

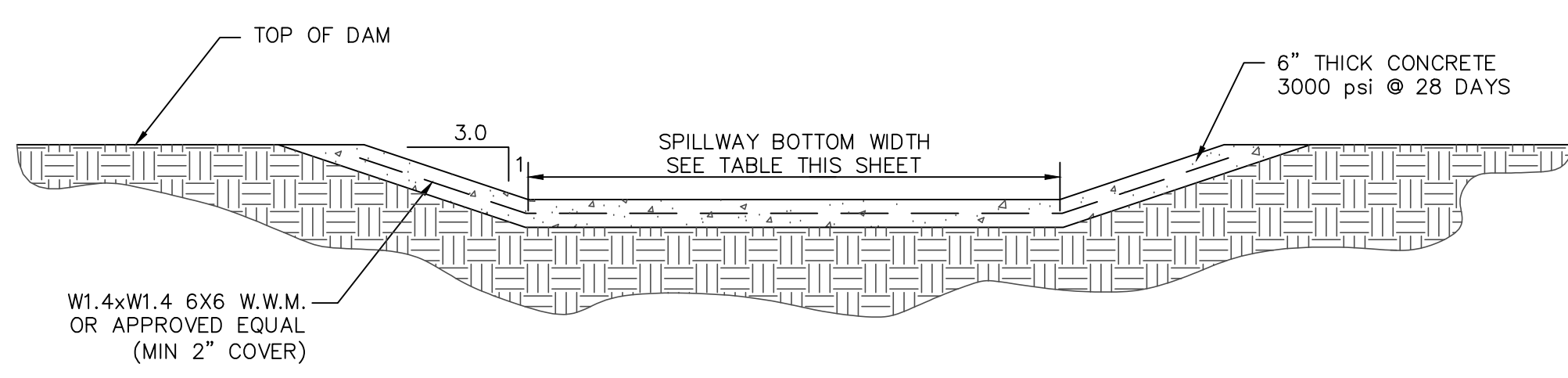
DAM EMBANKMENT DETAIL
NTS

DAM EMBANKMENT NOTES:

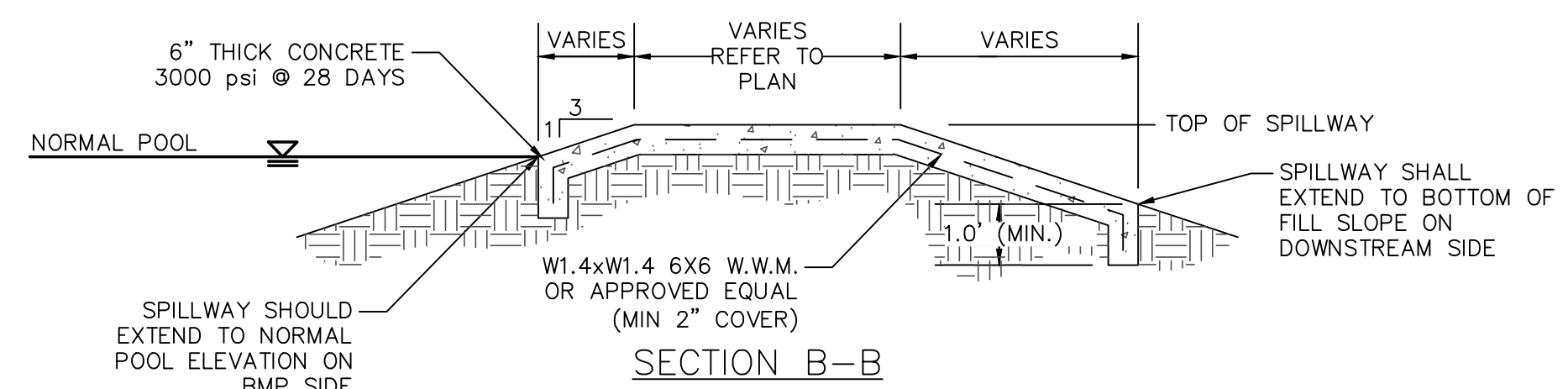
- 1) TOPSOIL BENEATH THE EMBANKMENT SHALL BE REMOVED AND STOCKPILED. THE FOUNDATION WILL BE PROOF ROLLED AND ANY SOFT OR ORGANIC MATERIALS WILL BE REMOVED.
- 2) ALL MATERIAL SHALL BE COMPACTED IN 6-8 INCH LIFTS TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY OR HIGHER (ASTM D-698). THE CLAY CORE ZONE 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 BENTOMAT 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

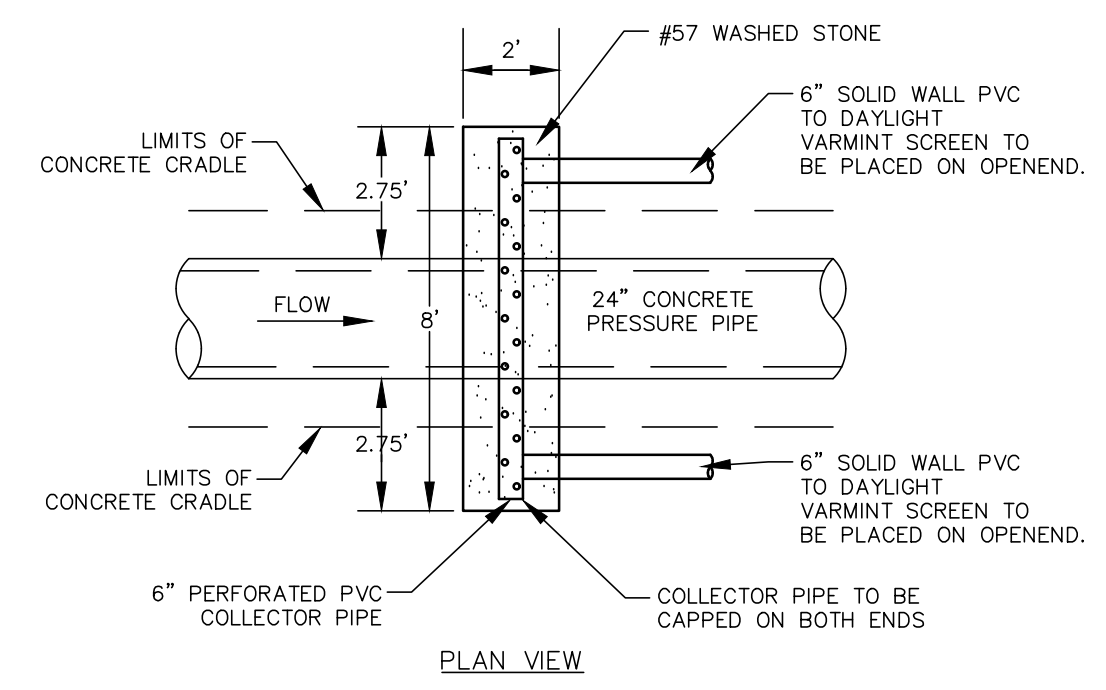


SECTION B-B

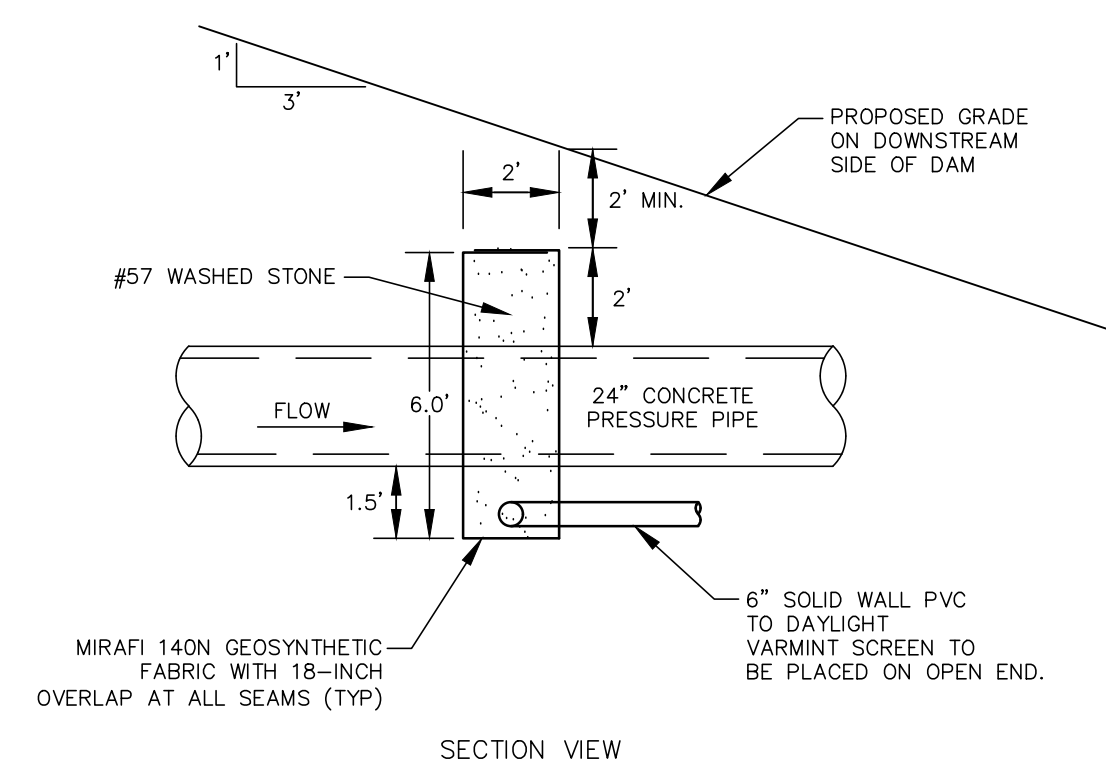
BMP #35	NORMAL POOL EL.	TOP DAM EL.	SPILLWAY BOTTOM EL.	SPILLWAY BOTTOM WIDTH
	490.50	498.00	496.00	20'

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

EMERGENCY SPILLWAY DETAIL
NTS



PLAN VIEW



SECTION VIEW

FILTER DIAPHRAGM DETAIL
NTS

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

ENGLISH 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.

