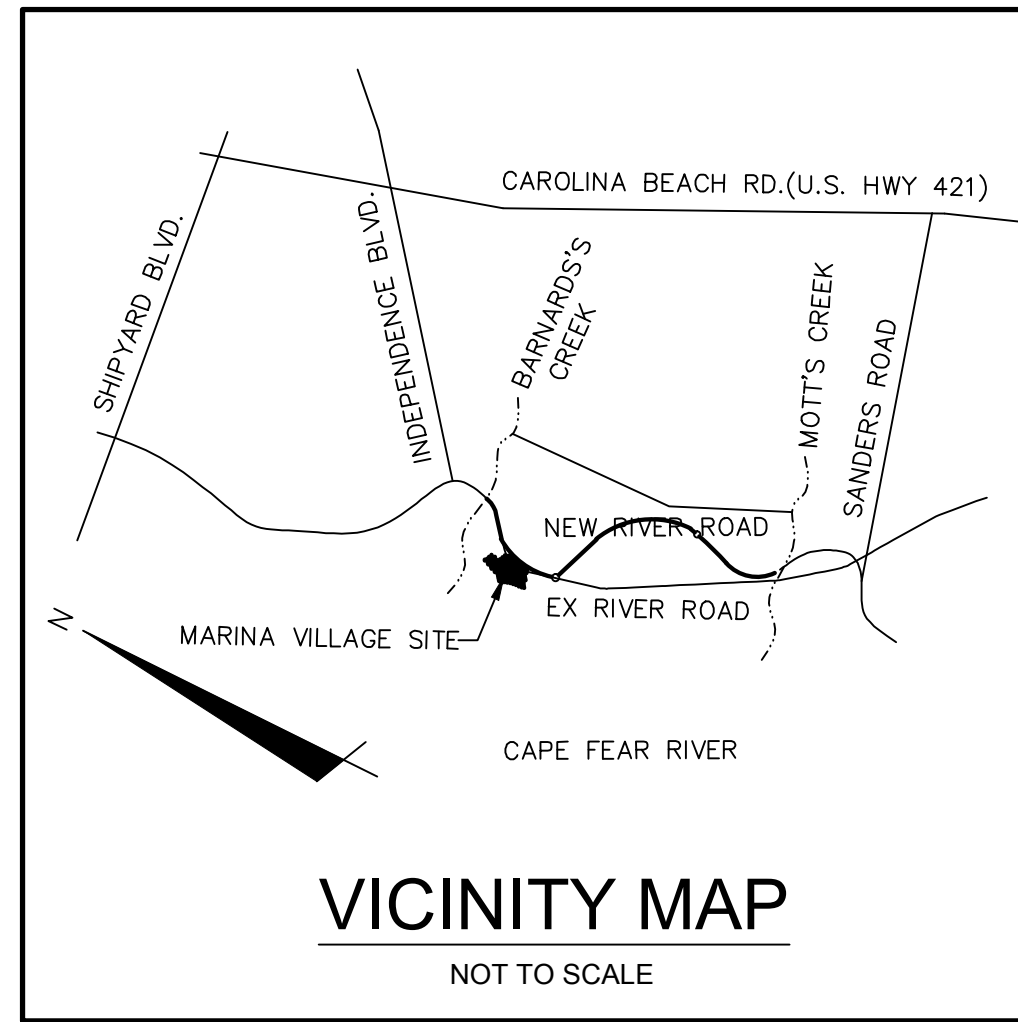


RIVERLIGHTS MARINA VILLAGE- PHASE 1B

CITY OF WILMINGTON, NC

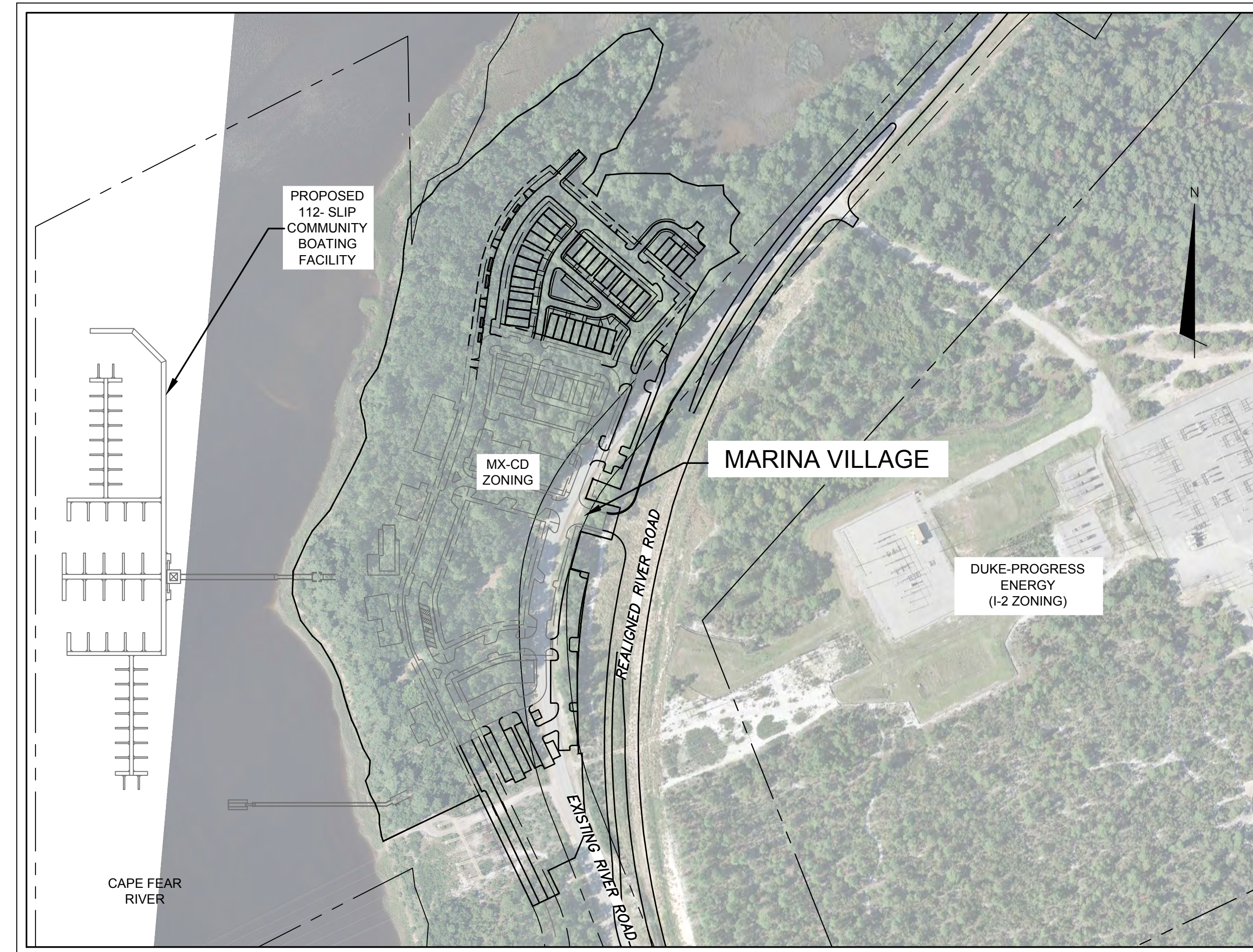
MARCH 17, 2016

ISSUED FOR CONSTRUCTION



CITY AND AGENCY CONTACTS

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Contact: Rob Gordon
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- D. Cape Fear Public Utility Authority
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Wilmington, NC 28403
(910) 332-6626
Contact: David Dailey
Email: David.Dailey@cfpua.org**
- E. NCDENR
Division of Environmental Health
Public Water Supply Section
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Raleigh, NC 27699-1634
(919) 707-9075
Contact: Christyn Fertenbaugh
Email: christyn.fertenbaugh@ncdenr.gov**



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3	G-003	GENERAL NOTES
4	CX-101	EXISTING CONDITIONS SITE INVENTORY MAP
5	CX-102	TREE REMOVAL PLAN
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PROJECT DATA

NAME OF PROJECT:
RIVERLIGHTS - MARINA VILLAGE PHASE 1B
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER:
NNP IV-CAPE FEAR RIVER, LLC
3410 RIVER ROAD, SUITE 103
WILMINGTON, NC 28412
PHONE: (704)813-8697
CONTACT: DOUG BROWN

PREPARED BY:
MCKIM & CREED, INC
243 NORTH FRONT ST
WILMINGTON, NC 28401
PHONE: (910)343-1048
FAX: (910)251-8282
CONTACT: NICK LAURETTA, PE, LEED AP
EMAIL: NLAURETTA@MCKIMCREED.COM



243 North Front Street
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www.mckimcreed.com



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



ABBREVIATIONS

ALT	ALTERNATE
AMP	AMPERE
ANCH	ANCHOR
Ac.	ACRE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BEAM, BENCH MARK
BOTT	BOTTOM
CB	CATCH BASIN
C/C	CENTER TO CENTER
CDI	CURB DROP INLET
CFM	CUBIC FEET PER MINUTE
C&G	CURB & GUTTER
CI	CAST IRON
CL	CAST IN PLACE
CMP	CENTERLINE, CLASS
CO	CORRUGATED METAL PIPE
CONC	CLEANOUT
CONC PWMT	CONCRETE PAVEMENT
COND	CONDUIT
CONSTR	CONSTRUCT, CONSTRUCTION
CTR	CENTER
CTV	CABLE TELEVISION
DB	DEED BOOK
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DISCH	DISCHARGE
DWG	DRAWING
E	EAST
EA	EACH
EAP	EXPOSED AGGREGATE PAVING
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
EMER	EMERGENCY
EOP, EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
ESMT	EASEMENT
EW	EACH WAY, END WALL
EXIST, EX	EXISTING
FL	FLOW LINE
FLG	FLANGE
FLR	FLOOR
FM	FORCE MAIN
FT	FOOT, FEET
G	GAS LINE, GUTTER
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GPM	GALLONS PER MINUTE
h	HEIGHT
HP	HORSEPOWER
HWY	HIGHWAY
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE, IRON PIN
IPF	IRON PIN FOUND
IR	IRON ROD
JB	JUNCTION BOX
KW	KILOWATTS
M	METER
MANUF, MFR	MANUFACTURER
MATL	MATERIAL
MAX	MAXIMUM
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
N&C	NAIL AND CAP
NEC	NATIONAL ELECTRIC CODE
NGS	NATIONAL GEODETIC SURVEY
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	POINT OF VERTICAL CURVE PAVEMENT
QTY, QUAN	QUANTITY
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCM	RECLAIMED WATER MAIN
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
REF	REFERENCE
REINF	REINFORCED, REINFORCING
REQ'D	REQUIRED
REV	REVISION
ROW, R/W	RIGHT OF WAY
RT	RIGHT
RJ	REUSE WATER MAIN
RW	RAW WATER
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SD	STORM DRAIN
S.F.	SQUARE FEET
SHT	SHEET
SR	STATE ROUTE
STA	STATION
STD	STANDARD
S/W	SIDEWALK
TELE, TEL	TELEPHONE
TOT	TOP OF BANK
TOS	TOE OF SLOPE
TPS	TURN POINT SET
TS & V	TAPPING SLEEVE & VALVE
TYP	TYPICAL
UL	UNDERWRITERS LAB
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VC	VITRIFIED CLAY
VERT	VERTICAL
VOL	VOLUME
W	WIDTH
W/	WITH
WM	WATER METER, WATER MAIN
WP	WEATHERPROOF, WEATHERPROOF
WSL	WATER SERVICE LINE
WV	WATER VALVE

LEGEND

DESCRIPTION	EXISTING	NEW
PROPERTY LINE	---	---
ROAD RIGHT-OF-WAY	---	---
UTILITY EASEMENT	---	---
PAVED ROADWAY	---	---
DIRT OR CRUSHED STONE ROADWAY	---	---
STORM DRAINAGE	12"RCP	12"RCP
GAS LINE	12"G	12"G
OVERHEAD ELECTRIC	OHE	OHE
OVERHEAD TELEPHONE	OHT	OHT
OVERHEAD TELEVISION	OHTV	OHTV
UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UGT	UGT
UNDERGROUND TELEVISION	UGTV	UGTV
DIRECTION OF FLOW	→	→
GROUND ELEVATION	7.26	7.64 (TOP OF CURB) 7.26 (EDGE OF PAVEMENT)
CONTOUR (MAJOR)	15	15
CONTOUR (MINOR)	12	12
MANHOLE	○	●
CATCH BASIN	□	□
INLETS	□	□
DROP INLET (THROAT OPENING)	□	□
UTILITY POLE	○	○
LIGHT POLE	○	○
SUPPORT POLE	○	○
LANDSCAPE LIGHTING	○	○
UTILITY PEDESTAL	□	□
GUY WIRE	—	—
BOLLARD	○	○
MAILBOX	□	□
SIGN	□	□
BENCHMARK	○	○
TREE LINE	—	—
SHRUB	○	○
EXISTING IRON ROD (DISTURBED)	○	○
EXISTING IRON ROD	○	○
LIMITS OF DISTURBANCE	LOD	LOD
SILT FENCE	SF	SF
TREE PROTECTION FENCE	TP	TP
TEMPORARY DIVERSION DITCH	>TDD	>TDD
SANITARY SEWER LINE	---	---
SANITARY SEWER MANHOLE	○	○
WATER LINE	---	---
FIRE HYDRANT	○	○
VALVE	○	○
STORMWATER PIPE	---	---
CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE	COO	COO
MEAN HIGH WATER	MHW	MHW
AREA OF ENVIRONMENTAL CONCERN	AEO	AEO
100-YEAR FLOODPLAIN (PRELIMINARY)	---	---
100-YEAR FLOODPLAIN (EFFECTIVE)	---	---
COASTAL MARSH LINE	---	---
35' CONSERVATION RESOURCE VEGETATED BUFFER	---	---
CAMA CLASSIFICATION BOUNDARY	---	---

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1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

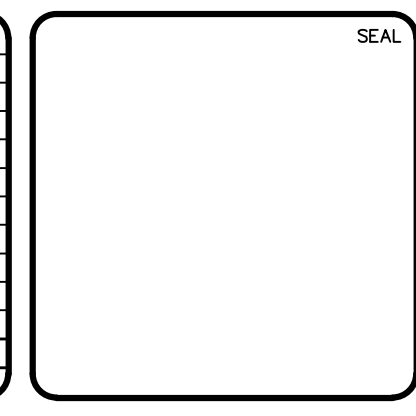
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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 SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

ABBREVIATIONS & LEGEND

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: G-002
DRAWING NUMBER: 2

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

S:\2735\0124 Marina Village\08-Drawings\Phase 1B\G-002.dwg, 3/17/2016 4:58:00 PM, nlaurent

CONSTRUCTION NOTES

- 1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH NEW HANOVER COUNTY AND 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...

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name Date

Planning Traffic Fire



Public Services Engineering Division APPROVED STORMWATER MANAGEMENT PLAN

Date: Permit #

Signed:

Table with 2 columns: REVNO, DATE. Row 1: 0, 03/17/2016. Row 2: ISSUED FOR CONSTRUCTION, 03/17/2016.

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.

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.
3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS BEFORE PLACING ANY BACKFILL.

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 ONCE A WEEK AND WITHIN 24 HOURS OF EACH STORM EVENT OF 1/2 INCH OR GREATER.
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.

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 CONTAINED WITH PUBLIC DRAINAGE EASEMENTS. MAINS ARE PRIVATE BEYOND THE PUBLIC UTILITY EASEMENT.
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 USDFCCOHR OR ASSE.

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.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.01
• ALL DROP INLETS IN TRAFFIC AREAS ARE NCDOT STD 840.35, ALL DROP INLETS IN LANDSCAPE AREAS ARE CITY OF WILMINGTON STD 2-02 & 14-04.
• 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
• 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.
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.

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 OCCURRENCE.
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, RESEED 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 OUTFALLS 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 UP WHEN IT IS HALF FULL.
10. INSPECT TEMPORARY SEDIMENT TRAPS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
11. REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.
12. 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. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING SHALL BE REPLACED BY THE CONTRACTOR.
7. CONTACT CITY OF WILMINGTON AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
8. 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.
9. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
10. 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.
11. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
12. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.

NOTE COW(18-458)

NO EQUIPMENT IS ALLOWED ONSITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED BY THE ENGINEER.

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 ERRECTED ONSITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
6. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDING(S).
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 FOR EMERGENCY VEHICLES 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.

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

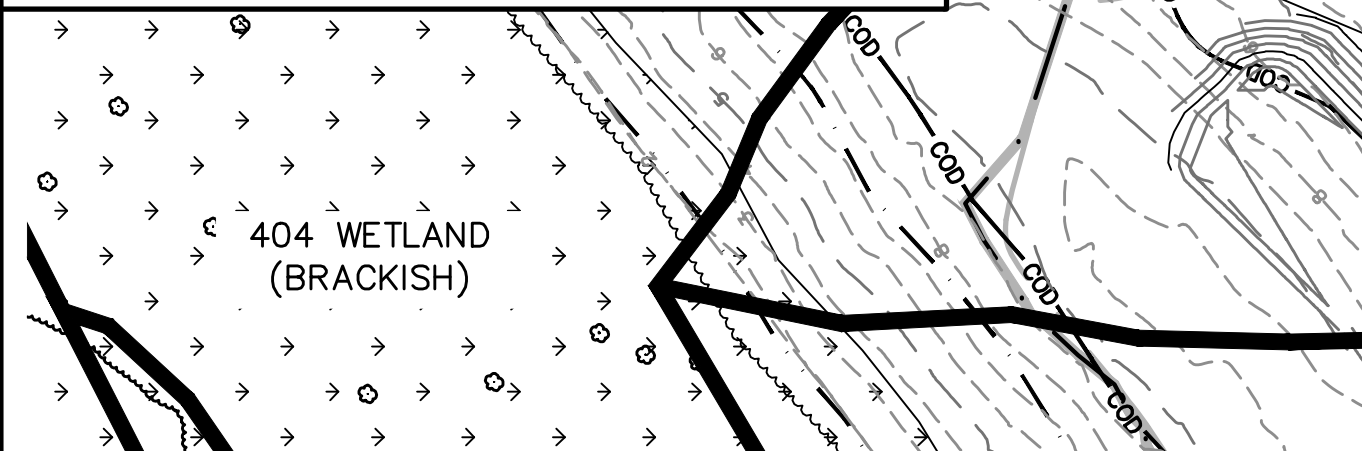
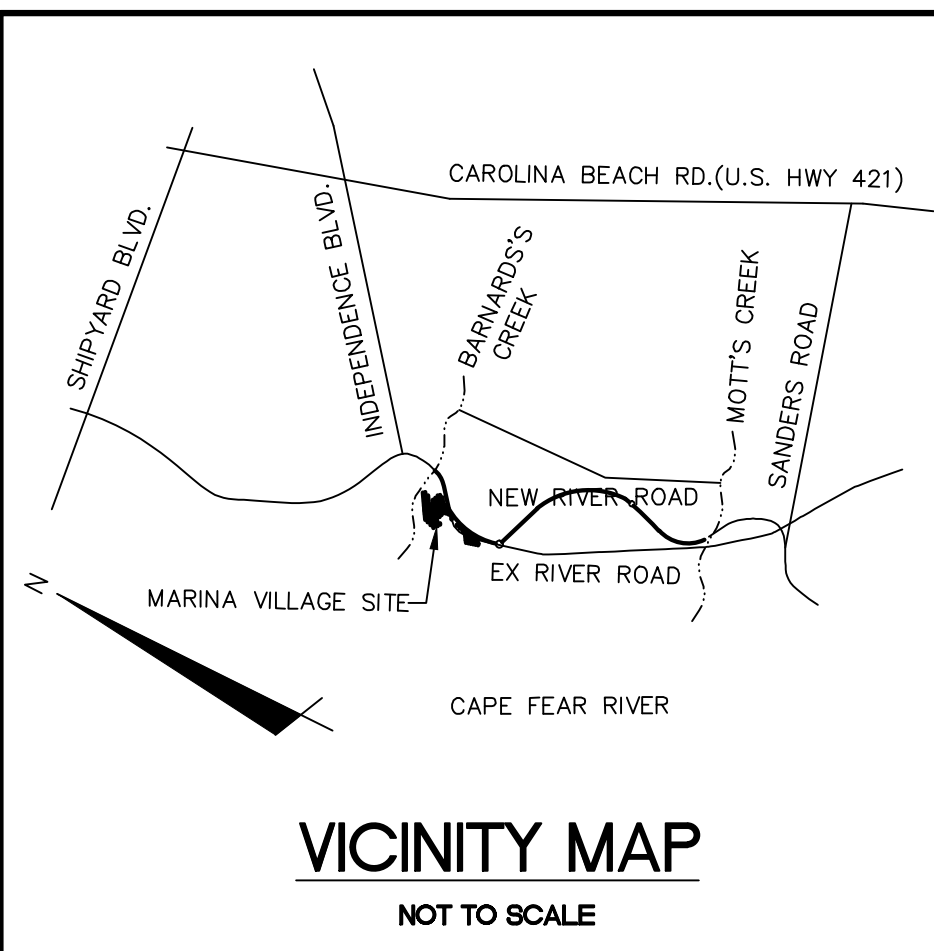
Table with 3 columns: SITE AREA DESCRIPTION, STABILIZATION TIMEFRAME, STABILIZATION TIMEFRAME EXCEPTIONS. Rows include: PERIMETER DIKES, SWALES, DITCHES AND SLOPES (7 DAYS), HIGH QUALITY WATER ZONES (7 DAYS), SLOPES STEEPER THAN 3:1 (7 DAYS), SLOPES 3:1 OR FLATTER (14 DAYS), ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 (14 DAYS).

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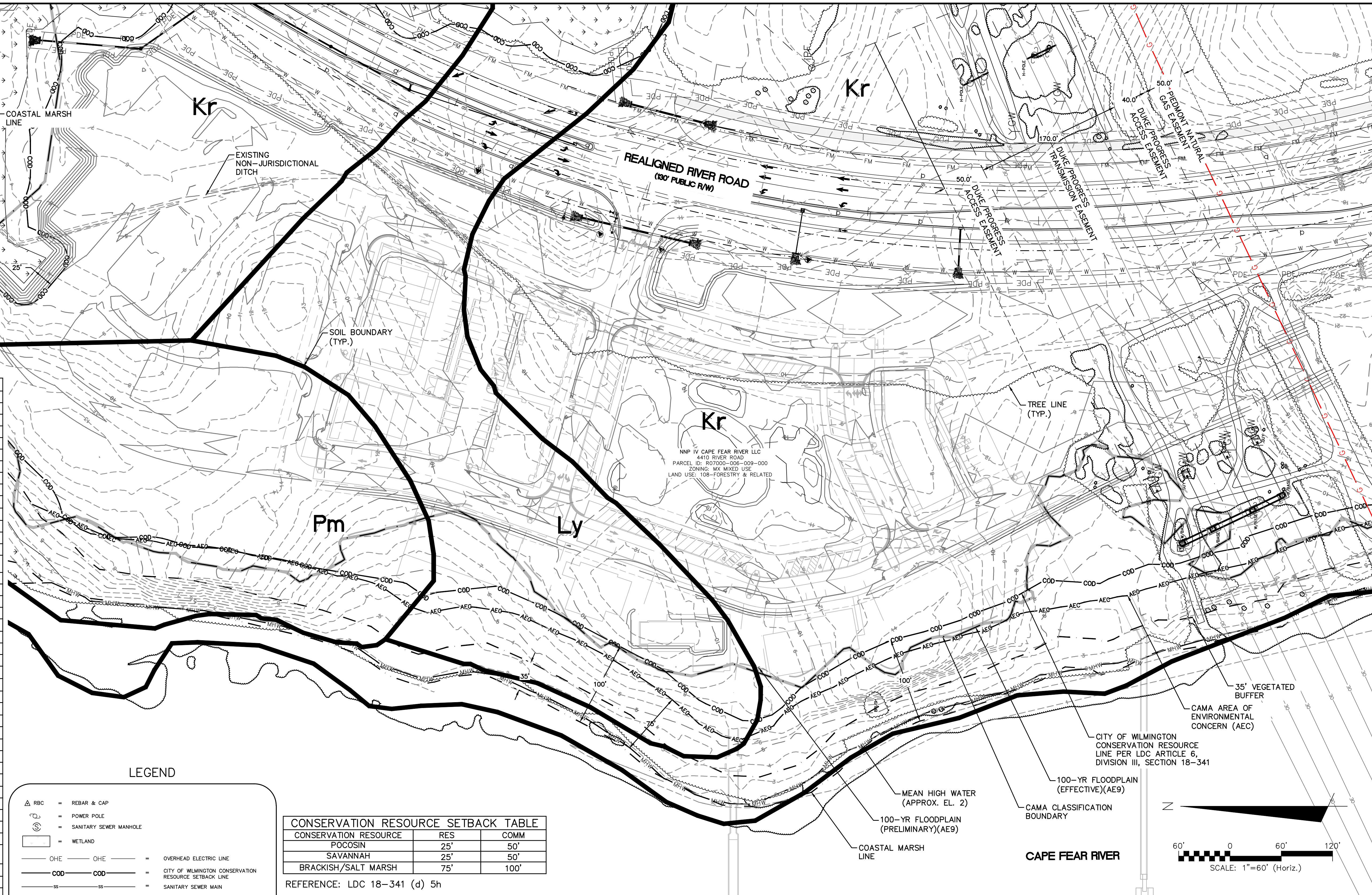
RIVERLIGHTS logo and contact information: NORTH AMERICA SEXUSI HOUSE, LLC. Newland COMMUNITIES

RIVERLIGHTS MARINA VILLAGE PHASE 1B logo and GENERAL NOTES

Project information: DATE: 17MAR16, MCE PROJ. # 2735-0124, DRAWN: ALM, DESIGNED: NJL, CHECKED: KCBE, PROJ. MGR.: NJL. SCALE: HORIZONTAL: N/A, VERTICAL: N/A. G-003 DRAWING NUMBER 3. STATUS: FINAL DESIGN, ISSUED FOR CONSTRUCTION. REVISION 0



SITE DATA TABLE		MARINA VILLAGE - PHASE 2	
GENERAL INFORMATION			
APPLICANT NAME	NNP IV- CAPE FEAR RIVER, LLC		
SITE ADDRESS	4410 RIVER ROAD		
PROPERTY OWNER	NNP IV- CAPE FEAR RIVER, LLC		
DEVELOPER	NNP IV- CAPE FEAR RIVER LLC		
MAP SCALE	1"=60'		
PROPERTY BOUNDARY			
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000		
ZONING DISTRICT	MX		
TOTAL ACREAGE WITHIN THE RIVER ROAD BOUNDARY	1,329.41 ACRES (57,909,099.6 SF)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE BOUNDARY	38.67 ACRES (1,684,343 SF)		
ADJACENT PROPERTY			
ADJACENT PROPERTY	PROPERTY	ZONING	
	WATERMARK MARINA	LI	
	DUKE PROGRESS ENERGY	I-2	
VICINITY			
VICINITY MAP	SEE CX-101		
TOPOGRAPHY AND DRAINAGE			
2-FT TOPOGRAPHY MINIMUM INTERVAL	SEE CX-101		
DATE OF TOPOGRAPHY DATA	5/5/2015		
100-YR FLOODPLAIN LINE	SEE CX-101		
LOCATION OF NATURAL WATER FEATURES			
DITCHES	SEE CX-101	NON-JURISDICTIONAL	
STREAMS	N/A		
CREEKS	N/A		
FLOOD PRONE AREAS	SEE CX-101		
AREAS OF NATURALLY CONCENTRATED SURFACE DRAINAGE	N/A		
SOIL			
SOIL TYPE(S) AND BOUNDARIES	SEE CX-101		
NORTH CAROLINA COASTAL AREA MANAGEMENT AD INFORMATION			
CAMA AREA OF ENVIRONMENTAL CONCERN	SEE CX-101		
SETBACKS	75 FT		
CAMA LAND USE CLASSIFICATION(S)	TRANSITION/CONSERVATION		
CONSERVATION RESOURCE REGULATIONS			
PRESENCE OF CONSERVATION RESOURCE	PRESENCE; SEE CX-101		
SETBACKS	TABLE; SEE CX-101		
VEGETATED BUFFER	35' BUFFER, SEE CX-101		
HISTORIC AND ARCHEOLOGICAL SITES			
LOCAL STATE OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES	NOT PRESENT		
LOCATION	N/A		
CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS?			
CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS?	NOT PRESENT		
FORESTED AREAS			
BOUNDARIES OF FORESTED AREAS	SEE CX-101		
FOREST AREA	19.17 ACRES (835,039 SF)		
HABITAT	FORESTED WETLAND/TIDAL MARSH		
DOMINANT SPECIES	OAK, PINE		
WETLANDS			
404/SECTION 10 WETLAND LOCATION	PRESENCE; SEE CX-101		
METHOD OF DETERMINATION	FIELD SURVEY		
IMPACTED WETLANDS	N/A		
ENDANGERED SPECIES OR HABITAT			
ENDANGERED SPECIES OR HABITAT IN PROJECT AREA	NOT PRESENT		
AUTOMOBILE, BICYCLE, PEDESTRIAN, OR TRANSIT FACILITIES			
EXISTING OR PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS, AND TRANSIT FACILITIES	NOT PRESENT		



LEGEND

	= REBAR & CAP
	= POWER POLE
	= SANITARY SEWER MANHOLE
	= WETLAND
	= OVERHEAD ELECTRIC LINE
	= CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	= SANITARY SEWER MAIN
	= MEAN HIGH WATER
	= AREA OF ENVIRONMENTAL CONCERN
	= 100-YEAR FLOODPLAIN (PRELIMINARY)
	= 100-YEAR FLOODPLAIN (EFFECTIVE)
	= COASTAL MARSH LINE
	= 35' CONSERVATION RESOURCE VEGETATED BUFFER
	= TREE PROTECTION FENCE
	= LIMITS OF DISTURBANCE
	= SILT FENCE
	= TEMPORARY DIVERSION DITCH
	= CAMA CLASSIFICATION BOUNDARY

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

TREE LEGEND

	= CEDAR
	= GUM
	= HOLLY
	= OAK
	= MAPLE
	= PINE

GENERAL NOTES:

- 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.
- 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.
- WETLANDS SHOWN IN THIS PORTION OF RIVERLIGHTS WERE DESCRIBED AS BRACKISH/SALT MARSH AND POCOSIN WETLANDS AND CONSERVATION RESOURCE SETBACK LINES WERE GENERATED AS 100' FOR COMMERCIAL, 75' FOR RESIDENTIAL, AND 25', RESPECTIVELY, MINIMUM OUTSIDE OF THE RESOURCE.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION

SURVEY NOTES:

- ALL DISTANCES ARE HORIZONTAL GROUND IN US SURVEY FEET UNLESS OTHERWISE SHOWN.
- BEARINGS BASED ON NCGRID NAD83.
- VERTICAL DATUM IS NAVD 88.
- UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name: _____ Date: _____

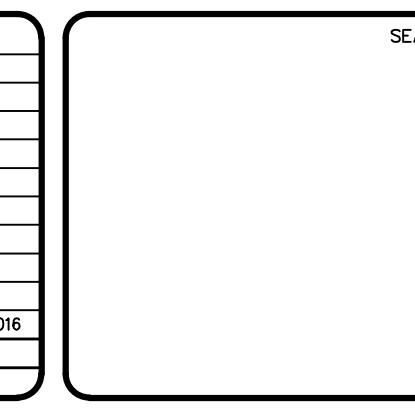
Planning _____

Traffic _____

Fire _____



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES

NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

EXISTING CONDITIONS SITE INVENTORY MAP

DATE: 17MAR16
MCE PROJ. #: 2735-0124
DRAWN: ALM
DESIGNED: NUL
CHECKED: KCBE
PROJ. MGR.: NUL

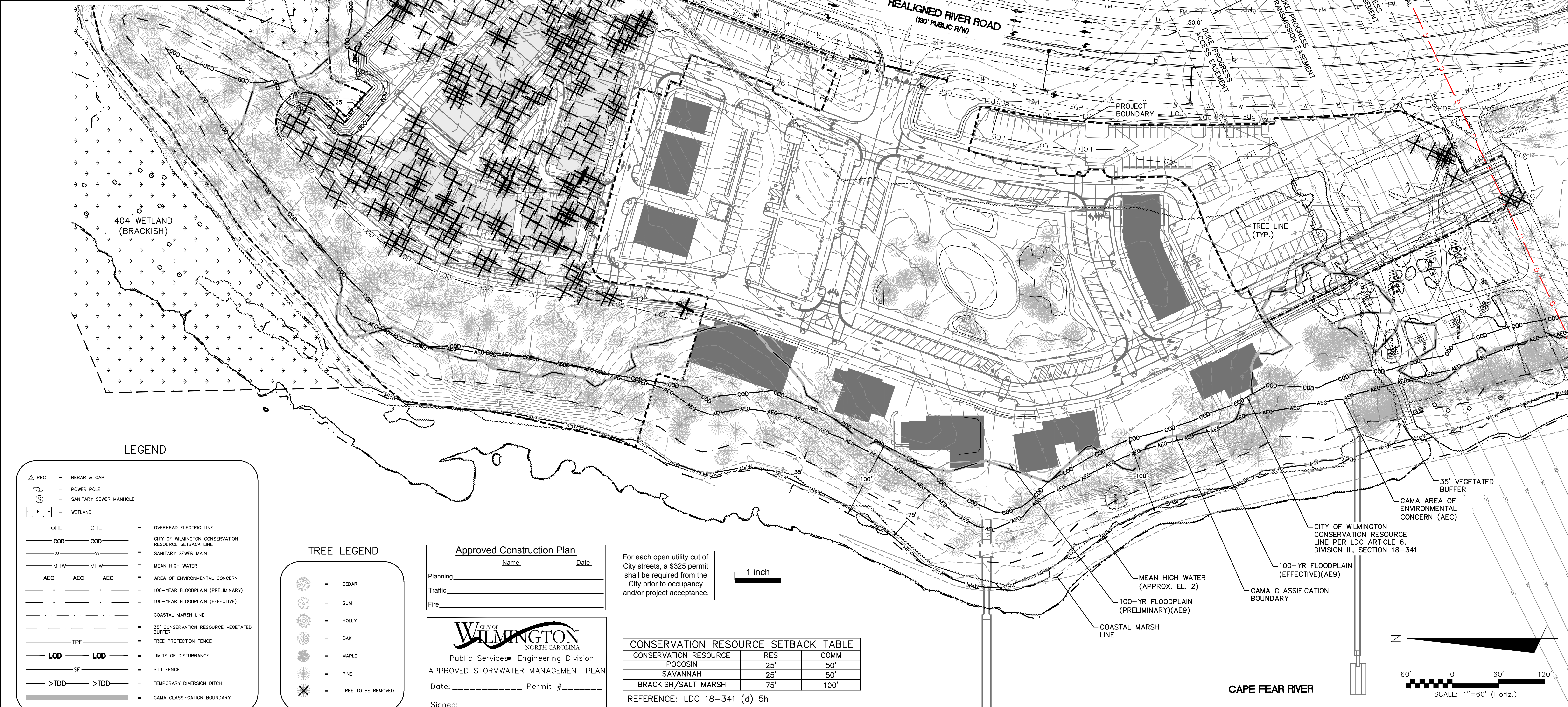
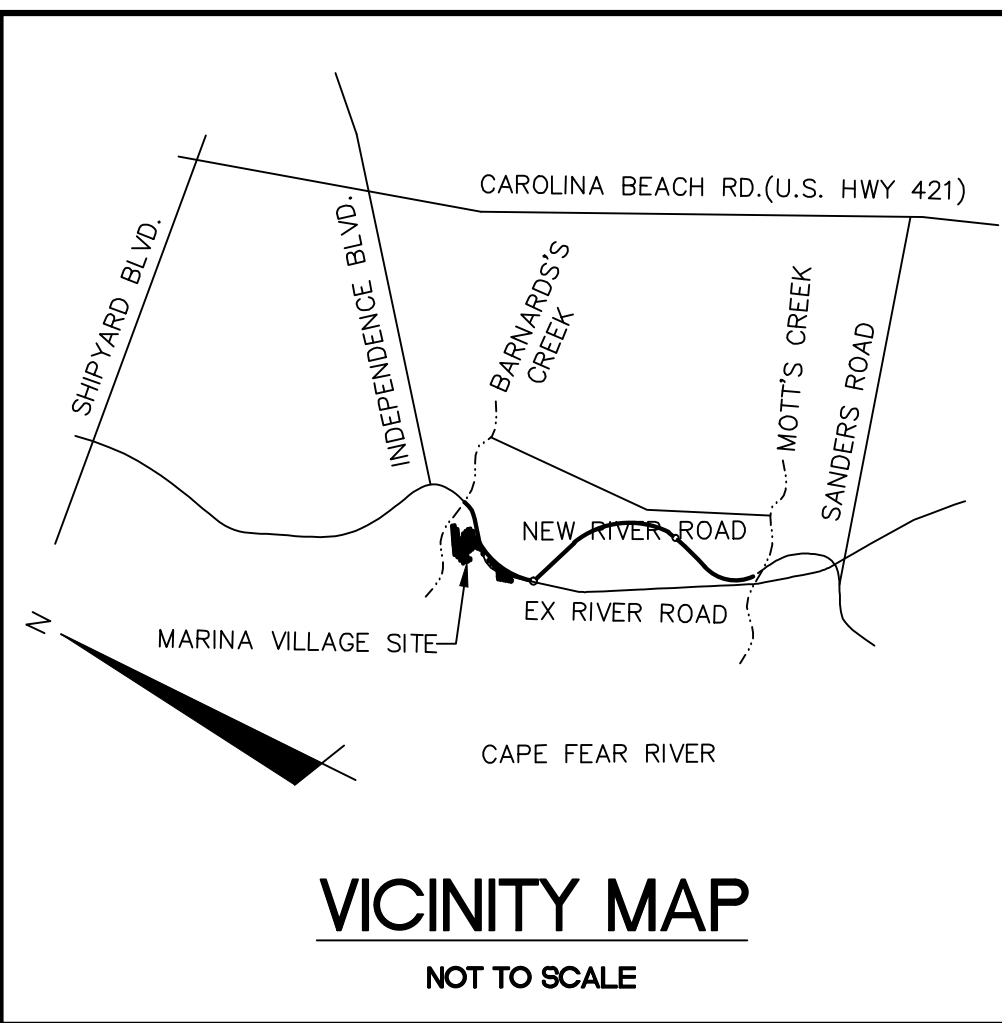
SCALE: HORIZONTAL: 1"=60'
VERTICAL: N/A

MAC FILE NUMBER: CX-101
DRAWING NUMBER: 4

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

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LEGEND

- = REBAR & CAP
- = POWER POLE
- = SANITARY SEWER MANHOLE
- = WETLAND
- = OVERHEAD ELECTRIC LINE
- = CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
- = SANITARY SEWER MAIN
- = MEAN HIGH WATER
- = AREA OF ENVIRONMENTAL CONCERN
- = 100-YEAR FLOODPLAIN (PRELIMINARY)
- = 100-YEAR FLOODPLAIN (EFFECTIVE)
- = COASTAL MARSH LINE
- = 35' CONSERVATION RESOURCE VEGETATED BUFFER
- = TREE PROTECTION FENCE
- = LIMITS OF DISTURBANCE
- = SILT FENCE
- = TEMPORARY DIVERSION DITCH
- = CAMA CLASSIFICATION BOUNDARY

TREE LEGEND

- = CEDAR
- = GUM
- = HOLLY
- = OAK
- = MAPLE
- = PINE
- = TREE TO BE REMOVED

Approved Construction Plan

Name: _____ Date: _____

Planning _____

Traffic _____

Fire _____

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

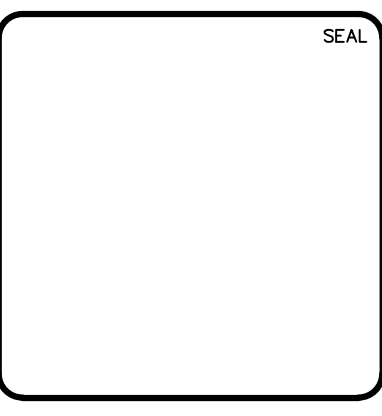
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

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

REVNO.	ISSUED FOR CONSTRUCTION	DATE
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS
by
Newland COMMUNITIES

RIVERLIGHTS MARINA VILLAGE
PHASE 1B

TREE REMOVAL PLAN

DATE: 17MAR16
MCE PROJ. #: 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCB
PROJ. MGR.: NJL

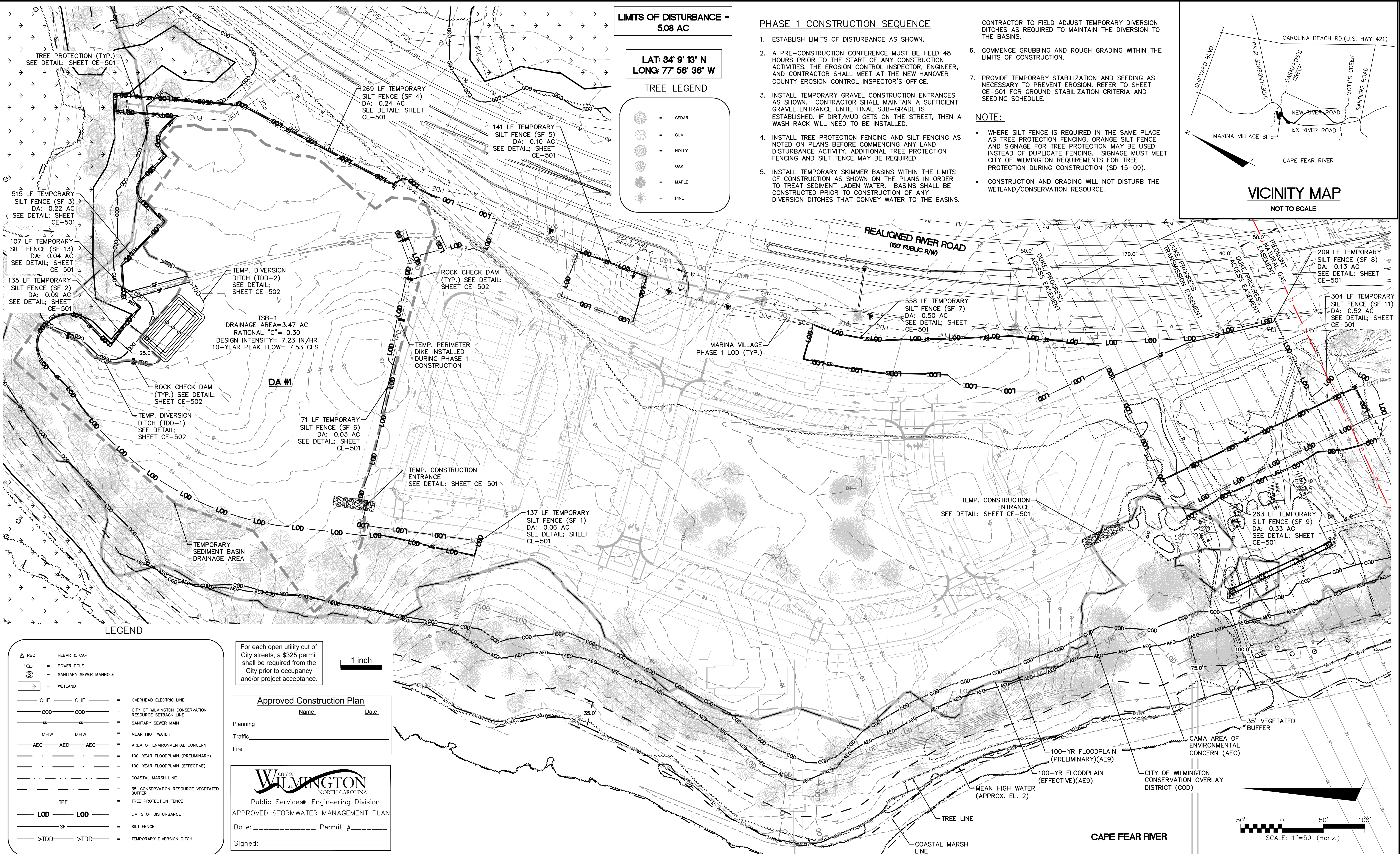
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VERTICAL: N/A

MAC FILE NUMBER: CX-102
DRAWING NUMBER: 5

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

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LIMITS OF DISTURBANCE - 5.08 AC

**LAT: 34° 9' 13" N
LONG: 77° 56' 36" W**

TREE LEGEND

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

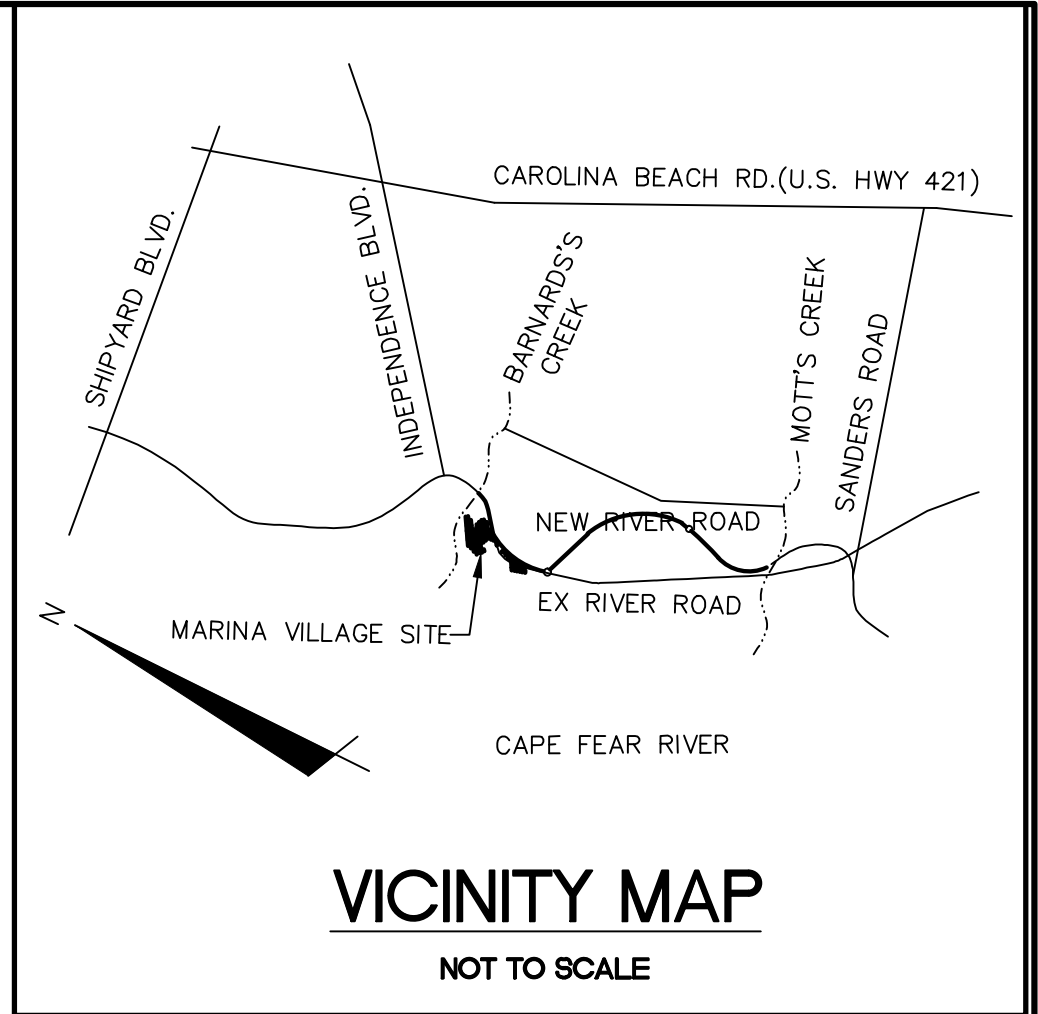
PHASE 1 CONSTRUCTION SEQUENCE

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. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION. REFER TO SHEET CE-501 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

NOTE:

- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND 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).
- CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.



