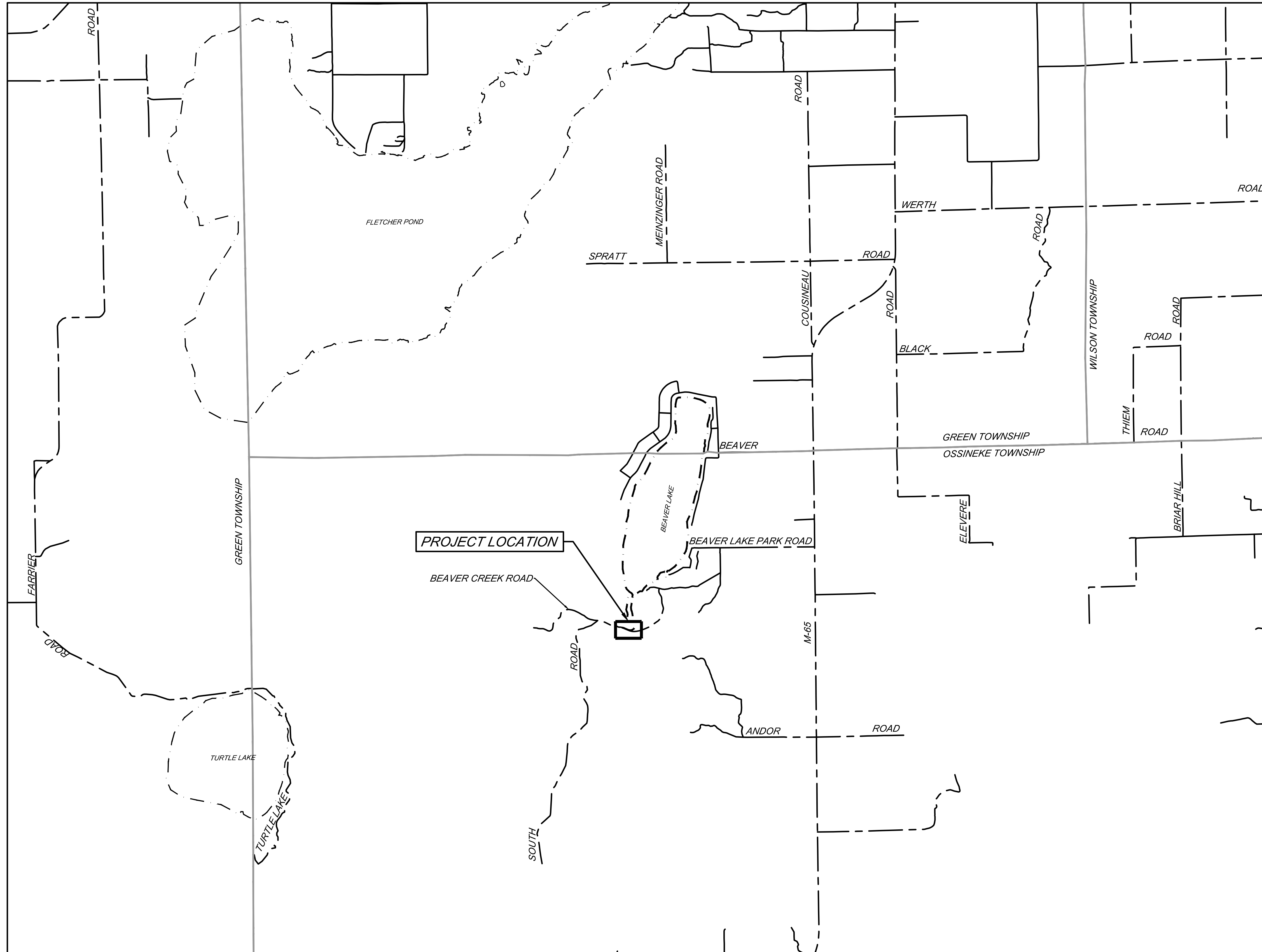


BEAVER LAKE DAM

ALPENA COUNTY DRAIN COMMISSIONER - GERALD FOURNIER



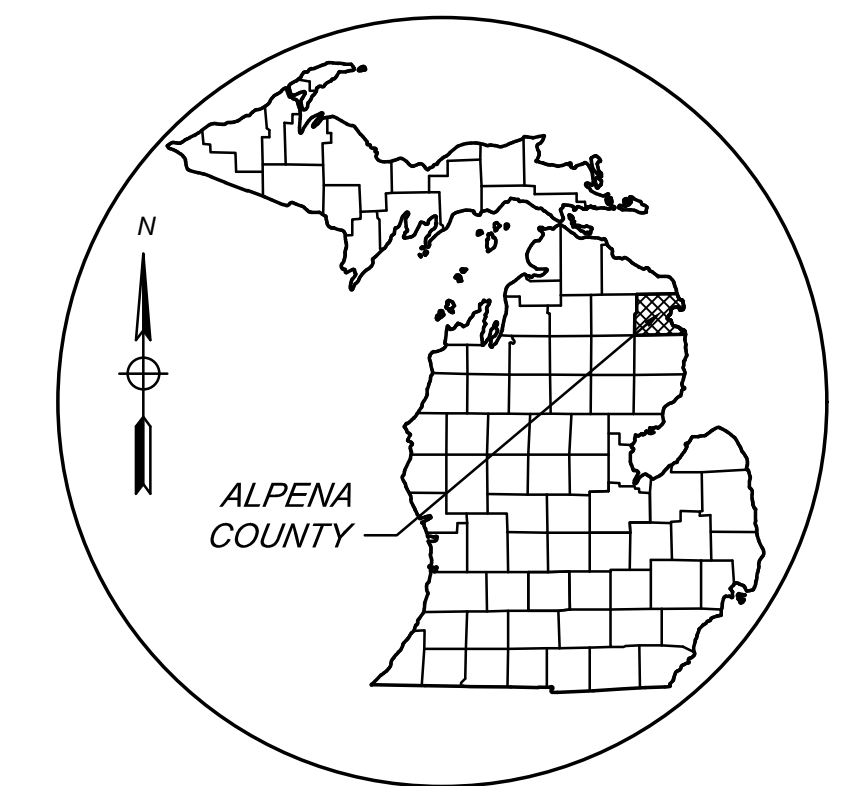
LOCATION MAP
NOT TO SCALE

PLAN INDEX

FILE NO.	DESCRIPTION	NO.
DR-4142-01	COVER SHEET	1
DR-4142-02	CONTACTS, GENERAL NOTES, LINE TYPE LEGEND, AND SESC MEASURE LEGEND	2
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DR-4142-04	EXISTING SITE PLAN	4
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SECTION 35, T30N-R05E,
GREEN TOWNSHIP,
ALPENA COUNTY, MICHIGAN
SECTION 11, T29N-R05E,
OSSINEKE TOWNSHIP,
ALPENA COUNTY, MICHIGAN



AREA MAP
NOT TO SCALE

MUC	IFB - ISSUED FOR BID	8/10/2022
CBS	IFB - ISSUED FOR PERMIT	6/9/2022
BY	MARK	REVISIONS
		DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

BEAVER LAKE DAM
ALPENA COUNTY, MICHIGAN

COVER SHEET



SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607 Tel:
989-754-4717 Fax:
989-754-4440
www.SpicerGroup.com

DE. BY: POC/WTM	CH. BY: WTM	PROJECT NO.
DR. BY: CBS	APP. BY: RBH	127253SG2019

STDS.	SHEET 01 OF 09	DR
DATE: AUGUST, 2022	FILE NO.	01
SCALE: NOT TO SCALE	DR-4142-01	

GENERAL NOTES

NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS UNLESS AUTHORIZED BY THE OWNER.

CONTRACTOR SHALL NOTIFY ENGINEER 72 HOURS PRIOR TO START OF CONSTRUCTION, CONSTRUCTION STAKING AND INSPECTION.

CONTRACTOR SHALL MAINTAIN ACCESS FOR MAIL DELIVERY AND GARBAGE PICKUP AT ALL PARCELS. IF THESE SERVICES CANNOT BE PERFORMED CONTRACTOR IS RESPONSIBLE FOR TAKING THE NECESSARY MEASURES TO CARRY THEM OUT.

CONTRACTOR TO PROVIDE DUST CONTROL AND SWEEP ROADS DAILY.

ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE SHALL BE REMOVED FROM SITE. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING MATERIALS ACCORDING TO LOCAL AND STATE REQUIREMENTS.

ALL WORK SHALL BE WITHIN DRAIN RIGHT-OF-WAY. WORK OUTSIDE RIGHT-OF-WAY MUST BE AGREED UPON BY LANDOWNER AND ENGINEER WITH A SIGNED LANDOWNER AGREEMENT PRIOR TO WORK ON THAT PROPERTY.

RESTORE ALL LAWN AREAS WITH 4" OF TOPSOIL, SEED, AND MULCH.

CONTRACTOR TO RESTORE INCIDENTAL DAMAGES ON THE PROJECT AS DIRECTED BY OWNER AND ENGINEER AT CONTRACTORS EXPENSE.

ALL DRAIN SIDE SLOPES SHALL BE 2H:1V OR FLATTER, UNLESS SPECIFIED OTHERWISE.

THE WORDS "RIGHT SIDE" OR "LEFT SIDE" IMPLY A REFERENCE TO THE DRAIN FACING UPSTREAM.

CLEAR AND GRUB TREES AS INDICATED FOR CONSTRUCTION WITHIN DRAIN RIGHT-OF-WAY. REMOVE ALL TREES, STUMPS AND DEBRIS FROM SITE.

REMOVE EXISTING FENCES, LANDSCAPING, AND OTHER STRUCTURES IN DRAIN RIGHT-OF-WAY AS NEEDED FOR CONSTRUCTION. REINSTALLATION OF FENCES MUST BE COORDINATED WITH THE LAND OWNER AT THE LAND OWNER'S EXPENSE, UNLESS STATED OTHERWISE IN THE PLANS. COST TO BE INCLUDED IN SITE CLEARING.

CONTRACTOR SHALL COORDINATE REMOVAL OF TREES WITHIN THE LIMITS OF CONSTRUCTION WITH THE PROPERTY OWNER AND ENGINEER.

TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE AS TOPSOIL SURFACE AS DIRECTED BY THE ENGINEER.

ALL SPRINKLER SYSTEMS DAMAGED SHALL BE REPAIRED BY CONTRACTOR. COST TO BE INCLUDED IN OTHER WORK ITEMS OF THE PROJECT.

CONTRACTOR TO CLEAR TREES WITHIN THE DRAIN R.O.W. AS NECESSARY TO CONSTRUCT DRAIN AND LEVEL SPOILS AS SHOWN IN DETAILS. COORDINATE REMOVALS WITH LANDOWNER, ENGINEER, AND OVERHEAD UTILITIES.

UNDERGROUND UTILITIES/MISS DIG

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-492-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THIS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL CONSTRUCTION UNDER EXISTING UTILITIES, INCLUDING HOUSE SERVICES, SHALL BE COMPLETELY BACKFILLED WITH SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

ANY UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED, PER THE SPECIFICATIONS OF THE INDIVIDUAL UTILITY COMPANY CLAIMING OWNERSHIP OF THE UTILITY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY THE ENGINEER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD OR SEED/MULCH OR MULCH BLANKET AS DIRECTED BY THE ENGINEER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

ALL CATCHBASINS AND SEDIMENTATION TRAP/BASIN SHALL BE CLEANED OUT UPON COMPLETION OF THE PROJECT.

CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.

SOIL EROSION SEDIMENT CONTROL

GROUNDWATER SEEPAGE AND STORMWATER RUNOFF IS ANTICIPATED TO BE A FACTOR DURING CONSTRUCTION. WATER CONTROL AND DEWATERING METHODS MAY BE NECESSARY. ALL WATER CONTROL AND DEWATERING REQUIRED IS THE CONTRACTOR'S RESPONSIBILITY AND COST SHALL BE INCLUDED IN THE PAY ITEM BEING INSTALLED. THE METHODS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

ALL DEWATERING REQUIRED FOR CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR UTILITY BEING INSTALLED.

ALL RIPRAP MATERIAL SHALL BE APPROVED BY THE ENGINEER UNLESS OTHERWISE DIRECTED. SUBMIT SAMPLES TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. OWNER AND ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIPRAP.

CONTRACTORS SHALL FINISH GRADE, SEED, FERTILIZE, AND MULCH DAILY ON ALL DISTURBED AREAS AS DESCRIBED IN THE SPECIFICATIONS.

HAND SEED, FERTILIZE, AND MULCH DITCH BANKS AND SPOILS DAILY.

ALL DISTURBED WETLAND AREA SHALL BE SEEDED WITH NATIVE WETLAND SEED AS SPECIFIED BY ENGINEER.

PROPERTY OWNERS

PROPERTY OWNERS' NAMES AND PARCEL LINES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

PROPERTY CORNER MONUMENT VISIBILITY OBSERVED ON SITE SHALL BE PROTECTED. DAMAGED PROPERTY CORNER WILL BE RESET AT CONTRACTORS EXPENSE.

ADJUSTING MONUMENT BOXES

ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES, AS REQUIRED.

TRAFFIC

THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE COORDINATED WITH THE ENGINEER AND GOVERNING ROAD AGENCY. PERMITS MAY BE REQUIRED.

PERMITS

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE AGENCIES.

CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCIES.

MAILBOXES

CONTRACTOR SHALL REMOVE AND TEMPORARILY RELOCATE ALL EXISTING MAIL BOXES AS NEEDED FOR CONSTRUCTION. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR SITE CLEARING.

CONTRACTOR COORDINATE MAIL BOX RELOCATION WITH LANDOWNERS A MINIMUM OF ONE DAY IN ADVANCE.

ALL TEMPORARILY RELOCATED MAIL BOXES, STREET AND TRAFFIC SIGNS TO BE REINSTALLED TO ORIGINAL LOCATIONS AS CONSTRUCTION ALLOWS. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLEANUP AND RESTORATION.

GENERAL NOTES

ROADS, DRIVEWAYS AND SIDEWALKS

COORDINATE DRIVEWAY CLOSURES WITH LANDOWNERS A MINIMUM OF ONE DAY IN ADVANCE.

ALL JOINTS AT INTERSECTION APPROACHES AND DRIVEWAYS SHALL BE SAW-CUT WITH BUTT-JOINTS. COST TO BE INCLUDED IN UNIT PRICE BID THAT INCLUDES ROAD AND DRIVEWAY REPAIRS.

FOR OPEN CUT PAVEMENT REMOVAL CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FULL DEPTH PRIOR TO REMOVAL.

ALL DRIVING SURFACES ARE TO BE RESTORED TO IN KIND DEPTH AND MATERIAL UNLESS OTHERWISE SPECIFIED ON THE PLANS. COST TO BE INCLUDED IN THE BID PRICE FOR WORK PERTAINING TO EACH CROSSING.

PROTECT ALL BITUMINOUS ROADS NOT SPECIFIED TO BE REMOVED DURING CONSTRUCTION. REPAIR ANY UNAUTHORIZED DAMAGE AT CONTRACTORS EXPENSE.

BROKEN CONCRETE AND DEBRIS SHALL BE CONSIDERED WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE. COST SHALL BE INCLUDED IN THE OTHER PAY ITEMS OF THE PROJECT.

MATCH EXISTING TYPE FOR CONCRETE CURB AND GUTTER RESTORATION.

CONTRACTOR SHALL REMOVE ALL STREET AND TRAFFIC SIGNAGE AS NECESSARY FOR CONSTRUCTION. ALL COSTS TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR SITE CLEARING. REPLACE SIGNAGE AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN THE UNIT PRICE FOR CLEANUP AND RESTORATION.

CONTRACTOR SHALL COORDINATE LOCATION OF ANY ACCESS ROADS WITH THE LANDOWNER AND THE ENGINEER. ANY ACCESS ROAD SHALL BE REPAIRED TO THE LANDOWNERS AND OWNERS APPROVAL.

ALL WORK WITHIN THE ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS OF THE COUNTY ROAD COMMISSION, CITY, VILLAGE, AND MDOT.

UTILITIES

ELECTRIC, GAS AND TELEPHONE UTILITIES LOCATED IN THE ROAD AND DRAIN RIGHT-OF-WAYS REQUIRING RELOCATION WILL BE RELOCATED BY OTHERS.

WHEN RELOCATING UTILITIES AS REQUIRED FOR CONSTRUCTION OF DRAIN IMPROVEMENTS A MINIMUM CLEARANCE OF 36" BELOW THE BOTTOM OF PROPOSED DRAIN CROSSING MUST BE ACHIEVED UNLESS OTHERWISE SPECIFIED.

ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE. COST SHALL BE INCLUDED IN THE PAY ITEM BEING INSTALLED.

ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ALL MANHOLE RIMS IN ROADWAYS AND DRIVES SHALL BE ADJUSTED PRIOR TO FINAL PAVING TO BE FLUSH WITH FINISHED GRADE.

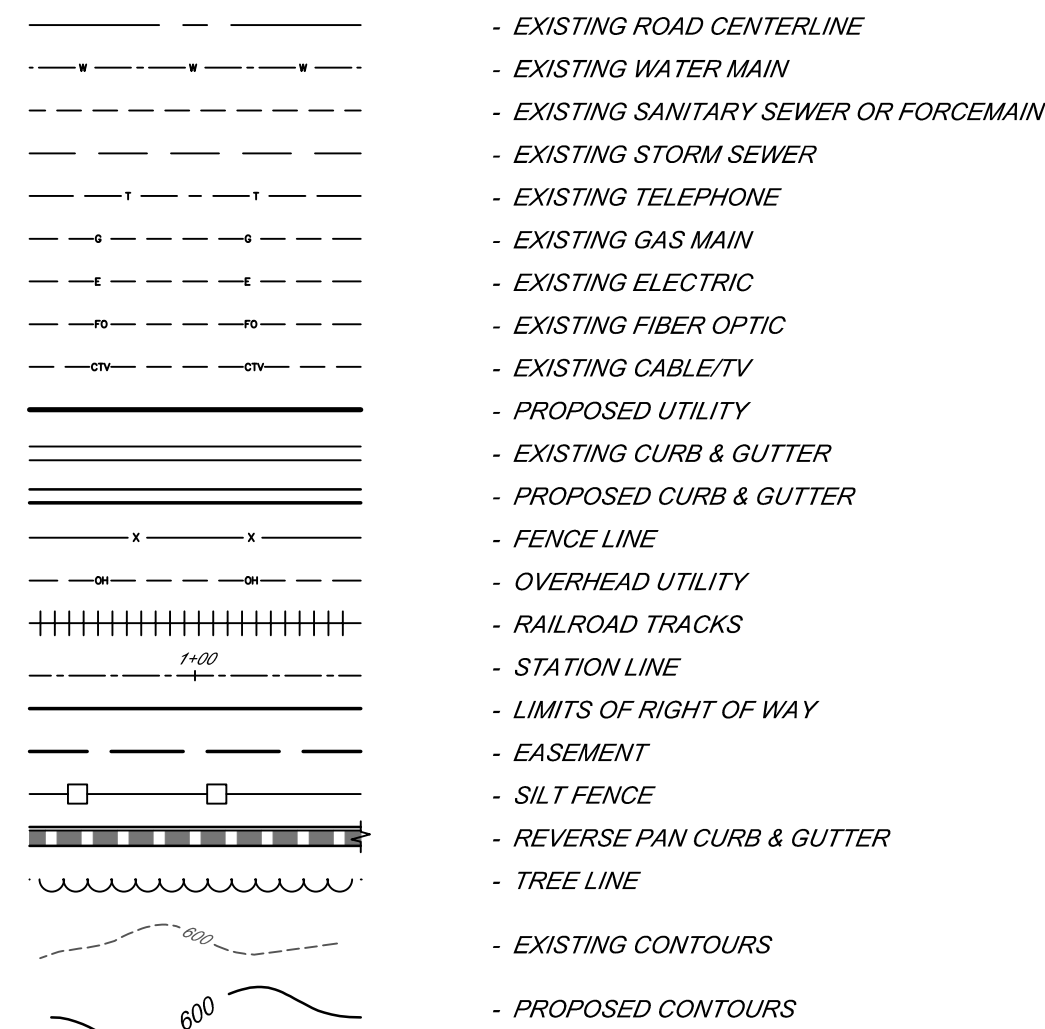
GRAADING AROUND MANHOLES/CATCHBASINS, FLARED END SECTIONS, AND OTHER INLETS DETERMINED BY THE ENGINEER SHALL BE SMOOTH AND SHAPED TO PROVIDE POSITIVE DRAINAGE INTO THE INLETS.

ALL CORRUGATED METAL PIPE SHALL BE TYPE II ALUMINIZED UNLESS OTHERWISE NOTED.

DEMOLISH EXISTING STRUCTURE(S) AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. COST TO BE INCLUDED WITH THE ITEM BEING INSTALLED AS DIRECTED BY OWNER/ENGINEER.

CONTRACTOR SHALL CONNECT ANY AND ALL FIELD TILE OUTLETS AND OTHER STORM LEADS TO PROPOSED STORM SEWER WITH PREMANUFACTURED TEES, WYES, GASKETS, SEALS, COUPLERS, BOOTS, ETC. COST TO BE INCLUDED IN UNIT BID PRICE FOR STORM SEWER INSTALLATION.

LINE TYPE LEGEND

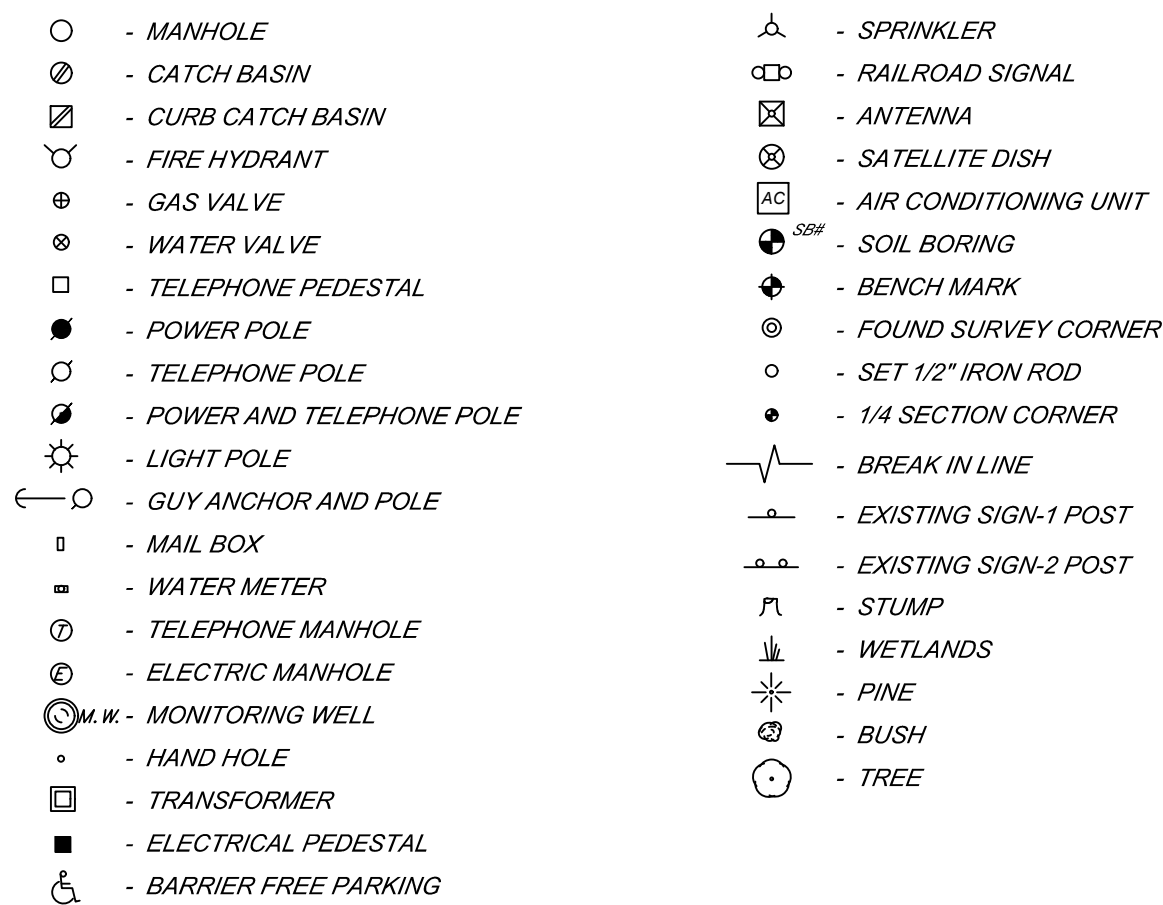


ABBREVIATIONS

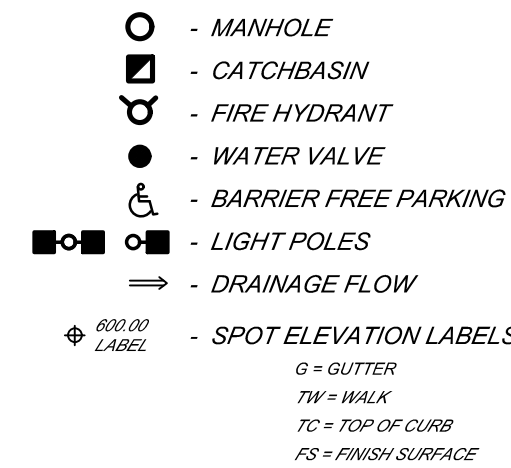
- BC = BACK OF CURB
- BM = BENCH MARK
- CB = CATCH BASIN
- C/C = CENTER TO CENTER
- CJ = CONSTRUCTION JOINT
- CL = CENTERLINE
- CMP = CORRUGATED METAL PIPE
- CONC = CONCRETE
- CORR = CORRUGATED
- CSP = CORRUGATED STEEL PIPE
- DI = DUCTILE IRON PIPE
- EF = EACH FACE
- ELEC = ELECTRIC
- EL OR ELEV = ELEVATION
- EOM = EDGE OF METAL
- EOP = EDGE OF PAVEMENT
- EQ/SP = EQUALLY SPACED
- ESMT = EASEMENT
- EW = EACH WAY
- EX OR EXIST = EXISTING
- FES = FLARED END SECTION
- FF = FINISH FLOOR
- FG = FINISH GROUND
- FL = FLOW LINE
- FS = FINISH SURFACE
- FT = FEET
- GALV = GALVANIZED
- G = GUTTER
- GA = GAUGE
- HDC = HOT DIP GALVANIZED
- HDPE = HIGH DENSITY POLYETHYLENE
- HMA = HOT MIX ASPHALT
- HOR = HORIZONTAL
- HP = HIGH POINT
- HYD = HYDRANT
- INV = INVERT
- LP = LOW POINT
- OC = ON CENTER
- OH = OVERHEAD
- MH = MANHOLE
- MIN = MINIMUM
- MON = MONUMENT
- NFL = NOT FIELD LOCATED
- NTS = NOT TO SCALE
- PROP = PROPOSED
- PVC = POLYVINYL CHLORIDE
- RCP = REINFORCED CONCRETE PIPE
- ROW = RIGHT OF WAY
- SAN = SANITARY
- SB = SOIL BORING
- SS = STAINLESS STEEL
- STA = STATION
- STM = STORM
- SWR = SEWER
- T/B = TOP AND BOTTOM
- TC = TOP OF CURB
- TOB = TOP OF BANK
- TOS = TOE OF SLOPE
- TELE = TELEPHONE
- TRW = TOP OF RETAINING WALL
- TW = TOP OF WALK
- UG = UNDERGROUND
- UNO = UNLESS NOTED OTHERWISE
- VERT = VERTICAL
- WM = WATER MAIN
- WSEL = WATER SURFACE ELEVATION

SYMBOL LEGEND

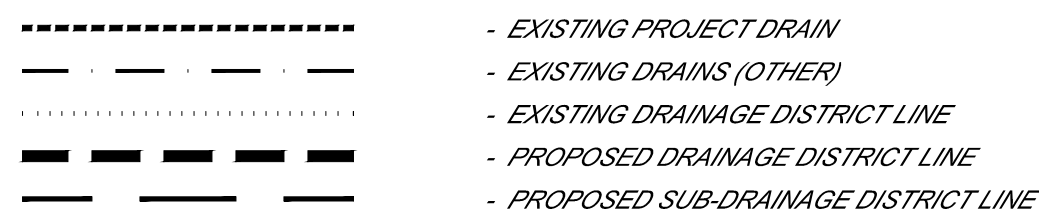
EXISTING SYMBOLS



PROPOSED SYMBOLS



WATERSHED LINE TYPE LEGEND

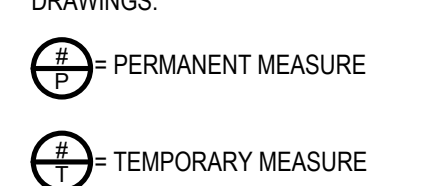


MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL KEYING SYSTEM

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		When bare soil is exposed, temporarily or permanently, to erosive force from wind and or water on flat areas, mid slopes, grassed waterways and spillways, diversion ditches and dikes, barrow and stockpile areas, and spoil piles.
2	MULCH		On flat areas, slopes, grassed waterways and spillways, diversion ditches and dikes, barrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive force from wind or water.
5	Perimeter Sediment Control Measures (Silt Fence, Straw Wattles, etc.)		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.
15	RIPRAP		Riprap and toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods
26	DUST CONTROL		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL

SYMBOLGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:



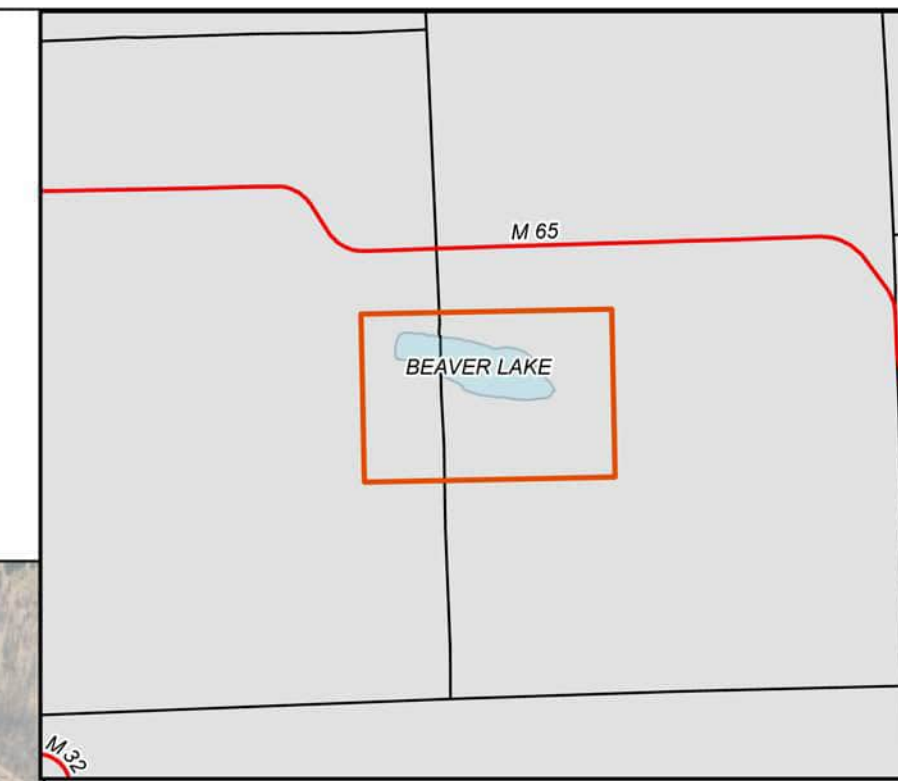
CONTACTS

- OWNER**
GERALD FOURNIER
ALPENA COUNTY DRAIN COMMISSIONER
720 W. CHISHOLM ST, STE 8
ALPENA, MI 49707
(989) 354-9888
- ENGINEER**
WARREN MILLER, P.E.
SPICER GROUP, INC.
230 S. WASHINGTON AVENUE
SAGINAW, MI 48605
(989) 754-4717
- EGLE**
MICHAEL SIZE
HYDROLOGIC AND DAM SAFETY UNIT
2100 W. M-32
GAYLORD, MI 48735
(989) 619-4295
- GAS**
CHRIS RATLIFF
DCP MIDSTREAM LLC
6250 OLD STATE ROAD
JOHANNESBURG, MI 49751
(989) 350-8363

