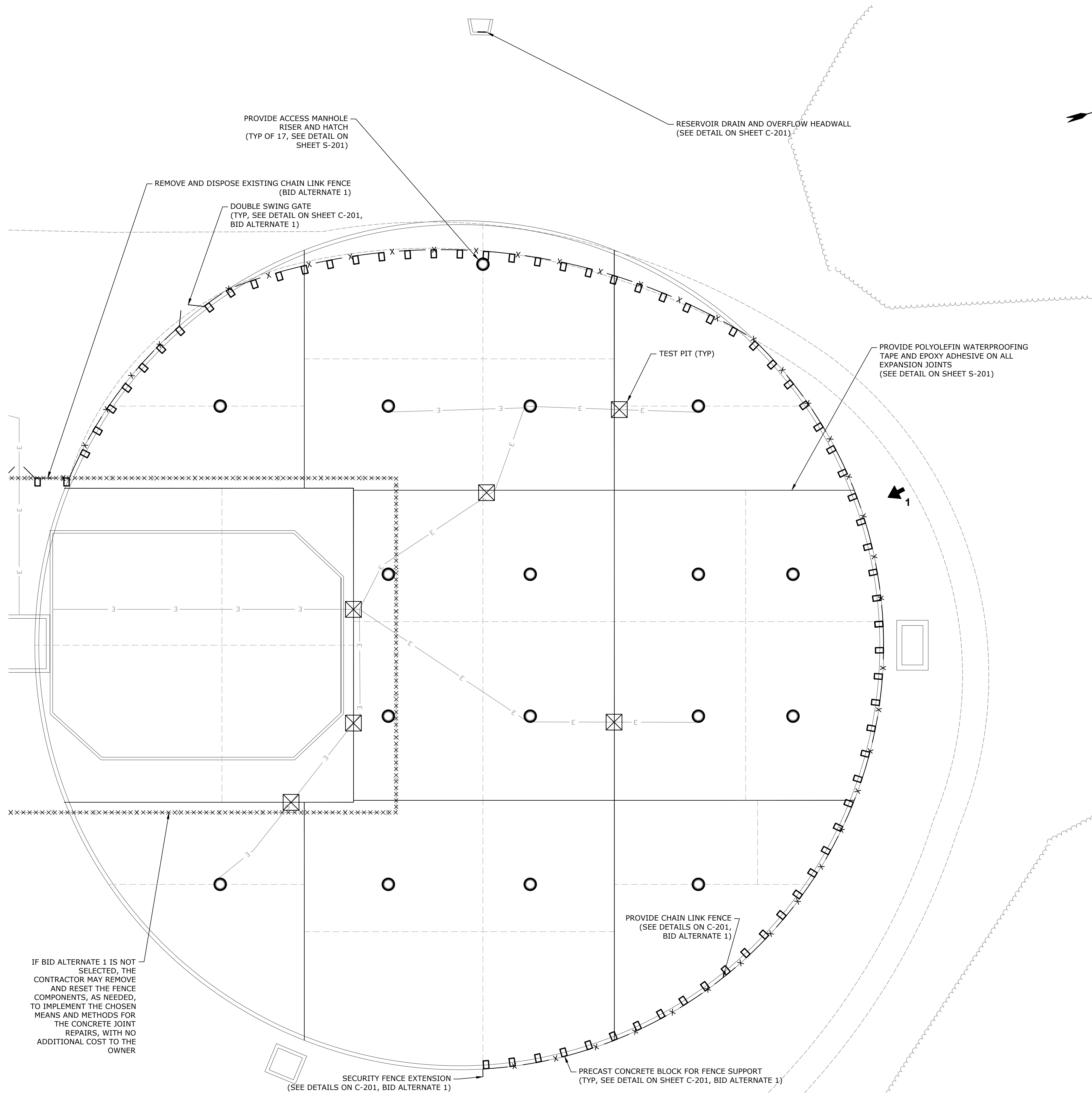
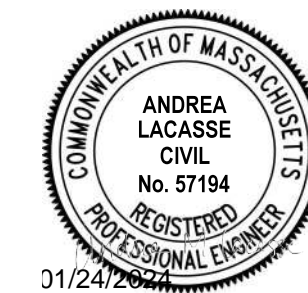
TEST PIT OF EXPANSION JOINT PERFORMED BY TIGHE & BOND PHOTO



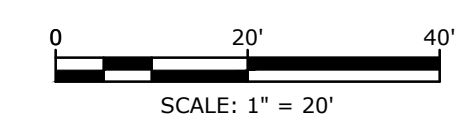
IF BID ALTERNATE 1 IS NOT SELECTED, THE CONTRACTOR MAY REMOVE AND RESET THE FENCE COMPONENTS, AS NEEDED, TO IMPLEMENT THE CHOSEN MEANS AND METHODS FOR THE CONCRETE JOINT REPAIRS, WITH NO ADDITIONAL COST TO THE OWNER



Last Saved: 12/18/2023 9:09:58 AM By: GNM
 Plotted On: Dec 15, 2023 10:57:57 AM
 Title & Author: S2057-SWSE-067 - Provn. Reservoirs Facility Improvements Drawings - Figures AutoCAD Sheet(CT1S2057-067-CT1-C100.dwg)



RESERVOIR NO. 4 PHOTO #1



IF BID ALTERNATE 1 IS NOT SELECTED, THE CONTRACTOR MAY REMOVE AND RESET THE FENCE COMPONENTS, AS NEEDED, TO IMPLEMENT THE CHOSEN MEANS AND METHODS FOR THE CONCRETE JOINT REPAIRS, WITH NO ADDITIONAL COST TO THE OWNER

PROVIDE ACCESS MANHOLE RISER AND HATCH (TYP OF 17, SEE DETAIL ON SHEET S-201)

RESERVOIR DRAIN AND OVERFLOW HEADWALL (SEE DETAIL ON SHEET C-201)

REMOVE AND DISPOSE EXISTING CHAIN LINK FENCE (BID ALTERNATE 1)

DOUBLE SWING GATE (TYP, SEE DETAIL ON SHEET C-201, BID ALTERNATE 1)

TEST PIT (TYP)

PROVIDE POLYOLEFIN WATERPROOFING TAPE AND EPOXY ADHESIVE ON ALL EXPANSION JOINTS (SEE DETAIL ON SHEET S-201)

PROVIDE CHAIN LINK FENCE (SEE DETAILS ON C-201, BID ALTERNATE 1)

SECURITY FENCE EXTENSION (SEE DETAILS ON C-201, BID ALTERNATE 1)

PRECAST CONCRETE BLOCK FOR FENCE SUPPORT (TYP, SEE DETAIL ON SHEET C-201, BID ALTERNATE 1)

**Provin
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Nos. 3 and 4
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Contract No. 1**
Springfield
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Agawam,
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MARK	DATE	DESCRIPTION
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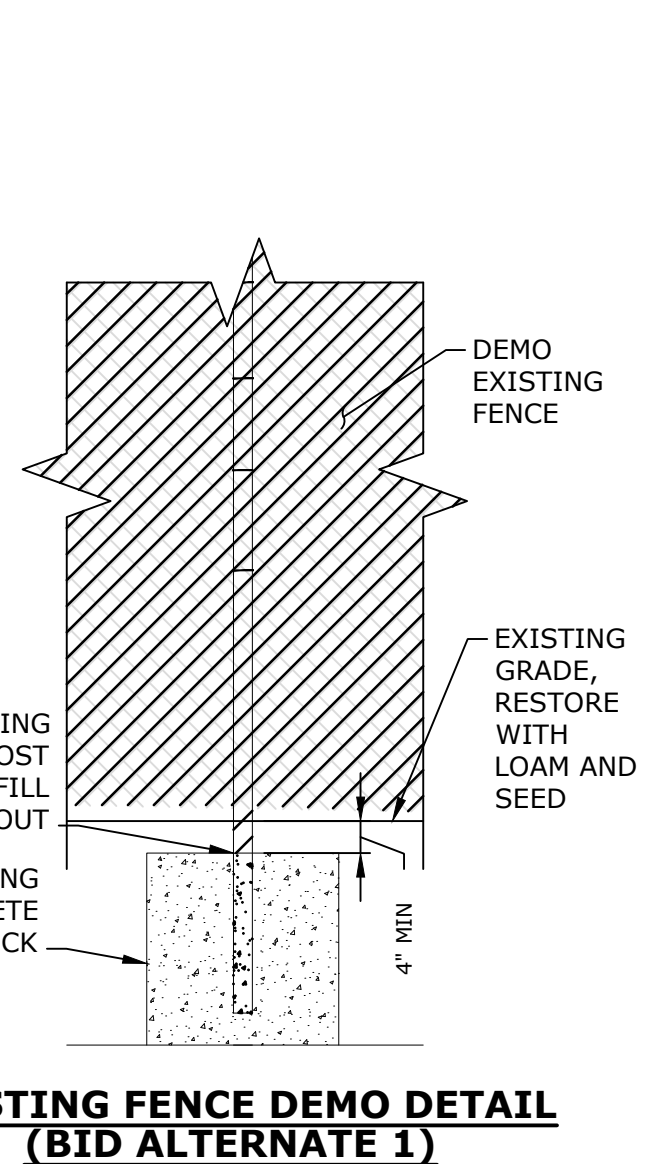
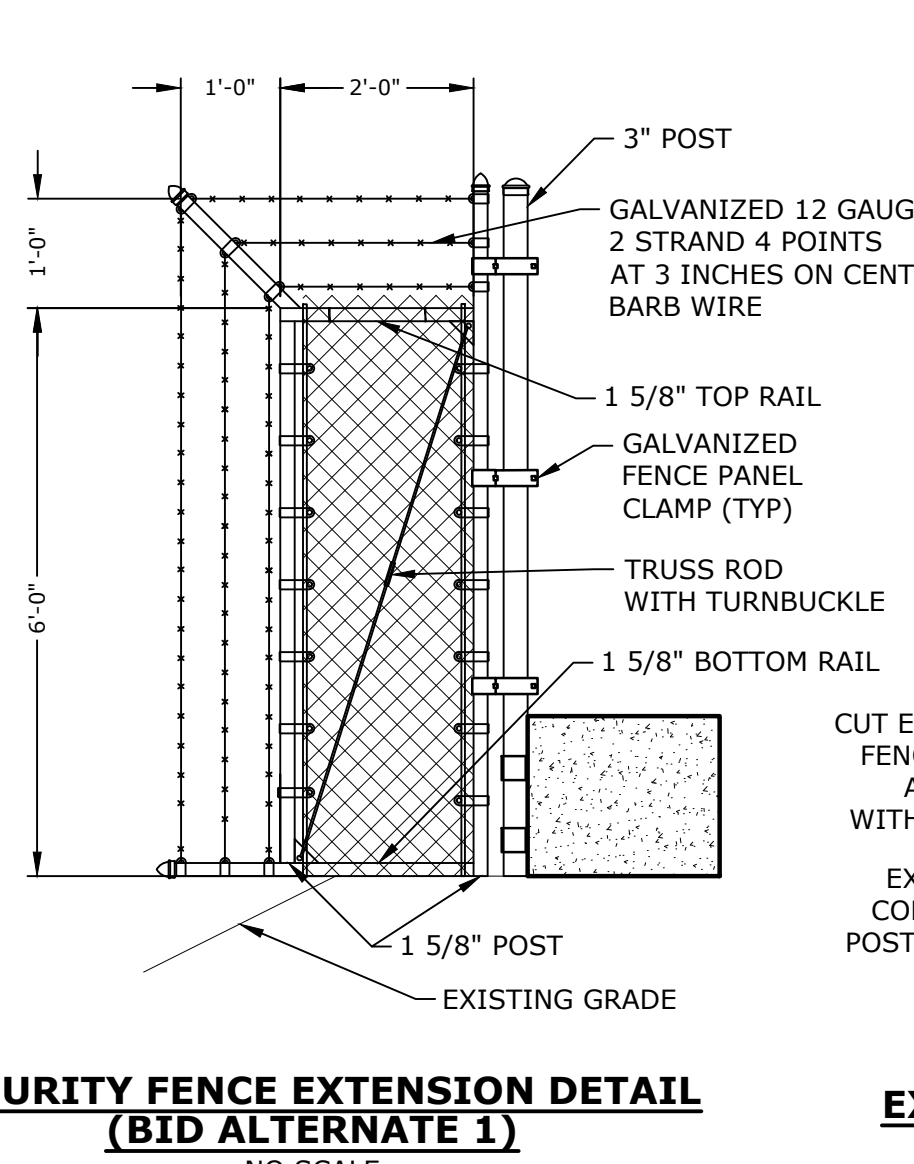
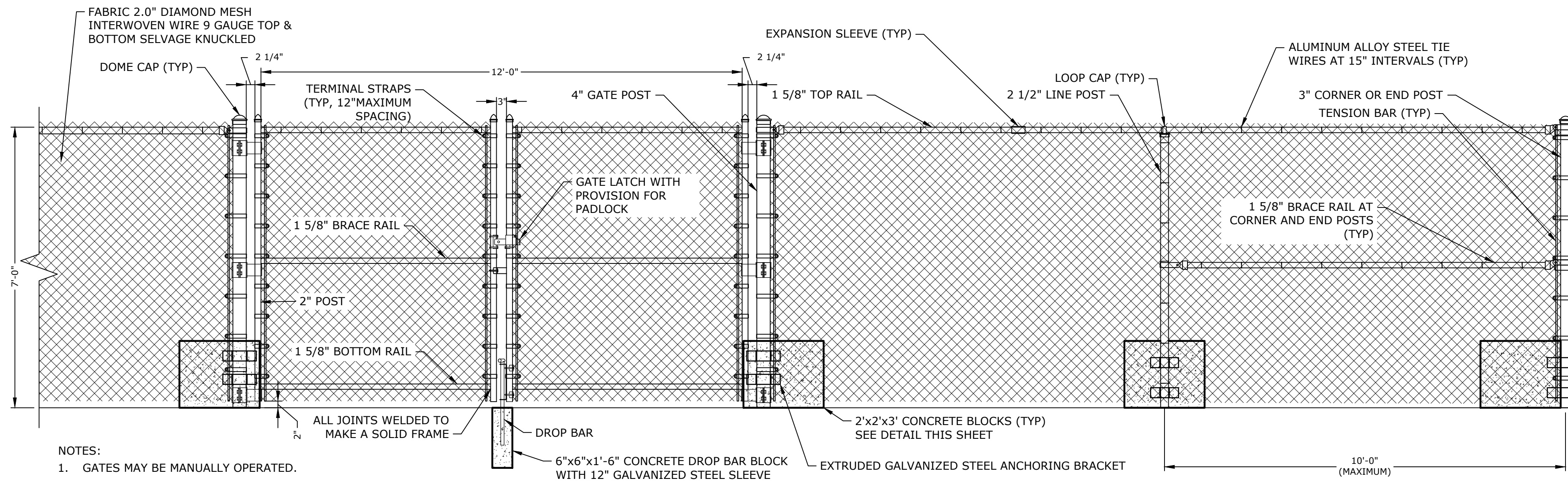
PROJECT NO: S2057-067
 DATE: 12/1/2023
 FILE: S2057-067-CT1-C100.dwg
 DRAWN BY: GNM
 DESIGNED/CHECKED BY: GNM, AML
 APPROVED BY: MHM

**RESERVOIR NO. 4
PROPOSED SITE PLAN**

SCALE: 1" = 20'

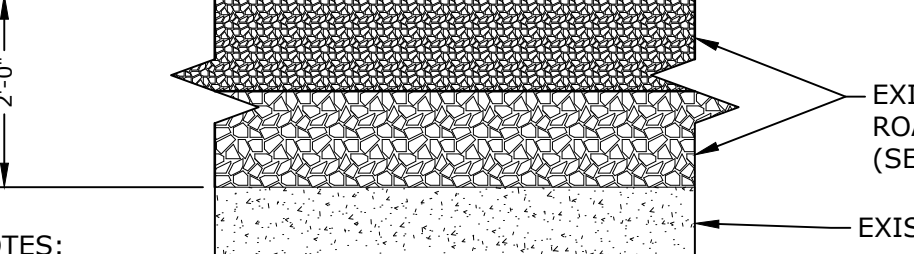
C-103
SHEET 5 OF 8

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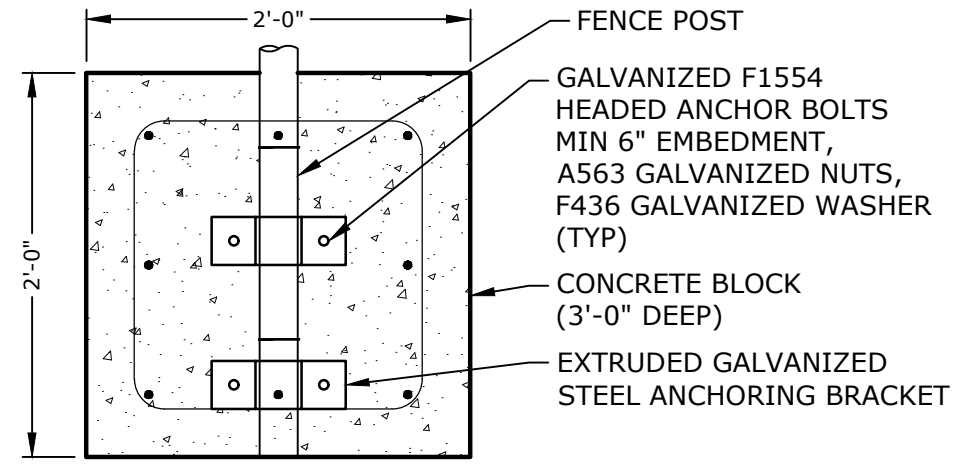


- NOTES:**
- GATES MAY BE MANUALLY OPERATED.
 - GATES OPEN OUTWARDLY.
 - FINISH SHALL BE BLACK VINYL COATING.

