

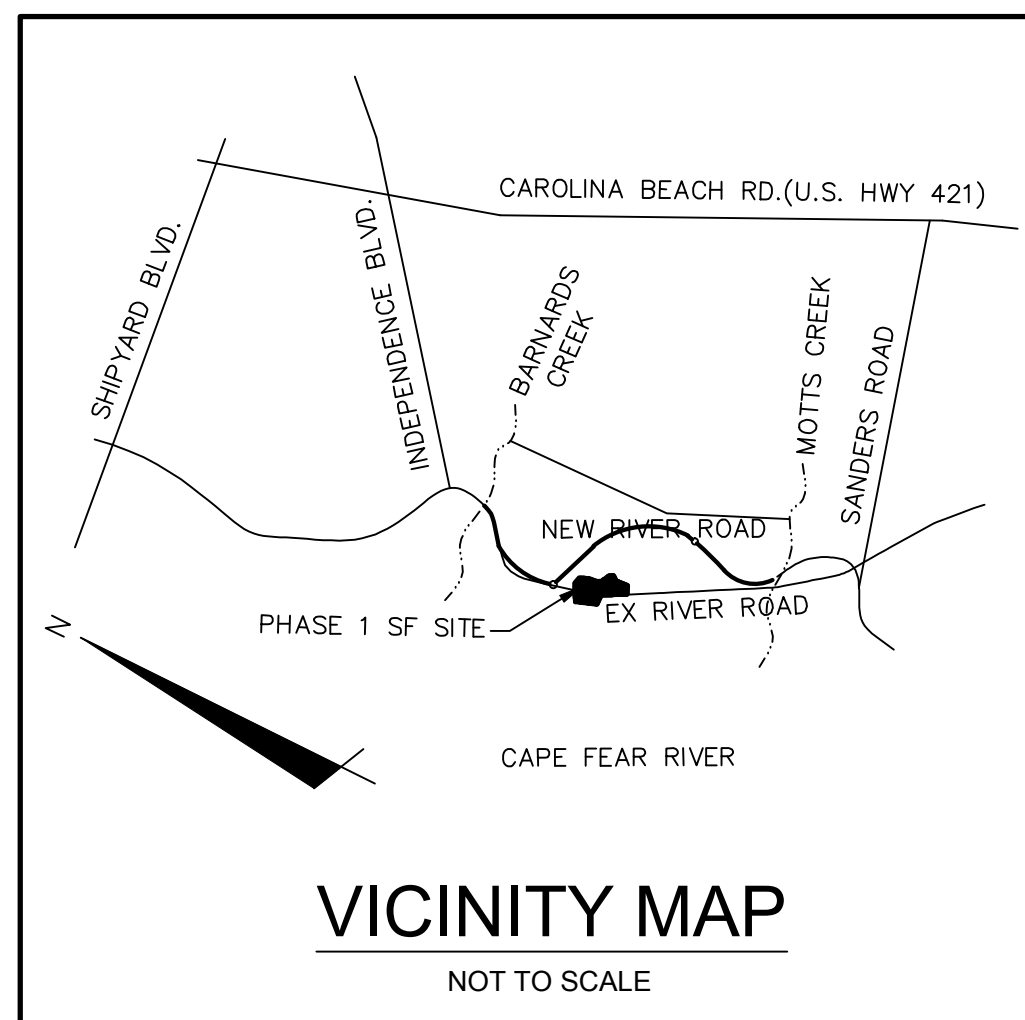
RIVERLIGHTS

PHASE I CONVENTIONAL

CITY OF WILMINGTON, NC

AUGUST 10, 2015

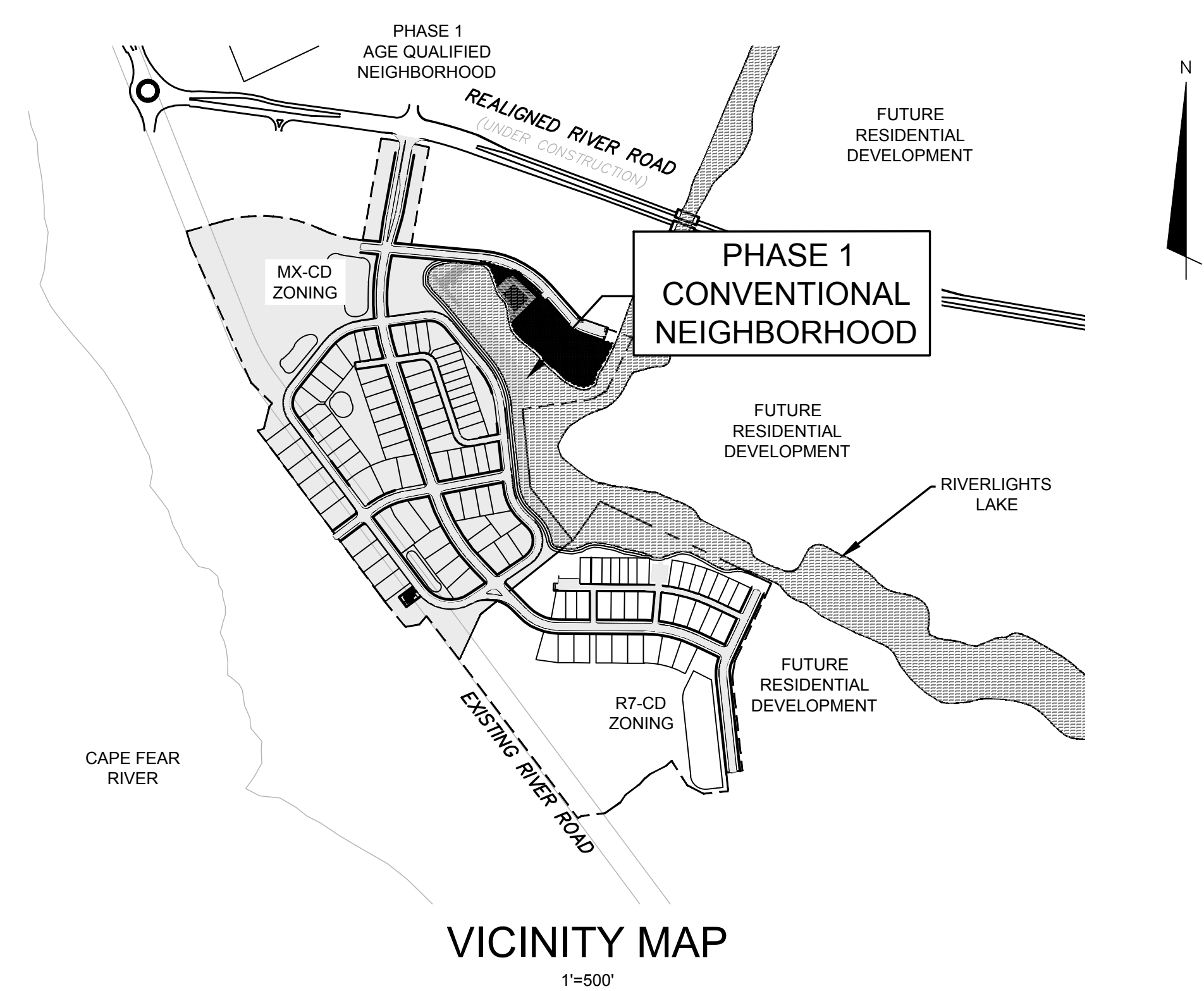
TECHNICAL REVIEW COMMITTEE RESUBMITTAL



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ISSUED FOR PERMITTING
 NOT FOR CONSTRUCTION



PROJECT DATA

NAME OF PROJECT:
 RIVERLIGHTS- PHASE 1 CONVENTIONAL NEIGHBORHOOD
 WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER:
 NNP IV-CAPE FEAR RIVER, LLC
 3410 RIVER ROAD, SUITE 103
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 PHONE: (704)813-8697
 CONTACT: DOUG BROWN

PREPARED BY:
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Sheet List Table		
Sheet Number	Sheet Title	Sheet Description
1	G-001	COVER
2	G-002	NOTES AND LEGEND
3	CX-101	EXISTING CONDITIONS/ SITE INVENTORY PLAN
4	CX-102	TREE REMOVAL PLAN
5	CE-101	EROSION CONTROL PLAN PHASE 1
6	CE-102	EROSION CONTROL PLAN PHASE 2
7	CG-101	STORM DRAINAGE & GRADING PLAN
8	CG-102	STORM DRAINAGE & GRADING PLAN
9	CG-103	STORM DRAINAGE & GRADING PLAN
10	CS-100	OVERALL SITE PLAN
11	CS-101	SITE PLAN
12	CS-102	SITE PLAN
13	CS-103	SITE PLAN
14	CU-101	UTILITY PLAN
15	CU-102	UTILITY PLAN
16	CU-103	UTILITY PLAN
17	CU-701	PLAN AND PROFILE STA 10+00 TO STA 26+00
18	CU-702	PLAN AND PROFILE STA 26+00 TO STA 40+57.83
19	CU-703	PLAN AND PROFILE STA 10+00 TO STA 20+03.54
20	CU-704	PLAN AND PROFILE STA 10+00 TO STA 25+00
21	CU-705	PLAN AND PROFILE STA 25+00 TO STA 28+35.63/STA 10+00 TO STA 17+50
22	CU-706	PLAN AND PROFILE STA 17+50 TO STA 26+07.14
23	CU-707	PLAN AND PROFILE STA 10+00 TO STA 17+74.33
24	CU-708	PLAN AND PROFILE STA 10+00 TO STA 18+72.99 / STA 10+00 TO STA 12+88.50
25	CU-709	PLAN AND PROFILE STATION 10+00 TO STATION 17+76
26	CT-301	TYPICAL CROSS SECTIONS
27	CE-501	EROSION AND SEDIMENT CONTROL DETAILS
28	CE-502	EROSION AND SEDIMENT CONTROL DETAILS
29	CG-501	STORM DRAINAGE DETAILS
30	CG-502	STORM DRAINAGE DETAILS
31	CG-503	STORM DRAINAGE DETAILS
32	CG-504	STORM DRAINAGE DETAILS
33	CS-501	SITE PLAN DETAILS
34	CS-502	SITE PLAN DETAILS
35	WSD-1	UTILITY DETAILS
36	WSD-2	UTILITY DETAILS
37	SSD-1	UTILITY DETAILS
38	SSD-2	UTILITY DETAILS
39	SSD-3	UTILITY DETAILS
40	SSD-4	UTILITY DETAILS
41	CN-501	STORMWATER MANAGEMENT DETAILS
42	CN-502	STORMWATER MANAGEMENT DETAILS
43	CN-503	STORMWATER MANAGEMENT DETAILS
44	CN-504	STORMWATER MANAGEMENT DETAILS
45	CL-100	LANDSCAPE PLAN
46	CL-161	LANDSCAPE PLAN
47	CL-162	LANDSCAPE PLAN
48	CL-163	LANDSCAPE PLAN
49	CL-164	LANDSCAPE PLAN
50	CL-165	LANDSCAPE PLAN
51	CL-171	LANDSCAPE PLAN
52	CL-181	LANDSCAPE PLAN
53	CL-501	LANDSCAPE PLAN
54	CL-502	LANDSCAPE PLAN

CONSTRUCTION NOTES

- 1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
4. THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION...

DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.

EXCAVATION, GRADING, AND BACKFILLING NOTES

- 1. ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD.
2. BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE SOLIDLY TAMPED AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. CARE SHALL BE TAKEN TO PREVENT ANY DISTURBANCE TO THE PIPE OR DAMAGE TO NEWLY MADE JOINTS.
3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL, ALL RUBBISH, FORM, BLOCKS, WIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION.

STORM DRAINAGE AND GRADING NOTES

- 1. IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM.
2. INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
3. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.

UTILITY NOTES

- 1. SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
2. WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
3. THIS PROJECT SHALL COMPLY WITH THE CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THE "FINAL APPROVAL".
4. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPWA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPWA AND APPROVED BY USCF00CHR OR ASSE.
5. BACKFLOW PREVENTION AND METERS WILL BE PROVIDED FOR BOTH FIRE LINES (RPDA) AND DOMESTIC SERVICE (RPZ). FIRE LINE BACKFLOW PREVENTER AND DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS.

RELATION OF WATER MAINS TO SANITARY SEWERS

- 1. LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
1.1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
1.2. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
2. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.01
• ALL DROP INLETS ARE NCDOT STD 840.15
• ALL STORM DRAINAGE PIPING TO BE CLASS III RCP, UNLESS OTHERWISE NOTED
• ALL STORM DRAINAGE PIPING CONVEYING DISCHARGE FROM THE PUBLIC RIGHT-OF-WAY SHALL BE CONTAINED WITHIN A PUBLIC DRAINAGE EASEMENT WHOSE WIDTH IS DETERMINED BY THE DEPTH OF BURY
• ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PVC, UNLESS OTHERWISE NOTED AND MEET CAPE FEAR PUBLIC UTILITY SPECIFICATIONS
• A PUBLIC UTILITY EASEMENT SHALL BE RESERVED WITHIN THE STREET RIGHT-OF-WAY. A 10' NON-MUNICIPAL EASEMENT SHALL BE RESERVED ALONG BOTH SIDES OF ALL STREETS
• WATER AND SANITARY SEWER UTILITIES ARE PUBLIC - CAPE FEAR PUBLIC UTILITY AUTHORITY

EROSION CONTROL NOTES

- 1. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
2. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE. ANY BUILDER THAT ANTICIPATES THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NEW HANOVER COUNTY.
3. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
4. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
5. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
6. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
7. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
8. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.

EROSION CONTROL MAINTENANCE PLAN:

- 1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
4. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
6. INSPECT TEMPORARY DIVERSIONS AND CHECK DAMS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE AND CHECK DAM. 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.
7. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
8. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGN STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAD BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
11. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

NOTE (G.S. 113A-57 (2))

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

CITY OF WILMINGTON STANDARD NOTES

- 1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ONCE STREETS ARE OPEN TO TRAFFIC, THE DEVELOPER SHALL CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
5. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
6. ALL TRAFFIC CONTROL SIGNS AND MARKING OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
7. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING SHALL BE REPLACED BY THE CONTRACTOR.
8. CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT 341-7852 TO DISCUSS STREET LIGHTING OPTIONS.
9. IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE SHALL APPLY WITH THE CAPE FEAR PUBLIC UTILITY AUTHORITY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
10. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
11. CONTACT TRAFFIC ENGINEERING TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN. CALL TRAFFIC ENGINEERING FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
12. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
13. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
14. IF UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

FIRE PROTECTION NOTES

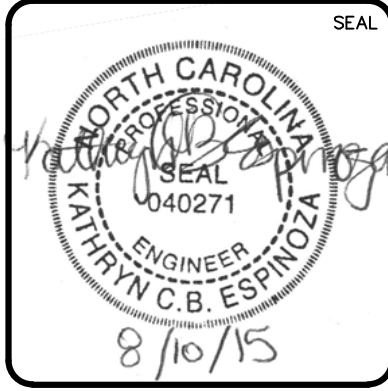
- 1. HYDRANT MUST BE WITHIN 150' OF THE FDC.
2. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
4. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE CURB PER CFPWA STANDARDS.
5. COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
6. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION.
7. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
8. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM UNDERGROUND UTILITIES
9. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS TO ALL PORTIONS OF THE JOBSITE WHERE COMBUSTIBLES ARE PRESENT AT ALL TIMES DURING CONSTRUCTION.
10. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
11. FIRE DEPARTMENT ACCESS WIDTHS SHALL BE A MINIMUM OF 20-FEET UNLESS LESSER WIDTHS ARE APPROVED BY THE FIRE CODE OFFICIAL.

UTILITY COMPANY CONTACTS

DUKE/PROGRESS ENERGY: SID LIVINGSTON/MARK HATFIELD (910) 452-2777
DUKE ENERGY (TRANSMISSION): BILL WILDER (910) 772-4903
AT&T (BELLSOUTH): JAMES BATSON (910) 452-5300
TIME WARNER CABLE: ROBERT JOHN (910) 216-4494
PIEDMONT NATURAL GAS: PAUL GONKA (910) 512-2841
DJ MEDEIROS (910) 431-3233
CAPE FEAR PUBLIC UTILITY AUTHORITY (910) 332-6550

Table with 3 columns: SITE AREA DESCRIPTION, STABILIZATION TIMEFRAME, STABILIZATION TIMEFRAME EXCEPTIONS. Rows include Perimeter Dikes, Swales, Ditches and Slopes (7 days), High Quality Water Zones (7 days), Slopes Steeper than 3:1 (7 days), Slopes 3:1 or Flatter (14 days), All Other Areas with Slopes Flatter than 4:1 (14 days).

Revision table with columns: REVNO, DESCRIPTIONS, REVISIONS, DATE. Includes entries for City of Wilmington Technical Review Committee Resubmittal, New Hanover County Erosion Control, etc.

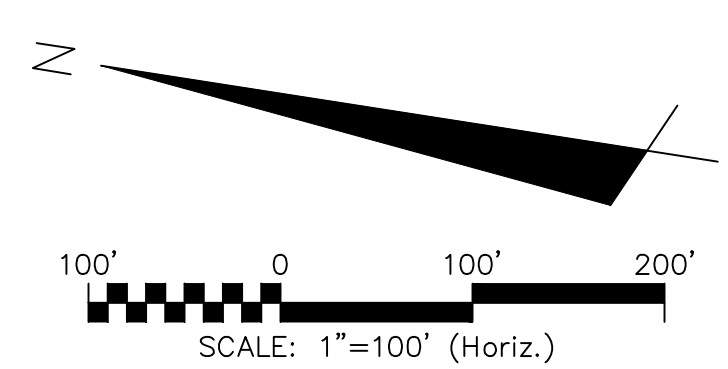
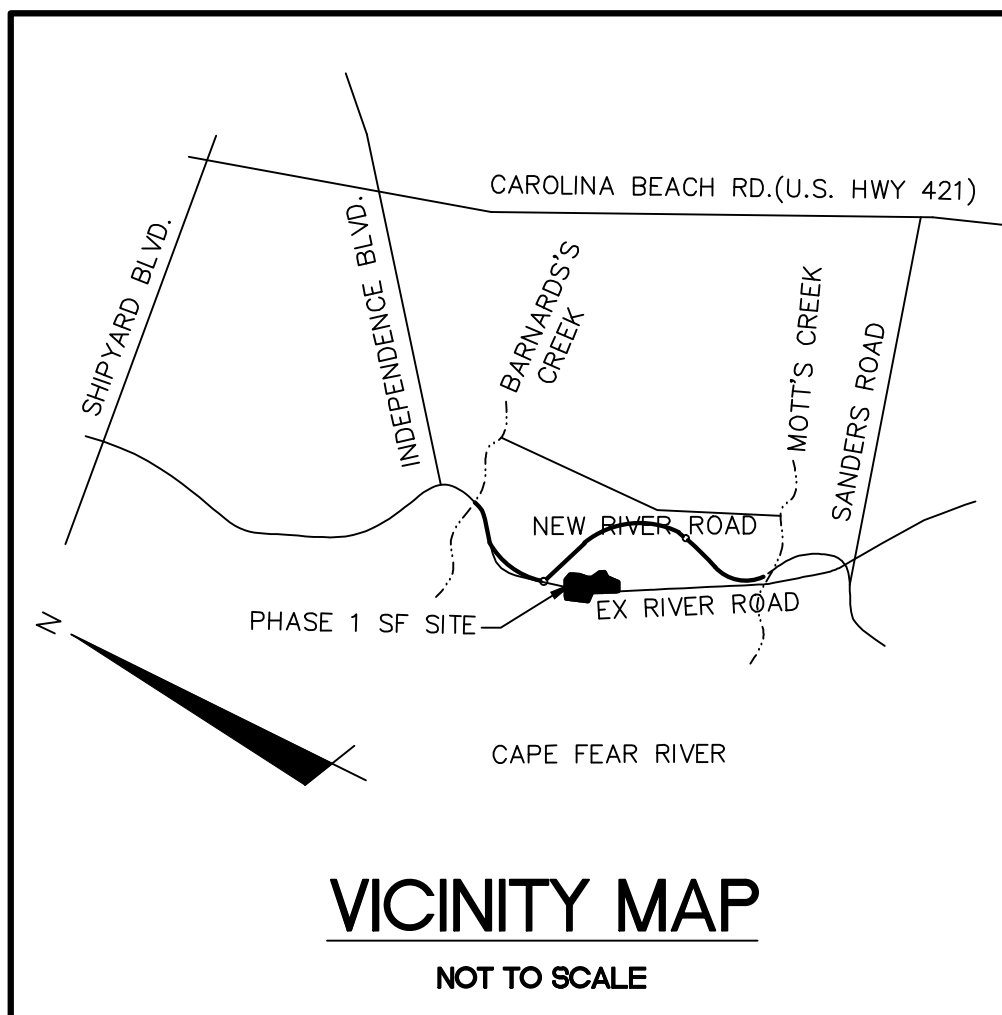


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RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1 NOTES AND LEGEND

Project information: DATE: 04-29-2015, MCE PROJ. # 02735-0129, DRAWN: EEM/KCBE, DESIGNED: KJBE, CHECKED: NNL, PROJ. MGR.: RMC, SCALE: HORIZONTAL: N/A, VERTICAL: N/A, MAC FILE NUMBER: G-002, DRAWING NUMBER: 2, STATUS: FINAL DESIGN, ISSUED FOR PERMITTING, REVISION: G



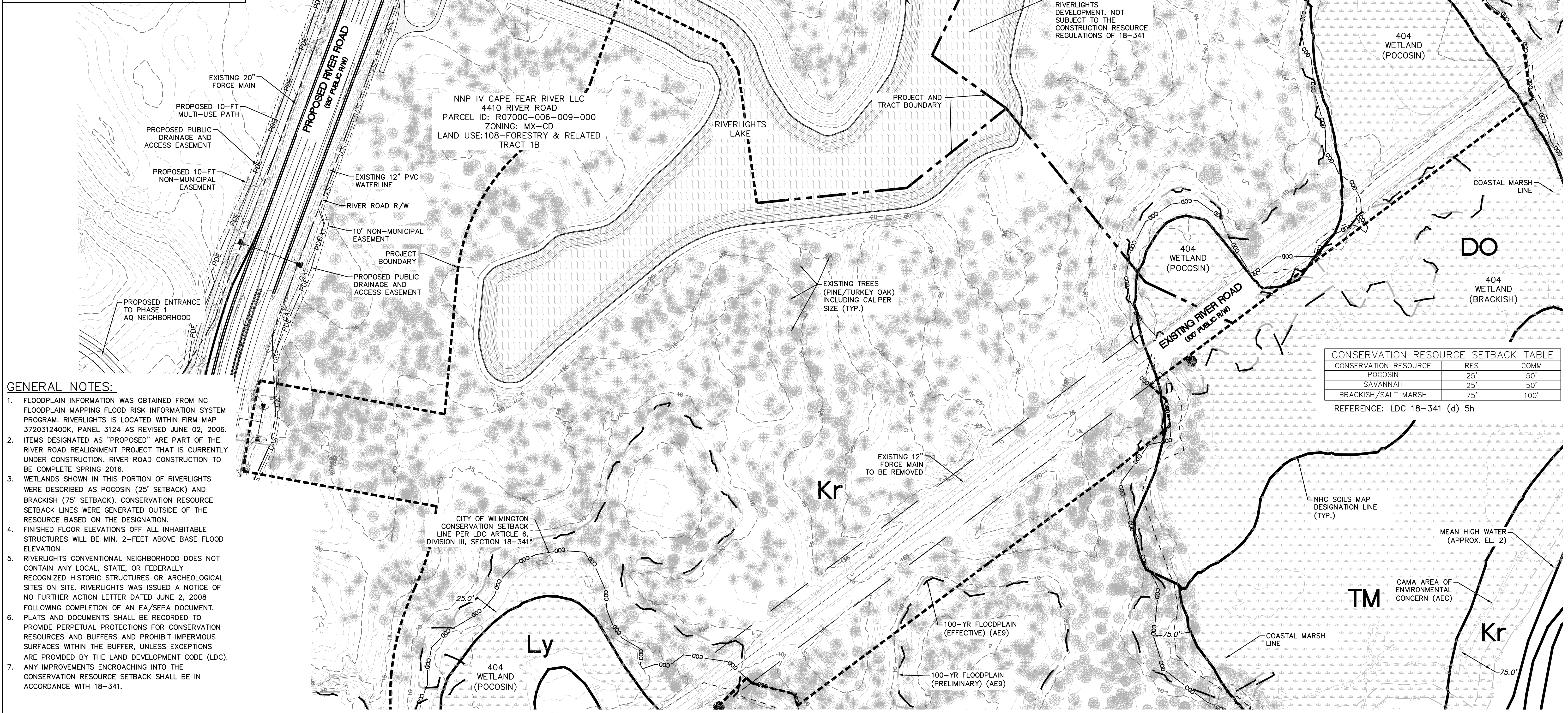
NOTE:
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL

TREE LEGEND

- CEDAR
- GUM
- HOLLY
- OAK
- MAPLE
- PINE

LEGEND

- RBC = REBAR & CAP
- WETLAND
- MHW = MEAN HIGH WATER
- AEC = AREA OF ENVIRONMENTAL CONCERN
- COD = CONSERVATION SETBACK LINE
- 12' = 12' FORCEMAIN



GENERAL NOTES:

1. FLOODPLAIN INFORMATION WAS OBTAINED FROM NC FLOODPLAIN MAPPING FLOOD RISK INFORMATION SYSTEM PROGRAM. RIVERLIGHTS IS LOCATED WITHIN FIRM MAP 3720312400K, PANEL 3124 AS REVISED JUNE 02, 2006.
2. ITEMS DESIGNATED AS "PROPOSED" ARE PART OF THE RIVER ROAD REALIGNMENT PROJECT THAT IS CURRENTLY UNDER CONSTRUCTION. RIVER ROAD CONSTRUCTION TO BE COMPLETE SPRING 2016.
3. WETLANDS SHOWN IN THIS PORTION OF RIVERLIGHTS WERE DESCRIBED AS POCOSIN (25' SETBACK) AND BRACKISH (75' SETBACK). CONSERVATION RESOURCE SETBACK LINES WERE GENERATED OUTSIDE OF THE RESOURCE BASED ON THE DESIGNATION.
4. FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION
5. RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD DOES NOT CONTAIN ANY LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHEOLOGICAL SITES ON SITE. RIVERLIGHTS WAS ISSUED A NOTICE OF NO FURTHER ACTION LETTER DATED JUNE 2, 2008 FOLLOWING COMPLETION OF AN EA/SEPA DOCUMENT.
6. PLATS AND DOCUMENTS SHALL BE RECORDED TO PROVIDE PERPETUAL PROTECTIONS FOR CONSERVATION RESOURCES AND BUFFERS AND PROHIBIT IMPERVIOUS SURFACES WITHIN THE BUFFER, UNLESS EXCEPTIONS ARE PROVIDED BY THE LAND DEVELOPMENT CODE (LDC).
7. ANY IMPROVEMENTS ENCRUCHING INTO THE CONSERVATION RESOURCE SETBACK SHALL BE IN ACCORDANCE WITH 18-341.

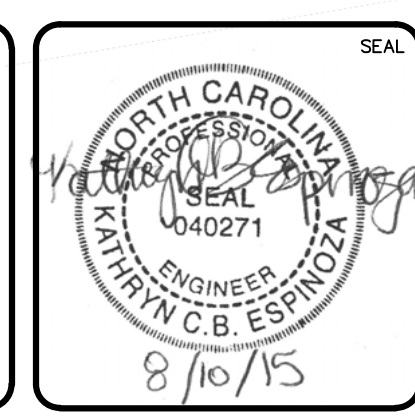
CONSERVATION RESOURCE SETBACK TABLE

CONSERVATION RESOURCE	RES	COMM
POCOSIN	25'	50'
SAVANNAH	25'	50'
BRACKISH/SALT MARSH	75'	100'

REFERENCE: LDC 18-341 (d) 5h

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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License: F-1222
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RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
EXISTING CONDITIONS/ SITE INVENTORY PLAN

DATE: 04-29-2015
MCE PROJ. #: 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

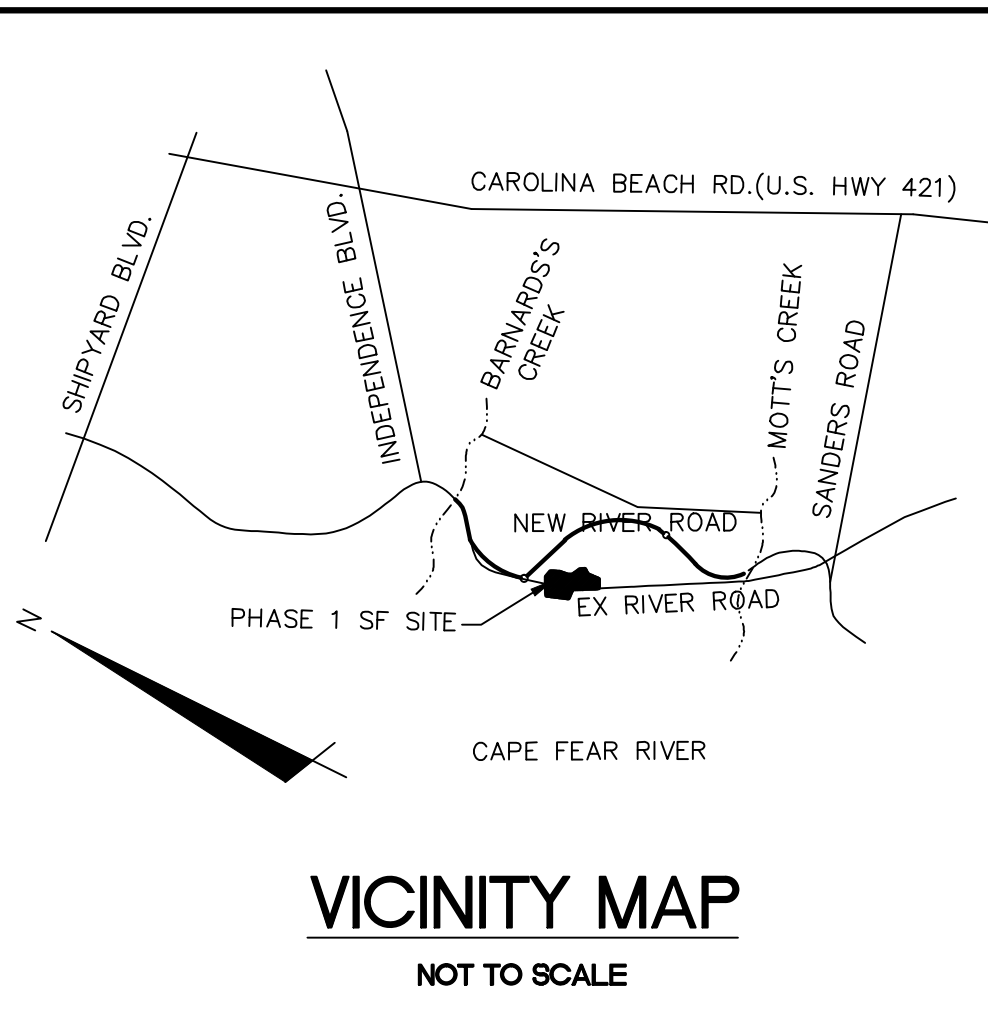
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VERTICAL: N/A

M&C FILE NUMBER: **CX-101**
DRAWING NUMBER: **3**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION: **G**

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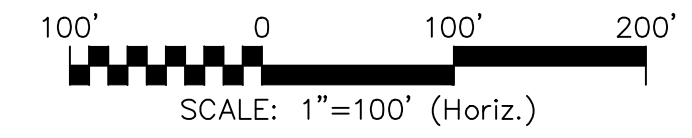


DEMOLITION NOTES:

1. NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION CONTROL SEQUENCE SHOWN IN THESE PLANS.
2. NO EARTH-DISTURBING ACTIVITY OR OTHER WORK SHALL TAKE PLACE WITHIN WETLANDS AREAS NOTED ON SURVEY. CONTRACTOR SHALL FIELD VERIFY WETLAND LIMITS FLAGGING IS IN PLACE AND SHALL NOT ENTER WETLAND AREAS. IF WETLAND FLAGGING IS MISSING OR OTHERWISE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE WETLAND LIMITS AND PREVENT DISTURBANCE OR OTHER ACTIVITY WITHIN WETLANDS.
3. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS, AT HIS EXPENSE, DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
5. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL OF ALL DEMOLITION DEBRIS.
6. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
7. CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL UTILITIES AND APPURTENANCES TO REMAIN.

TREE LEGEND

- CEDAR
- GUM
- HOLLY
- OAK
- MAPLE
- PINE

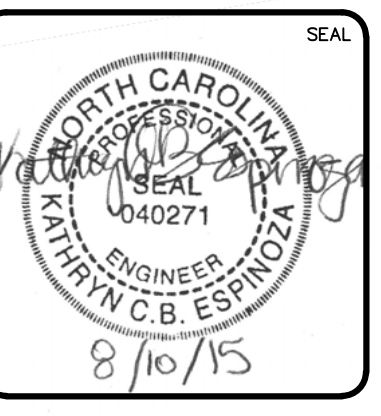


LEGEND

- RBC = REBAR & CAP
- WETLAND
- MHW = MEAN HIGH WATER
- AEC = AREA OF ENVIRONMENTAL CONCERN
- COO = CONSERVATION SETBACK LINE

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

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www.mckimcreed.com

RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
TREE REMOVAL PLAN

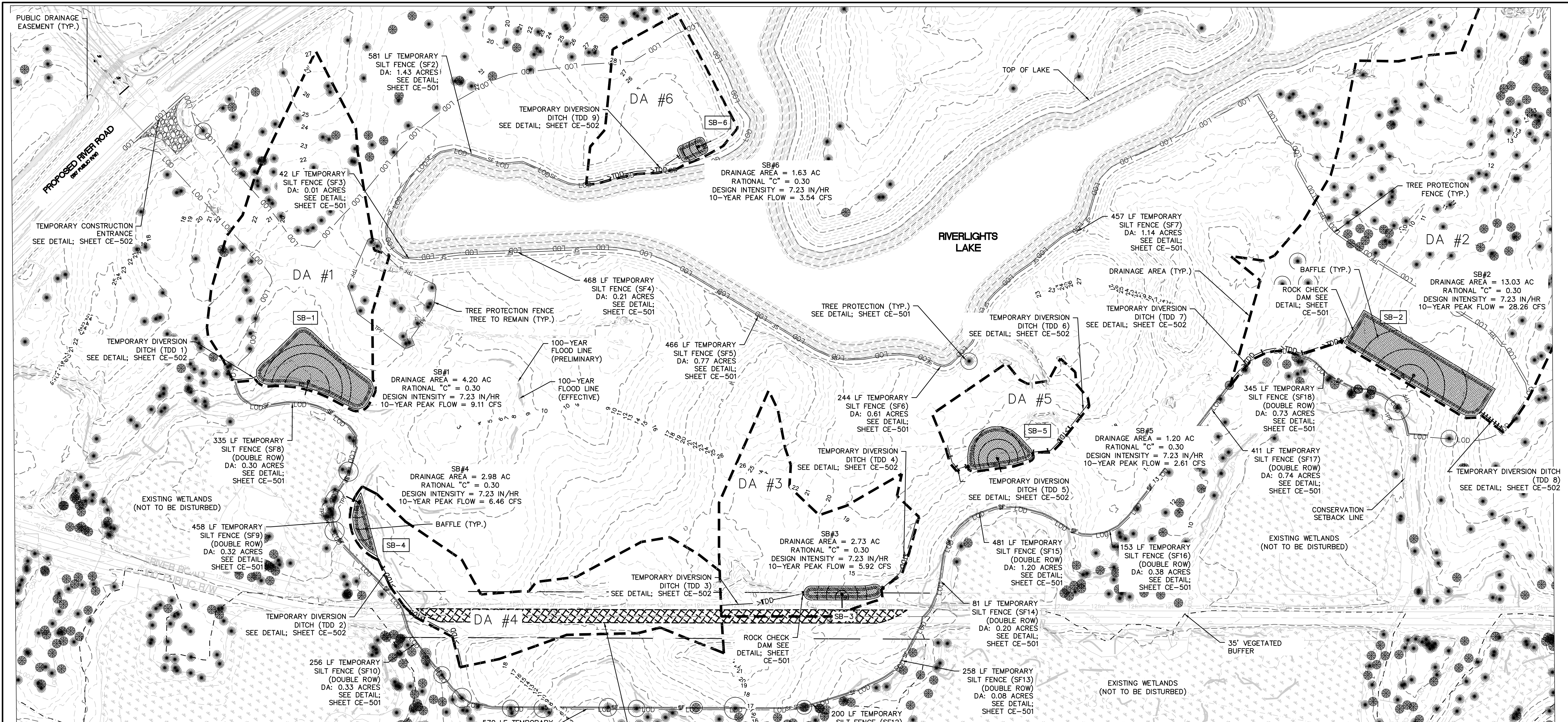
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NUL
PROJ. MGR.: RMC

SCALE: HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CX-102
DRAWING NUMBER: 4
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

S:\2726\0129 Ph. 1 SF-06 Drawings\CX-102-02735\0129.dwg, 8/7/2015 4:02:43 PM, A:\mwendell



LAT: 34° 8' 50" N
LONG: 77° 56' 11" W

LIMITS OF DISTURBANCE =
47.51 AC

REMOVE EXISTING PAVEMENT. REMOVE EXISTING UTILITIES. CONTRACTOR TO COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES.

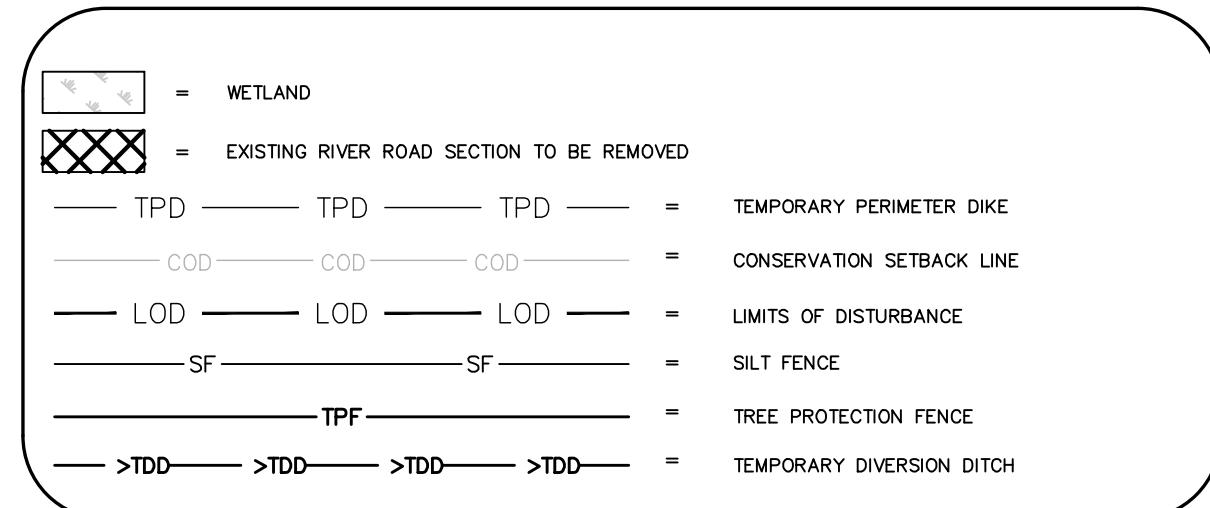
NOTE:
• WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).

PHASE 1 CONSTRUCTION SEQUENCE

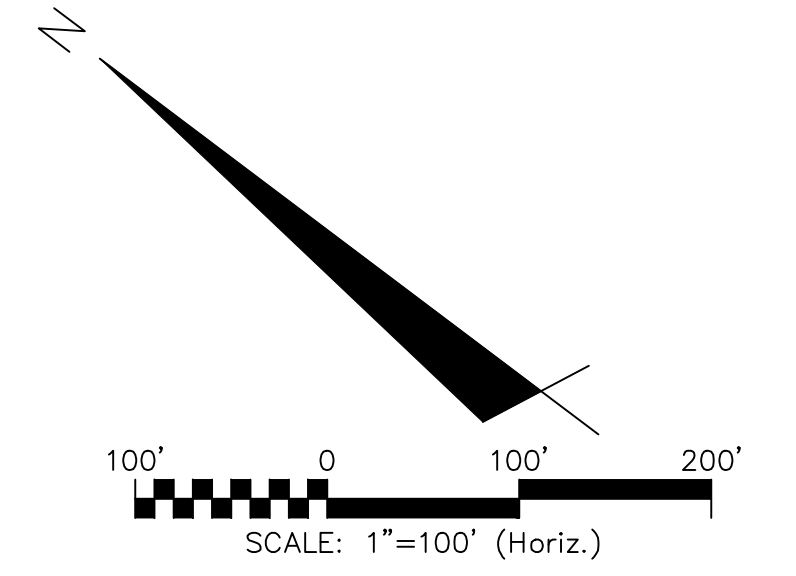
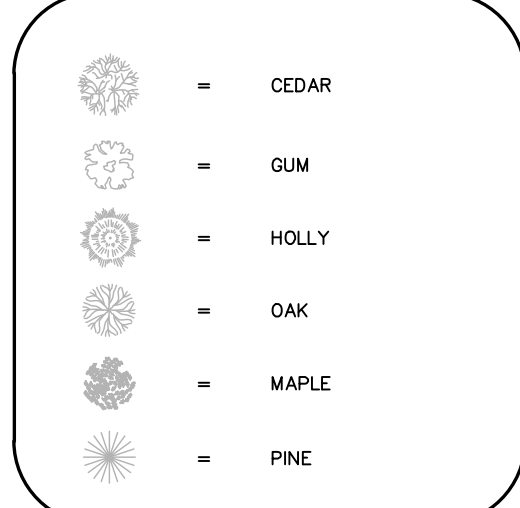
1. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL MEET AT THE NEW HANOVER COUNTY EROSION CONTROL INSPECTOR'S OFFICE.
3. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
4. INSTALL TREE PROTECTION FENCING AND SILT FENCING AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED.
5. INSTALL TEMPORARY SKIMMER BASINS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER. BASINS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF ANY DIVERSION DITCHES THAT CONVEY WATER TO THE BASINS. CONTRACTOR TO FIELD ADJUST TEMPORARY DIVERSION DITCHES AS REQUIRED TO MAINTAIN THE DIVERSION TO THE BASINS.

6. COMMENCE GRUBBING AND ROUGH GRADING WITHIN THE LIMITS OF CONSTRUCTION.
7. COMMENCE DEMOLITION OF EXISTING BUILDINGS, DRIVES, FENCES, GATES, WELLS, GARDENS AND EXISTING UTILITY SERVICES. ALL DEMOLITION MATERIAL SHALL BE DISPOSED OF, SALVAGED, OR RECYCLED PER THE PROJECT SPECIFICATIONS.
8. CONTRACTOR SHALL COORDINATE DISCONNECTION OF THE EXISTING UTILITIES:
 - ELECTRICAL SERVICES AND POLES WITH PROGRESS ENERGY
 - TELEPHONE SERVICES AND POLES WITH BELL SOUTH
 - CABLE WITH TIME WARNER CABLE
 - SEWER AND WATER SERVICES WITH CAPE FEAR PUBLIC UTILITY AUTHORITY
 - STORM DRAINAGE SYSTEM WITH CITY OF WILMINGTON
9. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION. REFER TO SHEET CE-501 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

LEGEND

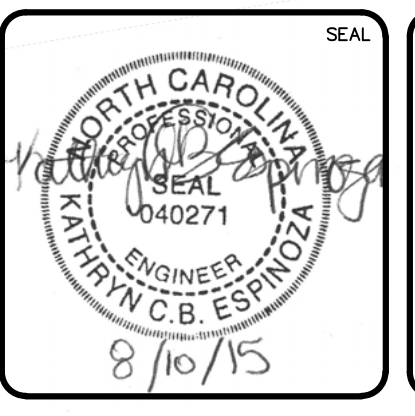


TREE LEGEND



REV.	DESCRIPTION	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/23/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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CONSTRUCTION



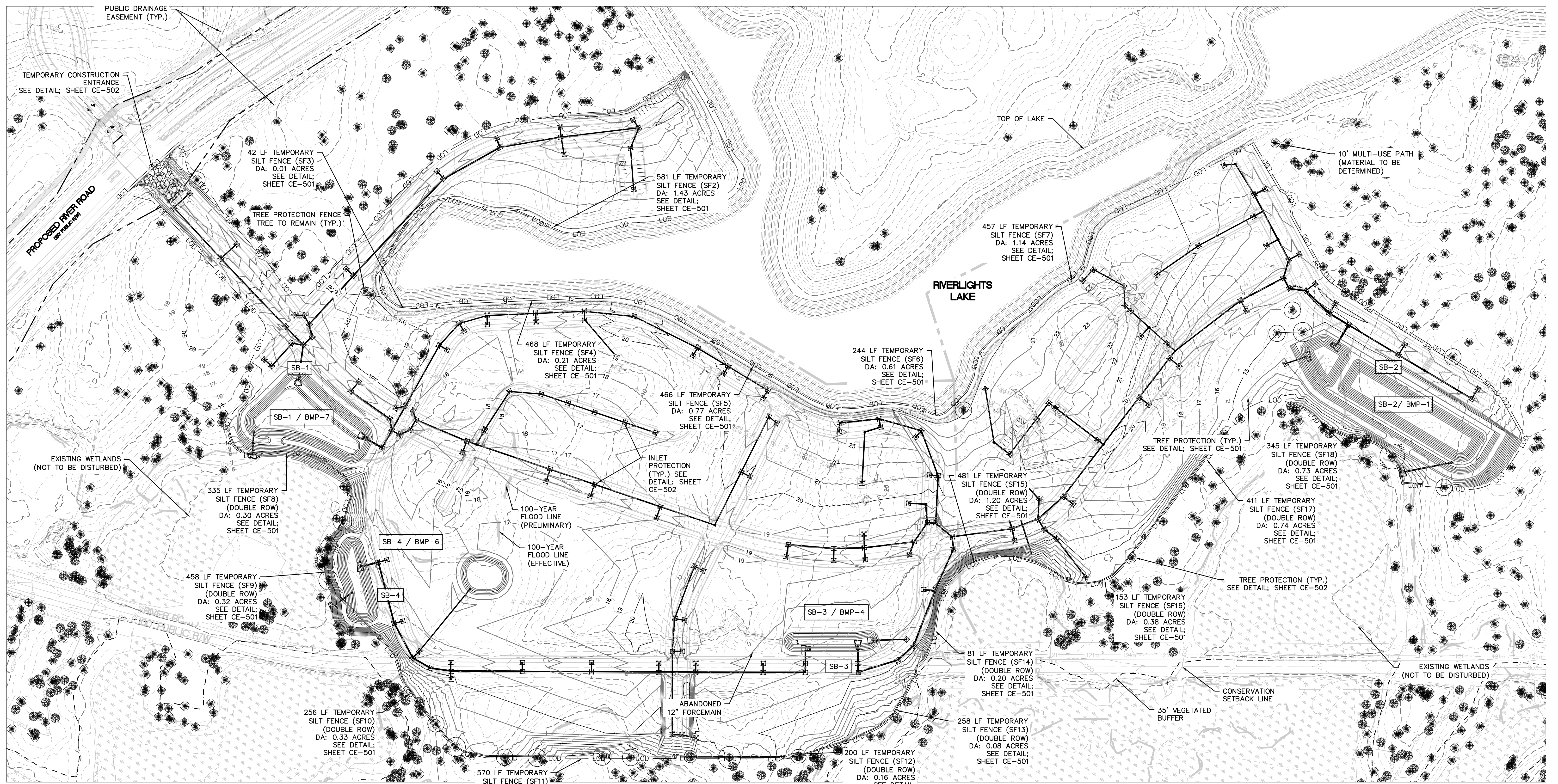
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RIVERLIGHTS
by
Newland COMMUNITIES

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
**EROSION CONTROL PLAN
PHASE 1**

DATE: 04-29-2015	SCALE: HORIZONTAL: 1"=100'	MAC FILE NUMBER: CE-101
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DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NUL		
PROJ. MGR.: RMC		
STATUS: FINAL DESIGN		REVISION: G
ISSUED FOR PERMITTING		

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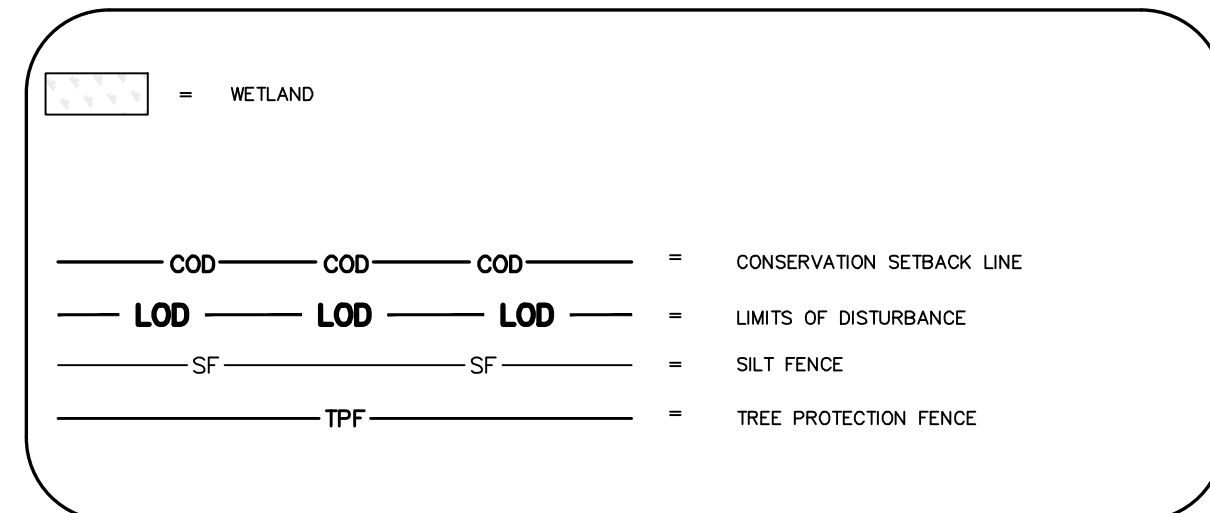
PHASE 2 CONSTRUCTION SEQUENCE

- BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ROUGH GRADING OF THE SITE AND INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
- MAINTAIN MEASURES FROM PHASE 1 AS SHOWN IN THIS PHASE 2 SEDIMENT AND EROSION CONTROL DRAWING.
- REMOVE MEASURES FROM PHASE 1 AS SHOWN. THIS INCLUDES TEMPORARY DIVERSIONS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
- INSTALL INLET PROTECTION AS SHOWN IN THE

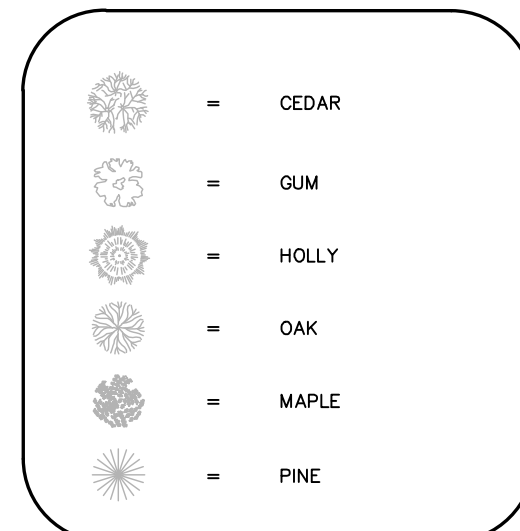
PHASE 2 PLAN AND CONSTRUCTION DETAILS.

- COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
- UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
- REMOVE THE SEDIMENT AND EROSION CONTROL MEASURES.

LEGEND

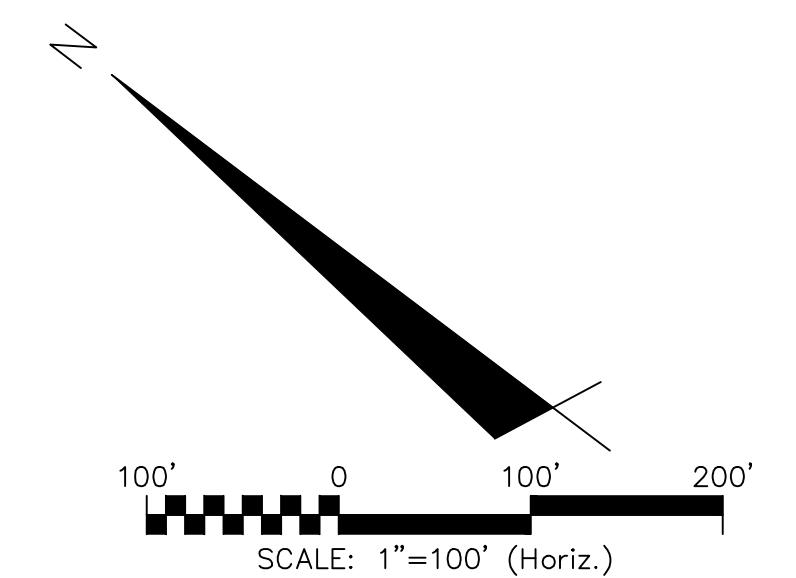


TREE LEGEND



LIMITS OF DISTURBANCE = 47.51 AC

**LAT: 34° 8' 50" N
LONG: 77° 56' 11" W**



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REVNO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBMISSION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	08/10/2015

**FINAL DRAWINGS
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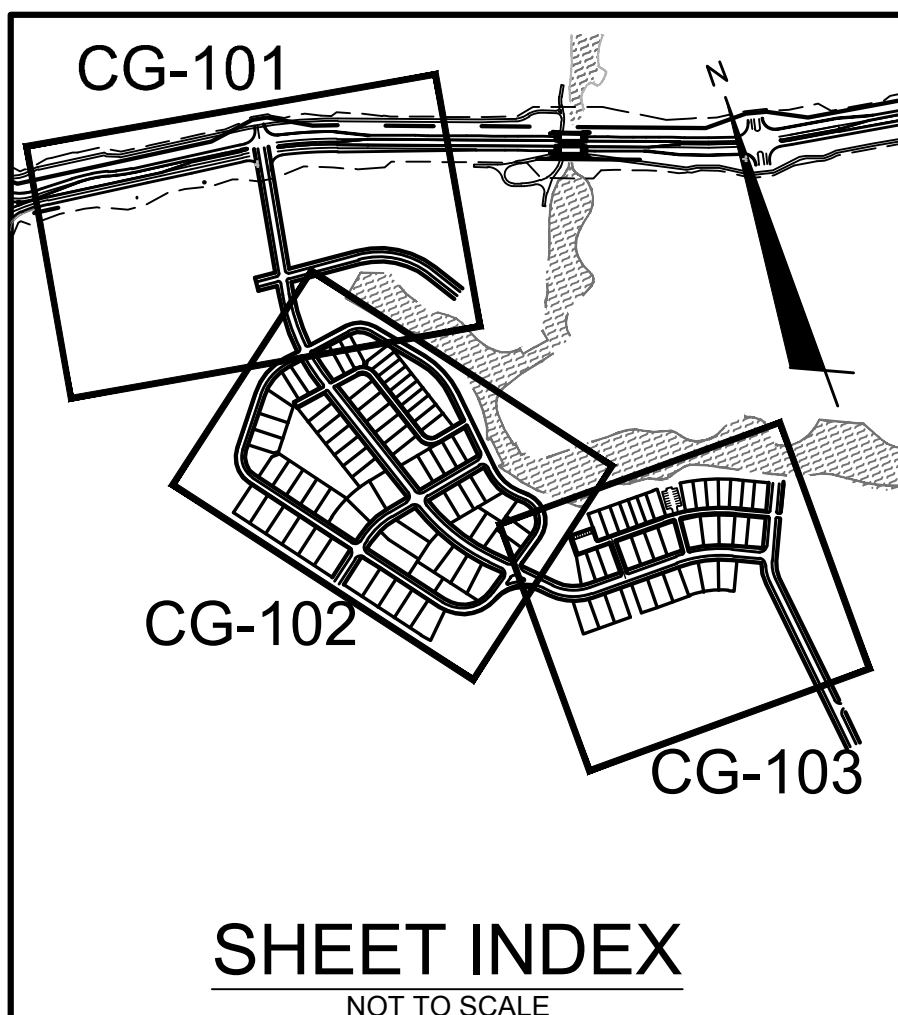
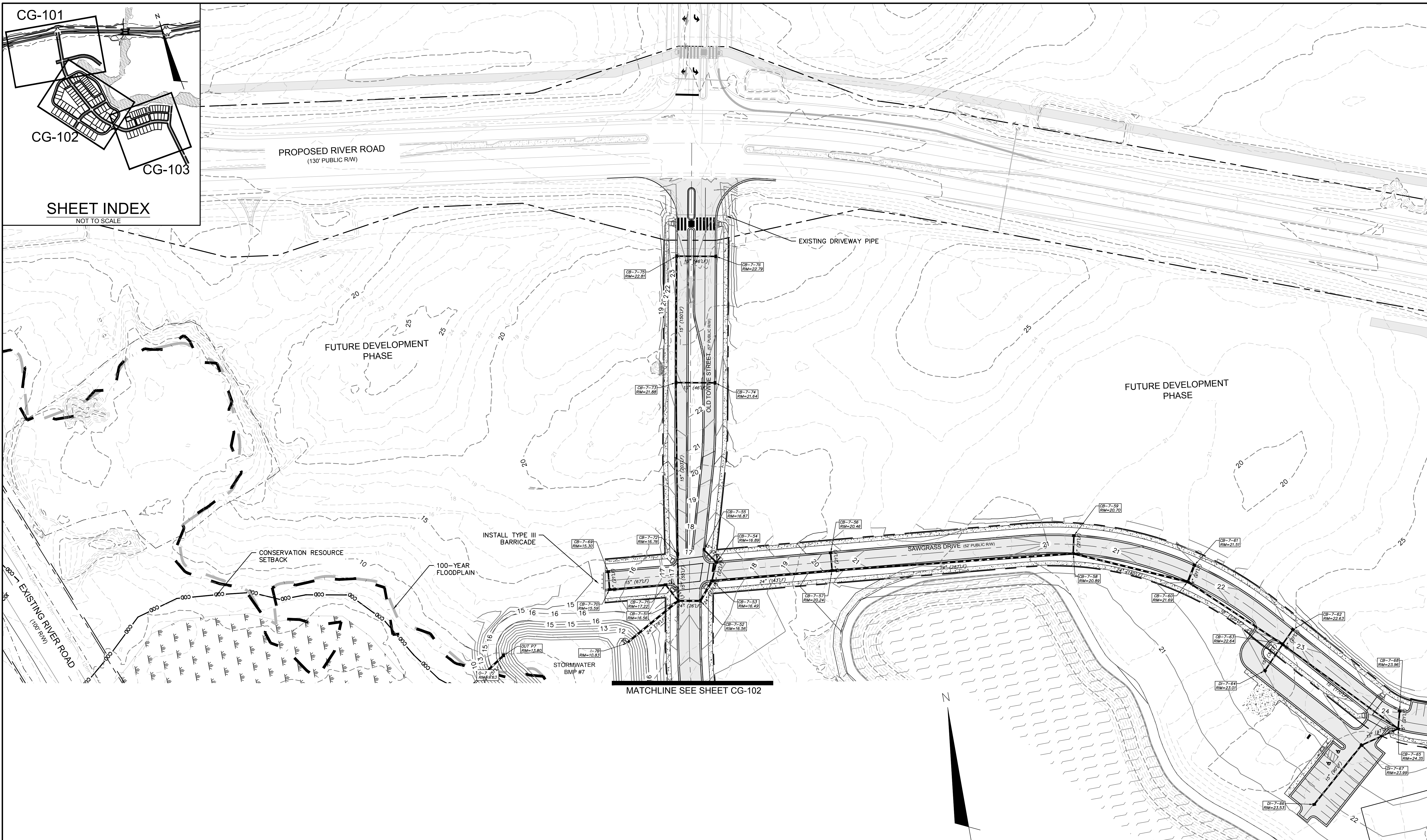
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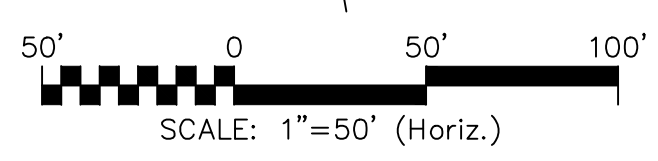
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

**EROSION CONTROL PLAN
PHASE 2**

DATE: 04-29-2015	SCALE: HORIZONTAL: 1"=100'	MAC FILE NUMBER: CE-102
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DRAWN: EEM/KCBE	CHECKED: NUL	VERTICAL: N/A
PROJ. MGR. RMC	STATUS: FINAL DESIGN	REVISION: G
	ISSUED FOR PERMITTING	

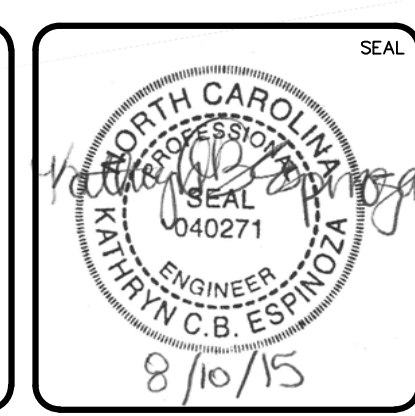


NOTE:
SEE SHEET CN-503/504 FOR STORM DRAIN STRUCTURE/PIPE SCHEDULE



REVNO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL, SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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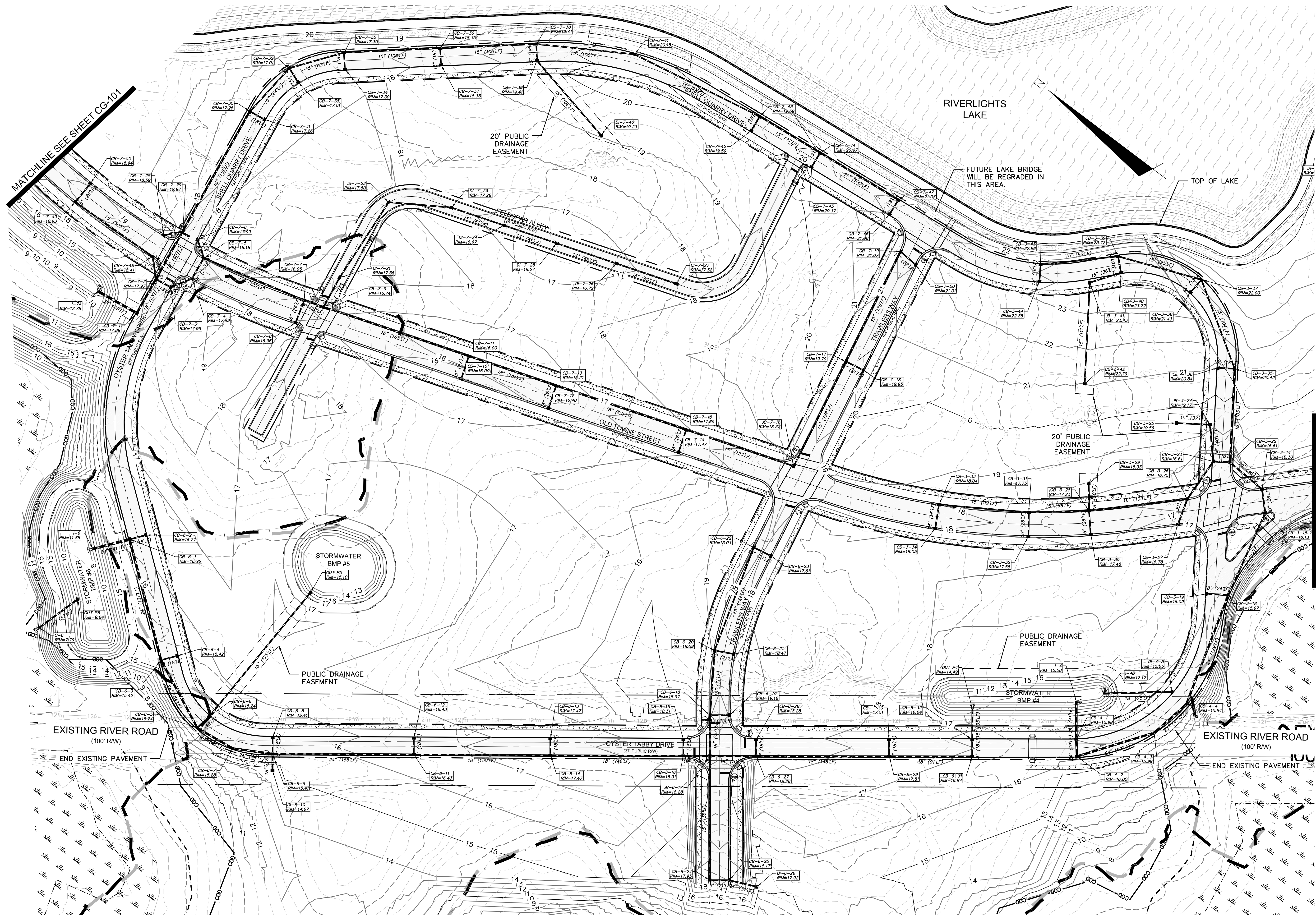
RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SERIKU HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

STORM DRAINAGE & GRADING PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CG-101
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 7
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: G
DESIGNED: KGBE		
CHECKED: NJL		
PROJ. MGR: RMC		
STATUS: FINAL DESIGN ISSUED FOR PERMITTING		

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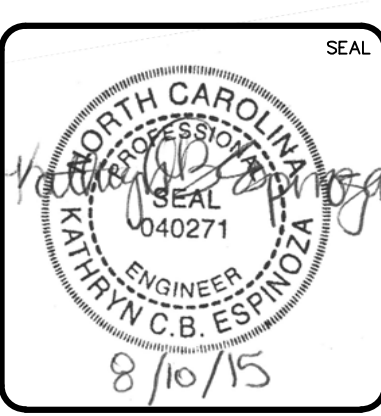
NOTE:
SEE SHEET CG-503/504 FOR
STORM DRAIN STRUCTURE/PIPE
SCHEDULES

MATCHLINE SEE SHEET CG-103

MATCHLINE SEE SHEET CG-101

REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	06/22/2015
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F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015

FINAL DRAWINGS
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CONSTRUCTION



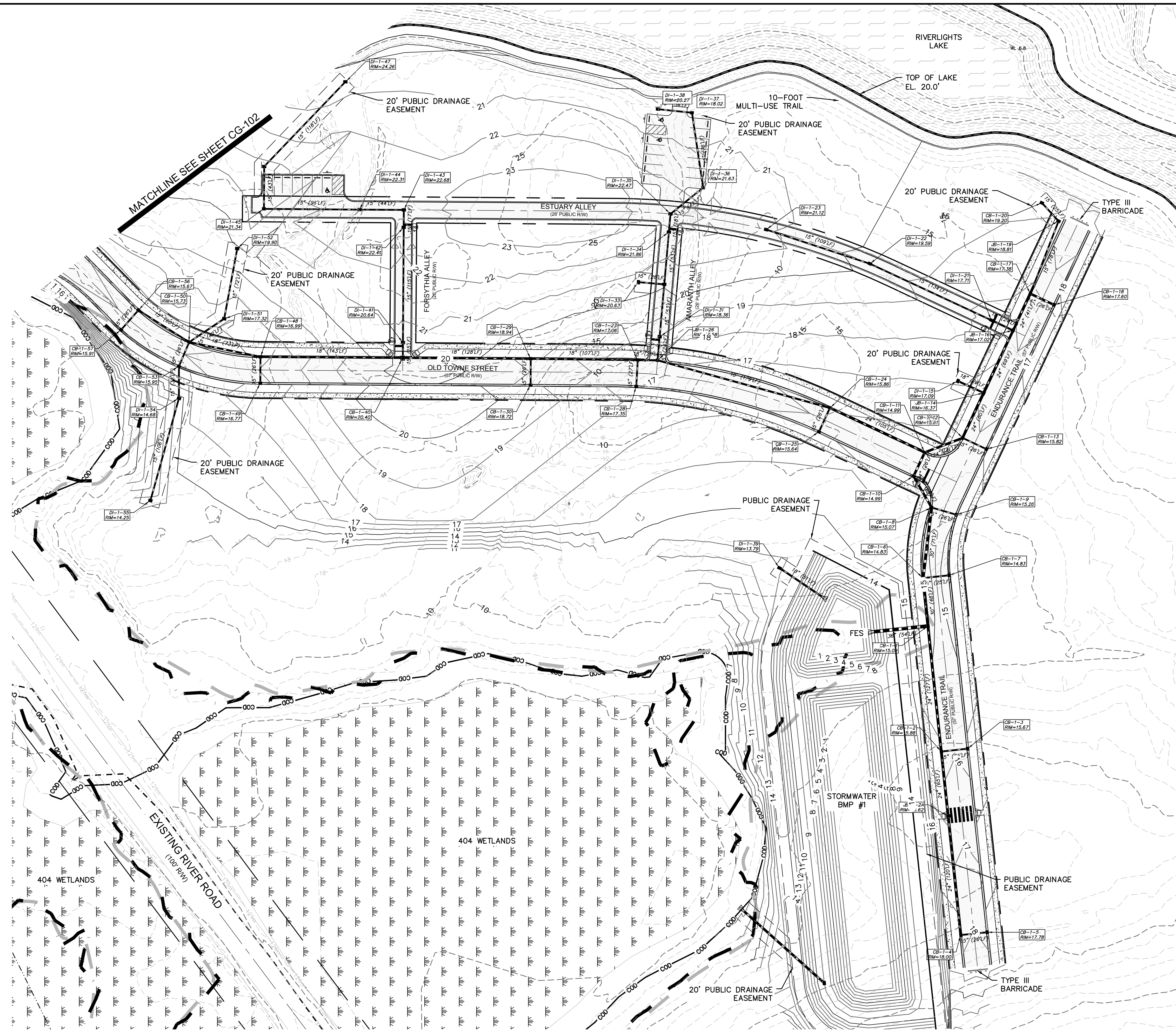
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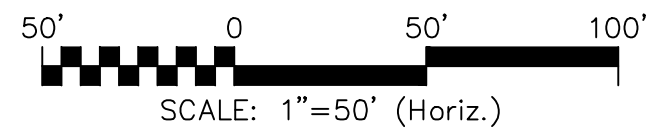
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
STORM DRAINAGE & GRADING PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CG-102
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER
DRAWN: EEM/KCBE	VERTICAL: N/A	8
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CHECKED: NJL		
PROJ. MGR: RMC		
STATUS: FINAL DESIGN	ISSUED FOR PERMITTING	REVISION: G

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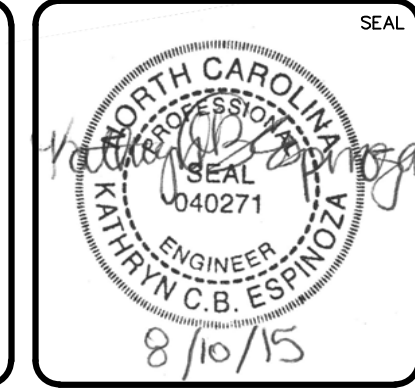


NOTES:
SEE SHEET CG-503/504 FOR STORM DRAINAGE
STRUCTURE/PIPE SCHEDULE



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
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NORTH AMERICA SERIES HOUSE, LLC

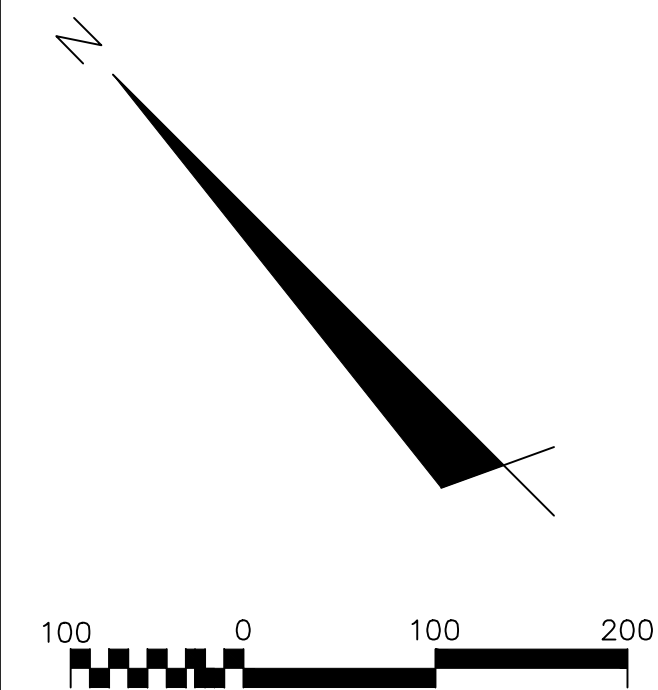
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
STORM DRAINAGE & GRADING PLAN

DATE:	04-29-2015	SCALE:	CG-103
MCE PROJ. #	02735-0129	HORIZONTAL:	1"=50'
DRAWN:	EEM/KCBE	VERTICAL:	N/A
DESIGNED:	KCBE	REVISION:	9
CHECKED:	NJL		
PROJ. MGR.:	RMC		
STATUS: FINAL DESIGN		ISSUED FOR PERMITTING	

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SURFACE MATERIAL LEGEND

	ASPHALT
	SIDEWALK
	OPEN SPACE



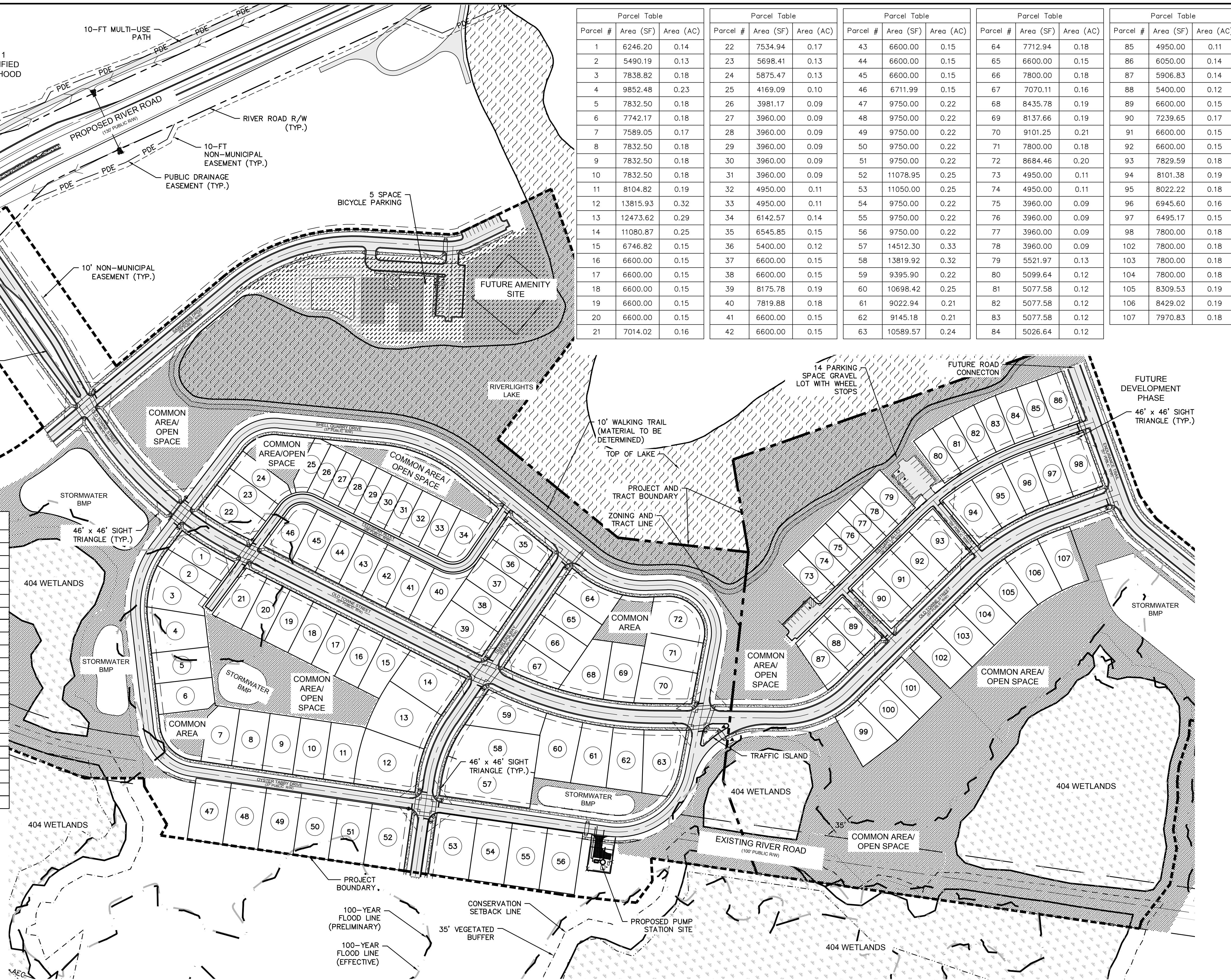
SITE DATA TABLE

	CONVENTIONAL NEIGHBORHOOD-PHASE 1
PARCEL ADDRESS	4410 RIVER ROAD
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000
ZONING DISTRICT	MX CD/R7-CD CLUSTER
CAMA LAND USE CLASSIFICATION	TRANSITION AND CONSERVATION
WATER BODY CLASSIFICATION	SC
TOTAL ACREAGE WITHIN RIVER LIGHTS BOUNDARY	1,329.41 ACRES (57,909,099.6 SF)
TOTAL ACREAGE PHASE 1 CONVENTIONAL BOUNDARY	66.88 ACRES (2,913,334 SF)
PROPOSED NUMBER OF LOTS	107 SINGLE FAMILY
FUTURE AMENITY SITE	2.47 ACRES (107,543.97 SF)
TOTAL WETLANDS WITHIN PROJECT TRACT	6.94 ACRES (302,298.01 SF)
TOTAL WETLANDS IMPACTS	0 ACRES (0 SF)
AREA INSIDE COD SETBACK REQUIRED	5.07 ACRES (220,841.05 SF)
AREA INSIDE COD SETBACK PROVIDED	5.07 ACRES (220,841.05 SF)
TOTAL PARKING REQUIRED	0 SPACES
TOTAL PARKING PROVIDED	50 SPACES
TOTAL HANDICAP SPACES REQUIRED	0 SPACES
TOTAL HANDICAP SPACES PROVIDED	5 SPACES
TOTAL BICYCLE SPACES PROVIDED	5 SPACES
MX-CD CLUSTER: TOTAL OPEN SPACE REQUIRED	46.18 ACRES (2,011,600.8 SF)*
MX-CD CLUSTER: TOTAL OPEN SPACE PROPOSED	11.72 ACRES (510,523.2 SF)
R7-CD CLUSTER: TOTAL OPEN SPACE REQUIRED	462.24 ACRES (20,133,432.0 SF)*
R7-CD CLUSTER: TOTAL OPEN SPACE PROPOSED	14.90 ACRES (649,044.0 SF)

*PROPOSED R7-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 1,155.6 ACRES (@ 40% OPEN SPACE) = 462.24 ACRES REQUIRED FOR ENTIRE RIVER LIGHTS DEVELOPMENT
 *PROPOSED MX-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 184.7 ACRES (@ 25% OPEN SPACE) = 46.18 ACRES REQUIRED FOR ENTIRE RIVER LIGHTS DEVELOPMENT

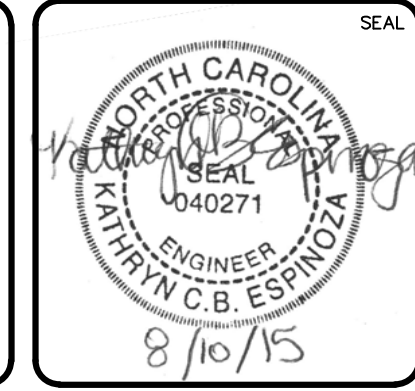
- GENERAL NOTES:**
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
 - 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
 - ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
 - ZONING AND LAND USE OF ADJACENT PROPERTIES IS AS FOLLOWS:
 NORTH - FUTURE R7-CD CLUSTER / TRANSITION
 SOUTH - CAPE FEAR RIVER / TRANSITION
 EAST - FUTURE R7-CD CLUSTER / TRANSITION
 WEST - FUTURE MX-CD / TRANSITION AND CONSERVATION AREA
 - THE CITY OF WILMINGTON SUBDIVISION REVIEW BOARD (SRB) CONDITIONALLY APPROVED THE PRELIMINARY PLAN FOR CONVENTIONAL NEIGHBORHOOD - PHASE 1 ON APRIL 15TH, 2015.

