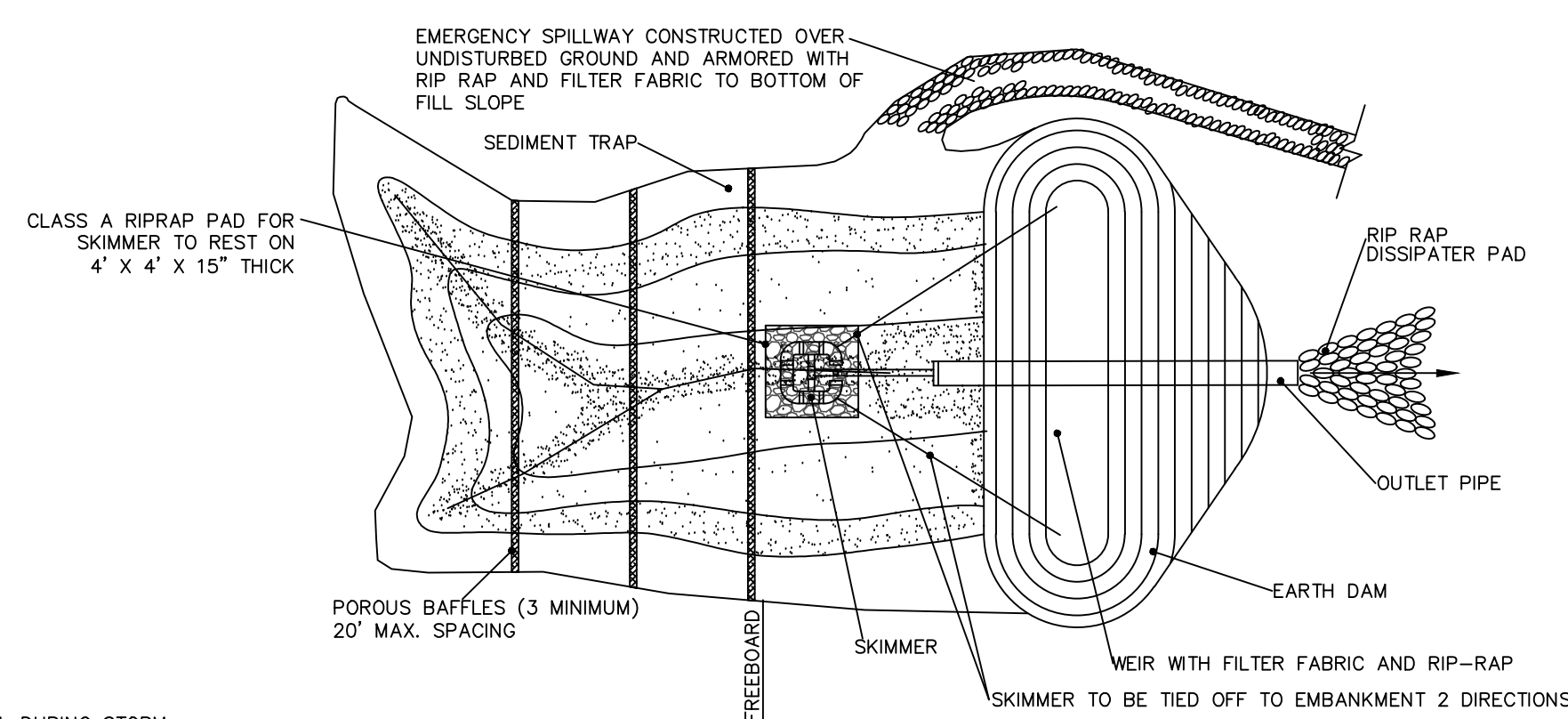
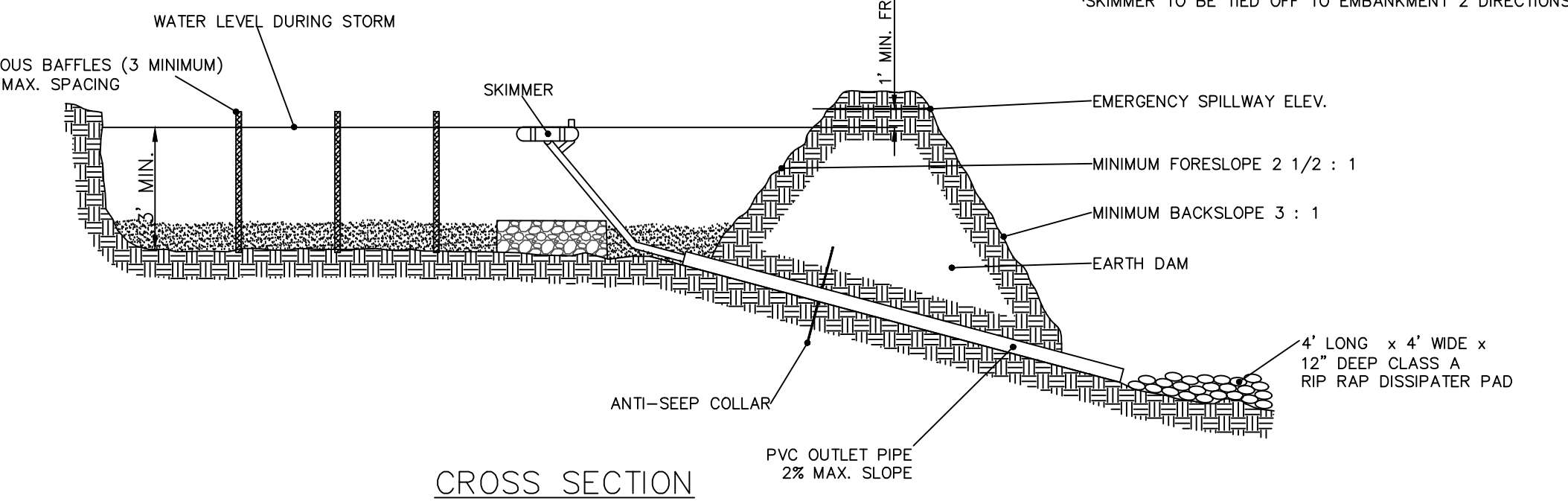


SKIMMER DETAIL
PLAN VIEW



CROSS SECTION

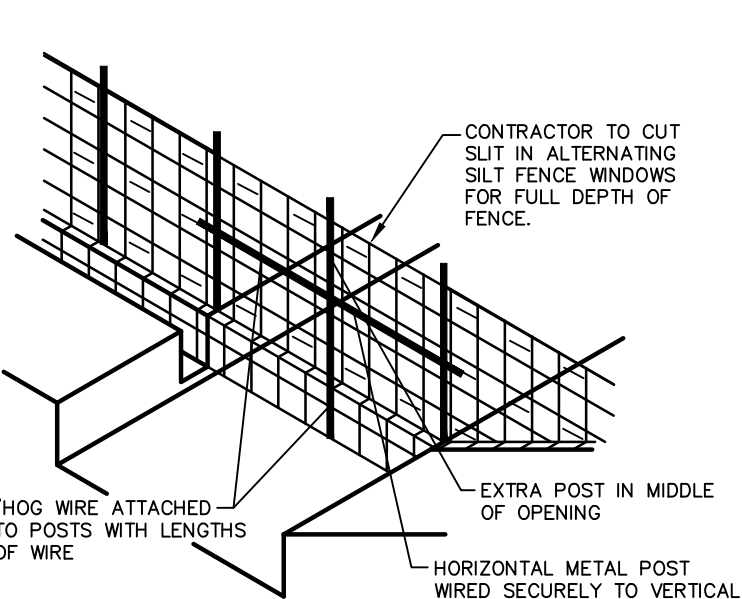


TEMPORARY SKIMMER SEDIMENT BASIN
NTS

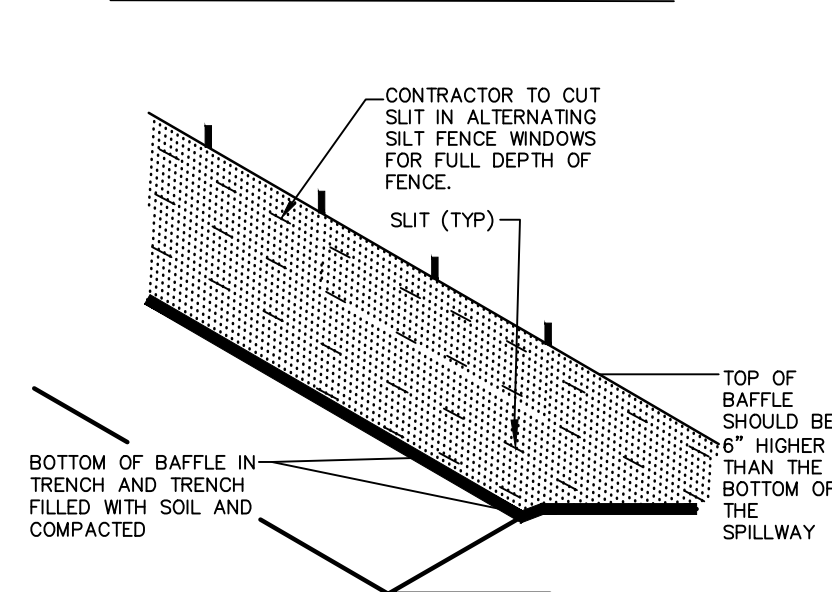
BASIN #	DISTURBED AREA (ac)	TOTAL DRAINAGE AREA (ac)	REQUIRED STORAGE	REQUIRED SURFACE AREA	MINIMUM DEPTH	BOTTOM ELEVATION	TOP WIDTH	TOP LENGTH	PROVIDED STORAGE	PROVIDED SURFACE AREA	STORAGE/SPILLWAY ELEVATION	SPILLWAY WIDTH	TOP OF DAM ELEVATION	SKIMMER SIZE	SKIMMER ORIFICE DIAMETER
BMP 1	2.16	2.16	7,780 CF	3,850 SF	PER PLAN	PER PLAN	PER PLAN	PER PLAN	7,968 CF	6,469 SF	449.50'	20.0'	455.0'	2.0"	1.7"
** BMP 2	2.70	10.55	9,720 CF	9,390 SF	PER PLAN	PER PLAN	PER PLAN	PER PLAN	42,393 CF	12,305 SF	454.40'	20.0'	458.0'	4.0"	3.4"
** BMP 3	1.84	5.19	6,620 CF	7,370 SF	PER PLAN	PER PLAN	PER PLAN	PER PLAN	21,717 CF	7,757 SF	438.30'	20.0'	444.0'	3.0"	2.6"
** BMP 4	2.82	11.91	10,150 CF	10,590 SF	PER PLAN	PER PLAN	PER PLAN	PER PLAN	38,202 CF	12,328 SF	430.75'	20.0'	434.0'	4.0"	3.2"
BMP 5	1.71	5.14	6,160 CF	9,170 SF	PER PLAN	PER PLAN	PER PLAN	PER PLAN	17,784 CF	10,169 SF	494.0'	10.0'	498.0'	2.5"	2.4"
6	0.92	2.27	3,310 CF	4,050 SF	3.0'	492.0'	46'	94'	8,364 CF	4,324 SF	494.0'	10.0'	497.0'	2.0"	1.8"

**PRINCIPLE SPILLWAY LOW FLOW ORIFICES TO BE PLUGGED AND BOARDED WHILE POND IS ACTING AS SKIMMER SEDIMENT BASIN.

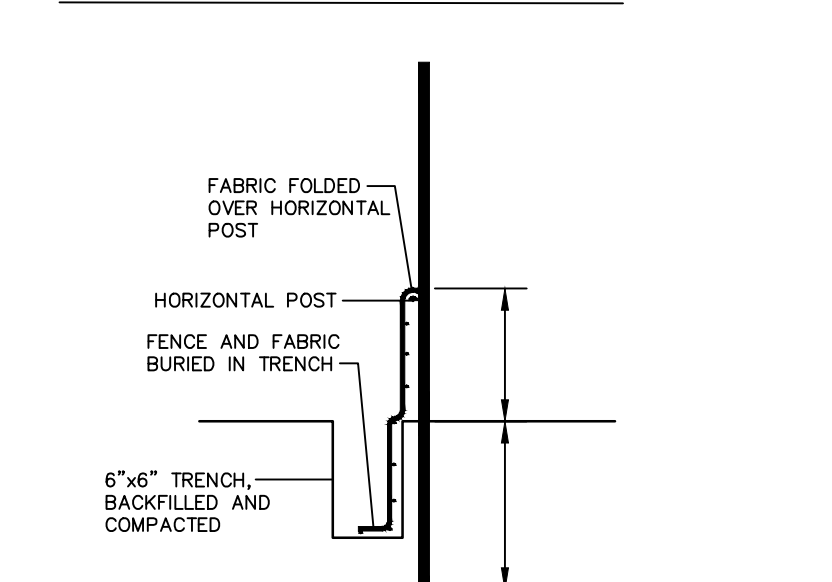
BAFFLE INSTALLATION DETAIL



BAFFLE INSTALLATION - STEP 1

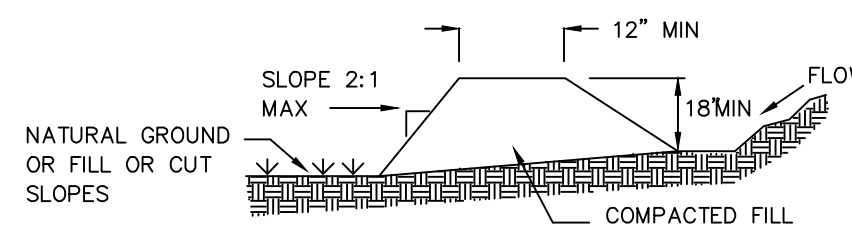


BAFFLE INSTALLATION - STEP 2



SECTION AT OPENING

- NOTES:
1. DRIVE STEEL FENCE POST AT LEAST 18" INTO SOLID GROUND
 2. WOOD POSTS ARE NOT ACCEPTABLE
 3. USE STAPLES 1" APART TO ATTACH FABRIC TO "HOG WIRE"
 4. BAFFLE SPACED AS PER APPROVED PLAN.



TEMPORARY DIVERSION/CLEAN WATER DIVERSION DITCH
NTS

NOTES:

- POSITIVE GRADE MUST BE PROVIDED TO ASSURE DRAINAGE. IF SLOPE EXCEEDS 2% SEED AND MULCH DIVERSION, TRY NOT TO EXCEED 5% MAXIMUM D.A. = 5 ACRES WITHOUT SUPPORTING CALDS. DIVERSIONS AT THE TOP OF SLOPES MUST EMPTY INTO AN APPROVED SLOPE DRAIN. BERM/DITCH IS MOST COMMONLY USED.
1. MACHINE COMPACTION OF ALL FILL IS REQUIRED. DIVERSIONS SUFFICIENT TO DIRECT ALL SEDIMENT-LADEN STORMWATER INTO A SEDIMENT CONTROL DEVICE MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING OF THE AREA (OR IN CONJUNCTION WITH THIS OPERATION) IF SEDIMENT CONTROLS AND DIVERSIONS ARE INSTALLED AS EACH CRITICAL POINT IS REACHED).
 2. DIVERSIONS SHOULD BE LOCATED TO MINIMIZE DAMAGES BY CONSTRUCTION OPERATIONS.
 3. DIVERSIONS SHOULD BE SEEDED AND MULCHED IF THEY ARE TO REMAIN IN PLACE OVER 30 DAYS.
 4. CHECK DEVICE AFTER EACH RAIN, BUT ONCE A WEEK REGARDLESS. REPAIR AS NECESSARY.

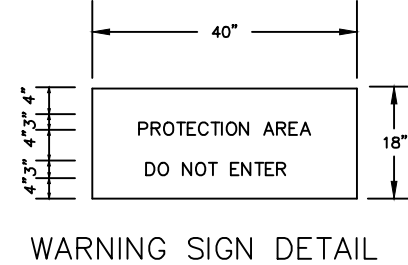
MAINTENANCE

1. INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.
2. ALL TEMPORARY DIVERSION AND CLEAN WATER DITCHES SHALL BE MAINTAINED PER THEIR ORIGINAL DESIGN DIMENSIONS DURING CONSTRUCTION ACTIVITIES. ANY DITCHES THAT REQUIRE REMOVAL OR RELOCATION SHALL RECEIVE APPROVAL FROM CHATHAM COUNTY EROSION CONTROL INSPECTOR.

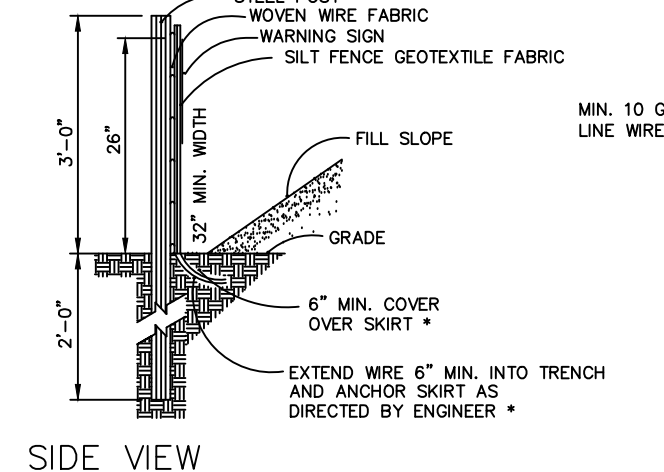
LINER SPECIFICATIONS:

INSTALLED LINERS MUST MEET THE FOLLOWING MINIMUM PERMISSIBLE SHEAR SPECIFICATIONS:

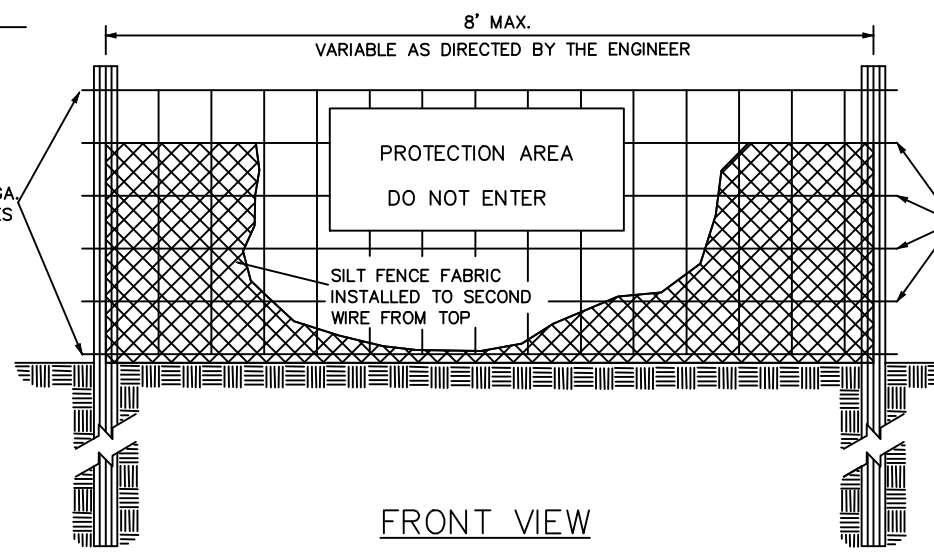
- STRAW W/NET - 1.45 LB/FT²
- SYNTHETIC MAT - 2.00 LB/FT²
- SC250 - MIN. SPECIFICATIONS PER TENSAR NORTH AMERICAN GREEN Wmax SC250 TURF REINFORCEMENT MAT
- C350 - MIN. SPECIFICATIONS PER TENSAR NORTH AMERICAN GREEN Wmax C350 TURF REINFORCEMENT MAT
- P550 - MIN. SPECIFICATIONS PER TENSAR NORTH AMERICAN GREEN Wmax P550 TURF REINFORCEMENT MAT



WARNING SIGN DETAIL



SIDE VIEW



FRONT VIEW

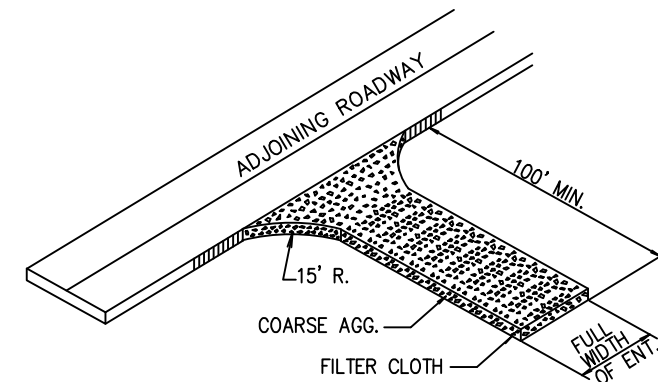
COMBINATION SILT/TREE PROTECTION FENCE
NTS

NOTES:

1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.
4. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
8. ADDITIONAL SIGNS MAY BE REQUIRED BY CHATHAM COUNTY BASED ON ACTUAL FIELD CONDITIONS.
9. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
10. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE.
11. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
12. SEE NCDENR PRACTICE & SPECIFICATIONS MANUAL SEDIMENTS FENCE SECTION FOR CONDITIONS WHERE PRACTICE APPLIES AND DESIGN CRITERIA.

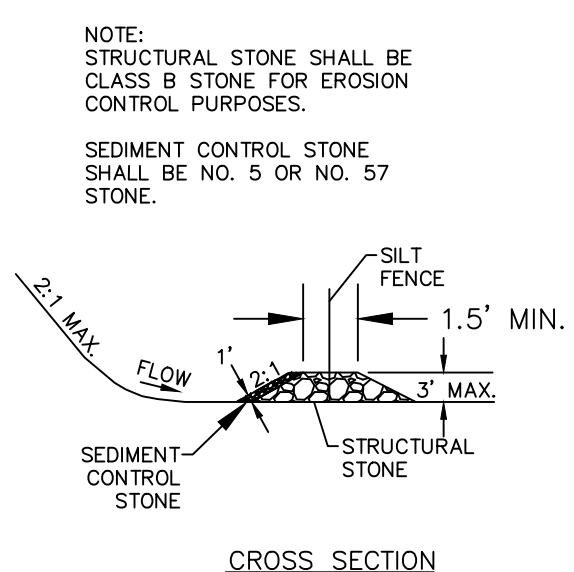
DOUBLE ROW SILT FENCE:

1. DOUBLE ROW SILT FENCE LOCATIONS CALLED OUT ON PLANS.
2. ALL DOUBLE ROW SILT FENCE SHALL BE PLACED A MINIMUM OF 6 FEET APART AND SHALL BE STABILIZED WITHIN THE TWO ROWS.
3. ALL DOUBLE ROW SILT FENCE MUST START AT THE BOTTOM OF THE SLOPE AND MUST NOT CONTINUE UP SLOPE.
4. DOUBLE ROW SILT FENCE AT STREAM CROSSING MAY BE PLACED AT 2-3' APART IN WHERE SPACE IS LIMITED DUE TO LIMITING STREAM IMPACTS. AREA WITHIN ROWS MUST BE STABILIZED.

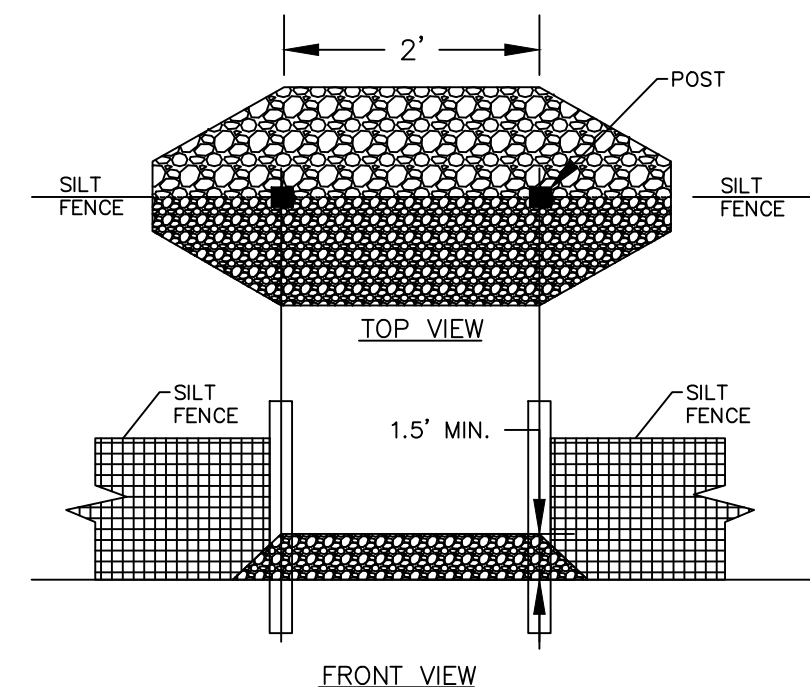


1. COARSE AGGREGATE (2"-3" STONE) SHALL BE USED. PAD TO BE 100'L X 25'W X 6"D MIN. PLACE A MINIMUM OF 3" OF STONE IN A CUT SECTION TO HELP SECURE FILTER CLOTH.
2. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
3. ENTRANCES SHOULD BE LOCATED TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
4. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOP DRESSING MAY BE NECESSARY. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.
5. TEMPORARY PADS MUST BE LOCATED ON EACH SIDE OF ADJOINING ROADWAY.

TEMPORARY CONSTRUCTION ENTRANCE
NTS

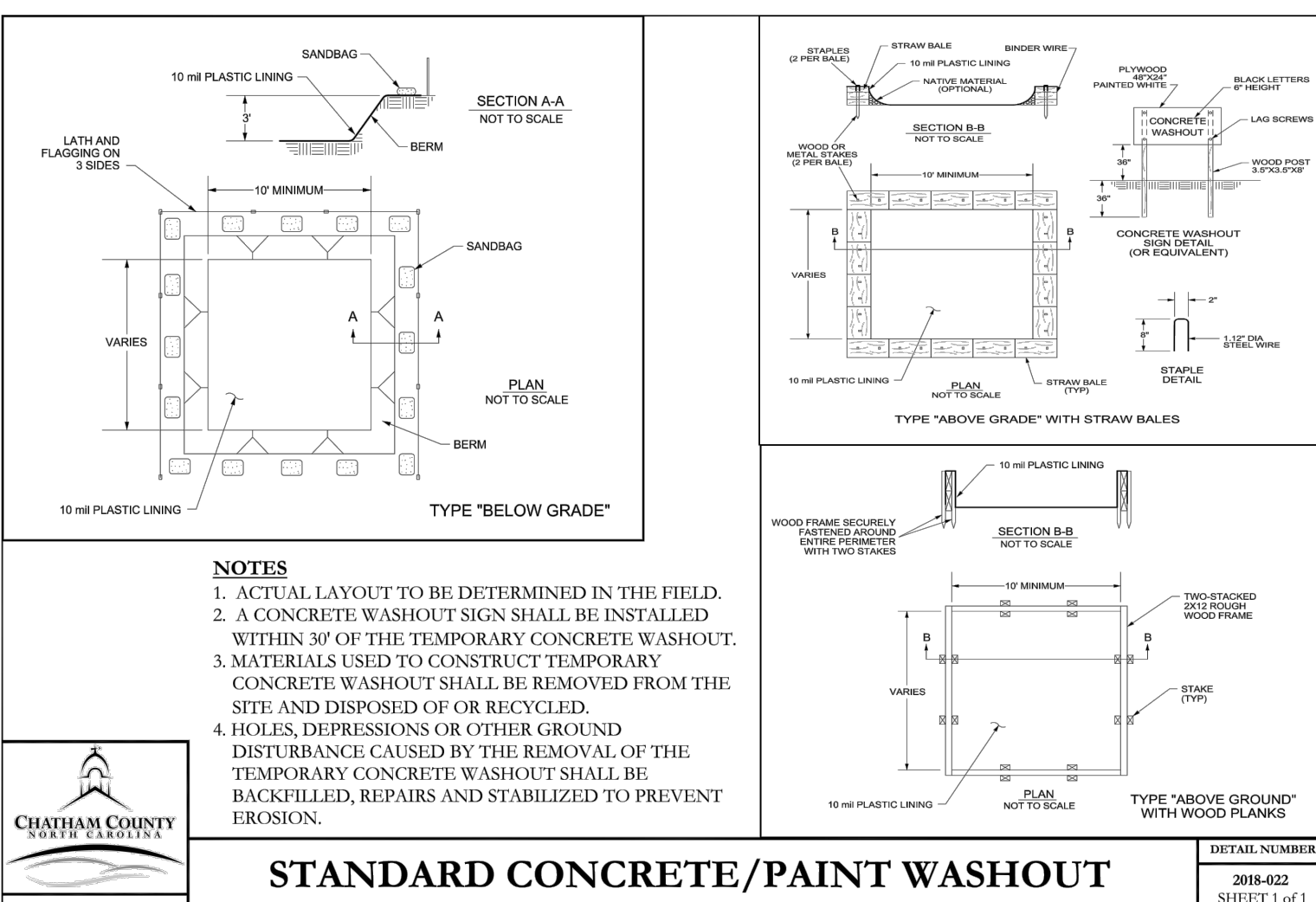


CROSS SECTION



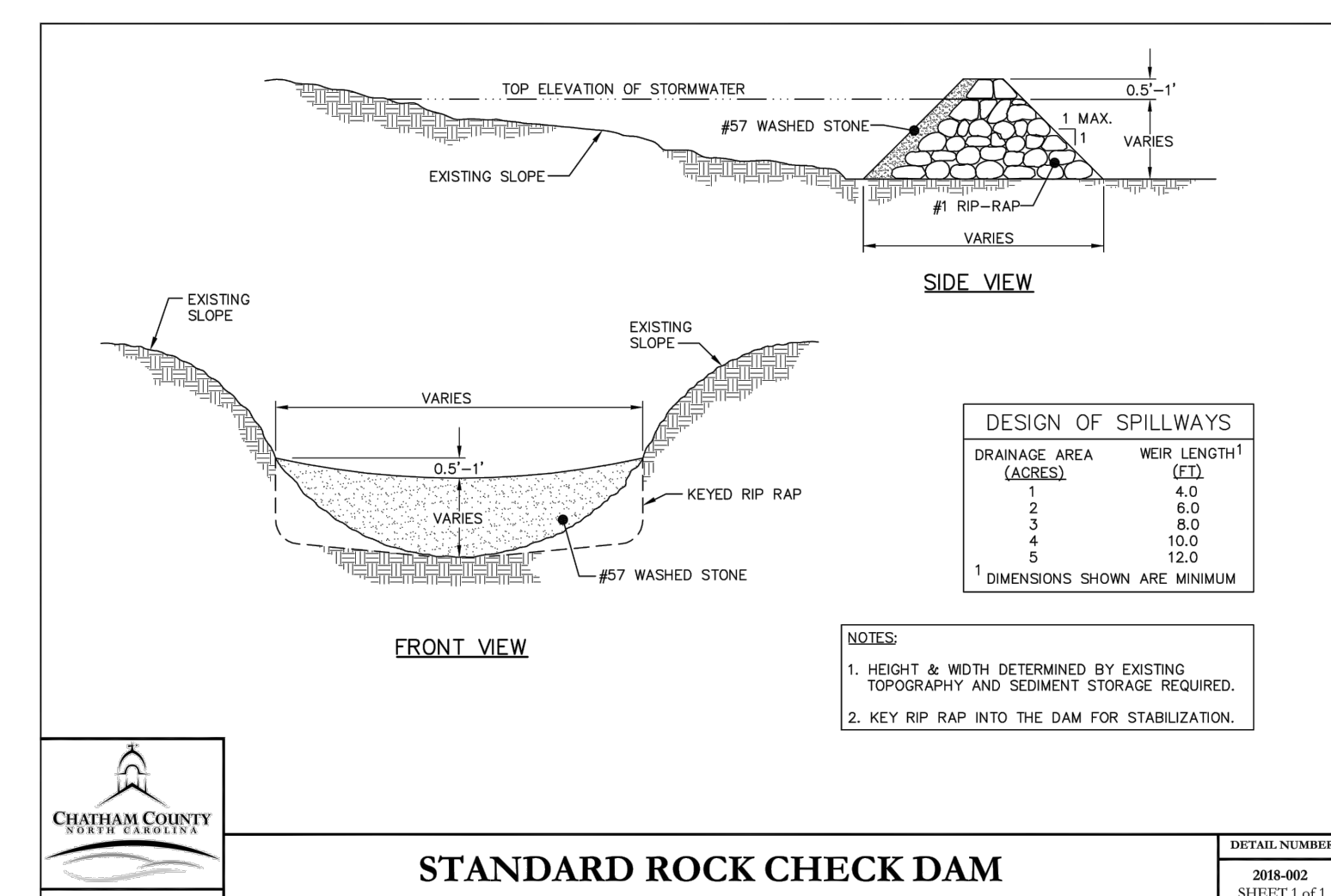
FRONT VIEW

SILT FENCE OUTLET
NTS



- NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
 2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 50' OF THE TEMPORARY CONCRETE WASHOUT.
 3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED.
 4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT SHALL BE BACKFILLED, REPAIRS AND STABILIZED TO PREVENT EROSION.