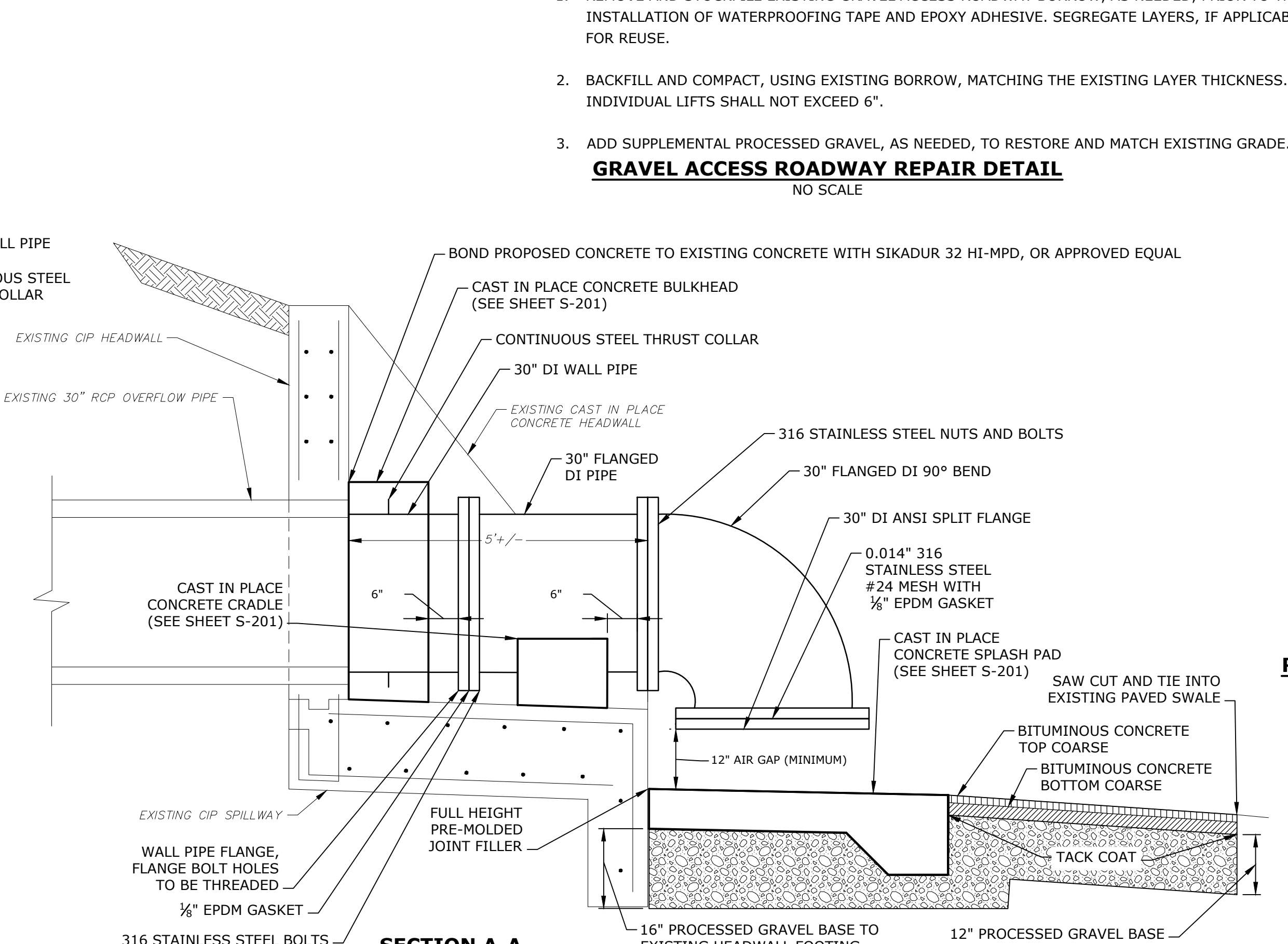
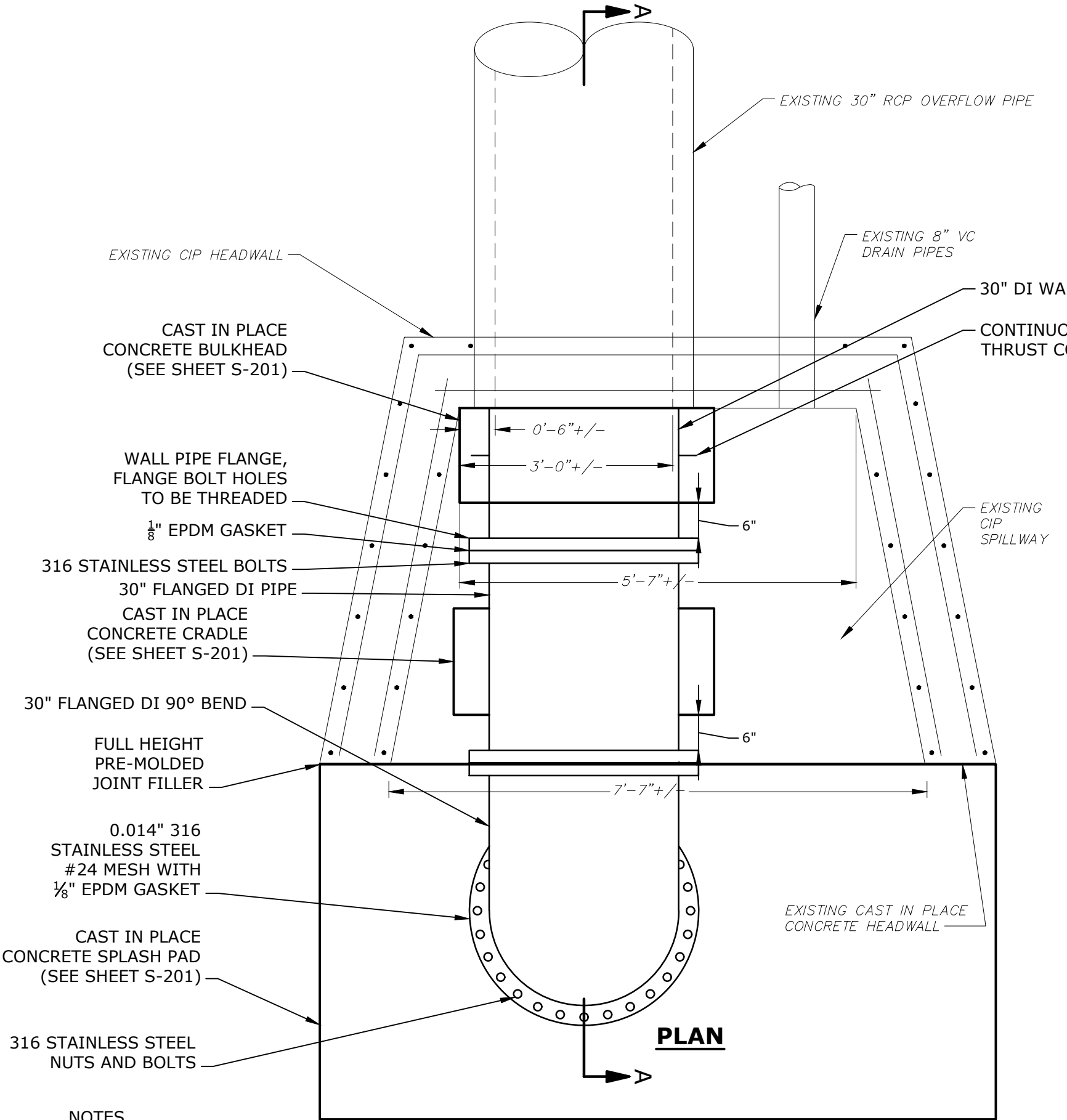
DOUBLE SWING GATE AND CHAINLINK FENCE DETAIL (BID ALTERNATE 1)



- NOTES:**
- REMOVE AND STOCKPILE EXISTING GRAVEL ACCESS ROADWAY BORROW, AS NEEDED, PRIOR TO THE INSTALLATION OF WATERPROOFING TAPE AND EPOXY ADHESIVE. SEGREGATE LAYERS, IF APPLICABLE, FOR REUSE.
 - BACKFILL AND COMPACT, USING EXISTING BORROW, MATCHING THE EXISTING LAYER THICKNESS. INDIVIDUAL LIFTS SHALL NOT EXCEED 6".
 - ADD SUPPLEMENTAL PROCESSED GRAVEL, AS NEEDED, TO RESTORE AND MATCH EXISTING GRADE.

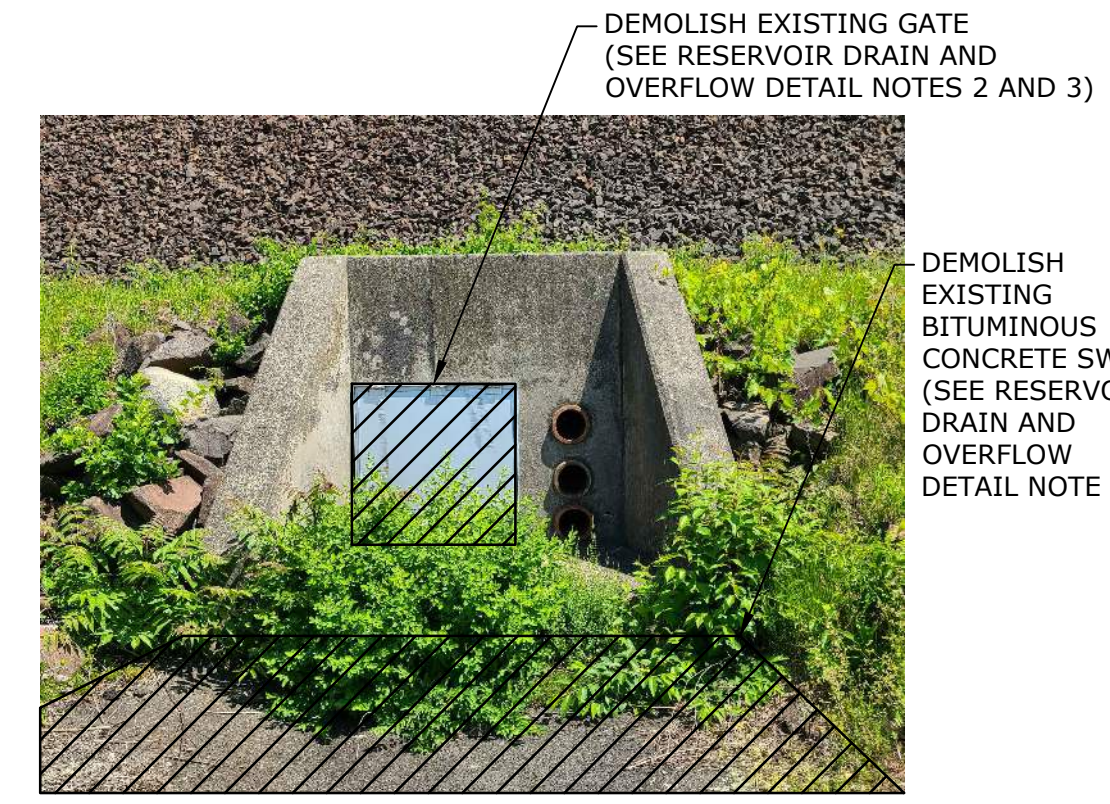


- NOTE:**
ALL BARS NO. 5 AT 12" ON CENTER (MAX) UNLESS OTHERWISE NOTED
- CONCRETE BLOCK DETAIL (BID ALTERNATE 1)**



- NOTES:**
- DIMENSIONS SHOWN OF THE EXISTING HEADWALLS ARE APPROXIMATE BASED ON AVAILABLE RECORD DRAWINGS, FIELD VERIFY ALL DIMENSIONS OF EACH HEADWALL AND PIPE PRIOR TO INSTALLATION OF DI PIPING, CONCRETE CRADLE, AND CONCRETE SPLASH PAD.
 - DEMOLISH EXISTING FLAP GATE (CHANNEL STEEL FACE PLATE AND HINGED STEEL COVER PLATE WITH COUNTERWEIGHT).
 - REPAIR EXISTING ANCHORING BOLT HOLE PENETRATIONS AS NEEDED.
 - THE EXTENTS OF THE SCREEN MESH SHALL BE INSTALLED TO THE EDGE OF THE FLANGE, CUTTING AROUND THE BOLTS, SO THAT THE SCREEN MESH IS NOT BOUND BY THE BOLTS AND CAN PULLED OUT WITH THE BOLTS IN PLACE.
 - REGRADE THE EXISTING BITUMINOUS CONCRETE SWALE, AS NEEDED, TO MATCH THE GRADE AT THE EDGE OF THE CONCRETE SPLASH PAD. SAW CUT AND PROPERLY DISPOSE OF THE EXISTING BITUMINOUS CONCRETE SWALE REMOVED AND PAVE THE BITUMINOUS CONCRETE SWALE, MATCHING THE THICKNESS OF THE EXISTING.
 - NO OVERFLOW PIPE SHALL BE LEFT UNCOVERED AT THE END OF THE WORK DAY. MINIMIZE THE DURATION OVERFLOW PIPES ARE LEFT UNCOVERED TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL PROTECT OPENINGS TO THE RESERVOIR FROM CONTAMINATES FOR THE DURATION THE OVERFLOW PIPES ARE UNCOVERED. PROVISIONS USED TO COVER THE OVERFLOW PIPE SHALL NOT IMPEDE THE FLOW OF WATER THROUGH THE OVERFLOW PIPE. PROVISION TO COVER THE OVERFLOW PIPE SHALL OPEN UP AT 5 FEET OF HEAD OR GREATER.

RESERVOIR DRAIN AND OVERFLOW DETAIL



RESERVOIR NO. 3 EXISTING CONCRETE HEADWALL PHOTO



RESERVOIR NO. 4 EXISTING CONCRETE HEADWALL PHOTO

Provin Mountain Reservoir Nos. 3 and 4 Improvements Contract No. 1

Springfield Water and Sewer Commission

Agawam, Massachusetts

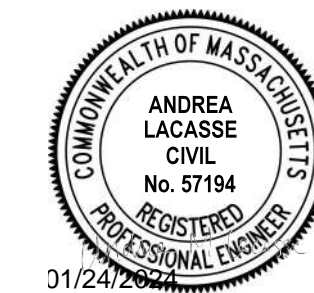
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DATE: 12/1/2023
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DRAWN BY: GNM
DESIGNED/CHECKED BY: GNM, AML
APPROVED BY: MHM

MISCELLANEOUS CIVIL DETAILS

SCALE: NO SCALE

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GENERAL

- STRUCTURAL WORK SHALL CONFORM TO STATE BUILDING CODE, LATEST EDITION, INCLUDING MOST RECENT ADDENDA, AND CONTRACT DOCUMENTS. IN CASE OF CONFLICT, MOST STRINGENT REQUIREMENT SHALL GOVERN.
- CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.
- CONTRACTOR SHALL EXAMINE DRAWINGS FOR ALL TRADES FOR THE VERIFICATION OF LOCATION AND DIMENSIONS OF ALL CHASES, INSERTS, OPENINGS, SLEEVES AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- PROVIDE CAULKING AT ALL CONTROL JOINTS. PROVIDE COMPRESSIBLE FILLER AND SEALANT AT ALL EXPANSION AND ISOLATION JOINTS.
- PROVIDE PREMOLDED JOINT FILLER WHERE SLABS ON GRADE ABUT WALLS AND COLUMNS.

CONCRETE

- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301).
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY OR THE ENGINEER.
- CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED AND SHALL BE AIR ENTRAINED (SEE SPECS).
- THE USE OF CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS IS MANDATORY. OMISSIONS, ADDITIONS OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMISSION OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE STRUCTURAL ENGINEER.
- WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, DRAWINGS SHOWING LOCATION OF CONSTRUCTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- CONCRETE SLABS SHALL BE CAST SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON THE DRAWINGS.
- CONCRETE SLABS AND WALLS SHALL BE CAST ALTERNATELY OR IN A CHECKERBOARD FASHION SO THAT ADJACENT SECTIONS ARE PLACED NO SOONER THAN THREE DAYS APART. AT LEAST TWO DAYS MUST ELAPSE AFTER PLACING CONCRETE IN WALLS BEFORE PLACING FLOOR SYSTEM SUPPORTED THEREON.
- CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED.
- EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE CHAMFERED CORNERS
- ONLY CRITICAL CONSTRUCTION JOINTS ARE SHOWN. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM SPACING OF CONSTRUCTION JOINTS.

REINFORCEMENT

- DETAILING, FABRICATION, AND ERECTION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)", LATEST EDITION.
- STEEL REINFORCEMENT UNLESS OTHERWISE SHOWN SHALL CONFORM TO ASTM A615 GRADE 60 MINIMUM (YIELD STRENGTH - 60,000 PSI).
- PROVIDE AND SCHEDULE ON SHOP DRAWINGS, ALL NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION: MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" ON CENTER, #5 SUPPORT BAR FOR HIGH CHAIRS, SLAB BOLSTERS, 3'-6" ON CENTER, ALL WIRE CHAIRS AND BOLSTERS TO BE PLASTIC TIPPED.
- THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE SHOWN:
 - CAST-IN-PLACE CONCRETE.

	EXPOSED TO EARTH, WATER OR WEATHER	NOT EXPOSED TO EARTH, WATER, OR WEATHER
(a) SLAB ON GRADE	3 INCHES	2 INCHES
(b) COLUMN TIES	2 INCHES	1 1/2 INCHES
(c) COLUMN MAIN REBARS	2 1/2 INCHES	2 INCHES
(d) BEAM STIRRUPS	2 INCHES	1 1/2 INCHES
(e) BEAM MAIN REBARS	2 1/2 INCHES	2 INCHES
(f) SLAB/WALL #3 TO #5 INCL'S	1 1/2 INCHES	3/4 INCHES
(g) SLAB/WALL #6 TO #11 INCL'S	2 INCHES	3/4 INCHES
(h) NOTE: MAXIMUM DEVIATION FROM THESE REQUIREMENTS SHALL BE +1/4" FOR SECTIONS TEN (10) INCHES OR LESS, AND +1/2" FOR SECTIONS OVER TEN (10) INCHES THICK.		
 - IN NO CASE SHALL THE COVER BE LESS THAN THE BAR DIAMETER.
 - WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.
- WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SITUATIONS, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES, NOR LESS THAN THE FOLLOWING:
 - BEAM STIRRUPS - #3 @ 12" OC
 - BEAM STIRRUP SUPPORTS - 1-#5 @ EACH STIRRUP BEND
 - FACE REINFORCEMENT IN BEAMS OR PORTIONS OF BEAMS - #4 @ 12" EF
 - STRUCTURAL SLABS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
 - STRUCTURAL WALLS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
- WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETE AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF REINFORCEMENT PLACEMENT.
- REINFORCEMENT SHALL BE SET BEFORE PLACING CONCRETE. SETTING ANY REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.