REVNO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL, SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015



Parcel Table			Parcel Table			Parcel Table			Parcel Table			Parcel Table		
Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)
1	6246.20	0.14	22	7534.94	0.17	43	6600.00	0.15	64	7712.94	0.18	85	4950.00	0.11
2	5490.19	0.13	23	5698.41	0.13	44	6600.00	0.15	65	6600.00	0.15	86	6050.00	0.14
3	7838.82	0.18	24	5875.47	0.13	45	6600.00	0.15	66	7800.00	0.18	87	5906.83	0.14
4	9852.48	0.23	25	4169.09	0.10	46	6711.99	0.15	67	7070.11	0.16	88	5400.00	0.12
5	7832.50	0.18	26	3981.17	0.09	47	9750.00	0.22	68	8435.78	0.19	89	6600.00	0.15
6	7742.17	0.18	27	3960.00	0.09	48	9750.00	0.22	69	8137.66	0.19	90	7239.65	0.17
7	7589.05	0.17	28	3960.00	0.09	49	9750.00	0.22	70	9101.25	0.21	91	6600.00	0.15
8	7832.50	0.18	29	3960.00	0.09	50	9750.00	0.22	71	7800.00	0.18	92	6600.00	0.15
9	7832.50	0.18	30	3960.00	0.09	51	9750.00	0.22	72	8684.46	0.20	93	7829.59	0.18
10	7832.50	0.18	31	3960.00	0.09	52	11078.95	0.25	73	4950.00	0.11	94	8101.38	0.19
11	8104.82	0.19	32	4950.00	0.11	53	11050.00	0.25	74	4950.00	0.11	95	8022.22	0.18
12	13815.93	0.32	33	4950.00	0.11	54	9750.00	0.22	75	3960.00	0.09	96	6945.60	0.16
13	12473.62	0.29	34	6142.57	0.14	55	9750.00	0.22	76	3960.00	0.09	97	6495.17	0.15
14	11080.87	0.25	35	6545.85	0.15	56	9750.00	0.22	77	3960.00	0.09	98	7800.00	0.18
15	6746.82	0.15	36	5400.00	0.12	57	14512.30	0.33	78	3960.00	0.09	102	7800.00	0.18
16	6600.00	0.15	37	6600.00	0.15	58	13819.92	0.32	79	5521.97	0.13	103	7800.00	0.18
17	6600.00	0.15	38	6600.00	0.15	59	9395.90	0.22	80	5099.64	0.12	104	7800.00	0.18
18	6600.00	0.15	39	8175.78	0.19	60	10698.42	0.25	81	5077.58	0.12	105	8309.53	0.19
19	6600.00	0.15	40	7819.88	0.18	61	9022.94	0.21	82	5077.58	0.12	106	8429.02	0.19
20	6600.00	0.15	41	6600.00	0.15	62	9145.18	0.21	83	5077.58	0.12	107	7970.83	0.18
21	7014.02	0.16	42	6600.00	0.15	63	10589.57	0.24	84	5026.64	0.12			

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 NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
OVERALL SITE PLAN

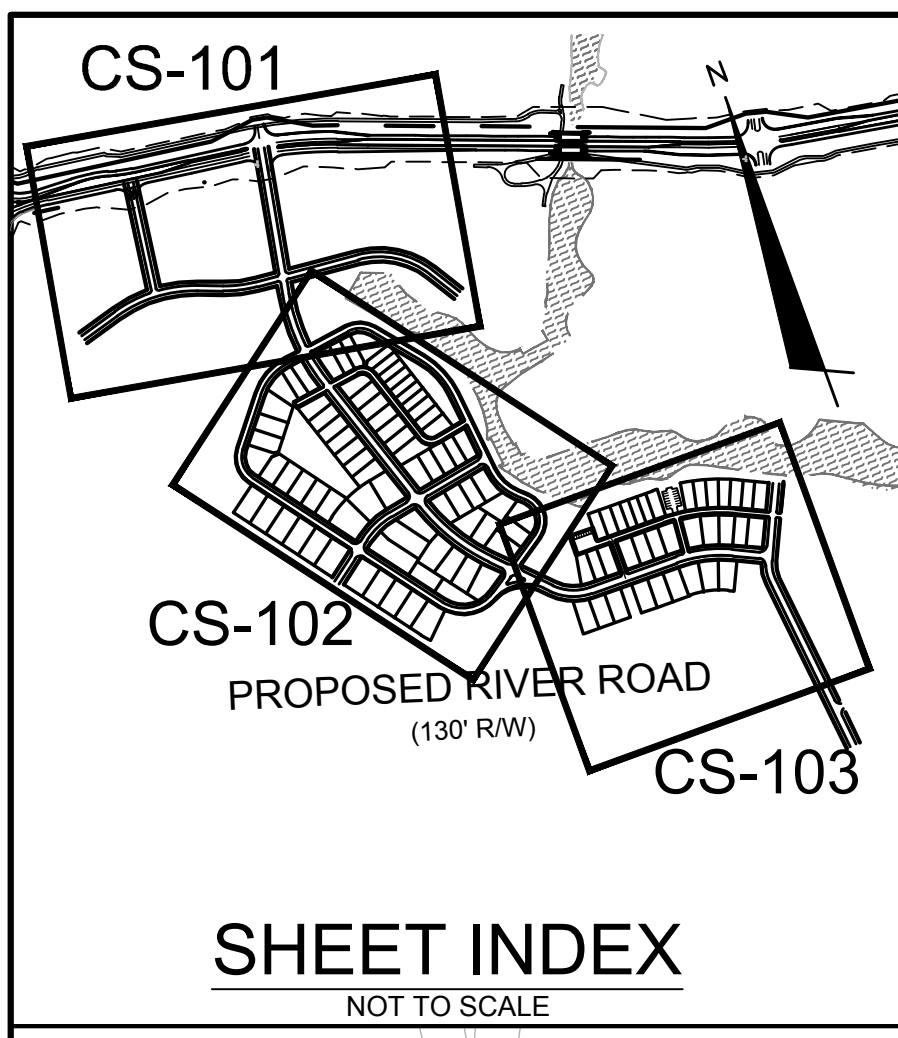
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 DESIGNED: KCBE
 CHECKED: NJL
 PROJ. MGR: RMC

SCALE: HORIZONTAL: 1"=100'
 VERTICAL: N/A

MAC FILE NUMBER: CS-100
 DRAWING NUMBER: 10
 REVISION: G

STATUS: FINAL DESIGN
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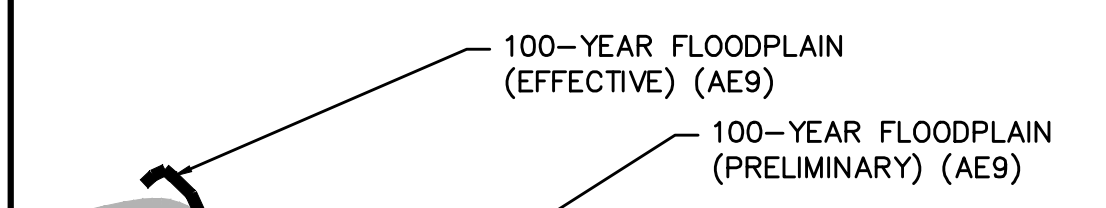


PHASE I
AGE QUALIFIED
NEIGHBORHOOD

PHASE I
AGE QUALIFIED
NEIGHBORHOOD

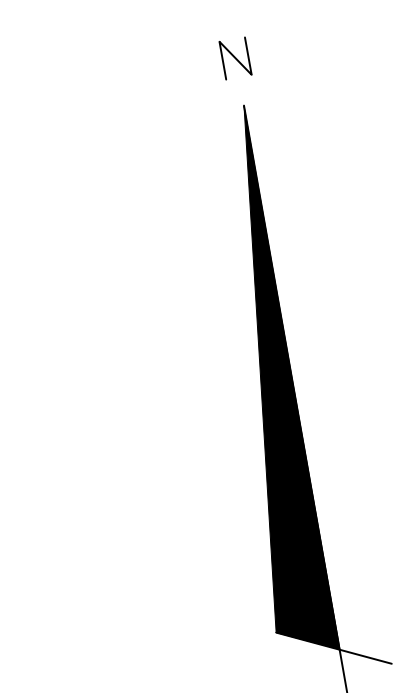
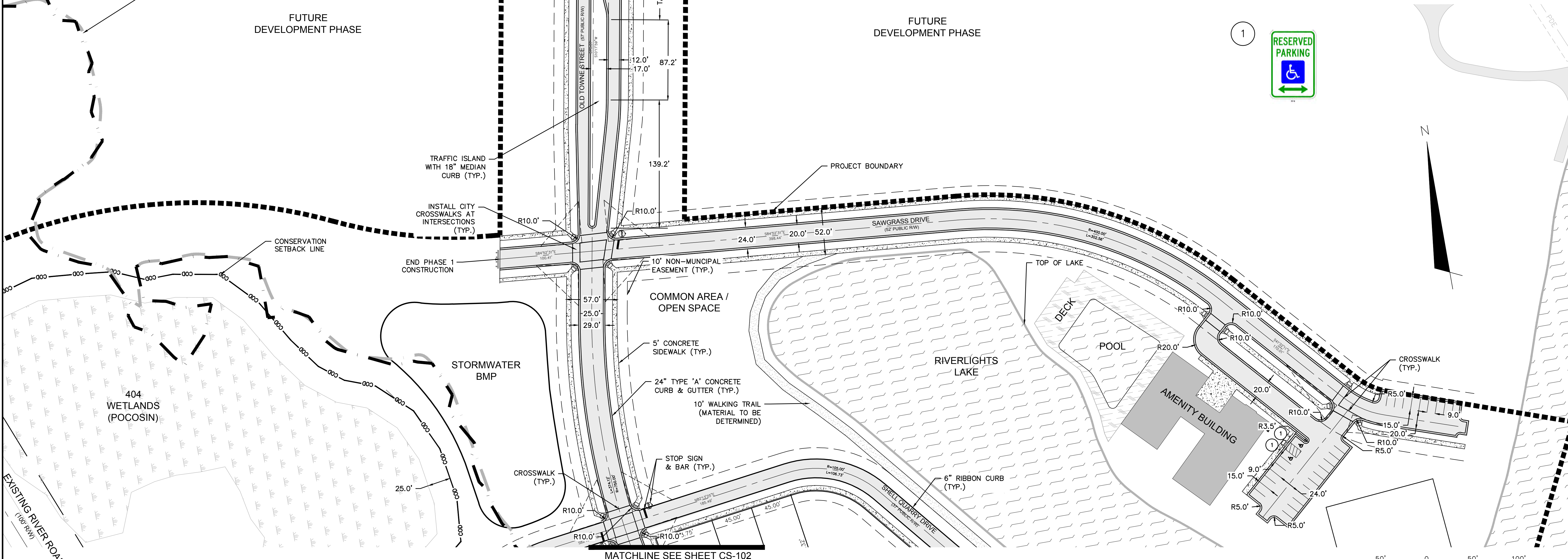
- SUBDIVISION REVIEW BOARD CONDITIONS:**
THE APRIL 15, 2015 SUBDIVISION REVIEW BOARD APPROVAL OF THE PRELIMINARY PLAN IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE PRELIMINARY PLAN AS APPROVED BY THE SRB.
 2. UTILITIES SHALL BE LOCATED UNDER THE ASPHALT TO THE EXTENT POSSIBLE IN ORDER TO AVOID LANDSCAPING CONFLICTS (THIS CONDITION CONTAINS NEW SRB-MODIFIED LANGUAGE).
 3. A TREE PRESERVATION PLAN AND TREE REMOVAL PERMIT SHALL BE REQUIRED FOR THIS PROJECT AND CITY STAFF WILL ISSUE THESE BASED ON ACCEPTABLE LIMITS OF CLEARING AND TREE PRESERVATION.
 4. THE APPLICANT IS REQUIRED TO WORK WITH STAFF TO PRESERVE TREES TO THE MAXIMUM EXTENT PRACTICAL. TREES DESIGNATED TO BE PRESERVED SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. TREE CLEARING WILL BE LIMITED TO ESSENTIAL SITE IMPROVEMENTS WITHIN THE PROJECT LIMITS AS SHOWN ON THE APPROVED SITE PLAN.
 5. TREES DESIGNATED TO BE PRESERVED MUST BE PROPERLY PROTECTED DURING CONSTRUCTION AND TREE PROTECTION FENCING SHALL BE NOTED ON THE CONSTRUCTION PLANS.
 6. THE PROPOSED AREAS ON THE PLAN THAT ARE DESIGNATED TO BECOME COMMON AREA ARE TO BE CLEARLY LABELED.
 7. NOTATIONS AND LABELS AS TO WHETHER EXISTING AND PROPOSED EASEMENTS ARE PUBLIC OR PRIVATE SHALL BE INCLUDED ON THE PRELIMINARY PLAN.
 8. IF NECESSARY, RESOURCE AREAS, BUFFERS AND SETBACKS PER REQUIREMENTS OF THE LDC SHALL BE SHOWN AND LABELED ON THE PRELIMINARY PLAN.
 9. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET.
 10. ALL TECHNICAL REVIEW COMMITTEE COMMENTS SHALL BE FOLLOWED.
 11. AN ACCEPTABLE PRELIMINARY PLAN WHICH ADEQUATELY ADDRESSES ALL TRC/SRB COMMENTS SHALL BE SUBMITTED TO THE SUBDIVISION COORDINATOR FOR SIGNATURE WITHIN THIRTY (30) CALENDAR DAYS OF SRB APPROVAL.
 12. IN ORDER TO PROVIDE PEDESTRIAN ACCESSES TO THE WALKING TRAILS WITHIN THE RIGHT OF WAY OF THE FORMER RIVER ROAD, THIS SUBDIVISION SHALL FEATURE TWO FOOTPATHS. SIDEWALK CONNECTIONS TO EACH OF THE FOOTPATHS SHALL BE CONSTRUCTED BY THE SUBDIVIDER FROM THE LOT CORNERS OF PROPOSED LOTS 47 AND 56 RESPECTIVELY TO EACH FOOTPATH. (THIS MODIFICATION WAS ADDED BY SRB'S APPROVAL MOTION).

- CITY OF WILMINGTON NOTES:**
1. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 2. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
 3. IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.



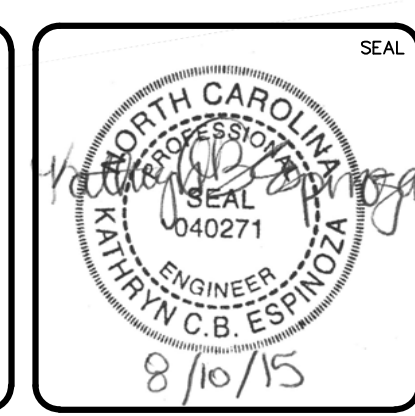
FUTURE
DEVELOPMENT PHASE

FUTURE
DEVELOPMENT PHASE



REV.	NO.	DESCRIPTION	DATE
G		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D		CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C		NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
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NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

SITE PLAN

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50' (Horiz.)

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: N/A

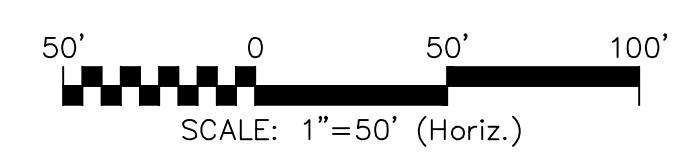
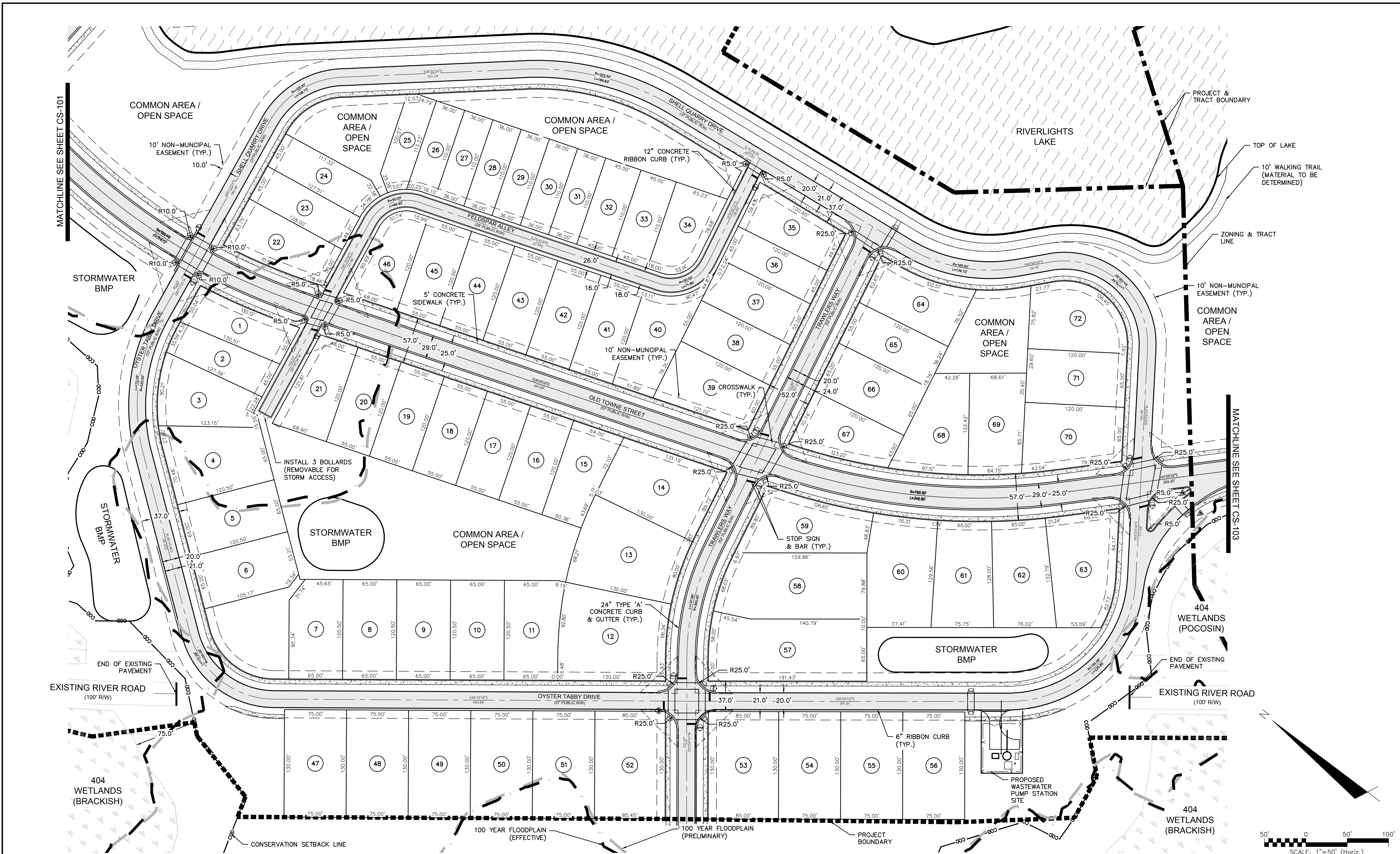
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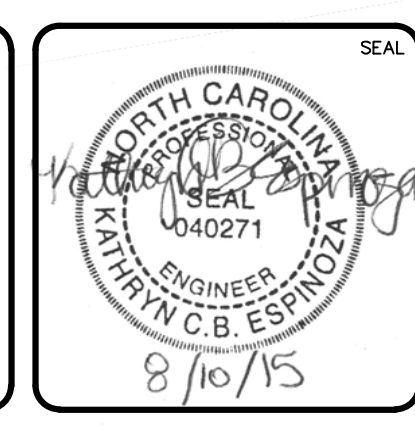
MATCHLINE SEE SHEET CS-101

MATCHLINE SEE SHEET CS-103



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
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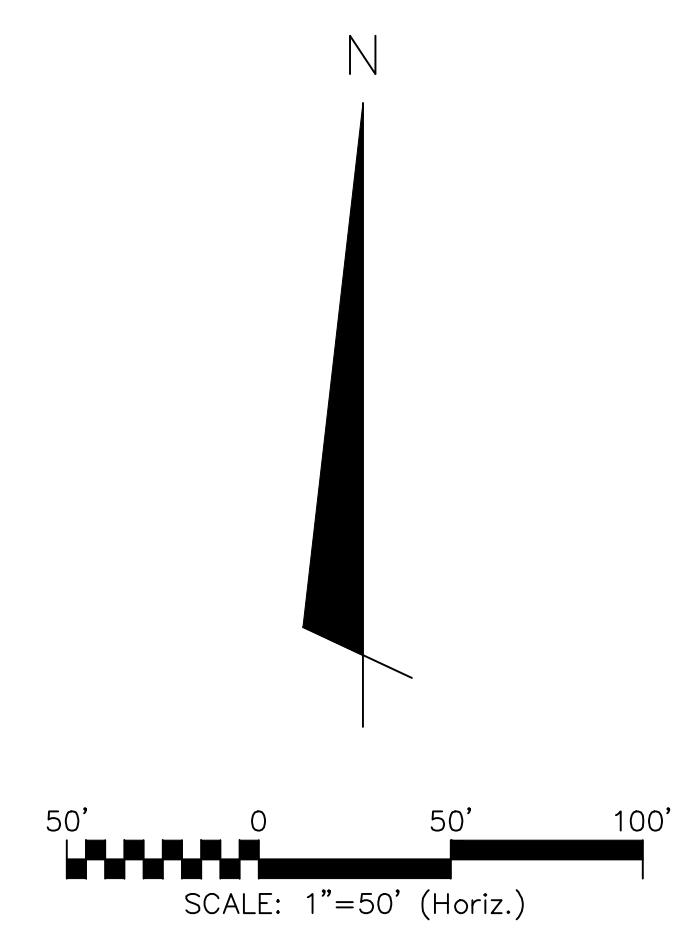
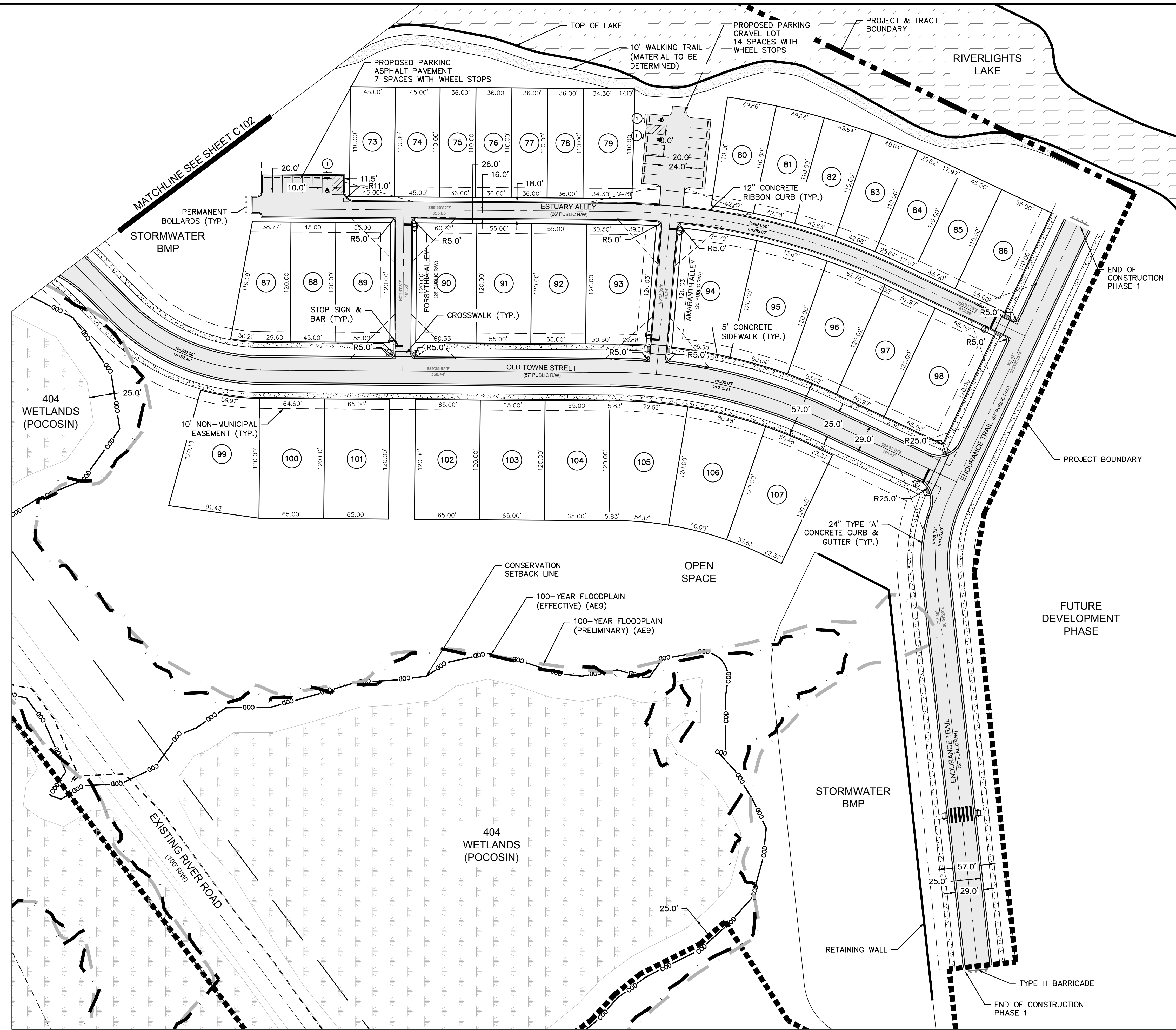
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**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

SITE PLAN

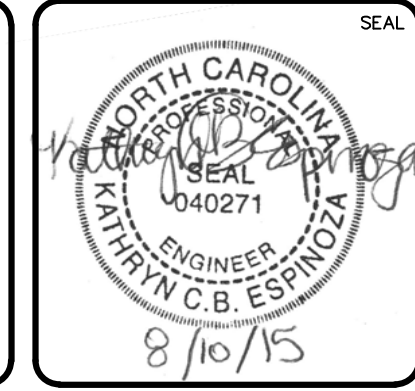
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REV. NO.	DESCRIPTIONS	DATE
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**RIVERLIGHTS
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SITE PLAN

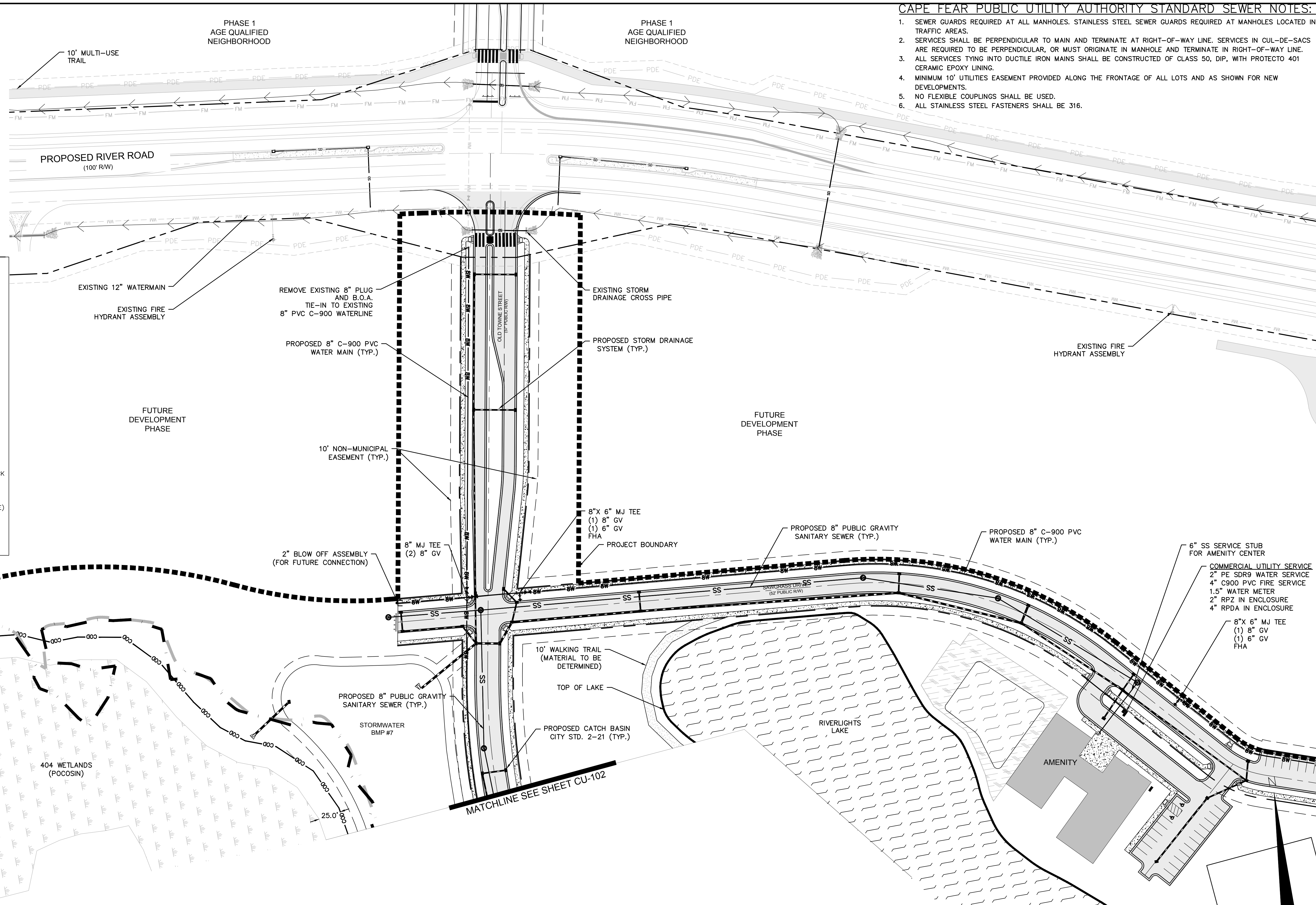
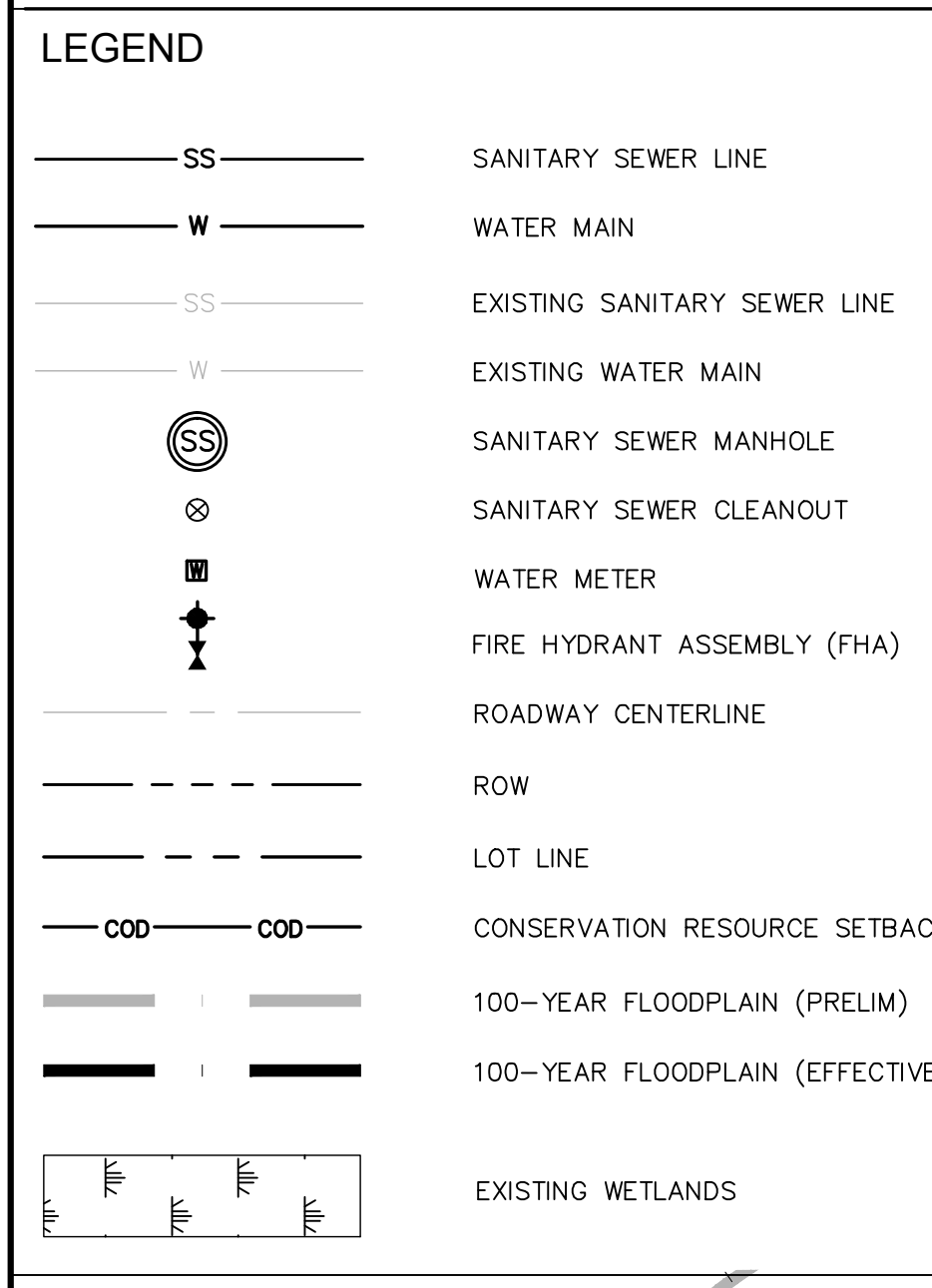
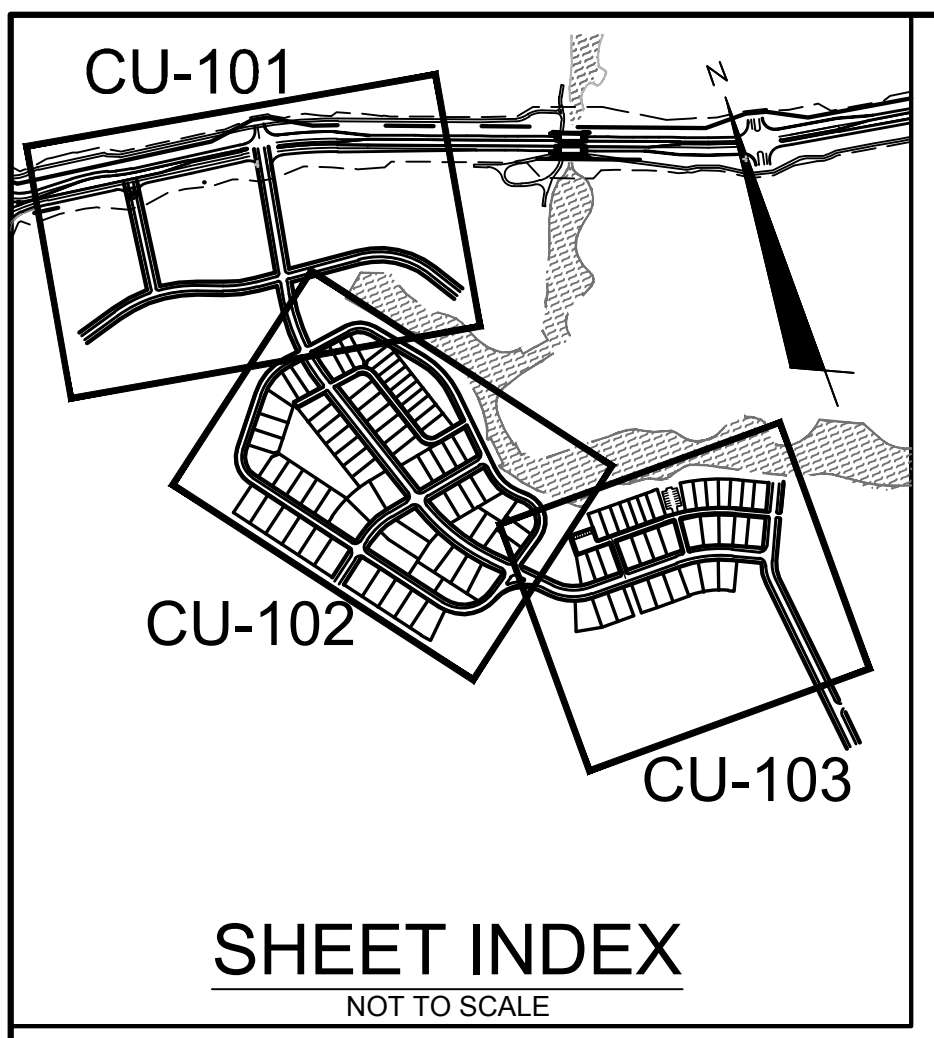
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DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		

STATUS: FINAL DESIGN
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CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

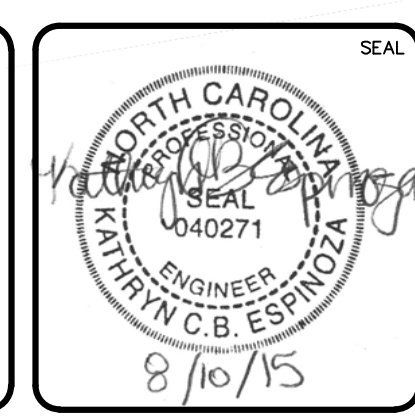
1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE IN RIGHT-OF-WAY LINE.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.



- NOTES:**
1. ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS.

REVNO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
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C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
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G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015

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**RIVERLIGHTS
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UTILITY PLAN

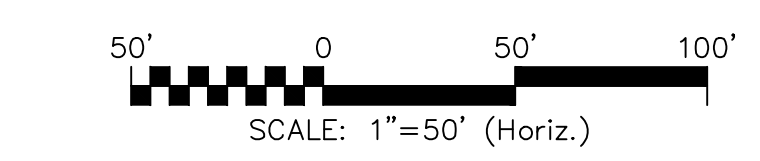
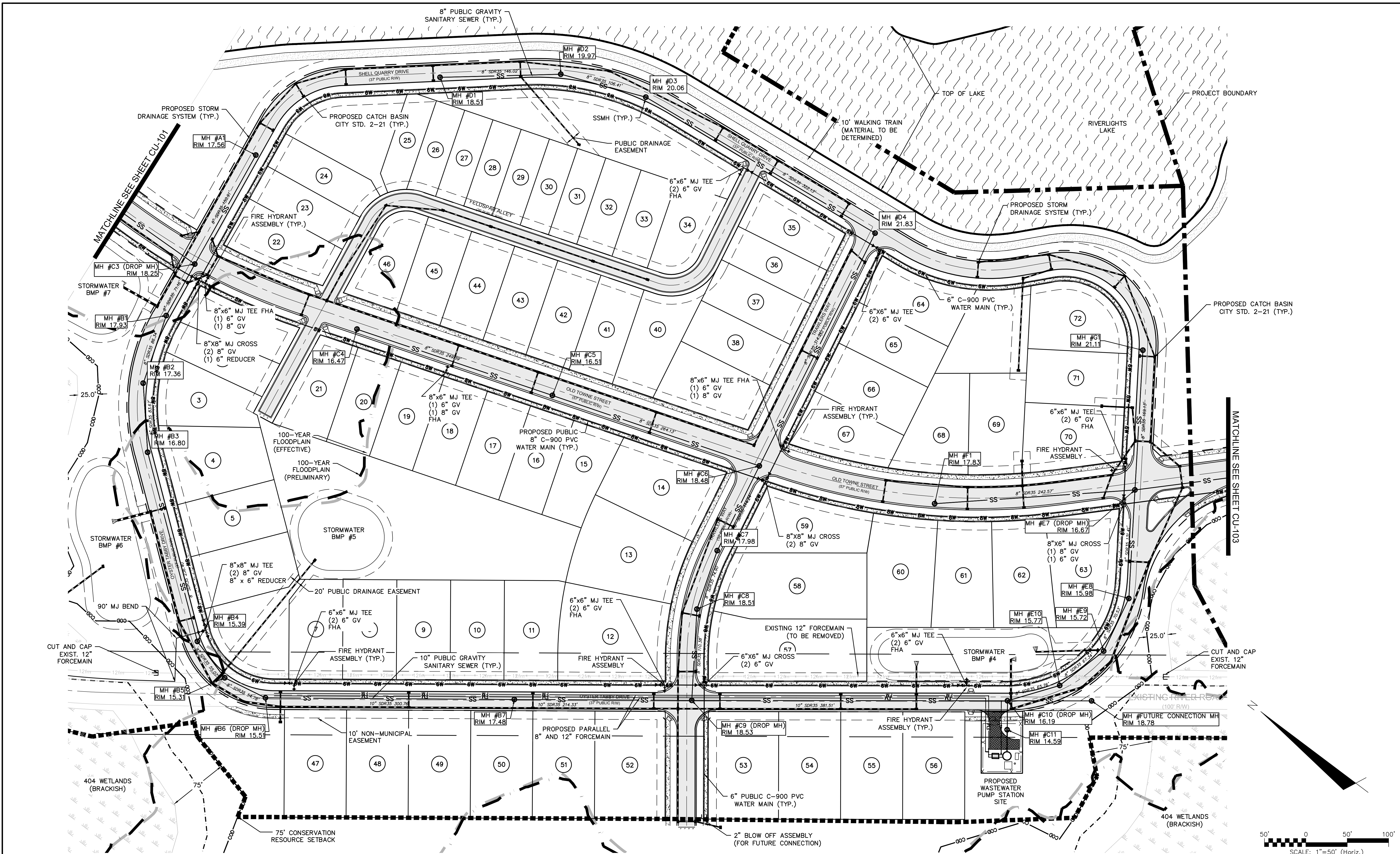
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 DESIGNED: KGBE
 CHECKED: NJL
 PROJ. MGR: RMC

SCALE: 1"=50'
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 VERTICAL: N/A

STATUS: **FINAL DESIGN**
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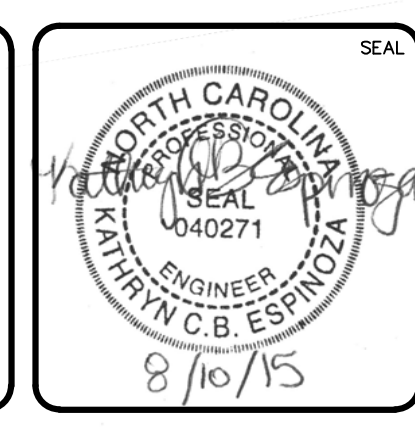
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REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
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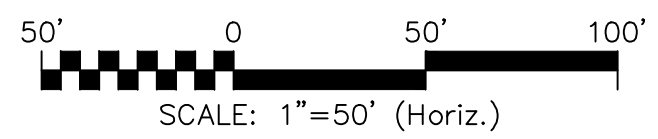
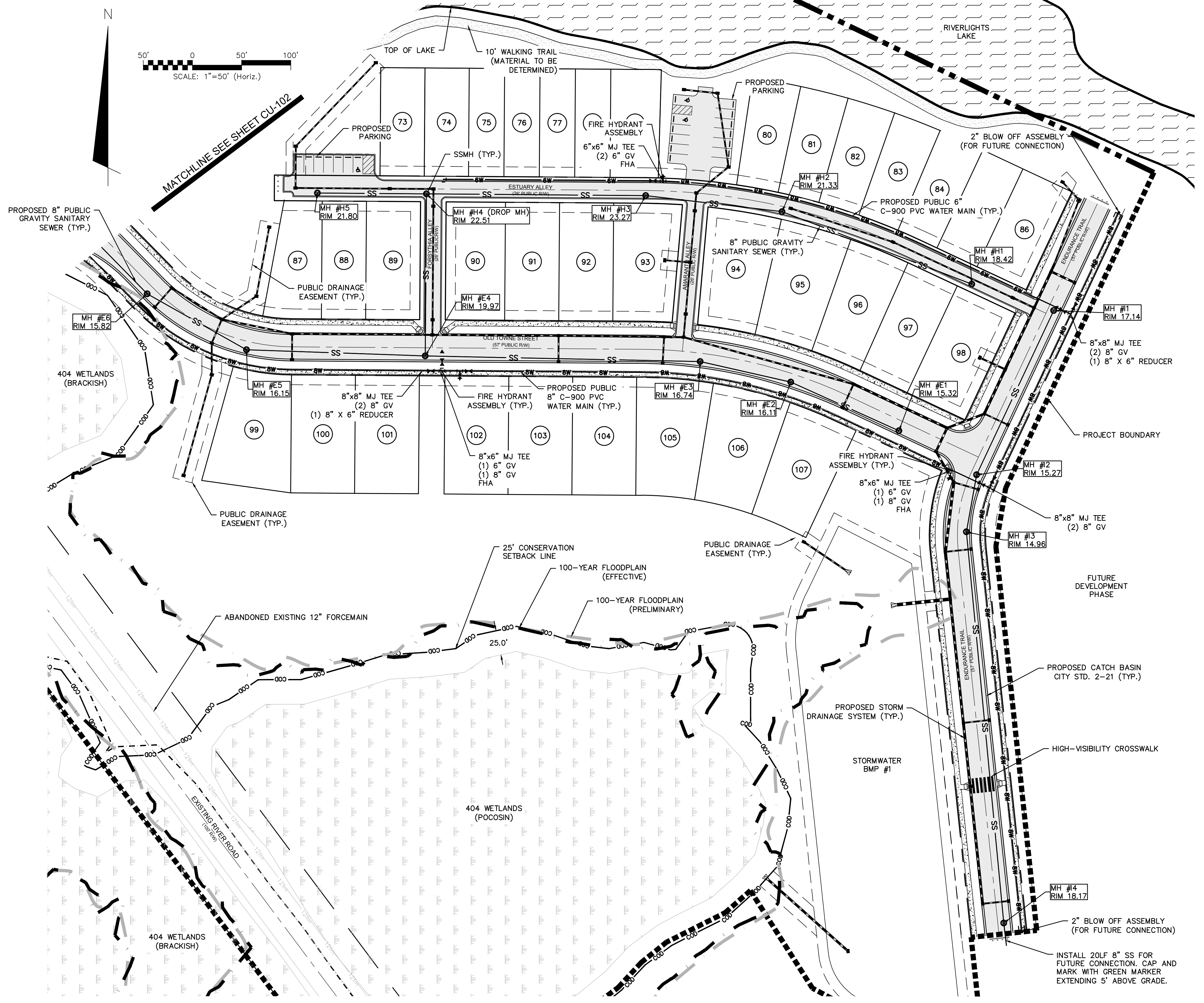
**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

UTILITY PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CU-102
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DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: G
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

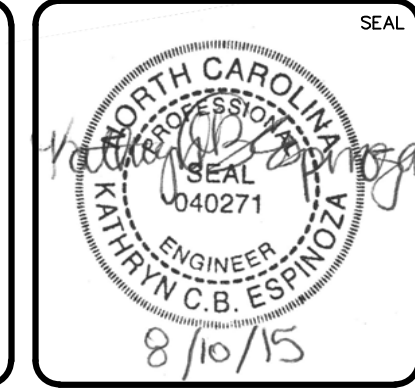
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MATCHLINE SEE SHEET CU-102

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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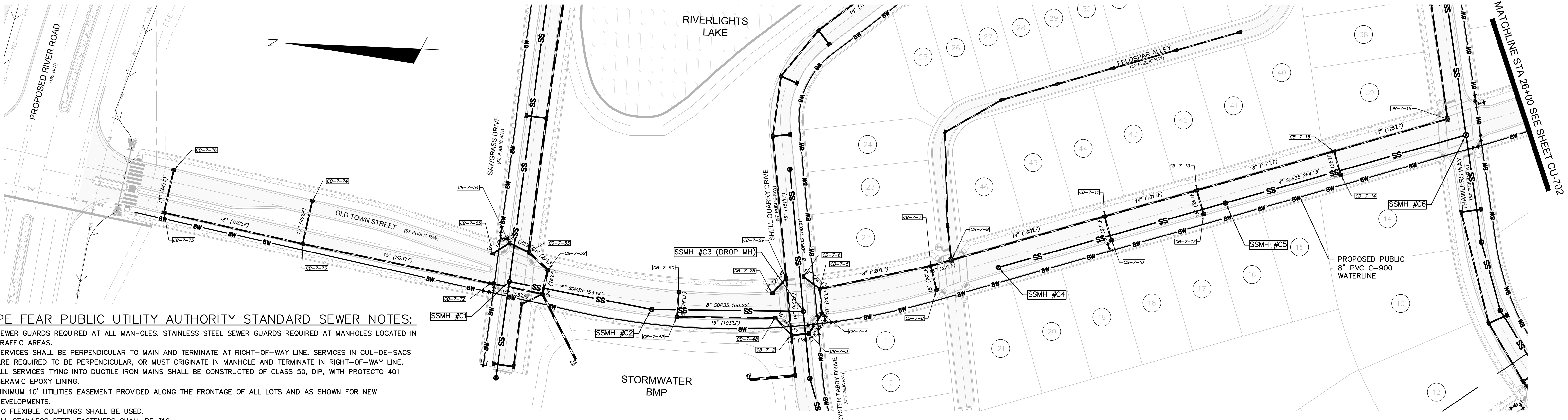
RIVERLIGHTS
 Newland by COMMUNITIES
 NORTH AMERICA SENSUI HOUSE, LLC

**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

UTILITY PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CU-103
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 16
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: G
DESIGNED: KGBE	STATUS: FINAL DESIGN	
CHECKED: NJL	ISSUED FOR PERMITTING	
PROJ. MGR: RMC		

S:\2726\0129 Ph. 1_SFB\Drawings\CU101-02726\0129.dwg, 8/7/2015 5:28:48 PM, AMendenhall



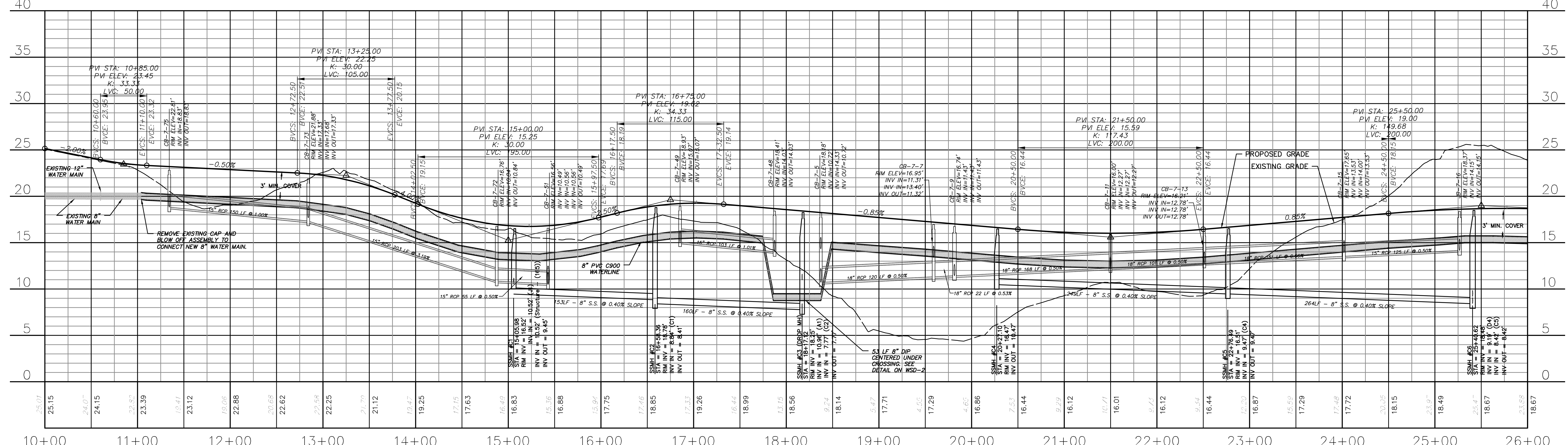
**OLD TOWNE STREET
(STA 10+00 TO 26+00)**

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

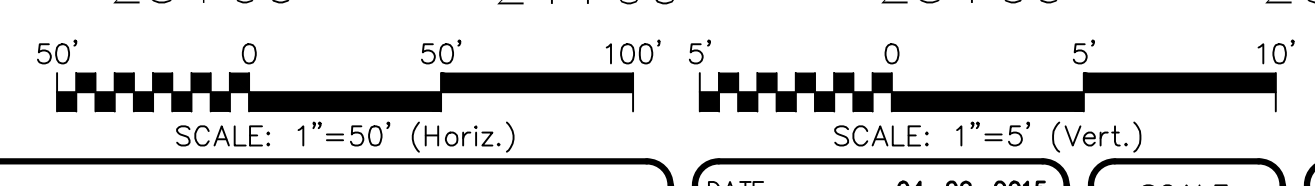
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- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS.

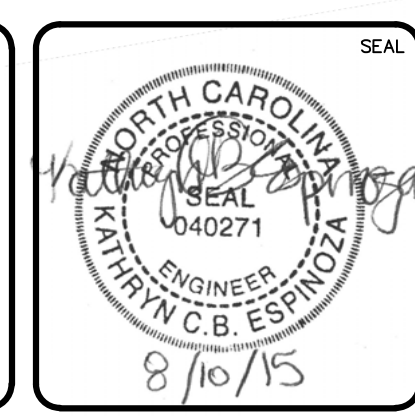


**OLD TOWNE STREET
(STA 10+00 TO 26+00)**



NO.	DESCRIPTION	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015

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NORTH AMERICA SENIUS HOUSE, LLC

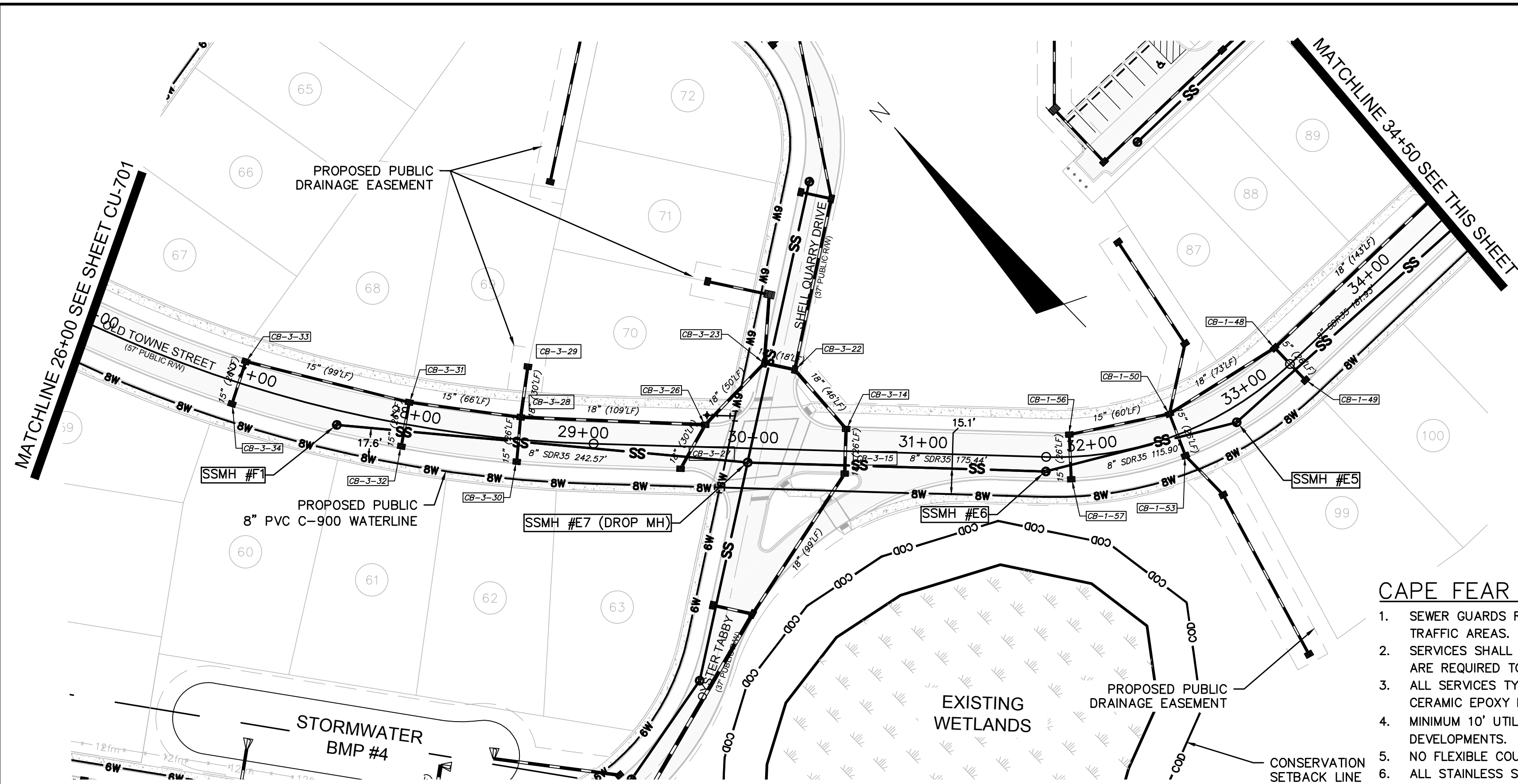
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 26+00

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

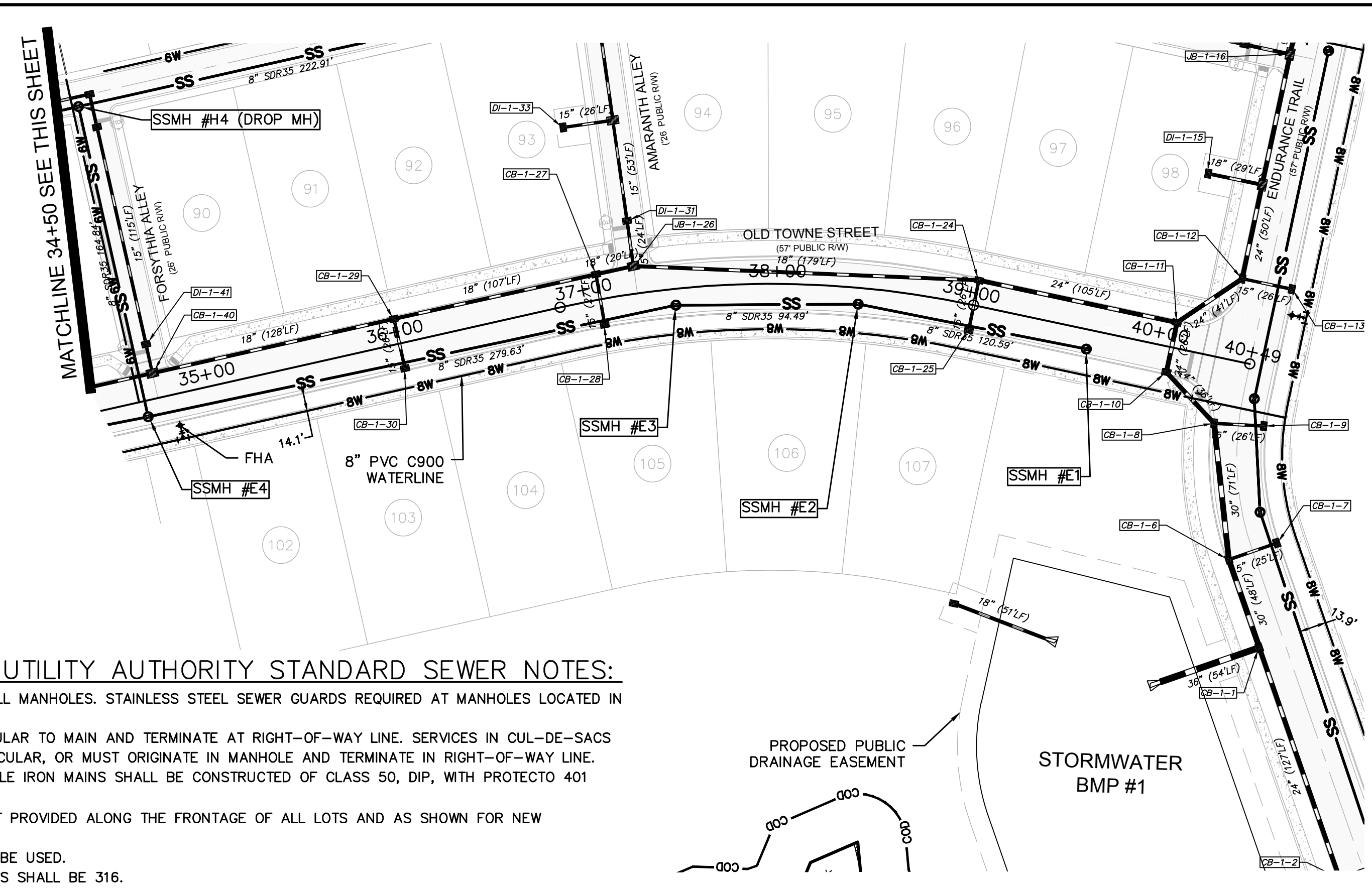
SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CU-701
DRAWING NUMBER: 17
REVISION: G



OLD TOWNE STREET
(STA 26+00 TO 34+50)



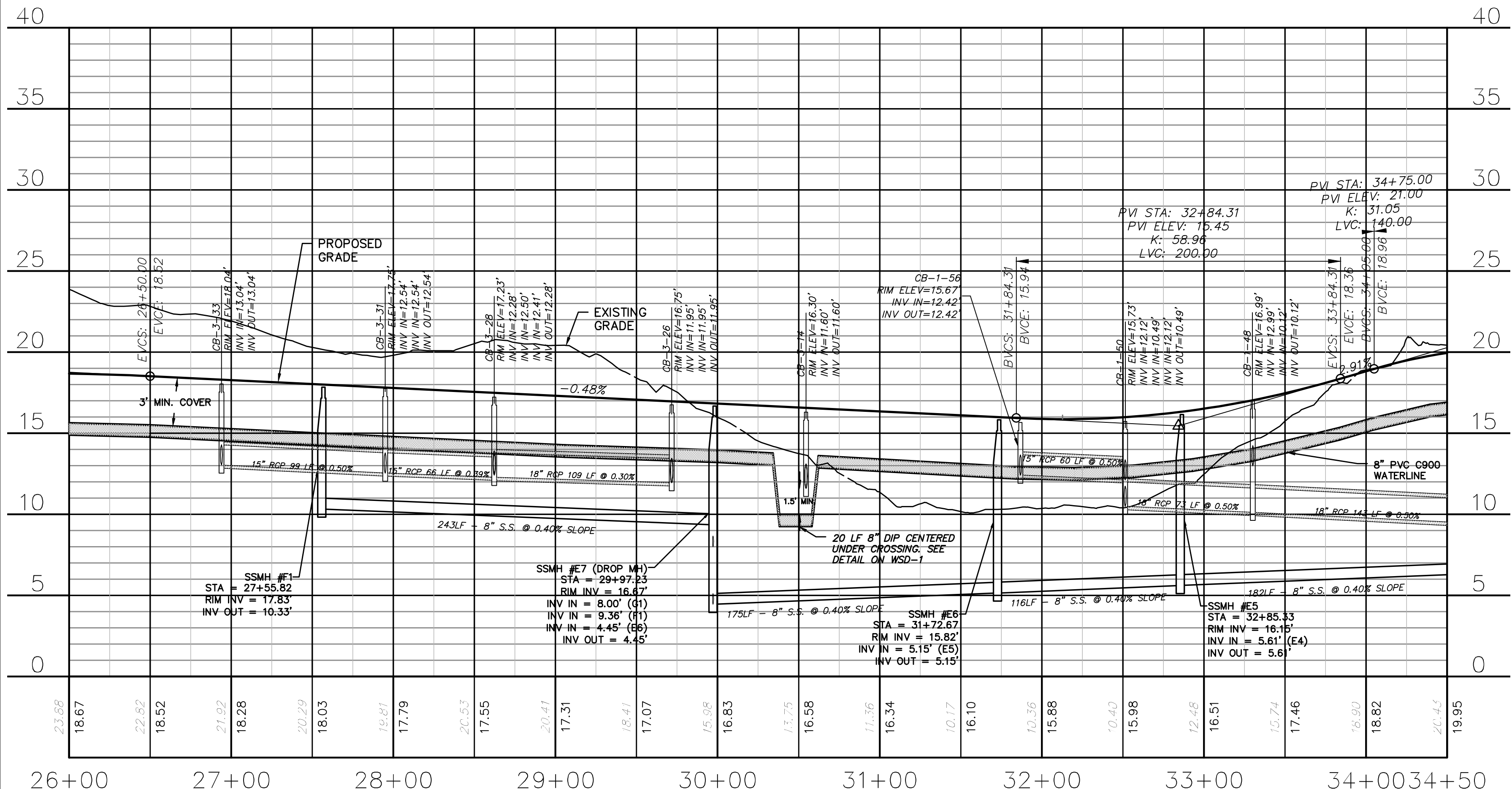
OLD TOWNE STREET
(STA 34+50 TO 40+57.83)

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

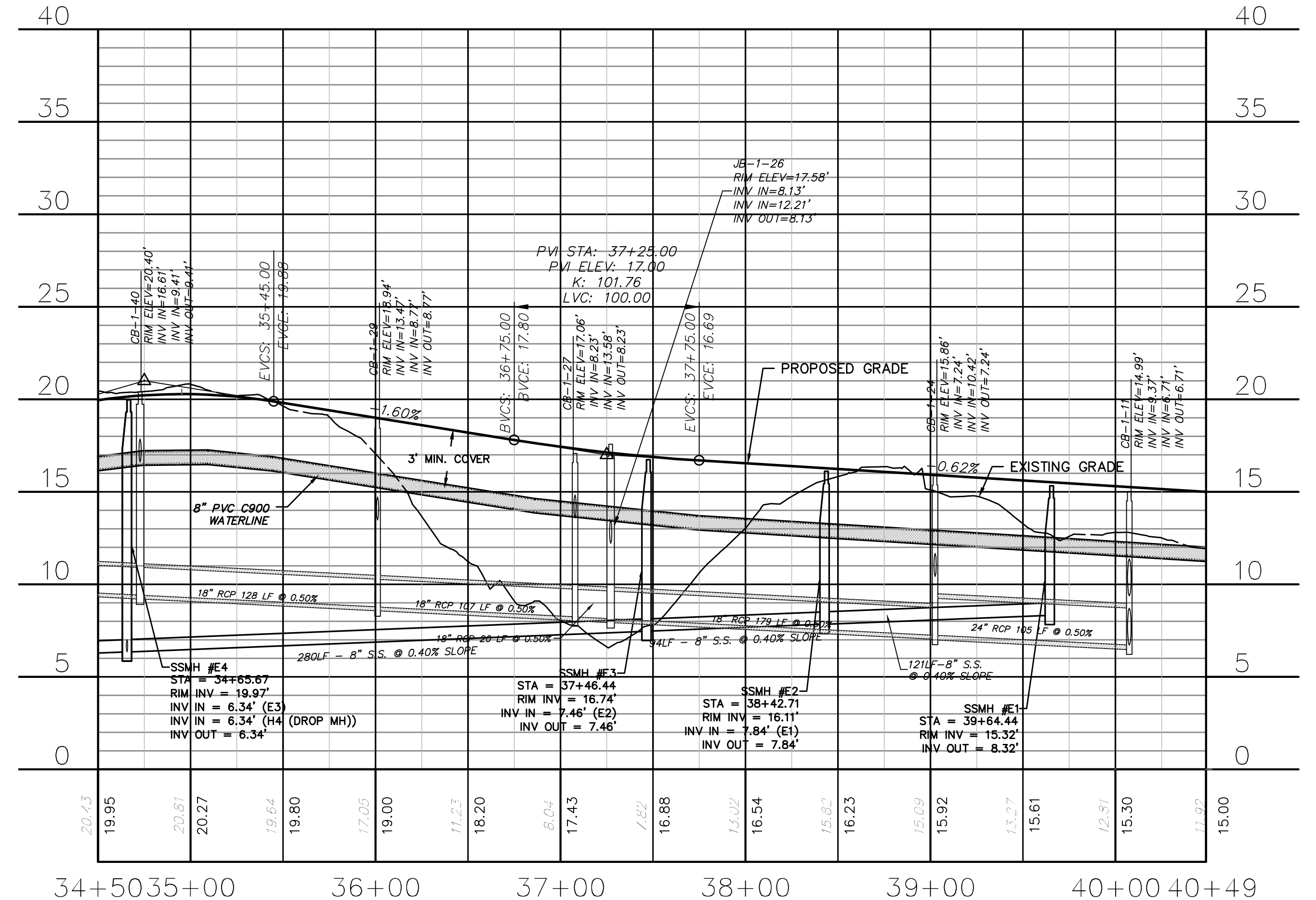
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UTILITY NOTES:

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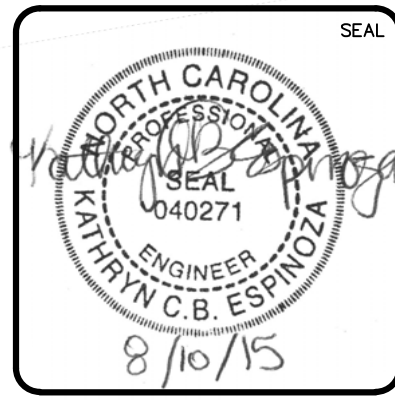
OLD TOWNE STREET
(STA 26+00 TO 34+50)



OLD TOWNE STREET
(STA 34+50 TO 40+57.83)

REV.	DESCRIPTION	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015

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NORTH AMERICA SENIUS HOUSE, LLC

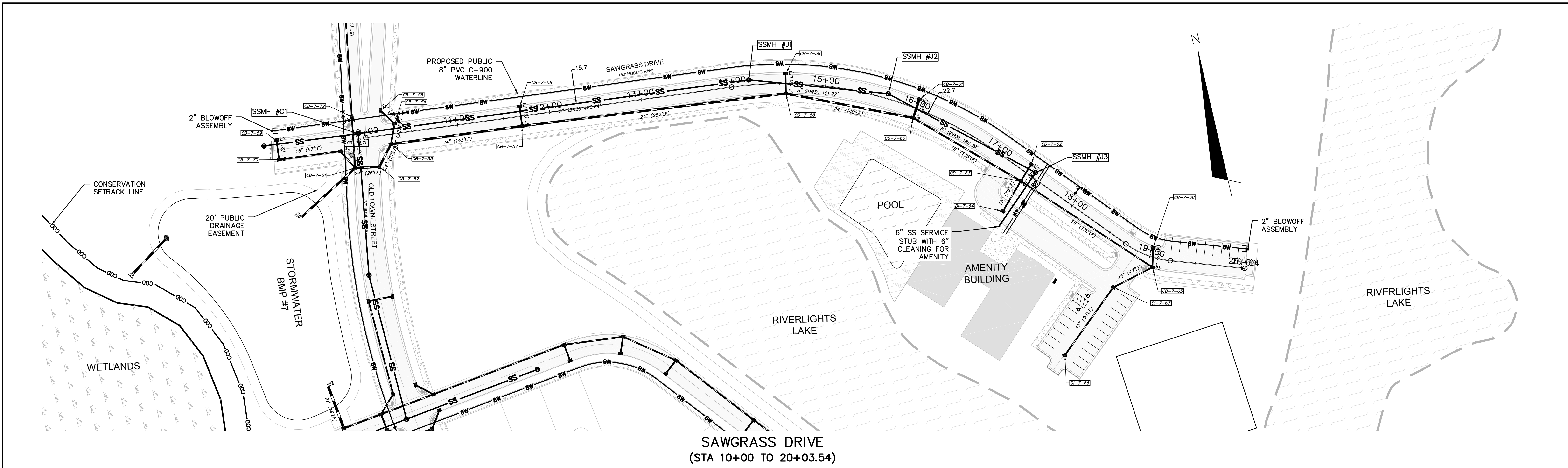
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 26+00 TO
STA 40+57.83

DATE: 04-29-2015
MCE PROJ. #: 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50' (Horiz.)
SCALE: 1"=5' (Vert.)

MAC FILE NUMBER: CU-702
DRAWING NUMBER: 18
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING



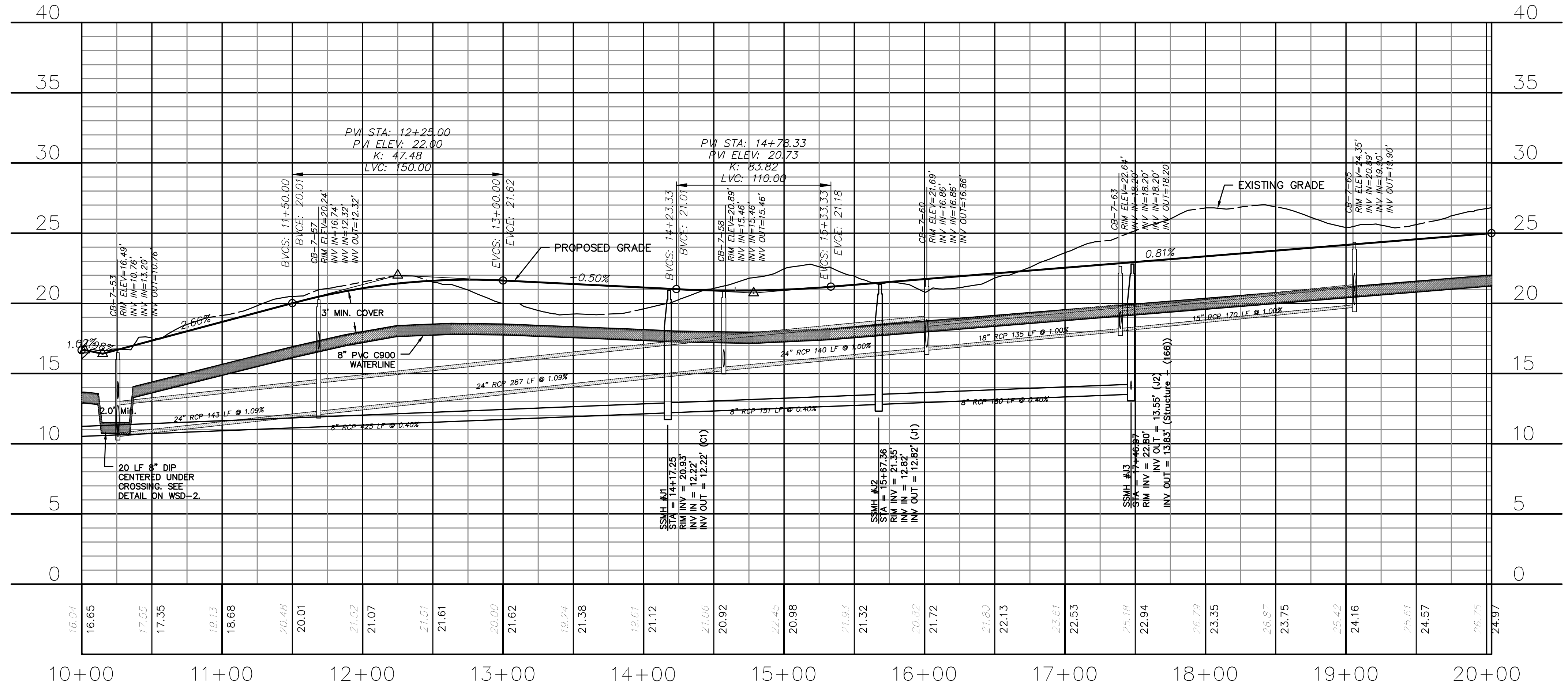
SAWGRASS DRIVE
(STA 10+00 TO 20+03.54)

**CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:**

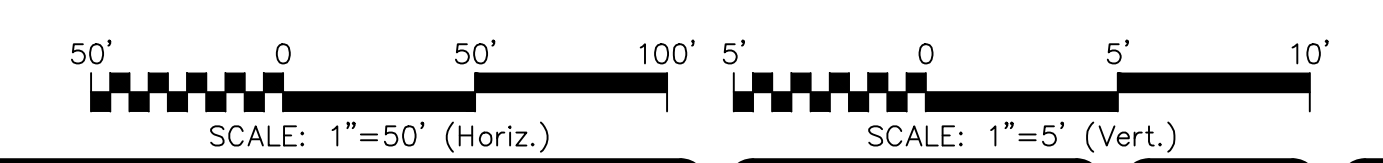
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UTILITY NOTES:

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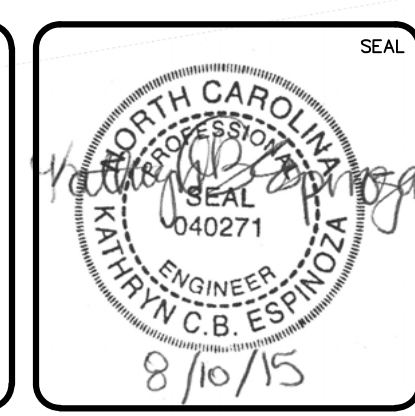


SAWGRASS DRIVE
(STA 10+00 TO 20+03.54)



REV.	DESCRIPTION	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 20+03.54

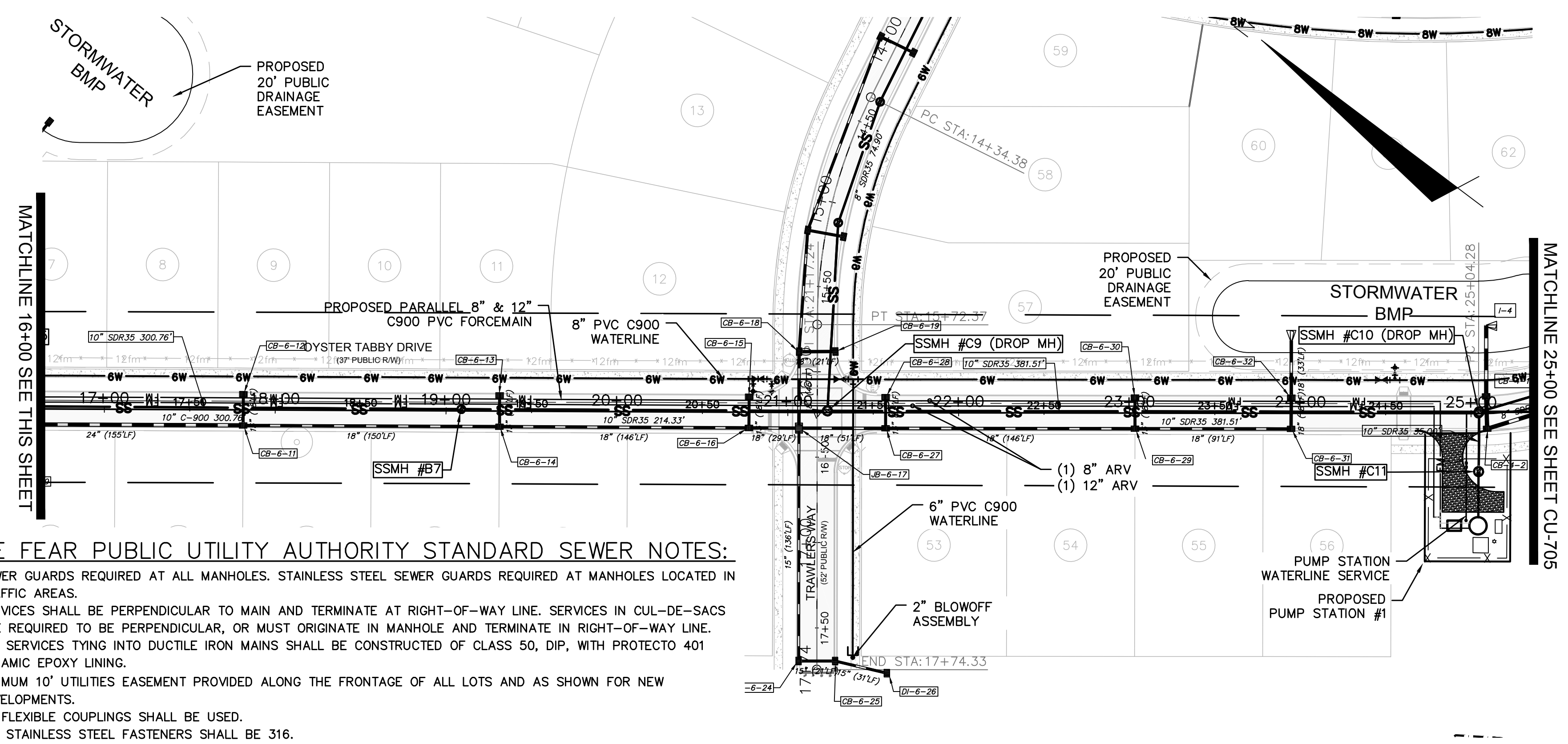
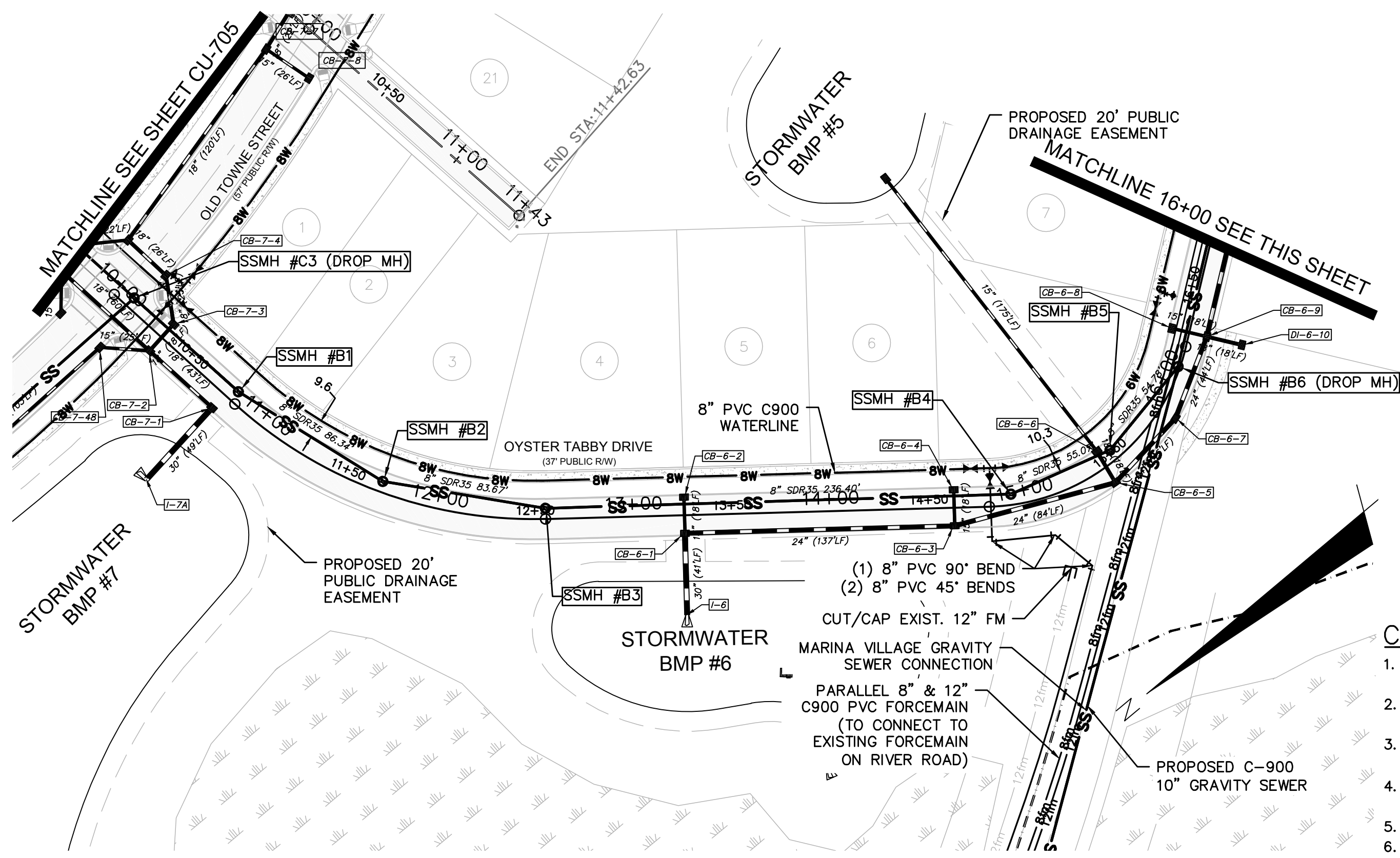
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

SCALE: 1"=5' (Vert.)