STANDARD CONCRETE/PAINT WASHOUT



DESIGN OF SPILLWAYS	DRAINAGE AREA (ACRES)	WEIR LENGTH (FT)
1	4.0	6.0
2	8.0	8.0
3	12.0	10.0
4	16.0	12.0
5	20.0	14.0

- NOTES:
1. HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.
 2. KEY RIP RAP INTO THE DAM FOR STABILIZATION.

STANDARD ROCK CHECK DAM

REV. NO.	DESCRIPTION	DATE
4	REVISIONS PER NCDOT COMMENTS	2018.11.28
3	REVISIONS PER NCDOT COMMENTS	2018.11.27
2	REVISIONS PER NCDOT COMMENTS	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17

Professional Engineer Seal for David A. Creed, License No. 036348, State of North Carolina, dated 11/28/2018.

MCKIM & CREED
ENGINEERS SURVEYORS PLANNERS
1730 VARSITY DRIVE, SUITE 500 FIRM LICENSE #: F-1222
RALEIGH, NORTH CAROLINA 27606 mckimcreed.com
T 919.233.8091 F 919.233.8031

RYAN'S CROSSING
Chatham County, North Carolina

CONSTRUCTION PLAT
EROSION AND SEDIMENTATION CONTROL
DETAILS

DATE: AUGUST 17, 2018
MCE PROJ. #: 07291-0002
DRAWN: BSS
DESIGNED: BSS
CHECKED: GCA
PROJ. MGR.: CHS

SCALE: HORIZONTAL: 1"=40'
VERTICAL: N/A

HBC FILE NUMBER: D1.X
DRAWING NUMBER: D1.2

STATUS: PRELIMINARY FOR CONSTRUCTION
REVISION: 4

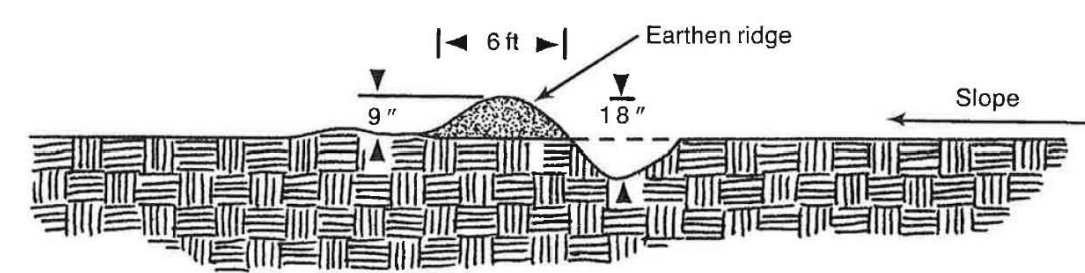
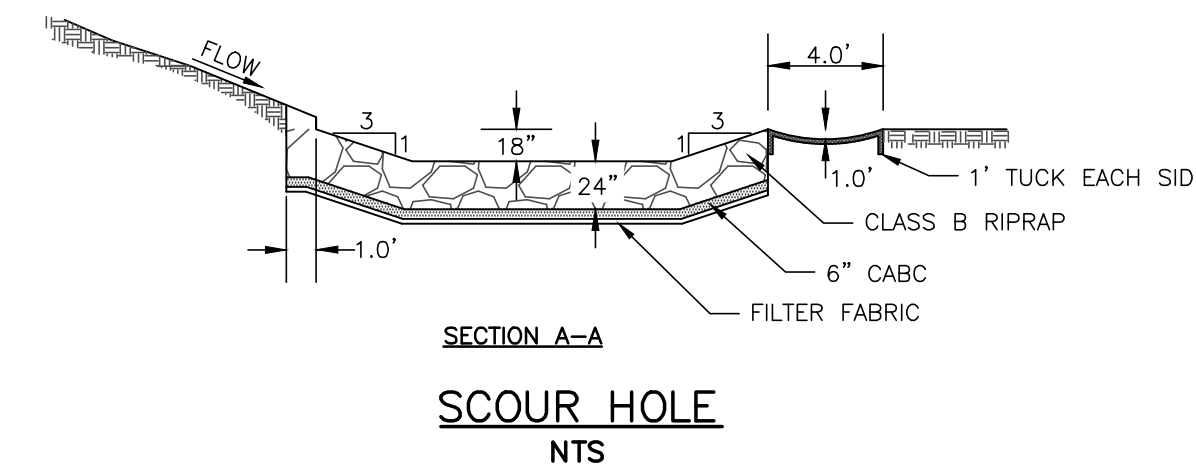
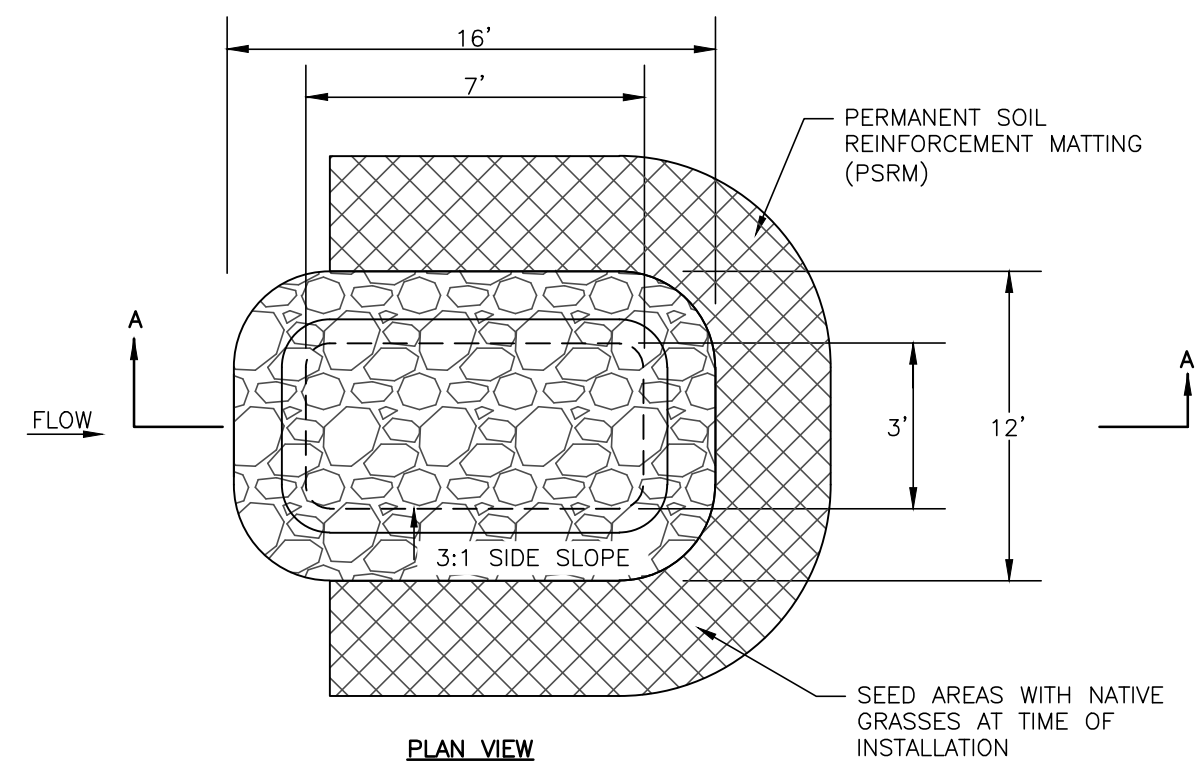


Figure 6.23b Section view of a water bar.

- NOTES:**
1. INSTALL THE DIVERSION AS SOON AS THE RIGHT-OF-WAY HAS BEEN CLEARED AND GRADED.
 2. DISK THE BASE FOR THE CONSTRUCTED RIDGE BEFORE PLACING FILL.
 3. TRACK THE RIDGE TO COMPACT IT TO THE DESIGN CROSS SECTION.
 4. LOCATE THE OUTLET ON AN UNDISTURBED AREA. ADJUST SPACING OF THE DIVERSION TO USE THE MOST STABLE OUTLET AREAS. WHEN NATURAL AREAS ARE NOT DEEMED SATISFACTORY, PROVIDE OUTLET PROTECTION.
 5. IMMEDIATELY SEED AND MULCH THE PORTIONS OF THE DIVERSIONS NOT SUBJECT TO CONSTRUCTION TRAFFIC.
 6. A CROSSING ANGLE SHOULD BE SELECTED TO PROVIDE A POSITIVE GRADE NOT TO EXCEED 2%.
 7. SIDE SLOPES SHALL BE 3:1 OR FLATTER WHERE VEHICLES CROSS, AND 2:1 OR FLATTER IN ALL OTHER LOCATIONS.
 8. WATERBARS SHALL BE INSTALLED IN RIGHT-OF-WAY WHEN THE CONTOURS PERPENDICULAR TO THE RIGHT-OF-WAY. SEE SPACING BELOW.

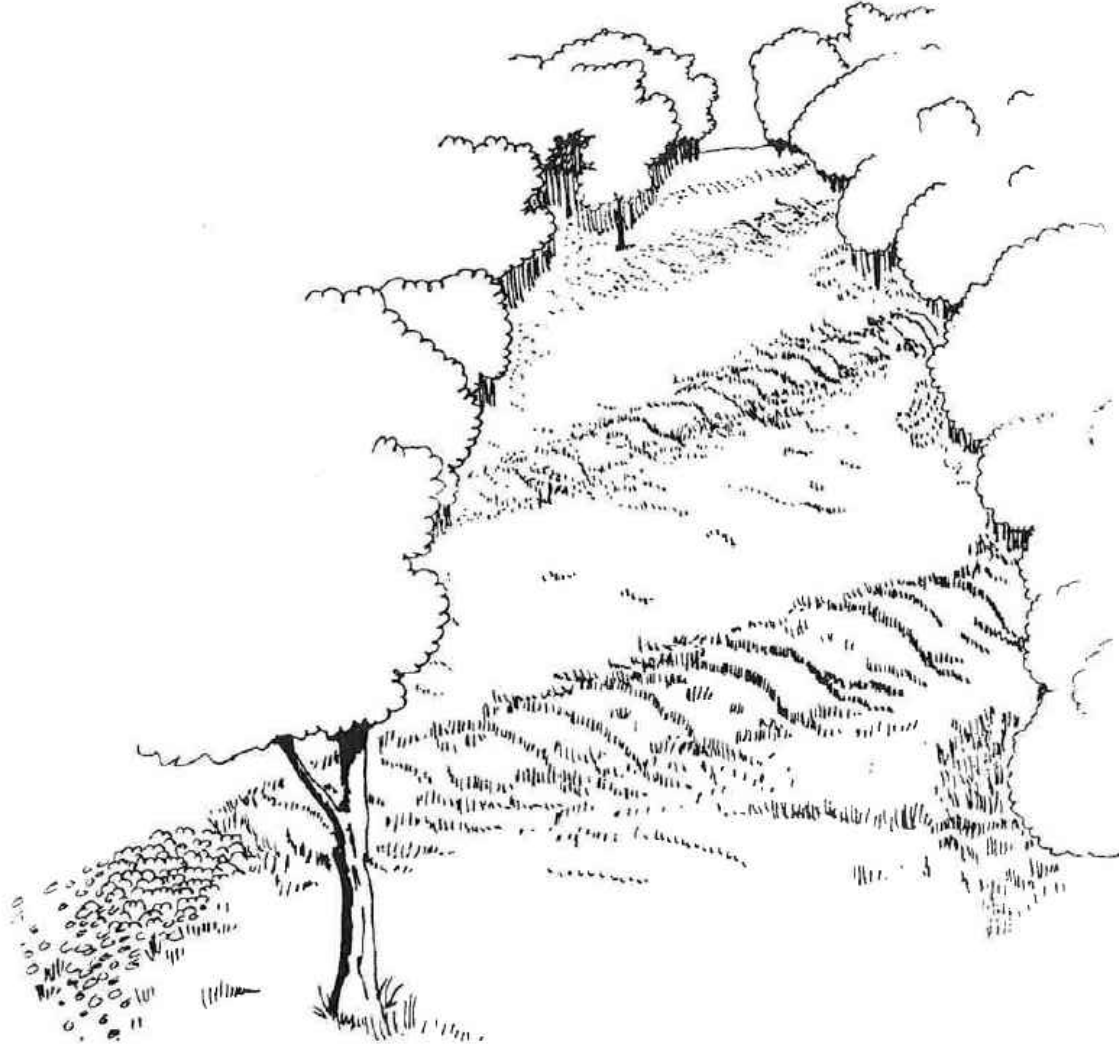
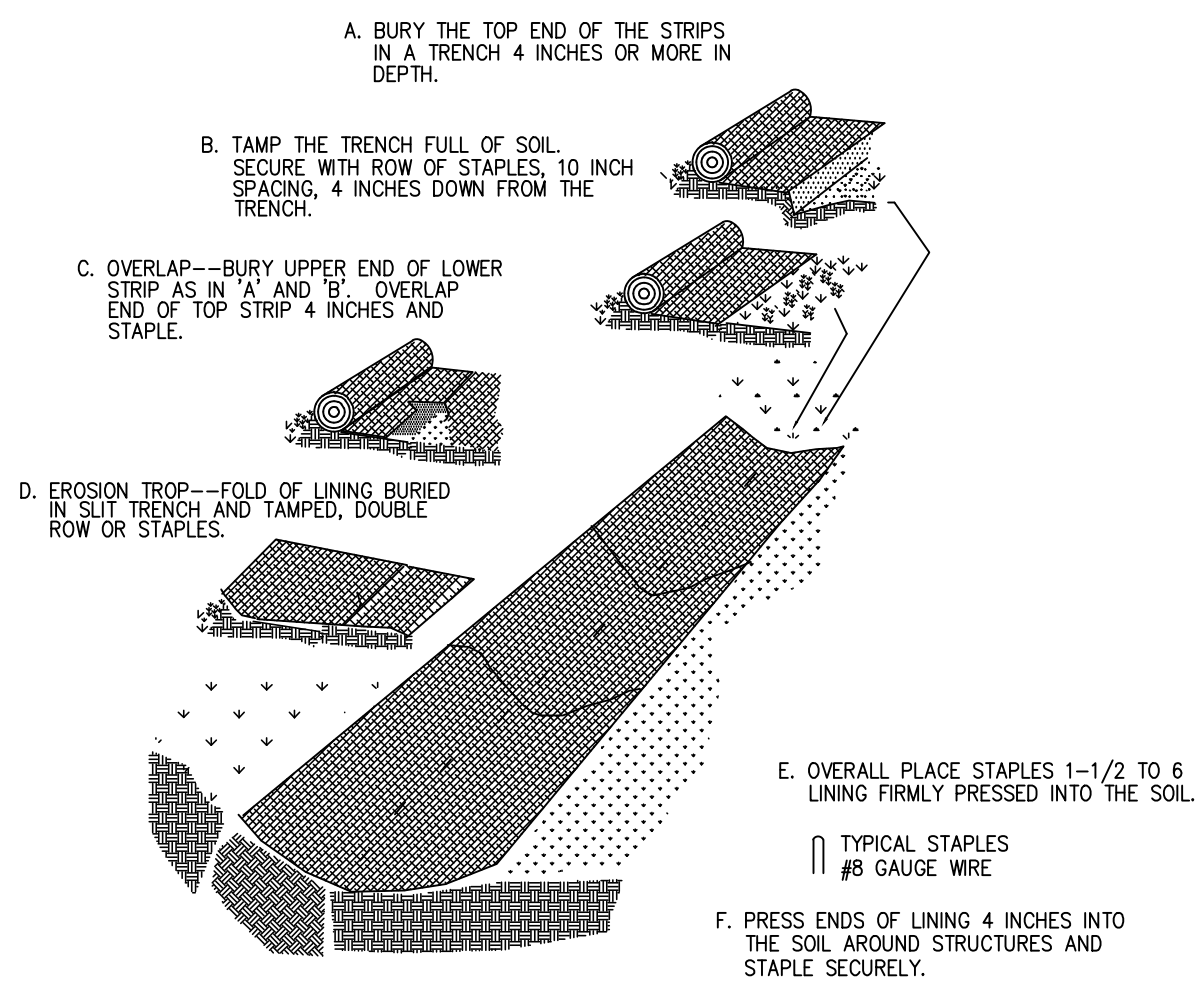


Figure 6.23a Water bars to protect utility right-of-way.

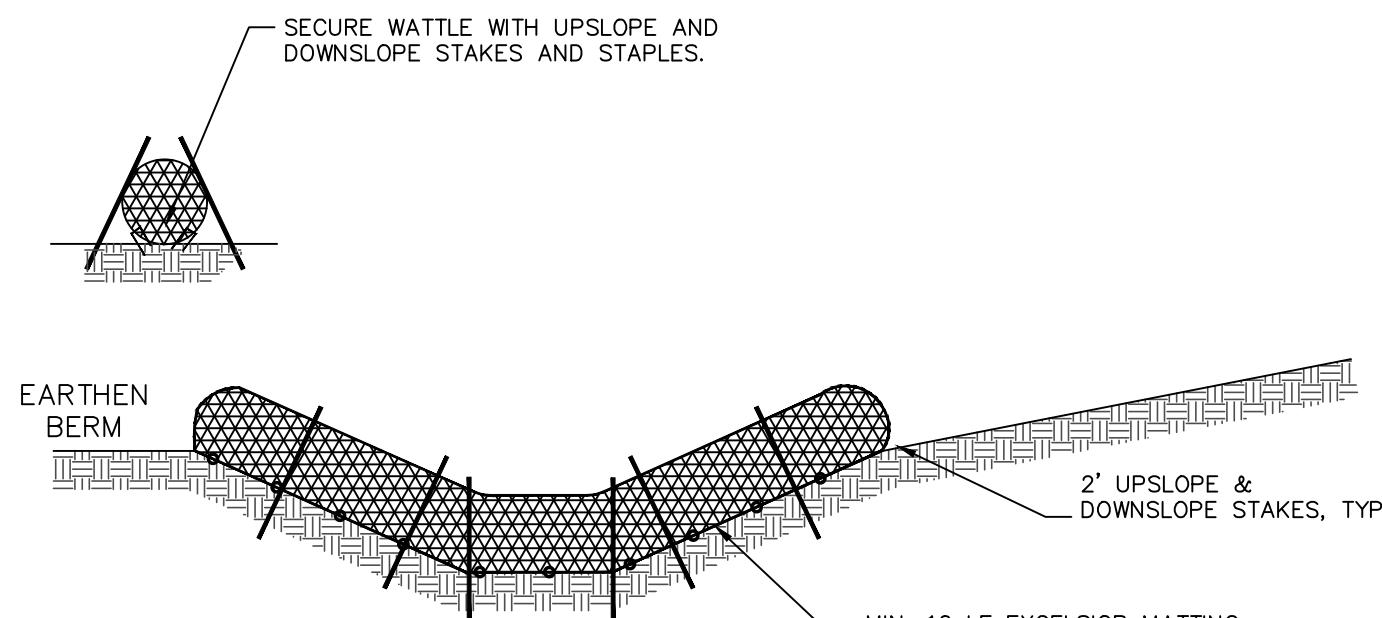
SPACING:	
SLOPE (%)	SPACING (FT)
<5	200
5 TO 15	125
>15	75

2.5 RIGHT-OF-WAY DIVERSIONS (WATER BARS)
NOT TO SCALE

SWALE #	TOTAL LENGTH	LINER
PERMANENT SWALES		
1	657	SC250
2	660	STRAW W/NET
3	805	P550
4	513	SC250
5	346	SC250
6	683	P550
7	700	SC250
8	642	P550
9	234	SC250
11	322	SC250
12	244	SC250
13	587	SC250
14	578	P550
15	548	STRAW W/NET
16	605	P550
17	649	STRAW W/NET
18	646	STRAW W/NET
19	611	SC250

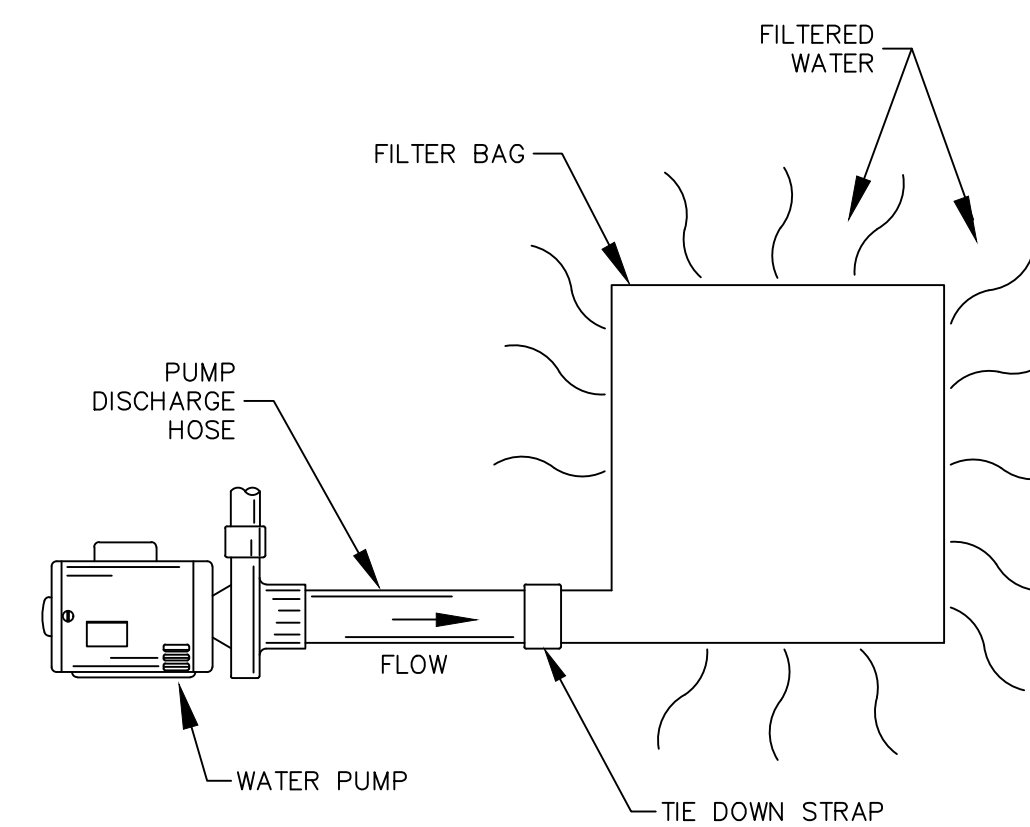


LINER INSTALLATION IN SWALES/DITCHES
NTS



- NOTES:**
1. USE MINIMUM 12" DIA. STRAW WATTLE.
 2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
 3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

STRAW WATTLE
NTS

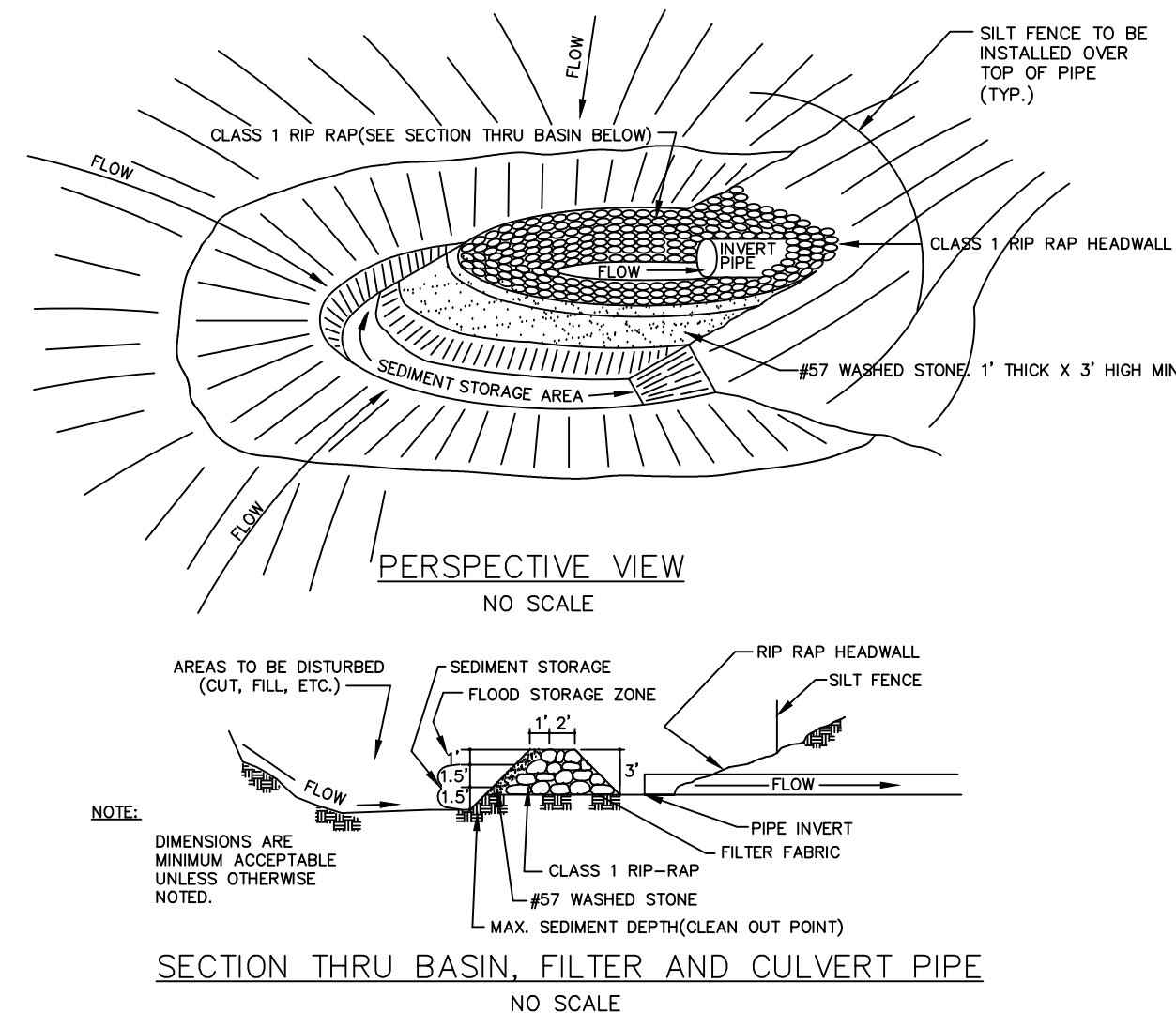


INSTALLATION AND MAINTENANCE GUIDELINES

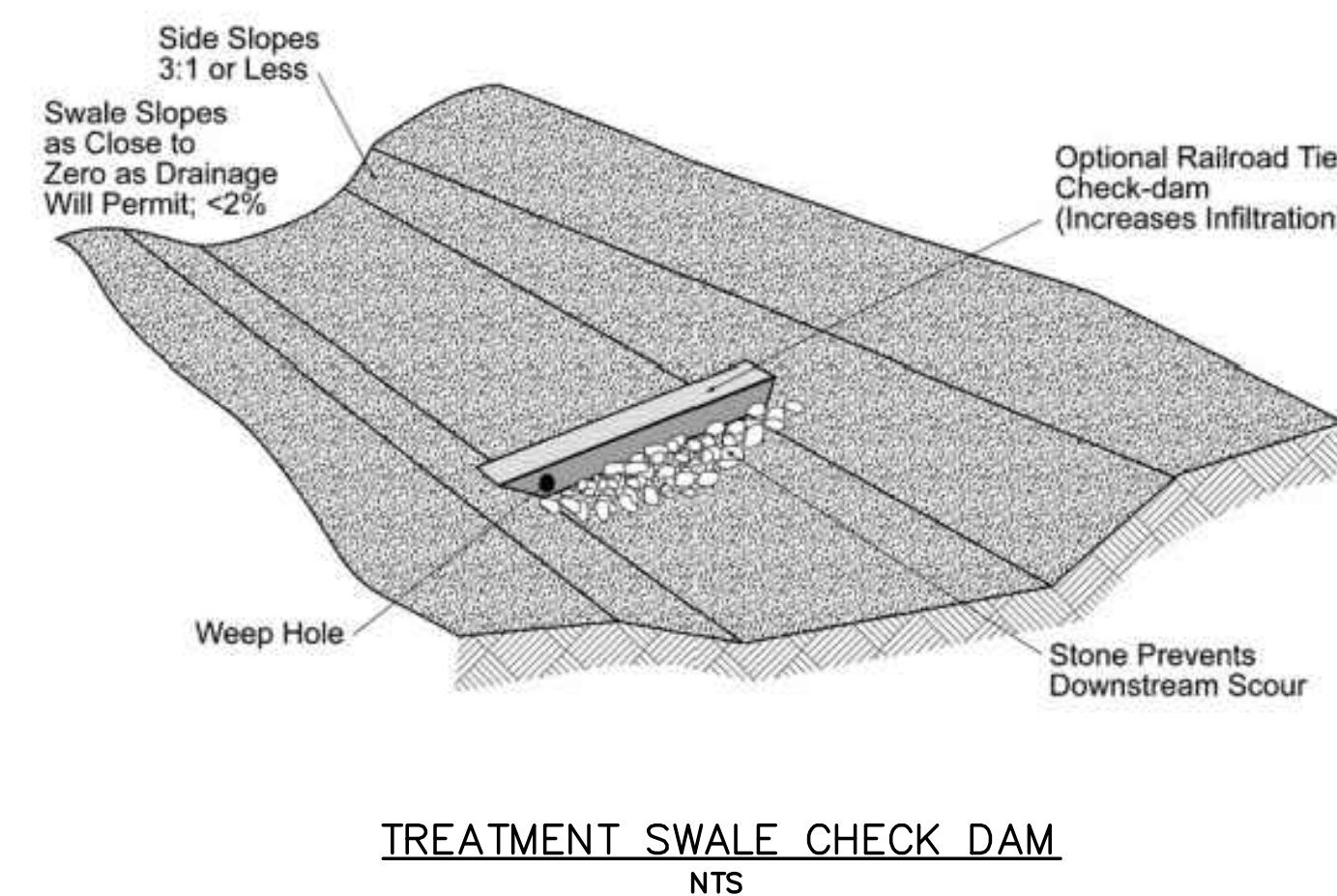
- NOTES:**
1. LAY DOWN PLASTIC ON GROUND IN AREA WHERE BAG WILL SIT AND DISCHARGE PATH.
 2. PLACE BAG ON LEVEL GRAVEL PAD TO ENSURE MAXIMUM DRAINAGE AND ALLOW EQUIPMENT TO PICK UP TO HAUL OFF.
 3. PROP BAG UP AT SLIGHT ANGLE SO WATER DISCHARGES TOWARD RIVER AND DOES NOT CREATE A POOL WHEN DRAINING.
 4. WHEN INSTALLING NEW BAG MOVE LOCATION OVER AS NOT TO KILL GRASS AND PLANTINGS.
 5. CONTRACTOR TO RETURN AREA TO EXISTING CONDITIONS AFTER BAGS ARE NO LONGER NEEDED.

MAINTENANCE: REPLACE THE UNIT WHEN 1/2 FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE. IF USING OPTIONAL OIL ABSORBENTS, REMOVE AND REPLACE ABSORBENT WHEN NEAR SATURATION.