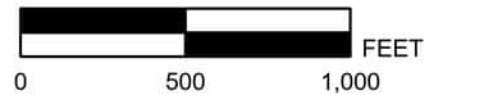
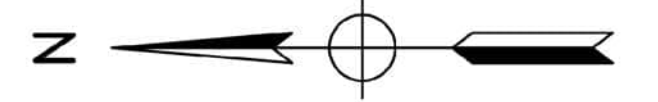
PROJECT DATUM			
HORIZONTAL:	STATE PLANE CENTRAL MI 83 2113		
VERTICAL:	NORTH AMERICAN VERTICAL DATUM '88		
MUC	IFB - ISSUED FOR BID	8/10/2022	
CBS	IFP - ISSUED FOR PERMIT	6/01/2022	
BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>BEAVER LAKE DAM ALPENA COUNTY, MICHIGAN</p>			
<p>CONTACTS, GENERAL NOTES, LINE TYPE LEGEND, AND SESC MEASURE LEGEND</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: POCWTH	CH. BY: WTH	PROJECT NO. 127253SG2019	
DR. BY: CBS	APP. BY: RBH		
STDS.	SHEET 02 OF 09	<p>DR 02</p>	
DATE SCALE	AUGUST, 2022 NOT TO SCALE		
		FILE NO. DR-4142-02	

SPECIAL ASSESSMENT DISTRICT BOUNDARY BEAVER LAKE LEGAL LAKE LEVEL

ALPENA COUNTY, MICHIGAN



AREA MAP
NOT TO SCALE

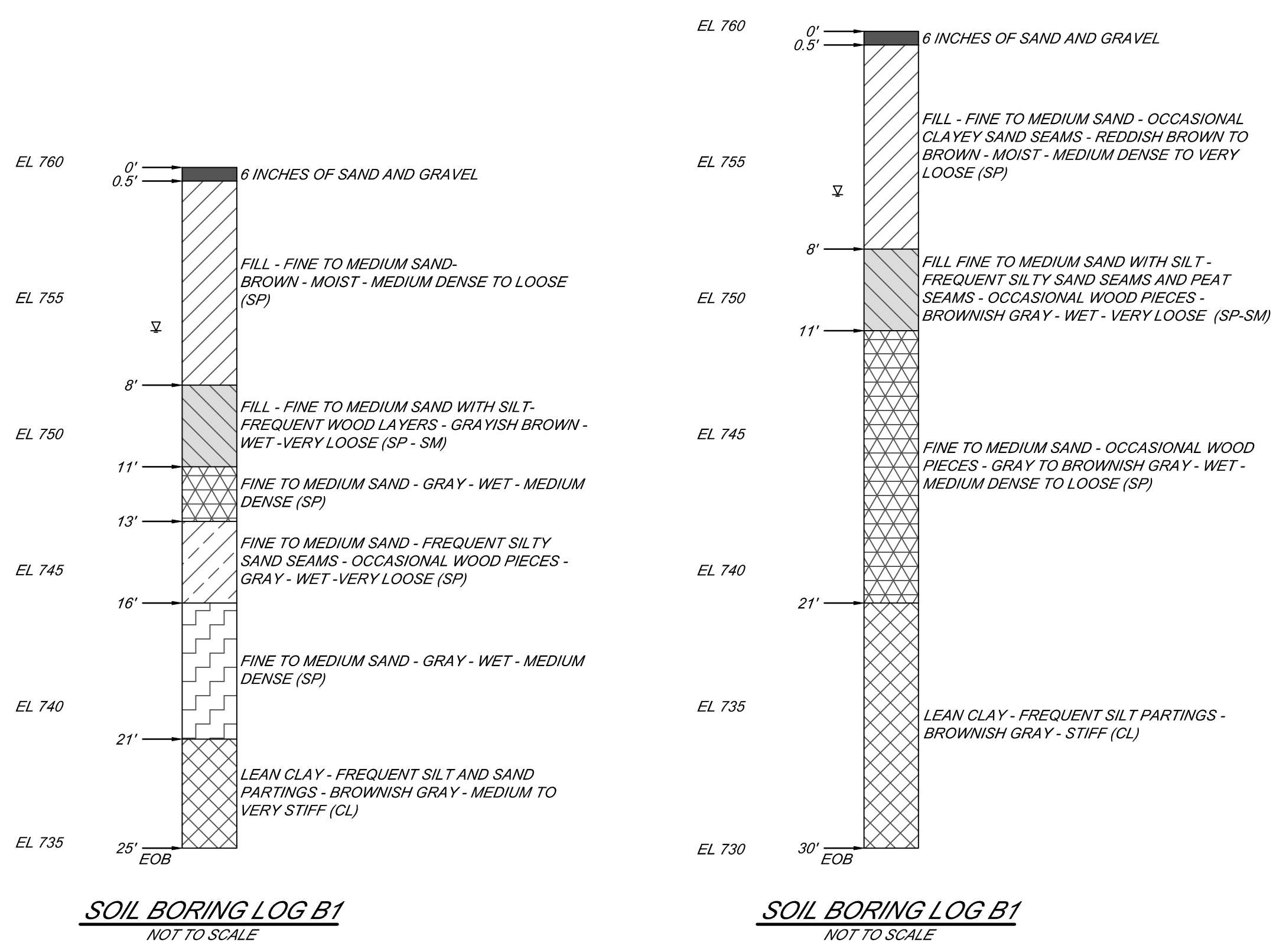
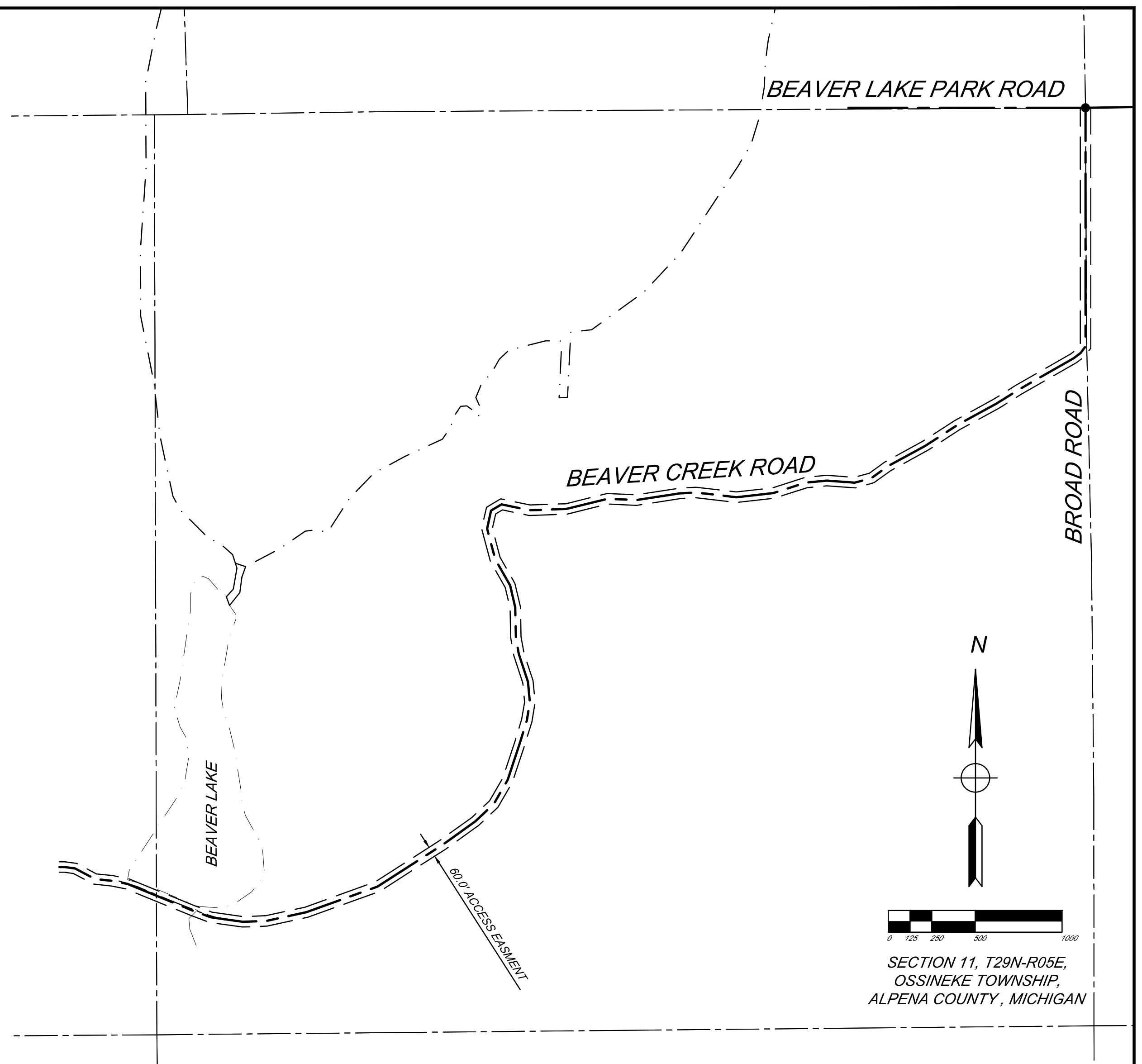


LEGEND

- OUTLET CONTROL STRUCTURE
- LAKE FRONT PARCEL
- NON-LAKE FRONT PARCEL WITH PRIVATE ACCESS TO LAKE
- TENTATIVE SPECIAL ASSESSMENT DISTRICT BOUNDARY
- MUNICIPALITY BOUNDARY
- COUNTY ROADS
- LOCAL ROADS
- SECTION

BY	MARK	REVISIONS	DATE
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BEAVER LAKE ALPENA COUNTY, MICHIGAN			
SPECIAL ASSESSMENT DISTRICT BOUNDARY			
		SAGINAW'S OFFICE 200 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 www.SpicerGroup.com	
DE BY: RKS DR BY: RKS	CH BY: WTM APP BY: RBH	PROJECT NO. 127253SG2019	
STDS.	SHEET 3 OF 6	DR 3	
DATE: OCTOBER 2020 SCALE: AS SHOWN		FILE NO. DR-4142-03	

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**BEAVER LAKE ROAD
EASEMENT ACCESS LOCATION**
SCALE: 1" = 500'

NOTES

PART 307 LEGAL LAKE LEVEL

- SUMMER ELEVATION 757.08 NAVD88
- WINTER ELEVATION 755.58 NAVD88

DEMOLITION NOTES

CONTRACTOR TO REMOVE THE FOLLOWING EXISTING ITEMS:

- CONCRETE APRON
- STEEL BRIDGE SHEET PILE WEIR
- (3) 15" CMP CULVERTS CULVERTS
- 24" CMP CULVERT
- ANY CONCRETE HEADWALLS AND WINGWALLS
- ANY CONCRETE ABUTMENTS OR OTHER BURIED STRUCTURES IN THE AREA OF EXCAVATION OF THE PROPOSED IMPROVEMENTS. IN SUMMARY COMPLETE REMOVAL OF THE EXISTING STRUCTURE

ALL DERBIS TO BE HAULED OFFSITE TO APPROVED LOCATION. LOCATION SHALL BE APPROVED BY ENGINEER. COST TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR DEMOLITION.

LEGEND

(R) - ITEMS TO BE REMOVED

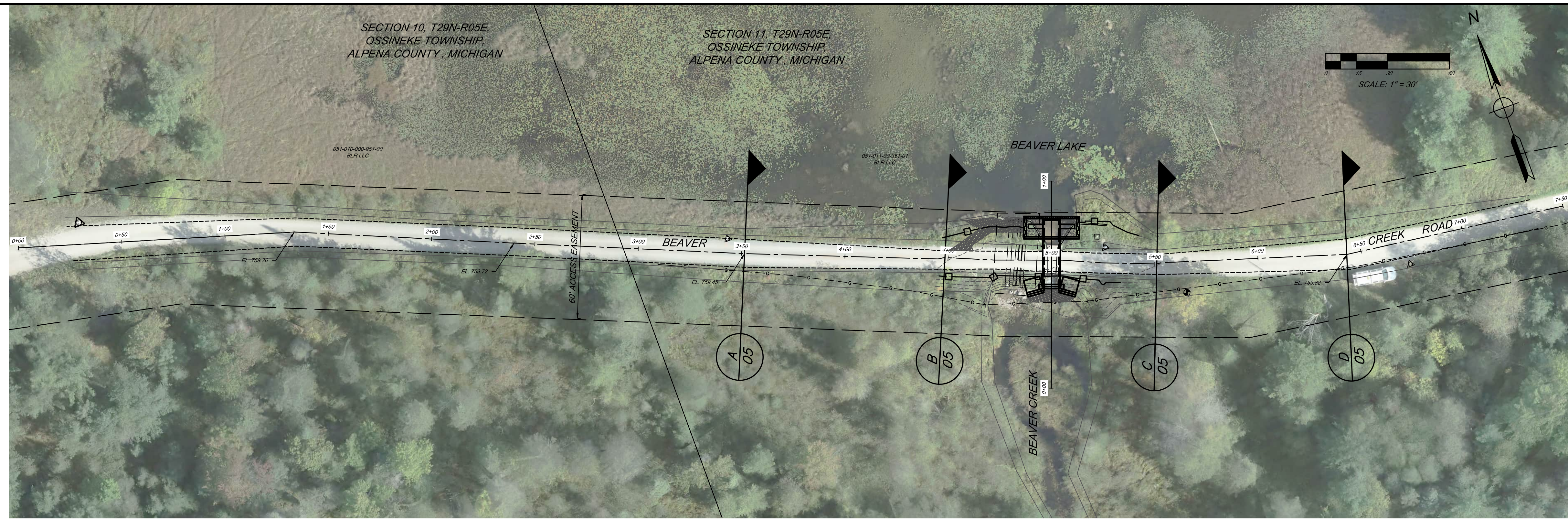
BENCHMARKS

BM 200 - GEAR SPIKE IN NORTH FACE OF 15" TREE, 60' EAST OF DAM, 15' SOUTH OF CL ROAD
EL 758.827

MIC	IFB - ISSUED FOR BID	8/10/2022
CBS	IFP - ISSUED FOR PERMIT	6/01/2022
BY	MARK	REVISIONS DATE
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<p>BEAVER LAKE DAM ALPENA COUNTY, MICHIGAN</p>		
<p>EXISTING SITE PLAN</p>		
<p>DE. BY: POC/WTH DR. BY: POC</p>		<p>CH. BY: WTH APP. BY: RBH</p>
<p>STDS.</p>		<p>PROJECT NO. 127253SG2019</p>
<p>DATE: AUGUST, 2022 SCALE: 1" = 10'</p>		<p>SHEET 04 OF 09 FILE NO. DR-4142-04</p>
		<p>DR 04</p>