ELEVATION

SIDE

NOTES:

- THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838.01, 838.11, 838.21, 838.27, 838.33, 838.39, 838.51, 838.57, 838.63 AND 838.69.
- INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 838.
- USE 4000 PSI CONCRETE.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 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 C913.
- 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".

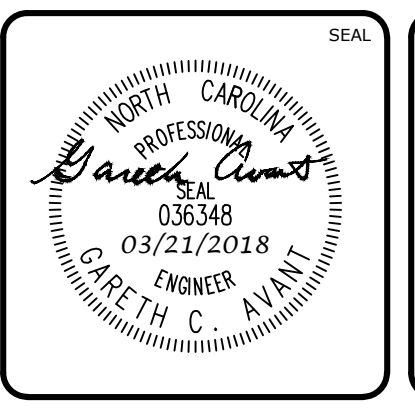
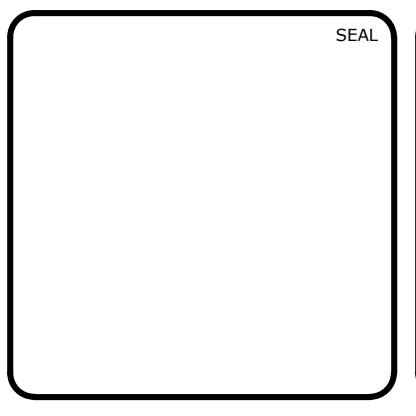
NOTE: THE MINIMUM BAR SIZE SHALL BE #5 BARS AT 6" CTS. THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.

ENDWALL DIMENSIONS						
PIPE DIA.	MINIMUM BAR SIZE	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.
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	7.00/9.25	13.50/15.75
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/9.25	13.75/15.75
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/9.25	14.00/15.75
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/9.25	14.75/16.75

SHEET 1 OF 1
838.80

SHEET 1 OF 1
838.80

REV. NO.	INITIAL SUBMITTAL	DESCRIPTIONS / REVISIONS	DATE
0			2018.03.21



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**BRIAR CHAPEL
BC PHASE 16 NORTH
CHATHAM COUNTY, NORTH CAROLINA**
BMP #35 PLAN & DETAILS

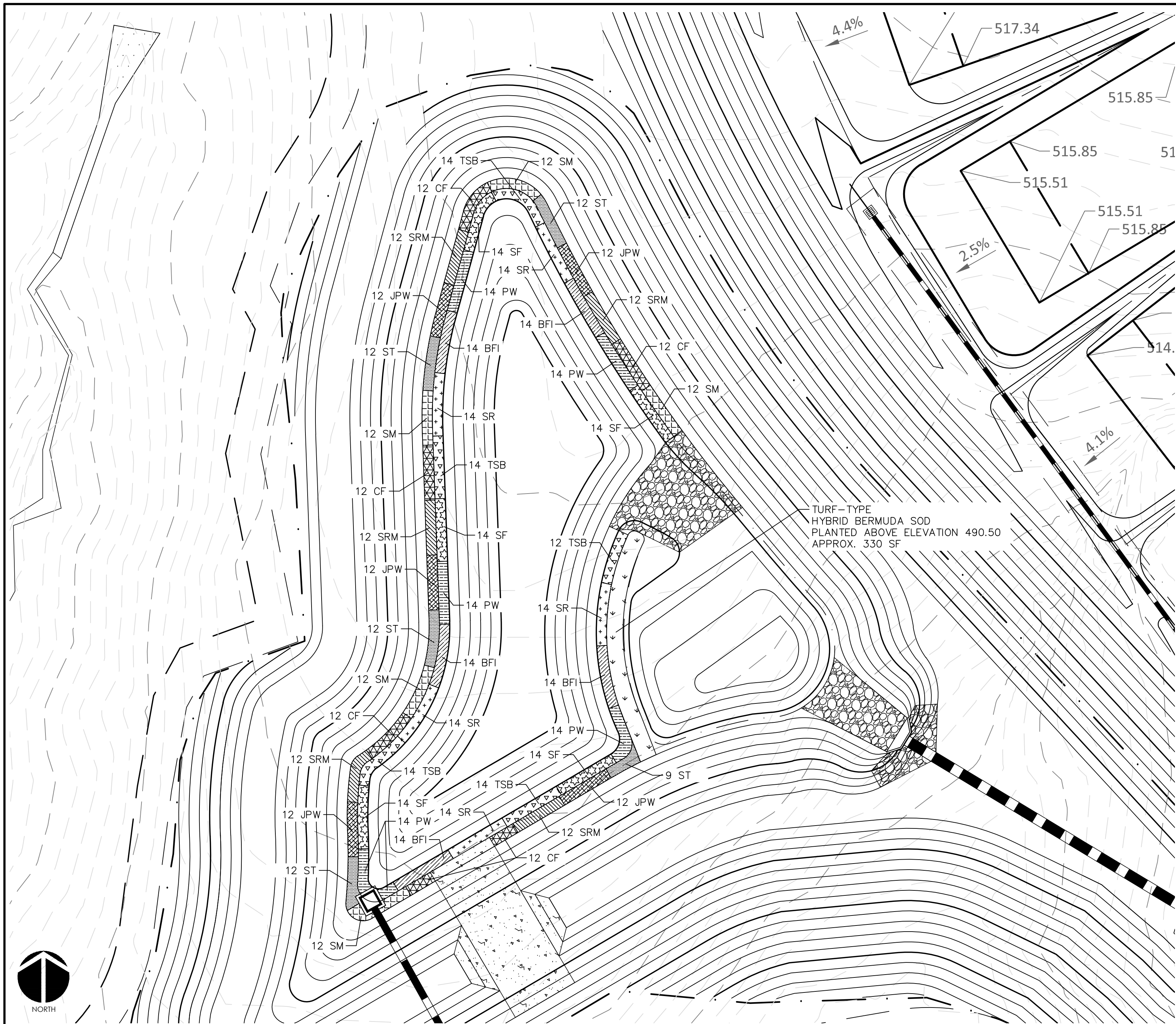
DATE: MARCH 21, 2018
MCE PROJ. #: 02735-0206
DRAWN: BSS
DESIGNED: BSS
CHECKED: GCA
PROJ. MGR.: CHS

SCALE: HORIZONTAL: AS NOTED
VERTICAL: N/A

M&C FILE NUMBER: **D4.X**
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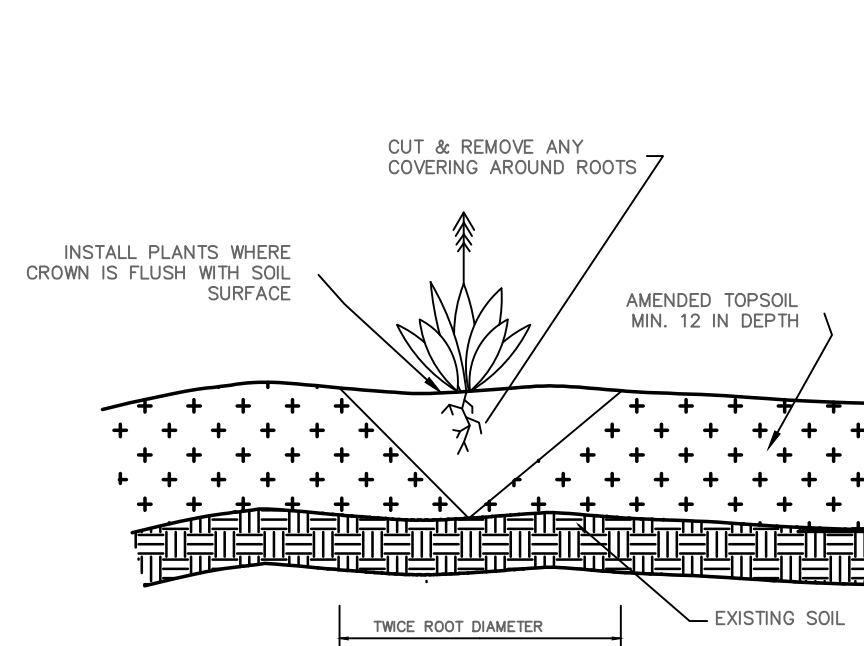
STATUS: FINAL DRAWINGS
FOR REVIEW PURPOSES ONLY