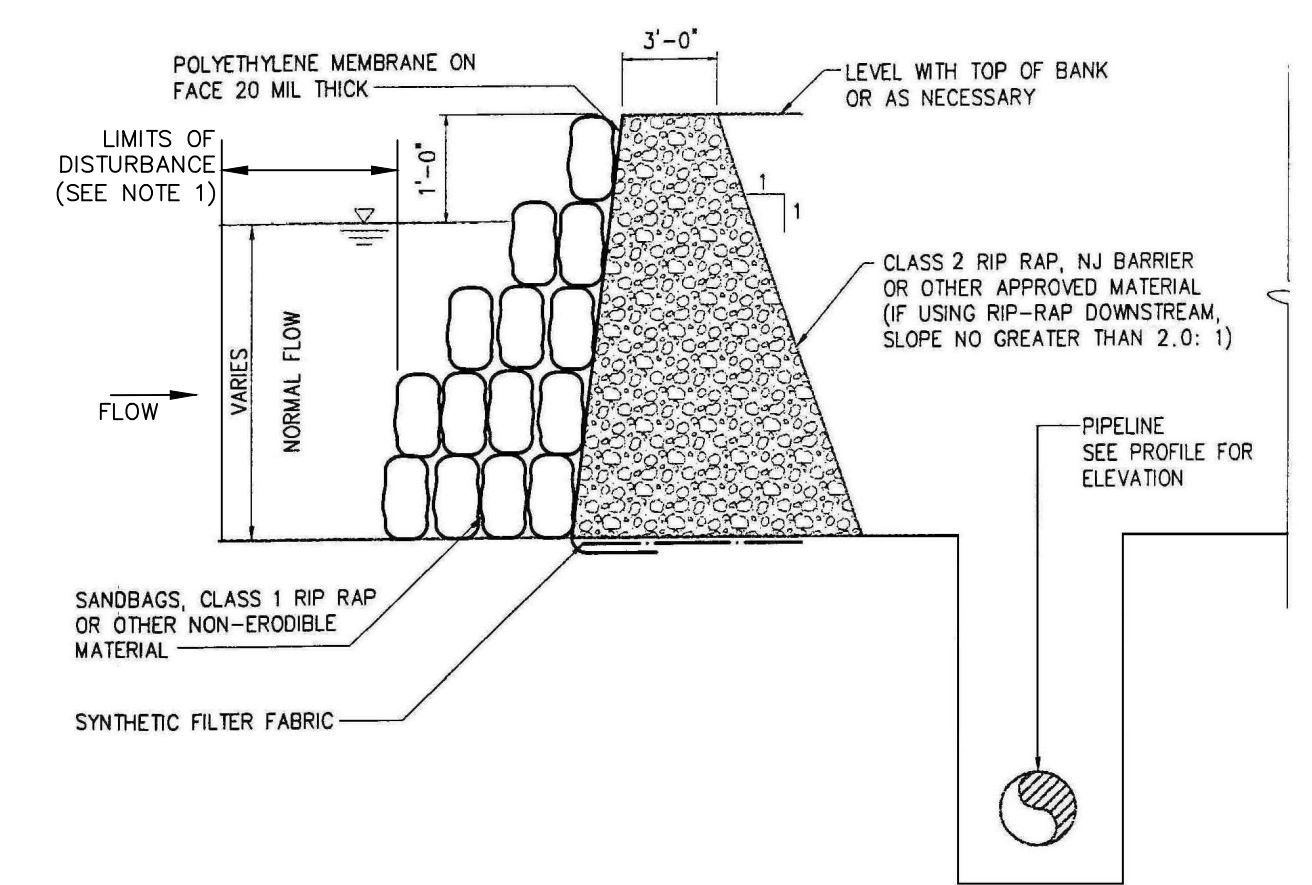
FILTER BAG DETAIL
NTS



ARC FILTER INLET PROTECTION
NTS



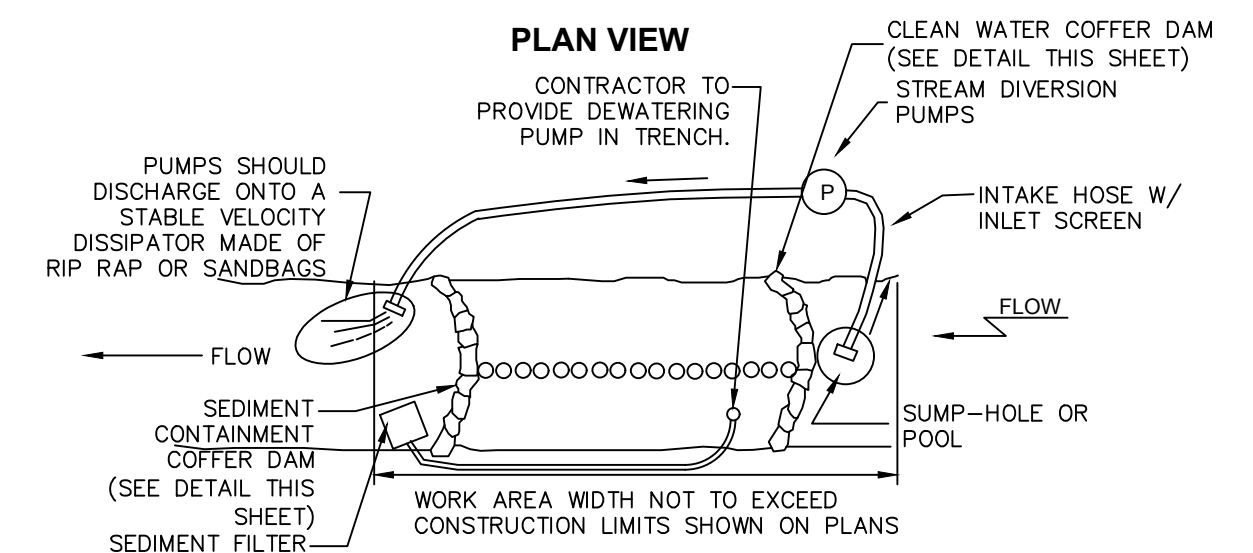
TREATMENT SWALE CHECK DAM
NTS



NOTES:

1. CONTRACTOR SHALL INSTALL COFFER DAMS WITH ENOUGH SEPARATION FROM THE PROJECT CONSTRUCTION LIMITS OF DISTURBANCE TO PLACE PUMP INTAKE AND DISCHARGE HOSES, DISSIPATORS AND SEDIMENT FILTER STRUCTURES.
2. TEMPORARY PRE-FABRICATED COFFER DAMS SUCH AS PORT-A-DAM AND OTHERS MAY BE USED IN SUBSTITUTION TO THE SANDBAG/RIP-RAP DAM WITH PRIOR APPROVAL BY THE OWNER AND ENGINEER.

TEMPORARY COFFER DAM DETAIL
NTS



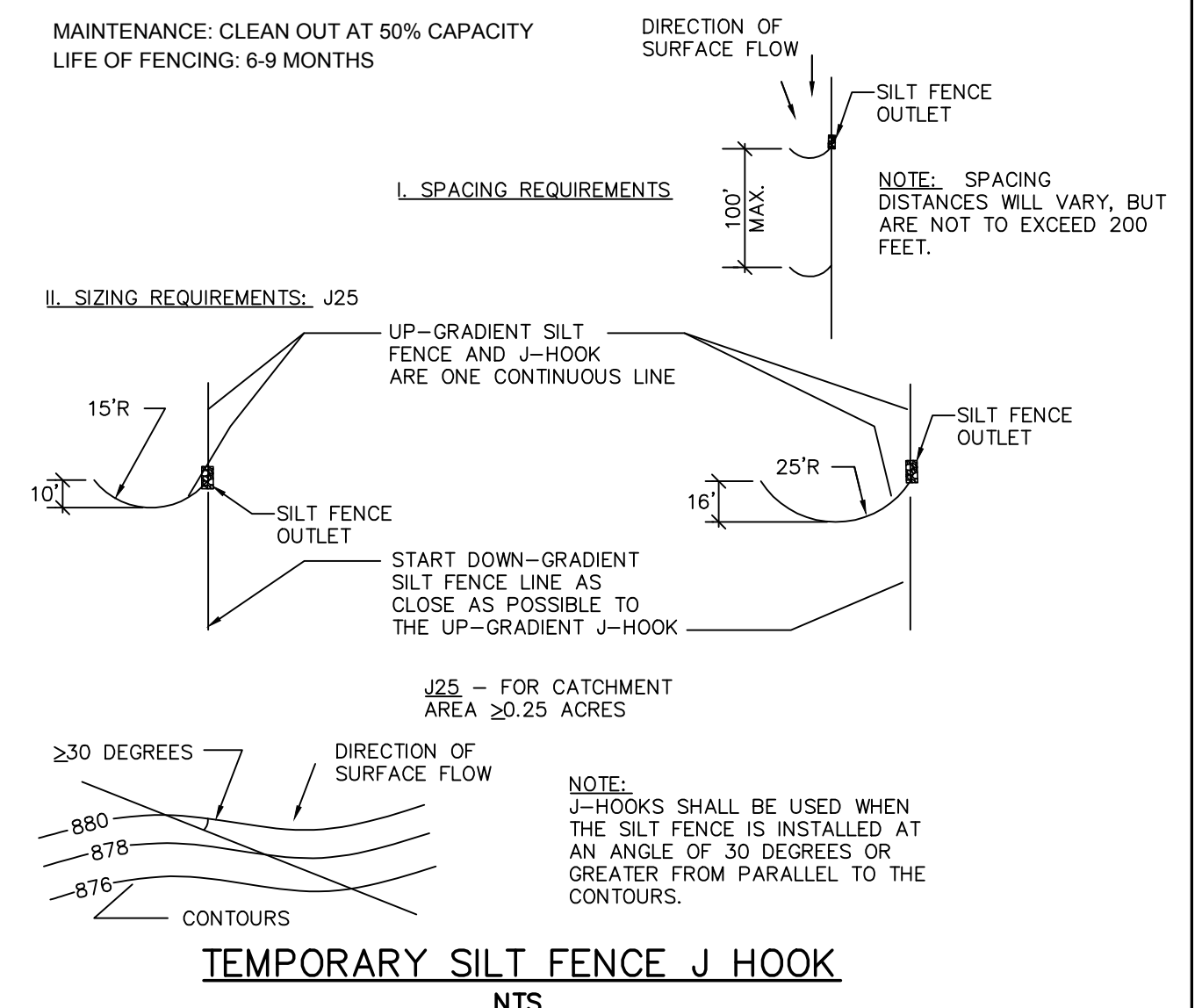
PUMP-AROUND PRACTICE:
TEMPORARY MEASURE FOR DEWATERING STREAM CROSSING SITES.

DESCRIPTION:
THE WORK SHOULD CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING PUMPS TO ENSURE ADEQUATE CAPACITY TO KEEP FLOW FROM ENTERING WORK AREA.

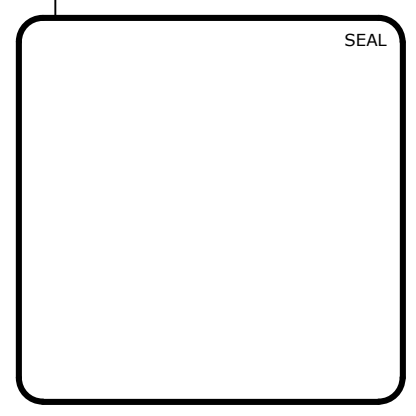
IMPLEMENTATION SEQUENCE:
SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CONSTRUCTION SHOULD BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL).

1. INSTALL SCOUR HOLE AND FILTER BAGS WHERE SHOWN ON PLANS.
2. COFFER DAMS SHOULD BE SITUATED AT THE ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND WATER ON THE UPSIDE OF THE DAM AREA SHOULD BE PUMPED AROUND THE WORK AREA.
3. THE PUMP SHOULD DISCHARGE INTO THE FILTER BAGS AND SCOUR HOLES.
4. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A TEMPORARY WOOD CHIP DEWATERING BASIN, FILTER BAG OR OTHER APPROVED SEDIMENT FILTERING MEASURE.
5. AFTER THE CULVERT IS INSTALLED AND THE SLOPES HAVE BEEN STABILIZED, THE PUMP INTAKE HOSES, SCOUR HOLES AND FILTER BAGS SHOULD BE REMOVED AND THEN THE COFFER DAMS SHOULD BE REMOVED.
6. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A COFFER DAM AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STREAM PUMP AROUND.

TEMPORARY PUMP AROUND DETAIL
NTS



REV. NO.	DESCRIPTIONS	DATE
4	REVISIONS PER NCDOT COMMENTS	2018.11.28
3	REVISIONS PER NCDOT COMMENTS	2018.11.27
2	REVISIONS PER NCDOT	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17



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FIRM LICENSE #: F-1222
mckimcreed.com

RYAN'S CROSSING
Chatham County, North Carolina

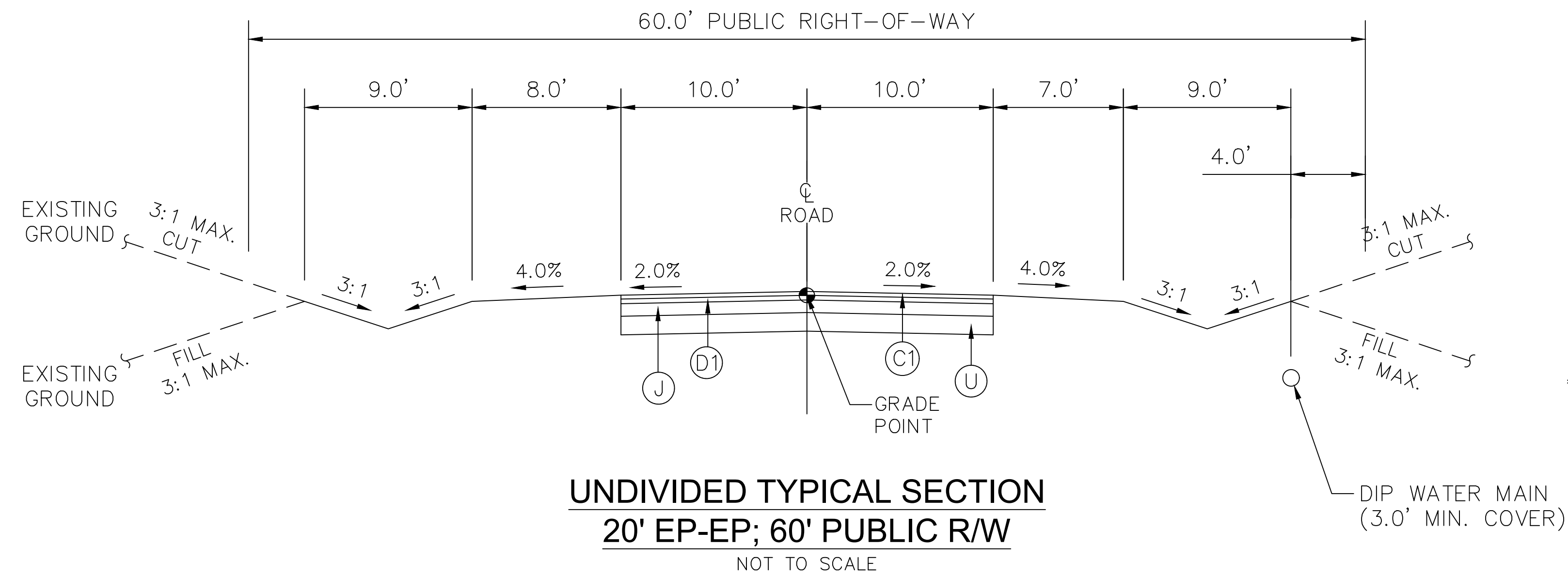
CONSTRUCTION PLAT
EROSION AND SEDIMENTATION CONTROL
DETAILS

DATE: AUGUST 17, 2018
MCE PROJ. #: 07291-0002
DRAWN: BSS
DESIGNED: BSS
CHECKED: GCA
PROJ. MGR.: CHS

SCALE: HORIZONTAL: 1"=40'
VERTICAL: N/A

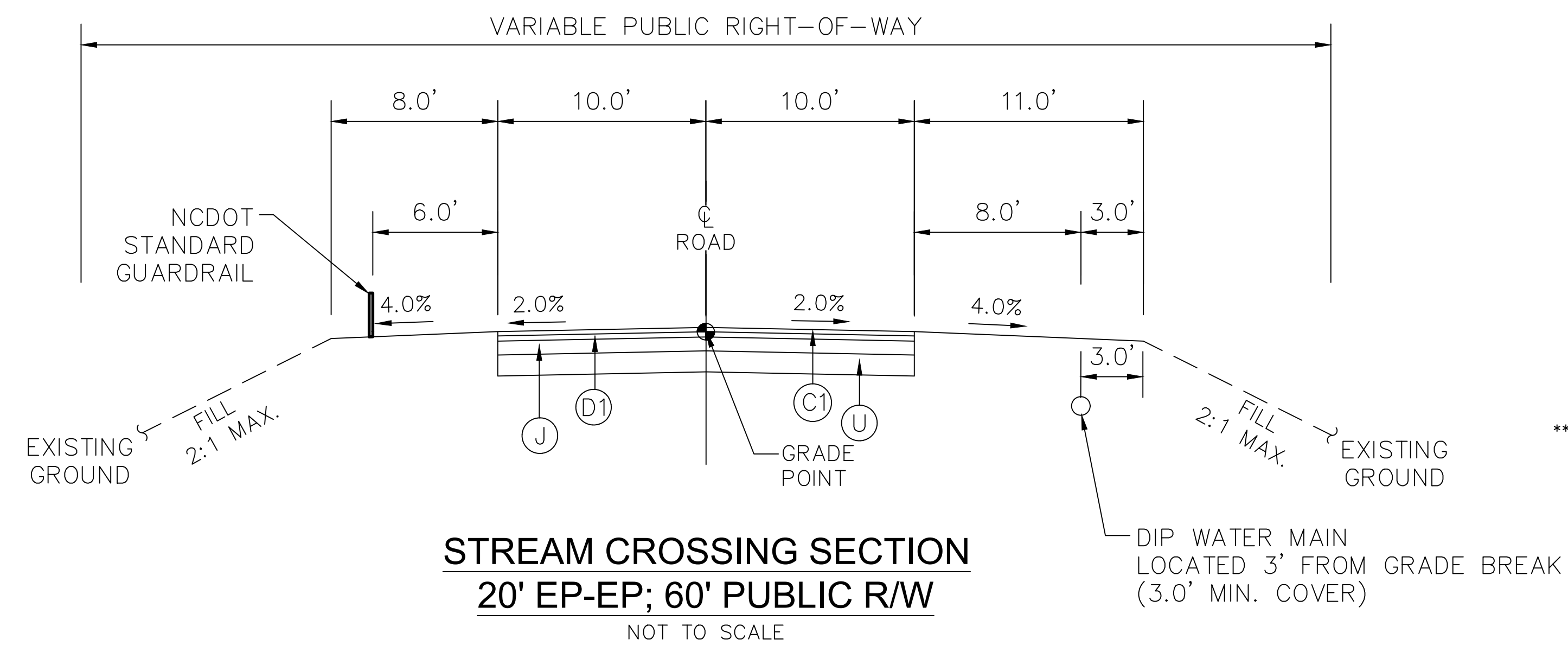
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DRAWING NUMBER: D1.3

STATUS: PRELIMINARY FOR CONSTRUCTION
REVISION: 4



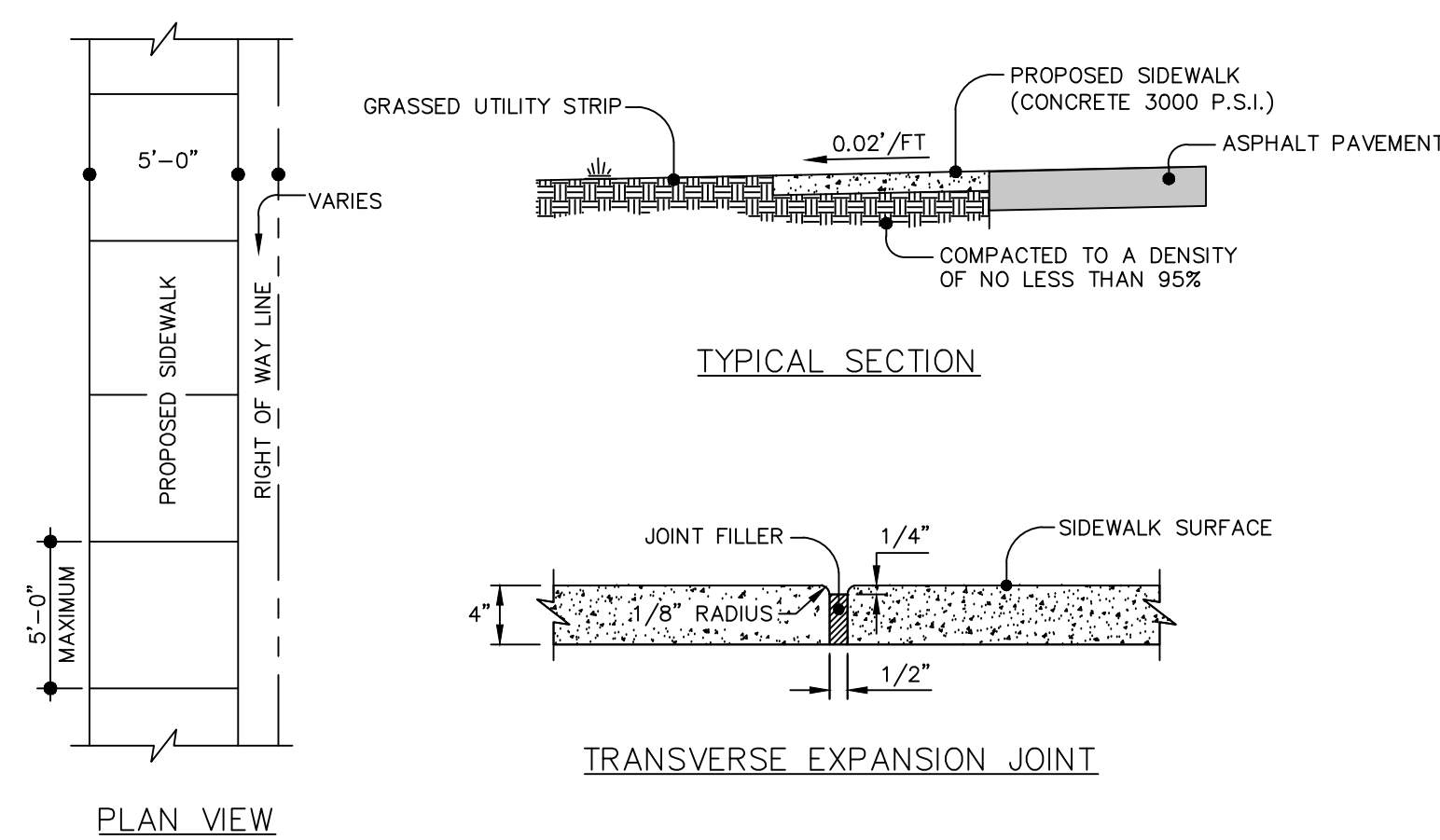
PAVEMENT SCHEDULE	
(C1)	1.0" SF9.5A ASPHALT SURFACE COURSE AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD.
(D1)	2.0" S9.5B ASPHALT SURFACE COURSE AT AN AVERAGE RATE OF 224 LBS. PER SQ. YARD.
(J)	8" COMPACTED ABC STONE BASE COURSE
(U)	COMPACTED SUBGRADE
(G)	GEOTEXTILE FABRIC (IF NECESSARY) COORDINATE WITH GEOTECHNICAL ENGINEER

**MINIMUM SECTION AND TO BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER



PAVEMENT SCHEDULE	
(C1)	1.0" SF9.5A ASPHALT SURFACE COURSE AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD.
(D1)	2.0" S9.5B ASPHALT SURFACE COURSE AT AN AVERAGE RATE OF 224 LBS. PER SQ. YARD.
(J)	8" COMPACTED ABC STONE BASE COURSE
(U)	COMPACTED SUBGRADE
(G)	GEOTEXTILE FABRIC (IF NECESSARY) COORDINATE WITH GEOTECHNICAL ENGINEER

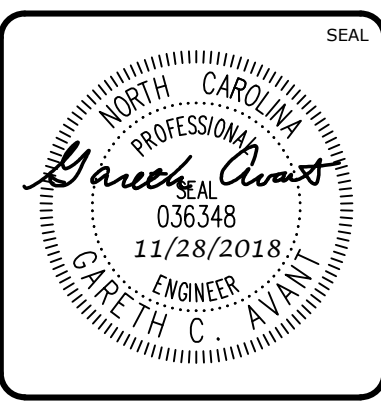
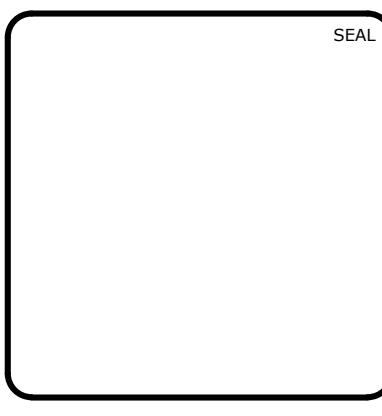
**MINIMUM SECTION AND TO BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER



- NOTES:**
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
 2. ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.

SIDEWALK
NOT TO SCALE

REV. NO.	DESCRIPTION	DATE
4	REVISIONS PER NCDOT COMMENTS	2018.11.28
3	REVISIONS PER NCDOT COMMENTS	2018.11.27
2	REVISIONS PER NCDOT	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17



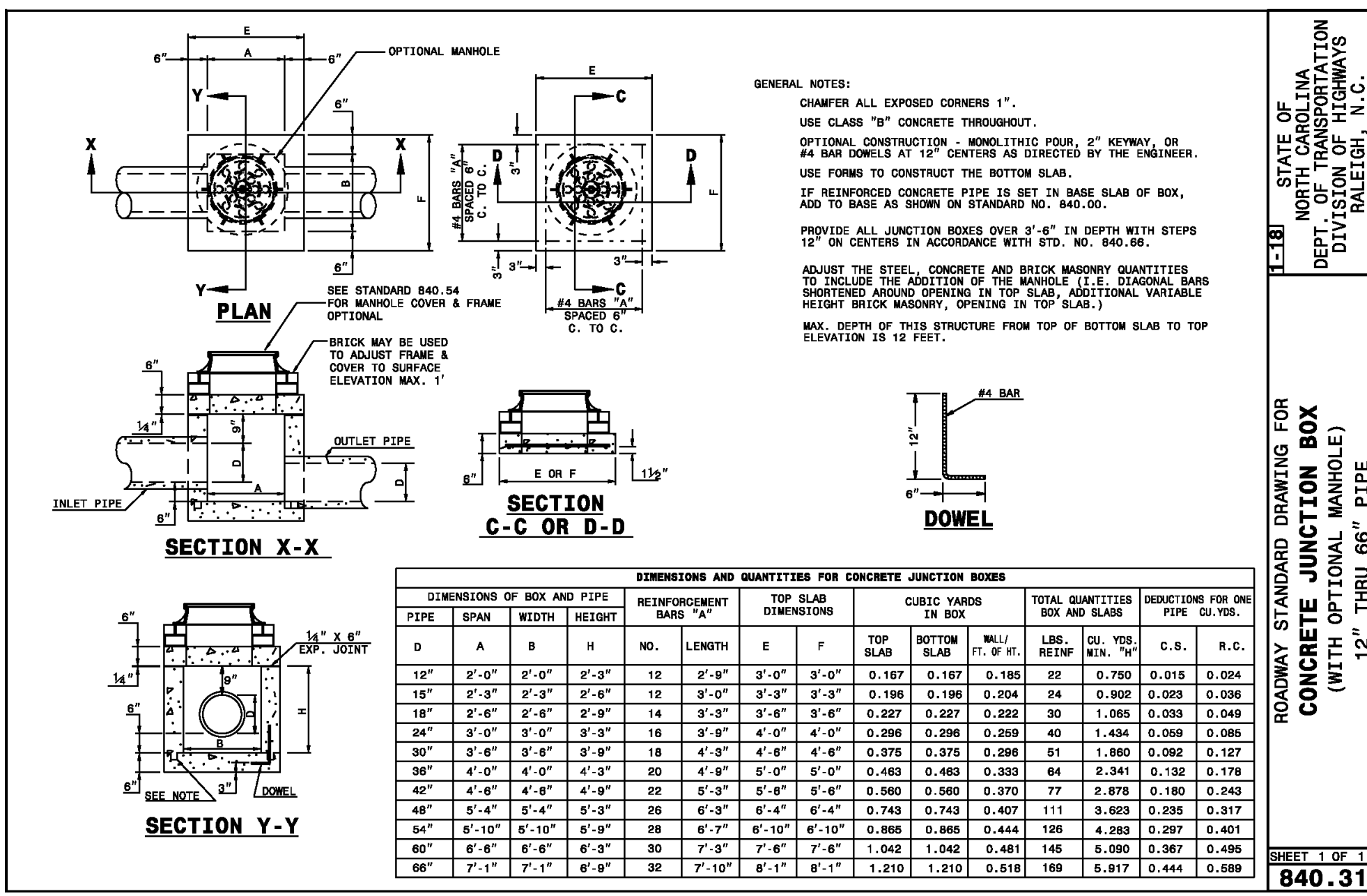
MCKIM & CREED
ENGINEERS SURVEYORS PLANNERS

1730 VARSITY DRIVE, SUITE 500 FIRM LICENSE #: F-1222
RALEIGH, NORTH CAROLINA 27606 mckimcreed.com
T 919.233.8091 F 919.233.8031

RYAN'S CROSSING
Chatham County, North Carolina

CONSTRUCTION PLAT
NCDOT ROADWAY DETAILS

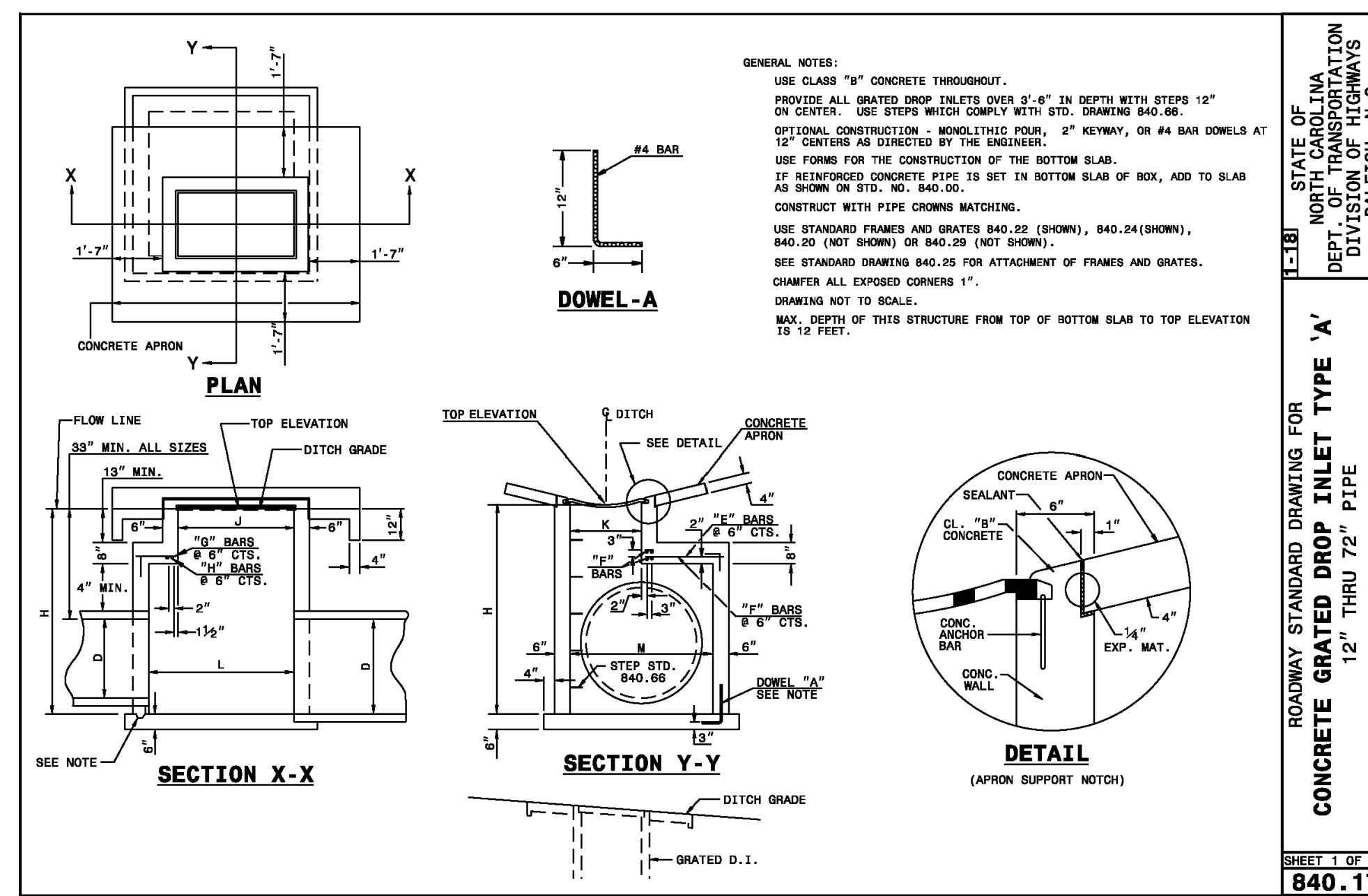
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M&C PROJ. #: 07291-0002	HORIZONTAL: N/A	DRAWING NUMBER: D2.1
DRAWN: BSS	VERTICAL: N/A	
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: PRELIMINARY FOR CONSTRUCTION	REVISION: 4	



