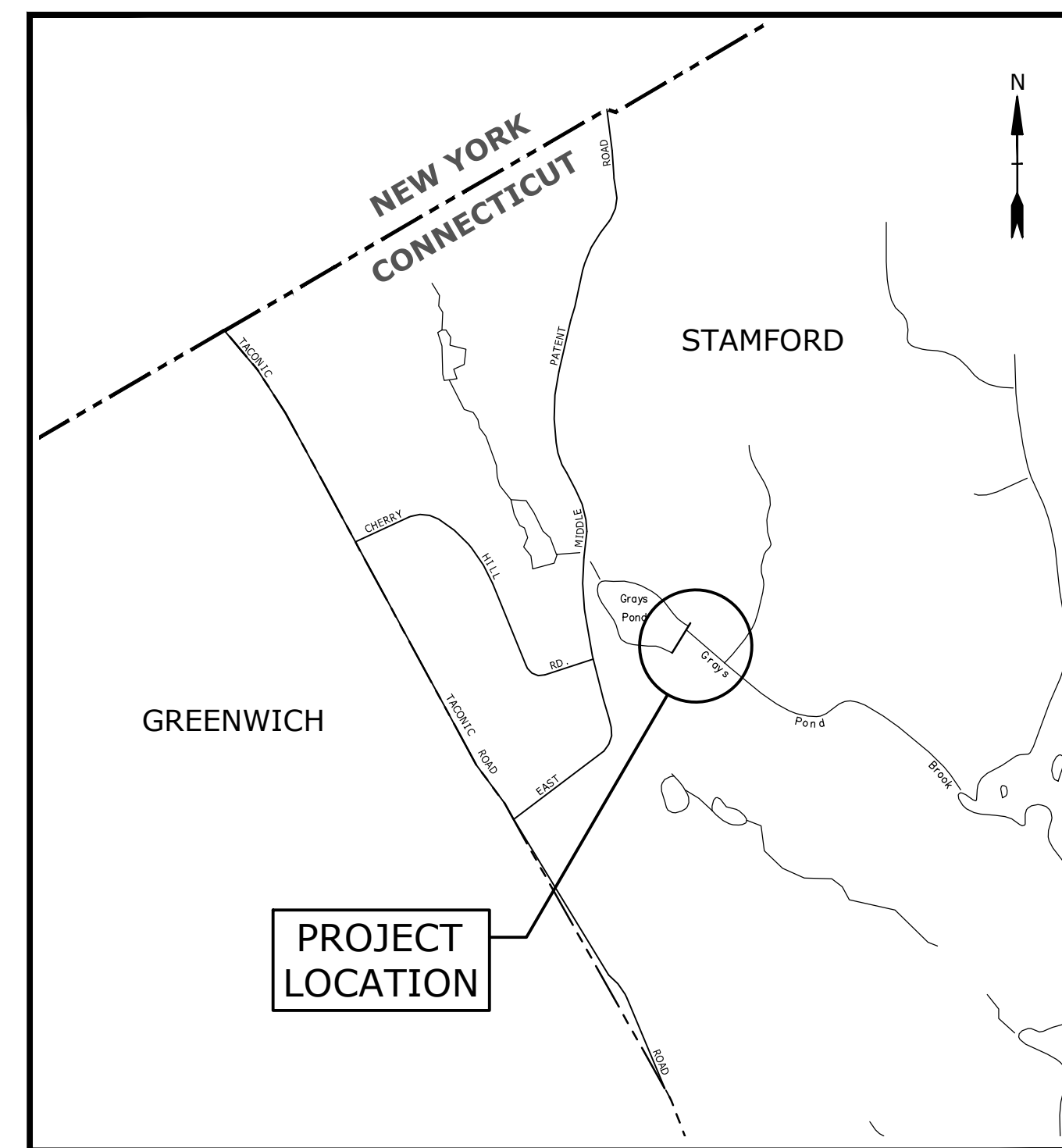


# BRUSH RESERVOIR DAM IMPROVEMENTS STAMFORD, CONNECTICUT

## FEBRUARY 2024

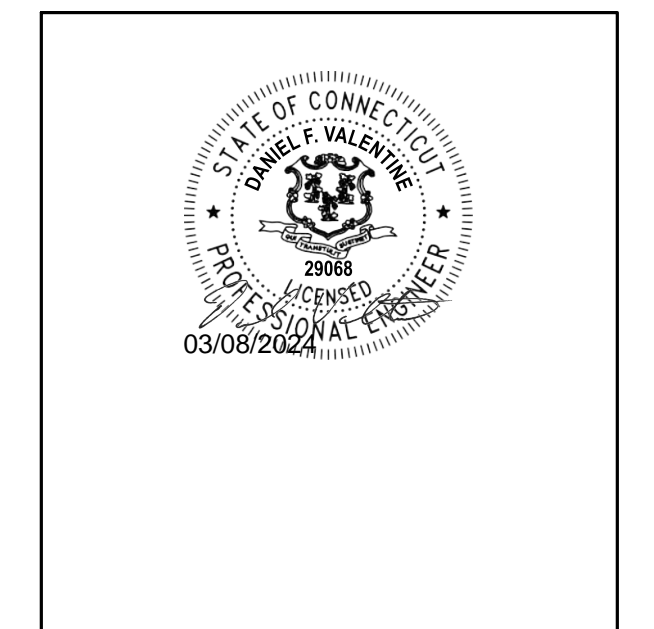
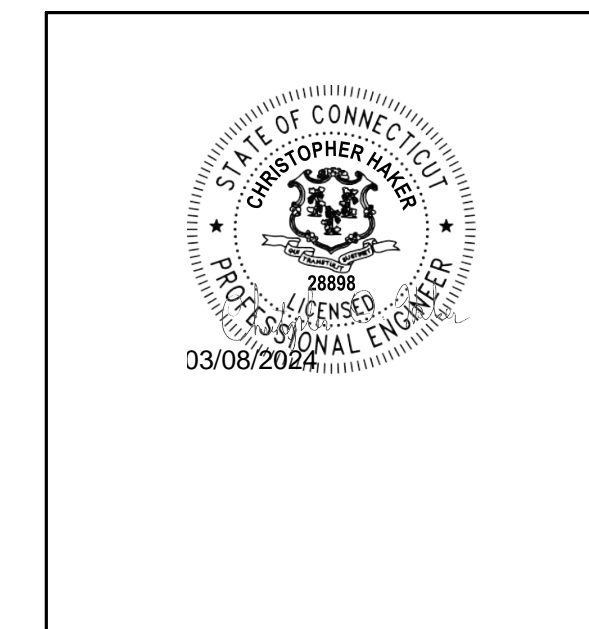
LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET AND LIST OF DRAWINGS
2	G-002	LEGEND AND ABBREVIATIONS
3	G-003	GENERAL NOTES
4	G-004	EXISTING CONDITIONS SITE PLAN
CIVIL		
5	D-101	SITE PREPARATION AND EROSION CONTROL - 1
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7	C-101	SITE PLAN
8	C-102	LANDSCAPE PLAN
9	C-201	DAM AND TRAINING WALL PROFILES
10	C-301	DAM SECTION
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12	C-402	LANDSCAPE DETAILS
STRUCTURAL		
13	S-001	STRUCTURAL NOTES
14	S-101	STRUCTURAL PLAN AND UPSTREAM ELEVATION
15	S-102	STRUCTURAL SECTIONS AND DETAILS - 1
16	S-103	STRUCTURAL SECTIONS AND DETAILS - 2
17	S-104	STRUCTURAL SECTIONS AND DETAILS - 3



LOCATION MAP  
SCALE: 1" = 1000'

PREPARED BY:

**Tighe & Bond**



PREPARED FOR:

AQUARION WATER COMPANY

**ISSUED FOR BIDDING**

**COMPLETE SET 17 SHEETS**

**LEGEND**

DESCRIPTION	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
EASEMENT BOUNDARY	---	---
INTERMEDIATE CONTOURS	-----	-----
INDEX CONTOURS	----- 25'	----- 25'
MAGNITUDE & DIRECTION OF SLOPE	-----	← 0.0%
EDGE OF PAVEMENT	=====	=====
RETAINING WALL	=====	=====
STONE WALL	-----	-----
FENCE - CHAIN LINK	-----	-----
GUARDRAIL	-----	-----
TREELINE	-----	-----
TREE	○ EVERGREEN ○ DECIDUOUS	○ EVERGREEN ○ DECIDUOUS
TREE REMOVAL	○	○
PHOTO LOCATION	➔	⊗
SURVEY POINT	△	△
IRON ROD FOUND	IRF ○	IRF ○
PROPERTY LINE	-----	-----
UTILITY POLE	●	●
GUY WIRE	---	---
OUTLET PIPE	---	---
STORM BASIN	□	□
STORM DRAIN	=====	=====
FLOW ARROW	➔	➔

**LEGEND**

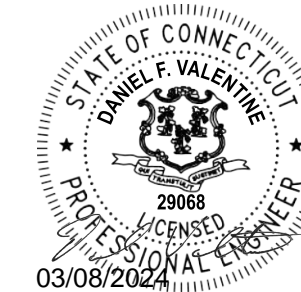
DEMOLITION / GEOTECHNICAL	
COMPOST FILTER SOCK	=====
TEMPORARY COFFERDAM	=====
UTILITY TO BE ABANDONED	-----
UTILITY TO BE DEMOLISHED	-----
ITEM TO BE DEMOLISHED	▨
TEST PIT	⊕
BORING/CONCRETE CORE	●
RIP RAP	▩

**LEGEND**

RESOURCE AREAS	
WETLAND LIMIT	-----
WETLAND FLAG	● WF
EDGE OF WATER	-----

**ABBREVIATIONS**

B/FTG	BOTTOM OF FOOTING
BL	BASELINE
B-#	BORING
BOT	BOTTOM
BW	BOTTOM OF WALL
CB	CATCH BASIN
CFS	CUBIC FEET PER SECOND
CI	CAST IRON PIPE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CJ	CONTRACTION JOINT
CNST JT	CONSTRUCTION JOINT
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DEG	DEGREE
EF	EACH FACE
EG	EXISTING GRADE
EJ	EXPANSION JOINT
EL/ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EOW	EDGE OF WATER
EW	EACH WAY
EXIST	EXISTING
FCJ	FULL CONTRACTION JOINT
FLG	FLANGE
GRTG	GRADING
H, HORZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
IN	INCHES
INV	INVERT
IP	IRON PIN
L	LENGTH
LBS	POUNDS
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N.P	NORMAL POOL
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
OH	OVERHEAD
OPNG	OPENING
PCJ	PARTIAL CONTRACTION JOINT
PI	POINT OF INTERSECTION
PMF	PROBABLE MAXIMUM FLOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYLCHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCED
REV	REVISION
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SF	SQUARE FOOT
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
STRM	STORM
TEMP	TEMPORARY
TP	TEST PIT
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
V	VERTICAL
W/	WITH
W	WATER
WA	WATER AUTHORITY
WF	WETLAND FLAG
WG	WATER GATE
WV	WATER VALVE



**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut


0	2/2024	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-G-002-003.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

**LEGEND AND ABBREVIATIONS**

SCALE: NO SCALE

**G-002**

Last Saved: 3/4/2024  
 Plotted On: Mar 08, 2024 - 10:35am By: rstanford  
 Tighe & Bond 3: A1000-195A - Brush Reservoir Dam Drawings - Figures\AutoCAD\Sheet\A1000-195A-G-002-003.dwg

**GENERAL NOTES:**

1. THE EXISTING TOPOGRAPHY WAS TAKEN FROM "TOPOGRAPHIC SURVEY OF BRUSH DAM AT GRAY'S POND" PREPARED BY D'ANDREA SURVEYING AND ENGINEERING, P.C. DATED MAY 26, 2022. THE HORIZONTAL DATUM REFERENCES THE CONNECTICUT COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM REFERENCES THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAD88).
2. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. TOPOGRAPHY BEYOND LIMITS OF THE "TOPOGRAPHIC SURVEY OF BRUSH DAM AT GRAY'S POND" SURVEY WAS IMPORTED FROM THE CONNECTICUT ENVIRONMENTAL CONDITIONS ONLINE (CT ECO) LIDAR.
3. WETLAND RESOURCE AREAS WERE DELINEATED BY TIGHE & BOND ON JUNE 6, 2022.
4. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS
5. THE TERM "DEMOLISH" USED ON THE DRAWINGS MEANS TO REMOVE AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
6. 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.
7. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.
8. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY, COORDINATION WITH THE OWNER, COORDINATION WITH ALL SUBCONTRACTORS, COORDINATION WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF THE WORK, AND THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
9. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
10. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH EXISTING CONDITIONS BY CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
11. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE OWNER'S PROJECT REPRESENTATIVE TO MEET EXISTING CONDITIONS.
12. A RESERVOIR DRAWDOWN WILL BE PERFORMED BY THE OWNER. REFER TO SECTION 01310 REGARDING THE ANTICIPATED DRAWDOWN.
13. THIS PROJECT IS BEING PERFORMED AT AN ACTIVE DRINKING WATER SUPPLY RESERVOIR. CONSTRUCTION MUST FOLLOW A SPECIFIC SEQUENCE AND CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT RESERVOIR WATER QUALITY AND ALLOW OWNER TO MAINTAIN CONTINUOUS OPERATIONS DURING CONSTRUCTION.

**EROSION AND SEDIMENTATION CONTROL NOTES:**

1. TEMPORARY SEDIMENT AND EROSION CONTROL BY THE CONTRACTOR SHALL BE PERFORMED IN ACCORDANCE WITH CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, PROJECT SPECIFICATIONS, AND PERMIT REQUIREMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES NECESSARY TO EXECUTE AND COMPLETE THE WORK OF THE CONTRACT, IN COMPLIANCE WITH THE TERMS AND CONDITIONS CONTAINED IN THE CONTRACT AND PROJECT PERMITS. CONTROLS SHOWN ON THE CONTRACT DRAWINGS AND MENTIONED IN THE TECHNICAL SPECIFICATIONS SHALL BE CONSIDERED MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL EMPLOY WHATEVER SUPPLEMENTARY MEASURES NECESSARY TO PROTECT WETLANDS, WATERS, AND ADJACENT AREAS FROM DISTURBANCE OR DISCHARGE OF SEDIMENTS.
3. EROSION CONTROL BARRIERS ARE TO BE PLACED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES THE DRAINAGE FEATURES, WATERBODIES, OR WETLANDS, IN ADDITION TO AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED. THE BARRIERS ARE REPLACED AS DETERMINED BY PERIODIC FIELD INSPECTIONS OR AT THE DIRECTION OF THE ENGINEER.
4. TEMPORARY COFFERDAMS MAY BE INSTALLED BY THE CONTRACTOR TO ACCOMMODATE PORTIONS OF CONSTRUCTION AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH APPLICABLE PERMITS AND REGULATIONS.
5. EROSION AND SEDIMENTATION CONTROLS BARRIERS SHALL BE INSTALLED PER DETAILS PROVIDED ON SHEET C-401.
6. EROSION CONTROL BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CLEARING AND GRUBBING ACTIVITIES. LOCATION OF EROSION CONTROL BARRIERS TO BE ADJUSTED UPON COMPLETION OF CLEARING AND GRUBBING BUT PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES.
7. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED IN GOOD CONDITION AND IN PROPER WORKING ORDER. NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
8. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE PROPERLY DISPOSED OFF-SITE UPON COMPLETION OF WORK, SITE STABILIZATION AND/OR AUTHORIZATION FROM THE OWNER.
9. WHEN NECESSARY, OR AS INDICATED IN THE SPECIFICATIONS ON GRASS COVERED SLOPES 3 HORIZONTAL TO 1 VERTICAL (3H:1V) OR STEEPER, TEMPORARY SLOPE PROTECTION SHALL BE PROVIDED BY INSTALLING EROSION CONTROL BLANKETS. IF ADDITIONAL STABILIZATION IS NEEDED, THE CONTRACTOR SHALL INSTALL EROSION CONTROL BARRIERS AT THE TOE OF THE SLOPE.
10. IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE TO BE LEFT UN-WORKED FOR MORE THAN 14 DAYS, THE AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 100 LBS. PER 1,000 S.F. TO HELP CONTROL EROSION. TWO INCHES OF WOOD CHIP MULCH MAY ALSO BE USED AS TEMPORARY COVER.
11. IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE TO BE LEFT UN-WORKED FOR MORE THAN ONE MONTH, THE AREAS SHALL BE TOPSOILED AND SEEDED PER THE SPECIFICATIONS AND AT NO ADDITIONAL COST TO THE OWNER.
12. COFFERDAMS SHALL BE INSTALLED IN PHASES AS INDICATED ON THE CONTRACT DRAWINGS. ALL COFFERDAMS SHALL CONSIST OF NON-ERODIBLE MATERIAL.

**CONSTRUCTION IN WETLANDS:**

1. DURING PREPARATION OF WETLAND AREAS AFTER COMPLETION OF CLEARING AND GRUBBING, WETLAND BLOCKS AND/OR ORGANIC TOPSOIL THAT IS FREE OF INVASIVE PLANT SPECIES SHALL BE REMOVED AND SEGREGATED ON SITE FOR REUSE IN THE IN-SITU WETLAND RESTORATION. IF ADDITIONAL TOPSOIL IS REQUIRED, SUCH SHALL CONSIST OF A MIXTURE OF EQUAL VOLUMES OF CLEAN, WEED AND SEED FREE ORGANIC AND MINERAL MATERIALS. WELL-DECOMPOSED CLEAN LEAF COMPOST IS THE PREFERRED SOIL AMENDMENT TO ACHIEVE THE ORGANIC STANDARD. SUPPLEMENTAL TOPSOIL IN WETLAND REPLACEMENT AREAS SHALL HAVE A MINIMUM ORGANIC CARBON CONTENT OF 4-12% (7 TO 21 PERCENT ORGANIC MATTER) ON A DRY WEIGHT BASIS.
2. UPON COMPLETION OF CONSTRUCTION, ALL DISTURBED WETLAND AREAS SHALL BE RESTORED IN ACCORDANCE WITH SECTION 02922 WITH A WETLAND SEED MIX CONTAINING ONLY PLANT SPECIES NATIVE TO NEW ENGLAND WHICH SHALL NOT CONTAIN ANY SPECIES LISTED IN THE "INVASIVE AND OTHER UNACCEPTABLE PLANT SPECIES" APPENDIX K IN THE "NEW ENGLAND DISTRICT COMPENSATORY MITIGATION STANDARD OPERATING PROCEDURES" FOUND AT:  
<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Mitigation/Compensatory-Mitigation-SOP-2020.pdf?ver=EWhCrK70ZfmPr-8x0K5jg%3D%3D>

**BEST MANAGEMENT PRACTICES:**

INSPECTION AND MAINTENANCE

- SEDIMENT AND EROSION CONTROLS AND BMPS SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION AT THE SITE. NO WORK WHICH SHALL DISTURB THE SITE OR CREATE THE POTENTIAL FOR SEDIMENT RELEASE SHALL COMMENCE UNTIL THE SEDIMENT AND EROSION CONTROLS HAVE BEEN INSPECTED AND APPROVED BY THE ENGINEER. ALL CONTROLS AND BMPS WERE SUBJECT TO INSPECTION BY THE OWNER, THEIR REPRESENTATIVE, AND REGULATORY AGENCIES AT ANYTIME THEREAFTER.
- PERIODIC INSPECTION, MAINTENANCE, AND CLEANING OF TEMPORARY EROSION OF SEDIMENT CONTROL MEASURES AND BEST MANAGEMENT PRACTICES (BMPS) WERE REQUIRED. ALL CONTROLS AND BMPS SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF RAINFALL EVENTS OF 0.5 INCHES OR GREATER. ROUTINE INSPECTION AND MAINTENANCE WILL REDUCE THE CHANCE OF POLLUTING STORMWATER BY FINDING AND CORRECTING PROBLEMS BEFORE THE NEXT RAIN EVENT. THE FOCUS OF THE INSPECTION WILL BE TO DETERMINE:
  - 1) WHETHER OR NOT THE MEASURE WAS INSTALLED / PERFORMED CORRECTLY;
  - 2) WHETHER OR NOT THERE HAS BEEN ANY DAMAGE TO THE MEASURE SINCE IT WAS INSTALLED OR PERFORMED; AND
  - 3) WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE MEASURE. EACH MEASURE IS TO BE OBSERVED TO DETERMINE IF IT IS STILL EFFECTIVE.
 IN SOME CASES, SPECIFIC MEASUREMENTS MAY BE TAKEN TO DETERMINE IF MAINTENANCE OF THE MEASURES IS REQUIRED.

SITE MANAGER

- PRIOR TO CONSTRUCTION, A SITE MANAGER WILL BE DESIGNATED BY THE CONTRACTOR TO BE RESPONSIBLE FOR INSTALLATION, MONITORING, INSPECTION, AND CORRECTION OF EROSION AND SEDIMENT CONTROL MEASURES.

CONSTRUCTION SITE ENTRANCE

- TO REDUCE THE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE ONTO OTHER AREAS OF THE PROPERTY AND/OR PUBLIC ROADS, AS WELL AS THE PRODUCTION OF AIRBORNE DUST, A STABILIZED CONSTRUCTION ENTRANCE IS TO BE ESTABLISHED AND AT ANY ADDITIONAL AUTHORIZED PERMANENT CONSTRUCTION STAGING AREA.
- THE ENTRANCE IS TO CONSIST OF A 6-INCH THICK PAD OF CRUSHED STONE UNDERLAIN WITH FILTER FABRIC OR A BITUMINOUS CONCRETE APRON. IT IS TO BE REMOVED AND THE AREA RESTORED FOLLOWING CONSTRUCTION.

SITE CLEARING

- DURING SITE CLEARING, EXISTING VEGETATION WITHIN THE OVERALL LIMITS OF CLEARING AND GRUBBING SHALL BE CLEARED AND REMOVED, EXCEPT AS OTHERWISE DIRECTED. THIS INCLUDES ALL VEGETATION ON THE DAM EMBANKMENT AND WITHIN 25 FEET OF THE PROPOSED DAM EMBANKMENT EXTENTS.
- PRIOR TO ANY SITE CLEARING ACTIVITIES, SEDIMENT CONTROL BARRIERS SHALL BE PLACED ALONG THE OUTER LIMIT OF DISTURBANCE.
- CLEARING IS TO BE LIMITED TO THOSE AREAS OF PROPOSED WORK. DISTURBED AREAS ARE TO BE KEPT TO A MINIMUM. NO TREE WITH A BREST HEIGHT DIAMETER OF GREATER THAN 6 INCHES SHALL BE CLEARED FROM AREAS OUTSIDE THE LIMITS OF CLEARING AND GRUBBING WITHOUT PRIOR APPROVAL FROM THE OWNER.

EROSION CONTROL BARRIERS

- COMPOST WATTLE BARRIERS ARE TO BE PLACED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES THE DRAINAGE FEATURES, WATERBODIES, OR WETLANDS, IN ADDITION TO AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED.THE COMPOST WATTLES SHALL BE REPLACED AS DETERMINED BY PERIODIC FIELD INSPECTIONS.

DUST CONTROL

- STANDARD DUST CONTROL MEASURES, INCLUDING SPRAYING AND MISTING SHALL BE USED AS NECESSARY. CALCIUM CHLORIDE SHALL NOT BE ALLOWED ON THIS PROJECT.

STAGING AREAS

- THE CONTRACTOR SHALL COORDINATE LAYDOWN STAGING AREAS IN WHICH TO STORE EQUIPMENT AND MATERIALS WITH THE OWNER.
- STAGING AREAS SHALL BE SURROUNDED WITH COMPOST WATTLE EROSION BARRIERS ON THE DOWN HILL SIDE.
- DURING AND AFTER CONSTRUCTION, ALL PAVED ROAD AND DRIVEWAY SURFACES SHALL BE SCRAPED AND BROOMED FREE OF EXCAVATED MATERIALS ON A DAILY BASIS, UNLESS APPROVED BY THE OWNER.

STOCKPILED MATERIALS

- STOCKPILES OF SOIL CREATED DURING CONSTRUCTION ACTIVITIES ARE TO BE SURROUNDED WITH EROSION CONTROL BARRIER AROUND THE PERIMETER OF THE STOCKPILE. STOCKPILES OF ERODIBLE MATERIAL ARE TO BE COVERED PRIOR TO INCLEMENT WEATHER WITH A MINIMUM OF 20 MIL POLYETHYLENE SHEETING. STOCKPILES LEFT UNDISTURBED LONGER THAN 14 DAYS SHALL BE SEEDED OR COVERED.

EQUIPMENT FUELING

- EQUIPMENT FUELING AND OTHER ACTIVITIES INVOLVING PETROLEUM, OIL, OR OTHER POTENTIALLY HAZARDOUS SUBSTANCES ARE TO BE PERFORMED AT PRE-APPROVED, DESIGNATED AREAS WITH APPROPRIATE SPILL PREVENTION AND CONTROL MEASURES. PORTABLE SECONDARY CONTAINMENT IS TO BE USED, AND SORBENT MATERIALS ARE TO BE PLACED AROUND THE PERIMETER OF THE FUELING AREA.

CONSTRUCTION DEWATERING

- CONSTRUCTION DEWATERING SHALL BE REQUIRED DURING PORTIONS OF CONSTRUCTION WHICH REQUIRED EXCAVATION OR OTHER ACTIVITIES WHERE GROUNDWATER OR SURFACE WATER INTERFERE WITH THE WORK. CONSTRUCTION DEWATERING DISCHARGE SHALL BE PRE-TREATED FOR SEDIMENT REMOVAL BY PASSING THROUGH AN APPROPRIATELY SIZED FILTER SOCK, SILT BAG, FRACTIONATION / SEDIMENTATION TANK, OR SEDIMENT TRAP PRIOR TO DISCHARGE TO AN UPLAND LOCATION, AS NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DEWATERING TECHNIQUES AND MAINTAINING DEWATERING PROCEDURES THROUGHOUT THE DURATION OF THE PROJECT.

OUTLET PROTECTION

- APPROPRIATE OUTLET PROTECTION, CONSISTING OF RIPRAP CHANNEL LINING, A LEVEL SPREADER, OR OTHER SUCH MEASURE SHALL BE PROVIDED AT THE OUTLET OF ANY DEWATERING CONDUIT OR STORMWATER CULVERT OR CHANNEL OUTFALL TO REDUCE VELOCITIES AND ENHANCE SEDIMENTATION PRIOR TO DISCHARGE.

SURFACE WATER CONTROL

- FLOW THROUGH A PORTION OF SPILLWAY AND/OR THE PROPOSED OUTLET STRUCTURE AT ALL TIMES, THE IMPOUNDMENT MAY BE DRAWN DOWN TO ACCOMMODATE THE WORK. THE CONTRACTOR SHALL SUBMIT A WATER CONTROL PLAN THAT ADDRESSED EMERGENCY MEASURES TO IMPLEMENT IN THE EVENT A STORM OCCURS DURING CONSTRUCTION.
- DRAWDOWN LIMITATIONS INCLUDE:
  - MAXIMUM DRAWDOWN (ELEVATION 341' MIN.)