LEGEND

	= REBAR & CAP
	= POWER POLE
	= SANITARY SEWER MANHOLE
	= WETLAND
	= OVERHEAD ELECTRIC LINE
	= CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	= SANITARY SEWER MAIN
	= MEAN HIGH WATER
	= AREA OF ENVIRONMENTAL CONCERN
	= 100-YEAR FLOODPLAIN (PRELIMINARY)
	= 100-YEAR FLOODPLAIN (EFFECTIVE)
	= COASTAL MARSH LINE
	= 35' CONSERVATION RESOURCE VEGETATED BUFFER
	= TREE PROTECTION FENCE
	= LIMITS OF DISTURBANCE
	= SILT FENCE
	= TEMPORARY DIVERSION DITCH

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

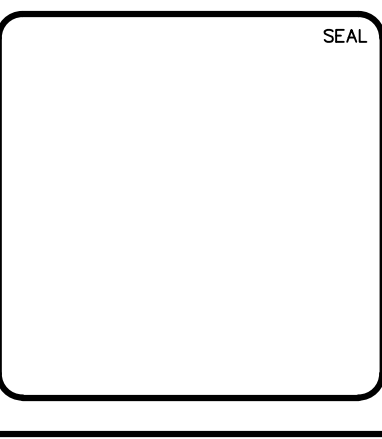
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0	ISSUED FOR CONSTRUCTION		03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES

NORTH AMERICA SEXISUS HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B
PHASE 1 SEDIMENT & EROSION CONTROL PLAN**

DATE: 17MAR16	SCALE: 1"=50'	MAC FILE NUMBER: CE-101
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'	DRAWING NUMBER: 6
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NUL		
CHECKED: KCBE		
PROJ. MGR.: NUL		
STATUS: FINAL DESIGN	REVISION: 0	
ISSUED FOR CONSTRUCTION		

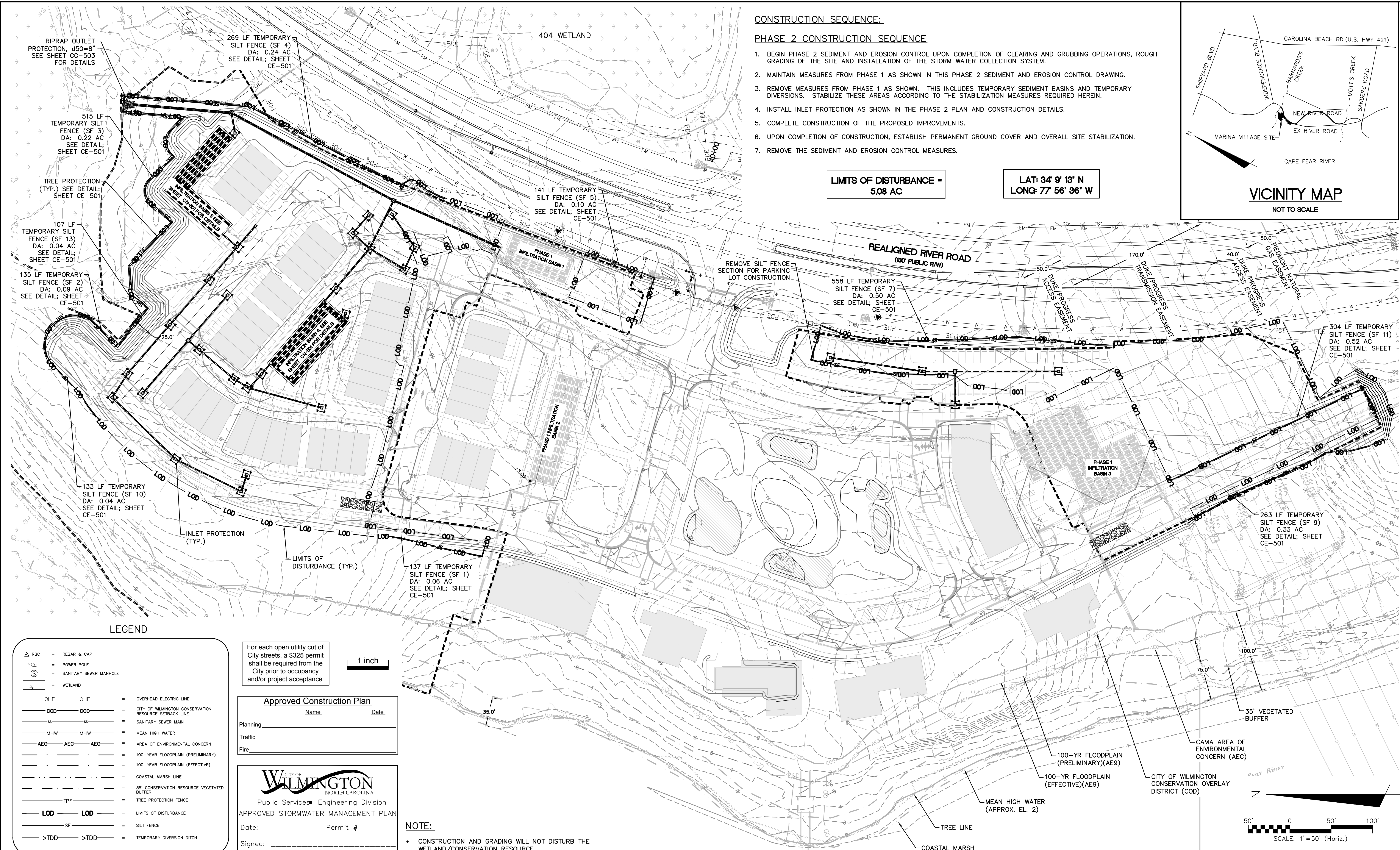
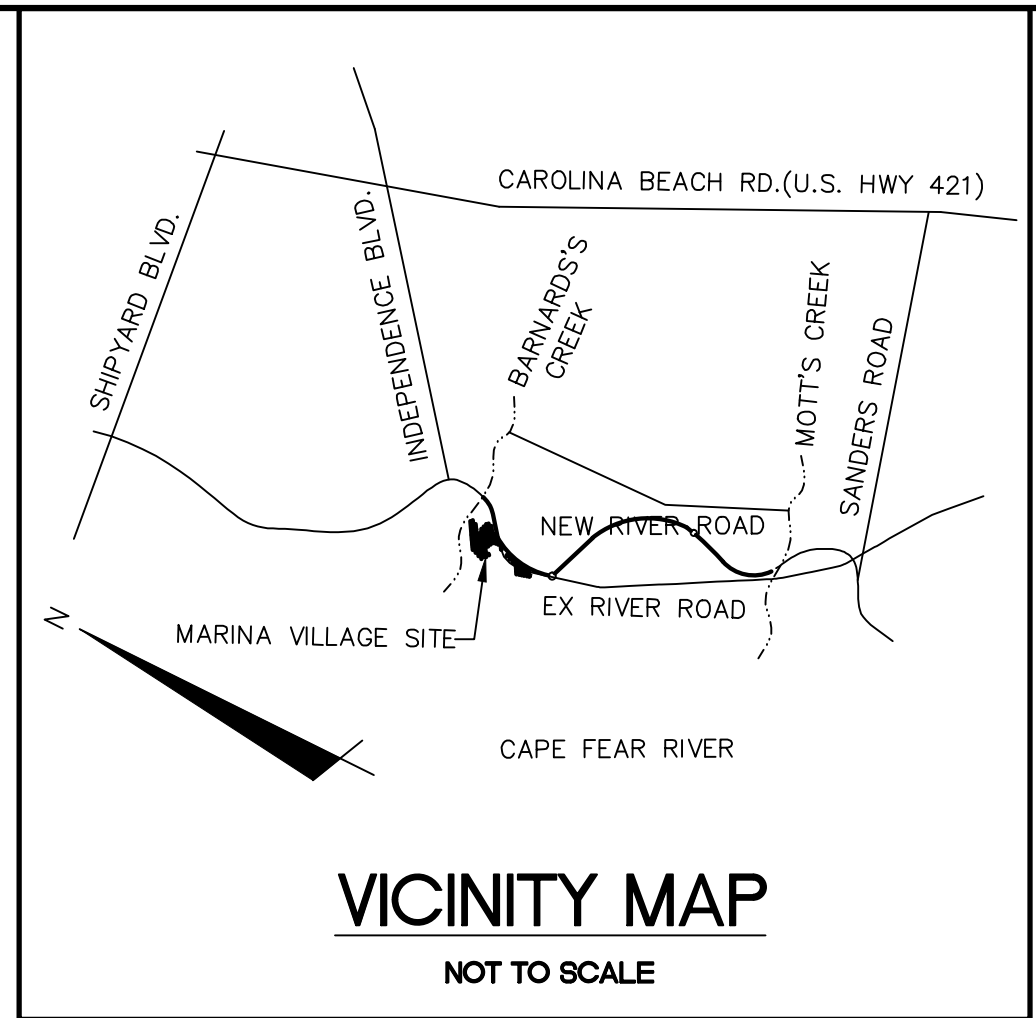
CONSTRUCTION SEQUENCE:

PHASE 2 CONSTRUCTION SEQUENCE

1. 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.
2. MAINTAIN MEASURES FROM PHASE 1 AS SHOWN IN THIS PHASE 2 SEDIMENT AND EROSION CONTROL DRAWING.
3. REMOVE MEASURES FROM PHASE 1 AS SHOWN. THIS INCLUDES TEMPORARY SEDIMENT BASINS AND TEMPORARY DIVERSIONS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
4. INSTALL INLET PROTECTION AS SHOWN IN THE PHASE 2 PLAN AND CONSTRUCTION DETAILS.
5. COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
6. UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
7. REMOVE THE SEDIMENT AND EROSION CONTROL MEASURES.

LIMITS OF DISTURBANCE - 5.08 AC

**LAT: 34° 9' 13" N
LONG: 77° 56' 36" W**



LEGEND

	RBC	=	REBAR & CAP
	POWER POLE	=	POWER POLE
	SANITARY SEWER MANHOLE	=	SANITARY SEWER MANHOLE
	WETLAND	=	WETLAND
	OHE	=	OVERHEAD ELECTRIC LINE
	COD	=	CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	SS	=	SANITARY SEWER MAIN
	MHW	=	MEAN HIGH WATER
	AEO	=	AREA OF ENVIRONMENTAL CONCERN
		=	100-YEAR FLOODPLAIN (PRELIMINARY)
		=	100-YEAR FLOODPLAIN (EFFECTIVE)
		=	COASTAL MARSH LINE
		=	35' CONSERVATION RESOURCE VEGETATED BUFFER
	TPF	=	TREE PROTECTION FENCE
	LOD	=	LIMITS OF DISTURBANCE
	SF	=	SILT FENCE
	TDD	=	TEMPORARY DIVERSION DITCH

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____
Traffic _____
Fire _____



Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

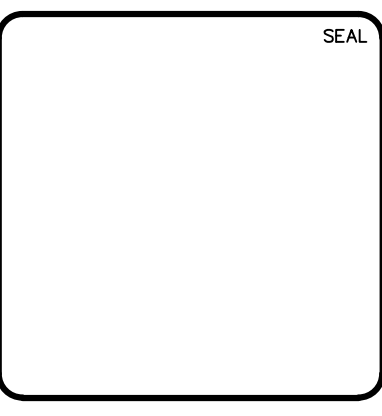
Date: _____ Permit # _____

Signed: _____

NOTE:

- CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0	ISSUED FOR CONSTRUCTION		03/17/2016



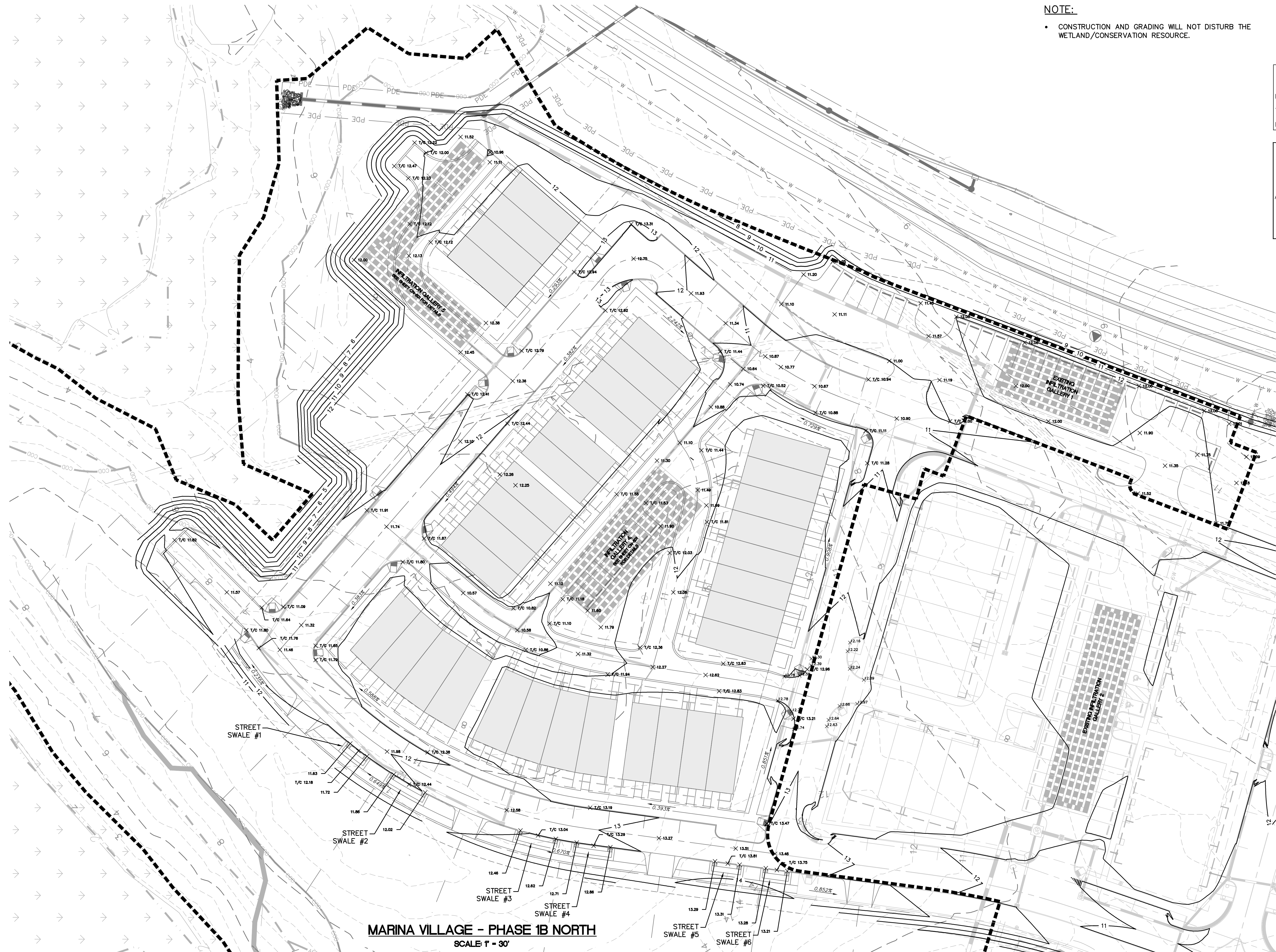
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www.mckimcreed.com

RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEXISUS HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B
PHASE 2 SEDIMENT &
EROSION CONTROL
PLAN**

DATE: 17MAR16	SCALE: 1"=50'	MAC FILE NUMBER: CE-102
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'	DRAWING NUMBER: 7
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NUL		
CHECKED: KCBE		
PROJ. MGR.: NUL		
STATUS: FINAL DESIGN	REVISION: 0	
ISSUED FOR CONSTRUCTION		

S:\27350124 Marina Village\08-Drawings\Phase 1B\CE-102.dwg, 3/17/2016 5:11:30 PM, hlabetta



NOTE:
 • CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

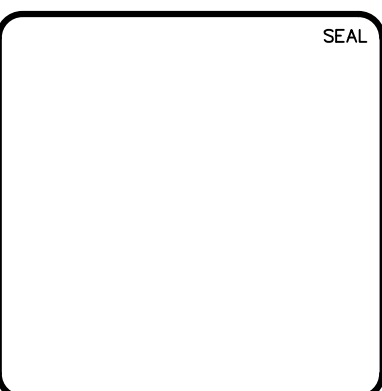
WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

MARINA VILLAGE - PHASE 1B NORTH
 SCALE 1" = 30'

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0	ISSUED FOR CONSTRUCTION		03/17/2016



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RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
 PHASE 1B**

GRADING PLAN NORTH

DATE: 17MAR16	SCALE: CG-101	MAC FILE NUMBER: CG-101
MCE PROJ. #: 2735-0124	HORIZONTAL: 1"=30'	DRAWING NUMBER: 8
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN	REVISION: 0	
ISSUED FOR CONSTRUCTION		

S:\2735\0124 Marina Village\08-Drawings\Phase 1B\CGS-103.dwg, 3/17/2016 5:19:20 PM, hlsarett

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

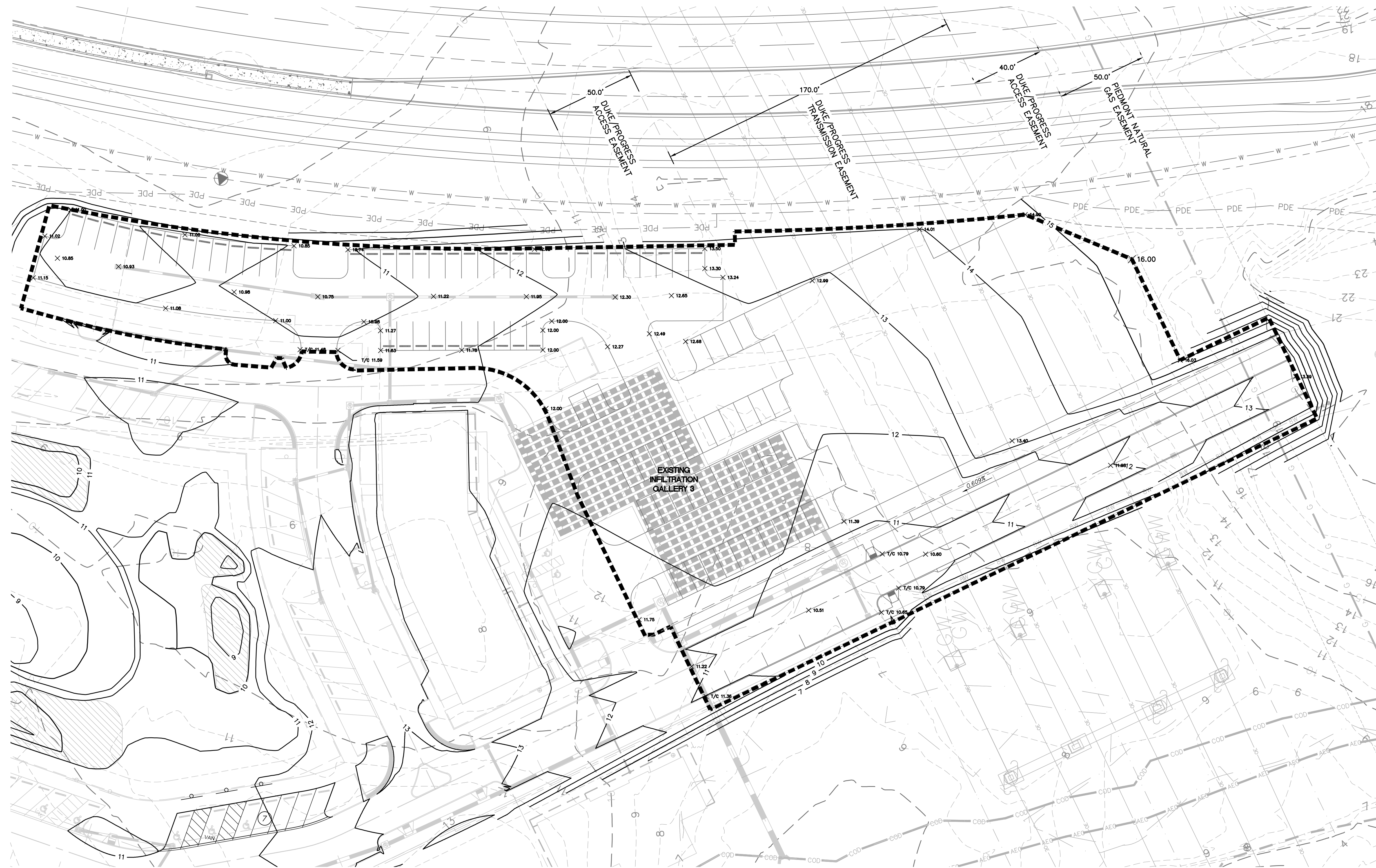
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

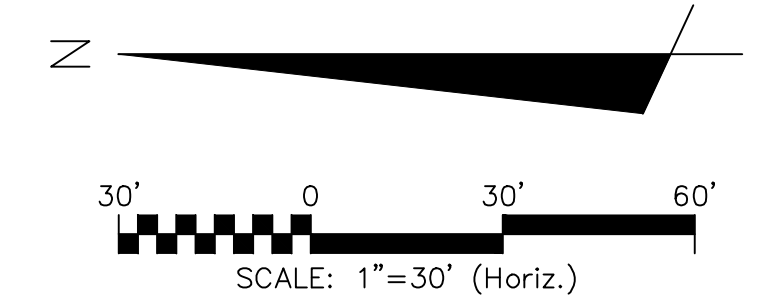
Signed: _____



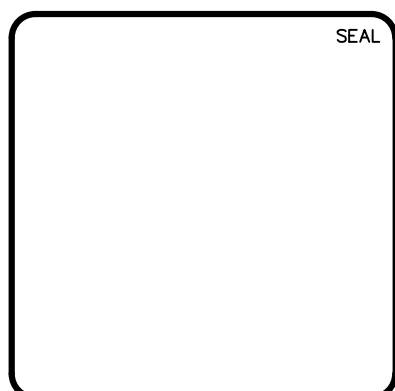
MARINA VILLAGE - PHASE 1B SOUTH
SCALE 1" = 50'

NOTE:

- CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0	ISSUED FOR CONSTRUCTION		03/17/2016



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Phone: (910)343-1048, Fax: (910)251-8282
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RIVERLIGHTS
by Newland COMMUNITIES

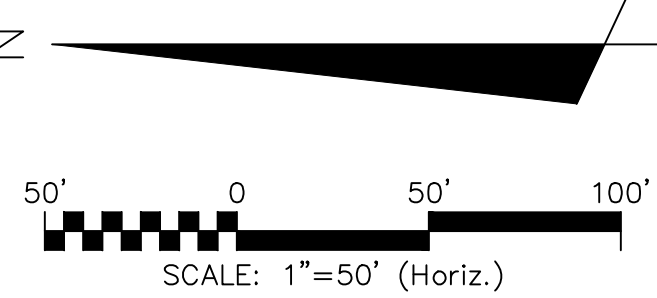
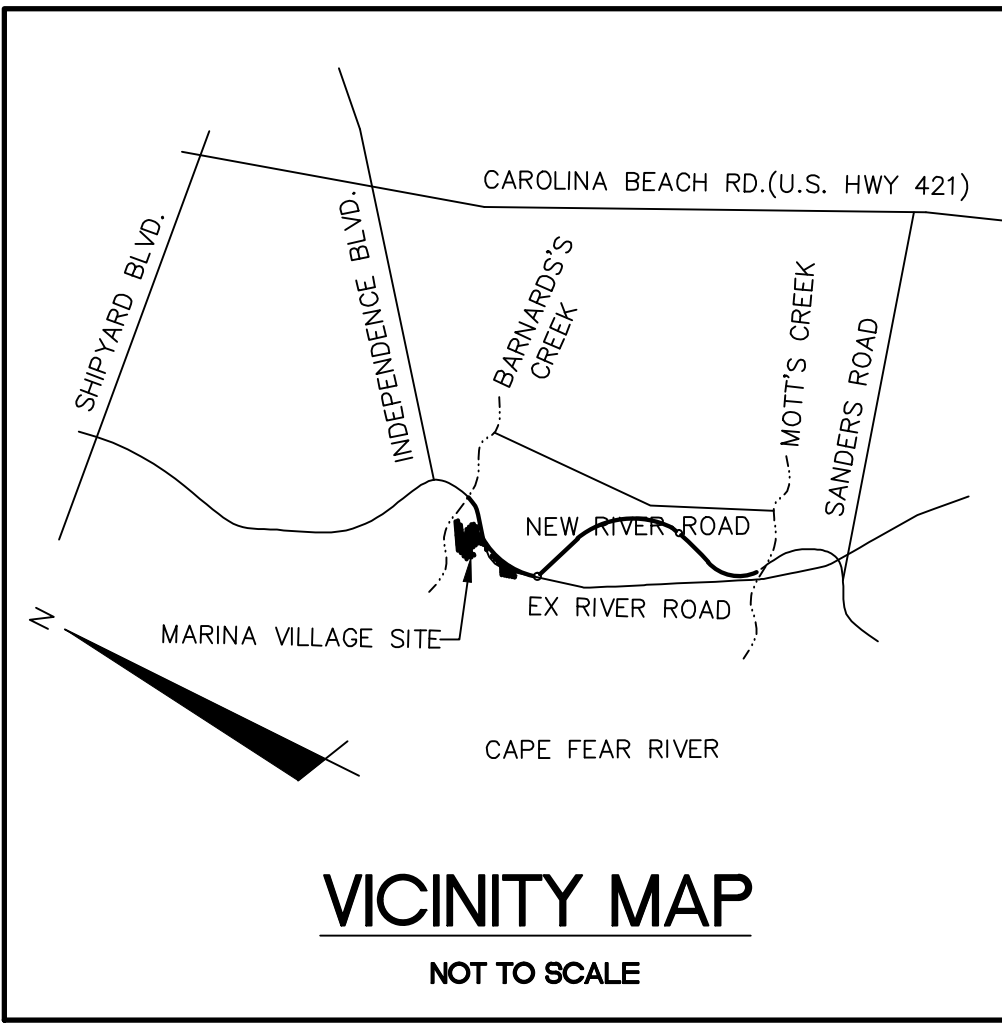
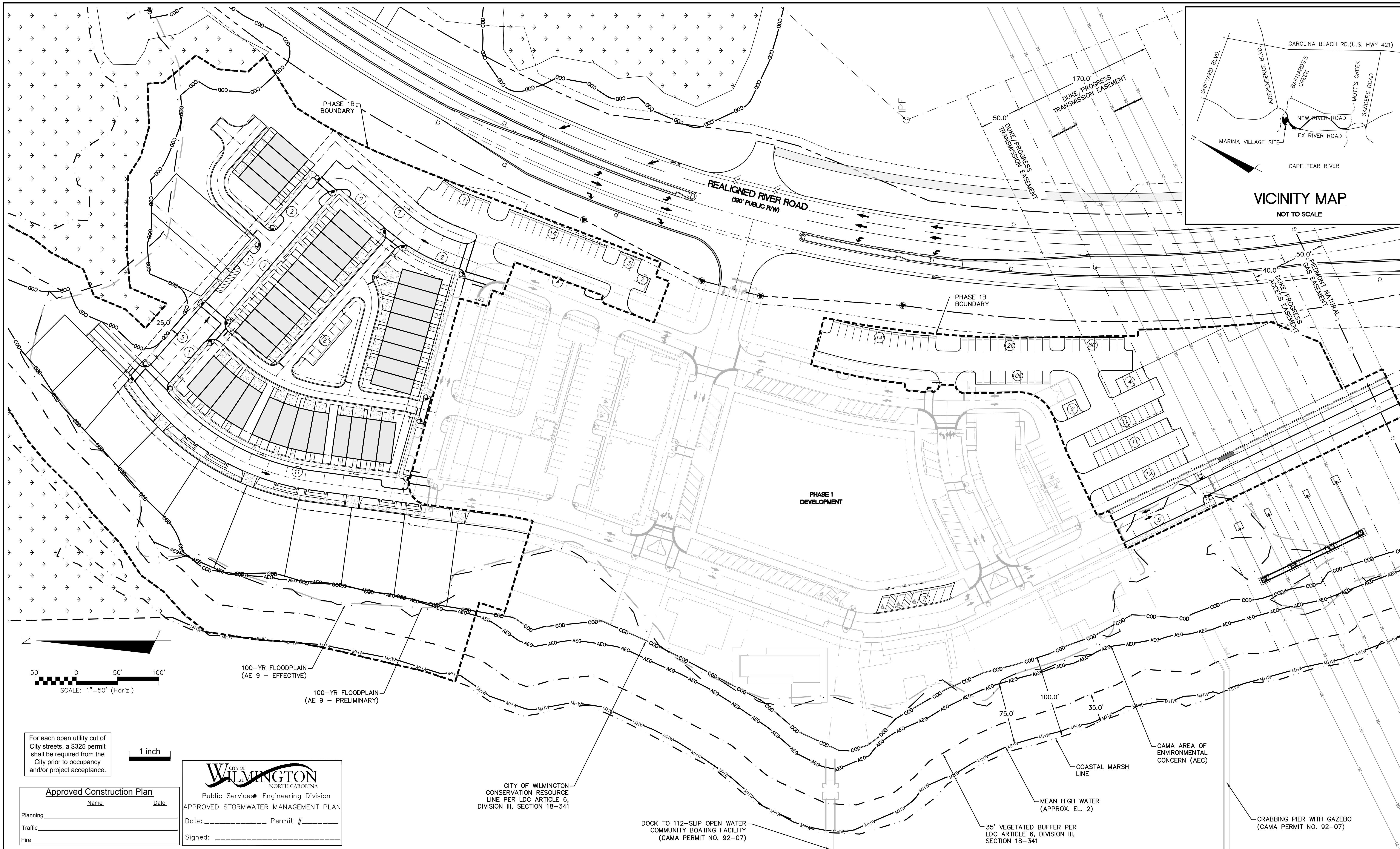
NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

GRADING PLAN SOUTH

DATE: 17MAR16	SCALE: CG-102	MAC FILE NUMBER: CG-102
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=30'	DRAWING NUMBER: 9
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		REVISION: 0
ISSUED FOR CONSTRUCTION		

S:\2735\0124 Marina Village\08-Drawings\Phase 1B\CGS-103.dwg, 3/17/2016 4:19:57 PM, hlabetta



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan	
Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

CITY OF WILMINGTON
CONSERVATION RESOURCE
LINE PER LDC ARTICLE 6,
DIVISION III, SECTION 18-341

DOCK TO 112-SLIP OPEN WATER
COMMUNITY BOATING FACILITY
(CAMA PERMIT NO. 92-07)

35' VEGETATED BUFFER PER
LDC ARTICLE 6, DIVISION III,
SECTION 18-341

CAMA AREA OF
ENVIRONMENTAL
CONCERN (AEC)
MEAN HIGH WATER
(APPROX. EL. 2)
COASTAL MARSH
LINE
CRABBING PIER WITH GAZEBO
(CAMA PERMIT NO. 92-07)

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



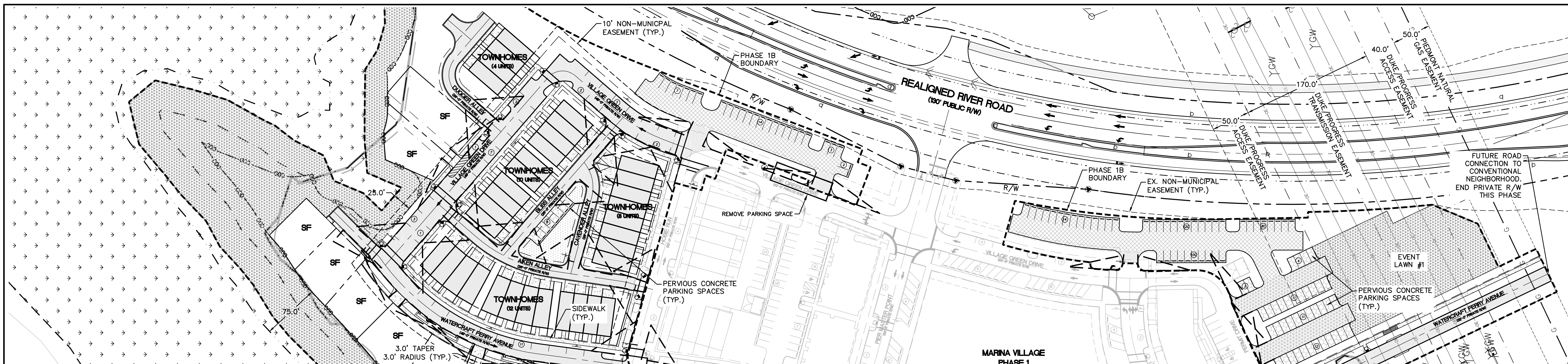
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RIVERLIGHTS
by
Newland COMMUNITIES

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

OVERALL SITE PLAN

DATE: 17MAR16	SCALE: CS-100
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'
DRAWN: ALM	VERTICAL: N/A
DESIGNED: NUL	MAC FILE NUMBER: CS-100
CHECKED: KCBE	DRAWING NUMBER: 11
PROJ. MGR.: NUL	REVISION: 0
STATUS: FINAL DESIGN ISSUED FOR CONSTRUCTION	



SITE DATA TABLE		MARINA VILLAGE - PHASE 1B	
PARCEL ADDRESS	4410 RIVER ROAD		
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000		
ZONING DISTRICT	CD-MX		
CAMA LAND USE CLASSIFICATION	TRANSITION AND CONSERVATION		
TOTAL ACREAGE WITHIN THE RIVERLIGHTS BOUNDARY	1,329.41 ACRES (57,909,100 SF)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE BOUNDARY	38.67 ACRES (1,684,343 SF)		
TOTAL ACREAGE OF COASTAL WETLANDS	14.57 ACRES (634,715 SF)		
TOTAL PROJECT AREA (STORMWATER PROJECT AREA)	24.10 ACRES (1,049,628 SF)		
TOTAL ACREAGE OF NON-COASTAL WETLANDS (ISOLATED/404)	76,797 SF (1.76 ACRES)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE - PHASE 1B	9.84 ACRES (428,668 SF)		
BUILDING SETBACKS AND SEPARATIONS (MX ZONING)	REQUIRED	PROPOSED	
FRONT	N/A	N/A	
REAR	N/A	N/A	
SIDE (INTERIOR)	N/A	N/A	
SIDE (CORNER)	N/A	N/A	
TOTAL BUILDING(S) SIZE (SQUARE FOOTAGE)	68,000 SF		
NC BUILDING CODE CONSTRUCTION TYPE	VB		
BUILDING LOT COVERAGE	16%		
NUMBER OF BUILDINGS	17 DUPLEX TOWNHOUSE		
TOTAL AMOUNT OF DISTURBED AREA	5.08 AC (221,388 SF)		
TOTAL ACRES WITHIN 100-YR FLOODPLAIN/BELOW MHW MARK	1.92 ACRES (83,846 SF)		
TOTAL ACRES WITHIN WETLANDS (DWQ PROJECT #07-1335)	N/A		

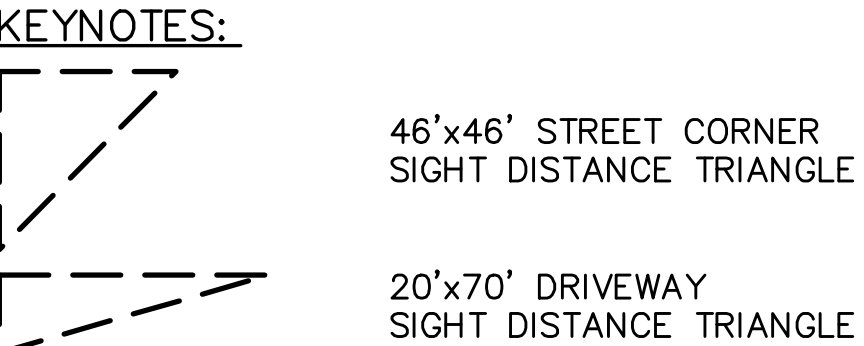
IMPERVIOUS AREA (EXISTING - PHASE 1)		
ROOF TOPS	52,249	SF
ROADWAYS	92,792	SF
PARKING	0	SF
SIDEWALKS	35,408	SF
OTHER	0	SF
TOTAL PRE DEVELOPMENT/%	180,449/17.2	SF/%

IMPERVIOUS AREA (PROPOSED)		
ROOF TOPS	77,362	SF
ROADWAYS	47,742	SF
PARKING	42,322	SF
PERVIOUS PARKING	0	SF
PERVIOUS PARKING (75% REDUCTION)	0	SF
SIDEWALKS	12,665	SF
PERVIOUS SIDEWALK	0	SF
PERVIOUS SIDEWALK (75% REDUCTION)	0	SF
FUTURE ALLOTMENT	0	SF
OTHER	0	SF
TOTAL S.F. (ONSITE IMPERVIOUS AREA)	181,740	SF
PERCENTAGE (ONSITE IMPERVIOUS AREA/ONSITE AREA)	17.3	%
PERCENTAGE (EXIST. ONSITE IMPERVIOUS AREA/ONSITE AREA)	17.2	%
TOTAL SQUARE FOOTAGE OF IMPERVIOUS SURFACES SHOWN IN THE STREET YARD	0	SF

PARKING CALCULATIONS	
MINIMUM NUMBER OF SPACES REQUIRED	N/A
MAXIMUM NUMBER OF SPACES ALLOWED	467
(44) TOWNHOMES (2.5 SPACES/UNIT)	110
(15) APARTMENTS (2.5 SPACES/UNIT)	38
(12) SINGLE FAMILY (2.5 SPACES/UNIT)	30
RESTAURANTS (1 SPACE / 65 SF GFA)	151
ART GALLERY (1 SPACE / 250 SF GFA)	31
RIVER HOUSE (1 SPACE / 65 SF GFA)	31
RETAIL (1 SPACE / 200 SF GFA)	20
MARINA (1 SPACE / 2 WET SLIPS)	56
PARKING SPACES PROVIDED (PHASE 1B)	160
PARKING SPACES PROVIDED (PHASE 1)	180
PARKING SPACES PROVIDED (TOTAL)	340
COMPACT CAR PARKING SPACES	30
BICYCLE PARKING SPACES REQUIRED	20
BICYCLE PARKING SPACES PROVIDED	20
HANDICAP SPACES REQUIRED	9
HANDICAP SPACES PROVIDED	9

SURFACE MATERIAL LEGEND	
	ASPHALT - STREET SECTION
	ASPHALT - DRIVE AISLE
	GRAVEL - PARKING LOT
	PERVIOUS CONCRETE
	ROOFTOP
	SIDEWALK
	COMMON SPACE
	OPEN SPACE

PARKING NOTE:
 • ALL BICYCLE PARKING IS PROVIDED IN PHASE 1.

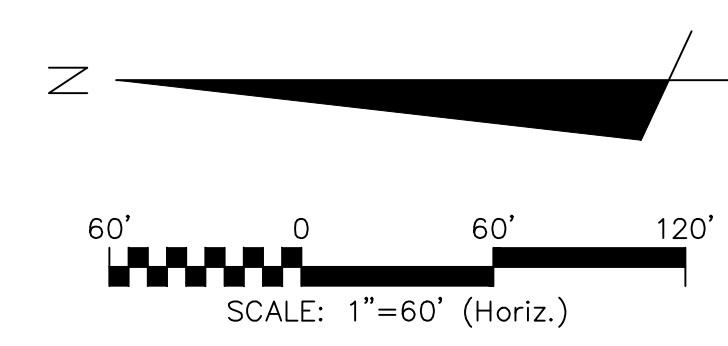


NOTE:
 ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30" - 10'

WATER & SEWER DEMAND	
WATER DEMAND	16,560 GDP
SANITARY SEWER DEMAND	16,560 GDP
TOTAL ACREAGE OF MARINA VILLAGE - PHASE 1B WITHIN COD:	2.06 ACRES (89,951 SF)
TOTAL ACREAGE OF MARINA VILLAGE - PHASE 1B ENCRoACHMENT INTO THE COD:	0.08 ACRES (3,601 SF)
TOTAL PERCENTAGE OF COD ENCRoACHMENT:	0.08 ACRES/2.06 ACRES = 4.00%

COMMON SPACE CALCULATIONS	
TOTAL COMMON SPACE REQUIRED	18.47 ACRES (804,640 SF)*
TOTAL COMMON SPACE PROPOSED	0.08 ACRES (3,634 SF)
OPEN SPACE CALCULATIONS*	
TOTAL OPEN SPACE REQUIRED	46.18 ACRES (2,011,601 SF)*
TOTAL OPEN SPACE PROPOSED	2.78 ACRES (121,308 SF)

*PROPOSED MX-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 184.7 ACRES
 OPEN SPACE AND COMMON SPACE ACRES REQUIRED FOR ENTIRE RIVERLIGHTS DEVELOPMENT
 @ 25% OPEN SPACE AND 10% COMMON SPACE = 46.18 AC (OPEN) AND 18.47 AC (COMMON)



CAPE FEAR RIVER

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

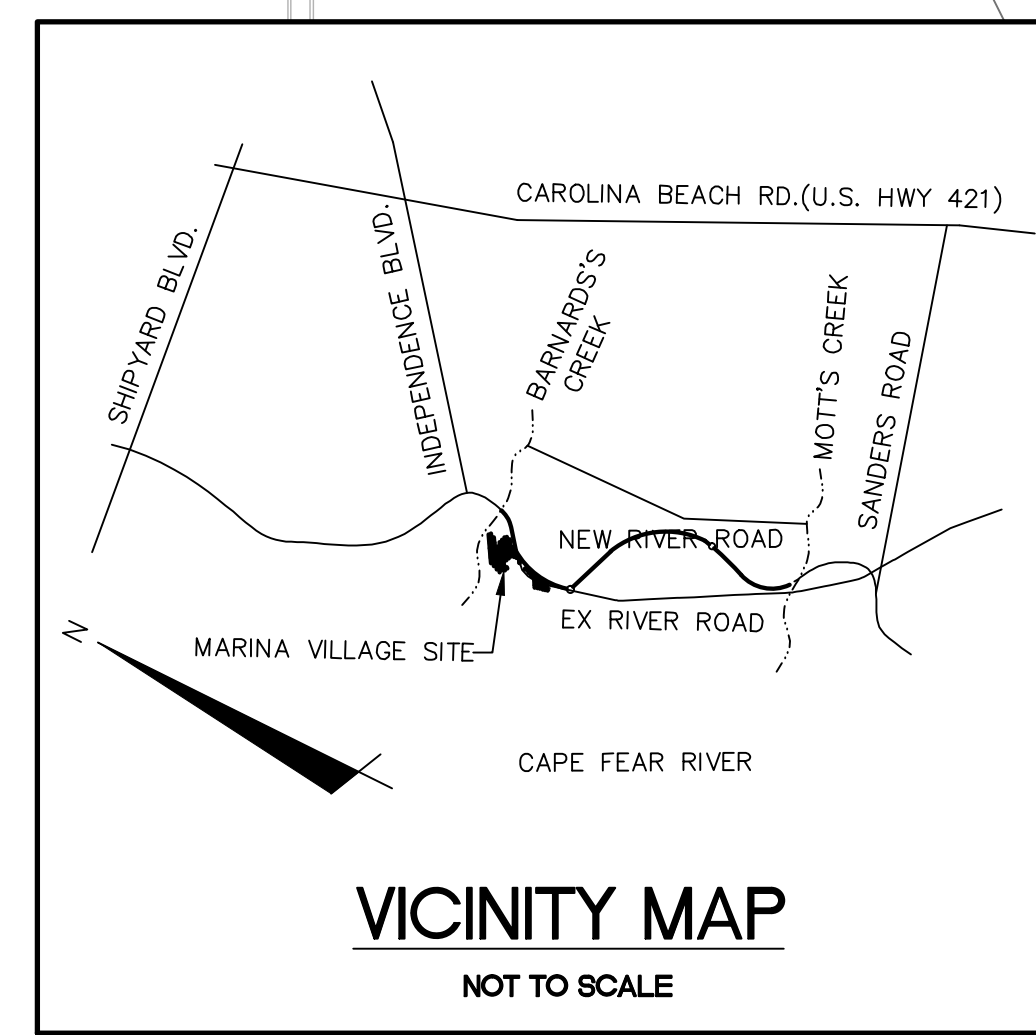
Traffic: _____

Fire: _____

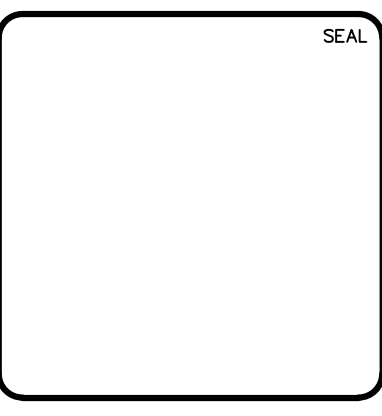
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____



REVNO.	ISSUED FOR CONSTRUCTION	DATE
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXIS HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
 SITE PLAN

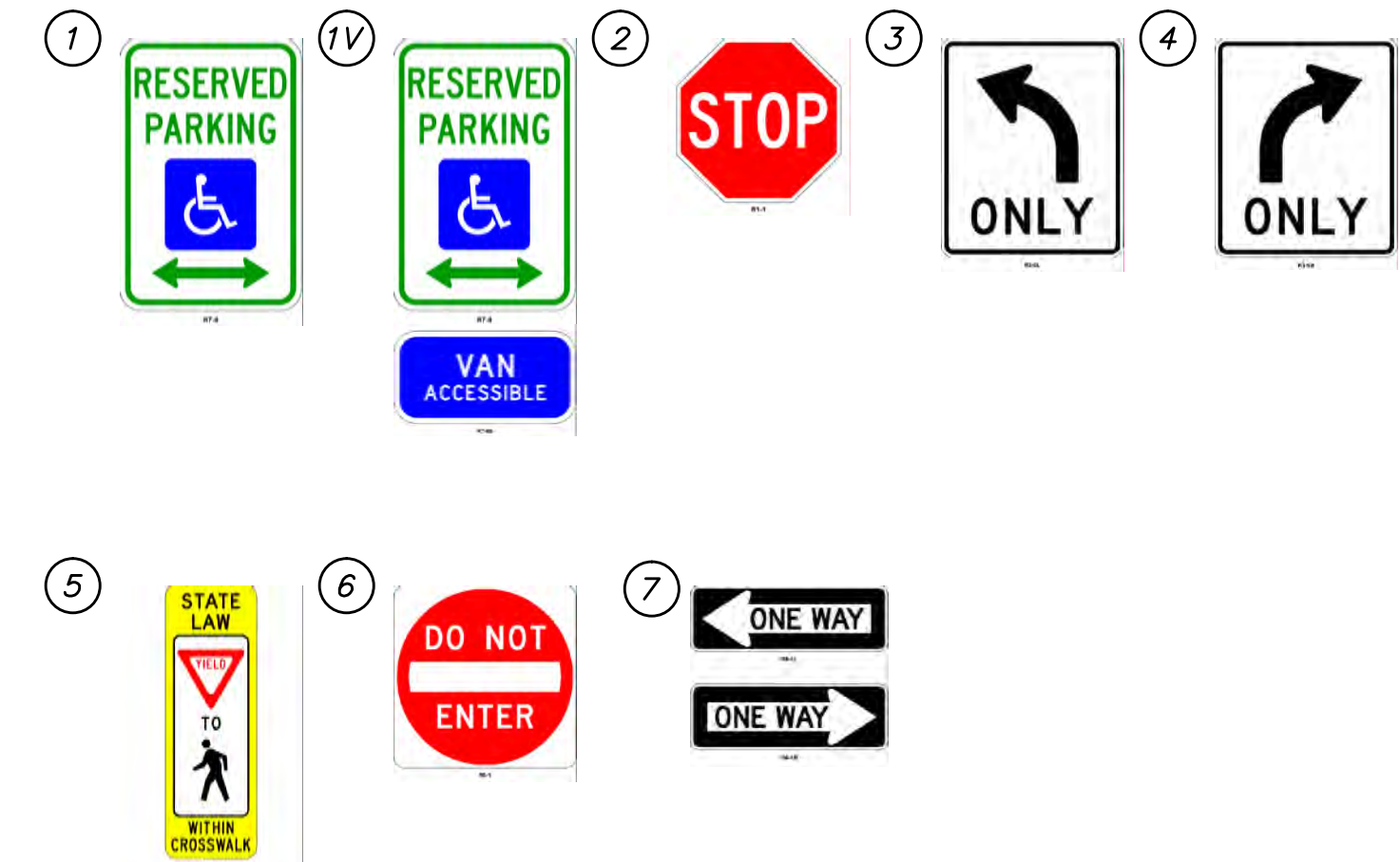
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MCE PROJ. #	2735-0124	HORIZONTAL:	1"=60'	DRAWING NUMBER:	12
DRAWN:	ALM	VERTICAL:	N/A	REVISION:	0
DESIGNED:	NUL	STATUS: FINAL DESIGN			
CHECKED:	KCBE	ISSUED FOR CONSTRUCTION			
PROJ. MGR.:	NUL				

CITY OF WILMINGTON NOTES:

- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- 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 REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
- ZERO LOT LINES ARE PERMITTED.
- BUILDINGS LOCATED ON THE PERIPHERY OF THE MX DISTRICT SHALL BE SET BACK A MINIMUM OF 20 (TWENTY) FEET FROM THE MX DISTRICT BOUNDARY.
- ZONING AND LAND USE OF ADJACENT PROPERTIES IS AS FOLLOWS:
 NORTH - FUTURE MX-CD / TRANSITION
 SOUTH - FUTURE MX-CD / TRANSITION AND CONSERVATION AREA
 WEST - FUTURE MX-CD / TRANSITION
 EAST - I-2 / TRANSITION AND CONSERVATION AREA
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATION MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COSTS OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

GENERAL NOTES:

- 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.
- 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.
- WETLANDS SHOWN IN THIS PORTION OF RIVERLIGHTS WERE DESCRIBED AS BRACKISH/SALT MARSH AND POCOSIN WETLANDS AND CONSERVATION RESOURCE SETBACK LINES WERE GENERATED AS 100' AND 25', RESPECTIVELY, MINIMUM OUTSIDE OF THE RESOURCES.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION
- RIVERLIGHTS PHASE 1 MARINA VILLAGE COMMUNITY 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.
- EXISTING THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS AND TRANSITS FACILITIES DO NOT EXIST ON SITE.