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 CONCRETE JUNCTION BOX
 (WITH OPTIONAL MANHOLE)
 12" THRU 72" PIPE

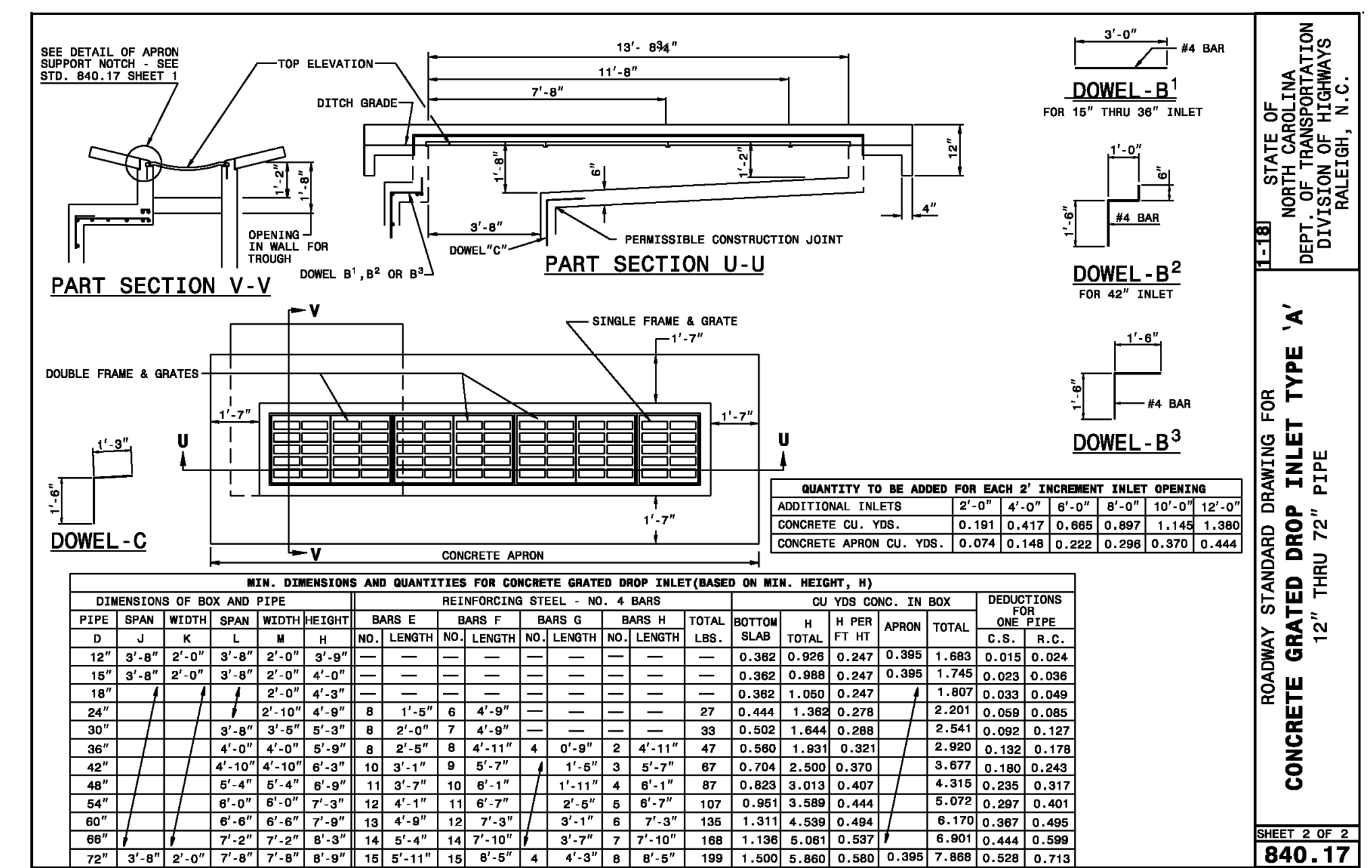
SHEET 1 OF 2
 840.31



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 CONCRETE GRATED DROP INLET TYPE 'A'
 12" THRU 72" PIPE

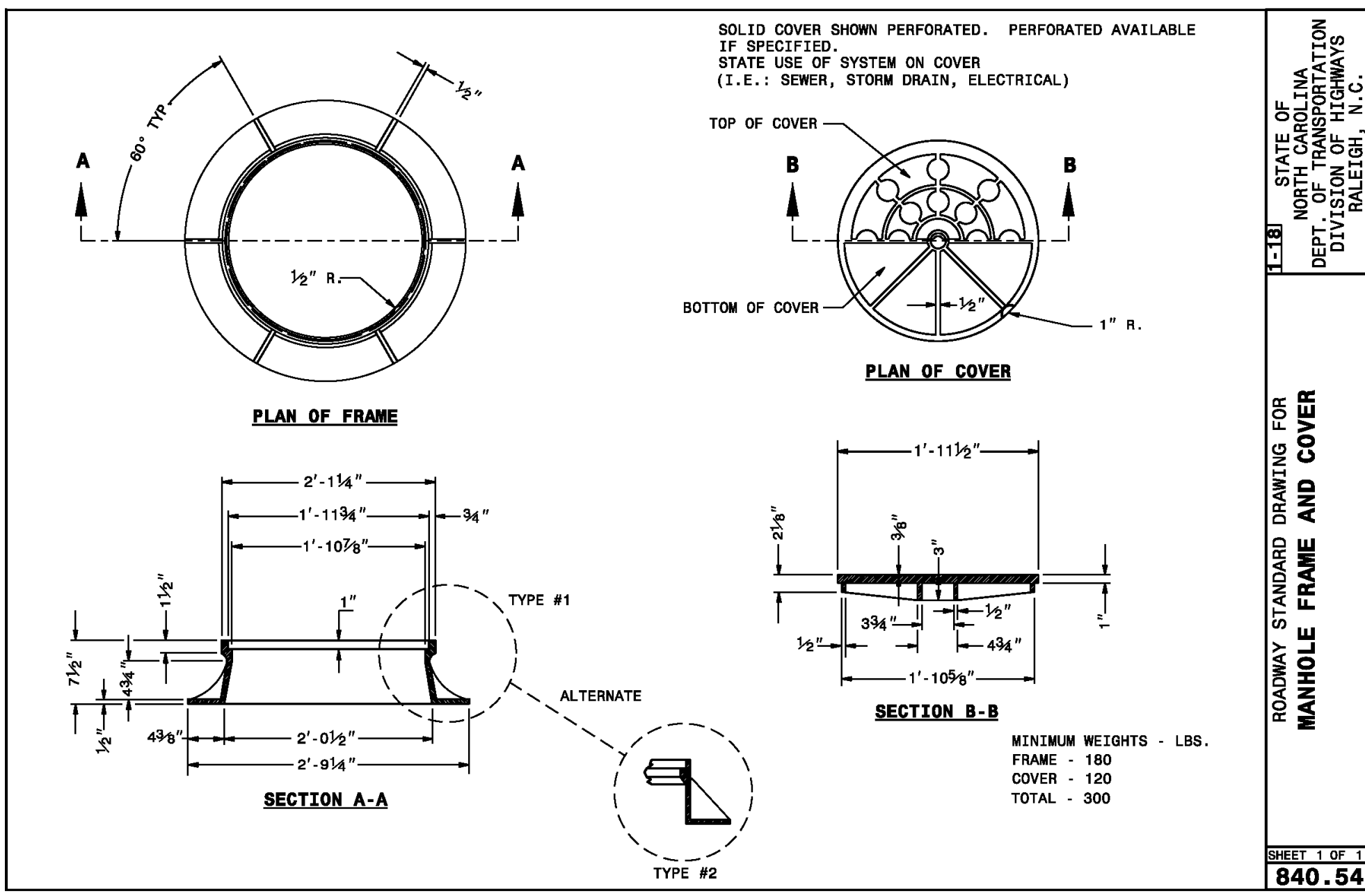
SHEET 1 OF 2
 840.17



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 CONCRETE GRATED DROP INLET TYPE 'A'
 12" THRU 72" PIPE

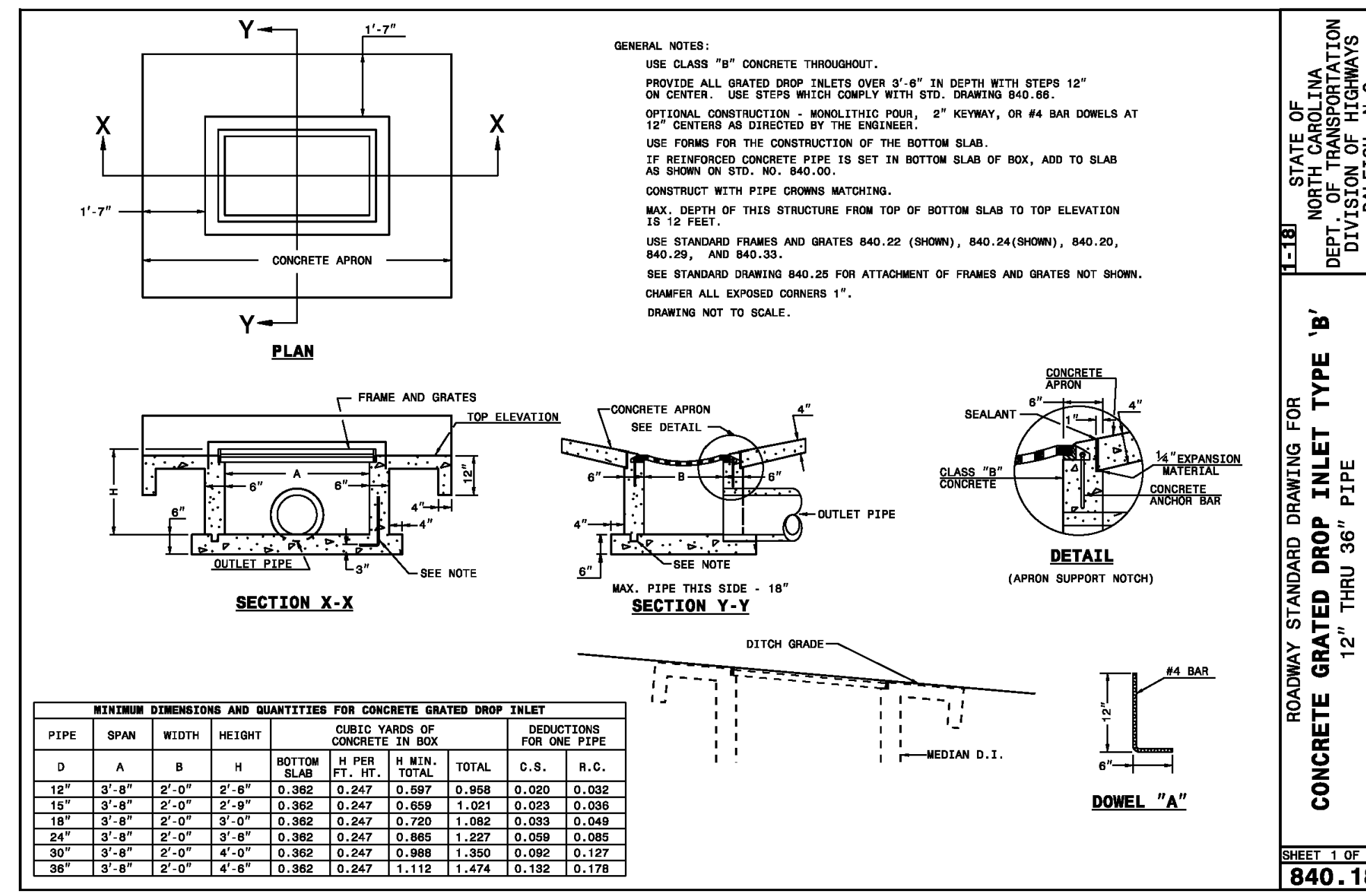
SHEET 2 OF 2
 840.17



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 MANHOLE FRAME AND COVER

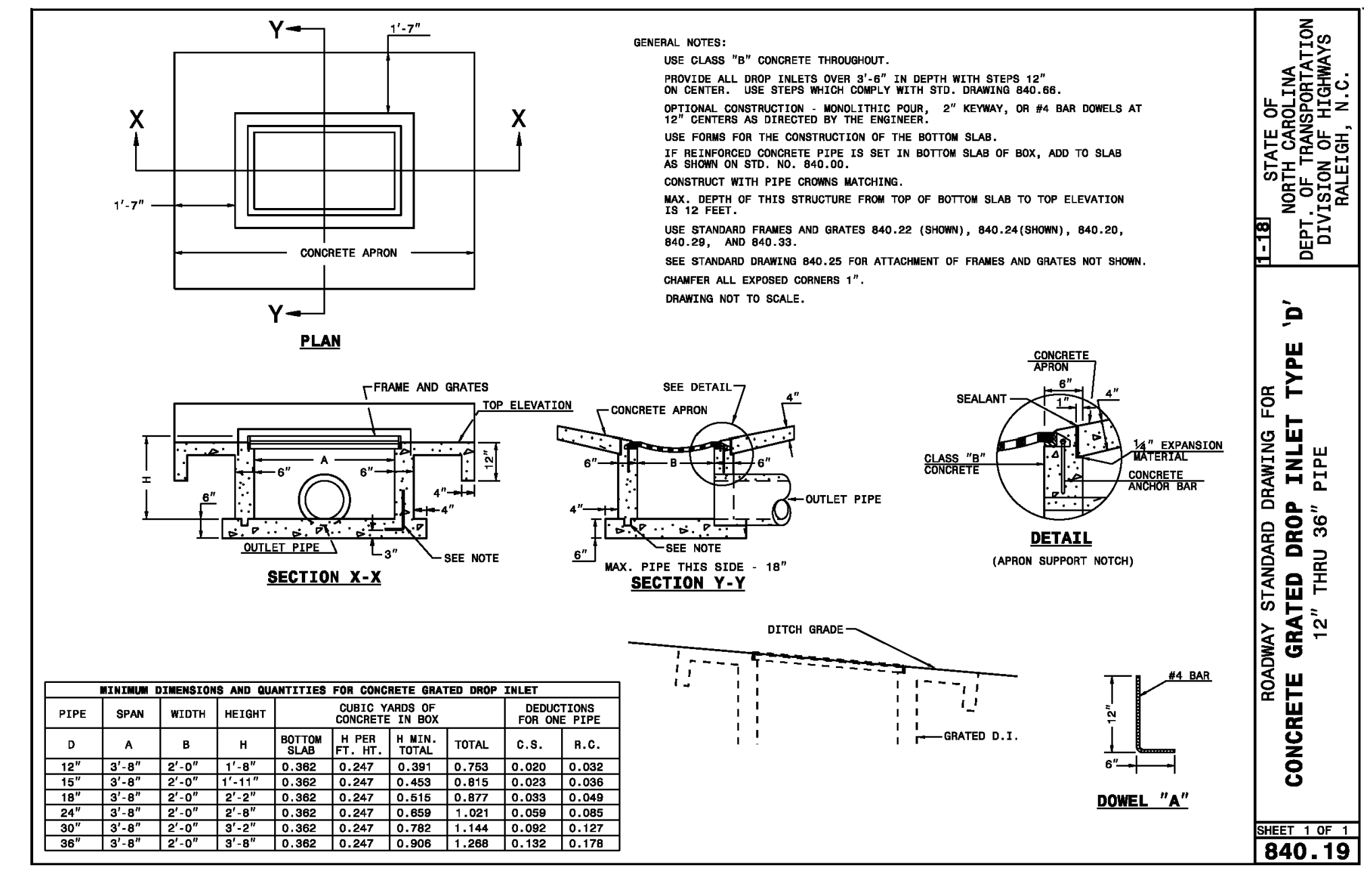
SHEET 1 OF 1
 840.54



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 CONCRETE GRATED DROP INLET TYPE 'B'
 12" THRU 36" PIPE

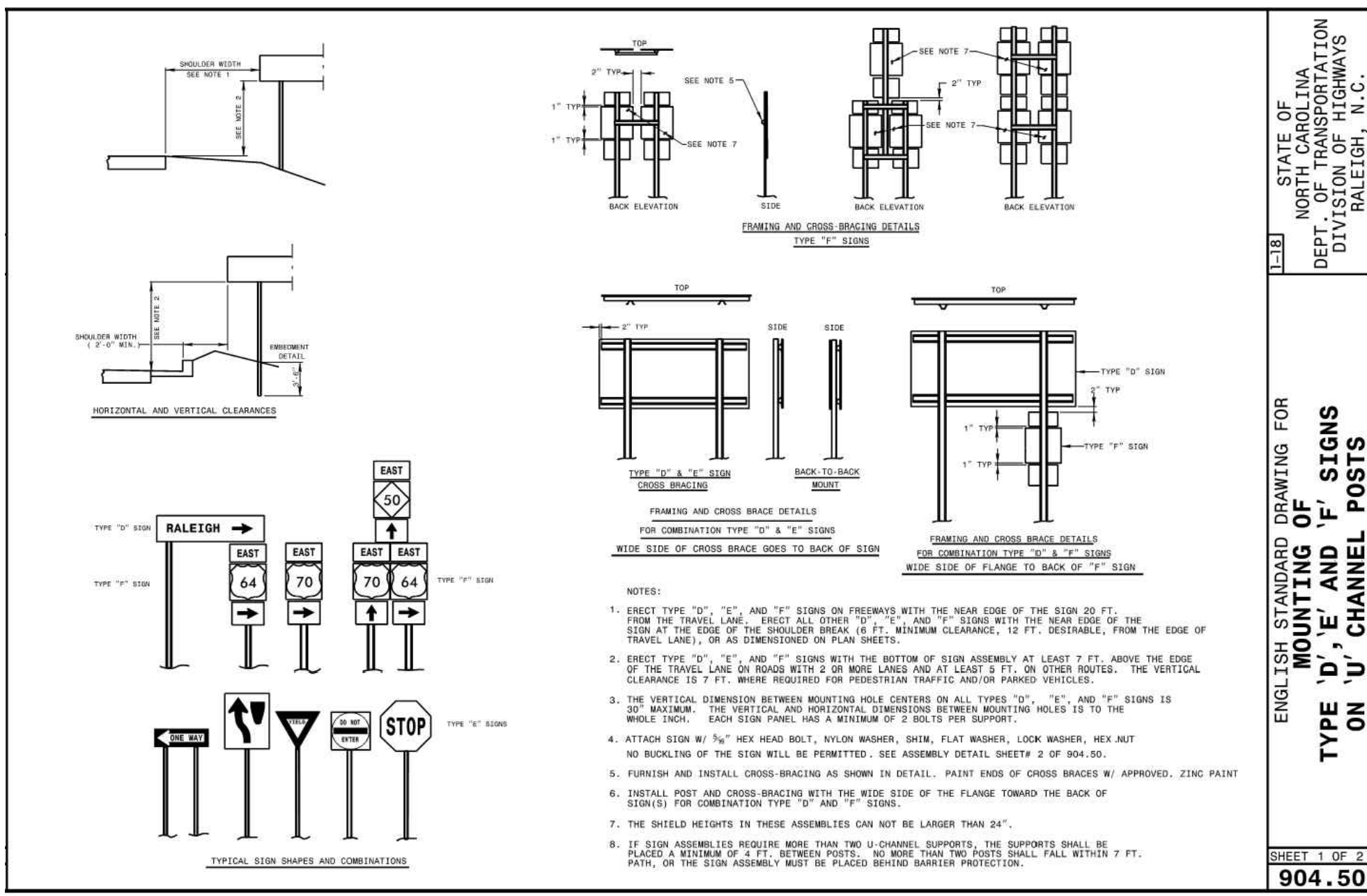
SHEET 1 OF 1
 840.18



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 CONCRETE GRATED DROP INLET TYPE 'D'
 12" THRU 36" PIPE

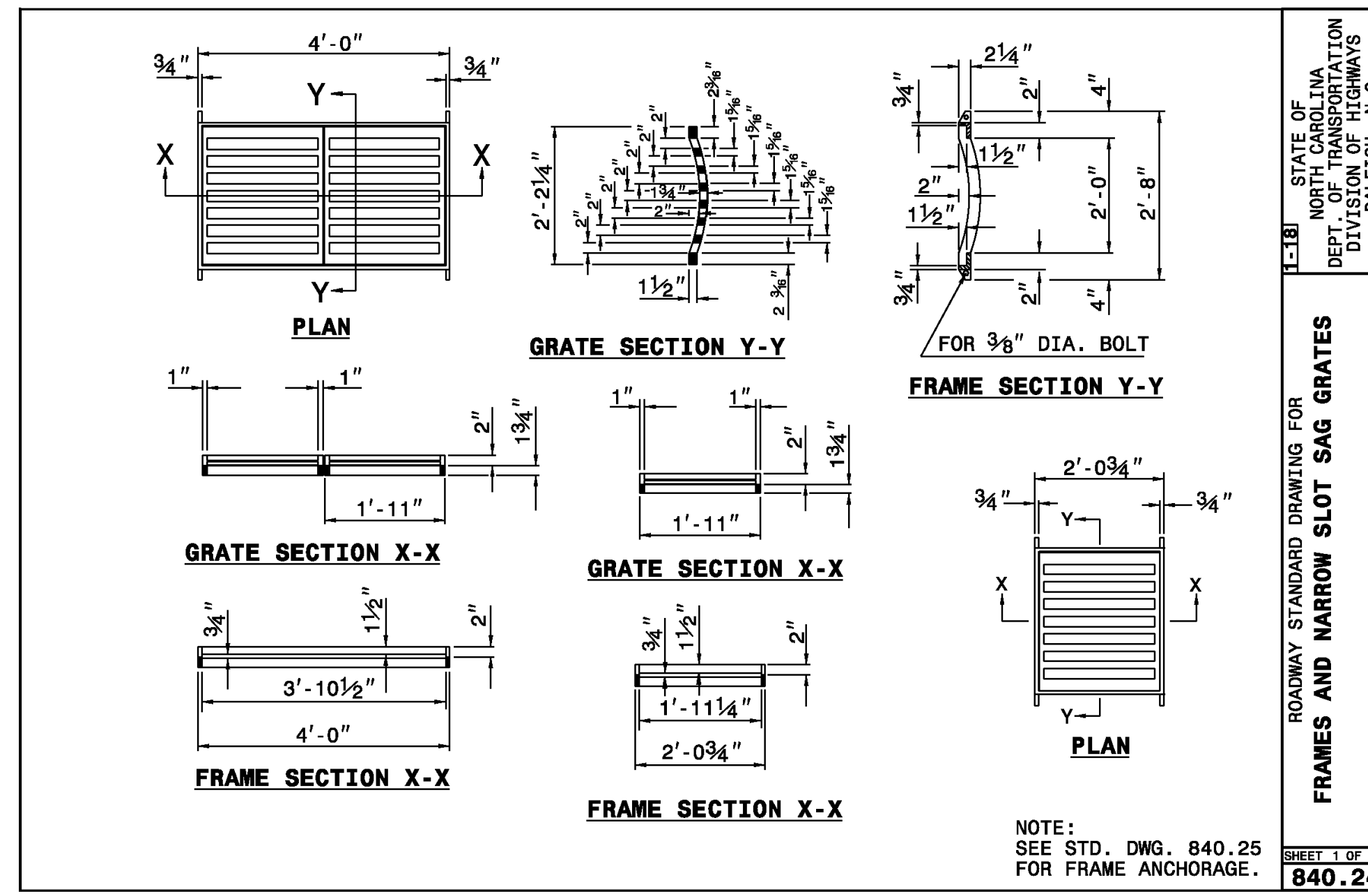
SHEET 1 OF 1
 840.19



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
 MOUNTING OF
 TYPE "D", "E" AND "F" SIGNS
 ON "U" CHANNEL POSTS

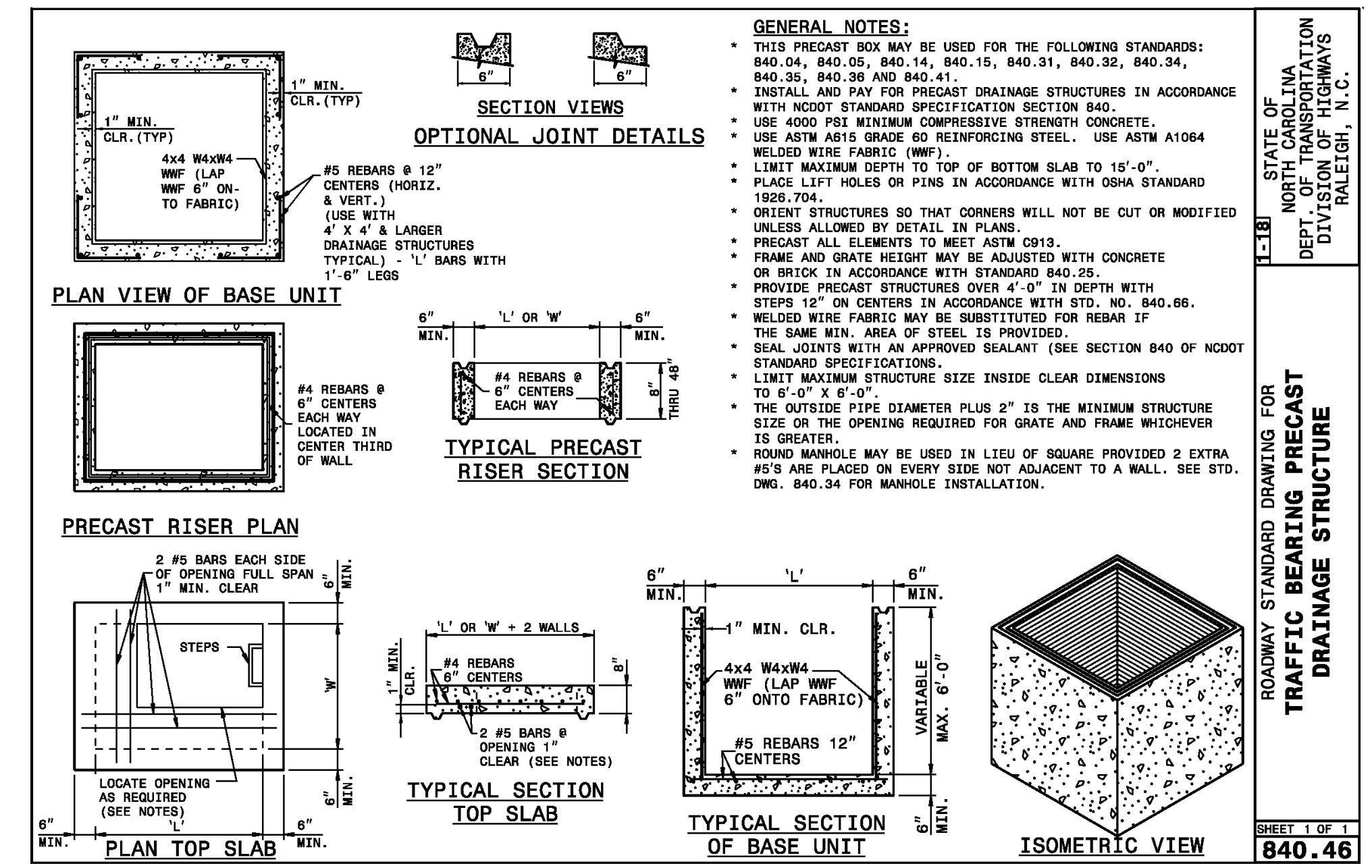
SHEET 1 OF 2
 904.50



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 FRAMES AND NARROW SLOT SAG GRATES

SHEET 1 OF 1
 840.24



STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
 TRAFFIC BEARING PRECAST
 DRAINAGE STRUCTURE

SHEET 1 OF 1
 840.46

REV. NO.	DESCRIPTION	DATE
4	REVISIONS PER NC DOT COMMENTS	2018.11.28
3	REVISIONS PER NC DOT COMMENTS	2018.11.27
2	REVISIONS PER NC DOT	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCSDG P155	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17

MCKIM & CREED
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1730 VARSITY DRIVE, SUITE 500
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FIRM LICENSE #: F-1222
 mckimcreed.com