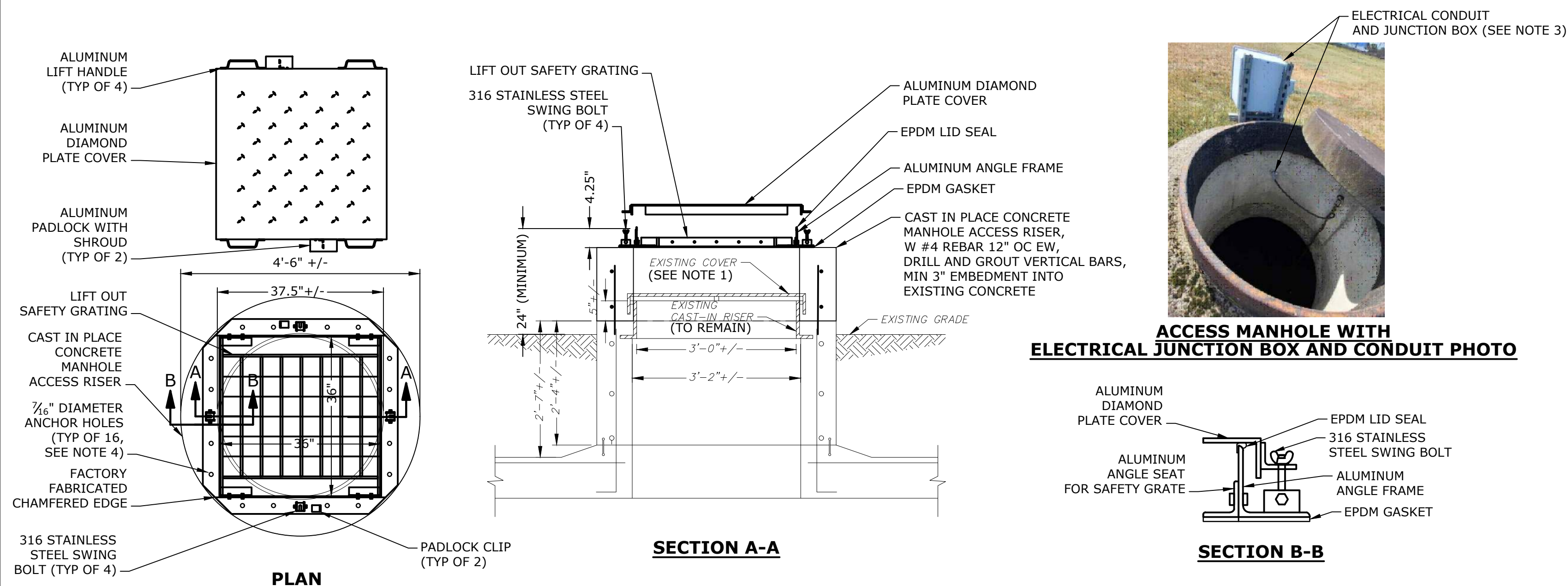
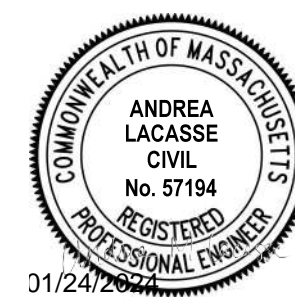
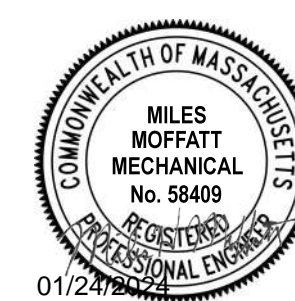
**Provin
Mountain
Reservoir
Reservoir Nos.
3 and 4
Improvements
Contract No. 1**
Springfield
Water and
Sewer
Commission
Agawam,
Massachusetts

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DATE: 12/1/2023		
FILE: S2057-067-CT1-S001.dwg		
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STRUCTURAL GENERAL
NOTES, LEGEND, AND
ABBREVIATIONS

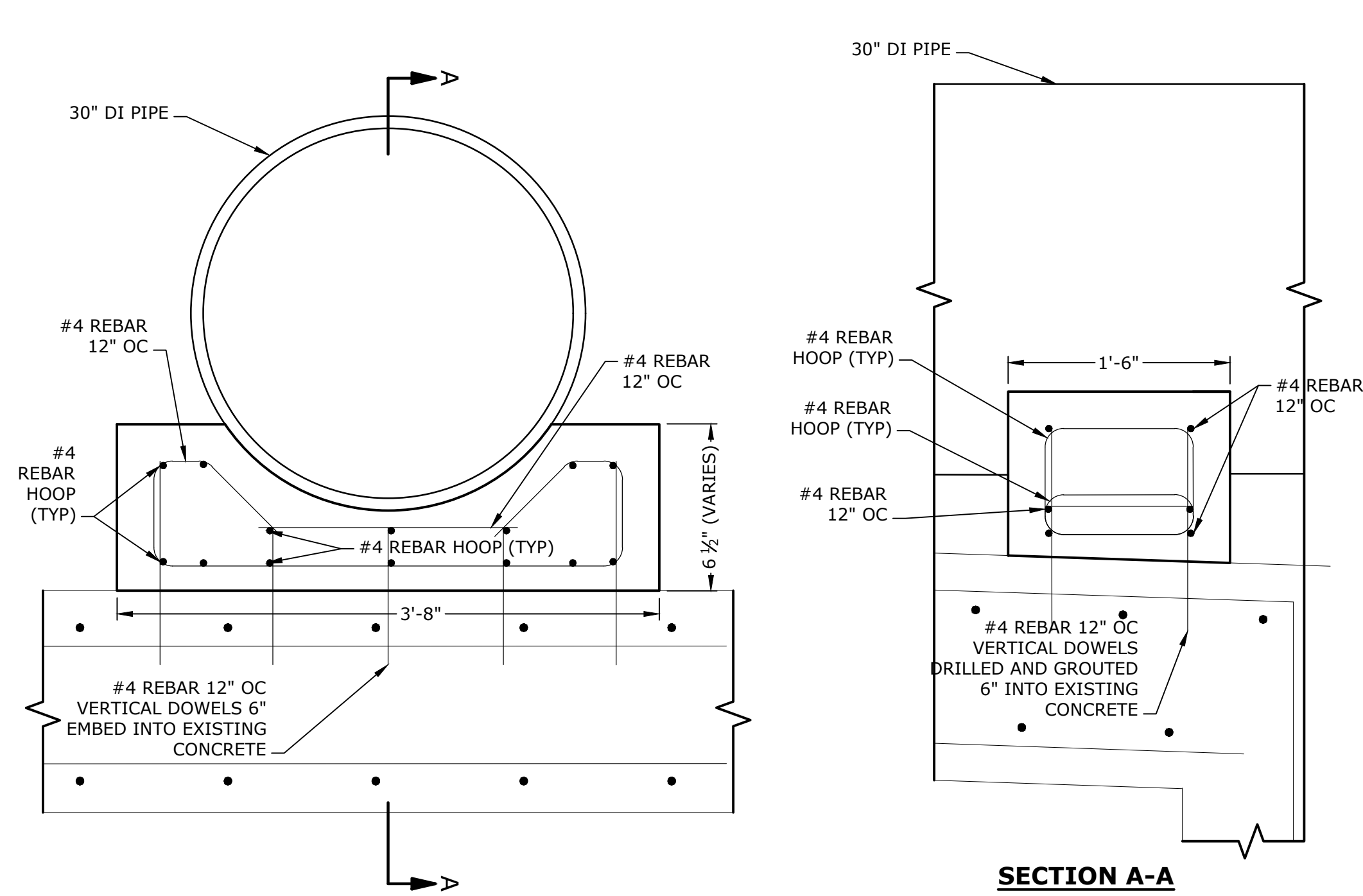
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ELECTRICAL CONDUIT AND JUNCTION BOX (SEE NOTE 3)

ACCESS MANHOLE WITH ELECTRICAL JUNCTION BOX AND CONDUIT PHOTO

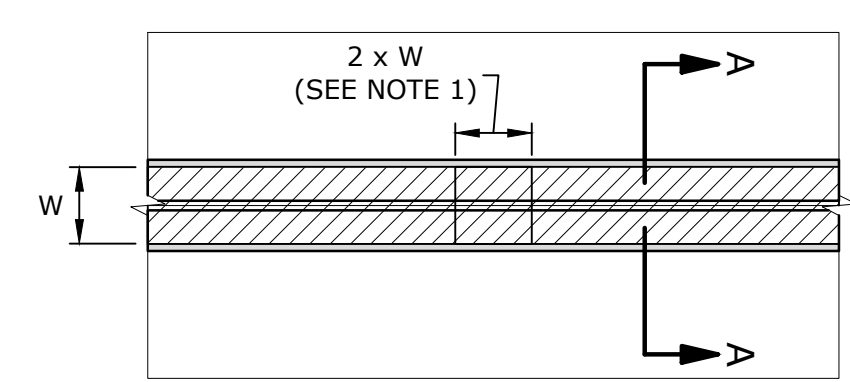


NOTES
 1. SEE SHEET C-201 FOR LOCATION OF CONCRETE CRADLE
 2. BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

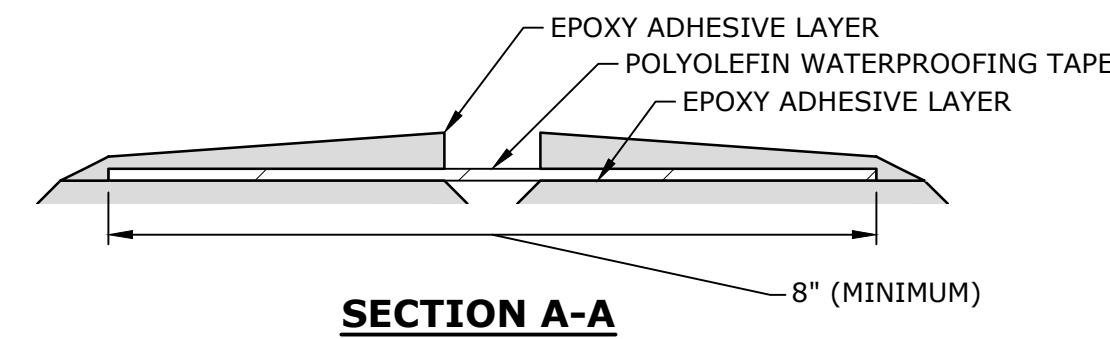
CAST IN PLACE CONCRETE CRADLE DETAIL
NO SCALE

- NOTES**
- ALL MANHOLE COVERS ARE TO BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
 - DIMENSIONS SHOWN OF THE EXISTING ACCESS MANHOLES ARE APPROXIMATE BASED ON AVAILABLE RECORD DRAWINGS, FIELD VERIFY ALL DIMENSIONS OF EACH ACCESS MANHOLE PRIOR TO INSTALLING THE ACCESS HATCHES.
 - SELECT ACCESS MANHOLES HAVE ELECTRICAL CONDUIT AND JUNCTION BOXES FOR TANK MIXERS (NOT SHOWN FOR CLARITY). THE CONTRACTOR SHALL PROTECT AND TEMPORARILY SUPPORT TANK MIXER EQUIPMENT THEN REINSTALL ONTO THE ACCESS MANHOLE ONCE COMPLETED. THE CONTRACTOR SHALL COORDINATE WITH OWNER AND ENGINEER IF MIXERS NEED TO BE REMOVED DURING CONSTRUCTION. REFERENCE SPECIFICATIONS DIVISION 0, SUPPLEMENTARY CONDITIONS, ATTACHMENT C, FOR PHOTOS OF EXISTING JUNCTION BOXES, WIRING, CONDUIT, AND HARDWARE.
 - COORDINATE ANCHOR HOLE LOCATIONS AND SPACING WITH MANUFACTURE. ANCHOR HOLE EDGE DISTANCE FROM THE OUTSIDE FACE OF THE CONCRETE RISER SHALL BE 3" MINIMUM.
 - ACCESS HATCH SHALL BE FACTORY MODIFIED FLN1 FLOOD TIGHT ALUMINUM HATCH BY EJ FOUNDRY OR APPROVED EQUAL.
 - NO ACCESS MANHOLE SHALL BE LEFT UNCOVERED AT THE END OF THE WORK DAY. MINIMIZE THE DURATION ACCESS MANHOLES ARE LEFT UNCOVERED TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL PROTECT OPENINGS TO THE RESERVOIR FROM CONTAMINATES FOR THE DURATION THE ACCESS MANHOLES ARE UNCOVERED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED FALL PROTECTION SYSTEMS WHILE WORKING AROUND RESERVOIR MANHOLES.
 - ANY EXCAVATION REQUIRED FOR THE MANHOLE EXTENSIONS SHALL BE LIMITED TO HAND DIGGING. ALL DISTURBED SURFACES SHALL BE REPAIRED WITH LOAM AND SEED AT NO ADDITIONAL COST TO THE OWNER.
 - ALL LOADS FROM CONTRACTORS MEANS AND METHODS SHALL BE IN CONFORMANCE WITH NOTES ON C-101 AND PROJECT SPECIFICATIONS.
 - BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

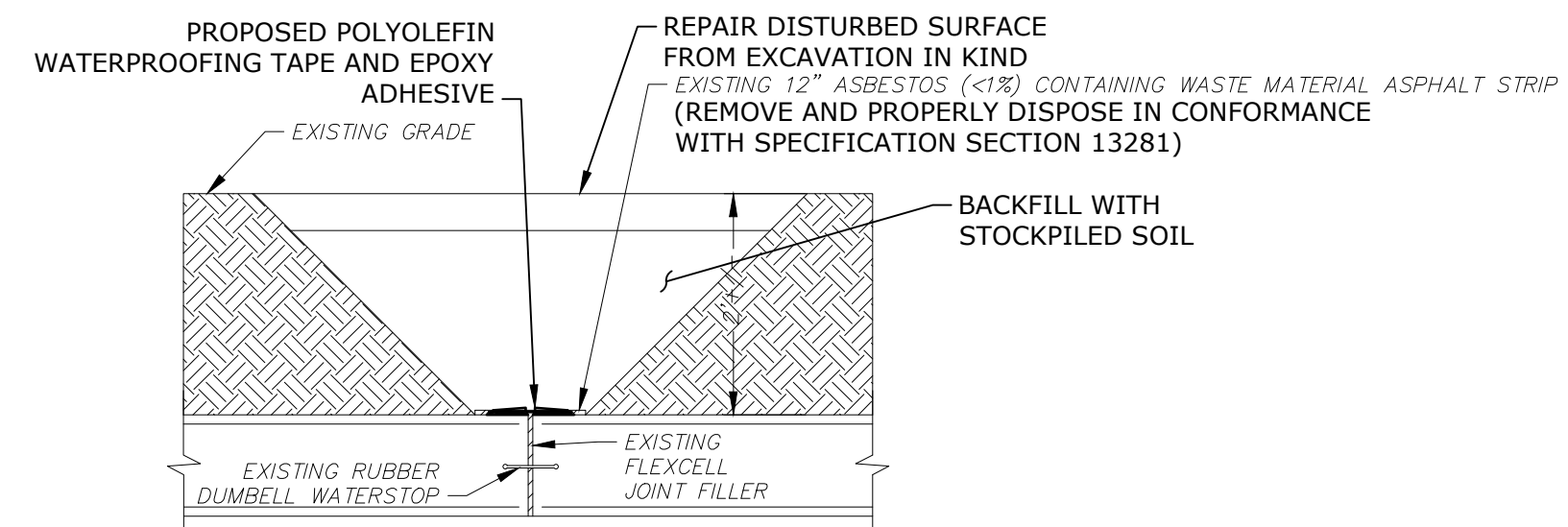
ACCESS MANHOLE EXTENSION WITH NEW HATCH DETAIL
NO SCALE



EXISTING JOINT PLAN WITH PROPOSED REPAIRS

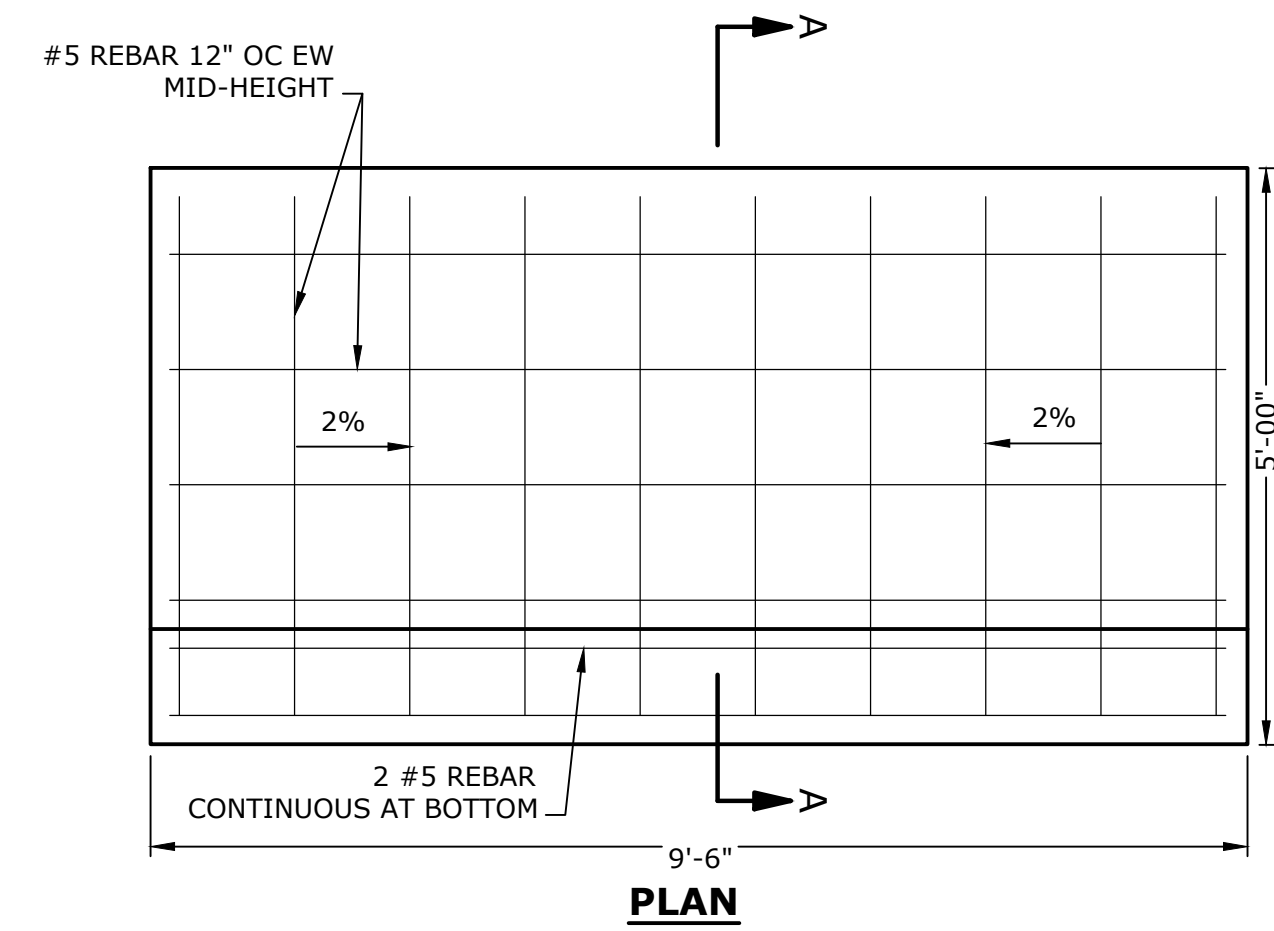


POLYOLEFIN WATERPROOFING TAPE AND EPOXY ADHESIVE DETAIL
NO SCALE

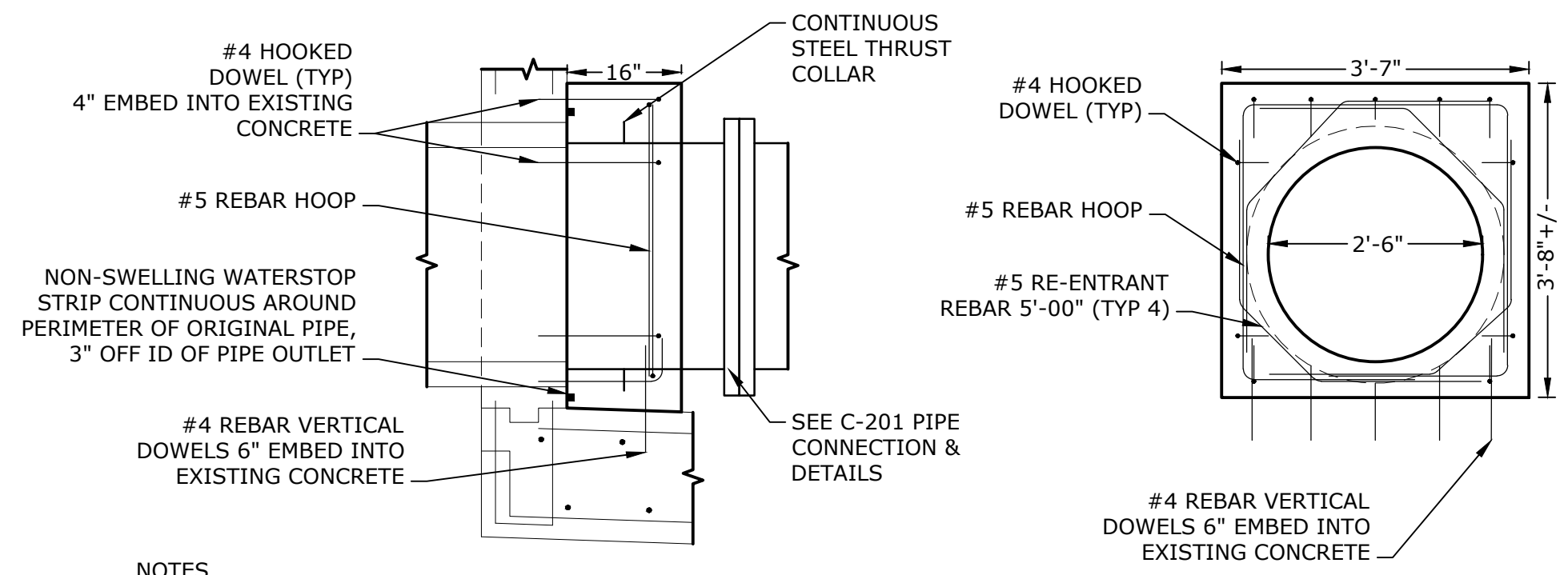


EXISTING EXPANSION JOINT PROFILE WITH PROPOSED REPAIRS

- NOTES**
- OVERLAP POLYOLEFIN WATERPROOFING TAPE AT A MINIMUM TWICE THE WIDTH OR PER MANUFACTURERS RECOMMENDATIONS IF GREATER.
 - INSTALL POLYOLEFIN WATERPROOFING TAPE AND EPOXY AS OUTLINED IN SECTION 13202 - WATER STORAGE TANK REPAIRS.
 - ALL SPOILS FROM EXCAVATIONS SHALL BE STOCKPILED ONTO TARPS TO PREVENT DISTURBANCE TO THE SURROUNDING SURFACE. IF MATERIAL IS LEFT OVERNIGHT, TAKE MEASURES AS NEEDED TO PROTECT THE STOCKPILE AND SITE FROM WIND AND RAIN EROSION (E.G. USE OF TARPS AND EROSION CONTROL BARRIERS).
 - ALL LOADS FROM CONTRACTORS MEANS AND METHODS SHALL BE IN CONFORMANCE WITH NOTES ON C-101 AND PROJECT SPECIFICATIONS.
 - ENGINEER TO VERIFY CONDITION OF EXISTING JOINTS (CONCRETE AND JOINT FILLER, ETC.) PRIOR TO PLACEMENT OF PROPOSED WATERPROOFING.
 - WHILE EXECUTING WORK, PROTECT EXPOSED JOINTS FROM SURFACE AND GROUND WATER INTRUSION. COMPLETE JOINT REPLACEMENT AT THE END OF EACH WORK DAY. CONTRACTOR TO PROVIDE MEANS AND METHODS OF PROTECTING JOINT FROM RAIN EVENTS TO ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK.
 - POWER WASHING WILL NOT BE ALLOWED.