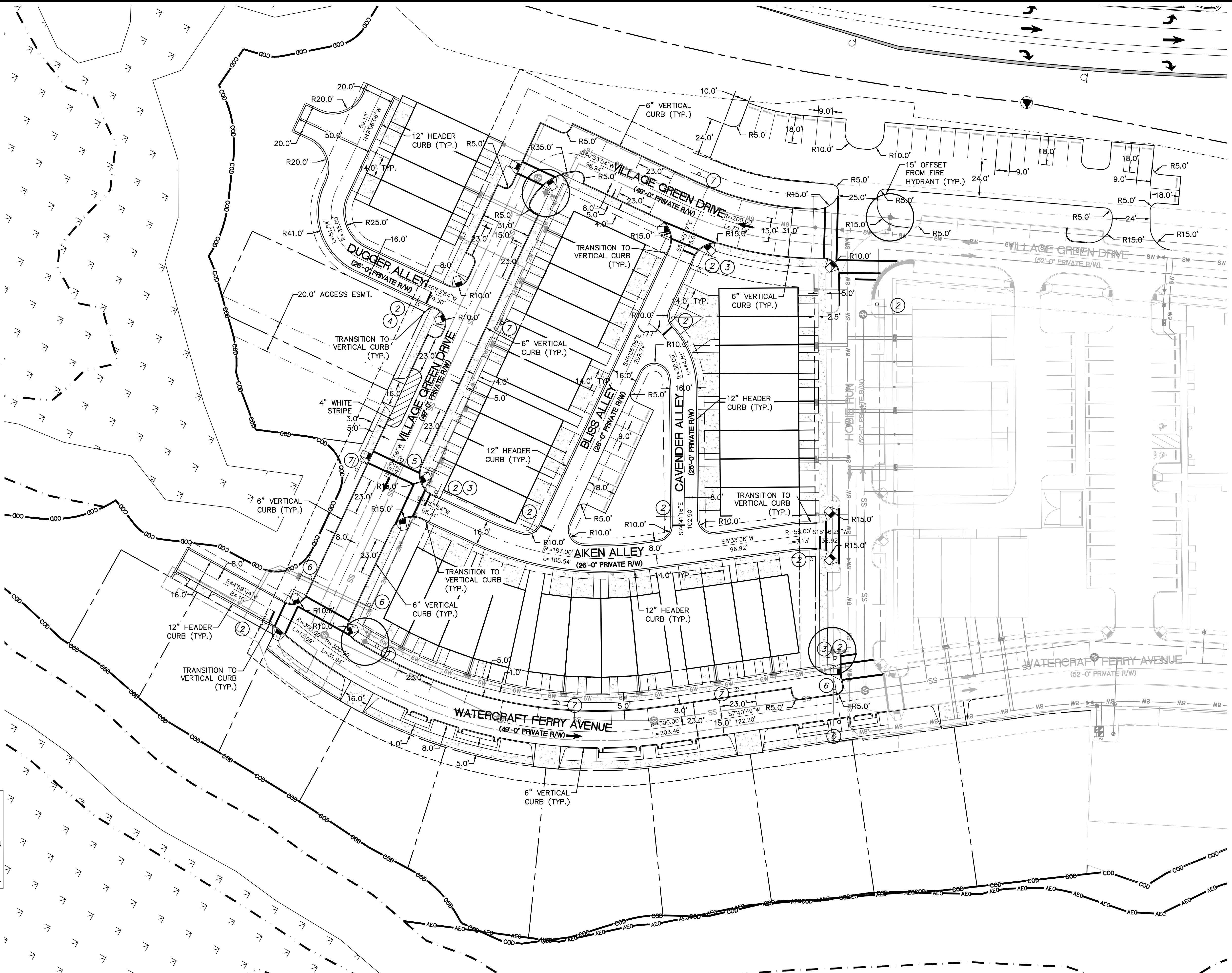
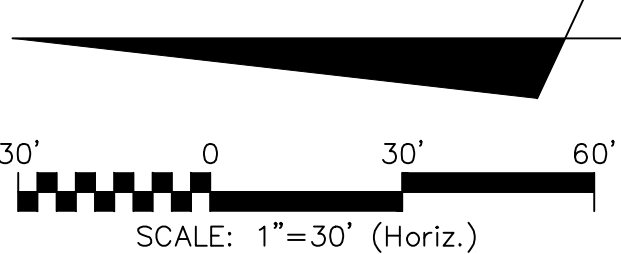
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

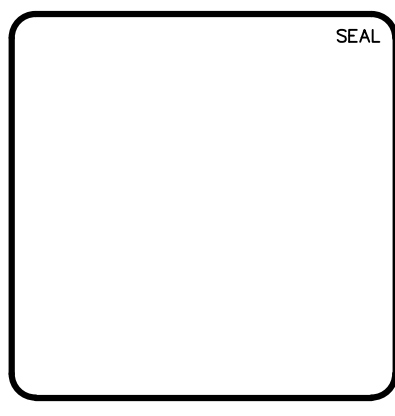
Approved Construction Plan

Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS / REVISIONS	DATE
0	ISSUED FOR CONSTRUCTION		03/17/2016



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RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
 SITE PLAN NORTH

DATE: 17MAR16
 MCE PROJ. #: 2735-0124
 DRAWN: ALM
 DESIGNED: NJL
 CHECKED: KCBE
 PROJ. MGR.: NJL

SCALE: HORIZONTAL: 1"=30', VERTICAL: N/A

MAC FILE NUMBER: CS-102
 DRAWING NUMBER: 13
 REVISION: 0

STATUS: FINAL DESIGN
 ISSUED FOR CONSTRUCTION



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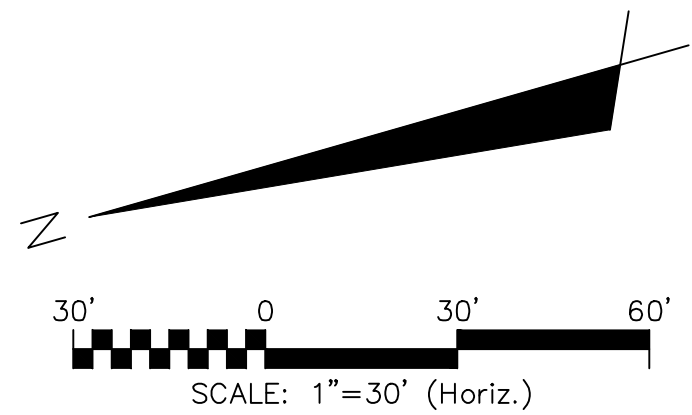
1 inch

Approved Construction Plan

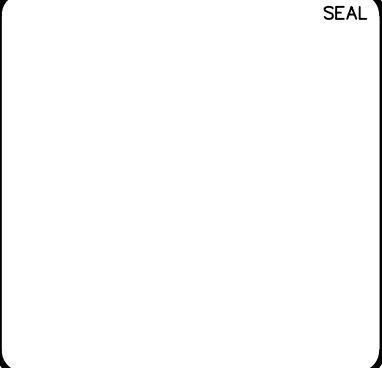
Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

- 1 RESERVED PARKING (Blue square with wheelchair symbol and double arrows)
- 1V RESERVED PARKING (Blue square with wheelchair symbol and double arrows, Van Accessible)
- 2 STOP (Red octagon)
- 3 ONLY (Black square with white arrow pointing right)
- 4 ONLY (Black square with white arrow pointing left)
- 5 STATE LAW (Yellow diamond with red border, black text: STATE LAW, VEHICLES TO STOP AT RED LIGHTS, BEFORE CROSSWALK)
- 6 DO NOT ENTER (Red circle with white horizontal bar)
- 7 ONE WAY (Black rectangle with white arrow pointing left)



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016

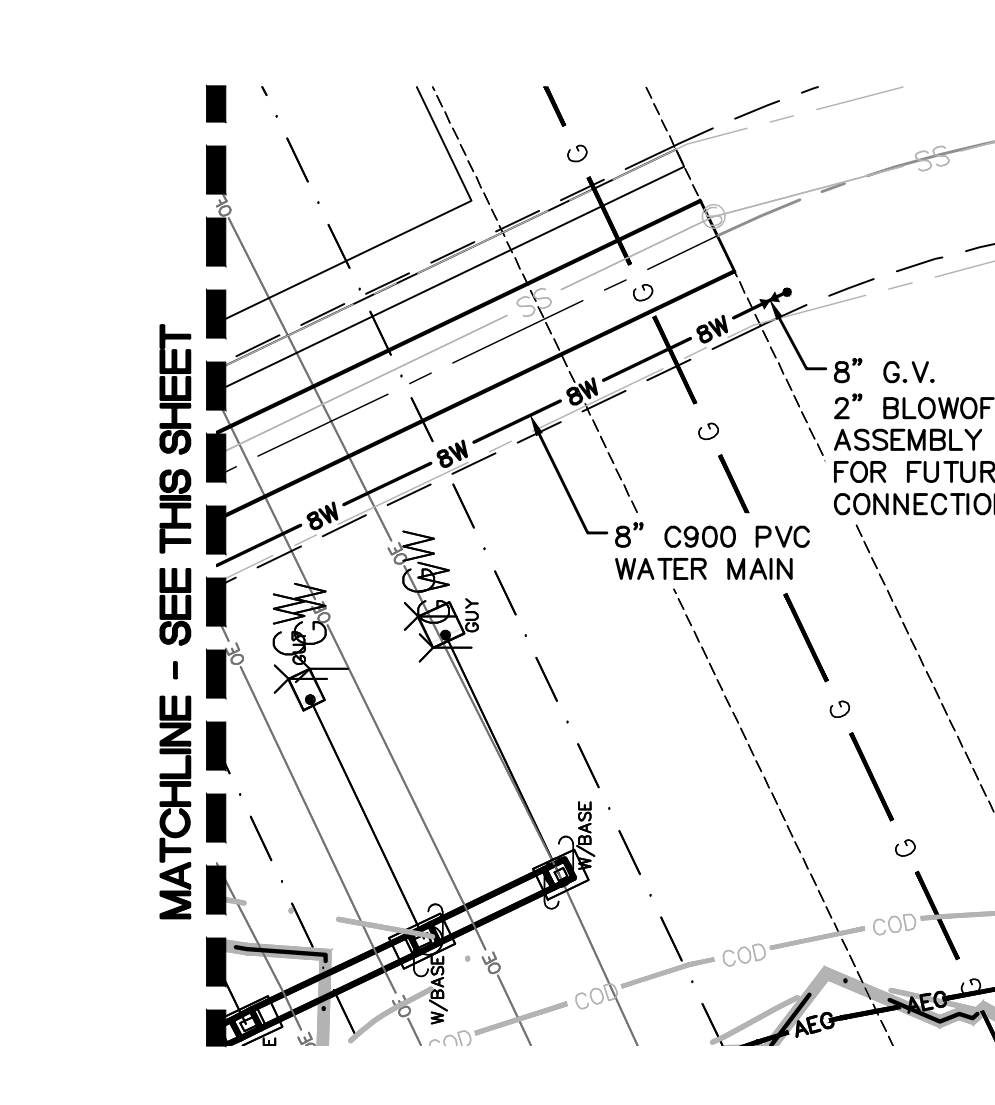
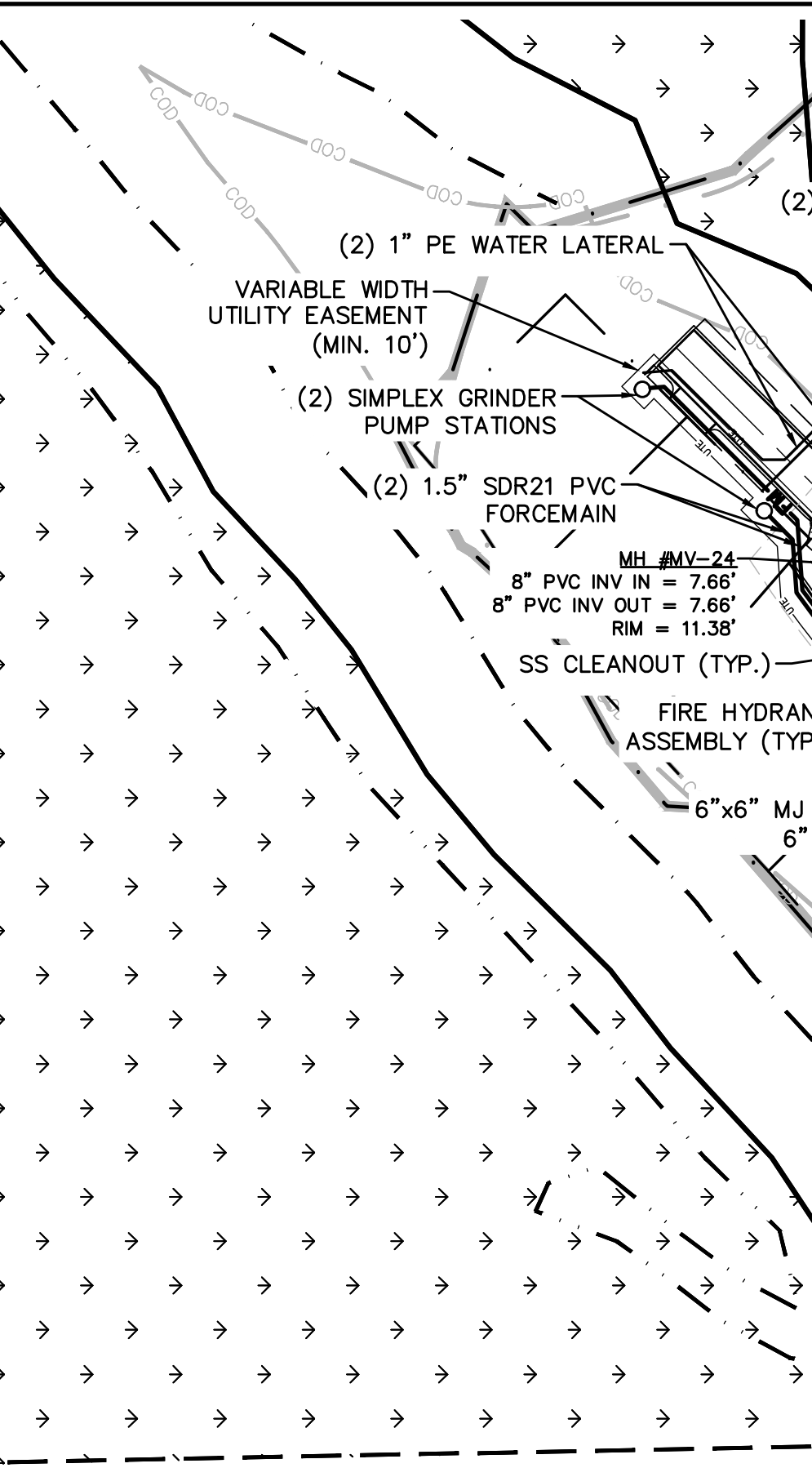
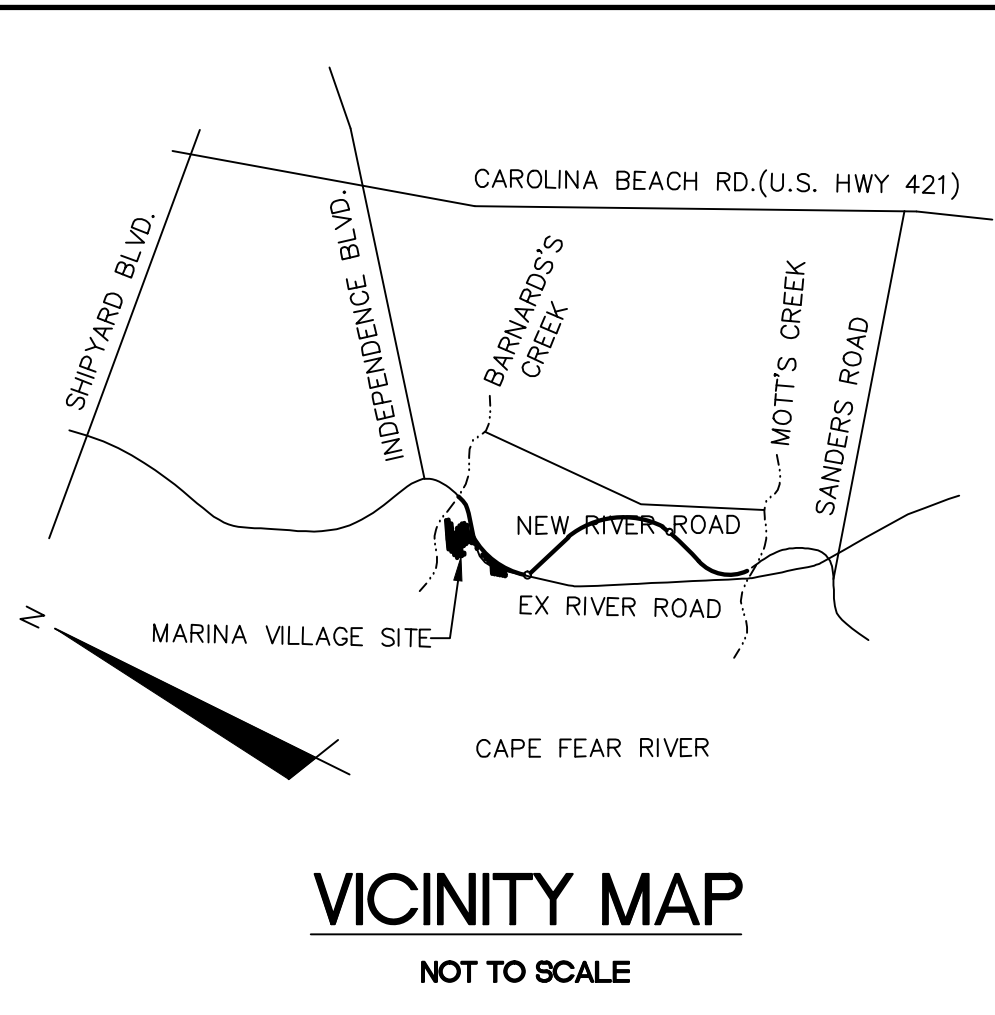


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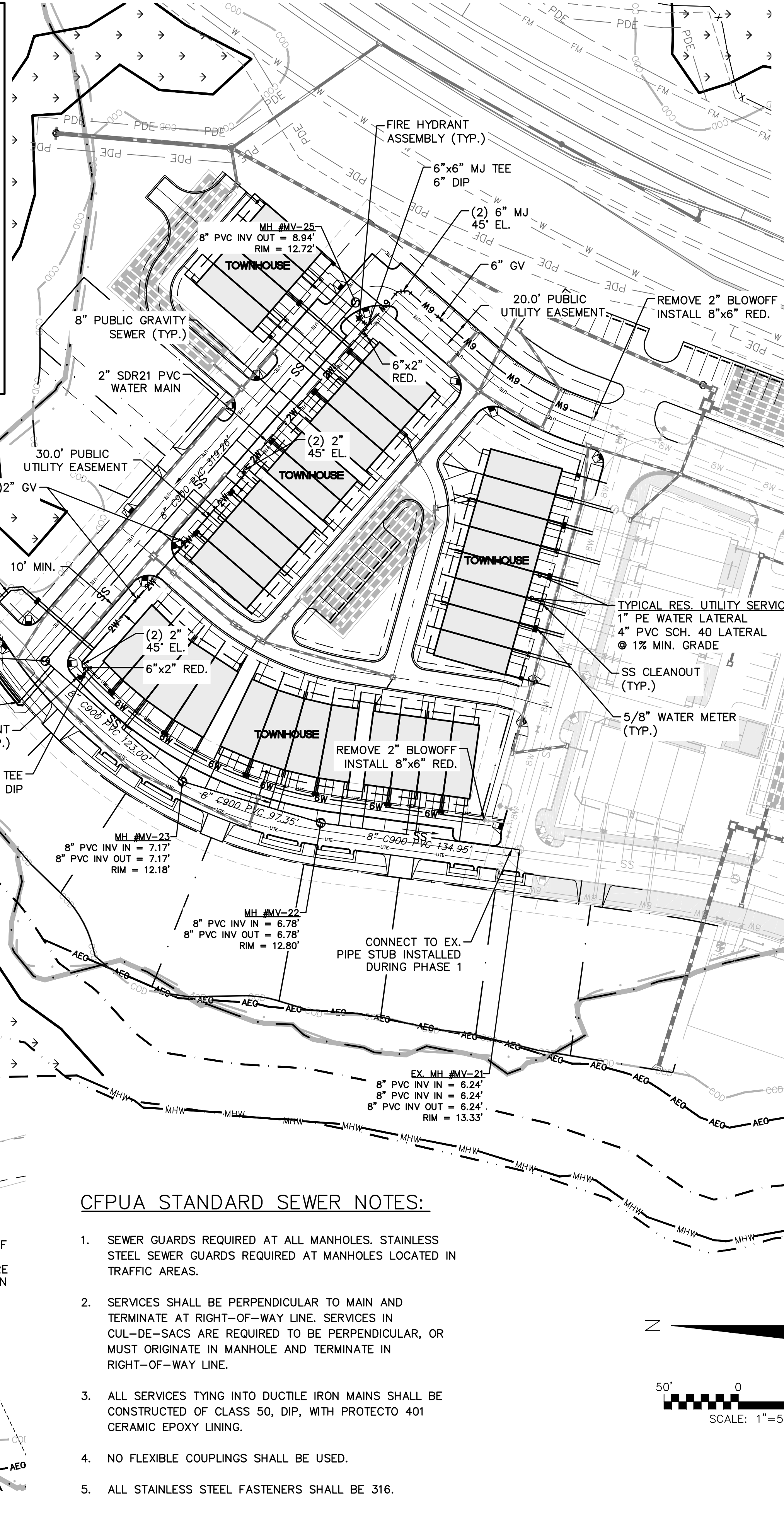
RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
 PHASE 1B**
SITE PLAN SOUTH

DATE: 17MAR16	SCALE: 1"=30"	MAC FILE NUMBER: CS-103
MCE PROJ. #: 2735-0124	HORIZONTAL: 1"=30"	DRAWING NUMBER: 14
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN	REVISION: 0	
ISSUED FOR CONSTRUCTION		



REVNO.	ISSUED FOR CONSTRUCTION	DATE
0	ISSUED FOR CONSTRUCTION	03/17/2016



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division

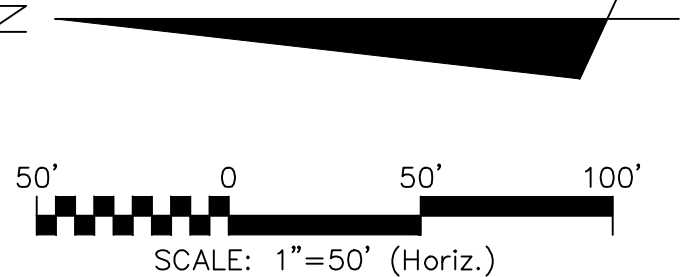
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

CFPUA 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 IN RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.



DOCK TO 112-SLIP OPEN WATER COMMUNITY BOATING FACILITY (CAMA PERMIT NO. 92-07)

MEAN HIGH WATER (APPROX. EL. 2)

COASTAL MARSH LINE

CRABBING PIER WITH GAZEBO (CAMA PERMIT NO. 92-07)

CITY OF WILMINGTON CONSERVATION OVERLAY DISTRICT (COD)

100-YR FLOODPLAIN (AE 9 - PRELIMINARY)

100-YR FLOODPLAIN (AE 9 - EFFECTIVE)

35' VEGETATED BUFFER

MATCHLINE - SEE THIS SHEET

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RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEXISUS HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

UTILITY PLAN

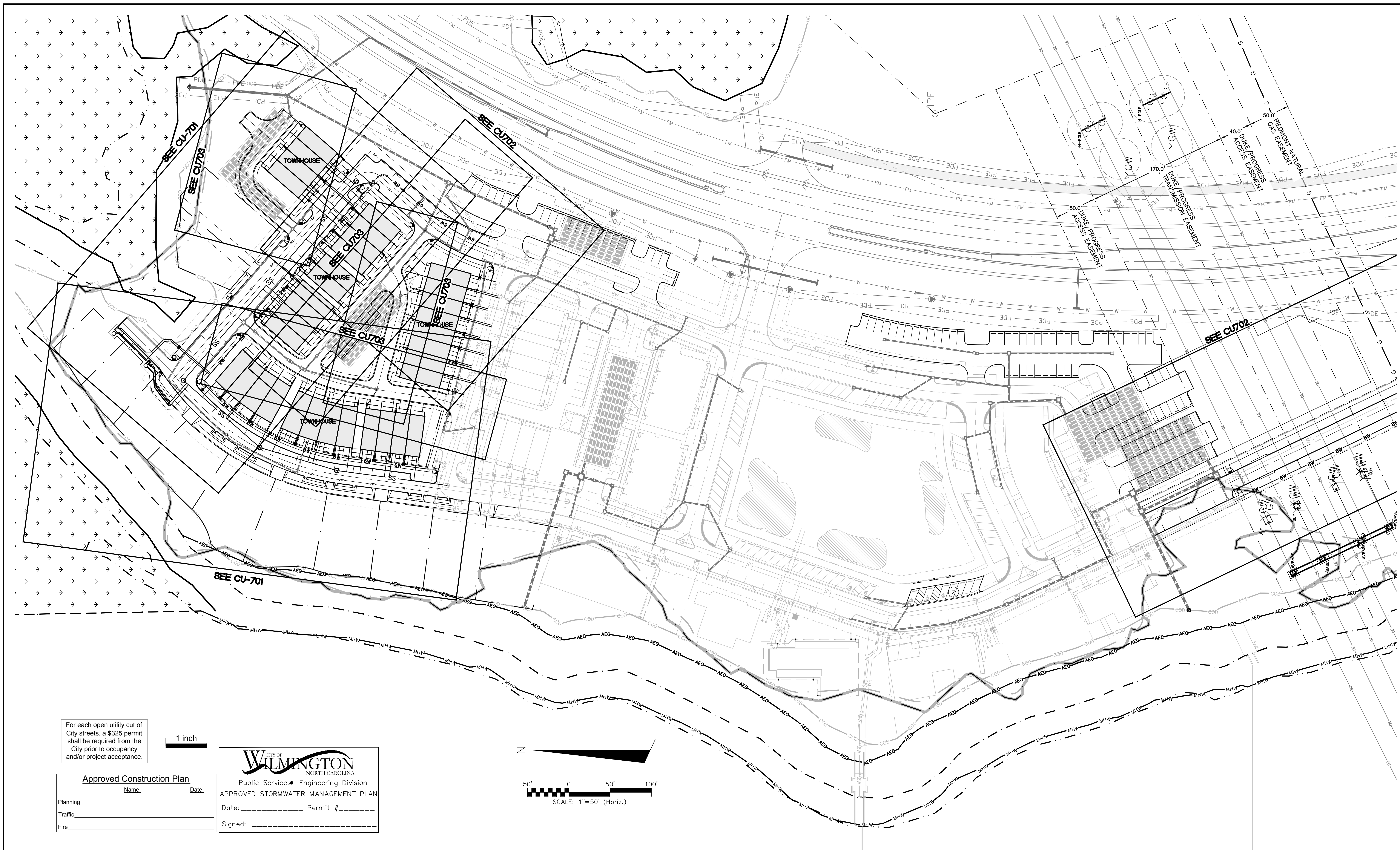
DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCB
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CU-101
DRAWING NUMBER: 15

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

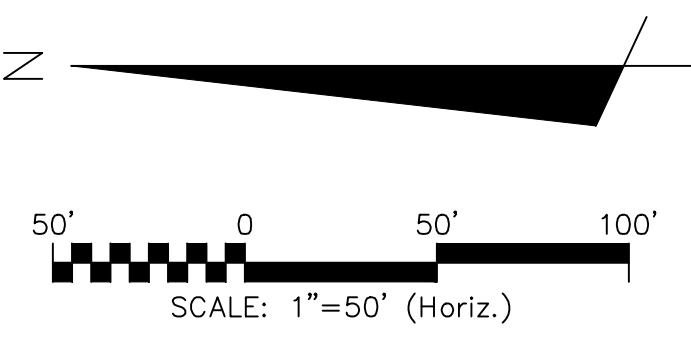
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

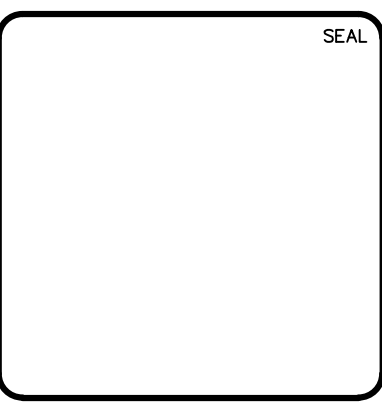
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES

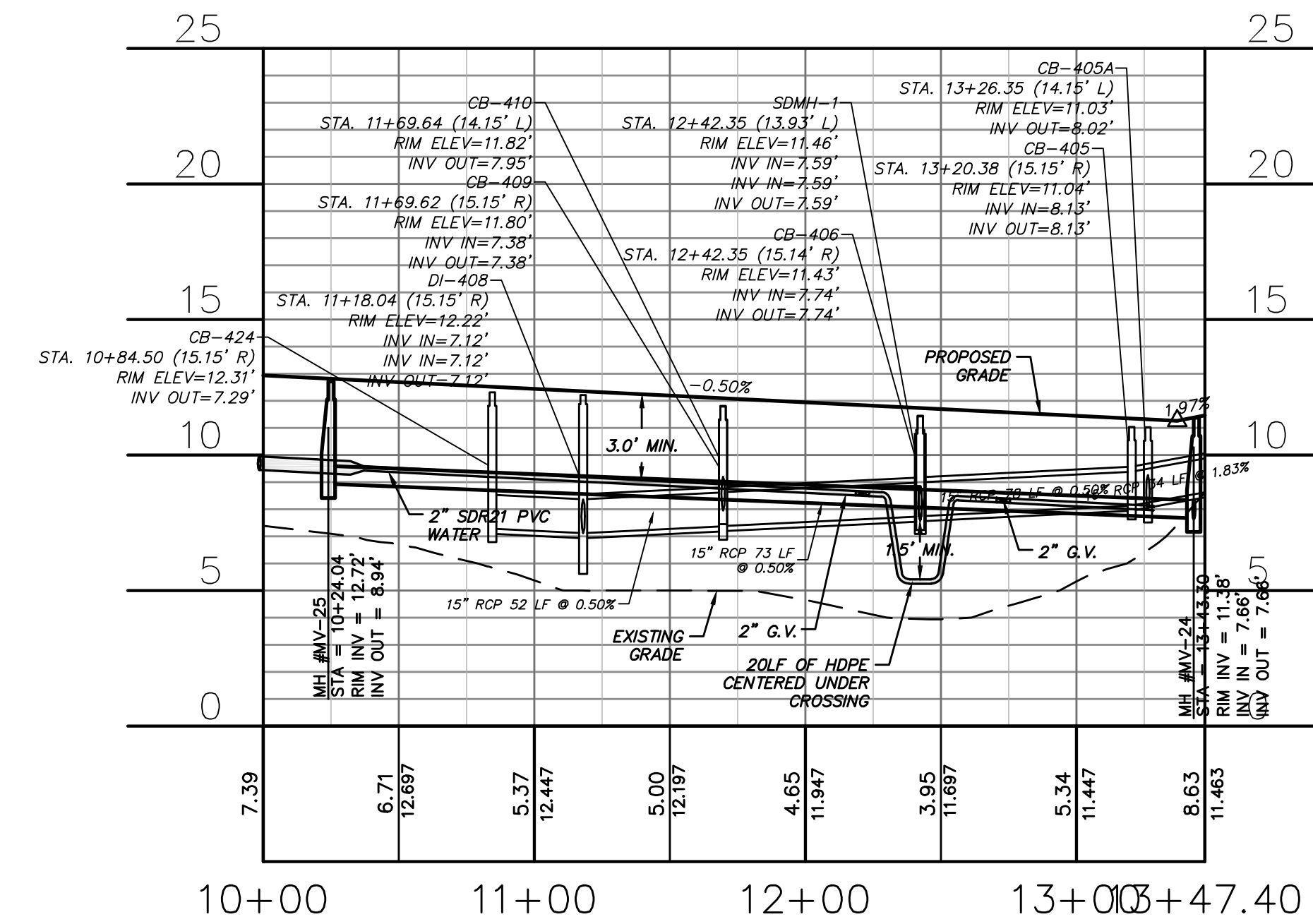
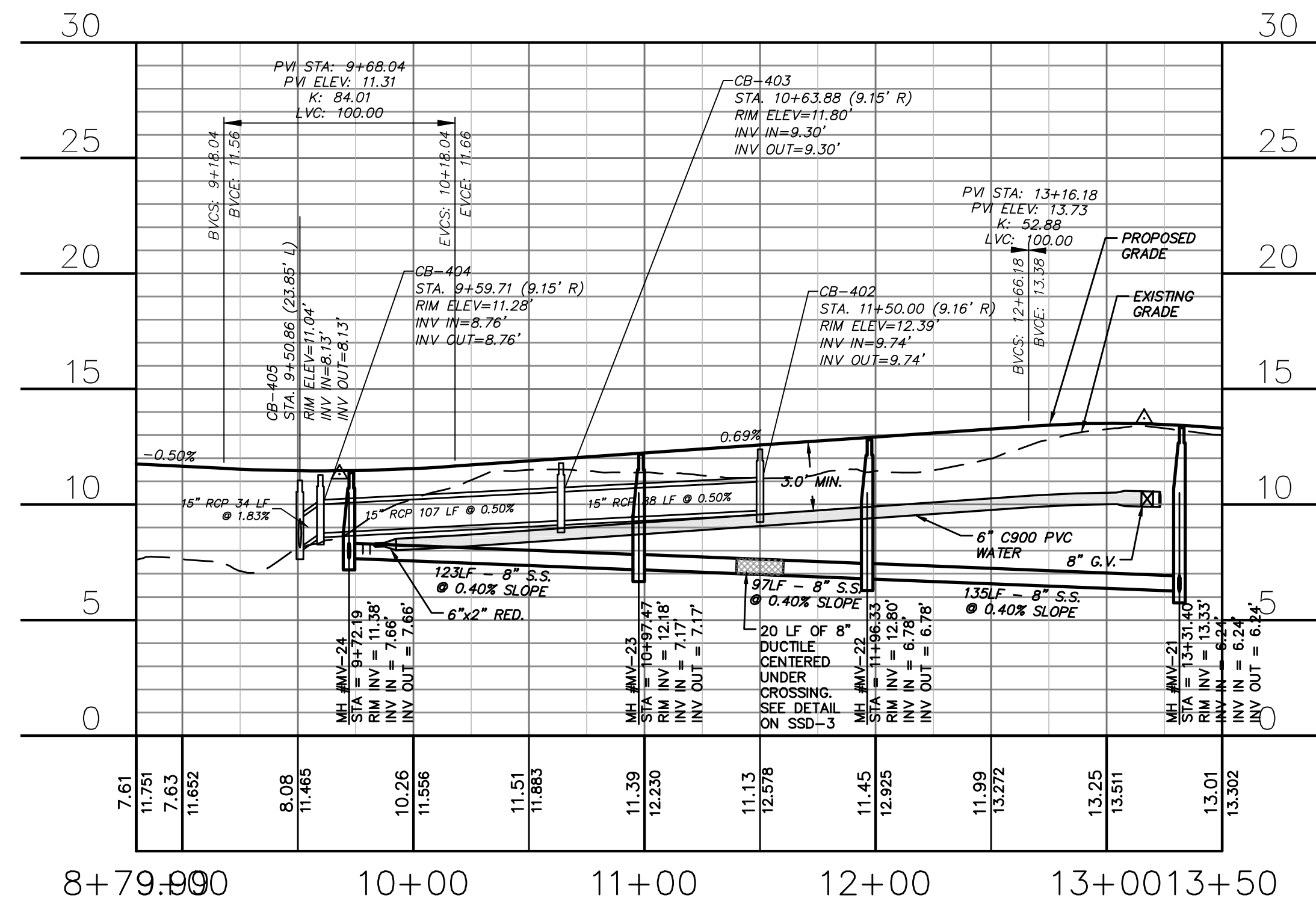
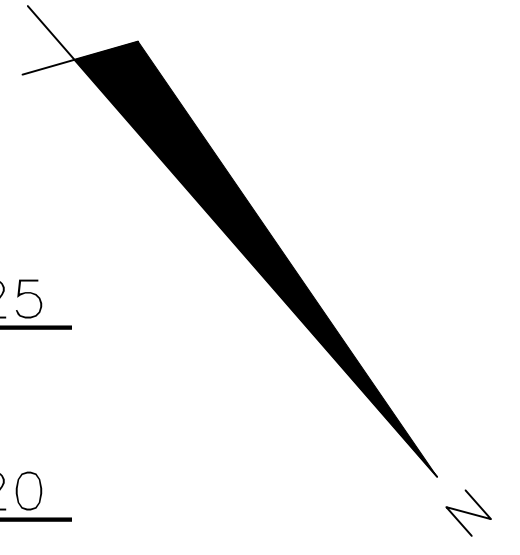
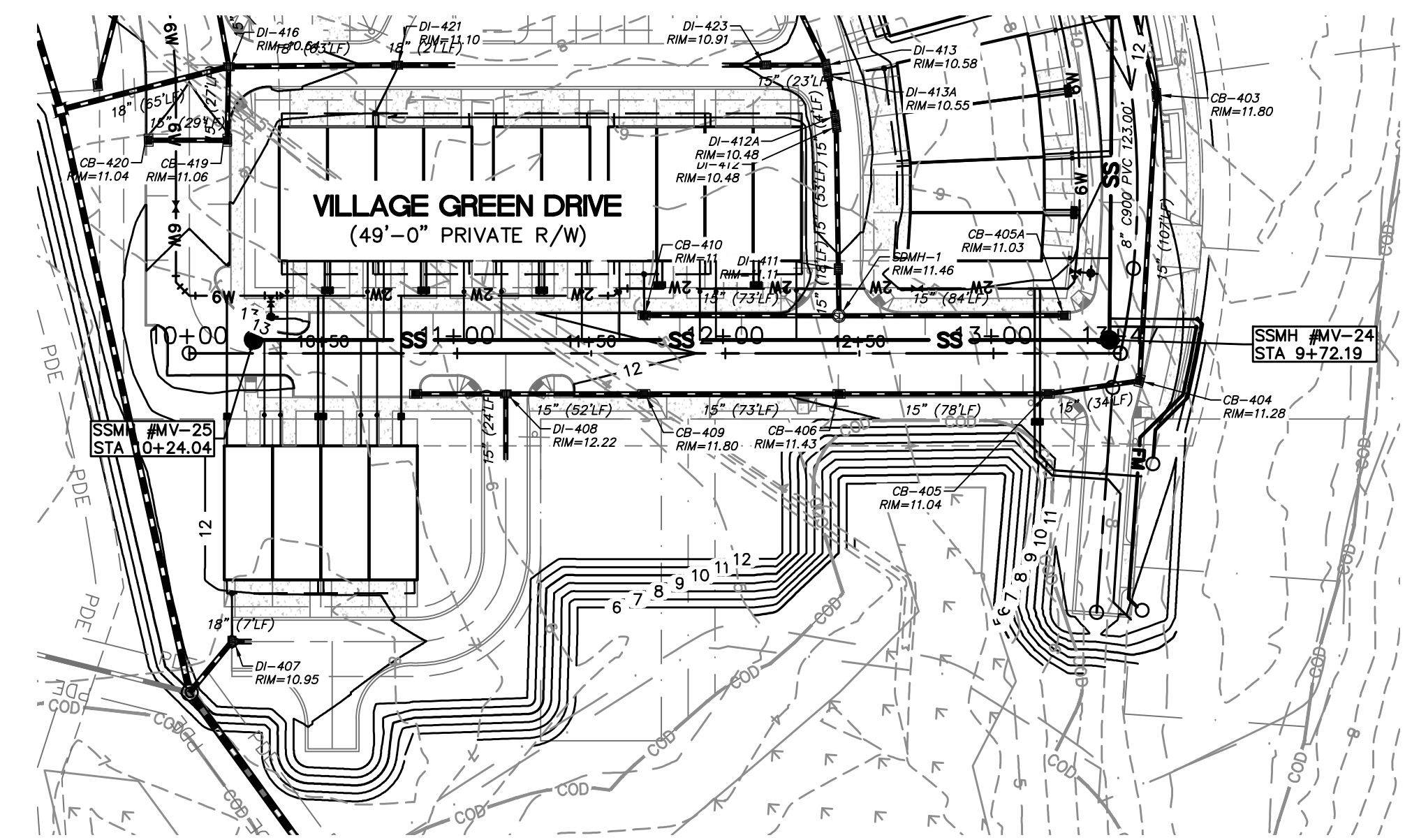
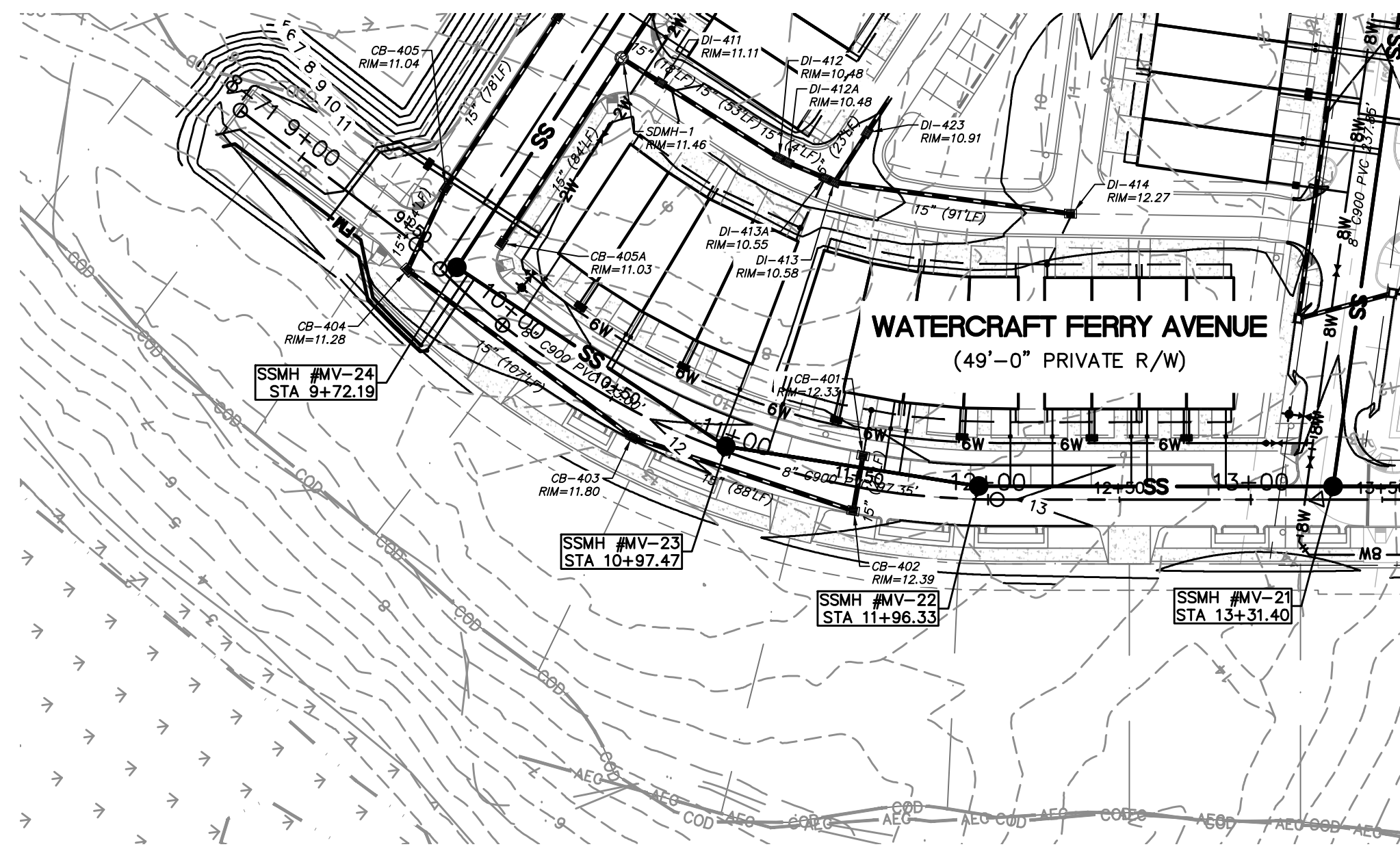
NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

UTILITY PROFILE INDEX SHEET

DATE: 17MAR16	SCALE: 1"=50'	MAC FILE NUMBER: CU-102
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'	DRAWING NUMBER: 15A
DRAWN: ALM	VERTICAL: N/A	
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		REVISION: 0
ISSUED FOR CONSTRUCTION		

S:\2735\0124 Marina Village\08-Drawings\Phase 1B\CU-102.dwg, 3/17/2016 5:14:20 PM, mlabetta



WATERCRAFT FERRY AVENUE
SCALE: HOR. 1"=50', VERT. 1"=5'

VILLAGE GREEN DRIVE
SCALE: HOR. 1"=50', VERT. 1"=5'

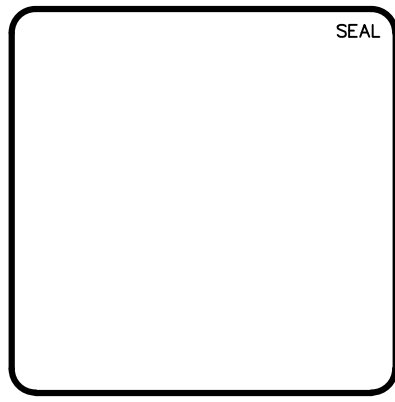
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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 SEXUSI HOUSE, LLC