RYAN'S CROSSING

Chatham County, North Carolina

CONSTRUCTION PLAT

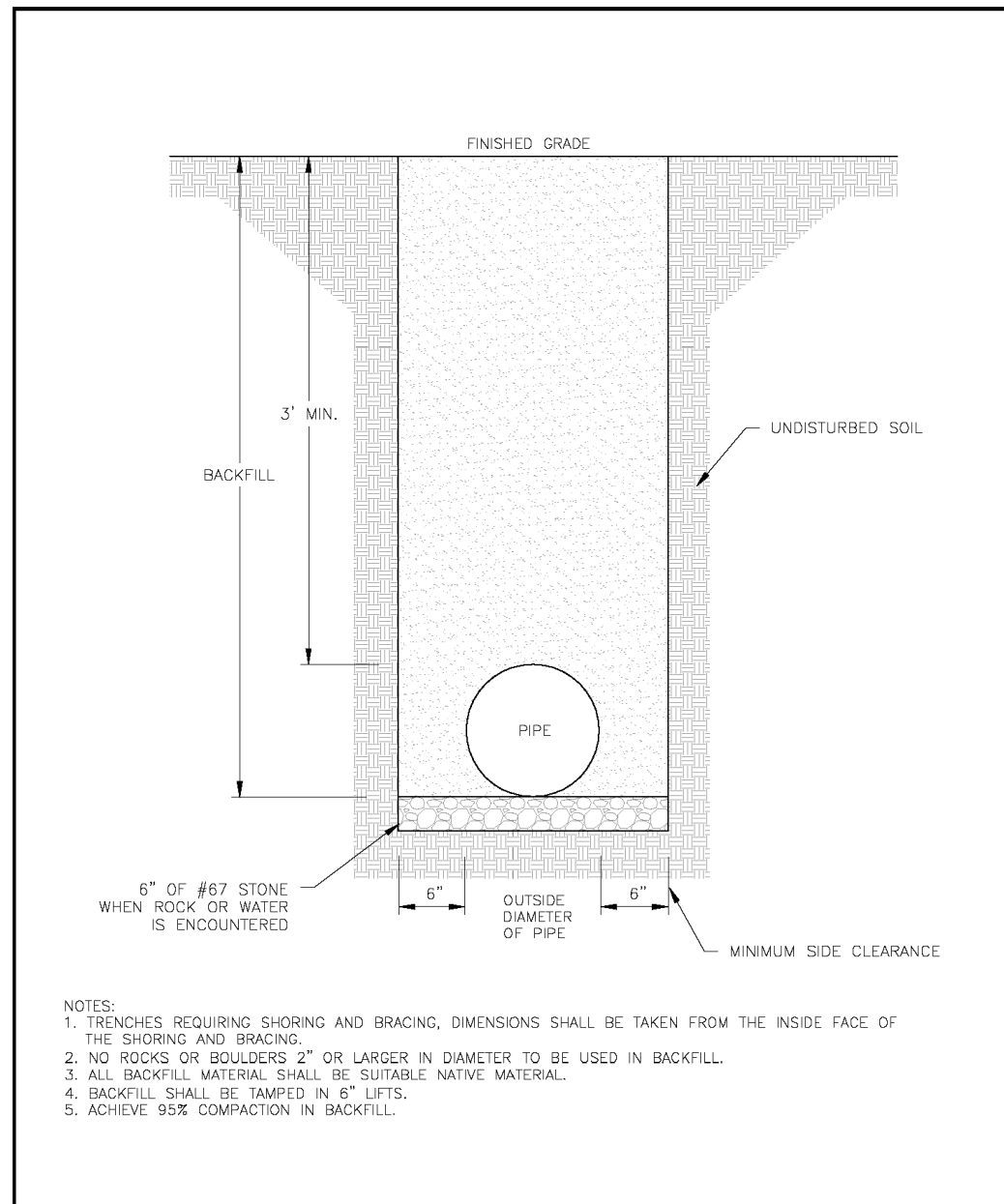
NCDOT DRAINAGE DETAILS

DATE: AUGUST 17, 2018
 MCE PROJ. #: 07291-0002
 DRAWN: BSS
 DESIGNED: BSS
 CHECKED: GCA
 PROJ. MGR.: CHS

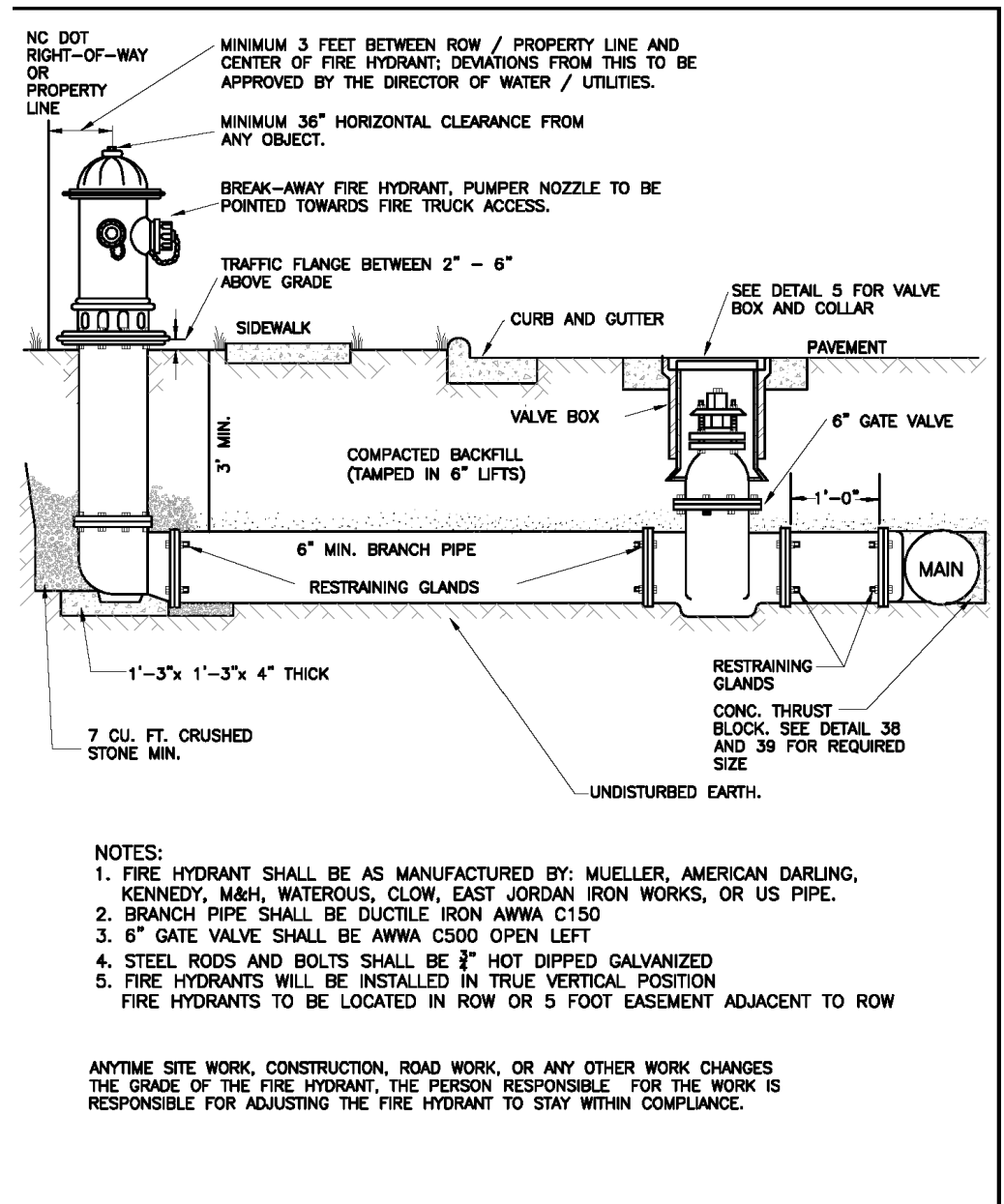
SCALE: HORIZONTAL: N/A
 VERTICAL: N/A

STATUS: PRELIMINARY FOR CONSTRUCTION

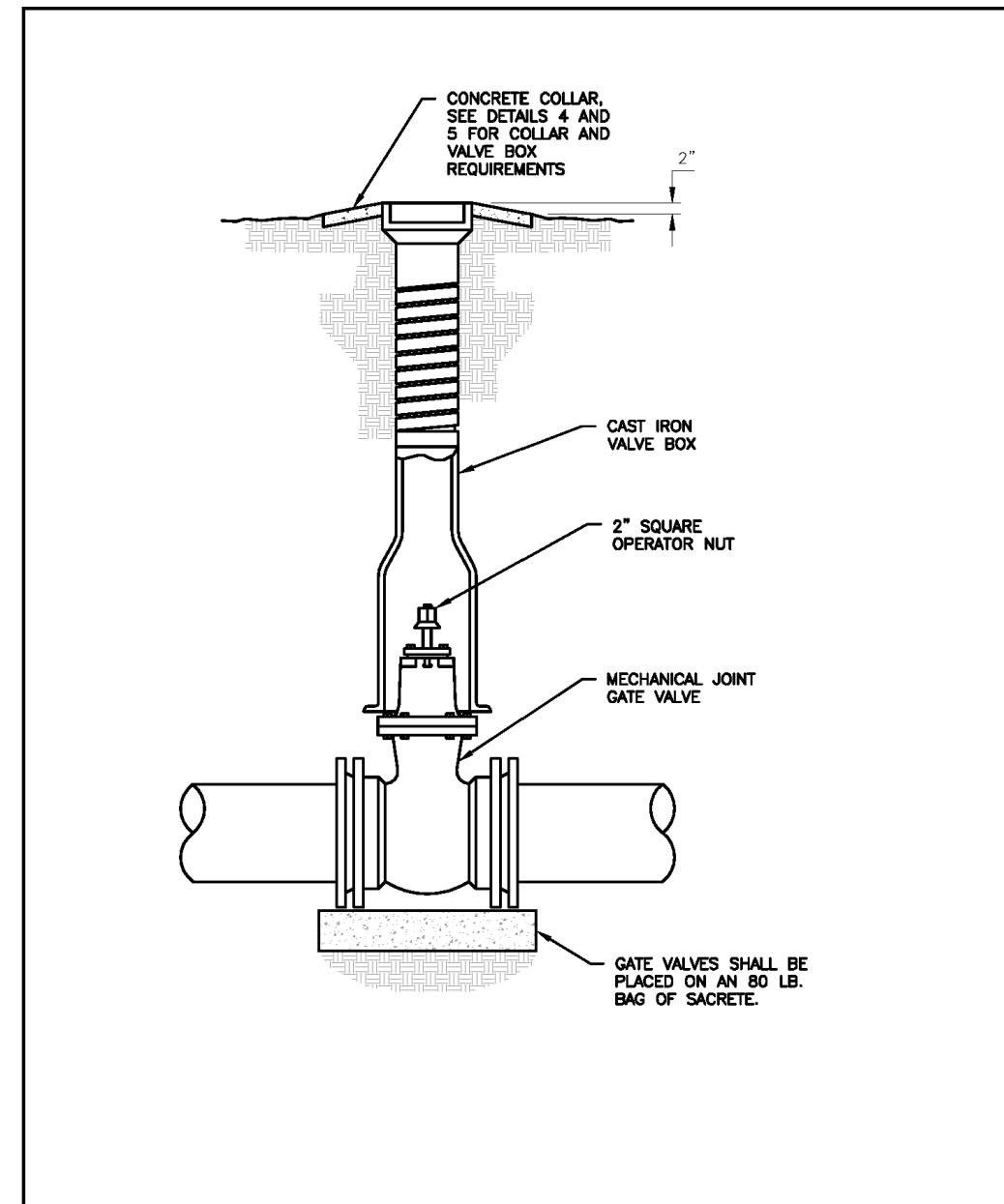
REVISION: 4



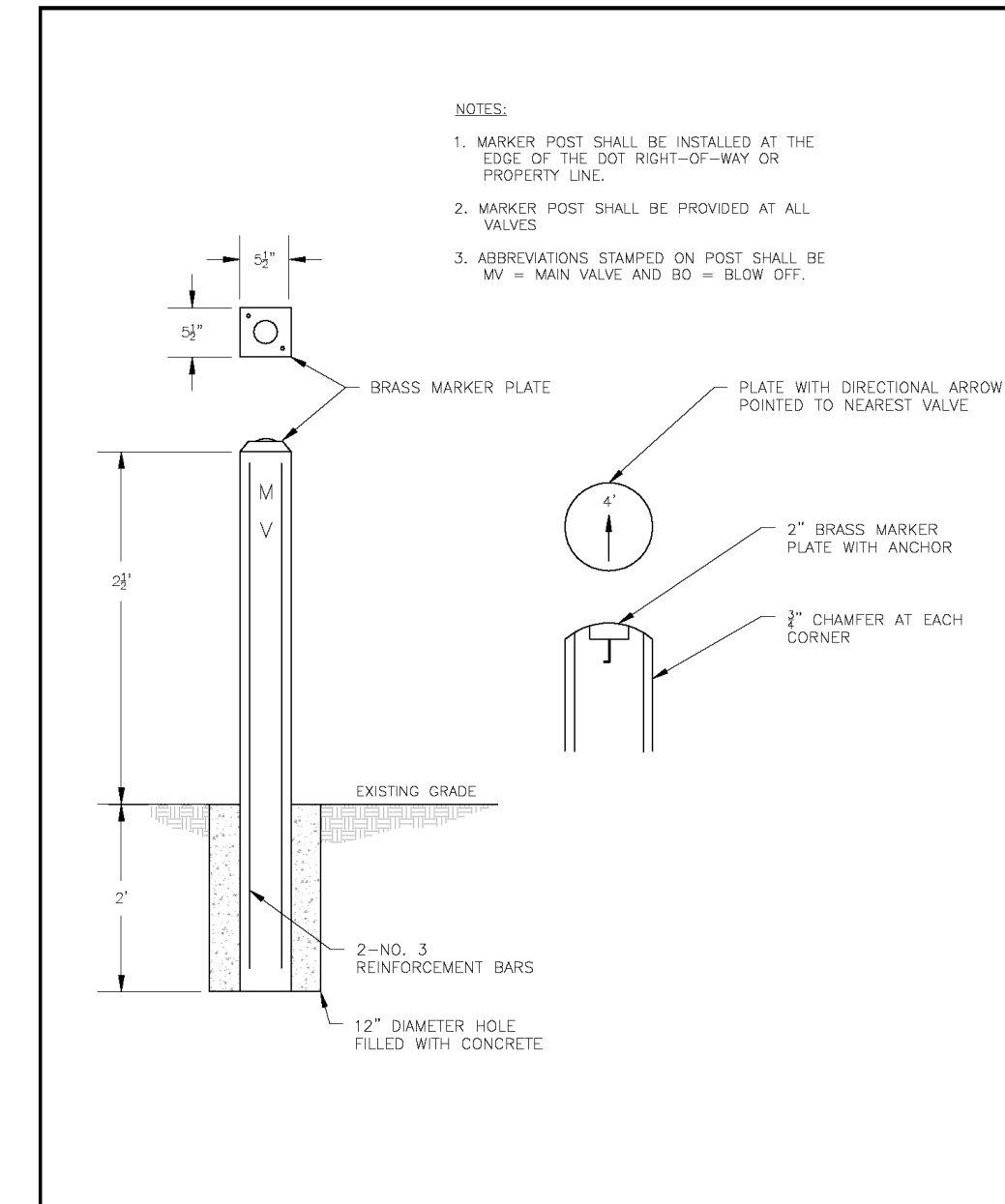
DETAIL	35	DUCTILE IRON PIPE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



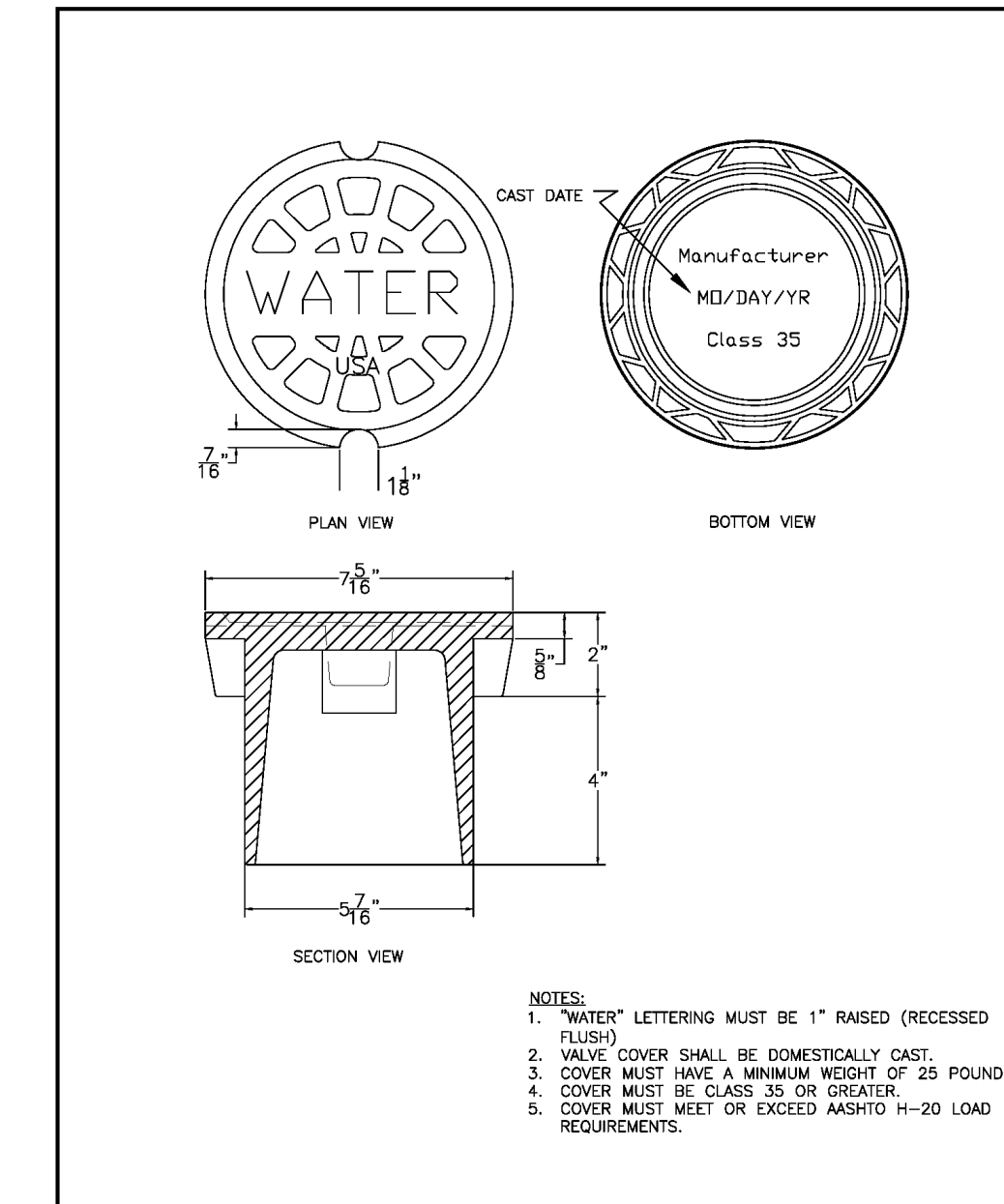
DETAIL	1	FIRE HYDRANT ASSEMBLY	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



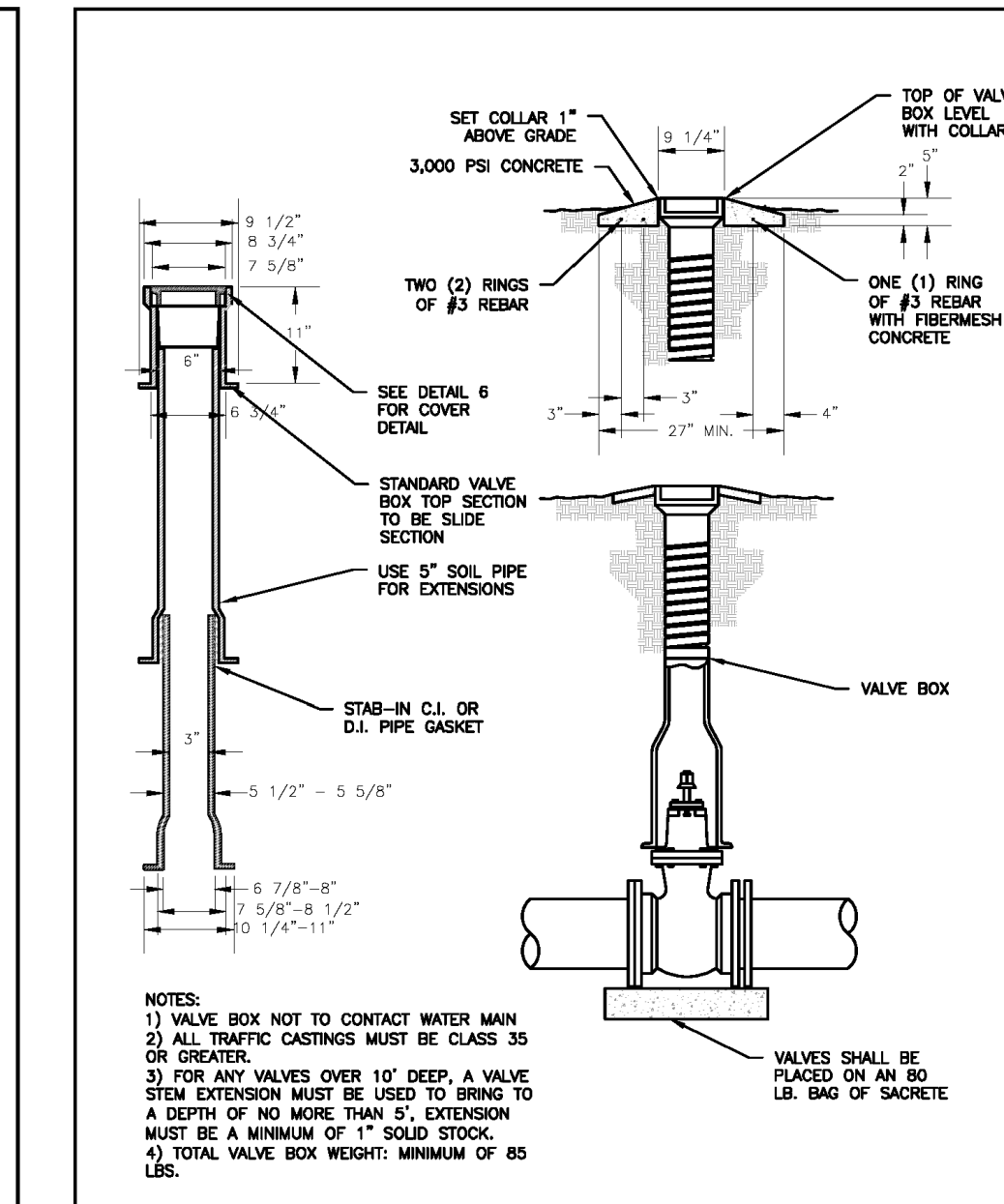
DETAIL	3	GATE VALVE ASSEMBLY	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



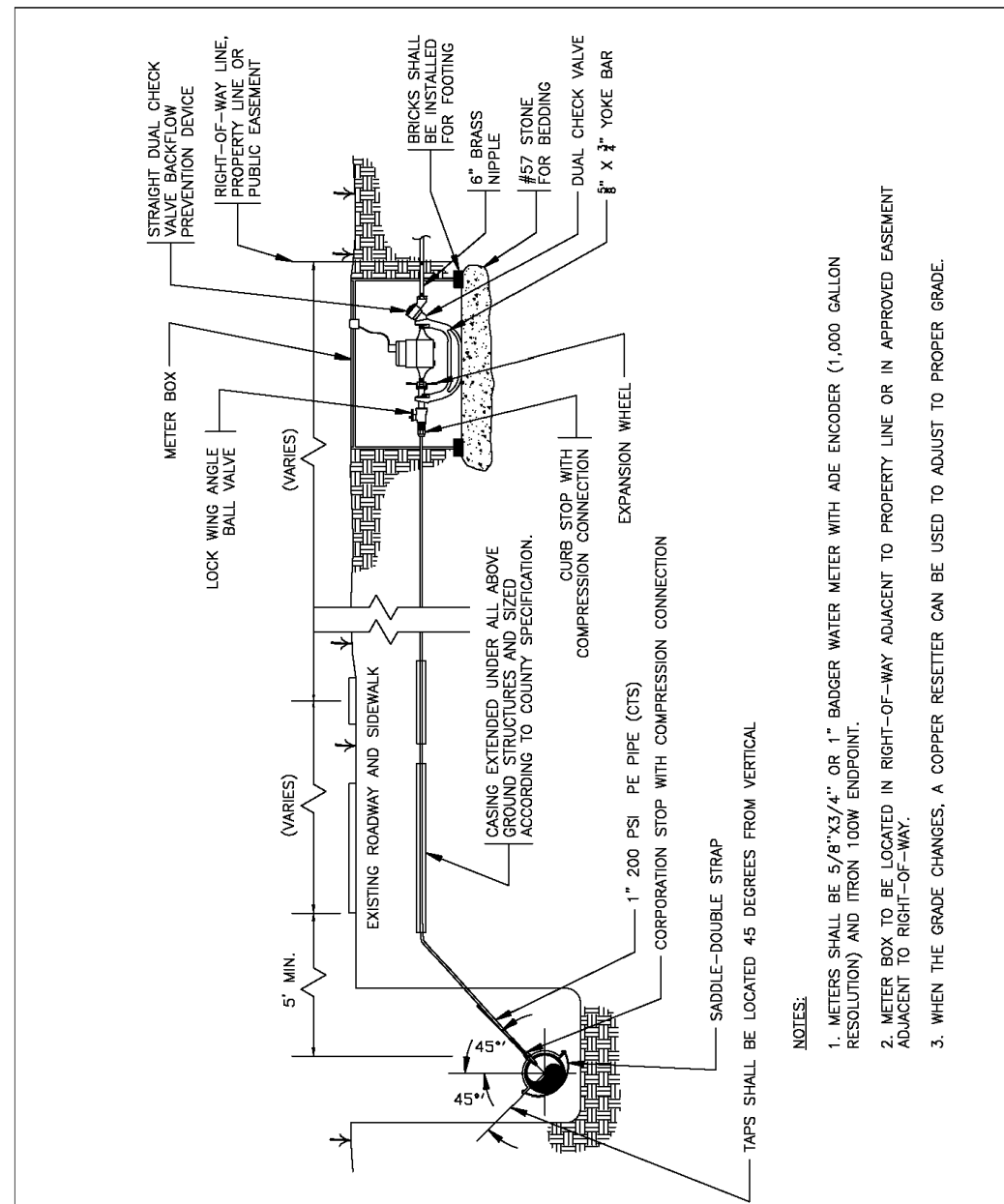
DETAIL	7	VALVE MARKER POST	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



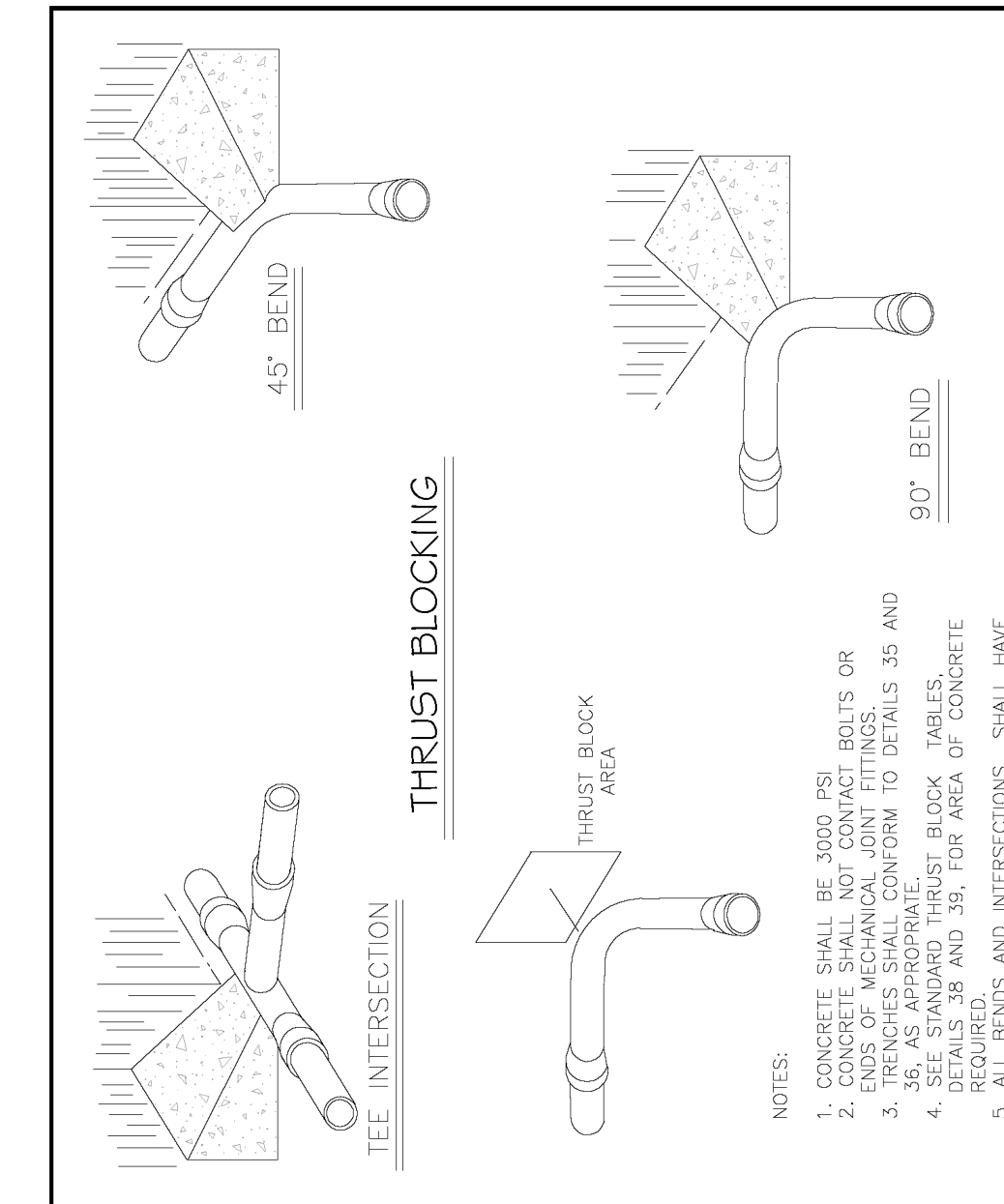
DETAIL	6	VALVE BOX COVER	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



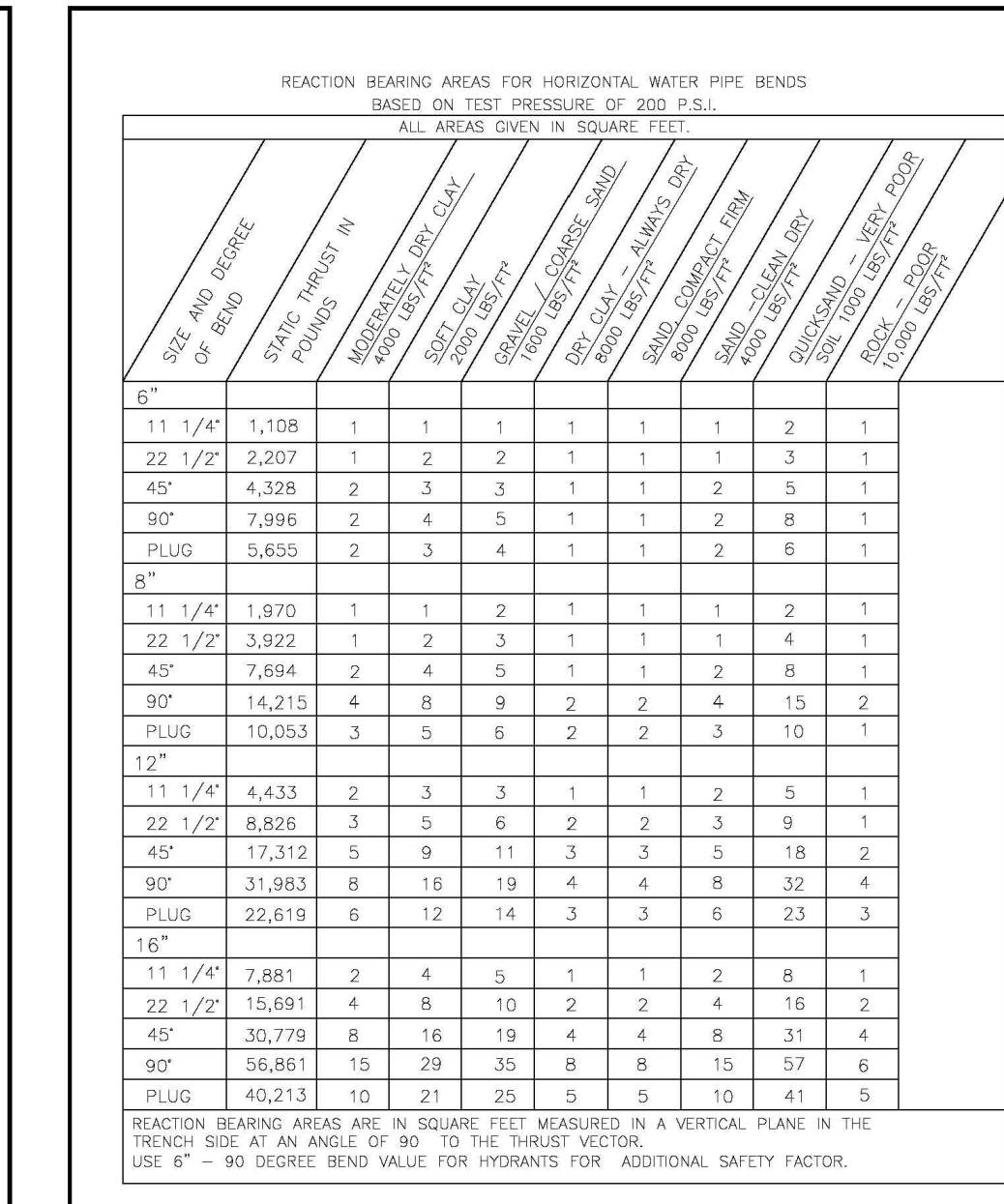
DETAIL	4	VALVE BOX AND COLLAR NOT IN PAVEMENT	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



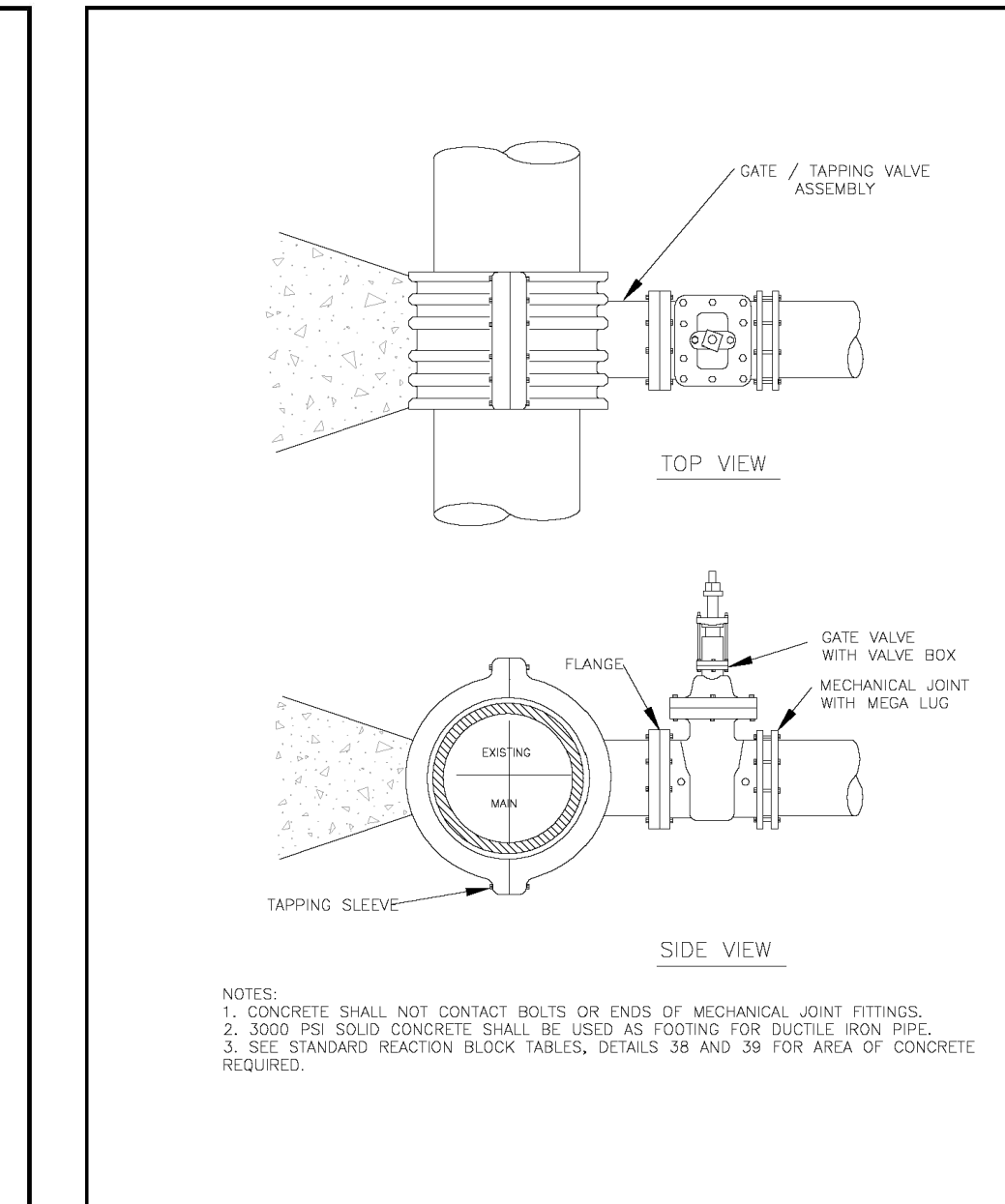
DETAIL	37	STANDARD THRUST BLOCKING VIEWS	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