MAC FILE NUMBER: CU-703
DRAWING NUMBER: 19
REVISION: G



CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

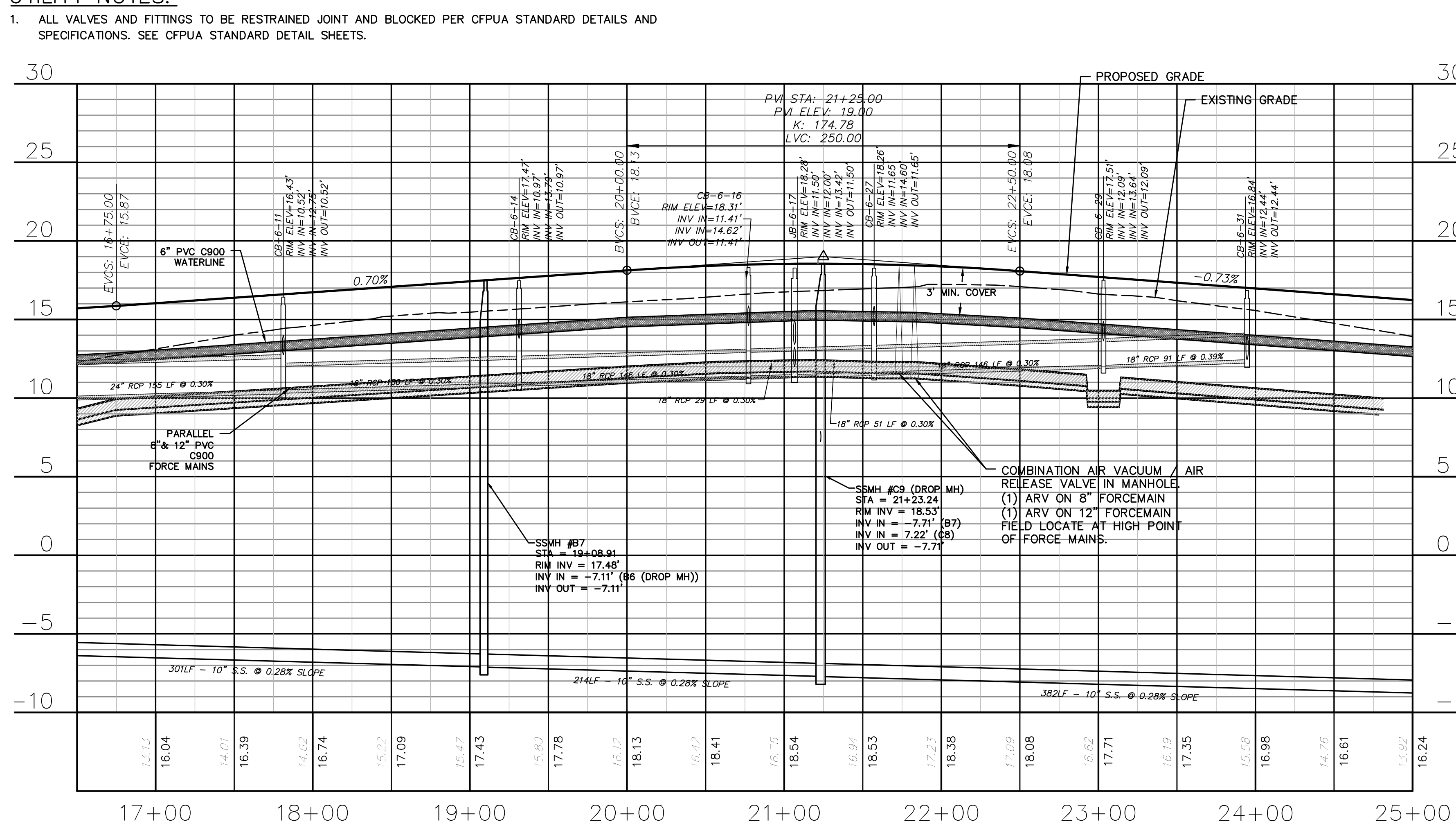
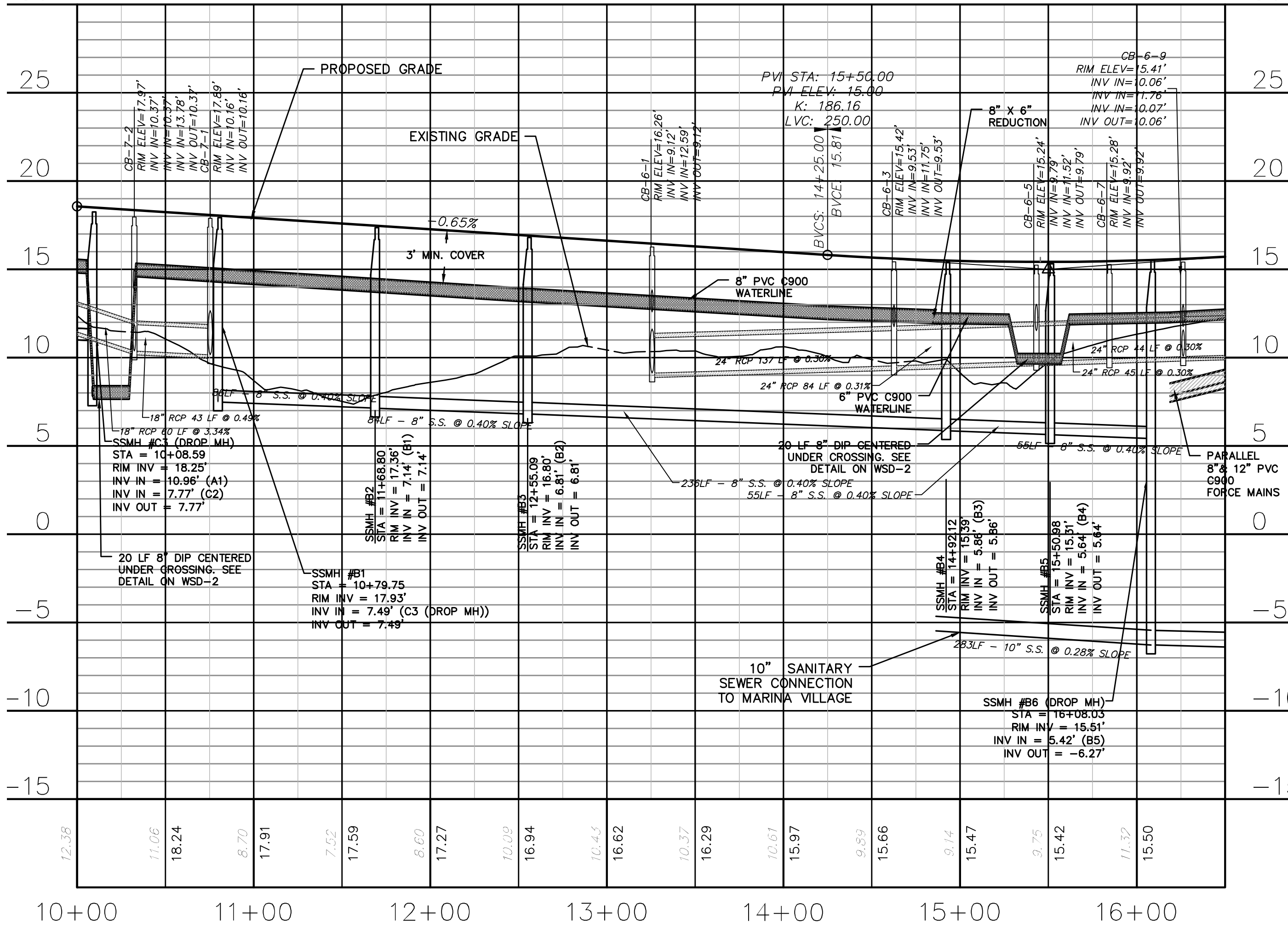
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OYSTER TABBY DRIVE (STA 10+00 TO 16+50)

UTILITY NOTES:

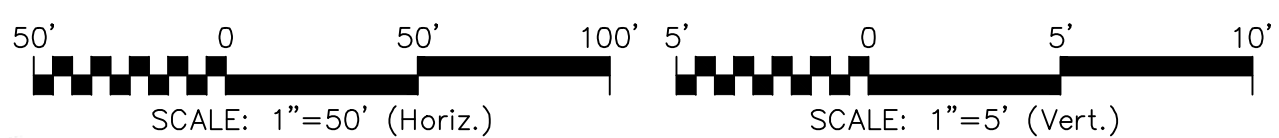
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS.

OYSTER TABBY DRIVE (STA 16+50 TO 25+00)



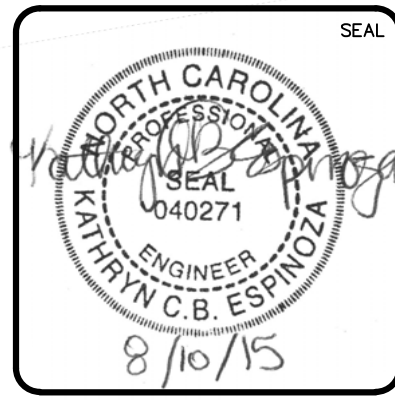
OYSTER TABBY DRIVE (STA 10+00 TO 16+50)

OYSTER TABBY DRIVE (STA 16+50 TO 25+00)



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
PLAN AND PROFILE STA 10+00 TO STA 25+00

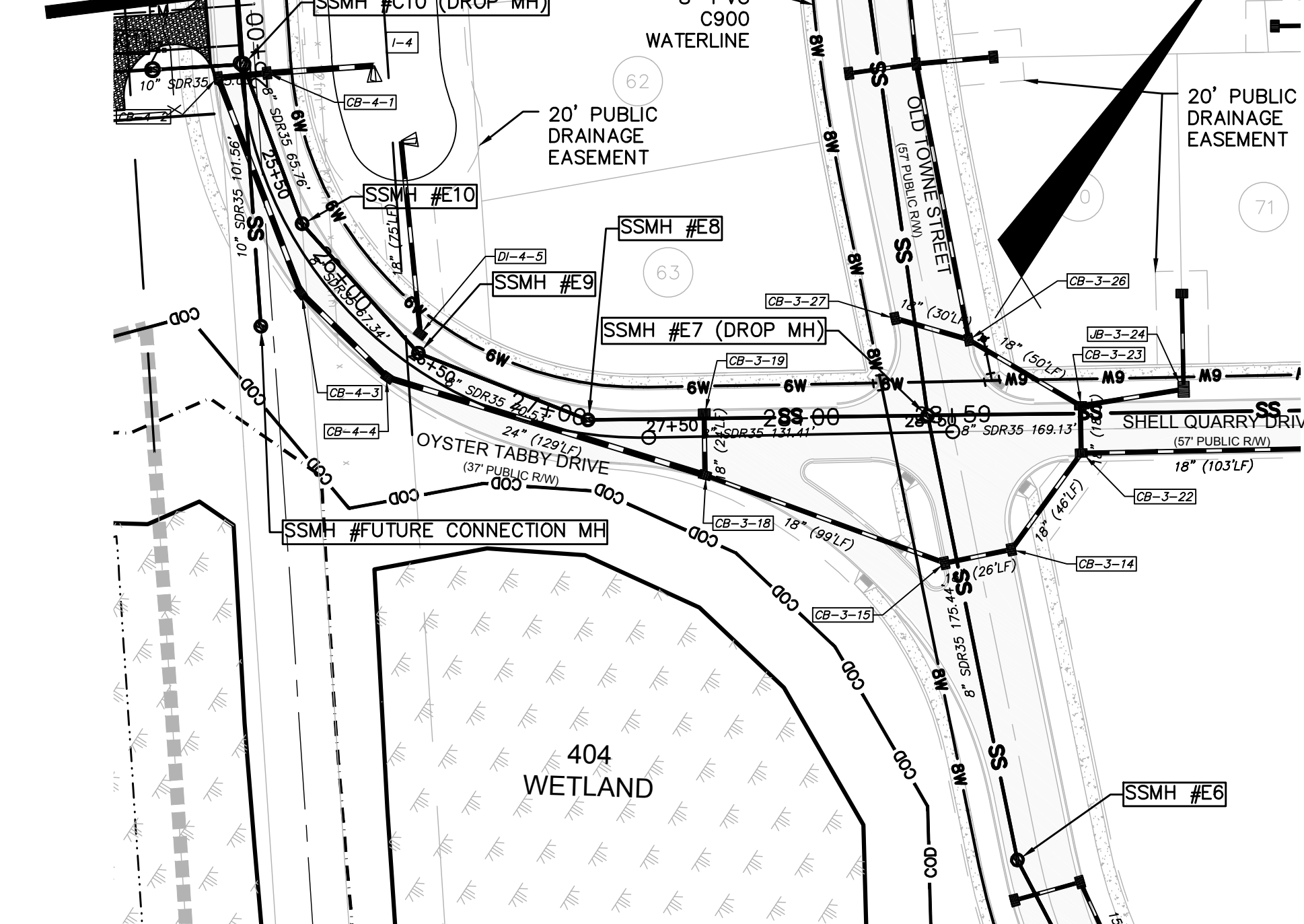
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

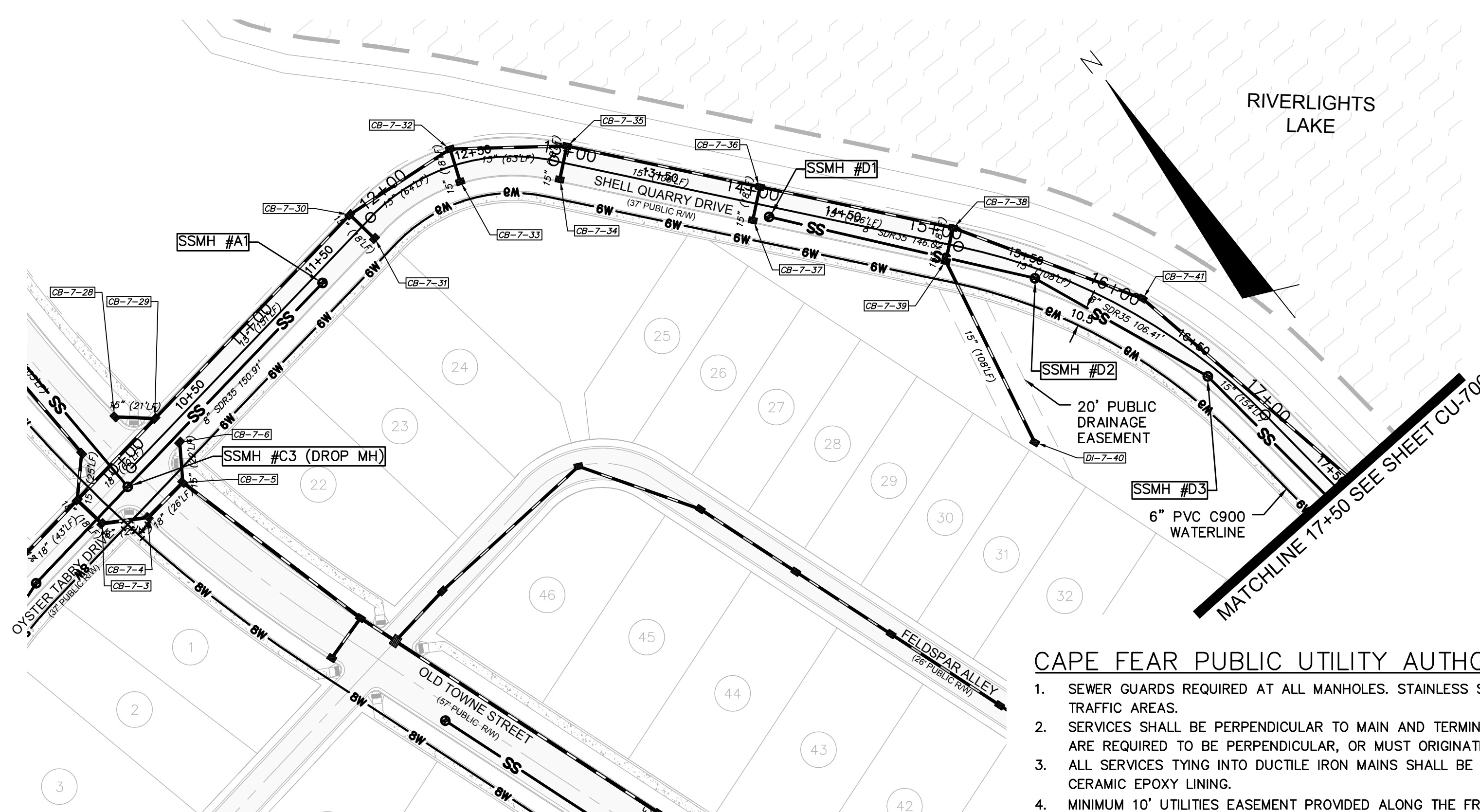
MAC FILE NUMBER: CU-704
DRAWING NUMBER: 20
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MATCHLINE 25+00 SEE SHEET CU-704



OYSTER TABBY DRIVE
(STA 25+00 TO 28+35.63)



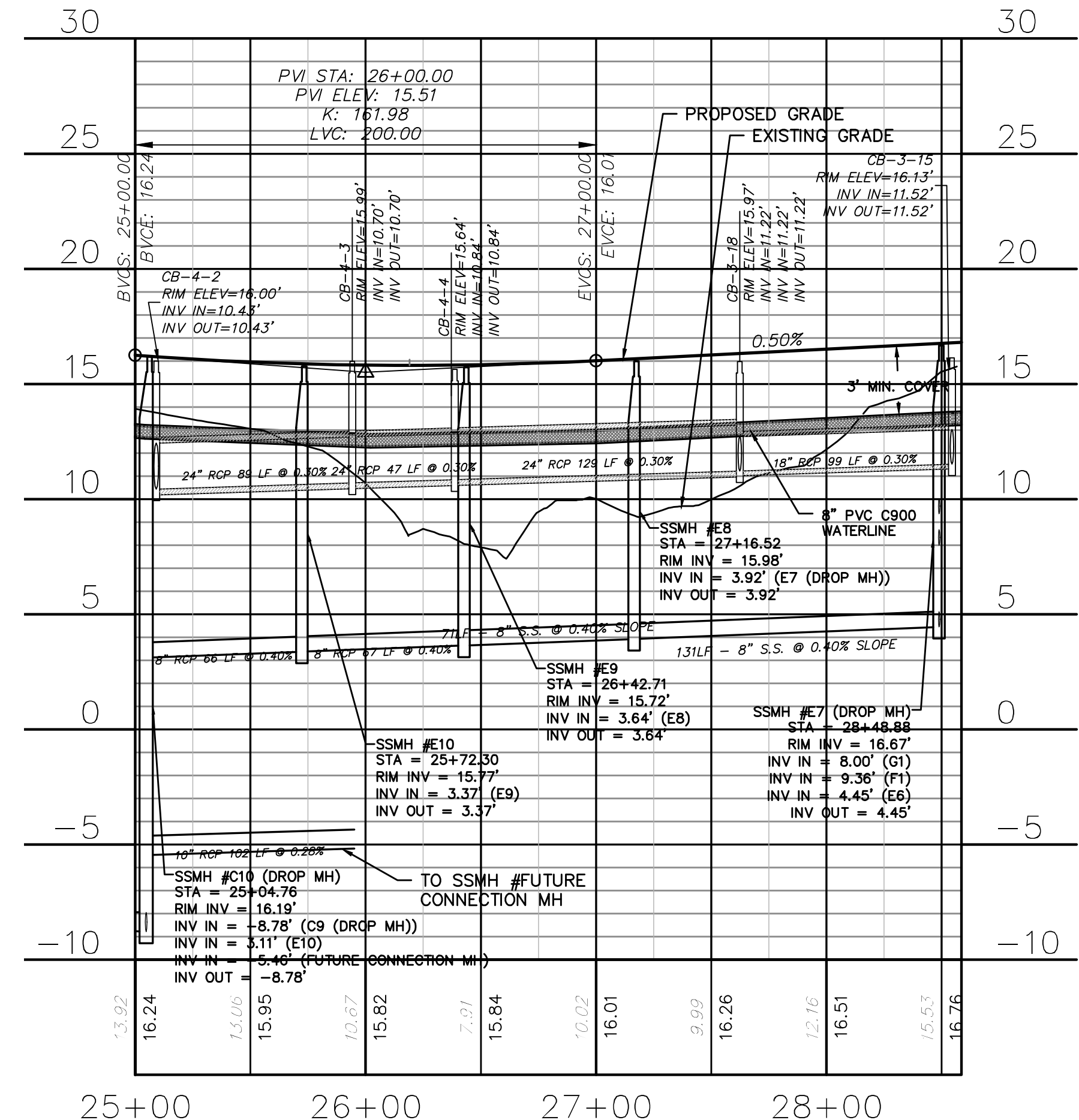
SHELL QUARRY DRIVE
(STA 10+00 TO 17+50)

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

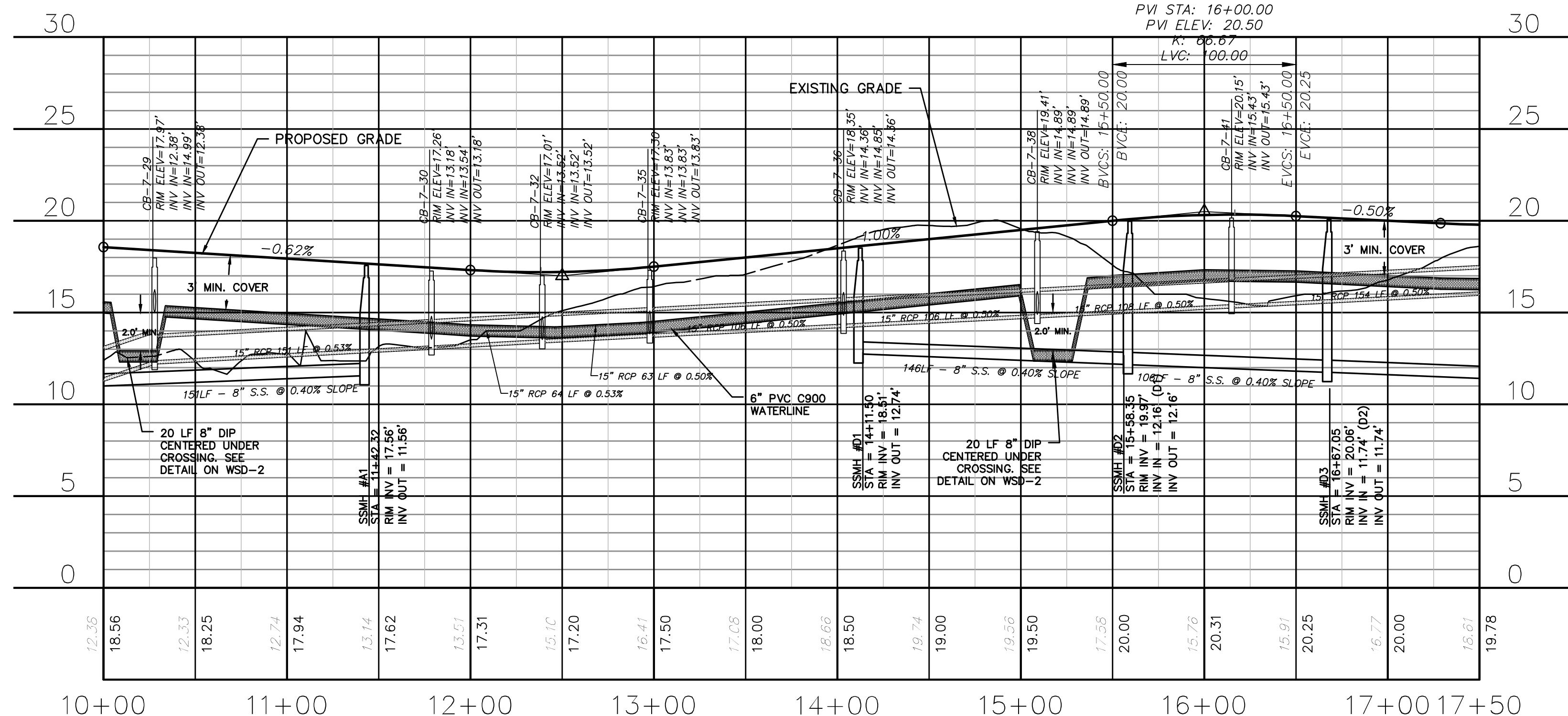
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OYSTER TABBY DRIVE
(STA 25+00 TO 28+35.63)



SHELL QUARRY DRIVE
(STA 10+00 TO 17+50)



REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	09/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015

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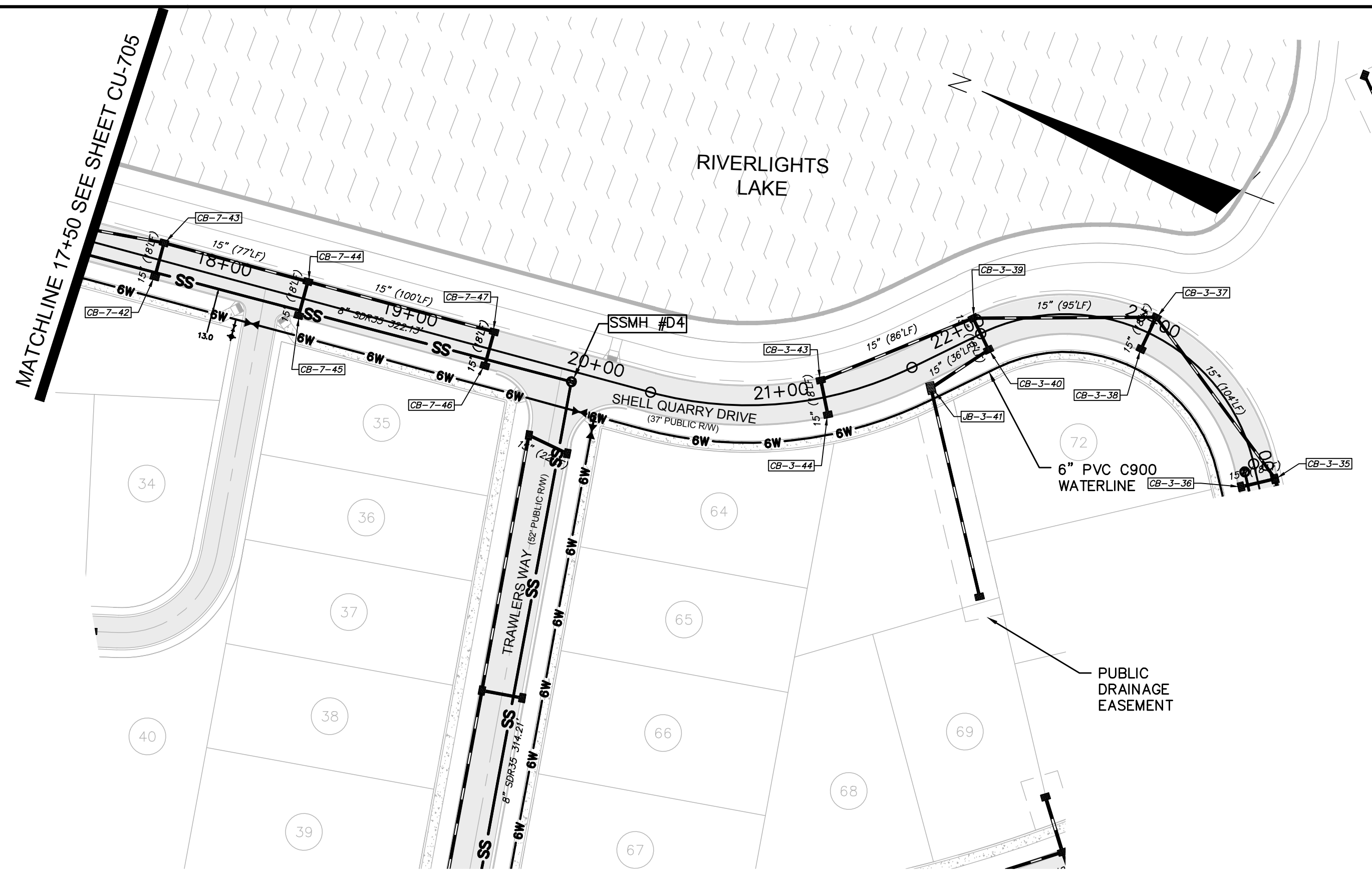
RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
PLAN AND PROFILE STA 25+00 TO STA 28+35.63/STA 10+00 TO STA 17+50

DATE: 04-29-2015
MCE PROJ. #: 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR.: RMC

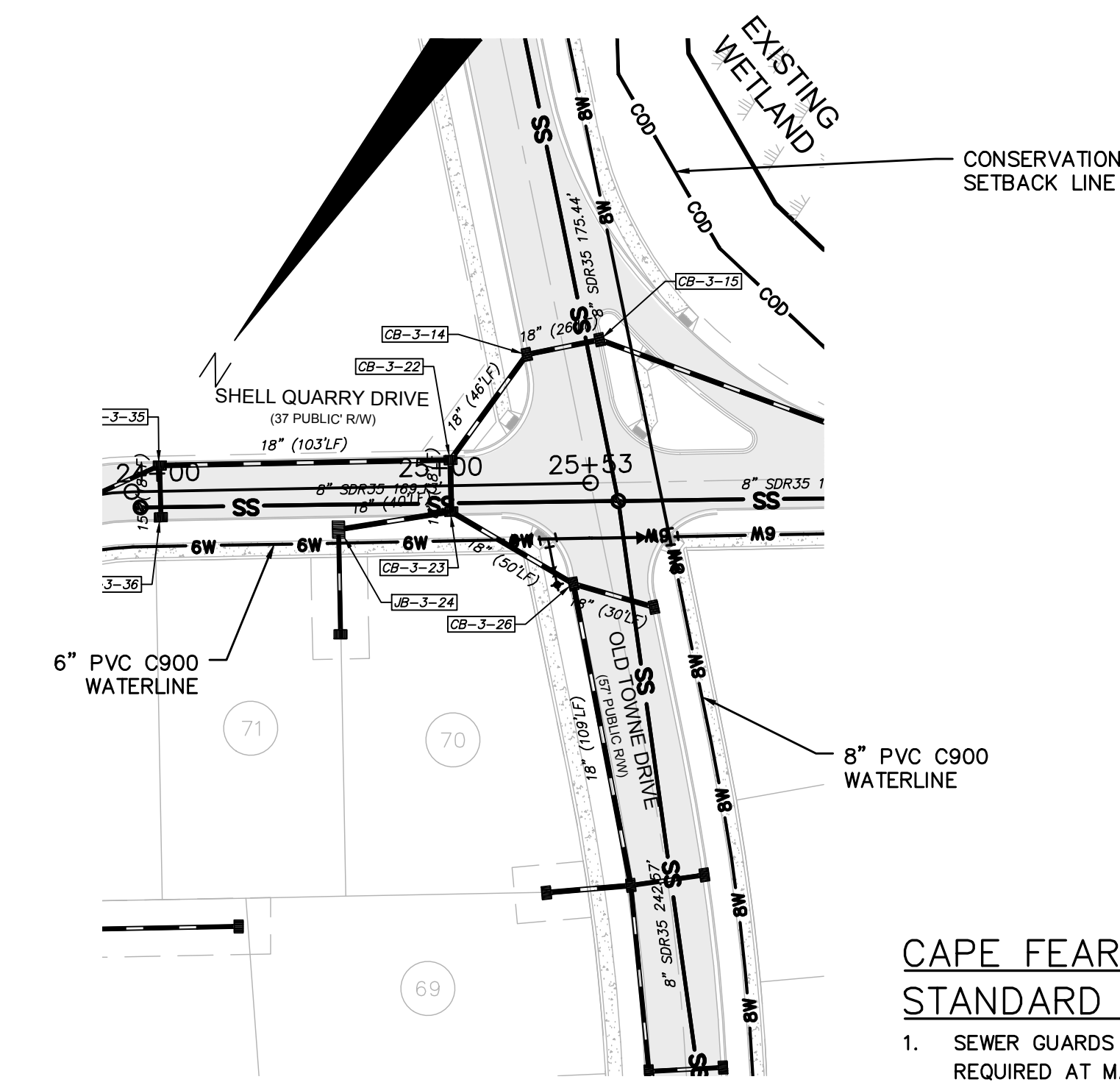
SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: CU-705
DRAWING NUMBER: 21
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING



SHELL QUARRY DRIVE
(STA 17+50 TO 24+00)



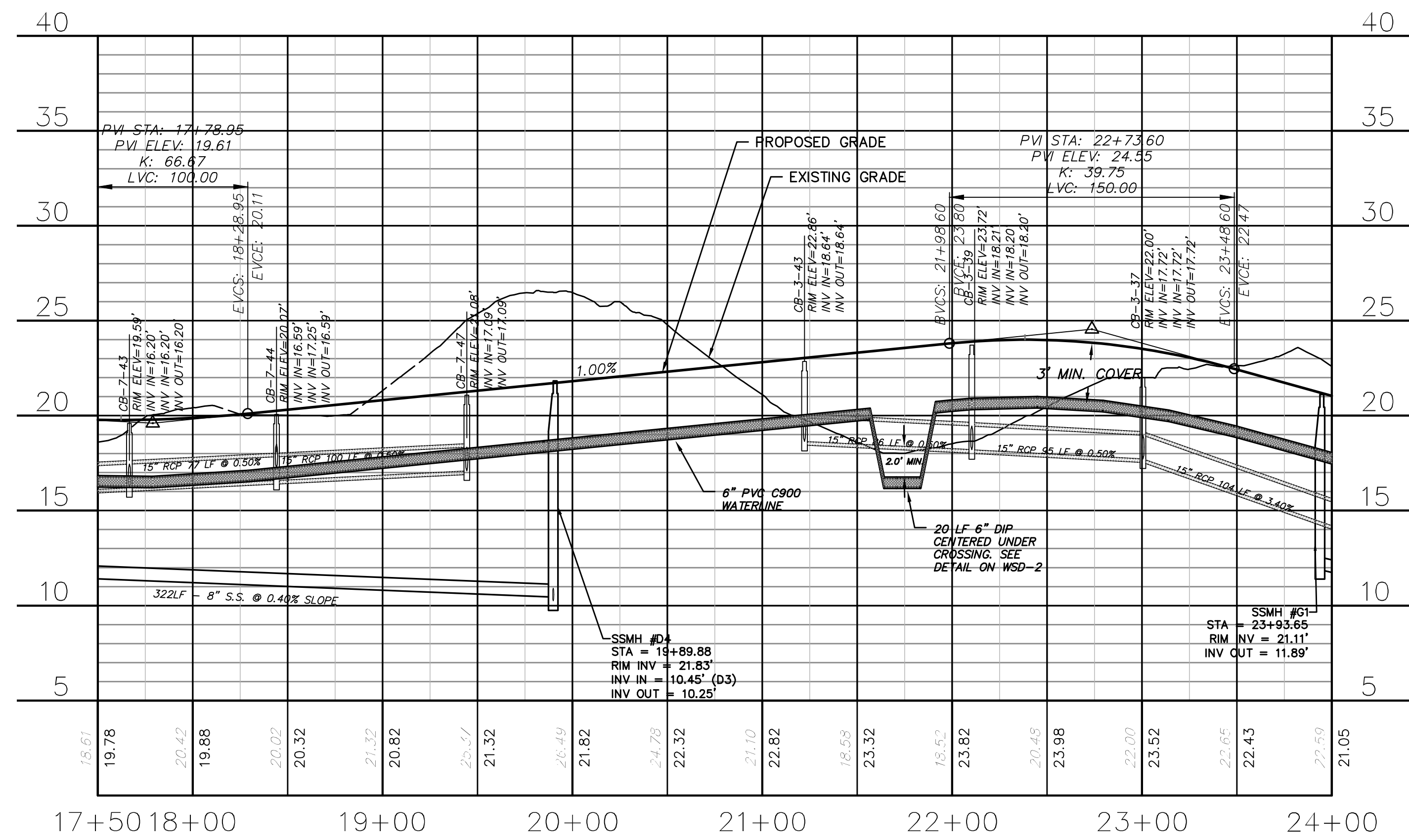
SHELL QUARRY DRIVE
(STA 24+00 TO 26+07.14)

**CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:**

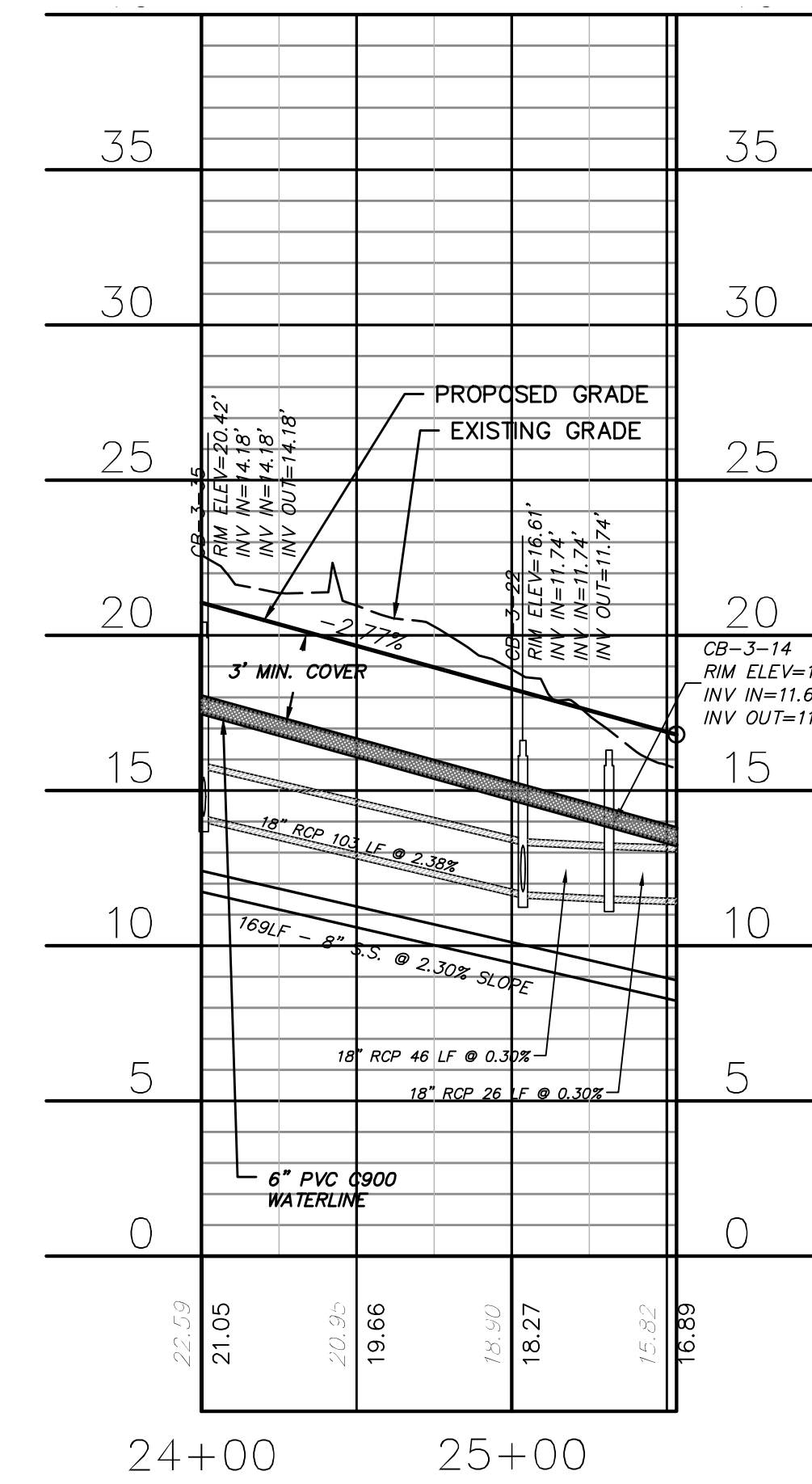
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SHELL QUARRY DRIVE
(STA 17+50 TO 24+00)

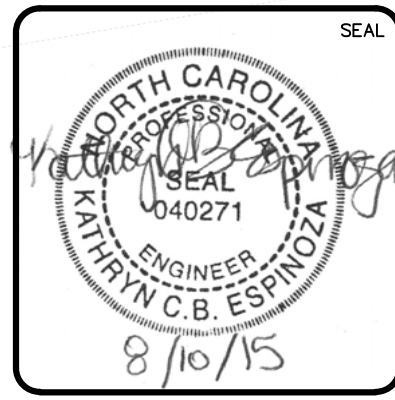


SHELL QUARRY DRIVE
(STA 24+00 TO 26+07.14)



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/04/2015

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RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

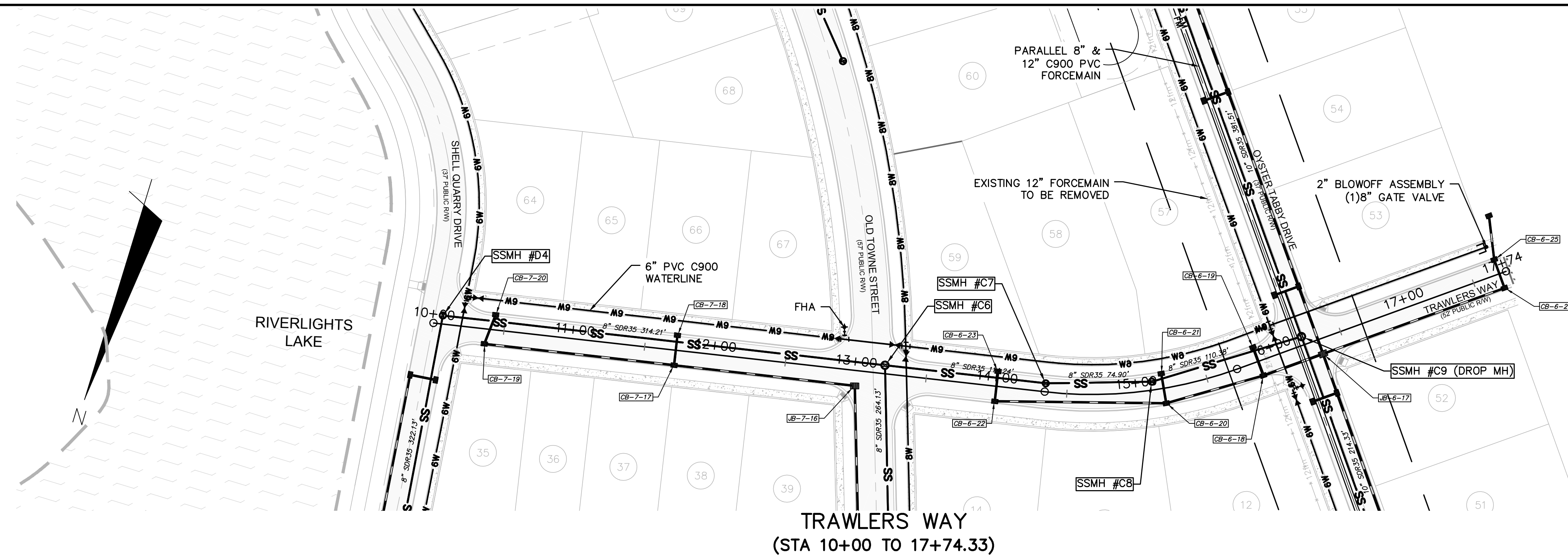
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 17+50 TO
STA 26+07.14

DATE: 04-29-2015
MCE PROJ. #: 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR.: RMC

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: CU-706
DRAWING NUMBER: 22
REVISION: B

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

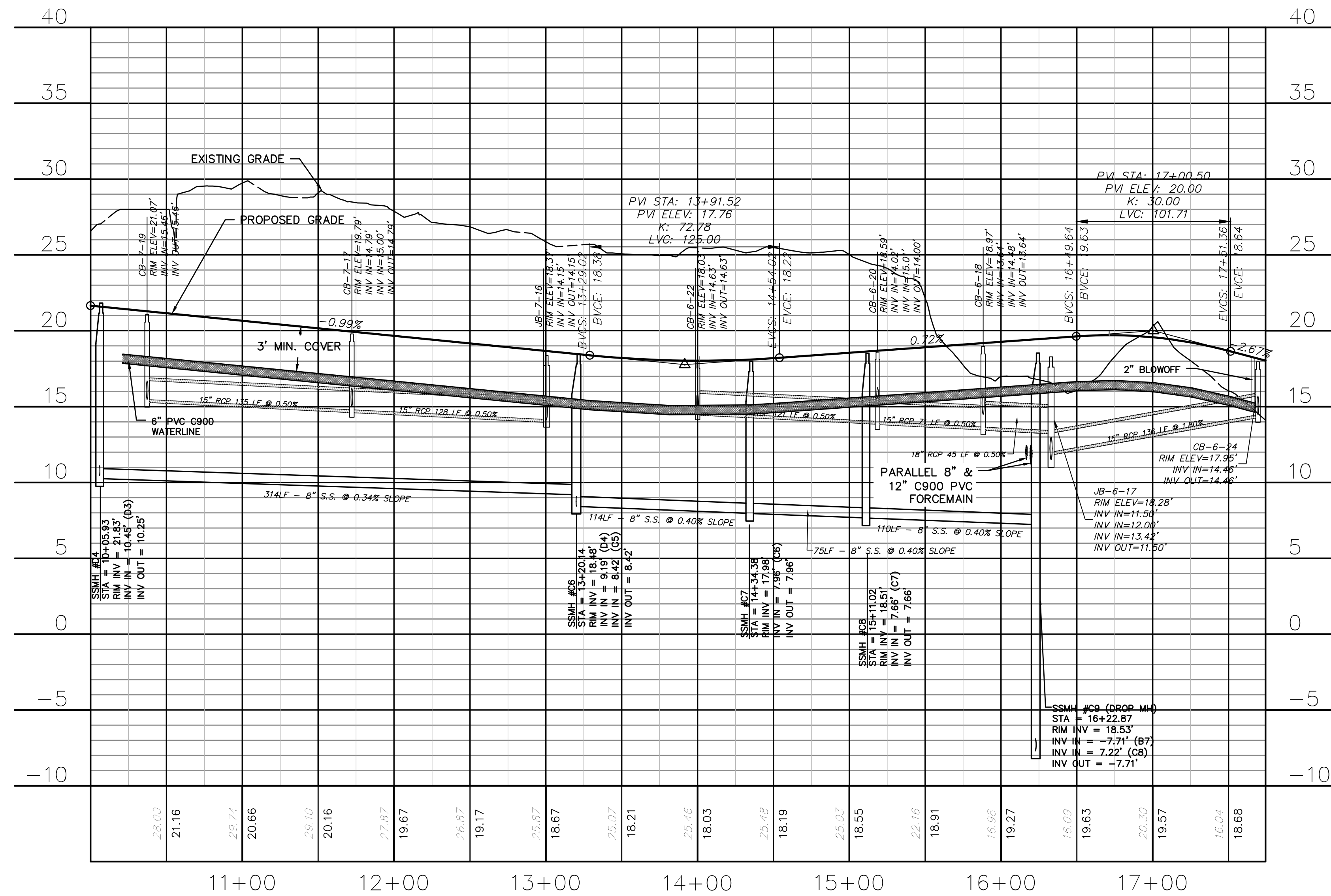


CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

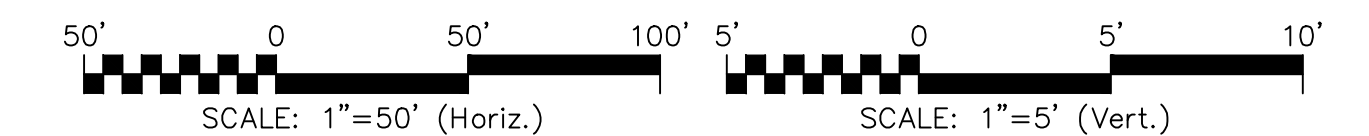
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- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS.



**TRAWLERS WAY
(STA 10+00 TO 17+74.33)**



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION

SEAL
NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
KATHRYN C.B. ESPINOZA
040271
8/10/15

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www.mckimcreed.com

RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

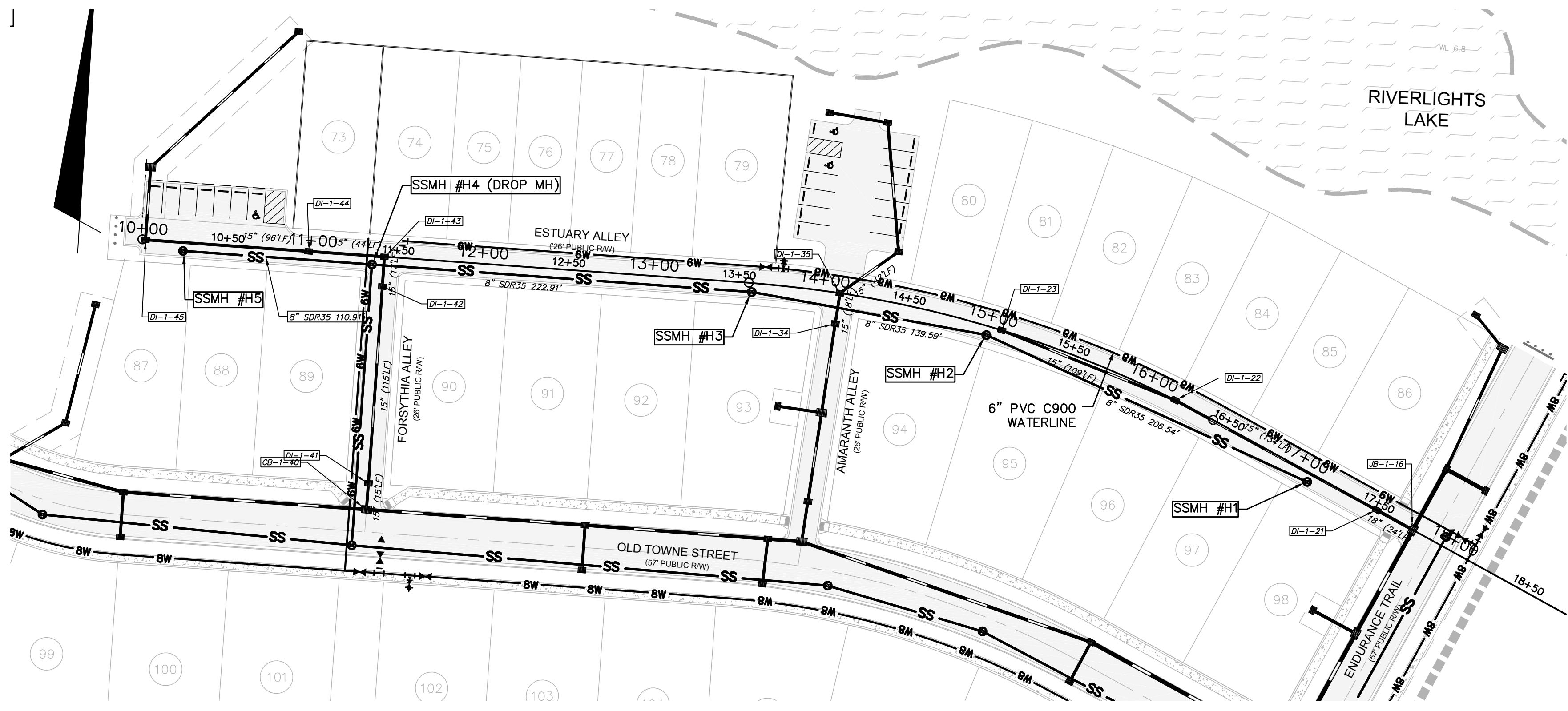
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
**PLAN AND PROFILE STA 10+00 TO
STA 17+74.33**

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

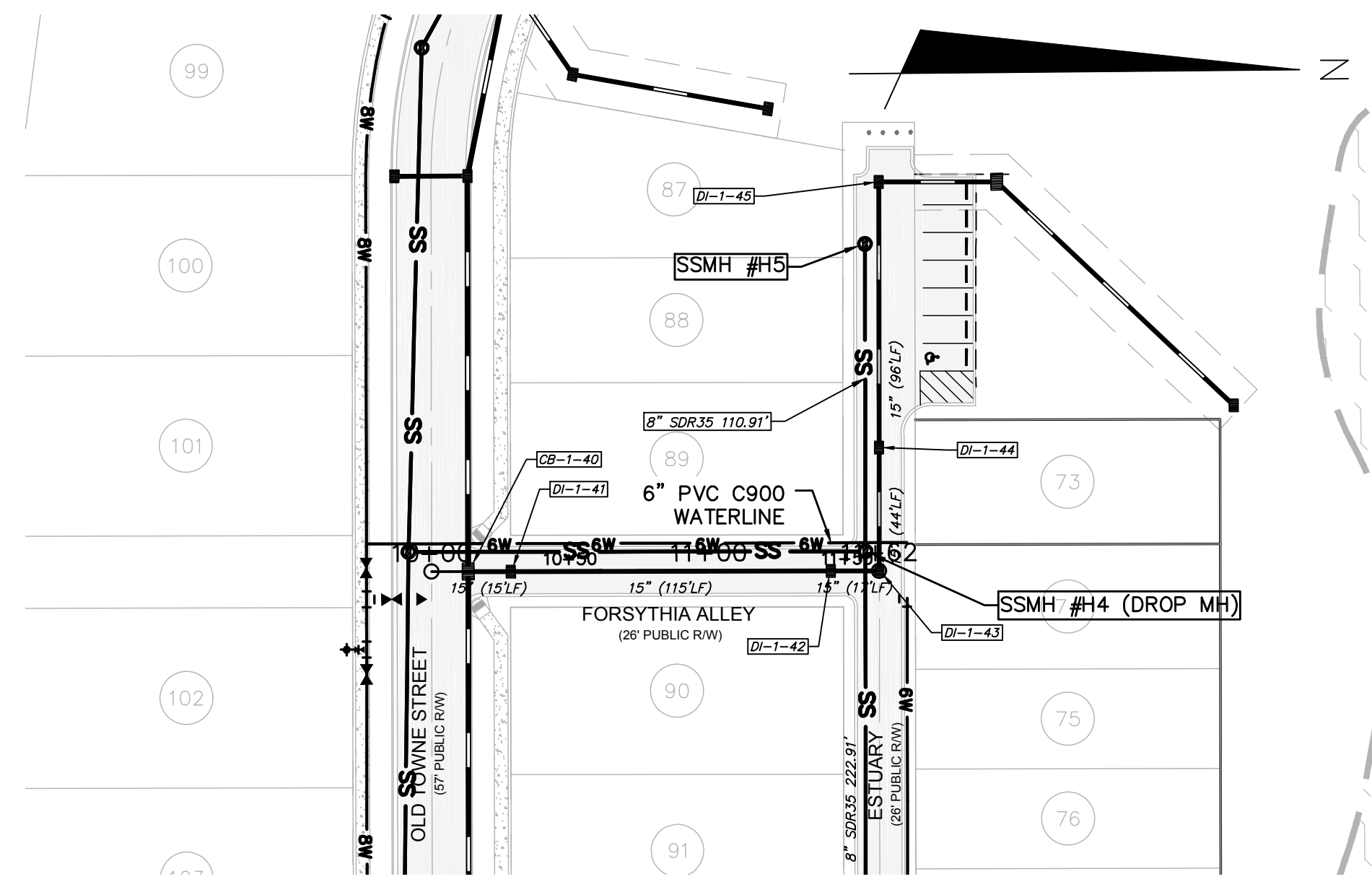
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MAC FILE NUMBER
CU-707
DRAWING NUMBER
23
REVISION
G

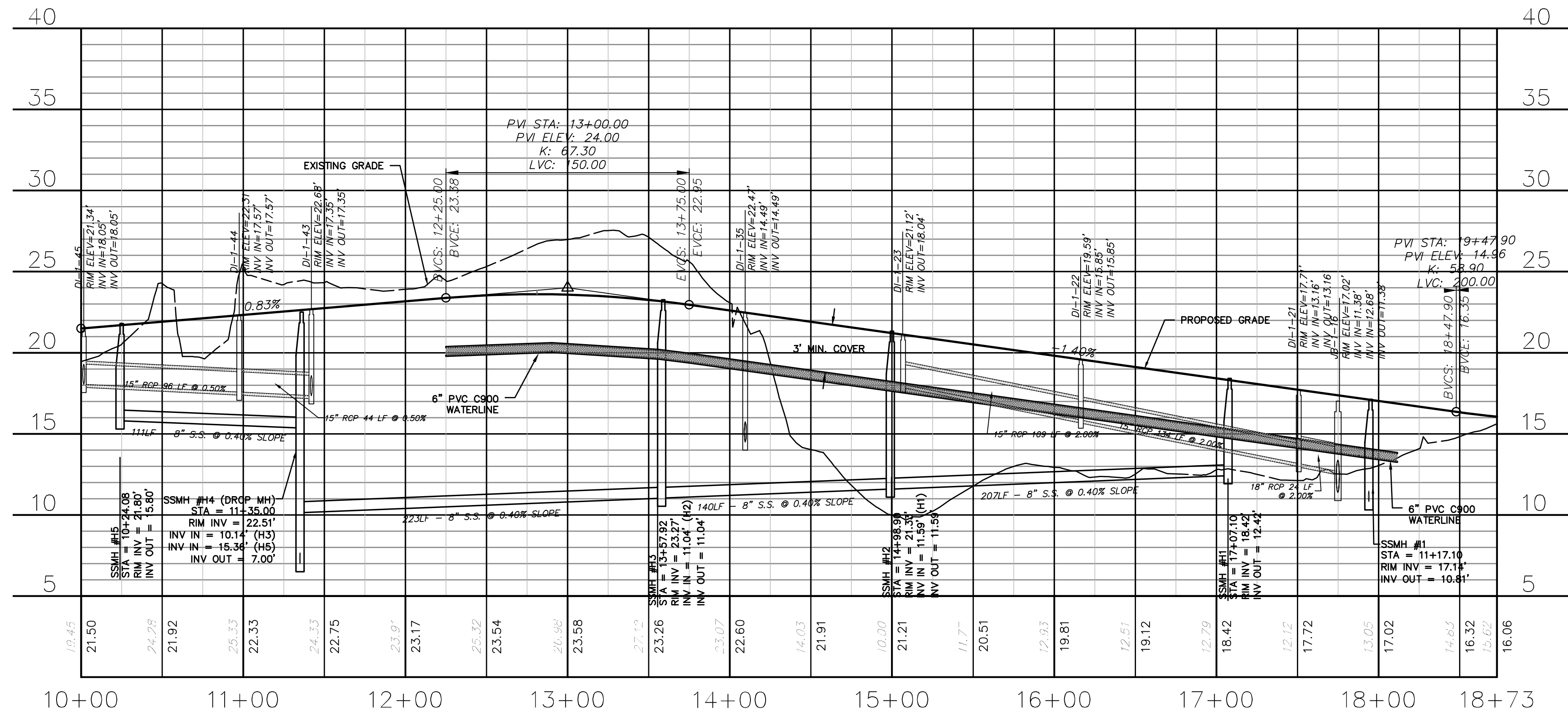
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ISSUED FOR PERMITTING



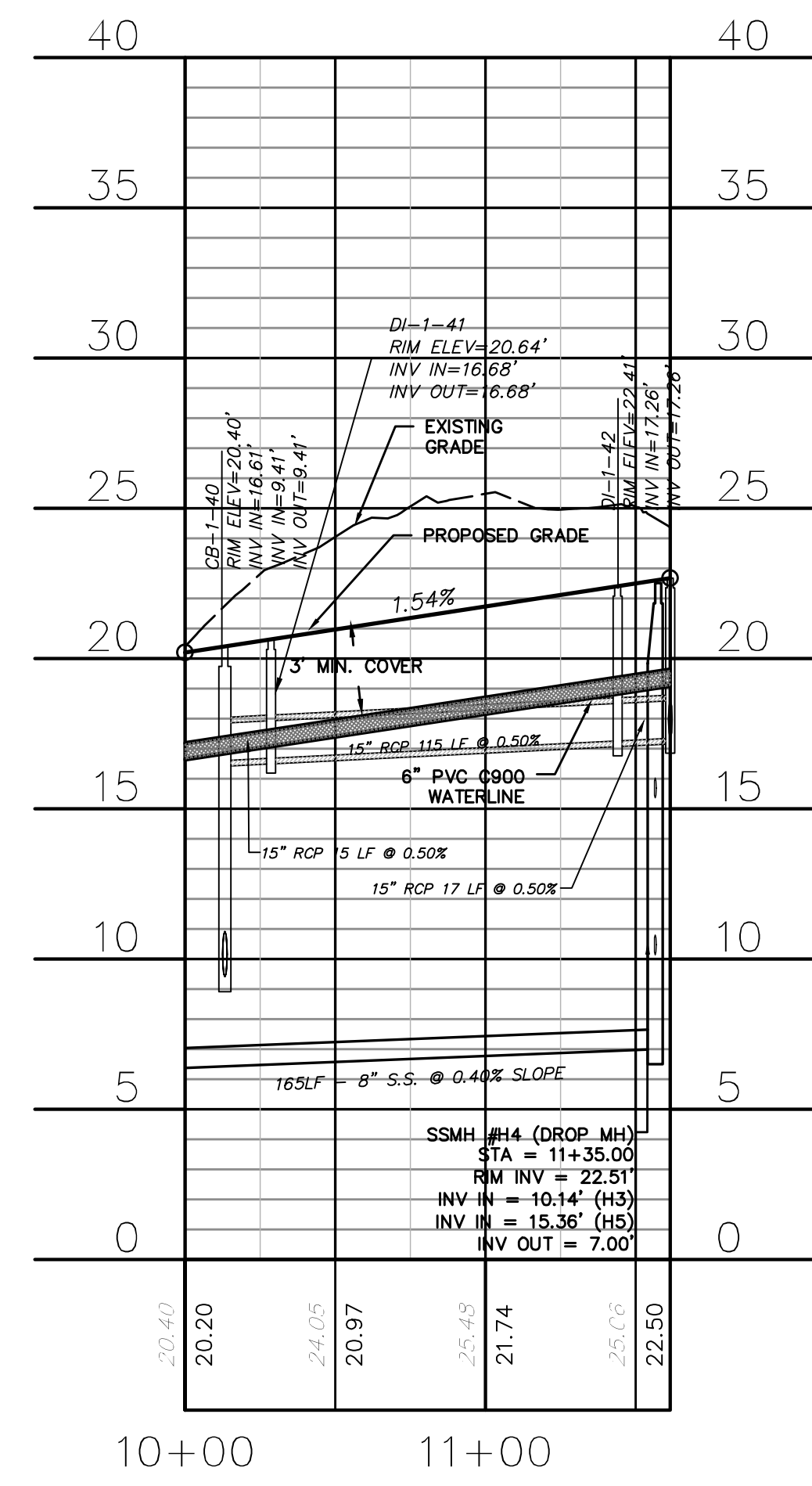
**ESTUARY ALLEY
(STA 10+00 TO 18+72.99)**



**FORSYTHIA ALLEY
(STA 10+00 TO 12+88.50)**



**ESTUARY ALLEY
(STA 10+00 TO 18+72.99)**



**FORSYTHIA ALLEY
(STA 10+00 TO 12+88.50)**

**CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:**

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UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS.

REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015

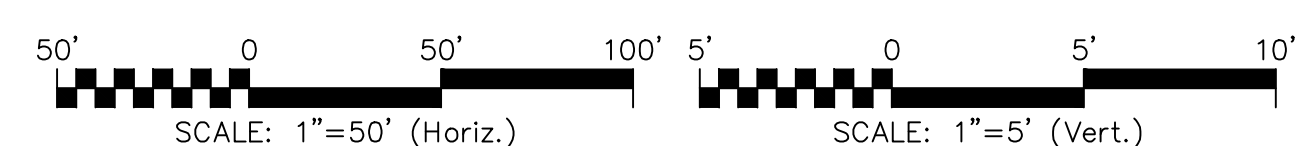
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NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 18+72.99 / STA 10+00 TO STA
12+88.50

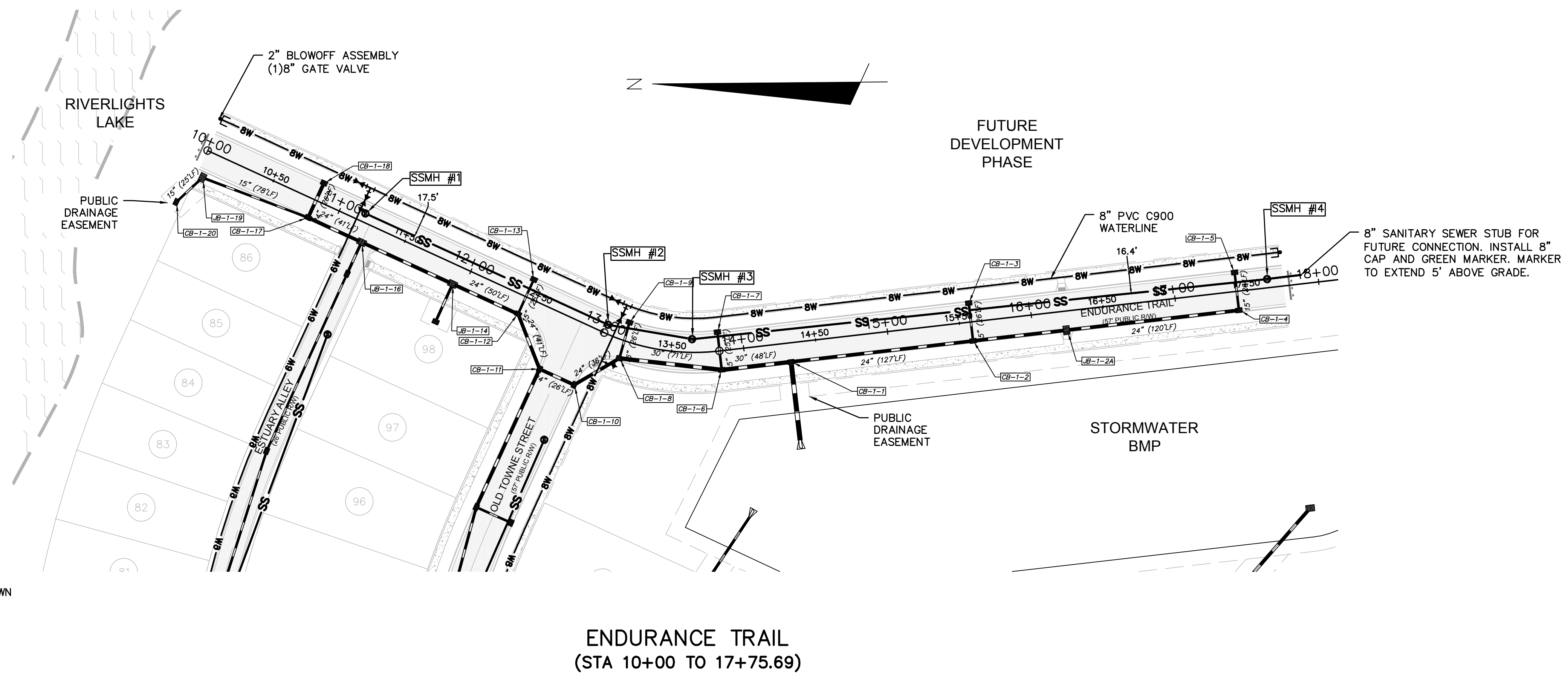


DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CU-708
DRAWING NUMBER: 24
REVISION: G

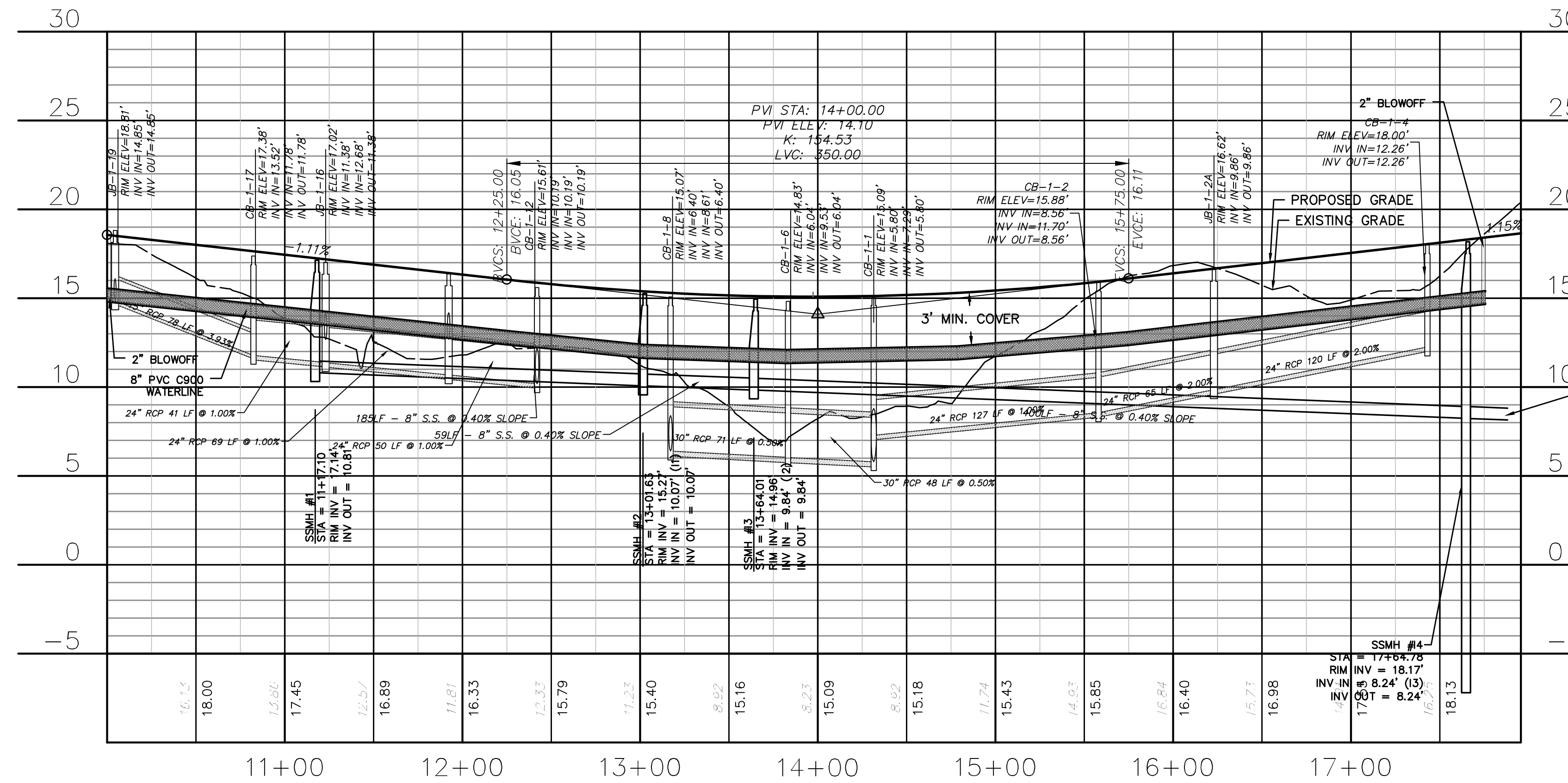


CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

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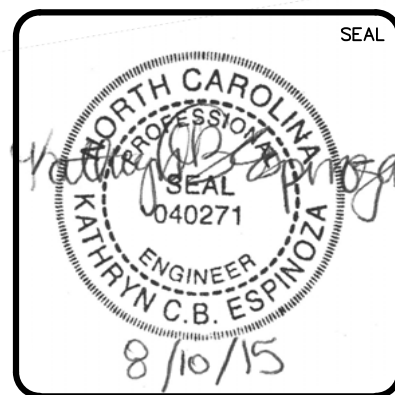


**ENDURANCE TRAIL
(STA 10+00 TO 17+75.69)**



REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015

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Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
**PLAN AND PROFILE STATION 10+00
TO STATION 17+76**

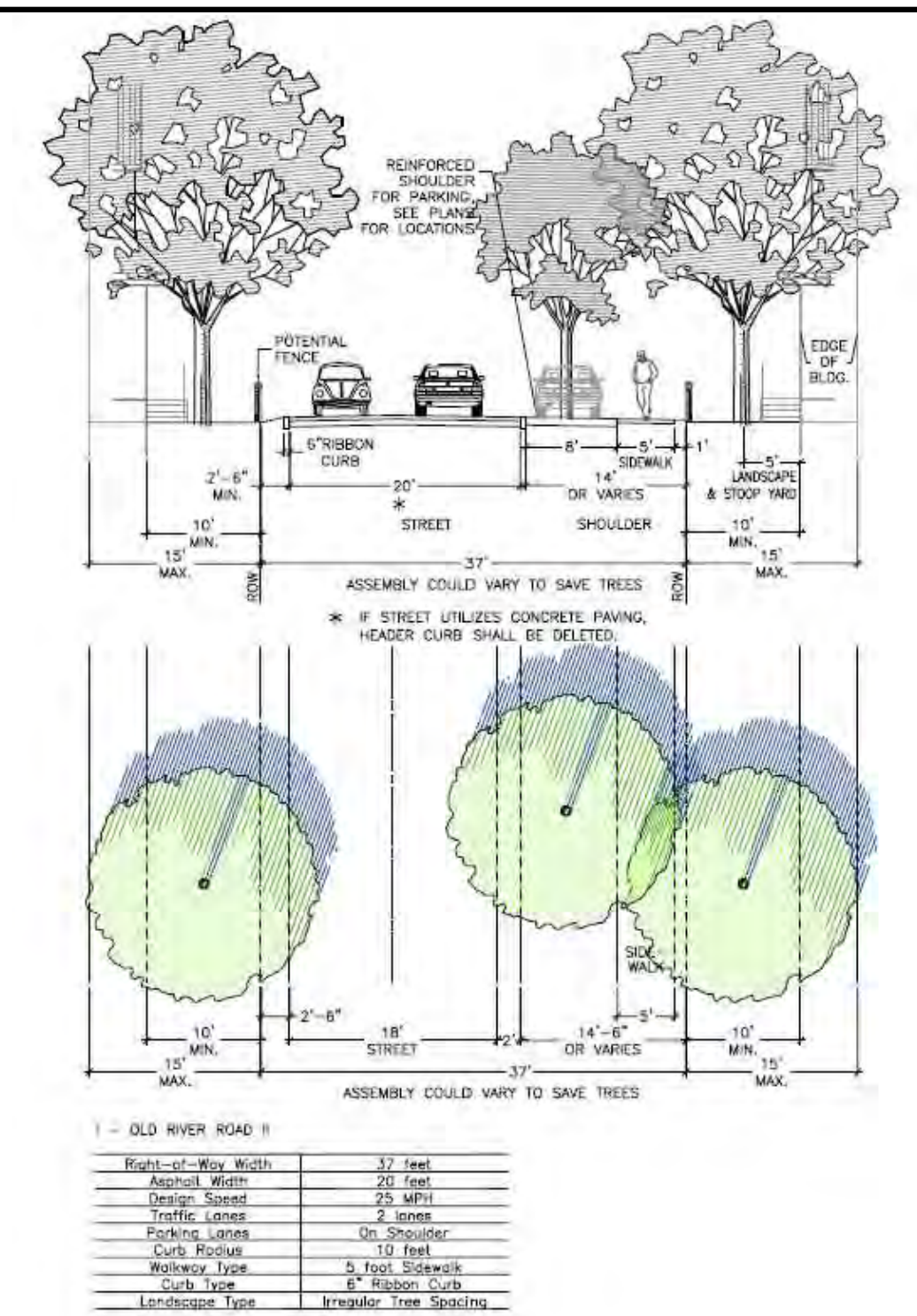
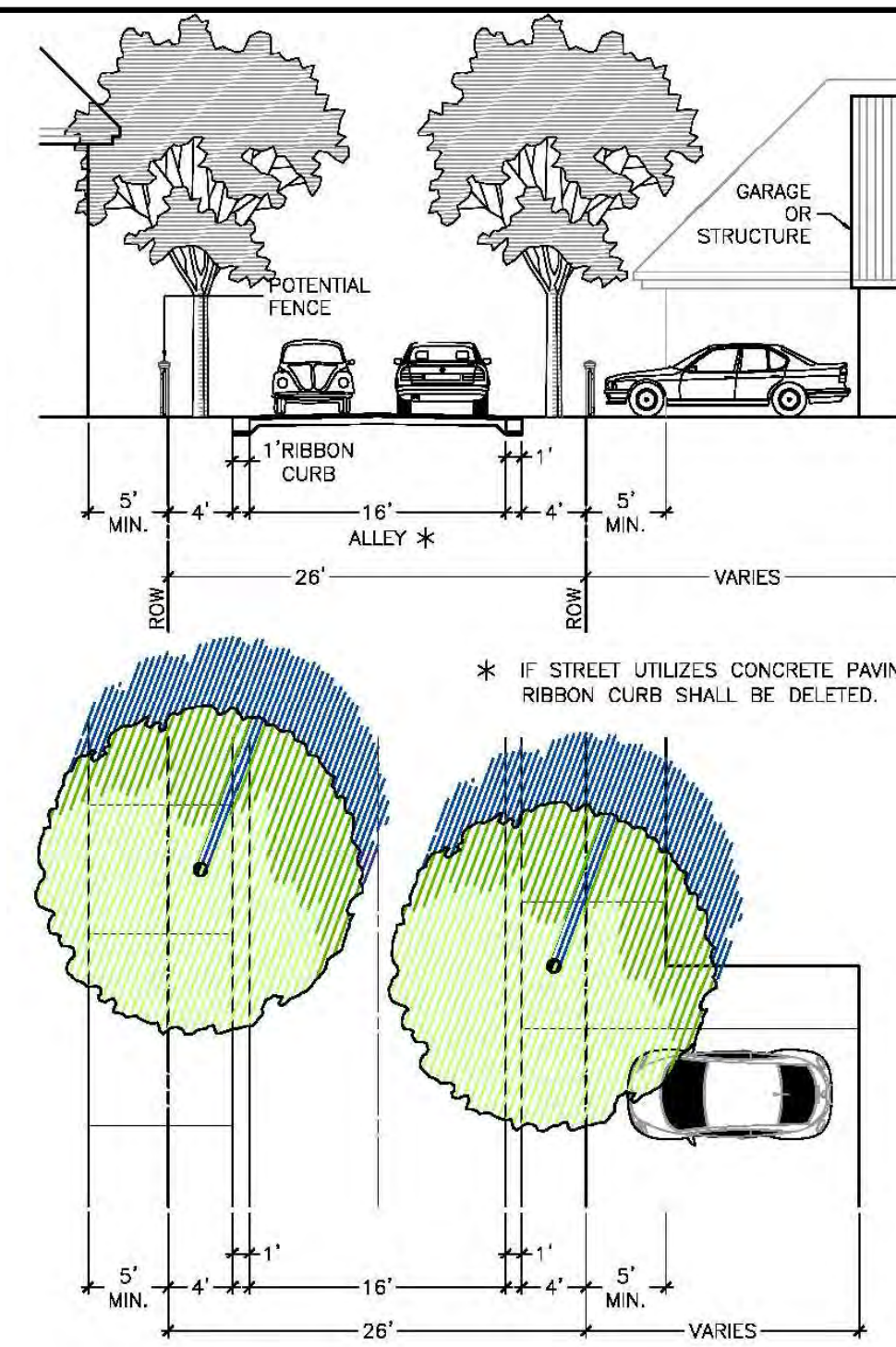
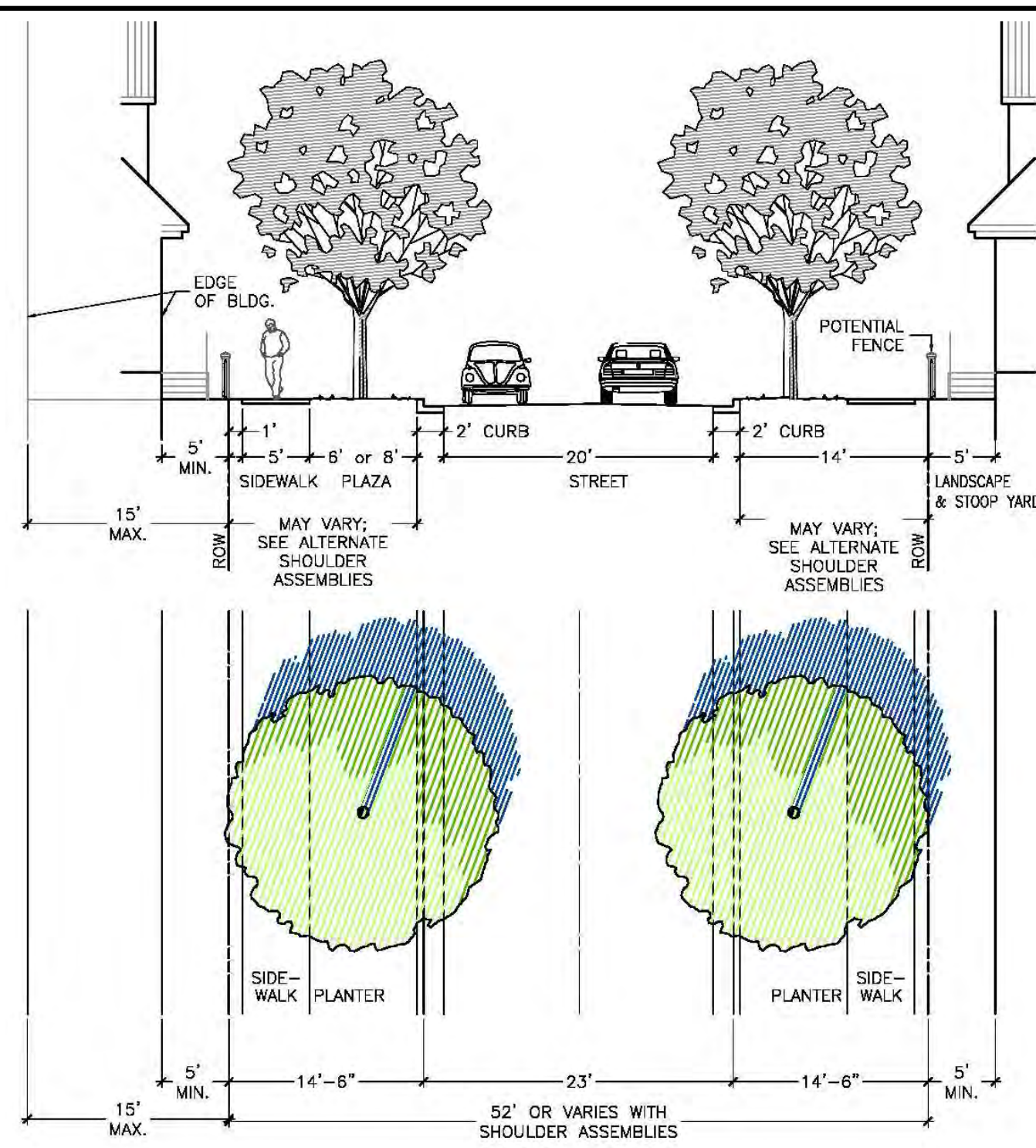
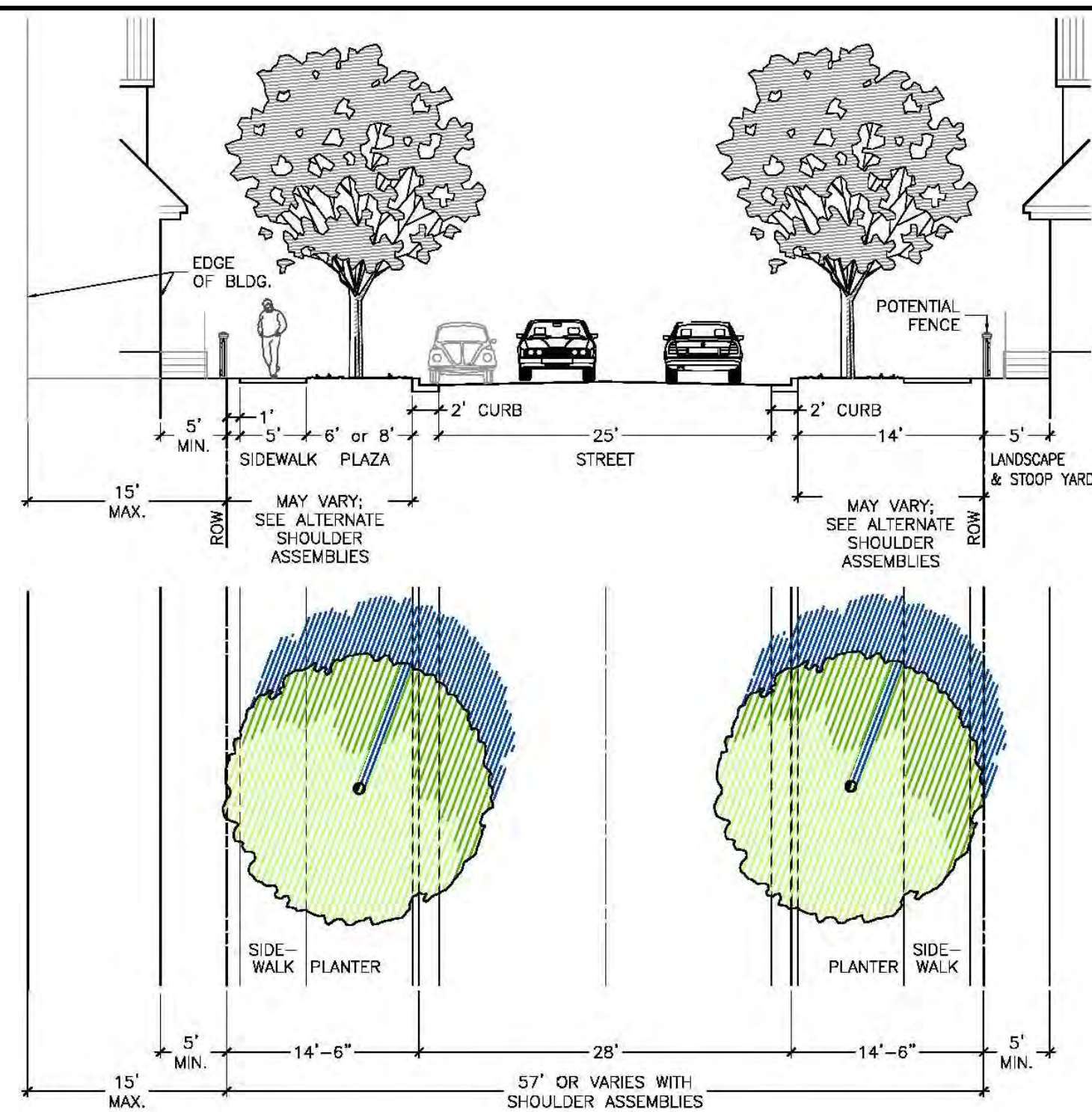
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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SCALE: 1"=5' (Vert.)