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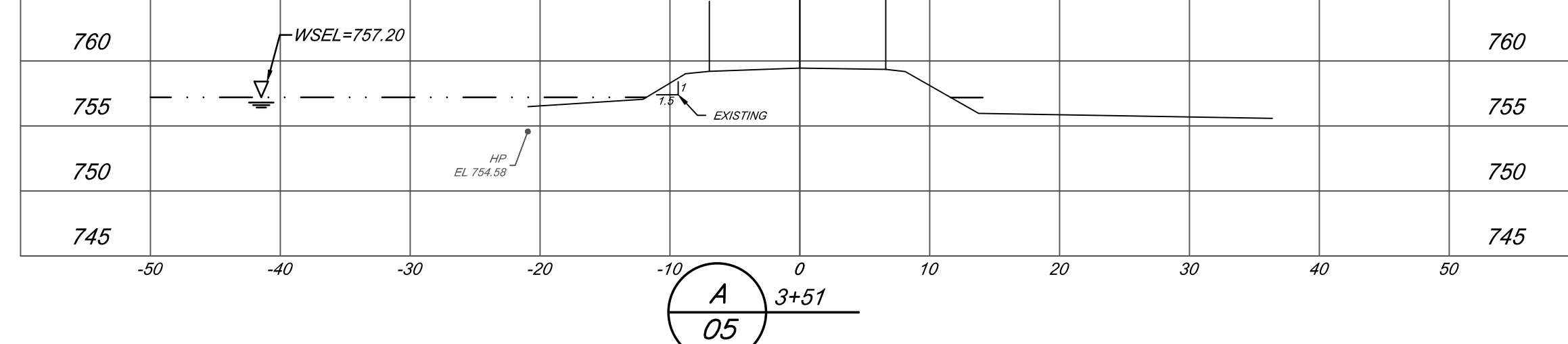
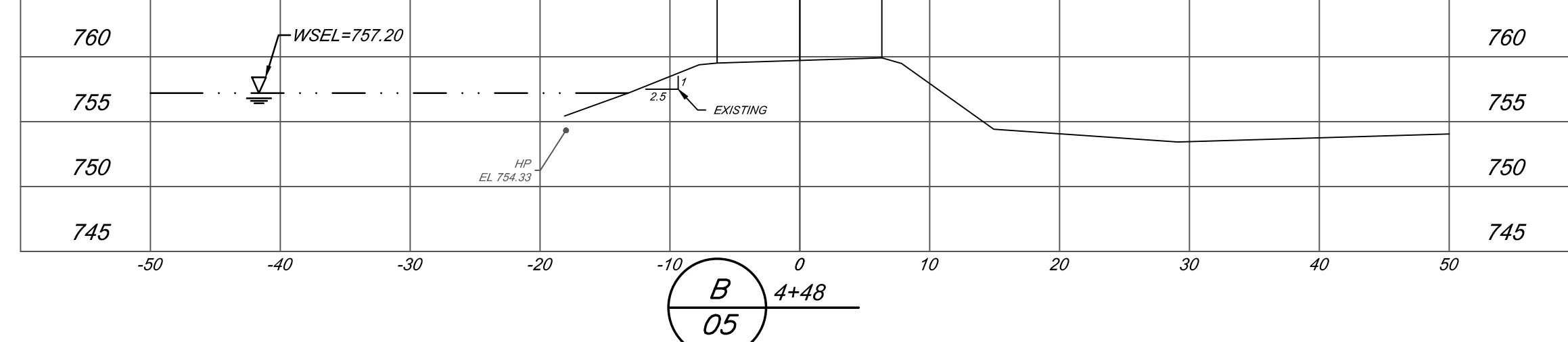
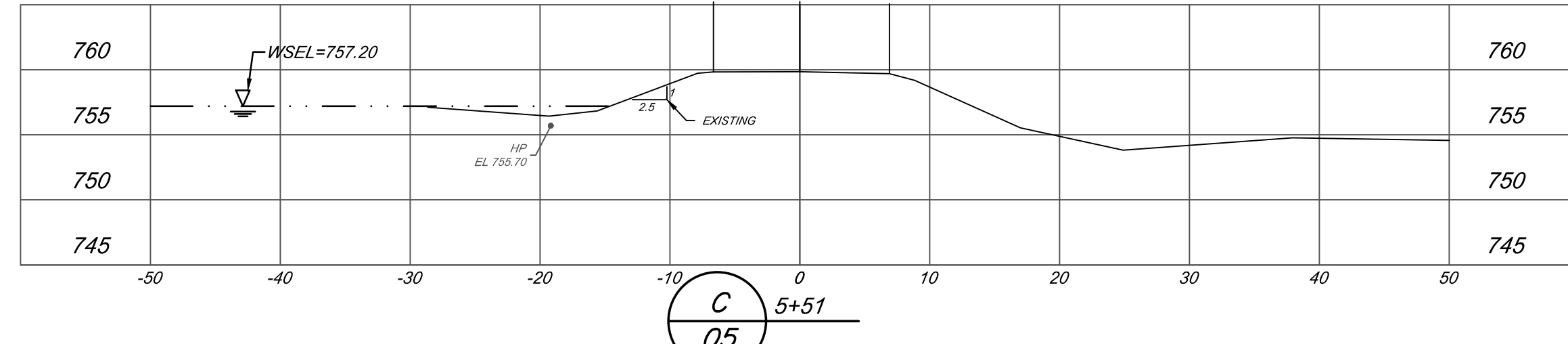
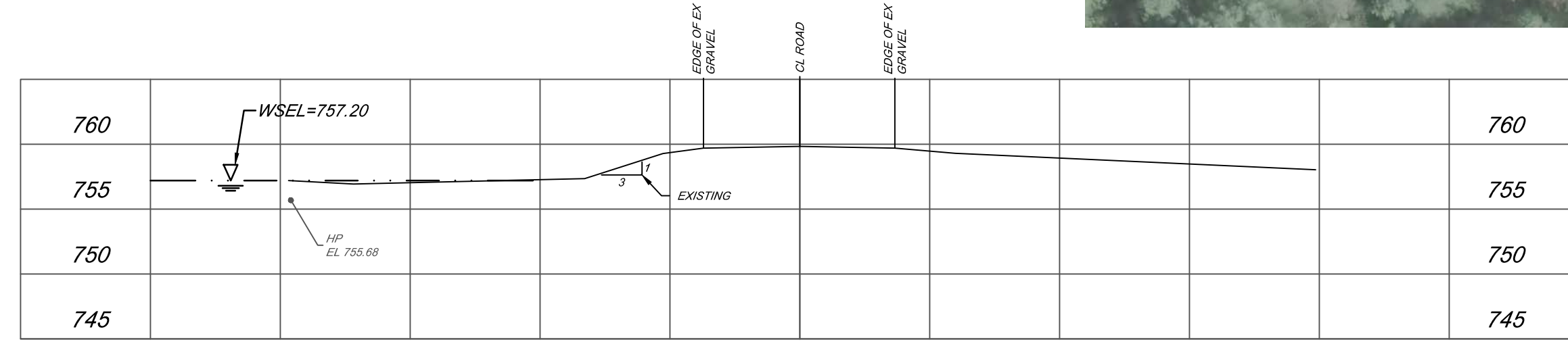
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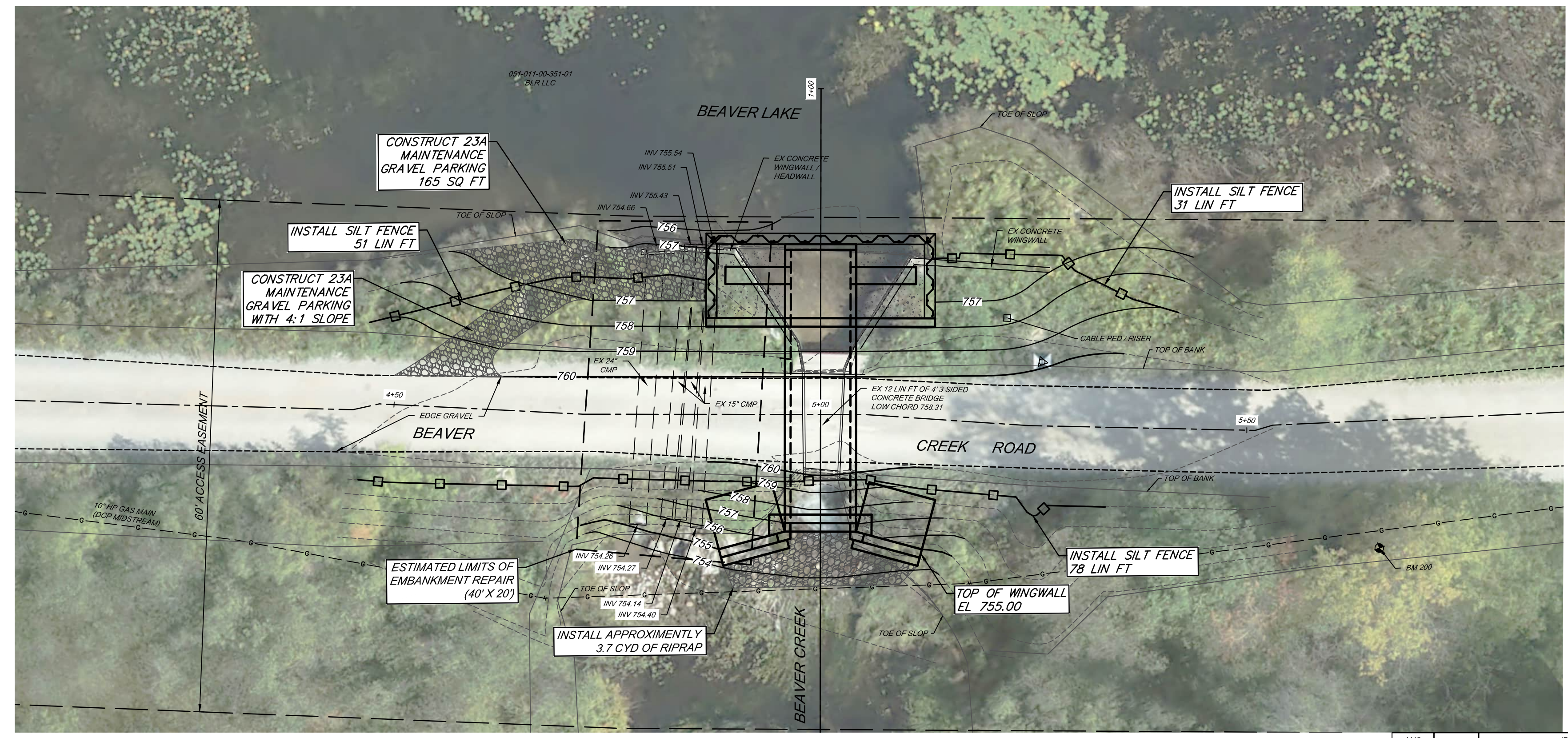
EMBankment PLAN VIEW
SCALE: 1" = 30'

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY.
1 P	-	-	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	-	-	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
5 T	AS STAKED BY ENGINEER	-	-	SILT FENCE	160 LIN FT
15 P	AS STAKED BY ENGINEER	-	-	PLAIN RIPRAP	100 SQ YD

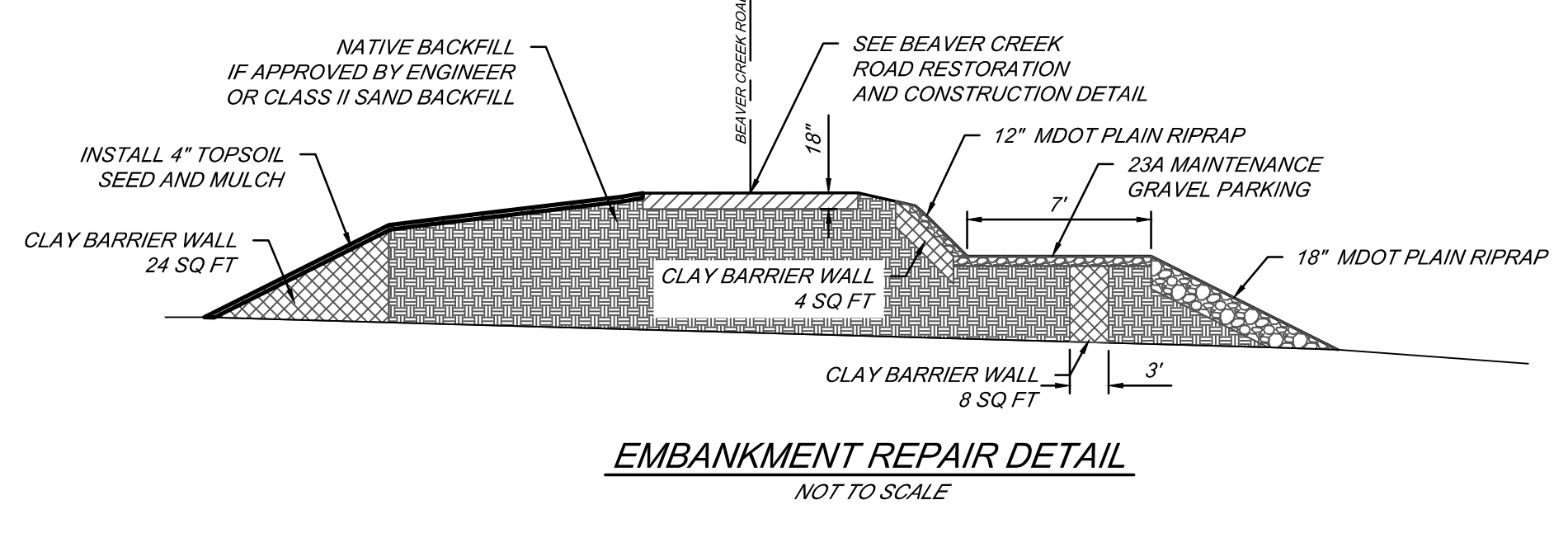
NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.



EMBankment CROSS SECTIONS
SCALE: 1" = 10'



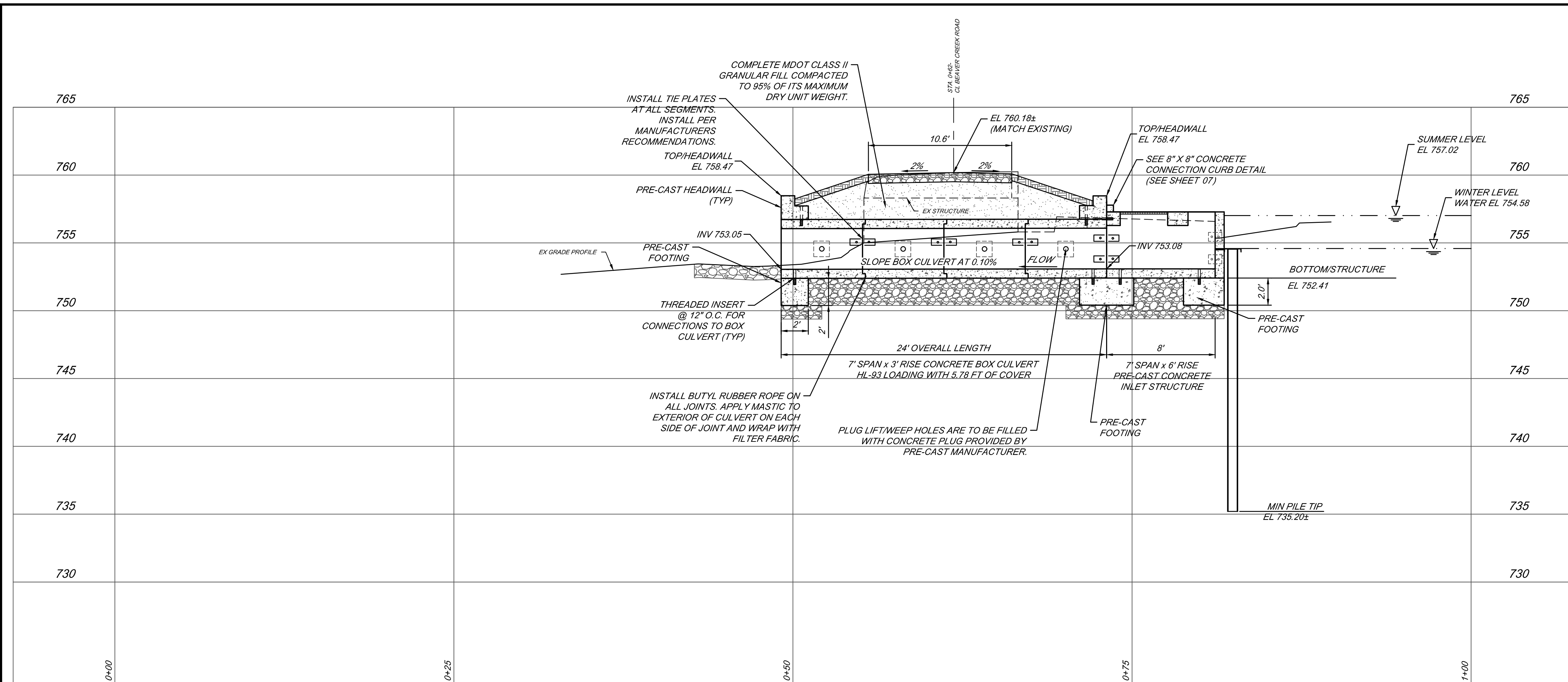
OUTLET CONTROL STRUCTURE PLAN VIEW
SCALE: 1" = 10'



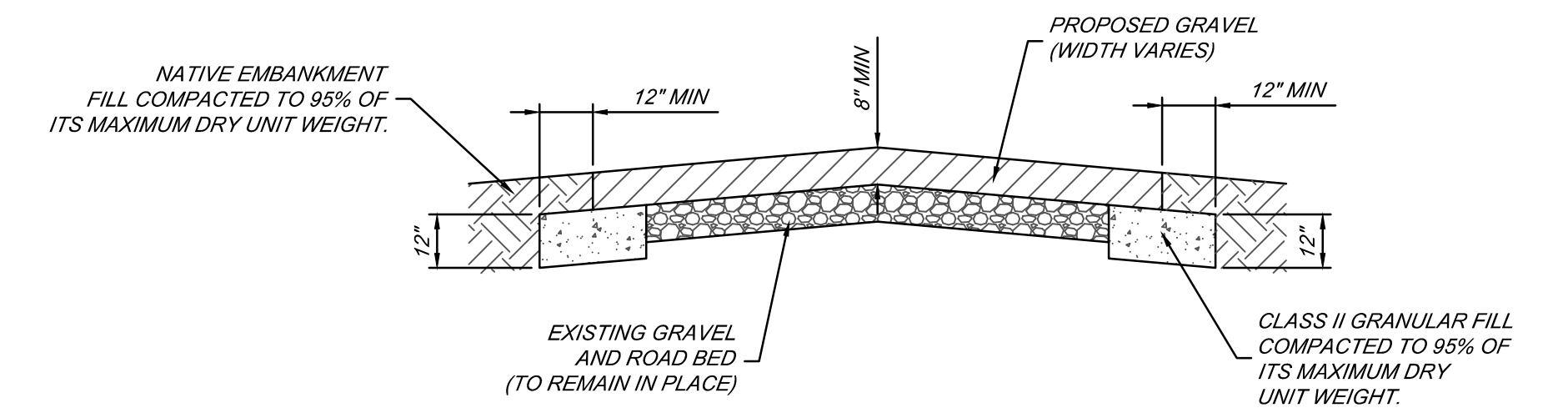
EMBankment REPAIR DETAIL
NOT TO SCALE

- CONSTRUCTION NOTES**
- DRAW DOWN TO BE DONE IN COMPLIANCE WITH EGLE PERMIT.
 - INSTALL SILT FENCE AS SHOWN AND AS DIRECTED BY FIELD ENGINEER.
 - NO PROPOSED EXCAVATION TO EMBANKMENT OTHER THAN REPAIR WHERE EXISTING CMP CULVERTS ARE REMOVED.
 - CONTRACTOR SHALL REMOVE BRUSH ON EMBANKMENT (UPSTREAM AND DOWNSTREAM FACE) FROM STA 0+50 TO STA 7+00. PRICE INCLUDED IN LUMP SUM BID FOR SITE CLEARING.
- BENCHMARKS**
- BM 200 - GEAR SPIKE IN NORTH FACE OF 15" TREE, 60' EAST OF DAM, 15' SOUTH OF CL ROAD