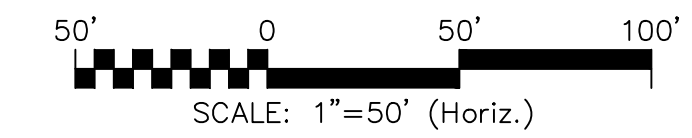
RIVERLIGHTS MARINA VILLAGE PHASE 1B
PLAN AND PROFILE

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

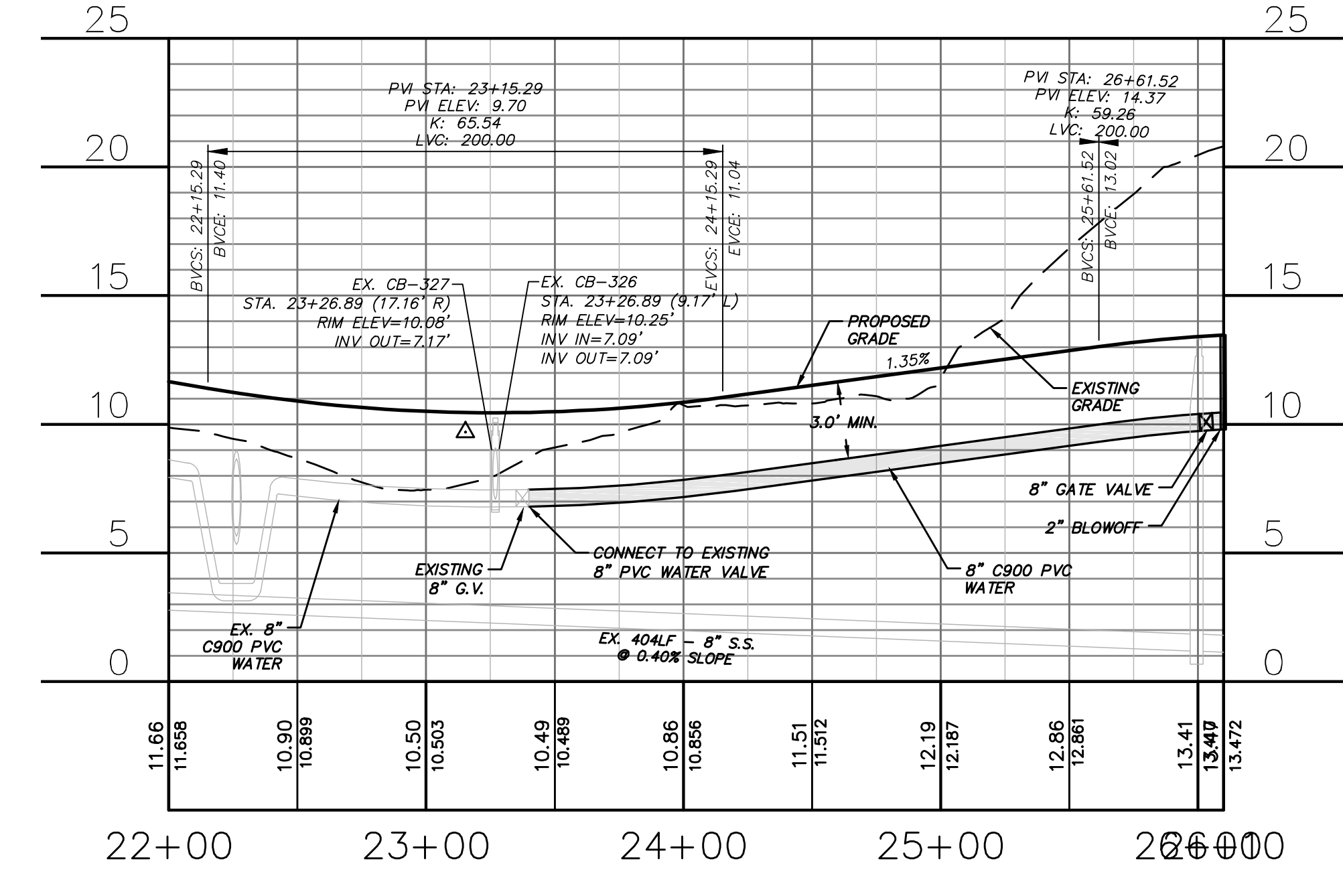
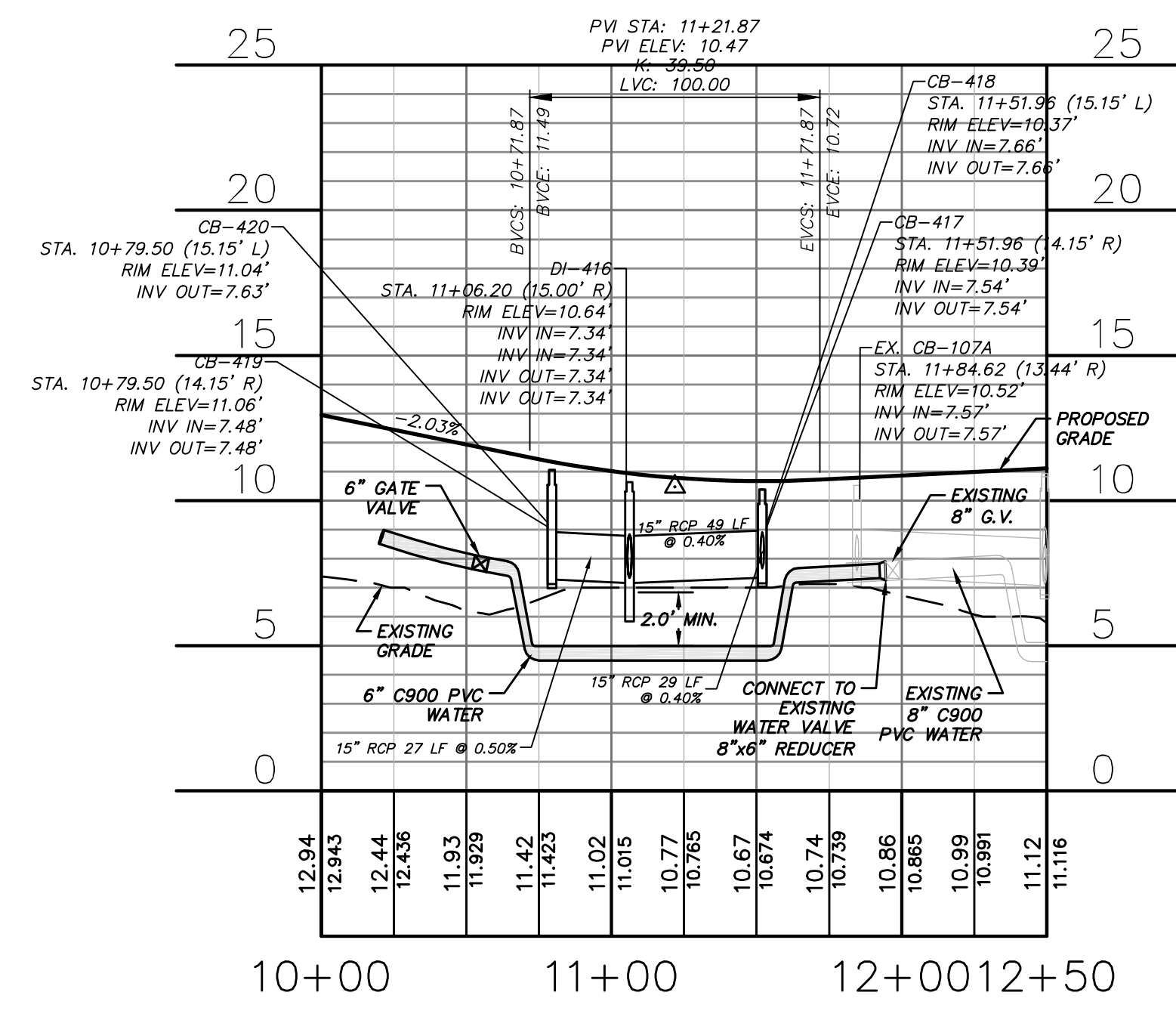
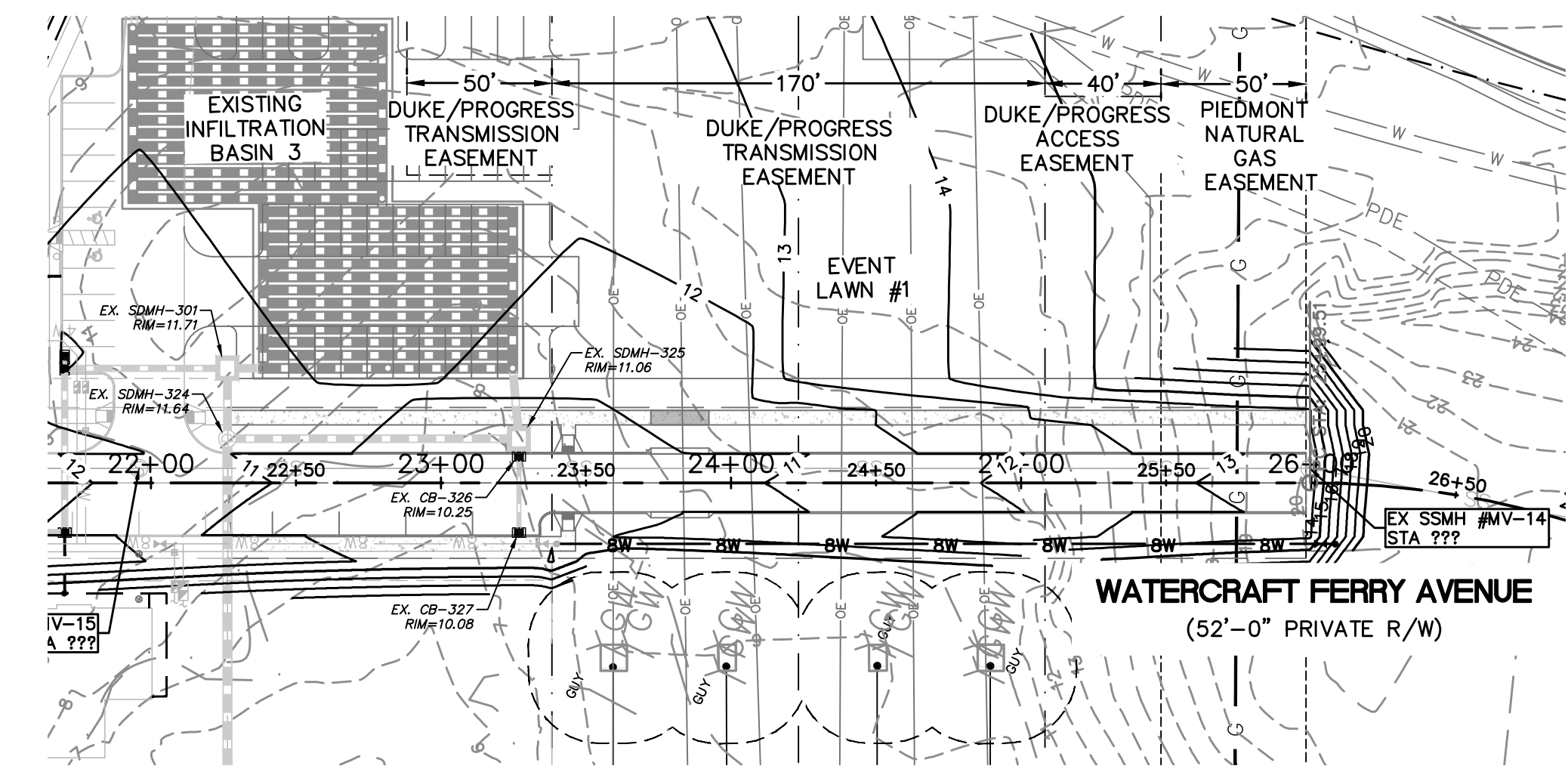
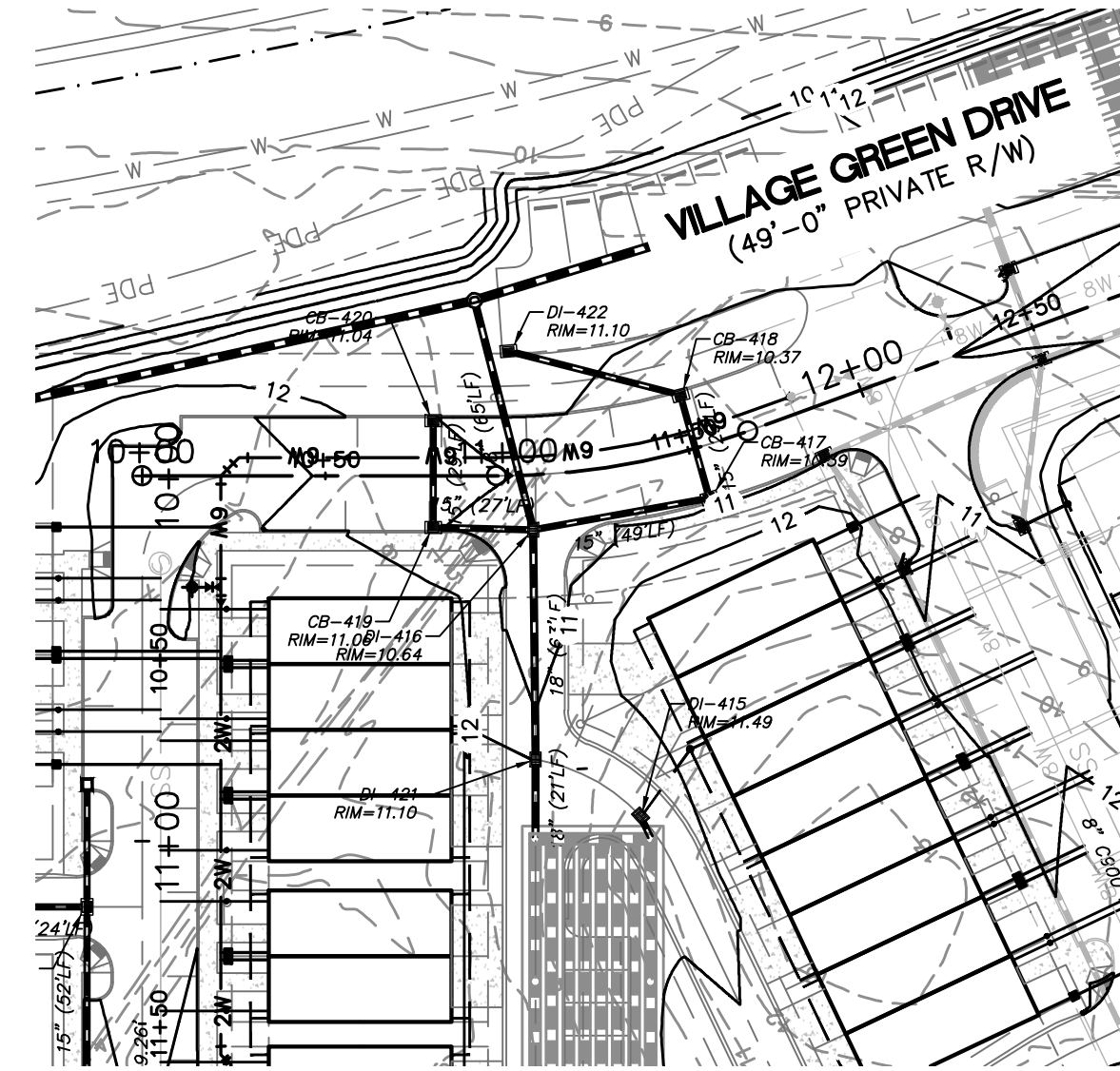
MAC FILE NUMBER: CU-701
DRAWING NUMBER: 16
REVISION: 0

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION



CFPUA 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 IN RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.



VILLAGE GREEN DRIVE
SCALE: HOR. 1"=50', VERT. 1"=5'

WATERCRAFT FERRY AVENUE
SCALE: HOR. 1"=50', VERT. 1"=5'

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1 inch

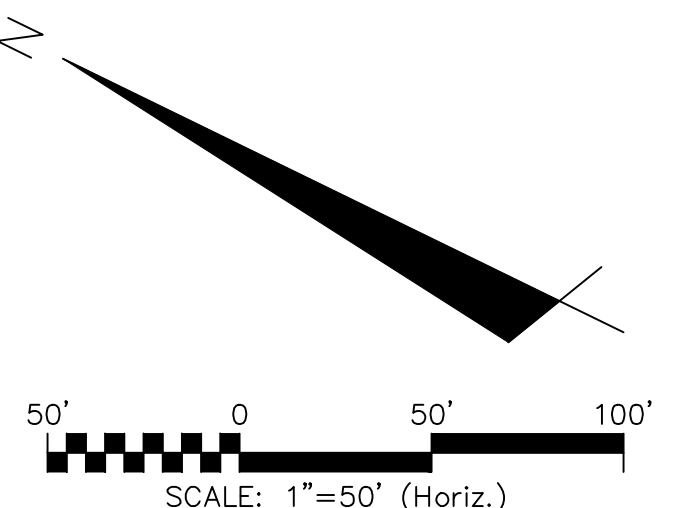
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

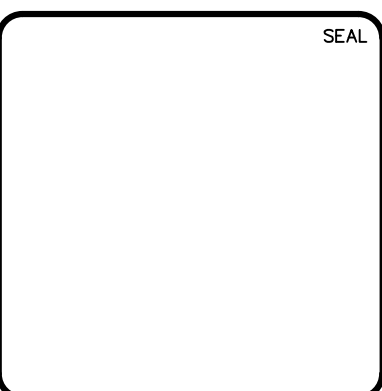
Approved Construction Plan

Name: _____ Date: _____

Planning: _____
Traffic: _____
Fire: _____



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS / REVISIONS	DATE
0			03/17/2016



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by Newland COMMUNITIES
NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

PLAN AND PROFILE

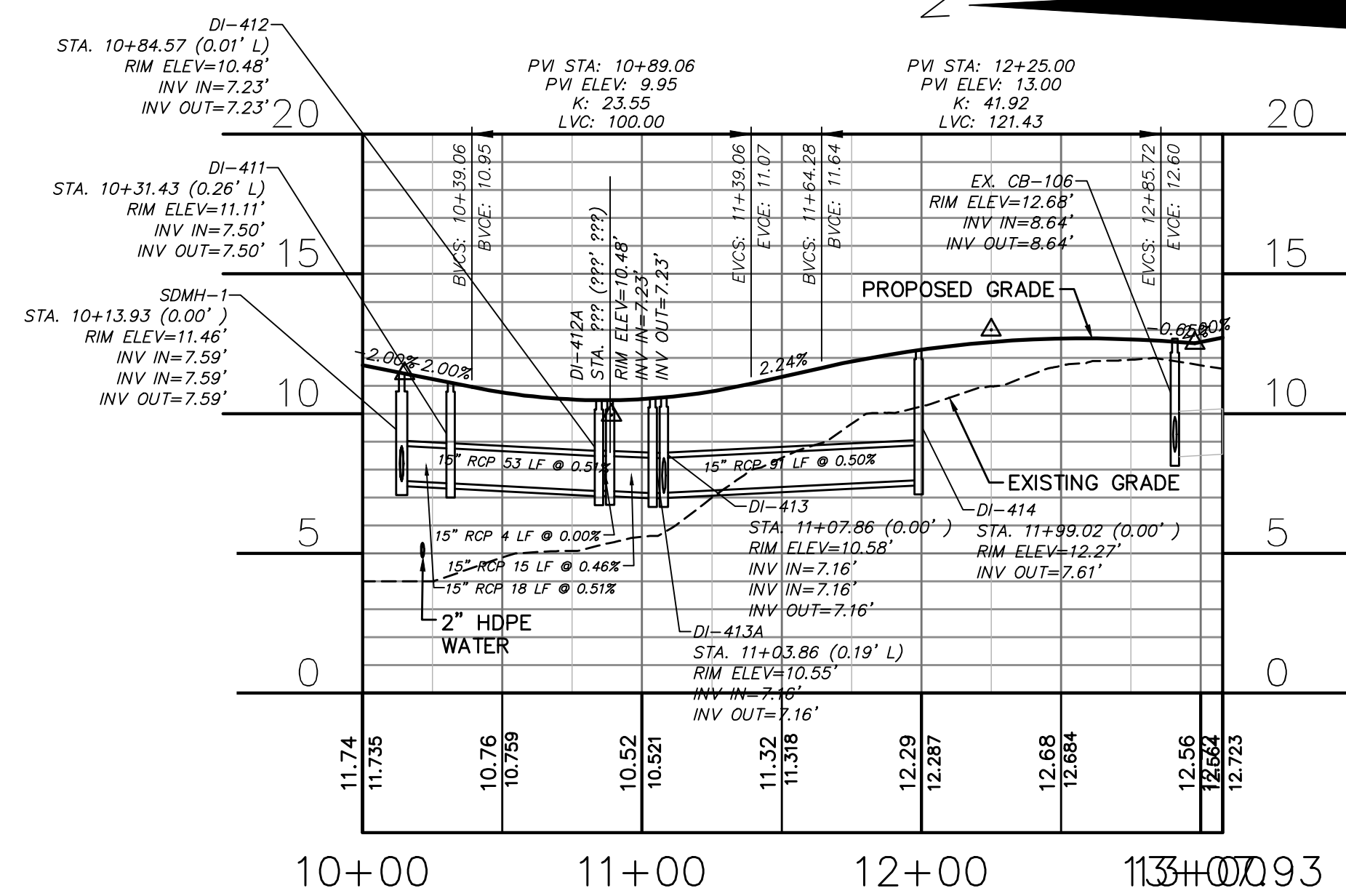
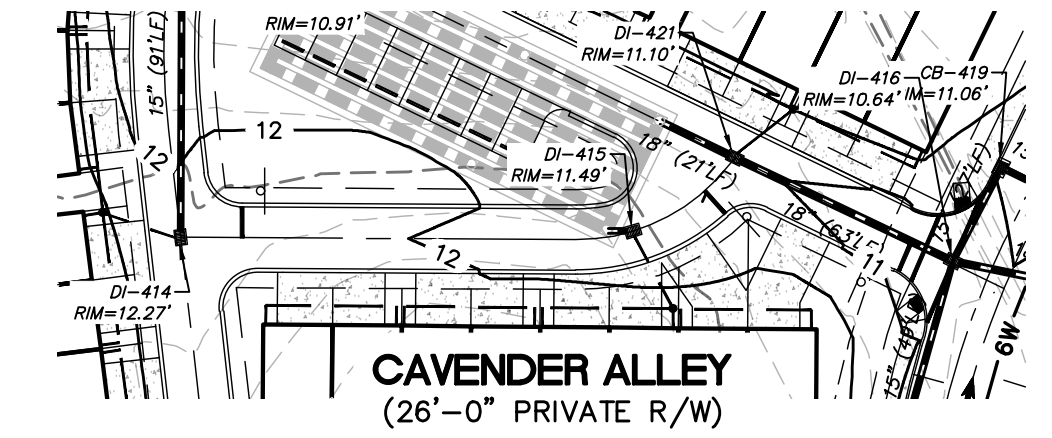
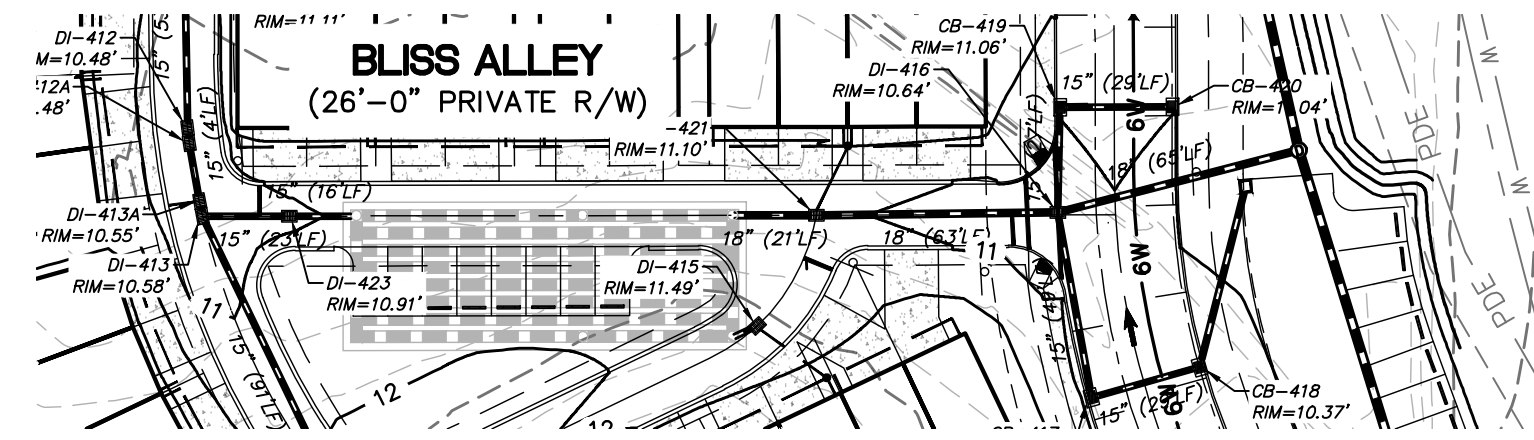
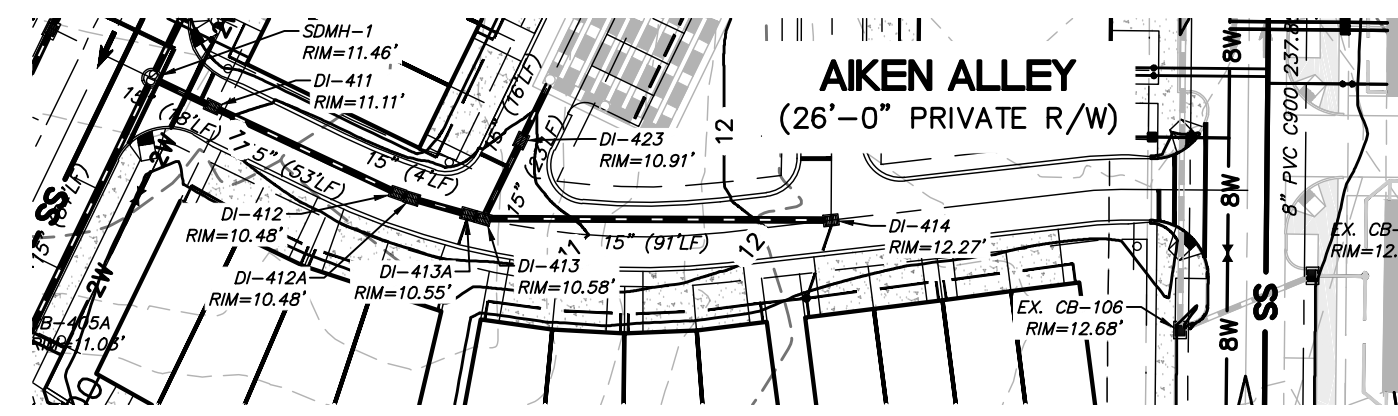
DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

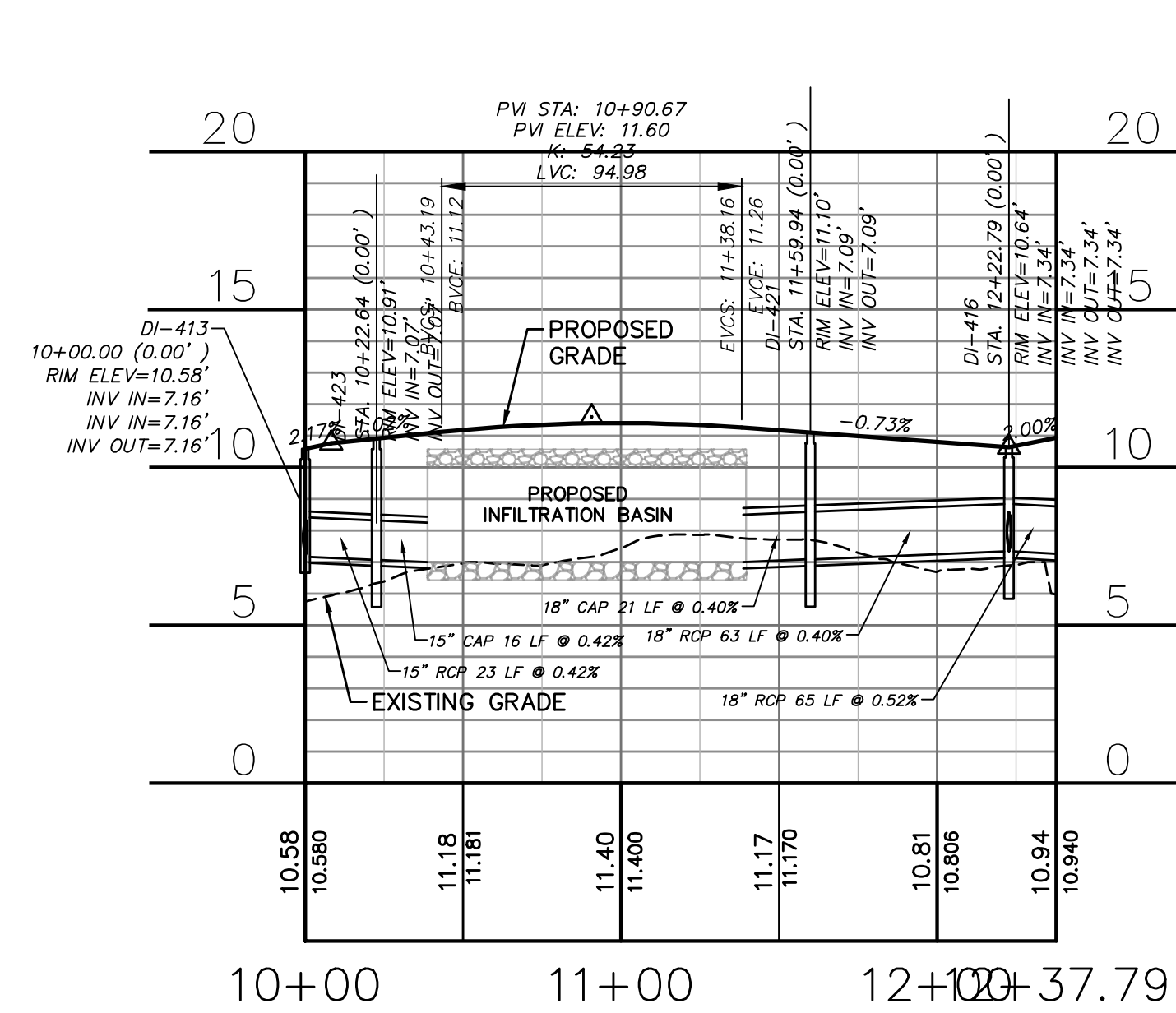
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DRAWING NUMBER: 17

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

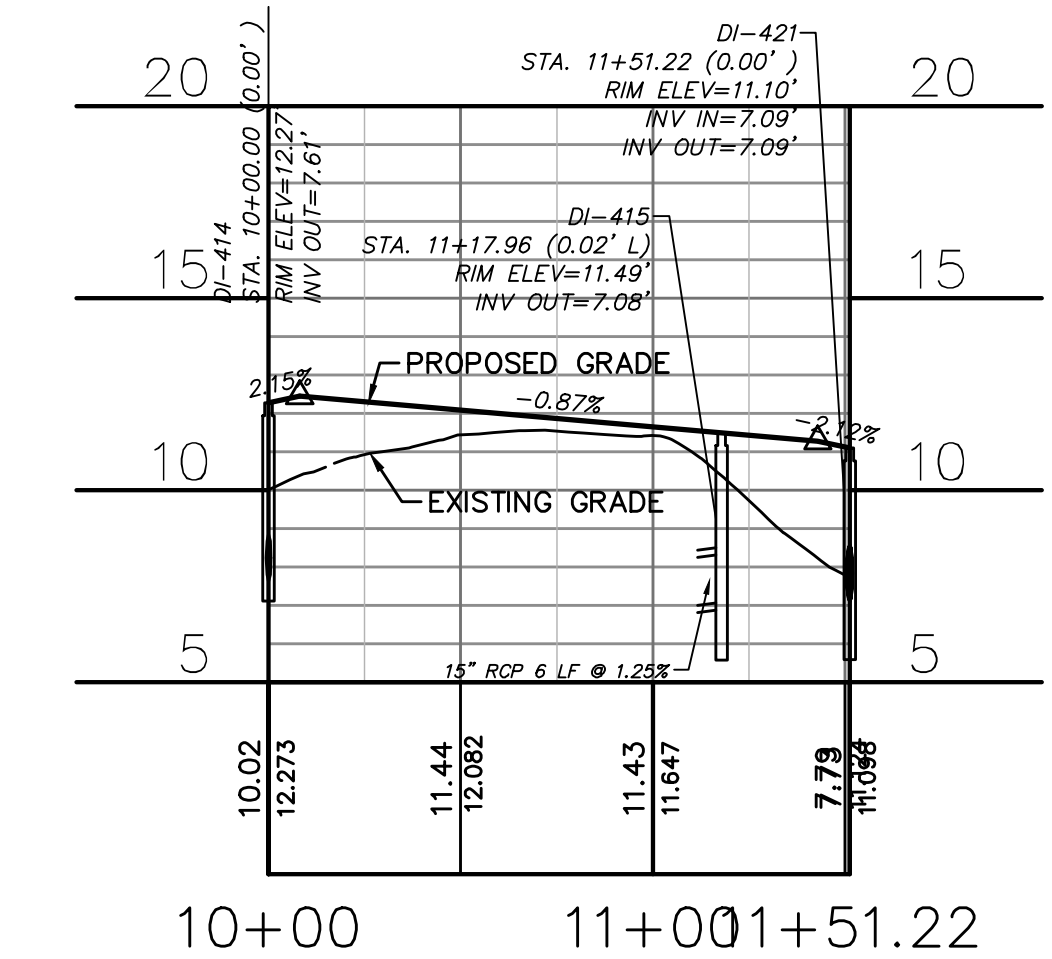
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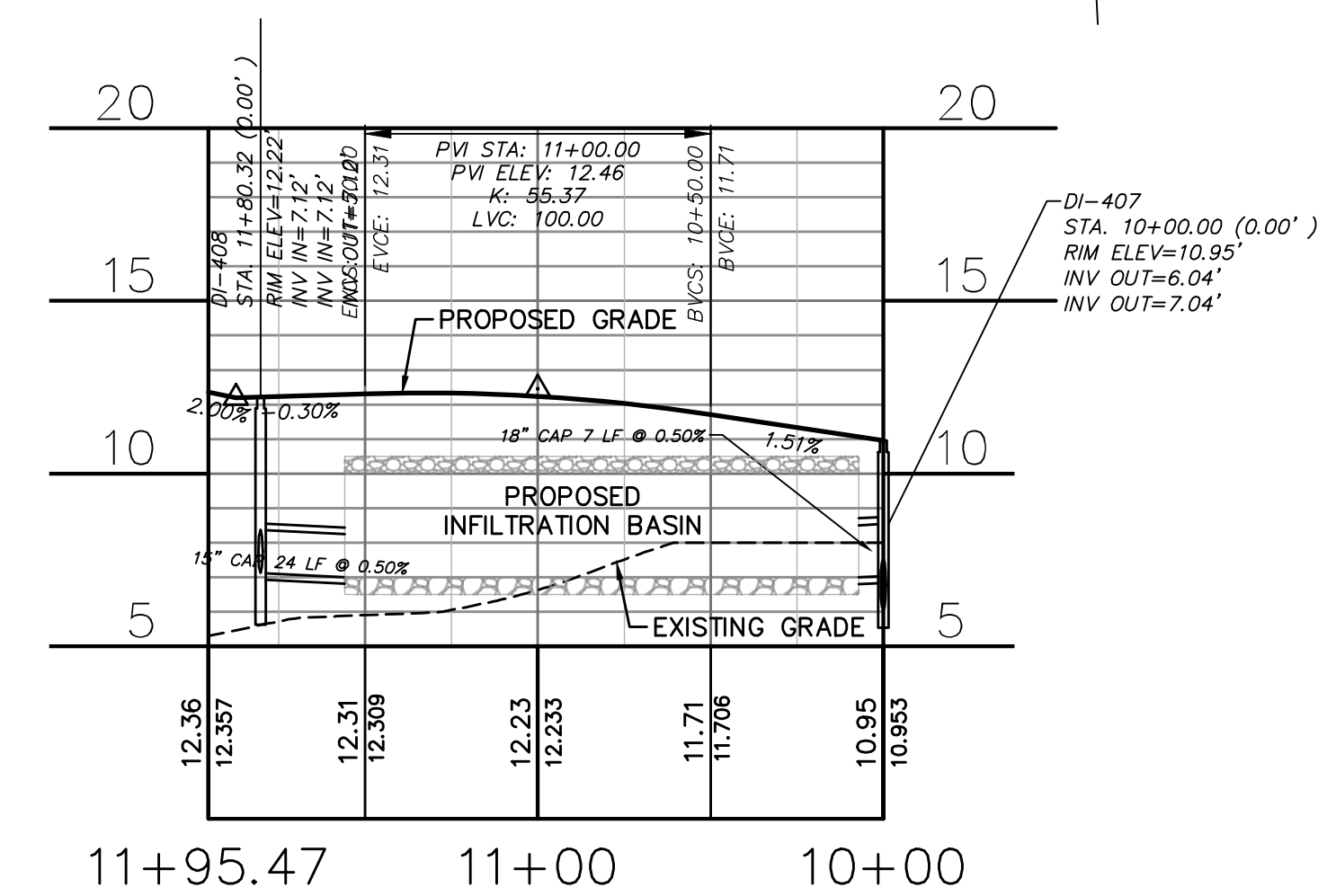
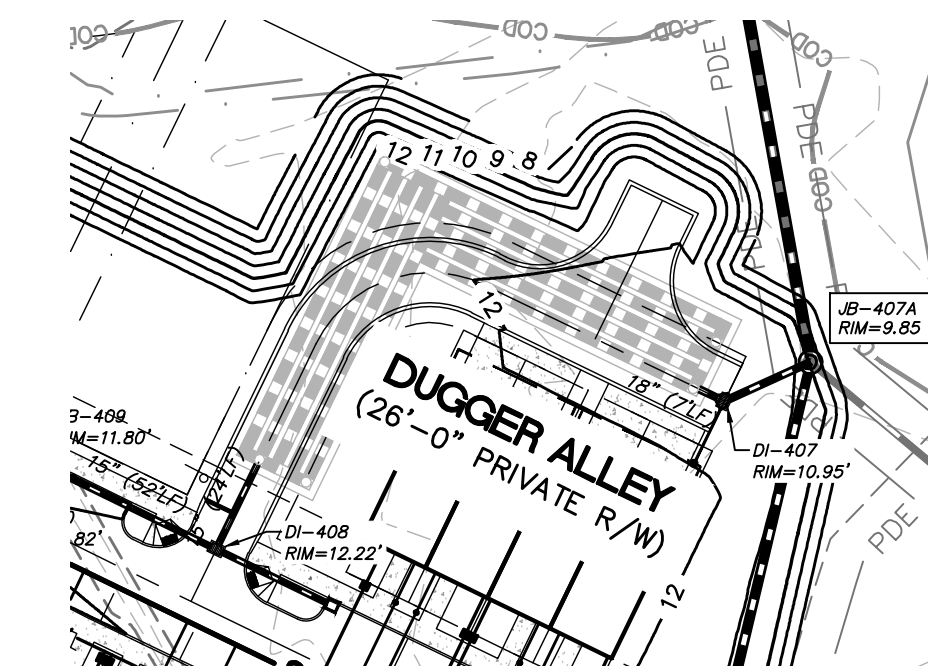
AIKEN ALLEY
HOR. 1"=50', VERT. 1"=5'



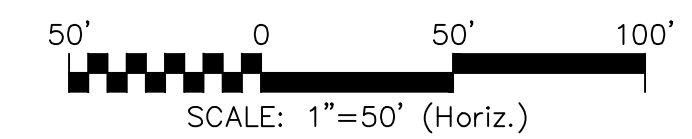
BLISS ALLEY
HOR. 1"=50', VERT. 1"=5'



CAVENDER ALLEY
HOR. 1"=50', VERT. 1"=5'



DUGGER ALLEY
HOR. 1"=50', VERT. 1"=5'



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1 inch

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

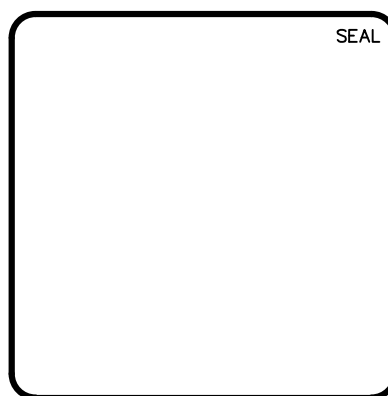


Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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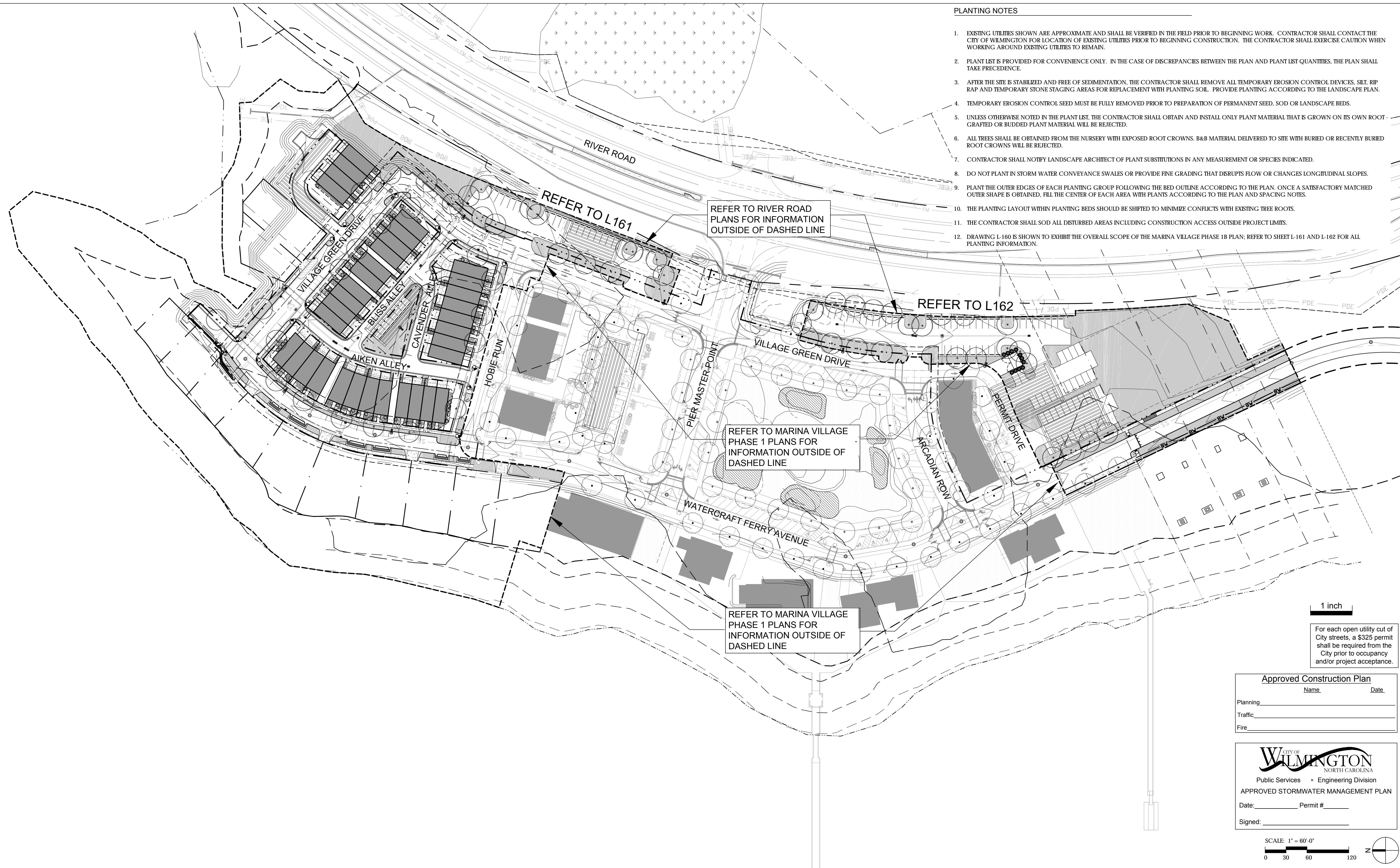
RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**
PLAN AND PROFILE

DATE: 17MAR16	SCALE: 1"=50'	MAC FILE NUMBER: CU-703
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'	DRAWING NUMBER: 18
DRAWN: ALM	VERTICAL: 1"=5'	
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		REVISION: 0
ISSUED FOR CONSTRUCTION		

PLANTING NOTES

1. EXISTING UTILITIES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING WORK. CONTRACTOR SHALL CONTACT THE CITY OF WILMINGTON FOR LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING AROUND EXISTING UTILITIES TO REMAIN.
2. PLANT LIST IS PROVIDED FOR CONVENIENCE ONLY. IN THE CASE OF DISCREPANCIES BETWEEN THE PLAN AND PLANT LIST QUANTITIES, THE PLAN SHALL TAKE PRECEDENCE.
3. AFTER THE SITE IS STABILIZED AND FREE OF SEDIMENTATION, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES, SILT, RIP RAP AND TEMPORARY STONE STAGING AREAS FOR REPLACEMENT WITH PLANTING SOIL. PROVIDE PLANTING ACCORDING TO THE LANDSCAPE PLAN.
4. TEMPORARY EROSION CONTROL SEED MUST BE FULLY REMOVED PRIOR TO PREPARATION OF PERMANENT SEED, SOD OR LANDSCAPE BEDS.
5. UNLESS OTHERWISE NOTED IN THE PLANT LIST, THE CONTRACTOR SHALL OBTAIN AND INSTALL ONLY PLANT MATERIAL THAT IS GROWN ON ITS OWN ROOT-GRAFTED OR BUDDED PLANT MATERIAL WILL BE REJECTED.
6. ALL TREES SHALL BE OBTAINED FROM THE NURSERY WITH EXPOSED ROOT CROWNS. B&B MATERIAL DELIVERED TO SITE WITH BURIED OR RECENTLY BURIED ROOT CROWNS WILL BE REJECTED.
7. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF PLANT SUBSTITUTIONS IN ANY MEASUREMENT OR SPECIES INDICATED.
8. DO NOT PLANT IN STORM WATER CONVEYANCE SWALES OR PROVIDE FINE GRADING THAT DISRUPTS FLOW OR CHANGES LONGITUDINAL SLOPES.
9. PLANT THE OUTER EDGES OF EACH PLANTING GROUP FOLLOWING THE BED OUTLINE ACCORDING TO THE PLAN. ONCE A SATISFACTORY MATCHED OUTER SHAPE IS OBTAINED, FILL THE CENTER OF EACH AREA WITH PLANTS ACCORDING TO THE PLAN AND SPACING NOTES.
10. THE PLANTING LAYOUT WITHIN PLANTING BEDS SHOULD BE SHIFTED TO MINIMIZE CONFLICTS WITH EXISTING TREE ROOTS.
11. THE CONTRACTOR SHALL SOD ALL DISTURBED AREAS INCLUDING CONSTRUCTION ACCESS OUTSIDE PROJECT LIMITS.
12. DRAWING L-160 IS SHOWN TO EXHIBIT THE OVERALL SCOPE OF THE MARINA VILLAGE PHASE 1B PLAN; REFER TO SHEET L-161 AND L-162 FOR ALL PLANTING INFORMATION.



1 inch

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Approved Construction Plan

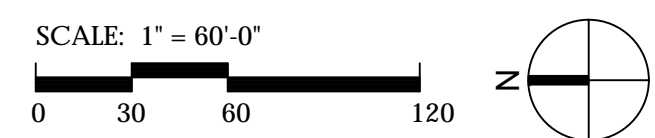
Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

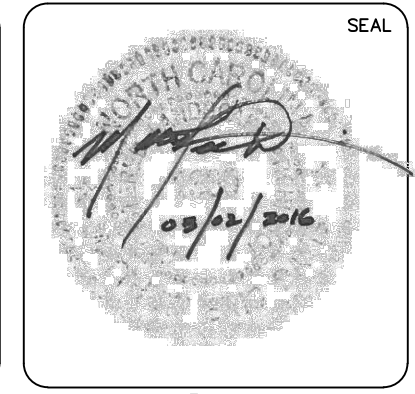
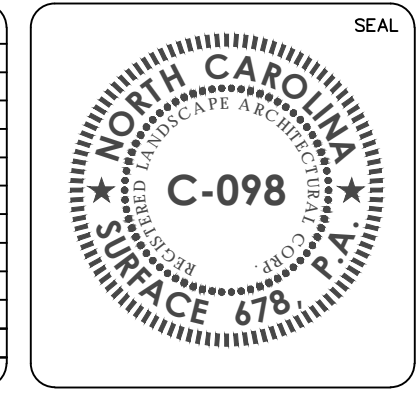
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



REV. NO.	ISSUE FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0	ISSUE FOR CONSTRUCTION		03/02/2016



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Surface

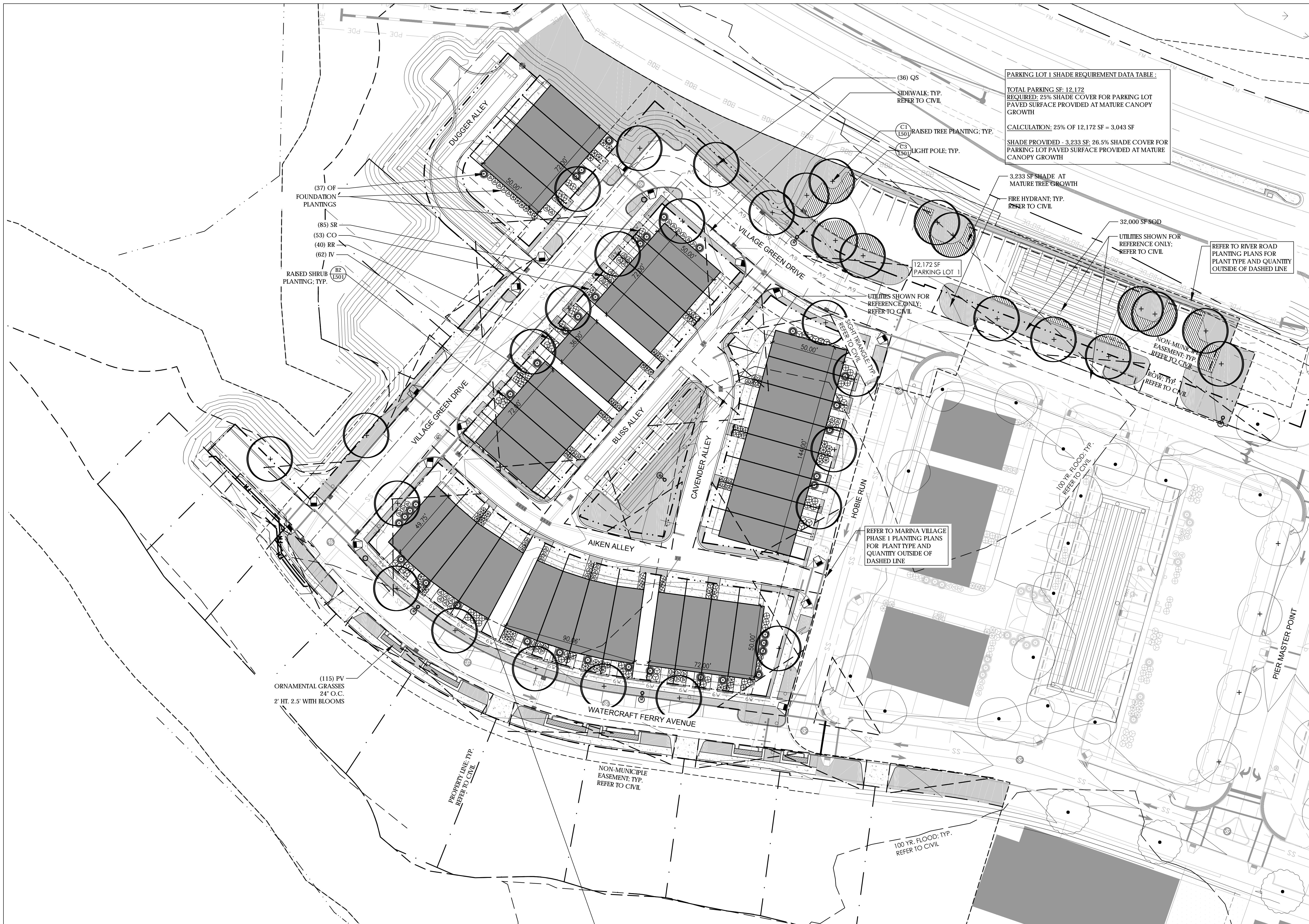
RIVERLIGHTS
by Newland COMMUNITIES

Surface 678, P.A.
215 Marina Street, Suite 100
Durham, NC 27701
www.surface678.com
p: 919-418-1199
f: 919-418-1689

OVERALL PLANTING PLAN SHEET REFERENCE

MARINA VILLAGE PHASE 1B

DATE:	11/03/2015	SCALE	MAC FILE NUMBER
MCE PROJ. #			
DRAWN	JL		DRAWING NUMBER
DESIGNED	ED		L160
CHECKED	JC, ED		
PROJ. MGR.	JC		
STATUS:	FINAL DESIGN		REVISION



PARKING LOT 1 SHADE REQUIREMENT DATA TABLE:

TOTAL PARKING SF: 12,172
 REQUIRED: 25% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 25% OF 12,172 SF = 3,043 SF
 SHADE PROVIDED - 3,233 SF: 26.5% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

LEGEND	
	PARKING LOT SHADE REQUIREMENT
	SOD: 419 TIFWAY BERMUDA; SAND BASED SOD
TREES	
	QUERCUS SHUMARDII
SHRUBS	
	SERENOA REPENS
	CHAMAECYPARIS OBTUSA 'NANA' GRACILLIS
	ILEX VOMITORIA OBTUSA 'NANA'
	ROSA 'RADRAZZ'
	OSMANTHUS FORTUNEI
SIGHT LIGHTING	
	LIGHT POLE; TYP. REFER TO DETAIL C3 / L501

1 inch

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Approved Construction Plan

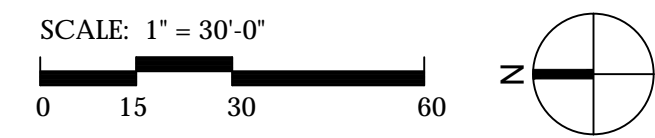
Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

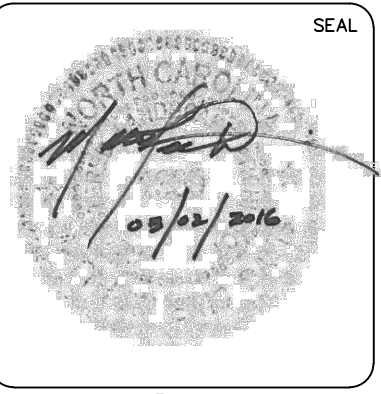
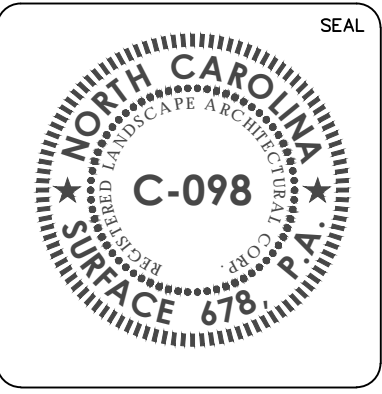
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



REV. NO.	ISSUE FOR CONSTRUCTION	DATE
0	ISSUE FOR CONSTRUCTION	03/02/2016



PLANTING PLAN NORTH

MARINA VILLAGE PHASE 1B

DATE:	11/03/2015	SCALE:		MAC FILE NUMBER:	
MCE PROJ. #		DRAWN	JL	DRAWING NUMBER	L161
DESIGNED	ED	CHECKED	JC, ED		
PROJ. MGR.	JC				
STATUS:	FINAL DESIGN	REVISION			

PLANTING SCHEDULE: MARINA VILLAGE PHASE 1B

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
STREET TREES							
QS	65	QUERCUS SHUMARDII	SHUMARD OAK	2-2 1/2"	----	----	STRONG CENTRAL LEADER; NO INCLUDED BARK
DECIDUOUS SHRUBS							
RR	40	ROSA RADRAZZ	KNOCKOUT ROSE	CONT	12"	12"	FULL DENSE
EVERGREEN SHRUBS							
CO	53	CHAMAECYPARIS OBTUSA 'NANA' GRACILLIS	DWARF HINOKI CYPRESS	CONT	12"	12"	FULL DENSE
IV	62	ILEX VOMITORIA 'NANA'	DWARF YAUPON HOLLY	CONT	12"	12"	FULL DENSE
OF	48	OSMANTHUS FORTUNEI	TEA OLIVE	CONT	12"	12"	FULL DENSE
SR	85	SERENOA REPENS	SAW PALMETTO	CONT	12"	12"	FULL DENSE
ORNAMENTAL GRASSES							
PV	115	PANICUM VIRGATUM 'CAPE BREEZE PP24895'	CAPE BREEZE DWARF SWITCHGRASS	---	---	---	---
SOD							
							419 TFWAY BERMUDA SAND BASED SOD

PARKING LOT 2 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 16,927
 REQUIRED: 25% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 25% OF 17,195 SF = 4,231 SF
 SHADE PROVIDED - 4,231 SF: 25% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

REFER TO RIVER ROAD PAINTING PLANS FOR PLANT TYPE AND QUANTITY OUTSIDE OF DASHED LINE

4,231 SF SHADE AT MATURE GROWTH

RAISED TREE PLANTING: TYP.