REVISION: 0

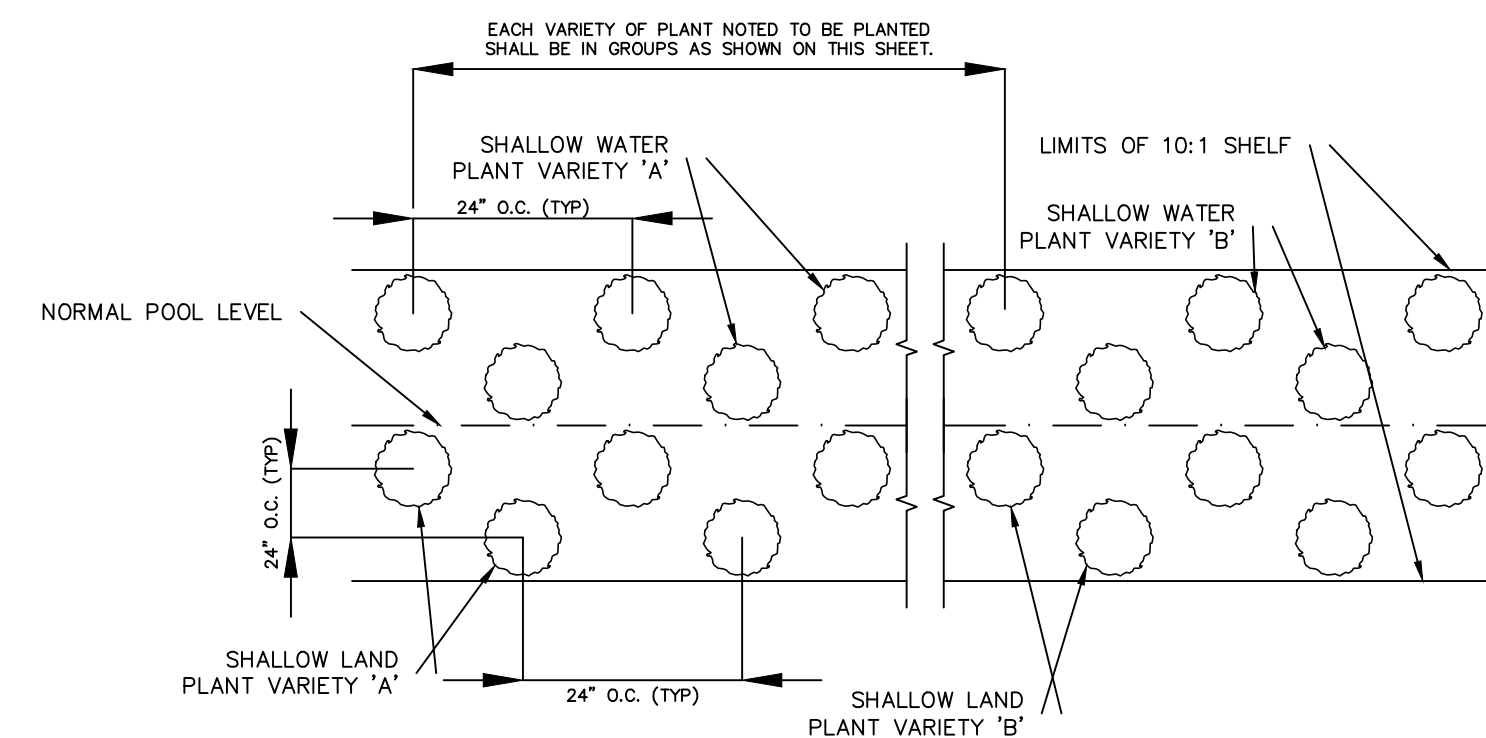


WET DETENTION POND #24 PLANTING PLAN
SCALE = 1" = 20'

PLANTING SCHEDULE						
SYM.	ABB.	COMMON NAME	BOTANICAL NAME	QUANTITY	SPACING	CONTAINER SIZE AT PLANTING
SHALLOW WATER PLANTINGS						
	SF	SWEETFLAG	<i>Acorus subcordatum</i>	70	24"-30" O.C.	1 QT.
	PW	PICKERELWEED	<i>Pontederia cordata</i>	70	24"-30" O.C.	1 QT.
	BFI	BLUE FLAG IRIS	<i>Iris virginica</i>	70	24"-30" O.C.	1 QT.
	SR	SOFT RUSH	<i>Juncus effusus var. pygmaei or solutus</i>	70	24"-30" O.C.	1 QT.
	TSB	THREE SQUARE BULRUSH	<i>Schoenoplectus americanus</i>	68	24"-30" O.C.	1 QT.
SHALLOW LAND PLANTINGS						
	SM	SWAMP MILKWEED	<i>Asclepias incarnata</i>	60	24"-30" O.C.	1 QT.
	CF	CARDINAL FLOWER	<i>Lobelia cardinalis</i>	60	24"-30" O.C.	1 QT.
	SRM	SCARLET ROSE MALLOW	<i>Hibiscus coccineus</i>	60	24"-30" O.C.	1 QT.
	JPW	DWARF JOE PYE WEED	<i>Eupatoriadelphus dubius</i>	60	24"-30" O.C.	1 QT.
	ST	SPOTTED TRUMPETWEED	<i>Eupatoriadelphus maculatus</i>	57	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.

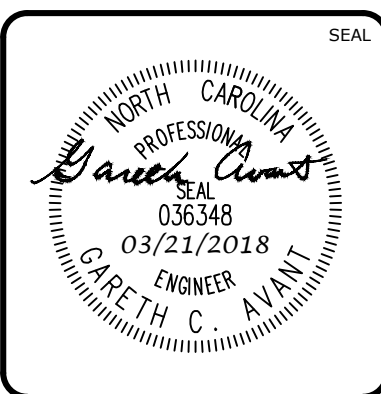
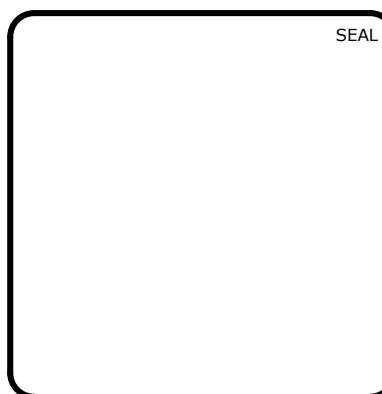
SHALLOW WATER PLANTING NOTES:

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.