MIC	IFB - ISSUED FOR BID	8/10/2022
CBS	RFI - ISSUED FOR PERMIT	6/01/2022
BY	MARK	REVISIONS
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BEAVER LAKE DAM ALPENA COUNTY, MICHIGAN		
OVERALL SITE PLAN AND SESC PLAN		
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DE. BY: POC/WTM	CH. BY: WTM	PROJECT NO. 127253SG2019
DR. BY: POC	APP. BY: RBH	
STDS.	SHEET 05 OF 09	DR 05
DATE: AUGUST, 2022	FILE NO. DR-4142-05	
SCALE: AS SHOWN		



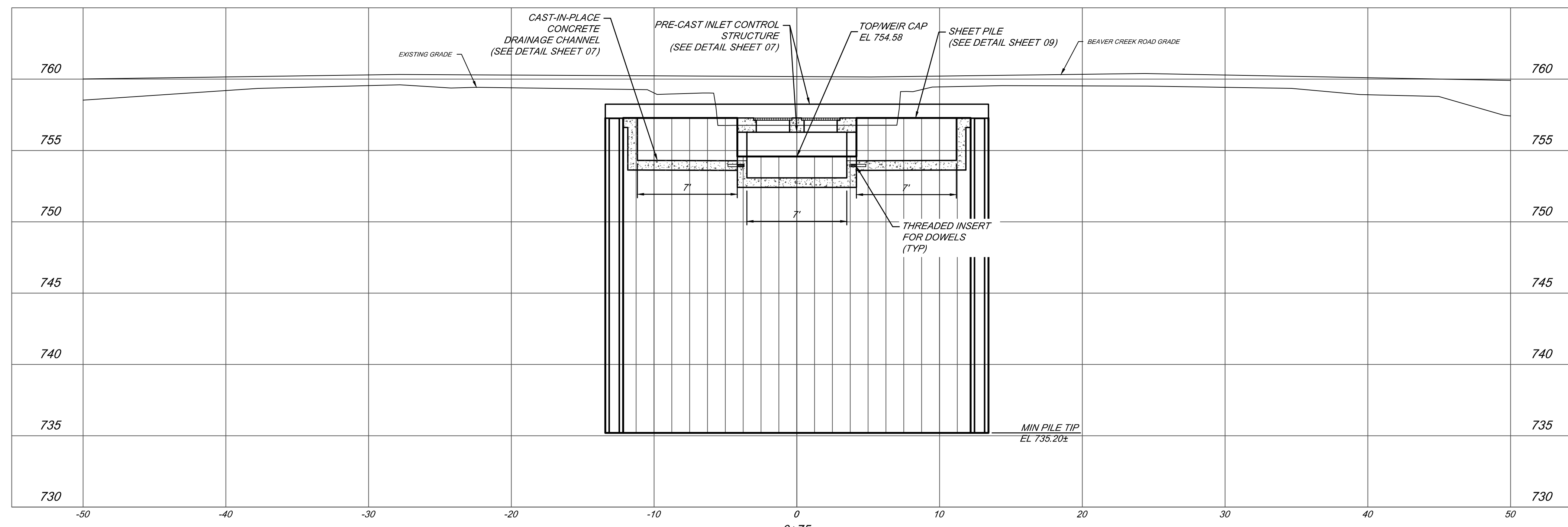
PROFILE VIEW
SCALE: 1" = 5'



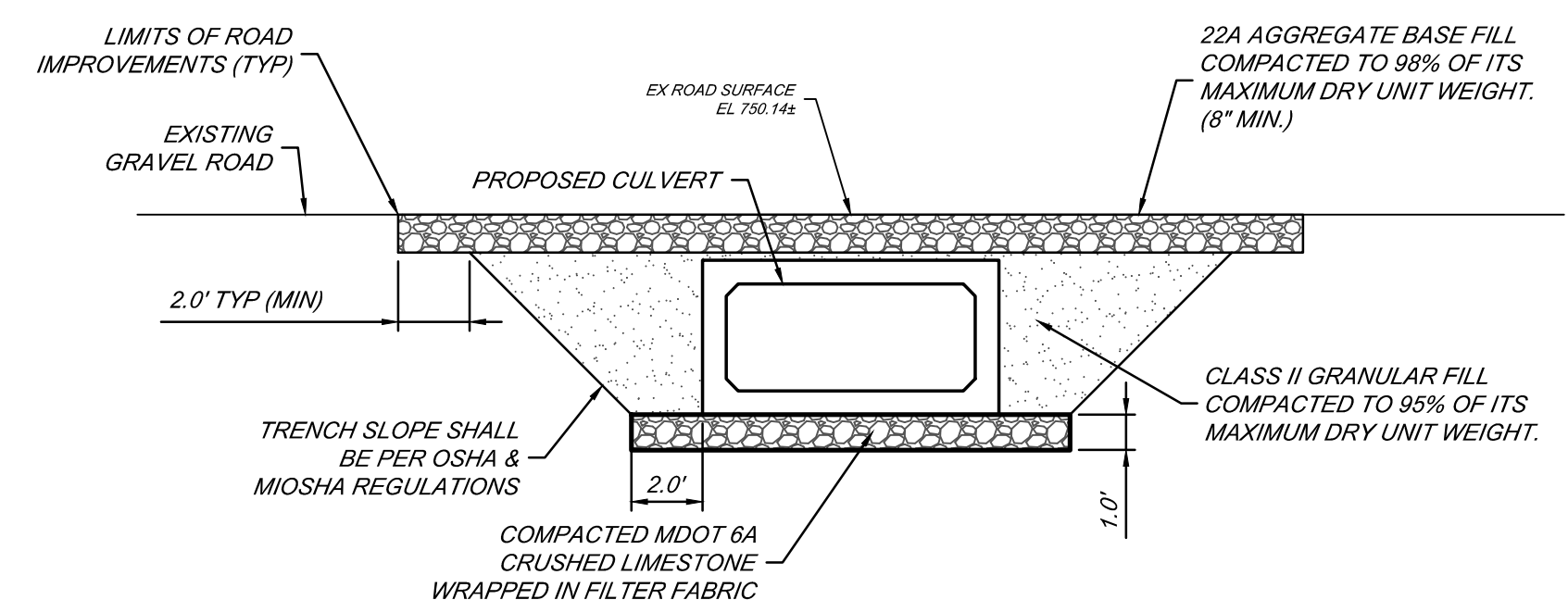
BEAVER CREEK ROAD
RESTORATION AND CONSTRUCTION DETAIL
NOT TO SCALE

CONSTRUCTION NOTES

1. ALL EXCESS SPOILS FROM CULVERT INSTALLATION SHALL BE HAULED OFFSITE. COST TO BE INCLUDED IN BID PRICE FOR BOX CULVERT.
2. ALL BOX CULVERT JOINT SHALL UTILIZE BUTYL RUBBER ROPE TO SEAL THE JOINT. JOINTS SHALL BE GROUTED ON THE INTERIOR FOLLOWING INSTALLATION AND SHALL BE WRAPPED WITH 2" WIDE FILTER FABRIC ADHERED TO THE EXTERIOR OF THE BOX CULVERT WITH MASTIC.
3. ALL JOINTS SHALL BE SEALED ACROSS THE TOP AND 2 FEET VERTICALLY DOWN THE SIDES WITH MDOT APPROVED PREFORMED JOINT WATER PROOFING.
4. LOAD RATING TO BE SUBMITTED WITH SHOP DRAWINGS BY PRE-CAST MANUFACTURER. CULVERT MUST MEET ALL MICHIGAN LEGAL LOADS AND OVERLOAD CLASS A.
5. FOOTING DESIGN AND STRUCTURAL DESIGN OF ALL PRE-CAST COMPONENTS TO BE VERIFIED BY MANUFACTURER.
6. FOOTING SHALL BE CONNECTED TO BOX WITH GROUT AND PIN CONNECTION. USING #5 BAR PINS @ 12" SPACING.
7. UTILIZE #5 THREADED DOWEL @ 12" ON CENTER ON INLET STRUCTURE, BOX CULVERT, AND WINGWALLS. THREADED DOWEL SHALL HAVE MINIMUM 12" EMBED INTO CAST IN PLACE CONCRETE CLOSURE POUR.
8. SEE SHEET 07 FOR HEADWALL AND WINGWALL DETAILS.
9. ALL PRECAST CONCRETE COMPONENTS SHALL HAVE A MINIMUM OF 12" 6A CRUSH LIMESTONE BEDDING UNLESS OTHERWISE NOTED.
10. ALL UNDERCUTTING AND BEDDING SHOWN ON PLAN IS INCLUDED IN THE BID PRICE FOR BOX CULVERT. SUB GRADE UNDERCUTTING WILL ONLY BE PAID FOR EXCAVATION AND FILLING OUTSIDE OF WHAT IS SHOWN ON DRAWINGS.
11. ALL SAND BACKFILL INCLUDED IN BID ITEMS FOR CONCRETE BOX CULVERT, INLET CONTROL STRUCTURE, AND GRAVEL ROAD RESTORATION CONSTRUCTION.
12. PRE-CAST CONCRETE FOOTING SHALL MATCH WIDTH OF CONCRETE BOX CULVERT AND PRE-CAST CONCRETE INLET STRUCTURE.



CROSS SECTION VIEW
SCALE: 1" = 5'



BEAVER CREEK ROAD OVER BOX CULVERT
GRAVEL ROAD RESTORATION DETAIL
NOT TO SCALE

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CBS	RF - ISSUED FOR PERMIT	6/9/2022
BY	MARK	REVISIONS
		DATE

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BEAVER LAKE DAM
ALPENA COUNTY, MICHIGAN

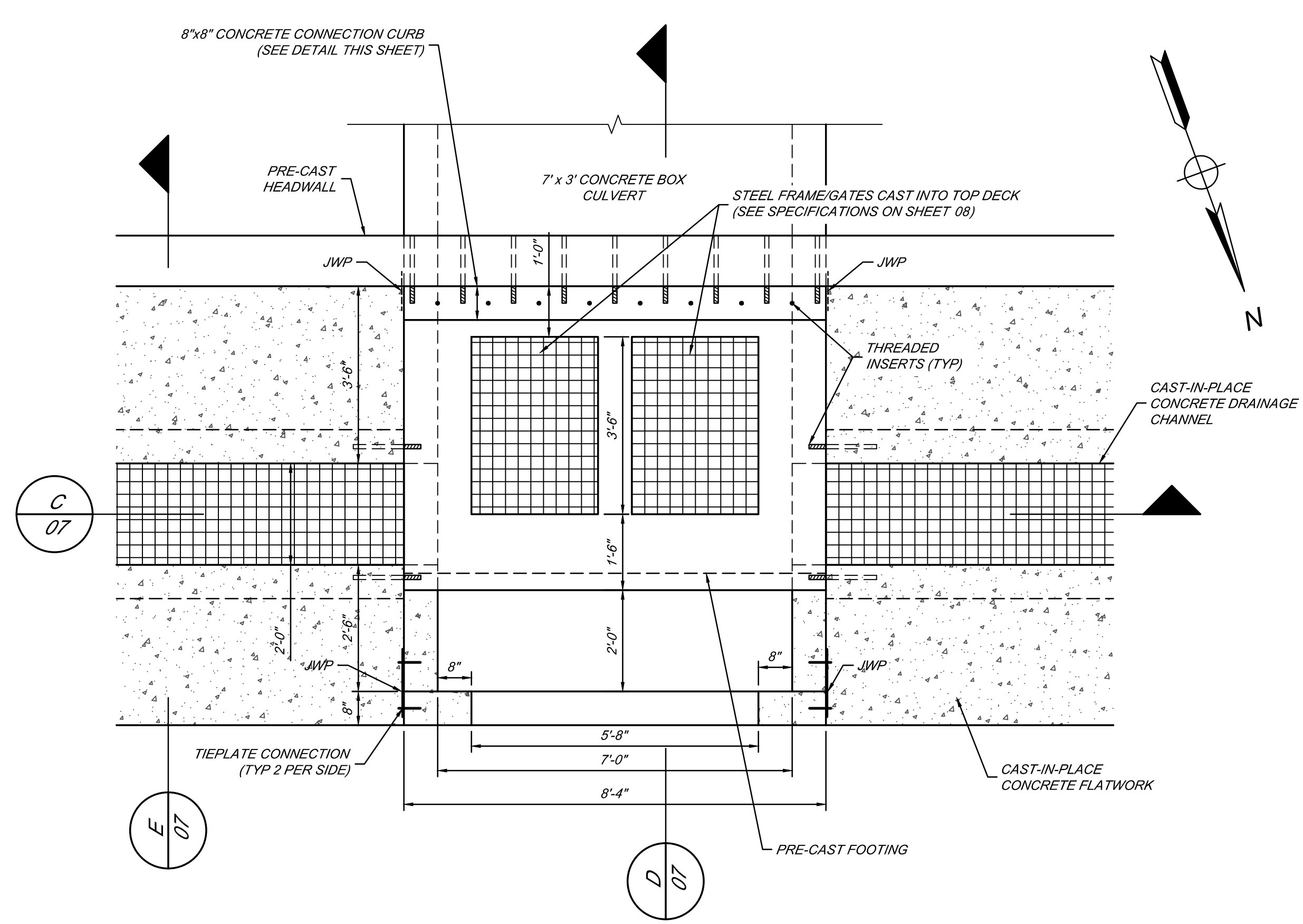
PROFILE VIEW
CROSS SECTION VIEW
GRAVEL ROAD RESTORATION
AND ELEVATION DETAILS

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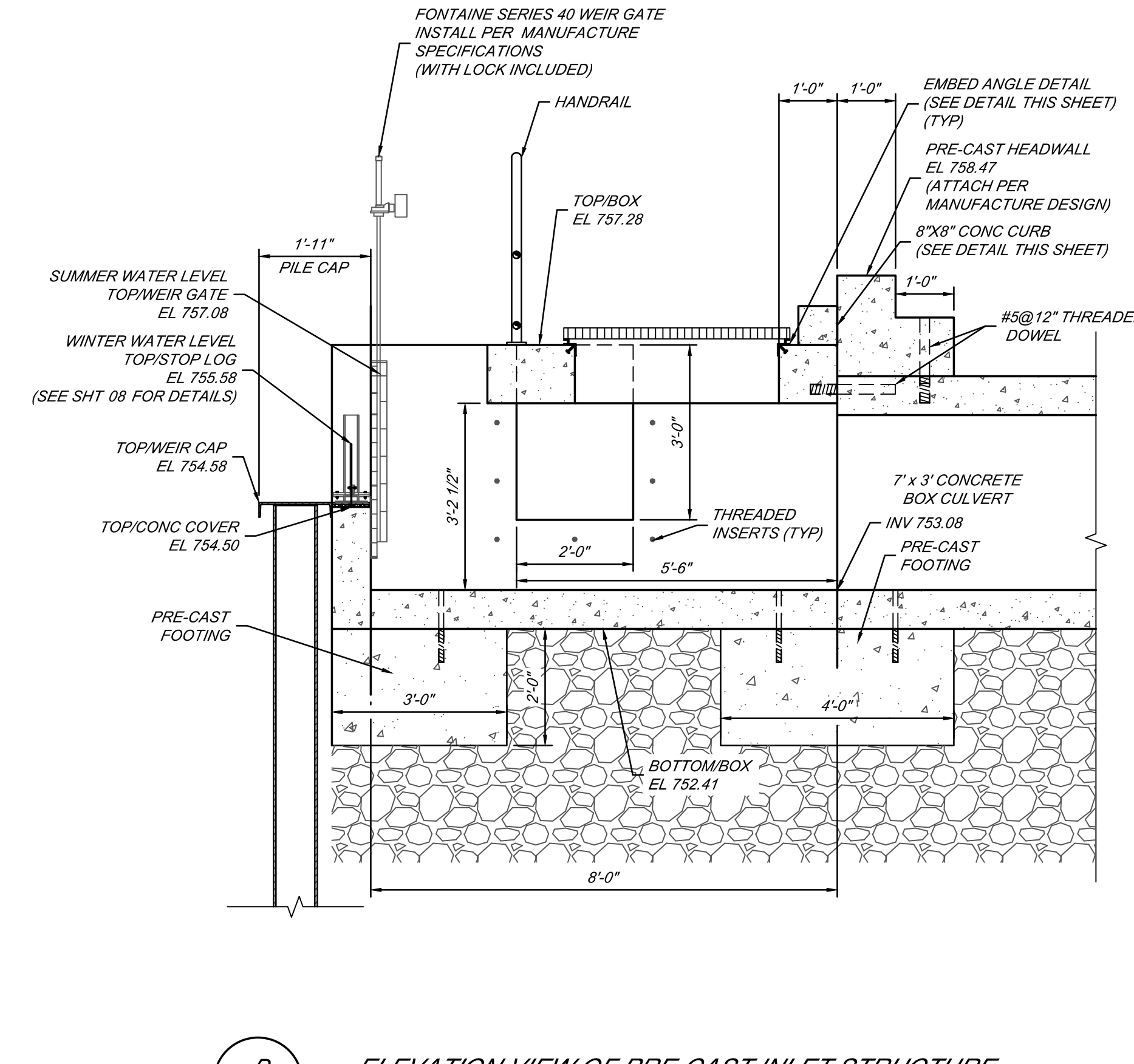
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STDS.	SHEET 06 OF 09	DR
DATE: AUGUST, 2022	FILE NO.	06
SCALE: SCALE	DR-4142-06	