LIGHT POLE: TYP.

EVENT LAWN #1

LEGEND	
	PARKING LOT SHADE REQUIREMENT
	SOD: 419 TFWAY BERMUDA; SAND BASED SOD
TREES	
	QUERCUS SHUMARDII
SHRUBS	
	SERENOA REPENS
	CHAMAECYPARIS OBTUSA 'NANA' GRACILLIS
	ILEX VOMITORIA OBTUSA 'NANA'
	ROSA 'RADRAZZ'
	OSMANTHUS FORTUNEI
SIGHT LIGHTING	
	LIGHT POLE: TYP. REFER TO DETAIL C3 / L501

PARKING LOT 4 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 6,958
 REQUIRED: 25% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 25% OF 6,958 SF = 1,740 SF
 SHADE PROVIDED - 700 SF: 10% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

PARKING LOT 3 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 6,019
 REQUIRED: 25% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 25% OF 6,019 SF = 1,500 SF
 SHADE PROVIDED - 0 SF: 0% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

1 inch

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Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

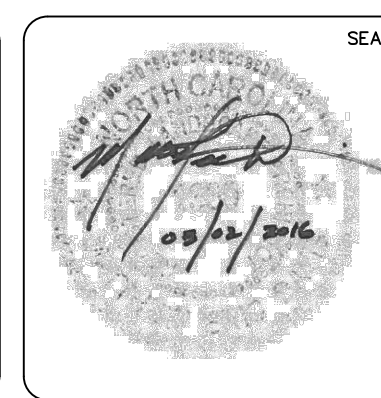
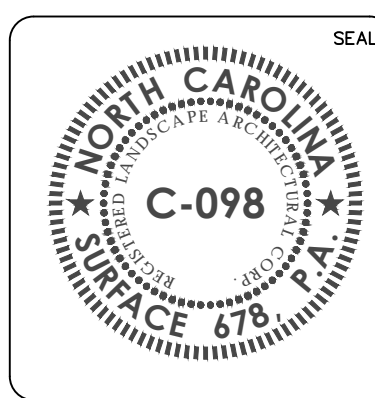
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



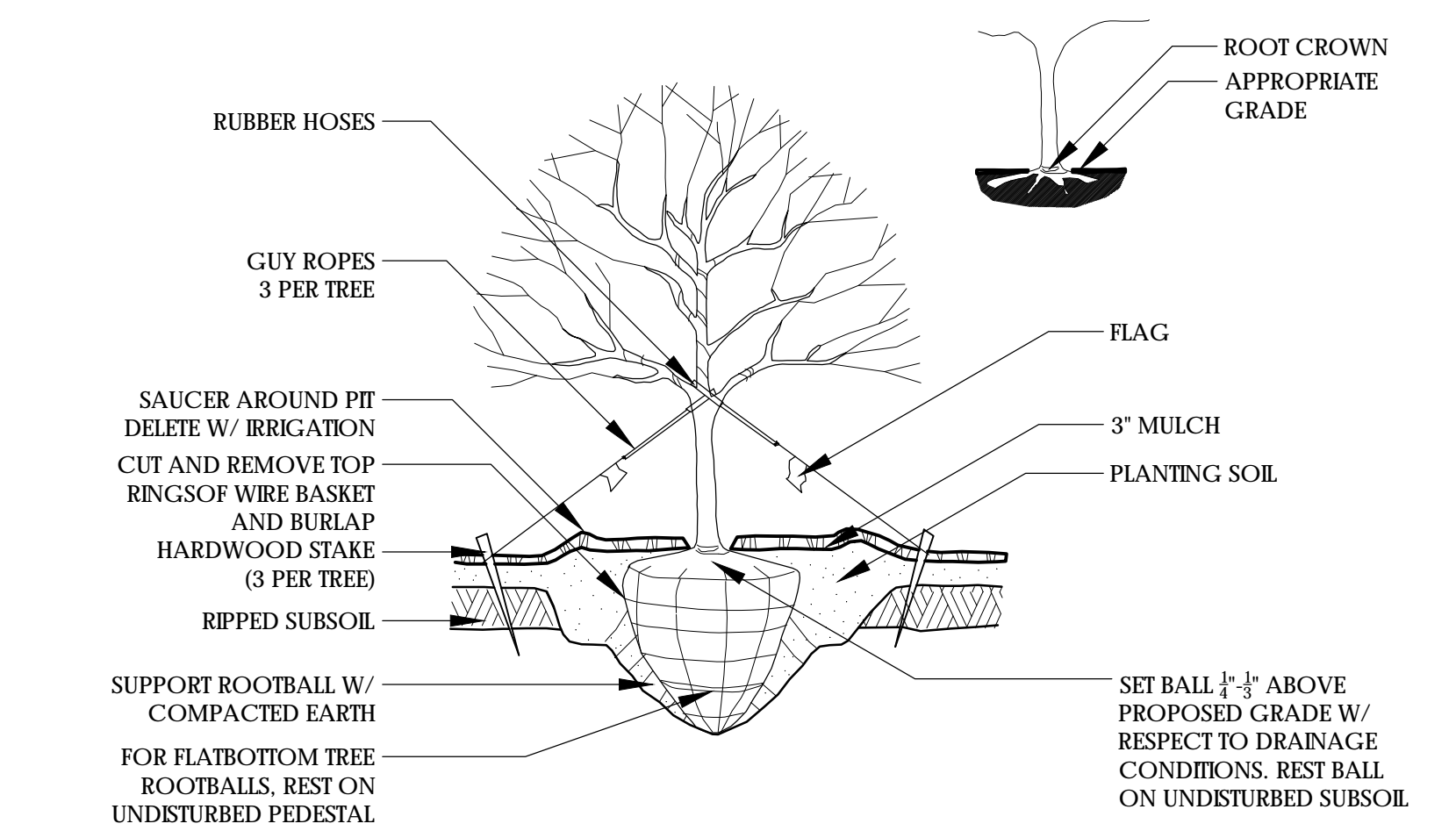
REV. NO.	ISSUE FOR CONSTRUCTION	DESCRIPTIONS	DATE
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		REVISIONS	



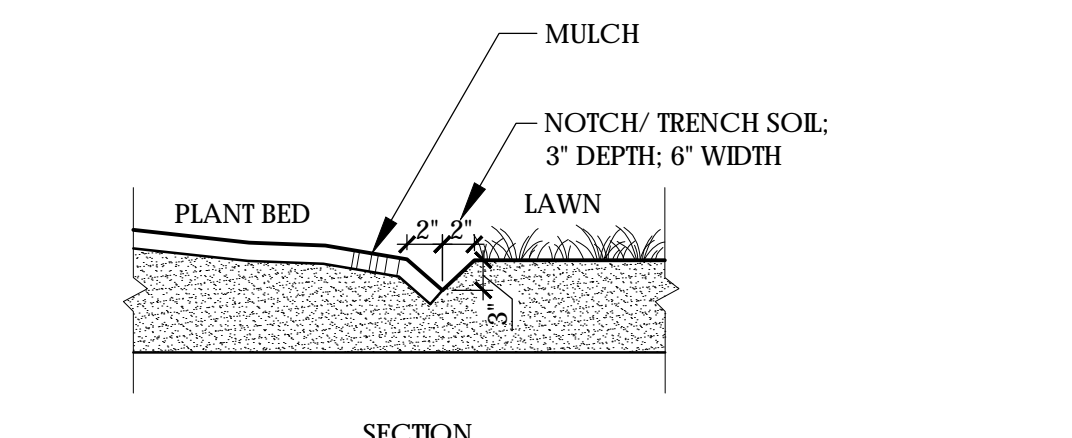
PLANTING PLAN SOUTH

MARINA VILLAGE PHASE 1B

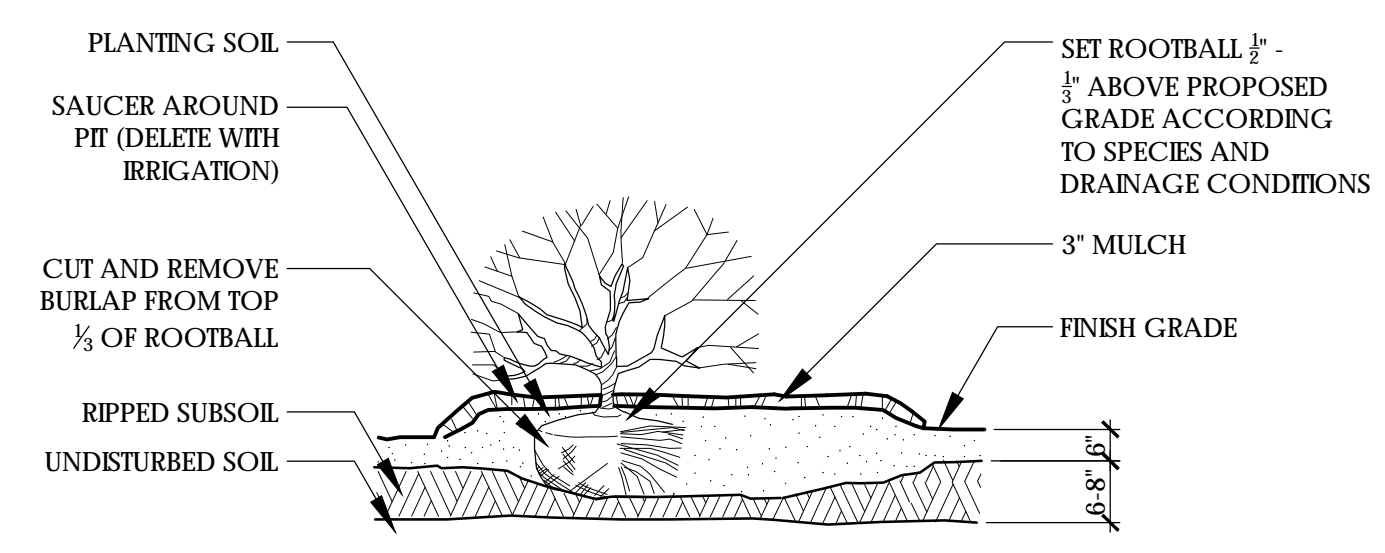
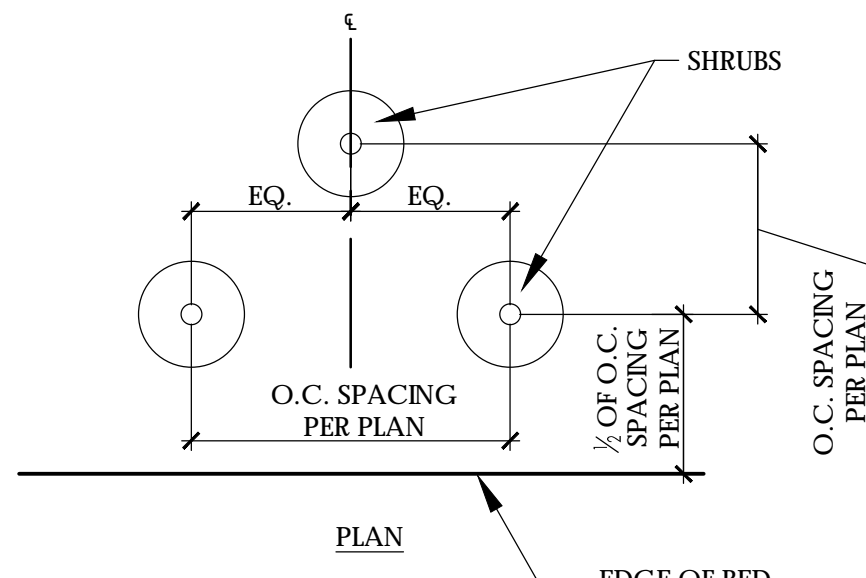
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MCE PROJ. #		
DRAWN: JL		DRAWING NUMBER
DESIGNED: ED		L162
CHECKED: JC, ED		
PROJ. MGR.: JC		
STATUS: FINAL DESIGN		REVISION



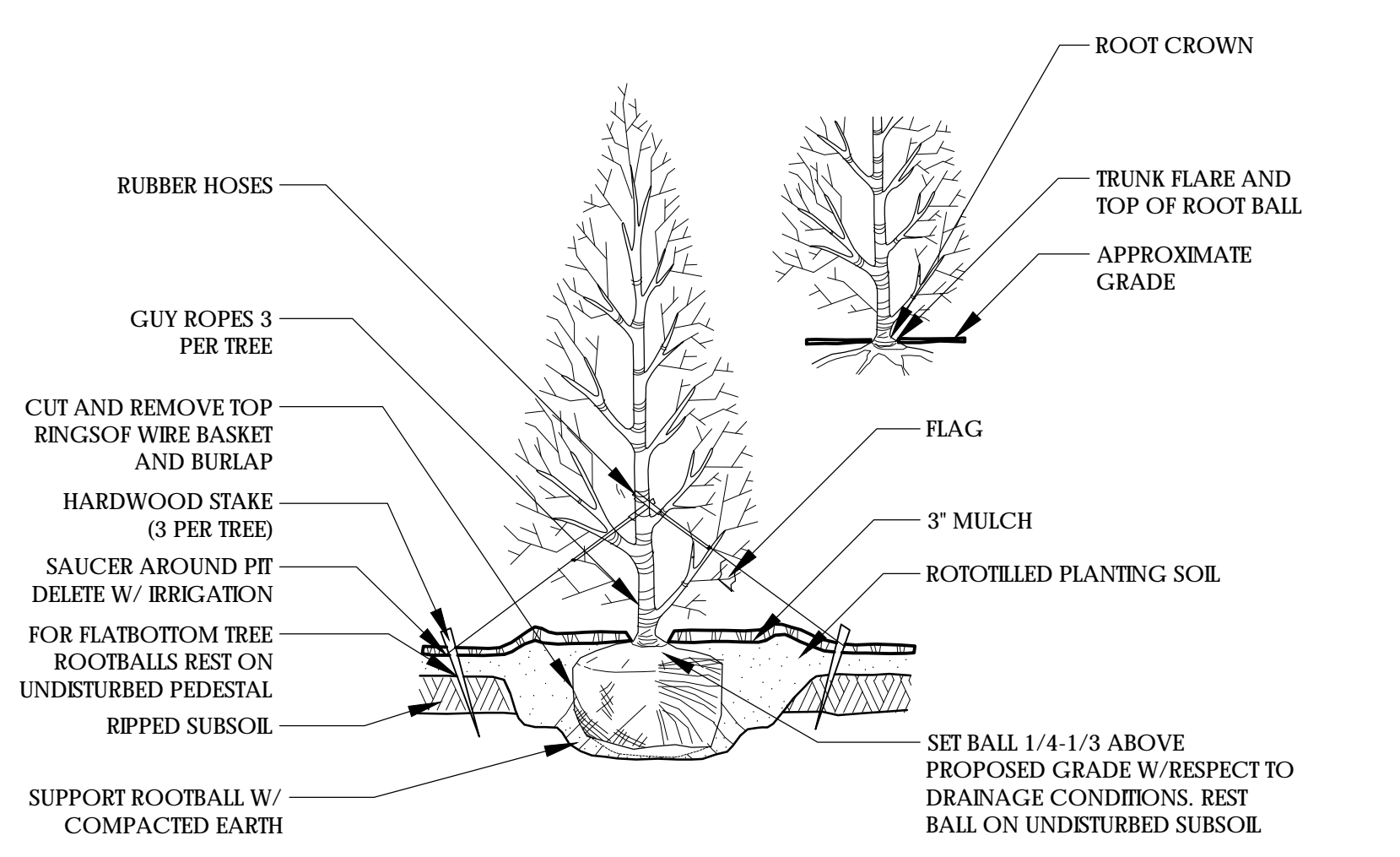
C1 RAISED TREE PLANTING SCALE: NTS



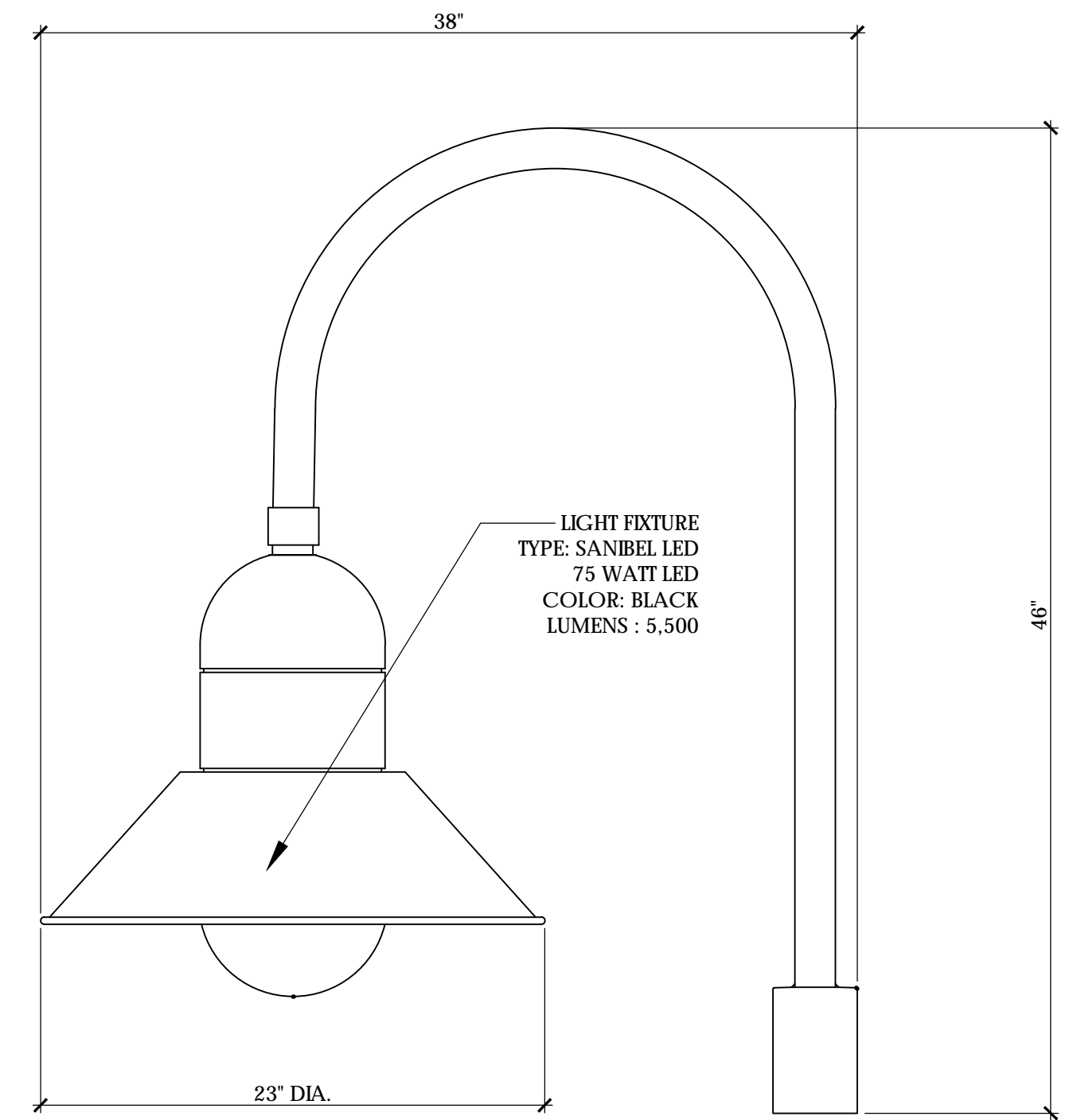
D1 LAWN/PLANT BED EDGE



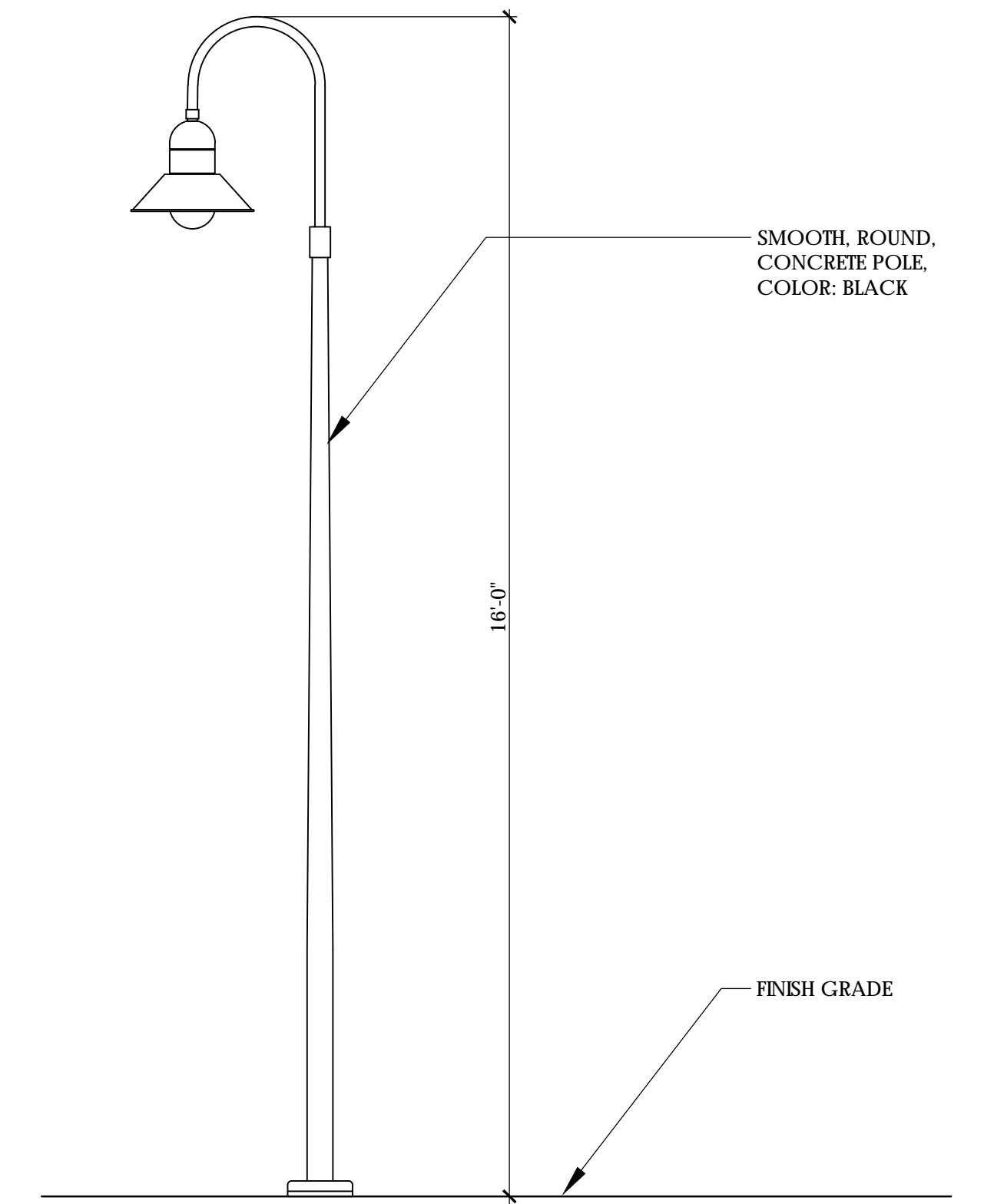
B2 RAISED SHRUB PLANTING SCALE: NTS



B1 EVERGREEN TREE PLANTING SCALE: NTS

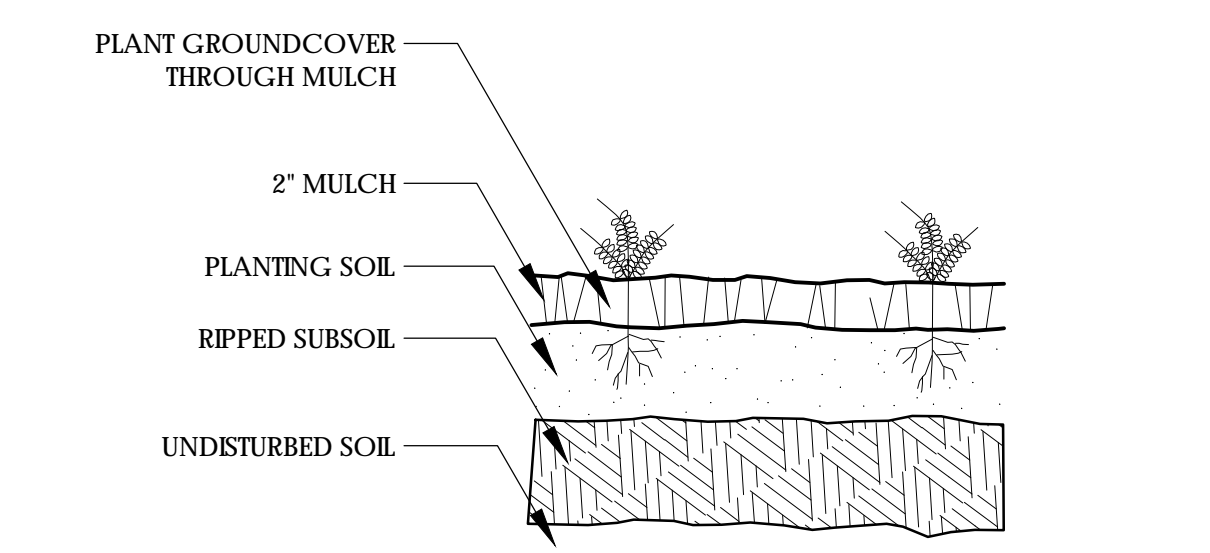
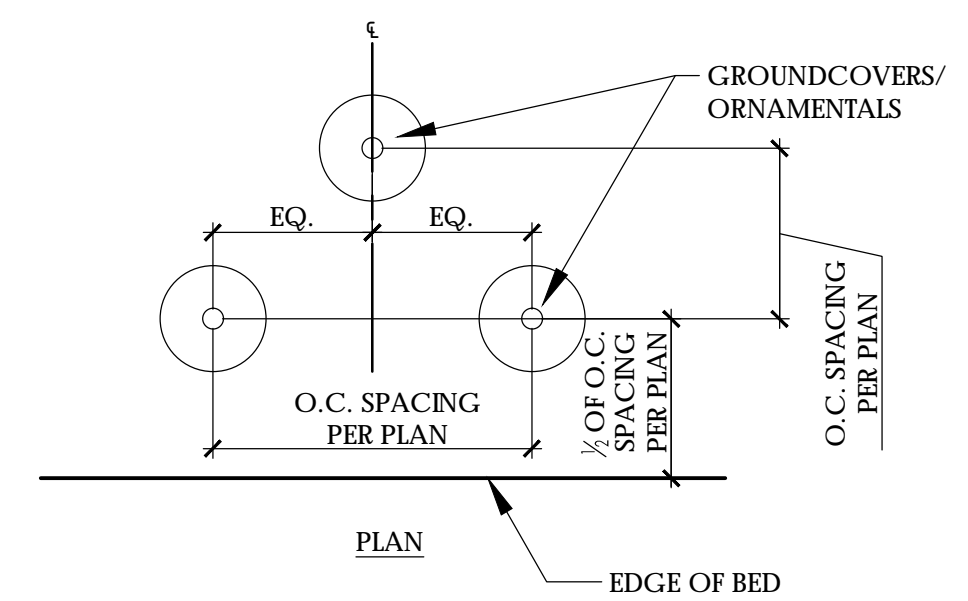


NON STANDARD LIGHT FIXTURE DETAIL

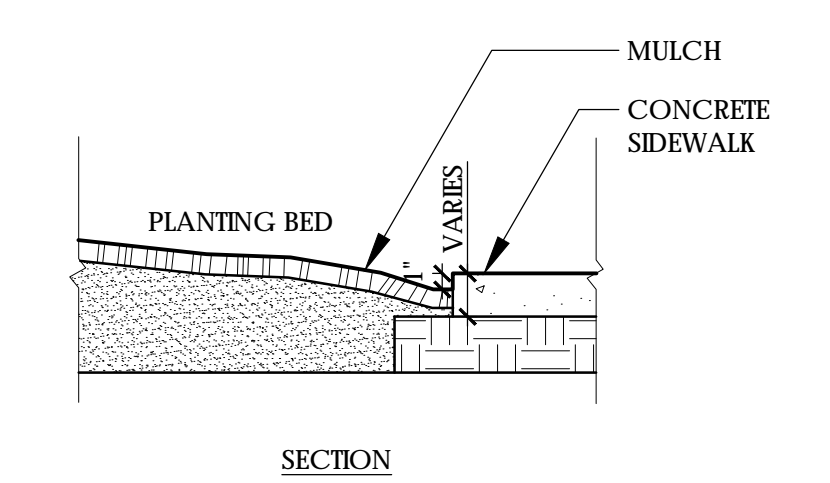


LIGHT FIXTURE POLE ELEVATION

C3 LIGHT POLE
 * LIGHT POLE SHOWN FOR REFERENCE ONLY.
 * LIGHT POLE TO BE SIMILAR IN STYLE, COLOR, TYPE.
 * FINAL LAYOUT AND FOOT CANDLE STUDIES SHALL BE PROVIDED BY THE POWER COMPANY.



A3 GROUNDCOVER PLANTING SCALE: NTS



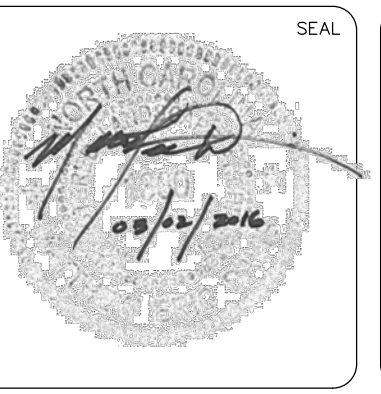
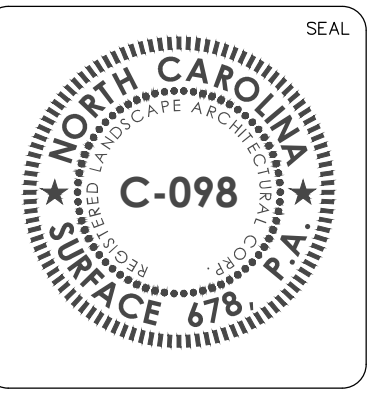
A1 CONCRETE/PLANT BED EDGE

1 inch
 For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

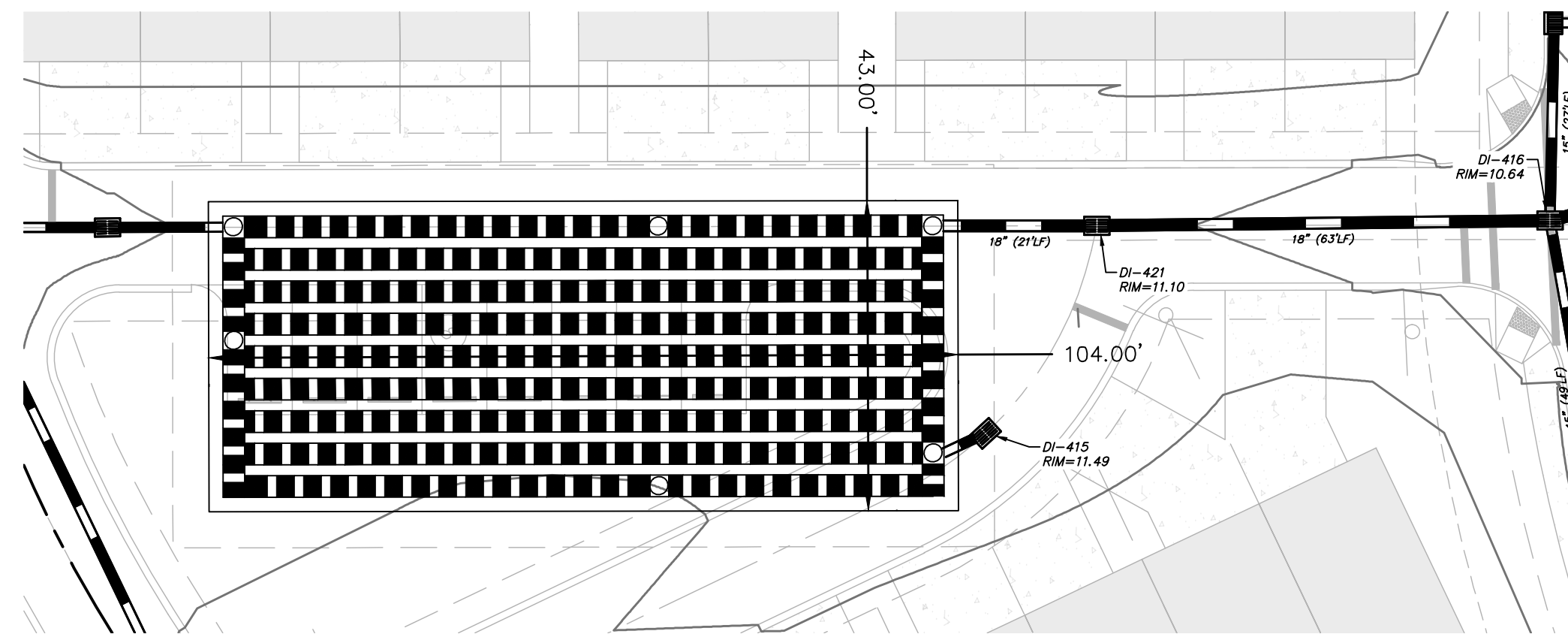
REV. NO.	ISSUE FOR CONSTRUCTION	DESCRIPTIONS	REVISIONS	DATE
0	ISSUE FOR CONSTRUCTION			03/02/2016



LANDSCAPE DETAILS
 MARINA VILLAGE PHASE 1B

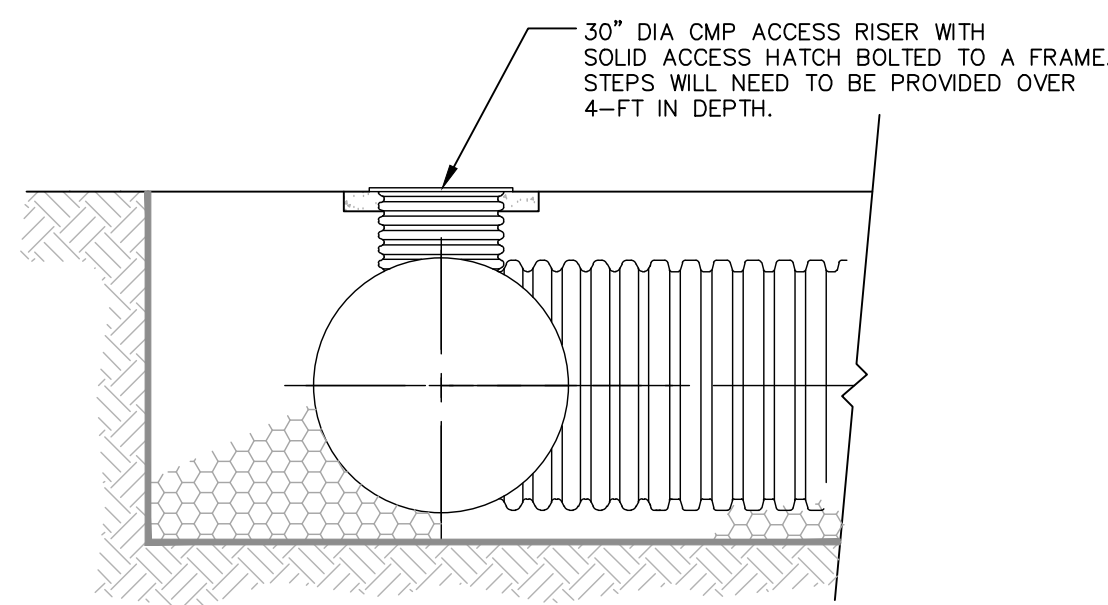
DATE: 11/03/2015	SCALE	M&C FILE NUMBER
MCE PROJ. #		DRAWING NUMBER
DRAWN: JI		L501
DESIGNED: ED		
CHECKED: J.C., ED		
PROJ. MGR.: J.C.		
STATUS: FINAL DESIGN		REVISION

INFILTRATION GALLERY 4

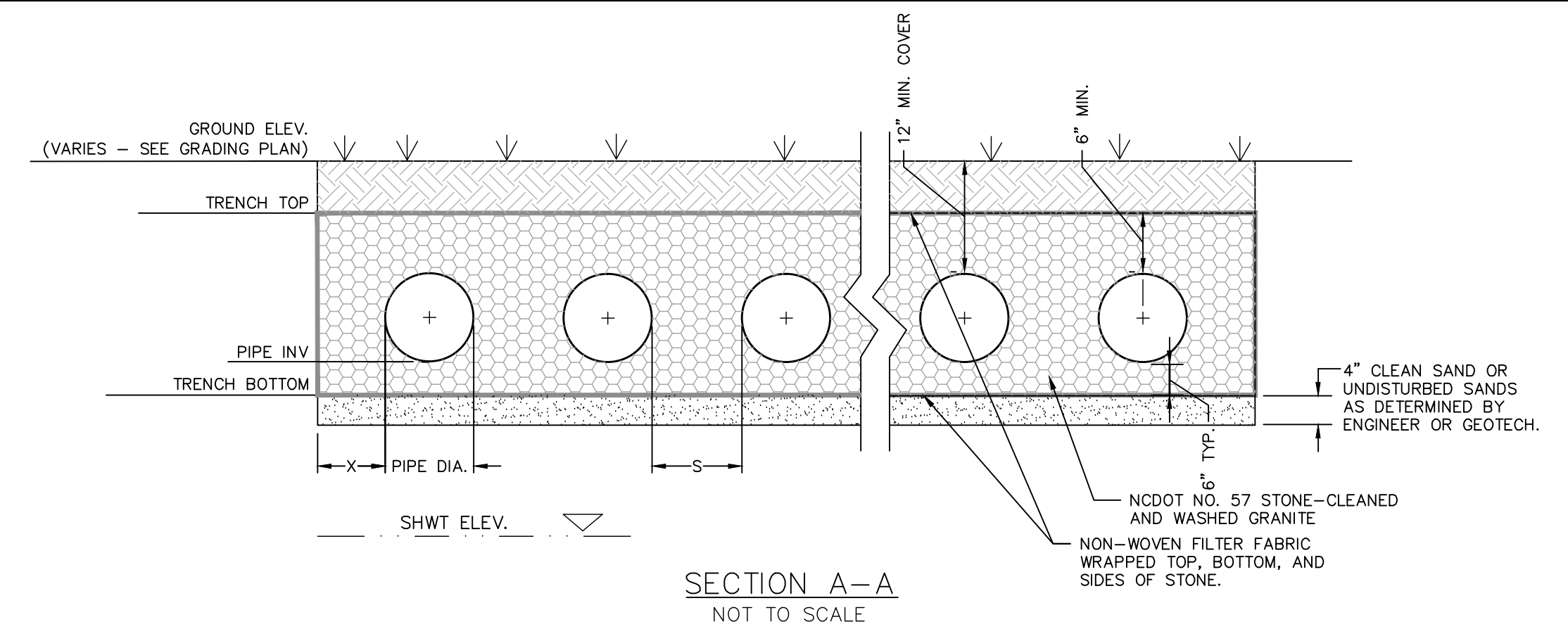


INFILTRATION GALLERY 4
 DA- 188 AC
 WOV STORAGE REQD- 5,062 CF
 STORAGE PROV- 10,972 CF

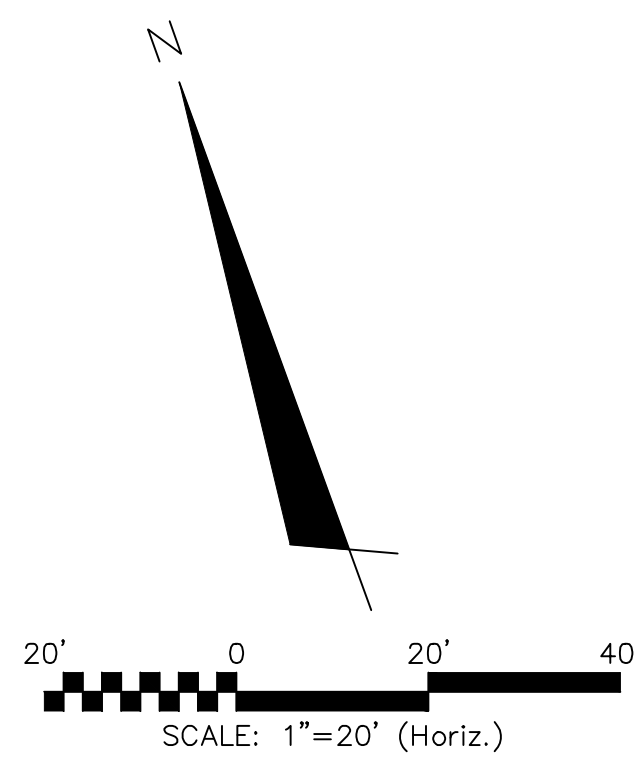
PLAN VIEW
 SCALE: 1" = 20'



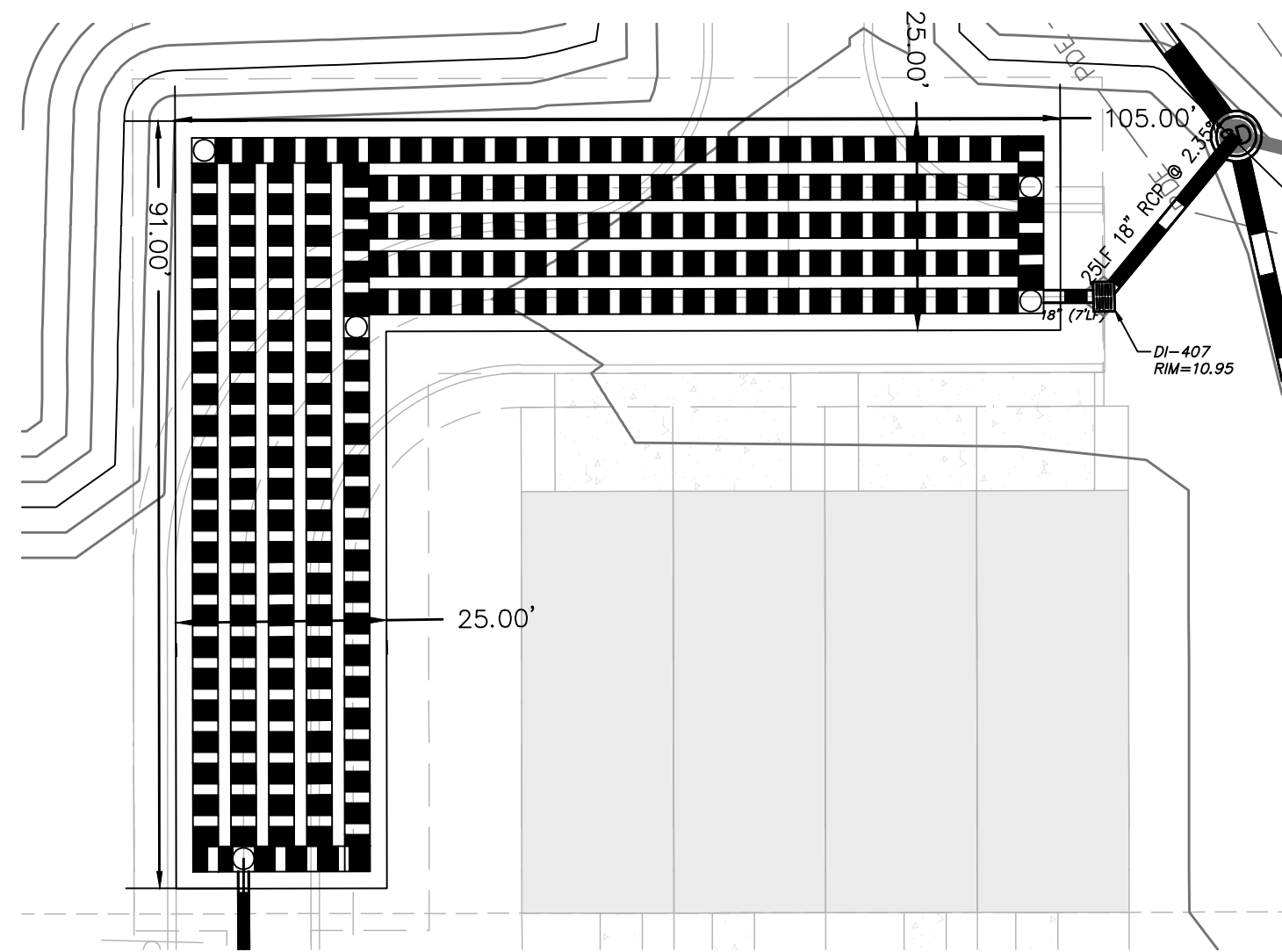
TYP. CMP ACCESS RISER
 NOT TO SCALE



SECTION A-A
 NOT TO SCALE



INFILTRATION GALLERY 5



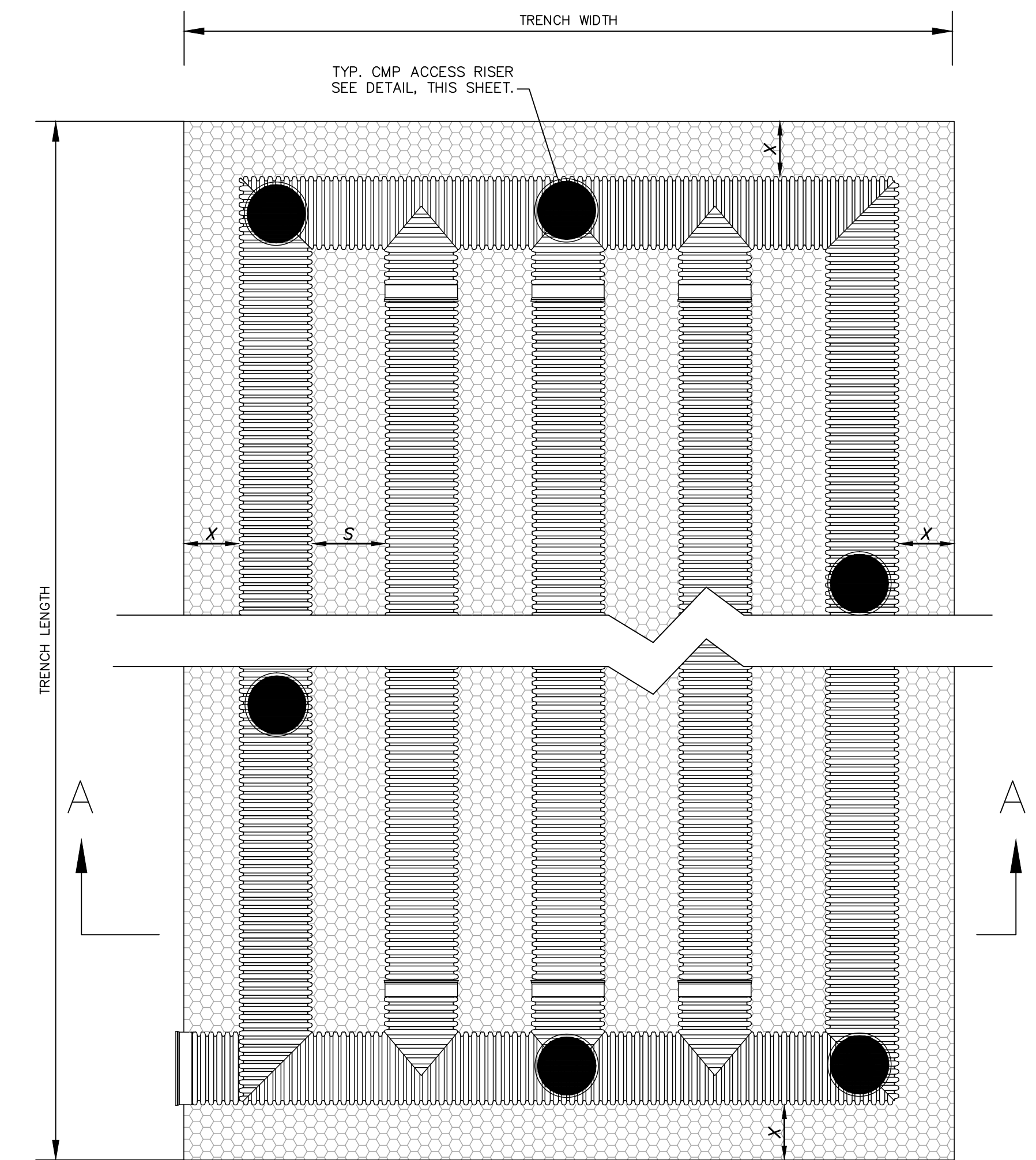
INFILTRATION GALLERY 5
 DA- 191 AC
 WOV STORAGE REQD- 5,262 CF
 STORAGE PROV- 10,381 CF

PLAN VIEW
 SCALE: 1" = 20'

DESIGN	DI-416	DI-407
RIM ELEVATION	10.64'	10.95'
WEIR ELEVATION	9.00'	9.25'
SUMP ELEVATION	6.34'	6.04'
OUTFALL PIPE INVERT	7.34'	7.04'

DESIGN	INFILTRATION GALLERY 4	INFILTRATION GALLERY 5
# OF RUNS	9	5
LENGTH PER RUN	100'	167'
PIPE DIAMETER (IN)	36" CAP	36" CAP
MIN. X (IN)	2'	2'
MIN. S (IN)	1/2 DIA. OF PIPE	1/2 DIA. OF PIPE
TRENCH WIDTH (FT)	43'	25.0'
TRENCH LENGTH (FT)	104'	171'
SHWT ELEVATION	4.50'	4.50'
TRENCH BOTTOM ELEVATION	6.50'	6.50'
PIPE TRENCH INVERT	7.00'	7.00'
TRENCH TOP ELEVATION	10.50'	10.50'
10-YR WSEL	9.25'	9.62'

- NOTES:**
- SHWT AND HIGH RIVER ELEVATIONS TAKEN FROM SITE & SOILS EVALUATION REPORT BY ECS CAROLINAS, LLP DATED FEBRUARY 18, 2015 FOR NEWLAND COMMUNITIES, LLC.
 - EXISTING ELEVATIONS TAKEN FROM COMBINATION OF FIELD MEASUREMENTS AND TOPOGRAPHY SURVEY BY MCKIM & CREED, INC.