REV. NO.	DESCRIPTION	DATE
0	INITIAL SUBMITTAL	2018.03.21

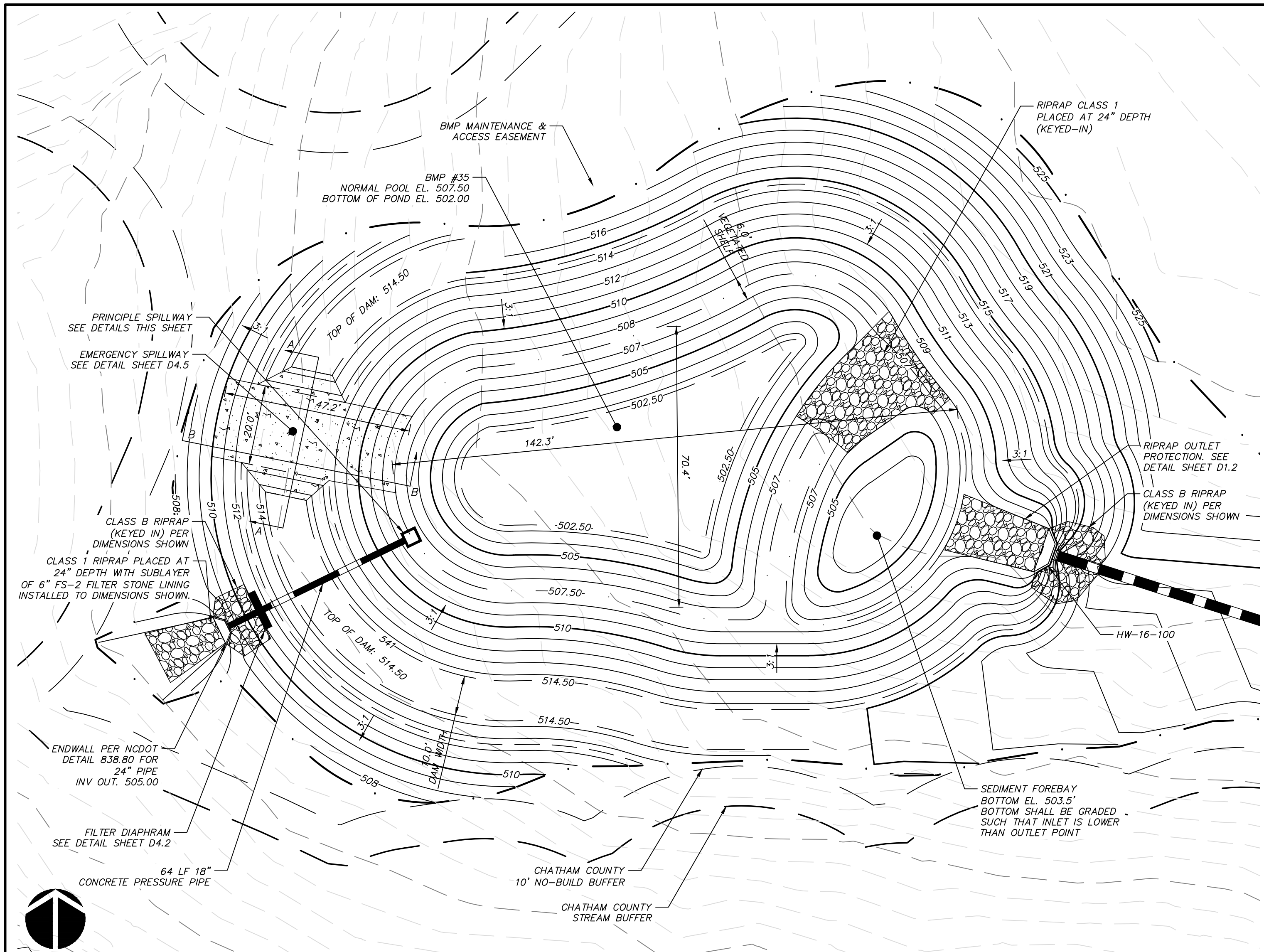


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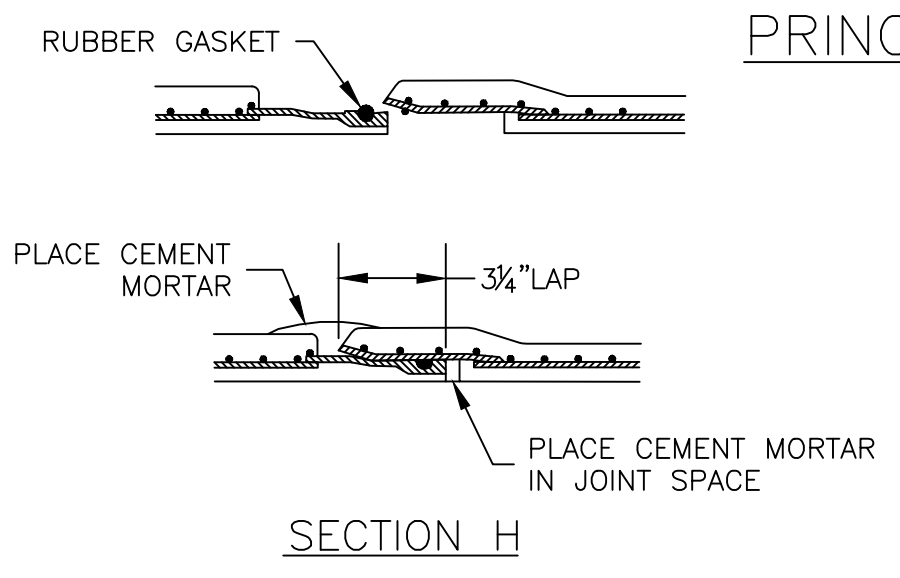
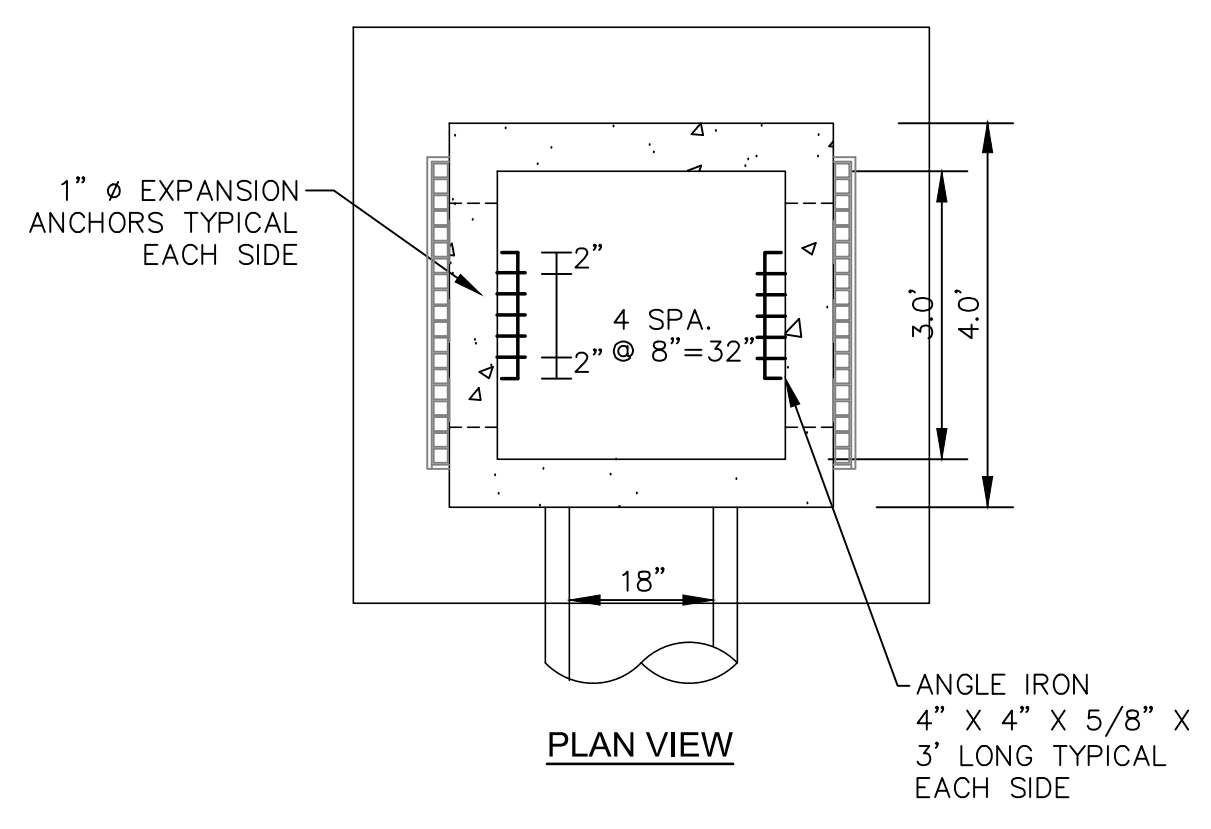
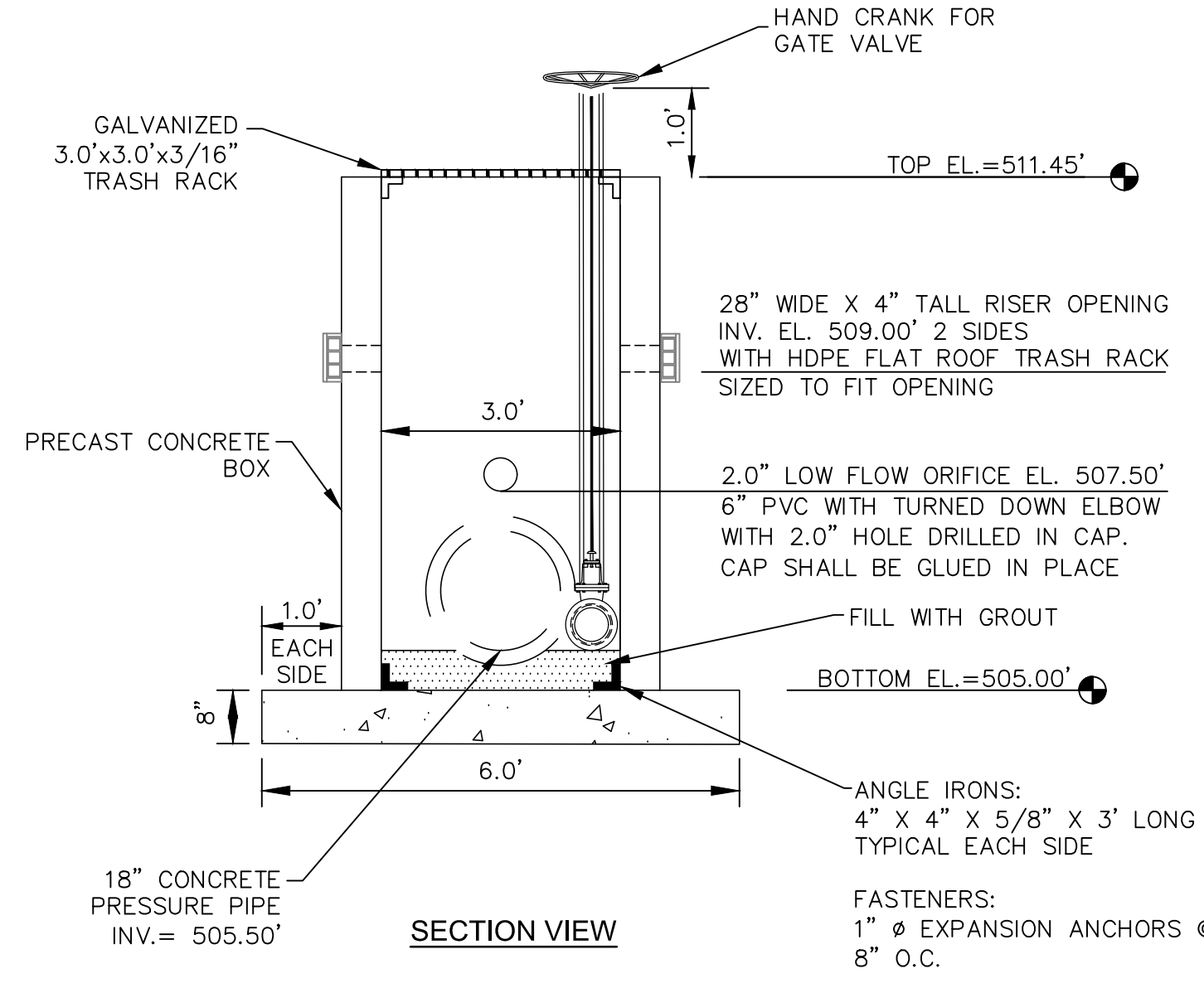
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CHATHAM COUNTY, NORTH CAROLINA**
BMP #35 PLAN & DETAILS

DATE: MARCH 21, 2018	SCALE: D4.X	M&C FILE NUMBER: D4.X
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DRAWN: BSS	VERTICAL: N/A	
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION: 0	