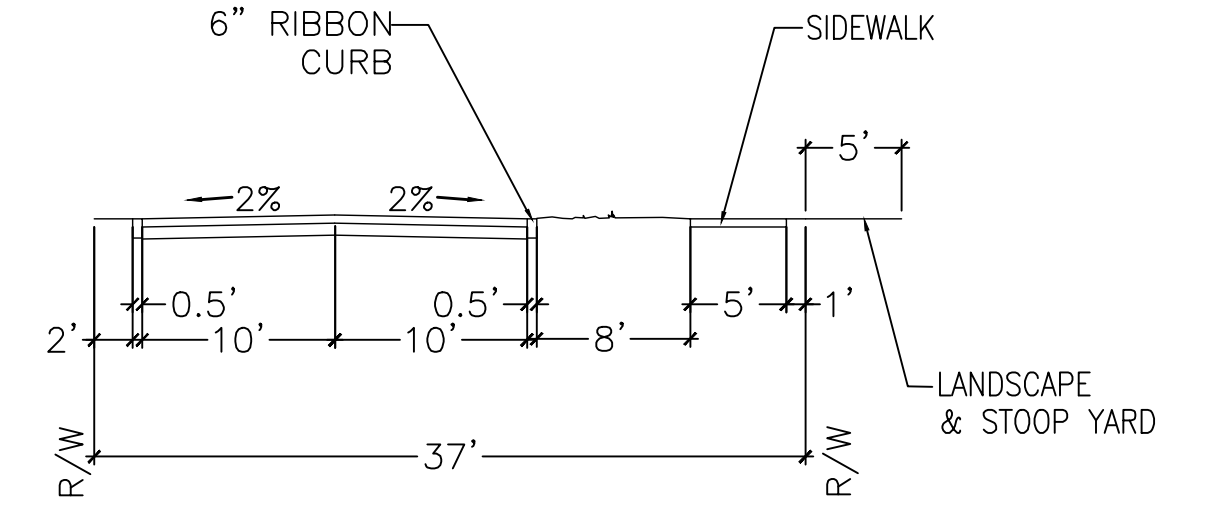
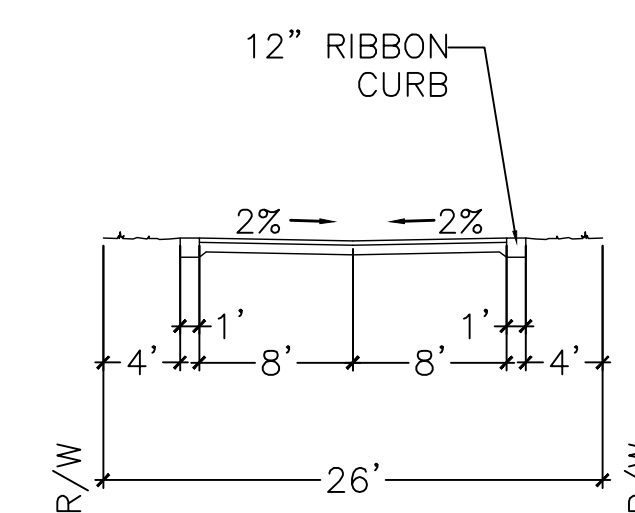
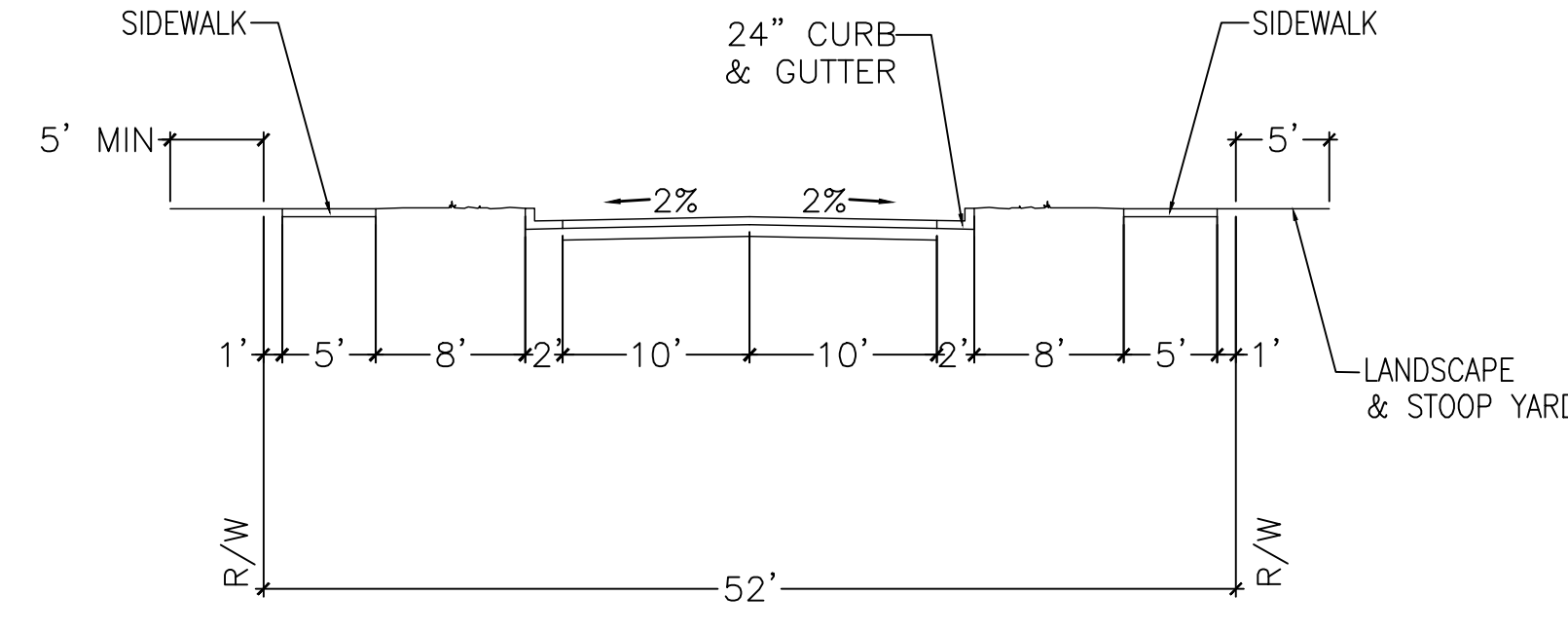
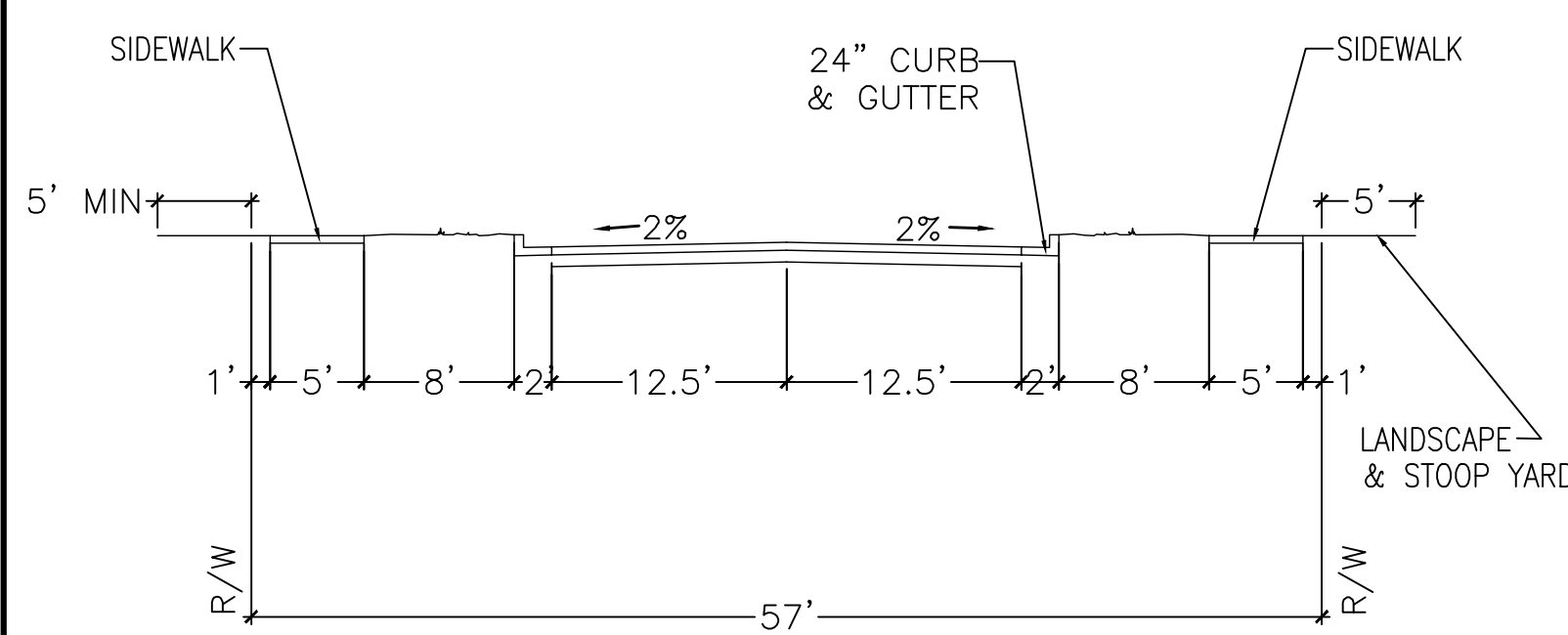
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DRAWING NUMBER: **25**
REVISION: **G**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

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Right-of-Way Width	37 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	On Shoulder
Curb Radius	10 feet
Walkway Type	5 foot Sidewalk
Curb Type	6" Ribbon Curb
Landscape Type	Irregular Tree Spacing



57' RIGHT-OF-WAY (PUBLIC)

Right-of-Way Width	57 feet
Asphalt Width	25 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	One Side @ 8 feet, marked
Curb Radius	25 feet
Walkway Type	5 foot sidewalk
Curb Type	Curb A
Landscape Type	Irregular spacing-50'oc max

52' RIGHT-OF-WAY (PUBLIC)

Right-of-Way Width	52 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	25 feet
Walkway Type	5 foot sidewalk
Curb Type	Curb A
Landscape Type	Irregular spacing-50'oc max

26' RIGHT-OF-WAY (PUBLIC)

Right-of-Way Width	26 feet
Asphalt Width	16 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	5 feet
Walkway Type	N/A
Curb Type	12" Ribbon Curb
Landscape Type	Irregular Tree Spacing

37' RIGHT-OF-WAY (PUBLIC)

Right-of-Way Width	37 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	On Shoulder
Curb Radius	10 feet
Walkway Type	5 foot Sidewalk
Curb Type	6" Ribbon Curb
Landscape Type	Irregular Tree Spacing

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
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B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
KATHRYN C.B. ESPINOZA
040271
8/10/15

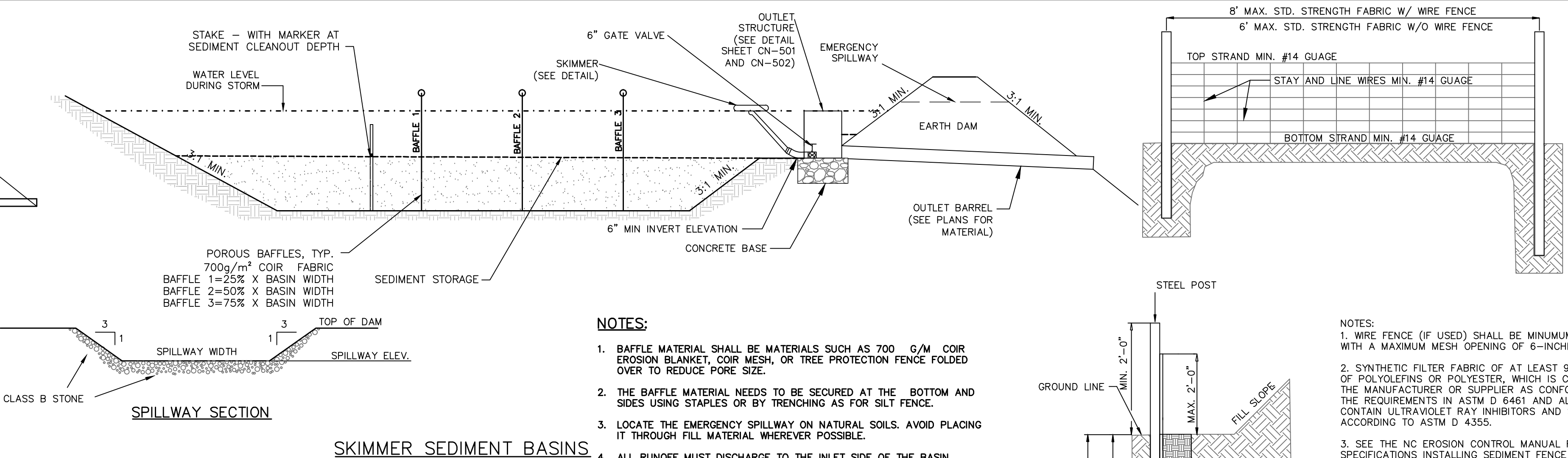
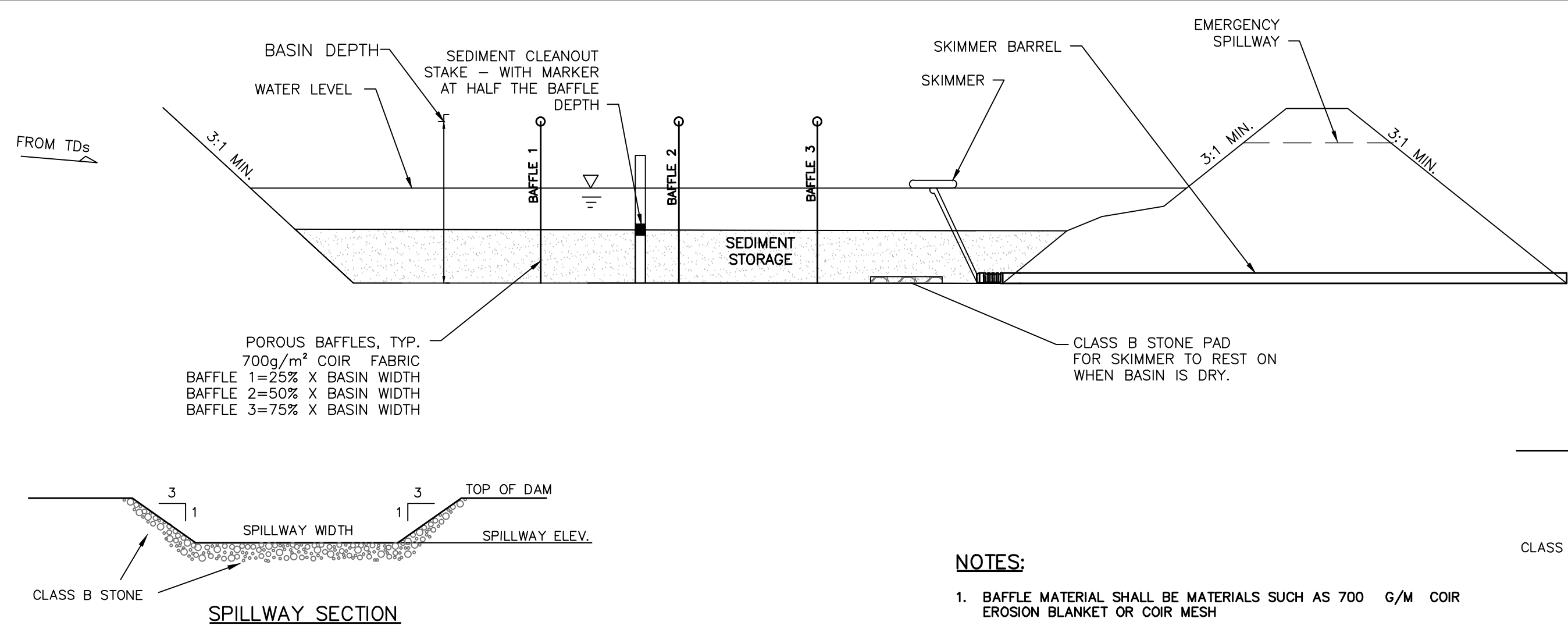
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RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
TYPICAL CROSS SECTIONS

DATE:	04-29-2015	SCALE:	AS NOTED	MAC FILE NUMBER:	CT-301
MCE PROJ. #	02735-0129	HORIZONTAL:	AS NOTED	DRAWING NUMBER:	26
DRAWN:	EEM/KCBE	VERTICAL:	AS NOTED	REVISION:	G
DESIGNED:	KCBE	STATUS: FINAL DESIGN			
CHECKED:	NJL	ISSUED FOR PERMITTING			
PROJ. MGR.:	RMC				

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- NOTES:**
- BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET OR COIR MESH
 - THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
 - LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS. AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
 - ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

- NOTES:**
- ORIFICE SIZES ARE FOR THE FAIRCLOTH SKIMMER. IF ANOTHER TYPE OF SKIMMER IS USED THE DEVICE MUST BE ABLE TO DRAIN THE BASIN WITHIN 24 - 72 HOURS.

SKIMMER BASIN CALCULATION TABLE (PHASE 1)

Skimmer No.	Drainage Area ac	Rational C	I10 Intensity in/hr	Q10 Peak Flow cfs	Required SA (325 x Q10) sf	Provided SA (1800cf/ac x DA) sf	Required Vol cf	Provided Vol cf	Storage Depth ft	Storage Vol Drained cf	Weir Width ft
SB-1	4.20	0.30	7.23	9.11	2,961	20,598	7,559	59,033	3.00	37,468	12.0
SB-4	2.98	0.30	7.23	6.46	2,100	2,451	5,364	6,308	3.00	3,422	8.0
SB-3	2.73	0.30	7.23	5.92	1,924	3,781	4,914	9,855	3.00	5,531	8.0
SB-5	1.20	0.30	7.23	2.61	848	8,353	2,163	23,566	3.00	14,668	6.0
SB-2	13.03	0.30	7.23	28.26	9,185	24,760	23,454	70,832	3.00	44,866	20.0
SB-6	1.63	0.30	7.23	3.54	1,151	1,736	2,934	4,552	3.00	2,537	6.0

SKIMMER BASIN CALCULATION TABLE (PHASE 2)

Skimmer No.	Drainage Area ac	Rational C	I10 Intensity in/hr	Q10 Peak Flow cfs	Required SA (325 x Q10) sf	Provided SA (1800cf/ac x DA) sf	Required Vol cf	Provided Vol cf	Storage Depth ft	Storage Vol Drained cf	Weir Width ft
SB-1/BMP-7	22.39	0.49	7.23	79.32	25,779	25,779	40,302	40,302	3.00	40,302	20.0
SB-4/BMP-6	6.73	0.51	7.23	24.82	8,065	8,065	12,114	12,114	3.00	12,114	20.0
SB-3/BMP-4	4.53	0.52	7.23	17.03	5,535	5,535	8,154	8,154	3.00	8,154	20.0
SB-2/BMP-1	25.44	0.55	7.23	101.16	32,878	24,760	45,792	70,832	3.00	70,832	20.0

TEMPORARY SILT FENCE
NOT TO SCALE

SILT FENCE CALCULATION TABLE

SILT FENCE No.	Drainage Area ac	Length ft	per 100 ft	0.25 Acre per 100 ft	YES/NO
SF 2	1.43	581.00	0.25	YES	YES
SF 3	0.01	42.00	0.02	YES	YES
SF 4	0.21	468.00	0.04	YES	YES
SF 5	0.77	466.00	0.17	YES	YES
SF 6	0.61	244.00	0.25	YES	YES
SF 7	1.14	457.00	0.25	YES	YES
SF 8	0.30	335.00	0.09	YES	YES
SF 9	0.32	458.00	0.07	YES	YES
SF 10	0.33	256.00	0.13	YES	YES
SF 11	1.42	570.00	0.25	YES	YES
SF 12	0.16	200.00	0.08	YES	YES
SF 13	0.08	258.00	0.03	YES	YES
SF 14	0.20	81.00	0.25	YES	YES
SF 15	1.20	481.00	0.25	YES	YES
SF 16	0.38	153.00	0.25	YES	YES
SF 17	0.74	411.00	0.18	YES	YES
SF 18	0.73	345.00	0.21	YES	YES

NOTES:

- Calculation taken from Table 6.62a of the NCDENR ESC Manual for slopes < 2% only.

FAIRCLOTH SKIMMER SIZE CALCULATION

Skimmer No.	Dewatering Time (days)	Skimmer Outflow cf/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in
SB-1	3	12,489	4.0	3.2	1.6	64.9	4.0
SB-4	3	1,141	1.5	1.2	0.6	5.9	4.0
SB-3	3	1,844	2.0	1.4	0.7	9.6	4.0
SB-5	3	4,889	2.5	2.2	1.1	25.4	4.0
SB-2	3	14,955	4.0	3.4	1.7	77.7	4.0
SB-6	3	846	1.5	1.1	0.5	4.4	4.0

Faircloth Skimmer Selection Table

Skimmer Size in	Outflow Qmax cf/day	Head ft
1.5	1,728	0.125
2	3,283	0.167
2.5	6,234	0.208
3	9,774	0.250
4	20,109	0.333

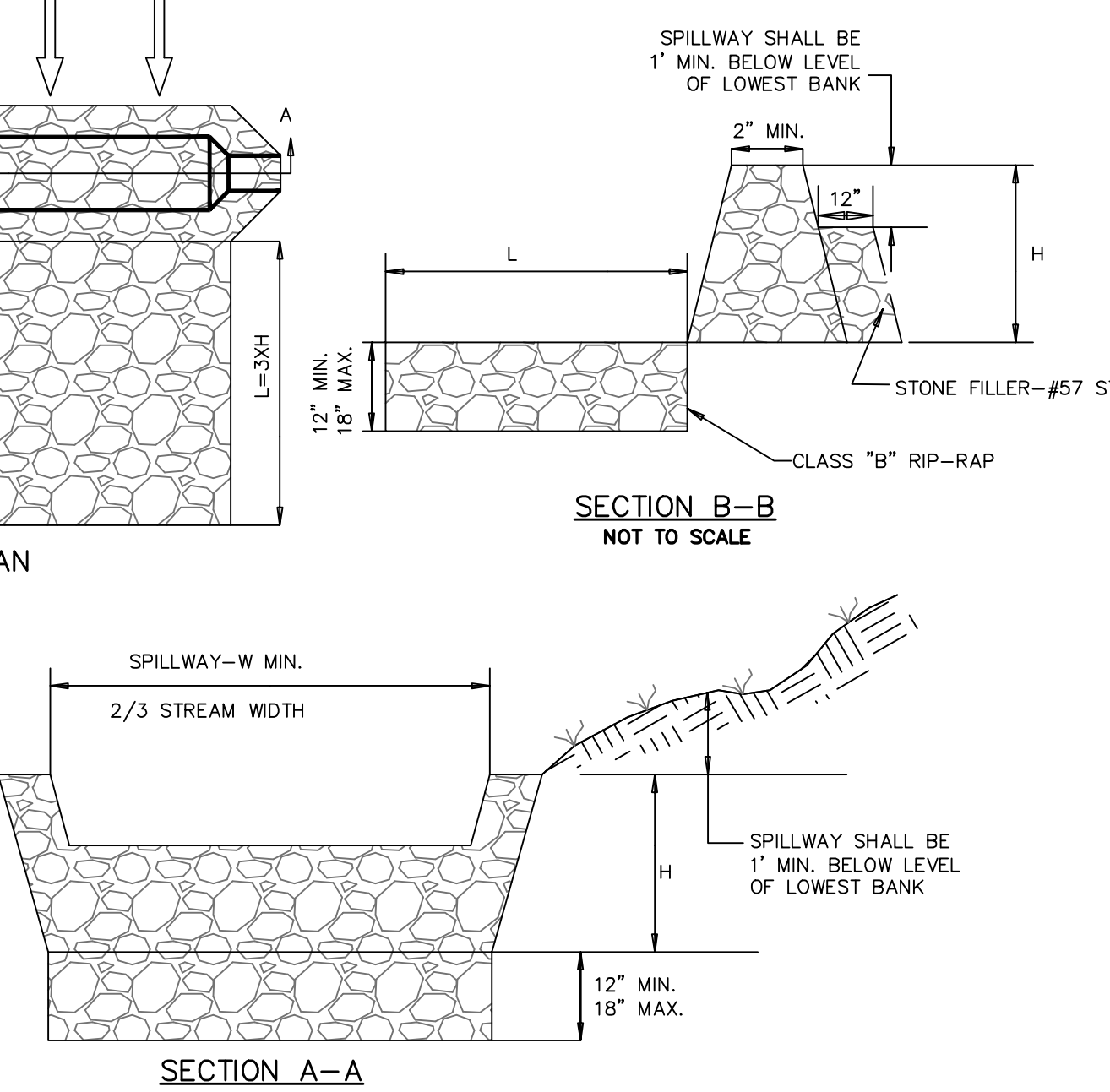
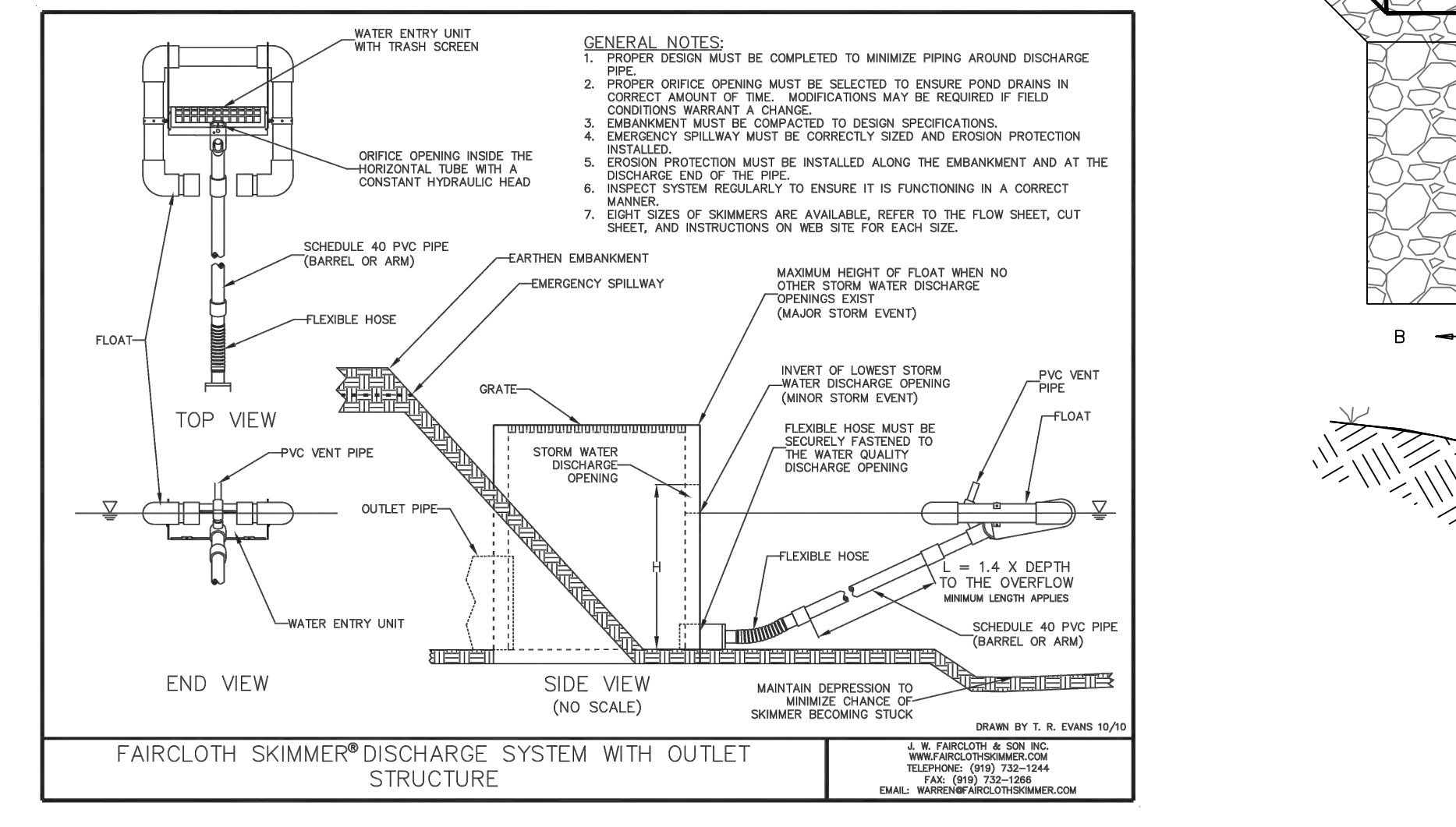
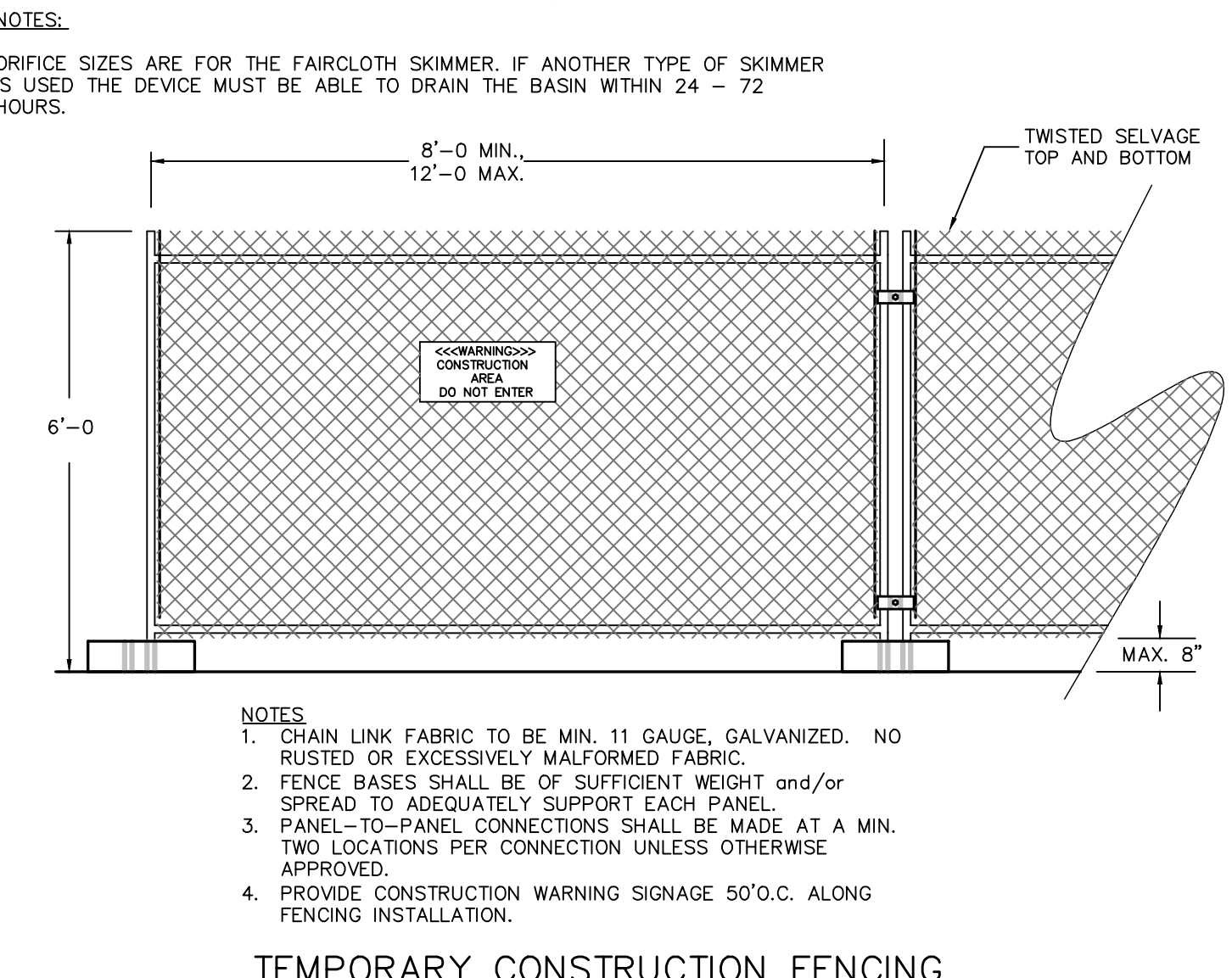
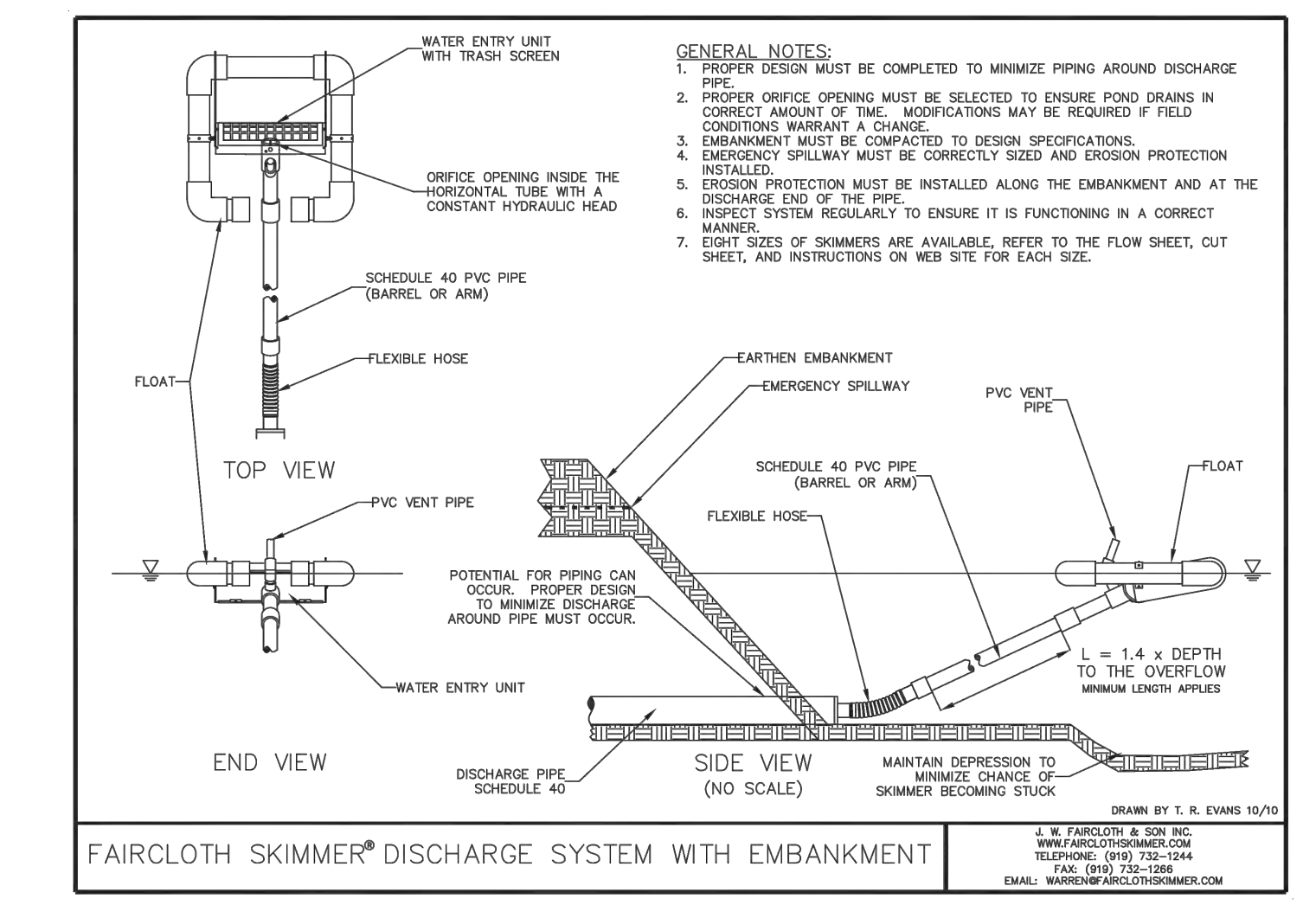
FAIRCLOTH SKIMMER SIZE CALCULATION

Skimmer No.	Dewatering Time (days)	Skimmer Outflow cf/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in
SB-1/BMP-7	3	13,434	4.0	3.3	1.6	69.8	4.0
SB-4/BMP-6	3	4,038	2.5	2.0	1.0	21.0	4.0
SB-3/BMP-4	3	2,718	2.0	1.8	0.9	14.1	4.0
SB-2/BMP-1	3	23,611	5.0	4.3	2.1	122.6	5.0

Faircloth Skimmer Selection Table

Skimmer Size in	Outflow Qmax cf/day	Head ft
1.5	1,728	0.125
2	3,283	0.167
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3	9,774	0.250
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- NOTES:**
- Q10 Peak Flow were taken from Rational Method.
 - Required Surface Areas and Volumes were taken from NCDENR ESC Manual.
 - Faircloth Skimmer Selection Table taken from Table 4-2, NCDOT Level III-A Design of Sediment & Erosion Control Plans Manual
 - Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table and/or Hydraulic Routing of the basin to ensure non-erosive velocity.
 - Minimum Barrel Pipe on the Skimmer is 4-inches. (On a 1% slope the capacity is 100 GPM)
 - Skimmer Orifice Diameter / Radius were obtained using the Faircloth Skimmer sizing spreadsheet (obtained from their website: <http://www.fairclothskimmer.com/skimmer-sizing>)



SKIMMER DETAIL WITH EMBANKMENT
NOT TO SCALE

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	08/10/2015
F	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HAMOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

TEMPORARY CONSTRUCTION FENCING
NOT TO SCALE

FINAL DRAWINGS DO NOT USE FOR CONSTRUCTION

SEAL
SOUTH CAROLINA PROFESSIONAL ENGINEER
KATHIRN C.B. ESPINOZA
8/10/15

SEAL
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SKIMMER DETAIL WITH OUTLET STRUCTURE
NOT TO SCALE

SEAL
NORTH AMERICA SEKISUI HOUSE, LLC
RIVERLIGHTS
Newland COMMUNITIES

DITCH CHECK DAM
SD 13-04
NOT TO SCALE

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
EROSION AND SEDIMENT CONTROL
DETAILS

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NUL
PROJ. MGR. RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M/C FILE NUMBER
CE-501
DRAWING NUMBER
27
REVISION
G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

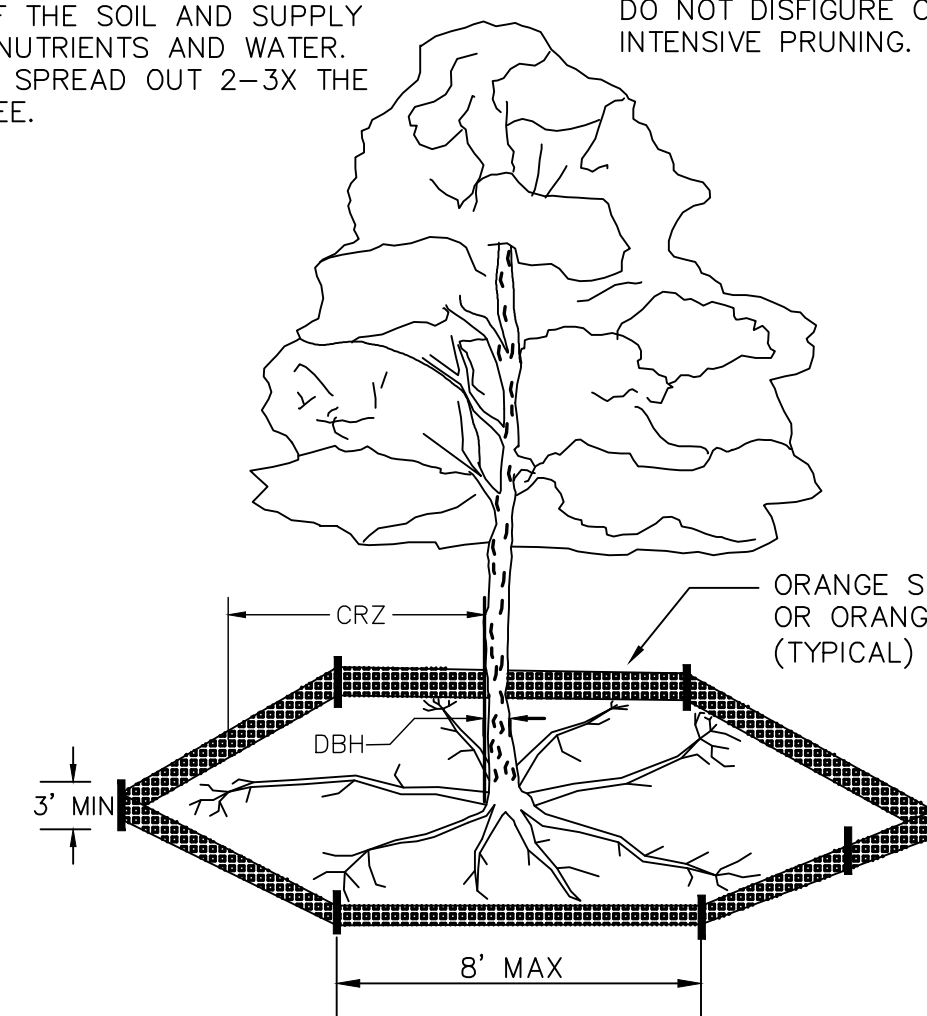
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SEEDBED PREPARATION:

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW).
- CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- APPLY:
 - AGRICULTURAL LIMESTONE - 2 TONS/ACRE
 - FERTILIZER - 1000 LBS/ACRE (10-10-10)
 - SUPERPHOSPHATE - 500 LBS/ACRE (20%)
 - MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)
 - ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE

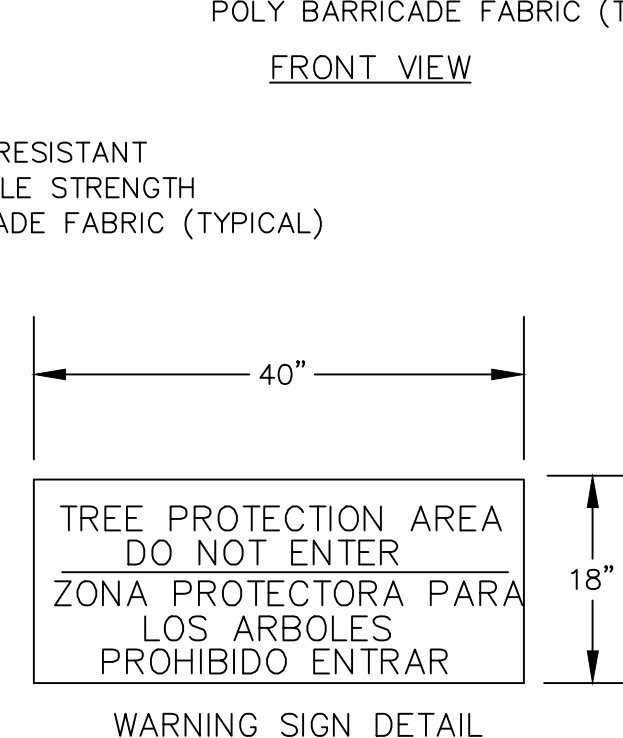
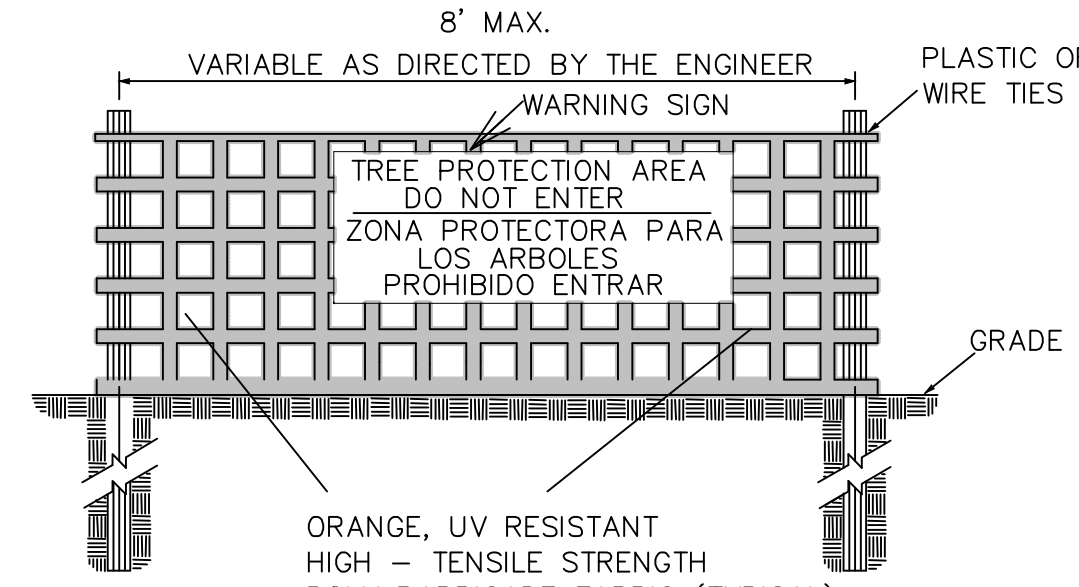
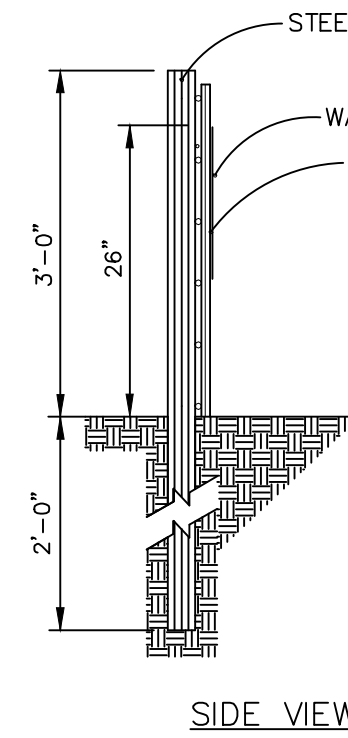
NOTE:

THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.



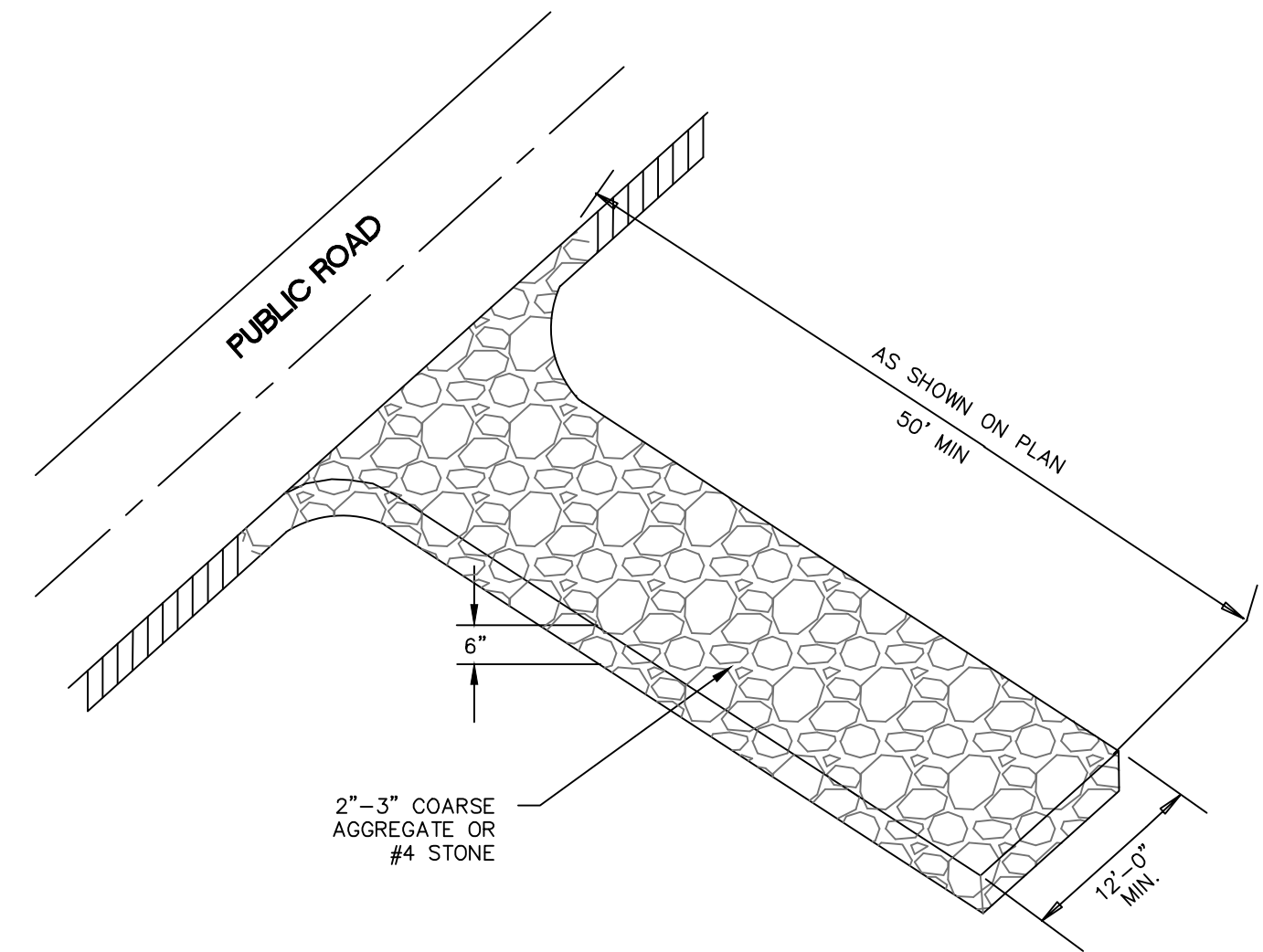
NOTE:

CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



NOTES:

- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
- WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
- SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
- ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
- TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
- ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.



CONSTRUCTION ENTRANCE/EXIT

SD 13-03
NOT TO SCALE

TREE PROTECTION NOTES:

- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS. [18-457(b)]
- PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. [18-458]
- LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS. [18-457(d)]
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING AND GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS. [18-458]
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED. [18-458]
- REGULATED AND SIGNIFICANT TREES IN THE STREET YARD [18-456(c)] AND ANY TREES IN ANY REQUIRED BUFFERS [18-456(b)] ARE REQUIRED TO BE RETAINED.

NOTES:

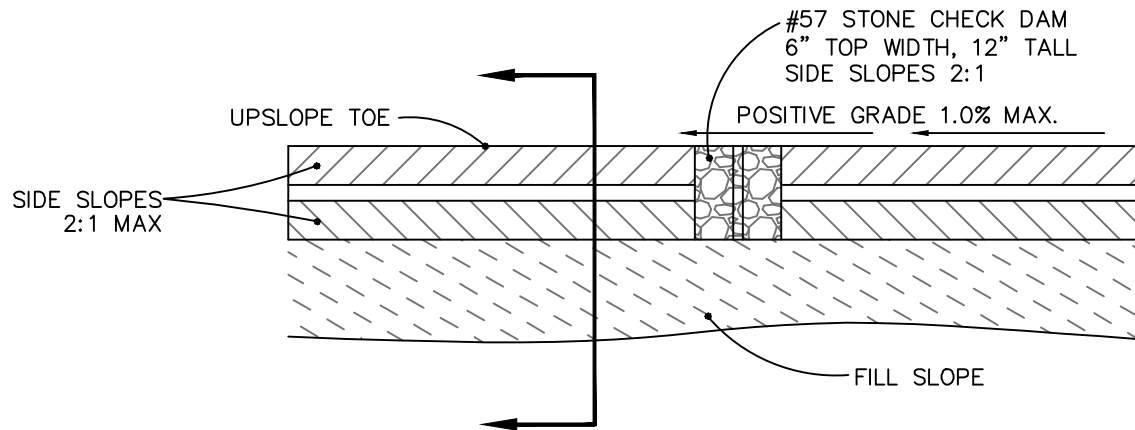
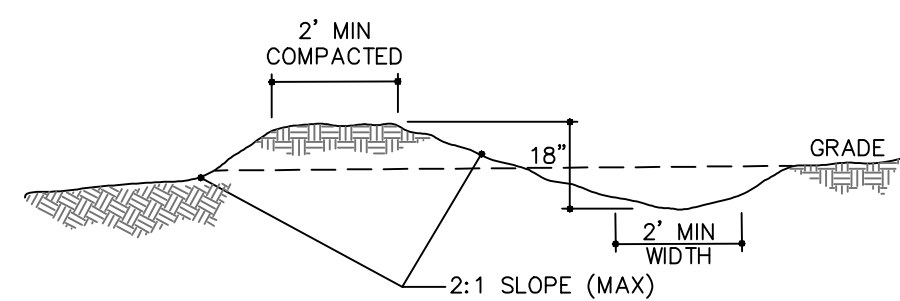
- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
- CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
- IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
- WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
- FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
- FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

METHOD OF TREE PROTECTION DURING CONSTRUCTION

SD 15-09

TEMPORARY SEEDING			
GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
BROWNTOP MILLET	1-2 LBS.	JUNE - AUGUST	25 LBS. 10-10-10

PERMANENT SEEDING			
GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS.	JUNE - AUGUST FEB. - OCT.	25 LBS. 10-10-10
SERICEA LESPEDEZA (SLOPES)	1-2 LBS.	MARCH - APRIL	25 LBS. 10-10-10



TEMPORARY DIVERSION DITCH

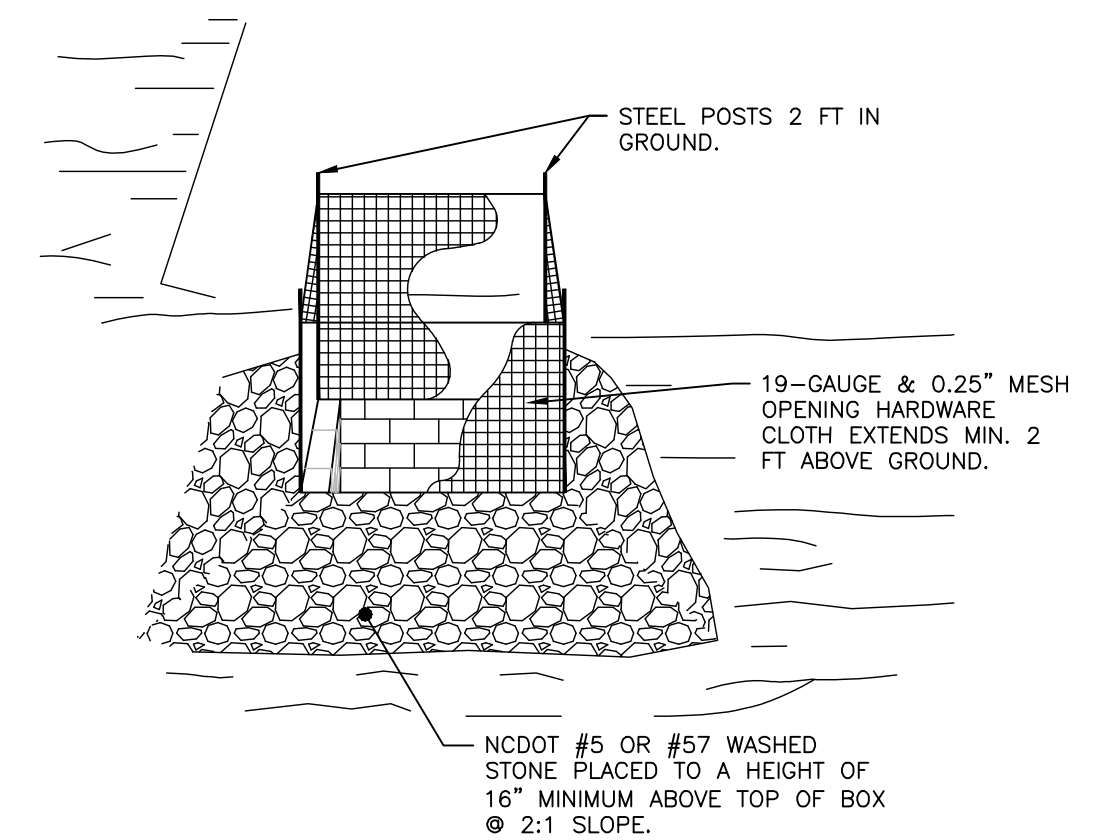
NOT TO SCALE

TDD NUMBER	DA (AC)	Q 10 (CFS)	LENGTH (FT)	HIGH (FT)	LOW (FT)	ELEVATION DIFF. (FT)	SLOPE (%)	INITIAL LINING	MANNING n	VELOCITY (FPS)	COMMENT	BMP #
TDD1	0.17	0.4	51	12.50	12.00	0.50	0.98	BARE EARTH	0.020	1.61	NO LINING	SB-1
TDD2	2.49	5.4	317	14.00	10.00	4.00	1.26	BARE EARTH	0.020	3.89	LINING RQ	SB-4
TDD3	0.54	1.2	183	17.00	14.00	3.00	1.64	BARE EARTH	0.020	2.77	LINING RQ	SB-3
TDD4	0.31	0.7	175	15.00	14.00	1.00	0.57	BARE EARTH	0.020	1.63	NO LINING	SB-3
TDD5	0.05	0.1	82	20.50	14.00	6.50	7.93	BARE EARTH	0.020	2.56	LINING RQ	SB-5
TDD6	0.35	0.8	174	23.00	14.00	9.00	5.18	BARE EARTH	0.020	3.63	LINING RQ	SB-5
TDD7	3.74	8.1	287	14.00	8.00	6.00	2.09	BARE EARTH	0.020	5.12	LINING RQ	SB-2
TDD8	0.23	0.5	64	23.00	8.00	15.00	23.44	BARE EARTH	0.020	9.47	LINING RQ	SB-2
TDD9	1.13	2.5	215	23.00	22.00	1.00	0.47	BARE EARTH	0.020	0.92	NO LINING	SB-6

TEMPORARY ROCK CHECK DAMS/WATTLES												
TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	DEPTH in	MIN. DEPTH in	CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED	BMP #		
TDD1	EXCELSIOR	0.020	1.61	EXCELSIOR OK	1.9	18	204	0	0	SB-1		
TDD2	EXCELSIOR	0.035	2.57	EXCELSIOR OK	8.3	18	159	2	2	SB-4		
TDD3	EXCELSIOR	0.035	1.85	EXCELSIOR OK	3.9	18	122	2	2	SB-3		
TDD4	EXCELSIOR	0.020	1.63	EXCELSIOR OK	2.9	18	350	1	1	SB-3		
TDD5	EXCELSIOR	0.035	1.74	EXCELSIOR OK	0.7	18	25	3	3	SB-5		
TDD6	EXCELSIOR	0.035	2.44	EXCELSIOR OK	2.3	18	39	5	5	SB-5		
TDD7	EXCELSIOR	0.035	3.38	EXCELSIOR OK	8.9	18	96	3	3	SB-2		
TDD8	EXCELSIOR	0.035	3.86	EXCELSIOR OK	1.2	18	9	8	8	SB-2		
TDD9	EXCELSIOR	0.020	0.92	EXCELSIOR OK	9.5	21	430	1	1	SB-6		

Notes:

- Q10 taken from Rational Method.
- Manning n value for bare earth = 0.020 per NC ESC Manual Table 8.05f
- Manning n value for excelsior (curled wood) matting = 0.035 per NC ESC Manual Table 8.05f
- Tractive Force (Shear Stress) was also evaluated and found to be sufficient for the proposed lining.



NOTES:

- DRIVE 5-FOOT STEEL POSTS (1.25 lb/ft steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
- SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET. UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

TEMP. STORM DRAIN INLET PROTECTION

NOT TO SCALE

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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License: F-1222
www.mckimcreed.com

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
EROSION AND SEDIMENT CONTROL
DETAILS

by
Newland COMMUNITIES

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
EROSION AND SEDIMENT CONTROL
DETAILS**

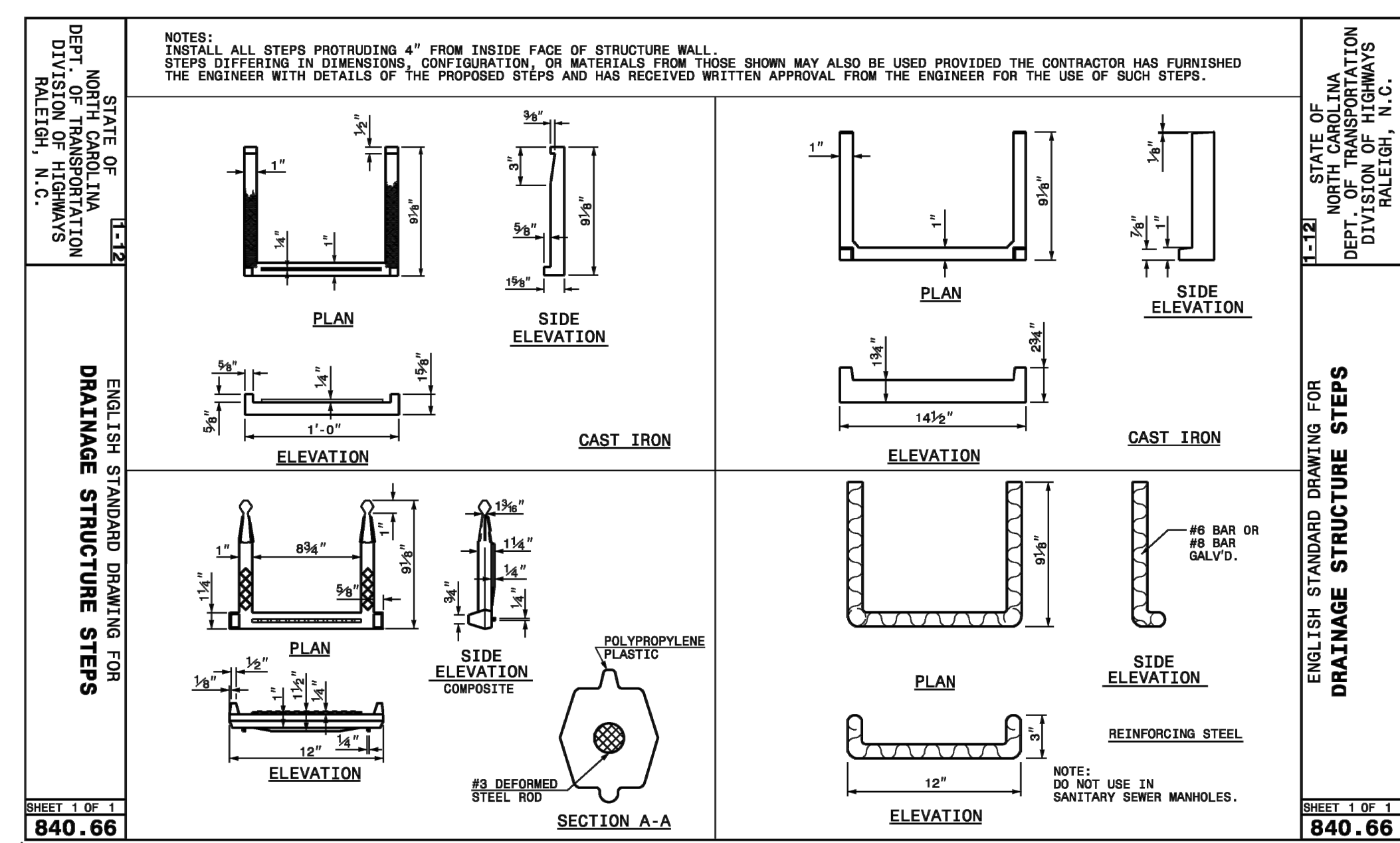
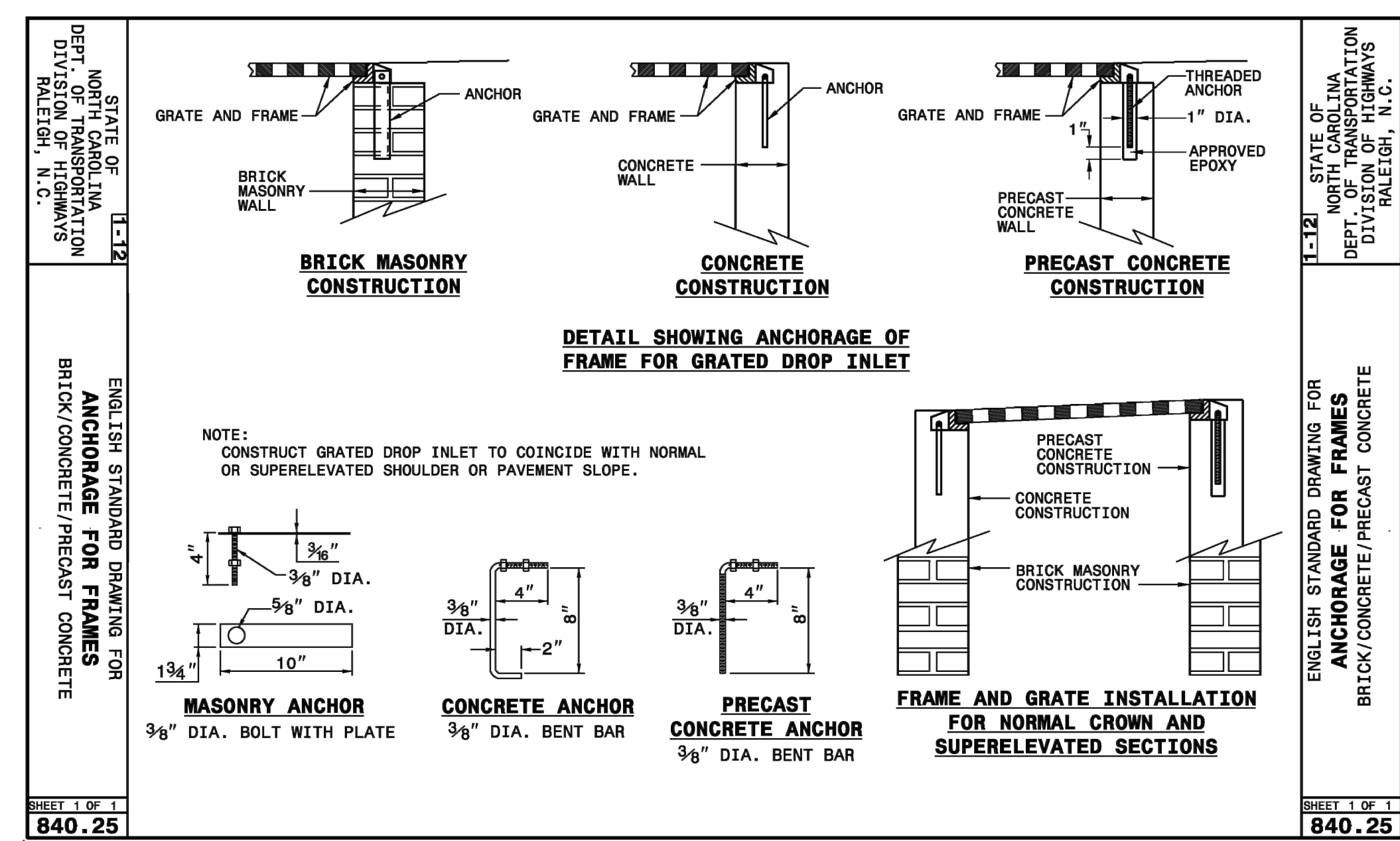
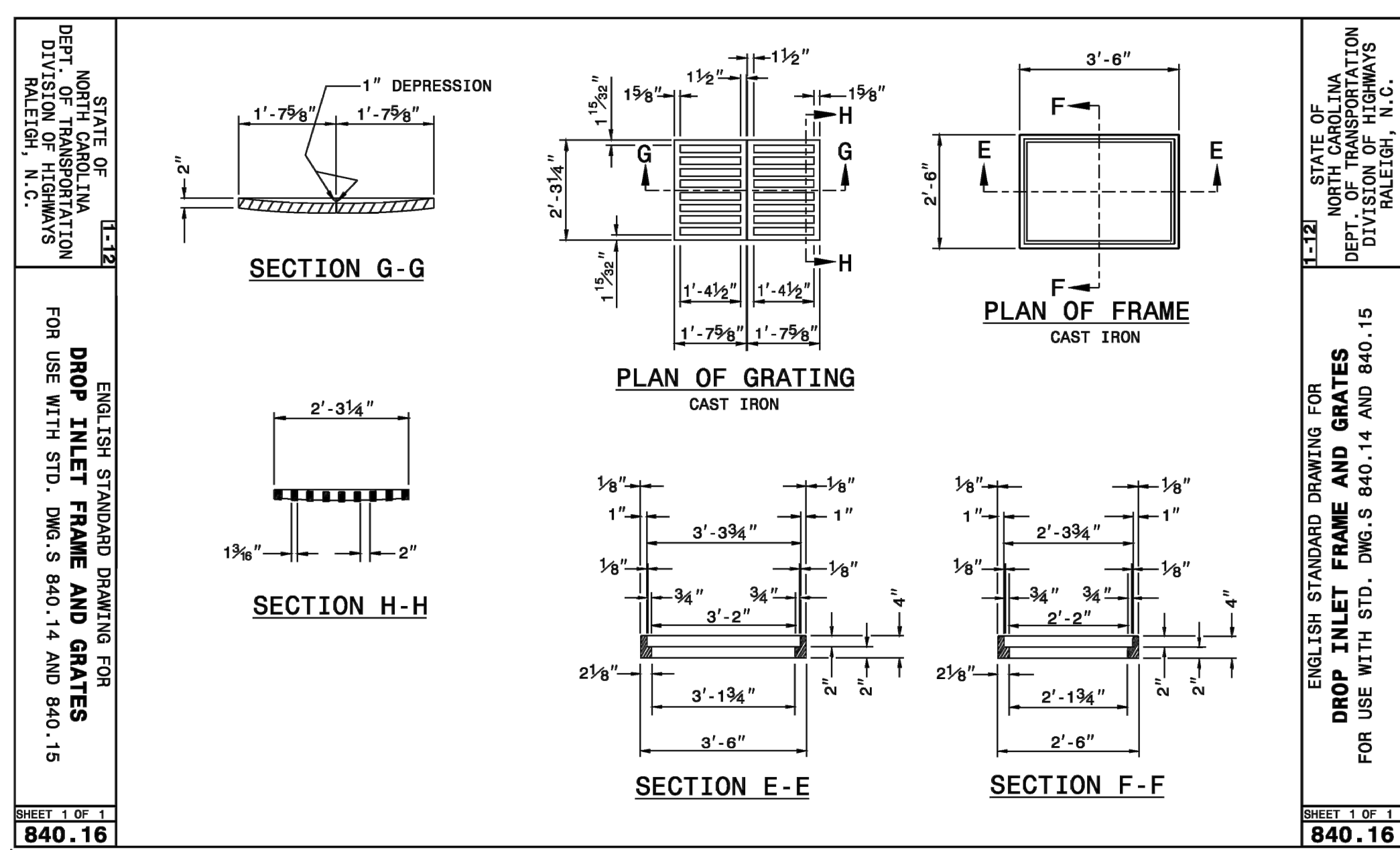
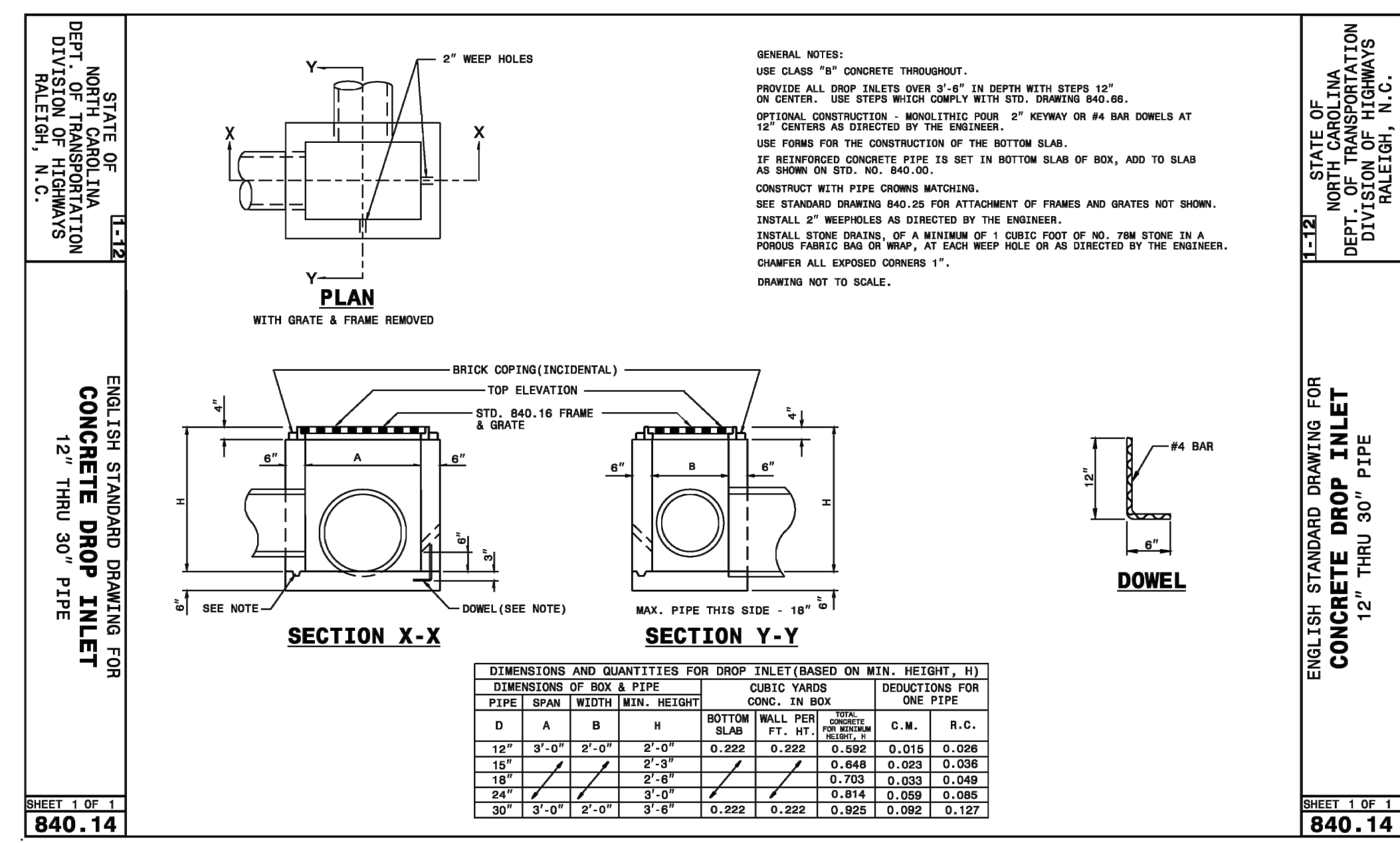
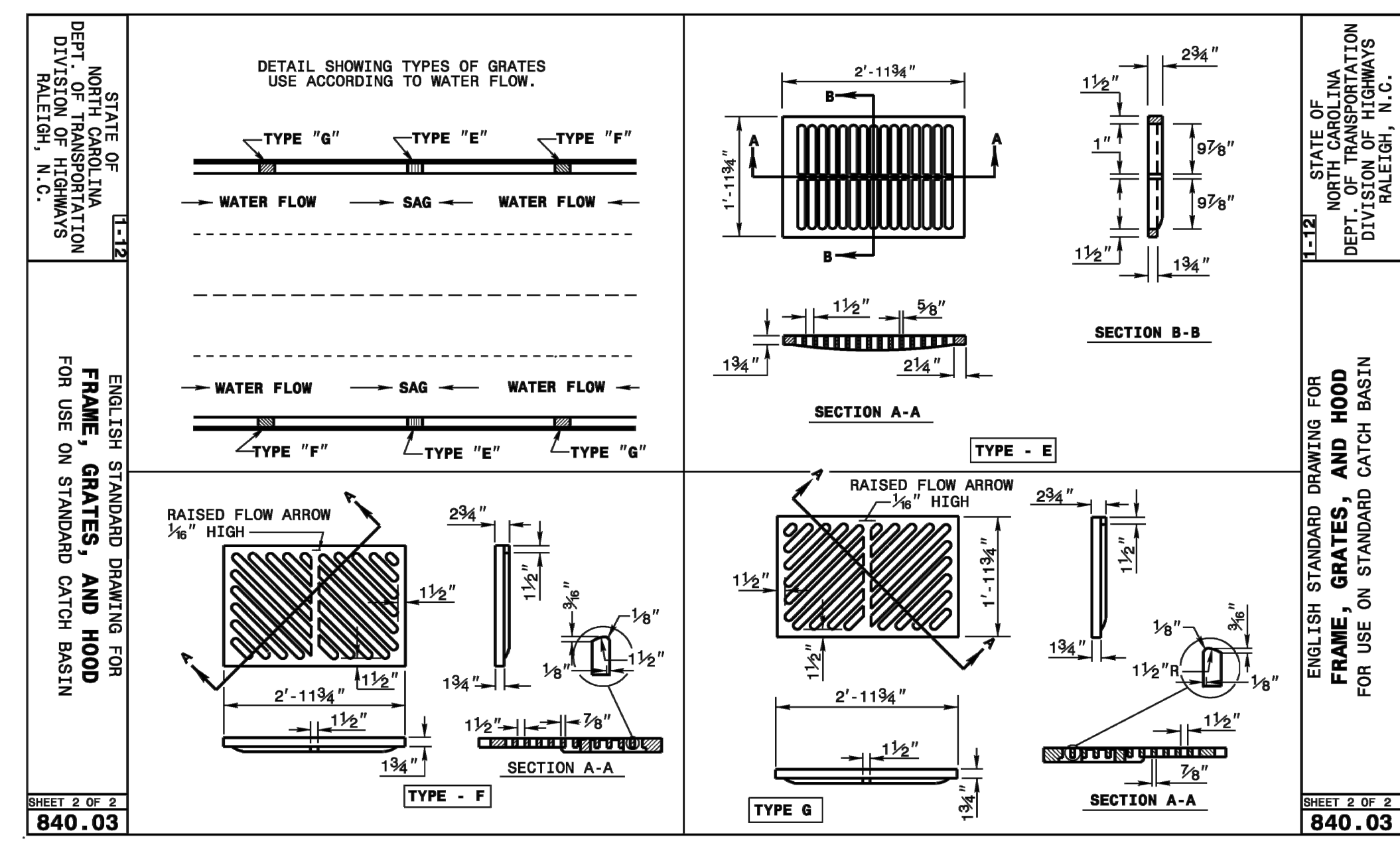
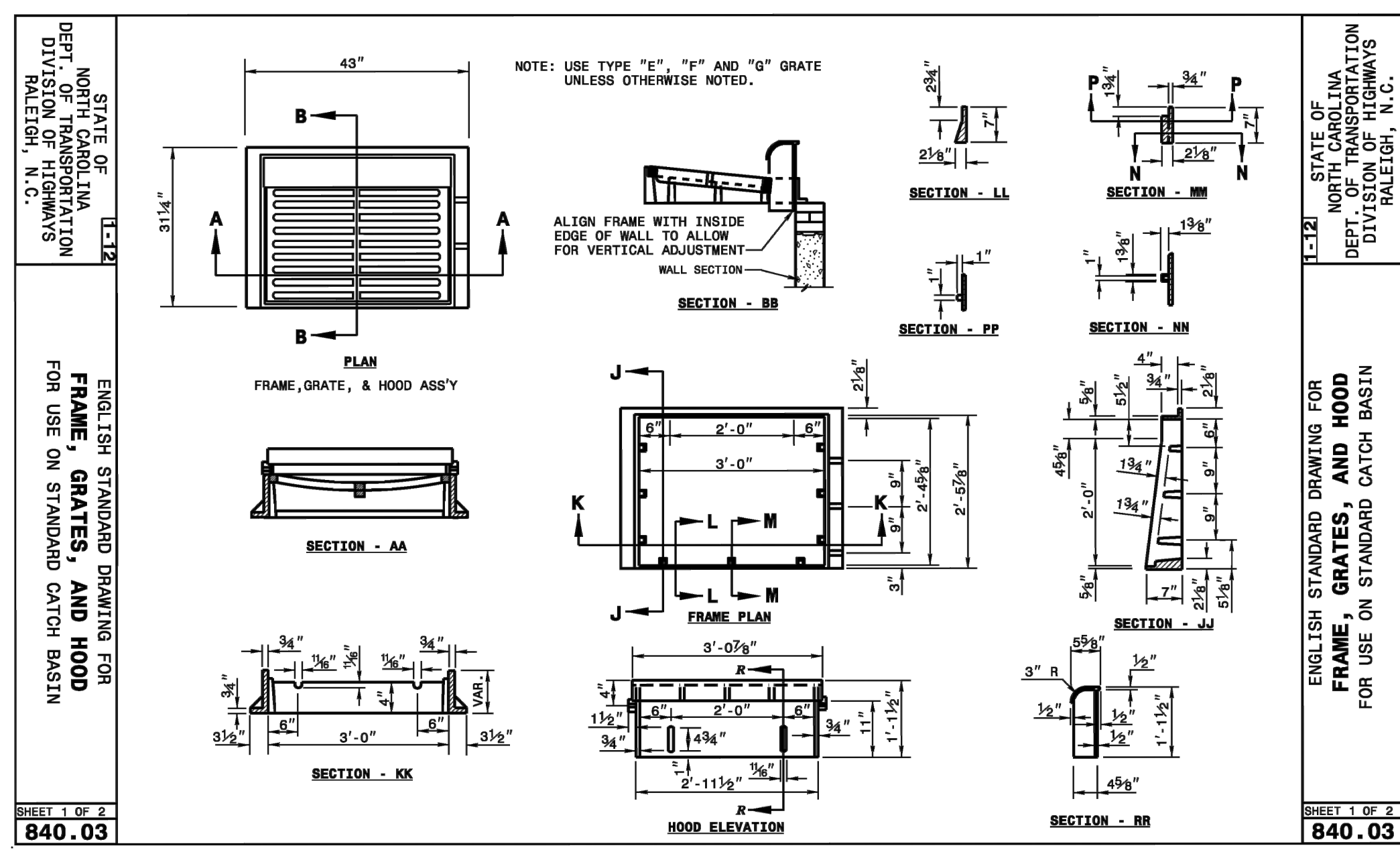
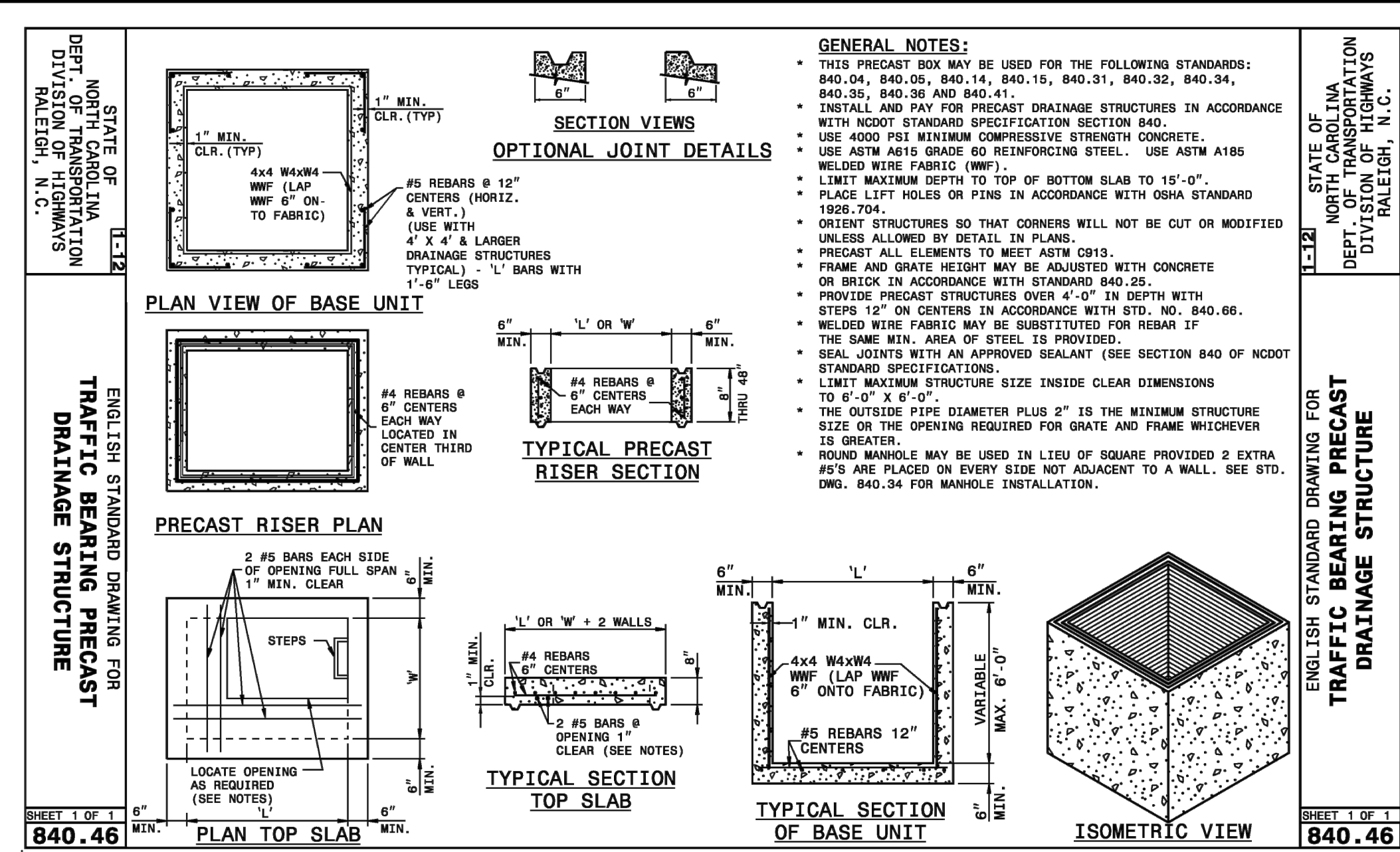
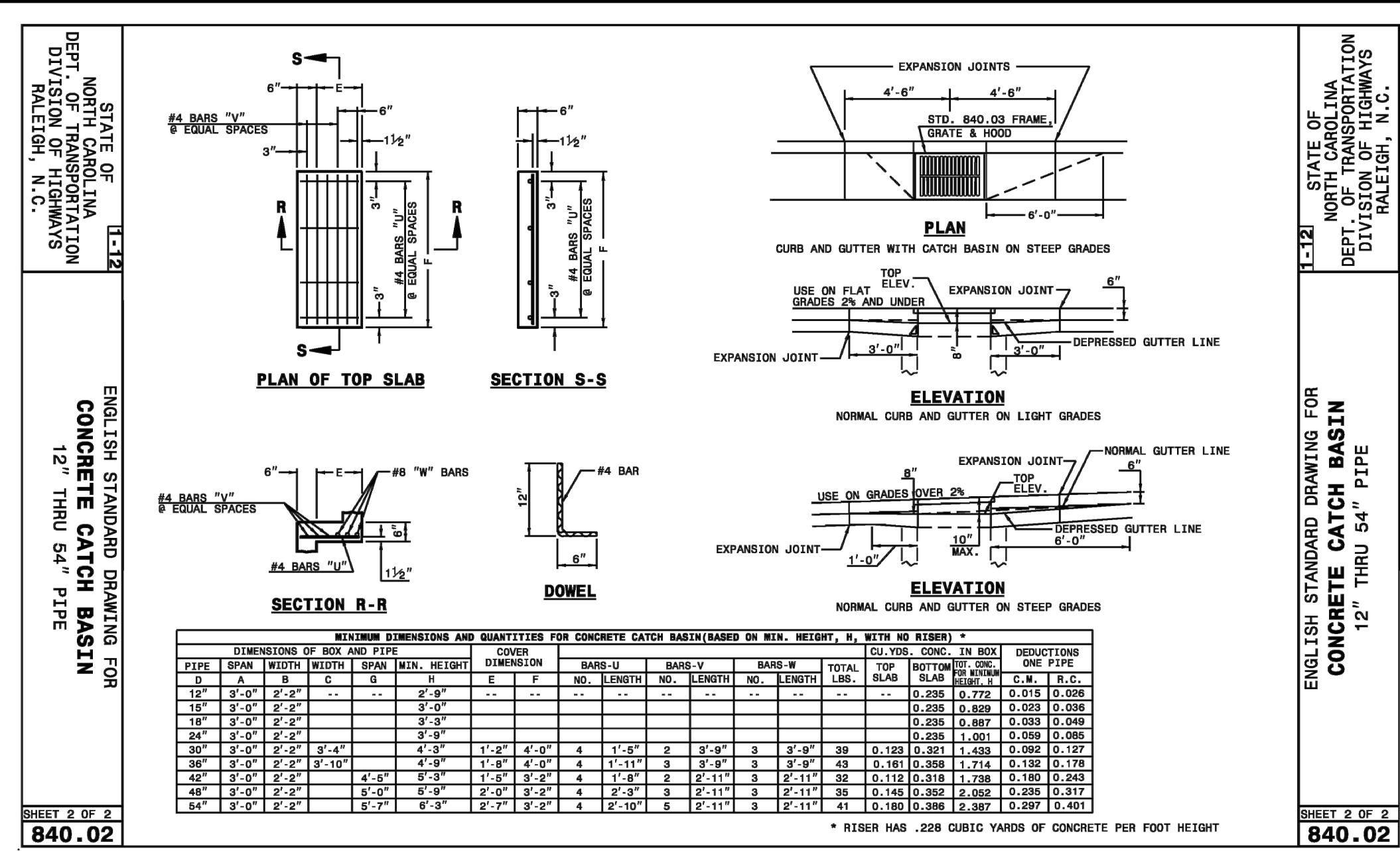
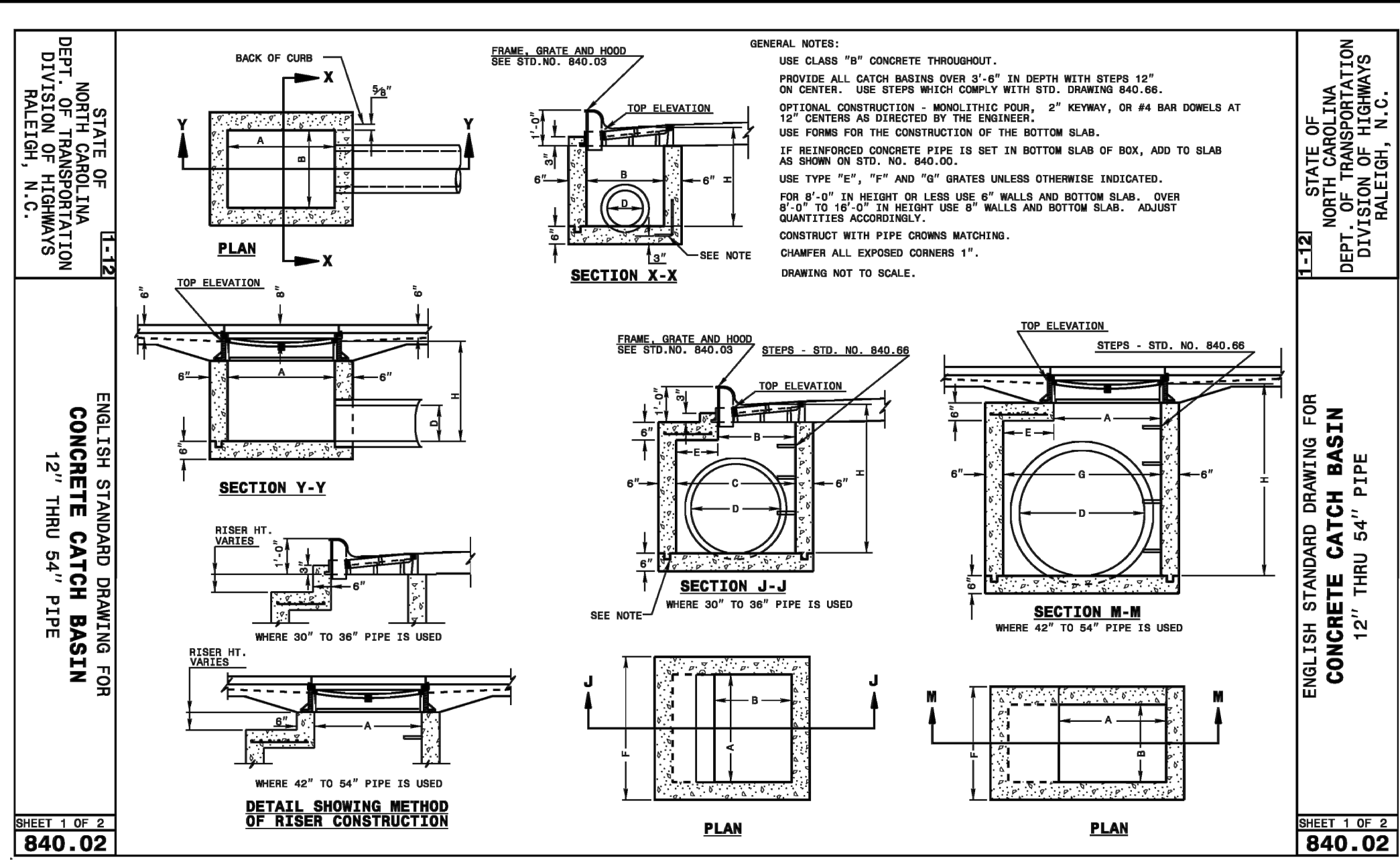
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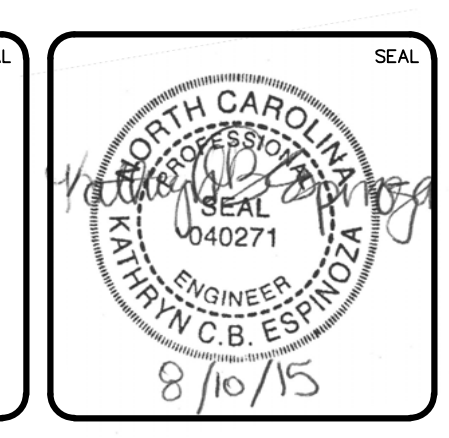
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ISSUED FOR PERMITTING