PLAN VIEW
 NOT TO SCALE

NOTES:

- INFILTRATION TRENCH PIPE SHALL BE CONTECH PERFORATED ALUMINIZED OR ALUMINUM CMP PIPE MEETING AASHTO M-36, CLASS 2 PERFORATIONS (3/8" DIA); OR PERFORATED HDPE MEETING AASHTO CLASS 2, TYPE S PERFORATIONS. CONTRACTOR TO SUBMIT INFILTRATION TRENCH SPECIFICATION FOR ENGINEER APPROVAL.
- CMP OR HDPE PIPE TO BE INSTALLED PER ASTM & MANUFACTURER'S RECOMMENDATIONS. PIPE JOINTS TO BE PER MANUFACTURER'S RECOMMENDATIONS AS AN UNDERGROUND INFILTRATION SYSTEM.
- SEE TABLE FOR NUMBER OF PIPE RUNS AND DIMENSIONS.
- IT IS IMPORTANT THAT FILL MATERIAL FOR THE INFILTRATION TRENCHES SHALL BE SAME MATERIAL AS EXISTING SOILS UNDERLYING THE TRENCH. BE SURE NOT TO COMPACT THE SAND UNDER THE TRENCH SO THAT PROPER INFILTRATION RATES CAN OCCUR BELOW THE TRENCHES.

TYP. INFILTRATION TRENCH SYSTEM
 NOT TO SCALE

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

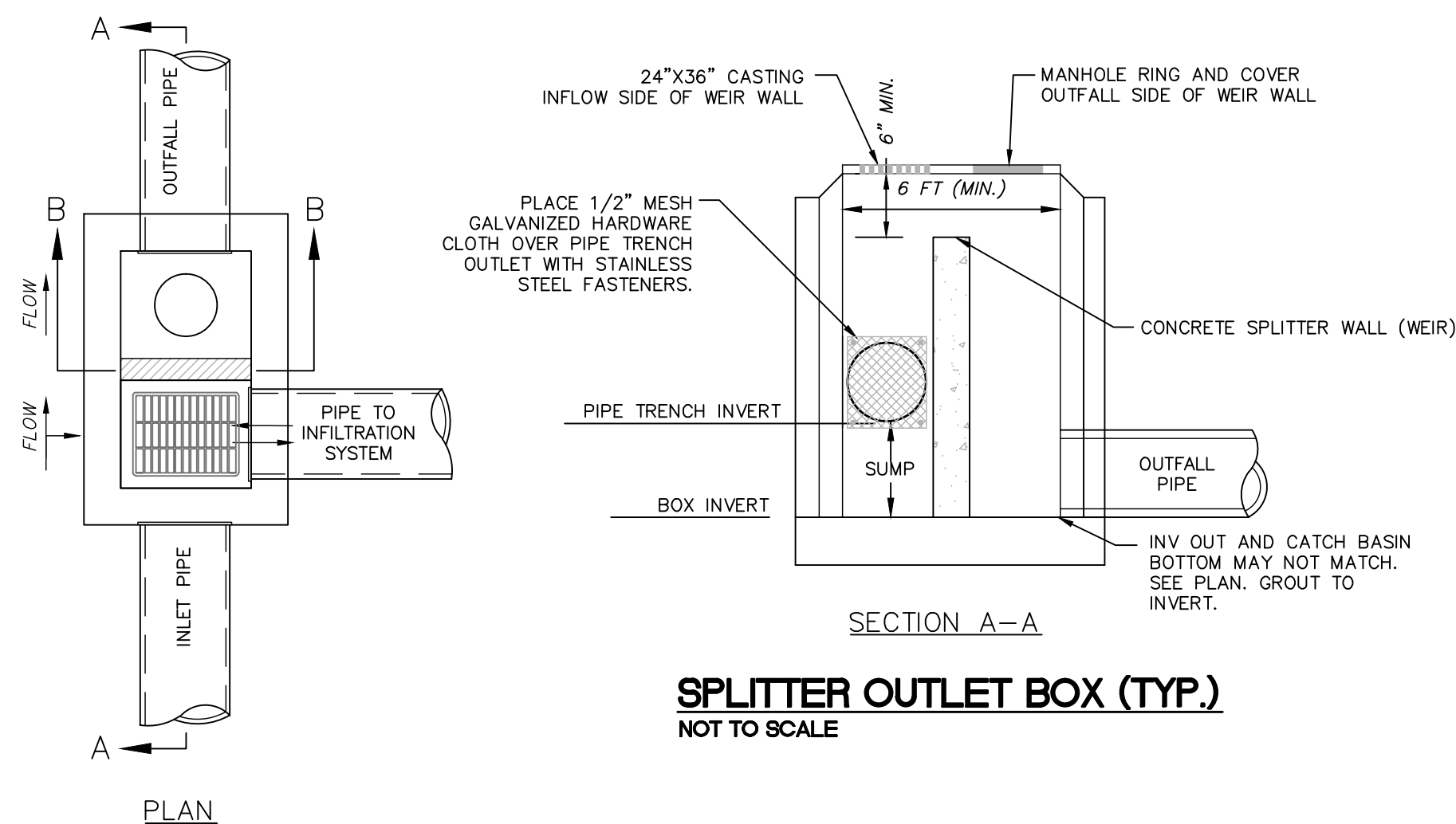
Traffic _____

Fire _____

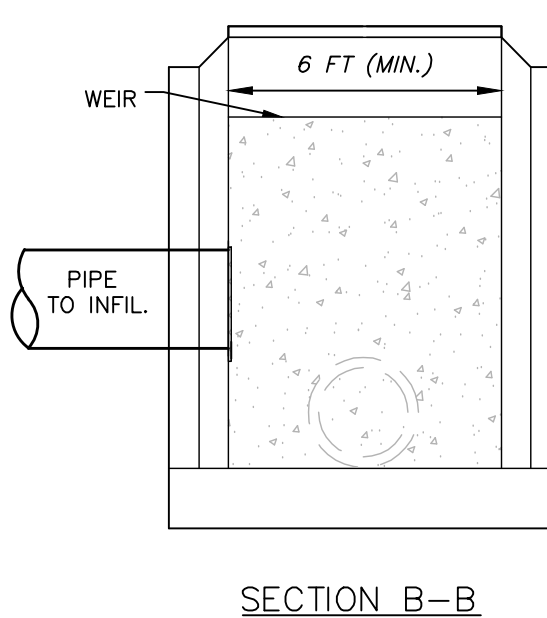
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

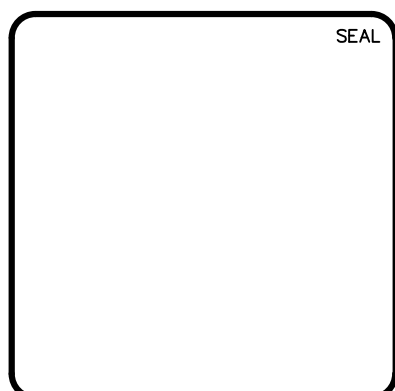


SPLITTER OUTLET BOX (TYP.)
 NOT TO SCALE



SECTION B-B

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



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 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 SEXISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

STORMWATER MANAGEMENT DETAILS

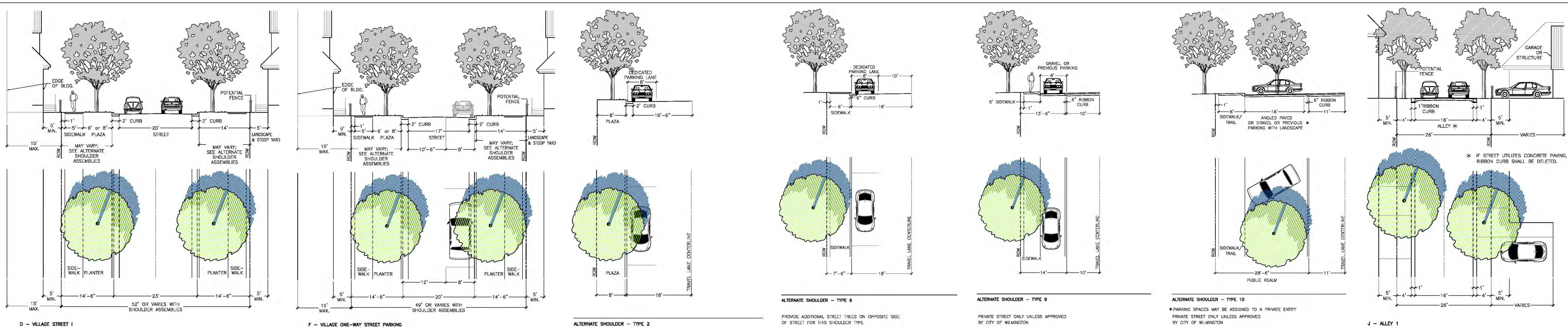
DATE: 17MAR16
 MCE PROJ. # 2735-0124
 DRAWN: ALM
 DESIGNED: NJL
 CHECKED: KCBE
 PROJ. MGR.: NJL

SCALE: HORIZONTAL: 1"=20' VERTICAL: N/A

MAC FILE NUMBER: CN-501
 DRAWING NUMBER: 23

STATUS: FINAL DESIGN
 ISSUED FOR CONSTRUCTION

REVISION: 0



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

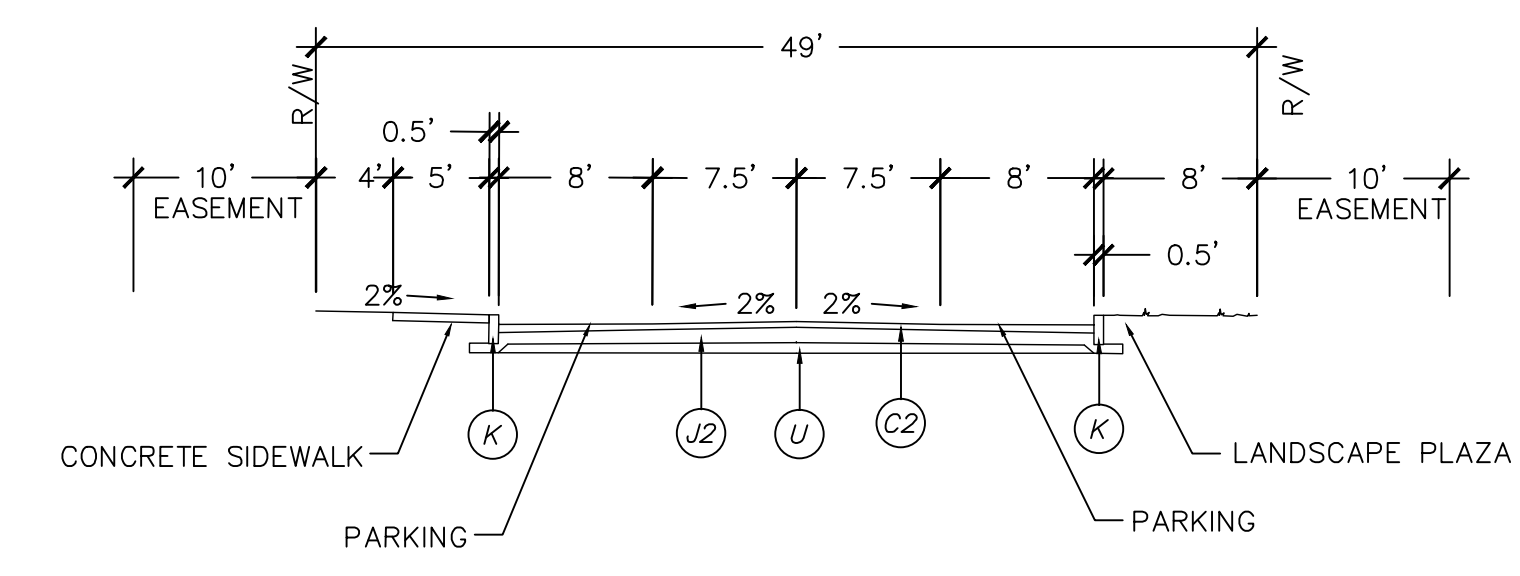
Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

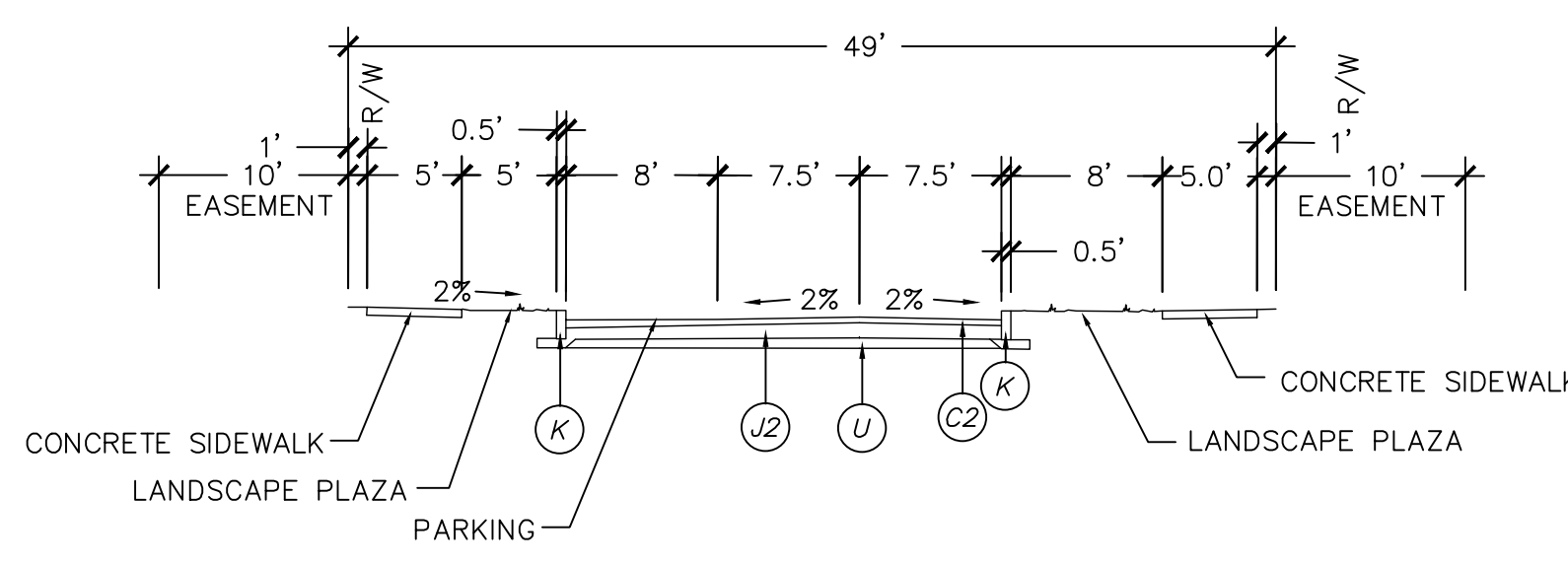
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

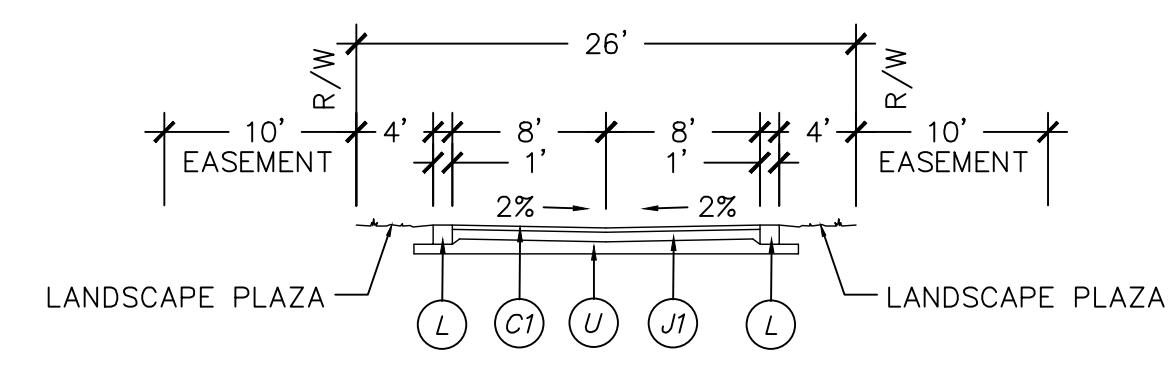
ILLUSTRATIVE STREET SECTIONS FROM DEVELOPMENT AGREEMENT



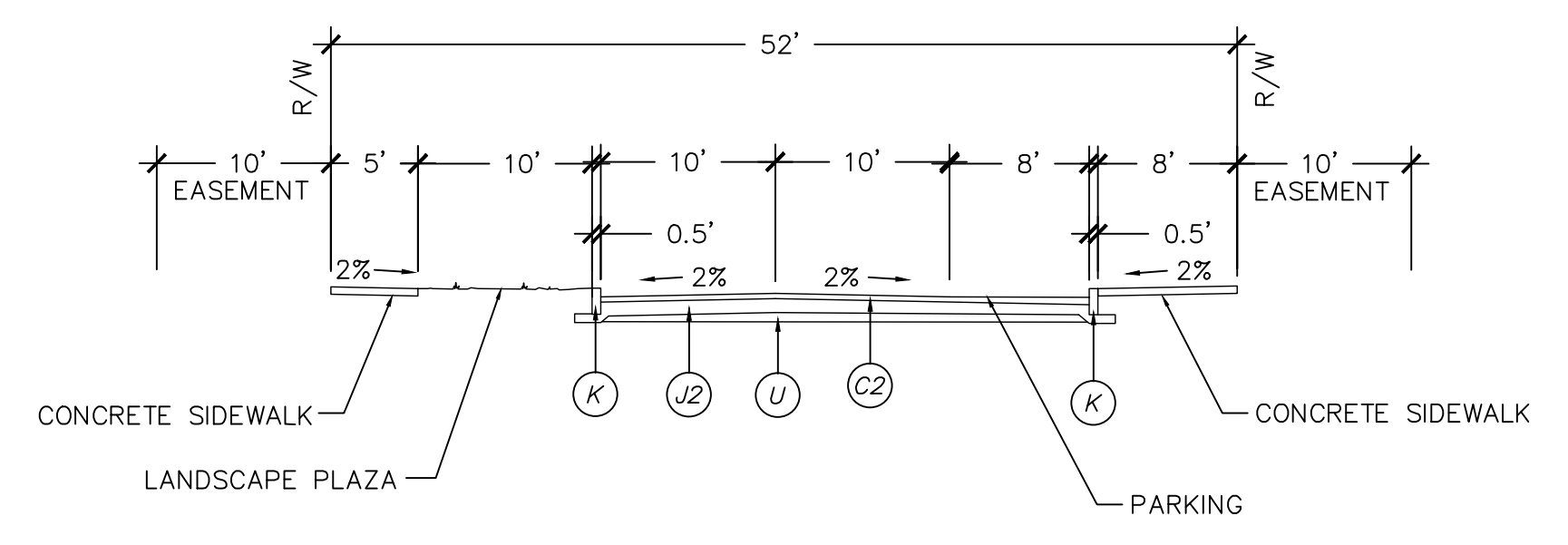
UNDIVIDED TYPICAL SECTION
VILLAGE ONE WAY STREET PARKING
49' PUBLIC R/W
VILLAGE GREEN DRIVE
NOT TO SCALE



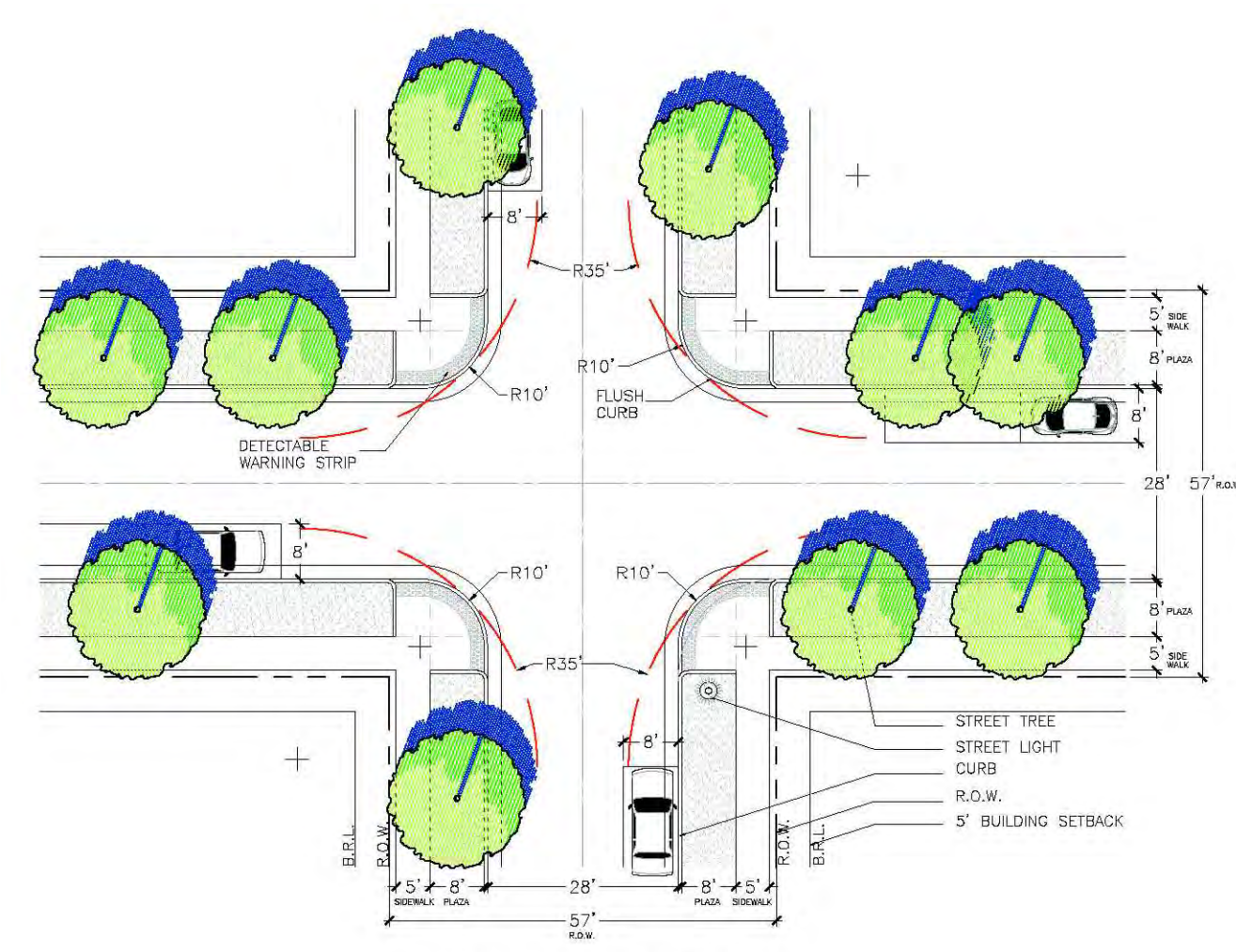
UNDIVIDED TYPICAL SECTION
VILLAGE ONE WAY STREET PARKING
49' PUBLIC R/W
WATERCRAFT FERRY AVENUE
NOT TO SCALE



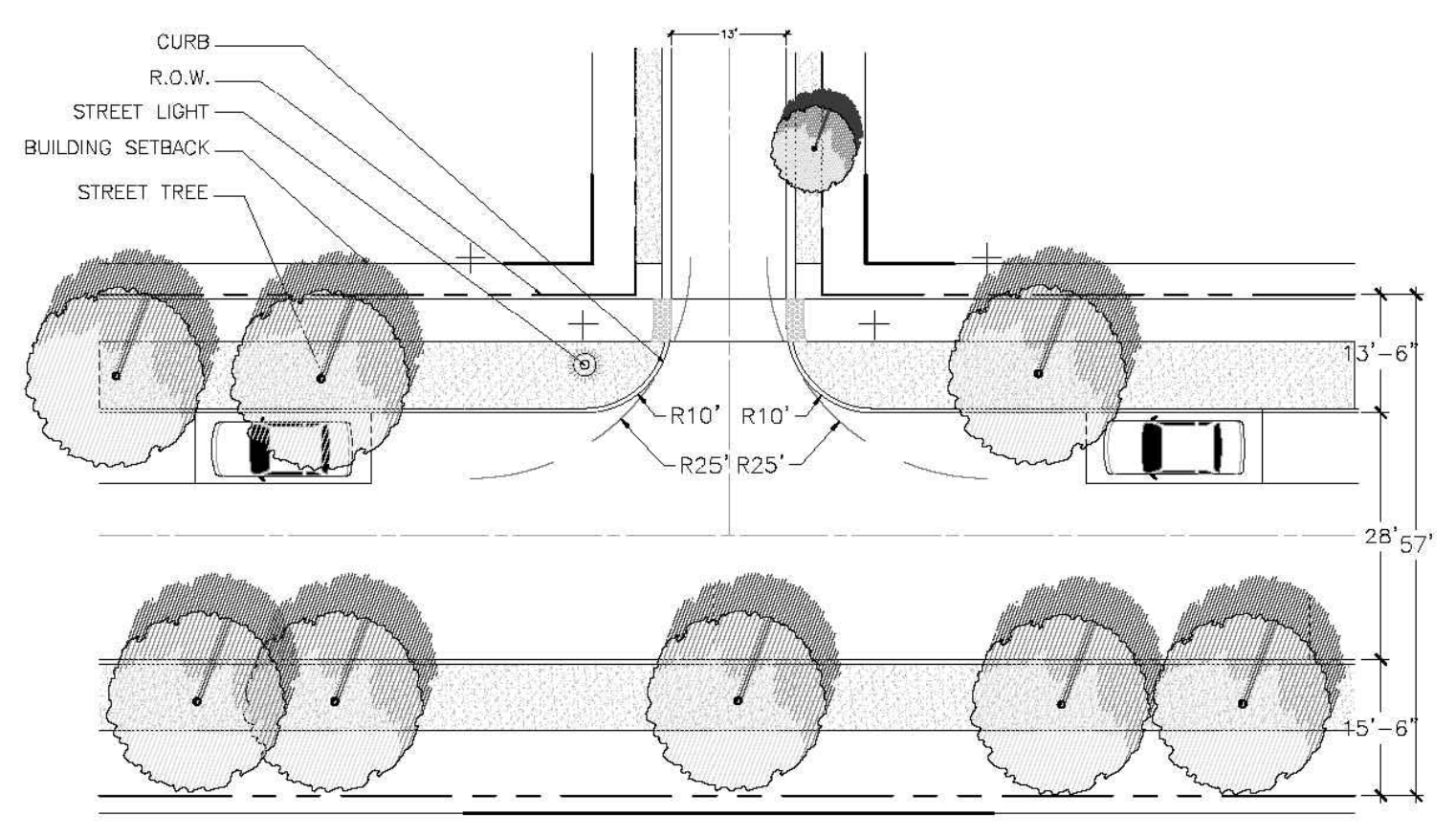
ALLEY TYPICAL SECTION
26' PUBLIC R/W
NOT TO SCALE



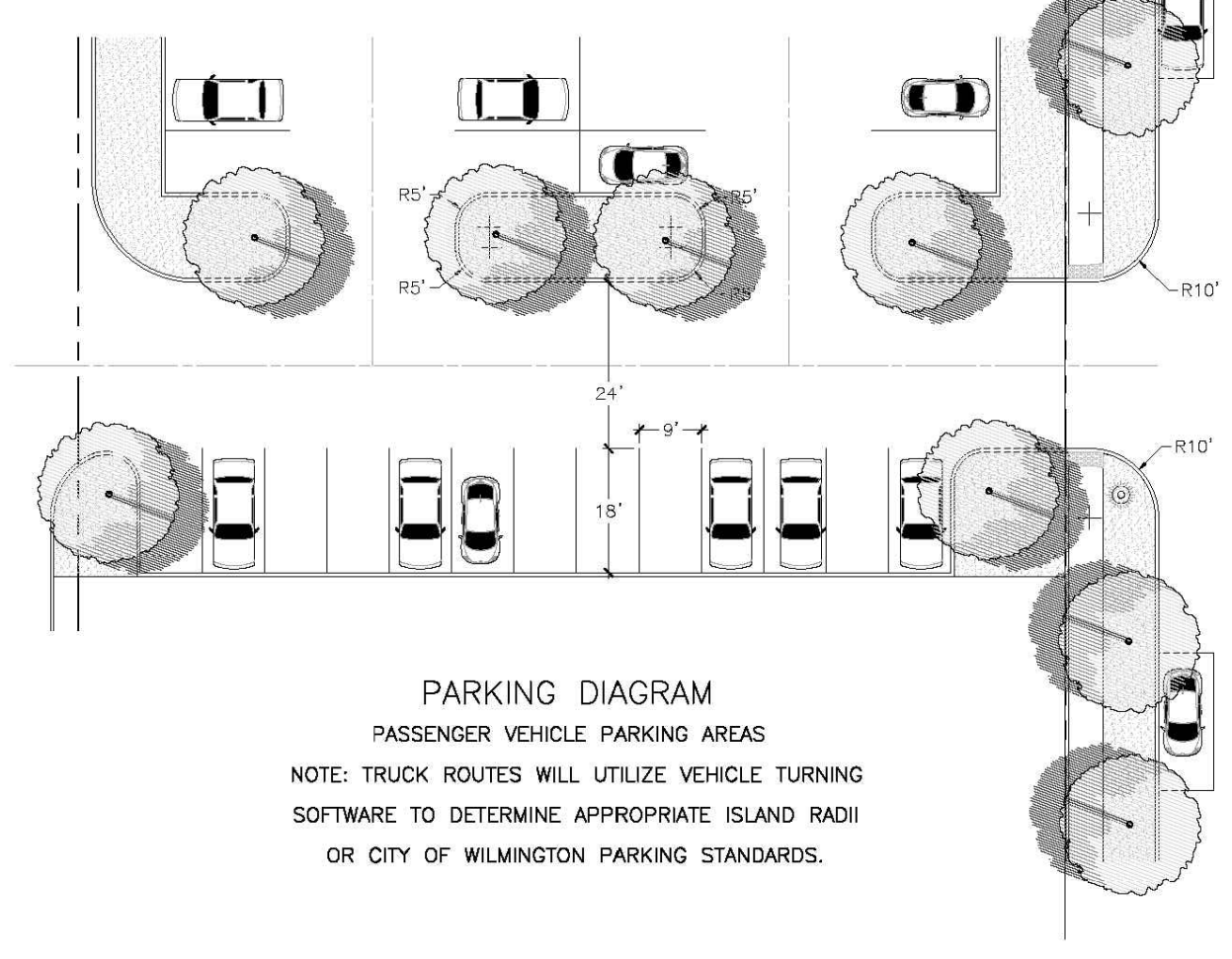
UNDIVIDED TYPICAL SECTION
VILLAGE STREET 1 W/ALTERNATE SHOULDER 4 + 6
52' PRIVATE R/W
NOT TO SCALE



INTERSECTION DIAGRAM
VILLAGE STREET AND
VILLAGE STREET



INTERSECTION DIAGRAM
VILLAGE (RESIDENTIAL)
AND ALLEY II



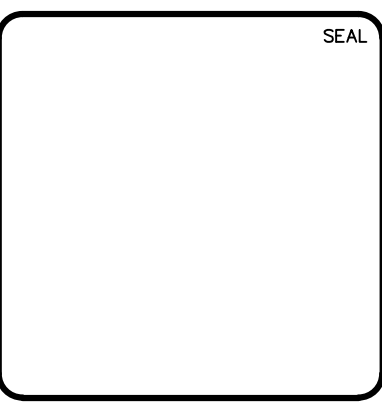
PARKING DIAGRAM
PASSENGER VEHICLE PARKING AREAS
NOTE: TRUCK ROUTES WILL UTILIZE VEHICLE TURNING SOFTWARE TO DETERMINE APPROPRIATE ISLAND RADIUS OR CITY OF WILMINGTON PARKING STANDARDS.

PAVEMENT SCHEDULE	
C1	2" ASPHALT CONCRETE SURFACE COARSE, TYPE SF9.5A AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	3" ASPHALT CONCRETE SURFACE COARSE, TYPE S9.5B AT AN AVERAGE RATE OF 336 LBS. PER SQ. YD.
J1	6.0" COMPACTED ABC STONE BASE COURSE
J2	8.0" COMPACTED ABC STONE BASE COURSE
K	6.0" VERTICAL CURB
L	12.0" RIBBON CURB
U	COMPACTED SUBGRADE

* SEE SHEET CS-501 (14) FOR ADDITIONAL DETAILS AND SECTIONS FOR CURBING, PAVEMENT, STONE, AND SUBGRADE.

ILLUSTRATIVE INTERSECTION DIAGRAMS FROM DEVELOPMENT AGREEMENT

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS	DATE
0			03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES
NORTH AMERICA SEXIUS HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE
PHASE 1B
ROADWAY SECTIONS

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NUL
CHECKED: KCBE
PROJ. MGR.: NUL

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

MAC FILE NUMBER: CT-301
DRAWING NUMBER: 24
REVISION: 0

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

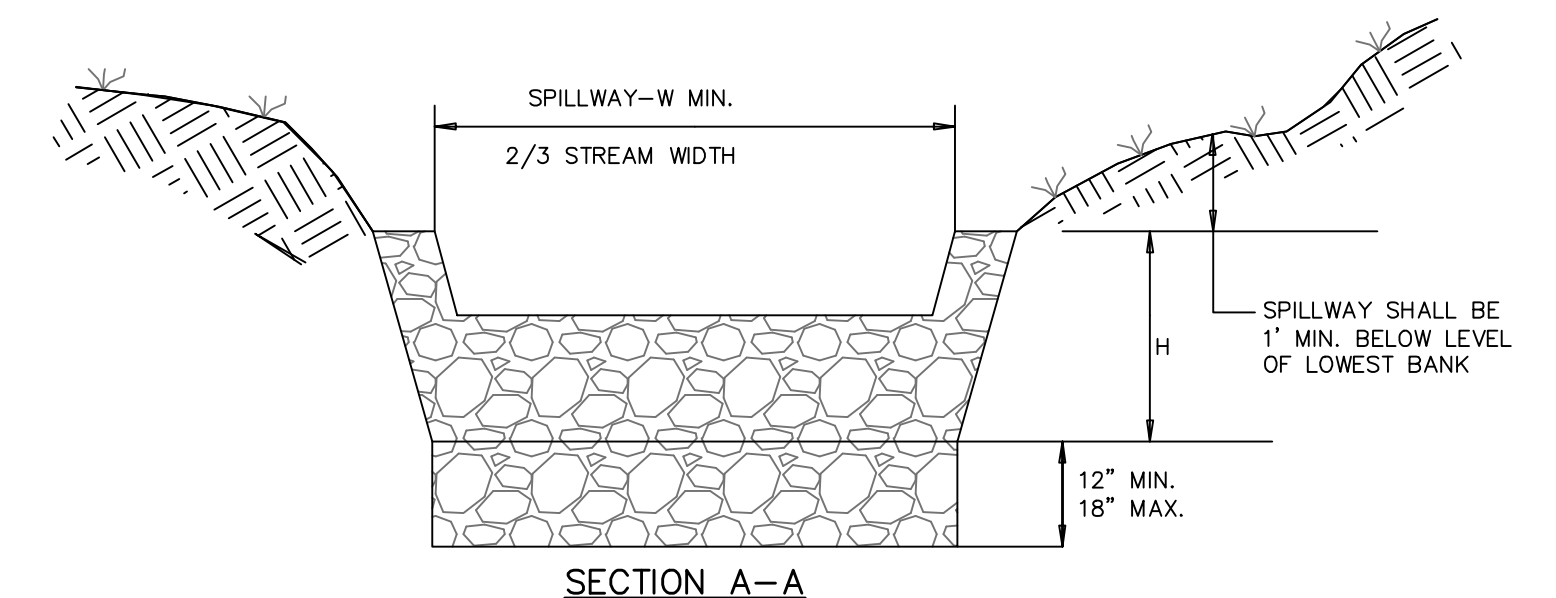
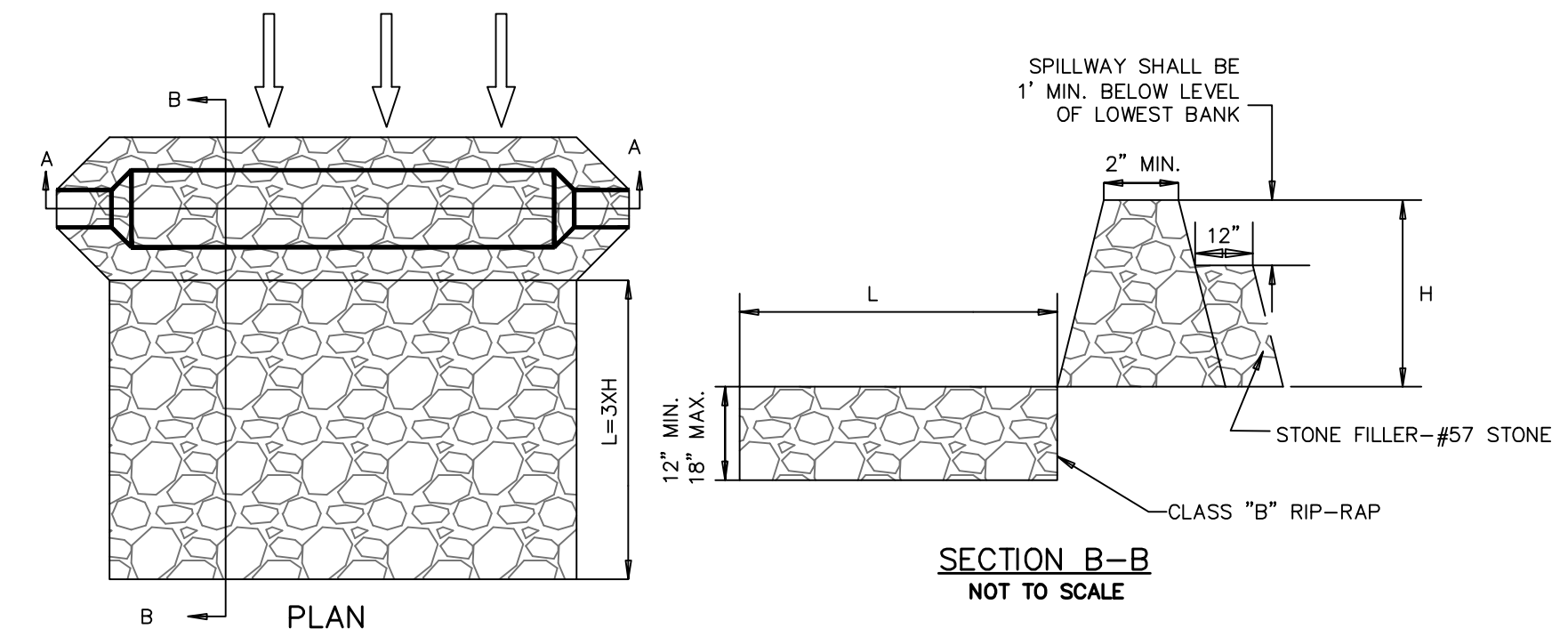
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

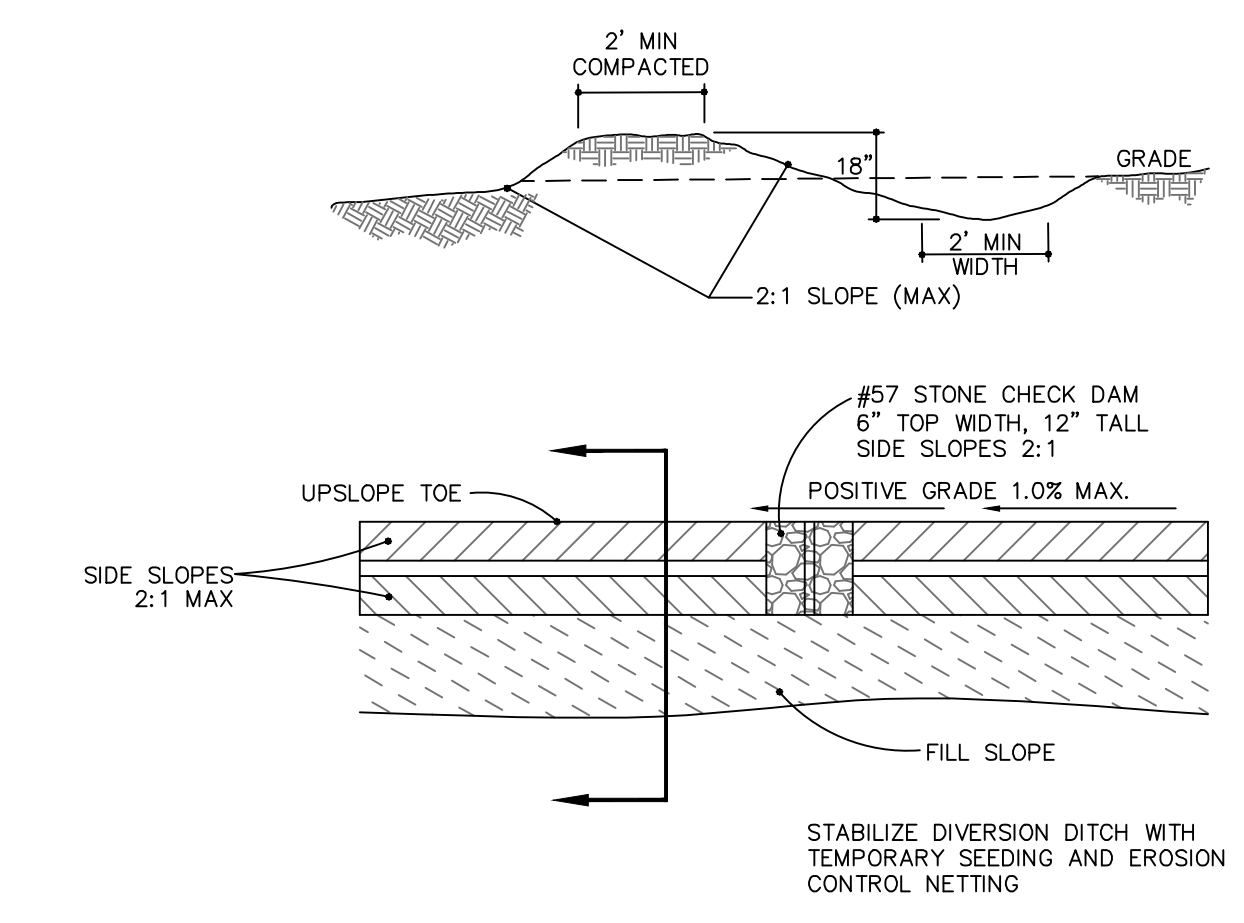
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



DITCH CHECK DAM
SD 13-04
NOT TO SCALE



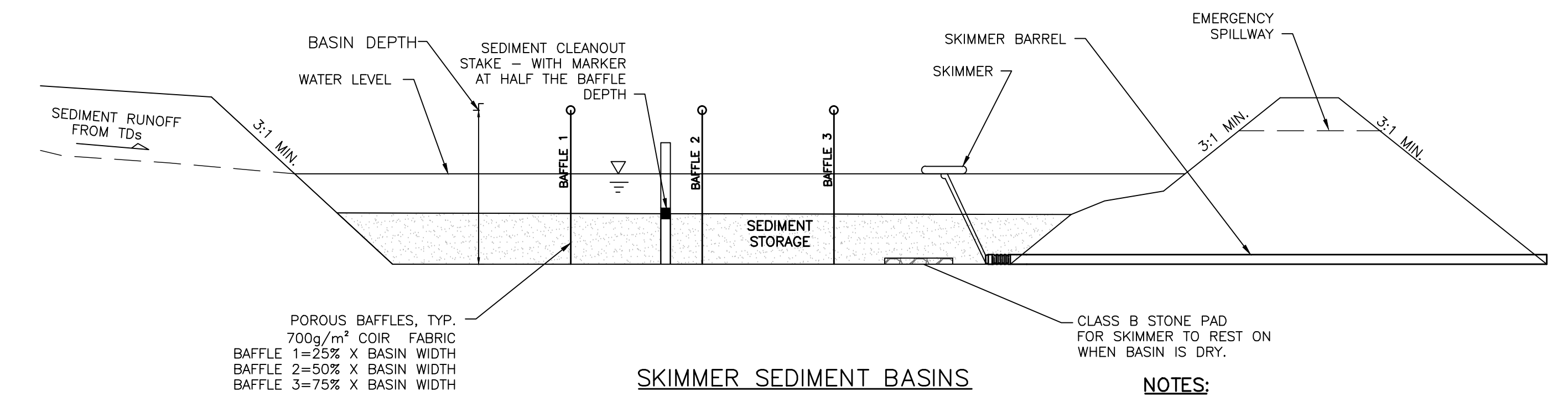
TEMPORARY DIVERSION DITCH
NOT TO SCALE

TDD NUMBER	DA (AC)	Q 10 (CFS)	LENGTH (FT)	HIGH (FT)	LOW (FT)	ELEVATION DIFF. (FT)	SLOPE (%)	INITIAL LINING	MANNING n	VELOCITY (FPS)	COMMENT
TDD1	0.25	0.5	158	8.00	4.00	4.00	2.53	BARE EARTH	0.020	2.73	LINING REQ
TDD2	1.23	2.7	231	5.45	4.57	0.88	0.38	BARE EARTH	0.020	2.07	LINING REQ

TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	DEPTH (IN)	MIN. DEPTH (IN)	CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED
TDD1	LINING REQ	0.035	1.82	EXCELSIOR OK	2.3	18	79	2	2
TDD2	LINING REQ	0.035	1.36	EXCELSIOR OK	7.9	19	525	0	0

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.