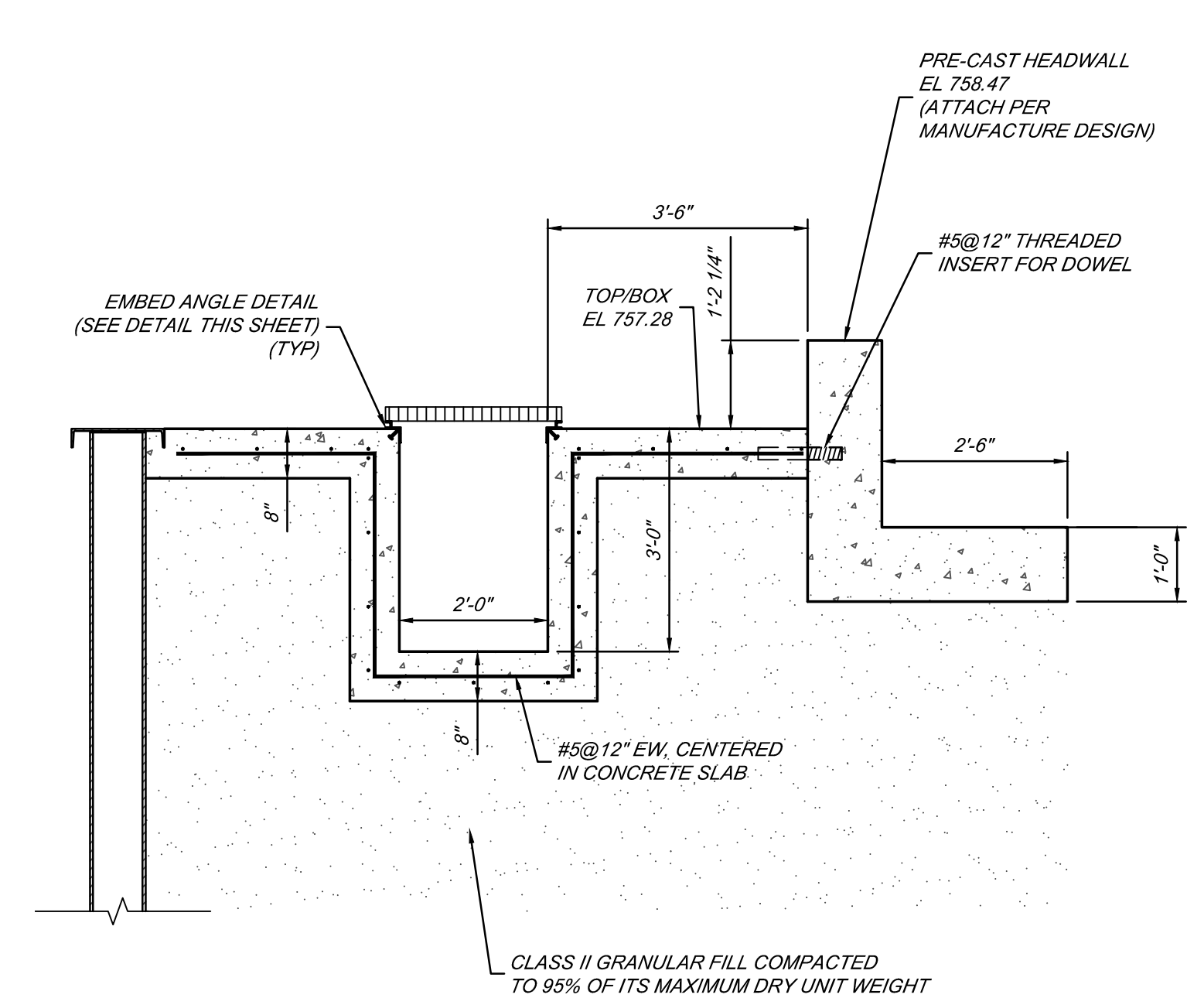
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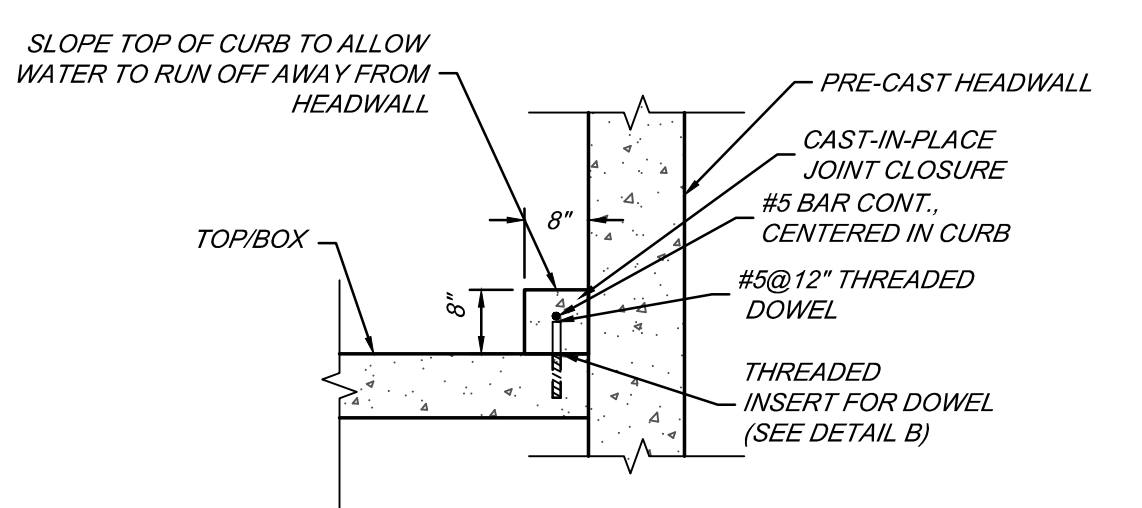
PLAN VIEW OF PRE-CAST INLET STRUCTURE
SCALE: 1/2" = 1'-0"



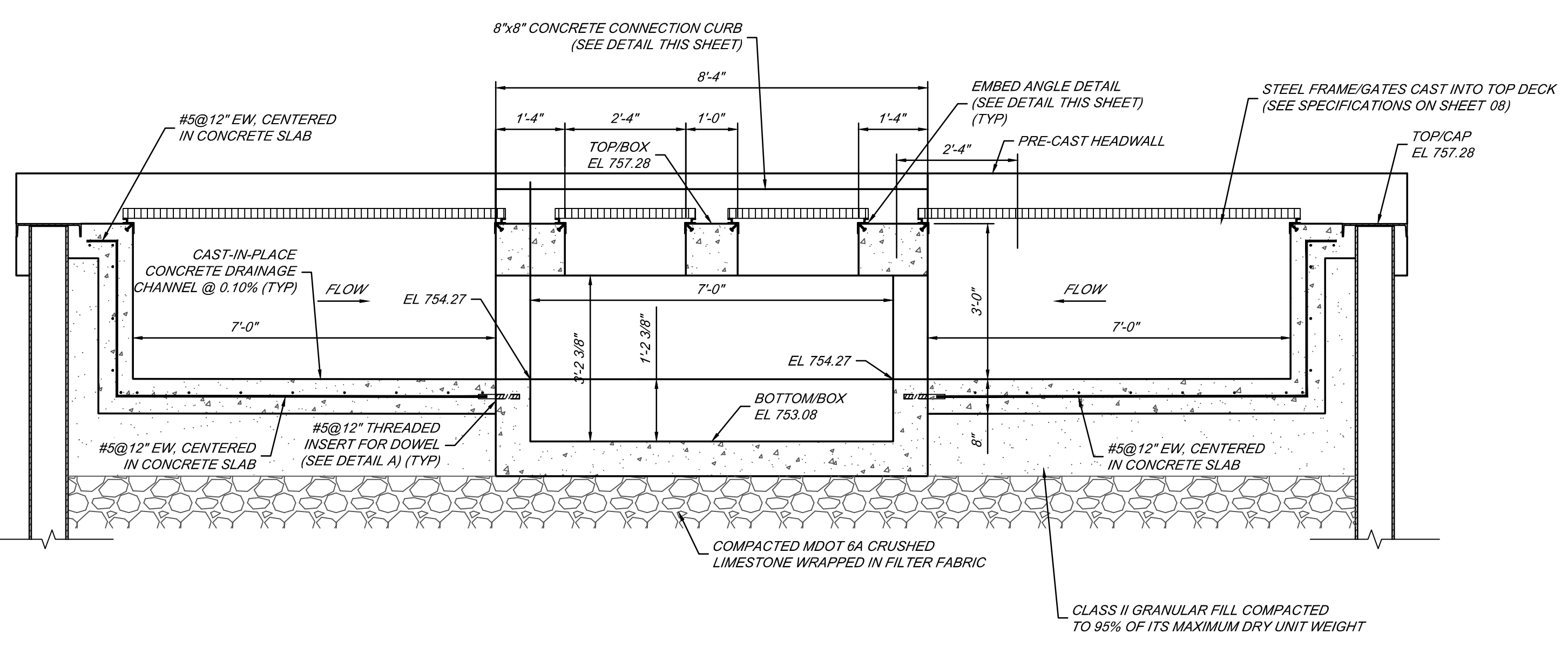
ELEVATION VIEW OF PRE-CAST INLET STRUCTURE
SCALE: 1/2" = 1'-0"



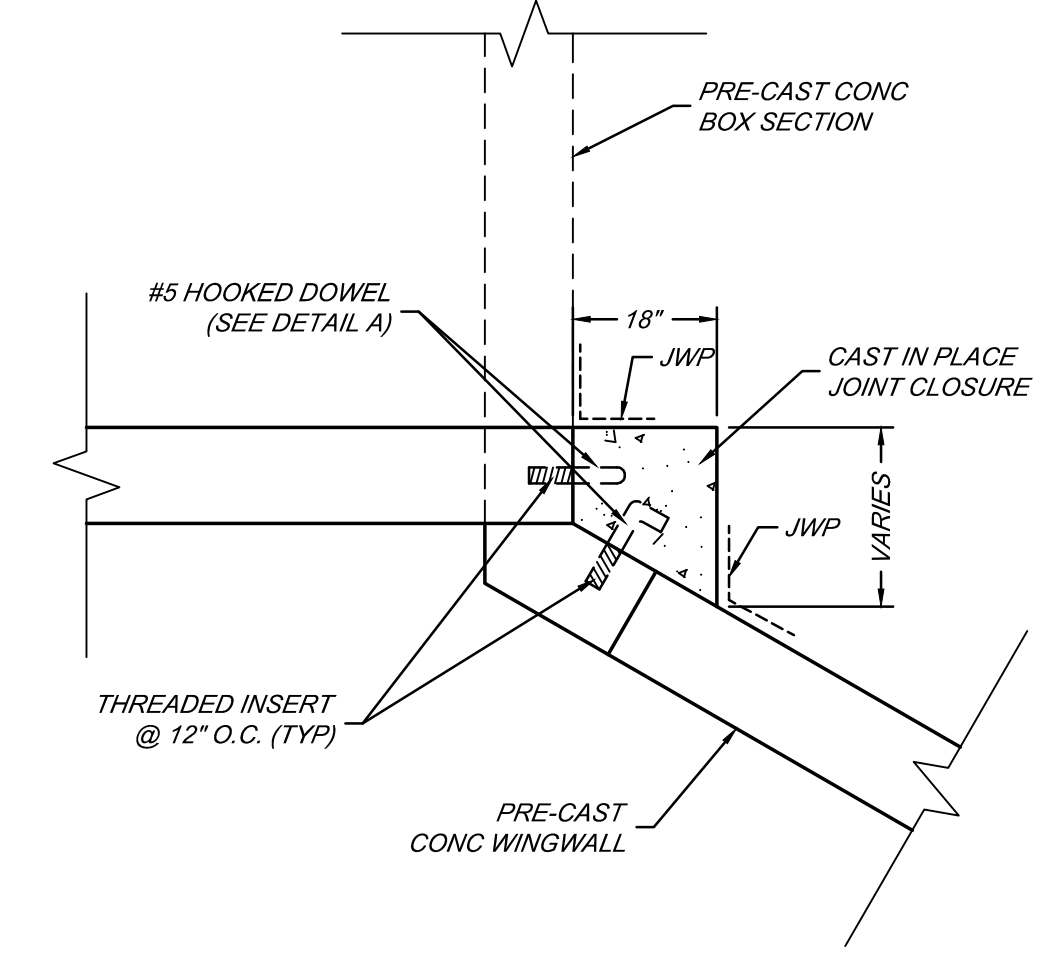
SECTION VIEW CONCRETE FLATWORK
SCALE: 1/2" = 1'-0"



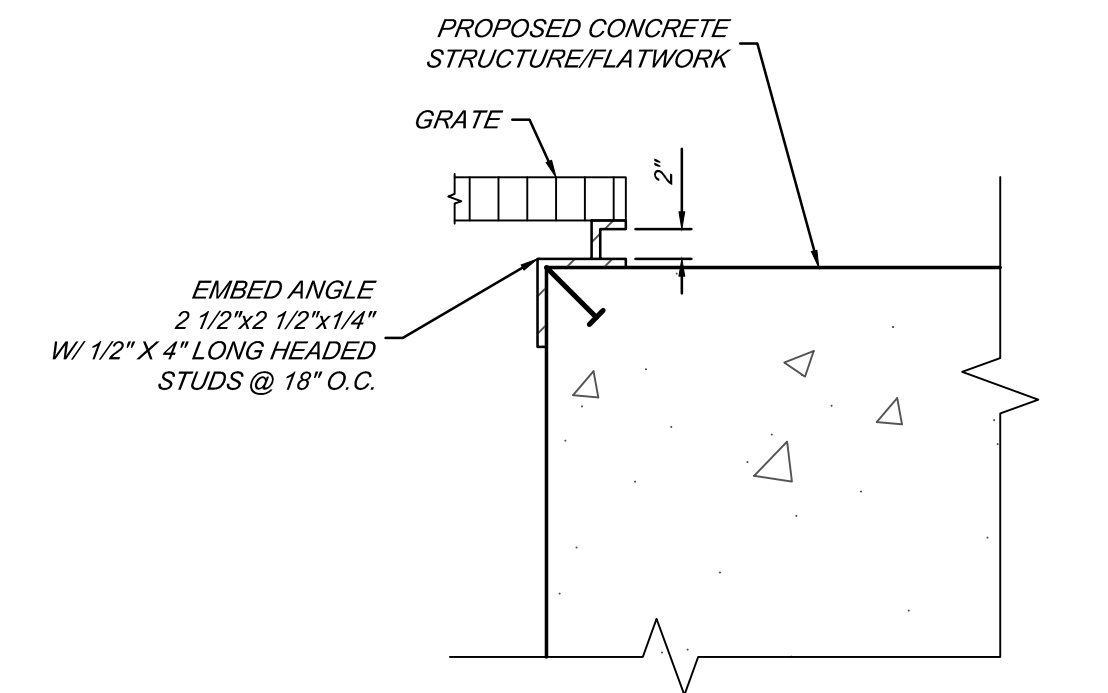
8' x 8' CONCRETE CONNECTION CURB DETAIL
SCALE: 1/2" = 1'-0"