TURBIDITY MONITORING AND CONTROL

- IF TURBIDITY LEVELS ARE UNACCEPTABLE AS JUDGED BY THE OWNER, ENGINEER, OR REGULATORY AGENCY, ADDITIONAL MEASURES SHALL BE IMPLEMENTED AT NO EXPENSE TO THE OWNER.

DRAW-DOWN DISCHARGE PROTECTION

- CONTRACTOR SHALL VISUALLY MONITOR DISCHARGE ON A REGULAR BASIS DURING DRAW-DOWN LOOKING FOR DISCOLORED WATER LEAVING THE PROJECT SITE. IF DISCOLORED WATER LEAVING THE PROJECT SITE LASTS LONGER THAN TWO HOURS, THE CONTRACTOR SHALL PERFORM INCIDENT MONITORING AT THEIR OWN EXPENSE IN ACCORDANCE WITH THE APPLICABLE PERMIT REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:
  - RECORD TURBIDITY LEVELS WITH A TURBIDITY METER THREE TIMES PER DAY BETWEEN SUNRISE AND SUNSET, AT AN INTERVAL OF FOUR TO SIX HOURS, UNTIL THE TURBIDITY PLUME IS NO LONGER OBSERVED.

LIMITS OF WORK

- THE CONTRACTOR SHALL LINE THE UPGRADIENT BOUNDARY OF WORK AREAS WITH ORANGE SAFETY FENCING BEFORE THE START OF SITE CLEARING ACTIVITIES.

TEMPORARY STABILIZATION

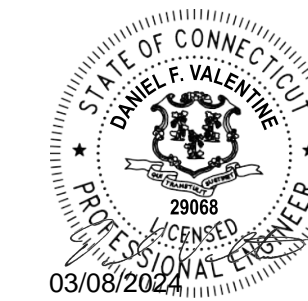
- WHEN NECESSARY, TEMPORARY SLOPE PROTECTION SHALL BE PROVIDED BY INSTALLING SEDIMENT TRAP BARRIERS AT THE TOE OF FILLS OR CUT SLOPES. IF ADDITIONAL STABILIZATION IS NEEDED, THEN THE CONTRACTOR SHALL INSTALL MULCH LOGS, AND MATTING, SUCH AS STRAW, JUTE, WOOD FIBER, OR BIODEGRADABLE MESH. A TACKIFIER SHALL BE USED ON LOOSE MATERIALS USED FOR TEMPORARY EROSION CONTROL.
- IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE LEFT UN-WORKED FOR MORE THAN TWO WEEKS, THE AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 100 LBS. PER 1,000 S.F. TO HELP CONTROL EROSION. 100% BIODEGRADABLE EROSION CONTROL BLANKETS OR TWO INCHES OF WOOD CHIP MULCH SHALL BE USED AS TEMPORARY COVER.
- IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE LEFT UN-WORKED FOR MORE THAN ONE MONTH, THE AREAS SHALL BE TOPSOILED AND SEEDED PER THE SPECIFICATIONS AND AT NO ADDITIONAL COST TO THE OWNER.
- THE SURFACE OF ALL EXCAVATIONS AND FILLS SHALL BE IN A FIRM AND STABLE CONDITION AT THE END OF EACH DAY. ROLL OR OTHERWISE TREAT THE SURFACE AS NEEDED.

SITE RESTORATION

- STABILIZATION OF DISTURBED AREAS OR NEW SOIL FILLS SHALL BE IMPLEMENTED WITHIN 14 DAYS AFTER GRADING OR CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. APPROPRIATE VEGETATIVE SOIL STABILIZATION IS TO BE USED TO MINIMIZE EROSION. TEMPORARY AND PERMANENT VEGETATIVE COVER IS TO BE ESTABLISHED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, USING HYDRO-SEEDING, BROADCASTING, OR OTHER APPROVED TECHNIQUES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF PREVIOUSLY VEGETATED UPLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. RESTORATION OF UPLAND AREAS AS SHOWN ON THE DRAWINGS OR WHERE NO OTHER RESTORATION IS SHOWN OR SPECIFIED SHALL CONSIST OF REPLACEMENT OF TOPSOIL OR PLACEMENT OF IMPORTED LOAM AS NEEDED SUCH THAT A MINIMUM OF 4 INCHES OF SUITABLE VEGETATIVE SUPPORT MATERIAL IS PRESENT AND APPROPRIATELY, LIMED, FERTILIZED, GRADED, AND SCARIFIED.
- RESTORED AREAS SHALL BE ROLLED AND THEN APPROPRIATELY MULCHED WITH STRAW, WOOD CHIPS OR OTHER APPROVED WEED-FREE MATERIAL. EROSION CONTROL BLANKET IS ALSO ACCEPTABLE FOR POST-RESTORATION STABILIZATION. ON FLAT SURFACES AND ON SLOPES FLATTER THAN 3H:1V, MULCH OR EROSION CONTROL BLANKET SHALL BE USED AFTER PERMANENT SEEDING TO PROTECT SOIL FROM THE IMPACT OF FALLING RAIN AND TO INCREASE THE CAPACITY OF THE SOIL TO ABSORB WATER. FOR STEEPER SLOPES, EROSION CONTROL BLANKET SHALL BE USED.
- FINAL STABILIZATION SHALL BE CONSIDERED COMPLETE WHEN ALL SOIL-DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY PERCENT HAS BEEN ESTABLISHED OR EQUIVALENT STABILIZATION MEASURES (SUCH AS THE USE OF MULCHES OR EROSION CONTROL BLANKET) HAVE BEEN EMPLOYED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY RIPRAP OR PROCESSED GRAVEL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL VEGETATED SURFACES, INCLUDING WATERING, FERTILIZING, AND RE-SEEDING UNTIL ESTABLISHMENT CONDITIONS ARE MET AND UNTIL THE END OF THE CONTRACTUAL MAINTENANCE PERIOD.
- WOOD CHIP MULCH AND LIME AND FERTILIZATION IS NOT ACCEPTABLE IN RESTORED WETLAND AREAS.

**CONTROL OF WATER:**

1. TEMPORARY COFFERDAMS (SELECTED AND DESIGNED BY THE CONTRACTOR) SHALL BE INSTALLED IN TWO PHASES:
  - 1.1. PHASE 1 - DAM FACE AND CREST DEMOLITION AND REPAIRS. MINIMUM ELEVATION FOR THE TOP OF THE COFFERDAM SHALL BE 350 FEET.
  - 1.2. PHASE 2 - SPILLWAY DEMOLITION AND CONSTRUCTION. MINIMUM ELEVATION FOR THE TOP OF THE COFFERDAM SHALL BE 366 FEET.
2. A TEMPORARY LOW-LEVEL OUTLET PIPE SHALL BE EXTENDED UPSTREAM OF THE EXISTING LOW-LEVEL OUTLET, UPSTREAM OF THE COFFERDAM IN PHASE 1.
3. AREAS WITHIN THE WORK AREA SHALL BE DEWATERED AND MAINTAINED IN A DRY CONDITION TO THE EXTENT REQUIRED TO CONSTRUCT THE WORK.
4. ACTIVE DRAWDOWN OF THE RESERVOIR SHALL BE MONITORED TO MEET PERMIT REQUIREMENTS.
5. MAINTAIN UPSTREAM AND DOWNSTREAM AREAS TO PREVENT SCOUR, EROSION, SEDIMENTATION, AND/OR TURBIDITY. KEEP INLETS AND OUTLETS FREE OF DEBRIS AND OBSTRUCTIONS. A STONE CHECK DAM SHALL BE INSTALLED ACROSS THE EXISTING STREAM CHANNEL, DOWNSTREAM OF THE WORK AREA.
6. IF FLOODING IS ANTICIPATED, SUSPEND CONSTRUCTION OPERATIONS, REMOVE EQUIPMENT WHICH COULD BE DAMAGED, AND TAKE SUCH ACTIONS AND PERFORM SUCH ADDITIONAL WORK AS APPROVED BY THE ENGINEER TO PROTECT THE WORK AND PREPARE THE AREA. MATERIALS THAT ARE BUOYANT, HAZARDOUS, EXPLOSIVE, SOLUBLE, EXPANSIVE, OR OTHERWISE INJURIOUS TO HUMAN, ANIMAL, OR PLANT LIFE ARE TO BE STORED IN A DESIGNATED AREA OUTSIDE OF THE RESERVOIR AND ALL WETLAND AREAS.
7. REFER TO SPECIFICATION SECTION 01571 FOR CONTROL OF WATER PROVISIONS.



**Brush Reservoir Dam Improvements**

**Aquarion Water Company**

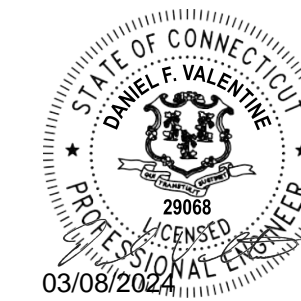
Stamford, Connecticut


0	2/2024	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-G-002-003.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

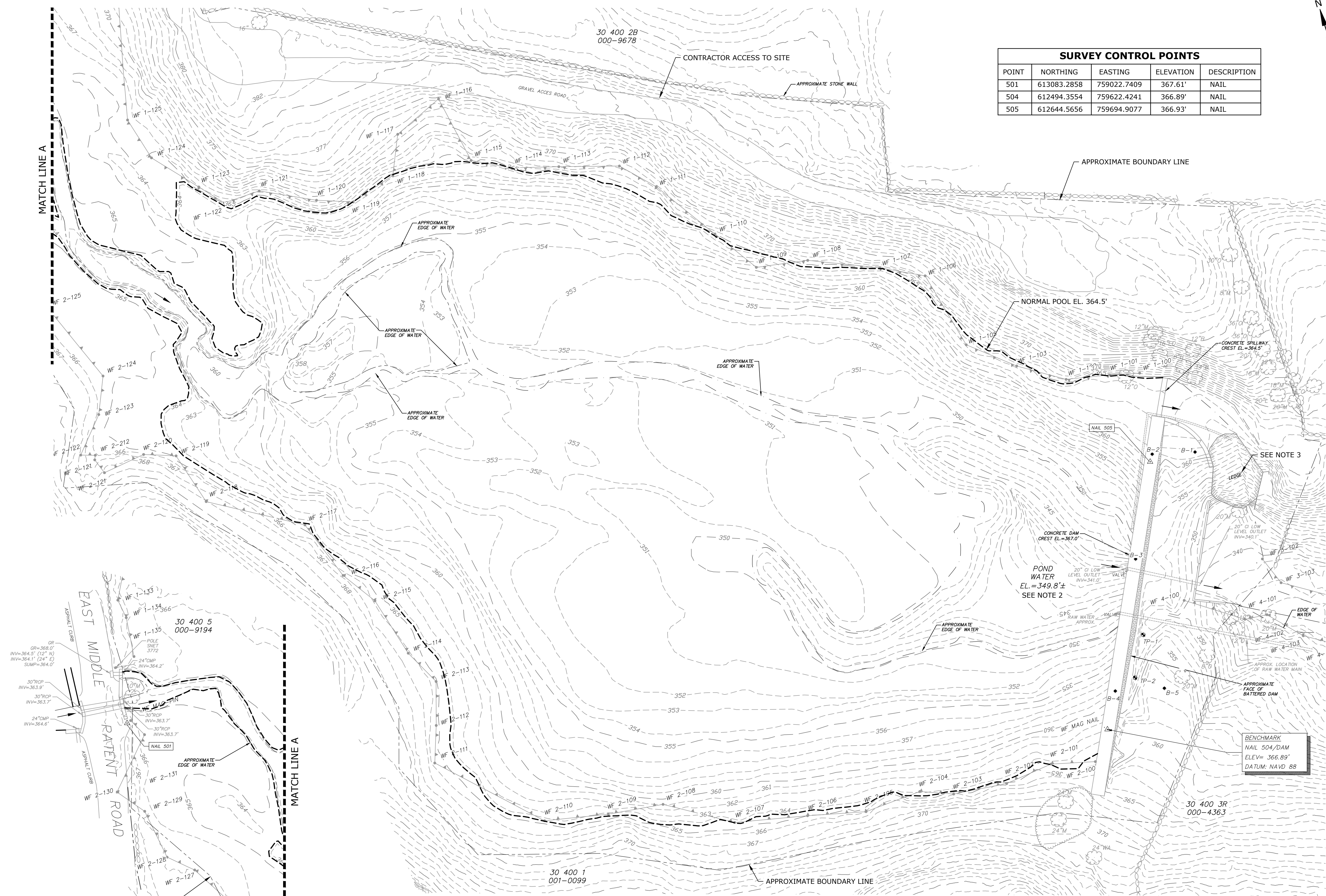
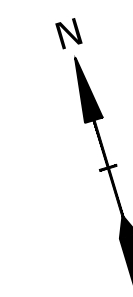
GENERAL NOTES

SCALE: NO SCALE

Last Saved: 3/4/2024 10:36am By: rstanford  
 Plotted On: Mar 08 2024 - 10:36am  
 Tighe & Bond 23:VA1000 ANCY139 - Brush Reservoir Dam Drawings - Figures\AutoCAD\Sheet\A1000-195A-G-002-003.dwg

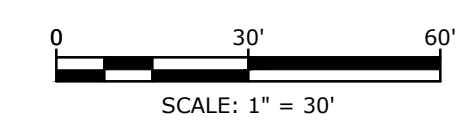


SURVEY CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
501	613083.2858	759022.7409	367.61'	NAIL
504	612494.3554	759622.4241	366.89'	NAIL
505	612644.5656	759694.9077	366.93'	NAIL



**NOTES**

- BOUNDARY LINE SURVEYED BY OTHERS. THIS DRAWING MAKES NO CLAIM TO THE ACCURACY OF THE BOUNDARY SHOWN. BOUNDARY LINES ARE APPROXIMATE AND ARE SHOWN FOR SCHEMATIC PURPOSES ONLY.
- CONTOURS SHOWN BELOW THE POND WATER LINE ON THE DAY OF THE TOPOGRAPHIC SURVEY ON 5-8-22 ARE APPROXIMATE IN NATURE BASED ON AVAILABLE DATA AND SHOULD BE FIELD VERIFIED.
- CONTOURS SHOWN ON THE LEDGE ARE INTERPOLATED BASED ON ELEVATIONS AT THE BORDER AND SHOULD BE FIELD VERIFIED.



**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut

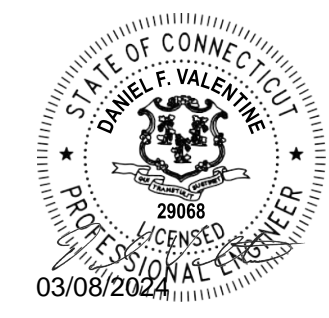
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DATE:	02/2024	
FILE:	A1000-195A-G-004.dwg	
DRAWN BY:	MJC	
DESIGNED/CHECKED BY:	RS/DFV	
APPROVED BY:	CDH	

**EXISTING CONDITIONS SITE PLAN**

SCALE: 1" = 30'

**G-004**

Last Saved: 3/4/2024  
 Plotted On: Mar 05, 2024 - 10:40am By: rstanford  
 Tighe & Bond 33 W. Main Street, Stamford, CT 06901  
 Figures: AutoCAD, Sheet: A1000-195A-G-004.dwg



**Brush Reservoir Dam Improvements**

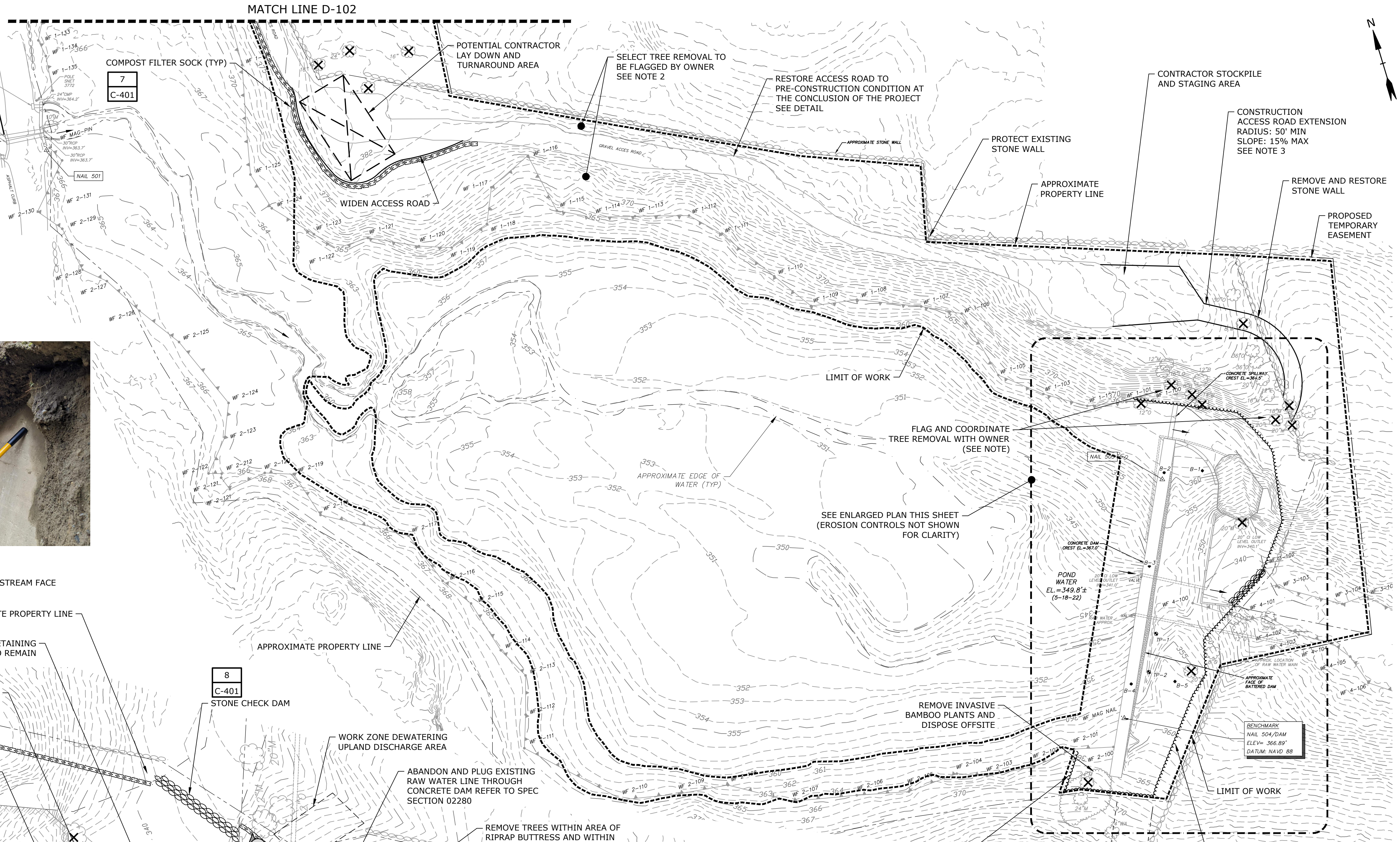
Aquarion Water Company

Stamford, Connecticut

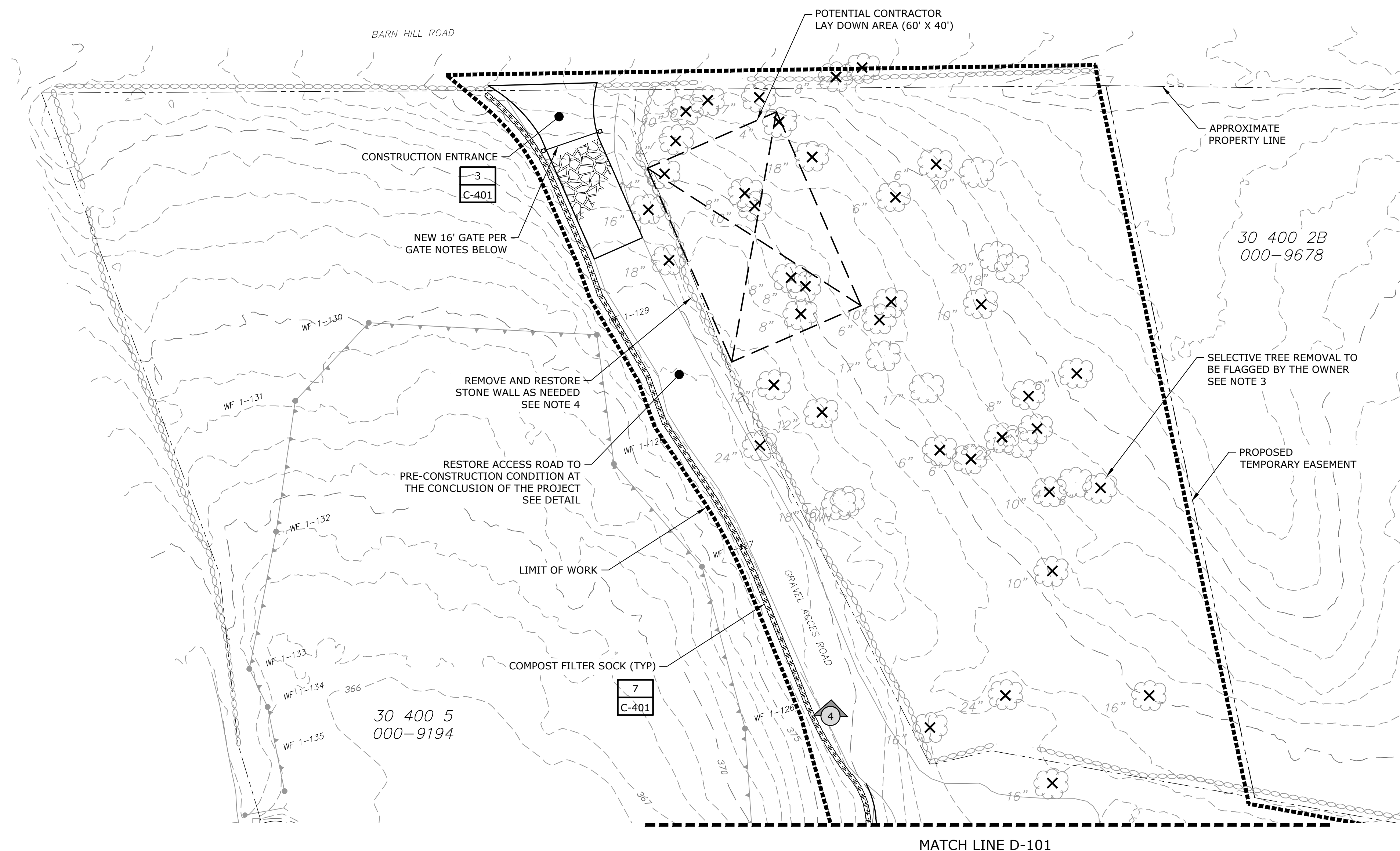
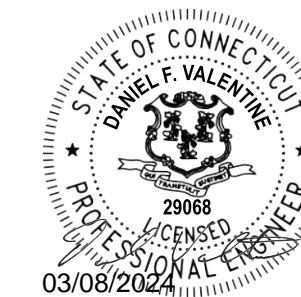
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PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-D-101-102.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

**SITE PREPARATION AND EROSION CONTROL - 1**

SCALE: AS SHOWN



LAST Saved: 3/8/2024 10:45am By: rstanford  
 Plotted On: Mar 08, 2024 10:45am  
 Title: D:\Projects\A1000-195A\Drawings - Brush Reservoir Dam\Drawings - Figures\AutoCAD\Sheet\A1000-195A-D-101-102.dwg



**PLAN**  
1" = 20'

**NOTES:**

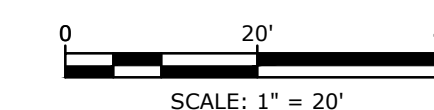
1. BOUNDARY LINE SURVEYED BY OTHERS. THIS DRAWING MAKES NO CLAIM TO THE ACCURACY OF THE BOUNDARY SHOWN. BOUNDARY LINES ARE APPROXIMATE AND ARE SHOWN FOR SCHEMATIC PURPOSES ONLY.
2. SEE SPEC SECTION 02200 SITE PREPARATION FOR CLEARING AND GRUBBING DETAILS.
3. TREE REMOVAL SHALL BE TO THE MINIMUM EXTENT PRACTICAL FOR TEMPORARY ACCESS. NOT ALL TREES TO BE REMOVED ARE SHOWN. INSPECT WITH ENGINEER PRIOR TO REMOVAL.
4. RESTORE SITE TO PRE-CONSTRUCTION CONDITIONS AT THE CONCLUSION OF THE PROJECT. REMOVE FILLS NEEDED FOR TEMPORARY ACCESS ROAD, RECONSTRUCT DISTURBED PORTIONS OF THE EXISTING STONE WALL. LOAM AND SEED AS NECESSARY FOR EROSION CONTROL.

**GATE NOTES:**

1. REMOVE EXISTING GATE AND POSTS.
2. INSTALL NEW GATE WHERE SHOWN ABOVE.
3. GATE COLOR SHALL BE DETERMINED BY THE OWNER.
4. GATE SHALL BE CENTER OPEN, 90 DEGREE SWING, POST-AND-RAIL DESIGN AS MANUFACTURED BY WALPOLE OUTDOORS OR APPROVED EQUAL.
5. CONTRACTOR SHALL PROVIDE GATE SHOP DRAWINGS FOR APPROVAL BY THE OWNER PRIOR TO INSTALLATION.
6. GATE INSTALLATION PER MANUFACTURER'S REQUIREMENTS.