CAST IN PLACE CONCRETE SPLASH PAD DETAIL
NO SCALE



CAST IN PLACE CONCRETE BULKHEAD DETAIL
NO SCALE

- NOTES**
- BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

NOTES
 1. SEE SHEET C-201 FOR LOCATION OF CONCRETE SPLASH PAD

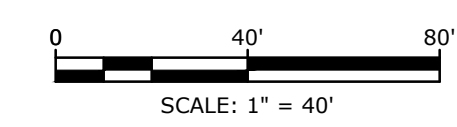
Provin Mountain Reservoir Nos. 3 and 4 Improvements Contract No. 1
 Springfield Water and Sewer Commission
 Agawam, Massachusetts

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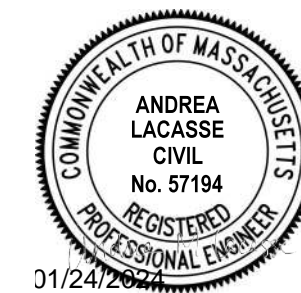
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 APPROVED BY: MHM

MISCELLANEOUS STRUCTURAL DETAILS

SCALE: AS SHOWN



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Provin Mountain Reservoir Reservoir Nos. 3 and 4 Improvements Contract No. 1
Springfield Water and Sewer Commission
Agawam, Massachusetts

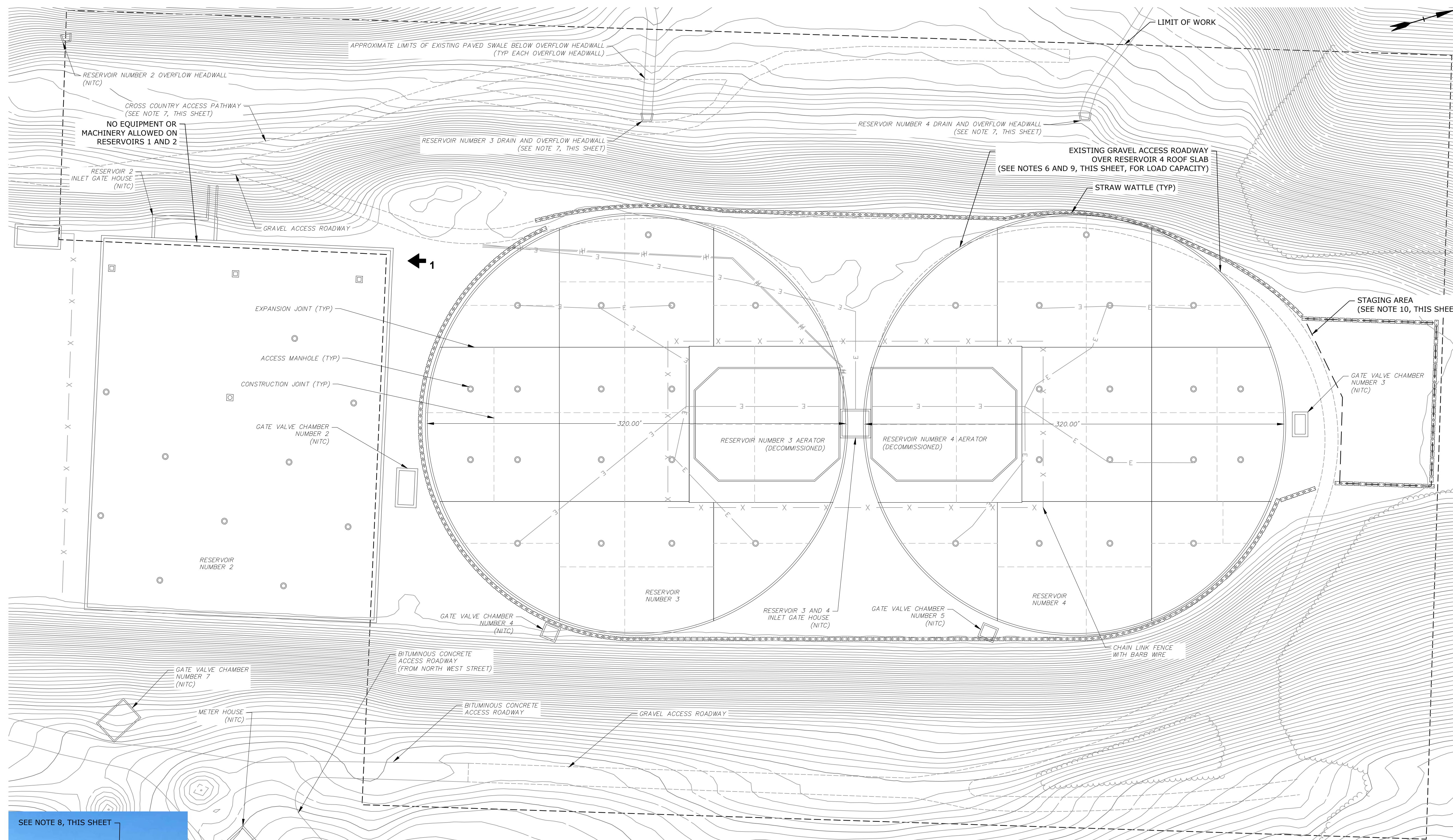
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RESERVOIR NOS. 3 AND 4 EXISTING SITE PLAN AND EROSION CONTROLS

SCALE: 1" = 40'

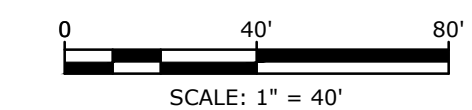
C-101
SHEET 3 OF 8

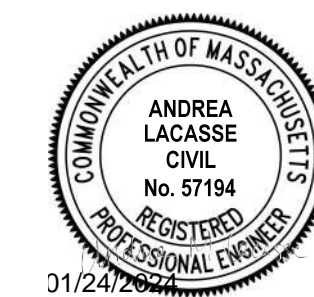


RESERVOIR NO. 2 PHOTO #1

NOTES:

- WORK THAT HAS THE POTENTIAL TO IMPACT THE WATER STORAGE SYSTEM SHALL OCCUR ON ONE RESERVOIR AT A TIME AND NOT CONCURRENTLY. ANY WORK THAT IS PERFORMED ON THE TOP OF THE RESERVOIR HAS THE POTENTIAL TO IMPACT THE WATER STORAGE SYSTEM AND THEREFORE WORK WILL ONLY BE ALLOWED ON ONE TANK AT A TIME.
- KEEP VEHICULAR AND MACHINERY TRAFFIC TO ACCESS ROADS TO THE BEST EXTENT AS POSSIBLE. NO VEHICLES OR MACHINERY SHALL BE PARKED OVER ANY RESERVOIR, ALL VEHICLES AND MACHINERY SHALL BE REMOVED FROM THE RESERVOIRS AT THE END OF THE WORKING DAY.
- SOIL STOCKPILED ON THE RESERVOIR SHALL COMPLY WITH THE SUPERIMPOSED LOAD LIMITATION OF NOTE 6 IN COMBINATION WITH THE EXISTING EARTH LOAD AND EQUIPMENT LOADS.
- RESERVOIR 1 AND SITE FEATURES ASSOCIATED WITH RESERVOIR 1 AND 2 ARE NOT SHOWN FOR CLARITY.
- THE CONTRACTOR SHALL PROVIDE CUT SHEETS AND LOAD CALCULATIONS FOR ALL PROPOSED VEHICLES AND MACHINERY THAT WILL BE USED ON TOP OF RESERVOIR STRUCTURES 3 AND 4 FOR REVIEW AND WRITTEN APPROVAL PRIOR TO USE. LOADING ON RESERVOIRS 3 AND 4 SHALL BE RESTRICTED TO THE CAPACITIES LISTED IN NOTE 6. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
- EXISTING RESERVOIRS 3 AND 4 ROOF SLAB CAPACITY:
 - ROOF SLAB WEIGHT: 100 PSF
 - SUPERIMPOSED EARTH LOAD (2- FEET): 240 PSF
 - SUPERIMPOSED LIVE LOAD: 130 PSF
- NO CONSTRUCTION LOADS, VEHICLES, EQUIPMENT, AND OR MACHINERY SHALL BE PERMITTED ON TOP OF RESERVOIR NO. 2, AND OVERFLOW OUTLET STRUCTURES. SUPPORTING CALCULATION WILL NOT BE ACCEPTED.
- THE POSTED SIGN IN PHOTO 1, THIS SHEET, READS "NOTICE VEHICULAR TRAFFIC LIMITED TO GRAVEL ROAD WEIGHT INCLUDING PAYLOAD SHALL NOT EXCEED 2 TONS". THIS APPLIES TO THE CRUSHED STONE OVER THE PERIMETER DRAINS ON RESERVOIR NO. 2.
- THE ACCESS ROAD THAT CIRCUMVENTS THE SITE OVERLAPS WITH RESERVOIR 4. WITHIN THE ACCESS ROAD, OVER RESERVOIR 4, THE WEIGHT LIMIT WILL BE RESTRICTED TO CONCENTRATED LOADS OF 2 KIPS LOCATED NO CLOSER THAN 4 FEET APART OR 4 KIPS PER AXLE.
- STAGING AREAS AND STORED MATERIALS ARE TO BE SECURED FROM HIGH WINDS.





Provin Mountain Reservoir Reservoir Nos. 3 and 4 Improvements Contract No. 1
Springfield Water and Sewer Commission
Agawam, Massachusetts

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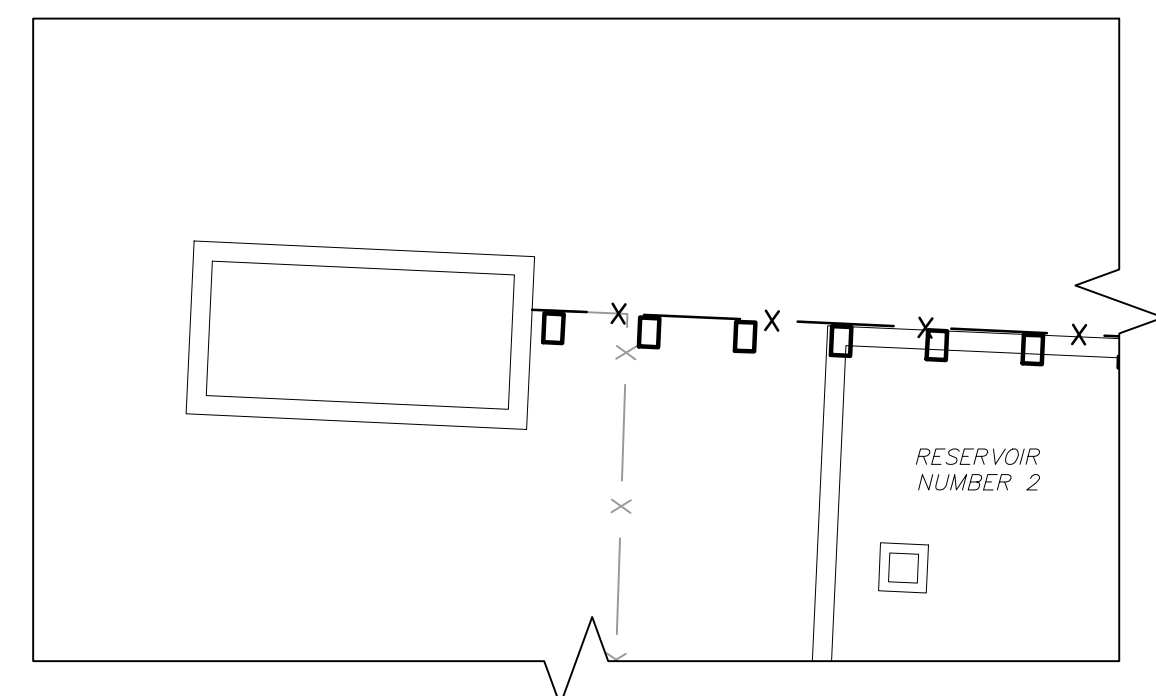
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DRAWN BY:	GNM
DESIGNED/CHECKED BY:	GNM, AML
APPROVED BY:	MHM

RESERVOIR NO. 3 PROPOSED SITE PLAN

SCALE: 1" = 20'

NOTE:

NO VEHICLES AND MACHINERY SHALL BE PERMITTED ON TOP OF RESERVOIRS 1 AND 2.



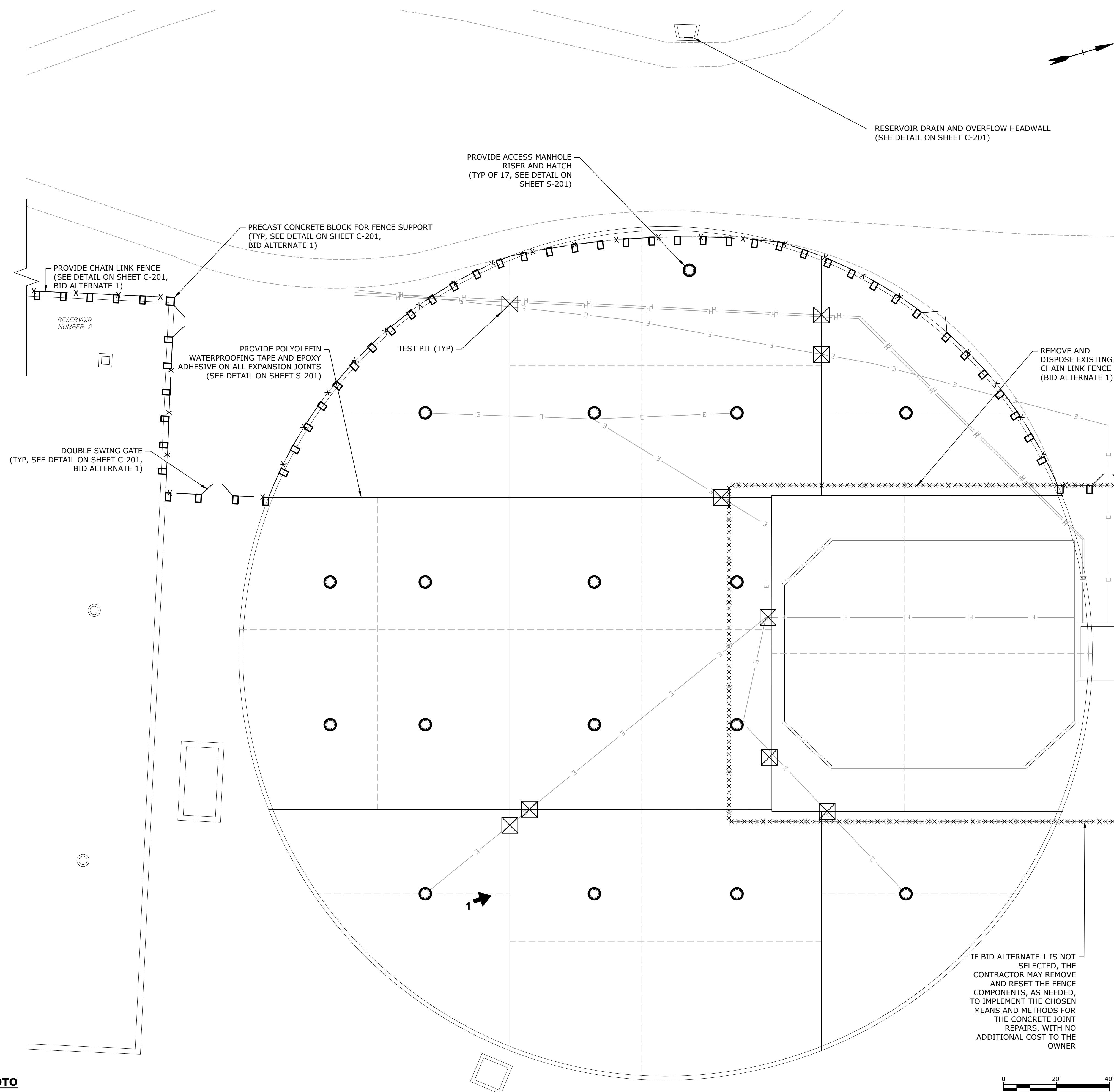
FENCE TERMINATION AT RESERVOIR NO. 2 (BID ALTERNATE 1)