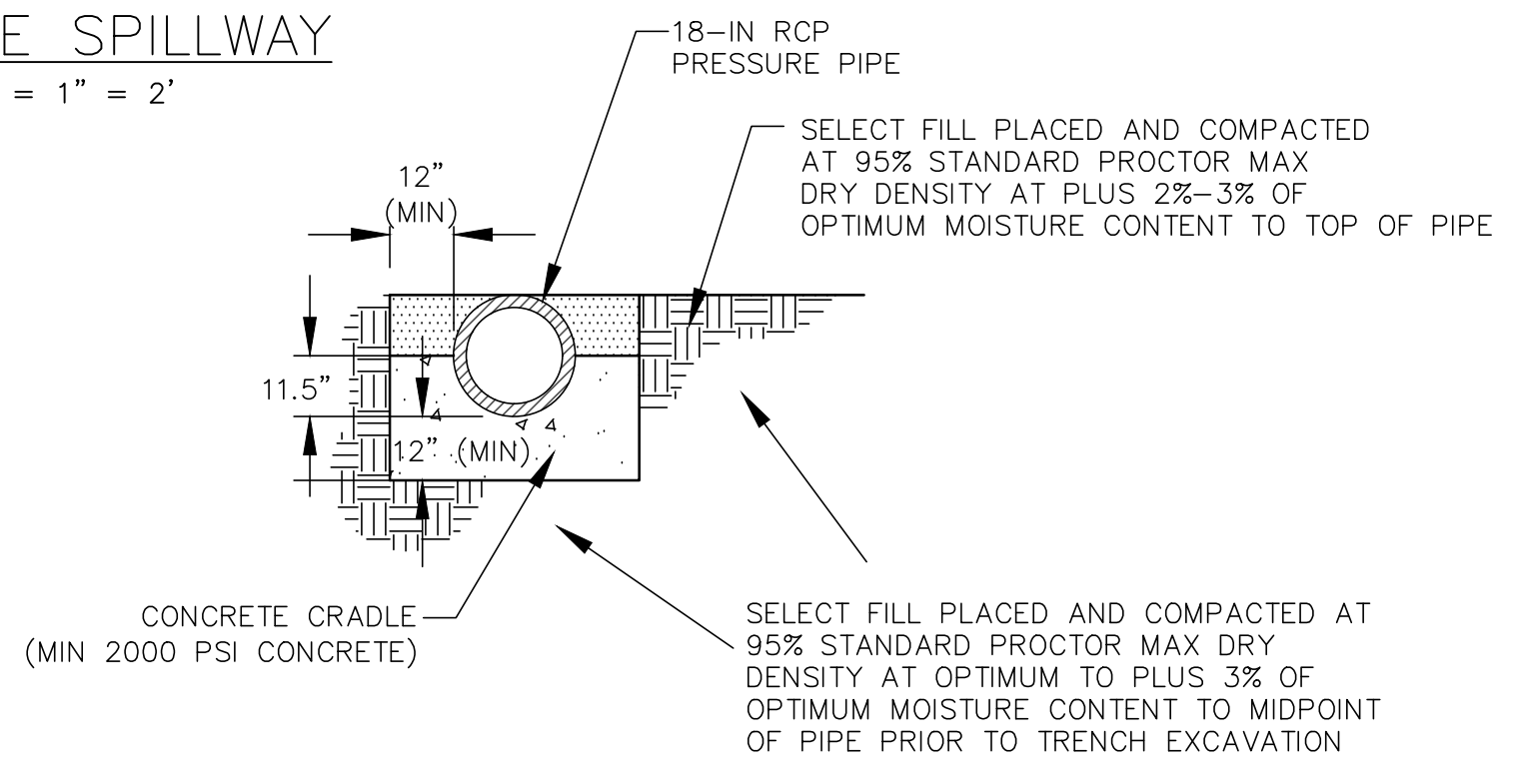


WET DETENTION POND #36 PLAN VIEW
SCALE = 1" = 20'

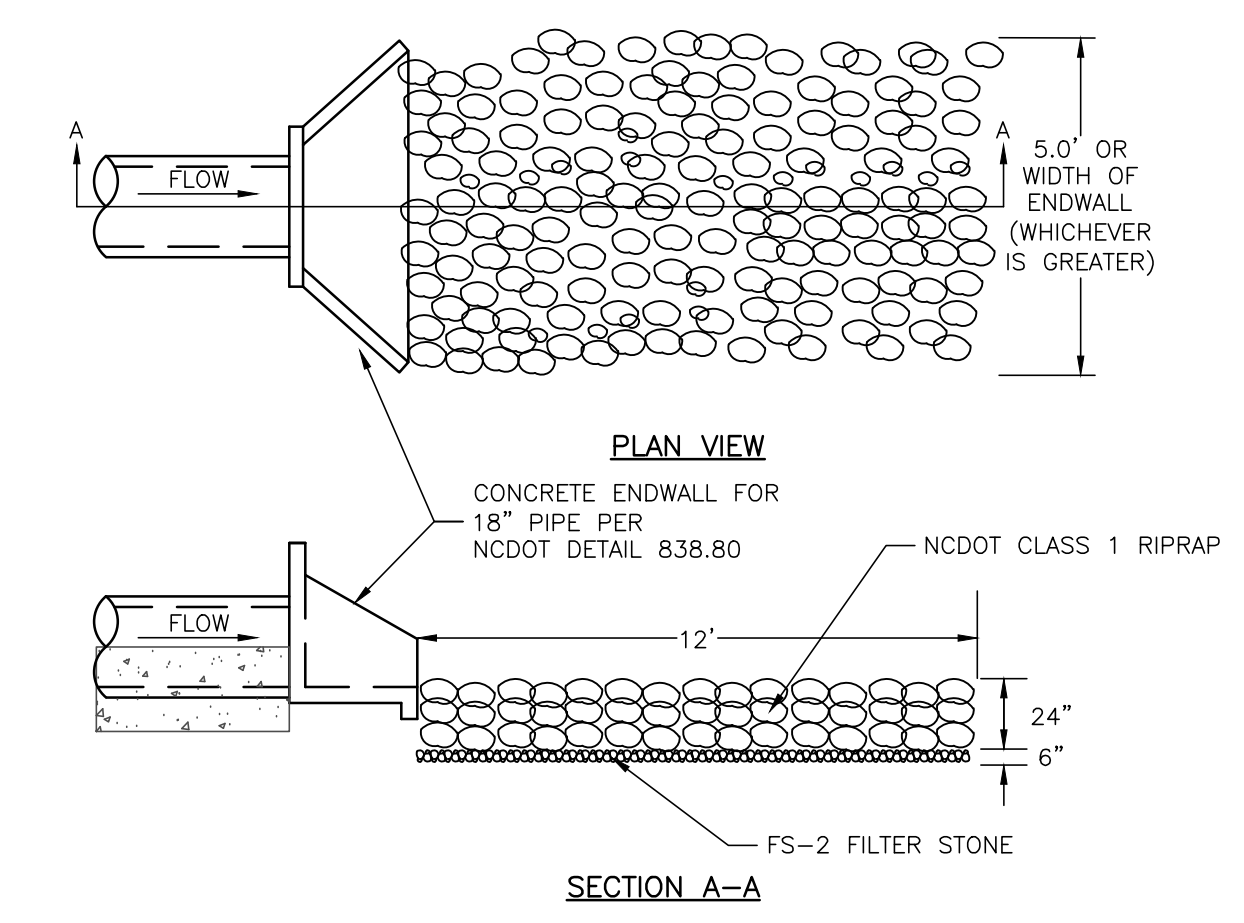


CONCRETE PRESSURE PIPE JOINT DETAIL
NTS

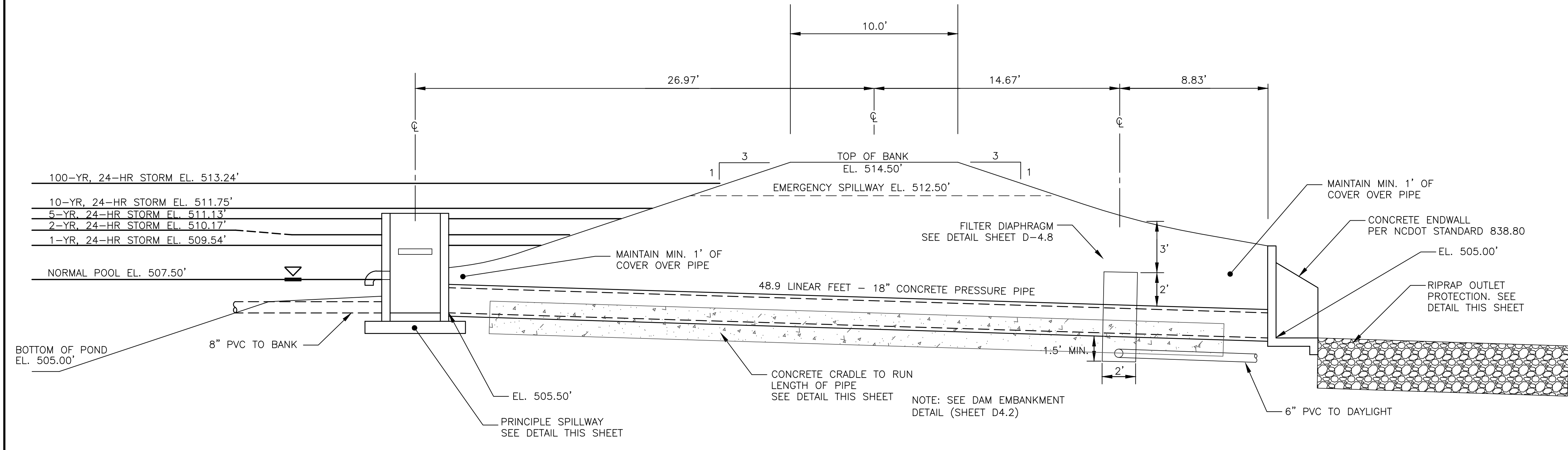
PRINCIPLE SPILLWAY
SCALE = 1" = 2'



CONCRETE CRADLE DETAIL
NTS

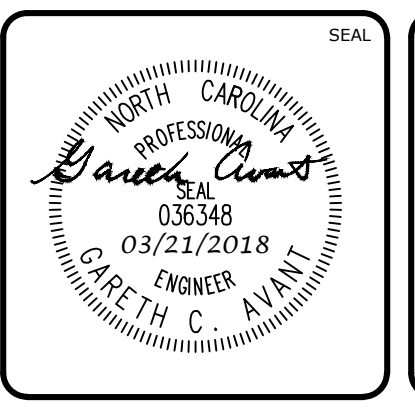
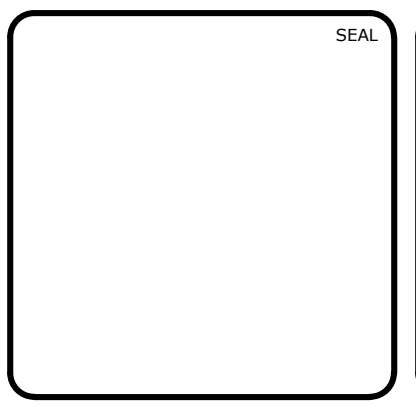