**PHOTO 4**  
ACCESS ROAD AND STAGING AREA



**Brush Reservoir Dam Improvements**

Aquarion Water Company

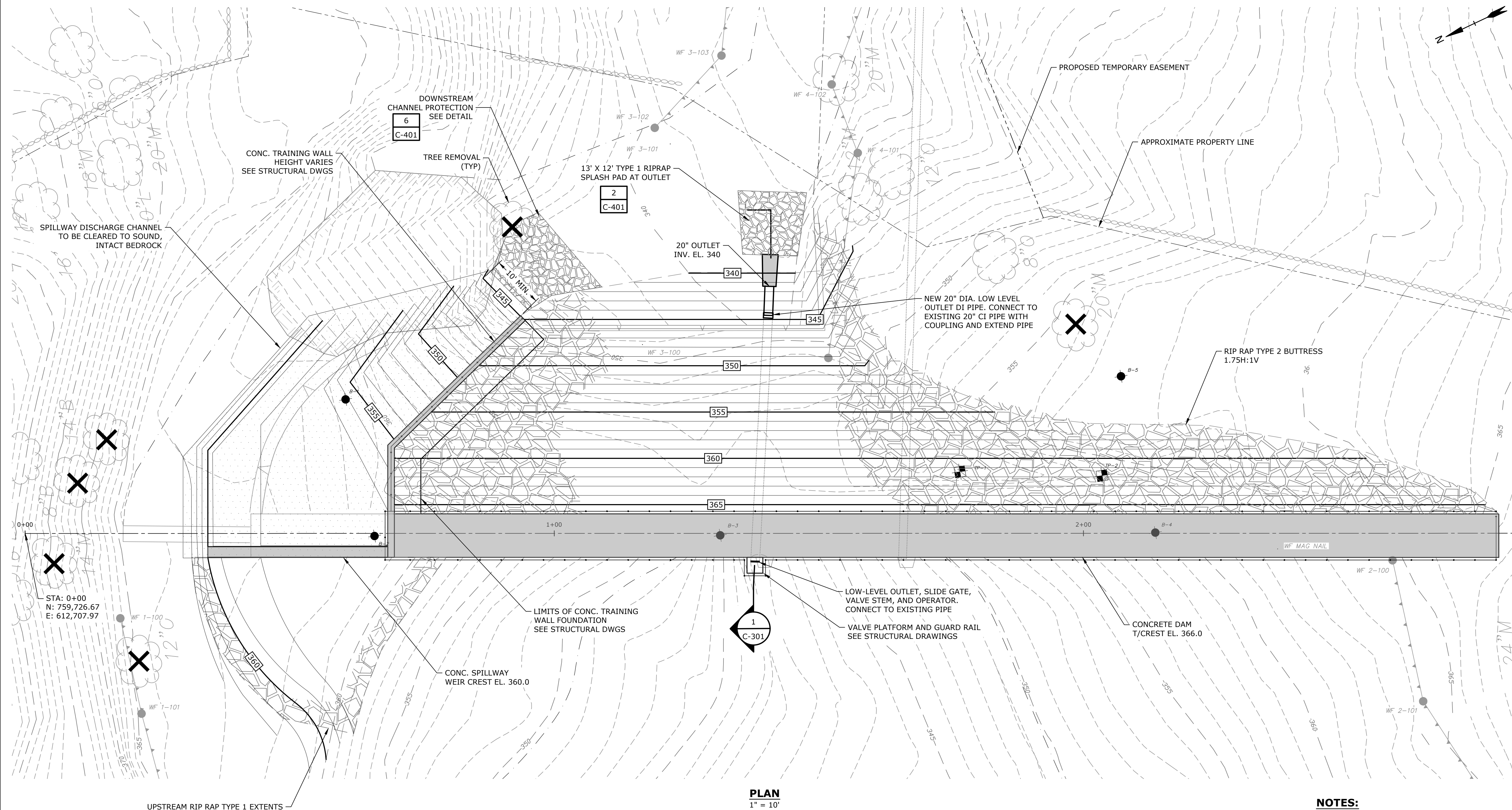
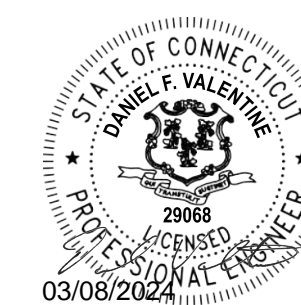
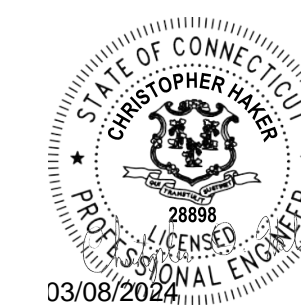
Stamford, Connecticut

0	2/2024	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-D-101-102.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

**SITE PREPARATION AND EROSION CONTROL - 2**

SCALE: AS SHOWN

**D-102**



STA: 0+00  
 N: 759,726.67  
 E: 612,707.97

**PLAN**  
 1" = 10'

**NOTES:**

- SEE SHEET C-201 FOR PROFILE VIEWS.
- RESTORE DOWNSTREAM CHANNEL DISTURBED BY CONSTRUCTION PER DETAIL 6, SHEET C-401.
- EROSION AND SEDIMENTATION CONTROLS NOT SHOWN FOR CLARITY.
- NOT ALL TREES TO BE REMOVED ARE SHOWN. FLAG WITH OWNER PRIOR TO REMOVAL.

**Brush Reservoir Dam Improvements**

Aquarion Water Company

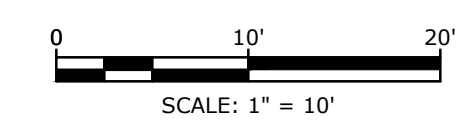
Stamford, Connecticut

MARK	DATE	DESCRIPTION
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DATE: 02/2024		
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DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

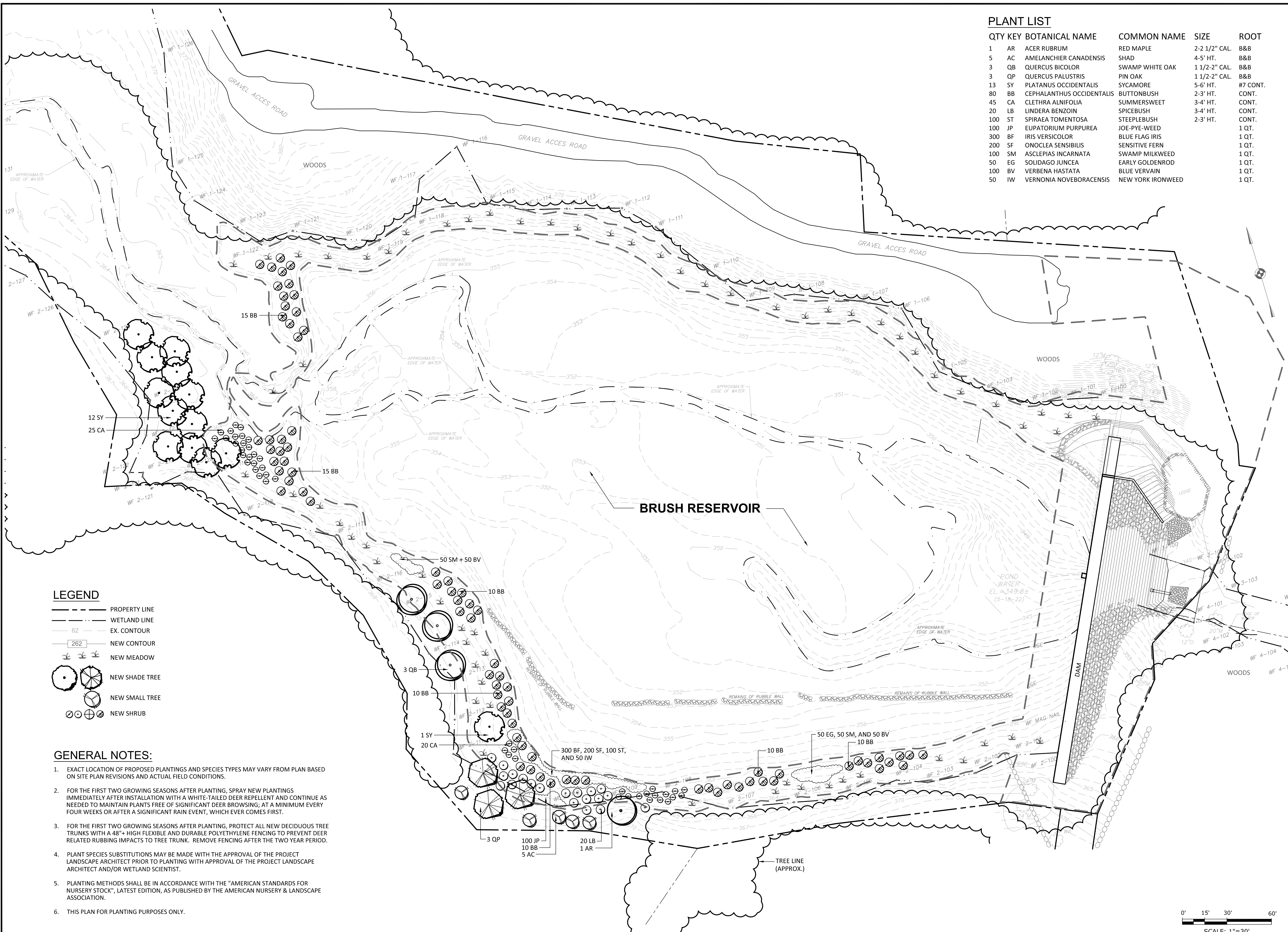
SITE PLAN

SCALE: 1" = 10'

C-101



Last Saved: 3/8/2024 10:58am By: rstanford  
 Plotted On: Mar 08, 2024 10:58am  
 Tighe & Bond\3\A\1000-195A-Brush Reservoir Dam\Drawings - Figures\AutoCAD\Sheet\A1000-195A-C-101.dwg



**PLANT LIST**

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
1	AR	ACER RUBRUM	RED MAPLE	2-2 1/2" CAL.	B&B
5	AC	AMELANCHIER CANADENSIS	SHAD	4-5' HT.	B&B
3	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	1 1/2-2" CAL.	B&B
3	QP	QUERCUS PALUSTRIS	PIN OAK	1 1/2-2" CAL.	B&B
13	SY	PLATANUS OCCIDENTALIS	SYCAMORE	5-6' HT.	#7 CONT.
80	BB	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2-3' HT.	CONT.
45	CA	CLETHRA ALNIFOLIA	SUMMERSWEET	3-4' HT.	CONT.
20	LB	LINDERA BENZOIN	SPICEBUSH	3-4' HT.	CONT.
100	ST	SPIRAEA TOMENTOSA	STEEPLEBUSH	2-3' HT.	CONT.
100	JP	EUPATORIUM PURPUREA	JOE-PYE-WEED		1 QT.
300	BF	IRIS VERSICOLOR	BLUE FLAG IRIS		1 QT.
200	SF	ONOCLEA SENSIBILIS	SENSITIVE FERN		1 QT.
100	SM	ASCLEPIAS INCARNATA	SWAMP MILKWEED		1 QT.
50	EG	SOLIDAGO JUNCEA	EARLY GOLDENROD		1 QT.
100	BV	VERBENA HASTATA	BLUE VERVAIN		1 QT.
50	IW	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED		1 QT.

PREPARED BY:  
**ENVIRONMENTAL LAND SOLUTIONS, LLC**  
 LANDSCAPE ARCHITECTURE & PLANNING  
 8 KNIGHT STREET SUITE 203 NORWALK, CT 06851  
 T: (203) 855-7879 F: (203) 855-7836  
 info@elsllc.net www.elsllc.net

DIGITAL SIGNATURE  


**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut

**LEGEND**

- PROPERTY LINE
- - - WETLAND LINE
- 62 EX. CONTOUR
- 262 NEW CONTOUR
- NEW MEADOW
- NEW SHADE TREE
- NEW SMALL TREE
- NEW SHRUB

**GENERAL NOTES:**

1. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM PLAN BASED ON SITE PLAN REVISIONS AND ACTUAL FIELD CONDITIONS.
2. FOR THE FIRST TWO GROWING SEASONS AFTER PLANTING, SPRAY NEW PLANTINGS IMMEDIATELY AFTER INSTALLATION WITH A WHITE-TAILED DEER REPELLENT AND CONTINUE AS NEEDED TO MAINTAIN PLANTS FREE OF SIGNIFICANT DEER BROWSING; AT A MINIMUM EVERY FOUR WEEKS OR AFTER A SIGNIFICANT RAIN EVENT, WHICH EVER COMES FIRST.
3. FOR THE FIRST TWO GROWING SEASONS AFTER PLANTING, PROTECT ALL NEW DECIDUOUS TREE TRUNKS WITH A 48" HIGH FLEXIBLE AND DURABLE POLYETHYLENE FENCING TO PREVENT DEER RELATED RUBBING IMPACTS TO TREE TRUNK. REMOVE FENCING AFTER THE TWO YEAR PERIOD.
4. PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING WITH APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT AND/OR WETLAND SCIENTIST.
5. PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
6. THIS PLAN FOR PLANTING PURPOSES ONLY.

MARK	DATE	DESCRIPTION
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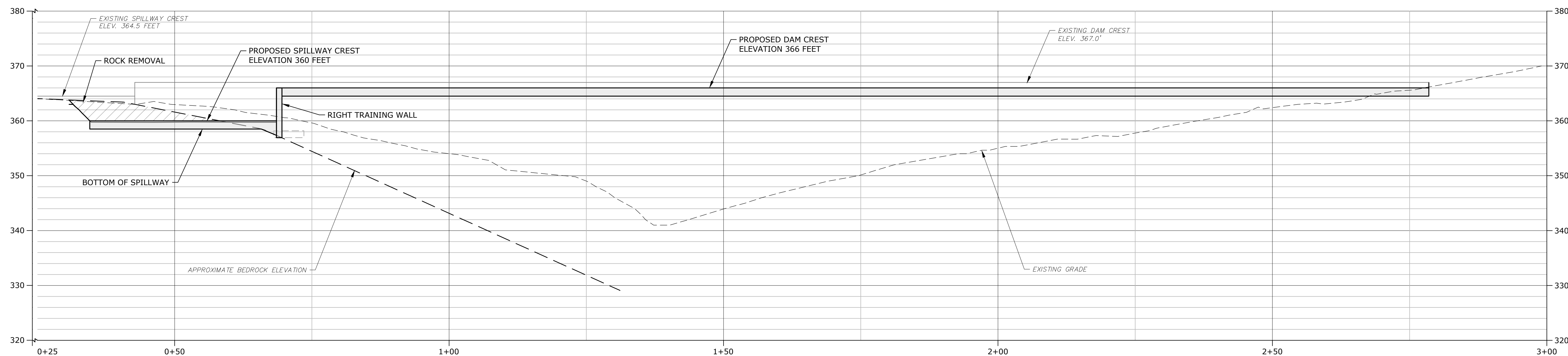
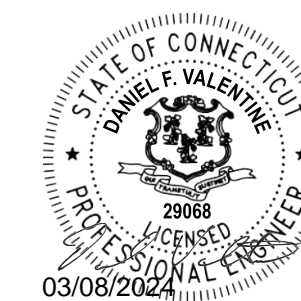
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 DATE: 02/2024  
 FILE: A1000-195-G-BORD.dwg  
 DRAWN BY: MJP  
 DESIGNED/CHECKED BY: MJP  
 APPROVED BY: MJP

**LANDSCAPE PLAN**

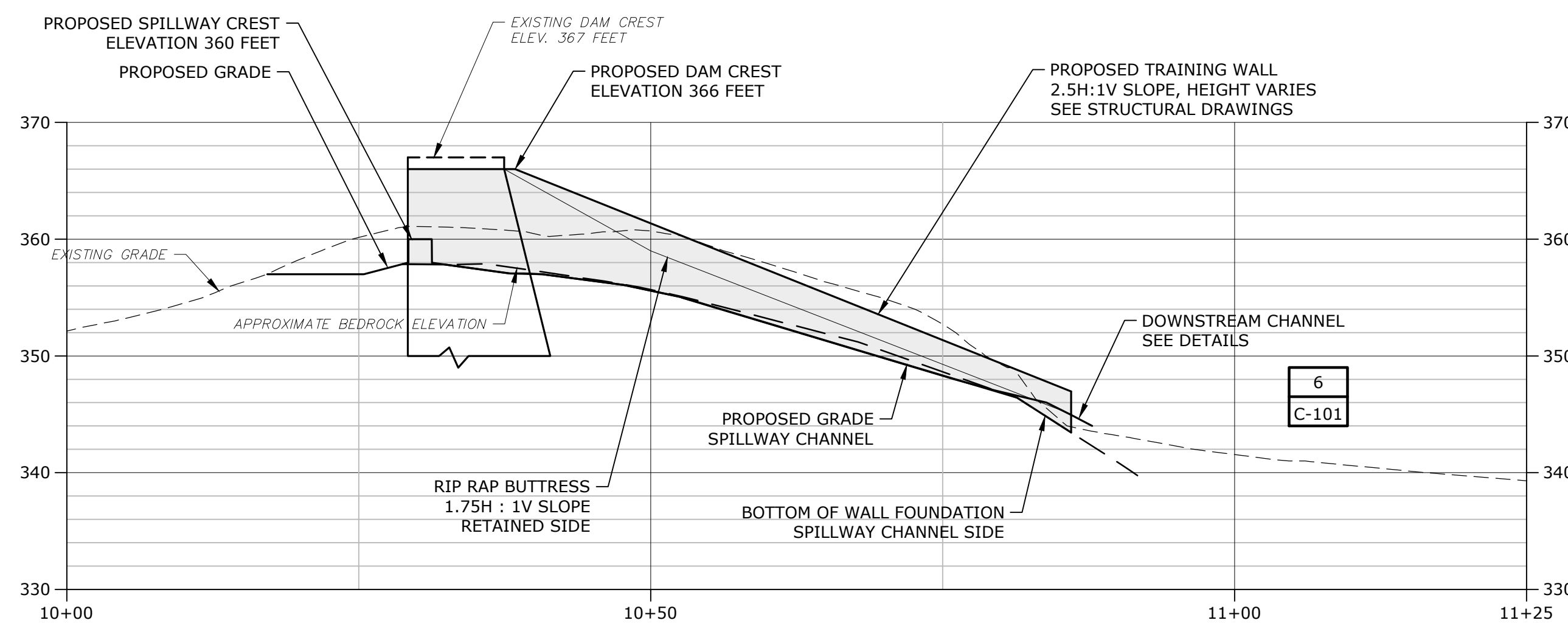
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**C-102**





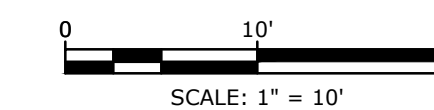
**UPSTREAM FACE OF DAM PROFILE**  
1" = 10'



**TRAINING WALL PROFILE**  
1" = 10'

**NOTES**

- SEE STRUCTURAL DRAWINGS S-001 TO S-104 FOR ADDITIONAL DETAIL ON DAM FACE AND CREST, SPILLWAY SECTION, AND TRAINING WALL.
- RAILING NOT SHOWN FOR CLARITY.
- TRAINING WALLS SHALL BEAR DIRECTLY ON BEDROCK.



**Brush Reservoir Dam Improvements**

Aquarion Water Company

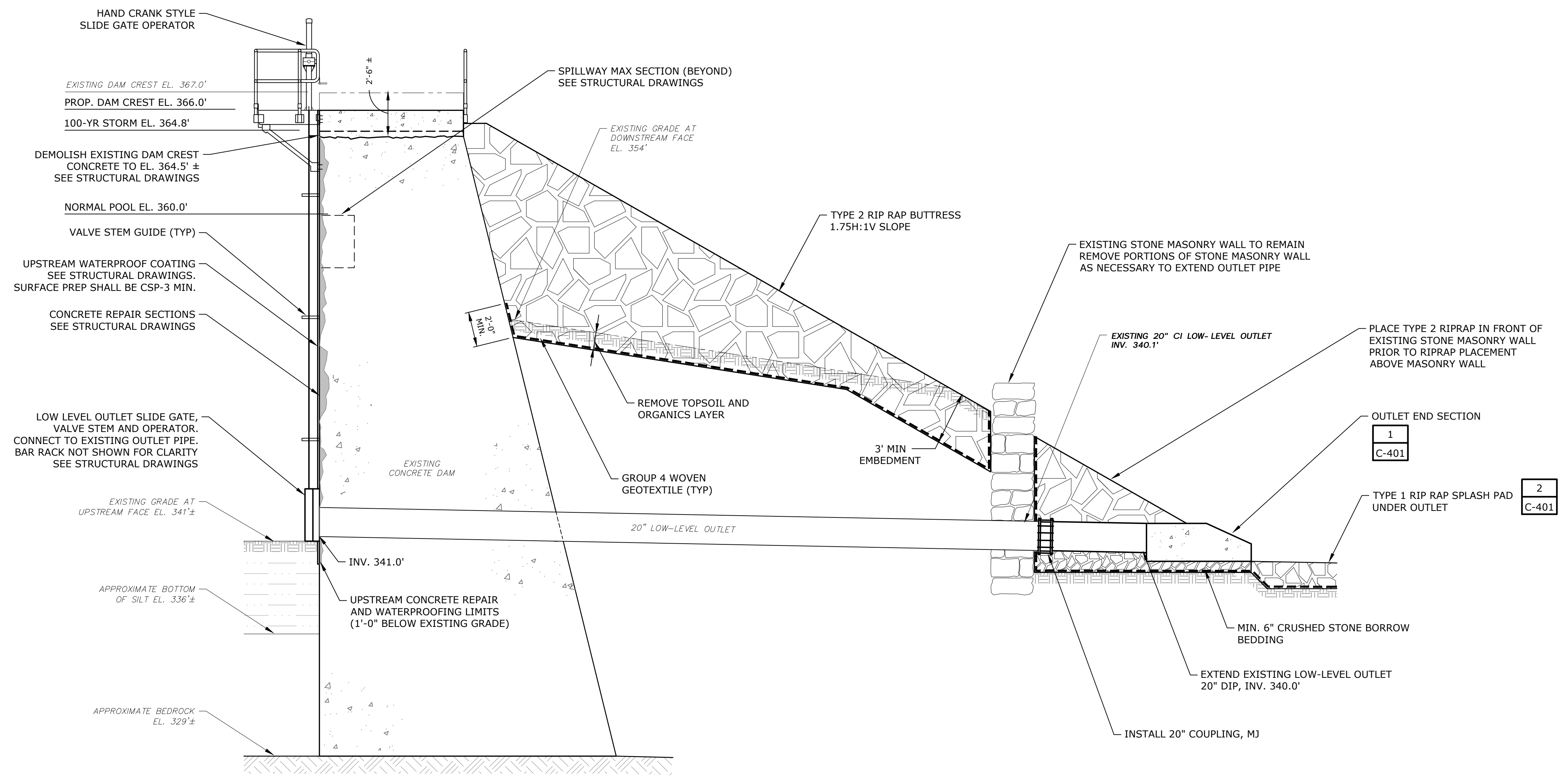
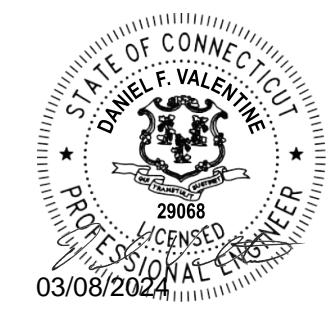
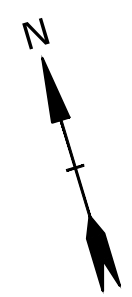
Stamford, Connecticut

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PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-C-201.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: RS/DFV		
APPROVED BY: CDH		

**DAM AND TRAINING WALL PROFILES**

SCALE: 1" = 10'

**C-201**



**Brush Reservoir Dam Improvements**

Aquarion Water Company

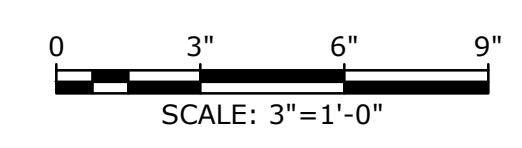
Stamford, Connecticut


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DATE:	02/2024	
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DRAWN BY:	MJC	
DESIGNED/CHECKED BY:	RS/DFV	
APPROVED BY:	CDH	

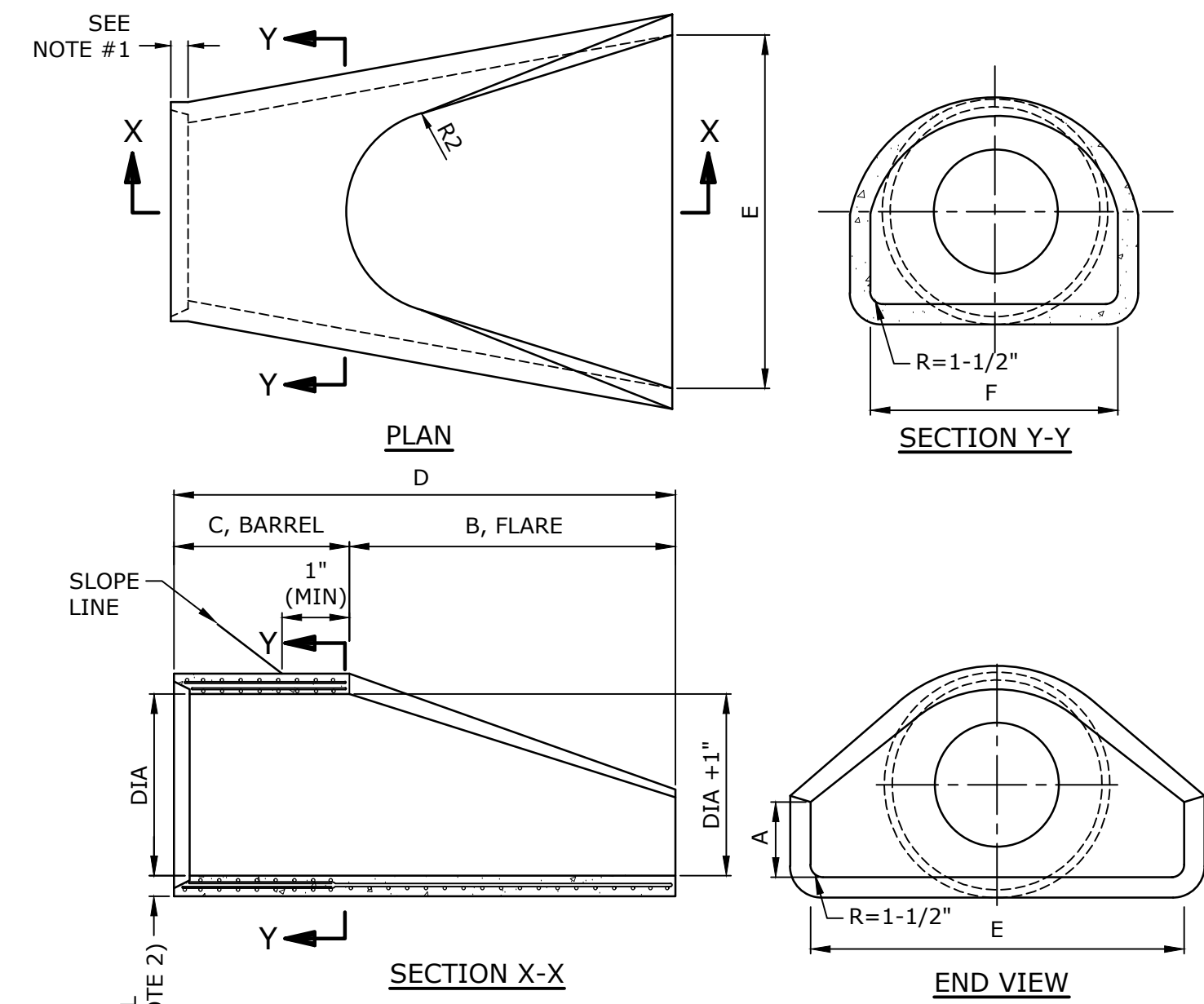
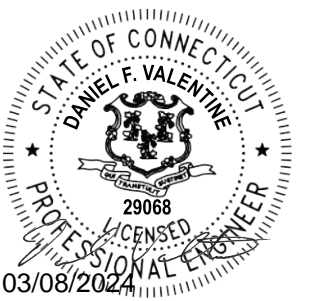
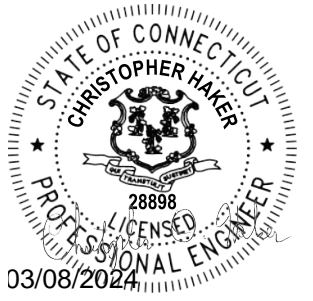
**DAM SECTIONS**

SCALE: AS SHOWN

**C-301**



Last Saved: 3/7/2024 11:04am By: rstanford  
Plotted On: Mar 08, 2024 11:04am  
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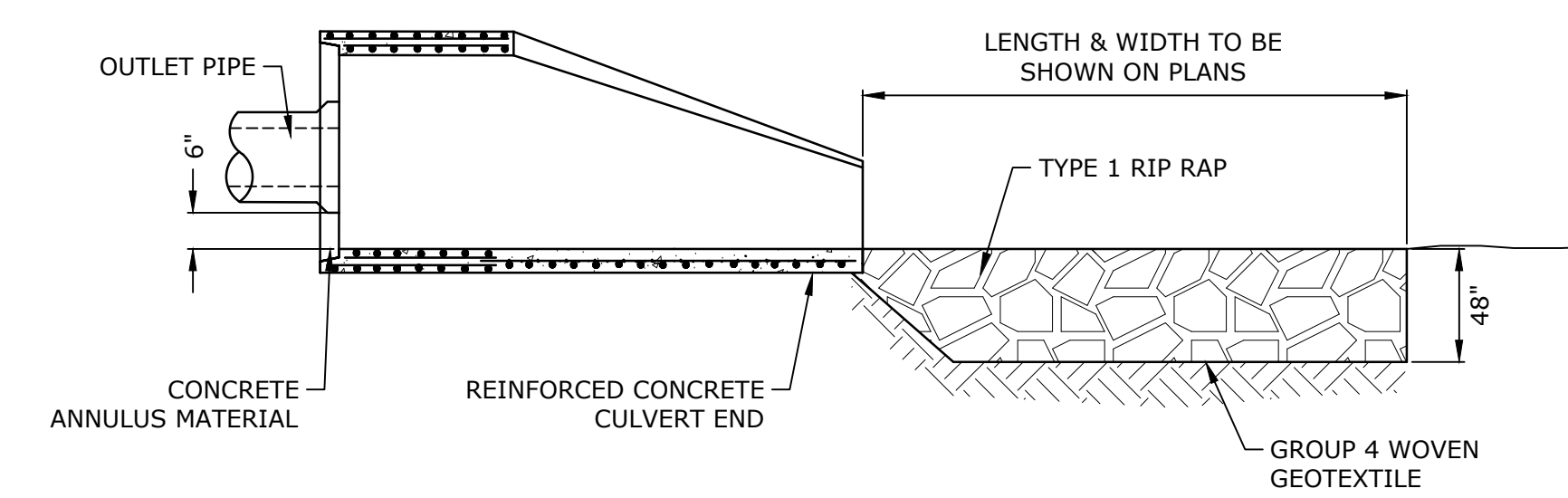


- NOTES:**
- JOINTS SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT AS REQUIRED TO CONFORM TO PIPE INSTALLED.
  - WALL THICKNESS SHALL CONFORM TO PIPE THICKNESS.