REVISION: G



REV.	DESCRIPTIONS	DATE
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F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
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B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015



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RIVERLIGHTS

CONVENTIONAL NEIGHBORHOOD PH. 1

STORM DRAINAGE DETAILS

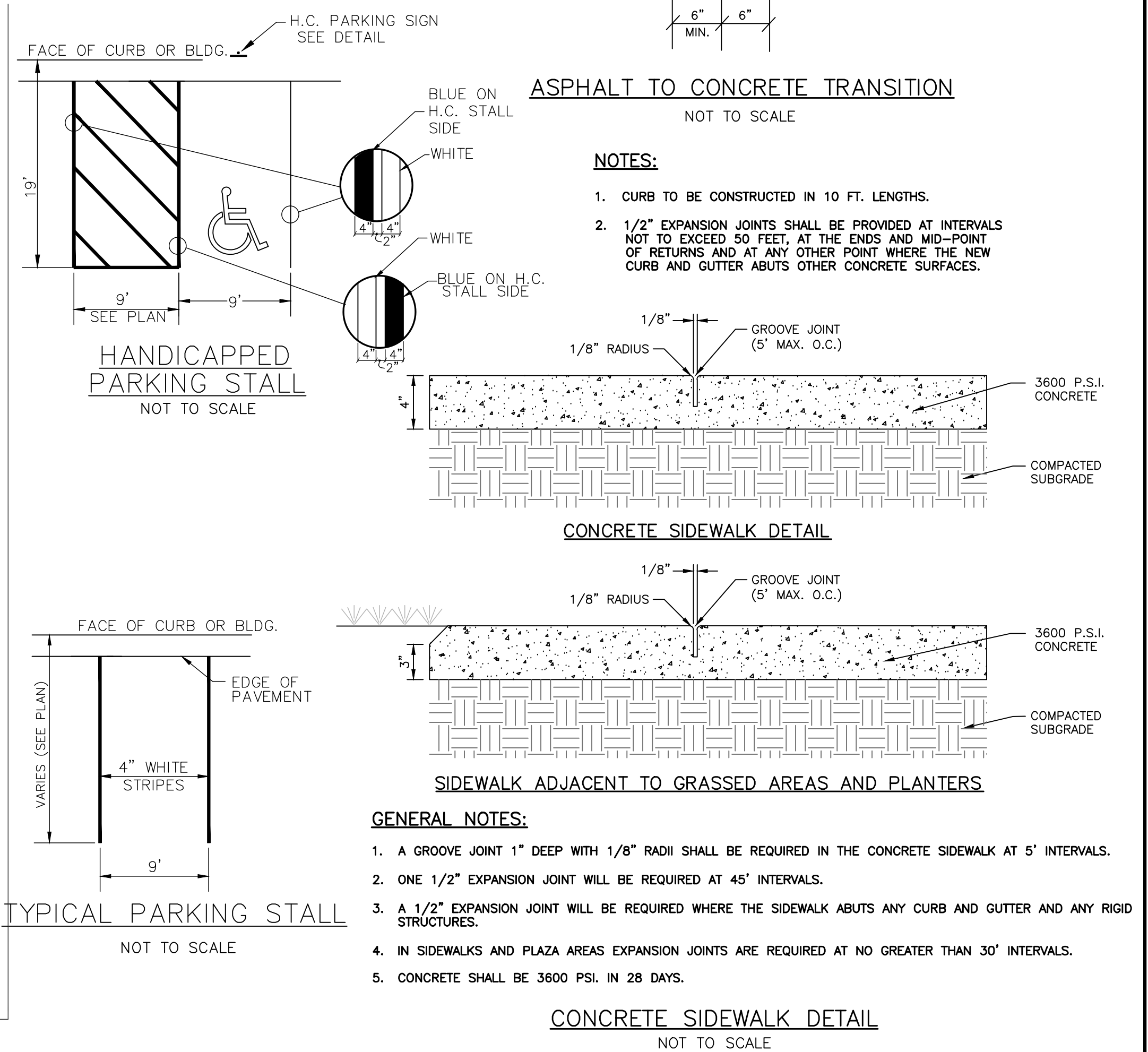
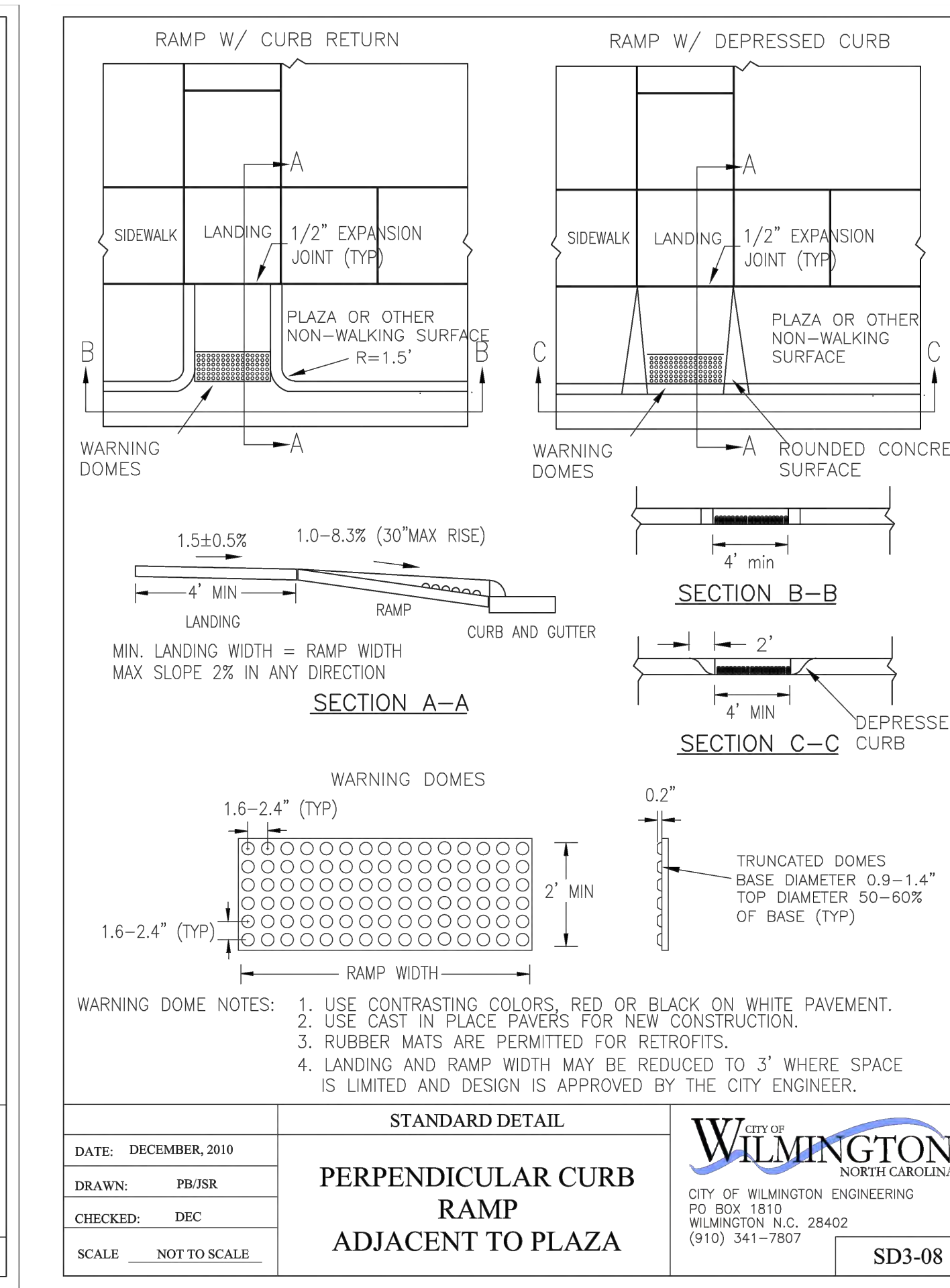
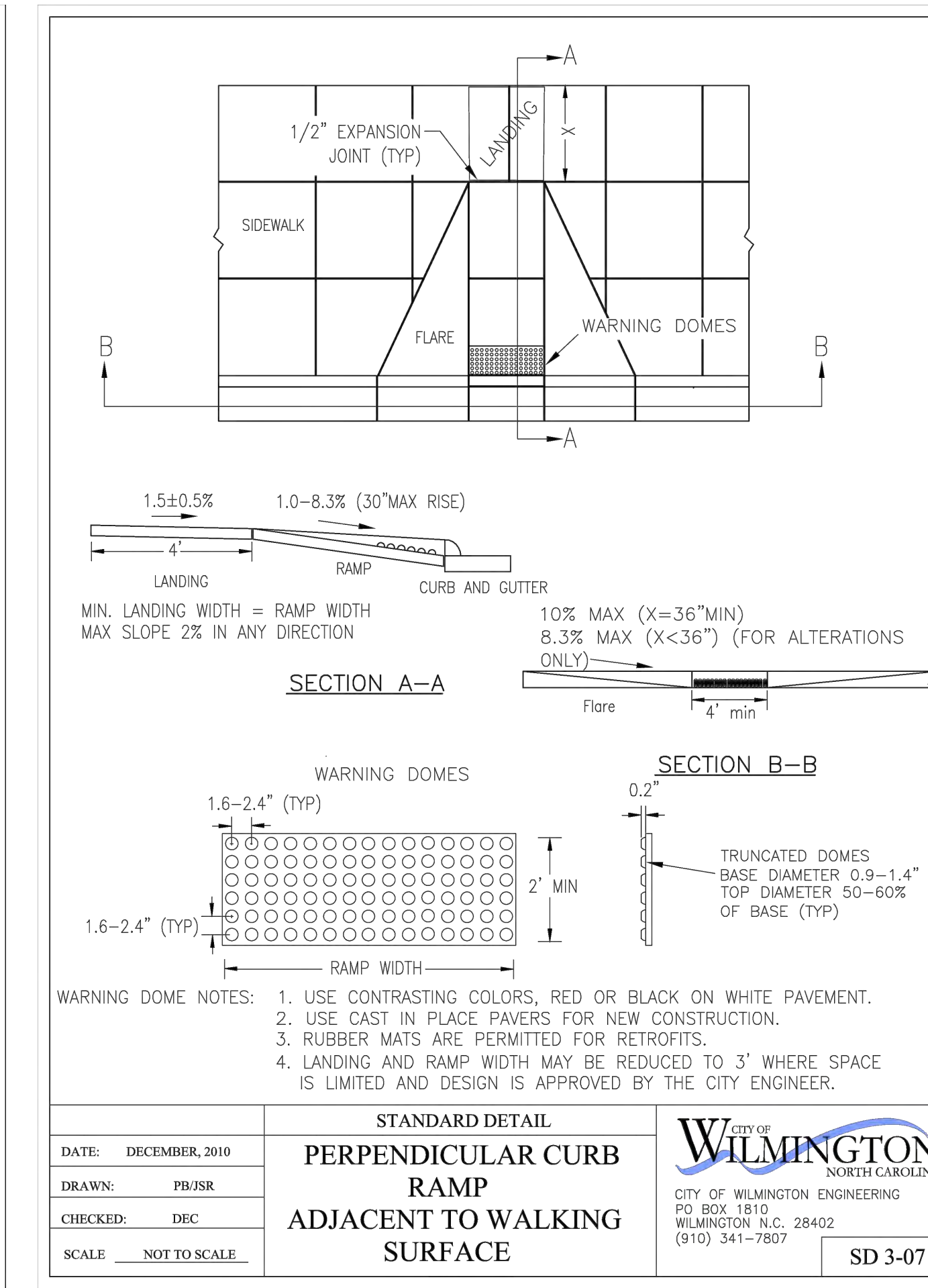
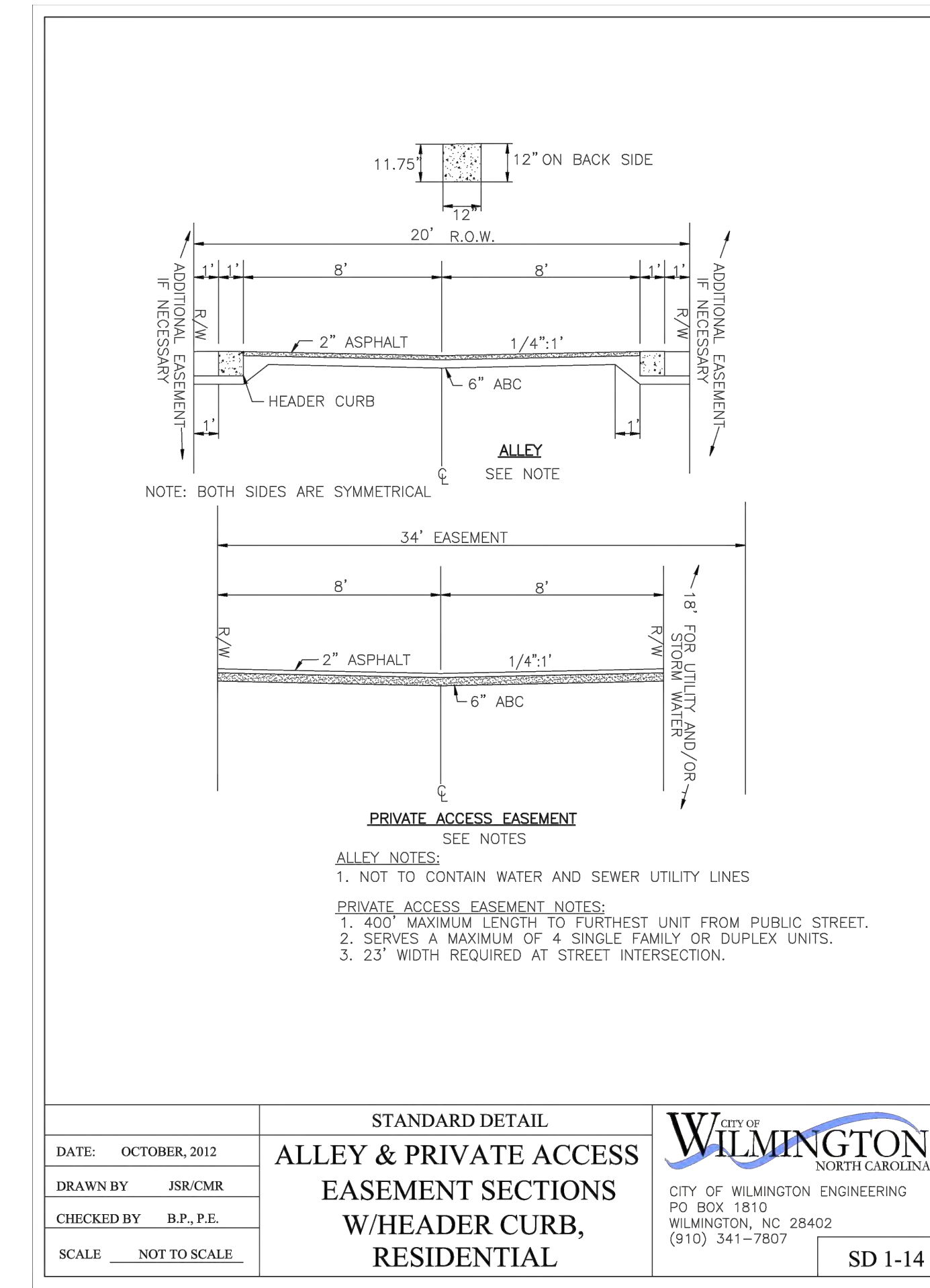
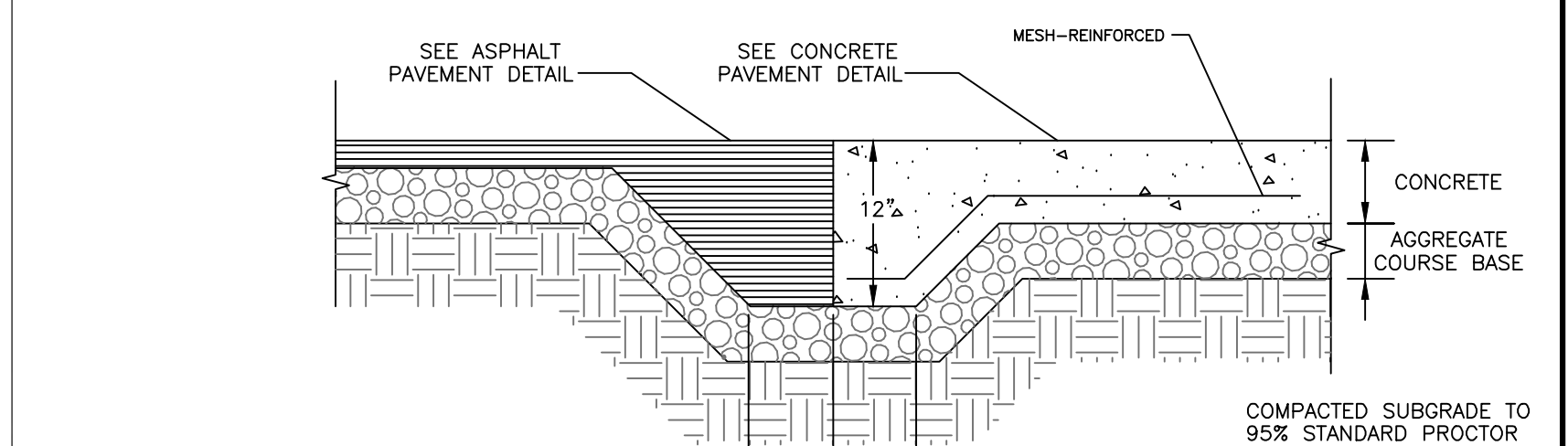
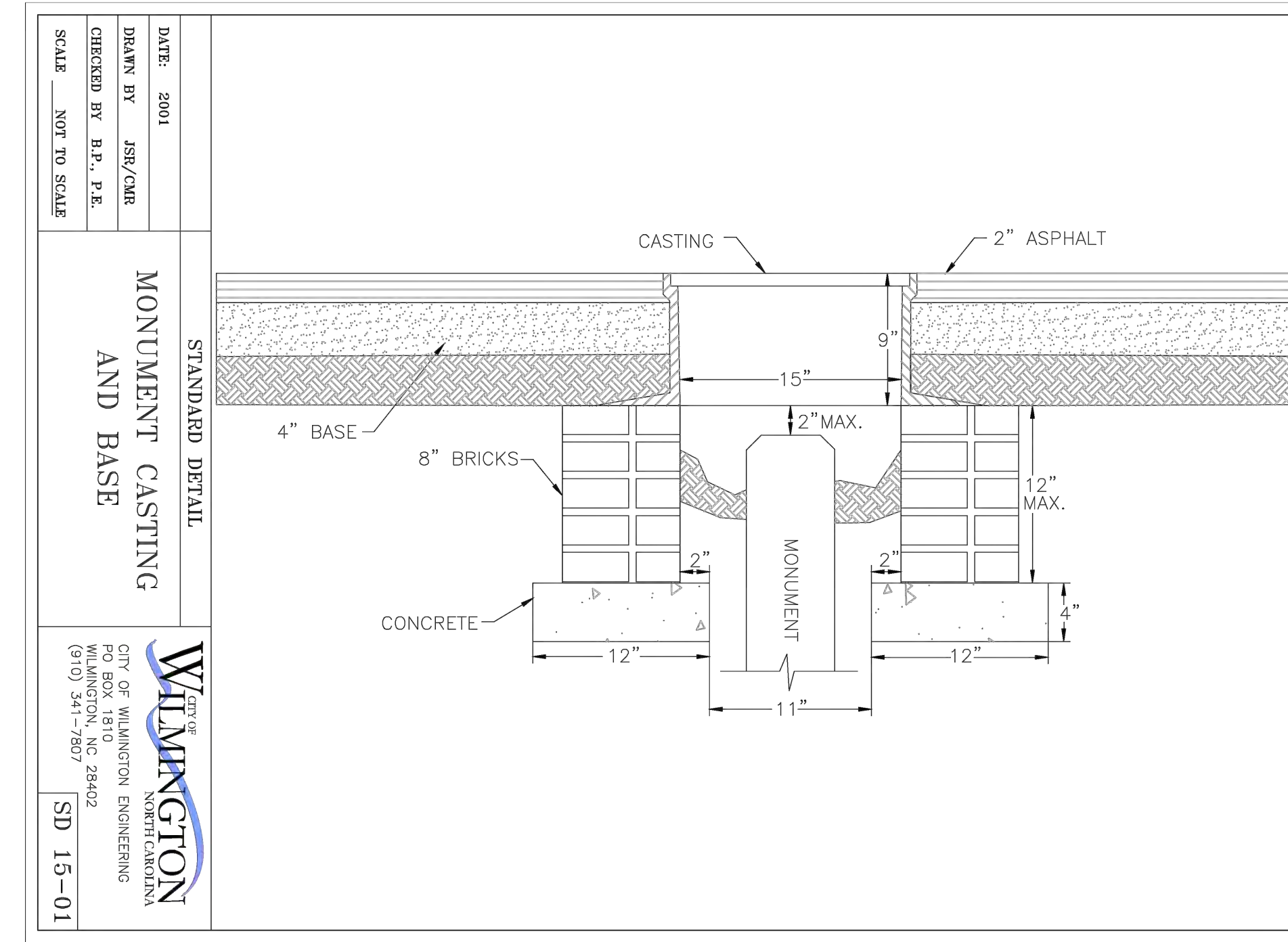
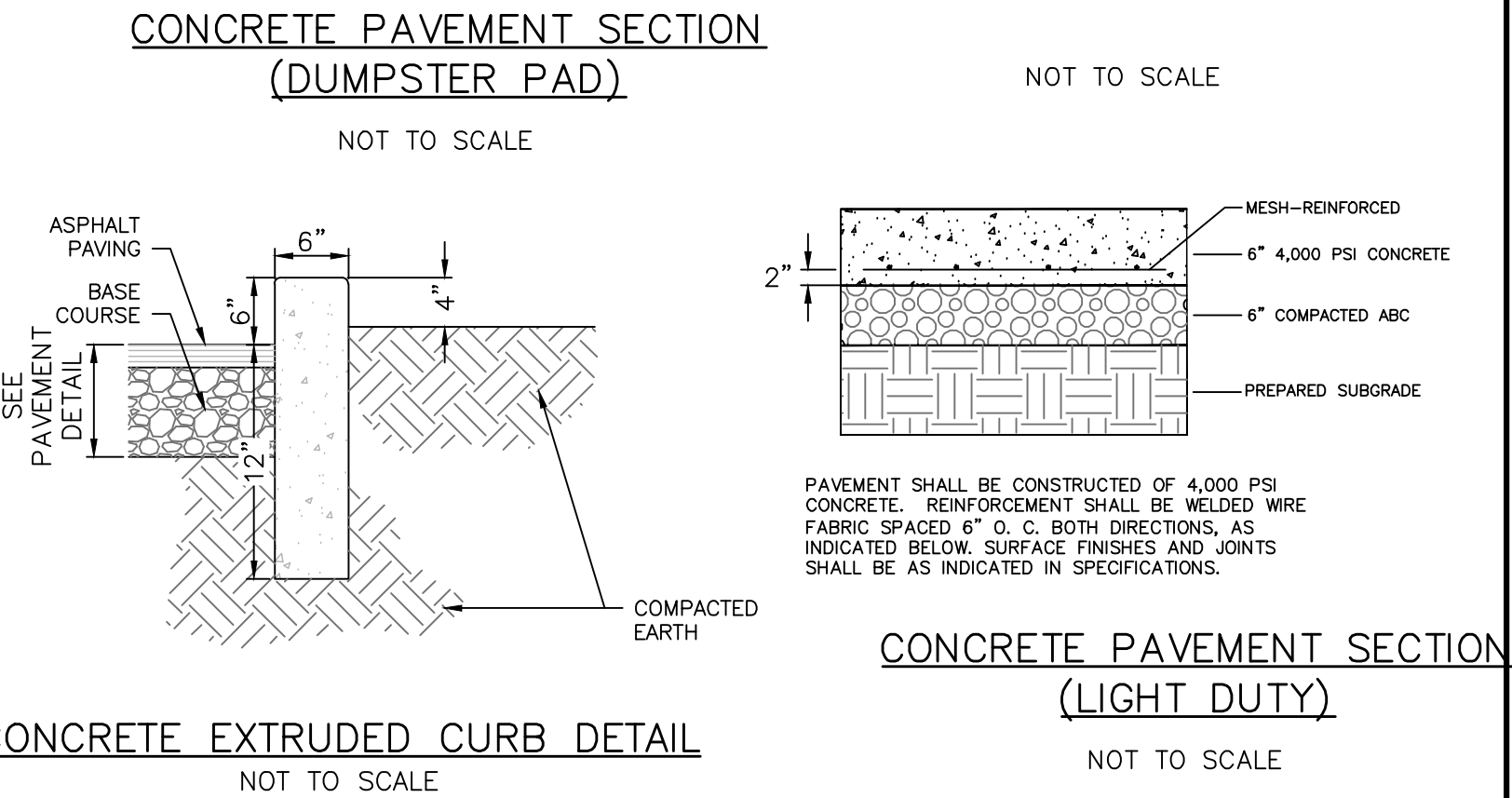
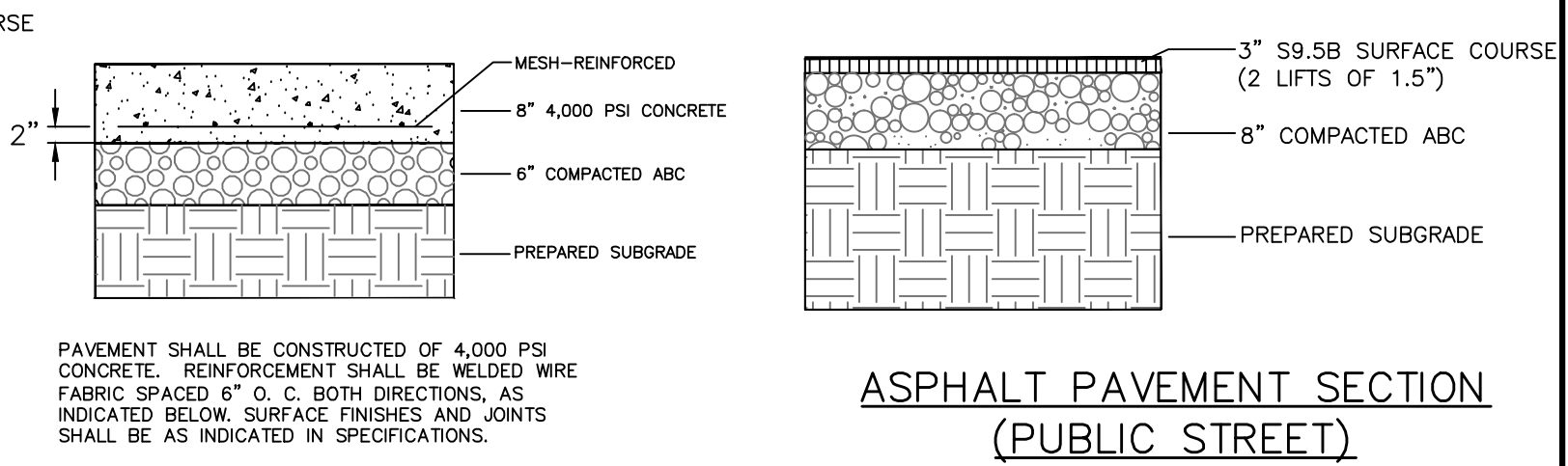
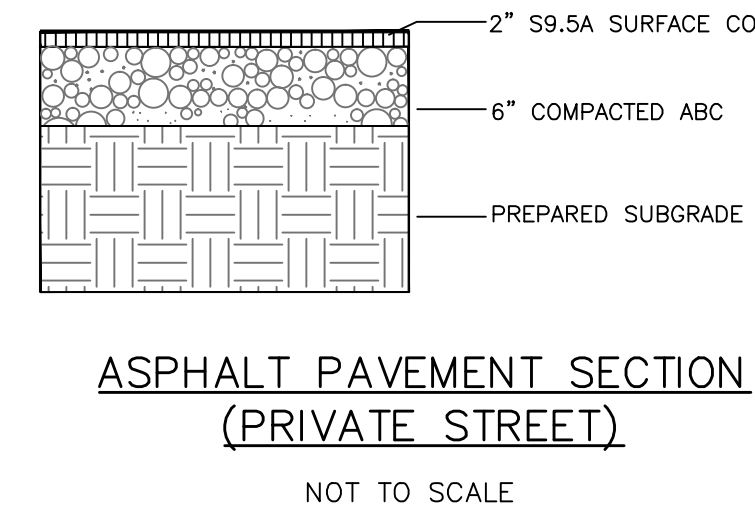
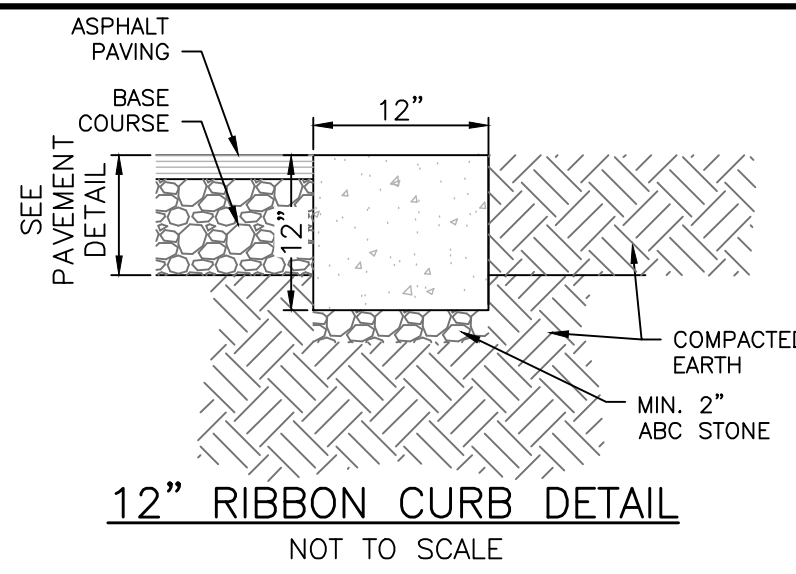
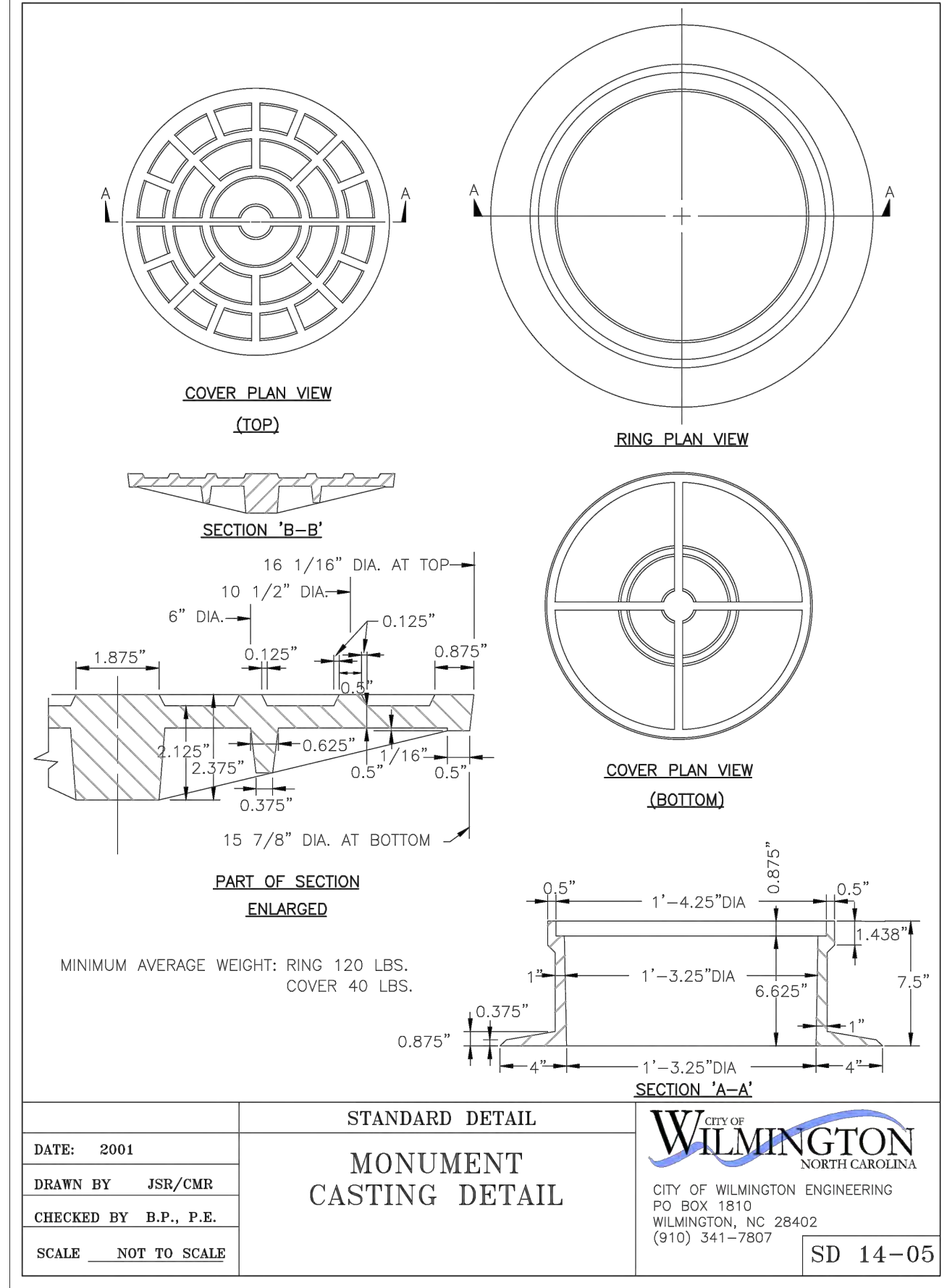
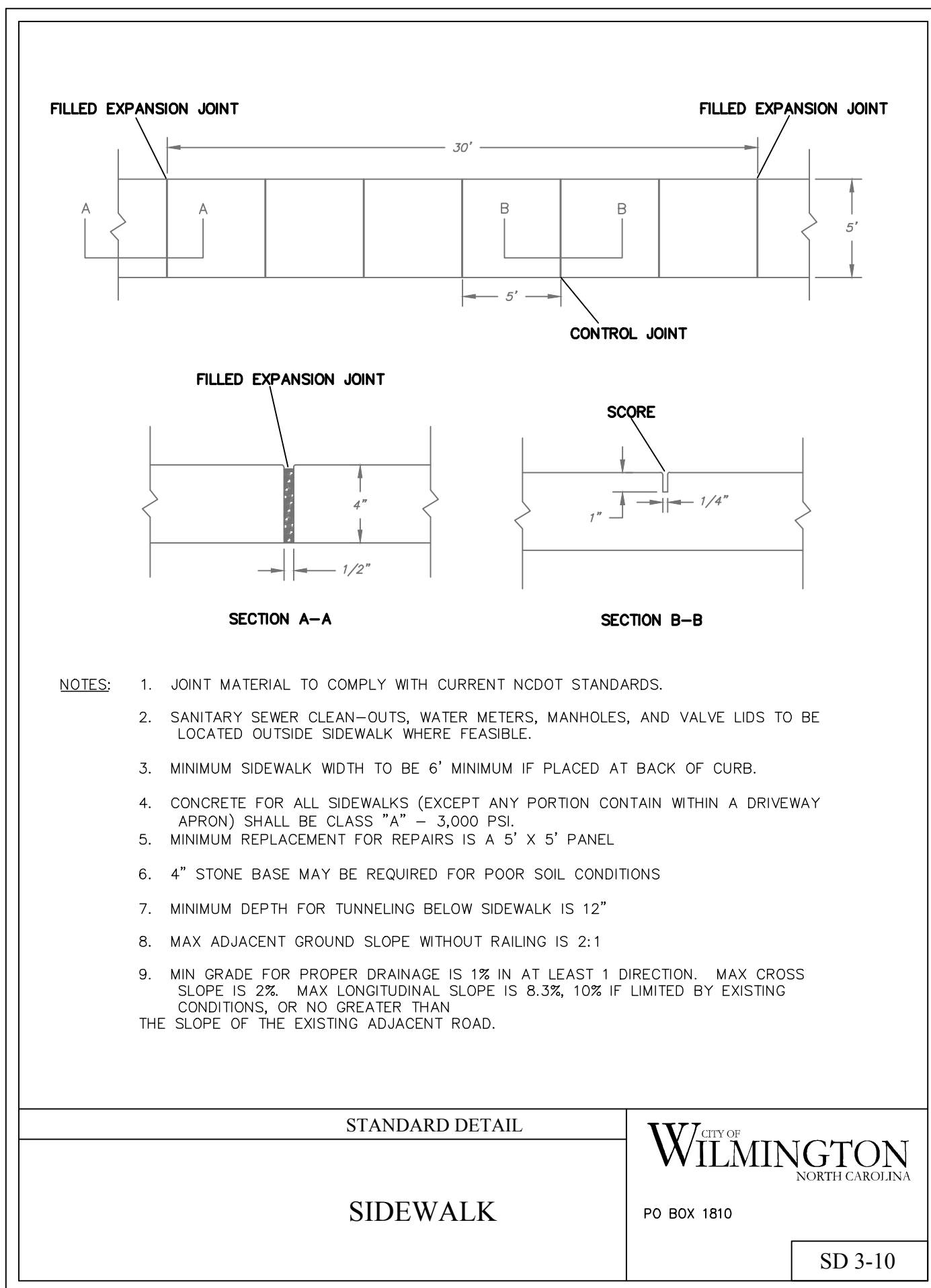
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 DESIGNED: KCBE
 CHECKED: NUL
 PROJ. MGR: RMC

SCALE: HORIZONTAL: 1"=50'
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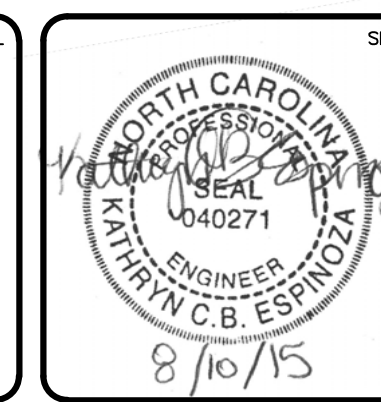
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STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS		
CB-1-1	RIM = 15.09 INV IN = 5.80 N INV IN = 7.29 S INV OUT = 5.80 W	DI-1-23	RIM = 21.12 INV OUT = 18.04 E	CB-3-14	RIM = 16.30 INV IN = 11.60 N INV OUT = 11.60 SW	CB-6-1	RIM = 16.26 INV IN = 9.12 SW INV IN = 12.59 SE INV OUT = 9.12 NW	JB-6-17	RIM = 18.28 INV IN = 11.50 SE INV IN = 12.00 SW INV IN = 13.42 NE INV OUT = 11.50 NW	CB-7-1	RIM = 17.89 INV IN = 10.16 E INV OUT = 10.16 N	CB-7-42	RIM = 19.59 INV OUT = 16.53 E	DI-7-21	RIM = 17.36 INV IN = 11.61 E INV OUT = 11.61 W		
CB-1-2	RIM = 15.88 INV IN = 8.56 S INV IN = 11.70 E INV OUT = 8.56 N	DI-1-31	RIM = 18.36 INV IN = 12.92 N INV OUT = 12.92 S	CB-3-15	RIM = 16.13 INV IN = 11.52 NE INV OUT = 11.52 W	CB-6-2	RIM = 16.27 INV OUT = 12.77 NW	0-6	RIM = 7.79 INV IN = 6.00 E	CB-7-2	RIM = 17.97 INV IN = 10.37 E INV IN = 10.37 S INV IN = 13.78 NE INV OUT = 10.37 W	CB-7-43	RIM = 19.59 INV IN = 16.20 S INV IN = 16.20 W INV OUT = 16.20 N	DI-7-22	RIM = 17.80 INV IN = 12.14 SE INV OUT = 12.14 W		
CB-1-3	RIM = 15.67 INV OUT = 11.96 W	DI-1-33	RIM = 20.63 INV OUT = 15.02 E	CB-3-18	RIM = 15.97 INV IN = 11.22 NW INV IN = 11.22 E INV OUT = 9.53 W	CB-6-3	RIM = 15.42 INV IN = 9.53 SW INV IN = 11.75 SE INV OUT = 9.53 NE	OUT P4	RIM = 14.49 INV OUT = 12.70 SW	CB-7-3	RIM = 17.99 INV IN = 10.46 SE INV OUT = 10.46 N	CB-7-44	RIM = 20.07 INV IN = 16.59 S INV IN = 17.25 W INV OUT = 16.59 N	DI-7-23	RIM = 17.28 INV IN = 12.50 S INV OUT = 12.49 NW		
CB-1-4	RIM = 18.00 INV IN = 12.26 E INV OUT = 12.26 N	DI-1-34	RIM = 21.86 INV IN = 14.40 N INV OUT = 14.40 S	CB-3-19	RIM = 16.09 INV OUT = 11.34 SE	CB-6-4	RIM = 15.42 INV OUT = 11.93 NW	OUT P5	RIM = 15.10 INV OUT = 12.60 W	CB-7-4	RIM = 17.99 INV IN = 10.59 E INV OUT = 10.59 NW	CB-7-45	RIM = 20.07 INV OUT = 17.43 E	DI-7-24	RIM = 16.67 INV IN = 12.81 S INV OUT = 12.81 N		
CB-1-5	RIM = 17.78 INV OUT = 12.52 W	DI-1-35	RIM = 22.47 INV IN = 14.49 NE INV OUT = 14.49 S	CB-3-22	RIM = 16.61 INV IN = 11.74 NE INV IN = 11.74 NW INV OUT = 11.74 S	CB-6-5	RIM = 15.24 INV IN = 9.79 S INV IN = 11.52 E INV OUT = 9.79 NE	OUT P6	RIM = 9.84 INV OUT = 6.45 W	CB-7-5	RIM = 18.18 INV IN = 10.72 S INV IN = 14.33 NE INV OUT = 10.72 W	CB-7-46	RIM = 21.08 INV OUT = 17.18 E	DI-7-25	RIM = 16.27 INV IN = 13.13 S INV OUT = 13.12 N		
CB-1-6	RIM = 14.83 INV IN = 6.04 N INV IN = 9.53 E INV OUT = 6.04 S	DI-1-36	RIM = 21.63 INV IN = 14.70 N INV OUT = 14.70 SW	CB-3-23	RIM = 16.61 INV IN = 11.80 NE INV IN = 11.80 W INV OUT = 11.80 SE	CB-6-6	RIM = 15.24 INV IN = 11.72 E INV OUT = 11.72 W			CB-7-6	RIM = 17.99 INV OUT = 14.55 SW	CB-7-47	RIM = 21.08 INV IN = 17.09 N INV OUT = 17.09 N	DI-7-26	RIM = 16.72 INV IN = 13.49 S INV OUT = 13.48 N		
CB-1-7	RIM = 14.83 INV OUT = 9.78 W	DI-1-37	RIM = 18.02 INV IN = 15.08 W INV OUT = 15.08 S	CB-3-25	RIM = 19.56 INV OUT = 12.56 SE	CB-6-7	RIM = 15.41 INV OUT = 11.94 SW			CB-7-7	RIM = 16.95 INV IN = 13.40 W INV OUT = 11.32 N	CB-7-48	RIM = 18.41 INV IN = 14.03 N INV OUT = 14.03 SW	DI-7-27	RIM = 17.52 INV OUT = 13.86 N		
CB-1-8	RIM = 15.07 INV IN = 6.40 NW INV IN = 8.61 E INV OUT = 6.40 S	DI-1-38	RIM = 20.27 INV OUT = 15.25 E	CB-3-26	RIM = 16.75 INV IN = 11.95 NW INV IN = 11.95 W INV OUT = 11.95 E	CB-6-8	RIM = 15.41 INV OUT = 11.94 SW			CB-7-8	RIM = 16.96 INV OUT = 13.66 E	CB-7-49	RIM = 18.93 INV IN = 15.07 E INV OUT = 15.07 S	DI-7-28	RIM = 19.23 INV OUT = 15.52 N		
CB-1-9	RIM = 15.26 INV OUT = 8.87 W	DI-1-39	RIM = 13.79 INV OUT = 9.03 SE	CB-3-27	RIM = 16.78 INV OUT = 12.04 E	CB-6-9	RIM = 15.41 INV IN = 10.06 SE INV IN = 11.76 NE INV IN = 10.07 SW INV OUT = 10.06 NW			CB-7-9	RIM = 16.74 INV IN = 11.43 S INV IN = 11.43 N	CB-7-50	RIM = 18.94 INV OUT = 15.33 W	DI-7-29	RIM = 22.53 INV OUT = 20.59 NE		
CB-1-10	RIM = 14.99 INV IN = 6.58 NE INV OUT = 6.58 SE	DI-1-41	RIM = 20.64 INV IN = 16.68 N INV OUT = 16.68 S	CB-3-28	RIM = 16.43 INV IN = 12.28 NW INV IN = 12.50 SW INV IN = 12.41 NE INV OUT = 12.28 SE	CB-6-11	RIM = 16.43 INV IN = 10.52 SE INV IN = 12.75 NE INV OUT = 10.52 NW			CB-7-10	RIM = 16.00 INV OUT = 12.53 E	CB-7-51	RIM = 16.56 INV IN = 13.42 NE INV IN = 10.56 N INV IN = 10.56 NW INV OUT = 10.49 SW	DI-7-30	RIM = 23.99 INV IN = 20.14 SW INV OUT = 20.14 E		
CB-1-11	RIM = 14.99 INV IN = 9.37 E INV IN = 6.71 NW INV OUT = 6.71 SW	DI-1-42	RIM = 22.41 INV IN = 17.26 N INV OUT = 17.26 S	CB-3-29	RIM = 18.33 INV OUT = 12.71 SW	CB-6-12	RIM = 17.47 INV OUT = 12.93 SW			CB-7-11	RIM = 16.00 INV IN = 12.27 S INV IN = 12.27 W INV OUT = 12.27 N	CB-7-52	RIM = 16.49 INV IN = 10.62 NE INV OUT = 10.62 W	I-7A	RIM = 12.78 INV IN = 9.91 S		
CB-1-12	RIM = 15.61 INV IN = 10.19 NE INV IN = 10.19 SE INV OUT = 10.19 W	DI-1-43	RIM = 22.31 INV IN = 17.57 W INV OUT = 17.57 E	CB-3-30	RIM = 17.48 INV OUT = 12.76 NE	CB-6-13	RIM = 17.47 INV OUT = 13.97 SW			CB-7-12	RIM = 16.40 INV OUT = 13.04 E	CB-7-53	RIM = 16.49 INV IN = 10.76 E INV IN = 13.20 NE INV OUT = 10.76 SW	I-7B	RIM = 10.83 INV IN = 8.50 NE		
CB-1-13	RIM = 15.82 INV OUT = 10.45 NW	DI-1-44	RIM = 21.34 INV IN = 18.05 N INV OUT = 18.05 E	CB-3-31	RIM = 17.75 INV IN = 12.54 NW INV IN = 12.54 SW INV OUT = 12.54 SE	CB-6-14	RIM = 17.47 INV IN = 13.79 NE INV IN = 10.97 NW			CB-7-13	RIM = 16.21 INV IN = 12.78 S INV IN = 12.78 W INV OUT = 12.78 N	CB-7-54	RIM = 16.89 INV IN = 13.42 NW INV IN = 13.42 SW INV OUT = 13.42 W	JB-7-16	RIM = 18.37 INV IN = 14.15 E INV OUT = 14.15 N		
CB-1-17	RIM = 17.38 INV IN = 13.52 SE INV IN = 11.78 N INV OUT = 11.78 SW	DI-1-45	RIM = 21.34 INV IN = 18.05 N INV OUT = 18.05 E	CB-3-32	RIM = 17.55 INV OUT = 12.80 NE	CB-6-15	RIM = 18.31 INV IN = 13.04 SE INV IN = 14.62 NE INV OUT = 11.41 NW			CB-7-14	RIM = 17.47 INV OUT = 14.26 E	CB-7-55	RIM = 16.87 INV OUT = 13.52 SE	O-7	RIM = 9.63 INV IN = 7.30 NE		
CB-1-18	RIM = 17.60 INV OUT = 13.78 NW	DI-1-47	RIM = 23.26 INV OUT = 21.33 SW	CB-3-33	RIM = 18.04 INV IN = 13.04 SE INV OUT = 13.04 SE	CB-6-16	RIM = 18.31 INV IN = 11.41 SE INV IN = 14.62 NE INV OUT = 11.41 NW			CB-7-15	RIM = 17.65 INV IN = 13.53 S INV IN = 14.00 W INV OUT = 13.53 N	CB-7-56	RIM = 20.46 INV OUT = 16.95 S	OUT P7	RIM = 13.80 INV OUT = 8.83 SW		
CB-1-20	RIM = 19.20 INV OUT = 15.10 SE	DI-1-51	RIM = 17.32 INV IN = 13.53 N INV OUT = 13.53 SW	CB-3-34	RIM = 18.05 INV OUT = 13.17 NE	CB-6-18	RIM = 18.97 INV IN = 13.64 NE INV IN = 14.48 SE INV OUT = 13.64 SW			CB-7-17	RIM = 19.79 INV IN = 14.79 E INV IN = 15.00 S INV OUT = 14.79 W	CB-7-57	RIM = 20.24 INV IN = 16.74 N INV IN = 12.32 E INV OUT = 12.32 W				
CB-1-24	RIM = 15.86 INV IN = 7.24 W INV IN = 10.42 SW INV OUT = 7.24 SE	DI-1-52	RIM = 19.90 INV OUT = 16.50 S	CB-3-35	RIM = 20.42 INV IN = 14.18 NE INV IN = 14.18 NW INV OUT = 14.18 SW	CB-6-19	RIM = 18.47 INV OUT = 14.69 NW			CB-7-18	RIM = 19.95 INV OUT = 15.21 N	CB-7-58	RIM = 20.89 INV IN = 15.46 SE INV IN = 15.46 N INV OUT = 15.46 W				
CB-1-25	RIM = 15.64 INV OUT = 10.68 NE	DI-1-54	RIM = 14.68 INV IN = 10.78 S INV OUT = 10.78 N	CB-3-36	RIM = 20.84 INV OUT = 14.36 SE	CB-6-20	RIM = 18.59 INV IN = 14.02 E INV IN = 15.01 SE INV OUT = 14.00 SW			CB-7-19	RIM = 21.07 INV IN = 15.46 S INV OUT = 15.46 W	CB-7-59	RIM = 20.70 INV OUT = 15.67 S				
CB-1-27	RIM = 17.06 INV IN = 8.23 W INV IN = 13.58 S INV OUT = 8.23 E	DI-1-55	RIM = 13.49 INV OUT = 11.31 N	CB-3-37	RIM = 22.00 INV IN = 17.72 N INV IN = 17.72 W INV OUT = 17.72 SW	CB-6-21	RIM = 18.47 INV OUT = 15.22 NW			CB-7-20	RIM = 21.01 INV OUT = 15.57 N	CB-7-60	RIM = 21.69 INV IN = 16.86 SE INV IN = 16.86 NE INV OUT = 16.86 NW				
CB-1-28	RIM = 17.35 INV OUT = 13.85 N	I-1A	RIM = 8.94 INV IN = 5.53 E	CB-3-38	RIM = 21.43 INV OUT = 17.90 E	CB-6-22	RIM = 18.03 INV IN = 14.63 S INV OUT = 14.63 W			CB-7-21	RIM = 21.01 INV OUT = 15.57 N	CB-7-61	RIM = 21.51 INV OUT = 17.07 SW				
CB-1-29	RIM = 18.94 INV IN = 13.47 S INV IN = 8.77 W INV OUT = 8.77 E	I-1B	RIM = 8.79 INV IN = 7.00 NW	CB-3-39	RIM = 23.72 INV IN = 18.21 NW INV IN = 18.20 SW INV OUT = 18.20 S	CB-6-23	RIM = 17.81 INV OUT = 14.73 N			CB-7-22	RIM = 18.59 INV OUT = 15.20 SE	CB-7-62	RIM = 22.63 INV OUT = 18.41 SW				
CB-1-30	RIM = 18.72 INV OUT = 13.73 N	JB-1-2A	RIM = 16.62 INV IN = 9.86 S INV OUT = 9.86 N	CB-3-40	RIM = 23.72 INV IN = 18.38 NW INV OUT = 18.38 NE	CB-6-24	RIM = 17.95 INV IN = 14.46 SE INV IN = 14.46 NE			CB-7-23	RIM = 17.97 INV IN = 12.38 E INV IN = 14.99 NW INV OUT = 12.38 W	CB-7-63	RIM = 22.64 INV IN = 18.20 SE INV IN = 18.20 NE INV IN = 18.20 SW INV OUT = 18.20 NW				
CB-1-40	RIM = 20.40 INV IN = 16.61 N INV IN = 9.41 W INV OUT = 9.41 E	JB-1-14	RIM = 16.37 INV IN = 10.69 NE INV IN = 12.69 NW INV OUT = 10.69 SW	CB-3-42	RIM = 21.79 INV OUT = 19.86 NE	CB-6-25	RIM = 18.17 INV IN = 14.67 SE INV IN = 14.67 NW			CB-7-24	RIM = 17.97 INV IN = 12.38 E INV IN = 14.99 NW INV OUT = 12.38 W	CB-7-64	RIM = 24.35 INV IN = 20.89 N INV IN = 19.90 W INV OUT = 19.90 NW				
CB-1-48	RIM = 16.99 INV IN = 12.99 S INV IN = 10.12 W INV OUT = 10.12 E	JB-1-16	RIM = 17.02 INV IN = 11.38 NE INV IN = 12.69 NW INV OUT = 11.38 SW	CB-3-43	RIM = 22.86 INV IN = 18.64 SW INV OUT = 18.64 SE	CB-6-27	RIM = 18.26 INV IN = 11.65 SE INV IN = 14.60 NE INV OUT = 11.65 NW			CB-7-25	RIM = 17.26 INV IN = 13.18 E INV IN = 13.54 S INV OUT = 13.18 W	CB-7-65	RIM = 24.35 INV IN = 20.89 N INV IN = 19.90 W INV OUT = 19.90 NW				
CB-1-49	RIM = 16.77 INV OUT = 13.25 N	JB-1-19	RIM = 18.81 INV IN = 14.85 NW INV IN = 14.85 S	CB-3-44	RIM = 22.85 INV OUT = 18.73 NE	CB-6-28	RIM = 18.28 INV OUT = 14.78 SW			CB-7-26	RIM = 17.01 INV IN = 13.52 SE INV IN = 13.52 S INV OUT = 13.52 W	CB-7-66	RIM = 23.96 INV OUT = 21.00 S				
CB-1-50	RIM = 15.73 INV IN = 12.12 NW INV IN = 10.49 SW INV IN = 12.12 NE INV OUT = 10.49 E	JB-1-26	RIM = 17.58 INV IN = 8.13 W INV IN = 12.21 N INV OUT = 8.13 E	CB-4-1	RIM = 15.98 INV IN = 10.37 SW INV OUT = 10.37 NE	CB-6-29	RIM = 17.51 INV IN = 12.09 SE INV IN = 13.64 NE INV OUT = 12.09 NW			CB-7-27	RIM = 17.01 INV OUT = 13.61 N	CB-7-67	RIM = 15.30 INV OUT = 11.68 S				
CB-1-53	RIM = 15.95 INV IN = 10.62 S INV OUT = 10.62 NE	JB-1-32	RIM = 20.11 INV IN = 14.14 N INV IN = 14.50 W INV OUT = 14.14 S	CB-4-2	RIM = 18.00 INV IN = 10.43 SE INV OUT = 10.43 NE	CB-6-30	RIM = 17.51 INV OUT = 13.82 SW			CB-7-28	RIM = 17.30 INV IN = 14.01 NE	CB-7-68	RIM = 23.96 INV OUT = 21.00 S				
CB-1-56	RIM = 15.67 INV IN = 12.42 SW INV OUT = 12.42 SE	O-1	RIM = 9.33 INV IN = 7.00 SE	CB-4-3	RIM = 15.99 INV IN = 10.70 E INV OUT = 10.70 NW	CB-6-31	RIM = 16.84 INV IN = 12.44 NE INV OUT = 12.44 NW			CB-7-29	RIM = 17.30 INV IN = 13.83 SE INV IN = 13.83 SW INV OUT = 13.83 NW	CB-7-69	RIM = 15.30 INV OUT = 11.68 S				
CB-1-57	RIM = 15.91 INV OUT = 12.68 NE	OUT P1	RIM = 13.60 INV OUT = 8.08 NW	CB-4-4	RIM = 15.64 INV IN = 10.84 E INV OUT = 10.84 W	CB-6-32	RIM = 16.84 INV IN = 12.53 NE INV OUT = 12.53 SW			CB-7-30	RIM = 17.26 INV IN = 13.18 E INV IN = 13.54 S INV OUT = 13.18 W	CB-7-70	RIM = 15.59 INV IN = 11.47 N INV OUT = 11.47 E				
DI-1-15	RIM = 17.09 INV OUT = 13.26 SE			DI-4-5	RIM = 15.65 INV OUT = 10.75 NW					CB-7-31	RIM = 17.26 INV IN = 13.18 E INV IN = 13.54 S INV OUT = 13.18 W	CB-7-71	RIM = 17.22 INV IN = 10.80 W INV OUT = 10.80 SE				
DI-1-21	RIM = 17.71 INV IN = 13.16 NW INV OUT = 13.16 SE			I-4	RIM = 12.58 INV IN = 10.25 SW					CB-7-32	RIM = 17.01 INV IN = 13.52 SE INV IN = 13.52 S INV OUT = 13.52 W	CB-7-72	RIM = 16.76 INV IN = 10.84 N INV OUT = 10.84 S				
DI-1-22	RIM = 19.59 INV IN = 15.85 W INV OUT = 15.85 SE			I-4B	RIM = 12.17 INV IN = 10.38 SE					CB-7-33	RIM = 17.01 INV OUT = 13.61 N	CB-7-73	RIM = 21.88 INV IN = 17.33 N INV IN = 17.68 E INV OUT = 17.33 S				
				JB-3-24	RIM = 19.17 INV IN = 11.92 NW INV OUT = 11.92 SW					CB-7-34	RIM = 17.30 INV IN = 14.01 NE	CB-7-74	RIM = 21.64 INV OUT = 18.14 W				
				JB-3-41	RIM = 23.43 INV IN = 18.74 SW INV OUT = 18.74 SE					CB-7-35	RIM = 17.30 INV IN = 13.83 SE INV IN = 13.83 SW INV OUT = 13.83 NW	CB-7-75	RIM = 22.81 INV IN = 18.83 E INV OUT = 18.83 S				
										CB-7-36	RIM = 18.35 INV IN = 14.36 SE INV IN = 14.85 SW INV OUT = 14.36 NW	CB-7-76	RIM = 22.79 INV OUT = 19.29 W				
										CB-7-37	RIM = 18.35 INV OUT = 15.05 NE						
										CB-7-38	RIM = 19.41 INV IN = 14.89 SE INV IN = 14.89 SW INV OUT = 14.89 NW						
										CB-7-39	RIM = 19.41 INV IN = 14.98 S INV OUT = 14.98 NE						



REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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www.mckimcreed.com

RIVERLIGHTS
by Newland COMMUNITIES

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1

SITE PLAN DETAILS

DATE: ---
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NUL
PROJ. MGR.: RMC

SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: CS-501
DRAWING NUMBER: 31
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

GENERAL NOTES

1. IN ACCORDANCE WITH N.C.G.S. 136-44.14, ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED SHALL PROVIDE WHEELCHAIR RAMP FOR THE PHYSICALLY HANDICAPPED ON EACH SIDE OF ANY STREET OR ROAD, WHERE CURBS AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW.
2. WHEELCHAIR RAMP SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
3. CURB RAMP SHALL HAVE DETECTABLE WARNINGS EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2'-FT. IN LENGTH.

CONSTRUCTION NOTES

1. CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
2. WHEELCHAIR RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
3. A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
4. IN NO CASE SHALL THE WIDTH OF A CURB RAMP OR CURB CUT BE LESS THAN 40-IN. (3'-FT, 4-IN.), NOT INCLUDING THE FLARED SIDES.
5. TRANSITIONS FROM RAMP TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
6. THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12.
7. THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.
8. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
9. ANY RAISED ISLANDS IN CROSSINGS SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 48-IN. LONG BETWEEN THE CURB RAMPS.
10. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9-IN., A HEIGHT OF NOMINAL 0.2-IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35-IN. AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

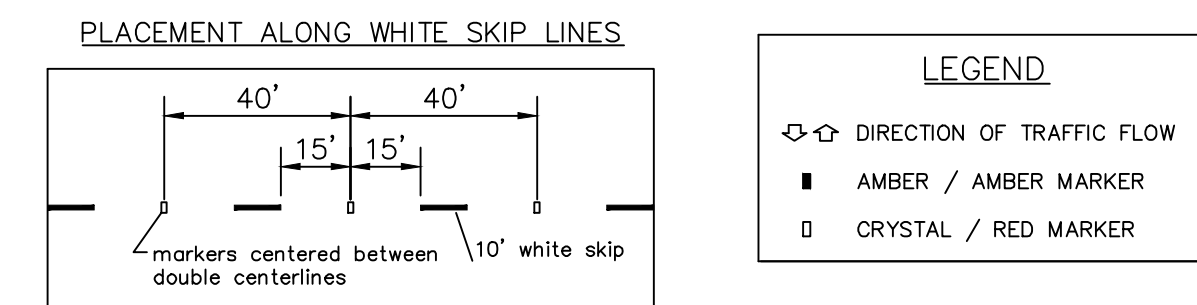
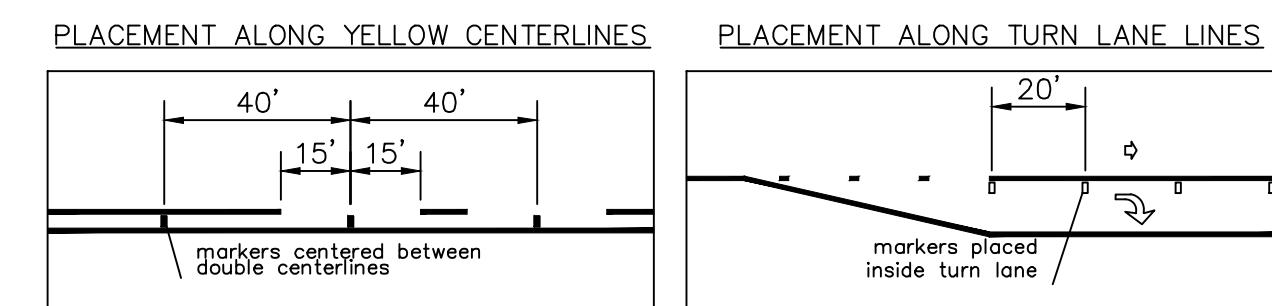
ADDITIONAL NOTES

1. STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT.
2. PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS DOCUMENT IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.
4. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
5. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
6. THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT MARKED CROSSINGS SHALL HAVE 48-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS.
7. IF DIAGONAL CURB RAMPS HAVE FLARED SIDES, THEY SHALL HAVE AT LEAST A 24-IN. LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING.

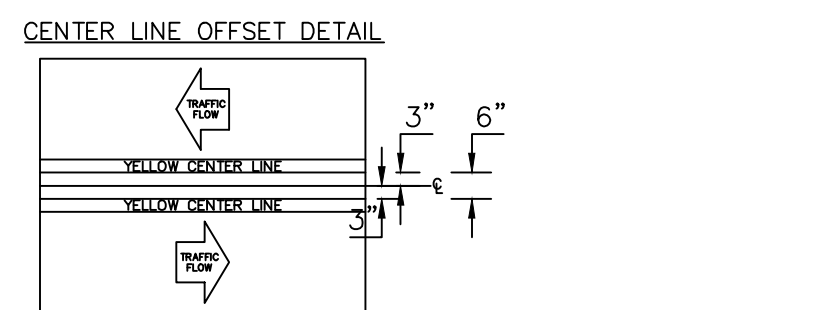
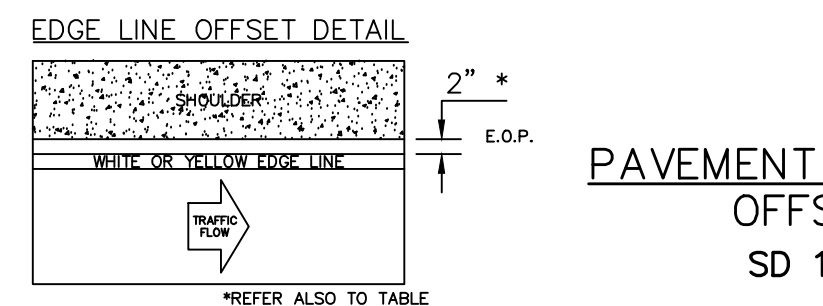
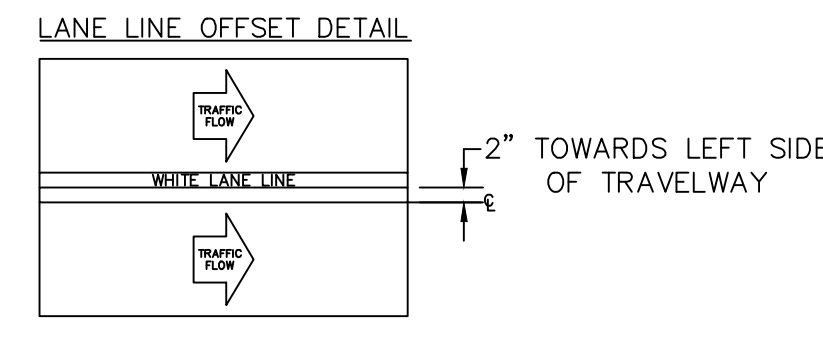
TYPE OF PAVEMENT MARKING	TYPICAL SPACING IN FT (speed limit <= 45mph)
Centerlines--along through lanes	40
Centerlines--along horizontal curves	per Traffic Engineering
Skip Lines--along through lanes	40
Turn Lanes--Skip Lines	40
Turn Lanes--Solid Lane Lines	20
Turn Lanes--Centerlines	40
Painted Islands--White	20
Painted Islands--Yellow	40
Raised Median Islands	40
Other Markings	per Traffic Engineering

GENERAL NOTES

- CRYSTAL RED MARKERS SHALL BE USED ALONG WHITE PAVEMENT MARKINGS UNLESS OTHERWISE DIRECTED BY TRAFFIC ENGINEERING. RED SIDE OF MARKER TO FACE WRONG-WAY TRAFFIC.
- PAVEMENT MARKERS SHOULD NOT BE PLACED CLOSER THAN 2 INCHES TO A PAVEMENT CONSTRUCTION JOINT, EXCEPT WHEN PLACED BETWEEN DOUBLE YELLOW CENTERLINES.
- PAVEMENT MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS.
- PAVEMENT MARKERS USED IN CONJUNCTION WITH DOUBLE YELLOW CENTERLINES SHALL BE PLACED MID-WAY BETWEEN THE LINES, WITH A GAP BETWEEN MARKER AND MARKINGS.