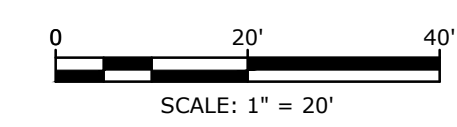
RESERVOIR NO. 3 PHOTO #1



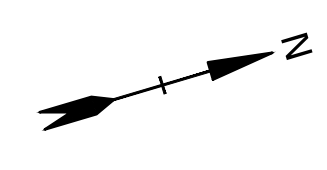
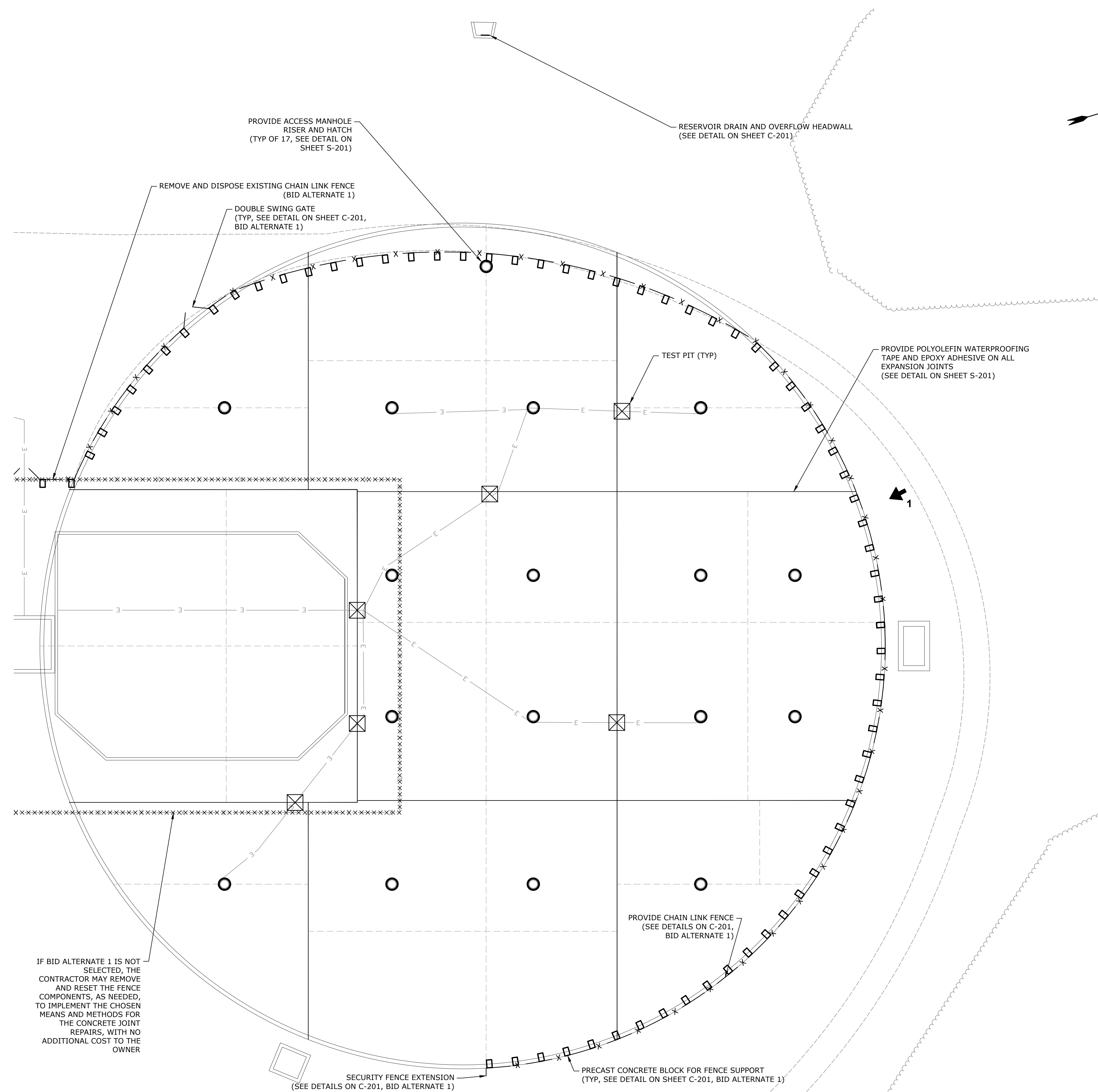
TEST PIT OF EXPANSION JOINT PERFORMED BY TIGHE & BOND PHOTO



IF BID ALTERNATE 1 IS NOT SELECTED, THE CONTRACTOR MAY REMOVE AND RESET THE FENCE COMPONENTS, AS NEEDED, TO IMPLEMENT THE CHOSEN MEANS AND METHODS FOR THE CONCRETE JOINT REPAIRS, WITH NO ADDITIONAL COST TO THE OWNER



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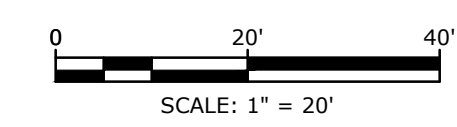
RESERVOIR NO. 4 PHOTO #1

**Provin
Mountain
Reservoir
Reservoir Nos.
3 and 4
Improvements
Contract No. 1**
Springfield
Water and
Sewer
Commission
Agawam,
Massachusetts

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DATE: 12/1/2023		
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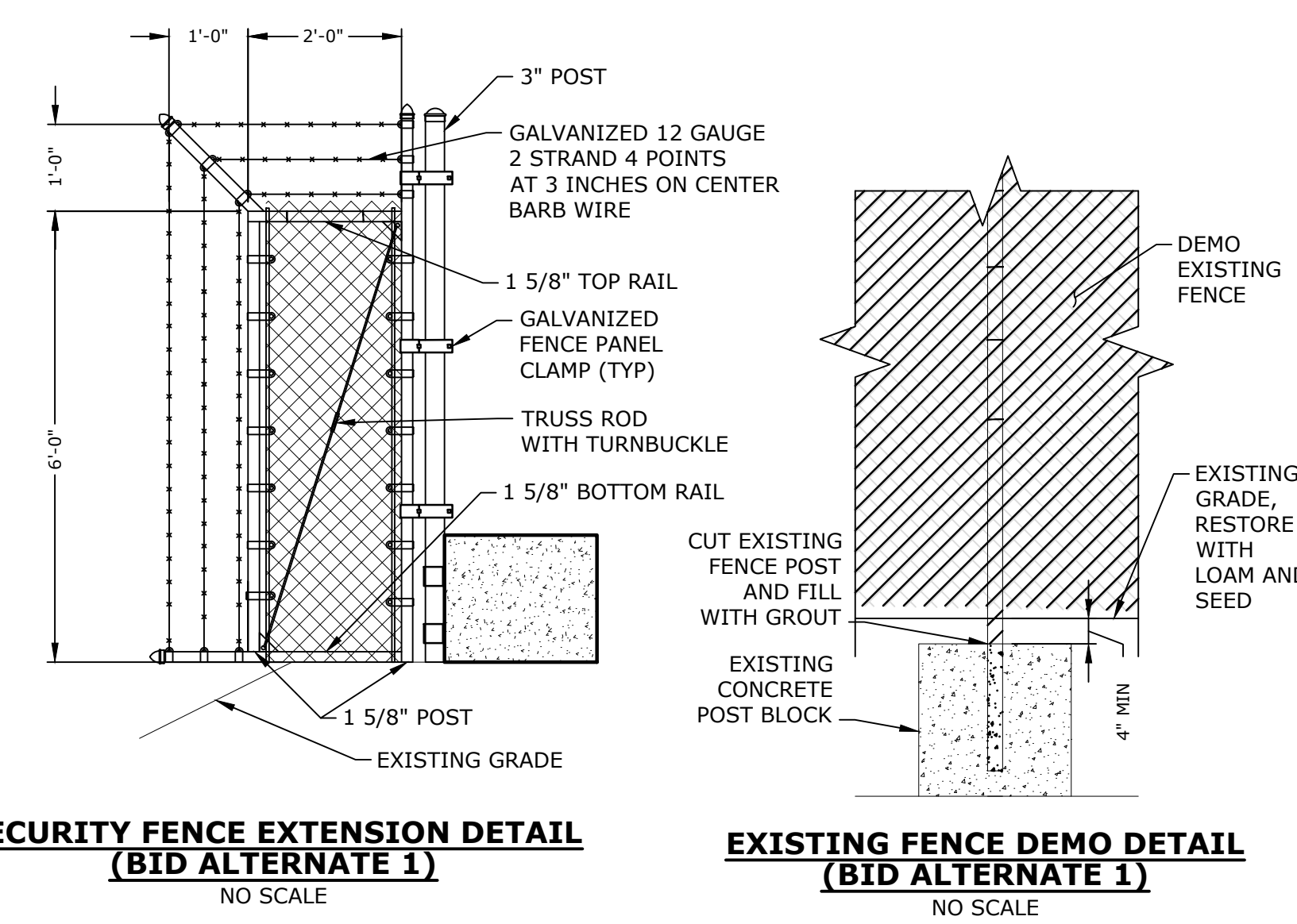
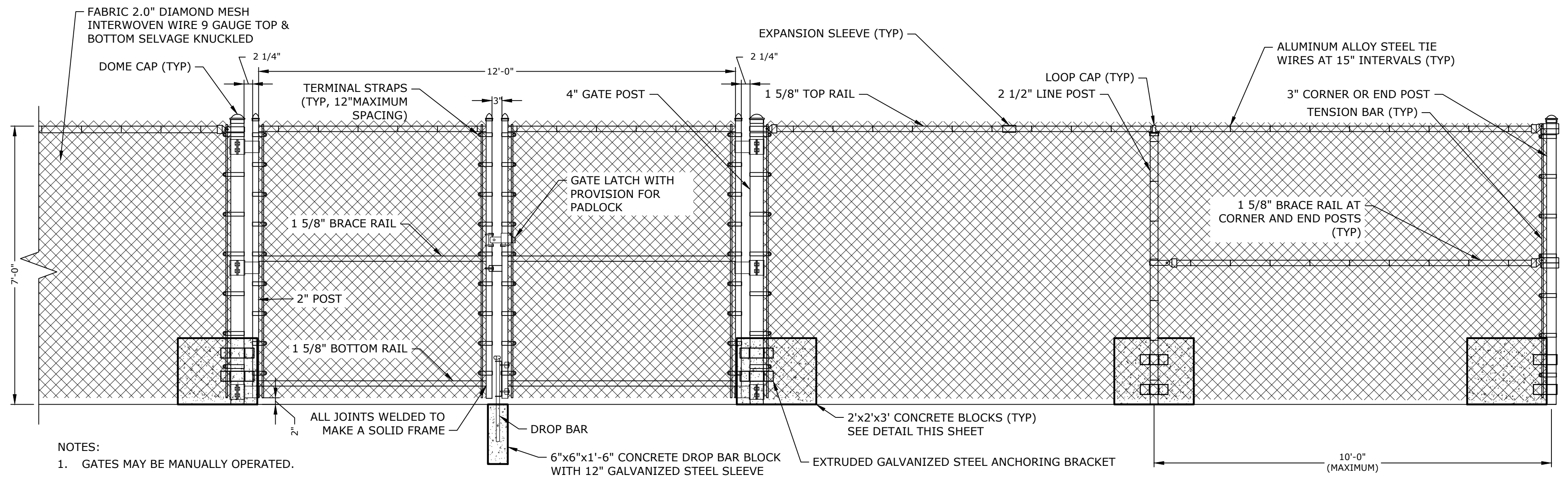
**RESERVOIR NO. 4
PROPOSED SITE PLAN**

SCALE: 1" = 20'



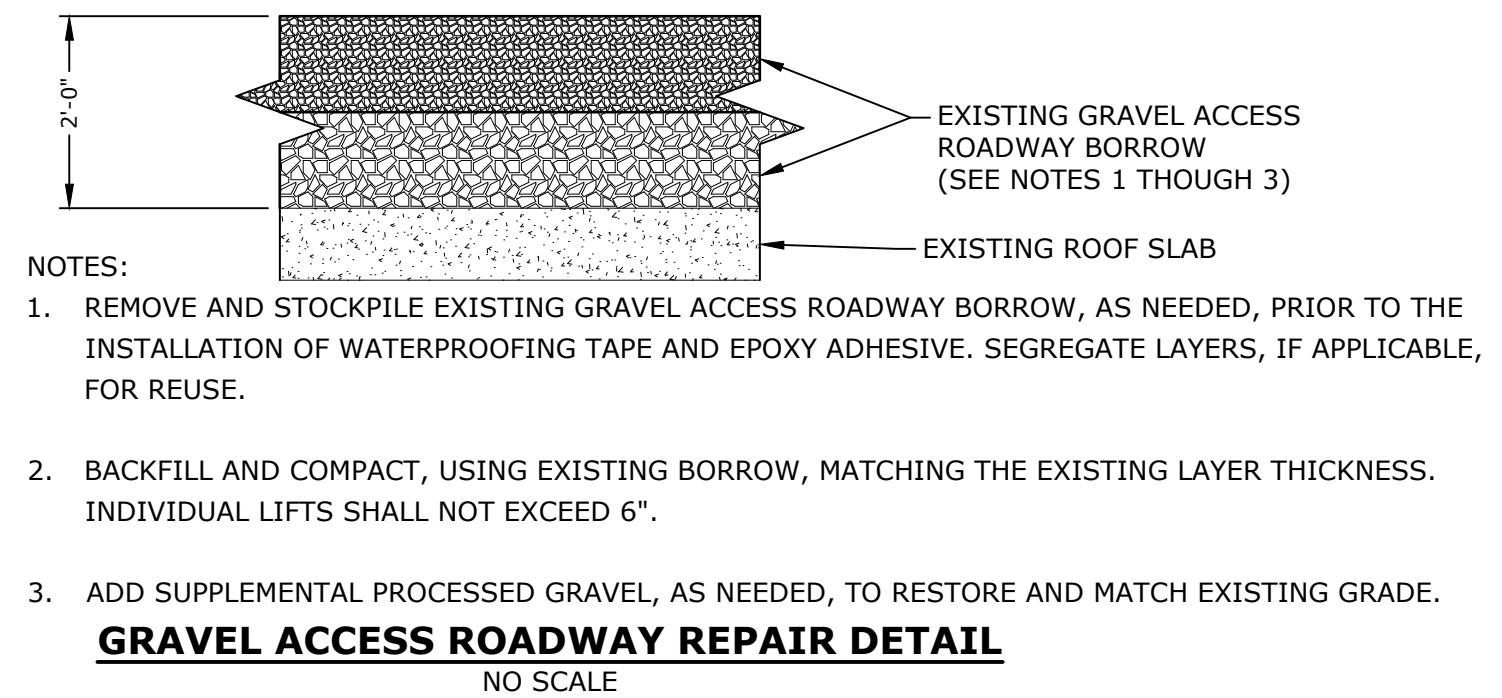
SCALE: 1" = 20'

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 Plotted On: Dec 15, 2023 10:03:57 AM
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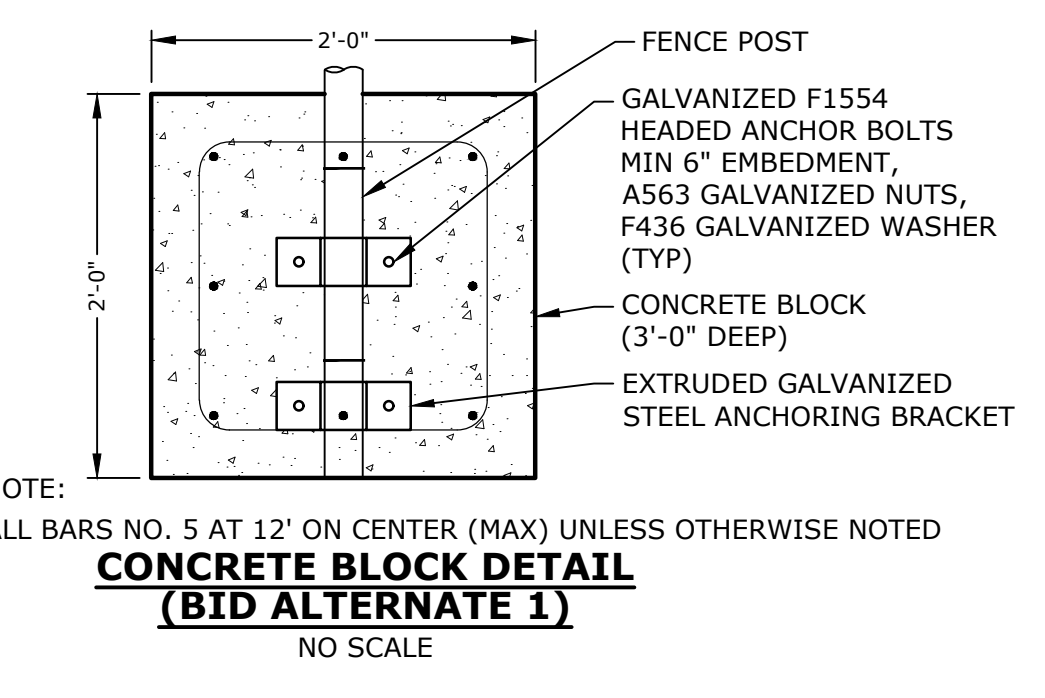
- NOTES:
- GATES MAY BE MANUALLY OPERATED.
 - GATES OPEN OUTWARDLY.
 - FINISH SHALL BE BLACK VINYL COATING.