RIPRAP OUTLET PROTECTION
NTS



SECTION AT PRINCIPLE SPILLWAY
SCALE = NTS

REV. NO.	DESCRIPTION	DATE
0	INITIAL SUBMITTAL	2018.03.21

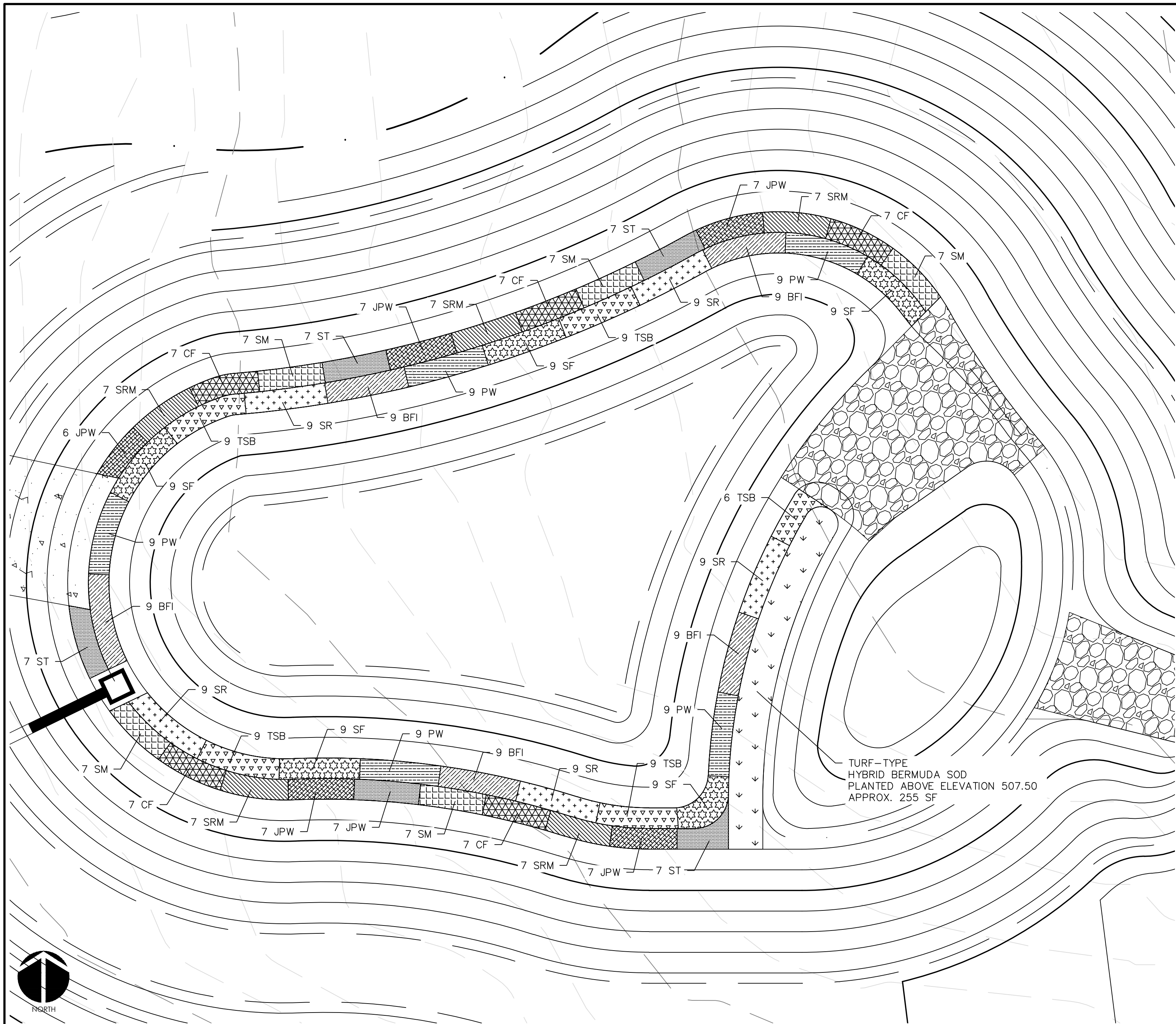


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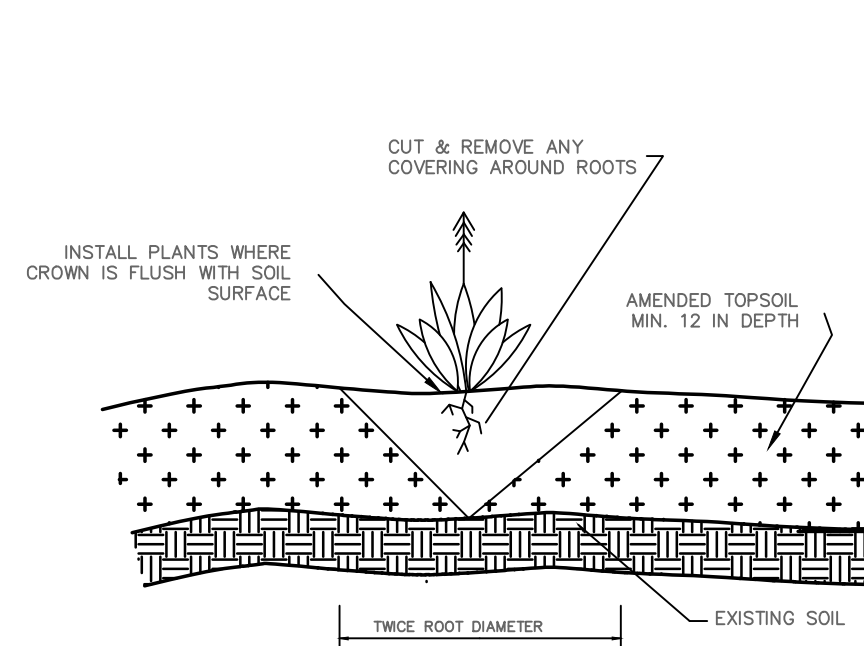
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BC PHASE 16 NORTH
CHATHAM COUNTY, NORTH CAROLINA**
BMP #36 PLAN & DETAILS

DATE: MARCH 21, 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: D4.X
M&C PROJ. #: 02735-0206	VERTICAL: N/A	DRAWING NUMBER: D4.4
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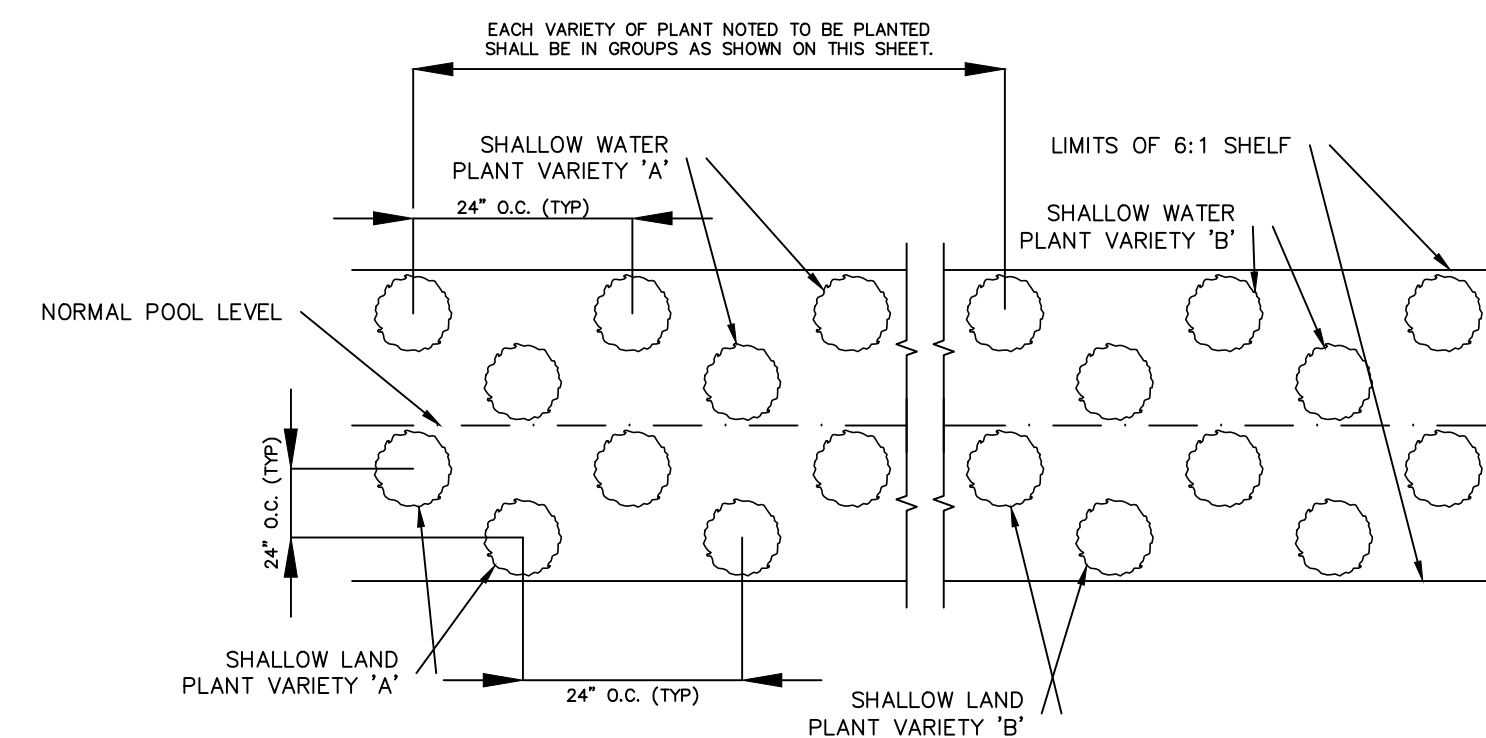


WET DETENTION POND #36 PLANTING PLAN
SCALE = 1" = 10'

PLANTING SCHEDULE						
SYM.	ABB.	COMMON NAME	BOTANICAL NAME	QUANTITY	SPACING	CONTAINER SIZE AT PLANTING
SHALLOW WATER PLANTINGS						
	SF	SWEETFLAG	<i>Acorus subcordatum</i>	45	24"-30" O.C.	1 QT.
	PW	PICKERELWEED	<i>Pontederia cordata</i>	45	24"-30" O.C.	1 QT.
	BFI	BLUE FLAG IRIS	<i>Iris virginica</i>	45	24"-30" O.C.	1 QT.
	SR	SOFT RUSH	<i>Juncus effusus var. pygmaei or solutus</i>	45	24"-30" O.C.	1 QT.
	TSB	THREE SQUARE BULRUSH	<i>Schoenoplectus americanus</i>	42	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>	34	24"-30" O.C.	1 QT.