DIMENSIONS FOR REINFORCED CONCRETE CULVERT END									FLARE REINFORCEMENT ONE LAYER ONLY IN CENTER OF WALL	
DIA.	A	B	C	D	E	F	R <sub>1</sub>	R <sub>2</sub>	MIN. AREA OF LONGITUDINALS SQ. IN PER FT.	MIN. AREA OF TRANSVERSE STEEL SQ. IN PER FT.
30"	1'-0"	4'-6"	1'-7.75"	6'-1.75"	5'-0"	3'-1"	1'-6.5"	1'-3"	0.084	0.084

**REINFORCED CONCRETE CULVERT END**

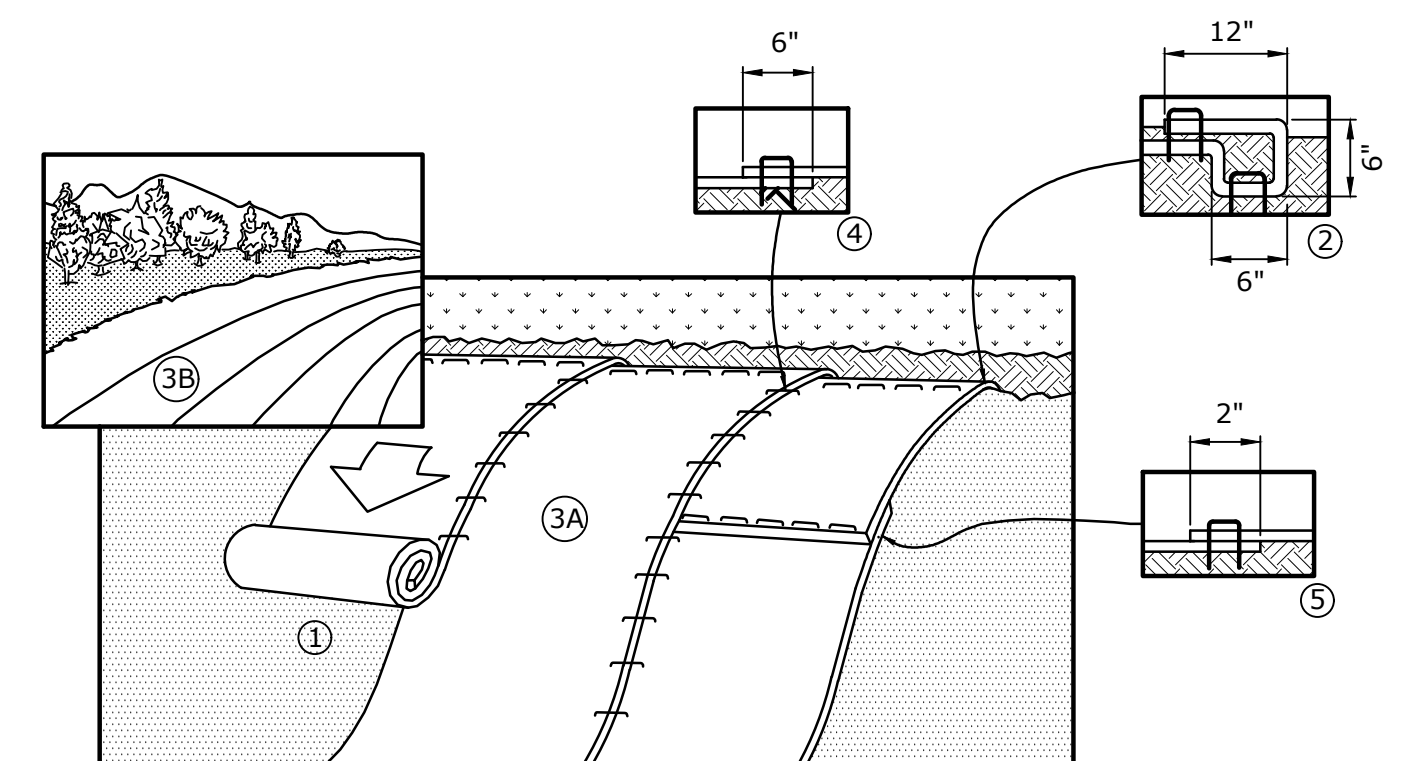
<b>DETAIL</b>	<b>1</b>
NO SCALE	C-301



- NOTES**
- SEE SHEET C-301 FOR ADDITIONAL END SECTION DETAILS.

**REINFORCED CONCRETE END SECTION AND SPLASH PAD**

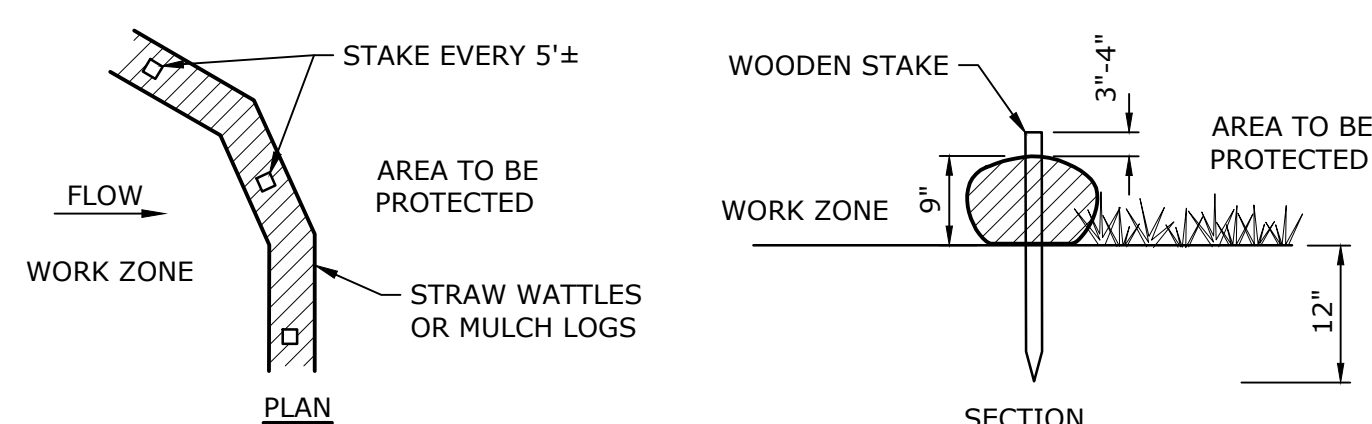
<b>DETAIL</b>	<b>2</b>
NO SCALE	C-101



- NOTES:**
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
  - BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
  - ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
  - STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.

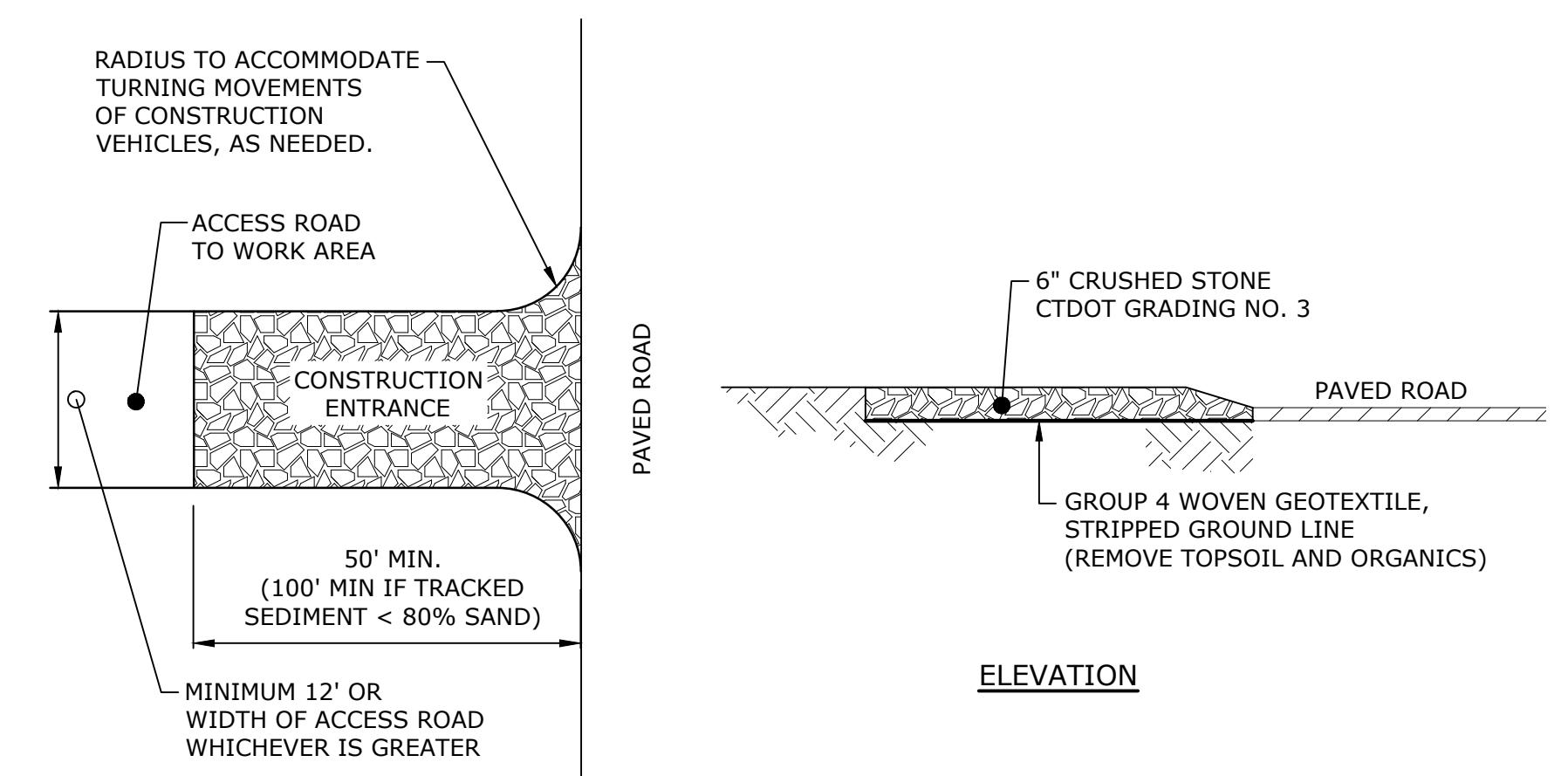
**EROSION CONTROL BLANKET FOR SLOPE PROTECTION**

<b>DETAIL</b>	<b>5</b>
NO SCALE	-



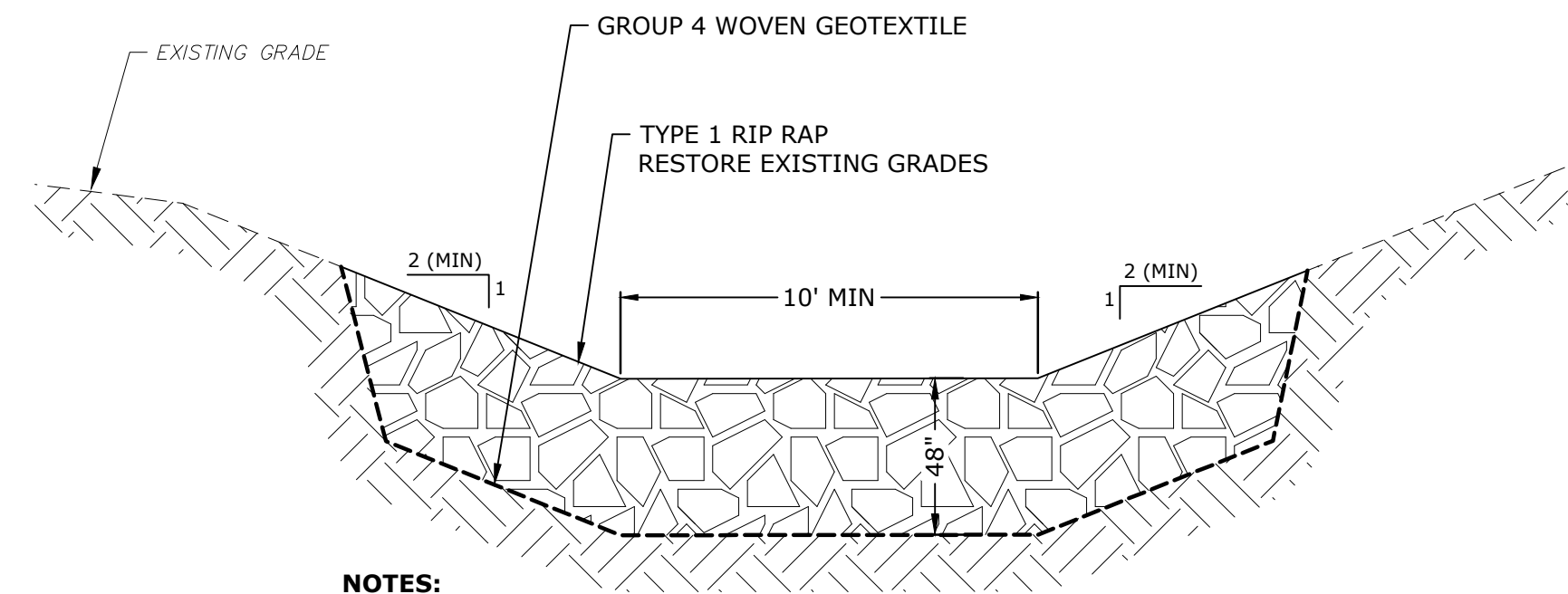
**COMPOST FILTER SOCK**

<b>DETAIL</b>	<b>7</b>
NO SCALE	D-101



**CONSTRUCTION ENTRANCE**

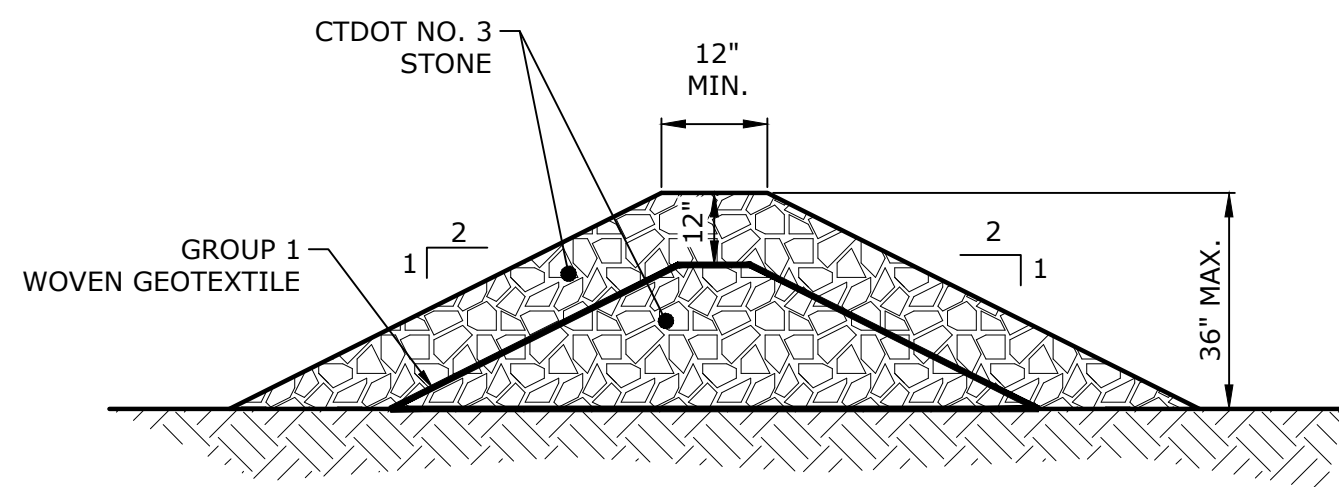
<b>DETAIL</b>	<b>3</b>
NO SCALE	D-102



- NOTES:**
- REUSE EXISTING RIP RAP TO THE EXTENT POSSIBLE. IF FULL DEPTH RECONSTRUCTION OF DOWNSTREAM CHANNEL IS NECESSARY, INSTALL PER THIS DETAIL, OTHERWISE SUPPLEMENT EXISTING RIP RAP AS REQUIRED OR DIRECTED BY ENGINEER.

**DOWNSTREAM CHANNEL**

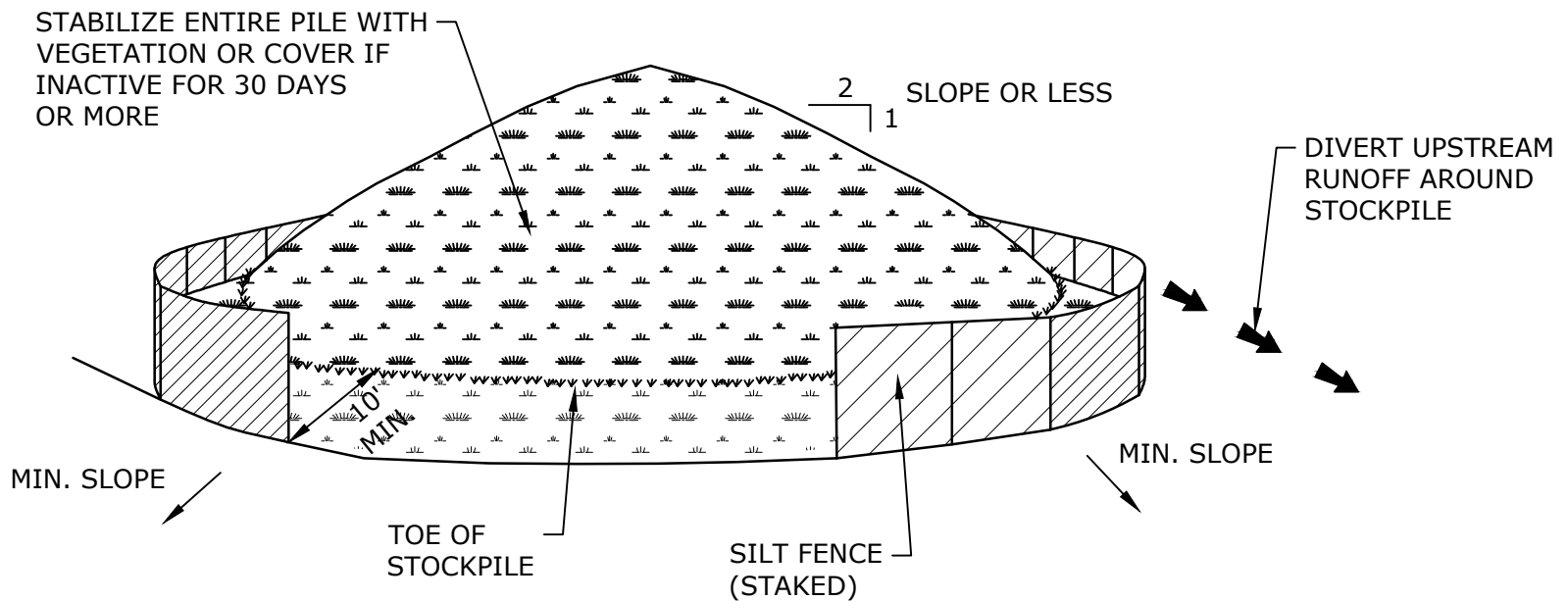
<b>DETAIL</b>	<b>6</b>
NO SCALE	C-101



**CROSS SECTION**

**STONE CHECK DAM**

<b>DETAIL</b>	<b>8</b>
NO SCALE	D-101



- INSTALLATION NOTES:**
- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
  - MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
  - UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR HAYBALES, THEN STABILIZED WITH VEGETATION OR COVERED.

**SOIL STOCKPILING**

<b>DETAIL</b>	<b>4</b>
NO SCALE	-

**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut

MARK	DATE	DESCRIPTION
0	2/2024	ISSUED FOR BIDDING

PROJECT NO: A-1000-195A  
 DATE: 02/2024  
 FILE: A1000-195A-C-401.dwg  
 DRAWN BY: MJC  
 DESIGNED/CHECKED BY: RS/DFV  
 APPROVED BY: CDH

**SITE DETAILS**

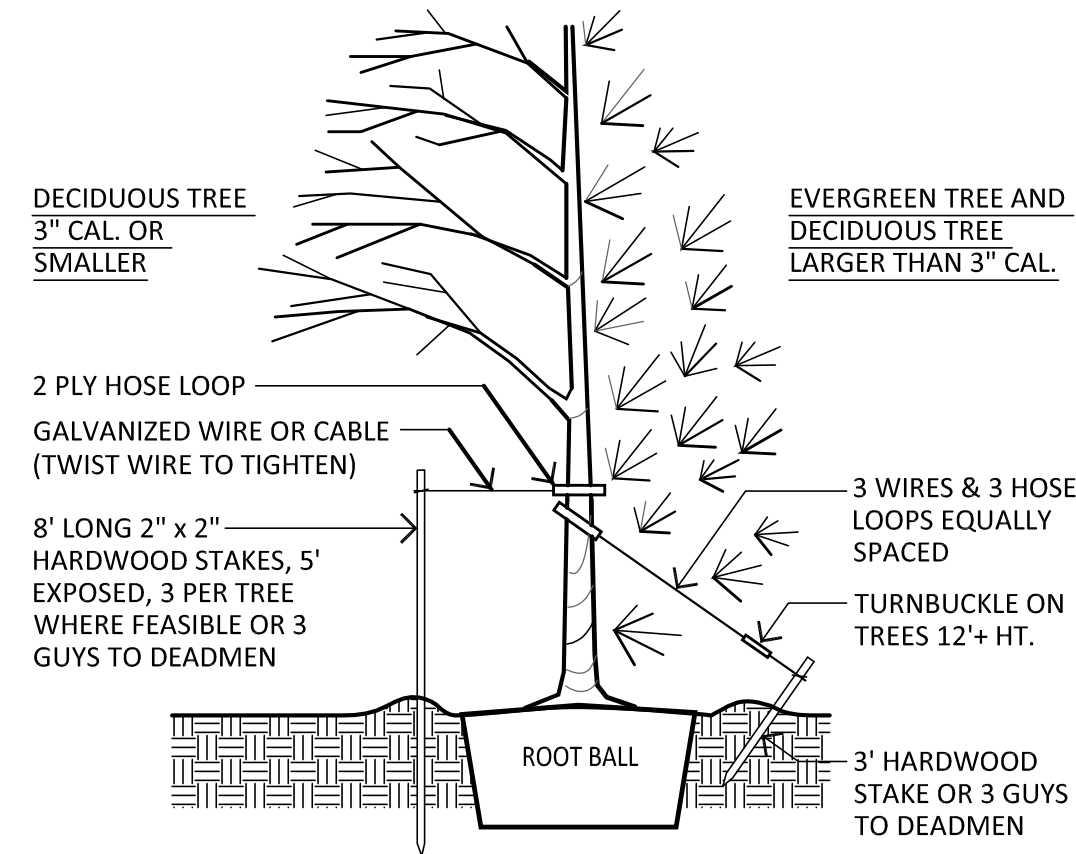
SCALE: NO SCALE

**C-401**

Last Saved: 3/7/2024 11:07am By: rstanford  
 Plotted On: Mar 08, 2024 11:07am  
 Tighe & Bond\3\A\1000 ANCL\195 - Brush Reservoir Dam\Drawings - Figures\AutoCAD\Sheet\A1000-195A-C-401.dwg