ELEVATION VIEW OF PRE-CAST INLET STRUCTURE
SCALE: 1/2" = 1'-0"



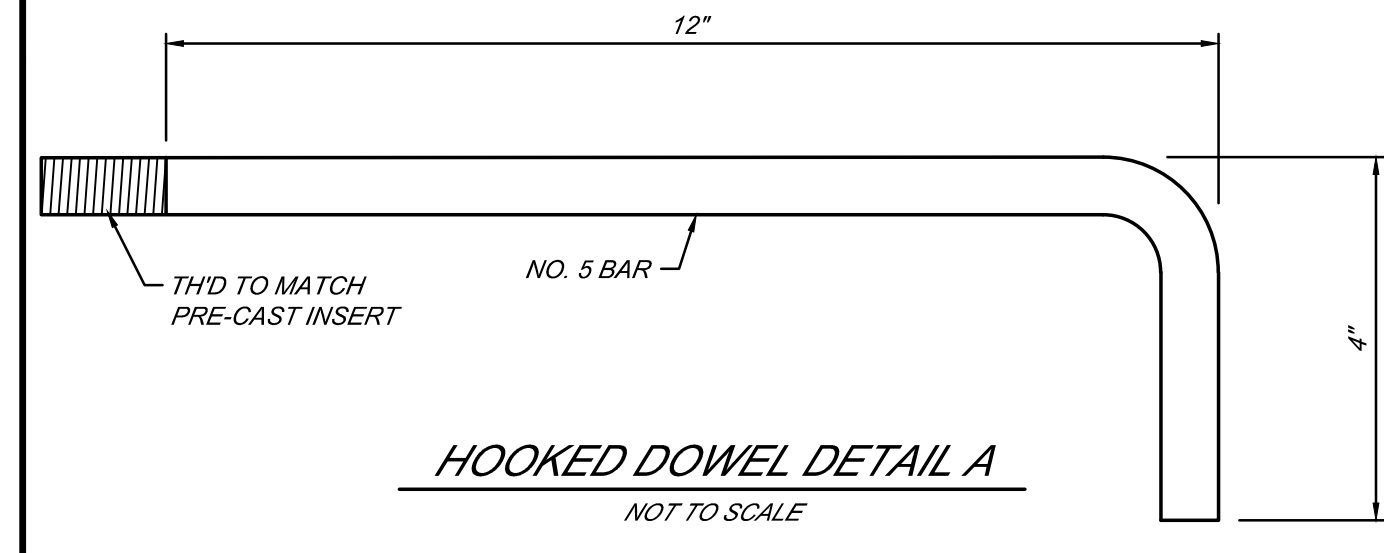
CONNECTION DETAIL
SCALE: 1/2" = 1'-0"



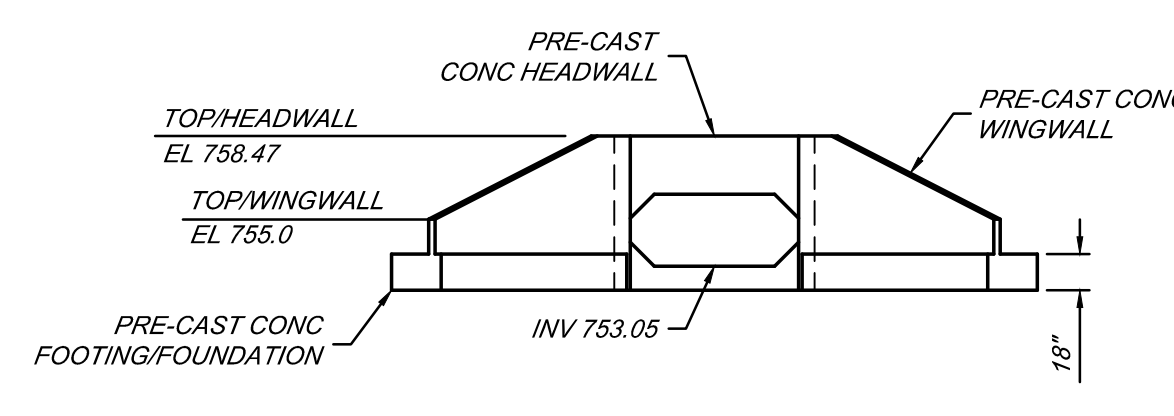
EMBEDDED ANGLE DETAIL
NOT TO SCALE

GENERAL NOTES

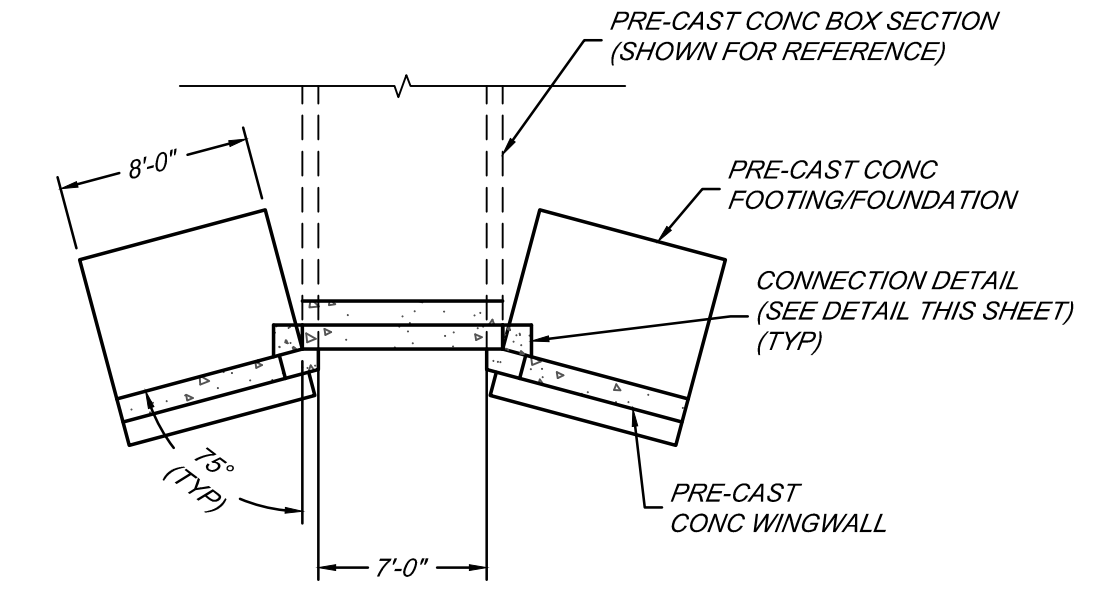
- JWP DENOTES JOINT WATERPROOFING.
- ALL EDGES SHALL HAVE 1" CHAMFER.
- HOOKED DOWEL SHALL EXTEND FROM THREADED INSERT 12" HORIZONTALLY AND INCLUDE 4" LONG TAIL.
- ALL FABRICATED ITEMS REQUIRE APPROVED SHOP DRAWING PRIOR TO FABRICATION.



HOOKED DOWEL DETAIL A
NOT TO SCALE



DOWNSTREAM CONCRETE HEADWORKS WINGWALL/HEADWALL ELEVATION VIEW
SCALE: 1/8" = 1'-0"

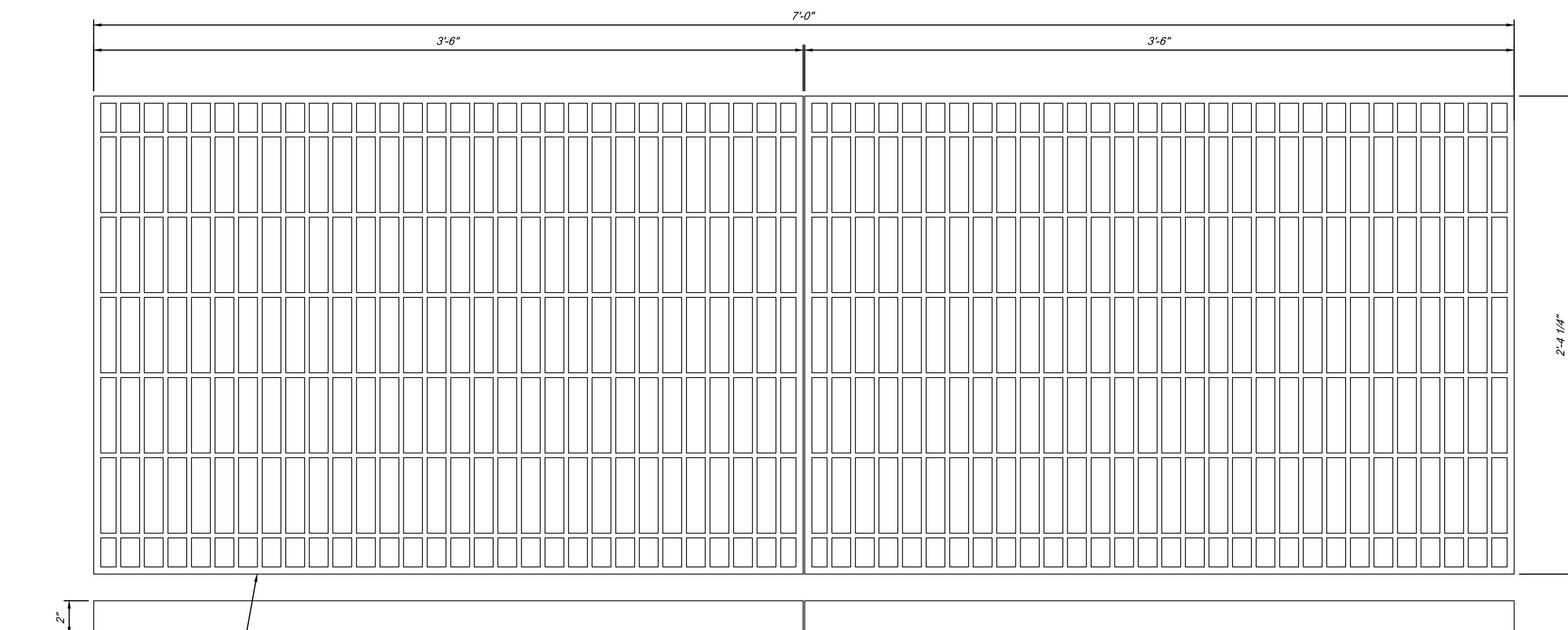


DOWNSTREAM CONCRETE HEADWORKS WINGWALL/HEADWALL PLAN VIEW
SCALE: 1/8" = 1'-0"

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BY	MARK	REVISIONS DATE
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BEAVER LAKE DAM ALPENA COUNTY, MICHIGAN		
CONTROL STRUCTURE AND HEADWALL/WINGWALL DETAILS		
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SCALE: AS SHOWN		

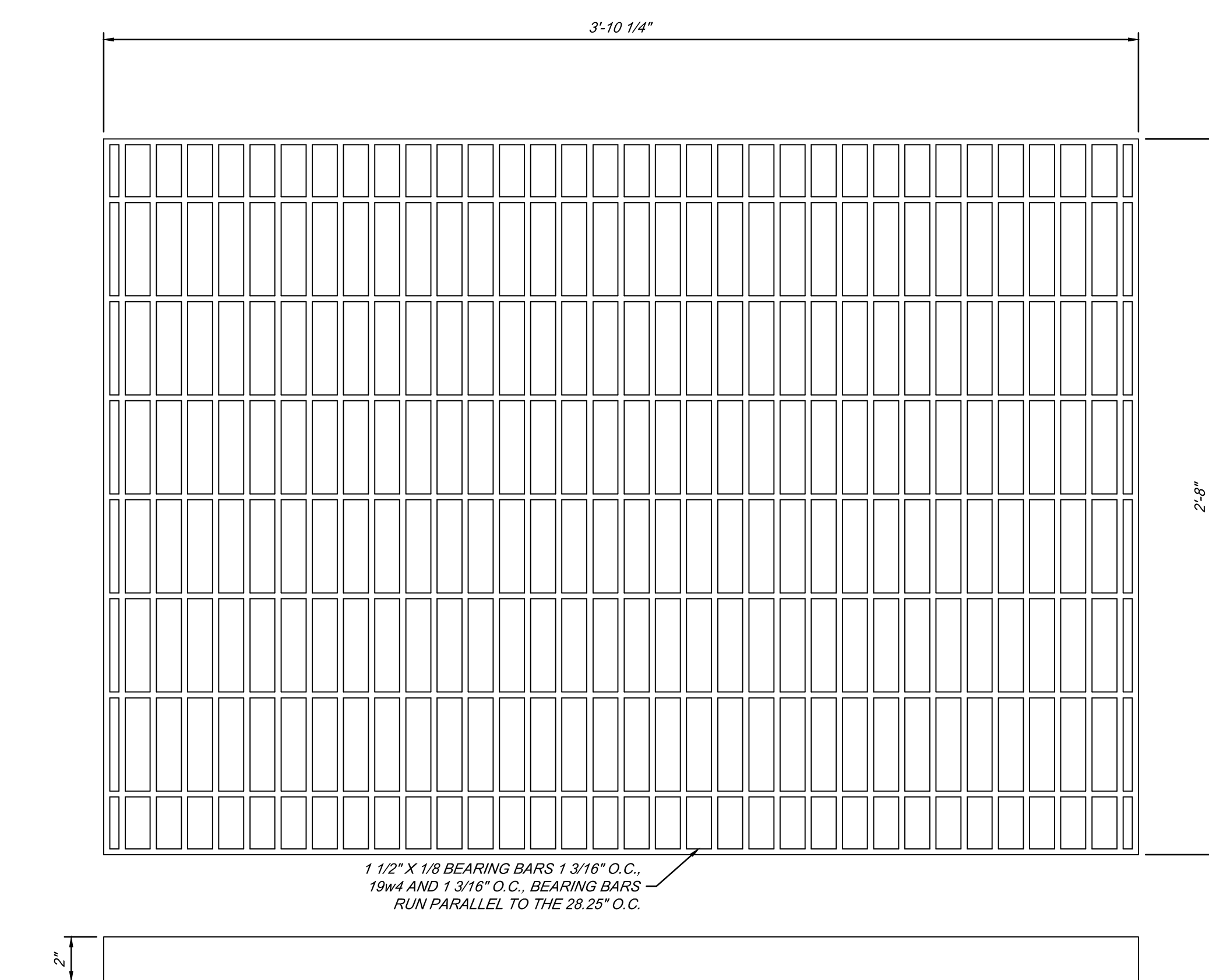
** FINAL DESIGN/DETAILS BY PRE-CAST CONCRETE MANUFACTURE

** FINAL DESIGN/DETAILS BY PRE-CAST CONCRETE MANUFACTURE



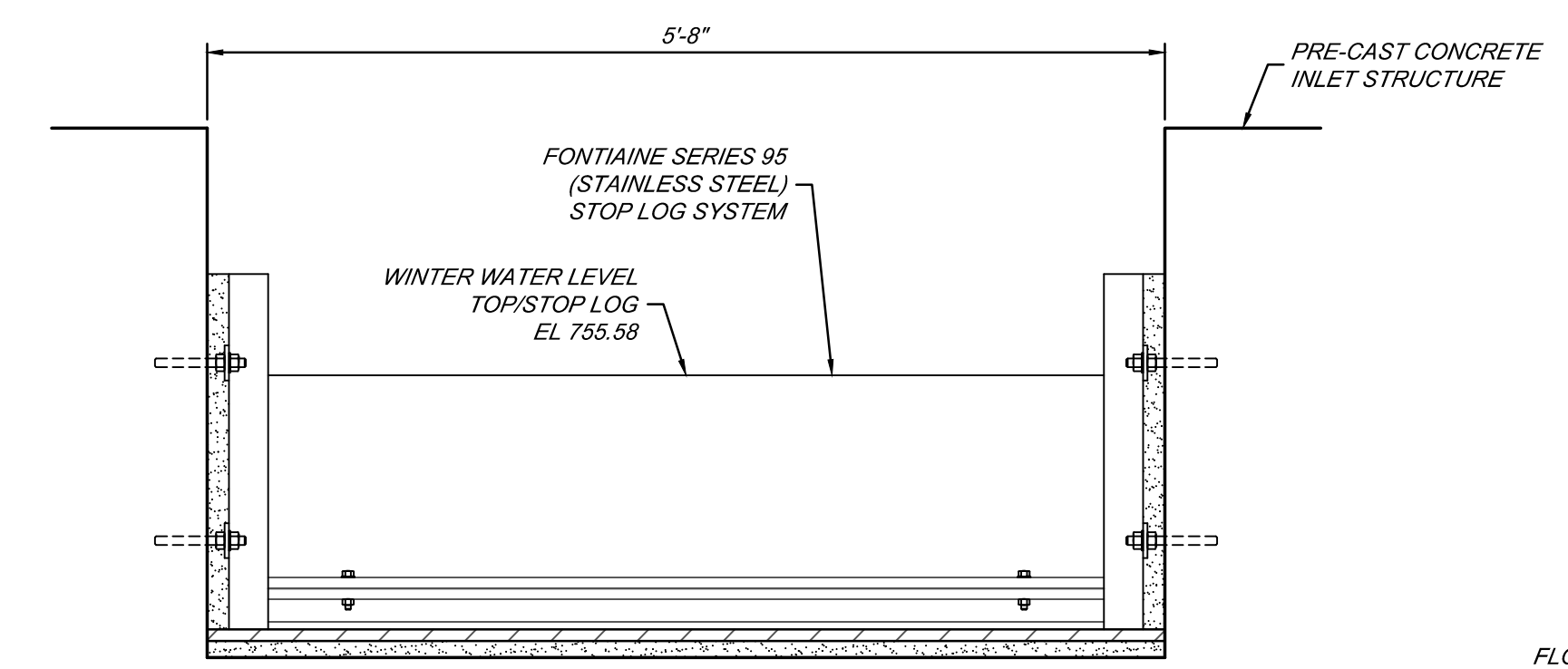
3 SECTIONS
1 1/2" X 1/8" BEARING BARS 1 3/16" O.C.,
19W4 AND 1 3/16" O.C., BEARING BARS
RUN PARALLEL TO THE 34.25" O.C.