DOUBLE SWING GATE AND CHAINLINK FENCE DETAIL (BID ALTERNATE 1)
NO SCALE



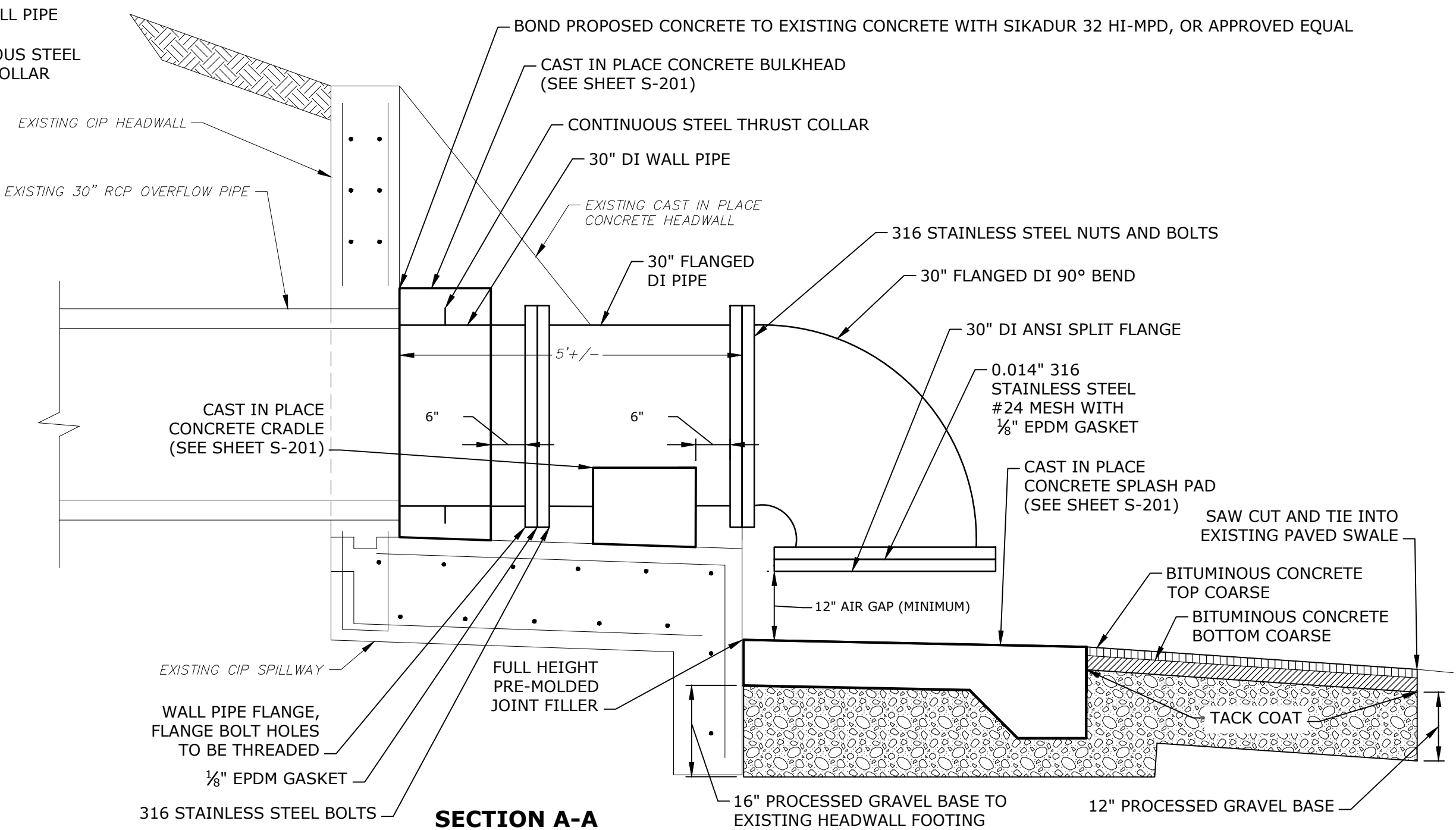
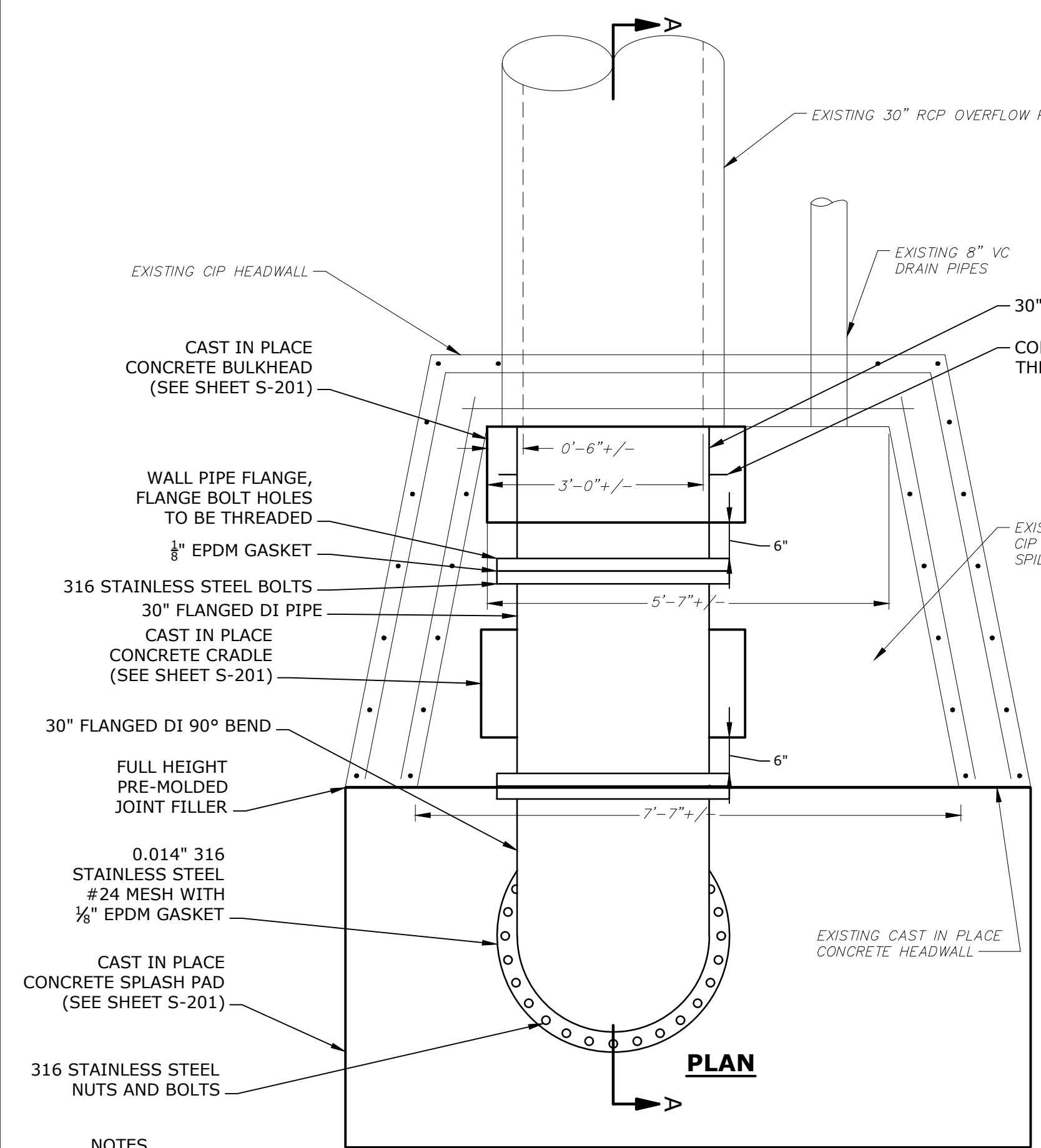
- NOTES:
- REMOVE AND STOCKPILE EXISTING GRAVEL ACCESS ROADWAY BORROW, AS NEEDED, PRIOR TO THE INSTALLATION OF WATERPROOFING TAPE AND EPOXY ADHESIVE. SEGREGATE LAYERS, IF APPLICABLE, FOR REUSE.
 - BACKFILL AND COMPACT, USING EXISTING BORROW, MATCHING THE EXISTING LAYER THICKNESS. INDIVIDUAL LIFTS SHALL NOT EXCEED 6".
 - ADD SUPPLEMENTAL PROCESSED GRAVEL, AS NEEDED, TO RESTORE AND MATCH EXISTING GRADE.

GRAVEL ACCESS ROADWAY REPAIR DETAIL
NO SCALE



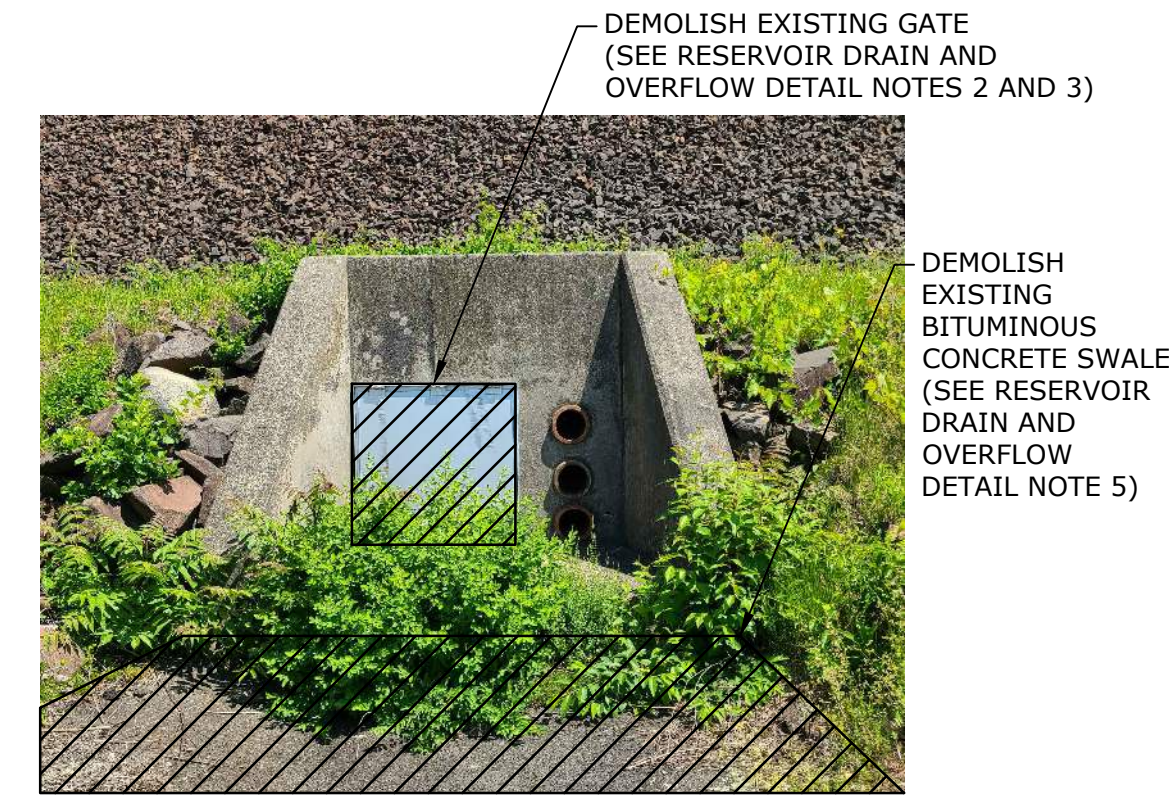
- NOTE:
ALL BARS NO. 5 AT 12" ON CENTER (MAX) UNLESS OTHERWISE NOTED

CONCRETE BLOCK DETAIL (BID ALTERNATE 1)
NO SCALE



- NOTES:
- DIMENSIONS SHOWN OF THE EXISTING HEADWALLS ARE APPROXIMATE BASED ON AVAILABLE RECORD DRAWINGS, FIELD VERIFY ALL DIMENSIONS OF EACH HEADWALL AND PIPE PRIOR TO INSTALLATION OF DI PIPING, CONCRETE CRADLE, AND CONCRETE SPLASH PAD.
 - DEMOLISH EXISTING FLAP GATE (CHANNEL STEEL FACE PLATE AND HINGED STEEL COVER PLATE WITH COUNTERWEIGHT).
 - REPAIR EXISTING ANCHORING BOLT HOLE PENETRATIONS AS NEEDED.
 - THE EXTENTS OF THE SCREEN MESH SHALL BE INSTALLED TO THE EDGE OF THE FLANGE, CUTTING AROUND THE BOLTS, SO THAT THE SCREEN MESH IS NOT BOUND BY THE BOLTS AND CAN PULLED OUT WITH THE BOLTS IN PLACE.
 - REGRADE THE EXISTING BITUMINOUS CONCRETE SWALE, AS NEEDED, TO MATCH THE GRADE AT THE EDGE OF THE CONCRETE SPLASH PAD. SAW CUT AND PROPERLY DISPOSE OF THE EXISTING BITUMINOUS CONCRETE SWALE REMOVED AND PAVE THE BITUMINOUS CONCRETE SWALE, MATCHING THE THICKNESS OF THE EXISTING.
 - NO OVERFLOW PIPE SHALL BE LEFT UNCOVERED AT THE END OF THE WORK DAY. MINIMIZE THE DURATION OVERFLOW PIPES ARE LEFT UNCOVERED TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL PROTECT OPENINGS TO THE RESERVOIR FROM CONTAMINATES FOR THE DURATION THE OVERFLOW PIPES ARE UNCOVERED. PROVISIONS USED TO COVER THE OVERFLOW PIPE SHALL NOT IMPEDE THE FLOW OF WATER THROUGH THE OVERFLOW PIPE. PROVISION TO COVER THE OVERFLOW PIPE SHALL OPEN UP AT 5 FEET OF HEAD OR GREATER.

RESERVOIR DRAIN AND OVERFLOW DETAIL
NO SCALE



RESERVOIR NO. 3 EXISTING CONCRETE HEADWALL PHOTO



RESERVOIR NO. 4 EXISTING CONCRETE HEADWALL PHOTO

Provin Mountain Reservoir Nos. 3 and 4 Improvements Contract No. 1
Springfield Water and Sewer Commission
Agawam, Massachusetts

MARK	DATE	ISSUED FOR BIDDING	DESCRIPTION
0	12/1/2023	ISSUED FOR BIDDING	

PROJECT NO: S2057-067
DATE: 12/1/2023
FILE: S2057-067-CT1-C200.dwg
DRAWN BY: GNM
DESIGNED/CHECKED BY: GNM, AML
APPROVED BY: MHM

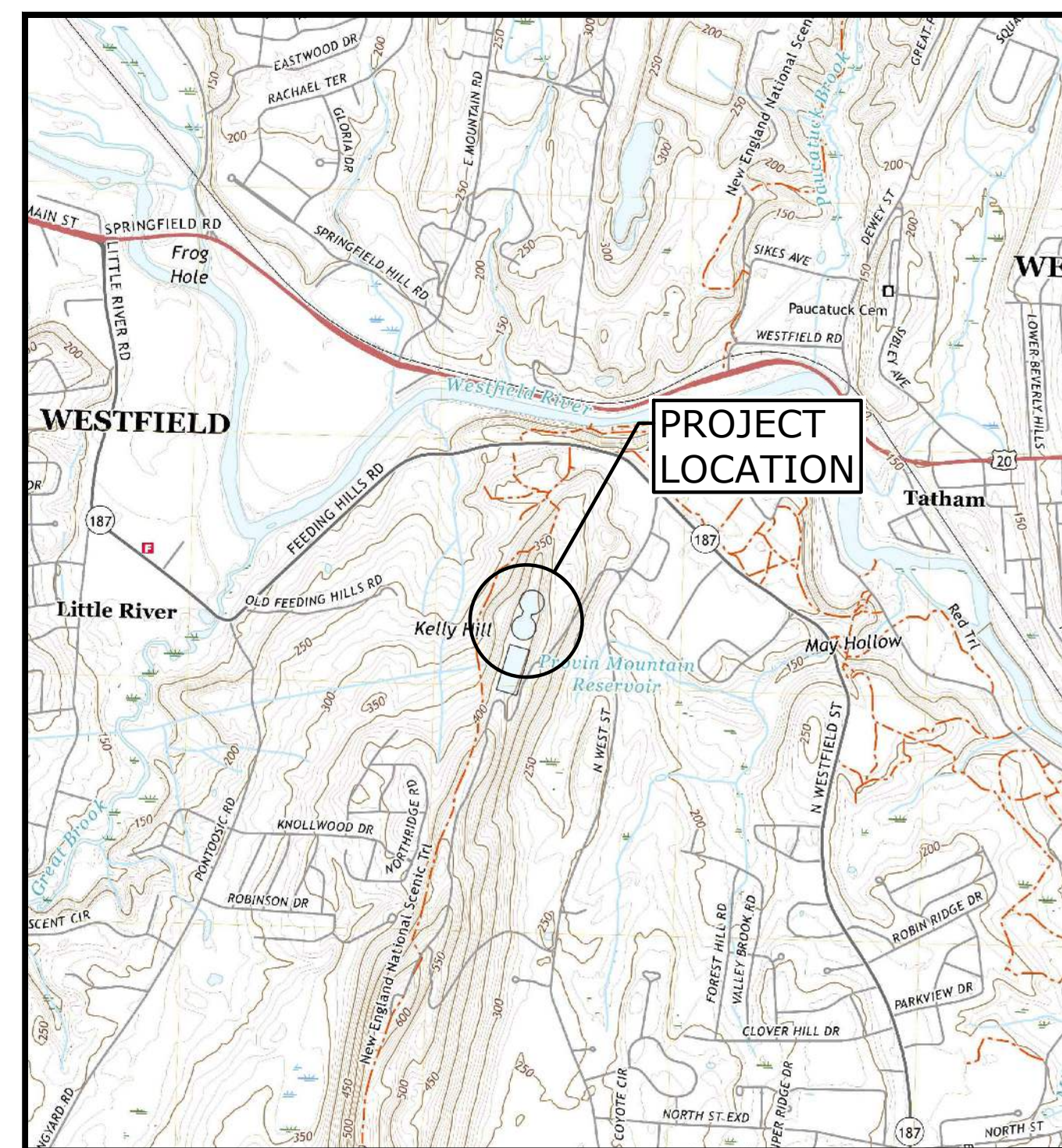
MISCELLANEOUS CIVIL DETAILS

SCALE: NO SCALE

Last Saved: 12/18/2023 11:05am By: GNM
Project: On: Dec 15 2023 2:52:57 PM
Title: Reservoirs Facility Improvements Drawings - Figures/AutoCAD/Sheet/CT1/S2057-067-CT1-C200.dwg

SPRINGFIELD WATER & SEWER COMMISSION PROVIN MOUNTAIN RESERVOIR RESERVOIR NOS. 3 AND 4 IMPROVEMENTS CONTRACT NO. 1 PROJECT NO: 24-12 JANUARY 2024

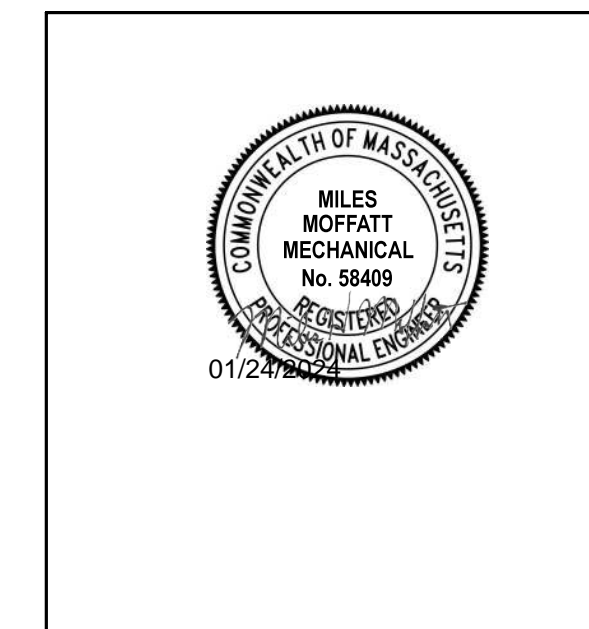
LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
CIVIL		
3	C-101	RESERVOIR NOS. 3 AND 4 EXISTING SITE PLAN AND EROSION CONTROLS
4	C-102	RESERVOIR NO. 3 PROPOSED SITE PLAN
5	C-103	RESERVOIR NO. 4 PROPOSED SITE PLAN
6	C-201	MISCELLANEOUS CIVIL DETAILS
STRUCTURAL		
7	S-001	STRUCTURAL NOTES, LEGEND, AND ABBREVIATIONS
8	S-201	MISCELLANEOUS STRUCTURAL DETAILS



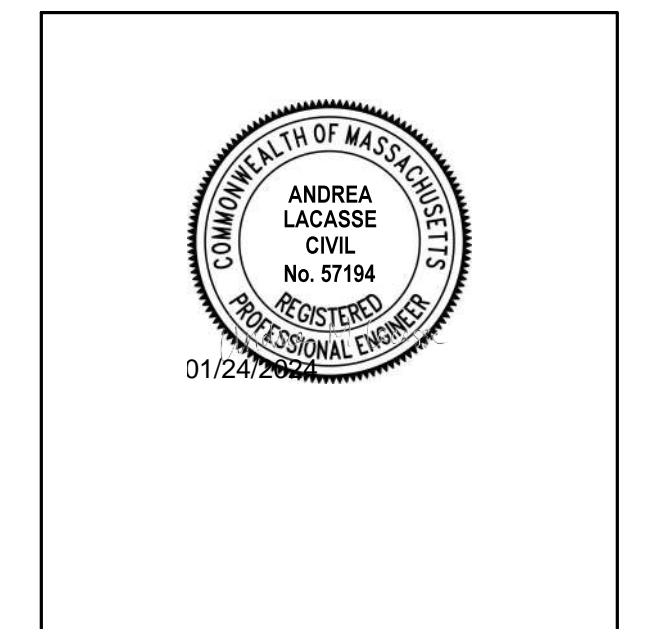
LOCATION MAP
 SCALE: 1" = 2000'

PREPARED BY:

Tighe & Bond



MILES H. MOFFATT



ANDREA M. LACASSE

PREPARED FOR:

SPRINGFIELD WATER AND
 SEWER COMMISSION

COMPLETE SET 8 SHEETS



GENERAL NOTES

1. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS IS BASED ON THE FOLLOWING:
 - 1.1. RECORD DRAWINGS TITLED ADDITIONS PROVIN MOUNTAIN RESERVOIR, PREPARED BY BOGERT AND CHILDS AND DATED MARCH 1958
 - 1.2. FIELD INVESTIGATIONS PERFORMED BY TIGHE & BOND ON OCTOBER 14, 2022
 - 1.3. SATELLITE IMAGERY DATED SEPTEMBER 2019
2. UTILITY LOCATIONS SHOWN WERE PLOTTED FROM INFORMATION SUPPLIED BY RESPECTIVE UTILITY COMPANIES AND DATA OBTAINED FROM THE FIELD AND RECORD DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT CONSTRUCTION OPERATIONS.
3. THE EXISTING CONDITIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.
4. PER MASSACHUSETTS LAW, CALL 1-888-DIG-SAFE. (1-888-344-7233) PRIOR TO ANY UNDERGROUND EXCAVATION ON SITE. THE DIG-SAFE VERIFICATION NUMBER SHALL BE SUBMITTED TO SWSC PRIOR TO ANY EXCAVATION, DEMOLITION, AND REMOVAL OR CONSTRUCTION WORK. NOTIFY ANY OTHER UTILITY OWNERS IN THE AREA NOT ON THE DIGSAFE LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS.
5. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IN ADDITION, SOME UTILITIES MAY NOT BE SHOWN. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND/OR INTERRUPTIONS IN UTILITY SERVICE. PERFORM TEST PIT EXCAVATIONS AND OTHER INVESTIGATIONS TO LOCATE UTILITIES, AND PROVIDE THIS INFORMATION TO THE ENGINEER, PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS. LOCATE ALL EXISTING UTILITIES TO BE CROSSED OR ENCOUNTERED BY HAND EXCAVATION. EXCAVATE ADDITIONAL TEST PITS TO LOCATE EXISTING UTILITIES AS DIRECTED OR APPROVED BY THE ENGINEER.
6. NOT ALL OF THE UTILITY SERVICES TO VALVE VAULTS AND BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THAT EACH VALVE VAULT AND BUILDING HAS SERVICE CONNECTIONS FOR VARIOUS UTILITIES.
7. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
8. TIGHE & BOND AND OWNER ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND AND OWNER.
9. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION. NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
10. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
11. OBTAIN, PAY FOR AND COMPLY WITH PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK. ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE JURISDICTIONAL AUTHORITIES.
12. SHORE TRENCHES WHERE FIELD CONDITIONS DICTATE AND/OR WHERE REQUIRED BY LOCAL, STATE AND FEDERAL HEALTH AND SAFETY CODES.
13. PROTECT AND MAINTAIN ALL UTILITIES IN THE AREAS UNDER CONSTRUCTION DURING THE WORK. LEAVE ALL PIPES, CONDUITS, AND STRUCTURES WITHIN THE LIMITS OF THE CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK.
14. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE DRAWINGS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.
16. TAKE NECESSARY MEASURES AND PROVIDE CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL WORK AND STAGING AREAS AT THE COMPLETION OF EACH DAYS WORK.
17. OPEN TRENCHES WILL BE ALLOWED OVERNIGHT WITH MEASURES PUT IN PLACE NECESSARY TO PREVENT ACCESS TO THE OPEN TRENCH AND STOCKPILING AREAS. SEE NOTE 16, THIS SHEET.
18. NO OPEN HATCHES OR OTHER STRUCTURE OPENINGS WILL BE ALLOWED OVERNIGHT.
19. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
20. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
21. THE TERM "DEMOLISH" USED ON THE DRAWINGS MEANS TO REMOVE AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
22. THE TERM "ABANDON" USED ON THE DRAWINGS MEANS TO LEAVE IN PLACE AND TAKE APPROPRIATE MEASURES TO DECOMMISSION AS SPECIFIED OR NOTED ON THE DRAWINGS.
23. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER TO MEET EXISTING CONDITIONS.
24. PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, REQUIRED BY PERMIT, AND/OR REQUIRED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED. INSPECT AFTER EACH RAINSTORM AND DURING MAJOR STORM EVENTS TO CONFIRM THAT ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED ARE IN PLACE AND EFFECTIVE.
25. COMPACT, STABILIZE, AND LOAM AND SEED DISTURBED VEGETATED AREAS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS REQUIRED BY PERMITS.
26. REMOVE AND PROPERLY DISPOSE OF SILT TRAPPED AT BARRIERS IN UPLAND AREAS. RESTORE ALL DISTURBED AREAS TO THEIR PRECONSTRUCTION CONDITION.
27. LOAM AND SEED ALL DISTURBED VEGETATED AREAS TO ESTABLISH COVER AND STABILIZATION AS SOON AS POSSIBLE FOLLOWING DISTURBANCE.
28. MAINTAIN AN ADDITIONAL SUPPLY OF EROSION CONTROL MEASURES ON-SITE FOR EMERGENCY REPAIRS.
29. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE TO A SECURE LOCKED AND COVERED AREA DURING NON-WORK HOURS. DO NOT REFUEL MACHINERY OR TRANSFER OTHER HAZARDOUS MATERIALS OVER THE RESERVOIRS ROOF SLABS.
30. ALL SURFACES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN KIND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
31. PROTECT PROJECT FEATURES (E.G., WALLS, FENCES, SIGNS, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS, WHEN APPROPRIATE.
32. IF REMOVAL OF PROJECT FEATURES IS REQUIRED IN ORDER TO PERFORM THE PROPOSED WORK, REMOVE THOSE SITE FEATURES ONLY UPON APPROVAL OF ENGINEER. REPLACE ALL REMOVED PROJECT FEATURES; NEW ITEMS SHALL BE EQUAL OR BETTER IN QUALITY AND CONDITION TO THE ITEMS REMOVED.

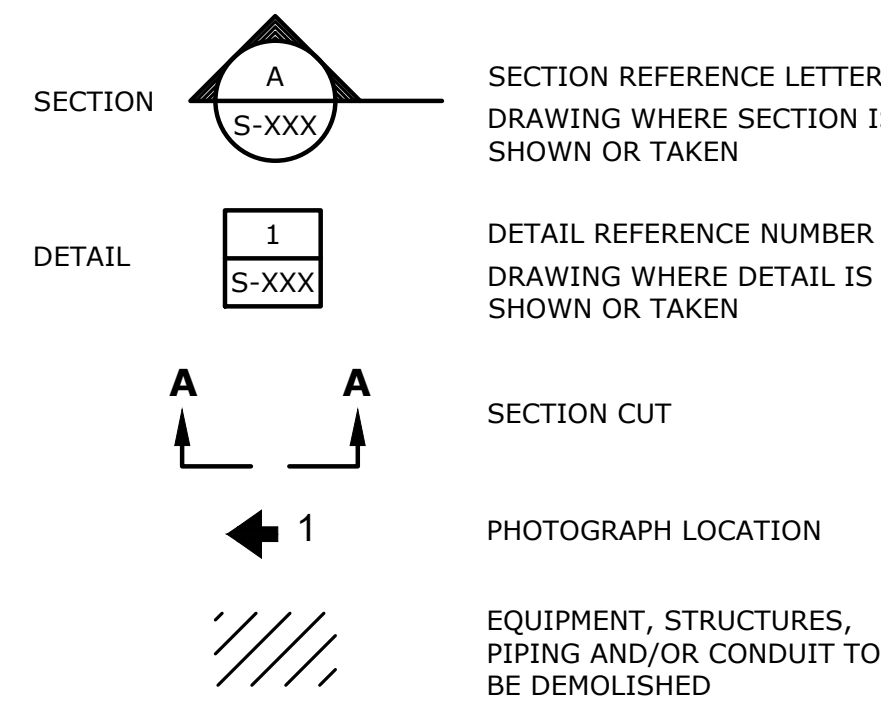
LEGEND

DESCRIPTION	EXISTING	PROPOSED
LIMITS OF WORK		-----
STAGING AREA		-----
POTABLE WATER	----- PW -----	
UNDERGROUND ELECTRIC	----- E ----- E -----	
UNDERGROUND HYDRAULIC	----- H ----- H -----	
EDGE OF PAVEMENT	-----	-----
DEMOLITION		XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DIRT ROAD	-----	-----
FENCE - CHAIN LINK	----- X ----- X ----- X -----	----- X ----- X ----- X -----
CONSTRUCTION JOINT	-----	-----
EXPANSION JOINT	-----	-----
JOINT REPAIR	-----	-----
EROSION CONTROL	-----	-----
TEST PIT		■
TREELINE	~~~~~	
INTERMEDIATE CONTOURS	-----	
INDEX CONTOURS	-----	

ABBREVIATIONS

BLDG	BUILDING
BOT	BOTTOM
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
CI	CAST IRON PIPE
CIP	CAST IN PLACE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CY	CUBIC YARD
DI	DUCTILE IRON PIPE
DIA	DIAMETER
E	EAST
EF	EACH FACE
EG	EXISTING GRADE
EL/ELEV	ELEVATION
ELEC	ELECTRIC
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FT	FEET
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
IN	INCHES
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N/F	NOW OR FORMERLY
OC	ON CENTER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYLCHLORIDE
RCP	REINFORCED CONCRETE PIPE
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
S	SOUTH
SCH	SCHEDULE
SF	SQUARE FOOT
SS	STAINLESS STEEL
STL	STEEL
TS	TOP OF STEP
TW	TOP OF WALL
TYP	TYPICAL

GENERAL SYMBOLS



Provin Mountain Reservoir Reservoir Nos. 3 and 4 Improvements Contract No. 1
 Springfield Water and Sewer Commission
 Agawam, Massachusetts

MARK	DATE	DESCRIPTION
0	12/1/2023	ISSUED FOR BIDDING
PROJECT NO: S2057-067		
DATE: 12/1/2023		
FILE: S2057-067-CT1-G002.dwg		
DRAWN BY: GNM		
DESIGNED/CHECKED BY: GNM, AML		
APPROVED BY: MHM		

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

SCALE: NO SCALE



GENERAL

1. STRUCTURAL WORK SHALL CONFORM TO STATE BUILDING CODE, LATEST EDITION, INCLUDING MOST RECENT ADDENDA, AND CONTRACT DOCUMENTS. IN CASE OF CONFLICT, MOST STRINGENT REQUIREMENT SHALL GOVERN.
2. CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.
3. CONTRACTOR SHALL EXAMINE DRAWINGS FOR ALL TRADES FOR THE VERIFICATION OF LOCATION AND DIMENSIONS OF ALL CHASES, INSERTS, OPENINGS, SLEEVES AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. PROVIDE CAULKING AT ALL CONTROL JOINTS. PROVIDE COMPRESSIBLE FILLER AND SEALANT AT ALL EXPANSION AND ISOLATION JOINTS.
5. PROVIDE PREMOLDED JOINT FILLER WHERE SLABS ON GRADE ABUT WALLS AND COLUMNS.

CONCRETE

1. CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301).
2. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY OR THE ENGINEER.
3. CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED AND SHALL BE AIR ENTRAINED (SEE SPECS).
4. THE USE OF CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS IS MANDATORY. OMISSIONS, ADDITIONS OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMISSION OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE STRUCTURAL ENGINEER.
5. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, DRAWINGS SHOWING LOCATION OF CONSTRUCTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
6. CONCRETE SLABS SHALL BE CAST SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON THE DRAWINGS.
7. CONCRETE SLABS AND WALLS SHALL BE CAST ALTERNATELY OR IN A CHECKERBOARD FASHION SO THAT ADJACENT SECTIONS ARE PLACED NO SOONER THAN THREE DAYS APART. AT LEAST TWO DAYS MUST ELAPSE AFTER PLACING CONCRETE IN WALLS BEFORE PLACING FLOOR SYSTEM SUPPORTED THEREON.
8. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED.
9. EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE CHAMFERED CORNERS
10. ONLY CRITICAL CONSTRUCTION JOINTS ARE SHOWN. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM SPACING OF CONSTRUCTION JOINTS.

REINFORCEMENT

1. DETAILING, FABRICATION, AND ERECTION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)", LATEST EDITION.
2. STEEL REINFORCEMENT UNLESS OTHERWISE SHOWN SHALL CONFORM TO ASTM A615 GRADE 60 MINIMUM (YIELD STRENGTH - 60,000 PSI).
3. PROVIDE AND SCHEDULE ON SHOP DRAWINGS, ALL NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION: MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" ON CENTER, #5 SUPPORT BAR FOR HIGH CHAIRS, SLAB BOLSTERS, 3'-6" ON CENTER, ALL WIRE CHAIRS AND BOLSTERS TO BE PLASTIC TIPPED.
4. THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE SHOWN:
 - A. CAST-IN-PLACE CONCRETE.

	EXPOSED TO EARTH, WATER OR WEATHER	NOT EXPOSED TO EARTH, WATER, OR WEATHER
(a) SLAB ON GRADE	3 INCHES	2 INCHES
(b) COLUMN TIES	2 INCHES	1 1/2 INCHES
(c) COLUMN MAIN REBARS	2 1/2 INCHES	2 INCHES
(d) BEAM STIRRUPS	2 INCHES	1 1/2 INCHES
(e) BEAM MAIN REBARS	2 1/2 INCHES	2 INCHES
(f) SLAB/WALL #3 TO #5 INCL'S	1 1/2 INCHES	3/4 INCHES
(g) SLAB/WALL #6 TO #11 INCL'S	2 INCHES	3/4 INCHES
(h) NOTE: MAXIMUM DEVIATION FROM THESE REQUIREMENTS SHALL BE +1/4" FOR SECTIONS TEN (10) INCHES OR LESS, AND +1/2" FOR SECTIONS OVER TEN (10) INCHES THICK.		
 - B. IN NO CASE SHALL THE COVER BE LESS THAN THE BAR DIAMETER.
 - C. WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.
6. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SITUATIONS, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES, NOR LESS THAN THE FOLLOWING:
 - A. BEAM STIRRUPS - #3 @ 12" OC
 - B. BEAM STIRRUP SUPPORTS - 1-#5 @ EACH STIRRUP BEND
 - C. FACE REINFORCEMENT IN BEAMS OR PORTIONS OF BEAMS - #4 @ 12" EF
 - D. STRUCTURAL SLABS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
 - E. STRUCTURAL WALLS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
8. WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
9. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.
11. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETE AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF REINFORCEMENT PLACEMENT.
12. REINFORCEMENT SHALL BE SET BEFORE PLACING CONCRETE. SETTING ANY REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.

**Provin
Mountain
Reservoir
Reservoir Nos.
3 and 4
Improvements
Contract No. 1**
Springfield
Water and
Sewer
Commission
Agawam,
Massachusetts

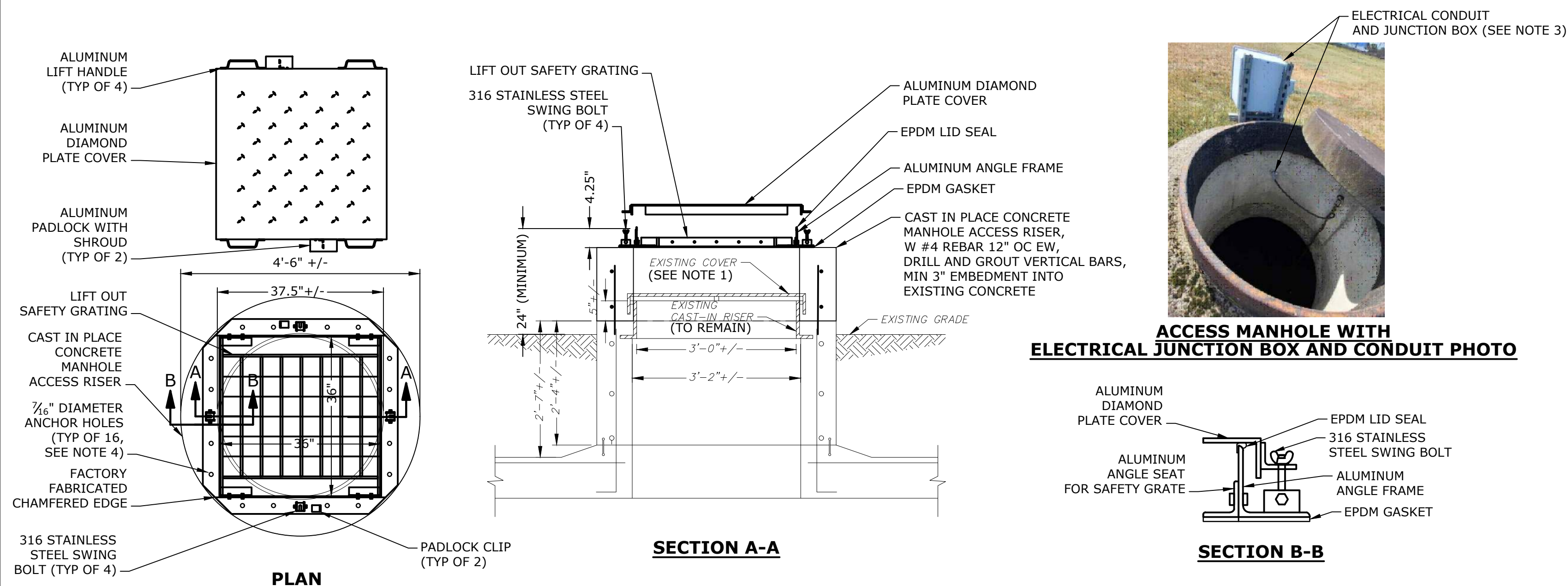
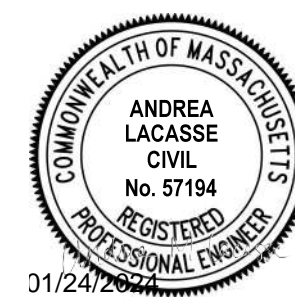
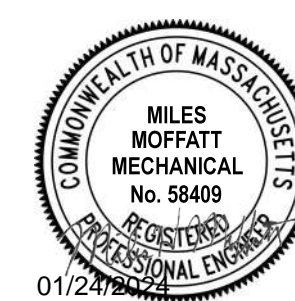
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PROJECT NO:	S2057-067
DATE:	12/1/2023
FILE:	S2057-067-CT1-S001.dwg
DRAWN BY:	GNM
DESIGNED/CHECKED BY:	GNM, AML
APPROVED BY:	MHM

STRUCTURAL GENERAL
NOTES, LEGEND, AND
ABBREVIATIONS

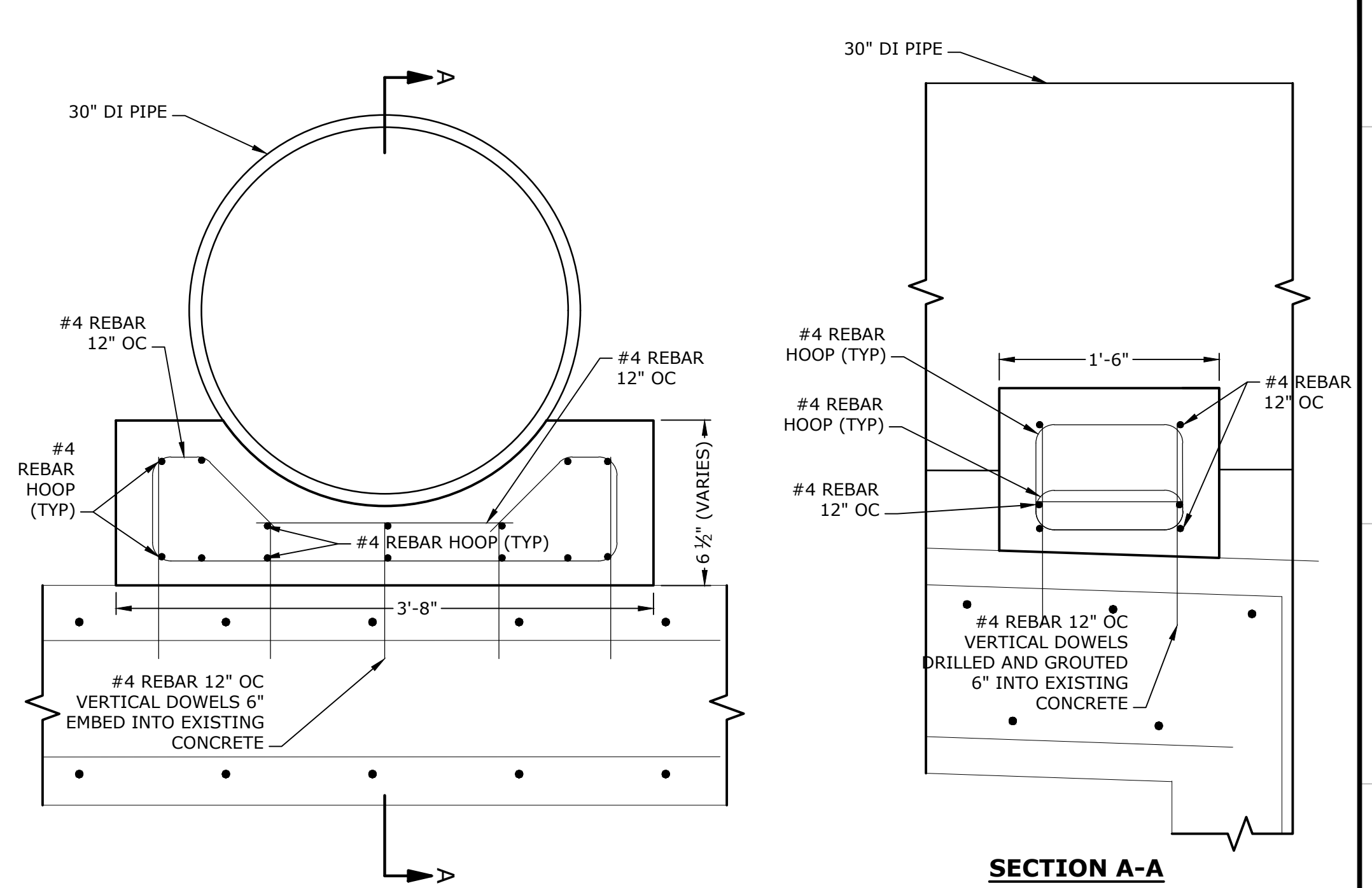
SCALE: NO SCALE

S-001
SHEET 7 OF 8



ELECTRICAL CONDUIT AND JUNCTION BOX (SEE NOTE 3)