**NONNATIVE INVASIVE SPECIES CONTROL NOTES:**

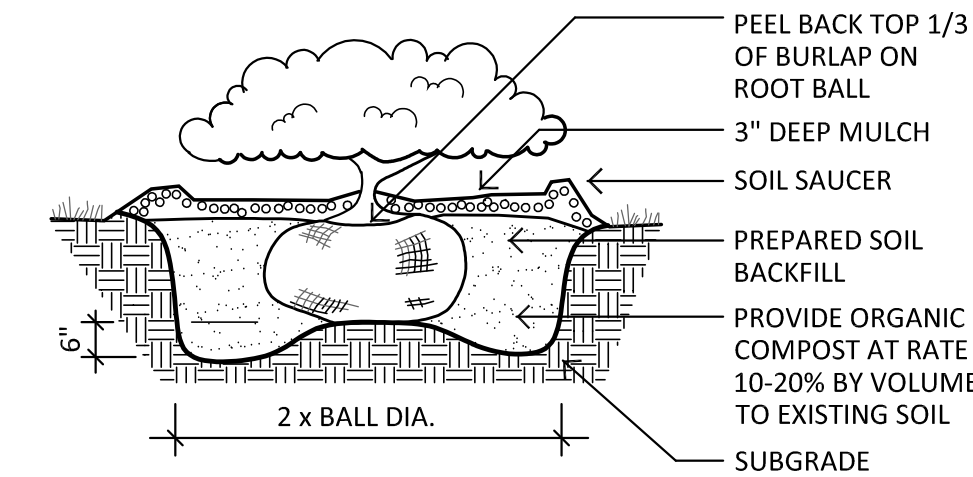
- A. NONNATIVE INVASIVE SPECIES CONTROL AREAS  
NONNATIVE INVASIVE SPECIES CONTROL SHALL APPLY TO THE FOLLOWING SITE AREAS: SITE AREAS BETWEEN THE EDGE OF HIGH WATER (DURING THE SPRING) AND 50' UPSLOPE OR WITHIN THE AREA OF DISTURBANCE, WHICHEVER IS GREATER.
- B. TARGETED NONNATIVE INVASIVE SPECIES  
TARGETED NONNATIVE INVASIVE PLANTS INCLUDE, BUT NOT LIMITED TO, AILANTHUS, NORWAY MAPLE, JAPANESE BARBERRY, TARTARIAN HONEYSUCKLE, BURNINGBUSH, ASIATIC BITTERSWEET, PORCELAINBERRY, PHRAGMITES, JAPANESE KNOTWEED, AND MILE-A-MINUTE WEED. PROLIFIC NONNATIVE INVASIVE PLANT SPECIES, SUCH AS GARLIC MUSTARD AND JAPANESE STILLGRASS, SHALL NOT BE SUBJECT TO CONTROL.
- C. NONNATIVE INVASIVE SPECIES CONTROL PERIOD
  1. CONTROL NONNATIVE INVASIVE PLANT SPECIES WITHIN THE DESIGNATED AREA FOR FIVE YEARS, STARTING ONE FULL GROWING SEASON AFTER INSTALLATION OF THE LANDSCAPE PLANTS. AT THE COMPLETION OF THE CONTROL PERIOD, CONTINUE NONNATIVE INVASIVE CONTROL AS REQUIRED BY PROJECT BIOLOGIST OR WETLAND SCIENTIST.
  2. DURING THE CONTROL PERIOD, THE PROJECT LANDSCAPE ARCHITECT (AND/OR BIOLOGIST OR WETLAND SCIENTIST) SHALL VISIT THE CONTROL AREA TWICE PER GROWING SEASON SEPARATED BY A MINIMUM OF A TWO MONTH PERIOD. AFTER EACH SITE VISIT, LANDSCAPE ARCHITECT (AND/OR BIOLOGIST/WETLAND SCIENTIST) SHALL PROVIDE THE CLIENT (AND/OR LANDSCAPE CONTRACTOR) REQUIREMENTS FOR ADDITIONAL CONTROL MEASURES IF WARRANTED.
- D. CONTROL METHOD
  1. THE CONTROL METHOD STATED BELOW SHALL BE DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT (OR BIOLOGIST/WETLAND SCIENTIST). THE CONTROL METHOD MAY BE REVISED AS NEEDED BY THE PROJECT LANDSCAPE ARCHITECT (OR BIOLOGIST/WETLAND SCIENTIST) THROUGHOUT THE CONTROL PERIOD.
  2. MANUAL CONTROL - THIS WILL BE THE PRIMARY METHOD OF CONTROL. PULL NONNATIVE AND INVASIVE PLANTS, INCLUDING ROOTS IF FEASIBLE, FROM THE GROUND BY HAND PULLING USING A WEED WRENCH OR OTHER SUITABLE TOOL WITHIN THE CONTROL AREA. CARE SHOULD BE TAKEN NOT TO IMPACT ADJACENT NATIVE PLANTS. IF HAND REMOVAL OF TARGETED PLANTS IS NOT FEASIBLE DUE TO SIZE, CUT PLANTS DOWN TO GRADE AND TREAT AS REQUIRED BY BIOLOGIST/WETLAND SCIENTIST. REPEAT TWICE PER GROWING SEASON SEPARATED BY A TWO TO THREE MONTH PERIOD. CHEMICAL CONTROL OF NONNATIVE INVASIVE PLANTS SHALL NOT BE USED ON THIS PROJECT. DISTURBED AREAS SHOULD BE HAND RAKED SMOOTH AND COVERED WITH LEAF LITTER (IN LARGER AREAS, SEED WITH A NATIVE MEADOW MIX AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT OR WETLAND SCIENTIST).
- E. PLANT DISPOSAL  
ALL CUT OR PULLED INVASIVE NONNATIVE PLANT MATERIALS SHALL BE DISPOSED APPROPRIATELY AND COMPLY WITH THE 2004 DEEP / UCONN "GUIDELINES FOR DISPOSAL OF TERRESTRIAL INVASIVE PLANTS." ALL CUTTINGS SHALL BE COLLECTED AND PLACED ONSITE ON A PLASTIC TARP (OR ON AN ASPHALT PAVEMENT AREA) AND SUN DRIED UNTIL DEAD. AVOID CUTTINGS FROM BEING IN CONTACT WITH ANY SOIL. IF FEASIBLE, DO NOT REMOVE PULLED OR CUT NONNATIVE INVASIVE PLANTS FROM THE SITE UNTIL DEAD. TUBEROUS WEED PLANTS SHALL BE LEFT SOIL FREE IN THE SUN ON AN IMPERVIOUS BARRIER (SUCH AS BLACK PLASTIC, DRIVEWAYS AND WALKS) UNTIL DEAD SO THAT THEY DO NOT RE-SPROUT. IF PLANTS HAVE TO BE REMOVED FROM THE SITE BEFORE THEY ARE DEAD, THEY SHALL BE BAGGED AND DEPOSITED AT AN INCINERATOR WASTE FACILITY (NOT A COMPOSTING FACILITY).



- NOTES:
1. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5".
  2. REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
  3. TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5" OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
  4. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
  5. ALL STAKES SHALL BE DRIVEN INTO THE GROUND OUTSIDE OF THE EDGE OF THE ROOT BALL.

**TREE STAKING DETAIL**

SCALE: NOT TO SCALE



**SHRUB PLANTING DETAIL**

SCALE: NOT TO SCALE

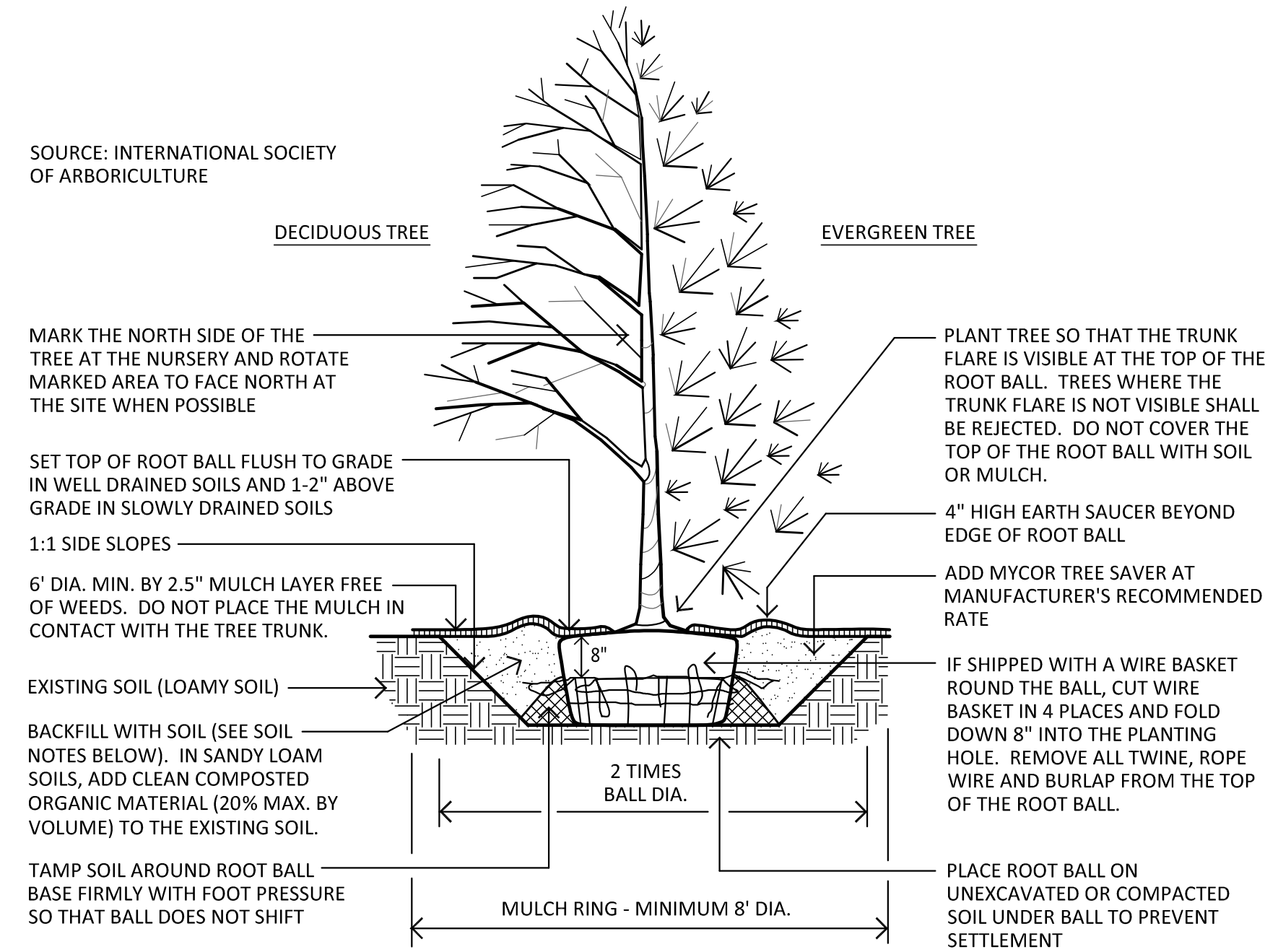
**SEEDING NOTES:**

1. SEED AREAS PER PLAN AT THE METHODS AND 125% THE APPLICATION RATE RECOMMENDED BY THE MANUFACTURER AND MULCH WITH CLEAN WEED-FREE SALT HAY STRAW. THE SEED SHALL BE SPREAD ON THE PREPARED SOIL, LIGHTLY RAKED TO ESTABLISH GOOD SOIL CONTACT AFTER SOWING, AND MULCHED WITH CLEAN STRAW APPLIED BY HAND OR BY HYDROSEEDING. SEED MIX SUBSTITUTIONS SHALL BE EQUIVALENT TO THAT SPECIFIED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR WETLAND SCIENTIST PRIOR TO USE. MAINTAIN SEEDED AREAS AS RECOMMENDED BY THE MANUFACTURER. EXCEPT FOR LAWN AREAS, DO NOT FERTILIZE AREAS TO BE SEEDED UNLESS SPECIFIED BY THE MANUFACTURER. SEED AREAS AS PER THE FOLLOWING SCHEDULE:
  - A. DISTURBED AREAS WITHIN WETLANDS: SEED WITH "NEW ENGLAND WETMIX" BY NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000) PER MANUFACTURER'S SPECIFICATIONS.
  - B. STEEP SLOPES AND DISTURBED UPLAND AREAS: SEED THIS AREA WITH "NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS" BY ERNST SEEDS (ERNMX-181). AUGMENT THIS SEED MIXTURE WITH PURPLETOP (TRIDENS FLAVUS) AT THE RATE OF 20 LBS. PER ACRE.

**PLANTING GUARANTEE PERIOD:**

1. PLANT MATERIAL SHALL BE GUARANTEED FOR A TWO YEAR CONSECUTIVE PERIOD STARTING AT TIME OF PLANTING.
2. AT THE END OF THE GUARANTEE PERIOD, THE SURVIVAL RATE FOR TREES SHALL BE 100% AND THE SURVIVAL RATE FOR SHRUBS AND HERBACEOUS PLANTS SHALL BE 75%.

SOURCE: INTERNATIONAL SOCIETY OF ARBORICULTURE



**PLANTING NOTES:**

1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
2. WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.

**SOIL NOTES:**

1. CLEAN FILL MATERIAL SHALL BE A LOAMY SOIL. LOAMY SOILS INCLUDE THE FOLLOWING USDA TEXTURAL CLASSIFICATIONS AND HAVE A CLAY CONTENT BETWEEN 7% TO 27%: LOAM, SANDY LOAM AND SILT LOAM. NOTE THAT SOILS AT THE OUTER LIMITS OF THE LOAM CLASSIFICATION MAY PRESENT SPECIAL PLANTINGS PROBLEMS NOT ANTICIPATED BY THE DETAIL. THE SOIL STRUCTURE SHALL NOT BE PLATY OR MASSIVE. A SUITABLE PLANTING SOIL IS 65% SAND, 20% COMPOST, AND 15% CLAY LOAM.
2. LOAMY SOILS ARE DEFINED AS A GRANULAR OR BLOCKY FRIABLE SOILS, A MIXTURE OF SAND, SILT AND CLAY PARTICLES WITH A WITH A MINIMUM OF 1.5% BY DRY WEIGHT OF ORGANIC MATTER. THE SOIL MUST NOT BE SO COMPACTED AS TO IMPEDED ROOT GROWTH OR DRAINAGE.

**STAKING NOTES:**

1. STAKE TREES ONLY IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF AND REMAIN STRAIGHT. STAKE TREES FOR THE FOLLOWING REASONS:
  - A. THE TREE IS INSTALLED WITHIN VERY SANDY SOIL OR VERY WET CLAY SOIL.
  - B. THE TREE IS LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS.
2. CONTACT THE PROJECT LANDSCAPE ARCHITECT FOR STAKING DETAIL IF NEEDED.

**TREE PLANTING DETAIL**

SCALE: NOT TO SCALE

PREPARED BY:

**ENVIRONMENTAL LAND SOLUTIONS, LLC**

8 KNIGHT STREET  
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NORWALK, CT 06851  
T: (203) 855-7879  
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LANDSCAPE & ARCHITECTURE  
ELSLANDSCAPE & ARCHITECTURE  
PLANNING



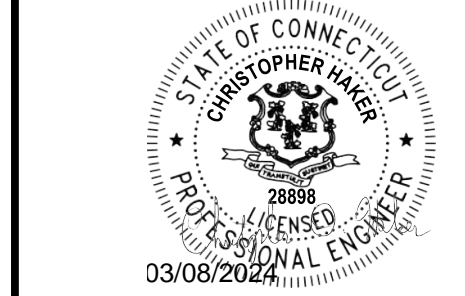
**Brush Reservoir Dam Improvements**

Aquarion Water Company  
Stamford, Connecticut

MARK	DATE	DESCRIPTION
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PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195-G-BORD.dwg		
DRAWN BY: MJP		
DESIGNED/CHECKED BY: MJP		
APPROVED BY: MJP		

LANDSCAPE DETAILS		
SCALE:	AS SHOWN	
C-402		



**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut

0	2/2024	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO:	A-1000-195A	
DATE:	02/2024	
FILE:	A1000-195A-S-001.dwg	
DRAWN BY:	MJC	
DESIGNED/CHECKED BY:	JC/DBS	
APPROVED BY:	CDH	

STRUCTURAL NOTES

SCALE: NO SCALE

**S-001**

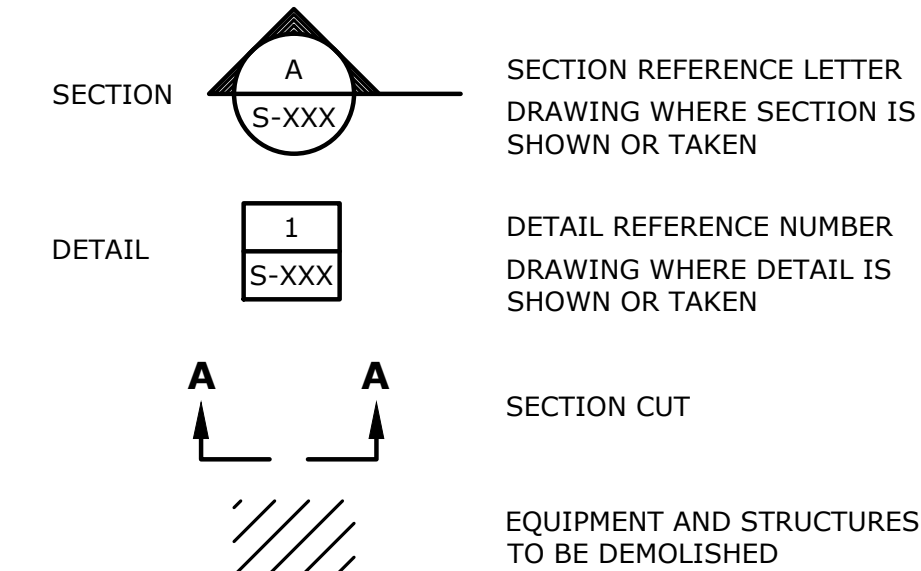
BAR SIZE DESIGNATION		DEVELOPMENT LENGTH (INCHES)	SPlice LENGTH (INCHES)	
ENGLISH	METRIC	Ld	CLASS B	CLASS B TOP BARS
#3	#10	15	19	25
#4	#13	19	25	33
#5	#16	24	31	40
#6	#19	29	37	48
#7	#22	42	54	70

**REBAR SPLICE LENGTH SCHEDULE**

**NOTES:**

- IF CLEAR SPACING BETWEEN THE REBARS IS LESS THAN THREE BAR DIAMETERS, OR IF COVER IS LESS THAN TWO BAR DIAMETERS, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
- IF EPOXY COATED REBAR IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
- IF LIGHTWEIGHT CONCRETE IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 30%.
- THE MINIMUM REBAR SPLICE LENGTH SCHEDULE IS BASED ON  $F'_c = 4,000$  PSI AND  $F_y = 60,000$  PSI. ADJUST FOR OTHER STRENGTHS USING ACI-318.
- FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW, INCREASE THE DEVELOPMENT LENGTH BY AN ADDITIONAL 30%.
- WHEN BARS OF DIFFERENT SIZE ARE LAP SPLICED, THE SPLICE LENGTH SHALL BE THE LARGER OF EITHER THE DEVELOPMENT LENGTH OF THE LARGER BAR OR THE SPLICE LENGTH OF THE SMALLER BAR.

**GENERAL SYMBOLS**



**GENERAL**

- STRUCTURAL WORK SHALL CONFORM TO STATE BUILDING CODE (IBC 2021), 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.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT TESTING LABORATORY FOR CONCRETE AND SOILS TESTING. ALL TESTING COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**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 3 INCHES FOR CAST-IN-PLACE CONCRETE CAST AGAINST EARTH, OR EXPOSED TO WATER OR WEATHER AND 2 INCHES IF CAST-IN-PLACE IS NOT CAST AGAINST EARTH, OR EXPOSED TO WATER OR WEATHER, UNLESS OTHERWISE SHOWN.
- WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS. REINFORCEMENT SHALL BE SPLICED IN ACCORDANCE WITH THE REBAR SPLICE LENGTH SCHEDULE.
- WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SIMILAR SITUATIONS, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES.
- 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.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED 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.
- PROVIDE ANCHOR REINFORCEMENT IN ACCORDANCE WITH ACI 318-19 CHAPTER 17 AS NECESSARY.

**CONCRETE**

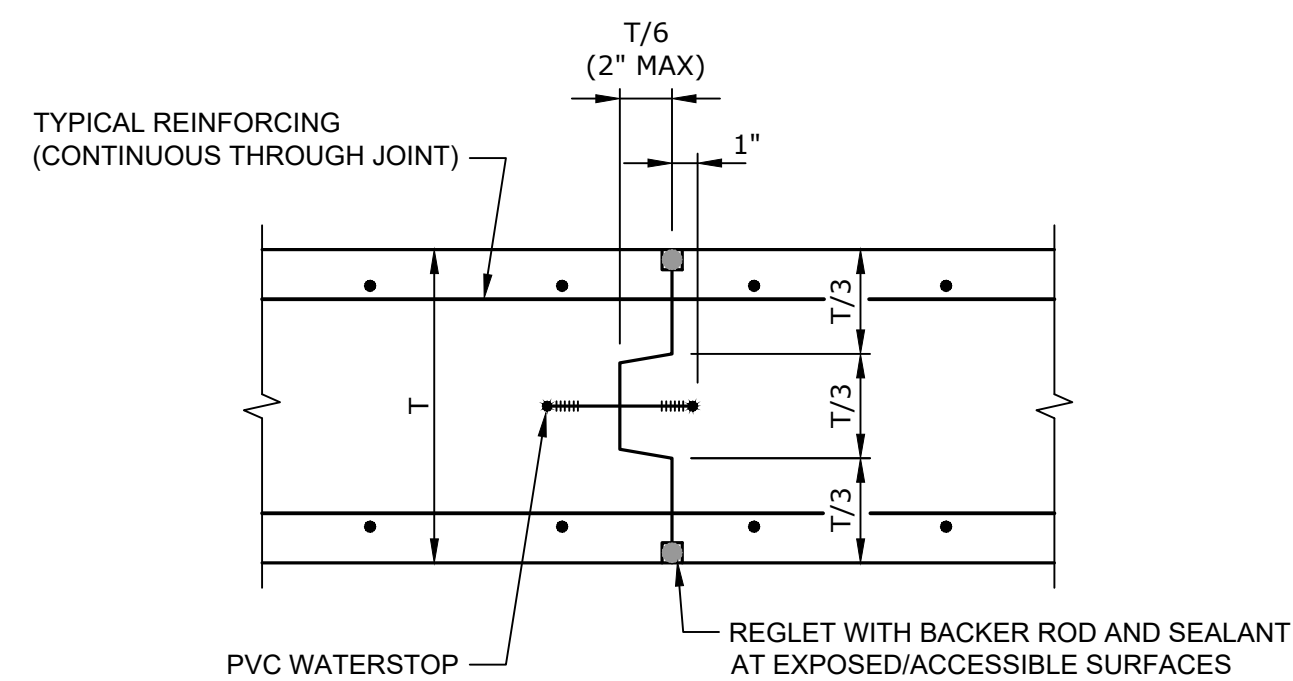
- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301).
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE 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 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.

**HYDROPHILIC STRIP WATERSTOP**

- HYDROPHILIC WATERSTOP SHALL BE HYDROTITE AS SUPPLIED BY SIKA GREENSTREAK OR EQUAL.
- THE WATERSTOP SHALL BE COMPOSED OF CHLOROPRENE RUBBER AND CHLORINEPENE RUBBER MODIFIED TO IMPART HYDROPHILIC PROPERTIES.
- THE WATERSTOP SHALL HAVE A DELAY COATING TO INHIBIT EXPANSION DUE TO MOISTURE PRESENT IN FRESH CONCRETE.
- HYDROPHILIC WATERSTOP SHALL MEET THE PERFORMANCE REQUIREMENTS LISTED IN THE SPECIFICATIONS
- HYDROPHILIC WATERSTOP SHALL BE ADHERED TO CONCRETE SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

**GROUT:**

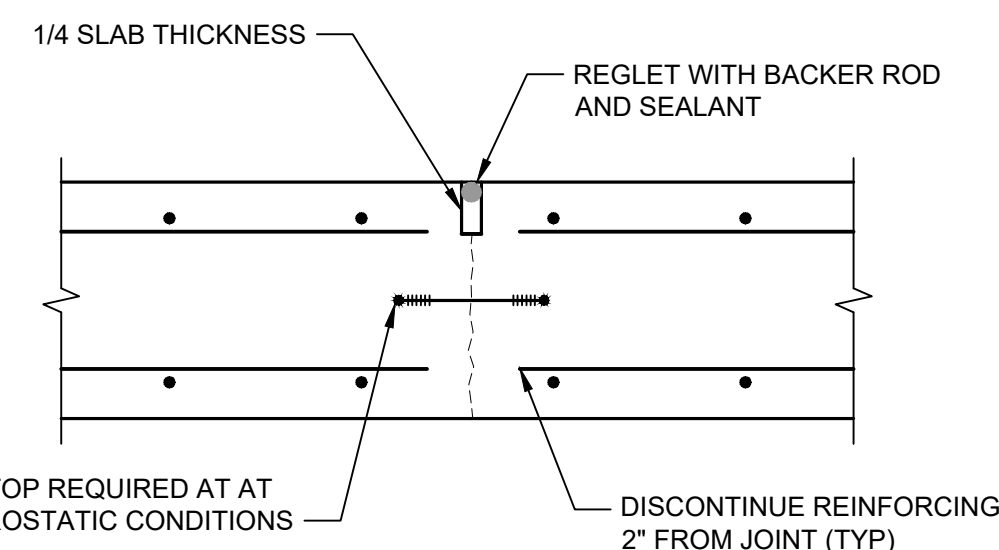
- ALL GROUT SHALL BE NON-SHRINK WITH A COMPRESS STRENGTH NOT LESS THAN 5000 PSI AT 7 DAYS, AND 7500 PSI AT 28 DAYS.
- PROVIDE NOTIFICATION PRIOR TO THE START OF ANY PHASE OF GROUT PLACEMENT WORK SO AS TO PROVIDE THE OPPORTUNITY TO INSPECT THE WORK. SUCH NOTIFICATION SHALL BE MADE AT LEAST 24 HOURS IN ADVANCE OF GROUT PLACEMENTS AND AT LEAST 36 HOURS IN ADVANCE.



**NOTE:**

- CONCRETE IS PLACED MONOLITHICALLY ON BOTH SIDES OF ALL CONTRACTION JOINTS.
- TRAINING WALL AND CREST CONSTRUCTION JOINTS FOLLOW DETAIL ABOVE AND OMIT PVC WATERSTOP.