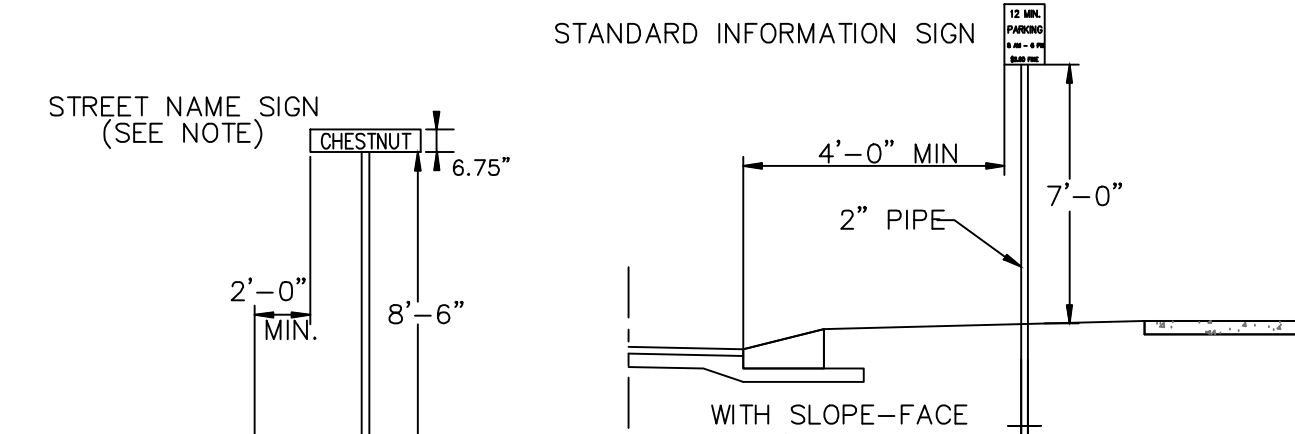
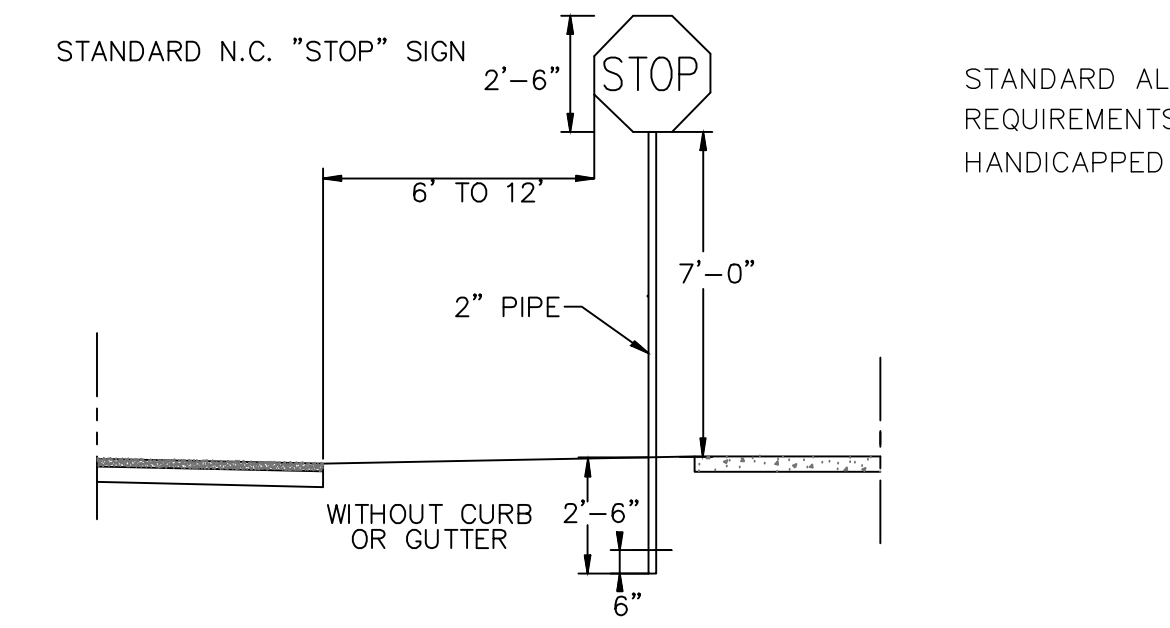


**PAVEMENT MARKINGS
RAISED PAVEMENT MARKERS**
SD 11-10



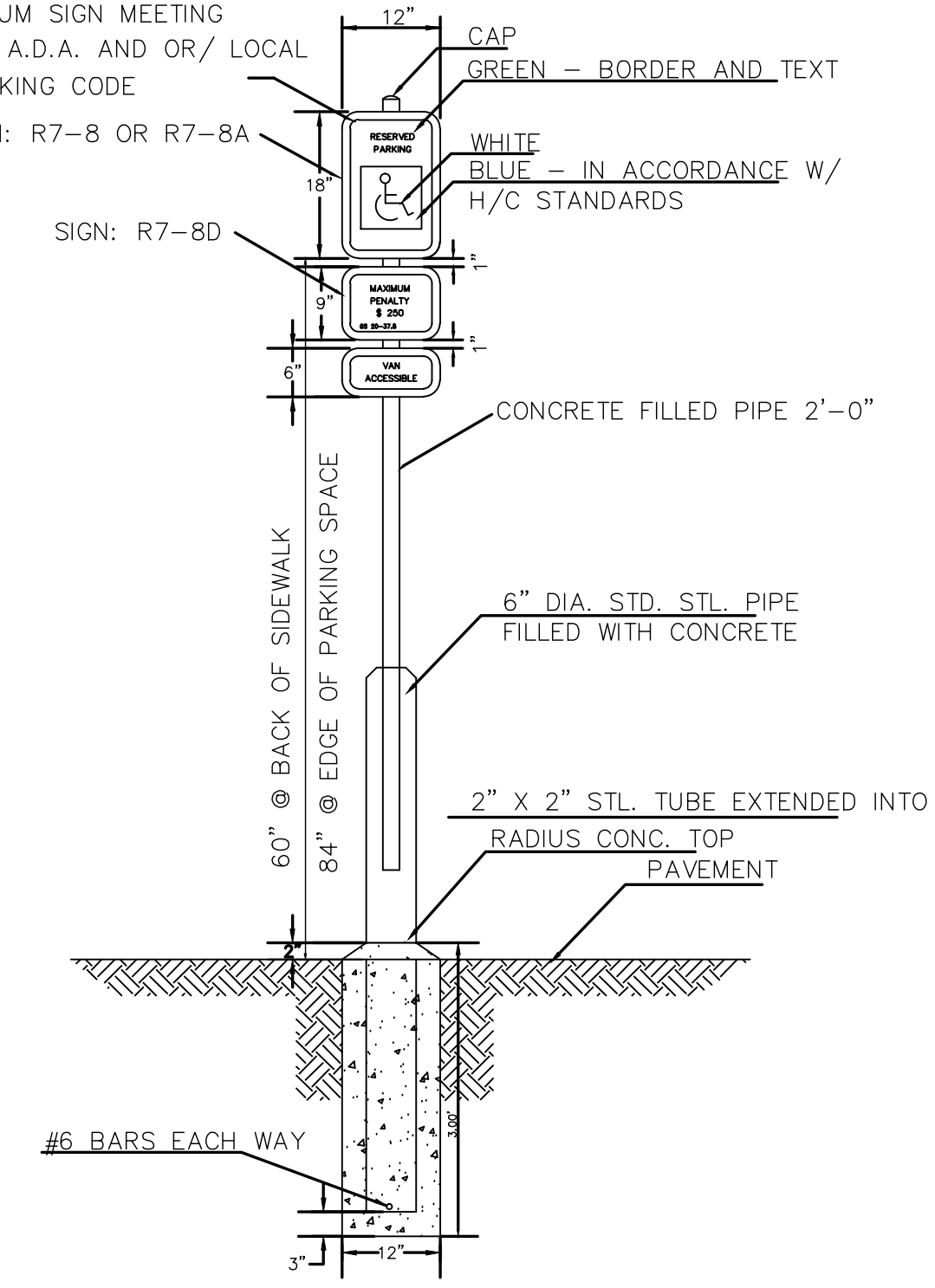
WIDTH OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E. O. P.	MINIMUM LANE WIDTH
16' - 20'	2"	8' - 10'
22'	2"	11'
24'	1"	11'
26'	2"	11'
28'	2"	12'
30'	3"	12'
32'	4"	12'

**PAVEMENT MARKINGS
OFFSETS**
SD 11-02

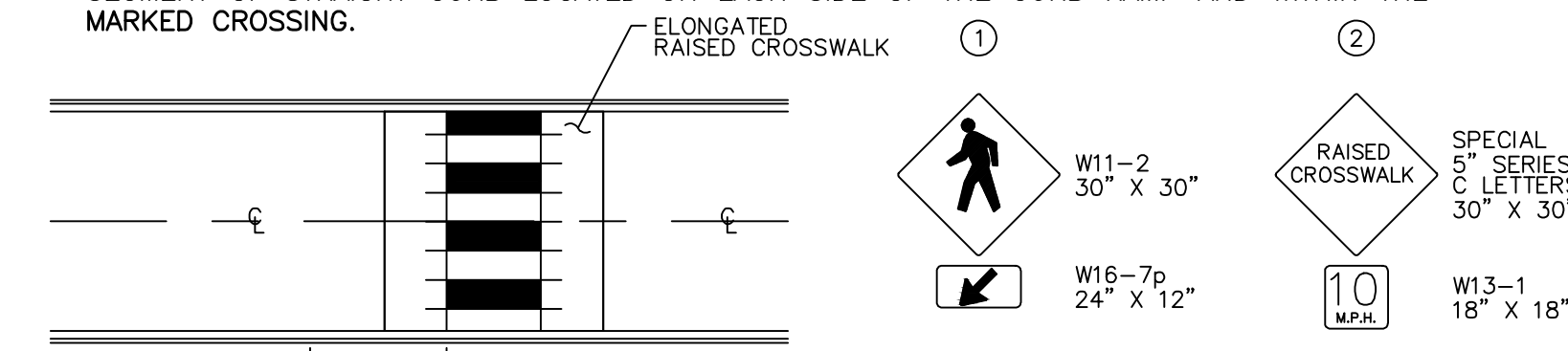


- NOTES:**
1. STREET NAME SIGNS SHALL BE A MINIMUM OF 6" EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
 2. ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
 3. ALL SIGNS PLACED IN RIGHT-OF-WAY WILL BE APPROVED BY TRAFFIC ENGINEERING DIVISION.
 4. ALL FOOTINGS TYPICAL FOR ALL SIGNS, WHICH NEED TO BE ANCHORED IN CONCRETE.

STANDARD SIGN INSTALLATION LOCATION
SD 15-04
NOT TO SCALE

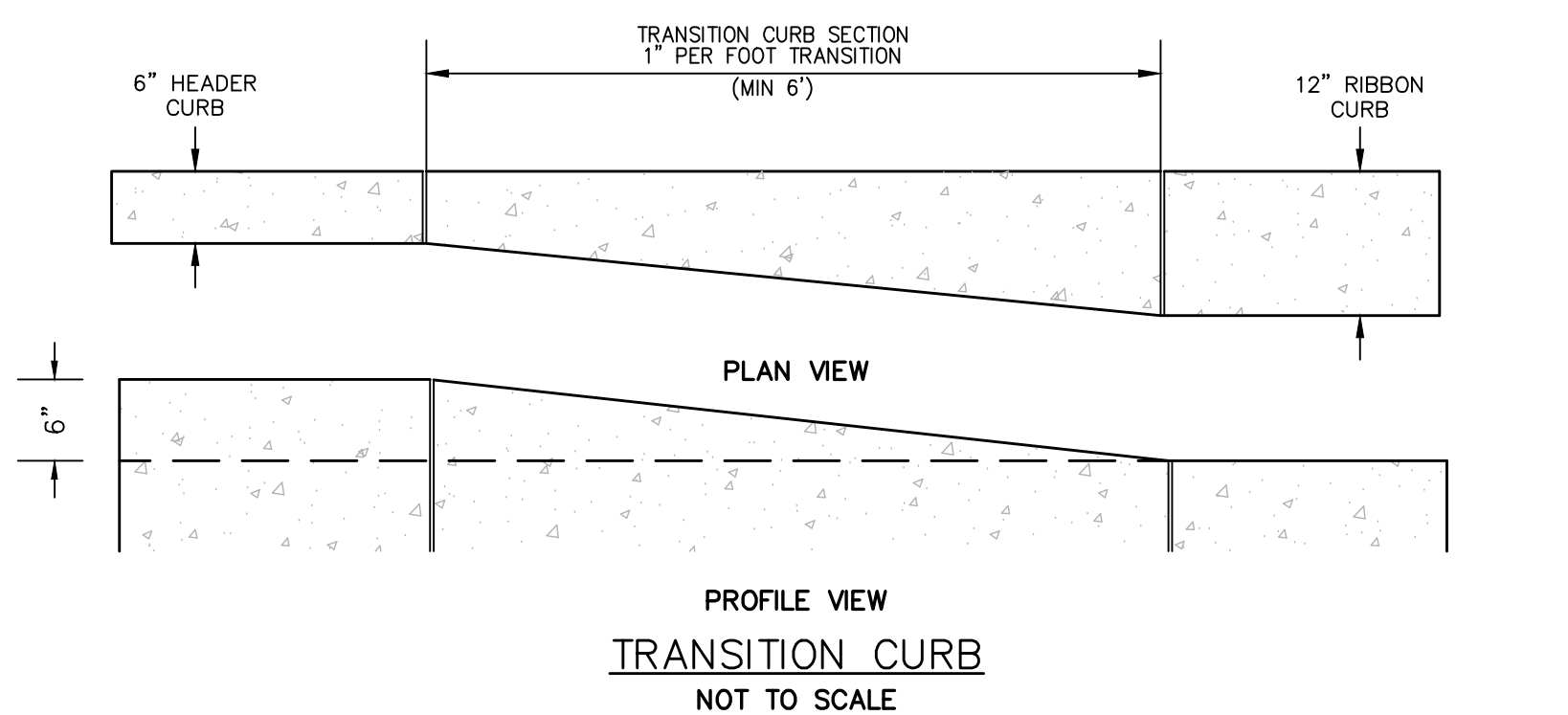
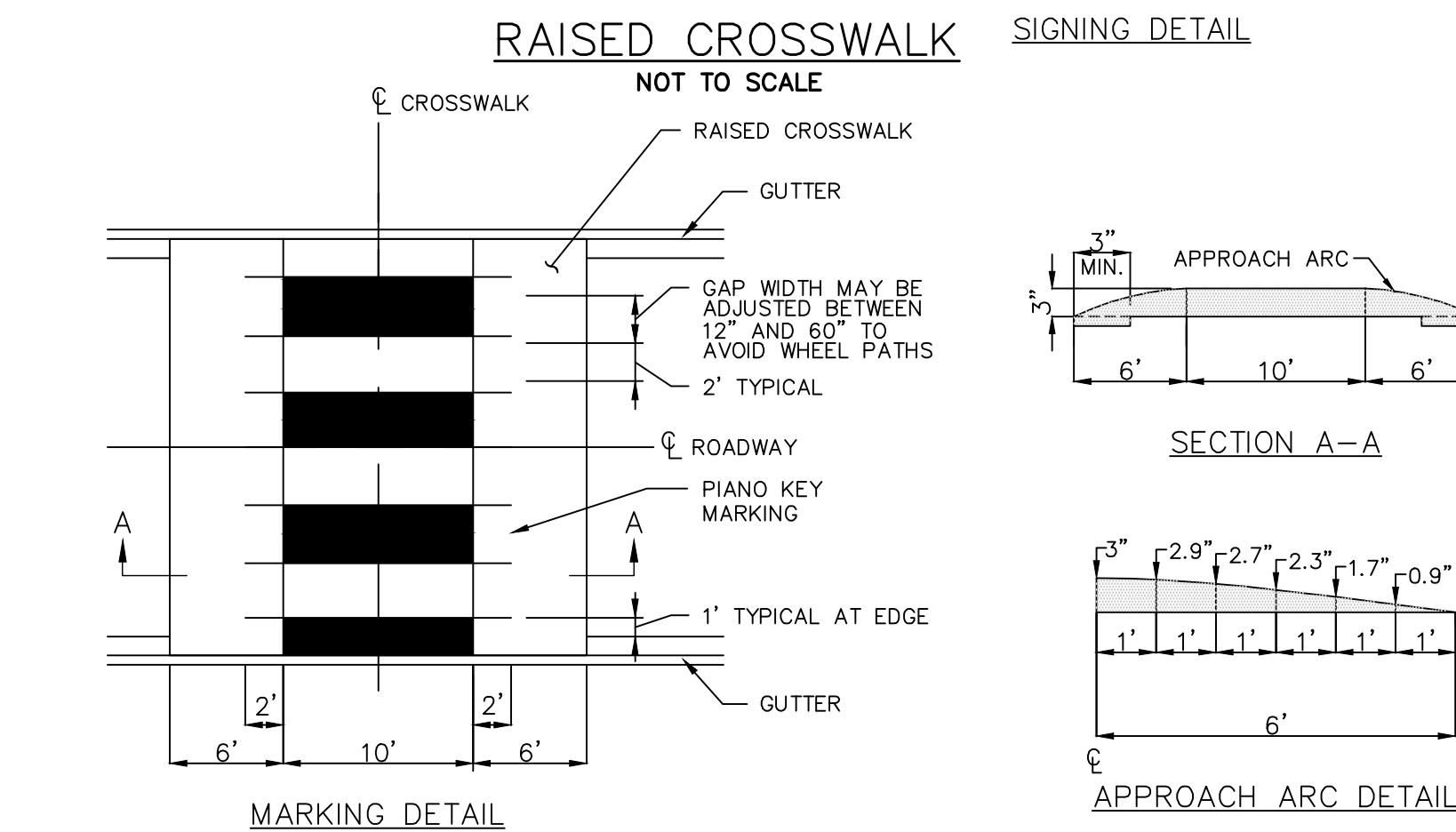


HANDICAP PARKING SIGN
NOT TO SCALE

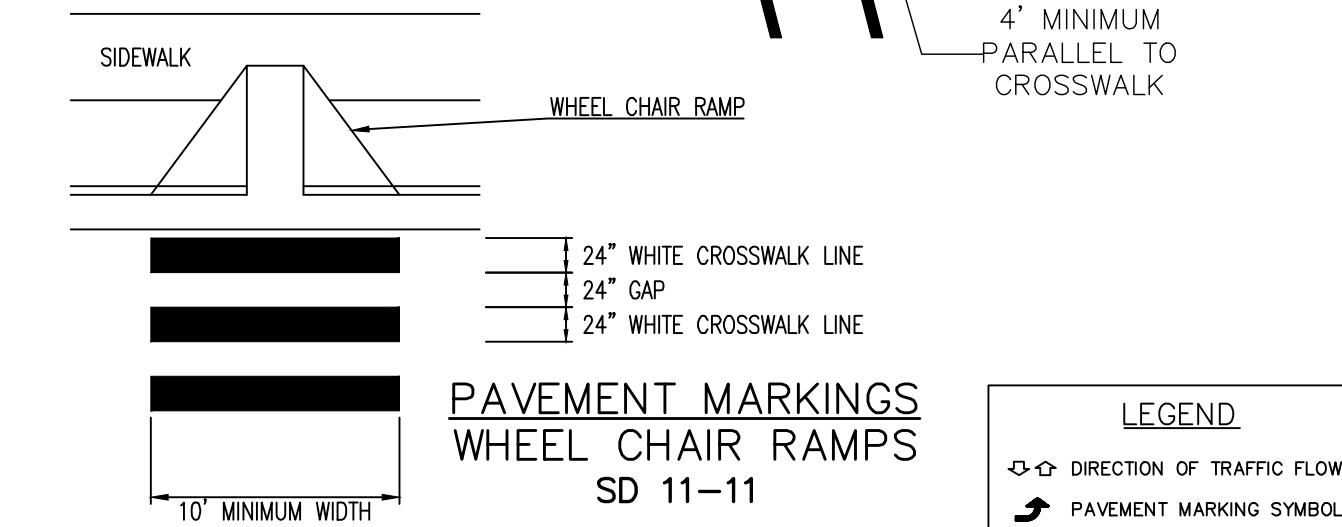
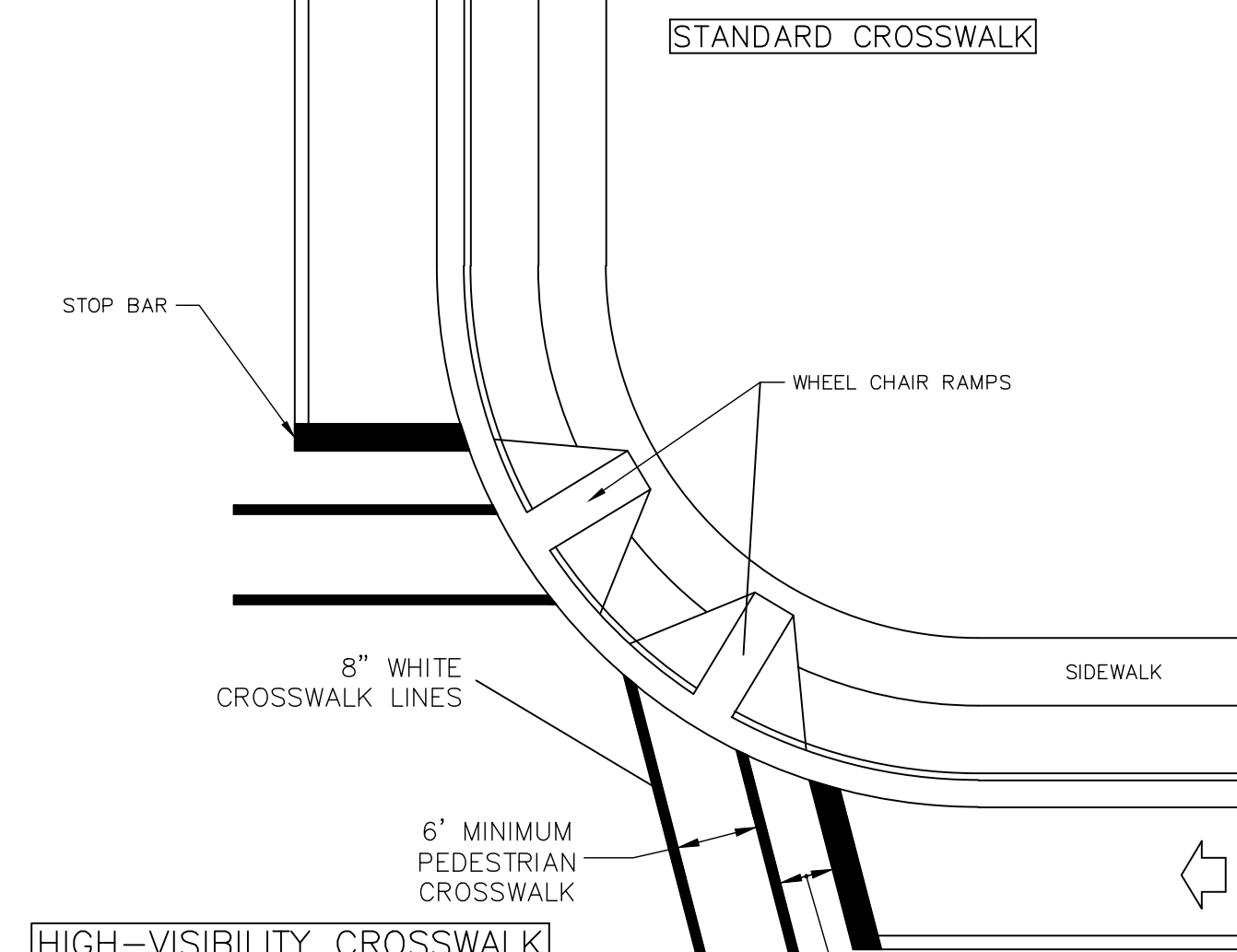


- NOTES:**
1. SIGNS HAVE YELLOW BACKGROUND WITH BLACK LEGEND AND BORDER.

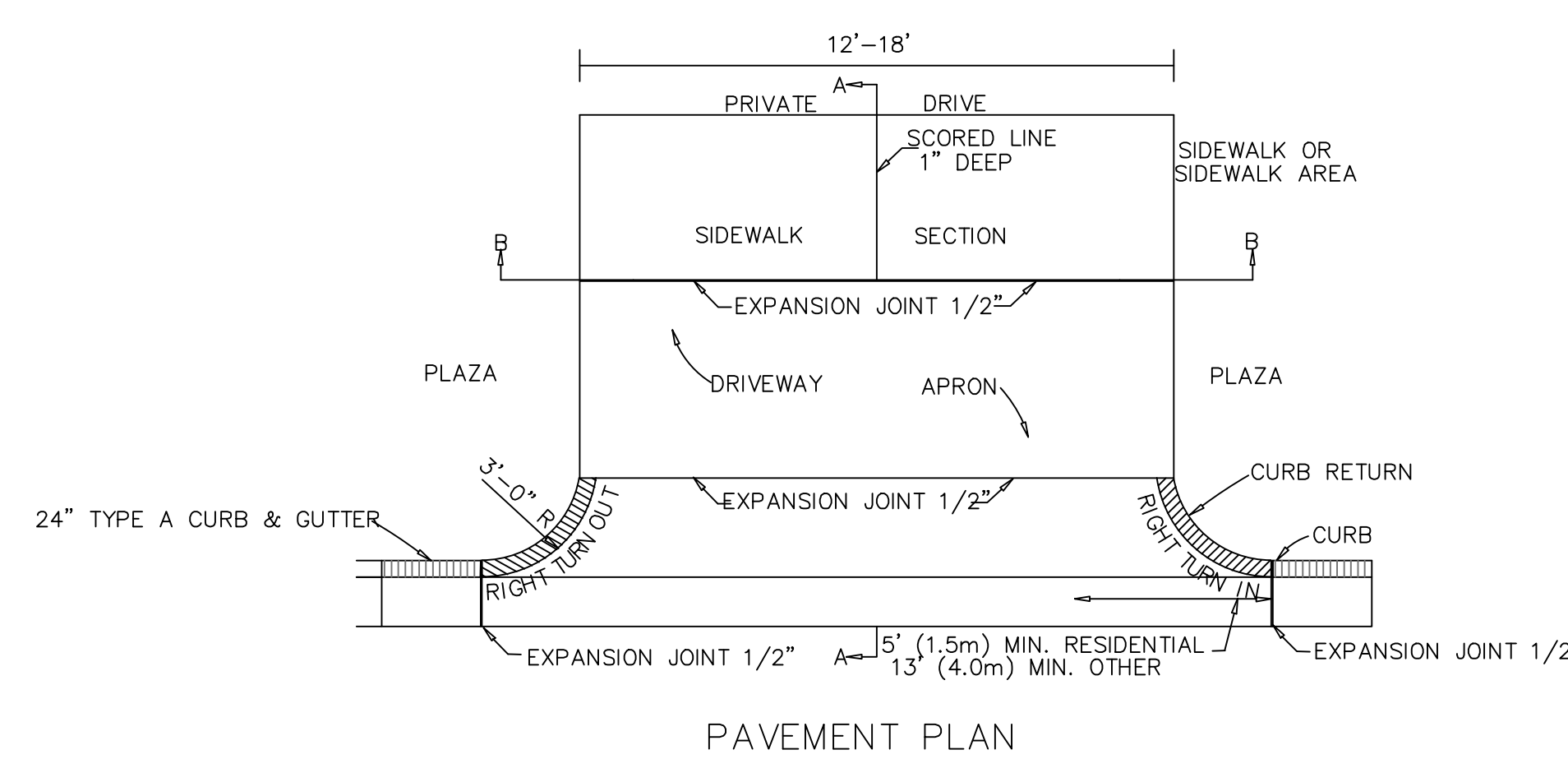
SIGNING PLACEMENT



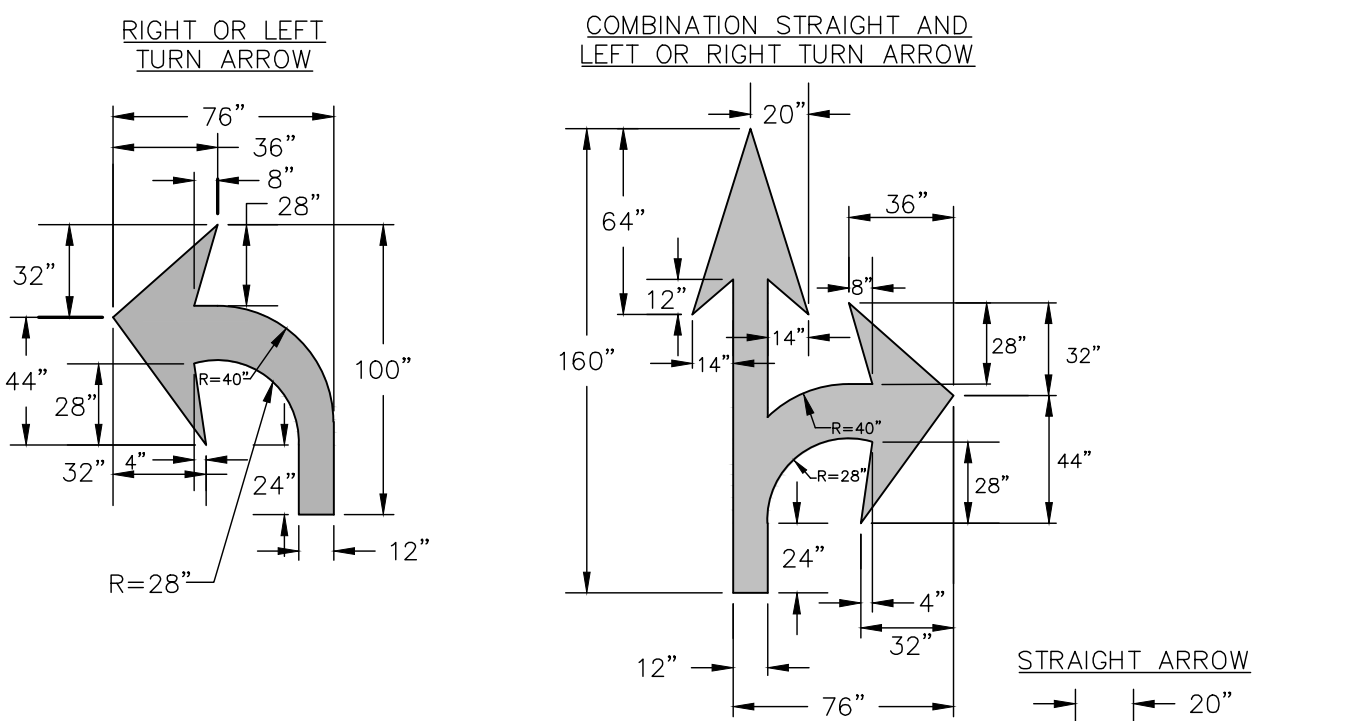
REVNO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HAMOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015



**PAVEMENT MARKINGS
WHEEL CHAIR RAMPS**
SD 11-11



PAVEMENT PLAN
MODIFIED STANDARD DRIVEWAY DETAIL
SD 8-02
NOT TO SCALE

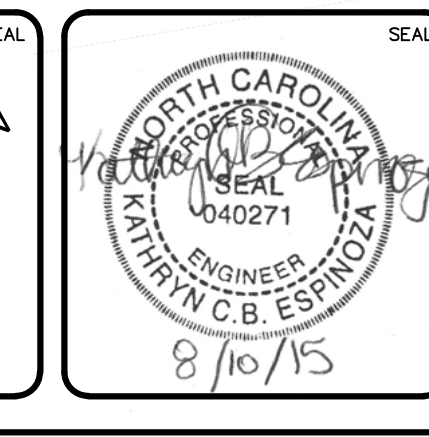


**PAVEMENT MARKINGS
ARROW SYMBOLS**
SD 11-03

- GENERAL NOTES**
- ALL PAVEMENT MARKING SYMBOLS SHALL BE WHITE IN COLOR
 - PAVEMENT MARKING SYMBOLS SHALL NOT BE LOCATED AS TO ENCRoACH INTO INTERSECTION AREAS.
 - ON PORTLAND CEMENT CONCRETE PAVEMENTS, PAVEMENT MARKING SYMBOLS SHALL NOT BE PLACED ACROSS TRANSVERSE EXPANSION JOINTS UNLESS APPROVED BY THE ENGINEER.

REVNO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HAMOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HAMOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
SITE PLAN DETAILS

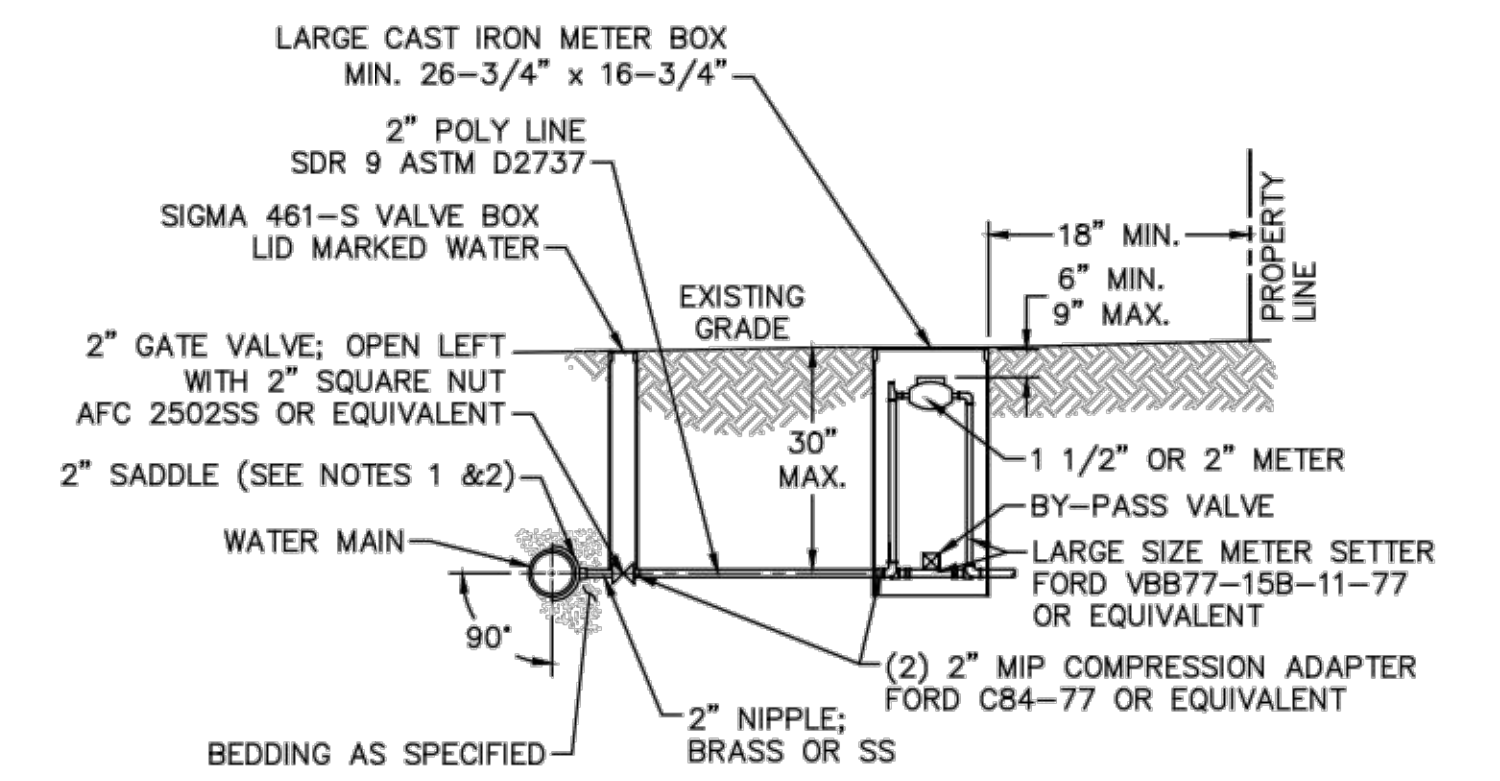
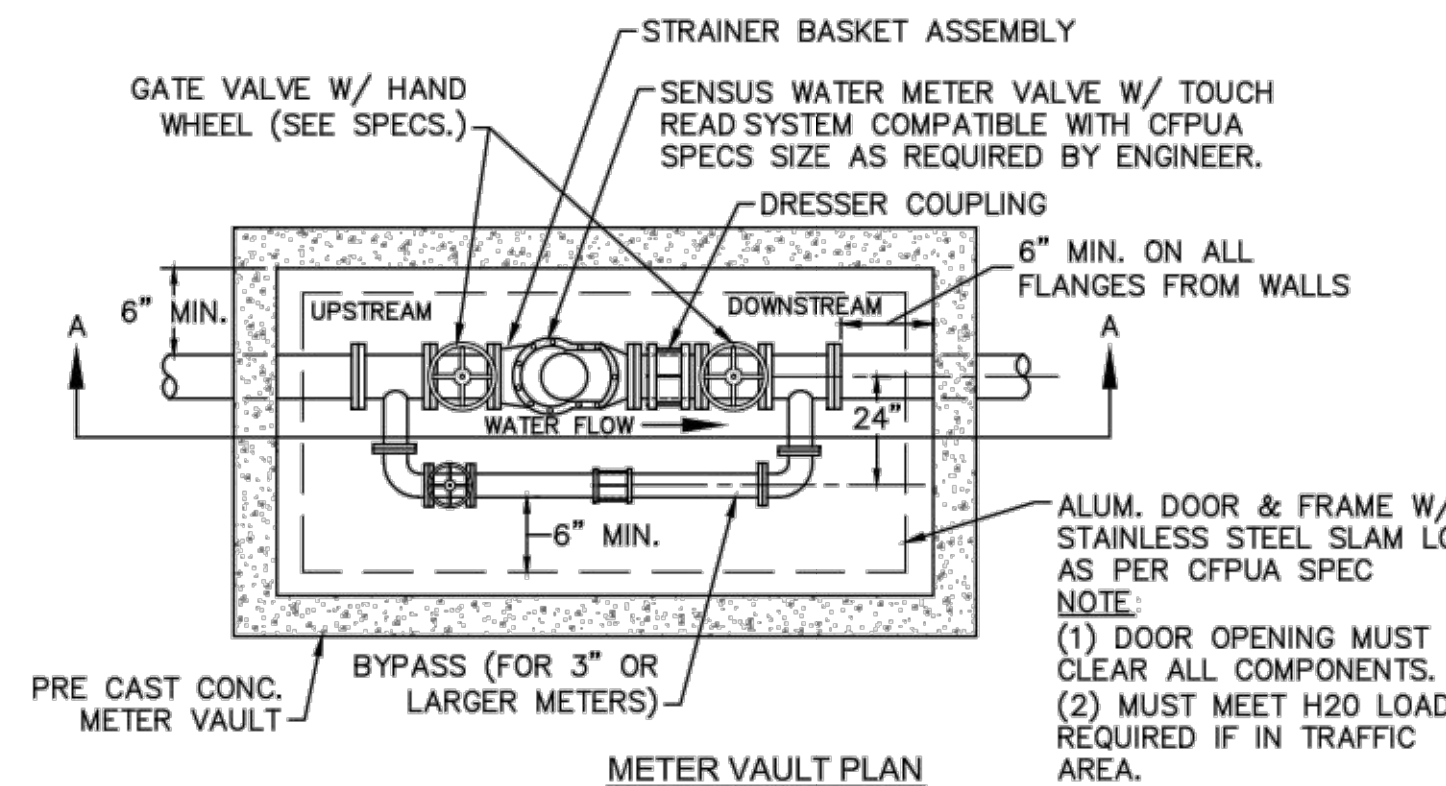
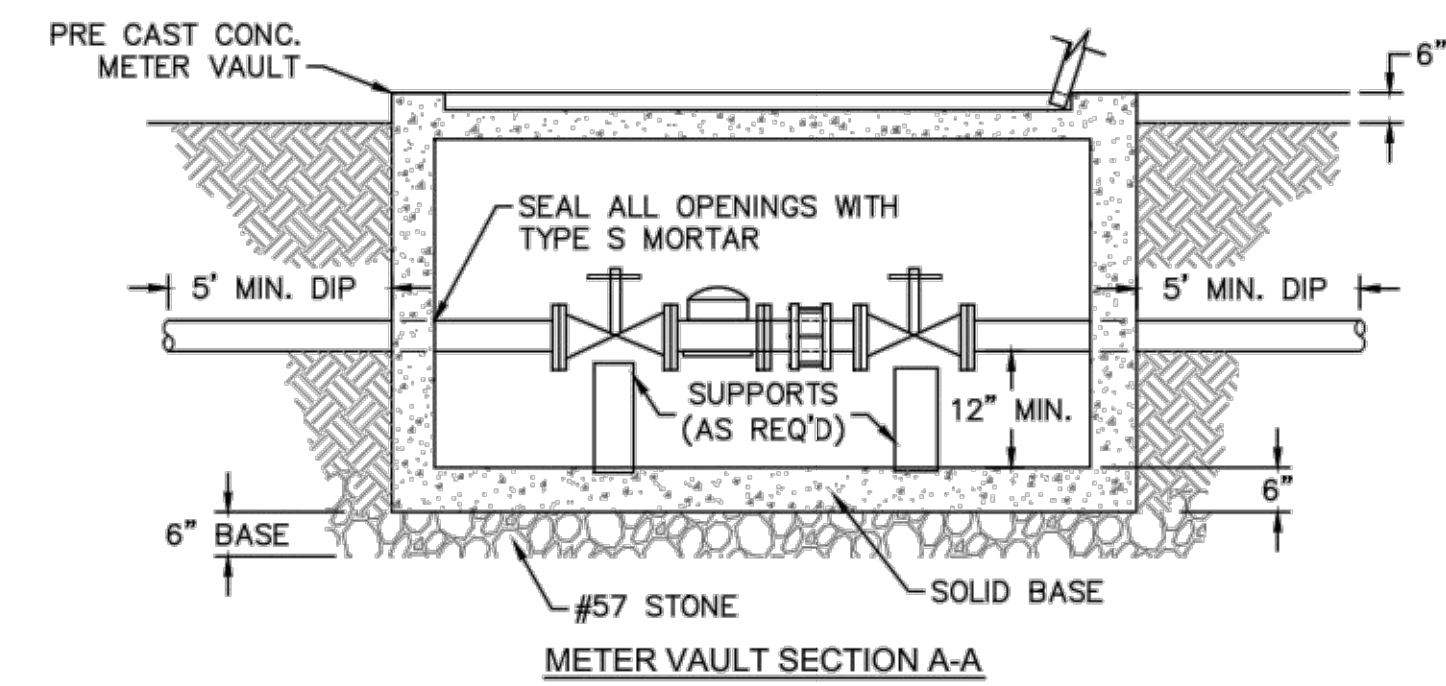
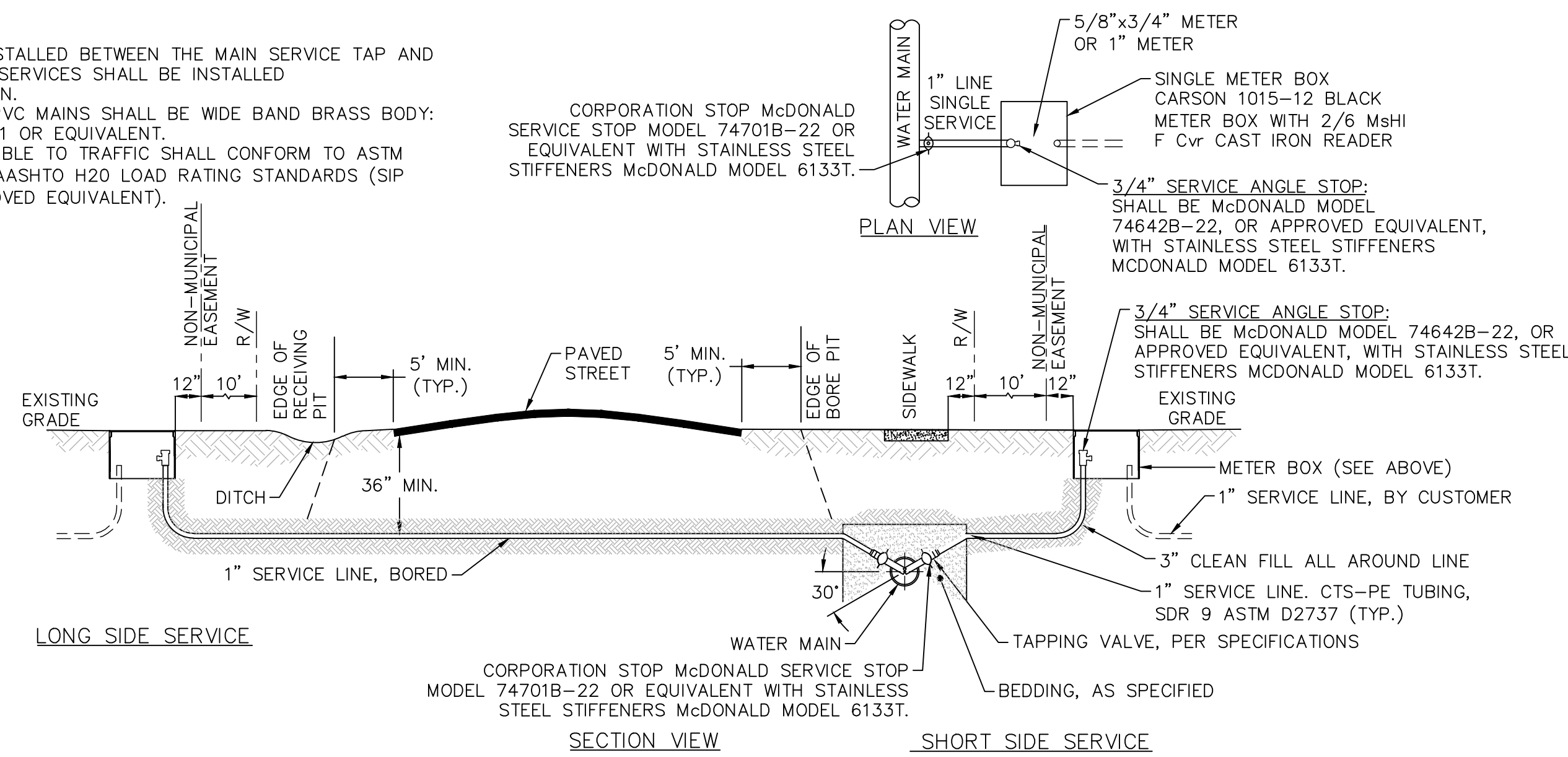
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NUL
PROJ. MGR. RMC

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VERTICAL: N/A

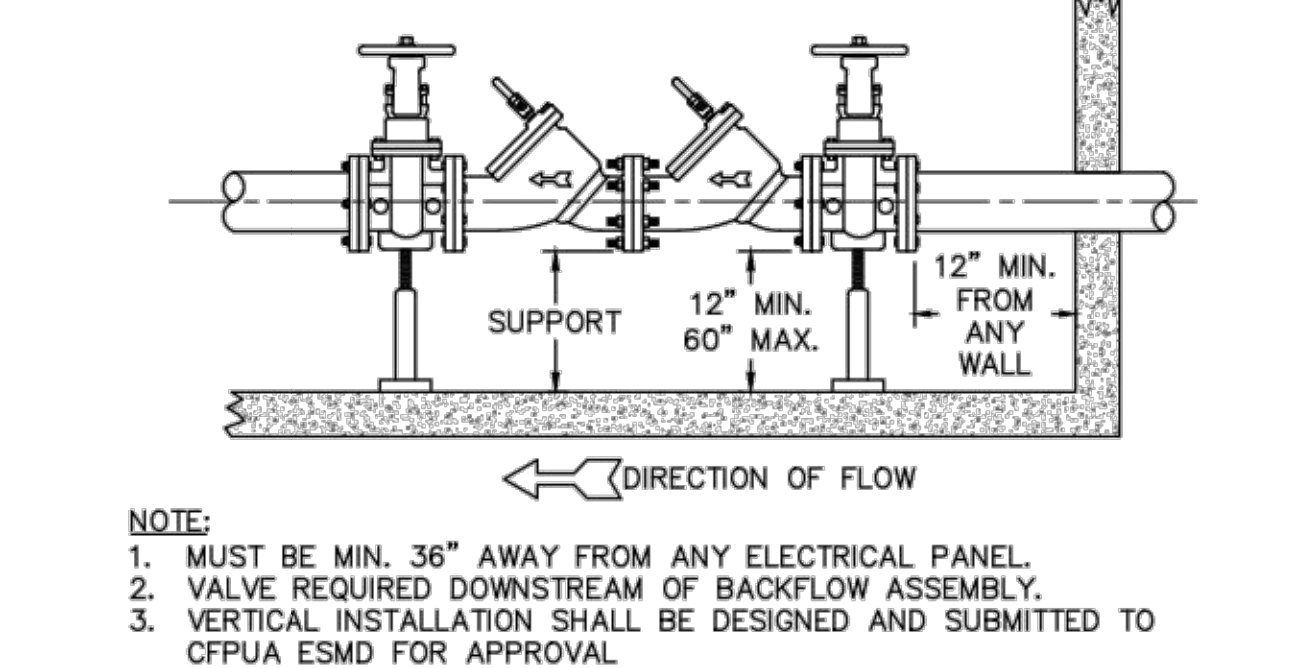
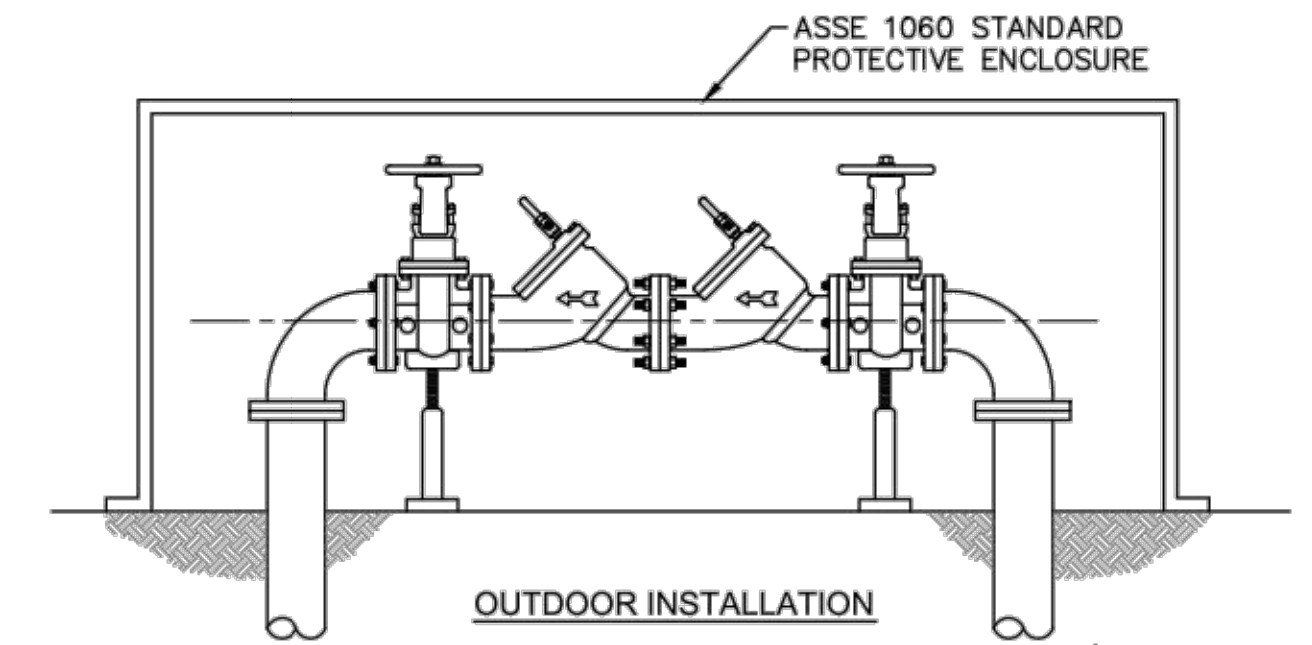
MAC FILE NUMBER: CS-502
DRAWING NUMBER: 34
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4240 OR APPROVED EQUIVALENT).



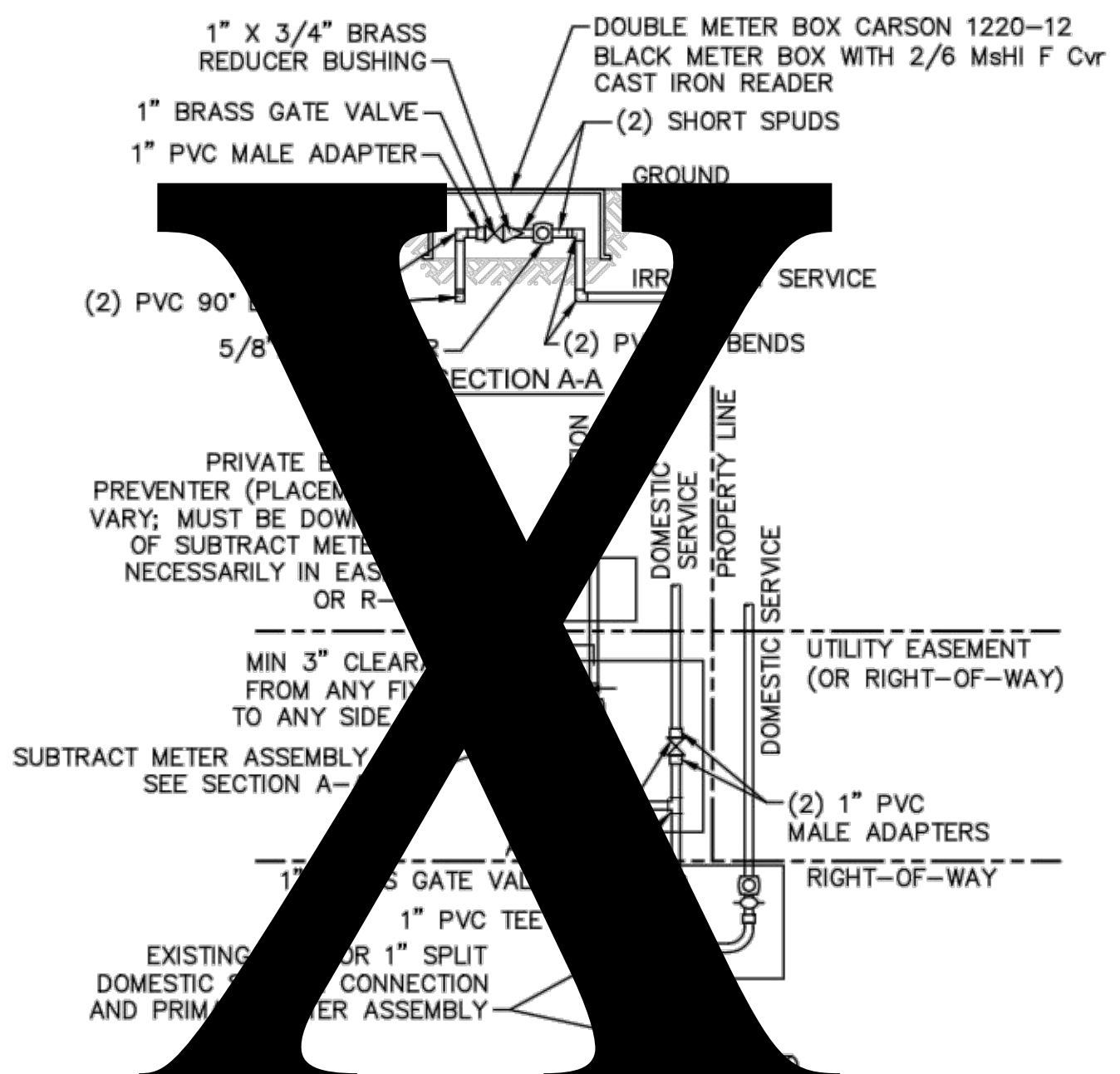
- NOTES:**
- ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR APPROVED EQUIVALENT).
 - METER BOXES SUSCEPTIBLE TO INCIDENTAL, NON-DELIBERATE TRAFFIC SHALL CONFORM TO ANSI/SCTE 77 TIER 15 LOAD RATING STANDARDS (SYNERTECH MODEL DUO 17x30 OR APPROVED EQUIVALENT).
 - NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
 - 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.



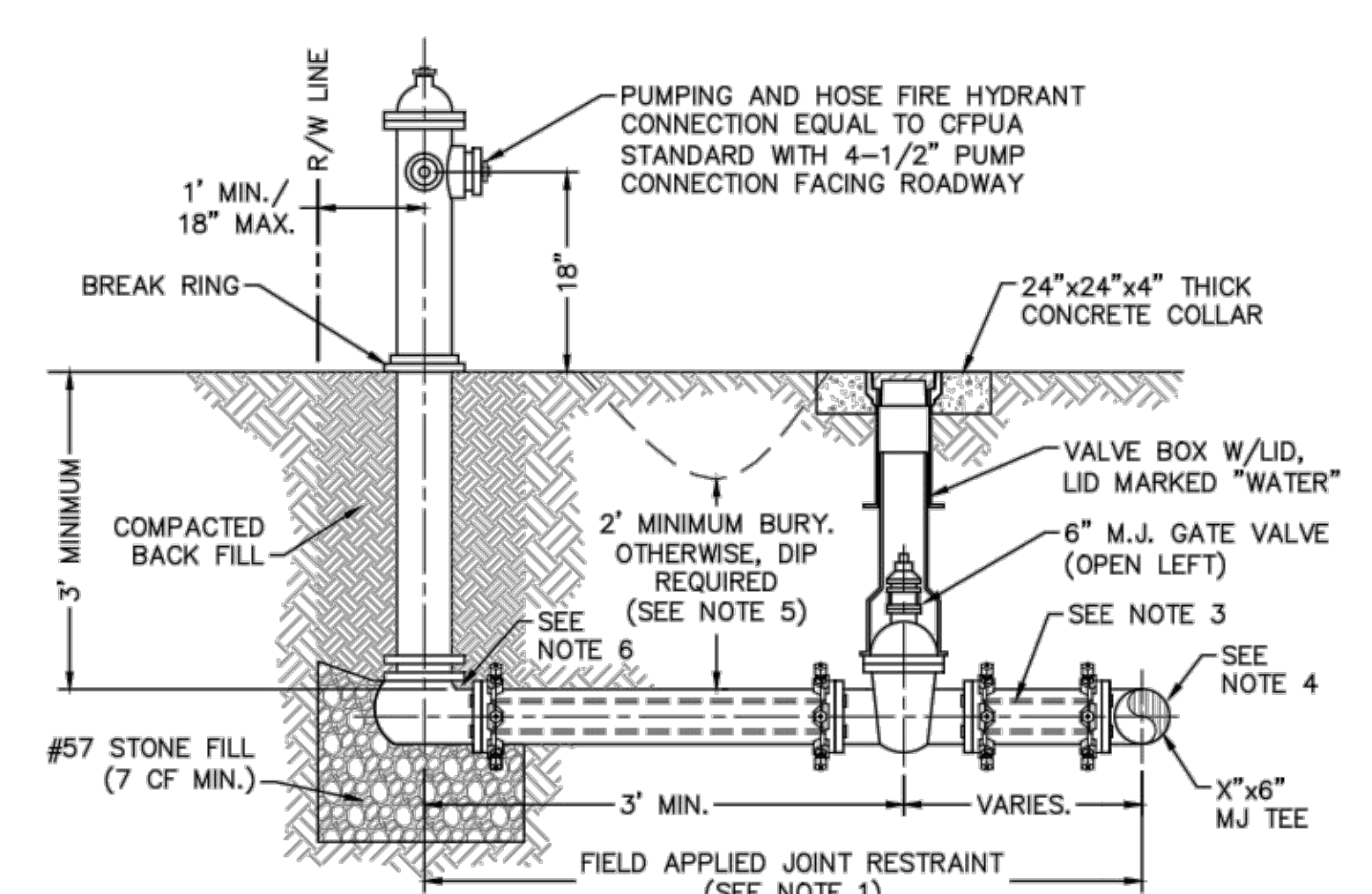
DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

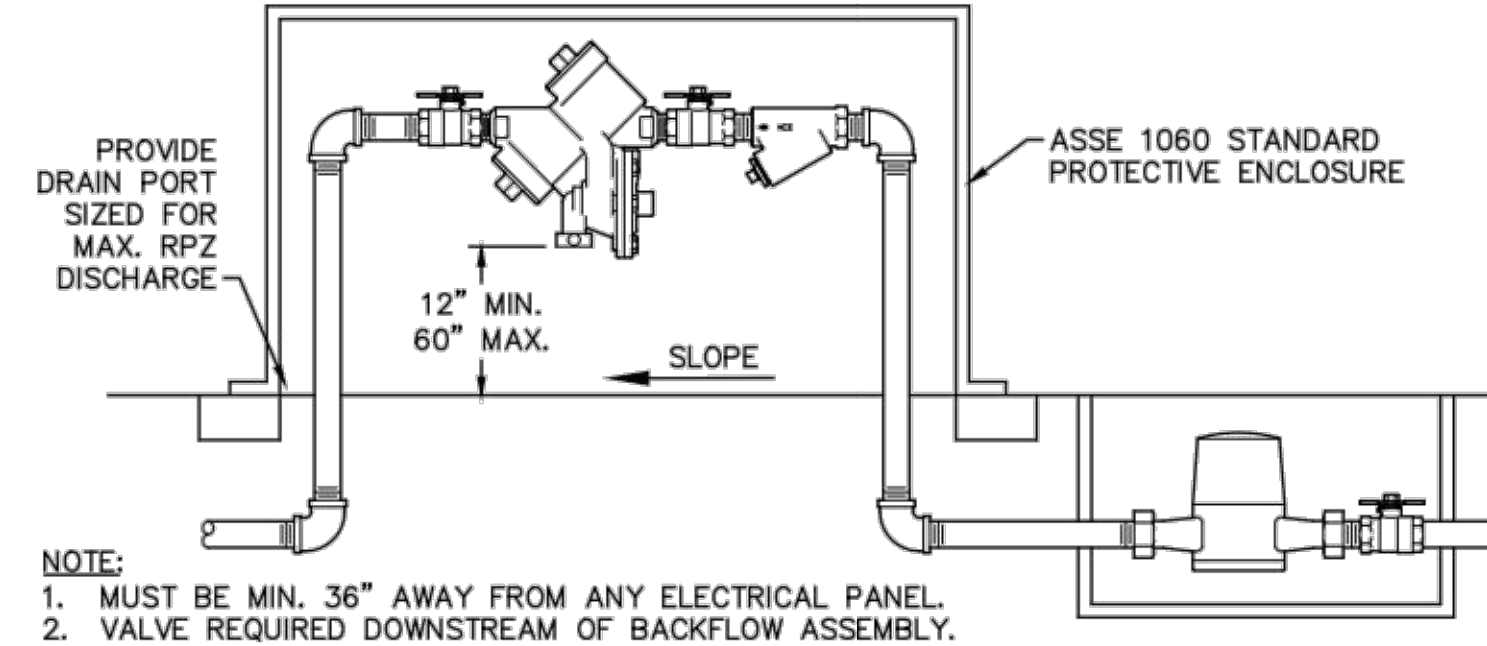
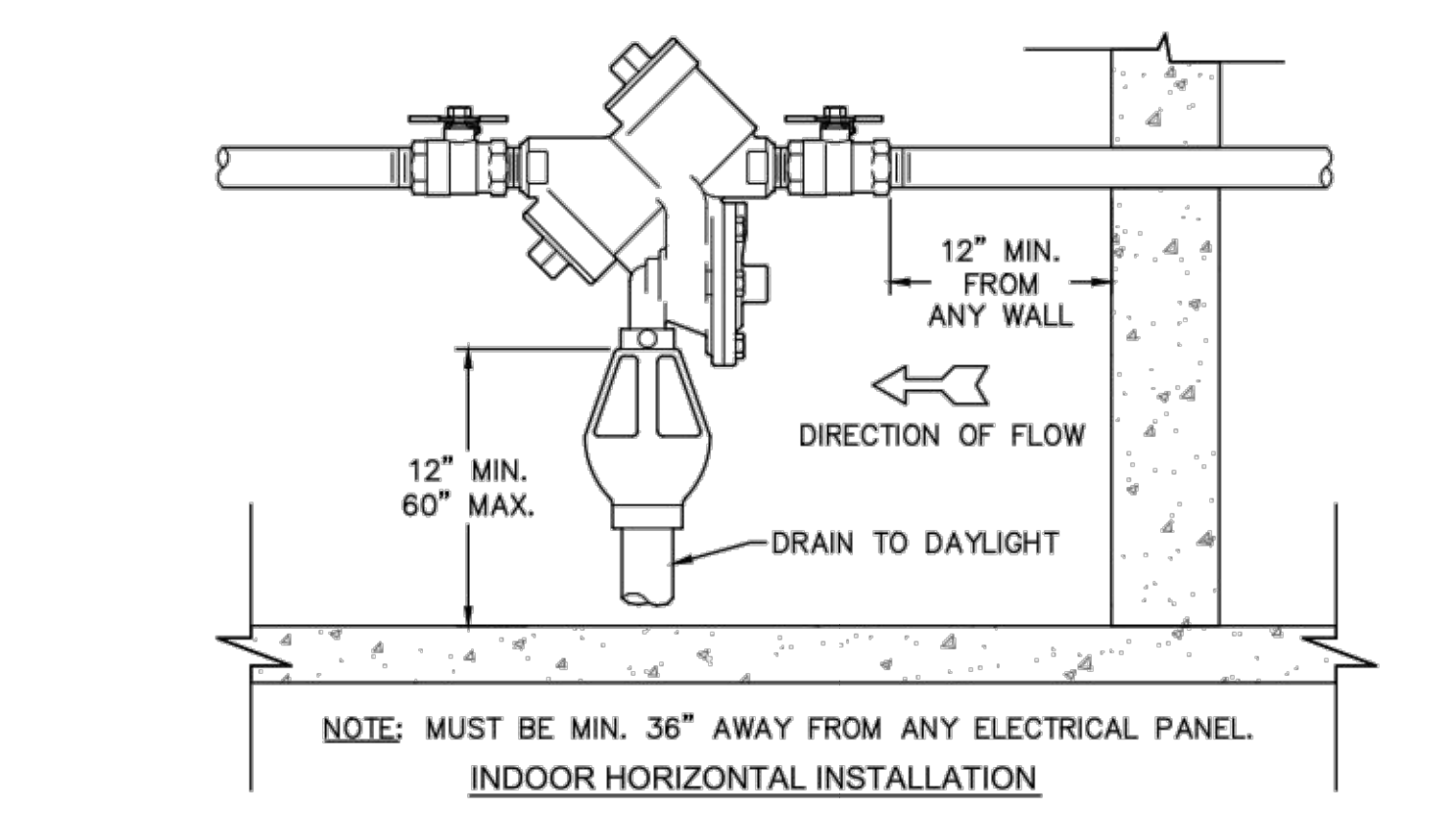
THE DETAILS SHOWN HEREON SUPERCEDE CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



- NOTES:**
- BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPWA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
 - ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS.



- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA STAR PIPE PRODUCTS OR APPROVED EQUAL.
 - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
 - CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
 - HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10- FEET OF HYDRANT TEE.
 - HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
 - WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.



REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE

- NOTE:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
 - VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
 - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

REV:	DESCRIPTION:	DATE:
1	Single Service Connection, Double Service Connection, and Large Meter Revised	10/26/12
2	Single Service Connection and Fire Hydrant Details Revised	7/23/13
3	Fire Hydrant Detail Revised	01/03/14

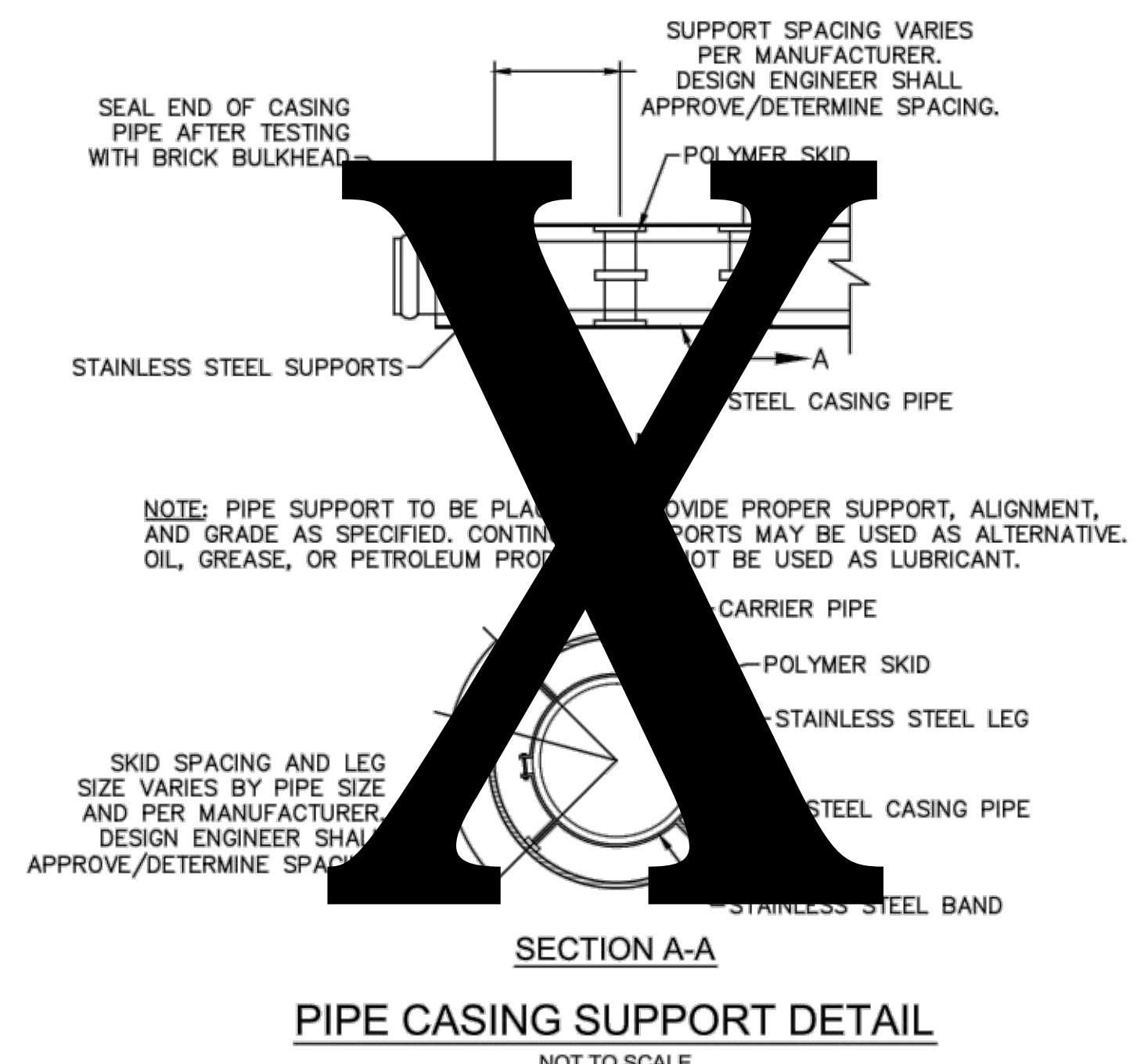
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

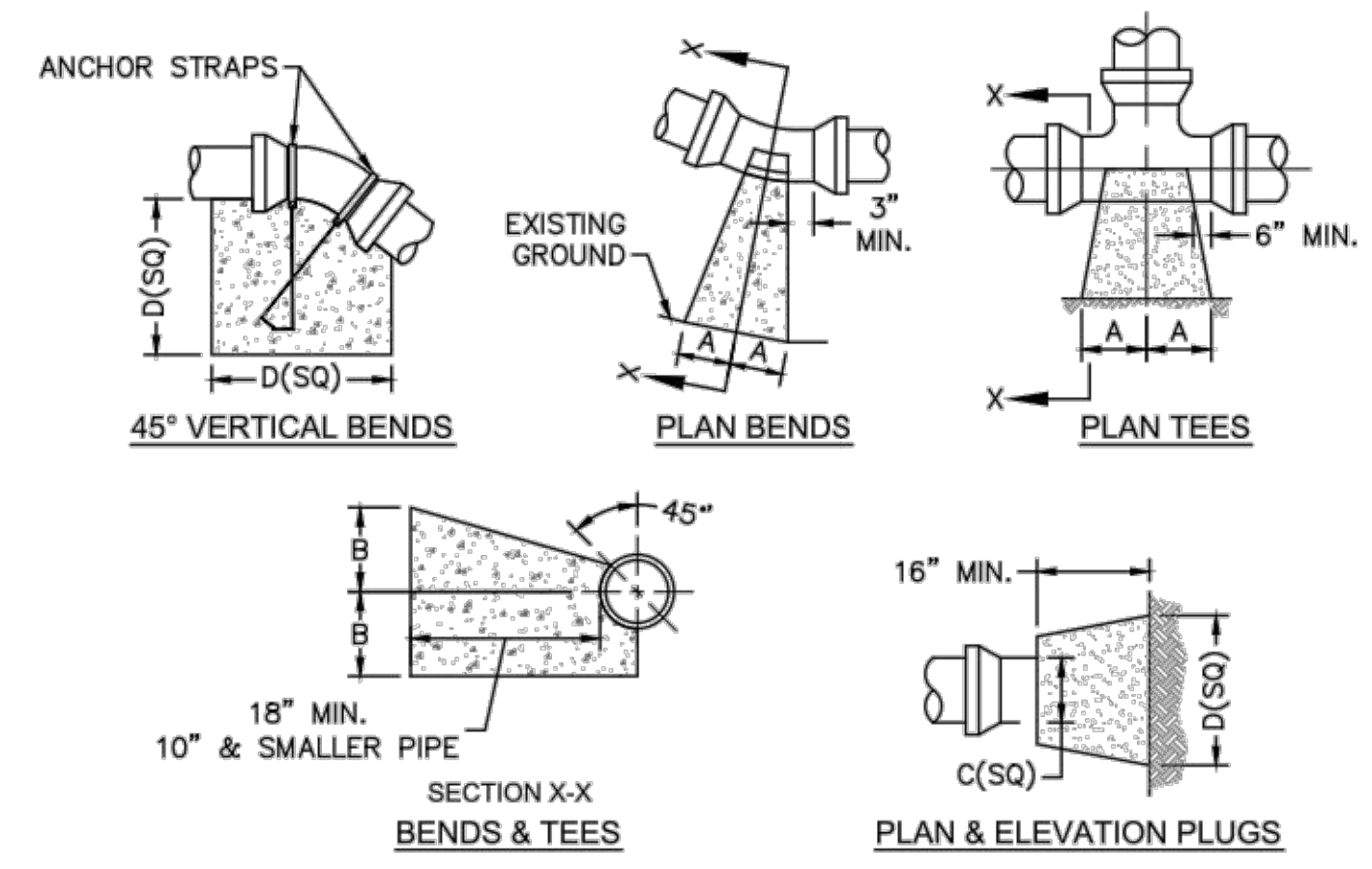
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12
SCALE:
N/A
DRAWN BY:
CFPUA
CHECKED BY:
CFPUA
PROJECT NO.:

SHEET NO:
WSD-1



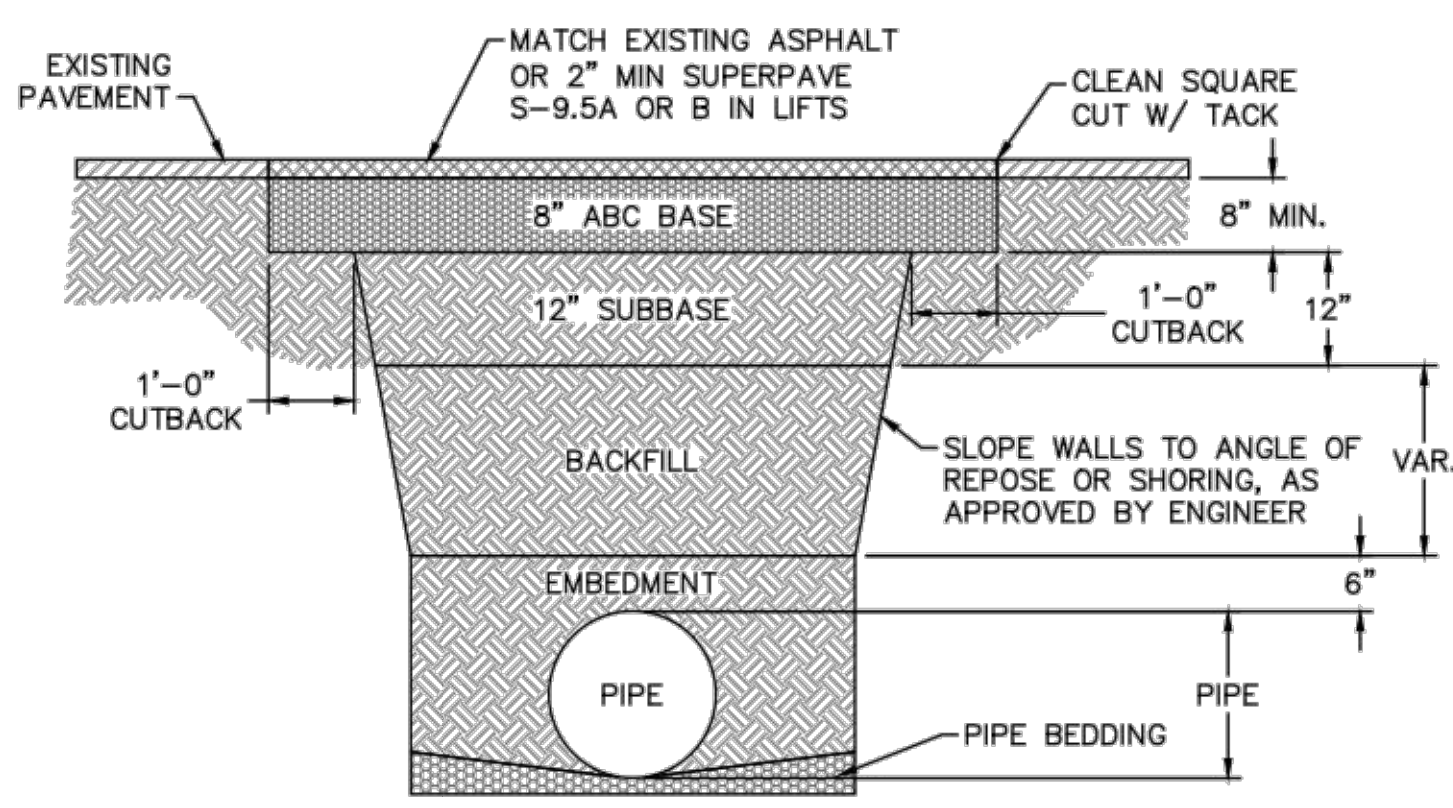
PIPE CASING SUPPORT DETAIL
NOT TO SCALE



SIZE	90 BENDS		45 BENDS		22 1/2 BENDS		TEES/PLUGS		45 VERT. BENDS
	A	B	A	B	A	B	A	B	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

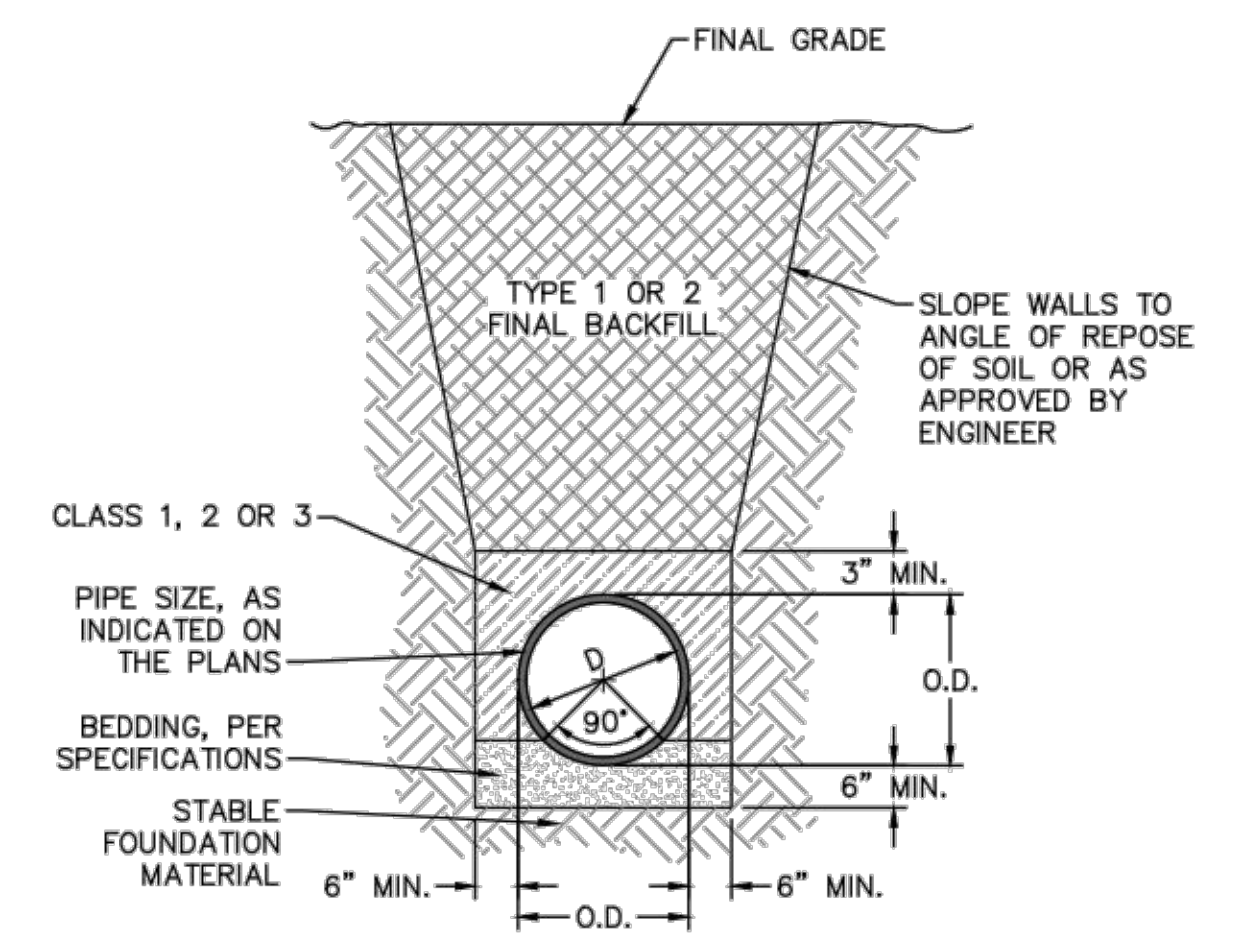
- NOTES:
 1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
 2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
 3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

THRUST BLOCK DETAIL
NOT TO SCALE

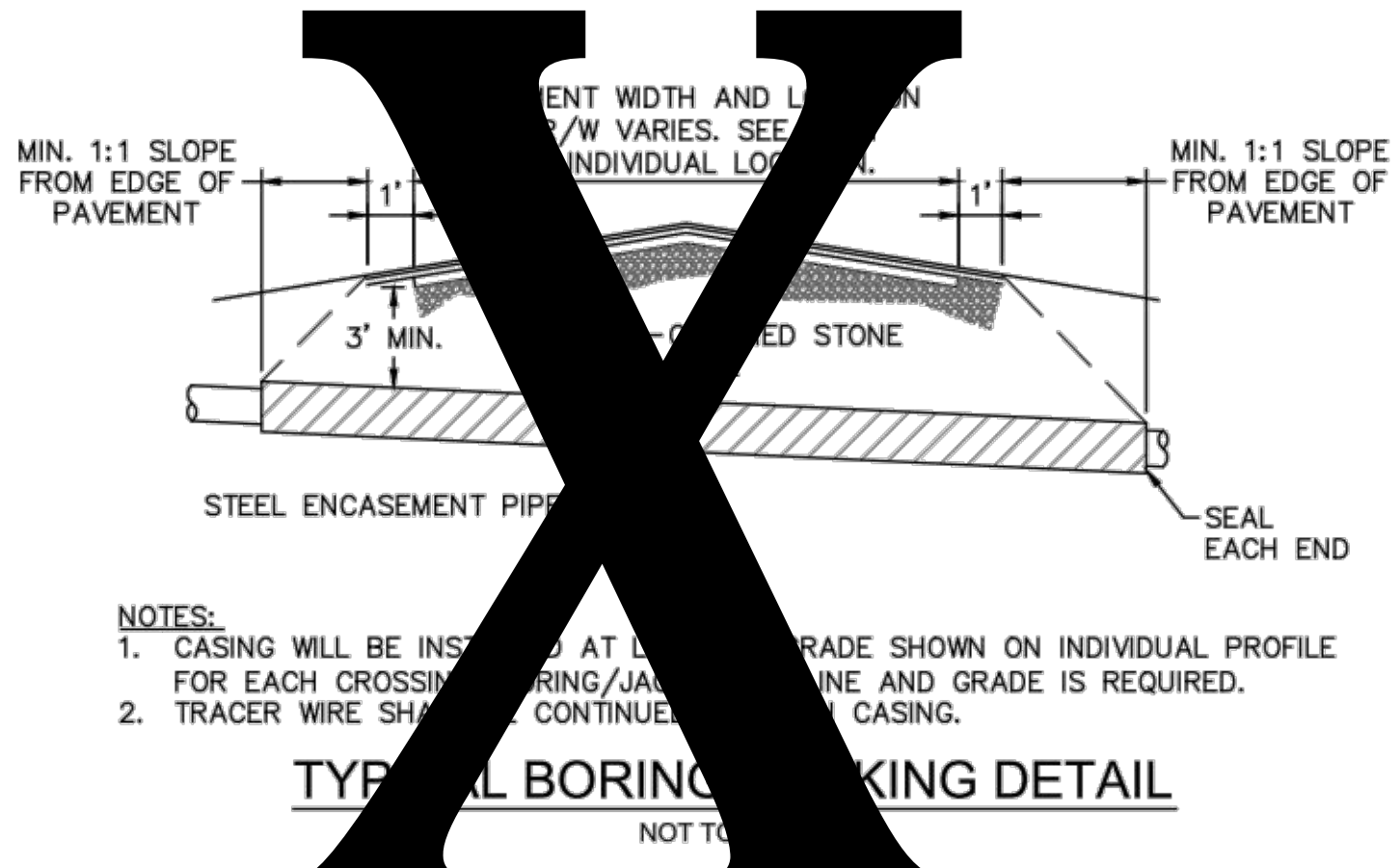


- NOTES:
 1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
 3. 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
 4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
 5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
 6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
 7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
 8. 1'-0" CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.
- (FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