SKIMMER SEDIMENT BASINS

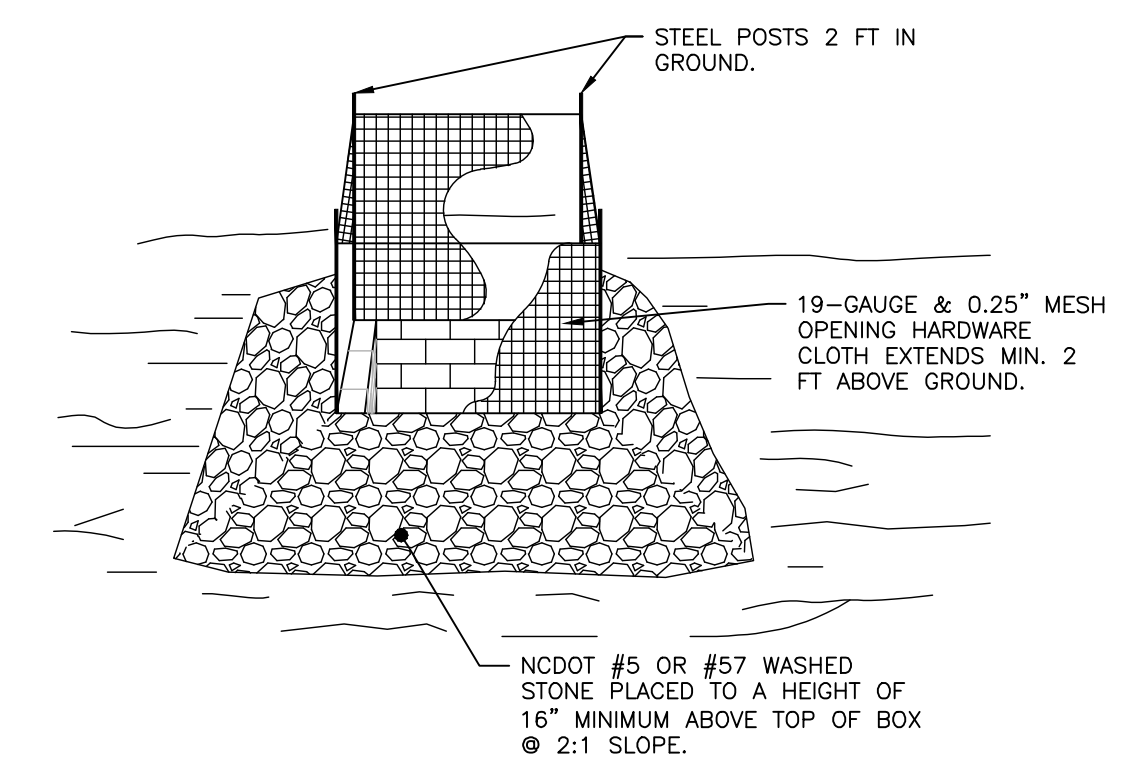
- NOTES:**
- BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET OR COIR MESH
 - THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
 - LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS. AVOID PLACING IT THROUGH FILL MATERIAL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

Skimmer No.	Drainage Area (ac)	Rational C	I10 Intensity (in/hr)	Q10 Peak Flow (cfs)	Required SA (325 x Q10) (sf)	Provided SA (sf)	Required Vol (1800cf/ac x DA) (cf)	Provided Vol (cf)	Storage Depth (ft)	Storage Vol Drained (cf)	Weir Width (ft)
SB-1	3.47	0.30	7.23	7.53	2,446	2,584	6,246	6,920	3.00	6,920	8.0

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	2,307	2.0	1.6	0.8	12.0	4.0

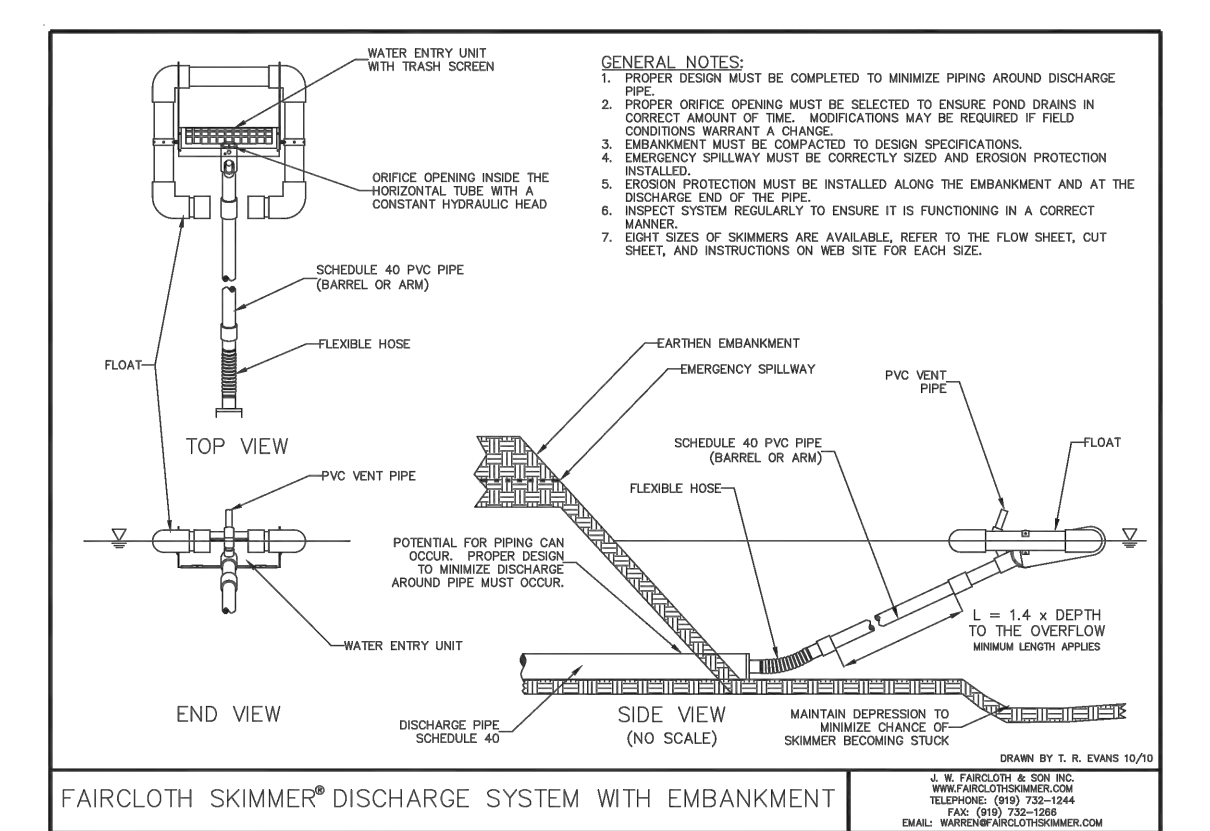
Skimmer Size (in)	Outflow Qmax (cf/day)	Head (ft)
1.5	1,728	0.125
2	3,283	0.167
2.5	6,234	0.208
3	9,774	0.250
4	20,109	0.333
5	32,832	0.333

- 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>)



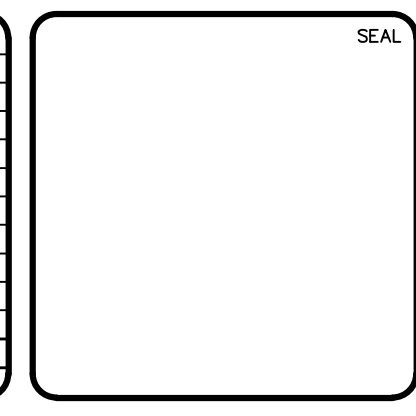
- NOTES:**
- DRIVE 5-FOOT STEEL POSTS (1.25 lb/ft steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
 - SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE 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



SKIMMER DETAIL WITH EMBANKMENT
NOT TO SCALE

REVNO.	ISSUED FOR CONSTRUCTION	DATE
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES

NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

**SEDIMENT & EROSION CONTROL
DETAILS**

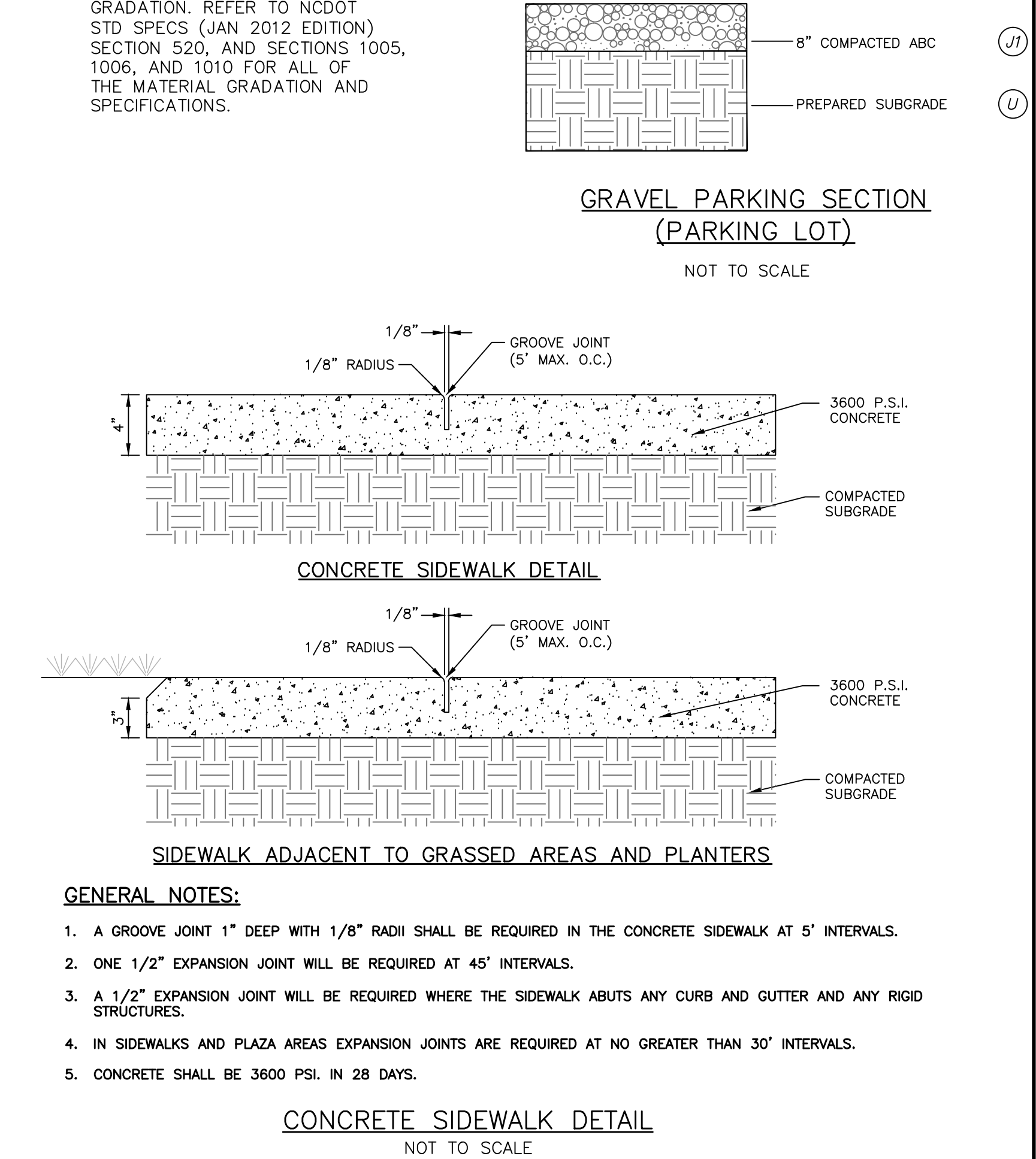
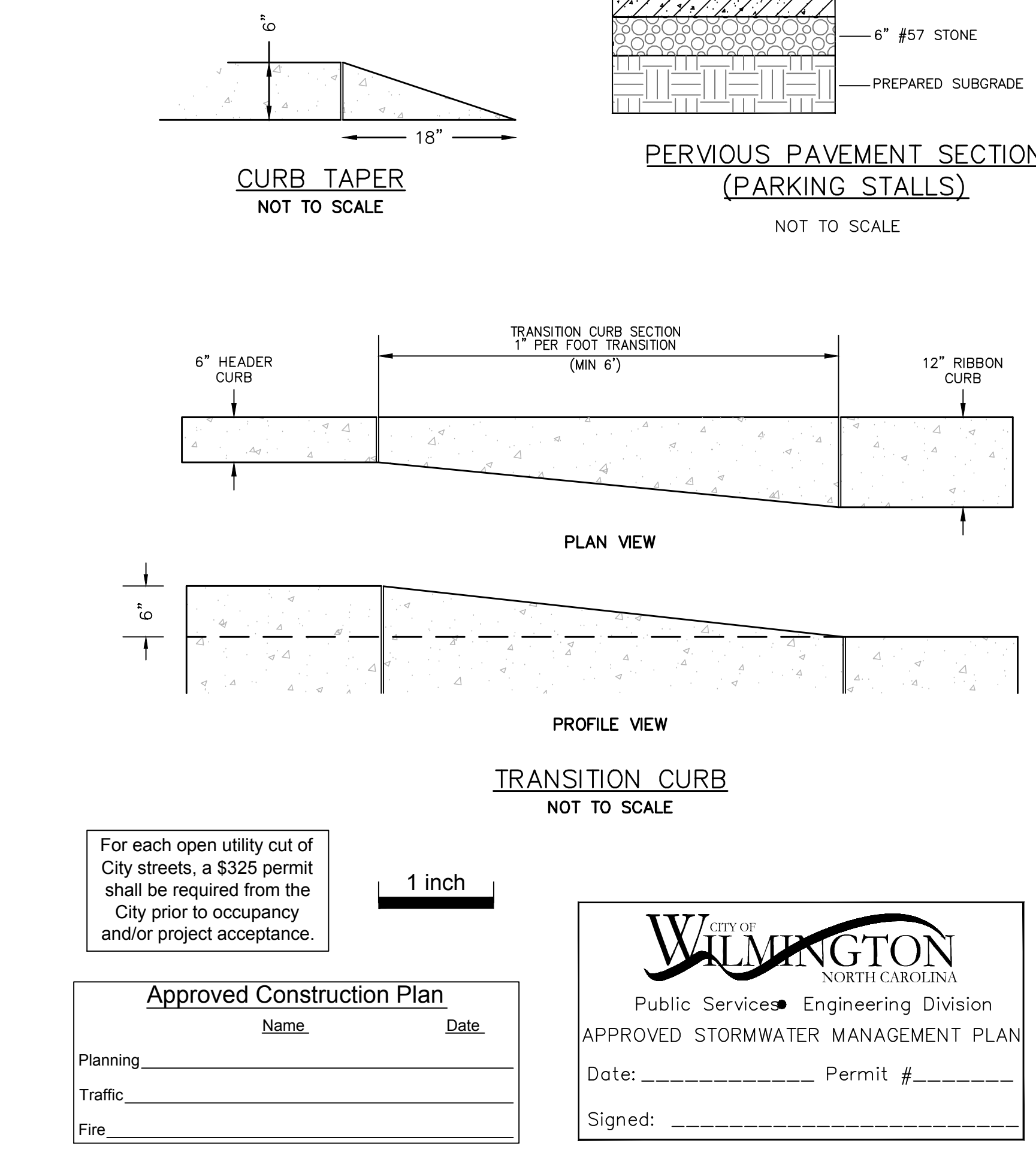
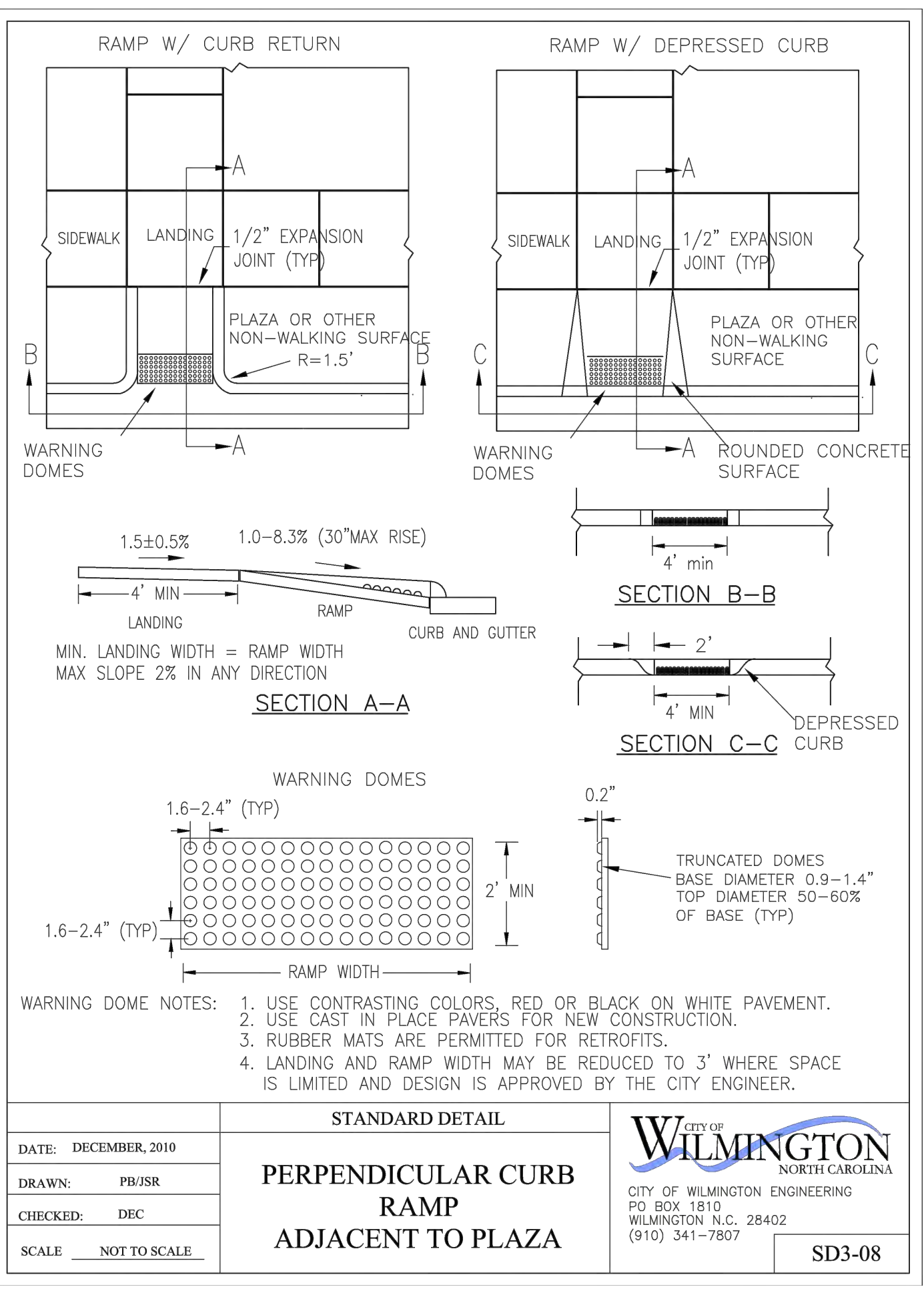
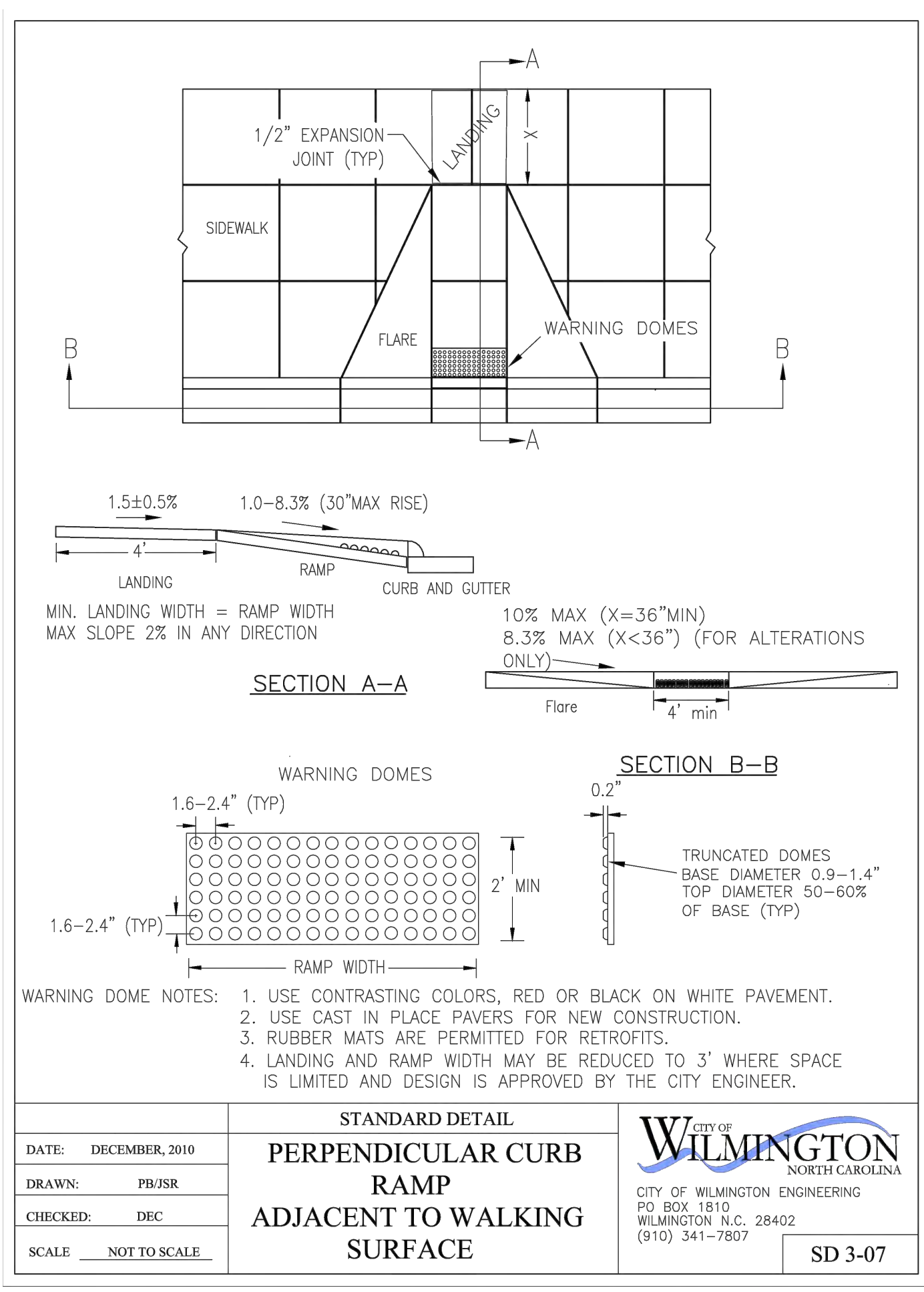
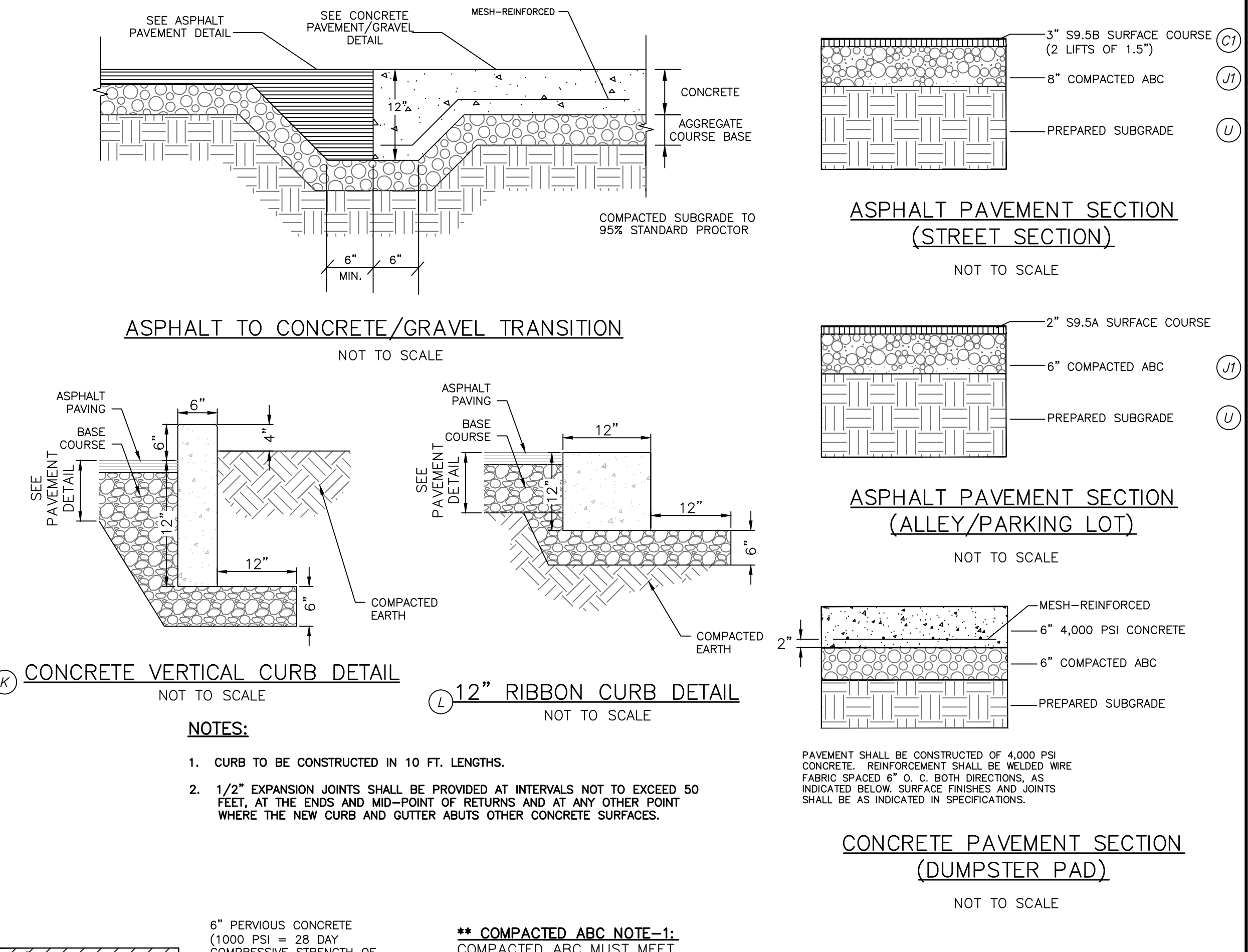
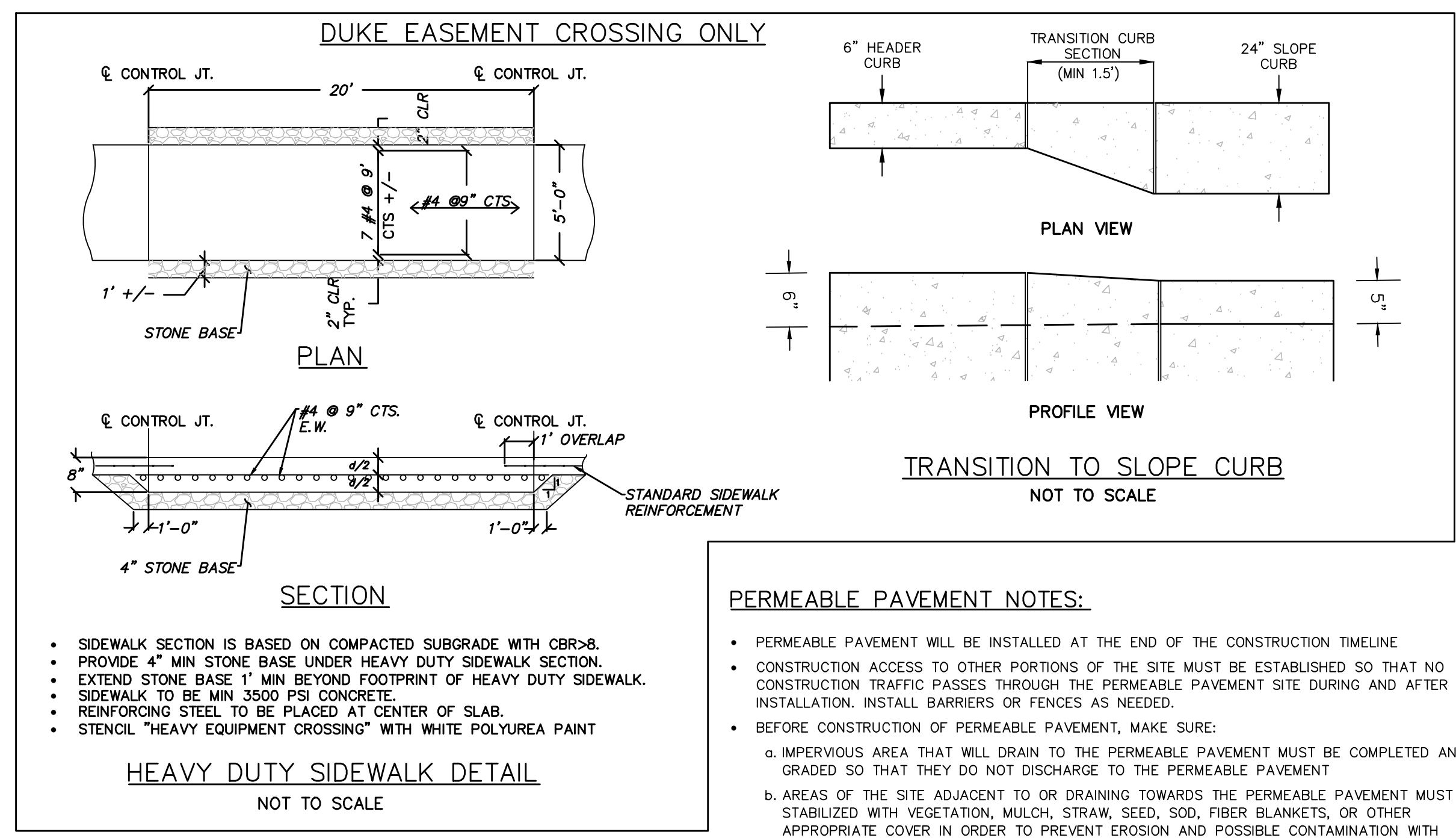
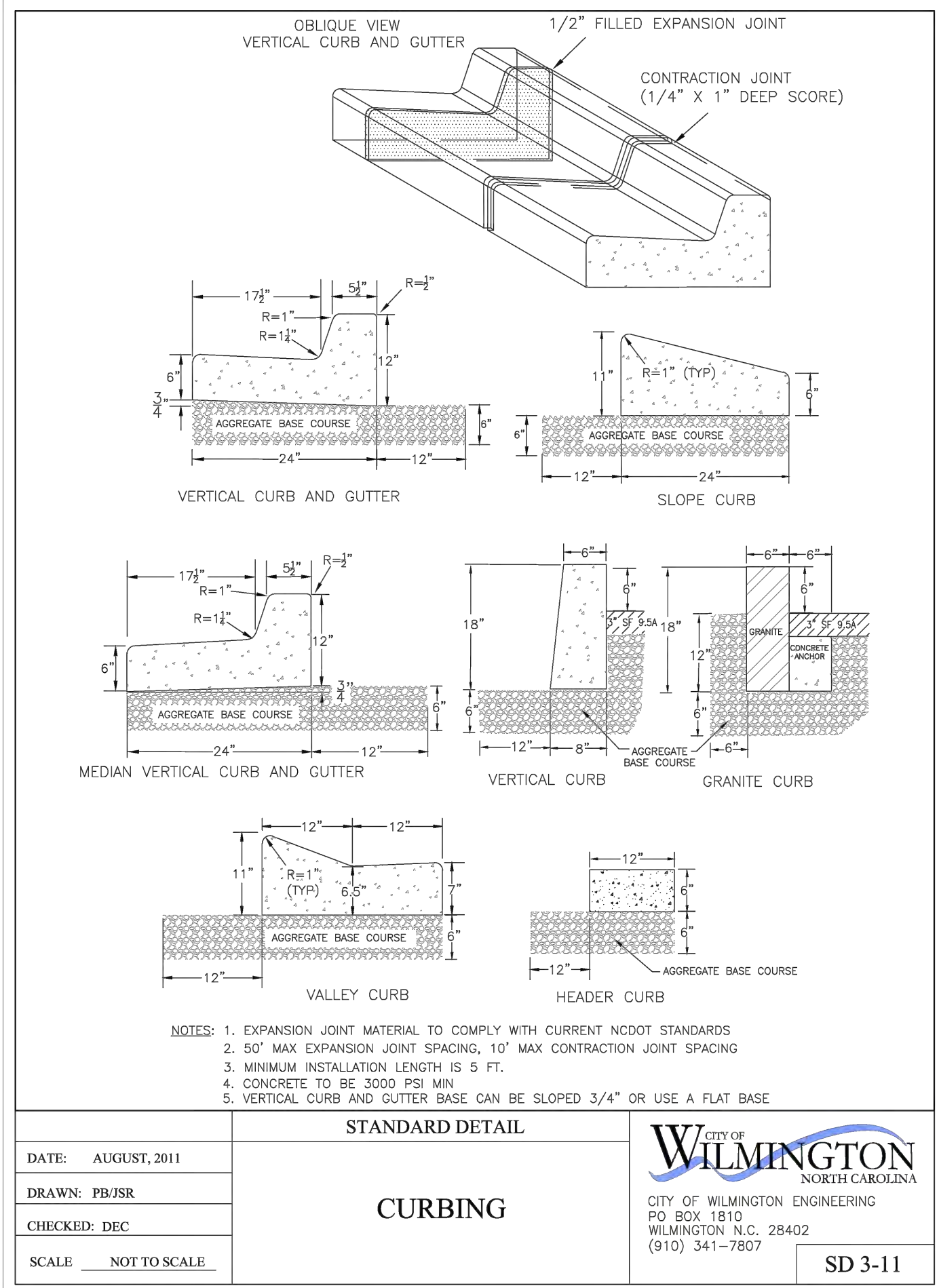
DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCB
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CE-502
DRAWING NUMBER: 26

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



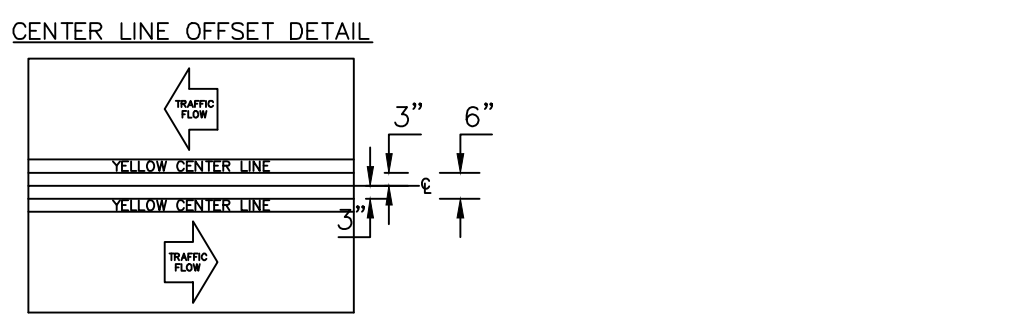
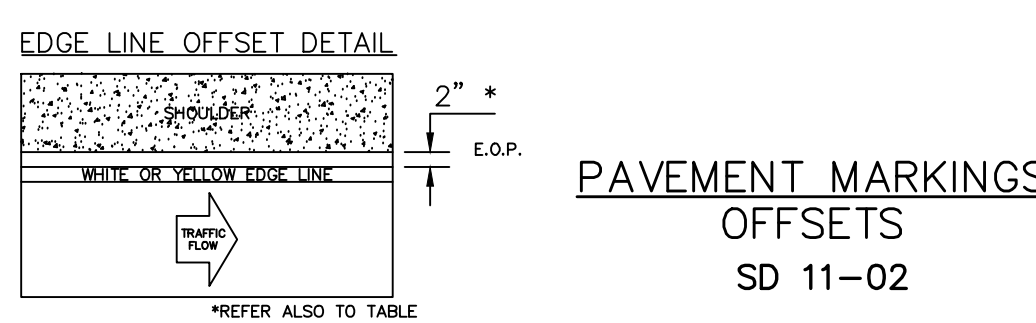
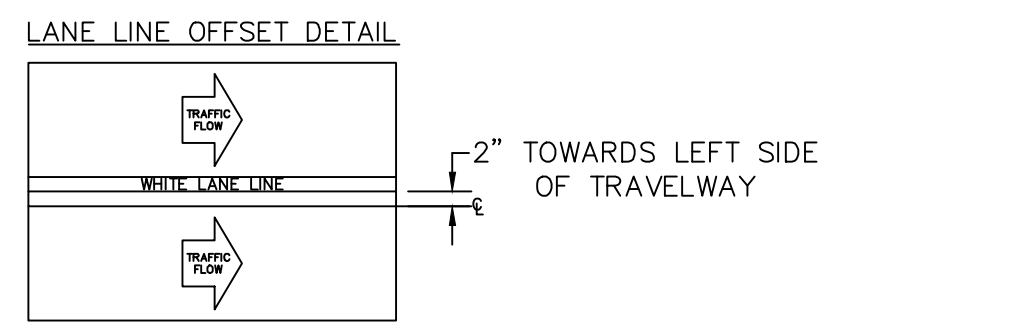
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RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

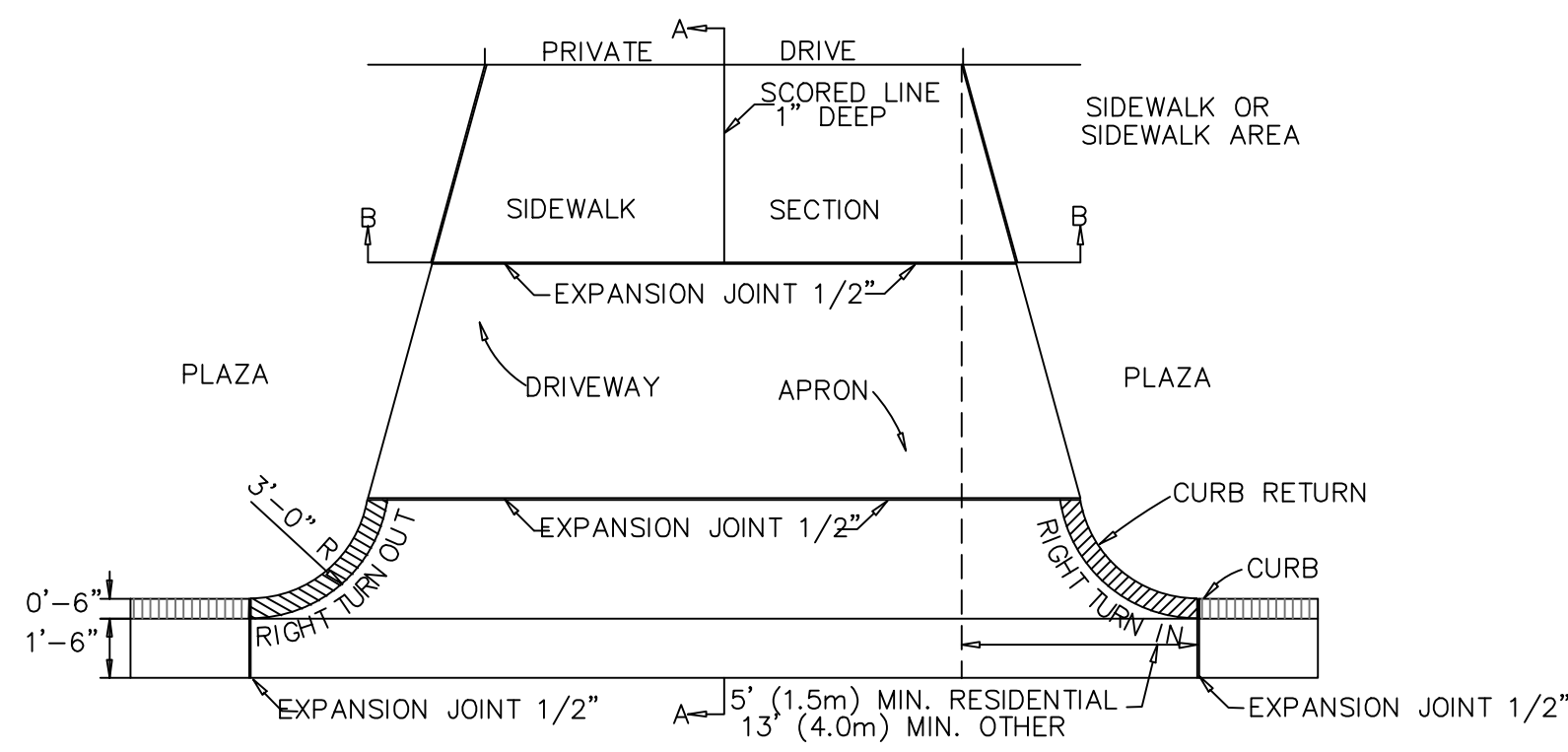
SITE DETAILS

DATE:	17MAR16	SCALE:	MAC FILE NUMBER:
MCE PROJ. #	2735-0124	HORIZONTAL:	CS-501
DRAWN:	ALM	VERTICAL:	DRAWING NUMBER
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CHECKED:	KCBE		
PROJ. MGR.:	NUL		
STATUS: FINAL DESIGN			
ISSUED FOR CONSTRUCTION			
REVISION 0			

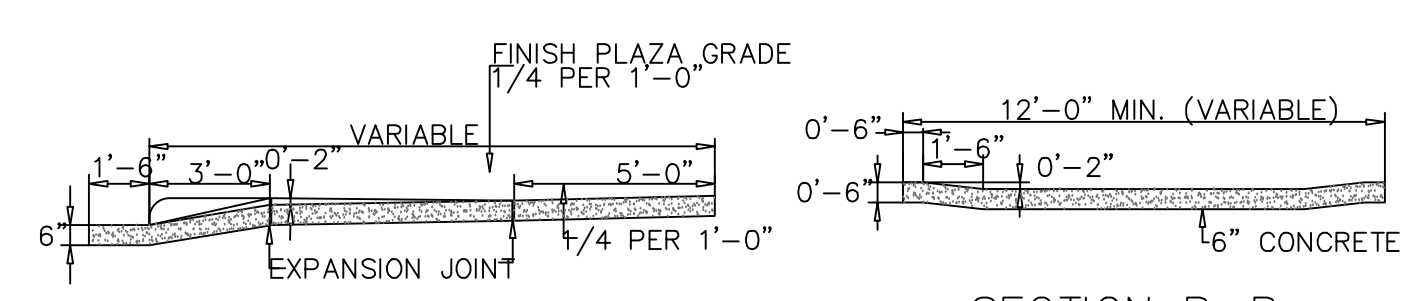


PAVEMENT MARKINGS OFFSETS SD 11-02

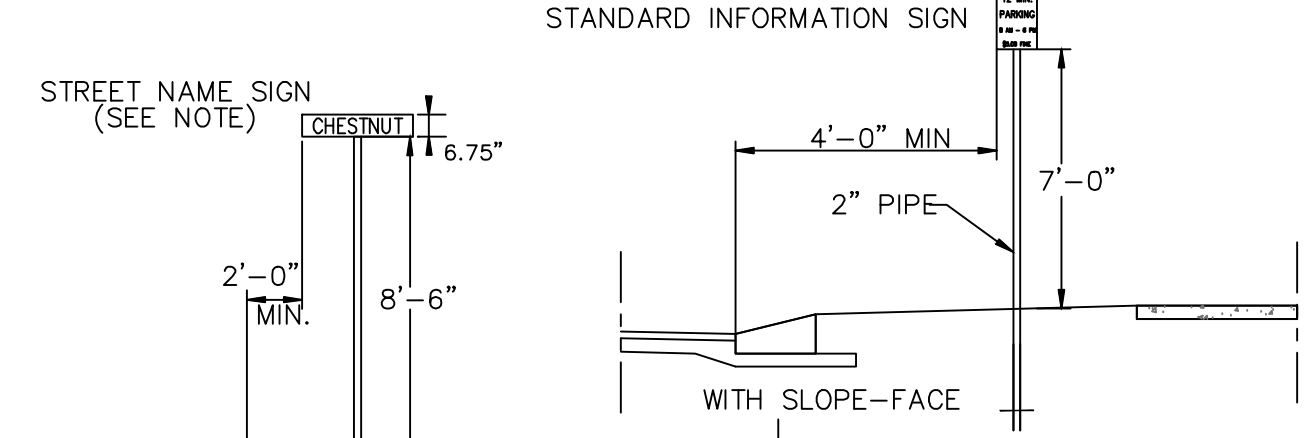
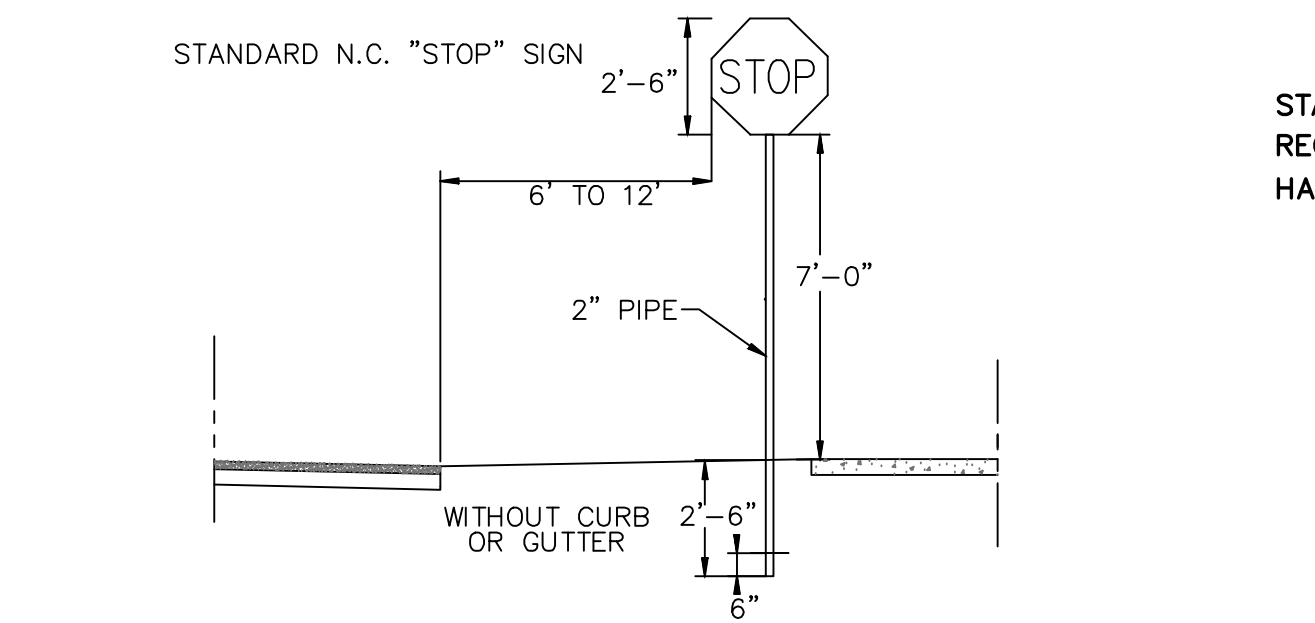
WIDTH OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E. O. P.	MINIMUM LANE WIDTH
16' - 20'	2'	8' - 10'
22'	2'	11'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'