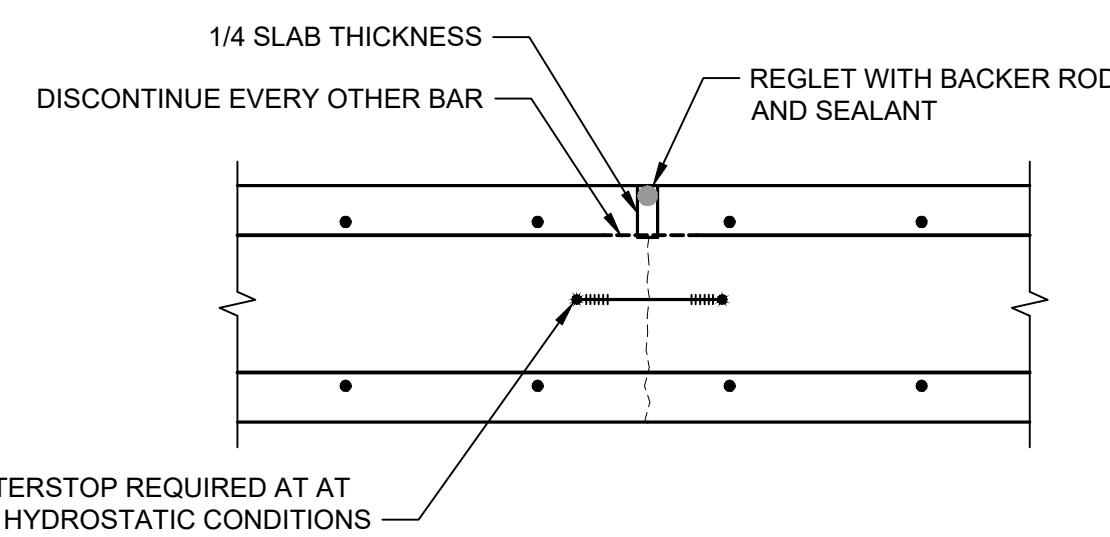
**CONSTRUCTION JOINT**



**NOTE:**

- CONCRETE IS PLACED MONOLITHICALLY ON BOTH SIDES OF ALL CONTRACTION JOINTS.
- CREST CONTRACTION JOINTS FOLLOW DETAIL ABOVE AND OMIT PVC WATERSTOP.

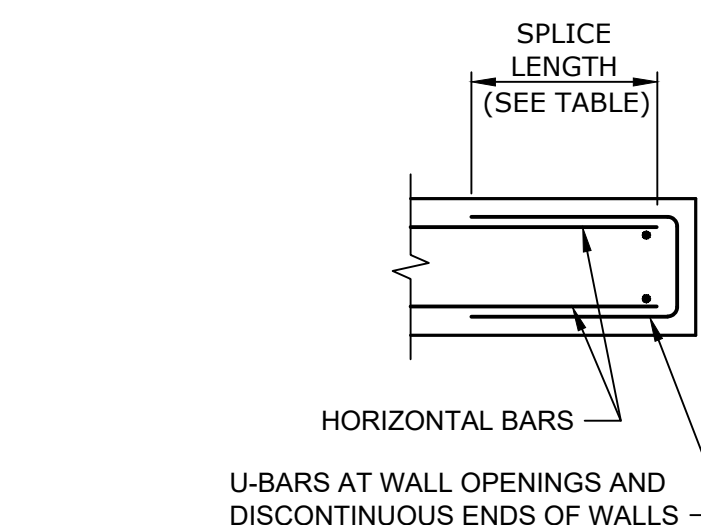
**CONCRETE FULL CONTRACTION JOINT**



**NOTE:**

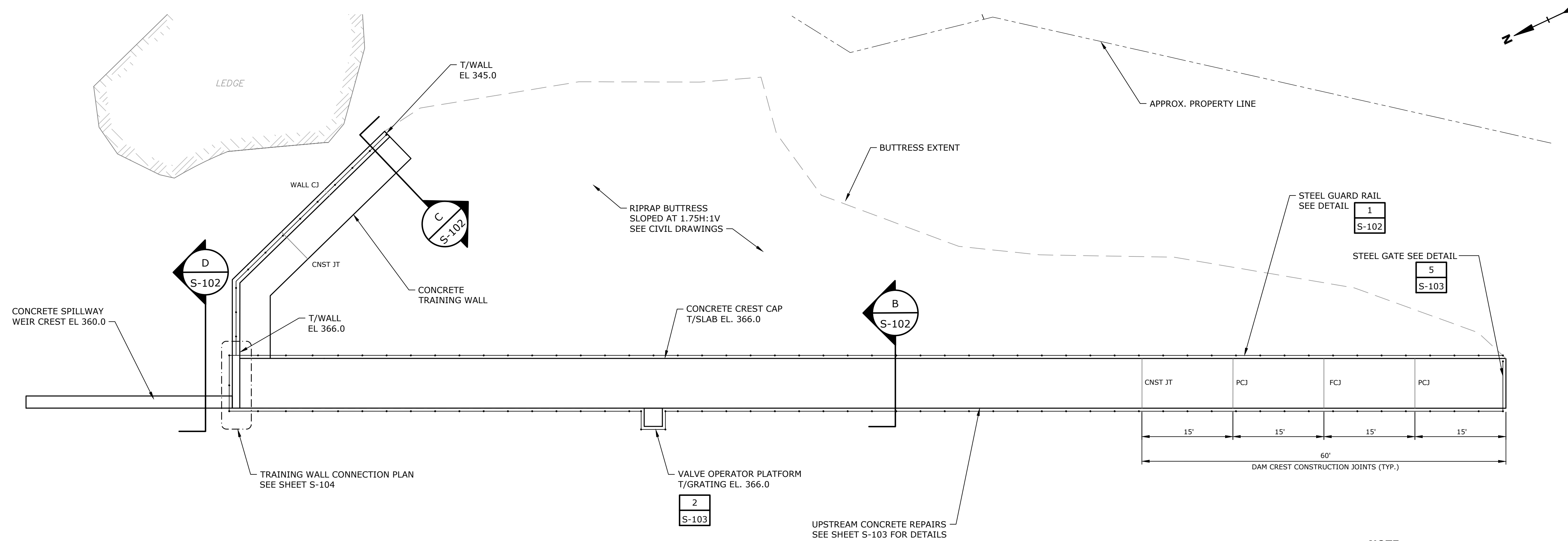
- CONCRETE IS PLACED MONOLITHICALLY ON BOTH SIDES OF ALL CONTRACTION JOINTS.
- CREST CONTRACTION JOINTS FOLLOW DETAIL ABOVE AND OMIT PVC WATERSTOP.

**CONCRETE PARTIAL CONTRACTION JOINT**



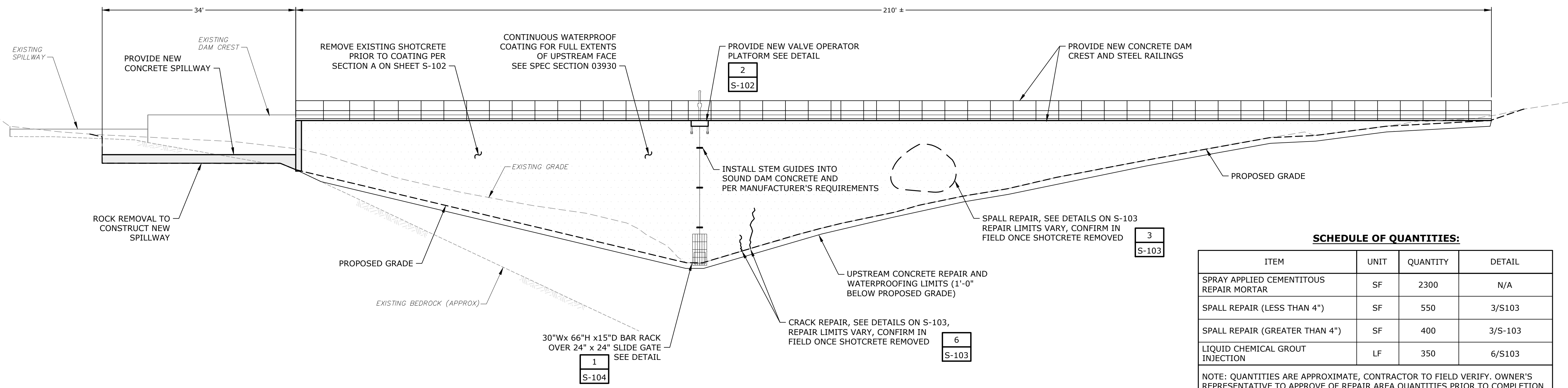
**PLAN OF HORIZONTAL REINFORCING AT END OF CONCRETE WALLS**





**PLAN**  
1" = 10'

- NOTE:**
1. PROVIDE FULL CONTRACTION JOINTS AT EXISTING DAM CONSTRUCTION JOINTS.
  2. CONSTRUCTION JOINT 60' O.C.

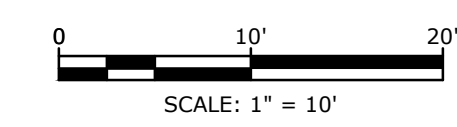


**ELEVATION-UPSTREAM FACE**  
1" = 10'

**SCHEDULE OF QUANTITIES:**

ITEM	UNIT	QUANTITY	DETAIL
SPRAY APPLIED CEMENTITIOUS REPAIR MORTAR	SF	2300	N/A
SPALL REPAIR (LESS THAN 4")	SF	550	3/S103
SPALL REPAIR (GREATER THAN 4")	SF	400	3/S-103
LIQUID CHEMICAL GROUT INJECTION	LF	350	6/S103

NOTE: QUANTITIES ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY. OWNER'S REPRESENTATIVE TO APPROVE OF REPAIR AREA QUANTITIES PRIOR TO COMPLETION OF REPAIRS.



**Brush Reservoir Dam Improvements**

Aquarion Water Company

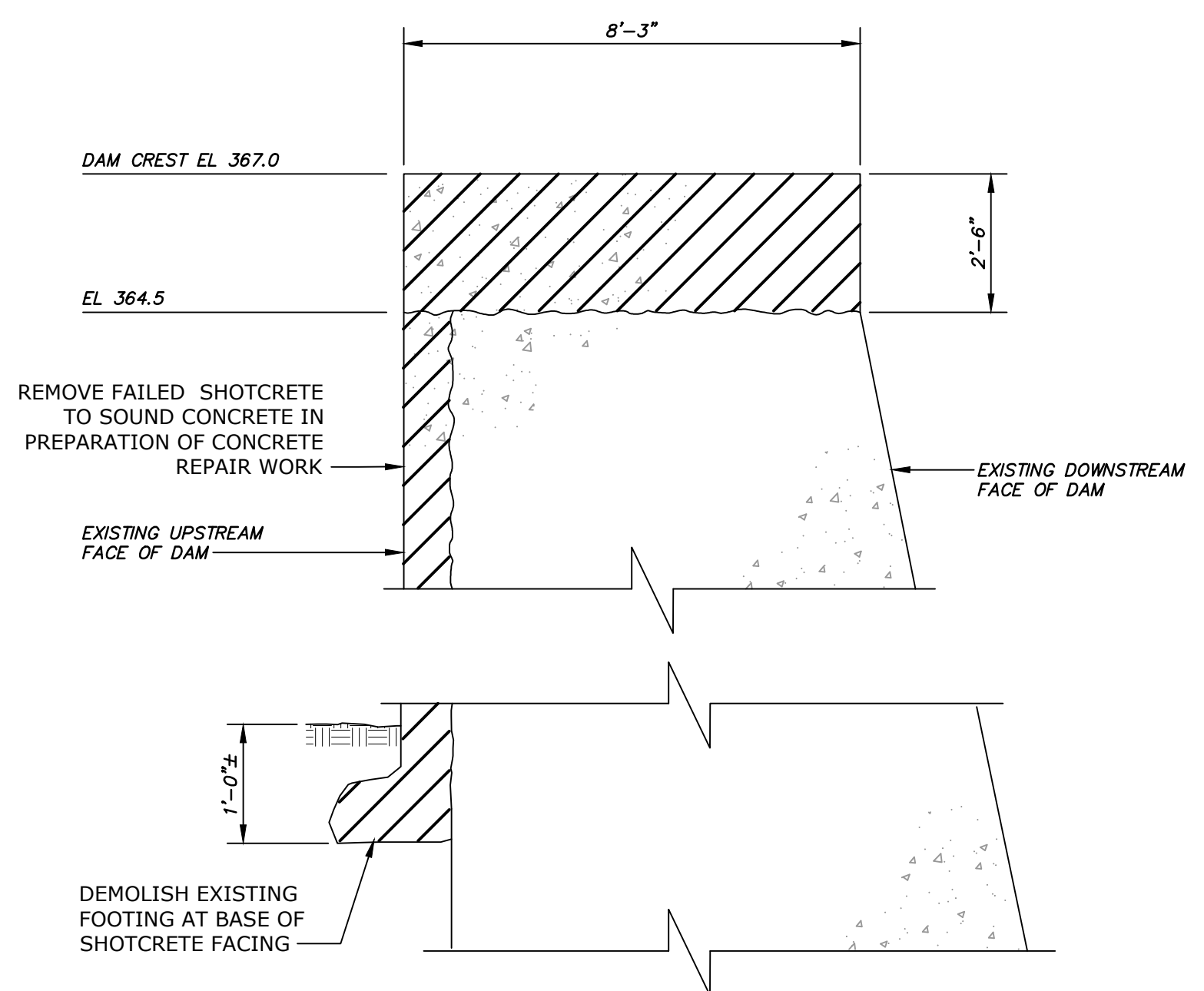
Stamford, Connecticut

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DATE:	02/2024	
FILE:	A1000-195A-S-101.dwg	
DRAWN BY:	MJC	
DESIGNED/CHECKED BY:	JC/DBS	
APPROVED BY:	CDH	

**STRUCTURAL PLAN AND UPSTREAM ELEVATION**

SCALE: AS SHOWN

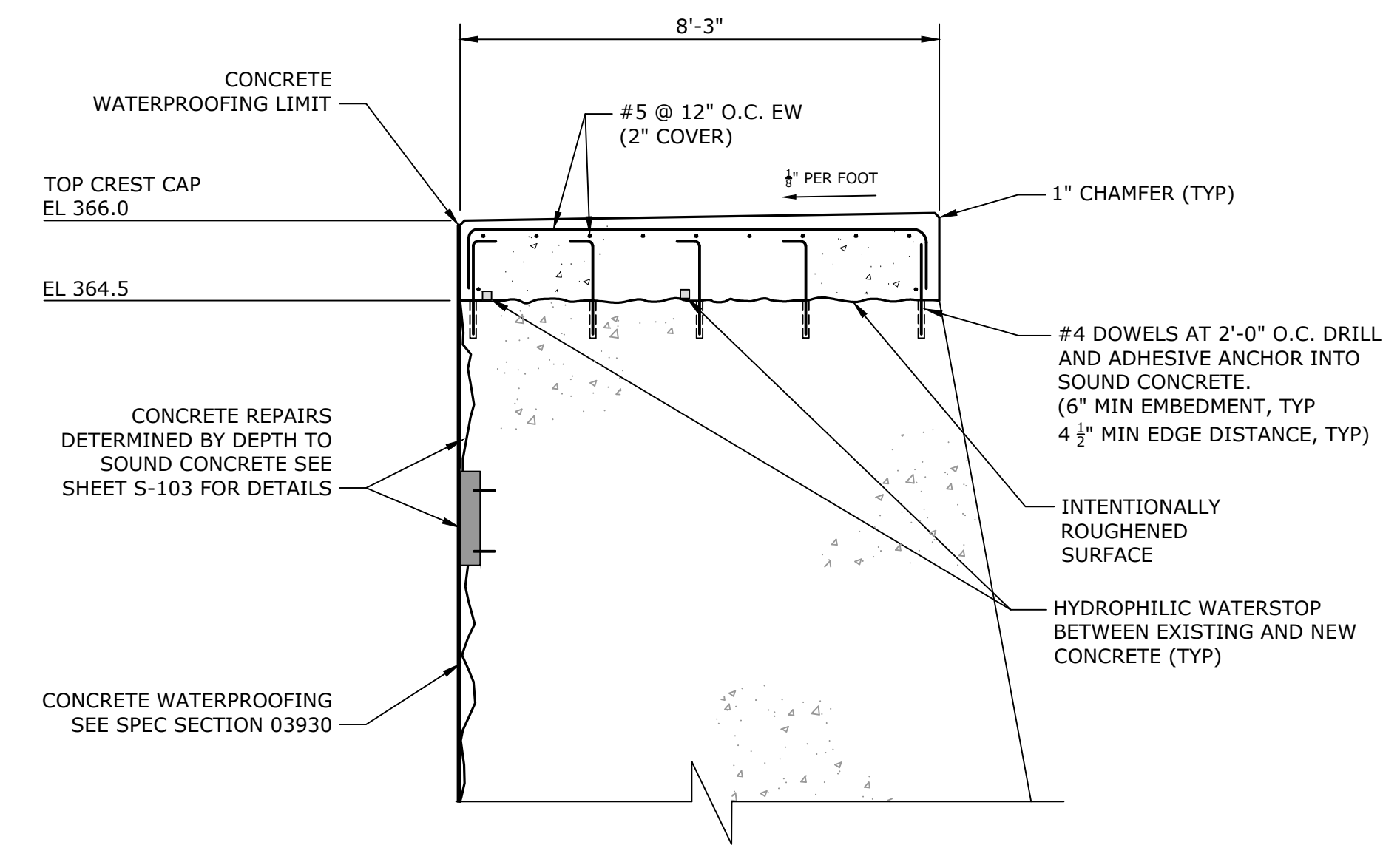
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 Plotted On: Mar 08, 2024 11:11am  
 Tighe & Bond\3\A1000 AN\C195 - Brush Reservoir Dam Drawings - Figures\AutoCAD\Sheet\A1000-195A-S-101.dwg



**DAM CREST DEMO SECTION**

**SECTION A**  
3/8" = 1'-0" D-101

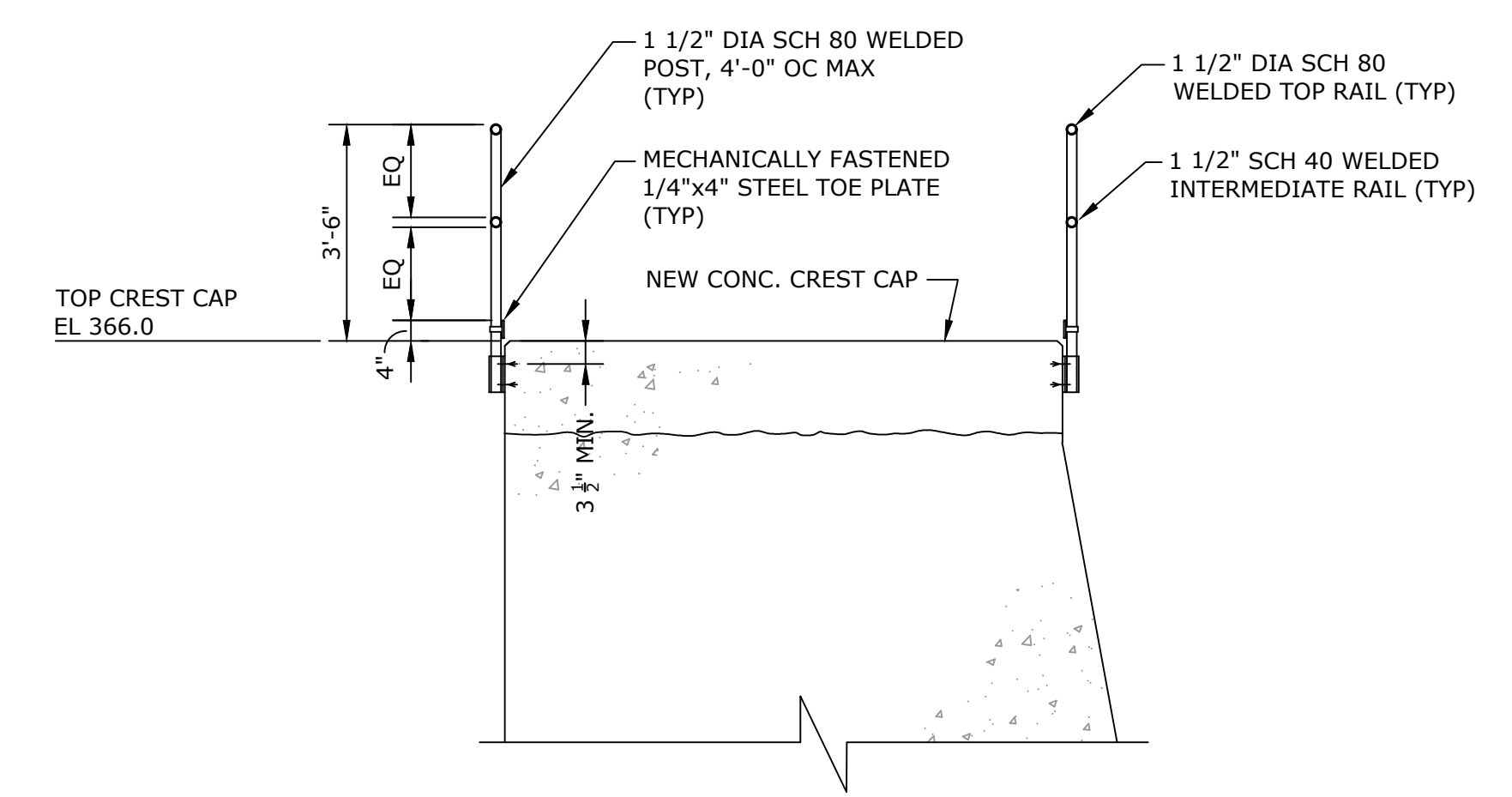
- NOTES:**
- EXISTING SHOTCRETE "FOOTING" DIMENSIONS ARE APPROXIMATE ONLY.
  - BASED ON A LIMITED SURVEY, IT IS ASSUMED THAT THE EXISTING SHOTCRETE "FOOTING" FOLLOWS THE UPSTREAM EXISTING GRADE FOR THE ENTIRE LENGTH OF THE DAM. CONTRACTOR TO FIELD VERIFY.
  - REMOVE ALL EXISTING SHOTCRETE COATING ALONG THE ENTIRE LENGTH OF THE UPSTREAM DAM FACE.



**REINFORCED CONCRETE DAM CAP AND UPSTREAM FACING**

**SECTION B**  
3/8" = 1'-0" S-101

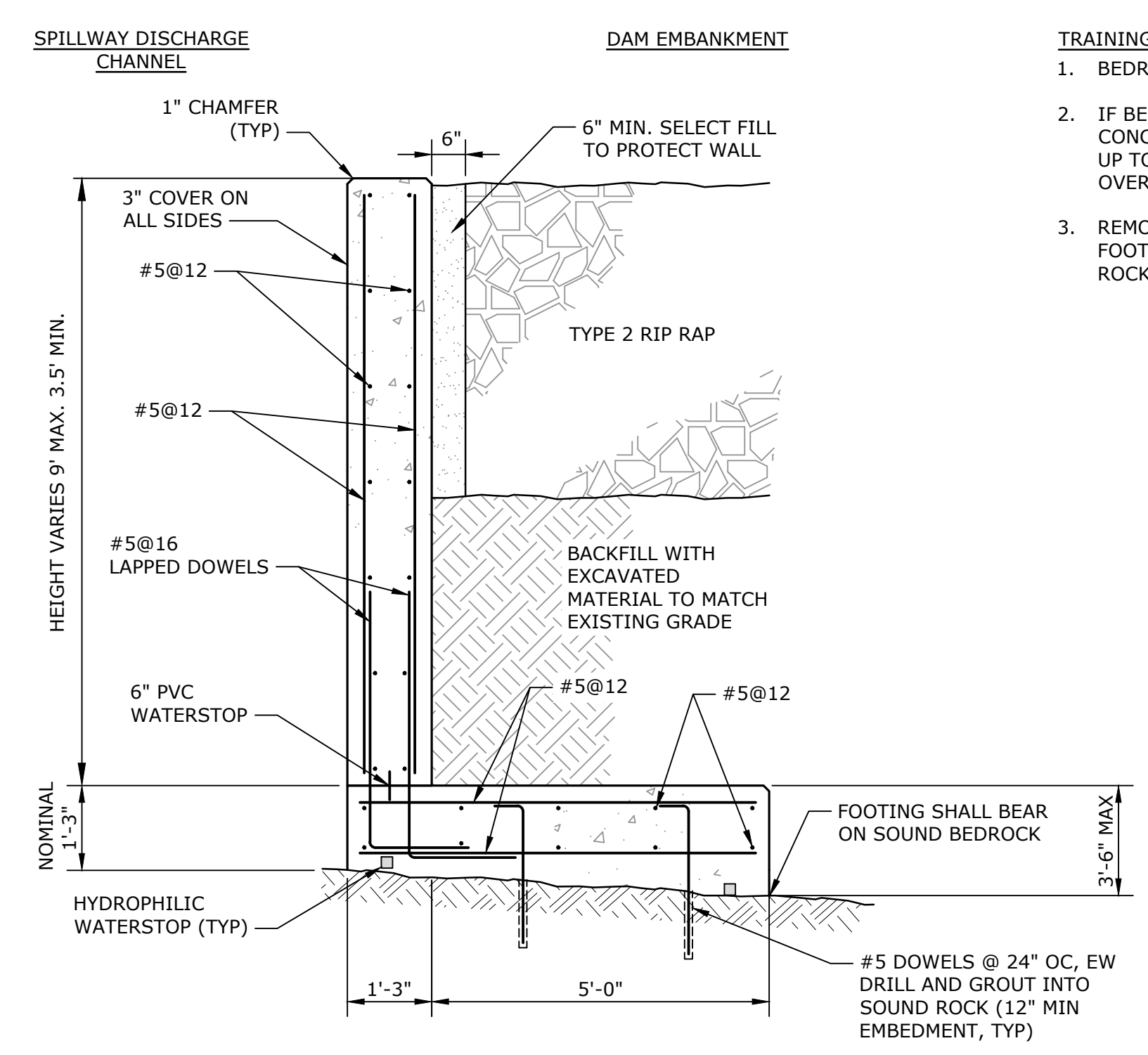
- NOTES:**
- GUARDRAILS NOT SHOWN FOR CLARITY. SEE DETAIL 1.