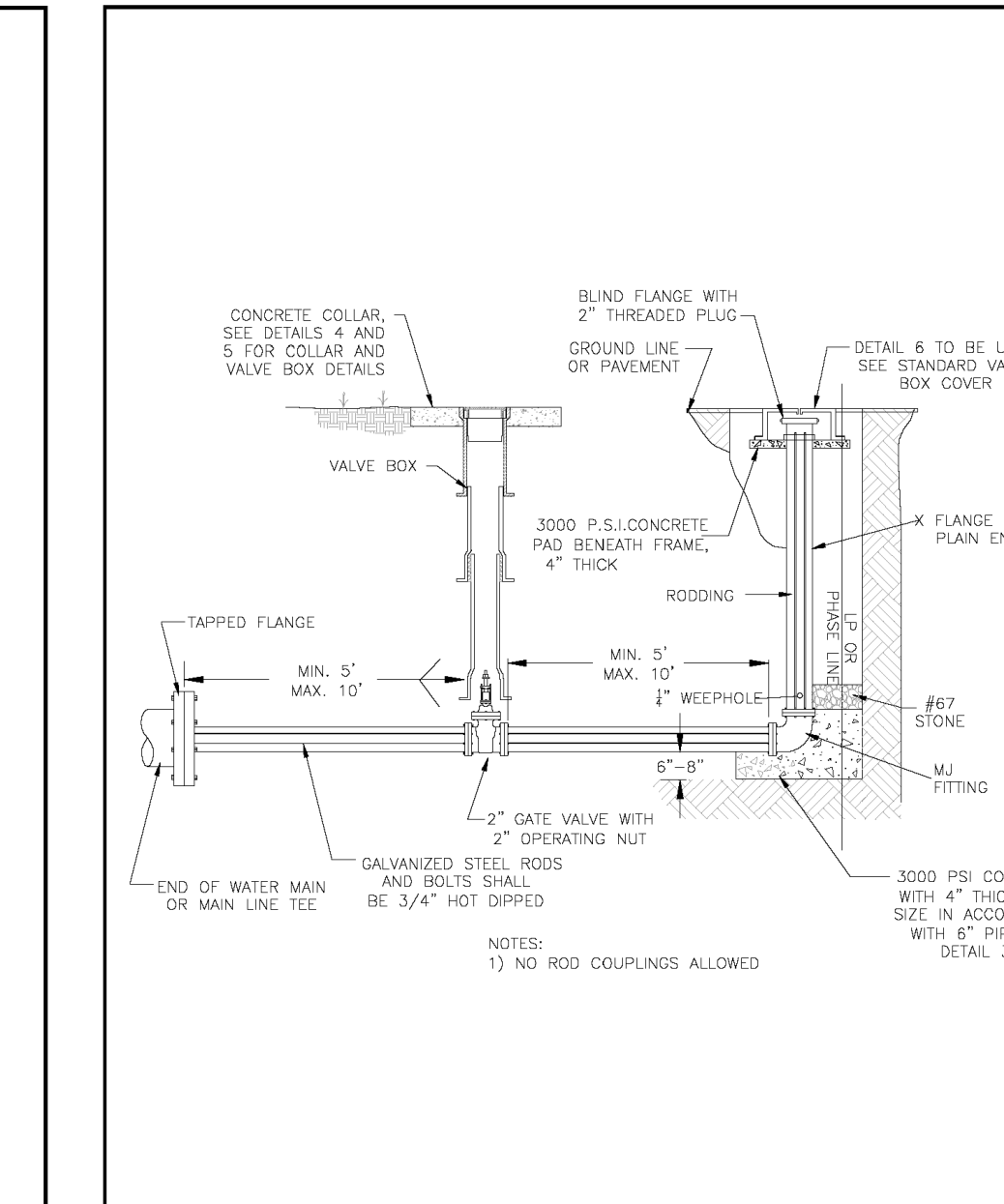
DETAIL	38	CONCRETE THRUST BLOCKING QUANTITY TABLE, 6" - 16" PIPE	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



DETAIL	8	4" - 24" TAPPING SLEEVE ASSEMBLY	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		

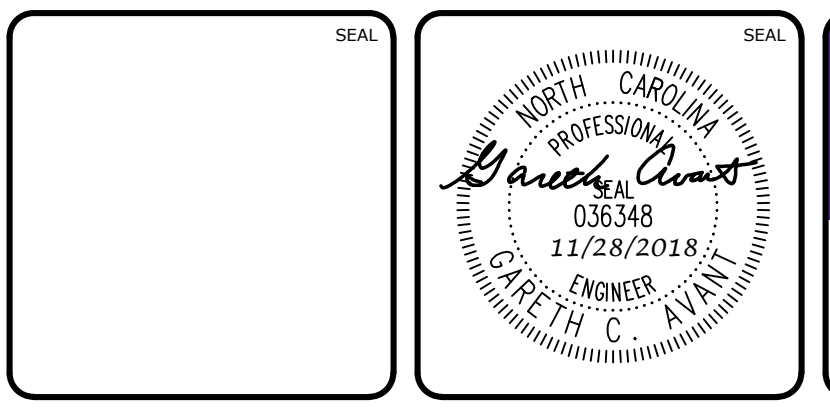


DETAIL	13	2" BLOW-OFF ASSEMBLY AT END OF WATER MAIN	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	JULY 1, 2015		



DETAIL	11	STANDARD WATER AIR RELEASE VALVE	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION
REVISION	DATE		
1	FEB. 23, 2016		

REV.	NO.	DESCRIPTION	DATE
4		REVISIONS PER NCDOT COMMENTS	2018.11.28
3		REVISIONS PER NCDOT COMMENTS	2018.11.27
2		REVISIONS PER NCDOT	2018.11.16
1		REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0		INITIAL SUBMITTAL	2018.08.17



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ENGINEERS SURVEYORS PLANNERS

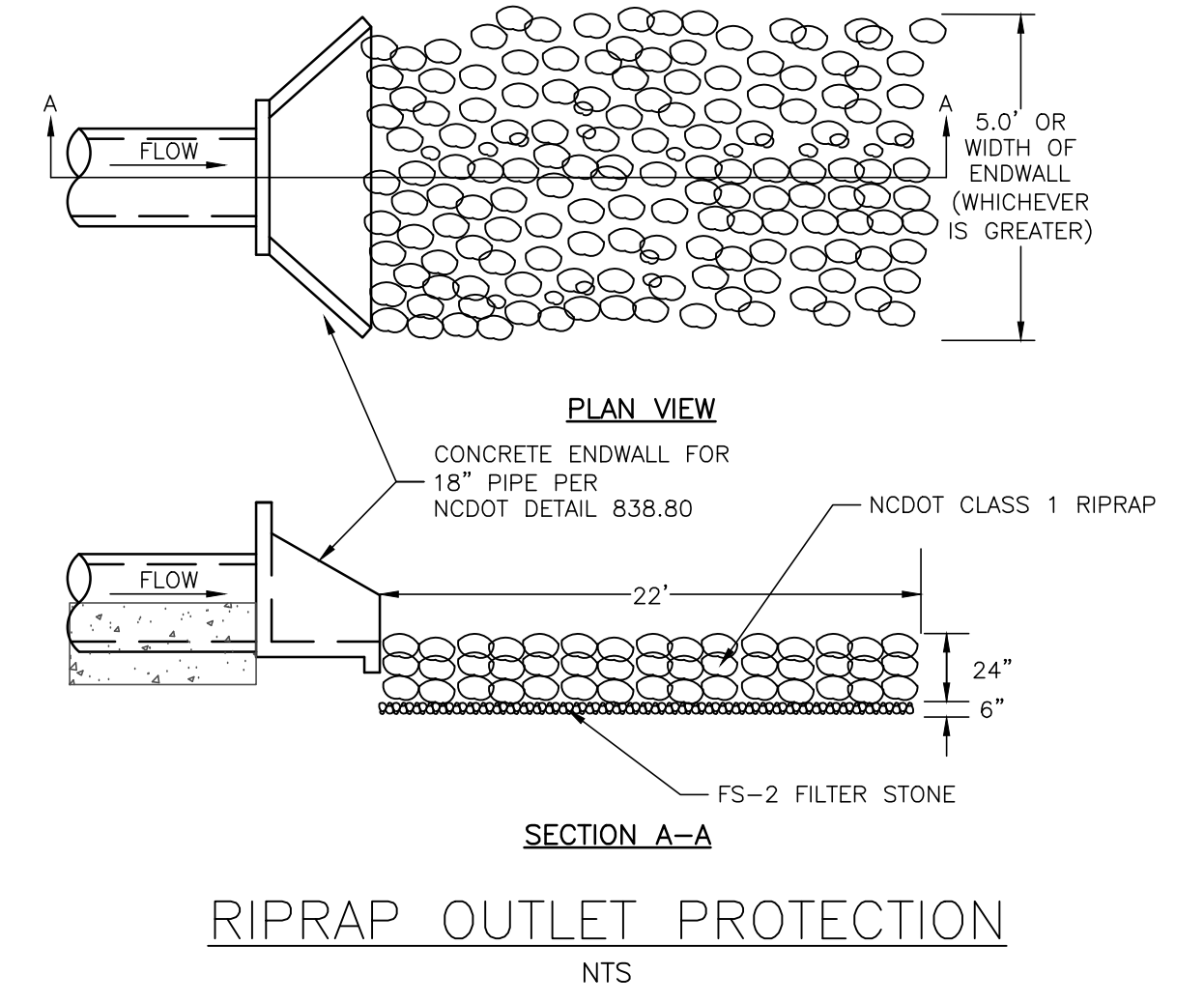
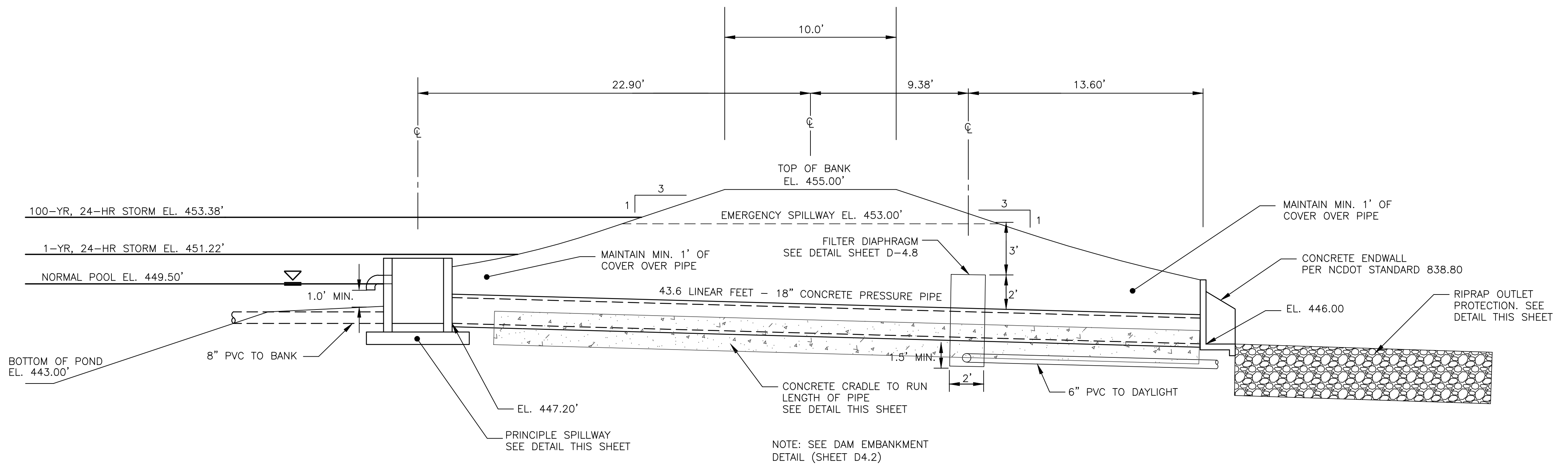
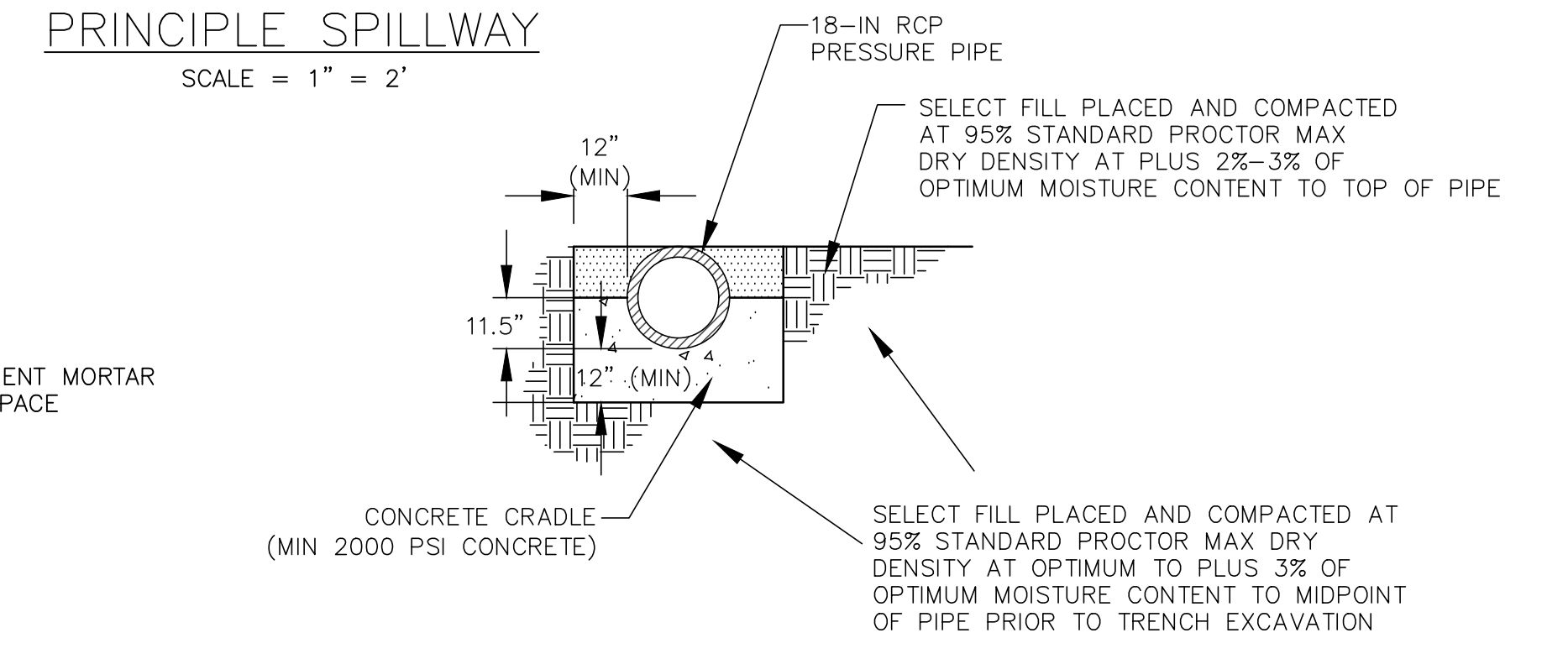
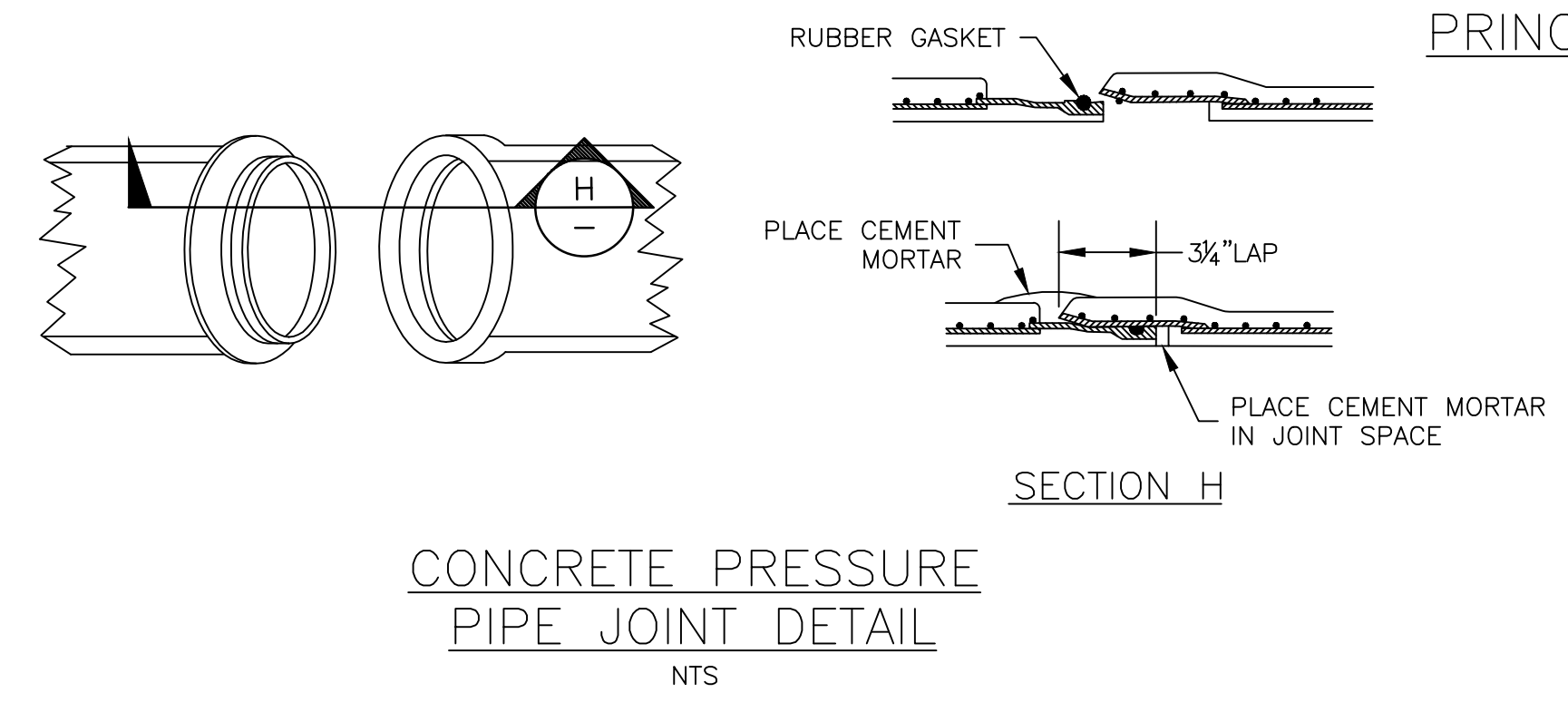
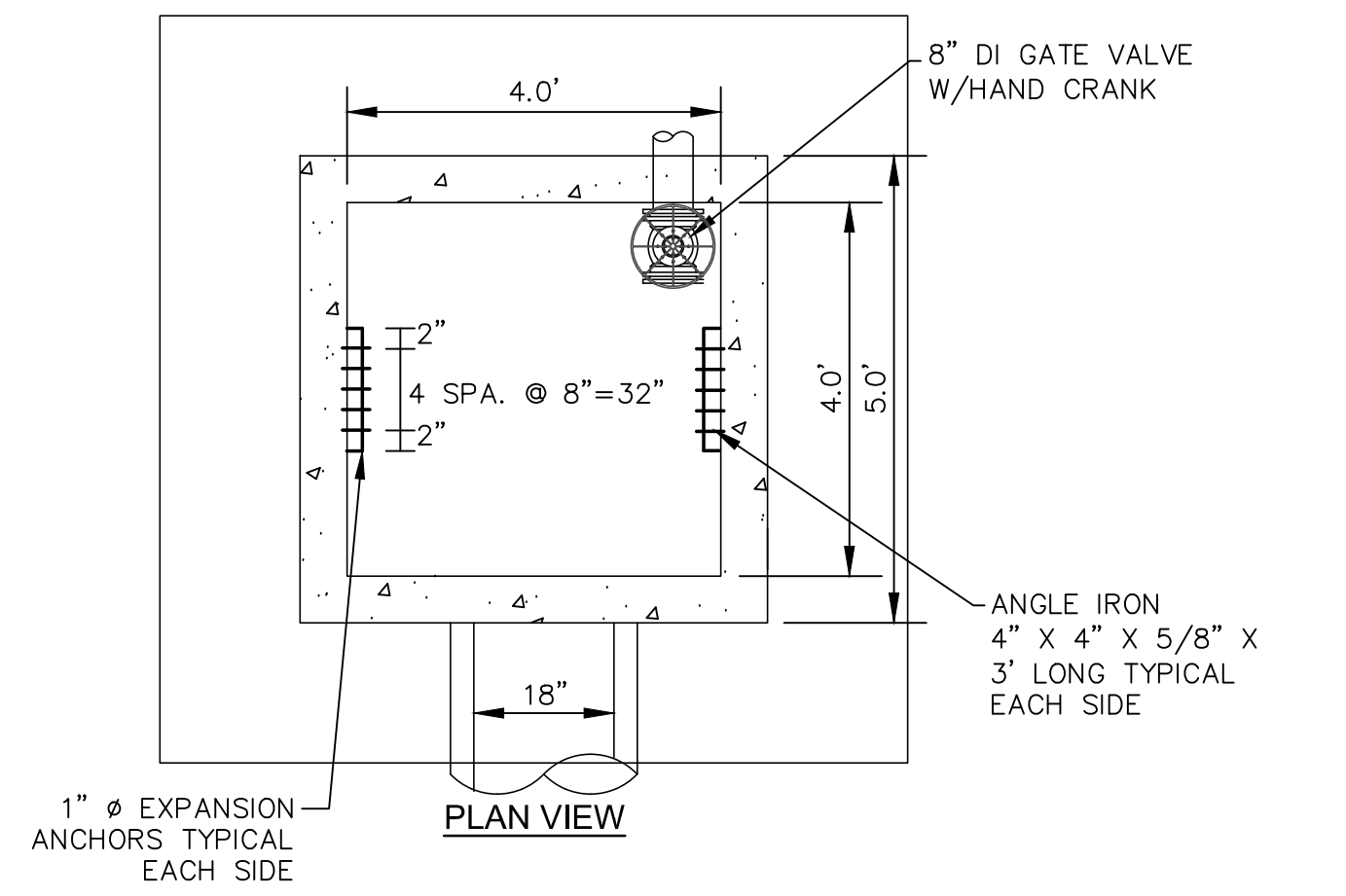
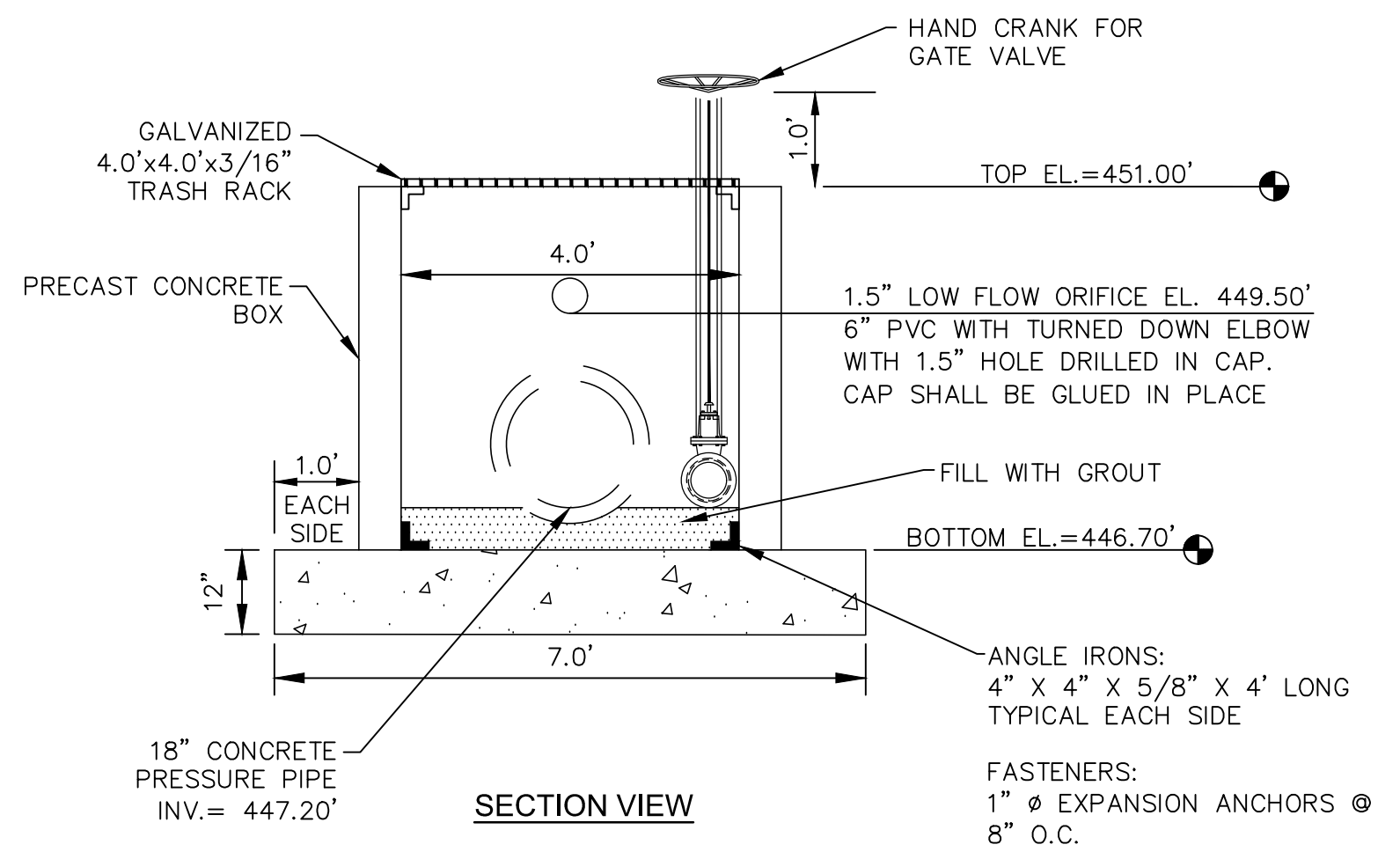
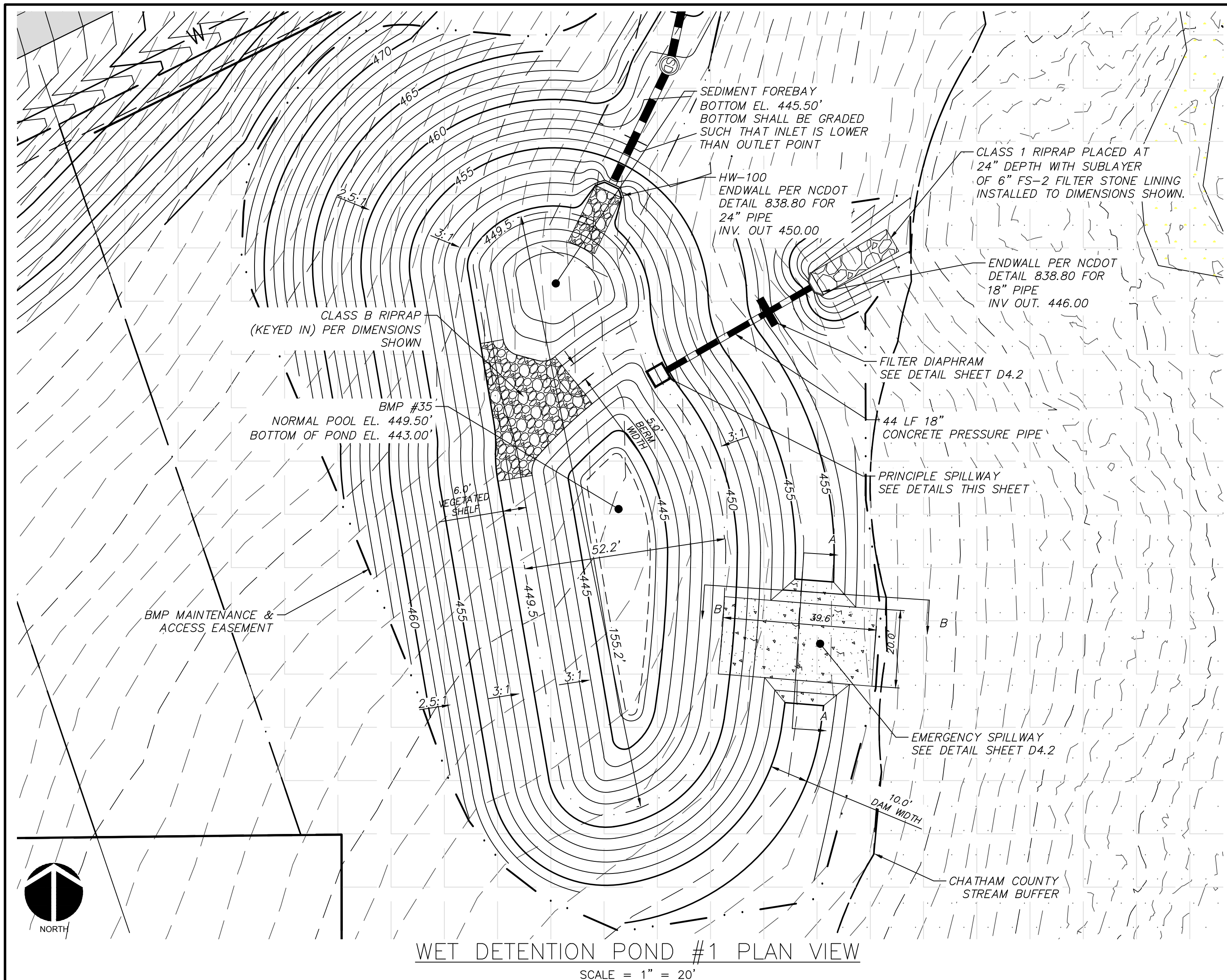
1730 VARSITY DRIVE, SUITE 500
RALEIGH, NORTH CAROLINA 27606
T 919.233.8091 F 919.233.8031

FIRM LICENSE #: F-1222
mckimcreed.com

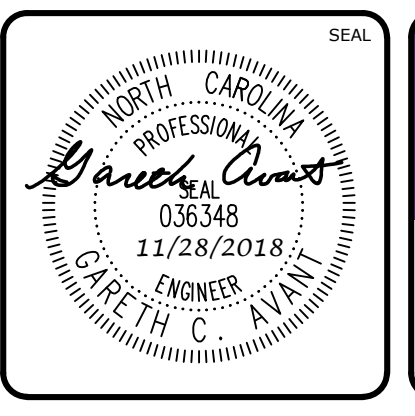
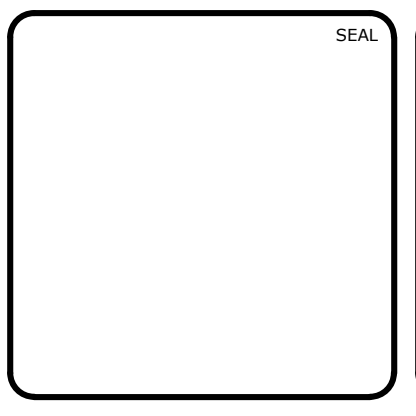
RYAN'S CROSSING
Chatham County, North Carolina