ACCESS MANHOLE WITH ELECTRICAL JUNCTION BOX AND CONDUIT PHOTO

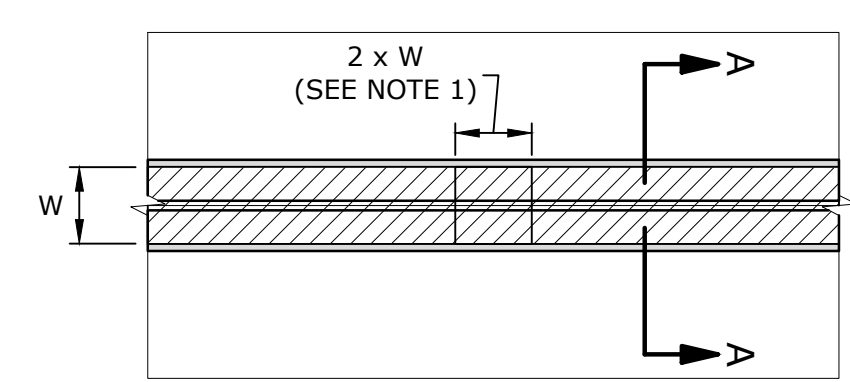


- NOTES**
- SEE SHEET C-201 FOR LOCATION OF CONCRETE CRADLE
 - BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

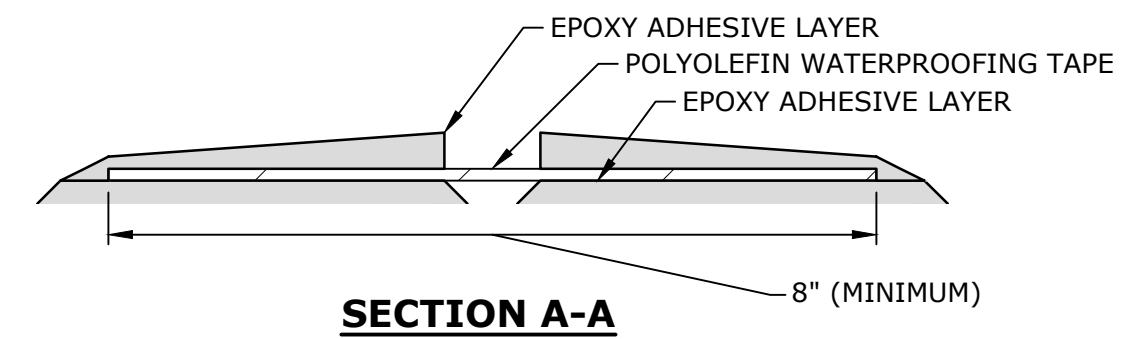
CAST IN PLACE CONCRETE CRADLE DETAIL
NO SCALE

- NOTES**
- ALL MANHOLE COVERS ARE TO BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
 - DIMENSIONS SHOWN OF THE EXISTING ACCESS MANHOLES ARE APPROXIMATE BASED ON AVAILABLE RECORD DRAWINGS, FIELD VERIFY ALL DIMENSIONS OF EACH ACCESS MANHOLE PRIOR TO INSTALLING THE ACCESS HATCHES.
 - SELECT ACCESS MANHOLES HAVE ELECTRICAL CONDUIT AND JUNCTION BOXES FOR TANK MIXERS (NOT SHOWN FOR CLARITY). THE CONTRACTOR SHALL PROTECT AND TEMPORARILY SUPPORT TANK MIXER EQUIPMENT THEN REINSTALL ONTO THE ACCESS MANHOLE ONCE COMPLETED. THE CONTRACTOR SHALL COORDINATE WITH OWNER AND ENGINEER IF MIXERS NEED TO BE REMOVED DURING CONSTRUCTION. REFERENCE SPECIFICATIONS DIVISION 0, SUPPLEMENTARY CONDITIONS, ATTACHMENT C, FOR PHOTOS OF EXISTING JUNCTION BOXES, WIRING, CONDUIT, AND HARDWARE.
 - COORDINATE ANCHOR HOLE LOCATIONS AND SPACING WITH MANUFACTURE. ANCHOR HOLE EDGE DISTANCE FROM THE OUTSIDE FACE OF THE CONCRETE RISER SHALL BE 3" MINIMUM.
 - ACCESS HATCH SHALL BE FACTORY MODIFIED FLN1 FLOOD TIGHT ALUMINUM HATCH BY EJ FOUNDRY OR APPROVED EQUAL.
 - NO ACCESS MANHOLE SHALL BE LEFT UNCOVERED AT THE END OF THE WORK DAY. MINIMIZE THE DURATION ACCESS MANHOLES ARE LEFT UNCOVERED TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL PROTECT OPENINGS TO THE RESERVOIR FROM CONTAMINATES FOR THE DURATION THE ACCESS MANHOLES ARE UNCOVERED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED FALL PROTECTION SYSTEMS WHILE WORKING AROUND RESERVOIR MANHOLES.
 - ANY EXCAVATION REQUIRED FOR THE MANHOLE EXTENSIONS SHALL BE LIMITED TO HAND DIGGING. ALL DISTURBED SURFACES SHALL BE REPAIRED WITH LOAM AND SEED AT NO ADDITIONAL COST TO THE OWNER.
 - ALL LOADS FROM CONTRACTORS MEANS AND METHODS SHALL BE IN CONFORMANCE WITH NOTES ON C-101 AND PROJECT SPECIFICATIONS.
 - BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

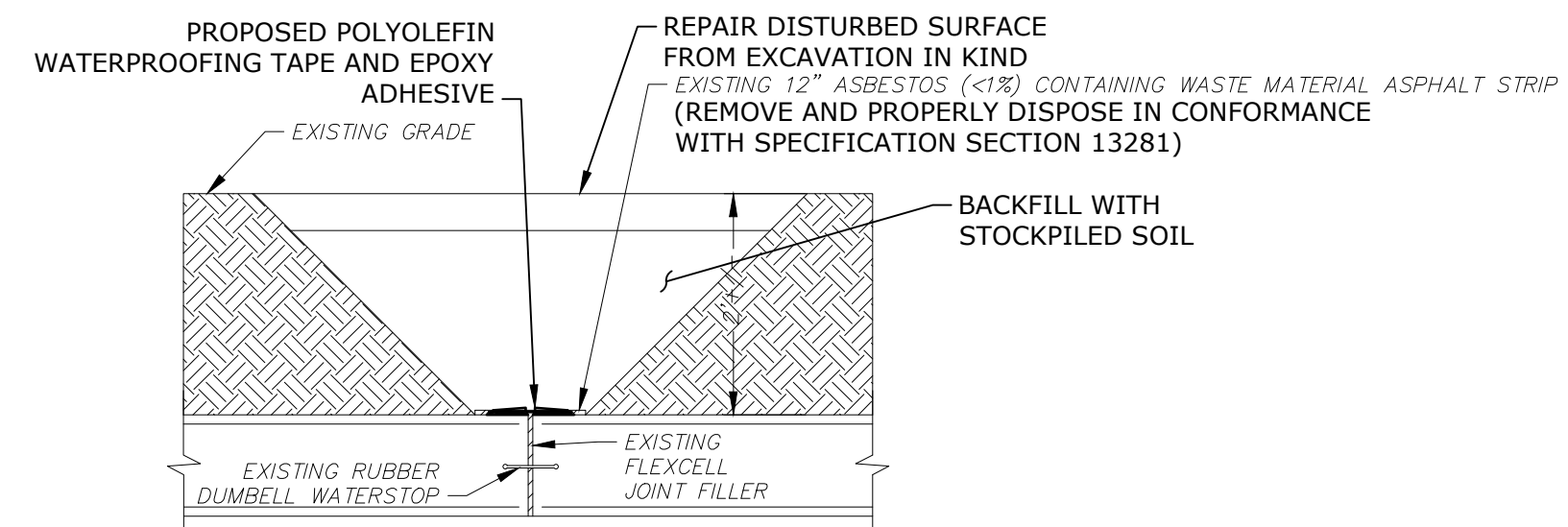
ACCESS MANHOLE EXTENSION WITH NEW HATCH DETAIL
NO SCALE



EXISTING JOINT PLAN WITH PROPOSED REPAIRS

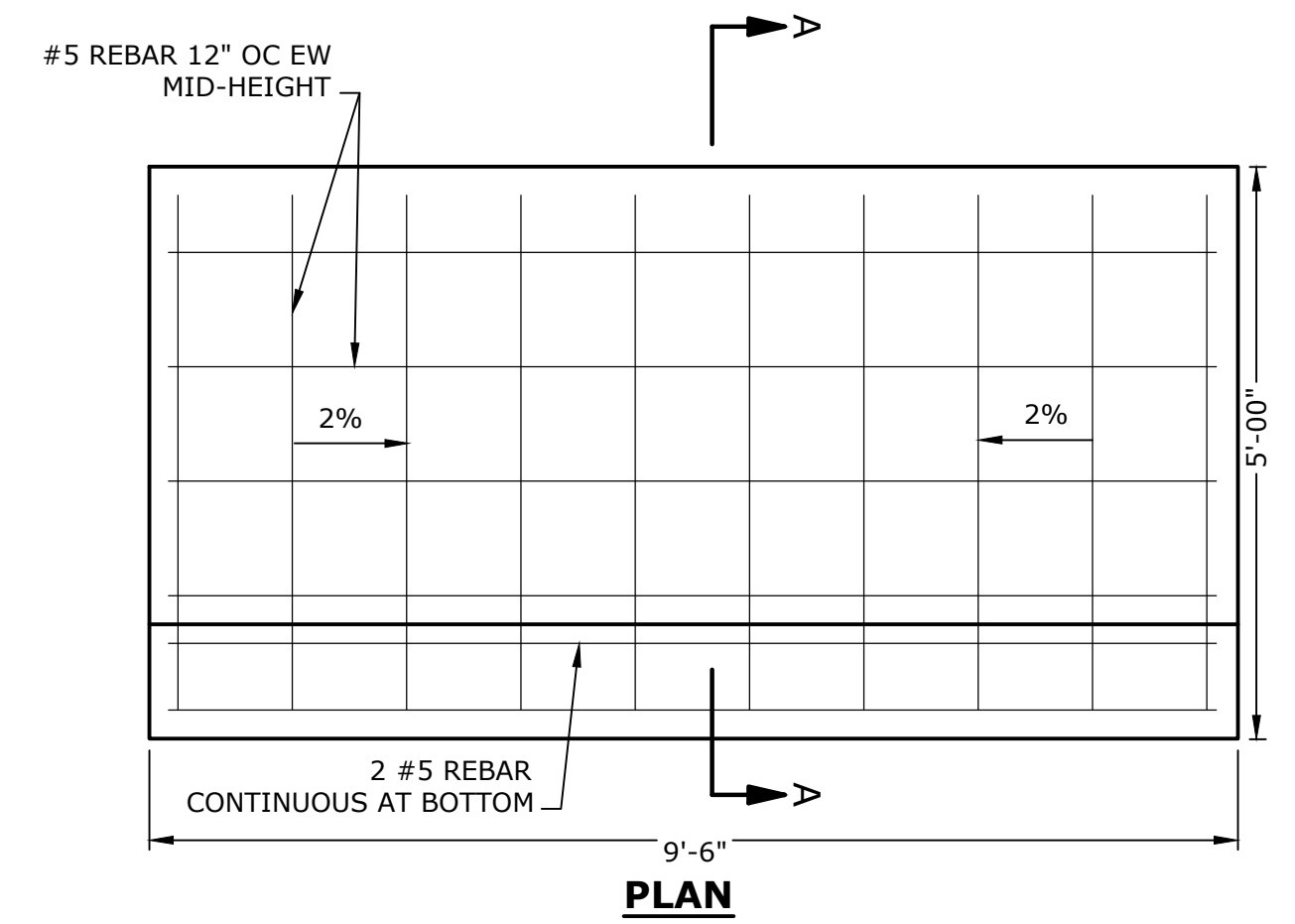


POLYOLEFIN WATERPROOFING TAPE AND EPOXY ADHESIVE DETAIL
NO SCALE

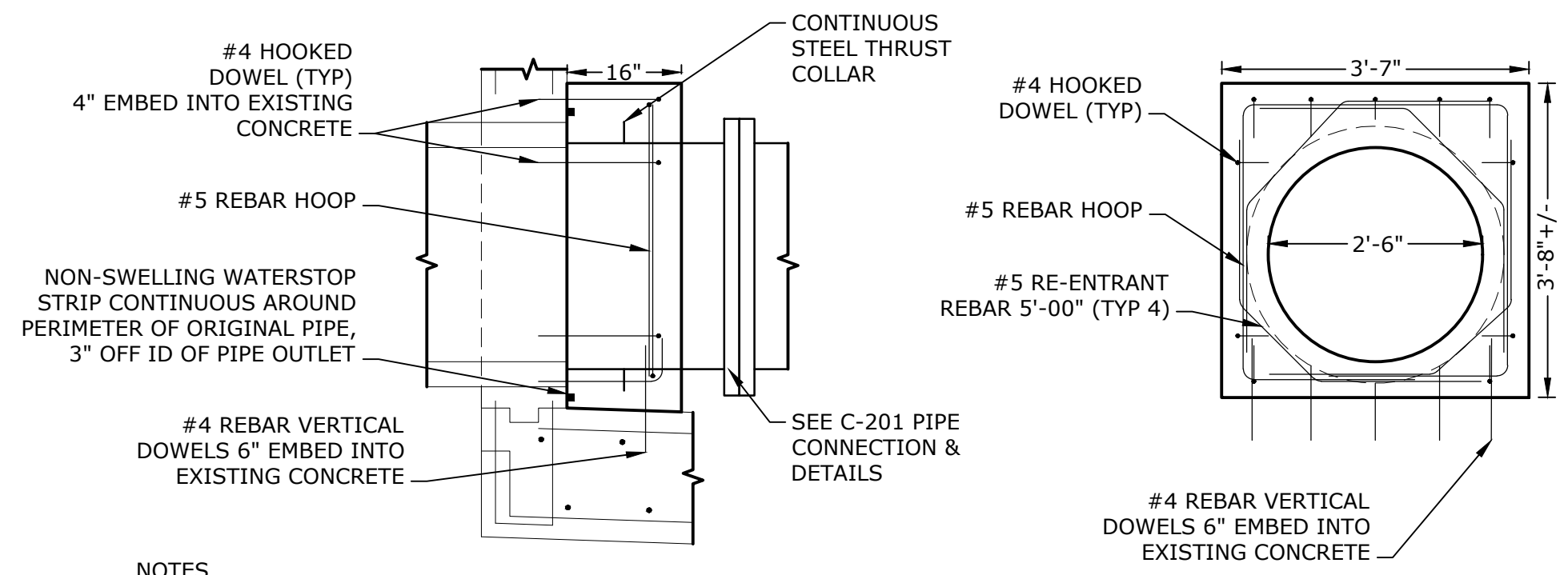


EXISTING EXPANSION JOINT PROFILE WITH PROPOSED REPAIRS

- NOTES**
- OVERLAP POLYOLEFIN WATERPROOFING TAPE AT A MINIMUM TWICE THE WIDTH OR PER MANUFACTURERS RECOMMENDATIONS IF GREATER.
 - INSTALL POLYOLEFIN WATERPROOFING TAPE AND EPOXY AS OUTLINED IN SECTION 13202 - WATER STORAGE TANK REPAIRS.
 - ALL SPOILS FROM EXCAVATIONS SHALL BE STOCKPILED ONTO TARPS TO PREVENT DISTURBANCE TO THE SURROUNDING SURFACE. IF MATERIAL IS LEFT OVERNIGHT, TAKE MEASURES AS NEEDED TO PROTECT THE STOCKPILE AND SITE FROM WIND AND RAIN EROSION (E.G. USE OF TARPS AND EROSION CONTROL BARRIERS).
 - ALL LOADS FROM CONTRACTORS MEANS AND METHODS SHALL BE IN CONFORMANCE WITH NOTES ON C-101 AND PROJECT SPECIFICATIONS.
 - ENGINEER TO VERIFY CONDITION OF EXISTING JOINTS (CONCRETE AND JOINT FILLER, ETC.) PRIOR TO PLACEMENT OF PROPOSED WATERPROOFING.
 - WHILE EXECUTING WORK, PROTECT EXPOSED JOINTS FROM SURFACE AND GROUND WATER INTRUSION. COMPLETE JOINT REPLACEMENT AT THE END OF EACH WORK DAY. CONTRACTOR TO PROVIDE MEANS AND METHODS OF PROTECTING JOINT FROM RAIN EVENTS TO ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK.
 - POWER WASHING WILL NOT BE ALLOWED.



CAST IN PLACE CONCRETE SPLASH PAD DETAIL
NO SCALE



CAST IN PLACE CONCRETE BULKHEAD DETAIL
NO SCALE

- NOTES**
- BOND ALL FACES OF PROPOSED CONCRETE TO EXISTING CONCRETE WITH SIKADUR 32 HI-MOD, OR APPROVED EQUAL. ROUGHEN AND PREP SURFACE OF EXISTING CONCRETE AS RECOMMENDED BY THE MANUFACTURE.

- NOTES**
- SEE SHEET C-201 FOR LOCATION OF CONCRETE SPLASH PAD

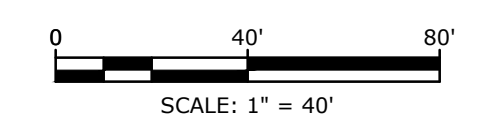
Provin Mountain Reservoir Nos. 3 and 4 Improvements Contract No. 1
Springfield Water and Sewer Commission
Agawam, Massachusetts

MARK	DATE	DESCRIPTION
0	12/1/2023	ISSUED FOR BIDDING
	12/11/2023	

PROJECT NO: S2057-067
DATE: 12/11/2023
FILE: S2057-067-CT1-S200.dwg
DRAWN BY: GNM
DESIGNED/CHECKED BY: GNM, AML
APPROVED BY: MHM

MISCELLANEOUS STRUCTURAL DETAILS

SCALE: AS SHOWN



Last Saved: 12/19/2023 10:58:04 AM By: GNM
Project: 01/24/2023 S2057-067 - Provin Reservoirs Facility Improvements Drawings - Figures/AutoCAD/Sheet/CT1/S200.dwg
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