**GALVANIZED STEEL GUARDRAILS AT DAM CREST**

**DETAIL 1**  
3/8" = 1'-0" S-101

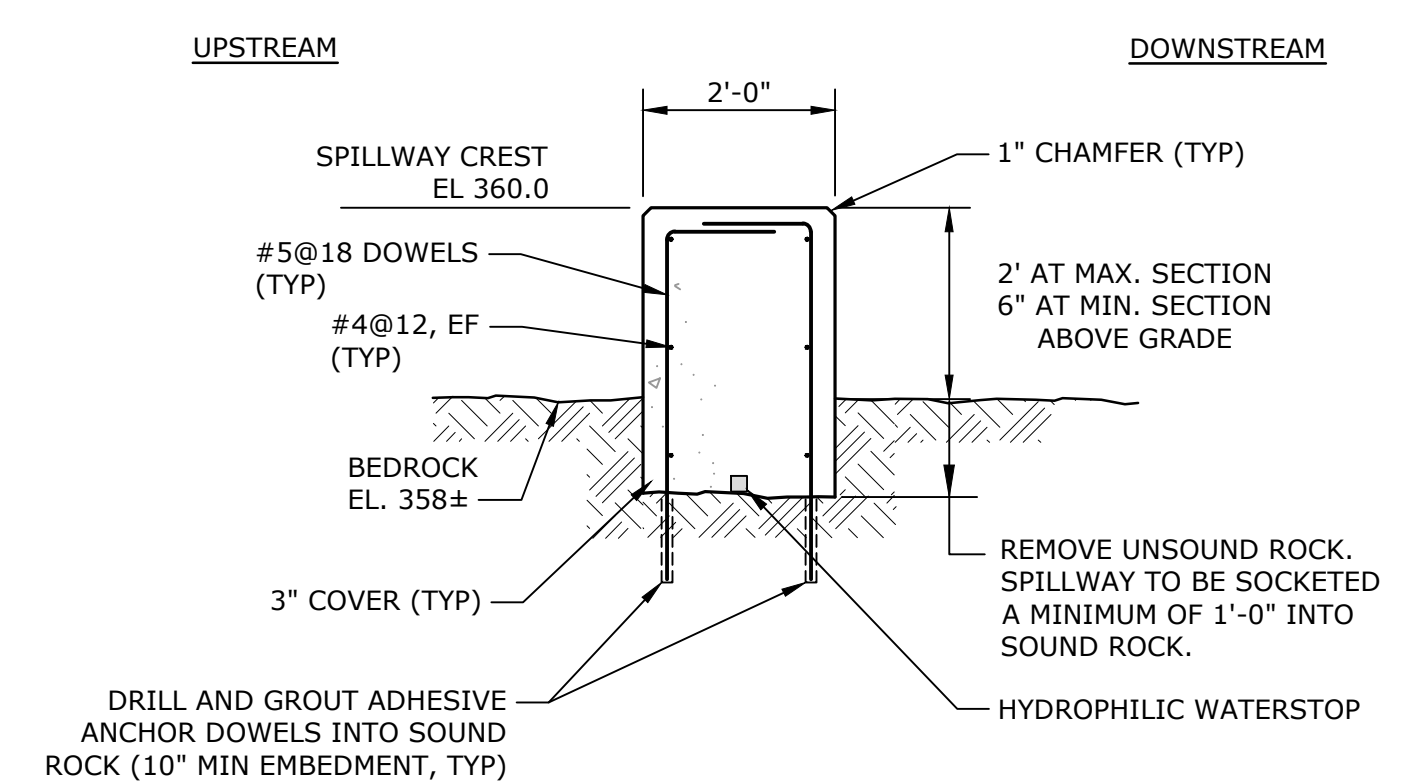
- NOTES:**
- SEE SPECIFICATION 05500 FOR RAILING ANCHORAGE.



**TRAINING WALL**

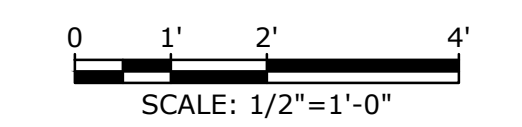
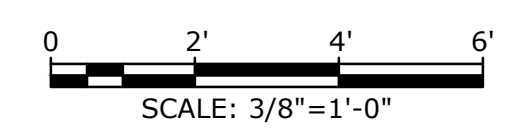
**SECTION C**  
1/2" = 1'-0" S-101

- TRAINING WALL NOTES:**
- BEDROCK TO BE LEVEL (+2") ACROSS TRAINING WALL CROSS SECTION.
  - IF BEDROCK CANNOT BE LEVELED PER NOTE 1, SURFACE CAN BE INFILLED WITH UNREINFORCED CONCRETE PLACED MONOLITHICALLY WITH THE REINFORCED CONCRETE FOUNDATION PLACEMENT UP TO A MAXIMUM DEPTH OF 3'-6". AREAS WITH IRREGULARITIES WHICH WILL CREATE AN OVERALL FOUNDATION THICKNESS GREATER THAN 3'-6" SHALL BE APPROVED BY THE ENGINEER.
  - REMOVE OVERBURDEN SOIL, WEATHERED ROCK, AND UNSOUND ROCK PRIOR TO PLACEMENT OF FOOTING. BEDROCK SURFACE SHALL BE SOUND, INTACT ROCK CLEARED OF ANY LOOSE/BROKEN ROCK, SOIL, DEBRIS OR PONDED WATER.



**SPILLWAY**

**SECTION D**  
1/2" = 1'-0" S-101



**Brush Reservoir Dam Improvements**

Aquarion Water Company

Stamford, Connecticut

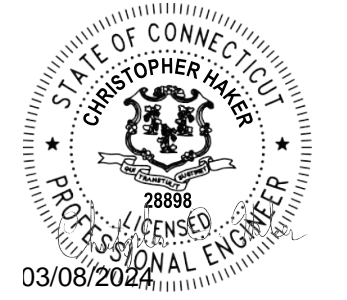
MARK	DATE	DESCRIPTION
0	2/2024	ISSUED FOR BIDDING

PROJECT NO:	A-1000-195A
DATE:	02/2024
FILE:	A1000-195A-S-102-S-103 S-104.dwg
DRAWN BY:	MJC
DESIGNED/CHECKED BY:	JC/DBS
APPROVED BY:	CDH

**STRUCTURAL SECTIONS AND DETAILS - 1**

SCALE: AS SHOWN

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**Brush Reservoir Dam Improvements**

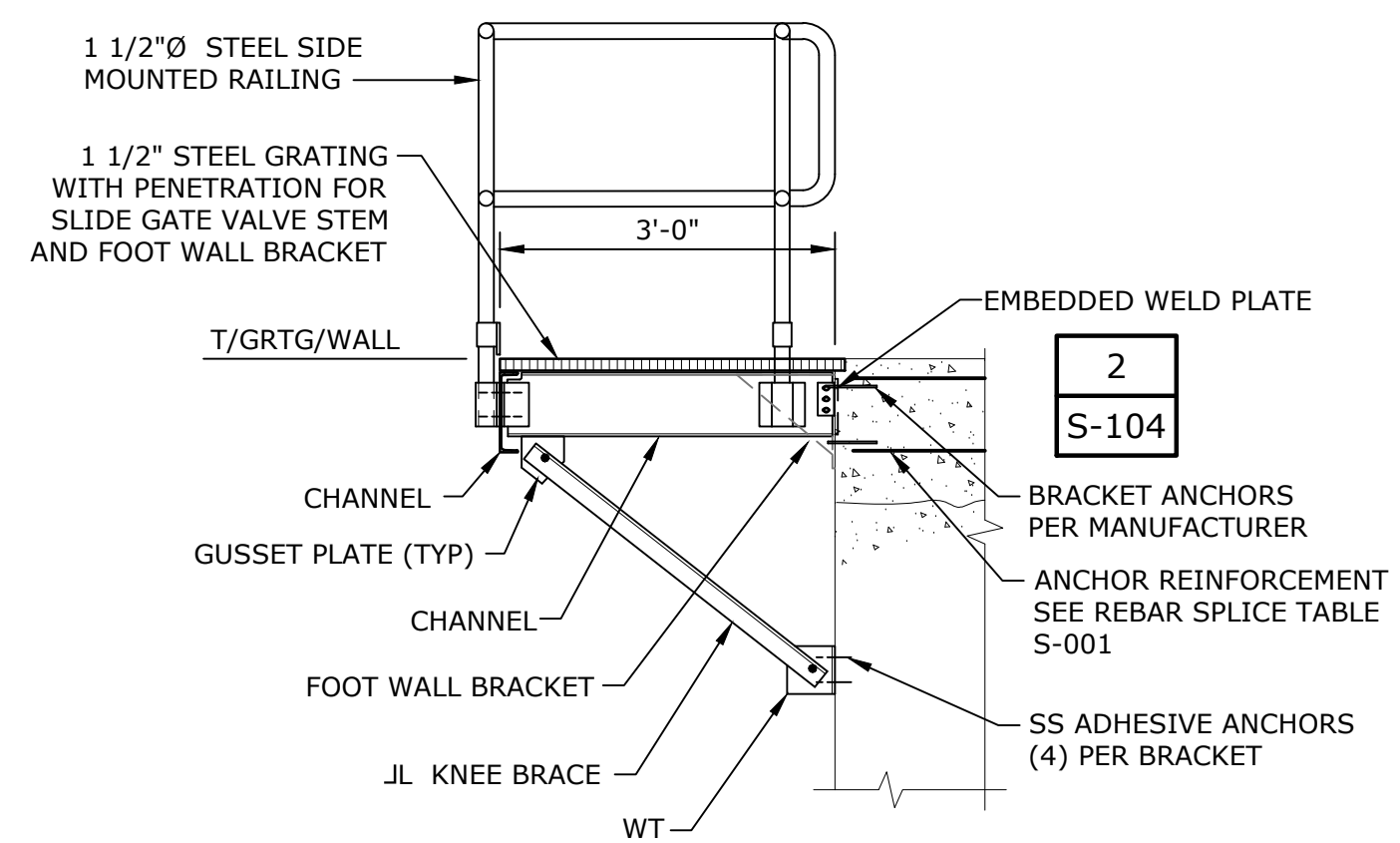
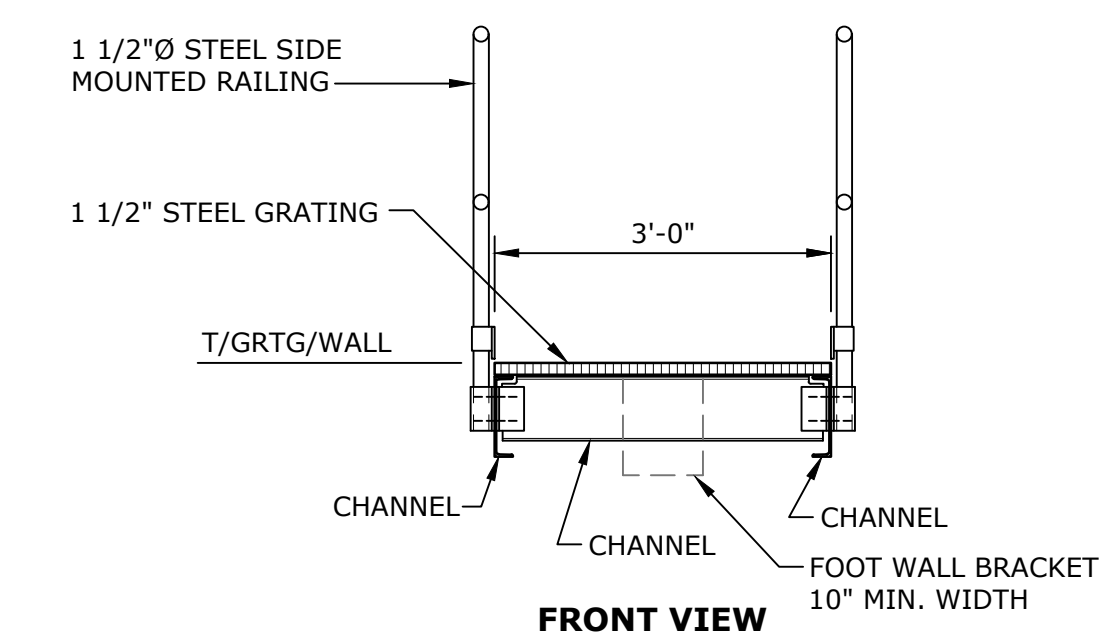
Aquarion Water Company

Stamford, Connecticut

0	2/2024	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO: A-1000-195A		
DATE: 02/2024		
FILE: A1000-195A-S-102-S-103 S-104.dwg		
DRAWN BY: MJC		
DESIGNED/CHECKED BY: J/C/DBS		
APPROVED BY: CDH		

**STRUCTURAL SECTIONS AND DETAILS - 2**

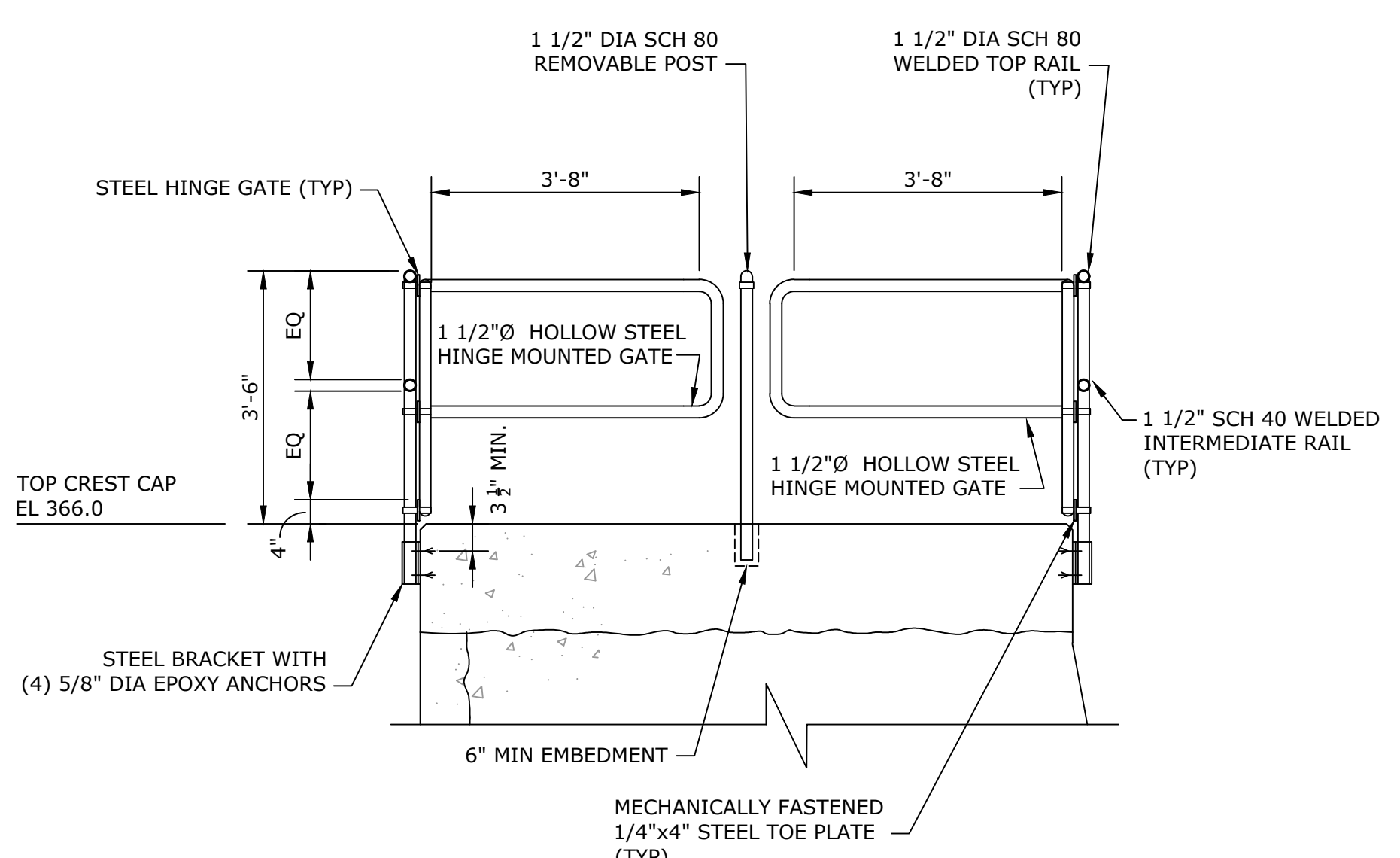
SCALE: NO SCALE



- NOTES:**
1. VALVE OPERATOR AND STEM NOT SHOWN FOR CLARITY. SEE SPEC SECTION 11285.
  2. FINAL FRAMING/MEMBER SIZES TO BE COMPLETED UPON SELECTION OF OPERATOR LIFT MECHANISM.
  3. CREST REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION B ON S-102 FOR CREST REINFORCEMENT.

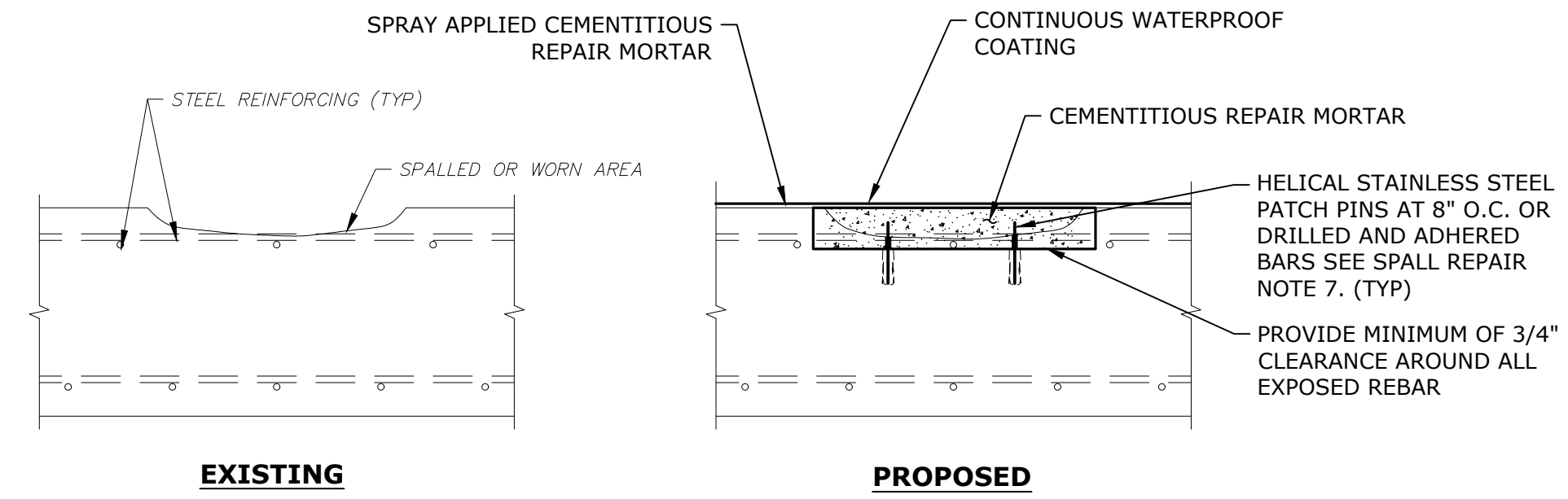
**VALVE OPERATOR PLATFORM AT DAM CREST**

<b>DETAIL</b>	2
NO SCALE	S-101



**GALVANIZED STEEL GATE AT DAM CREST**

<b>DETAIL</b>	5
NO SCALE	S-101

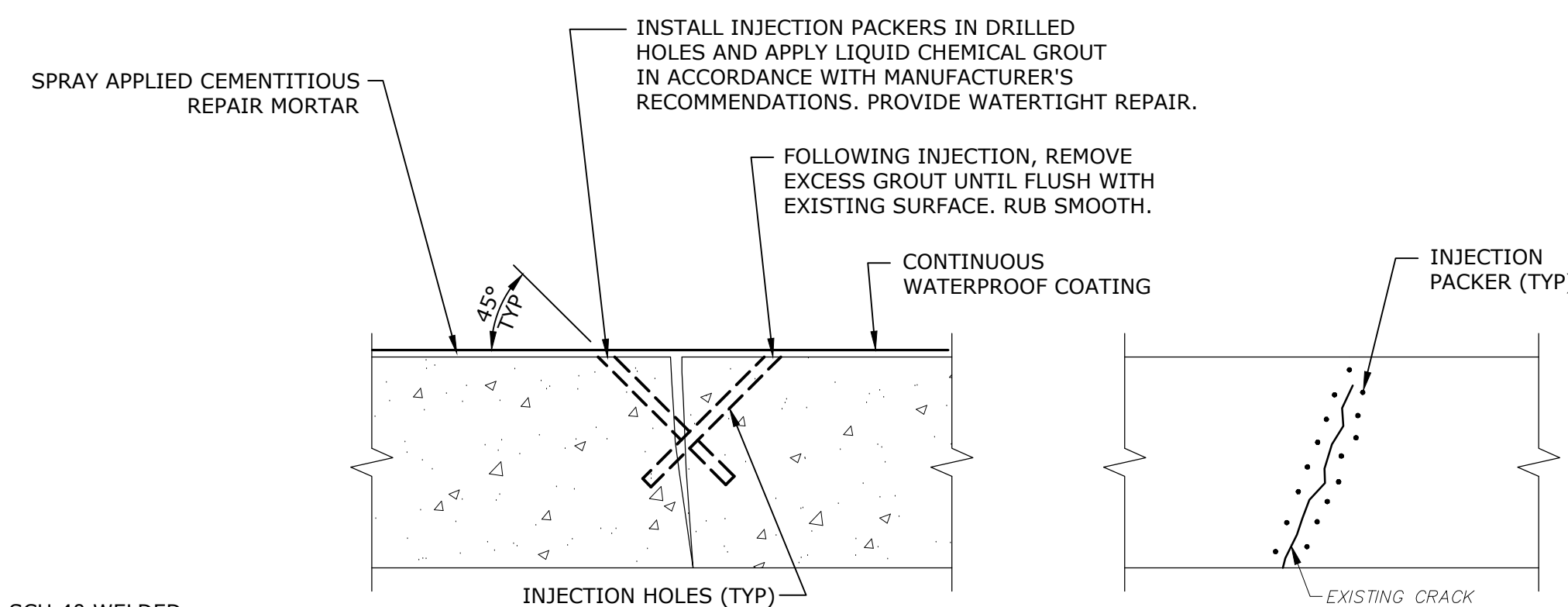


- PREPARATION NOTES:**
1. REMOVE ALL LOOSE OR UNSOUND CONCRETE.
  2. PREPARE EDGES OF REPAIR TO VERTICAL PROFILE.
  3. PROVIDE MINIMUM OF 3/4" CLEARANCE AROUND ALL EXPOSED REBAR.
  4. CONSULT ENGINEER IF EXPOSED REBAR HAS SECTION LOSS.
  5. REPAIR AREA IN CONFORMANCE WITH SPECIFICATION SECTION 03930.

- REPAIR NOTES:**
1. SURFACE TO BE SATURATED SURFACE DRY PRIOR TO APPLICATION OF REPAIR MORTAR.
  2. SCRUB IN A BRUSH COAT OF THE REPAIR MORTAR INTO THE SUBSTRATE TO FILL ALL PORES AND VOIDS.
  3. INSTALL AND MOIST CURE THE REPAIR MORTAR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  4. REPAIR MORTAR SHALL BE A PORTLAND CEMENT BASED PRODUCT IN ACCORDANCE WITH SECTION 03930.
  5. REPAIR MORTAR SHALL BE COMPATIBLE WITH THE PROPOSED WATERPROOF COATING SYSTEM.
  6. SPRAY APPLIED CEMENTITIOUS REPAIR MORTAR SHALL BE APPLIED TO THE FULL UPSTREAM FACE TO CREATE A UNIFORM SURFACE PRIOR TO WATERPROOF COATING.
  7. FOR REPAIRS LESS THAN 4" DEEP, INSTALL 316 STAINLESS STEEL HELICAL ANCHORS AT 8" OC EACH WAY WITH 1/2" MINIMUM COVER.
  8. FOR REPAIRS 4" OR DEEPER, DRILL AND ADHESIVE ANCHOR #3 REINF BARS AT 18" OC EACH WAY. PROVIDE A MINIMUM OF 1 1/2" CLEAR COVER OVER BARS WITH 3 1/2" EMBEDMENT INTO SOUND CONCRETE.

**SPALL REPAIR**

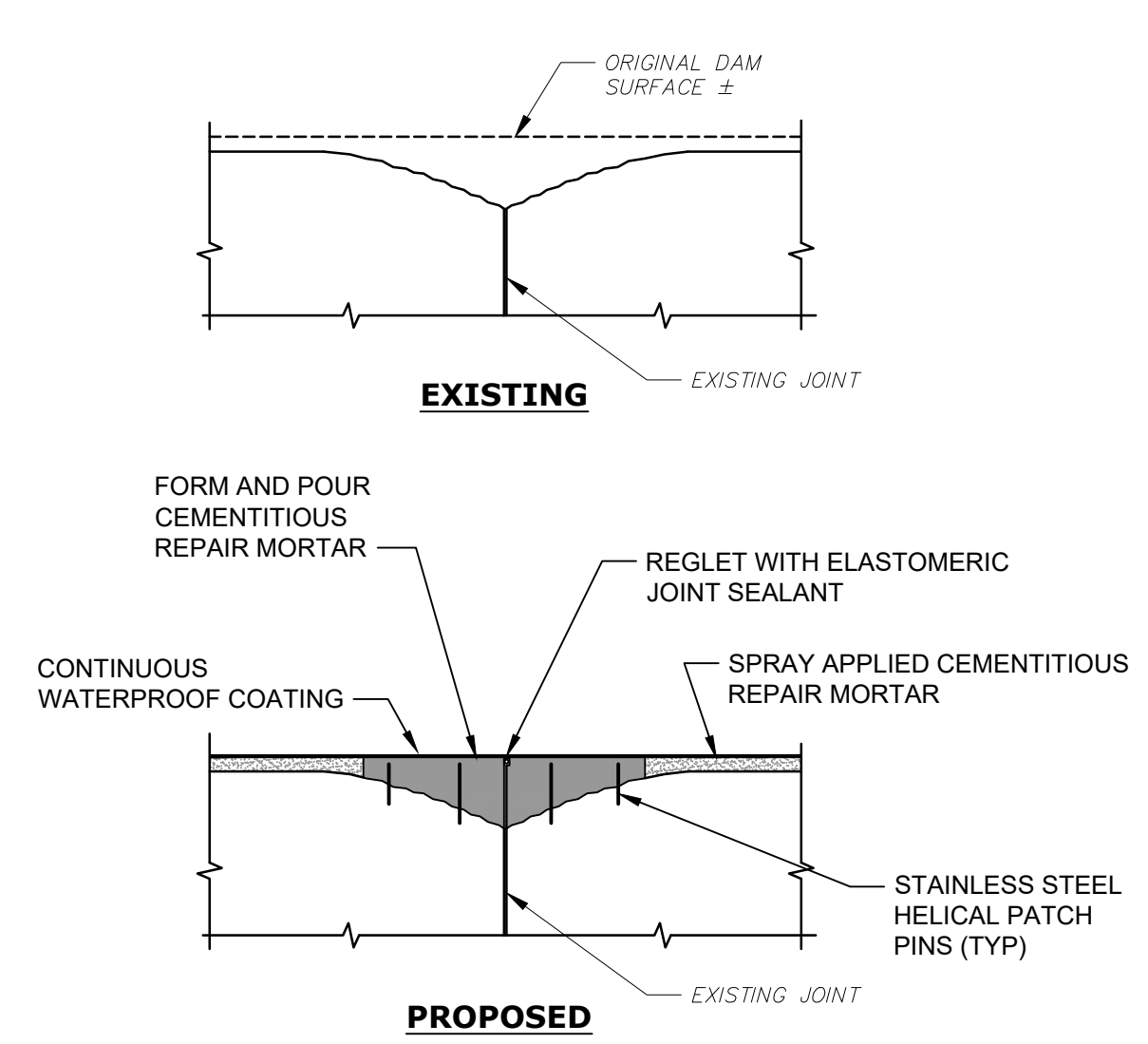
<b>DETAIL</b>	3
NO SCALE	S-101



**LIQUID CHEMICAL GROUT INJECTION**

- NOTES:**
1. ALL LEAKING CRACKS AND JOINTS TO BE SEALED IN ACCORDANCE WITH SPEC SECTION 03930.
  2. MAXIMUM HOLE SIZE IS 5/8" DIA. MINIMUM CRACK SIZE IS 1/16".
  3. PACKERS TO BE INSTALLED IN DRILLED HOLES.
  4. STAGGER PACKERS ON OPPOSITE SIDES OF CRACK.
  5. SPACE PACKERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. MAXIMUM SPACING OF PACKERS IS 12".
  6. INJECT LEAKING CONSTRUCTION JOINTS PER MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS SECTION 03930.