GRATE DETAIL
CAST-IN-PLACE
CONCRETE DRAINAGE CHANNEL
NOT TO SCALE
NOTE: GRATE SHALL BE HOT DIPPED GALVANIZED

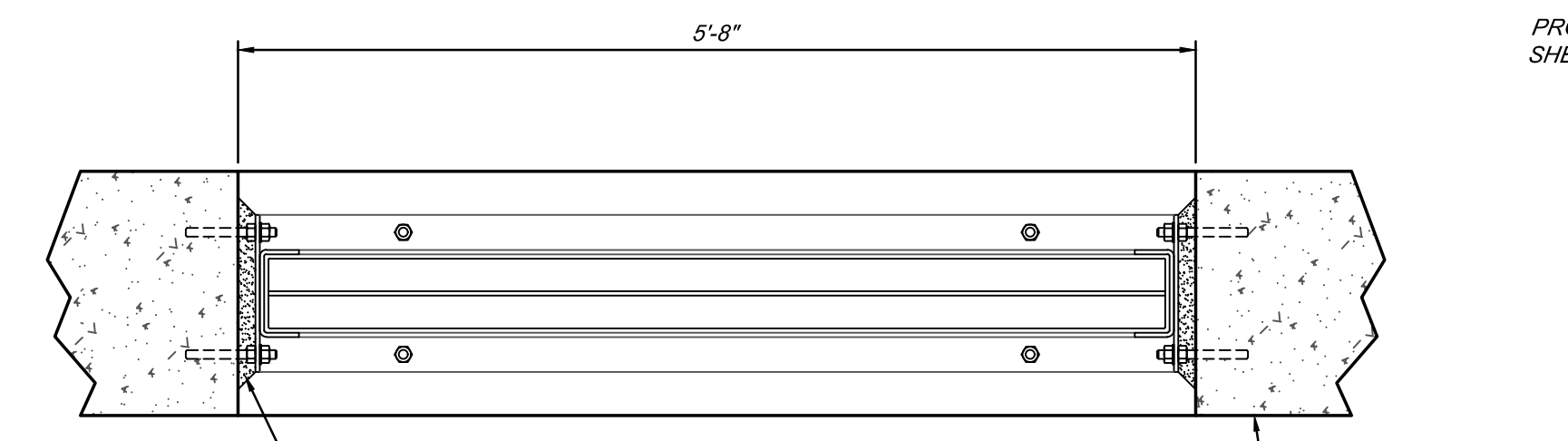


1 1/2" X 1/8" BEARING BARS 1 3/16" O.C.,
19W4 AND 1 3/16" O.C., BEARING BARS
RUN PARALLEL TO THE 28.25" O.C.

GRATE DETAIL
PRE-CAST CONCRETE INLET STRUCTURE
NOT TO SCALE
NOTE: GRATE SHALL BE HOT DIPPED GALVANIZED

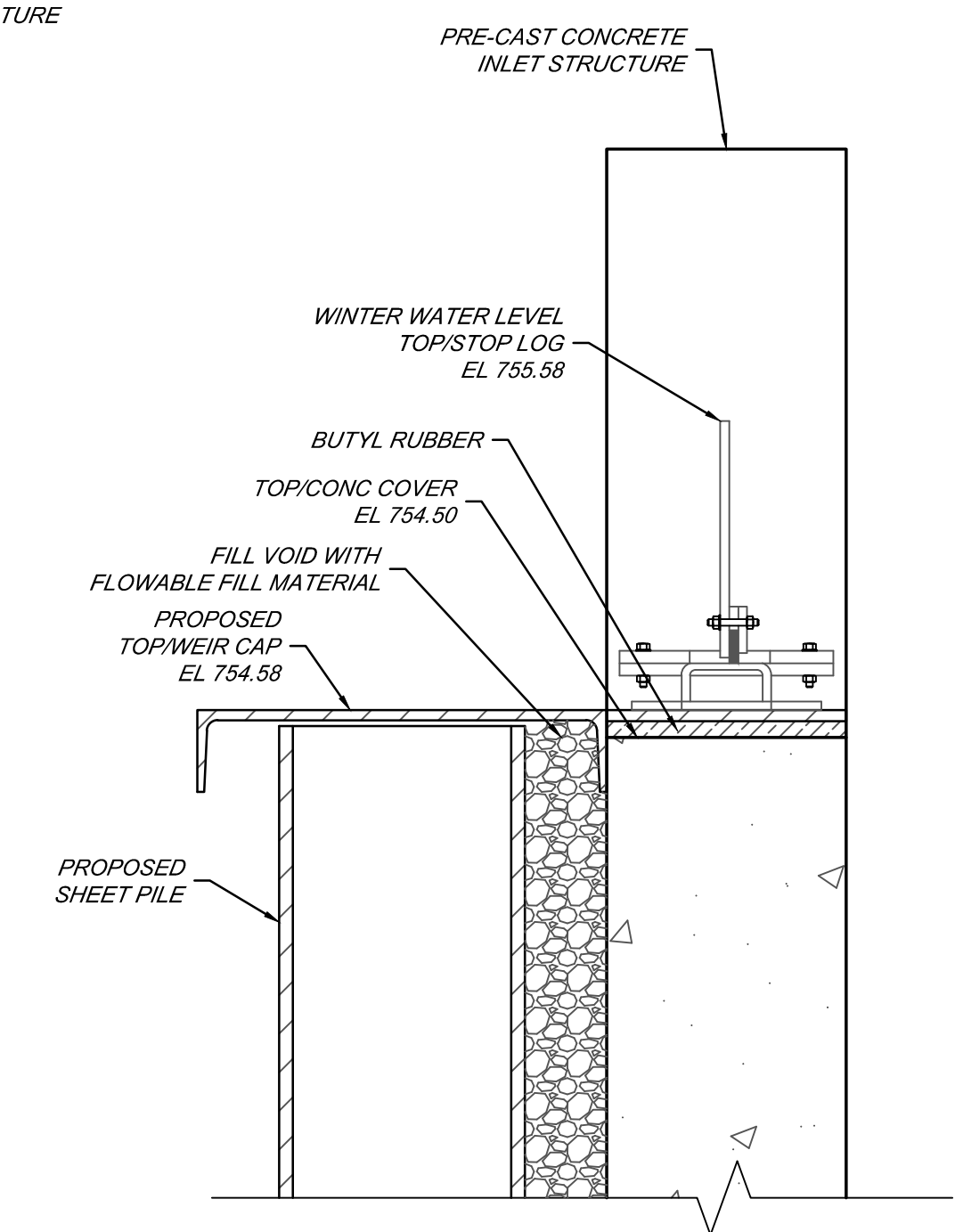


FRONT VIEW
NOT TO SCALE

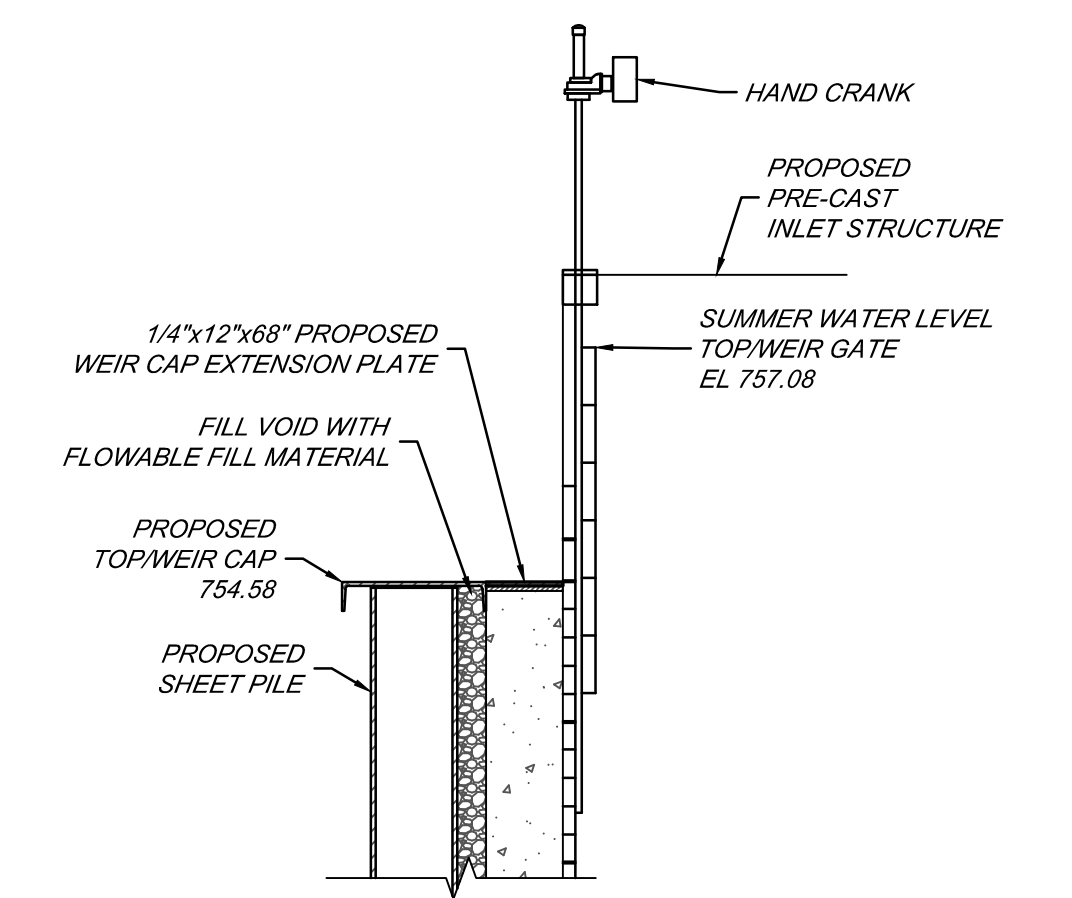


TOP VIEW
NOT TO SCALE

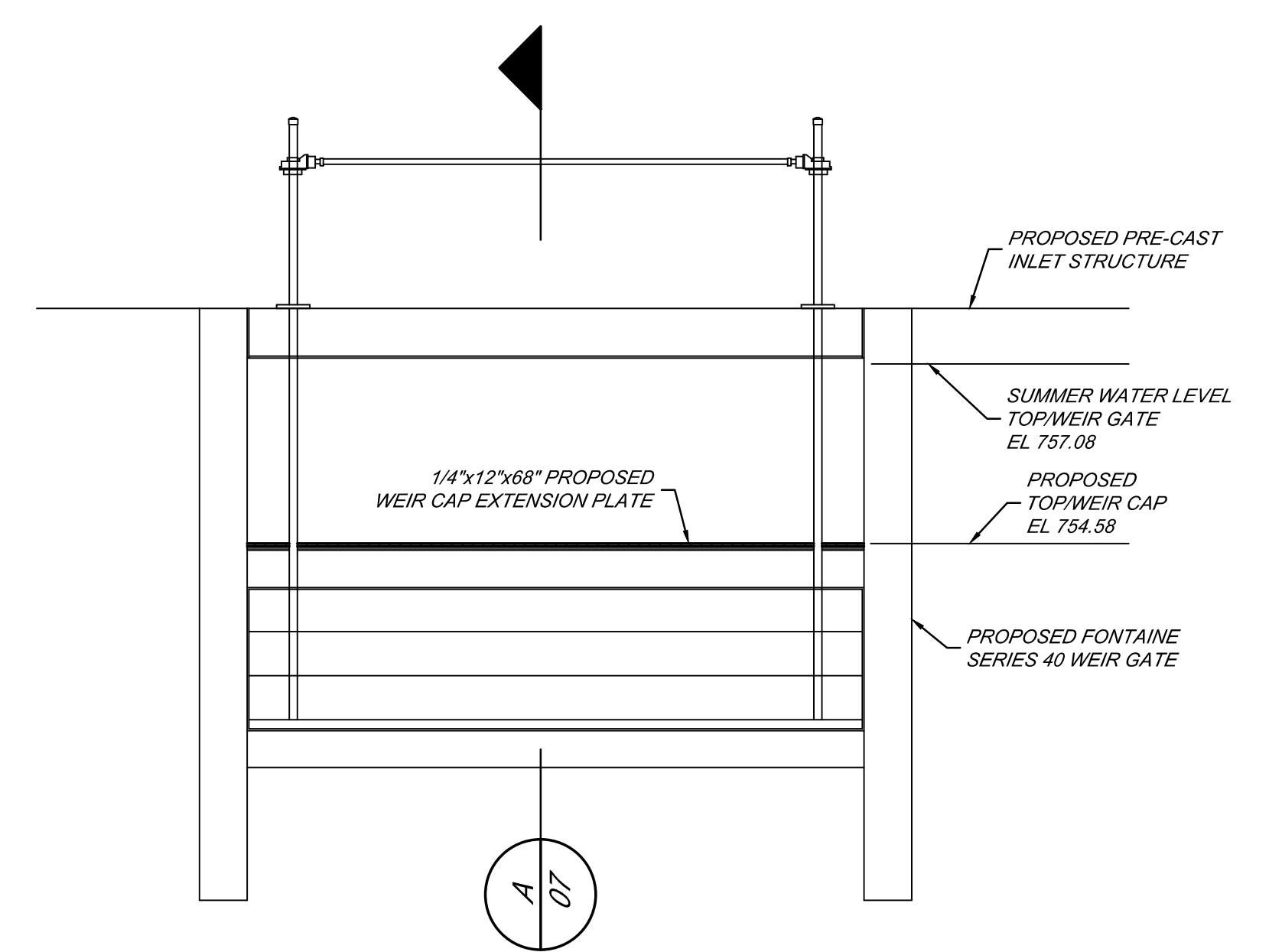
STOP LOG WEIR DETAIL
NOT TO SCALE



SECTION VIEW
NOT TO SCALE



SIDE VIEW
A
07
WEIR GATE DETAIL
NOT TO SCALE



FRONT VIEW
A
07
WEIR GATE DETAIL
NOT TO SCALE

- NOTE:
- INSTALL WEIR GATE PER MANUFACTURER RECOMMENDATIONS.
 - LOCK SHALL BE INCLUDED WITH LUMP SUM BID FOR GATE.

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<p>BEAVER LAKE DAM ALPENA COUNTY, MICHIGAN</p>		
<p>GRATE DETAILS AND WEIR DETAILS</p>		
<p>DE. BY: POC/WTM CH. BY: WTM DR. BY: CBS APP. BY: RBH</p>		<p>PROJECT NO. 127253SG2019</p>
STDS.	SHEET 08 OF 09	DR
DATE SCALE	AUGUST, 2022 SCALE	FILE NO. DR-4142-08
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