CONSTRUCTION PLAT
UTILITY DETAILS

DATE: AUGUST 17, 2018	MFC FILE NUMBER: D3.X
MCE PROJ. #: 07291-0002	DRAWING NUMBER: D3.1
DRAWN: BSS	HORIZONTAL: N/A
DESIGNED: BSS	VERTICAL: N/A
CHECKED: GCA	
PROJ. MGR: CHS	
STATUS: PRELIMINARY FOR CONSTRUCTION	REVISION: 4



REV. NO.	DESCRIPTION	DATE
4	REVISIONS PER NCDOT COMMENTS	2018.11.28
3	REVISIONS PER NCDOT COMMENTS	2018.11.27
2	REVISIONS PER NCDOT	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17



MCKIM & CREED
ENGINEERS SURVEYORS PLANNERS

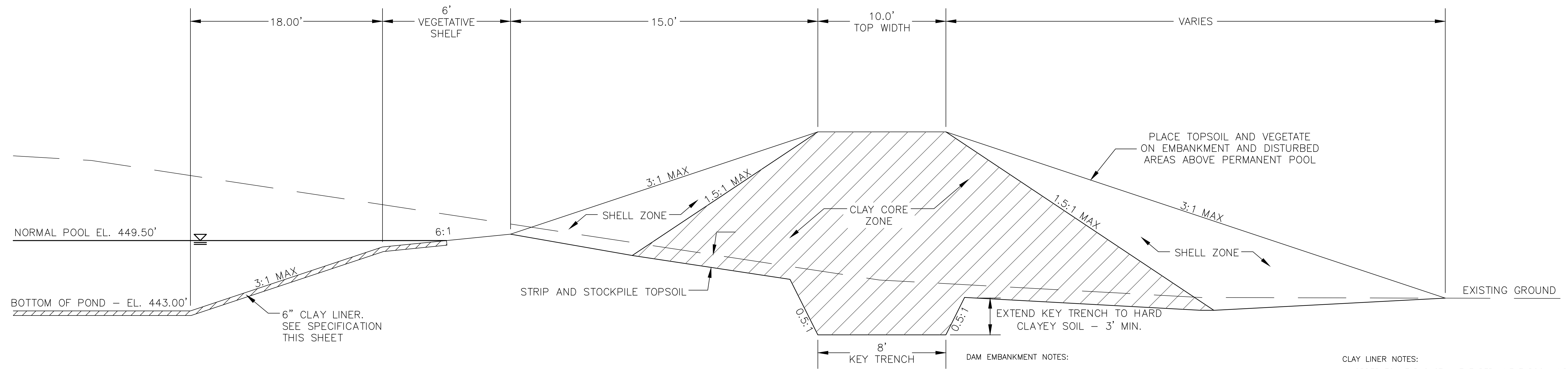
1730 VARSITY DRIVE, SUITE 500
RALEIGH, NORTH CAROLINA 27606
T 919.233.8091 F 919.233.8031

FIRM LICENSE #: F-1222
mckimcreed.com

RYAN'S CROSSING
Chatham County, North Carolina

CONSTRUCTION PLAT
BMP #1 PLAN & DETAILS

DATE: AUGUST 17, 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: D4.X
M&C PROJ. #: 07291-0002	VERTICAL: N/A	DRAWING NUMBER: D4.1
DRAWN: BSS		
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: PRELIMINARY FOR CONSTRUCTION	REVISION: 4	



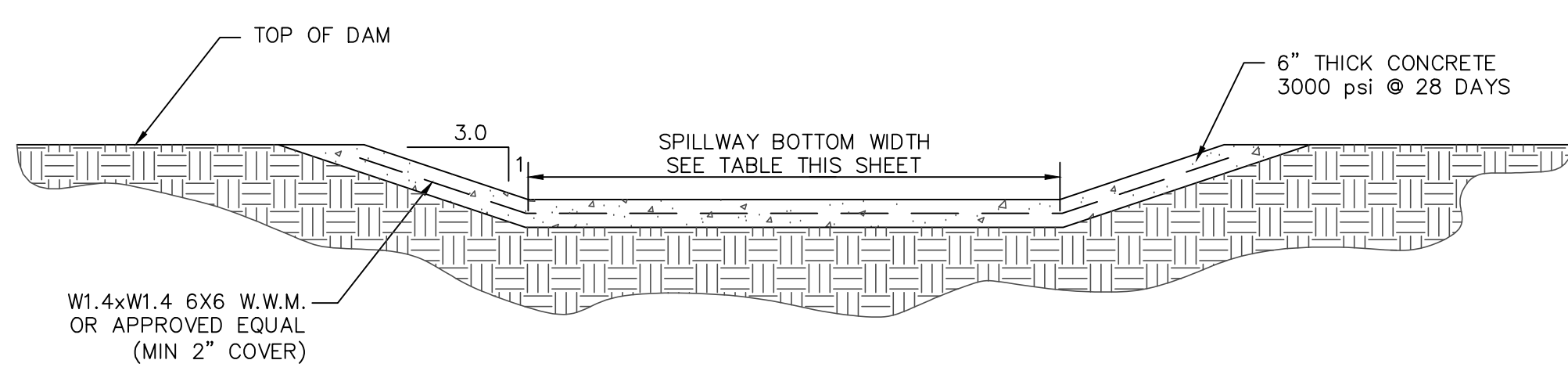
DAM EMBANKMENT DETAIL
NTS

DAM EMBANKMENT NOTES:

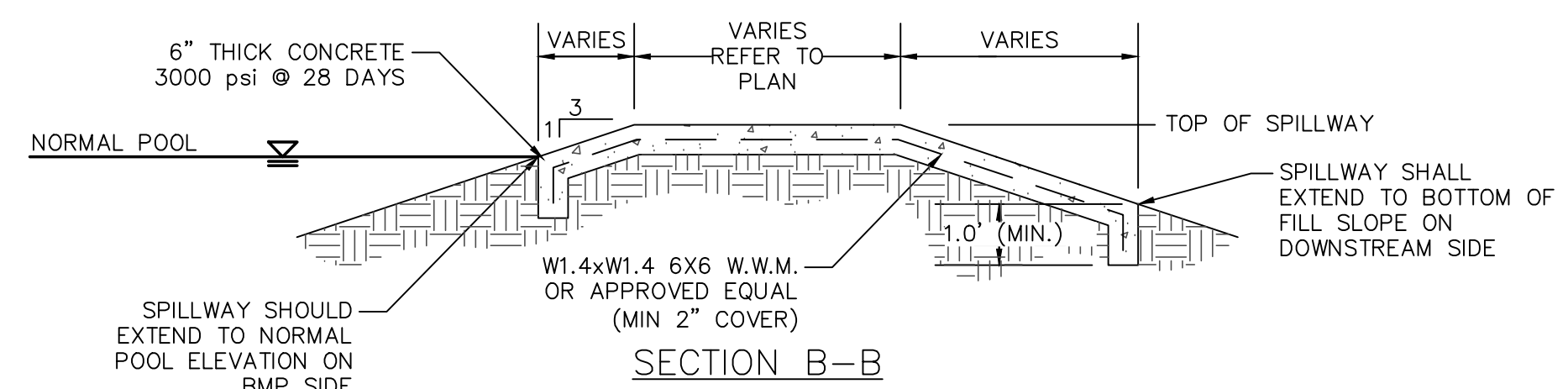
- 1) TOPSOIL BENEATH THE EMBANKMENT SHALL BE REMOVED AND STOCKPILED. THE FOUNDATION WILL BE PROOF ROLLED AND ANY SOFT OR ORGANIC MATERIALS WILL BE REMOVED.
- 2) ALL MATERIAL SHALL BE COMPACTED IN 6-8 INCH LIFTS TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY OR HIGHER (ASTM D-698). THE CLAY CORE ZONE WILL HAVE A MOISTURE CONTENT OF OPTIMUM TO 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT. THE SHELL ZONE FILL WILL HAVE A MOISTURE CONTENT FROM 2 PERCENT BELOW OPTIMUM MOISTURE CONTENT TO 4 PERCENT ABOVE OPTIMUM.
- 3) EMBANKMENT FILL:
SHELL ZONE: SOILS WITH LESS THAN 30% PASSING THE NO. 200 SIEVE OR A PI OF LESS THAN 10 WHEN THE PERCENTAGE OF MATERIAL PASSING THE NO. 200 SIEVE IS GREATER THAN 30 PERCENT. SOILS WHICH ARE CLASSIFIED AS CLAYS (CH OR CL) SHOULD NOT BE USED AT THE FACE OF THE SHELL ZONES.
CLAY CORE ZONE: CH, CL OR SC MATERIAL WITH A PI RANGING BETWEEN 15 AND 60
- 4) NO FILL SHALL CONTAIN ROCKS OR GRAVEL LARGER THAN 4 INCHES IN DIAMETER.
- 5) A PROFESSIONAL GEOTECHNICAL ENGINEER SHALL APPROVE ALL MATERIALS USED FOR THE EMBANKMENT AND SUPERVISE CONSTRUCTION.
- 6) ALL DISTURBED AREAS ABOVE PERMANENT POOL SHALL BE SEEDED USING THE FOLLOWING GRASS SEED MIX MANUFACTURED BY ERNST SEED COMPANY: Carolina FACW Meadow Mix ERNMX-182

CLAY LINER NOTES:

IN ORDER TO HELP SUSTAIN THE PERMANENT POOL AND TO PREVENT WATER FROM INFILTRATING TOO QUICKLY INTO THE UNDERLYING SOIL, THE CONTRACTOR SHALL INSTALL A 6" THICK CLAY LINER ON THE BOTTOM OF THE BMP AREA UP TO THE NORMAL POOL ELEVATION. THE LINER CAN BE ACCOMPLISHED BY BLENDING EXISTING SITE SOILS WITH CLAY TO ACHIEVE A LOW PERMEABILITY MIXTURE OR BY INSTALLING A GEOSYNTHETIC LINER MADE OF A BENTONITE CL. IF THE CONTRACTOR CHOOSES TO BLEND THE EXISTING SITE SOILS WITH CLAY, THE ONSITE GEOTECHNICAL ENGINEER SHALL DETERMINE THE AMOUNT OF CLAY TO ADD, THE DEGREE OF COMPACTION, AND WILL OVERSEE THE INSTALLATION OF THE CLAY LINER. THE MAXIMUM PERMEABILITY RATE FOR THE LINER SHALL BE 0.01 IN/HR IN ACCORDANCE WITH THE NCDENR BMP MANUAL. THE PROPOSED MATERIAL FOR THIS LINER SHALL BE TESTED BY THE ONSITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THE RESULTS OF THIS TESTING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW PRIOR TO PLACEMENT. UPON COMPLETION OF LINER INSTALLATION, A 4" MINIMUM LAYER OF TOPSOIL SHALL BE ADDED OVER THE LINER TO PROVIDE A HEALTHY MEDIA FOR VEGETATION GROWTH.



SECTION A-A

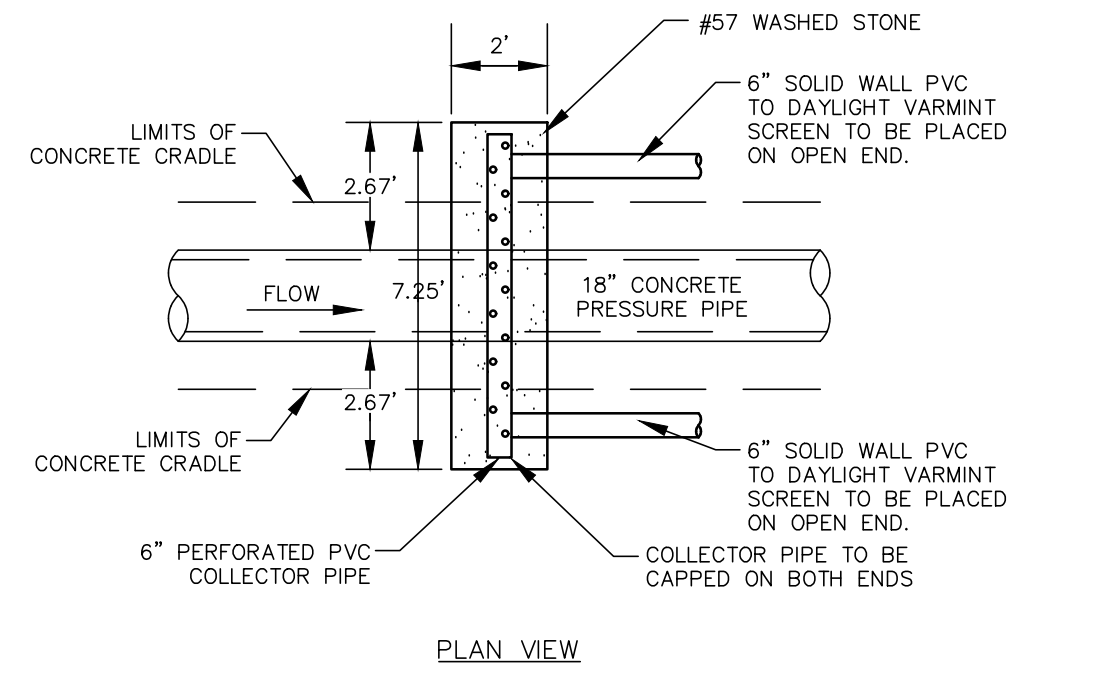


SECTION B-B

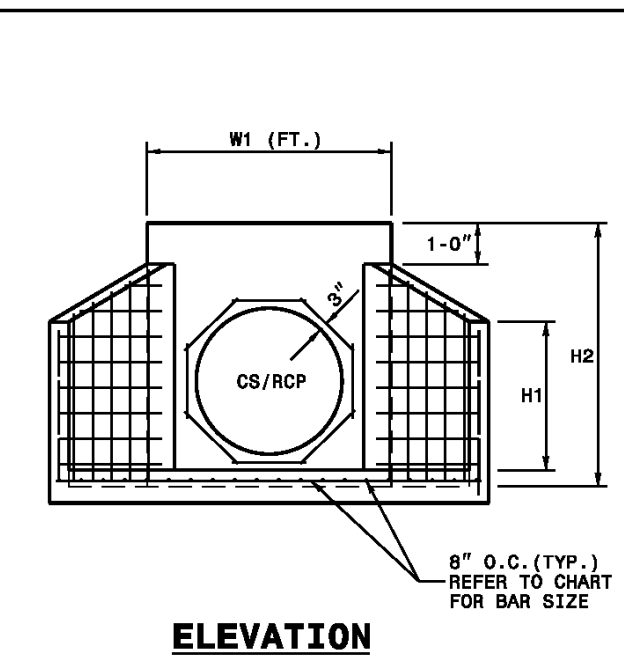
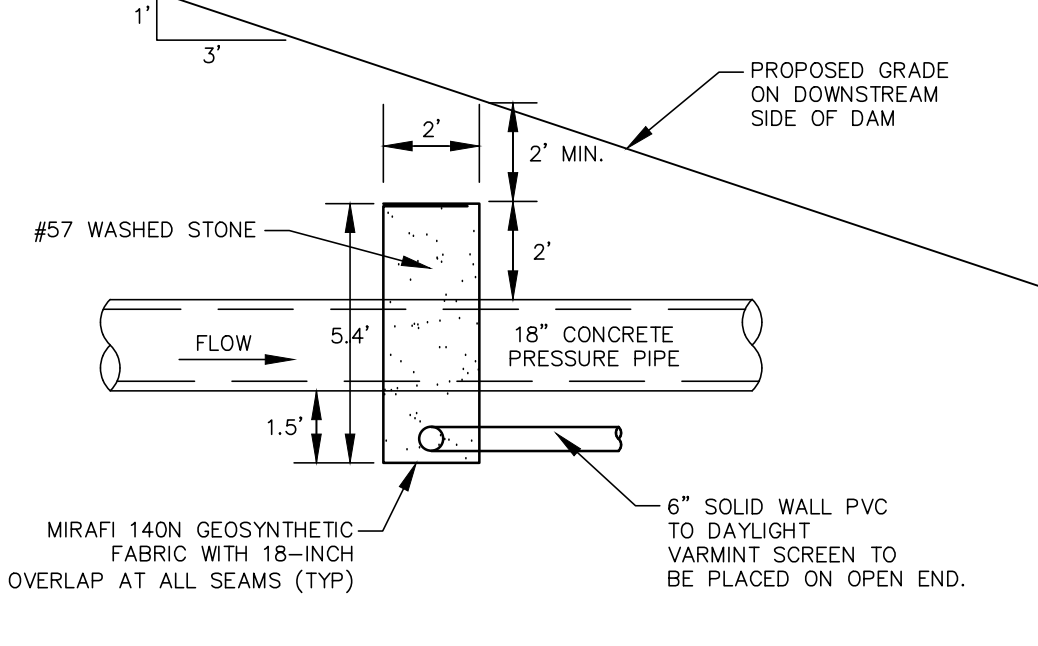
BMP #1	NORMAL POOL EL.	TOP DAM EL.	SPILLWAY BOTTOM EL.	SPILLWAY BOTTOM WIDTH
449.50	449.50	455.00	453.00	20'

NOTE: EXPANSION/CONTRACTION JOINTS PER AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS FOR SLABS ON GRADE.

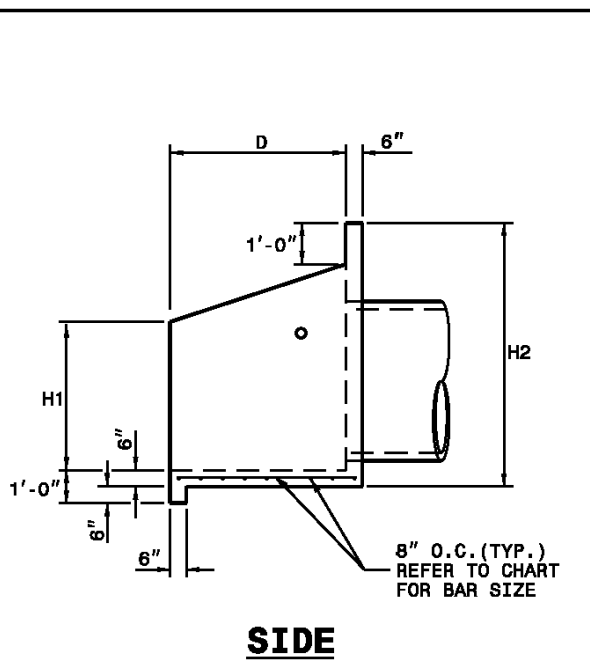
EMERGENCY SPILLWAY DETAIL
NTS



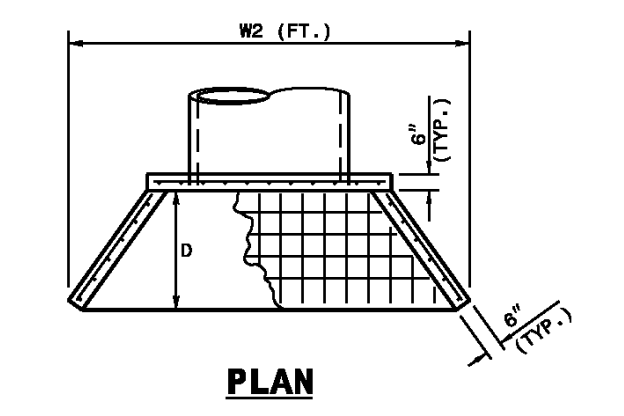
PLAN VIEW



ELEVATION



SIDE



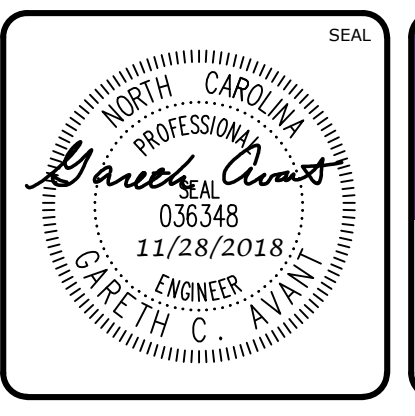
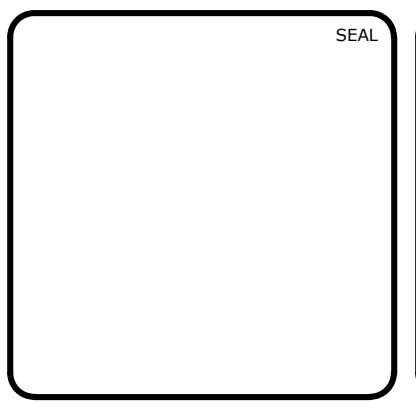
PLAN

ENDWALL DIMENSIONS							
PIPE DIA.	BAR SIZE	MIN./MAX. H1 (FT.)	MIN./MAX. H2 (FT.)	MIN./MAX. D (FT.)	MIN./MAX. W1	MIN./MAX. W2	
1.0	#5 @ 8"	1.25/2.00	2.00/3.75	1.25/1.75	3.00/3.75	5.50/6.00	
1.25	#5 @ 8"	1.25/2.00	3.00/3.75	1.25/2.00	3.50/3.75	6.50/6.75	
1.50	#5 @ 8"	1.25/2.00	3.00/4.25	1.50/2.50	3.50/3.75	6.50/6.75	
2.0	#5 @ 8"	1.50/2.50	4.00/4.75	1.75/2.50	4.00/4.25	7.50/8.25	
2.5	#5 @ 8"	2.50/3.50	4.00/6.00	2.00/3.00	4.50/5.50	10.00/11.50	
3.0	#5 @ 8"	3.00/3.50	5.00/6.00	2.75/3.50	5.25/5.75	11.50/11.75	
3.5	#5 @ 8"	3.25/4.50	6.00/6.75	3.25/3.50	6.00/6.75	12.00/13.25	
4.0	#5 @ 8"	3.50/4.50	6.50/7.00	3.25/3.50	6.50/6.75	13.00/13.25	
4.5	#5 @ 8"	4.00/5.00	6.50/8.50	3.25/4.00	7.00/8.25	13.50/15.75	
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/8.25	13.75/15.75	
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/8.25	14.00/15.75	
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/8.25	14.75/16.75	

- NOTES:
- THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838-01, 838-11, 838-21, 838-27, 838-35, 838-39, 838-51, 838-67, 838-63 AND 838-69.
 - INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 816.
 - USE 4000 PSI CONCRETE.
 - PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A618 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185 WITH 2" MIN. CLEARANCE.
 - PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
 - PIPE TO BE GROUDED INTO HEADWALL AT JOB SITE BY CONTRACTOR
 - ALL ELEMENTS PRECAST TO MEET ASTM C919.
 - WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
 - CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".
- NOTE: THE MINIMUM BAR SIZE SHALL BE #6 BARS AT 9" CTS. THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.

ROADWAY STANDARD DRAWING FOR
 PRECAST CONCRETE ENDWALL
 FOR SINGLE 12" THRU 72" PIPE - 90° SKEW
 STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 SHEET 1 OF 6
638-80

REV. NO.	DATE	DESCRIPTION
4	2018.11.28	REVISIONS PER NCDOT COMMENTS
3	2018.11.27	REVISIONS PER NCDOT COMMENTS
2	2018.11.16	REVISIONS PER NCDOT
1	2018.10.02	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDSDQ P155
0	2018.08.17	INITIAL SUBMITTAL



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Chatham County, North Carolina

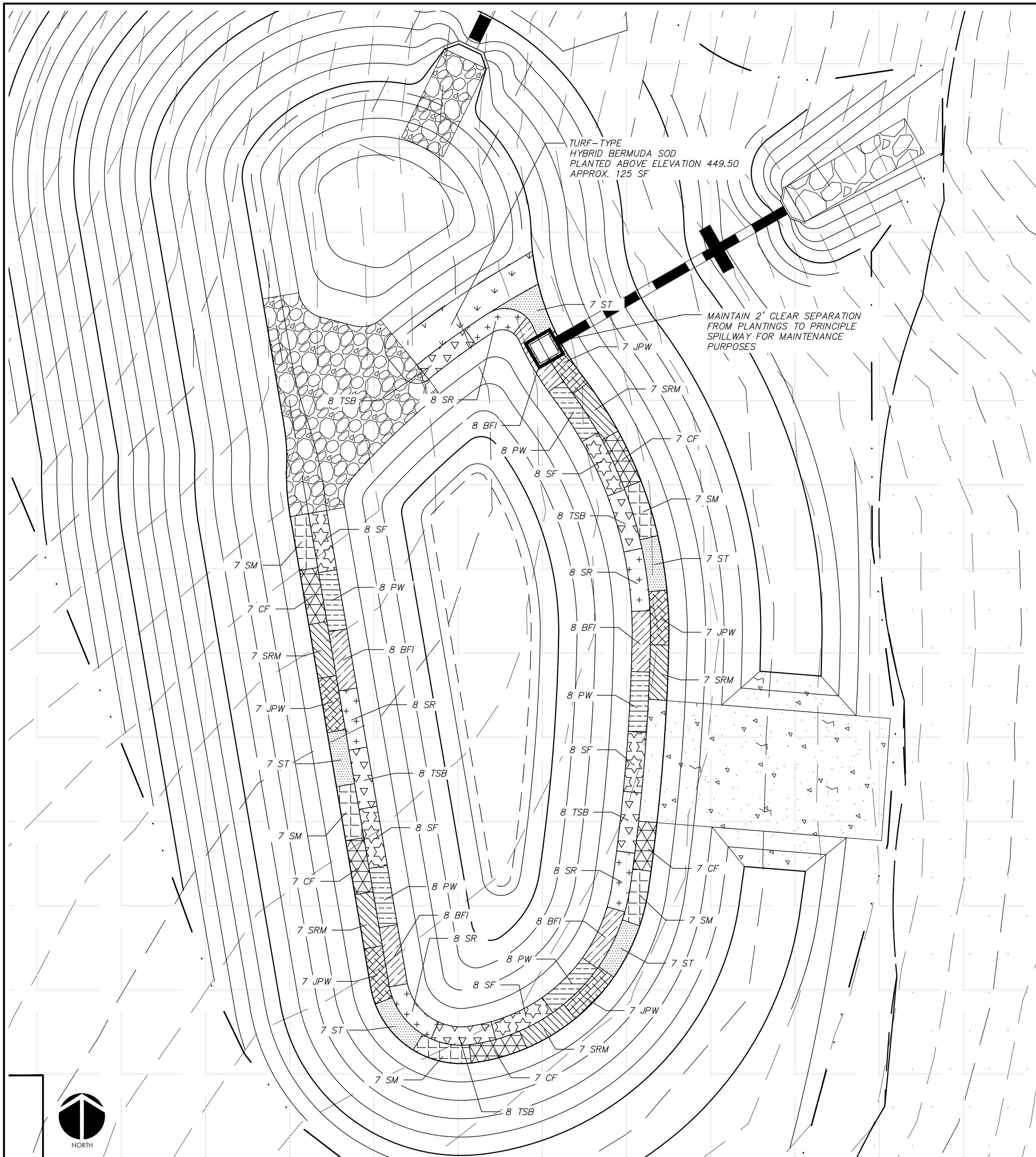
CONSTRUCTION PLAT
BMP #1 PLAN & DETAILS

DATE: AUGUST 17, 2018
MCE PROJ. #: 07291-0002
DRAWN: BSS
DESIGNED: BSS
CHECKED: GCA
PROJ. MGR.: CHS

SCALE: HORIZONTAL: AS NOTED
VERTICAL: N/A

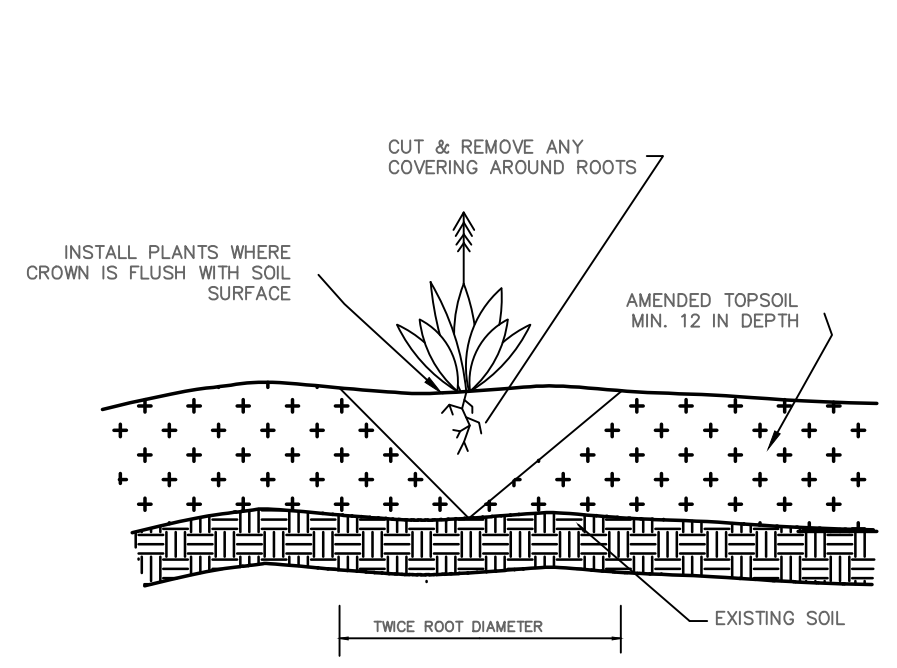
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REVISION: 4

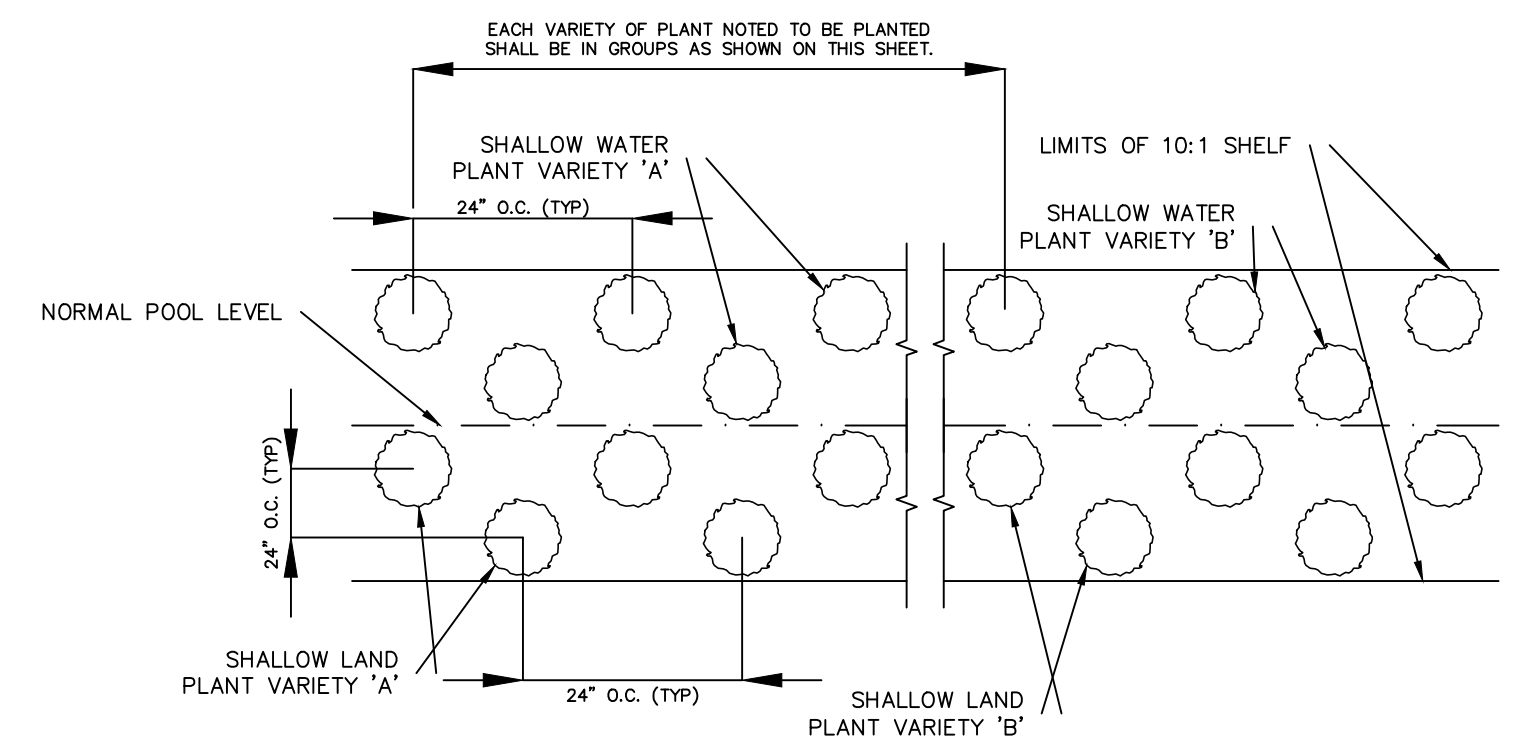


WET DETENTION POND #1 PLANTING PLAN
SCALE = 1" = 10'

PLANTING SCHEDULE						
SYM.	ABB.	COMMON NAME	BOTANICAL NAME	QUANTITY	SPACING	CONTAINER SIZE AT PLANTING
SHALLOW WATER PLANTINGS						
	SF	SWEETFLAG	<i>Acorus subcordatum</i>	40	24"-30" O.C.	1 QT.
	PW	PICKERELWEED	<i>Pontederia cordata</i>	40	24"-30" O.C.	1 QT.
	BFI	BLUE FLAG IRIS	<i>Iris virginica</i>	40	24"-30" O.C.	1 QT.
	SR	SOFT RUSH	<i>Juncus effusus var. pyfaei or solutus</i>	40	24"-30" O.C.	1 QT.
	TSB	THREE SQUARE BULRUSH	<i>Schoenoplectus americanus</i>	40	24"-30" O.C.	1 QT.
SHALLOW LAND PLANTINGS						
	SM	SWAMP MILKWEED	<i>Asclepias incarnata</i>	35	24"-30" O.C.	1 QT.
	CF	CARDINAL FLOWER	<i>Lobelia cardinalis</i>	35	24"-30" O.C.	1 QT.
	SRM	SCARLET ROSE MALLOW	<i>Hibiscus coccineus</i>	35	24"-30" O.C.	1 QT.
	JPW	DWARF JOE PYE WEED	<i>Eupatoriadelphus dubius</i>	35	24"-30" O.C.	1 QT.
	ST	SPOTTED TRUMPETWEED	<i>Eupatoriadelphus maculatus</i>	35	24"-30" O.C.	1 QT.