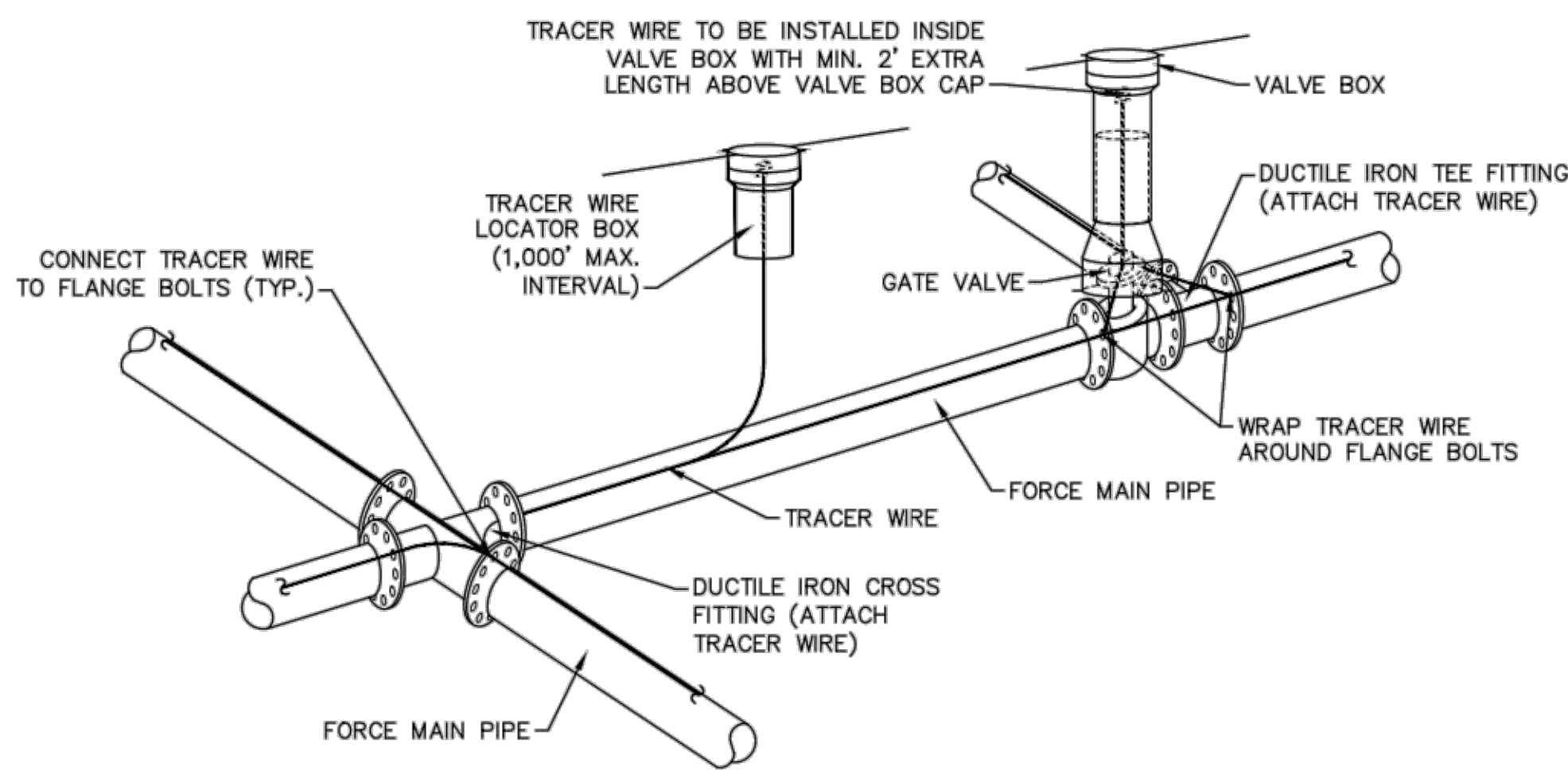
PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE

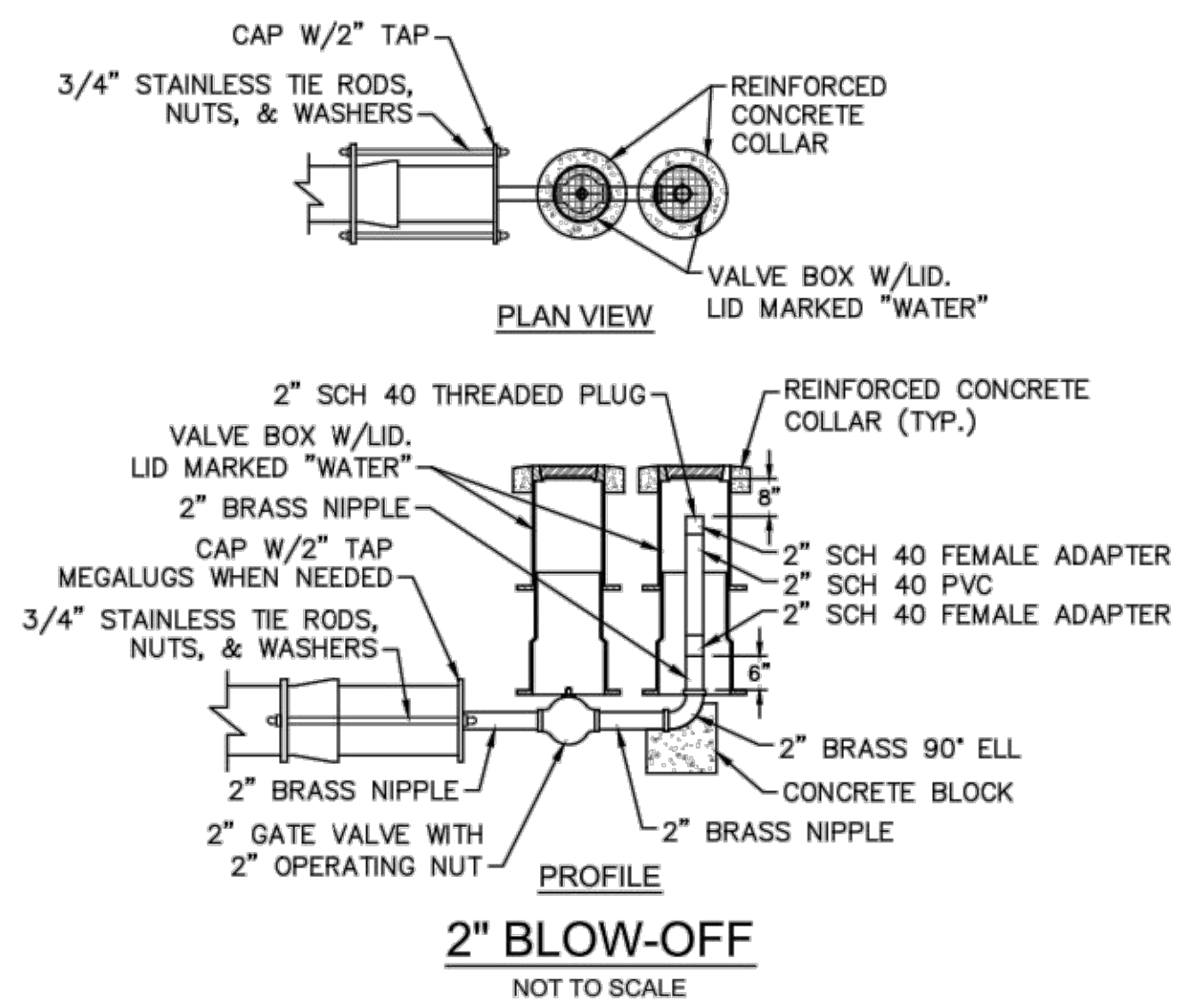


TYPICAL BORING AND TAPPING DETAIL
NOT TO SCALE

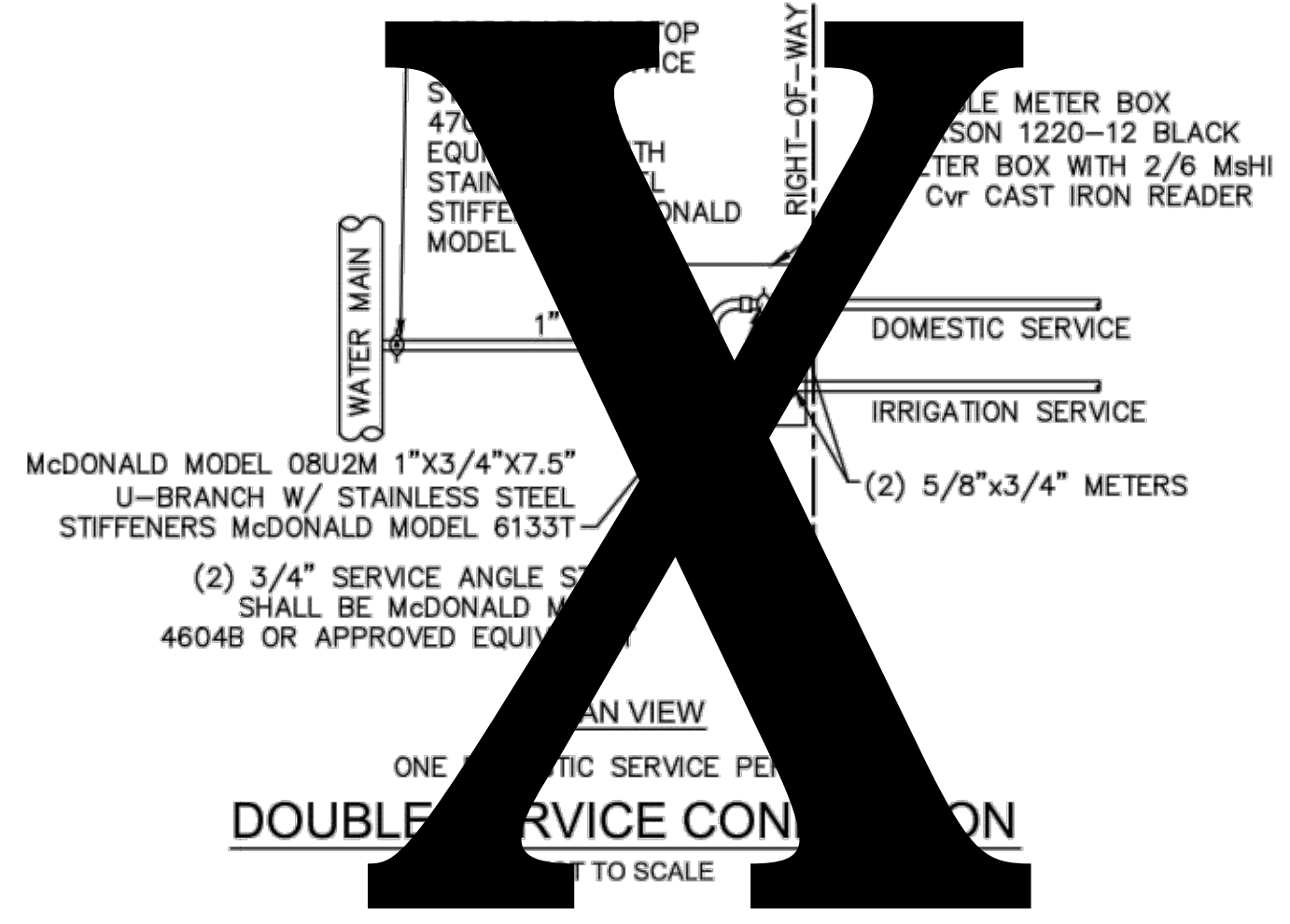


- NOTES:
 1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
 2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12-FT. INTERVALS.
 3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
 4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

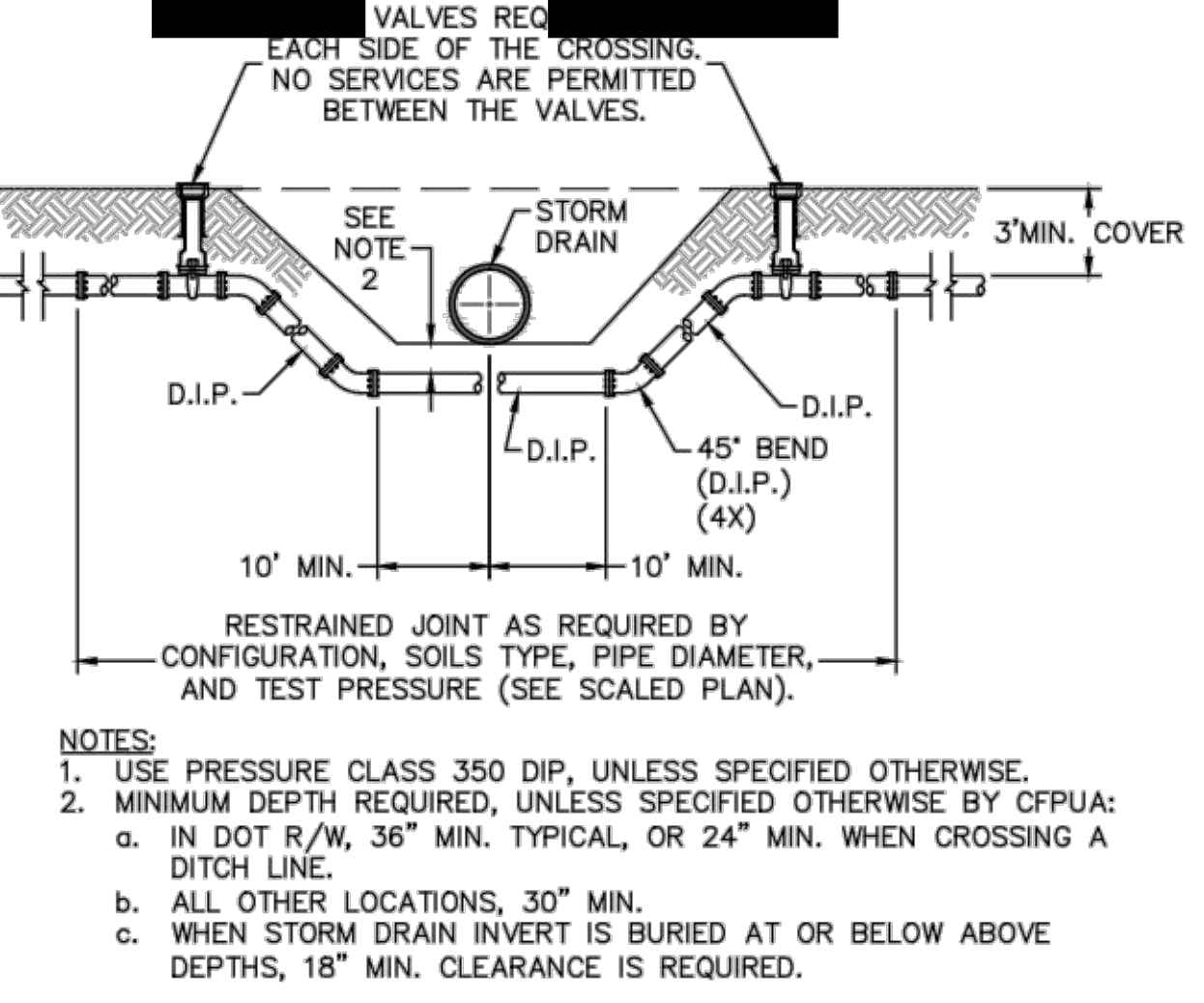
TRACER WIRE DETAIL
NOT TO SCALE



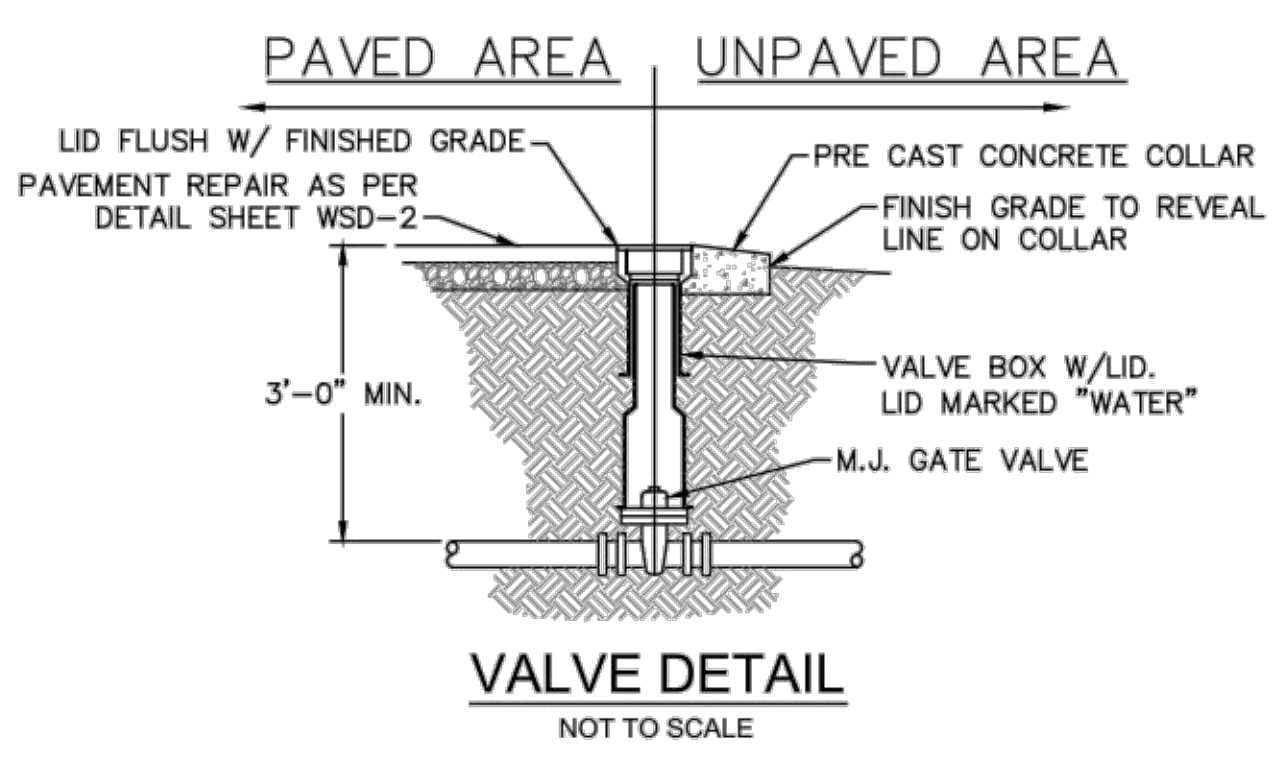
2" BLOW-OFF
NOT TO SCALE



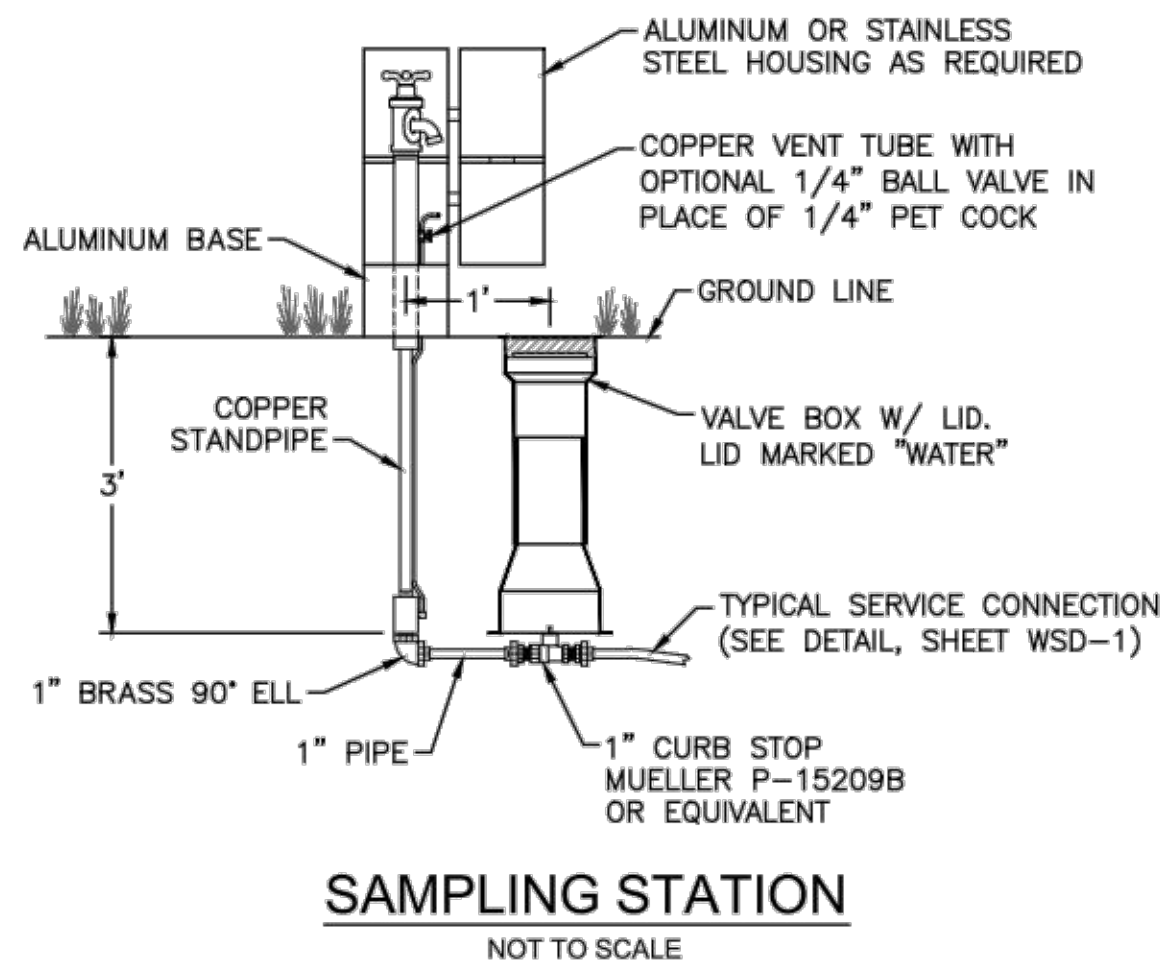
DOUBLE SERVICE CONNECTION
NOT TO SCALE



WATER MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE



VALVE DETAIL
NOT TO SCALE



SAMPLING STATION
NOT TO SCALE

- GENERAL NOTES:
 1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

CFPUA WATER DISTRIBUTION SYSTEM

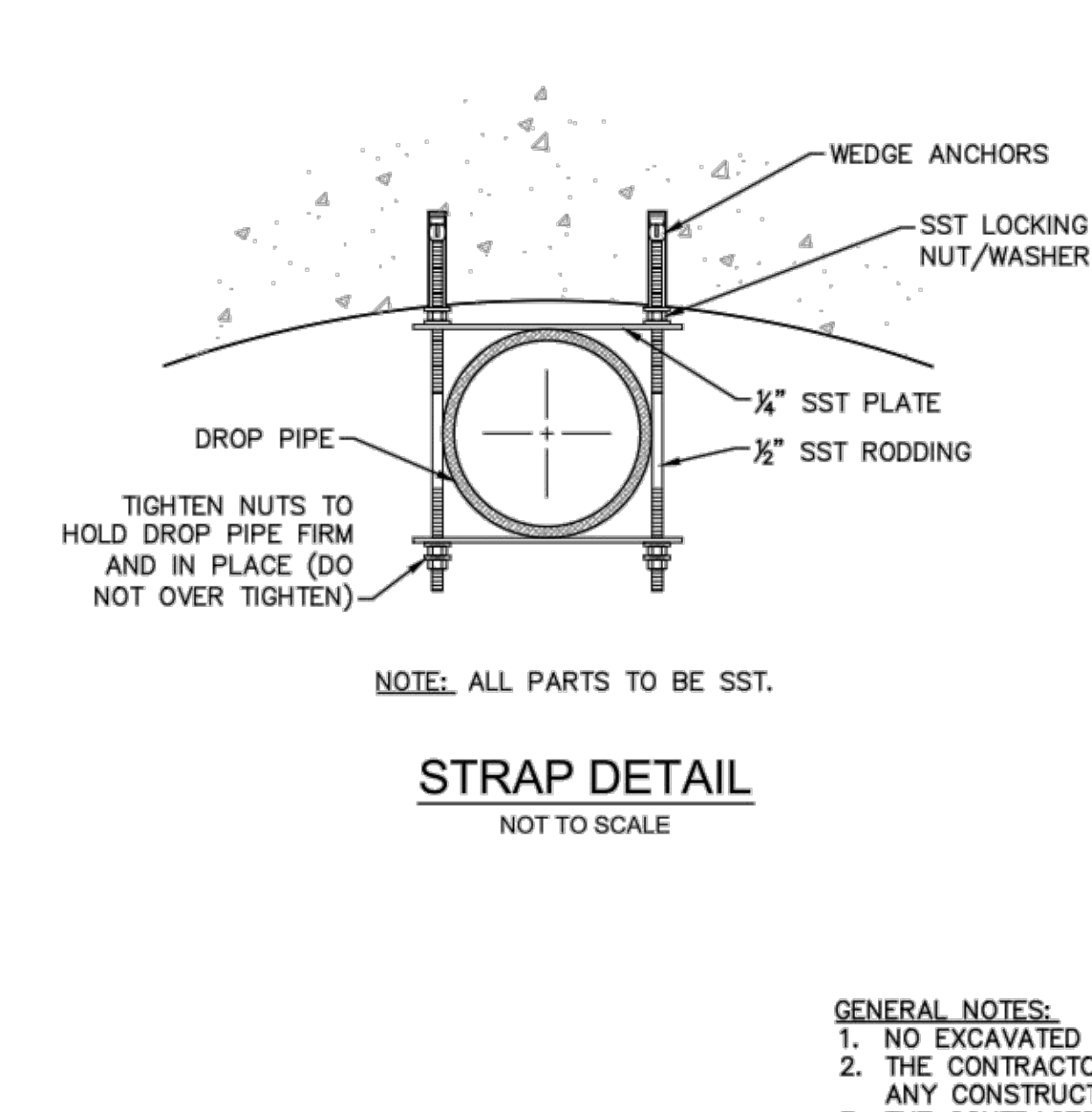
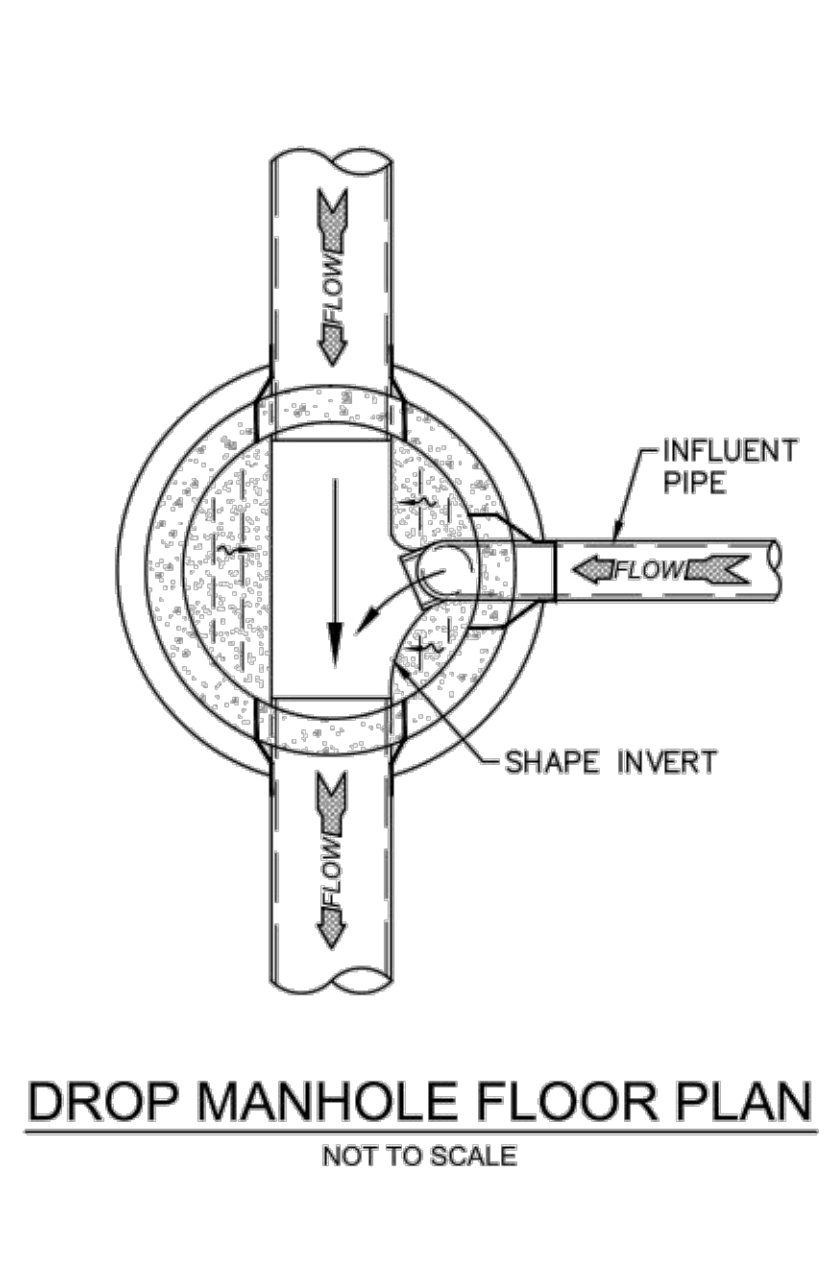
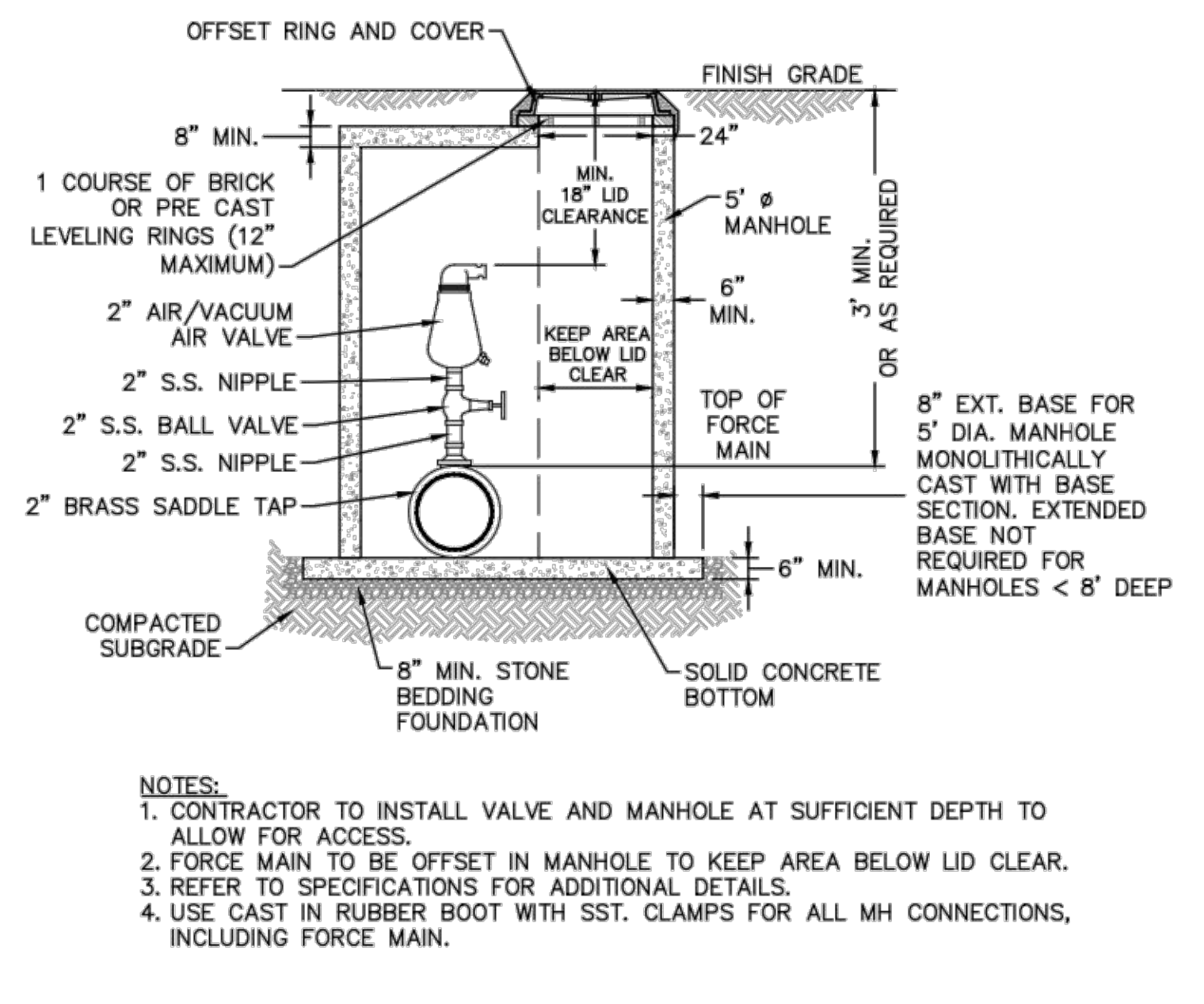
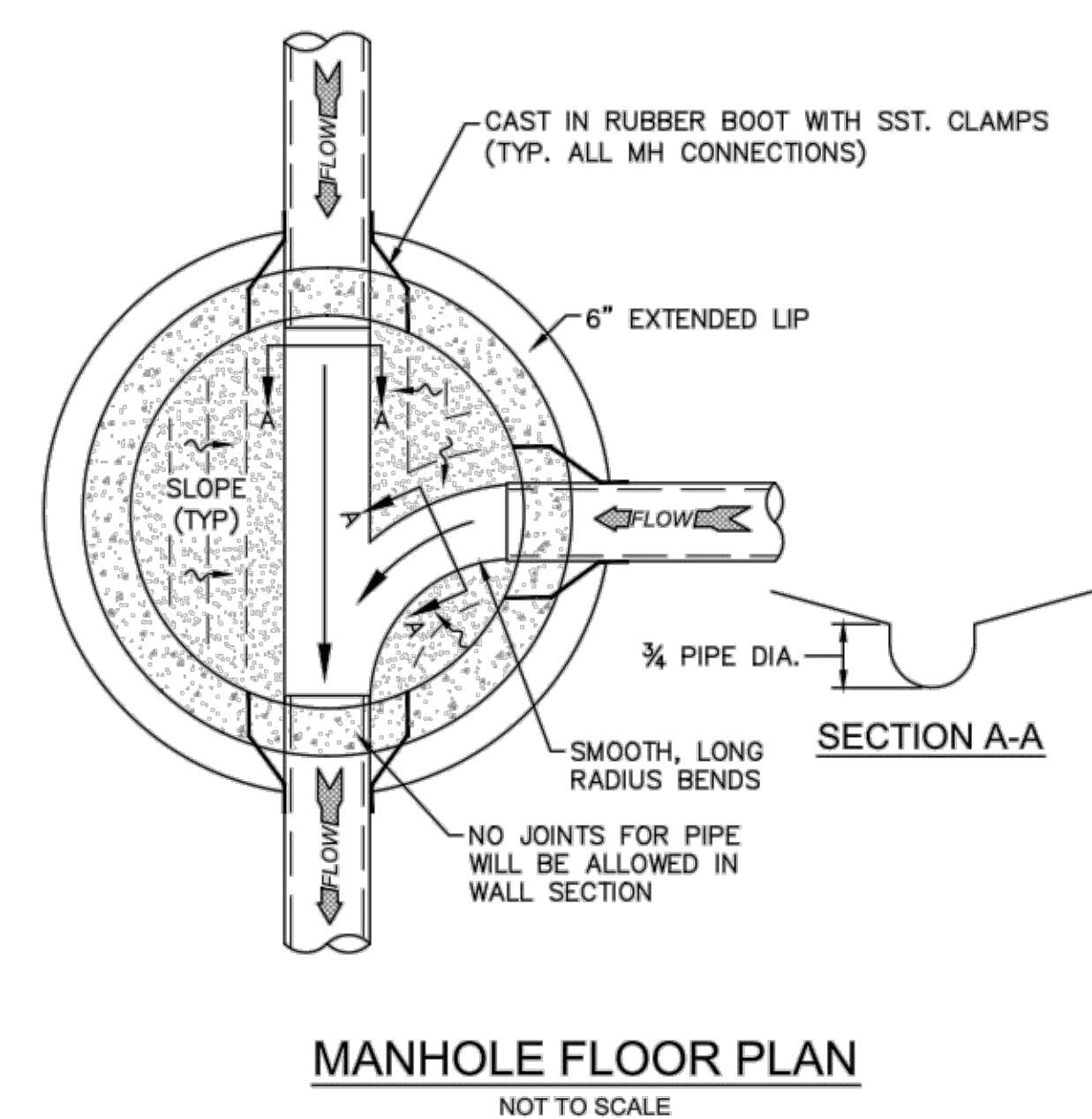
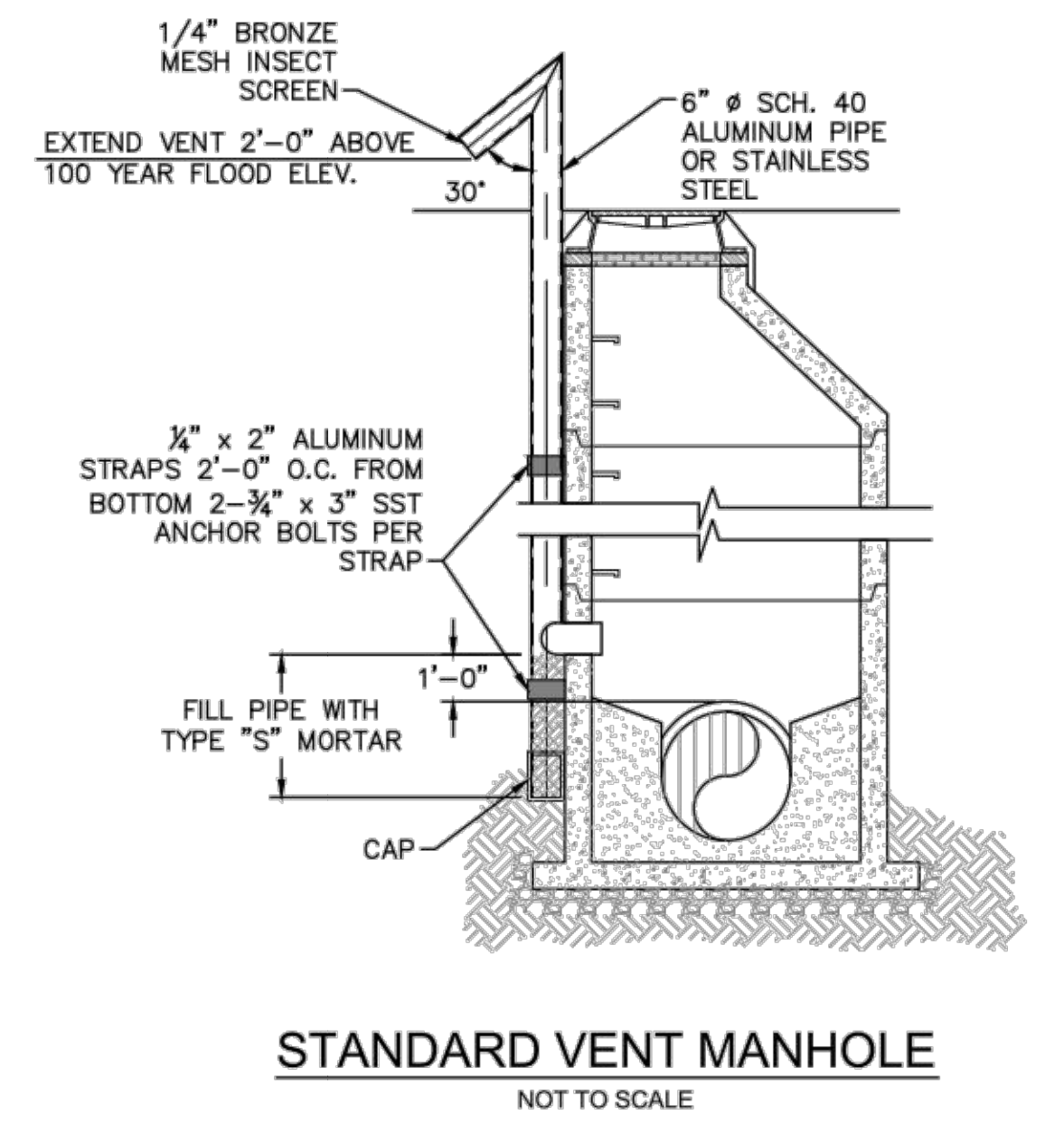
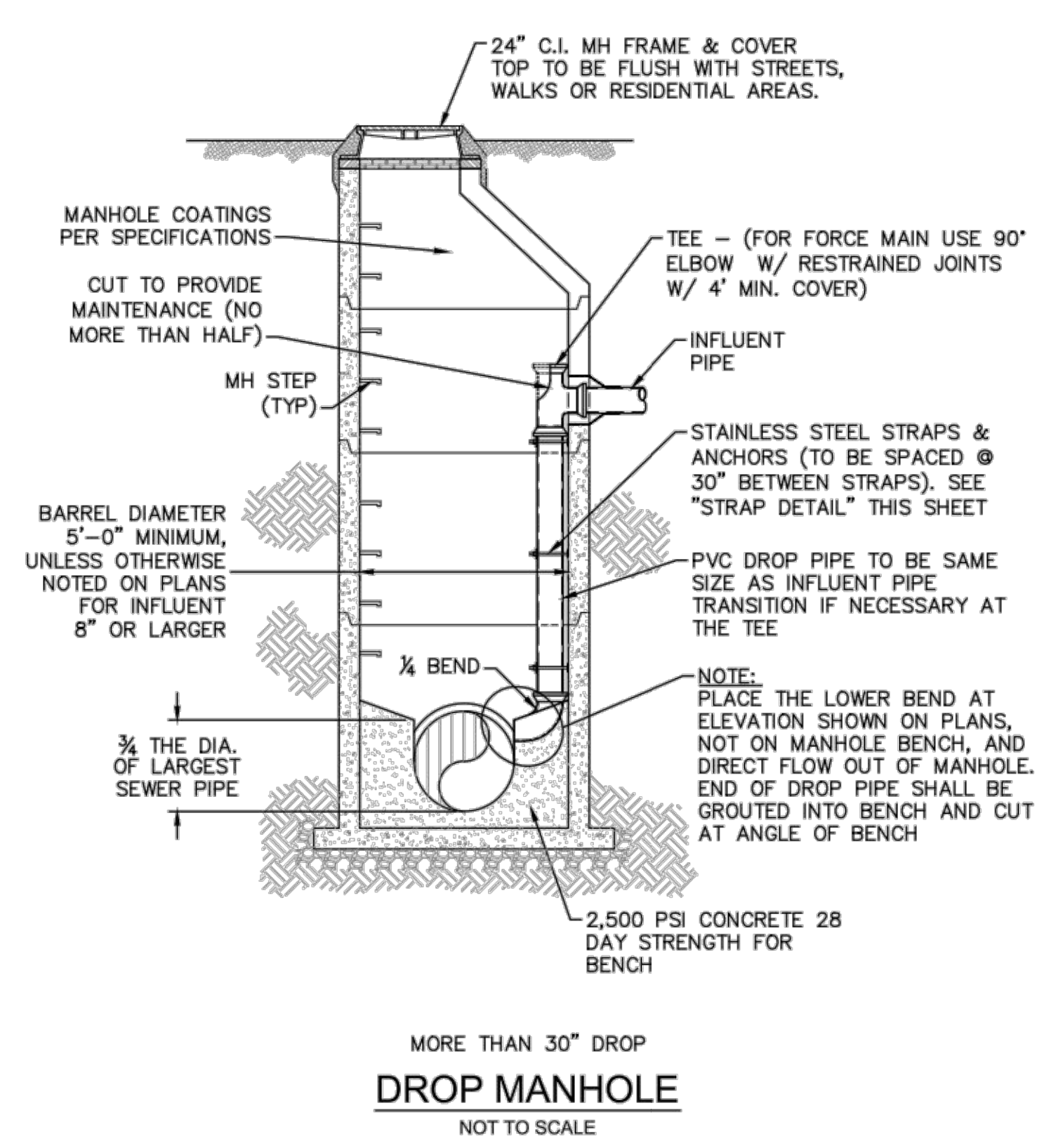
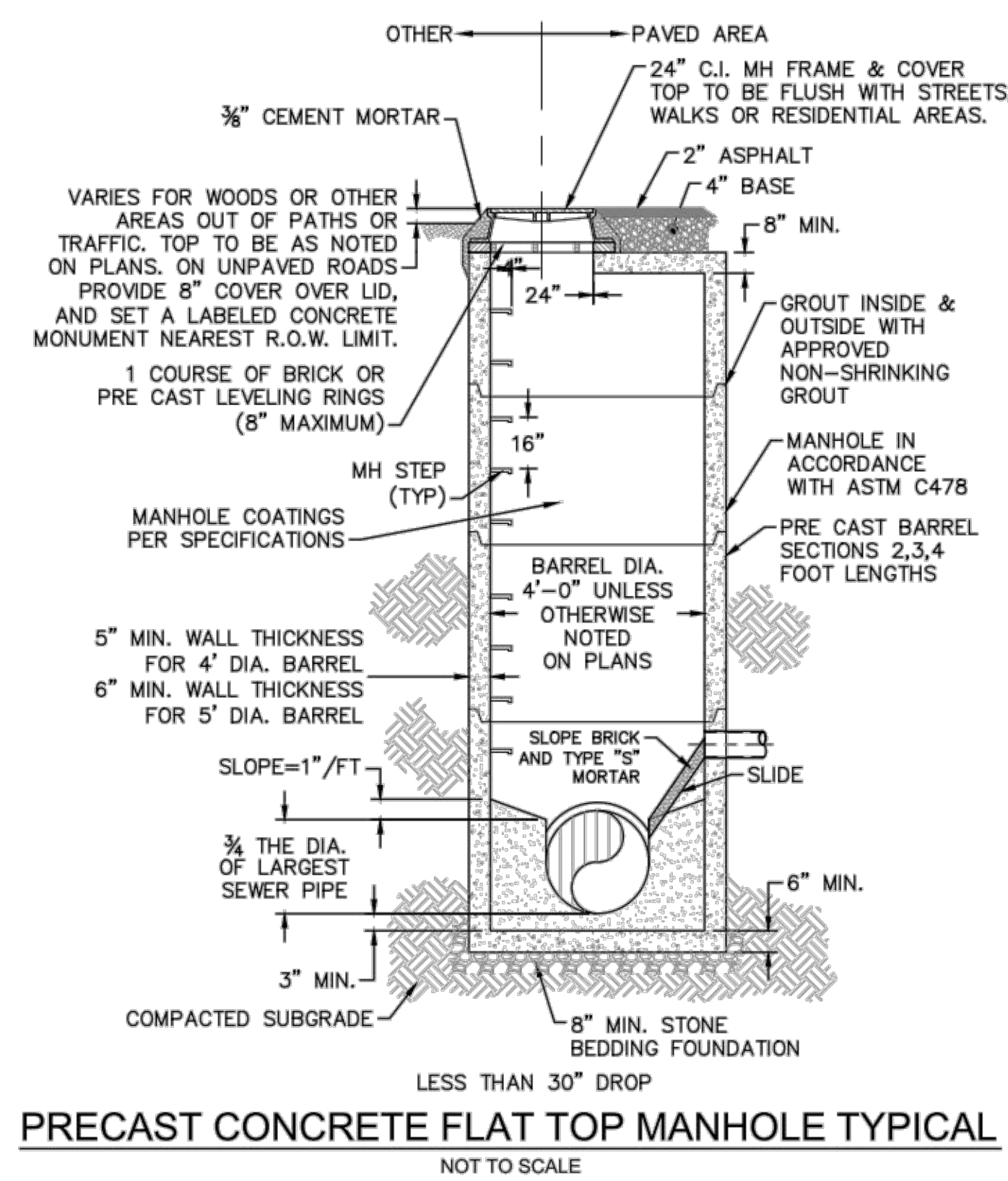
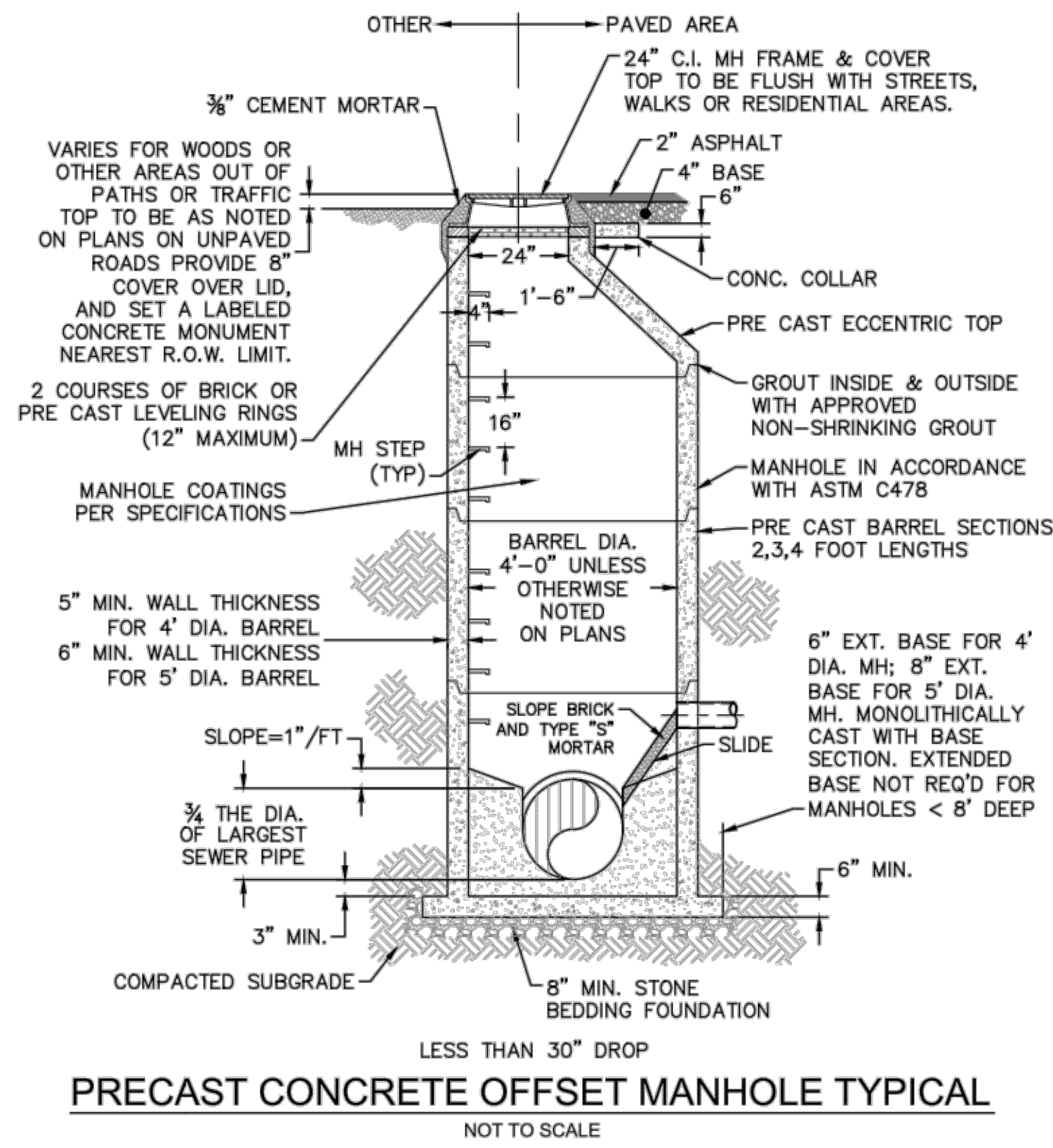
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
 235 GOVERNMENT CENTER DRIVE
 WILMINGTON, NC 28403
 OFFICE: (910)332-6560

DATE:	1/9/12
SCALE:	N/A
DRAWN BY:	CFPUA
CHECKED BY:	CFPUA
PROJECT NO.:	
SHEET NO:	WSD-2

REV:	DESCRIPTION:	DATE:
1	Revised Water Main Ditch and Storm Crossing Detail	11/12/13
2	Revised Water Main Ditch and Storm Crossing Detail	05/05/14

S:\2726\0129 Ph.1 SP-80\Drawings\DETAILS-027350129.dwg, 8/7/2015 3:46:36 PM, Allen@mail



- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
 - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- STANDARD SEWER NOTES**
(REQUIRED ON ALL SEWER PLAN AND PROFILE SHEETS)

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:
1	AIR / VACUUM AND AIR RELEASE COMBINATION VALVE REVISED	10/26/12
2	STANDARD SEWER NOTE #6 REVISED	12/10/12
3	REVISED STANDARD VENT MANHOLE TO EXTEND VENT 2'-0" ABOVE 100 YR FLOOD	11/20/14

CFPUA SANITARY SEWER

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12

SCALE:
N/A

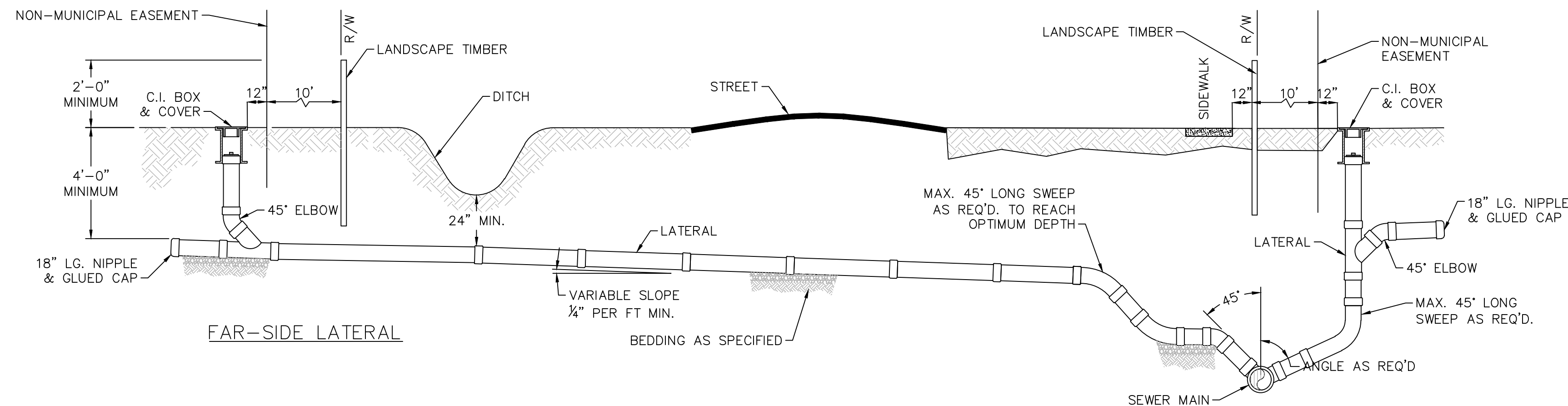
DRAWN BY:
CFPUA

CHECKED BY:
CFPUA

PROJECT NO.:

SHEET NO:
SSD-1

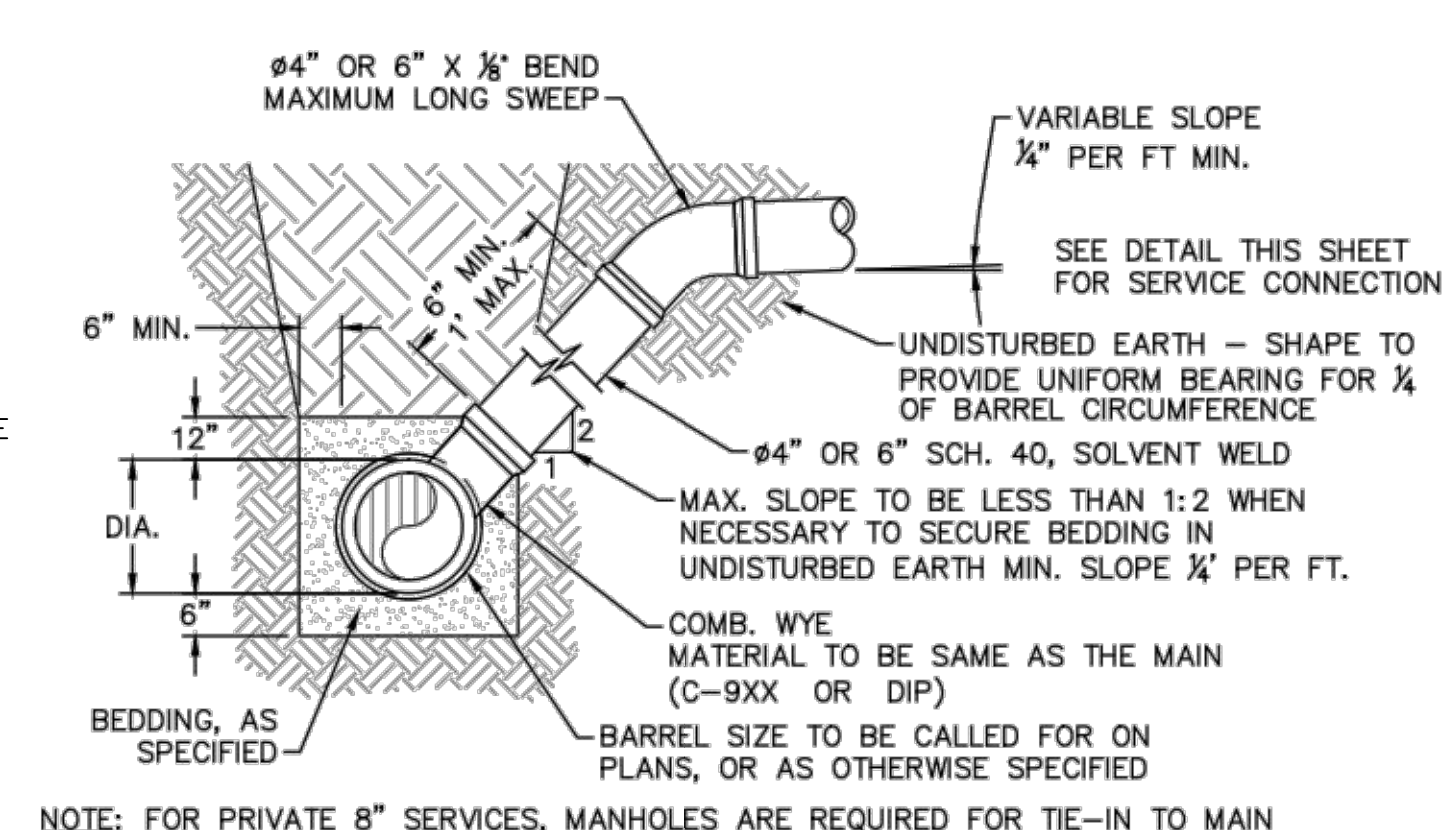
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NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

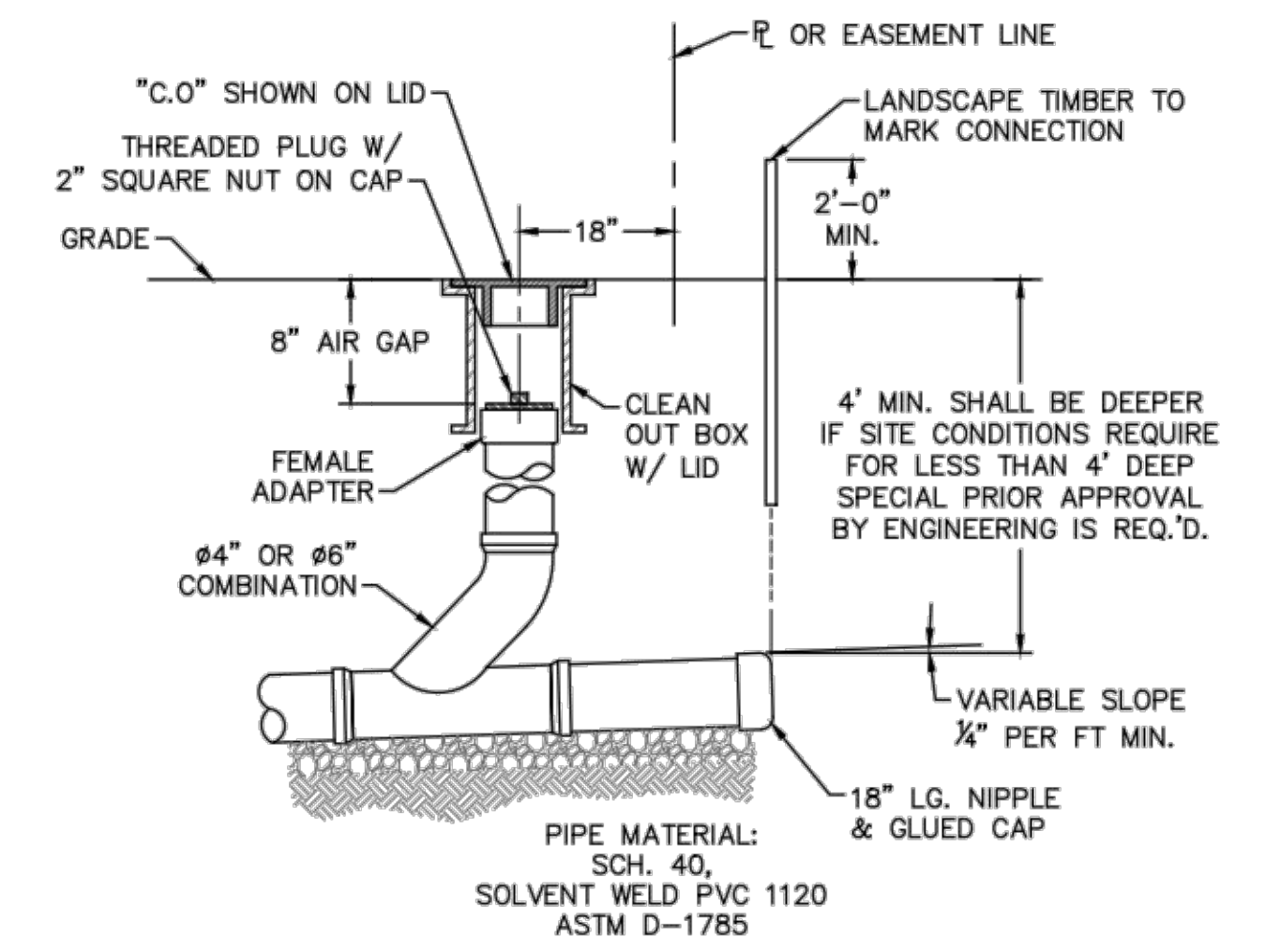
REVISED STANDARD SERVICE CONNECTION TO SANITARY SEWER
NOT TO SCALE

NEAR-SIDE LATERAL WITH RIGHT-OF-WAY RESTRICTIONS



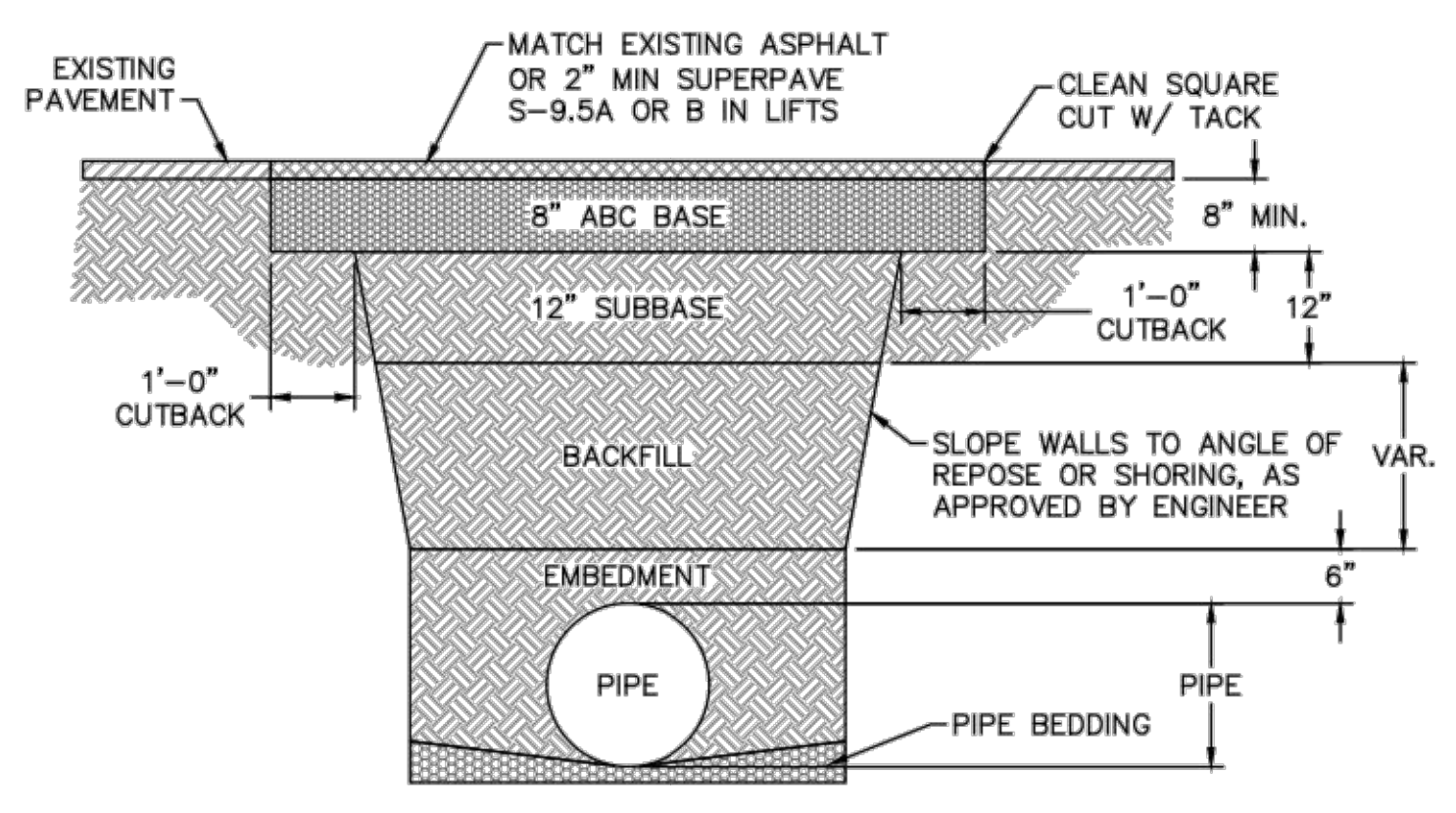
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

STANDARD SERVICE LATERAL
NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

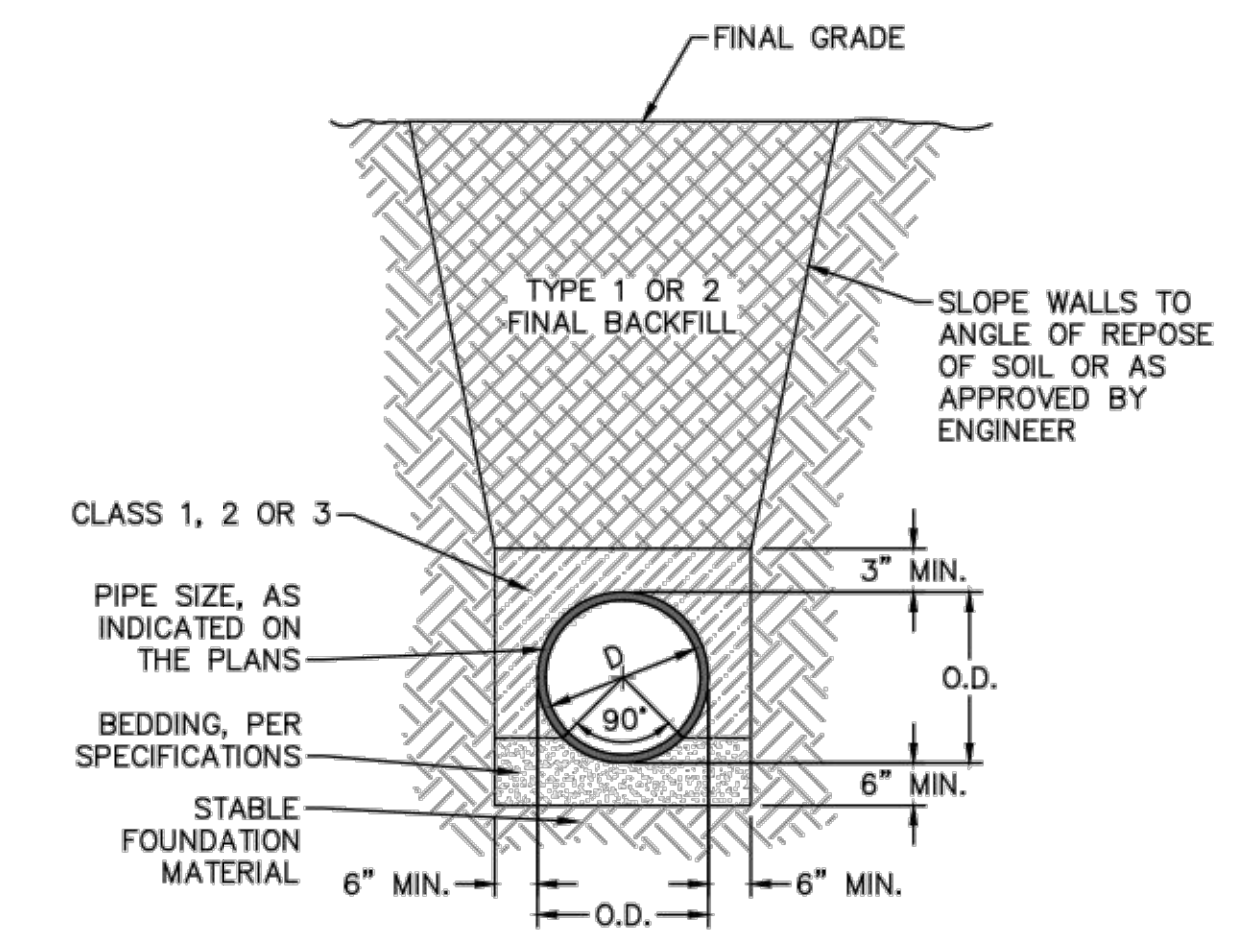
SERVICE CONNECTION & CLEAN-OUT
NOT TO SCALE



- NOTES:
- BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
 - SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
 - 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
 - BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS.
 - SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
 - ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
 - ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
 - 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

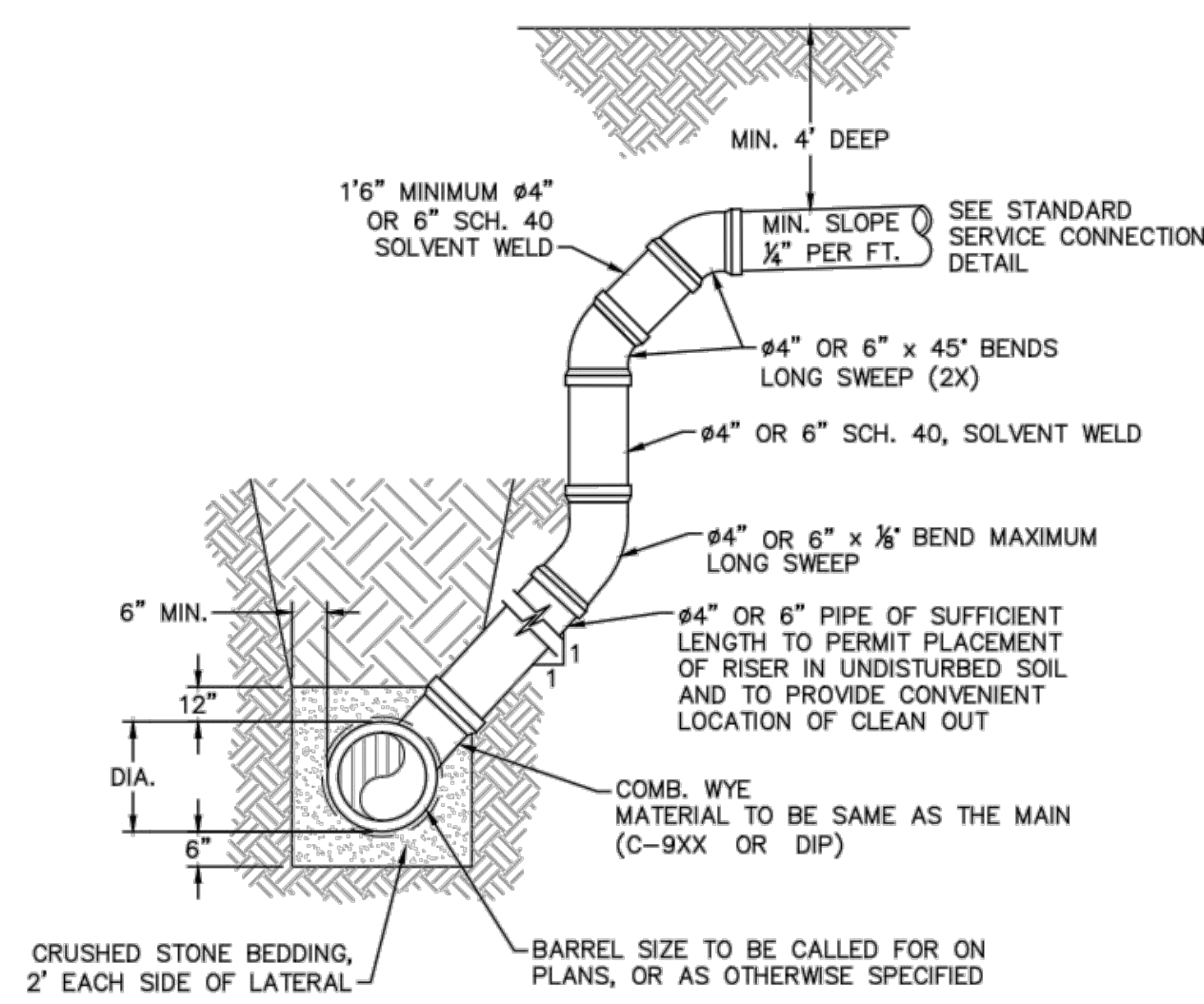
PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE

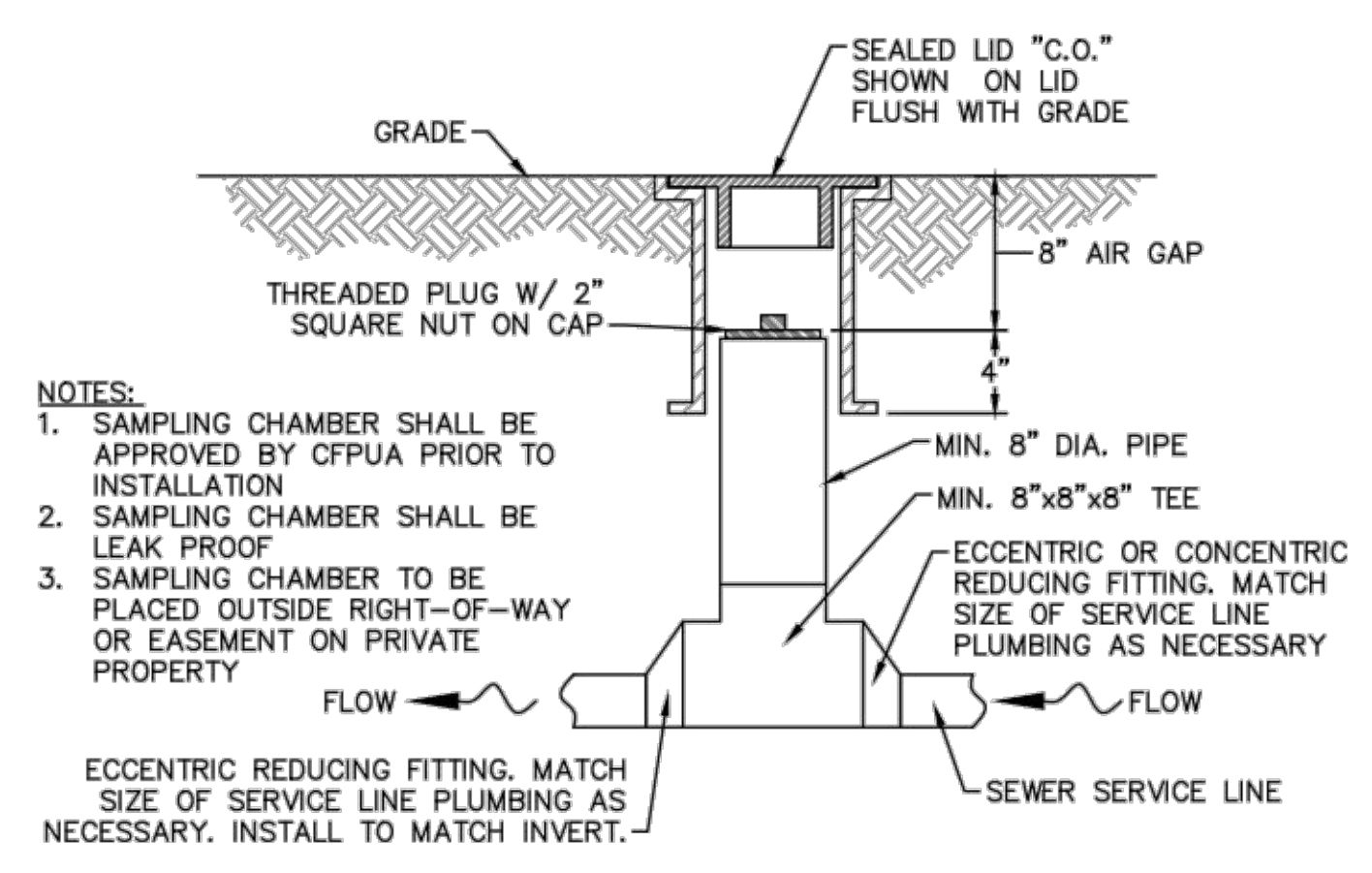
- GENERAL NOTES:
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
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THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



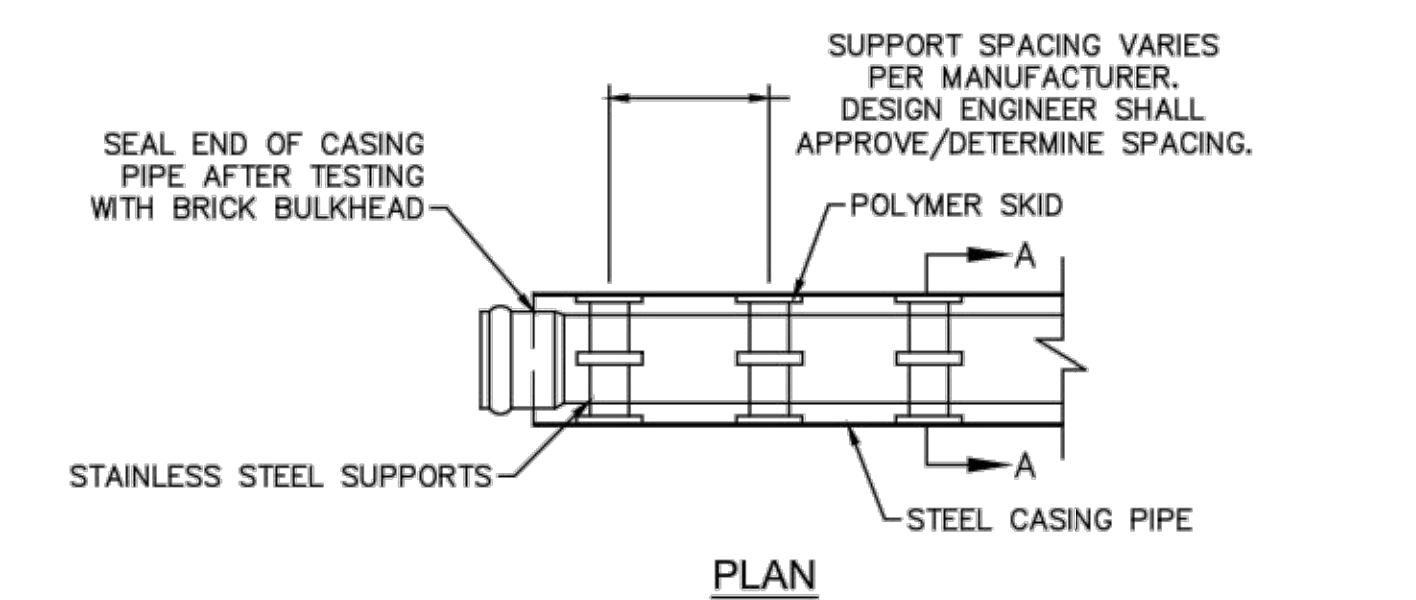
- NOTES:
- SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
 - FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN.