GENERAL PLANTING DETAIL
NTS



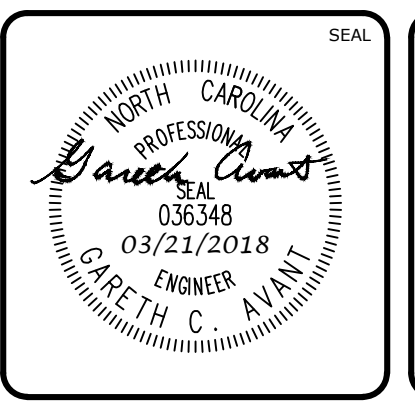
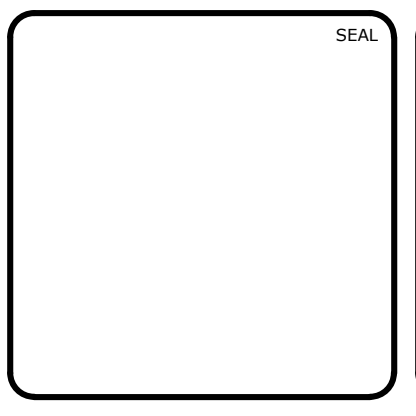
VEGETATED PLANTING SHELF DETAIL
NTS

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.

REV. NO.	DESCRIPTIONS	DATE
0	INITIAL SUBMITTAL	2018.03.21



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BMP #37 PLAN & DETAILS

DATE: MARCH 21, 2018	SCALE: HORIZONTAL: AS NOTED	MAC FILE NUMBER: D4.X
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DRAWN: BSS		
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION: 0	

SANITARY SEWER SUMMARY TABLE							
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
SSMH-16-100	EX. SSMH-16-12A	522.20	520.97	8"	DIP	246.8	0.50%
SSMH-16-101	SSMH-16-100	529.15	523.80	8"	PVC	136.7	3.91%
SSMH-16-102	SSMH-16-101	530.00	529.35	8"	PVC	94.2	0.69%
SSMH-16-103	SSMH-16-102	532.40	531.00	8"	PVC	176.2	0.79%
SSMH-16-104	SSMH-16-103	534.00	532.60	8"	PVC	100.1	1.40%
SSMH-16-105	SSMH-16-104	536.82	535.75	8"	PVC	107.2	1.00%
SSMH-16-201	SSMH-16-200	499.70	497.85	8"	PVC	140.1	1.32%
SSMH-16-202	SSMH-16-201	506.60	501.70	8"	PVC	158.6	3.09%
SSMH-16-203	SSMH-16-202	508.10	507.60	8"	PVC	94.0	0.53%
SSMH-16-204	SSMH-16-203	508.75	508.30	8"	PVC	87.9	0.51%
SSMH-16-205	SSMH-16-204	509.55	508.95	8"	DIP	114.7	0.52%
SSMH-16-206	SSMH-16-205	518.80	509.75	8"	DIP	333.2	2.72%
SSMH-16-207	SSMH-16-205	519.50	516.77	8"	PVC	158.0	1.73%
SSMH-16-208	SSMH-16-207	525.50	521.40	8"	PVC	144.2	2.84%
SSMH-16-209	SSMH-16-208	532.30	527.35	8"	PVC	169.0	2.93%
SSMH-16-210	SSMH-16-209	538.12	534.95	8"	PVC	127.0	2.50%

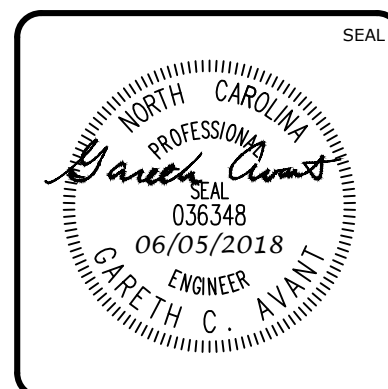
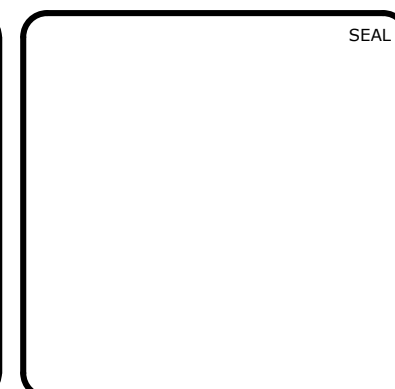
STORM DRAINAGE SUMMARY TABLE							
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
	HW-16-301	507.84	513.71	42"	RCP	94.5	6.21%
CB-16-102	HW-16-100	492.30	491.00	36"	RCP	139.1	0.93%
CB-16-103	CB-16-102	500.40	495.00	30"	RCP	188.1	2.87%
CB-16-124	DBL CI-16-117	514.60	514.54	24"	RCP	11.8	0.51%
CB-16-125	CB-16-124	515.35	514.70	24"	RCP	123.9	0.52%
CB-16-126	CB-16-125	519.05	515.75	15"	RCP	179.4	1.84%
CB-16-126B	CB-16-126	530.20	521.15	15"	RCP	177.2	5.11%
CB-16-127	DBL CI-16-104	501.65	501.20	24"	RCP	76.1	0.59%
CB-16-128	CB-16-127	502.25	501.75	24"	RCP	96.3	0.52%
CB-16-129	CB-16-128	512.07	502.95	12"	12" A-2000 PVC	121.6	7.50%
CB-16-130	CB-16-129	530.90	525.00	12"	12" A-2000 PVC	154.0	3.83%
CB-16-131	CB-16-128	508.00	502.95	12"	12" A-2000 PVC	130.4	3.87%
CB-16-132	CB-16-102	499.50	496.00	15"	RCP	62.5	5.60%
CB-16-133	CB-16-132	509.85	503.65	15"	RCP	202.9	3.06%
CB-16-202	HW-16-200	511.00	508.00	30"	RCP	97.0	3.09%
CB-16-203	CB-16-202	517.35	515.75	30"	RCP	129.4	1.24%
CB-16-214	CI-16-211	518.50	518.00	24"	RCP	11.7	4.27%
CB-16-215	CB-16-214	519.10	518.60	24"	RCP	92.5	0.54%
CB-16-216	CB-16-215	521.00	519.20	24"	RCP	40.3	4.47%
CB-16-217	CB-16-216	528.75	521.60	18"	RCP	181.7	3.93%
CB-16-218	CB-16-217	532.50	528.85	18"	RCP	210.6	1.73%
CB-16-219	CB-16-218	534.60	533.10	18"	RCP	135.1	1.11%
CB-16-220	CB-16-219	535.30	534.70	18"	RCP	116.9	0.51%
CB-16-221	CB-16-202	520.00	518.50	12"	12" A-2000 PVC	39.4	3.80%
CB-16-222	CB-16-221	534.00	525.00	12"	12" A-2000 PVC	190.1	4.73%
CI-16-105	DBL CI-16-104	504.80	501.15	30"	RCP	125.7	2.90%
CI-16-106	CI-16-105	508.00	504.90	30"	RCP	108.5	2.86%
CI-16-107	CI-16-106	511.00	508.10	30"	RCP	96.6	3.00%

STORM DRAINAGE SUMMARY TABLE							
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
CI-16-108	CI-16-107	512.90	511.10	30"	RCP	78.4	2.30%
CI-16-109	CI-16-108	513.35	513.00	30"	RCP	67.6	0.52%
CI-16-110	CI-16-109	517.40	516.50	15"	RCP	39.6	2.27%
CI-16-111	CI-16-110	522.40	518.60	15"	RCP	113.5	3.35%
CI-16-112	CI-16-111	528.25	522.50	15"	RCP	148.6	3.87%
CI-16-113	CI-16-112	535.20	528.35	15"	RCP	167.5	4.09%
CI-16-114	CI-16-113	535.35	535.20	15"	RCP	24.5	0.61%
CI-16-116	CI-16-111	522.65	522.50	15"	RCP	24.5	0.61%
CI-16-118	CI-16-119	519.50	519.35	15"	RCP	24.5	0.61%
CI-16-119	DBL CI-16-120	519.25	517.70	15"	RCP	174.7	0.89%
CI-16-121	CI-16-109	513.60	513.45	30"	RCP	24.5	0.61%
CI-16-122	CI-16-107	512.70	512.55	15"	RCP	24.5	0.61%
CI-16-123	CI-16-105	506.20	506.05	15"	RCP	24.5	0.61%
CI-16-204	CB-16-203	517.55	517.45	30"	RCP	11.8	0.85%
CI-16-205	CI-16-204	527.90	523.30	15"	RCP	109.9	4.18%
CI-16-206	CI-16-205	532.90	528.00	15"	RCP	132.2	3.71%
CI-16-208	CI-16-206	535.95	533.00	15"	RCP	214.2	1.38%
CI-16-209	CI-16-208	536.20	536.05	15"	RCP	24.5	0.61%
CI-16-210	CI-16-206	533.15	533.00	15"	RCP	24.5	0.61%
CI-16-211	CI-16-204	517.90	517.65	24"	RCP	24.5	1.02%
DBL CI-16-104	CB-16-103	500.70	500.50	30"	RCP	17.0	1.17%
DBL CI-16-117	DBL CI-16-120	514.44	514.30	24"	RCP	24.5	0.57%
DBL CI-16-120	CI-16-121	514.20	513.70	24"	RCP	45.7	1.09%
DBL CI-16-212	CI-16-204	518.65	518.10	15"	RCP	101.7	0.54%
DBL CI-16-213	DBL CI-16-212	518.90	518.75	15"	RCP	24.5	0.61%