GENERAL PLANTING DETAIL
NTS



VEGETATED PLANTING SHELF DETAIL
NTS

NOTES:
1. CONTINUE PLANTING SCHEME SHOWN FOR EACH OF THE 5 PLANT VARIETIES NOTED BELOW AROUND ENTIRE LENGTH OF THE SHALLOW WATER PLANTING ZONE.
2. CONTINUE PLANTING SCHEME SHOWN FOR EACH OF THE 5 PLANT VARIETIES NOTED BELOW AROUND ENTIRE LENGTH OF THE SHALLOW LAND PLANTING ZONE.
3. OTHER SPECIES WITH SIMILAR GROWTH HABITS AND MAY BE APPROVED AS LISTED IN THE "STORMWATER BEST MANAGEMENT PRACTICES MANUAL" TABLE 9-1.

GENERAL PLANTING NOTES:

1. AVOID COMPACTING TOPSOIL TO PROMOTE HEALTHY ENVIRONMENTAL CONDITIONS FOR THE PLANTS.
2. ALL PLANTS SHOULD BE PLANTED IN THE INDICATED RANGE TO ENSURE SURVIVAL.
3. SHALLOW WATER AND SHALLOW LAND AREAS TO BE PLANTED WITH BARE ROOT, PLUGS, OR CONTAINER LIVE PLANTINGS AS SPECIFIED.
4. EXCAVATE A HOLE TWICE THE DIAMETER OF ROOT BALL AND EQUAL TO THE ROOT DEPTH OF THE INDIVIDUAL PLANT. PLACE PLANT IN HOLE WITH CROWN FLUSH WITH SOIL SURFACE. BACKFILL WITH TOPSOIL AND LIGHTLY PLANT.
5. BEGIN PLANTING DURING LOCAL GROWING SEASON IN ORDER TO ENSURE THAT PLANTS HAVE ADEQUATE TIME TO ESTABLISH BEFORE WINTER MONTHS.
6. OBTAIN PLANTS FROM: COASTAL PLAIN CONSERVATION NURSERY (252-482-5707), MELLOW MARSH FARMS (919-742-1200), CURE NURSERY (919-542-6186) OR ENGINEER APPROVED SUBSTITUTE.
7. REFER TO EROSION CONTROL DETAIL SHEET D1.2 FOR SEEDBED PREPARATION AND SEEDING SCHEDULES FOR AREAS NOT SPECIFIED IN THIS PLAN.

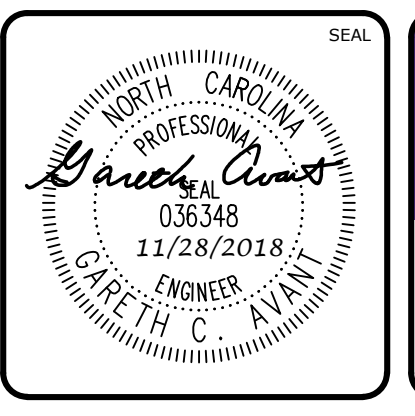
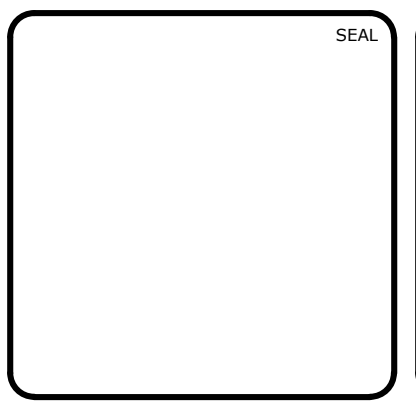
SHALLOW WATER PLANTING NOTES:

1. 70% OF PICKERELWEED SHOULD BE PLANTED WITHIN 5-6 INCHES BELOW NORMAL POOL.
2. 70% OF SWEETFLAG AND 70% OF SOUTHERN BLUE FLAG IRIS SHOULD BE PLANTED IN THE 2-3 INCHES BELOW NORMAL POOL.
3. 70% OF SOFT RUSH SHOULD BE PLANTED AT THE NORMAL POOL ELEVATION.

SHALLOW LAND PLANTING NOTES:

1. PLANTS IN THIS GROUP SHOULD NOT BE PLANTED IN AREAS THAT ARE INUNDATED FOR EXTENDED PERIODS.

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1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDSD PHSS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17



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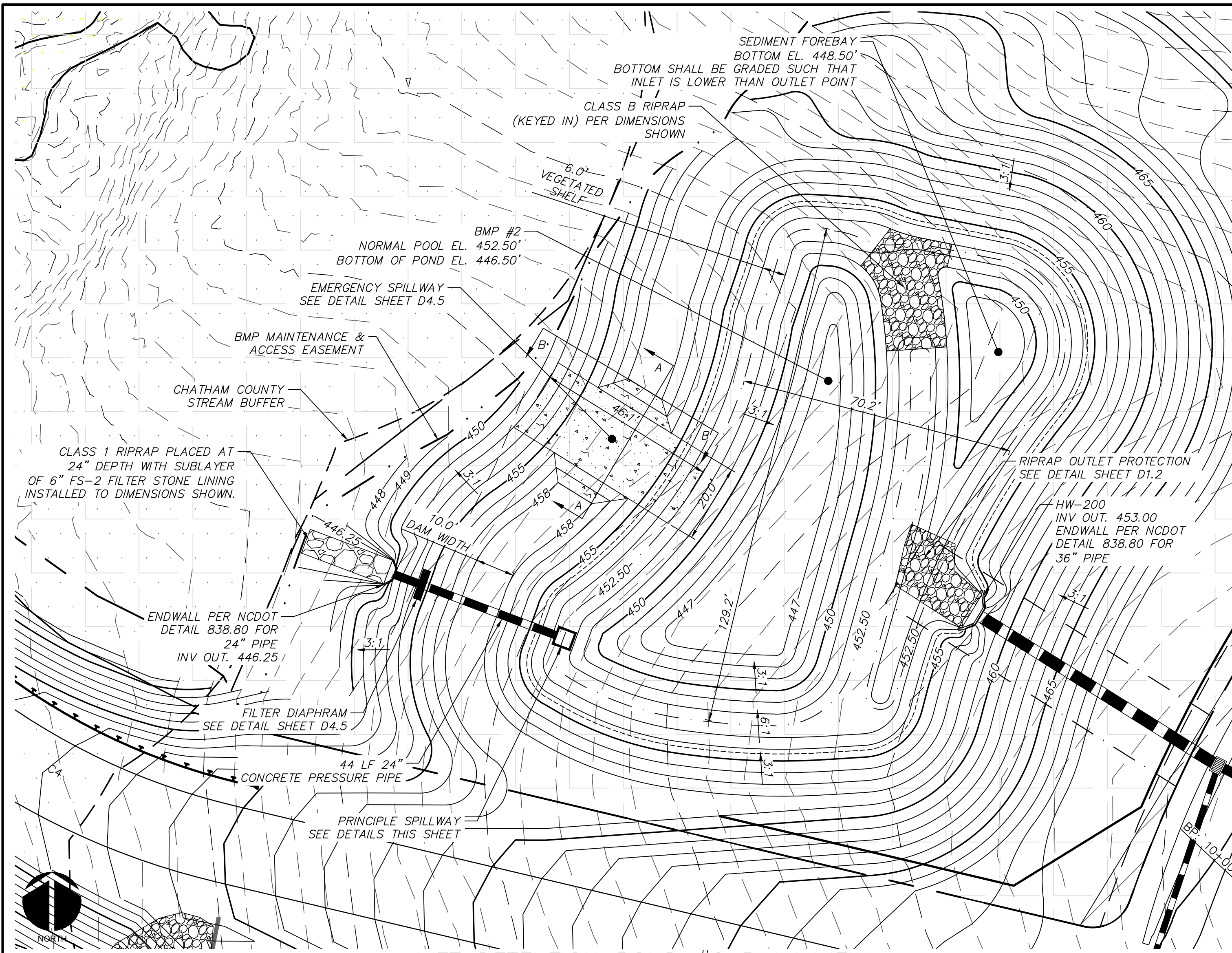
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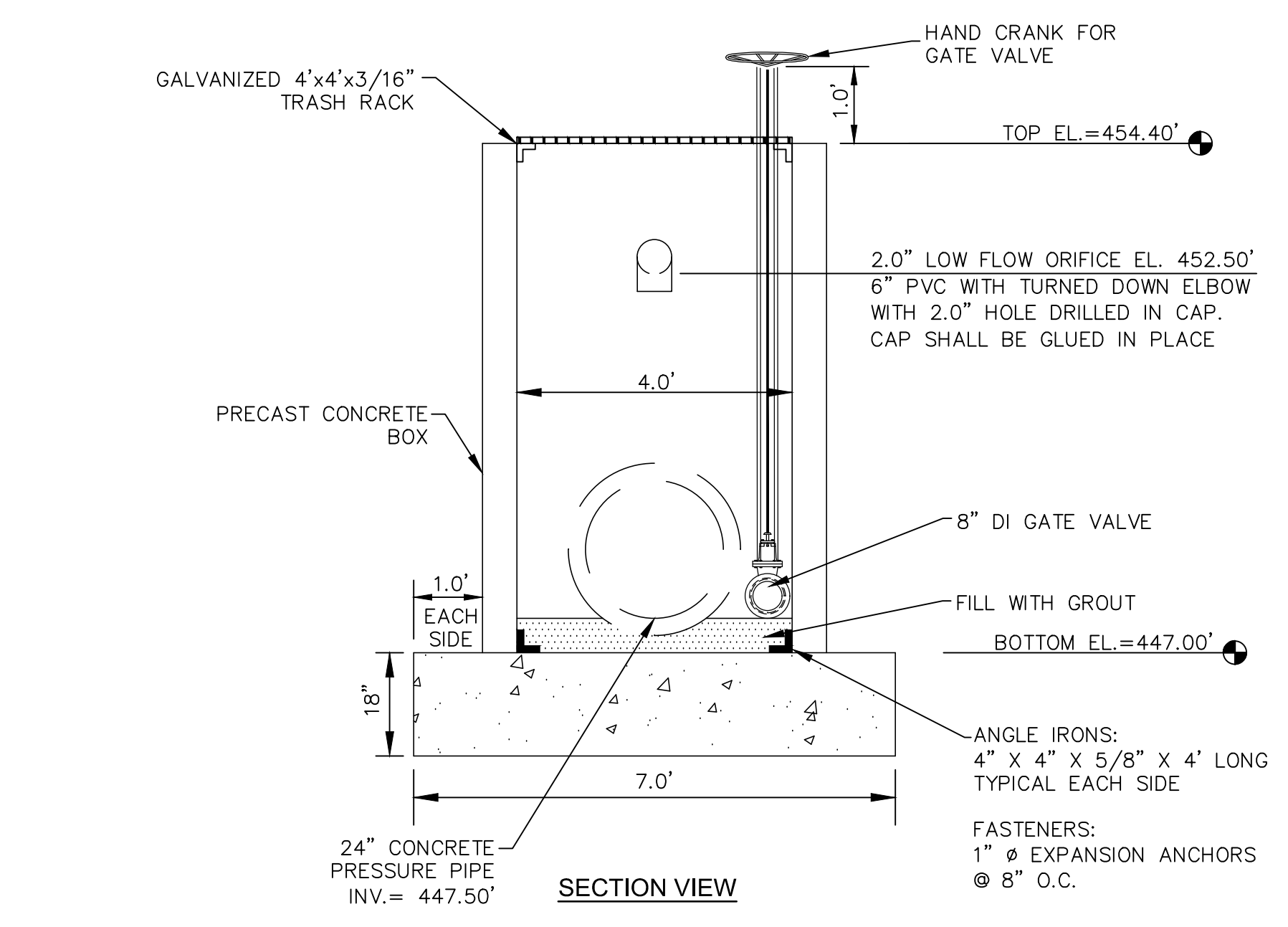
RYAN'S CROSSING
Chatham County, North Carolina

CONSTRUCTION PLAT
BMP #1 PLAN & DETAILS

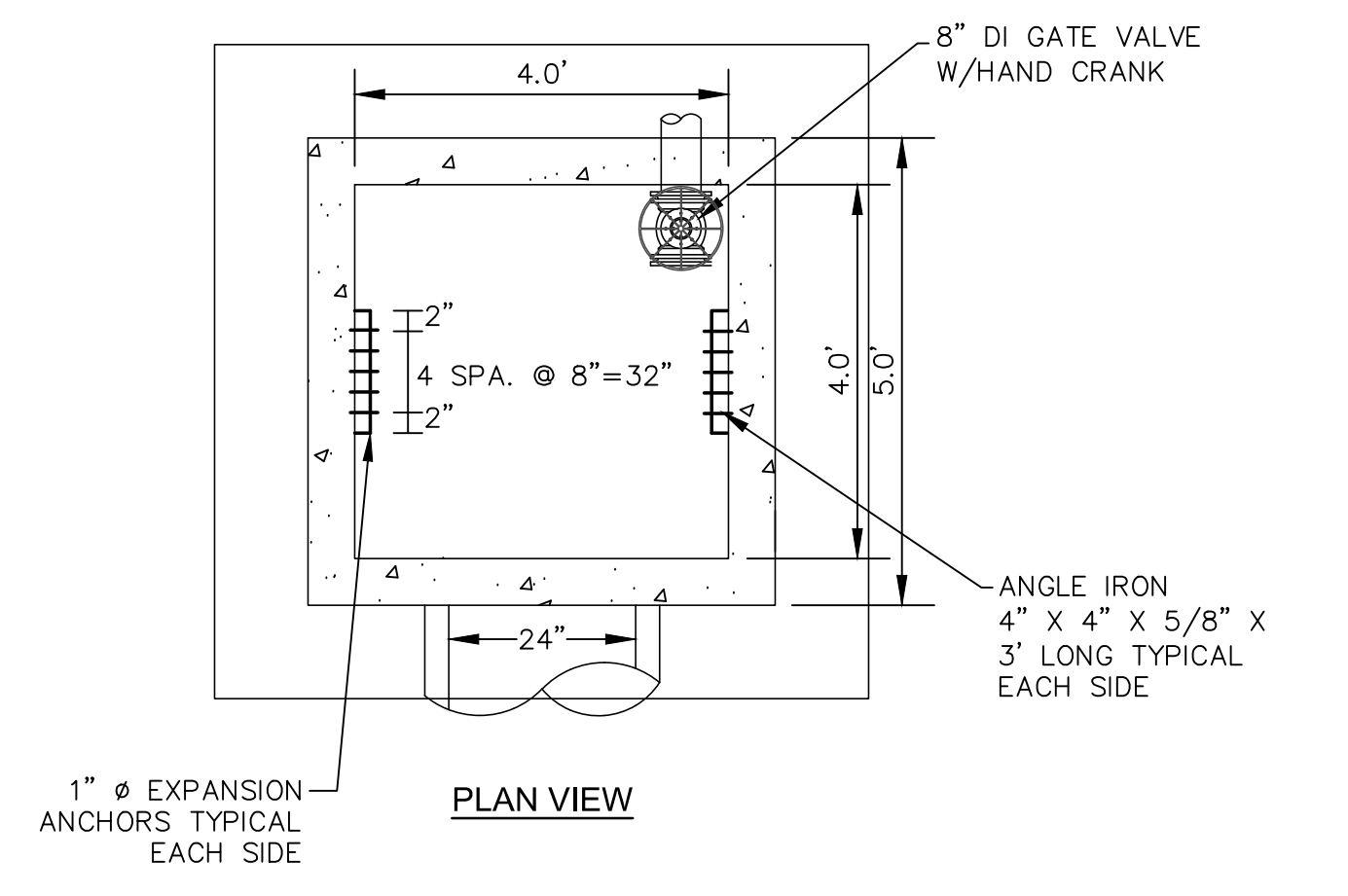
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DESIGNED: BSS	STATUS: PRELIMINARY FOR CONSTRUCTION	
CHECKED: GCA		
PROJ. MGR.: CHS		



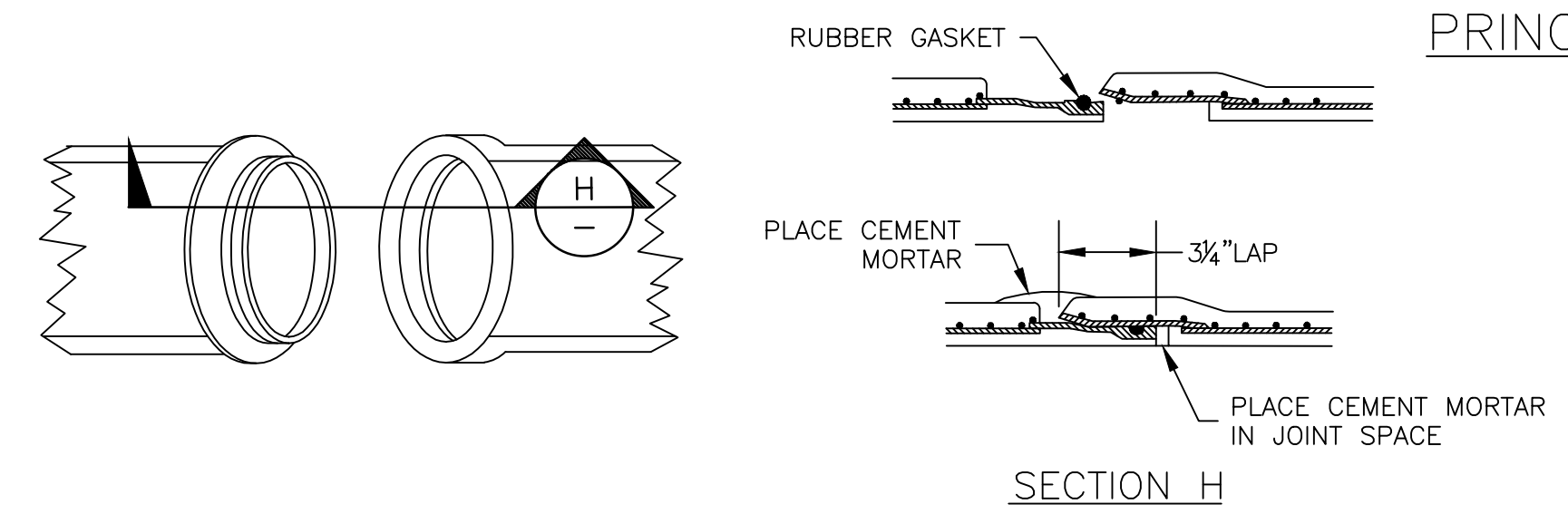
WET DETENTION POND #2 PLAN VIEW
SCALE = 1" = 20'



SECTION VIEW

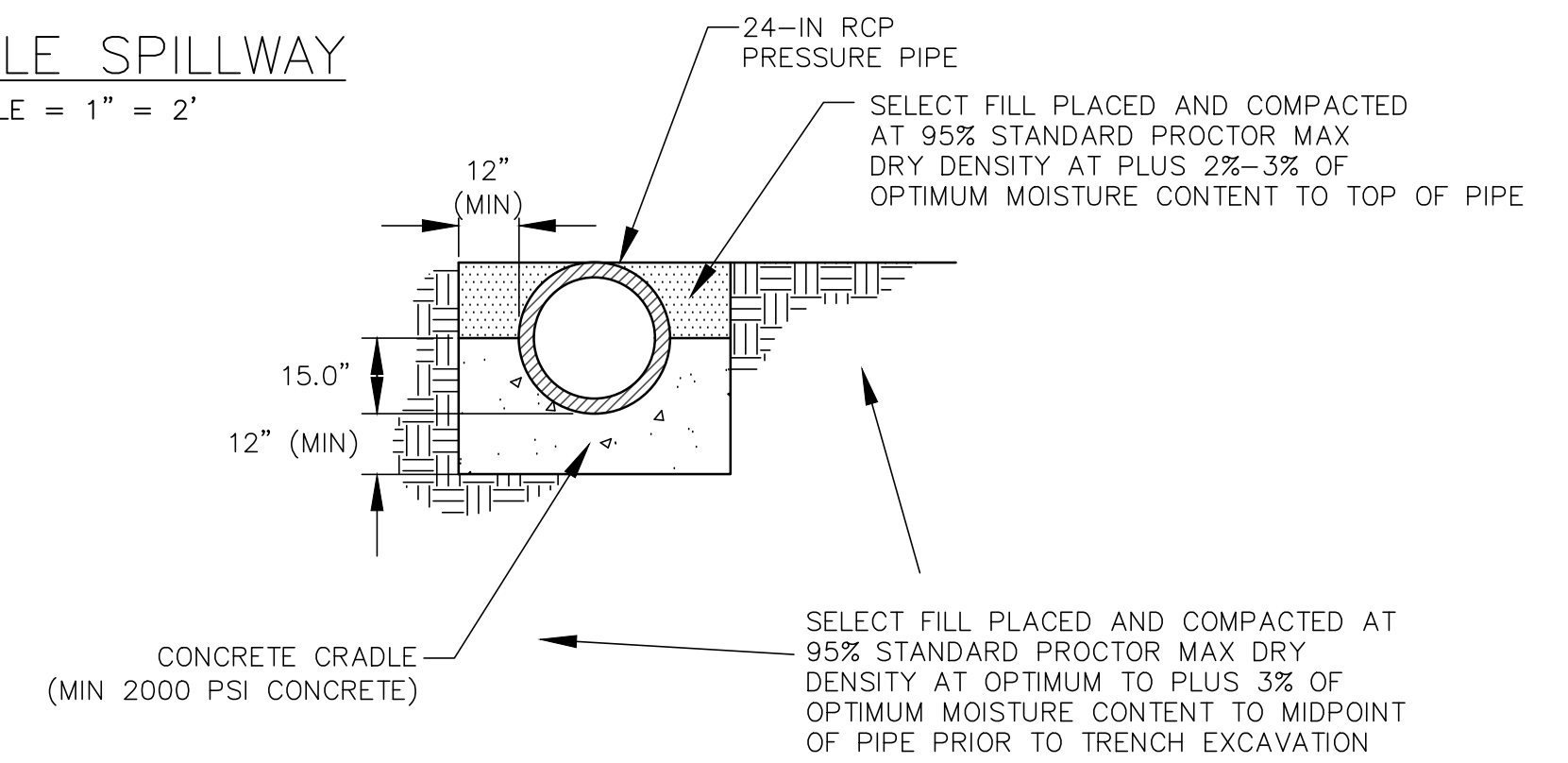


PLAN VIEW

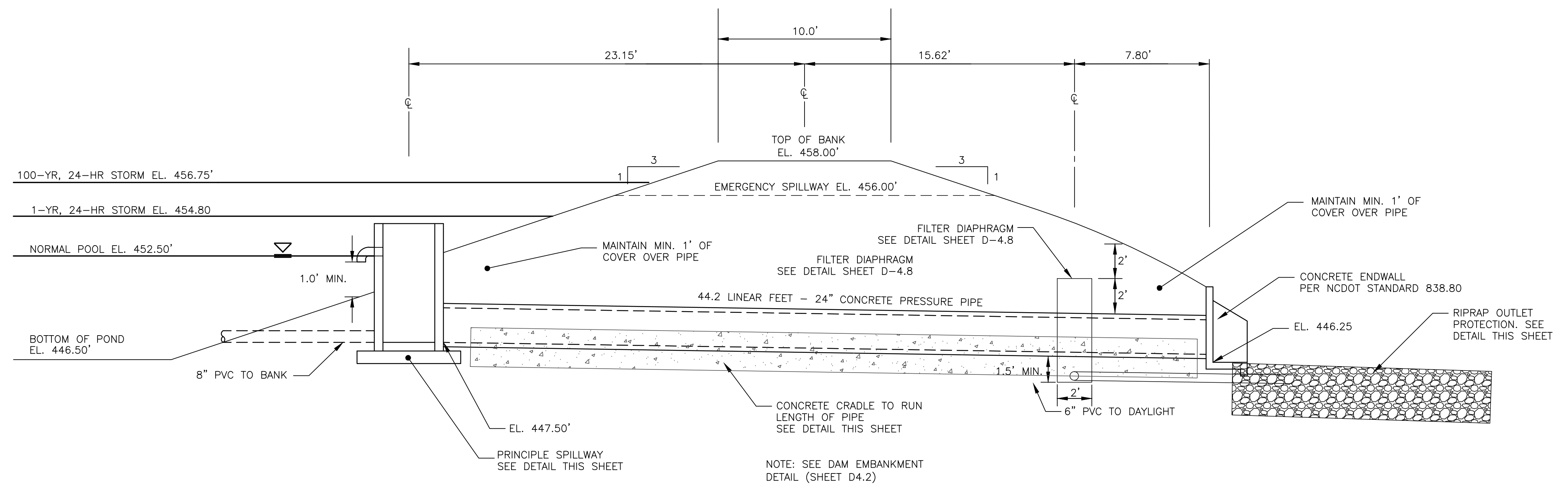


CONCRETE PRESSURE PIPE JOINT DETAIL
NTS

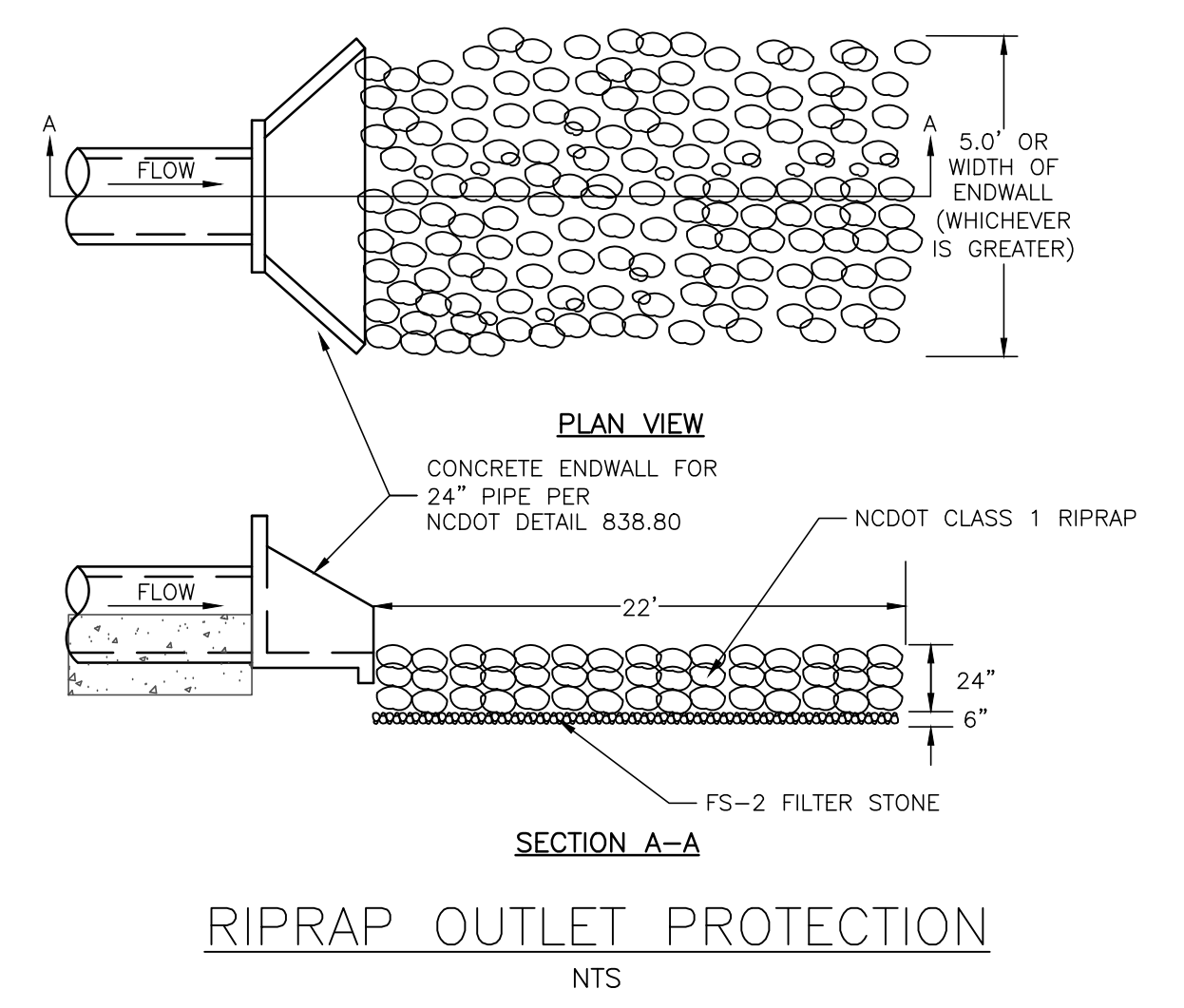
PRINCIPLE SPILLWAY
SCALE = 1" = 2'



CONCRETE CRADLE DETAIL
NTS

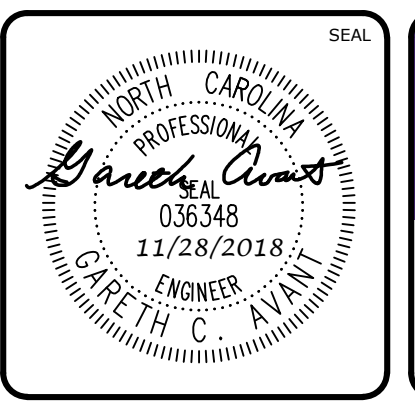
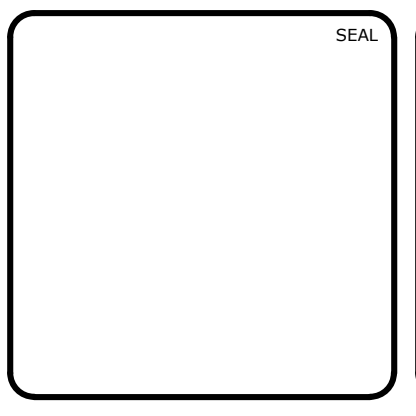


SECTION AT PRINCIPLE SPILLWAY
SCALE = NTS



RIPRAP OUTLET PROTECTION
NTS

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2	REVISIONS PER NCDOT	2018.11.16
1	REVISIONS PER COUNTY EROSION CONTROL AND STORMWATER, NCDOT PWS	2018.10.02
0	INITIAL SUBMITTAL	2018.08.17



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CONSTRUCTION PLAT
BMP #2 PLAN & DETAILS

DATE: AUGUST 17, 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: D4.X
M&C PROJ. #: 07291-0002	VERTICAL: N/A	DRAWING NUMBER: D4.4
DRAWN: BSS		
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: PRELIMINARY FOR CONSTRUCTION	REVISION: 4	