DEEP SERVICE LATERAL
NOT TO SCALE

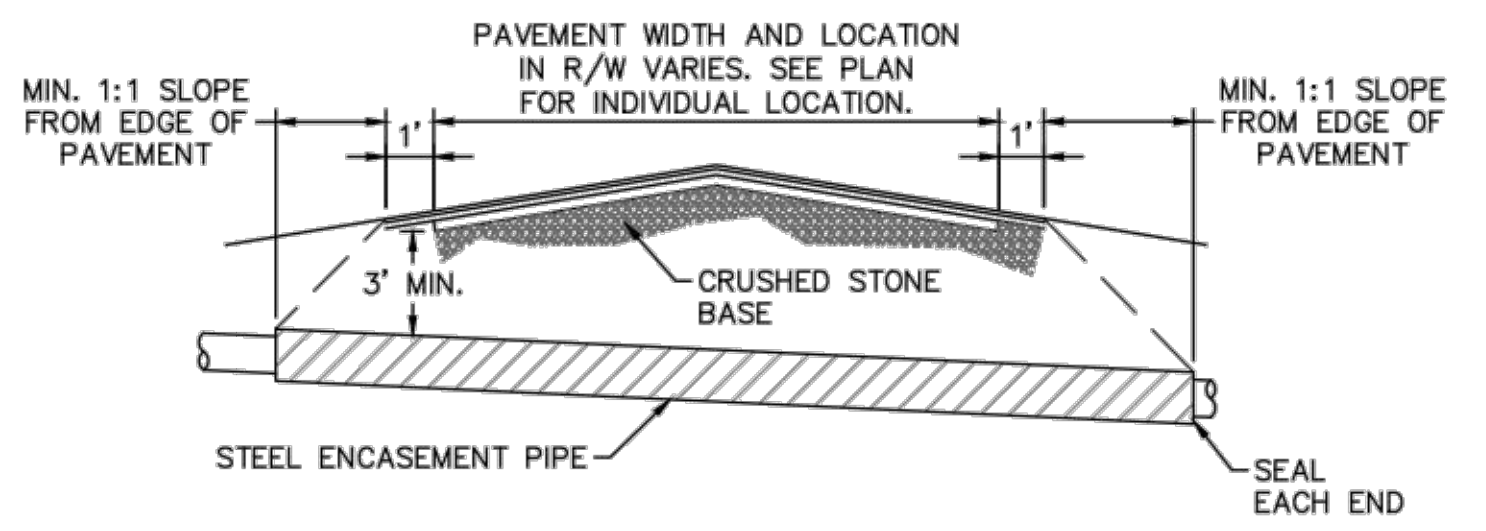


- NOTES:
- SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION
 - SAMPLING CHAMBER SHALL BE LEAK PROOF
 - SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT-OF-WAY OR EASEMENT ON PRIVATE PROPERTY

SAMPLING CHAMBER
NOT TO SCALE



PIPE CASING SUPPORT DETAIL
NOT TO SCALE



- NOTES:
- CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
 - TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/ JACKING DETAIL
NOT TO SCALE

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12

CFPUA SANITARY SEWER

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12

SCALE:
N/A

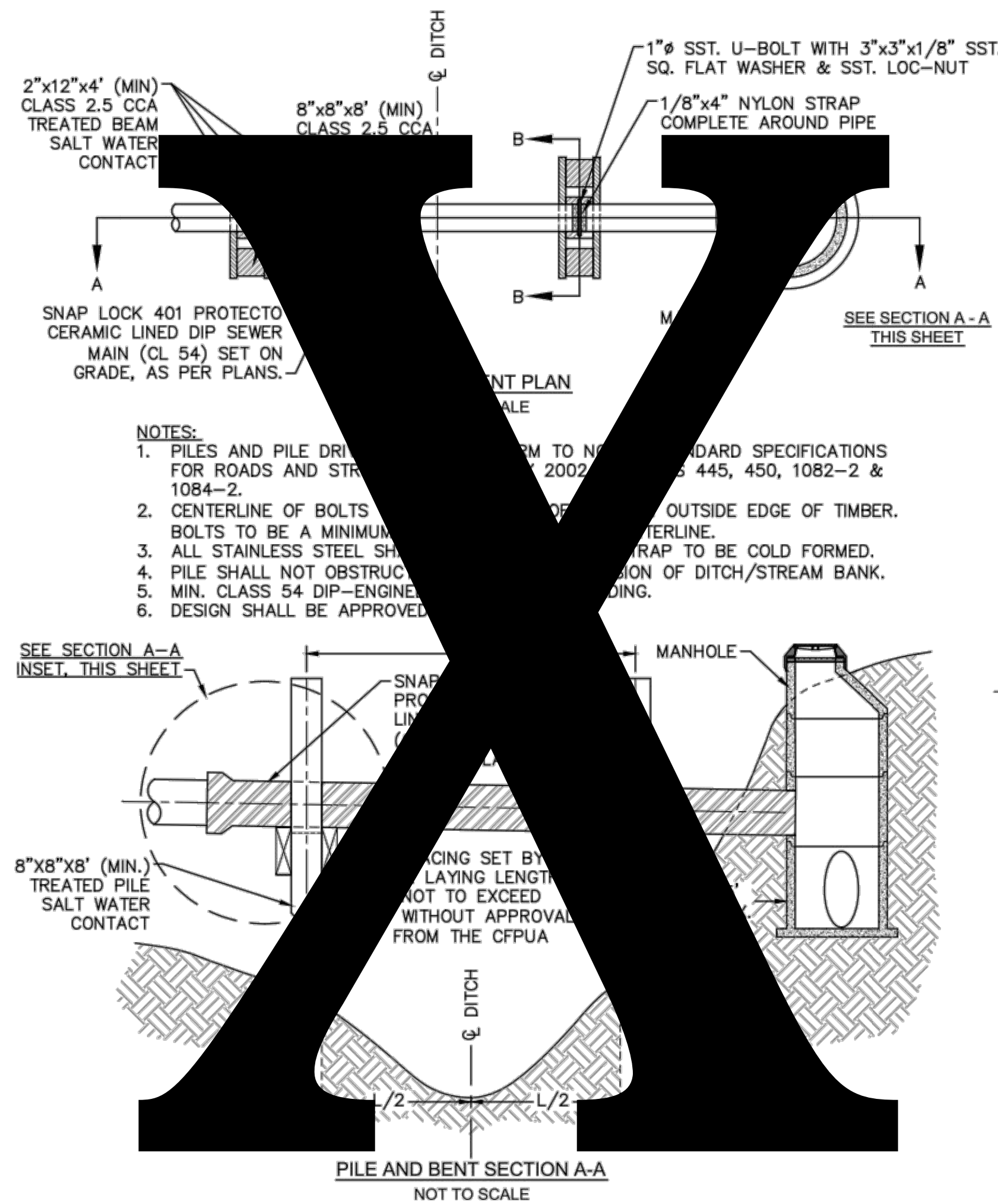
DRAWN BY:
CFPUA

CHECKED BY:
CFPUA

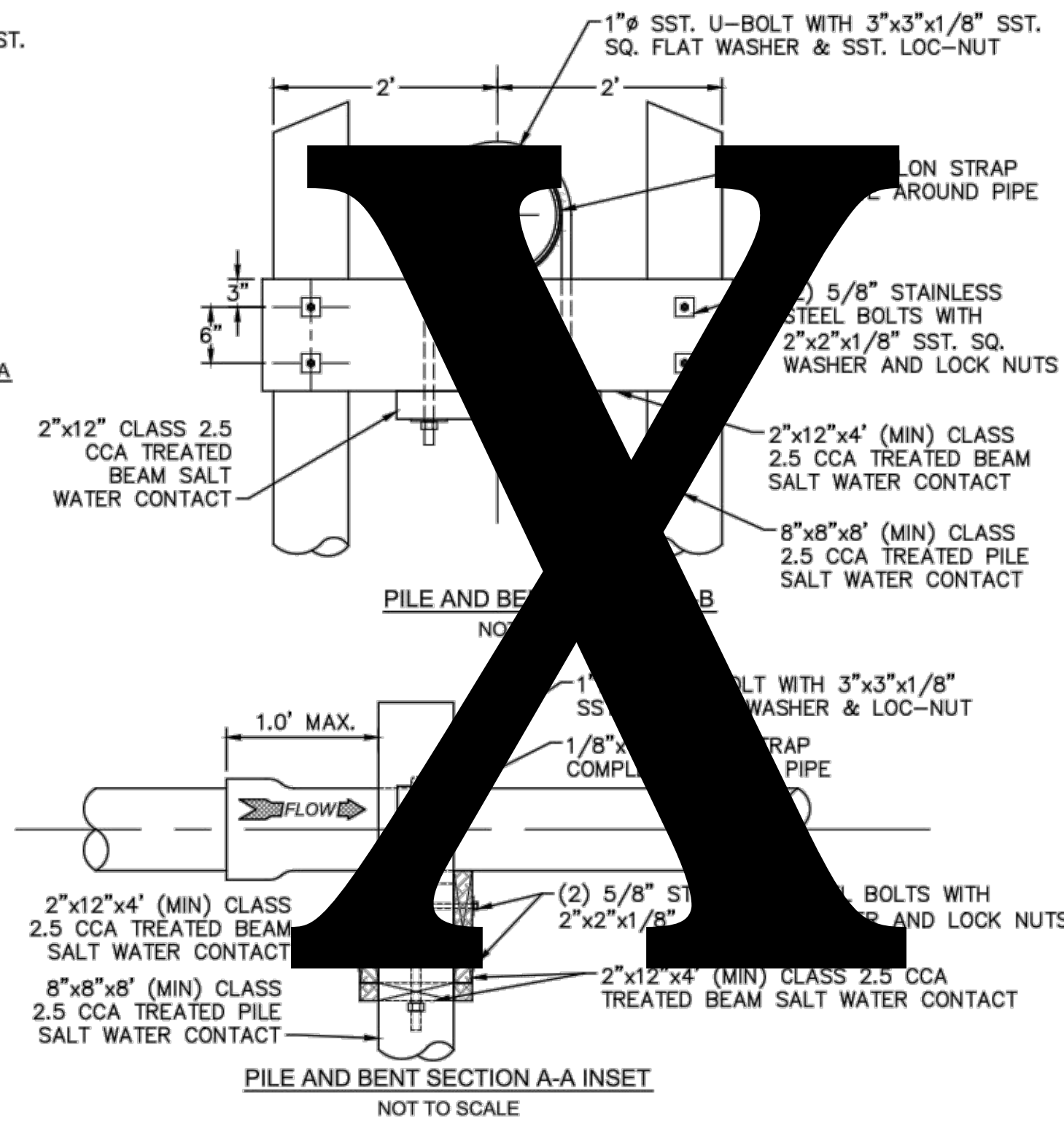
PROJECT NO.:

SHEET NO:
SSD-2

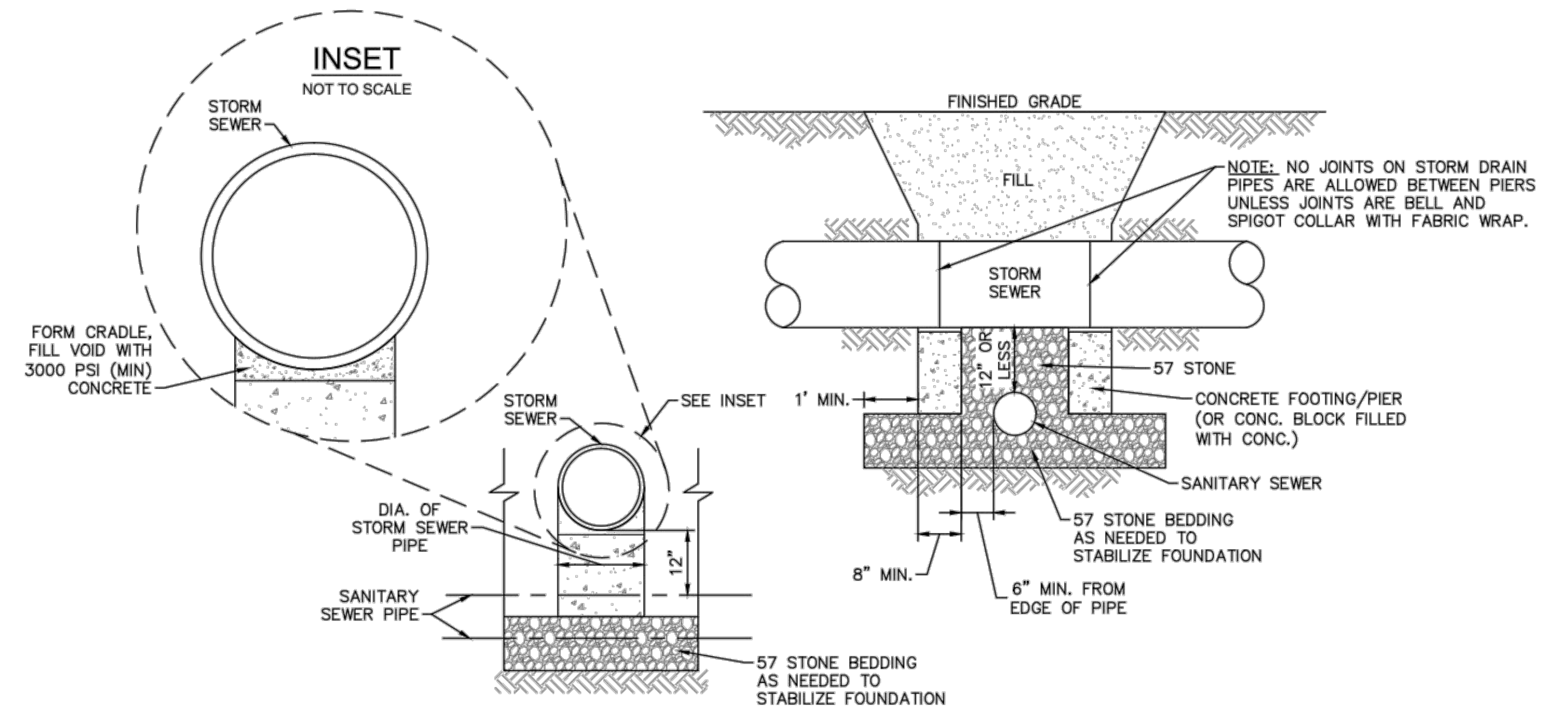
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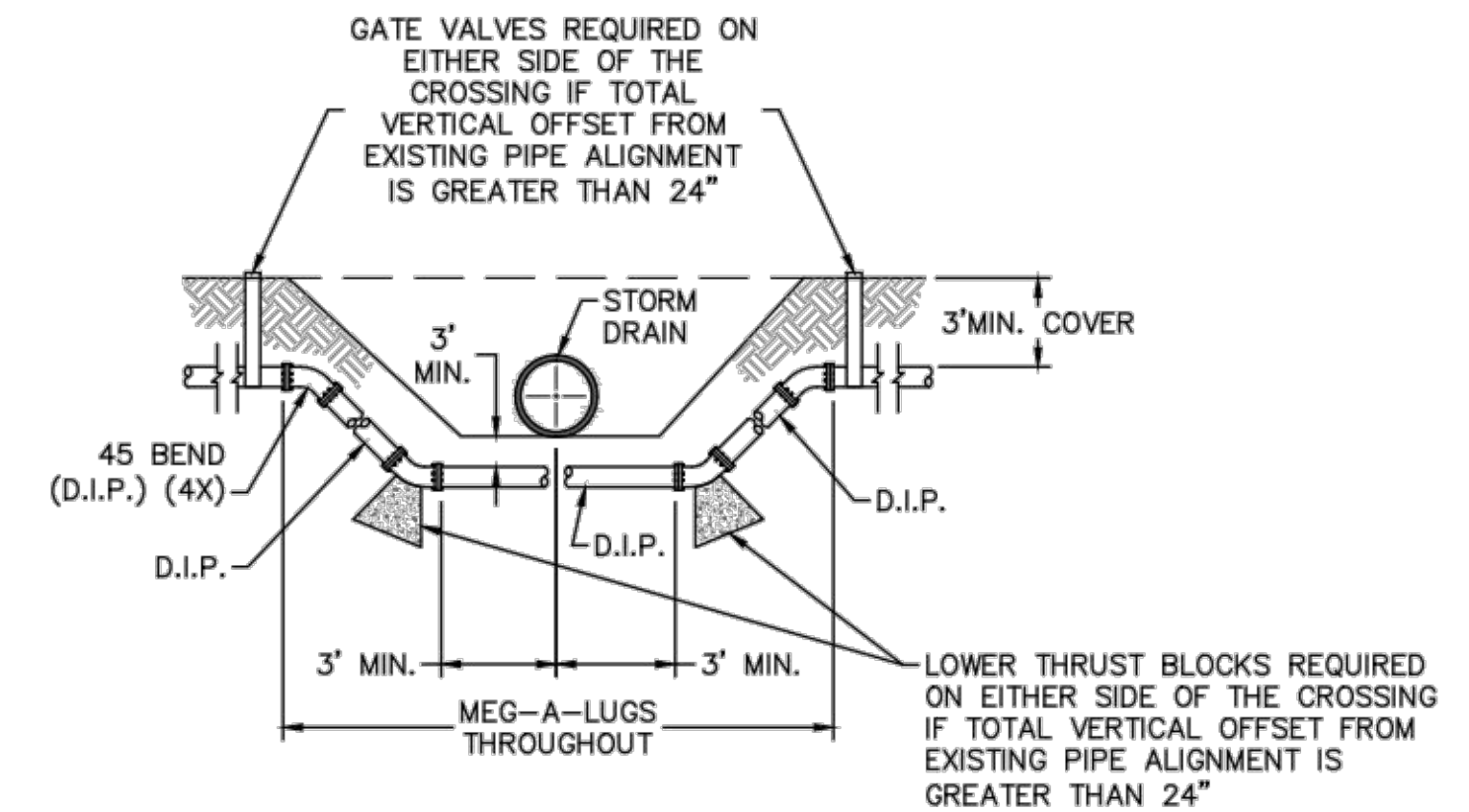
PILE AND BENT DETAIL
NOT TO SCALE



PILE AND BENT SECTION A-A INSET
NOT TO SCALE

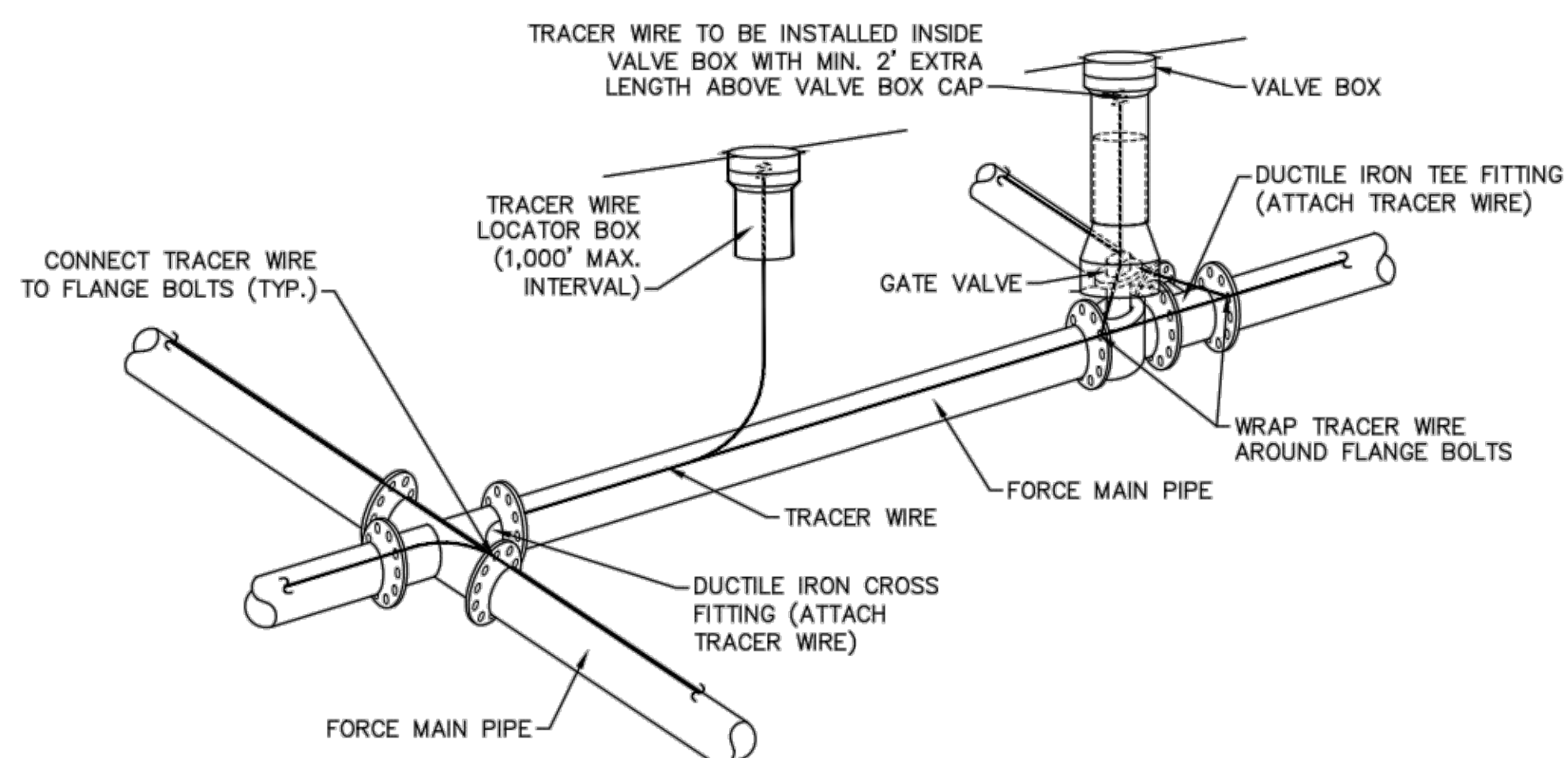


STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION
NOT TO SCALE



NOTE: USE D.I.P. (CL50 OR BETTER)

FORCE MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE



- NOTES:**
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
 2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12'-FT. INTERVALS.
 3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
 4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

TRACER WIRE DETAIL
NOT TO SCALE

- GENERAL NOTES:**
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
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 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:

CFPUA SANITARY SEWER

STANDARD DETAILS

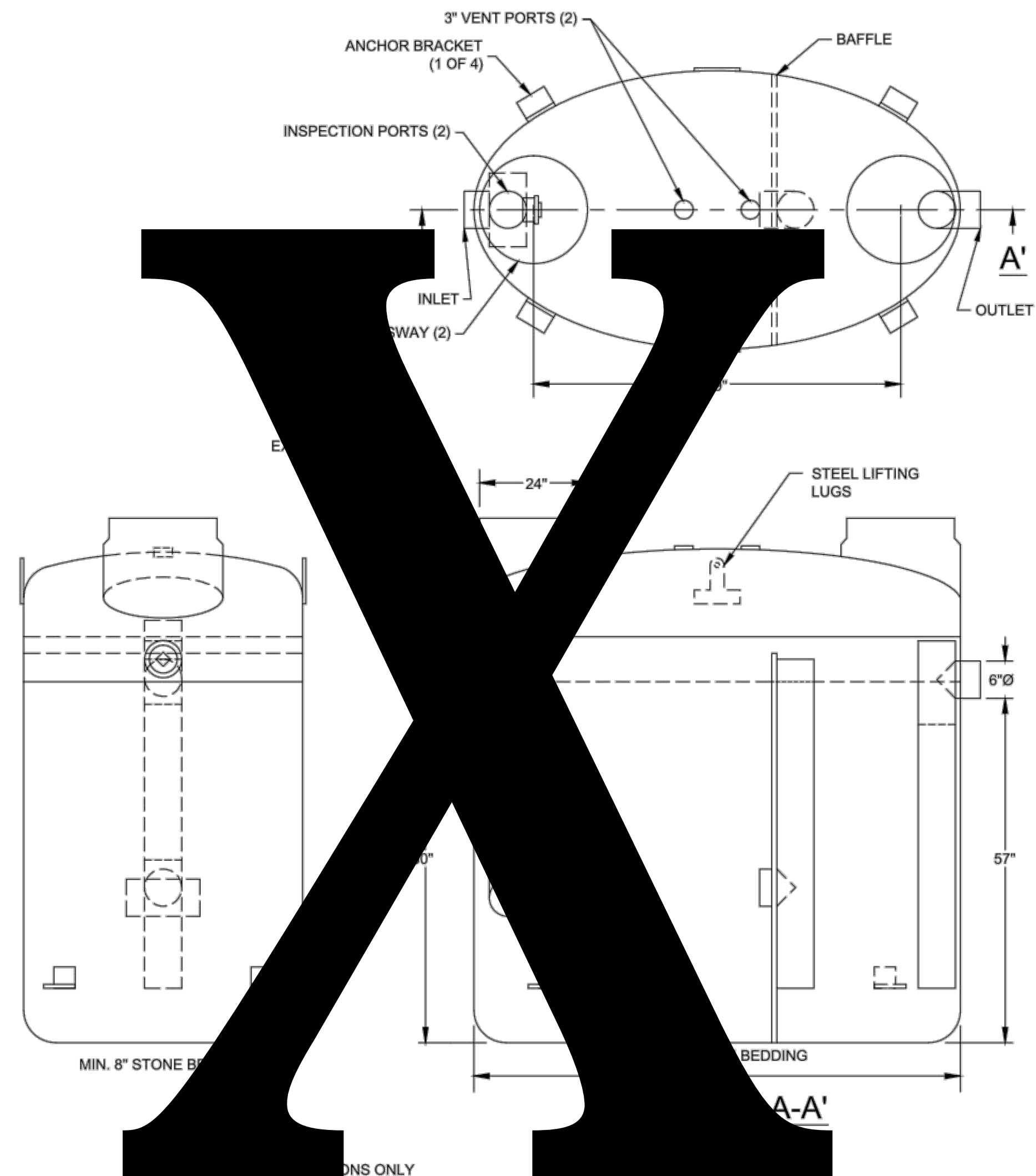


CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12
SCALE:
N/A
DRAWN BY:
CFPUA
CHECKED BY:
CFPUA
PROJECT NO.:

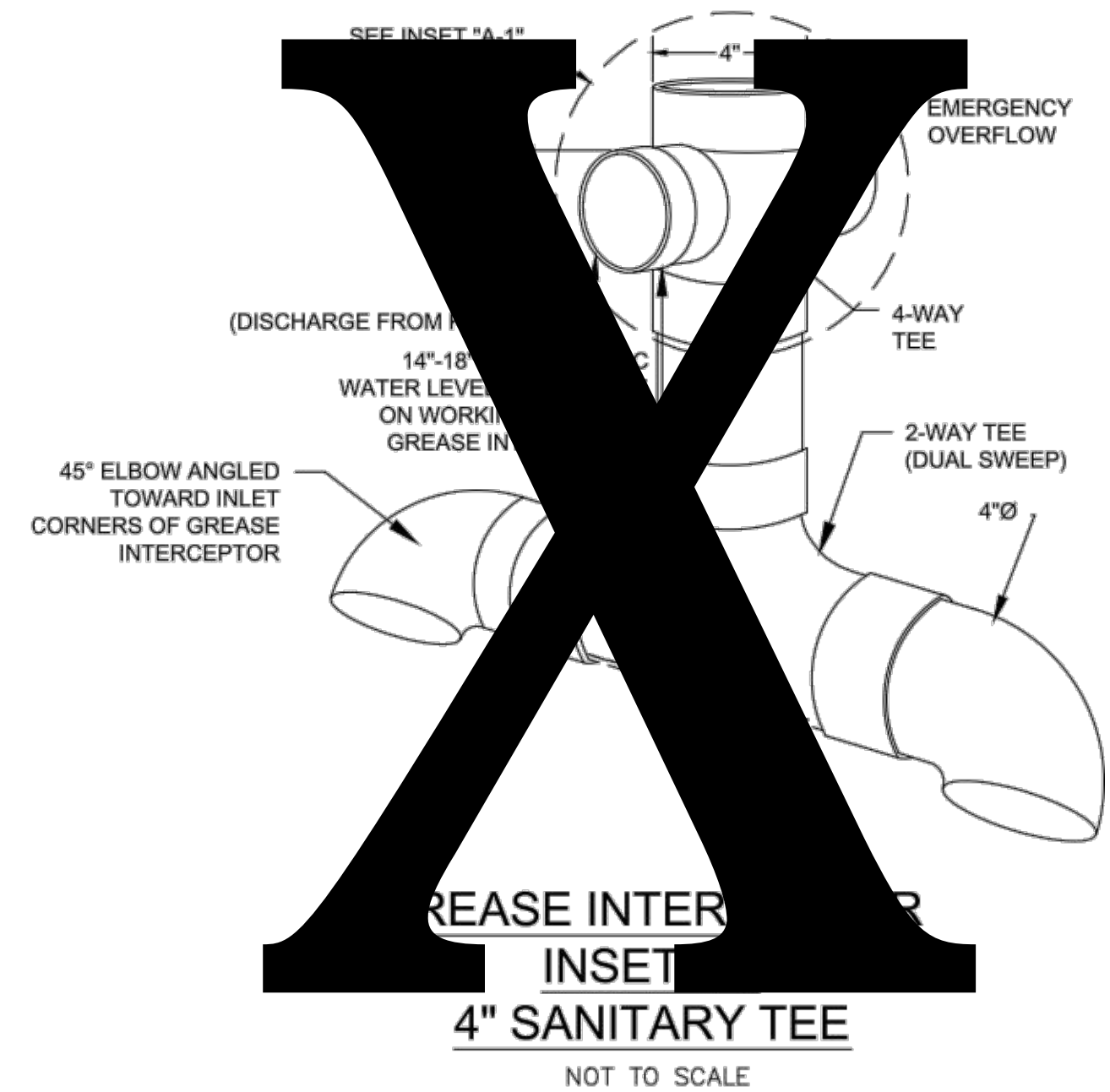
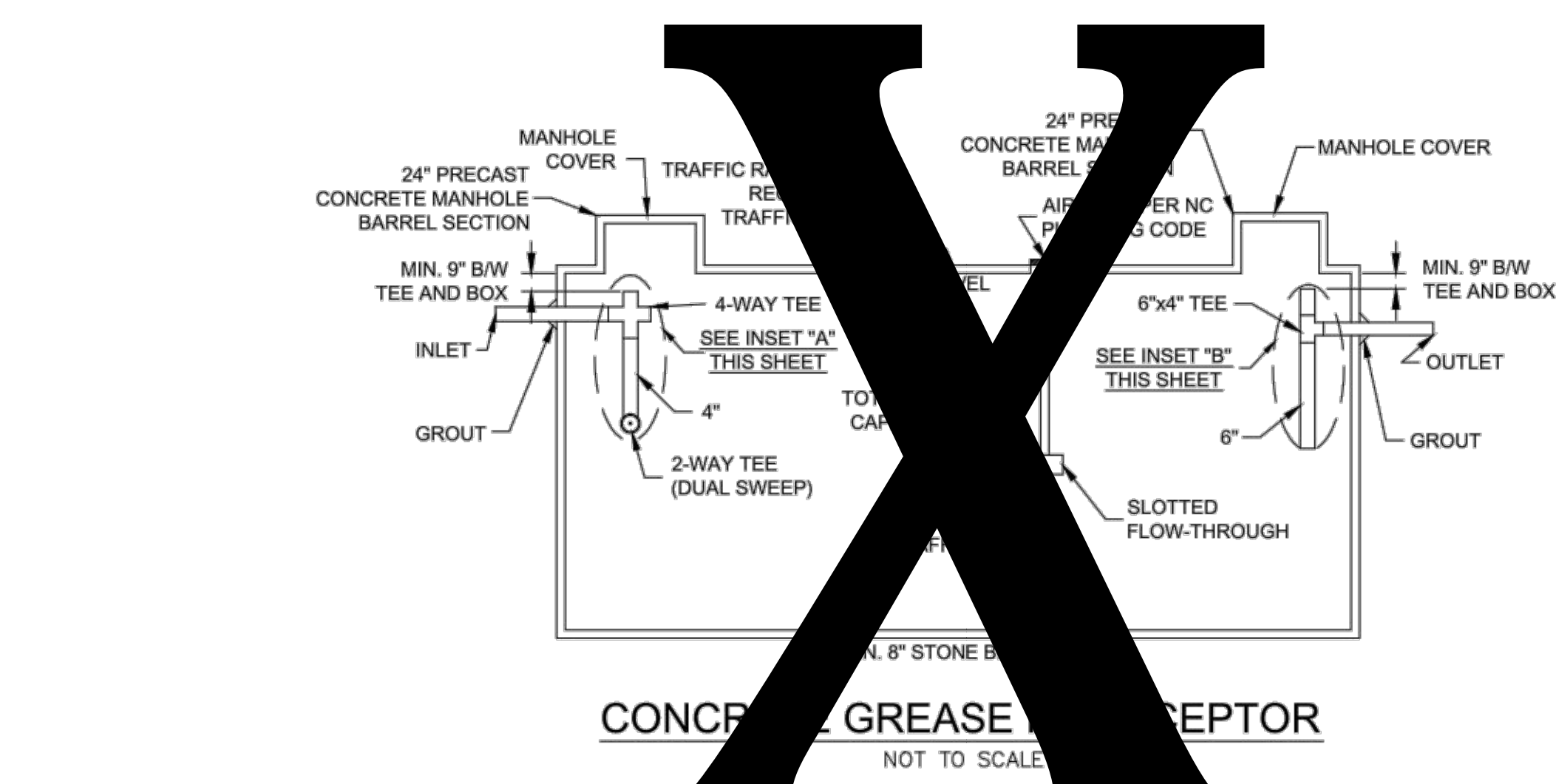
SHEET NO:
SSD-3

Stewardship. Sustainability. Service.



- 1. INSTALLATION INSTRUCTIONS ONLY
- 2. MIN. THICKNESS: 1/4" WALL AND 3/8" TOP AND BOTTOM BOWLS
- 3. STANDARD PIPE STUBS ARE SOCKET SDR 35 PVC
- 4. EXTENSION COLLARS SHALL BE CAULKED WITH SIKAFLEX OR EQUIVALENT FOR WATERTIGHT SEAL
- 5. FOLLOW MANUFACTURE'S SPECS FOR TRAFFIC OR PEDESTRIAN LOADING

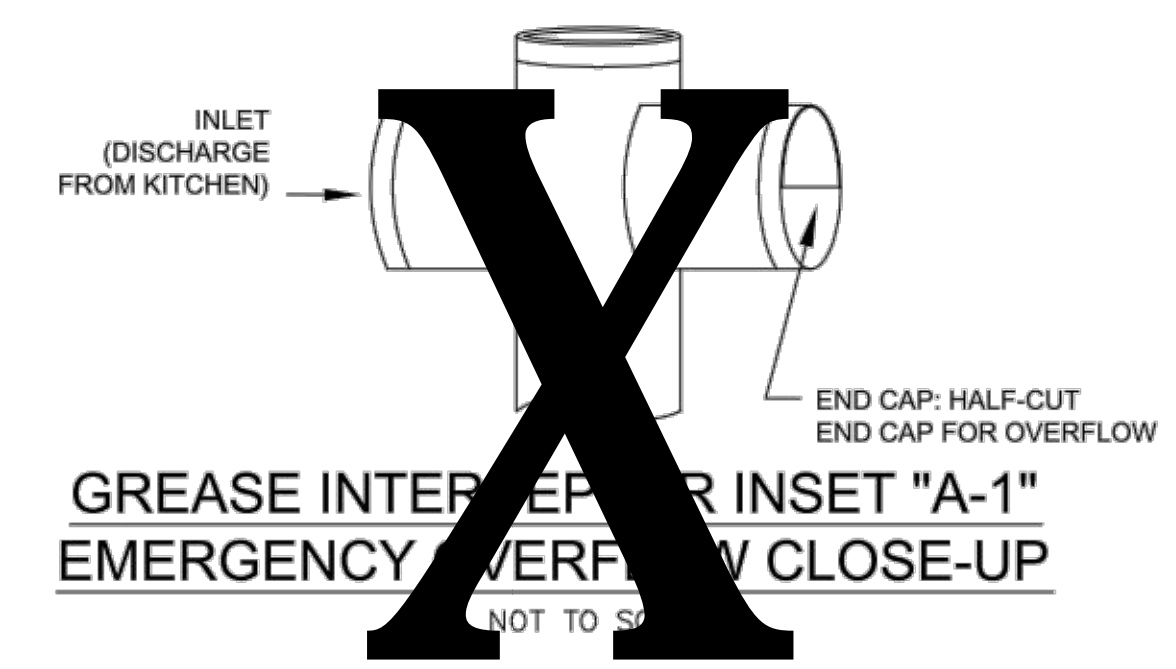
FIBERGLASS GREASE INTERCEPTOR
NOT TO SCALE



GREASE INTERCEPTOR INSET "A-1" 4" SANITARY TEE
NOT TO SCALE



GREASE INTERCEPTOR INSET "B" 6" X 4" OUTLET SANITARY TEE
NOT TO SCALE



GREASE INTERCEPTOR INSET "A-1" EMERGENCY OVERFLOW CLOSE-UP
NOT TO SCALE

GENERAL NOTES:

1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
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THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

CFPUA SANITARY SEWER

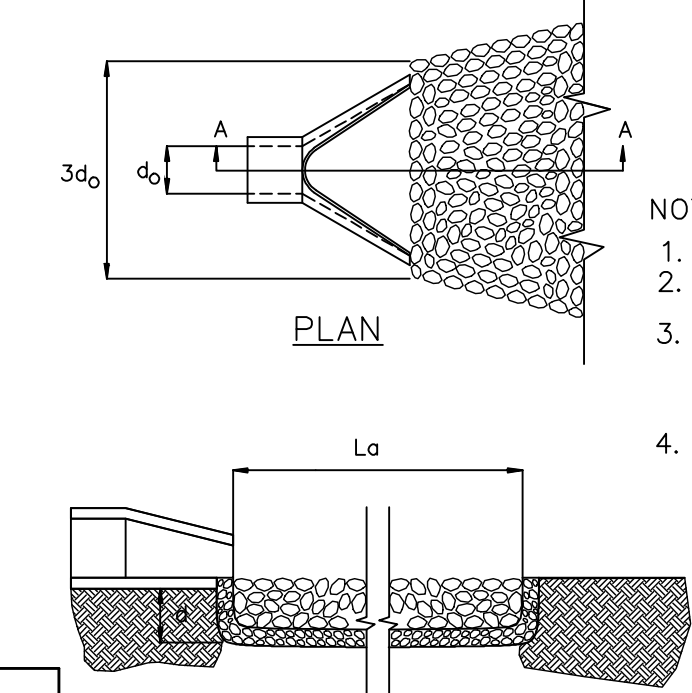
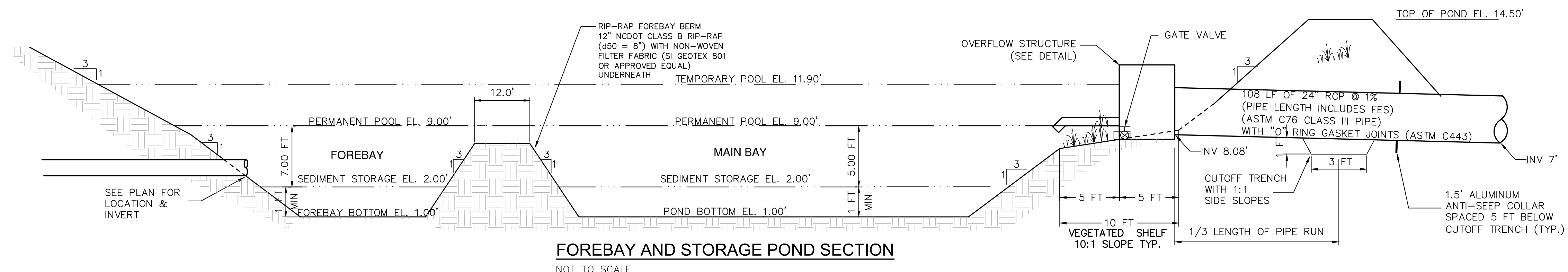
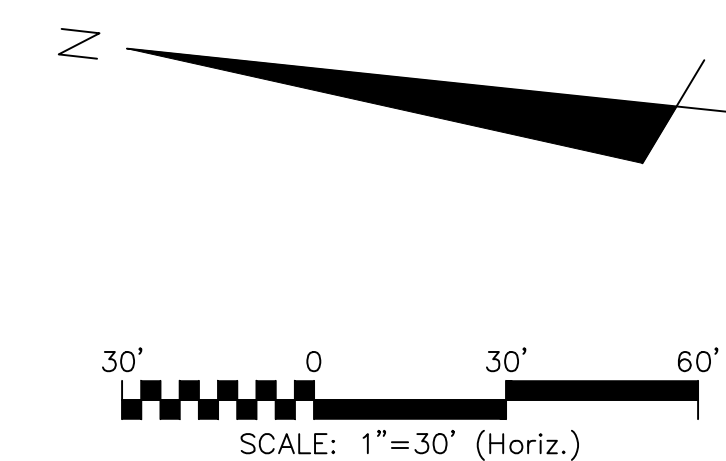
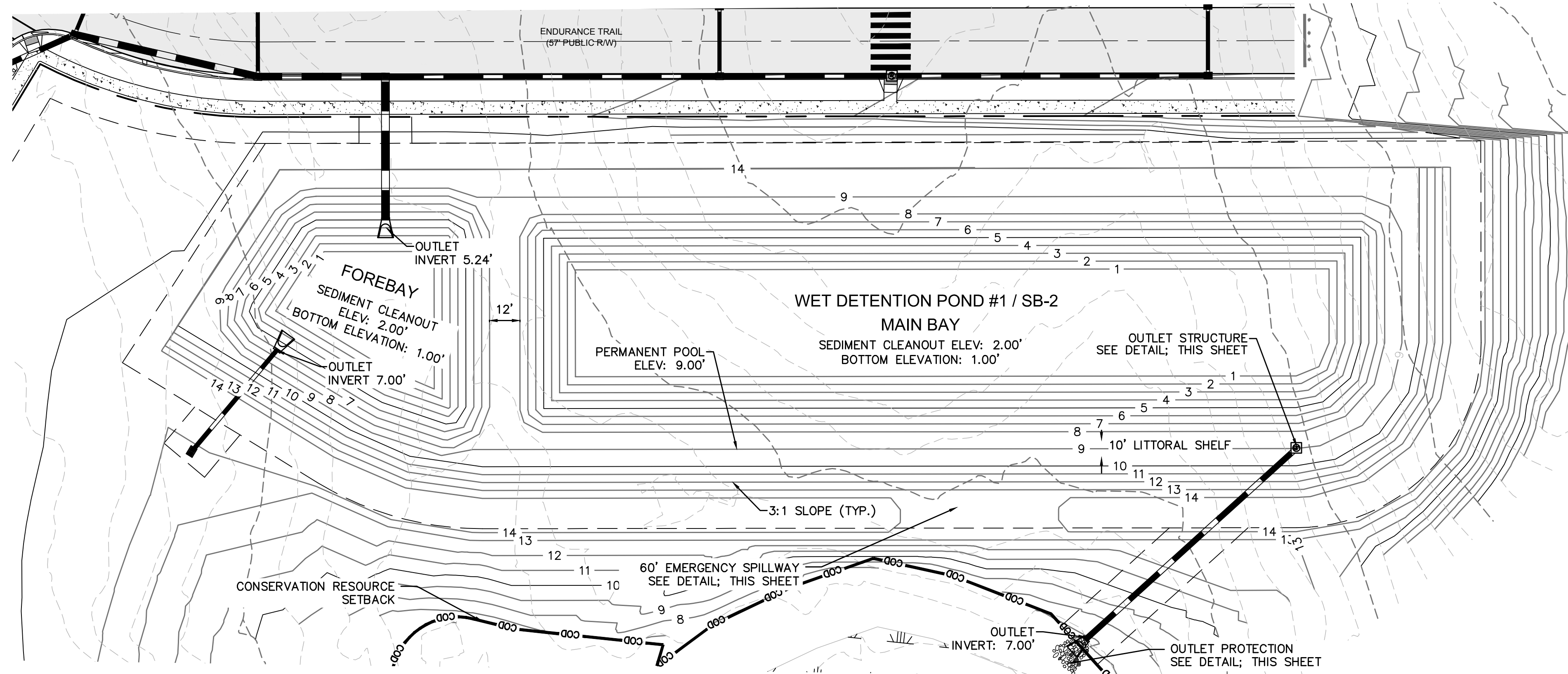
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO.:

SHEET NO:
SSD-4

REV:	DESCRIPTION:	DATE:

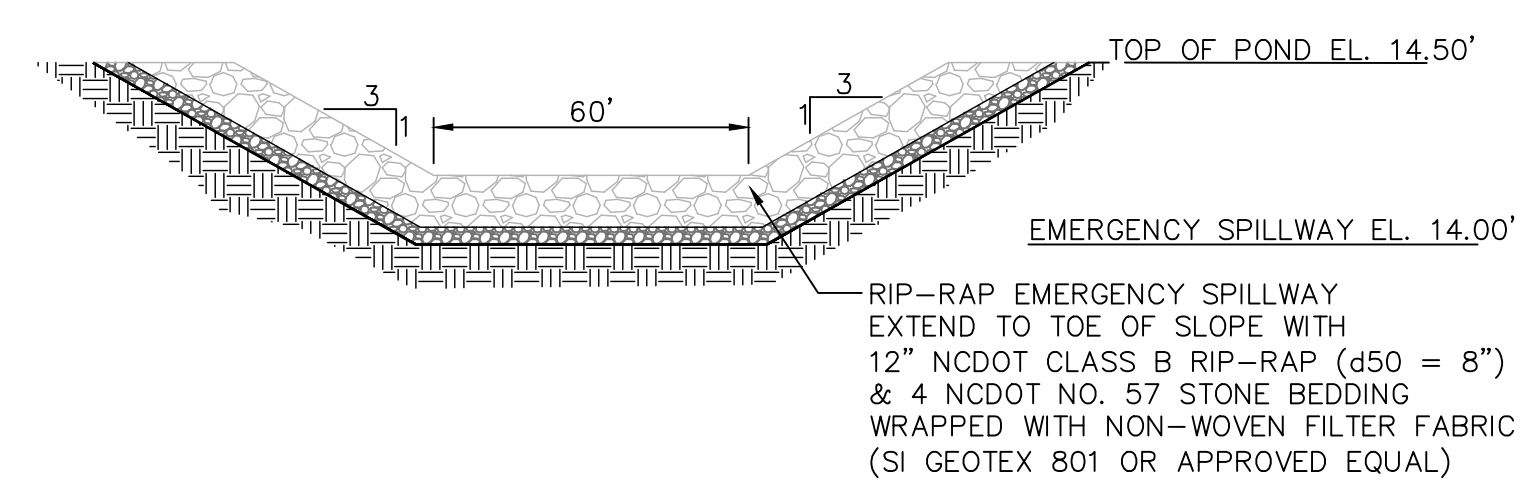


WET DETENTION POND NOTES

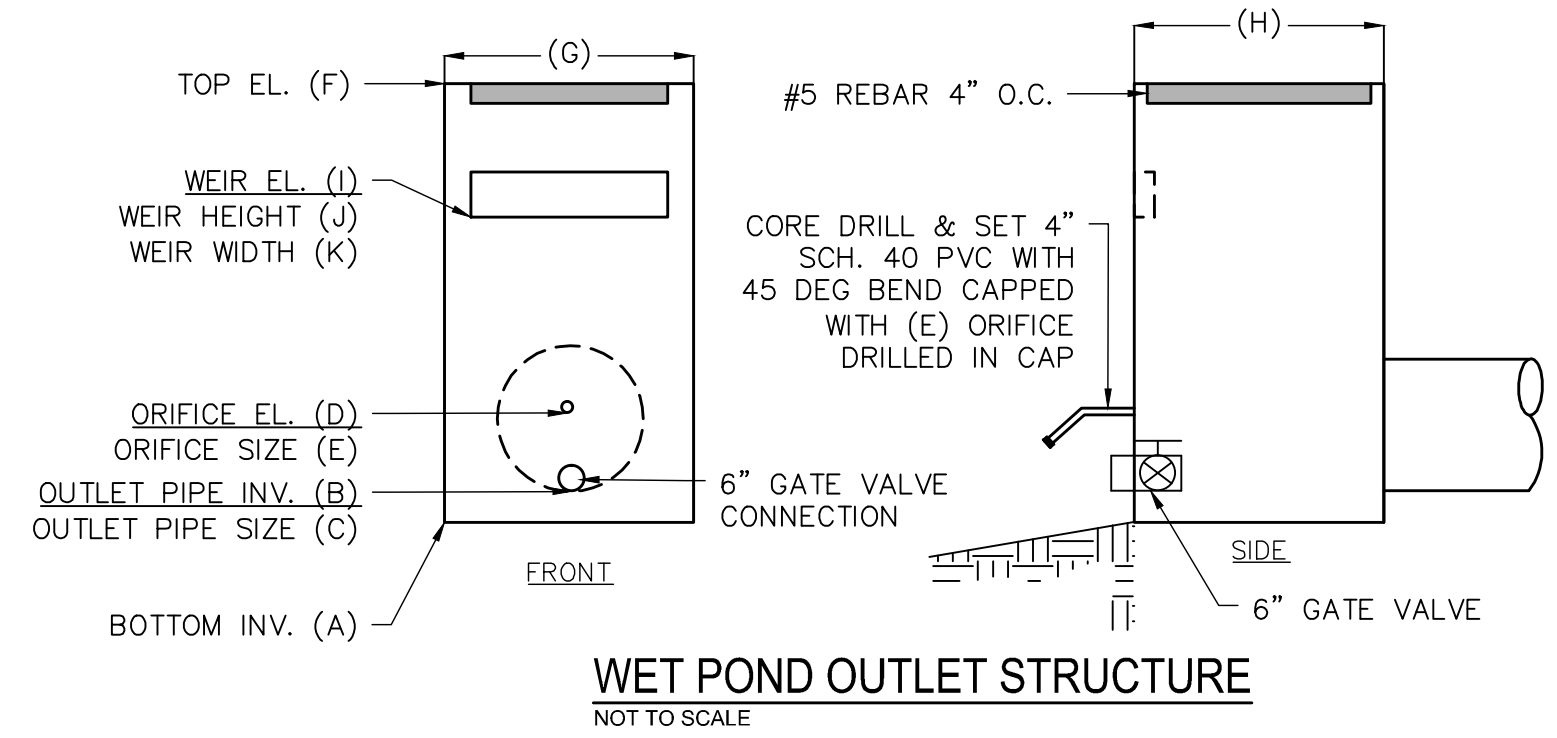
- TEMPORARY PUMP WILL BE PROVIDED BY OWNER TO DRAIN POND/FOREBAY FOR ROUTINE MAINTENANCE OR IN AN EMERGENCY.
- SOD SLOPES ABOVE THE PERMANENT POOL AROUND THE INSIDE OF THE FOREBAY, ABOVE THE VEGETATED SHELF AROUND THE MAIN BAY AND SLOPES OUTSIDE OF THE POND.
- CONTRACTOR SHALL EXCAVATE VEGETATED SHELF AS NECESSARY TO PROVIDE ADEQUATE CLEARANCE AROUND RISER FOR PVC PIPE INVERT.
- THE SEASONAL HIGH WATER TABLE WAS FOUND TO BE ~ EL. 9.35 IN THE MAIN BAY OF THE WET DETENTION POND.

GENERAL NOTES

- CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
- THE IMPROVEMENTS SHOWN ON THIS SITE PLAN CANNOT DEVIATE FROM THE PLAN ONCE APPROVED WITHOUT WRITTEN APPROVAL OF ENGINEER.
- SITE WILL REQUIRE A STATE EROSION CONTROL PERMIT AND STATE STORMWATER PERMIT.
- IMPERVIOUS AREA SHALL DRAIN TO PROPOSED STATE PERMITTED STORMWATER POND.



EMERGENCY SPILLWAY SECTION
NOT TO SCALE



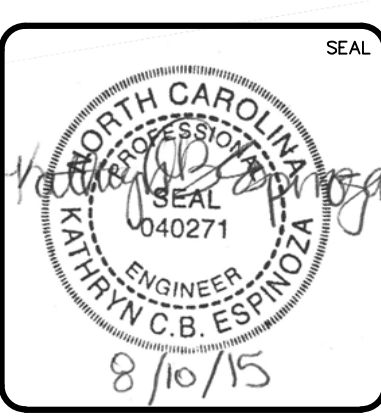
WET POND OUTLET STRUCTURE	
WET POND 1	
A	8.08'
B	8.08'
C	24"
D	9.00'
E	4"
F	13.50'
G	6'
H	6'
I	11.9'
J	6"
K	12"

OUTLET PROTECTION	
OUTLET PIPE DIA.	24"
OUTLET FLOW RATE	3.67 CFS
OUTLET VELOCITY	5.22 FT/S
MATERIAL	CLASS A
LENGTH	8'
WIDTH	6'
STONE DIA.	3"
THICKNESS	9"

PIPE OUTLET PROTECTION
NOT TO SCALE

REVNO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL, SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS
Newland by COMMUNITIES

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

STORMWATER MANAGEMENT DETAILS

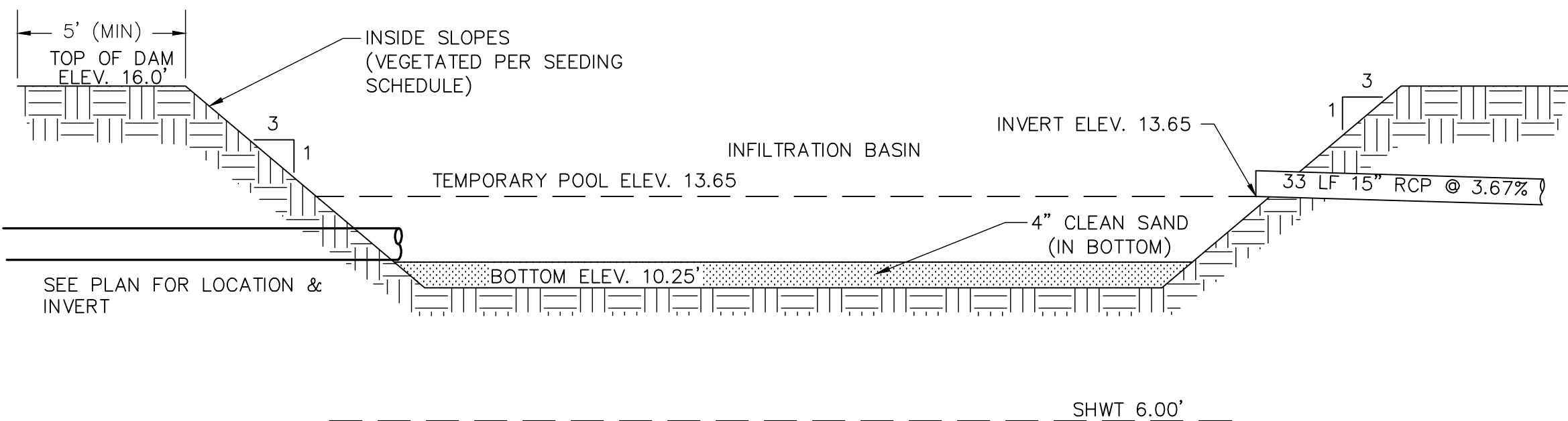
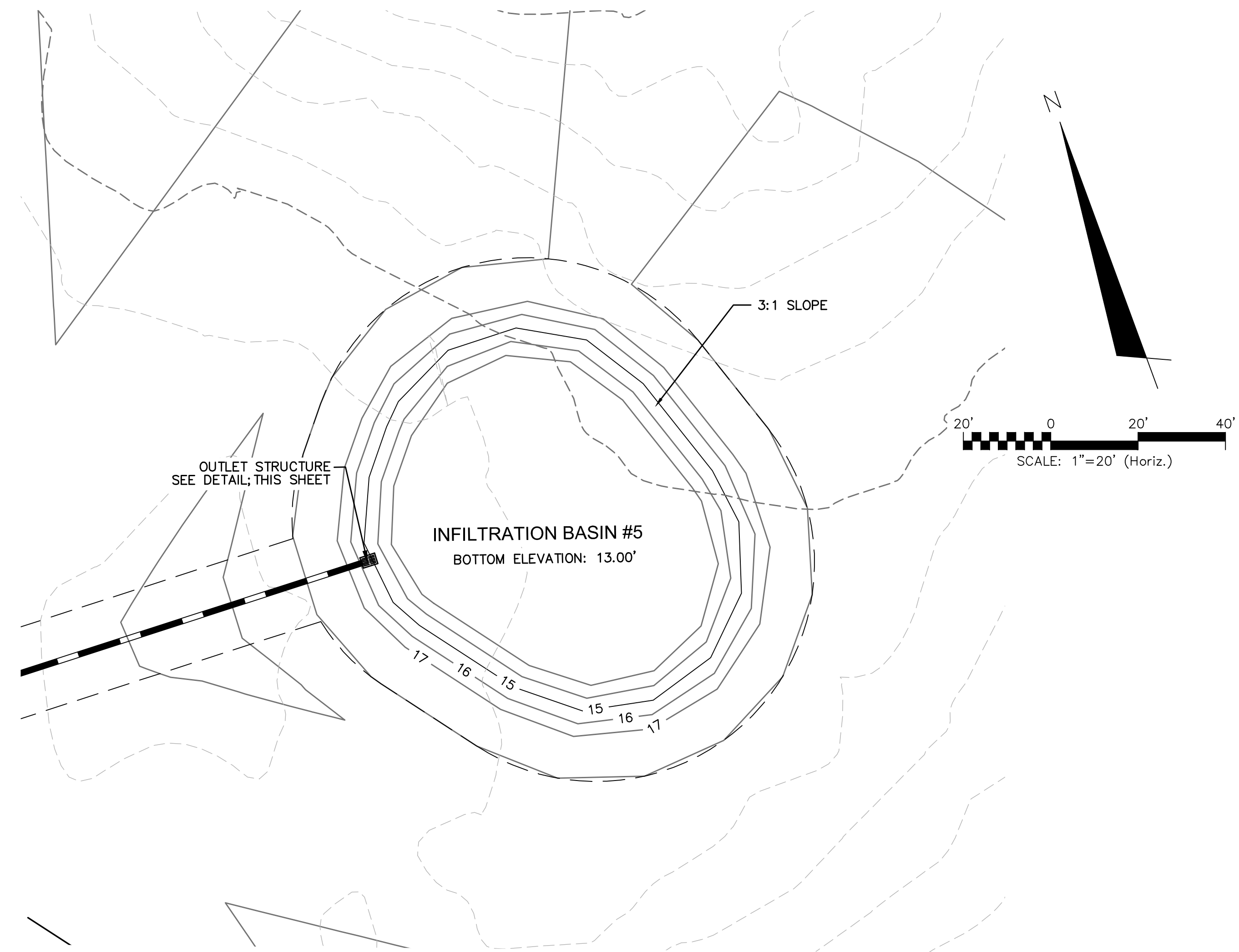
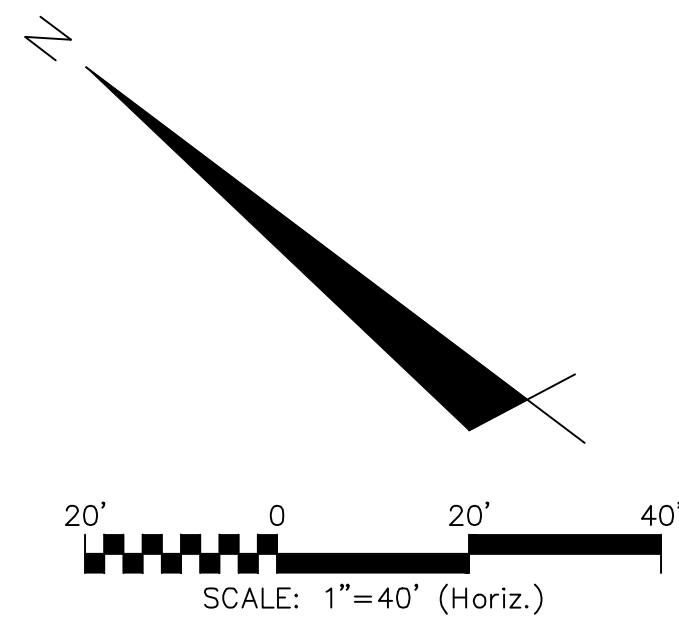
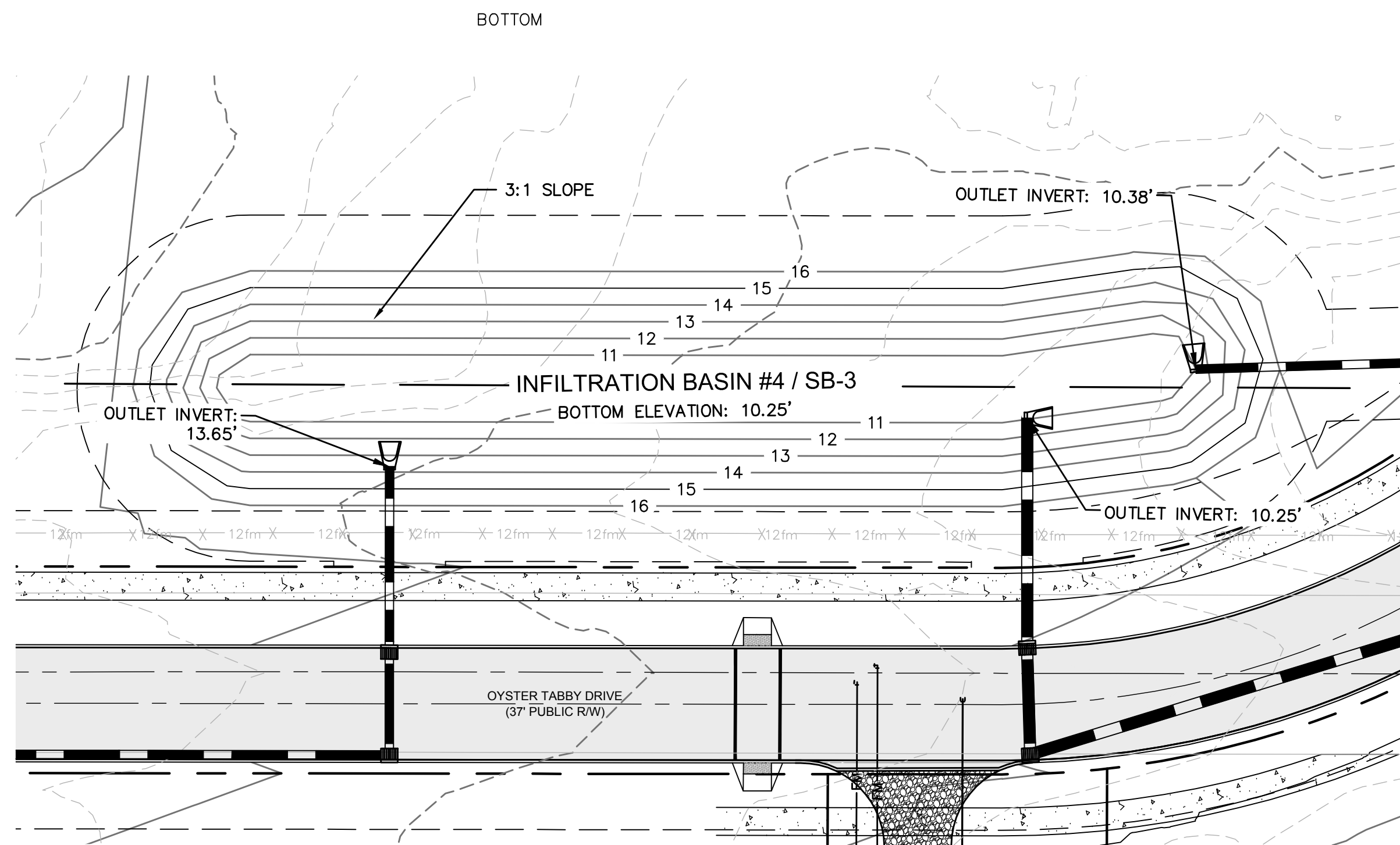
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1" = 50'
HORIZONTAL: 1" = 50'
VERTICAL: N/A

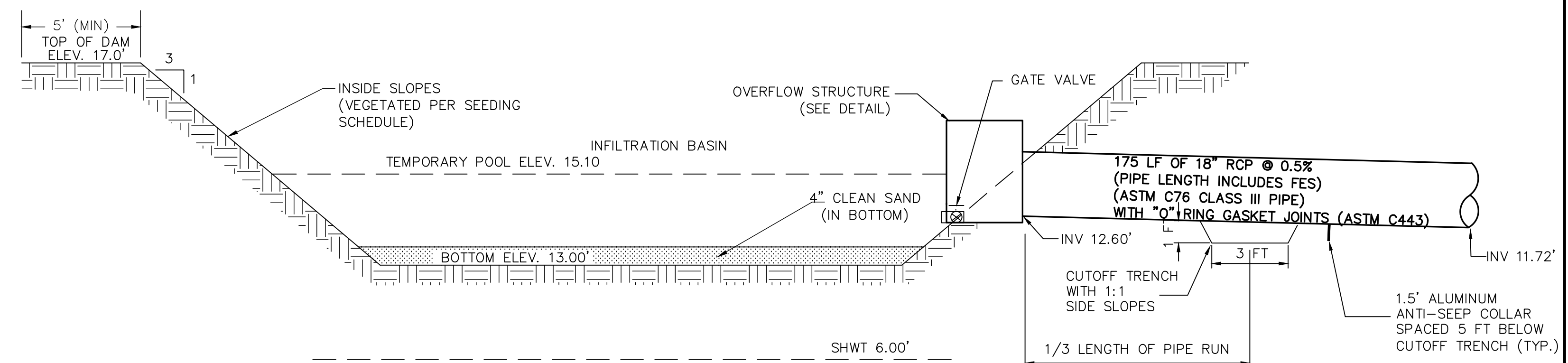
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DRAWING NUMBER: 41
REVISION: G

STATUS: FINAL DESIGN
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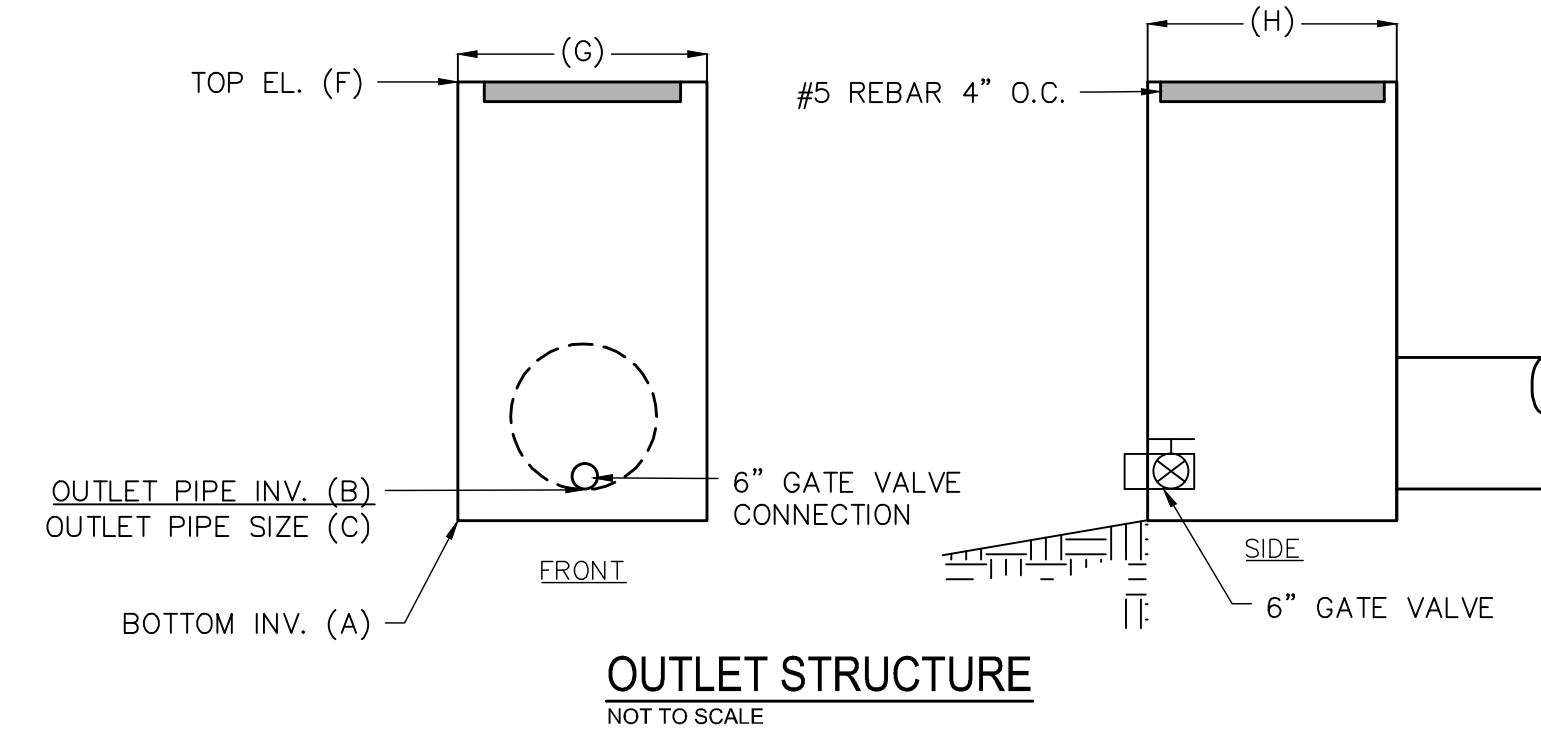
INFILTRATION BASIN
NOT TO SCALE



INFILTRATION BASIN
NOT TO SCALE

NOTES

1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVATED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.



OUTLET STRUCTURE	
INFILTRATION #5	
A	12.60'
B	12.60'
C	18"
F	15.10
G	2'
H	2'

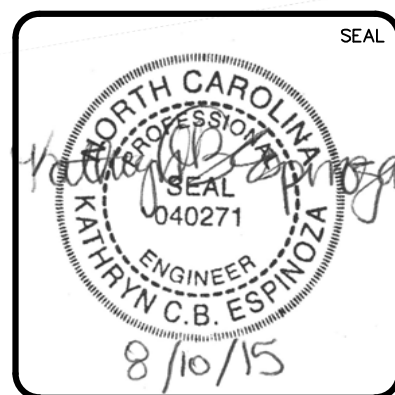
NOTE

1. 50-YR DISCHARGE THROUGH WEIR ASSUMING THE BASIN WILL NOT INFILTRATE.

WEIR EQUATION: $Q_50 = C \cdot L \cdot h^{3/2}$
 $Q_50 = 8.373 \text{ cfs} = 3.0 \cdot 8.0 \text{ ft} \cdot h^{3/2}$
 $h = 0.496' = 5.95"$

REV. NO.	DESCRIPTIONS	DATE
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL, SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

SEAL
FINAL DRAWINGS
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CONSTRUCTION



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 Wilmington, North Carolina 28401
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 www.mckimcreed.com

RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SENIUSI HOUSE, LLC

RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 STORMWATER MANAGEMENT DETAILS

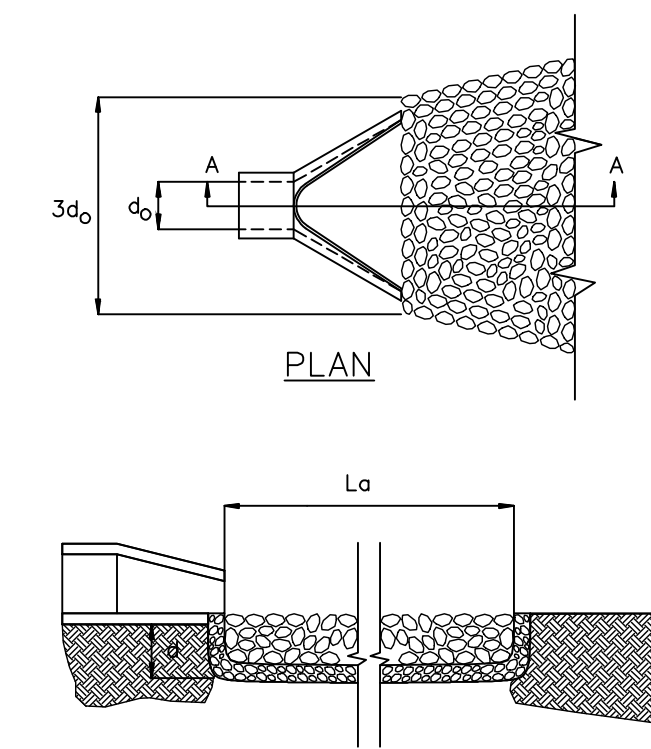
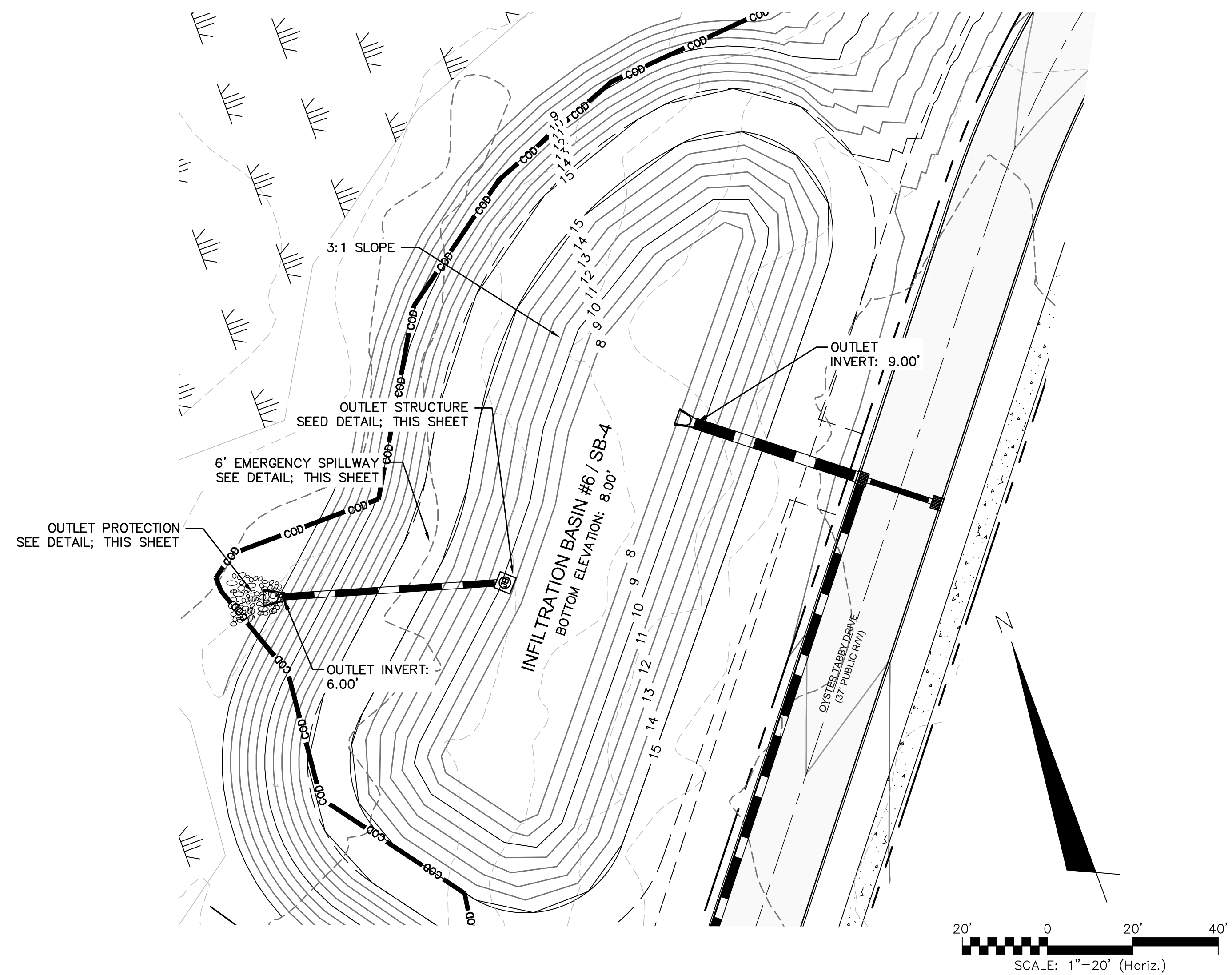
DATE: 04-29-2015
 MCE PROJ. # 02735-0129
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NJL
 PROJ. MGR: RMC

SCALE: HORIZONTAL: 1"=50'
 VERTICAL: N/A

MAC FILE NUMBER: CN-502
 DRAWING NUMBER: 42
 REVISION: G

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

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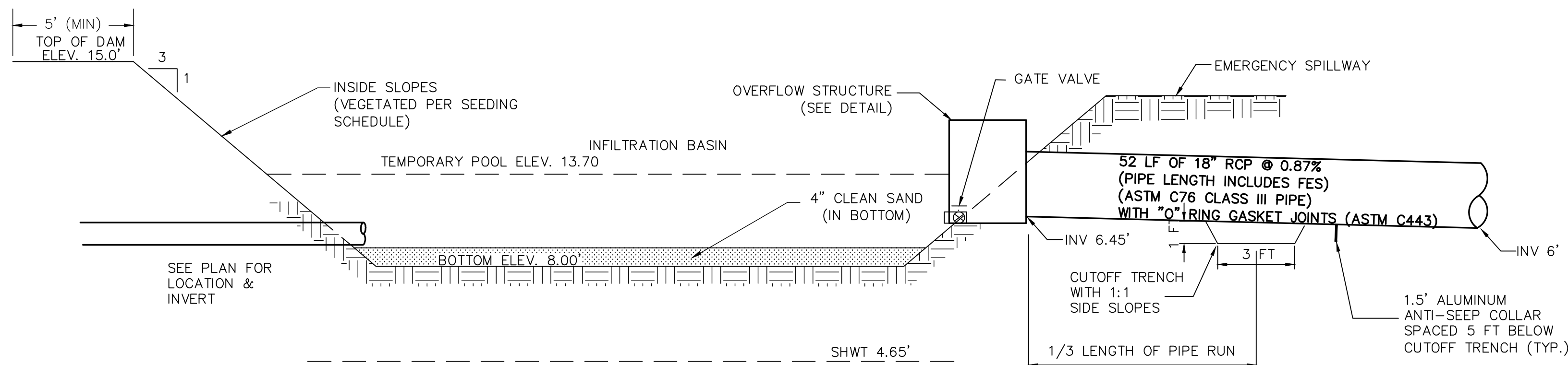
- NOTES:
1. L_a IS THE LENGTH OF THE RIPRAP APRON.
 2. $d = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6.
 3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
 4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

PIPE OUTLET PROTECTION
NOT TO SCALE

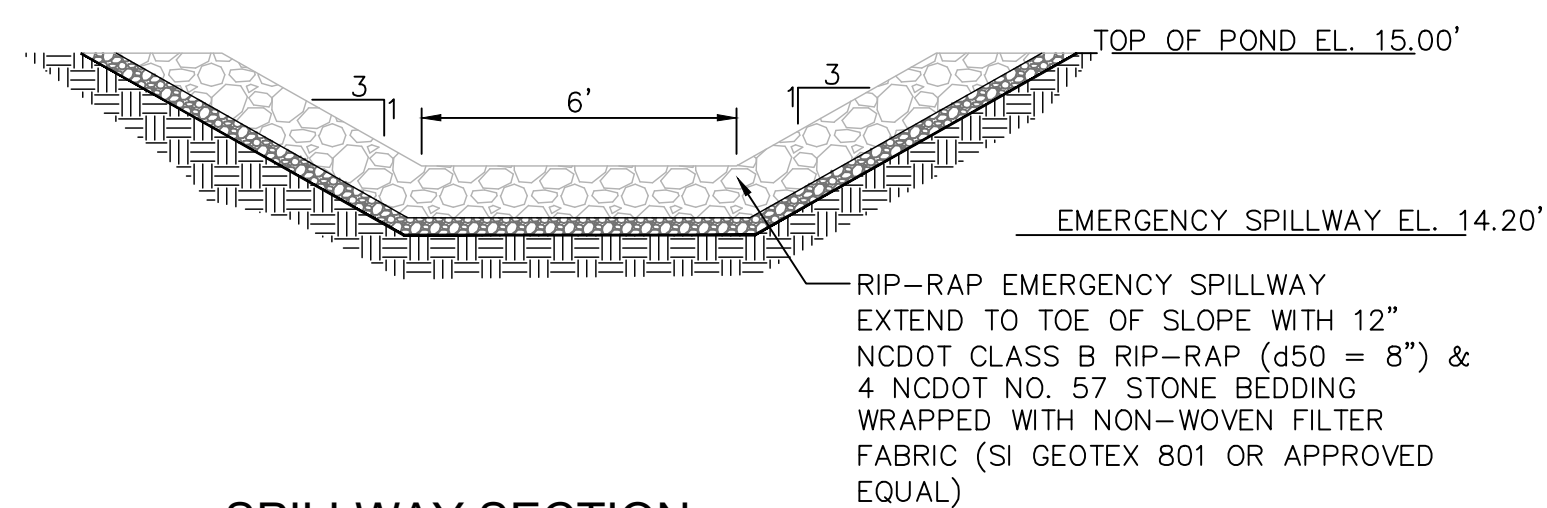
OUTLET PROTECTION	
OUTLET PIPE DIA.	18"
OUTLET FLOW RATE	1.65 CFS
OUTLET VELOCITY	4.04 FT/S
MATERIAL	CLASS A
LENGTH	6'
WIDTH	4.5'
STONE DIA.	3"
THICKNESS	9"

NOTES

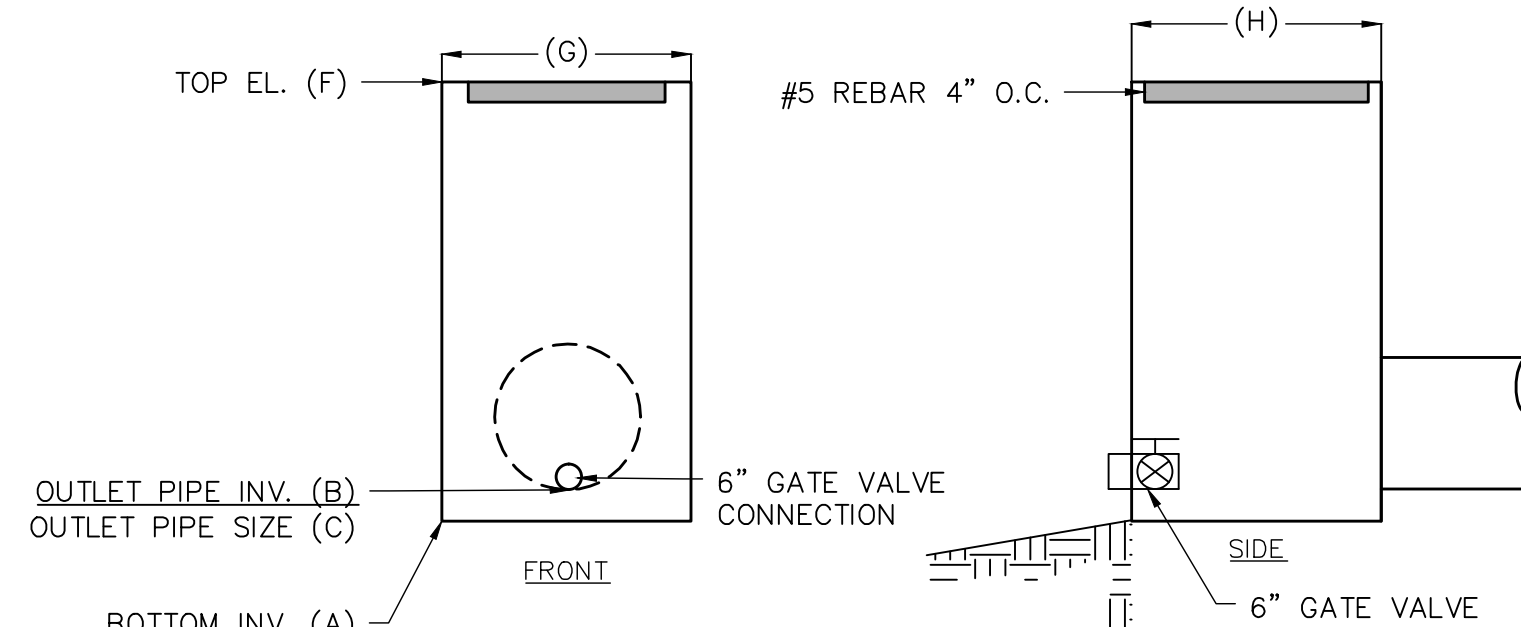
1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVATED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.
5. 50-YR DISCHARGE THROUGH WEIR ASSUMING THE BASIN WILL NOT INFILTRATE.
WEIR EQUATION: $Q_{50} = C \cdot L \cdot h^{3/2}$
 $Q_{50} = 29.56 \text{ cfs} = 3.0 \cdot 24.0 \text{ ft} \cdot h^{3/2}$
 $h = 0.488' = 5.86"$



INFILTRATION BASIN
NOT TO SCALE



SPILLWAY SECTION
NOT TO SCALE

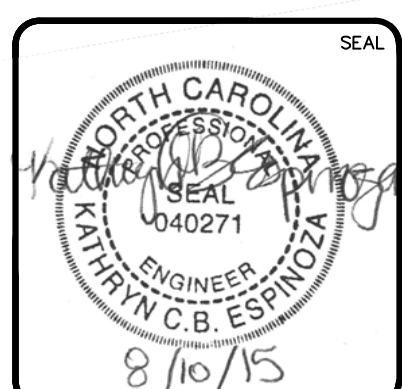


OUTLET STRUCTURE
NOT TO SCALE

OUTLET STRUCTURE	
INFILTRATION #6	
A	6.45
B	6.45
C	18"
F	13.70'
G	4'
H	4'

REV.	NO.	DESCRIPTION	DATE
G		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D		CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C		NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A		CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SERIES HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
STORMWATER MANAGEMENT DETAILS

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CN-503
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 43
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: G
DESIGNED: KCBE	STATUS: FINAL DESIGN	
CHECKED: NJL	ISSUED FOR PERMITTING	
PROJ. MGR: RMC		