STORM SEWER RIM TABLE	
STRUCTURE	RIM ELEVATION
CB-16-102	500.71
CB-16-103	507.57
CB-16-124	522.85
CB-16-125	519.65
CB-16-126	524.93
CB-16-126B	533.91
CB-16-127	508.95
CB-16-128	506.50
CB-16-129	528.25
CB-16-130	534.82
CB-16-131	511.59
CB-16-132	507.50
CB-16-133	513.48
CB-16-202	521.80
CB-16-203	528.44
CB-16-214	528.07
CB-16-215	523.50
CB-16-216	526.37
CB-16-217	533.50
CB-16-218	537.50
CB-16-219	538.41
CB-16-220	539.50
CB-16-221	528.61
CB-16-222	537.43
CI-16-105	510.80
CI-16-106	513.98
CI-16-107	516.96
CI-16-108	519.40
CI-16-109	521.39

STORM SEWER RIM TABLE	
STRUCTURE	RIM ELEVATION
CI-16-110	523.15
CI-16-111	527.01
CI-16-112	532.87
CI-16-113	539.61
CI-16-114	539.60
CI-16-116	527.01
CI-16-118	523.76
CI-16-119	523.76
CI-16-121	521.40
CI-16-122	516.96
CI-16-123	510.79
CI-16-204	527.78
CI-16-205	532.45
CI-16-206	537.44
CI-16-208	540.48
CI-16-209	540.48
CI-16-210	537.42
CI-16-211	527.78
DBL CI-16-104	506.68
DBL CI-16-117	522.19
DBL CI-16-120	522.18
DBL CI-16-212	525.49
DBL CI-16-213	525.49
HW-16-100	495.33
HW-16-200	511.79
HW-16-300	513.02
HW-16-301	518.52

REV. NO.	DESCRIPTIONS	DATE
4	REVISIONS PER NCDOT	2018.06.05
3	REVISION PER NCDOT PWS	2018.05.10
2	REVISIONS PER CHATHAM COUNTY EROSION CONTROL	2018.04.24
1	REVISIONS PER CHATHAM COUNTY PUBLIC WORKS	2018.04.19
0	INITIAL SUBMITTAL	2018.03.21



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 by **Newland COMMUNITIES**

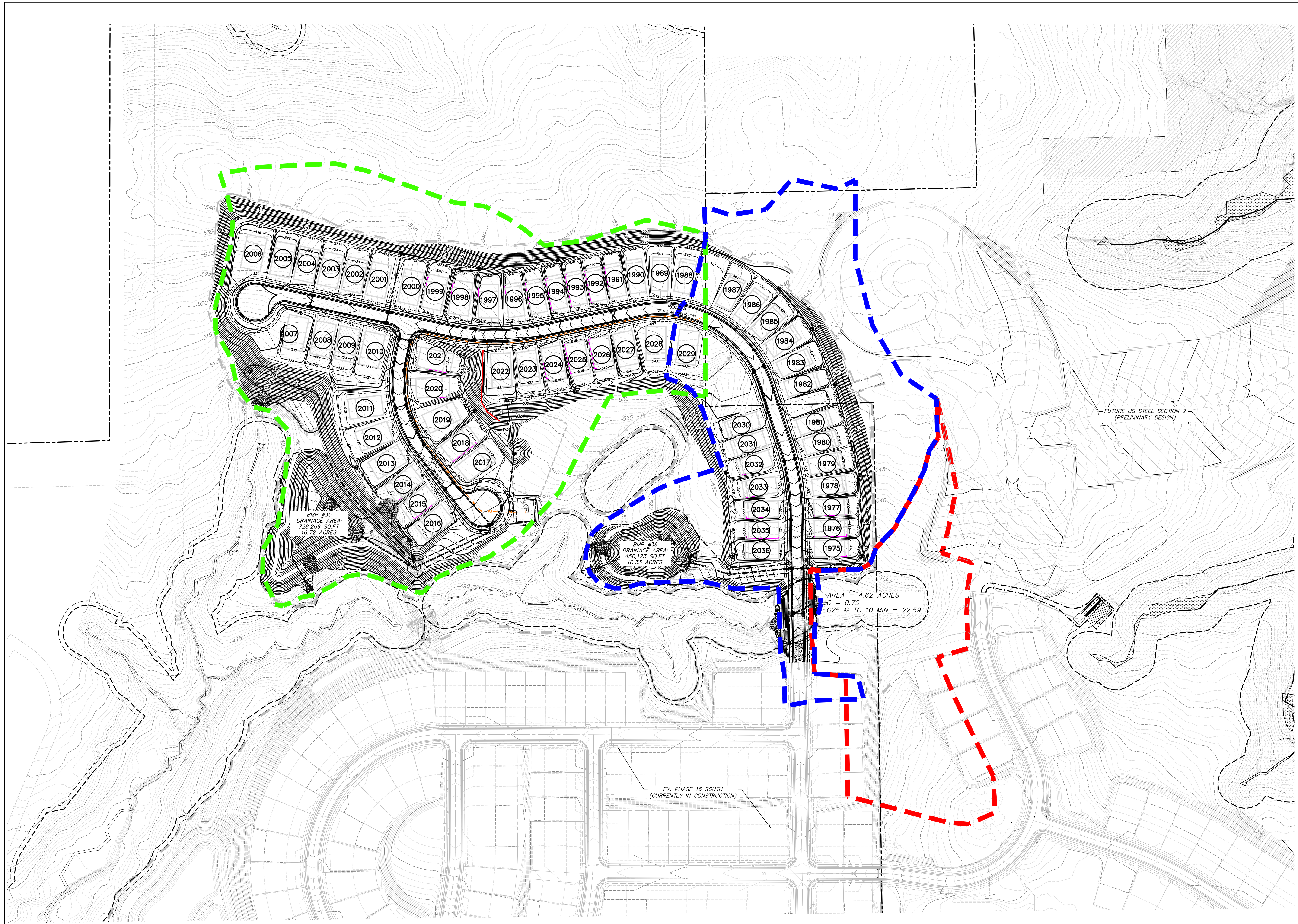
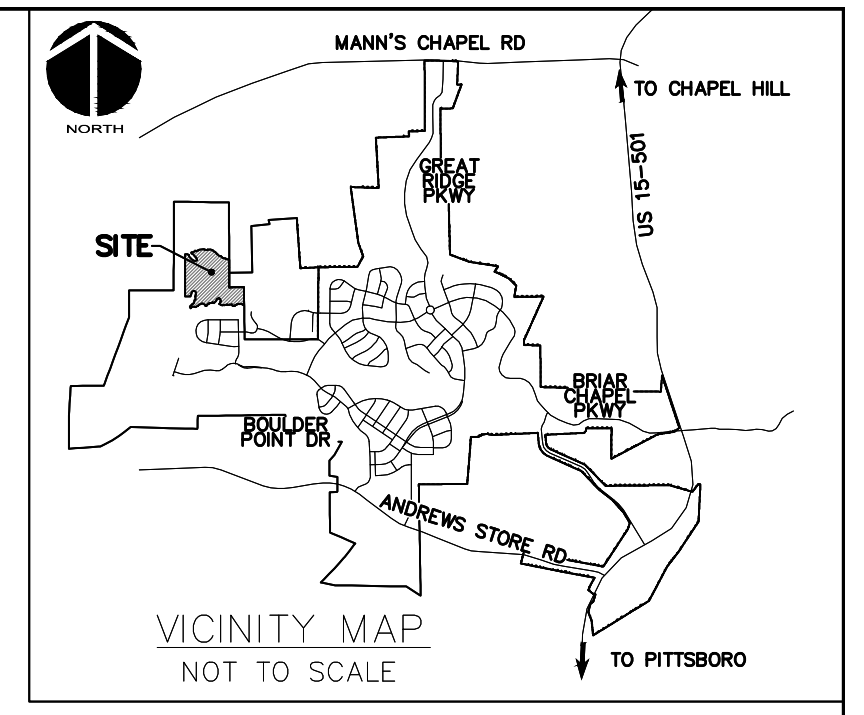
**BRIAR CHAPEL
 BC PHASE 16 NORTH
 CHATHAM COUNTY, NORTH CAROLINA**
**STORM DRAINAGE &
 SANITARY SEWER TABLES**

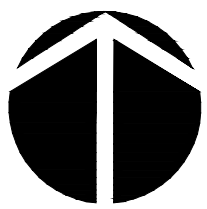
DATE:	MARCH 21, 2018
MCE PROJ. #	02735-0206
DRAWN	BSS
DESIGNED	BSS
CHECKED	GCA
PROJ. MGR.	CHS

SCALE	N/A
HORIZONTAL:	AS NOTED
VERTICAL:	N/A


M&C FILE NUMBER	D4.X
DRAWING NUMBER	D4.7

STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY
 REVISION: 4





 NORTH



 CALL N.C. ONE
 CALL CENTER
 BEFORE YOU DIG
STOP
 1-800-832-4949
 AVOID UTILITY DAMAGE

100' 0 100' 200'
 SCALE: 1"=100' (Horiz.)

REV. NO.	INITIAL SUBMITTAL	DESCRIPTIONS	DATE
0			2018.03.15

SEAL

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CHATHAM COUNTY, NORTH CAROLINA

BMP AND CULVERT
DRAINAGE AREA MAP

DATE: MARCH 15, 2018	SCALE: HORIZONTAL: AS NOTED	MSDC FILE NUMBER: DA MAP
MCE PROJ. # 02735-0206	VERTICAL: N/A	DRAWING NUMBER: DA
DRAWN: BSS		
DESIGNED: BSS		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION: 0	