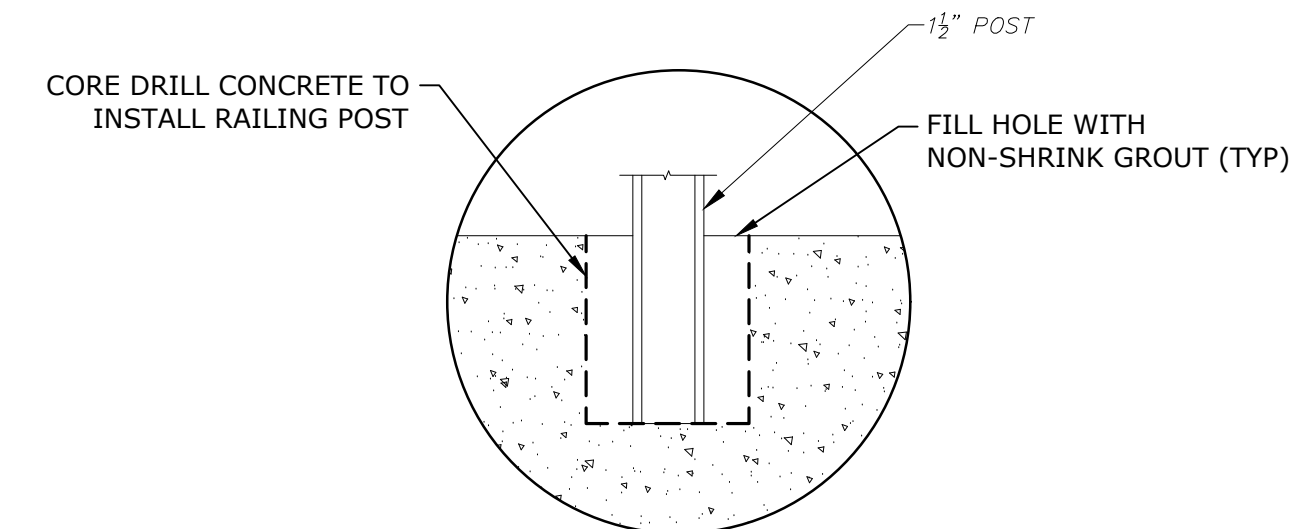
<b>DETAIL</b>	6
NO SCALE	S-101



- NOTES:**
1. PREPARE SURFACE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  2. INSTALL STAINLESS STEEL HELICAL PATCH PINS AT 8" OC EACH WAY. PROVIDE MINIMUM OF 1/2" COVER ON ALL SIDES OF PATCH PINS.
  3. MIX, APPLY, AND CURE CEMENTITIOUS REPAIR MORTAR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  4. PERFORM GROUT INJECTION PRIOR TO SPALL REPAIR PER DETAIL 6 EXCEPT AT EXISTING EXPANSION JOINTS.

**SPALL REPAIR AT JOINT**

<b>DETAIL</b>	4
NO SCALE	S-101



**GUARDRAIL POST**

<b>DETAIL</b>	7
NO SCALE	-

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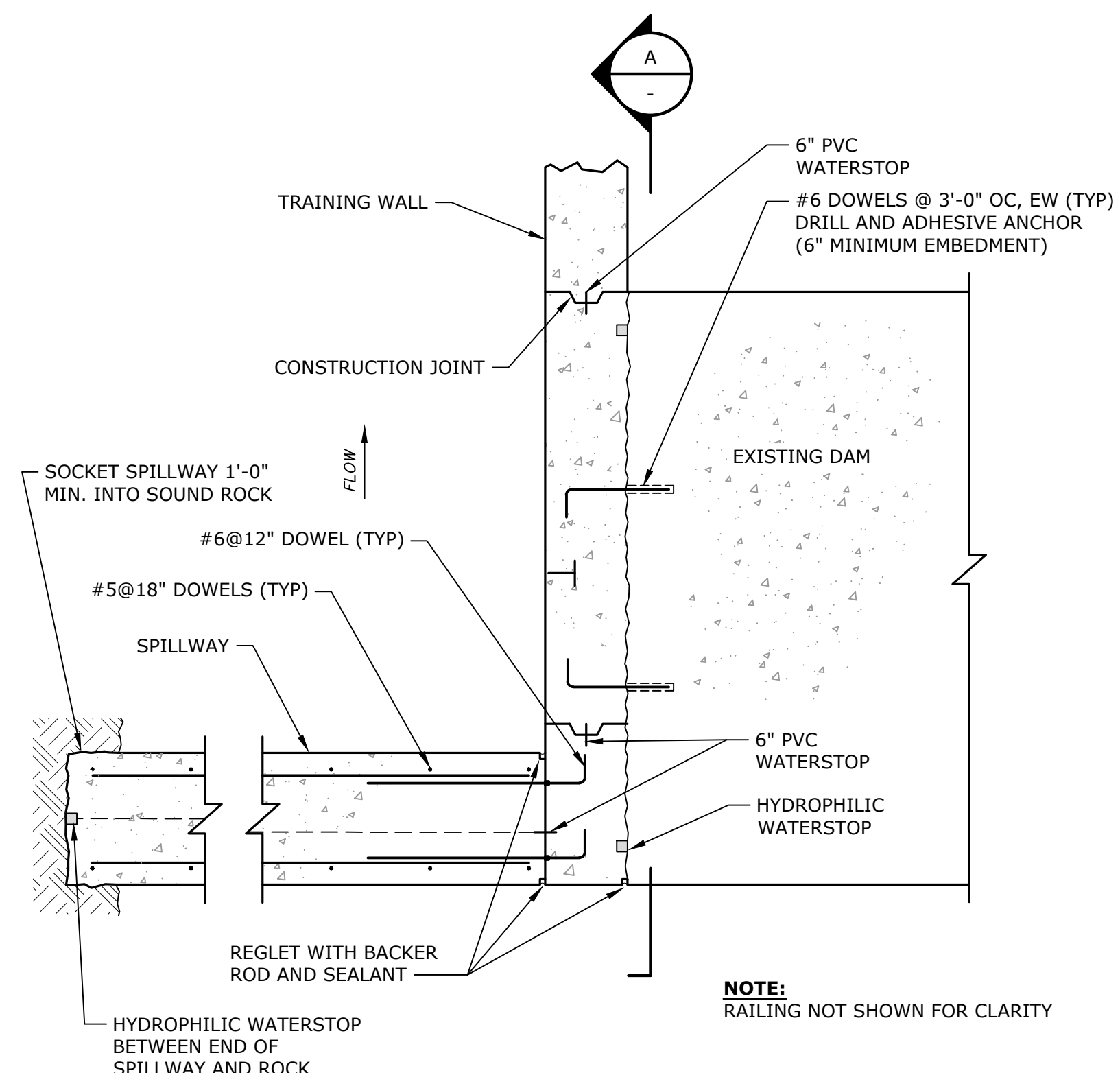




**Brush Reservoir Dam Improvements**

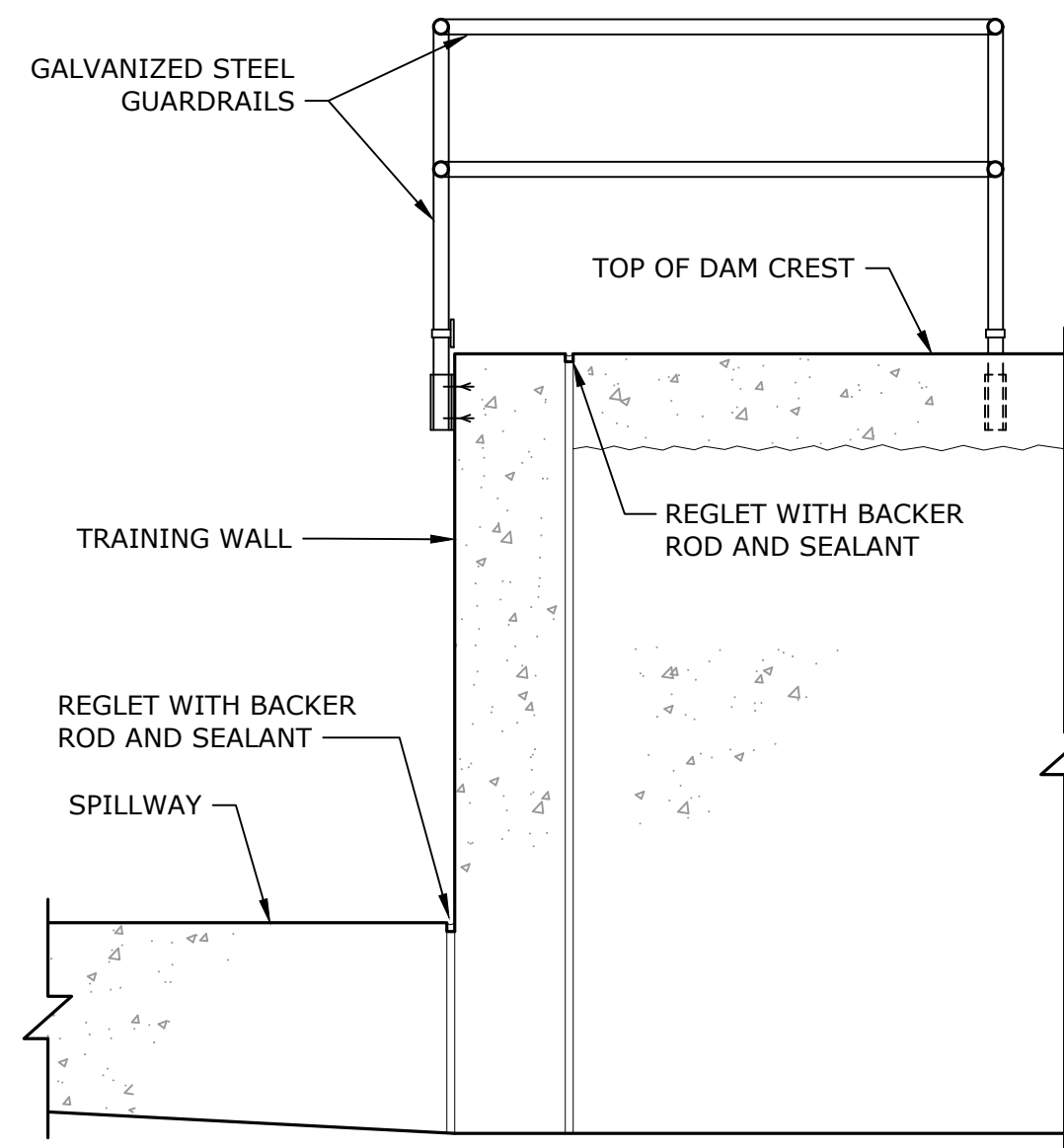
Aquarion Water Company

Stamford, Connecticut



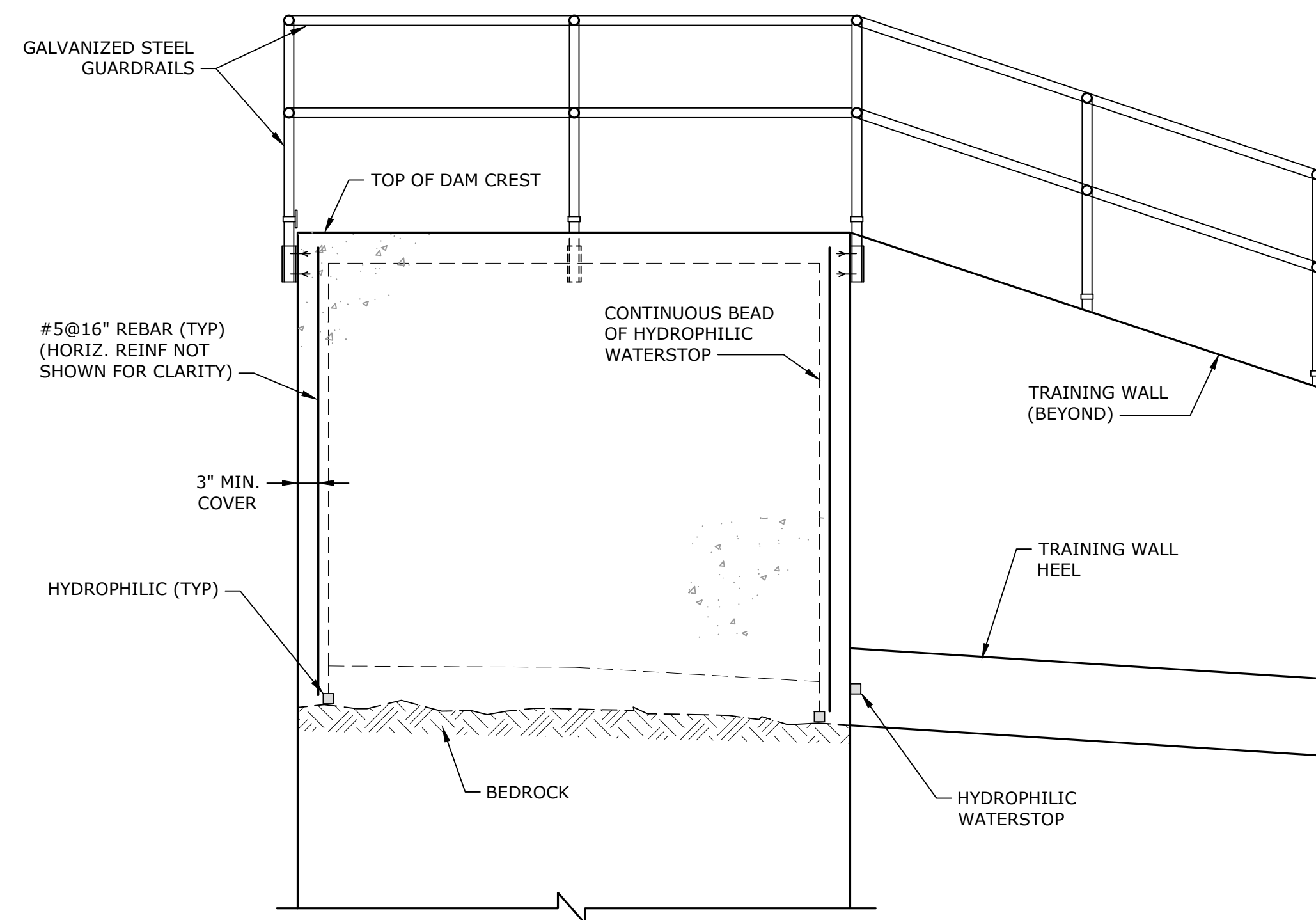
**TRAINING WALL CONNECTION AT DAM AND SPILLWAY**

**PLAN**  
1/2"=1'-0"

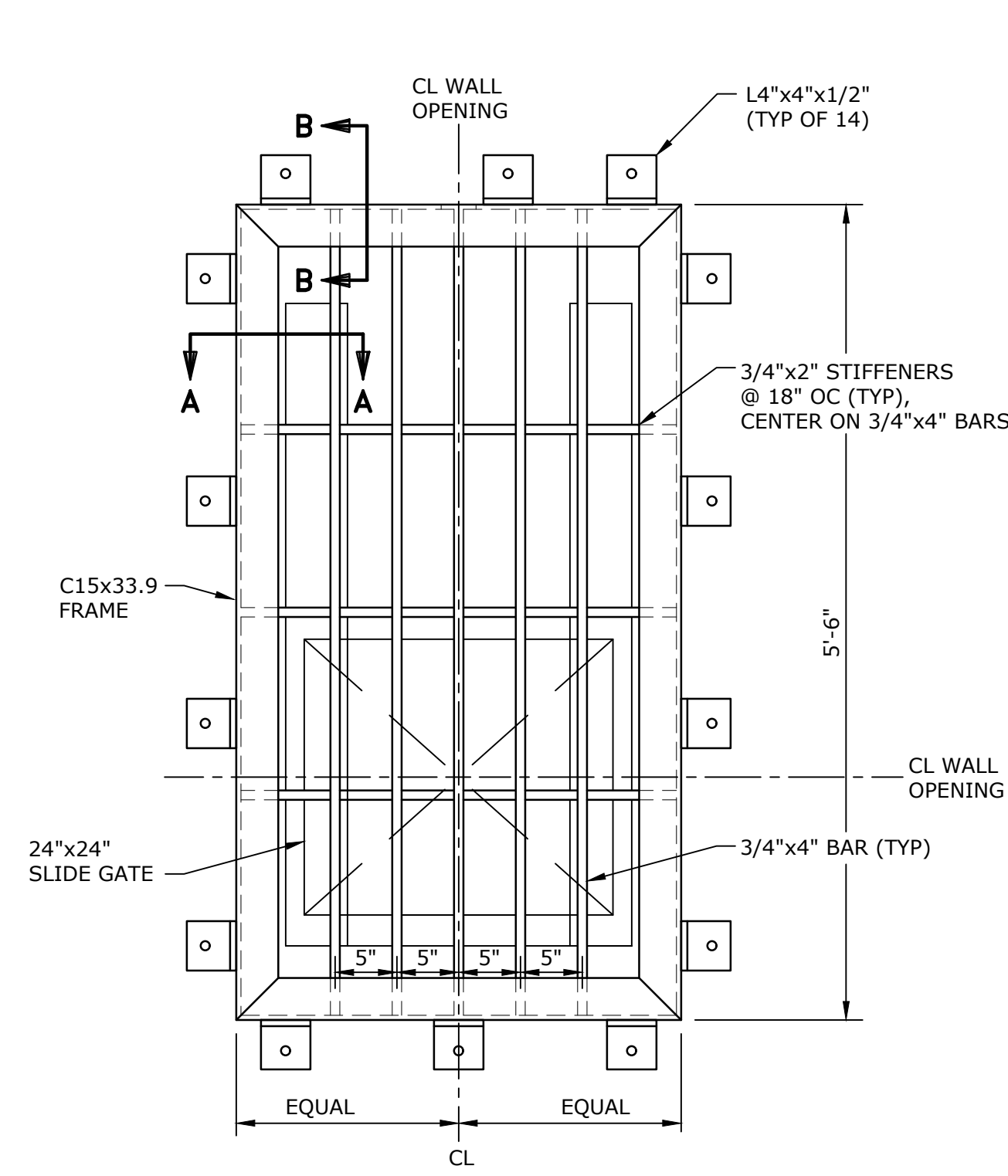


**TRAINING WALL AND SPILLWAY JOINTS**

**ELEVATION**  
1/2"=1'-0"

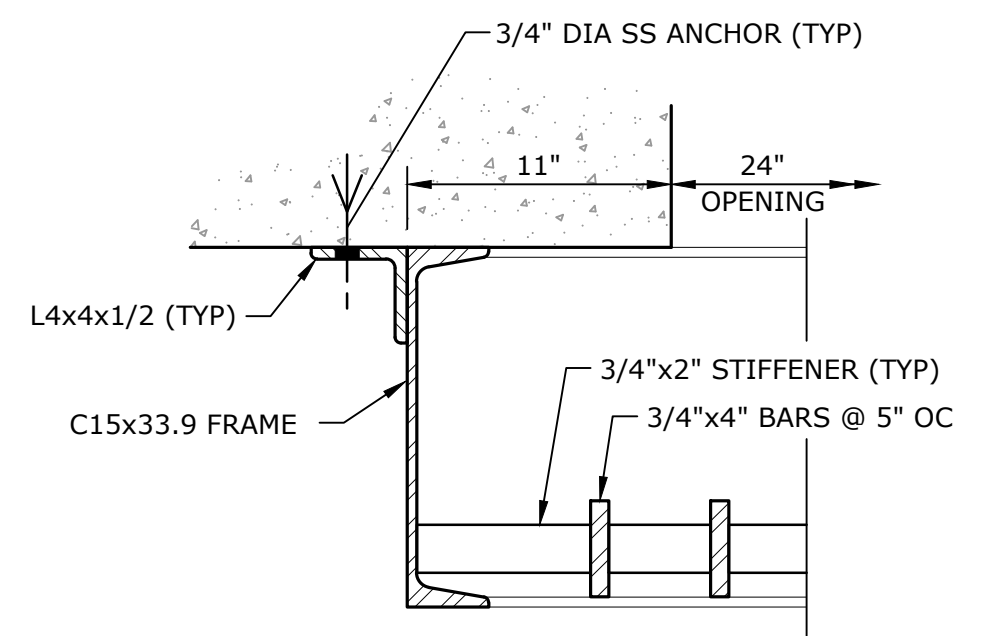


**SECTION A-A**  
1/2"=1'-0"

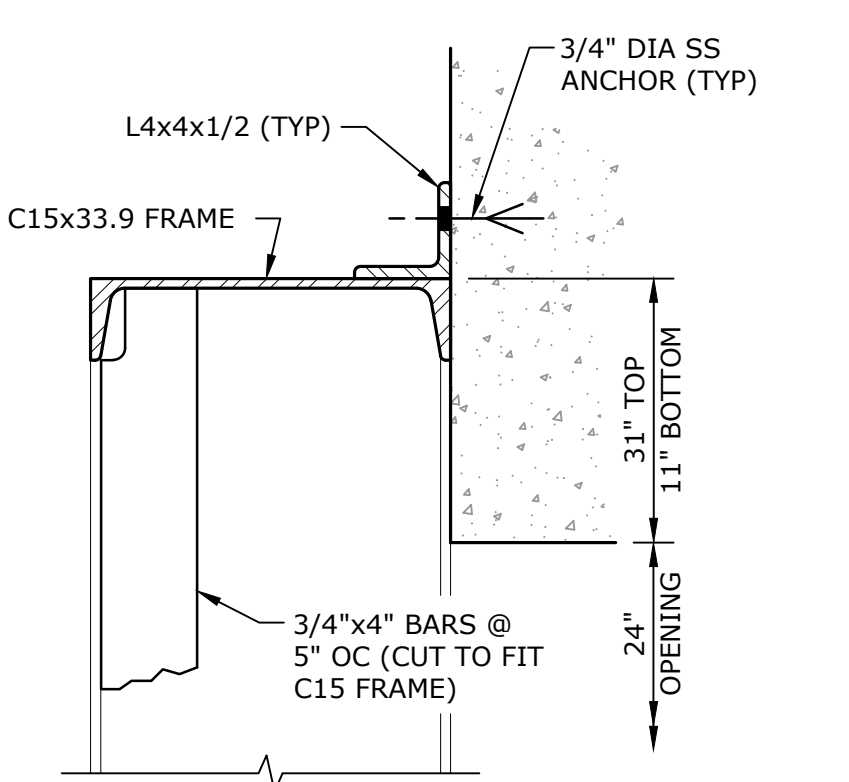


**GALVANIZED STEEL BAR RACK**

**DETAIL 1**  
NO SCALE  
S-101

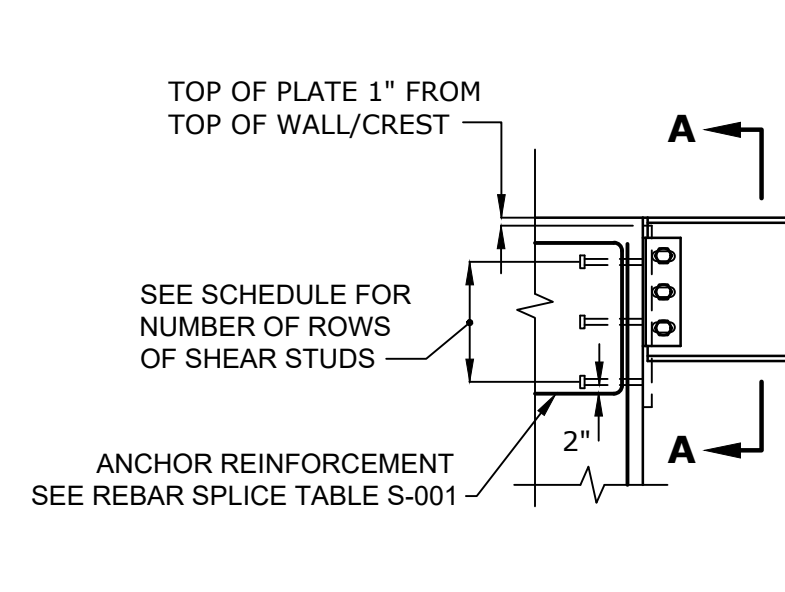


**SECTION A-A**

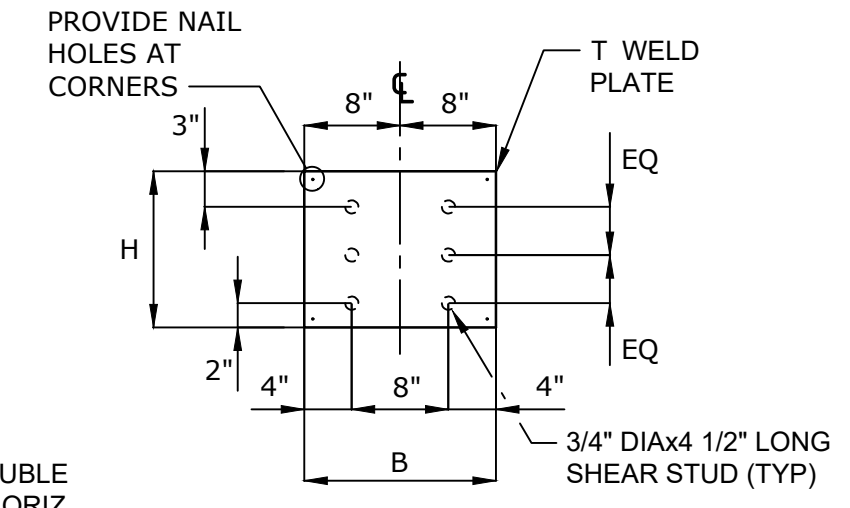


**SECTION B-B**

**NOTES:**  
1. WELDS TO BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION LATEST EDITION AND AMERICAN WELDING SOCIETY, AWS, D1.6 REQUIREMENTS.



**ELEVATION**



**SECTION A**

EMBEDDED WELD PLATE SCHEDULE		
W SHAPE	NUMBER OF STUD ROWS	MIN. DIMENSION T x B x H
W14 OR SMALLER	3	1/2"x16"x1'-3"

**NOTES:**  
1. CREST REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION B ON S-102 FOR CREST REINFORCEMENT.

**EMBEDDED WELD PLATE**

**DETAIL 2**  
NO SCALE  
S-103



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DESIGNED/CHECKED BY:	JC/DBS	
APPROVED BY:	CDH	

**STRUCTURAL SECTIONS AND DETAILS - 3**

SCALE: AS SHOWN