PAVEMENT PLAN

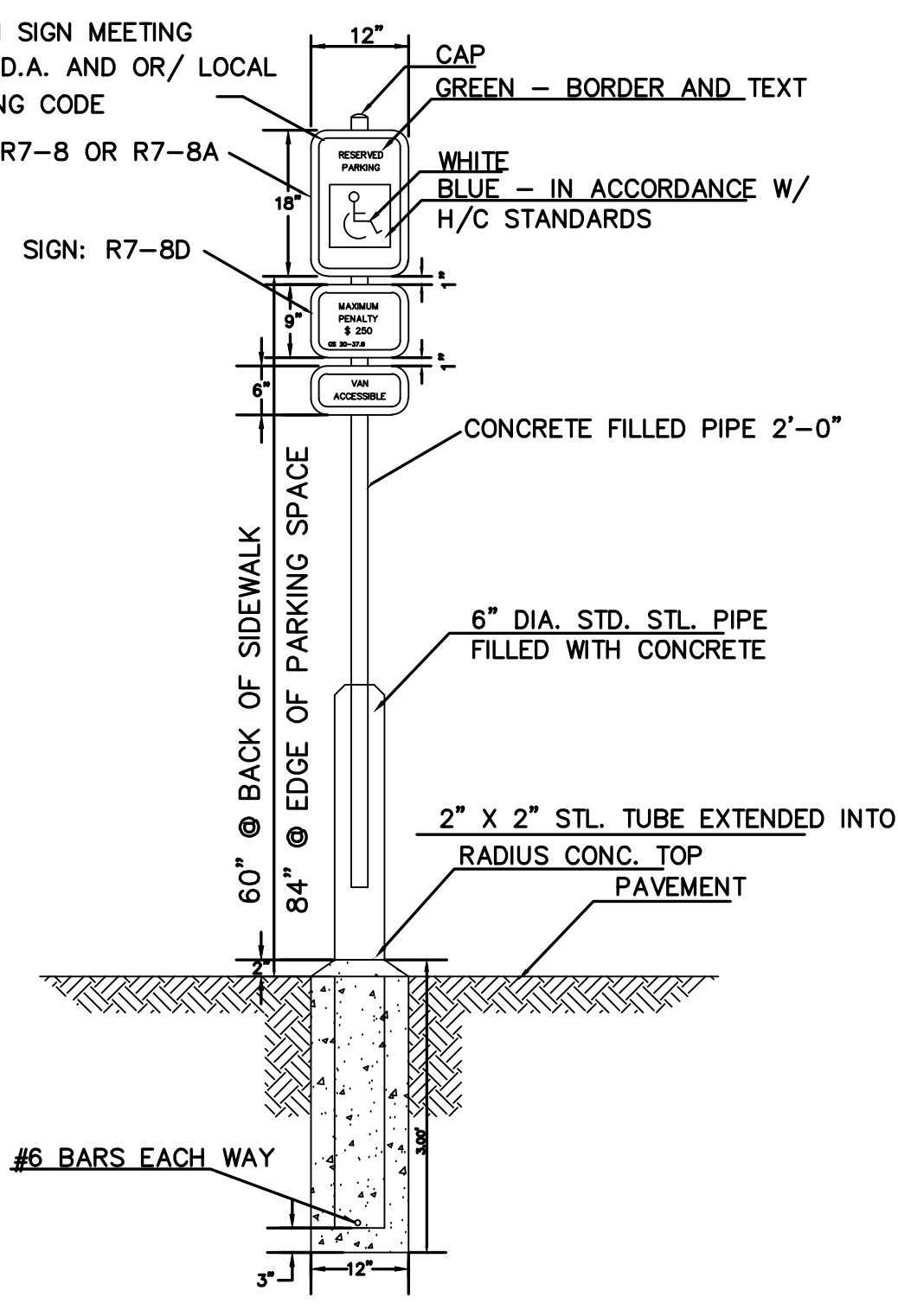


STANDARD DRIVEWAY DETAIL SD 8-02 NOT TO SCALE

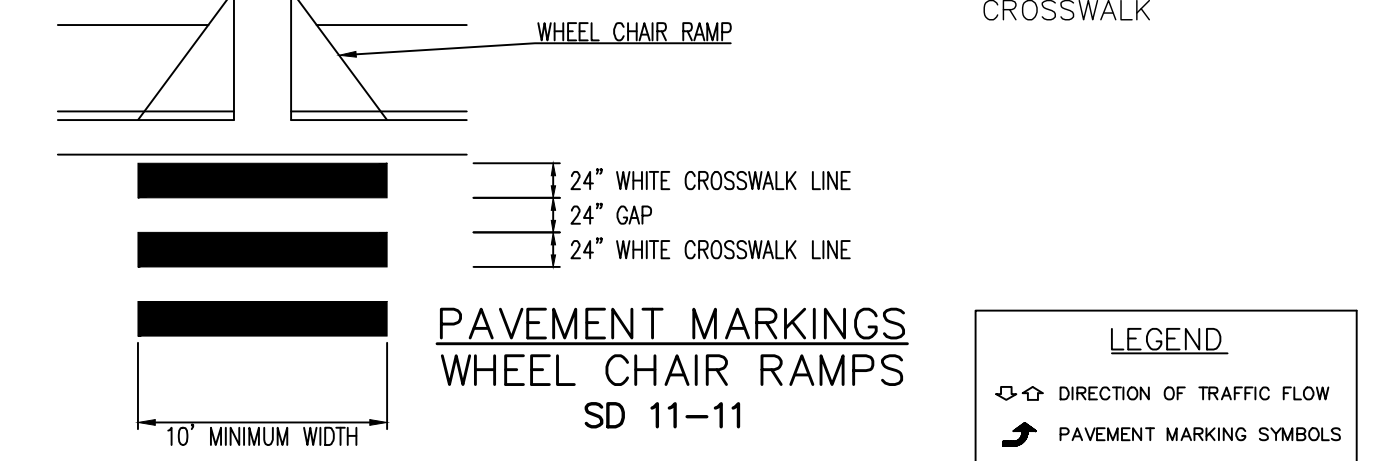
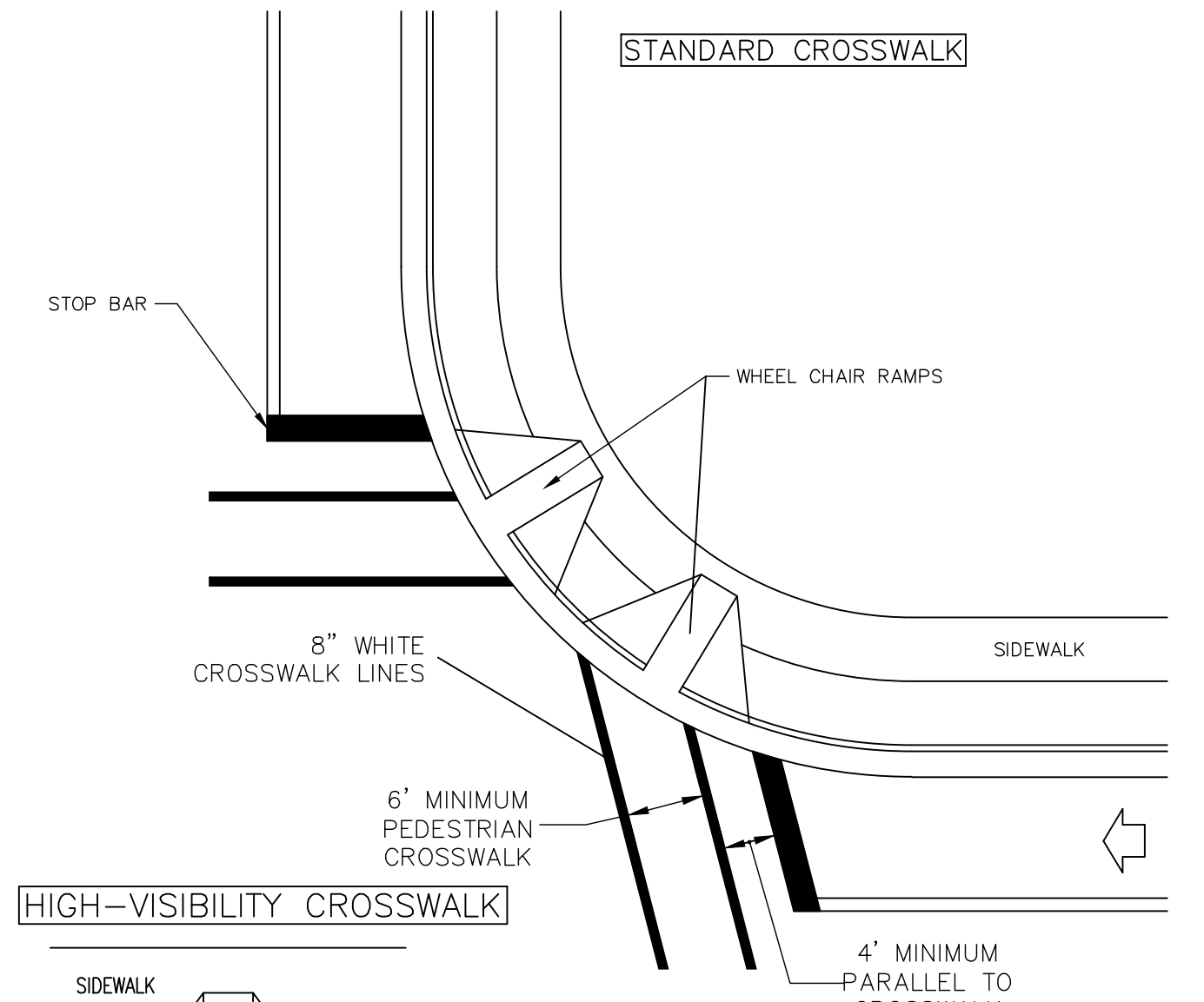


- NOTES:
- STREET NAME SIGNS SHALL BE A MINIMUM OF 6" EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
 - ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
 -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

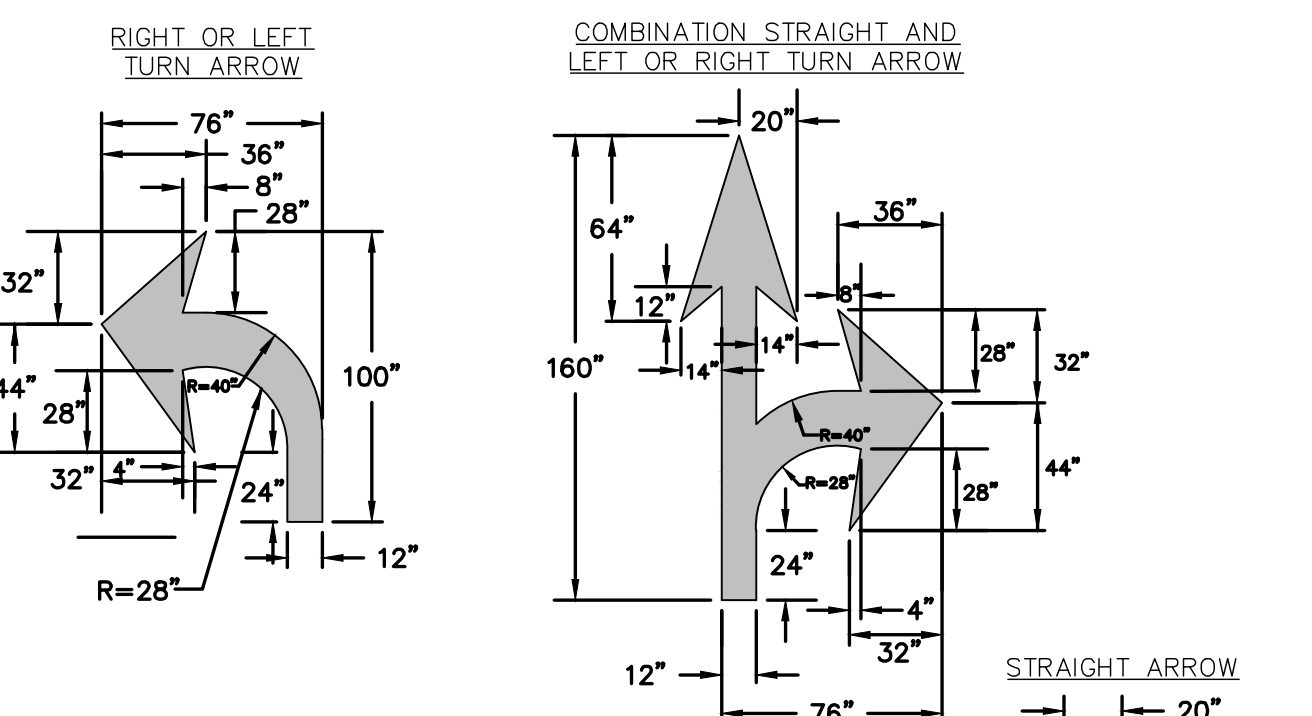
STANDARD SIGN INSTALLATION LOCATION SD 15-04 NOT TO SCALE



HANDICAP PARKING SIGN NOT TO SCALE

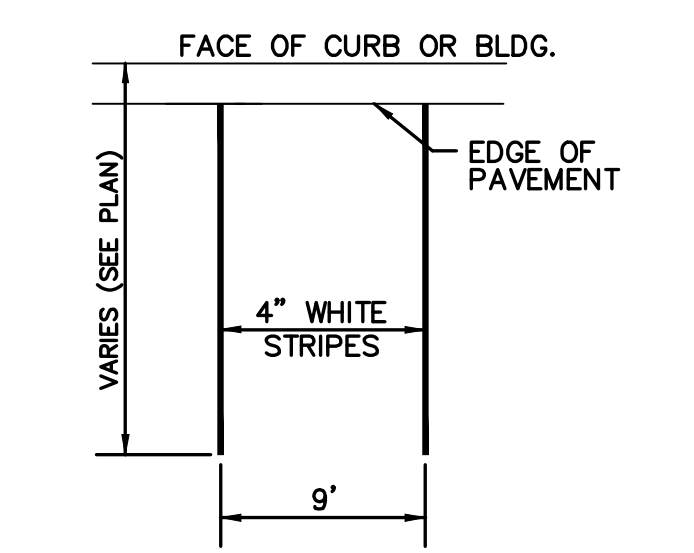


LEGEND
 → DIRECTION OF TRAFFIC FLOW
 ↗ PAVEMENT MARKING SYMBOLS

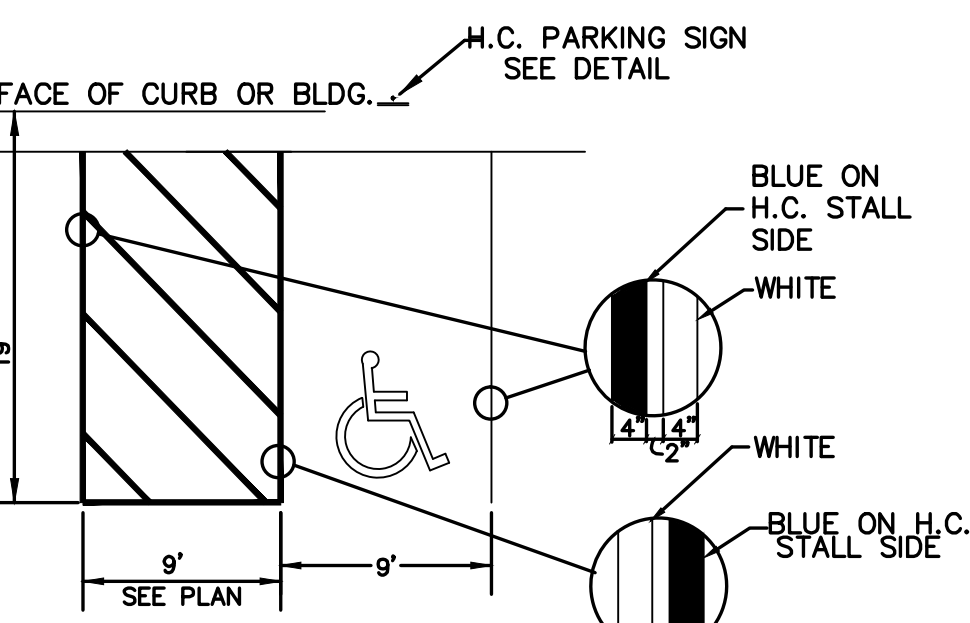


PAVEMENT MARKINGS ARROW SYMBOLS SD 11-03

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



TYPICAL PARKING STALL NOT TO SCALE



HANDICAPPED PARKING STALL NOT TO SCALE

GENERAL NOTES

- 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.
- WHEELCHAIR RAMP SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
- CURB RAMP SHALL HAVE DETECTABLE WARNINGS EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2'-FT. IN LENGTH.

CONSTRUCTION NOTES

- CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
- WHEELCHAIR RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
- A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
- 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.
- TRANSITIONS FROM RAMP TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
- THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12.
- THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.
- MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
- ANY RAISED ISLANDS IN CROSSINGS SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMP AT BOTH SIDES AND A LEVEL AREA AT LEAST 48-IN. LONG BETWEEN THE CURB RAMP.
- 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

- 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.
- PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
- 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.
- CURB RAMP AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
- THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMP AT MARKED CROSSINGS SHALL HAVE 48-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS.
- IF DIAGONAL CURB RAMP 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.

SD 8-09

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

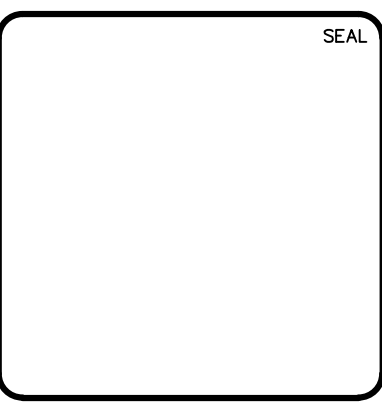
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services - Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
0			03/17/2016



MCKIM & CREED
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 www.mckimcreed.com

RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
 PHASE 1B**

SITE DETAILS

DATE: 17MAR16	SCALE: N/A	MAC FILE NUMBER: CS-502
MCE PROJ. # 2735-0124	HORIZONTAL: N/A	DRAWING NUMBER: 28
DESIGNED: NUL	VERTICAL: N/A	
CHECKED: KCBE		
PROJ. MGR.: NUL		
STATUS: FINAL DESIGN		REVISION: 0
ISSUED FOR CONSTRUCTION		

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

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOMELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.02.
 USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 FOR 6" Ø IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB, OVER 6" Ø TO 12" Ø IN HEIGHT USE 8" WALLS AND BOTTOM SLAB, ADJUST QUANTITIES ACCORDINGLY.
 CONNECT WITH PIPE GRINGS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.

SECTION X-X, SECTION Y-Y, SECTION J-J, SECTION M-M, DETAIL SHOWING METHOD OF RISER CONSTRUCTION.

SHEET 1 OF 2 **840.02**

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

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON WTL, HEIGHT, S, WITH NO RISER)

PIPE SIZE	SPAN	WIDTH	MIN. HEIGHT	COVER DIMENSION	NO. BARS U	NO. BARS V	NO. BARS W	TOTAL BARS	CU YDS. CONC. IN BOX	REDUCTIONS ONE PIPE	C.W. F.C.
12"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	0.772	0.015
15"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	0.809	0.033
18"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	0.887	0.033
24"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.001	0.069
30"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.143	0.069
36"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.274	0.132
42"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.398	0.160
48"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.512	0.243
54"	3'-0"	2'-2"	2'-0"	4"	2	2	2	6	0.235	1.622	0.317

* RISER HAS -226 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

SHEET 2 OF 2 **840.02**

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

GENERAL NOTES:
 THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.36 AND 840.41.
 INSTALL AND PAY FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NCOTD STANDARD SPECIFICATION SECTION 840.
 USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
 USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A185 WELDED WIRE FABRIC (WWF).
 LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
 PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
 ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
 PRECAST ALL ELEMENTS TO MEET ASTM D913.
 FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
 PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
 THE SAME MIN. AREA OF STEEL IS PROVIDED.
 SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCOTD STANDARD SPECIFICATIONS).
 LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".
 THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.
 SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCOTD STANDARD SPECIFICATIONS).
 ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA #5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD. DRG. 840.34 FOR MANHOLE INSTALLATION.

SHEET 1 OF 1 **840.46**

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

NOTE: USE TYPE "E", "F" AND "G" GRATE UNLESS OTHERWISE NOTED.

ALIGN FRAME WITH INSIDE EDGE OF WALL TO ALLOW FOR VERTICAL ADJUSTMENT WALL SECTION

SHEET 1 OF 2 **840.03**

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

DETAIL SHOWING TYPES OF GRATES USE ACCORDING TO WATER FLOW.

WATER FLOW → SAG → WATER FLOW

RAISED FLOW ARROW 1/8" HIGH

SHEET 2 OF 2 **840.03**

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

ENGLISH STANDARD DRAWING FOR MEDIAN CURB FOR CATCH BASIN (FOR USE WITH 1'-6" CURB AND GUTTER)

SHEET 1 OF 1 **852.05**

GRILL BASIN CASTINGS

SD 14-04 NOT TO SCALE

MINIMUM AVERAGE WEIGHT
 FRAME 195 LBS.
 GRATE 145 LBS.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

SHEET 1 OF 1

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

NOTE:
 FRAME AND GRATE TO BE STANDARD CITY OF WILMINGTON CAST IRON FRAME AND GRATE PER SD 14-04

GRILL BASIN SD 2-02 NOT TO SCALE

CONTINUOUS CONCRETE COPING

3/4" CEMENT PLASTER TYP. ALL SIDES

SECTION "A-A" - CLASS "A" CONC.

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

NOTE: INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

POLYPROPYLENE (PLASTIC)

#3 DEFORMED STEEL ROD

NOTE: DO NOT USE IN SANITARY SEWER MANHOLES.

SHEET 1 OF 1 **840.66**

CITY OF WILMINGTON NORTH CAROLINA

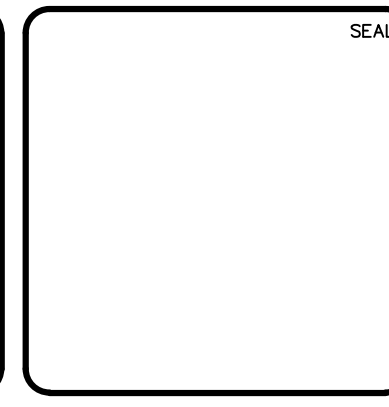
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS / REVISIONS	DATE
0			03/17/2016



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RIVERLIGHTS
 by Newland COMMUNITIES

NORTH AMERICA SEXSUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

STORMWATER DRAINAGE DETAILS

DATE: 17MAR16
 MCE PROJ. # 2735-0124

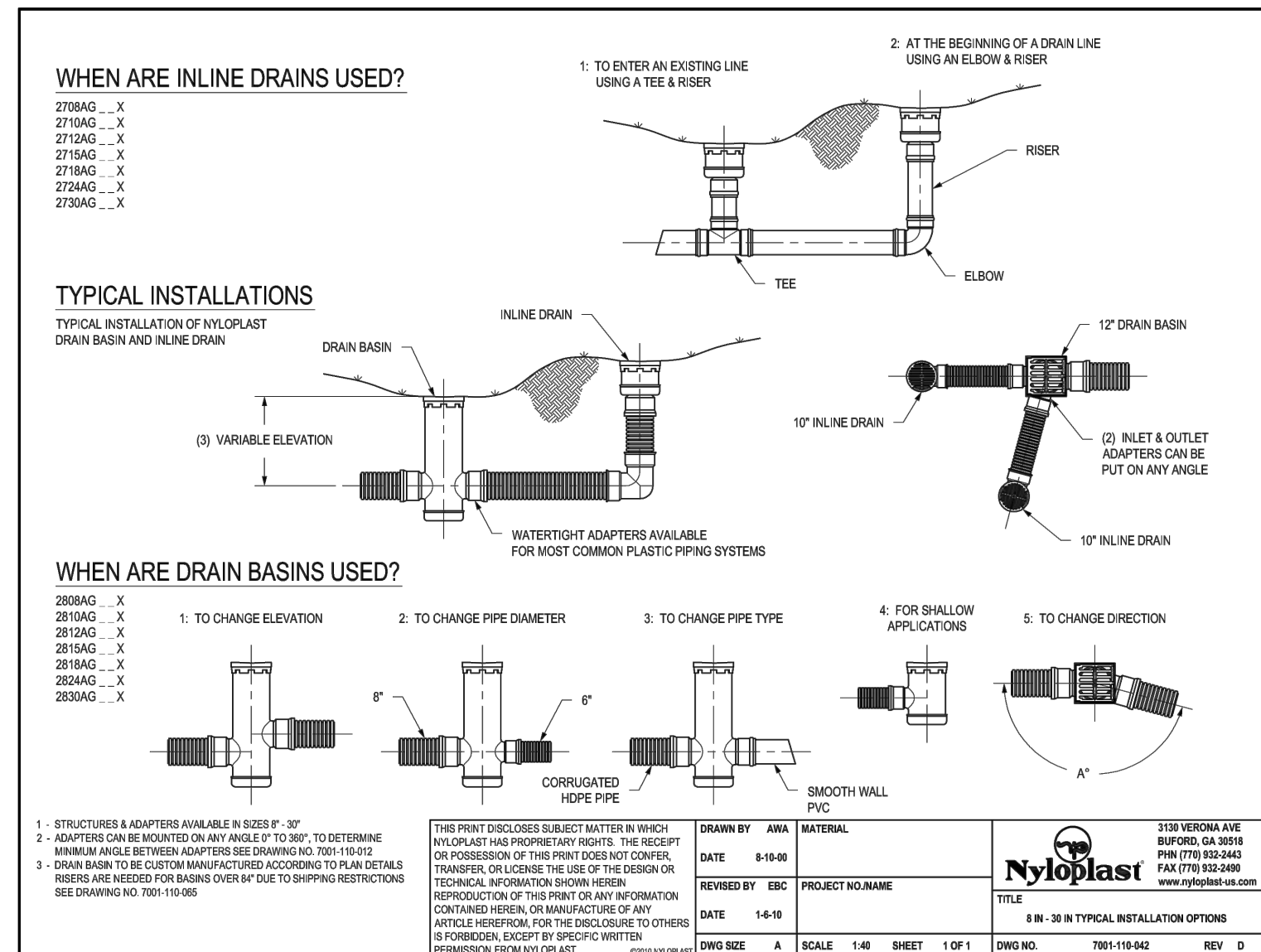
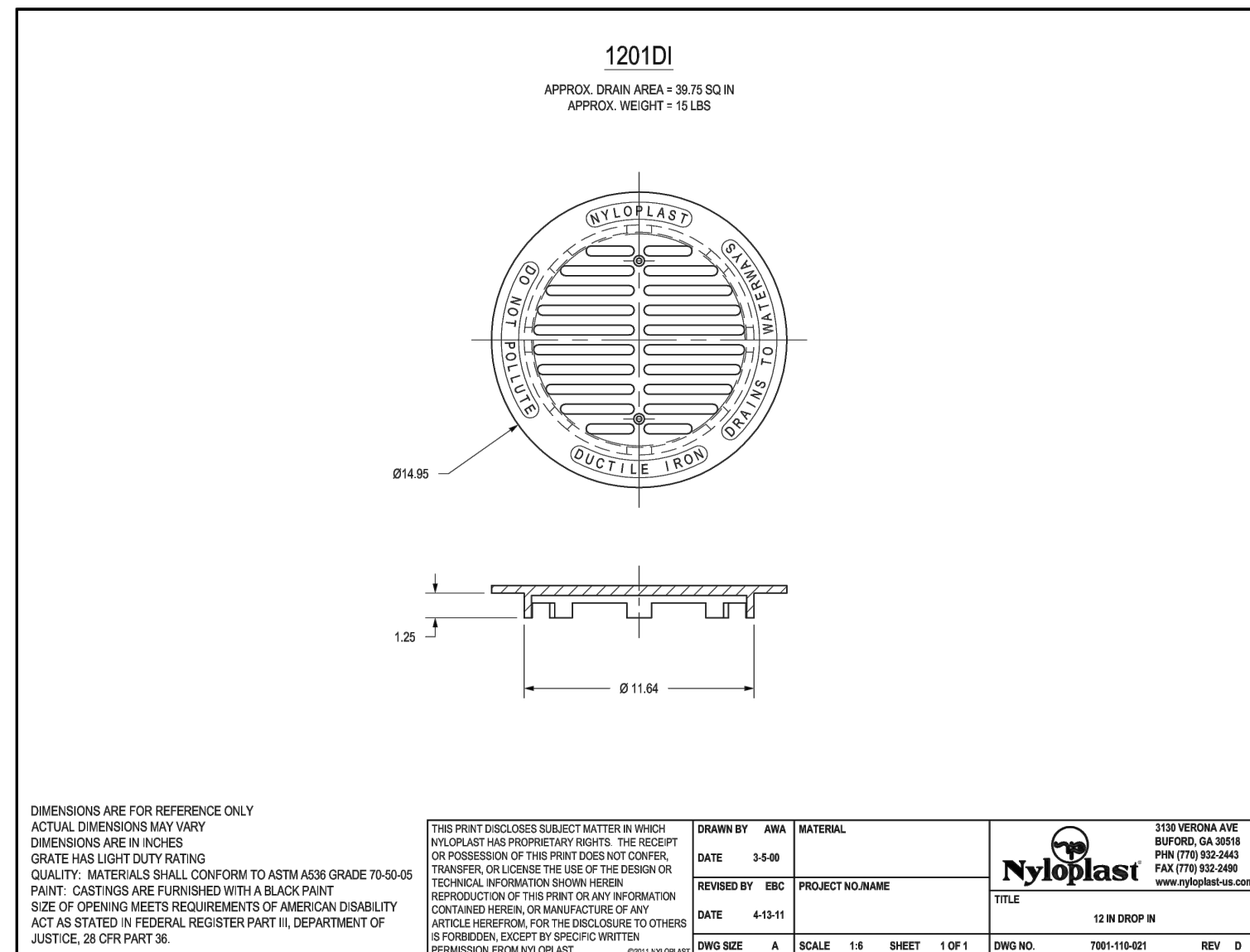
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DRAWN: ALM
 DESIGNED: NJL
 CHECKED: KCBE
 PROJ. MGR.: NJL

MAC FILE NUMBER: CG-501
 DRAWING NUMBER: 29

STATUS: FINAL DESIGN
 ISSUED FOR CONSTRUCTION

REVISION: 0



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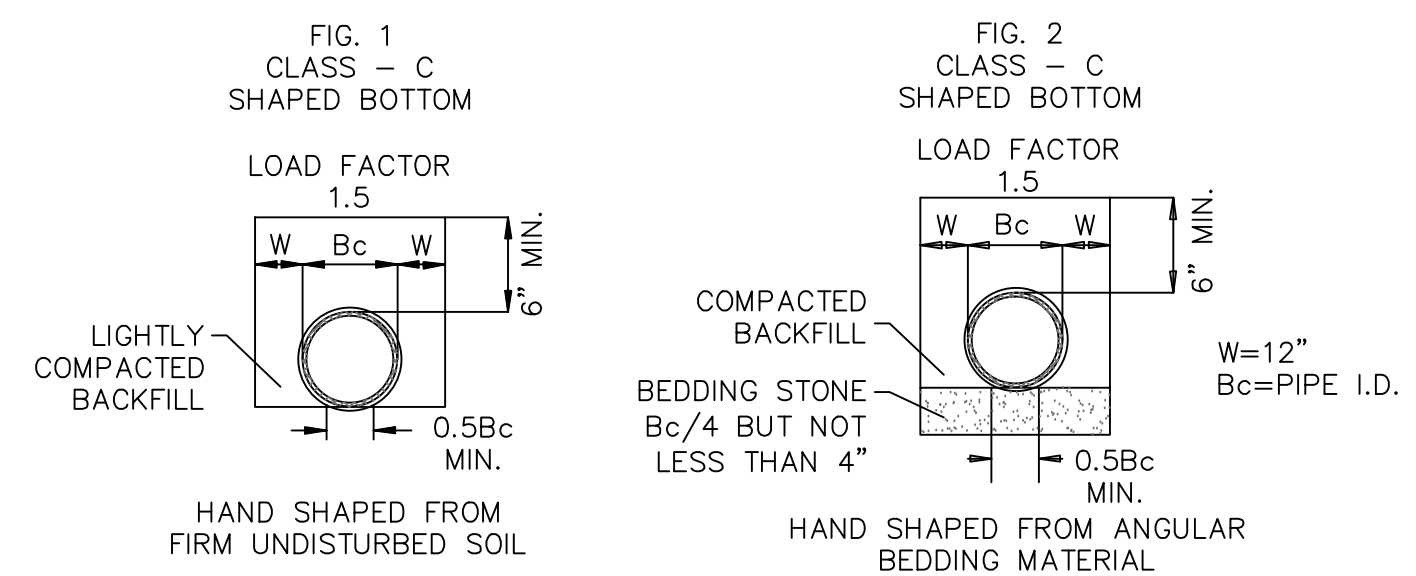
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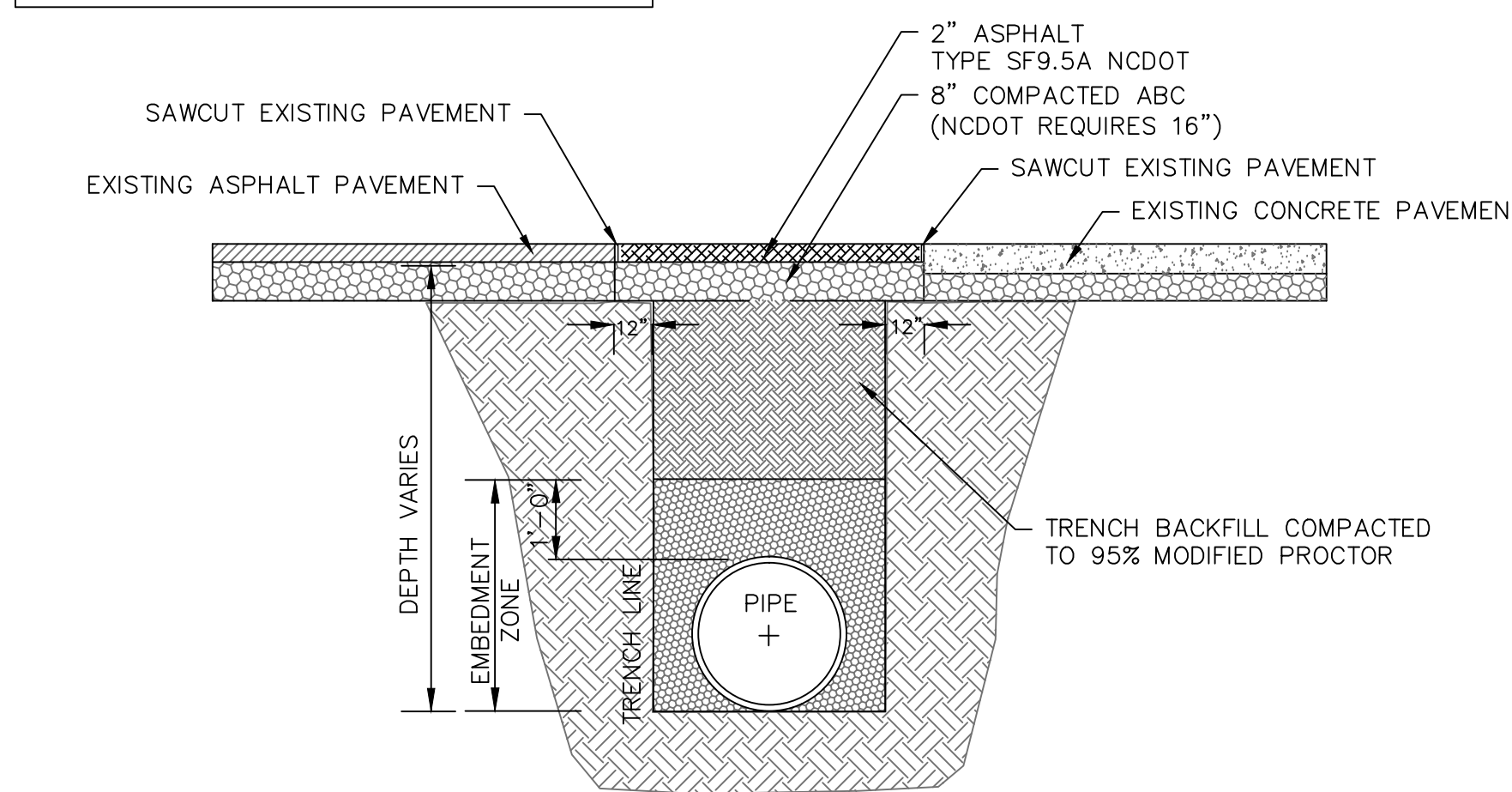
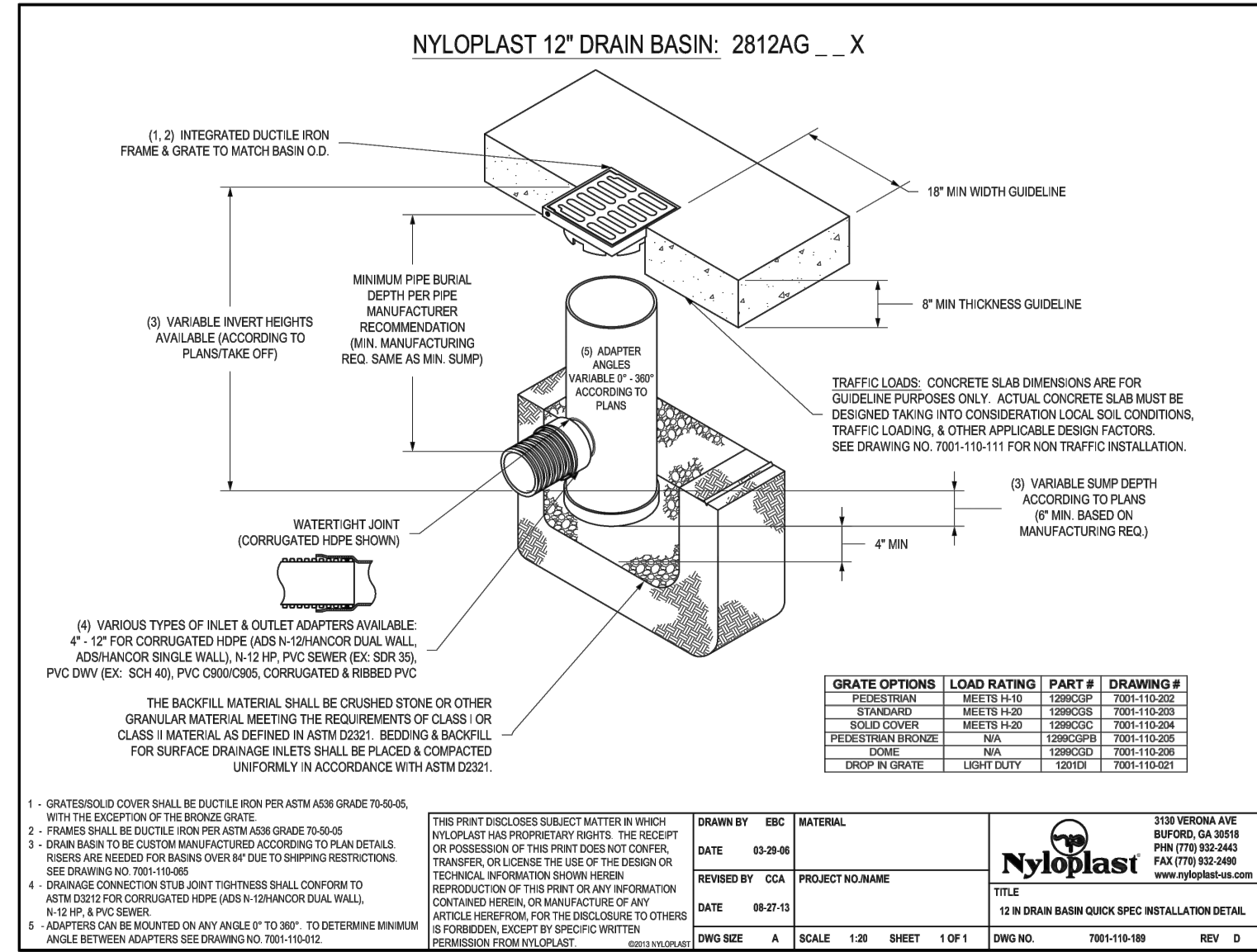
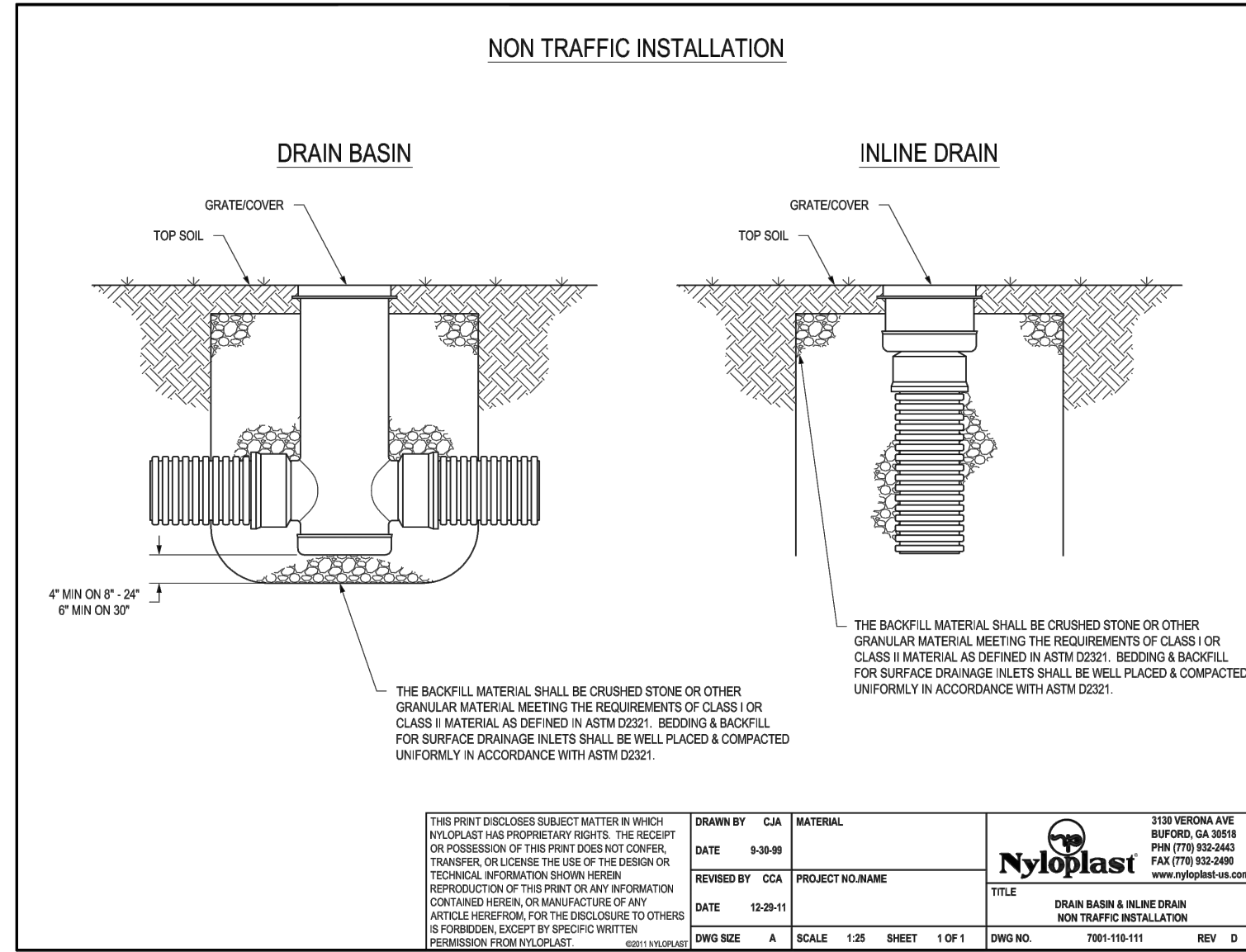
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

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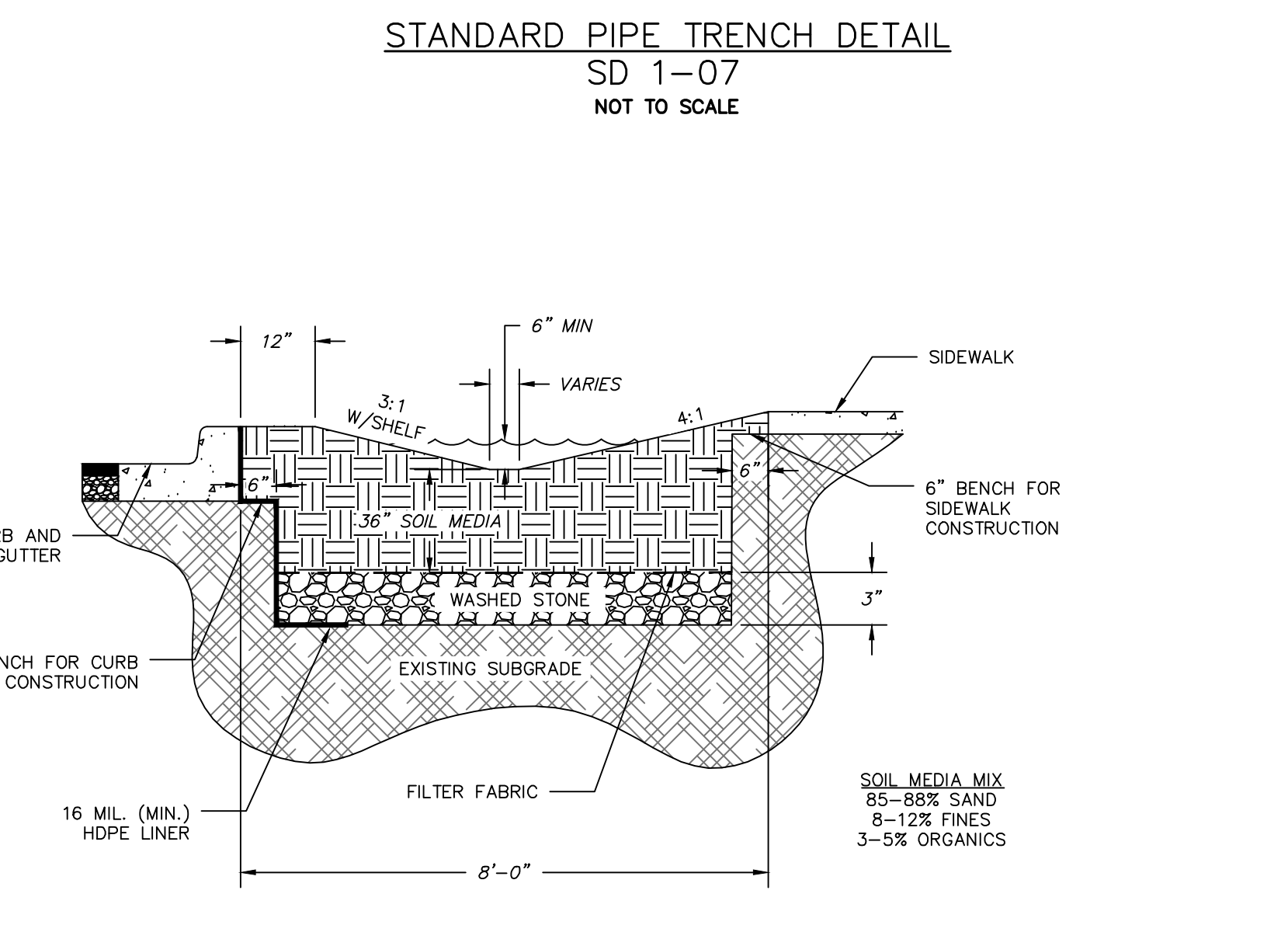
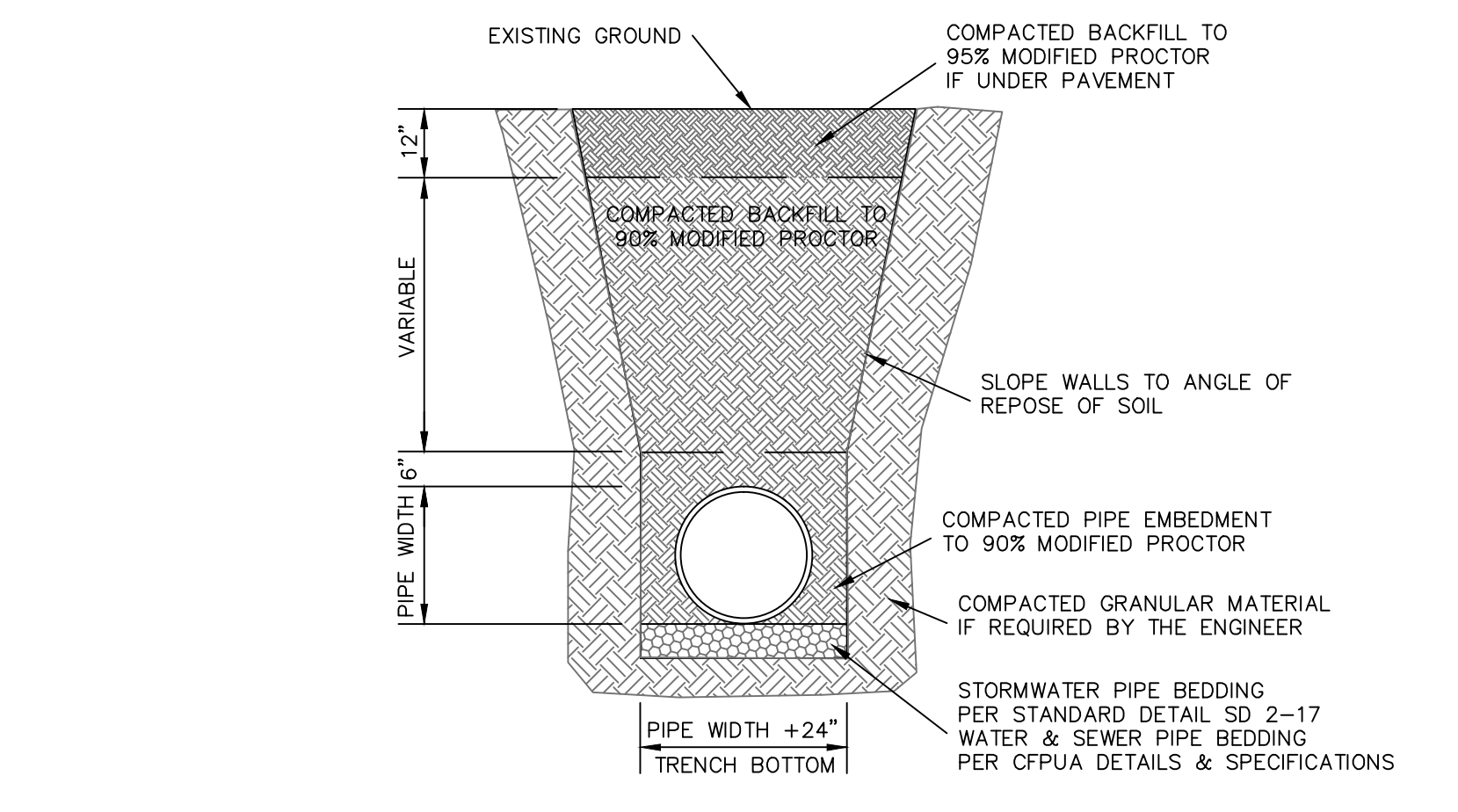
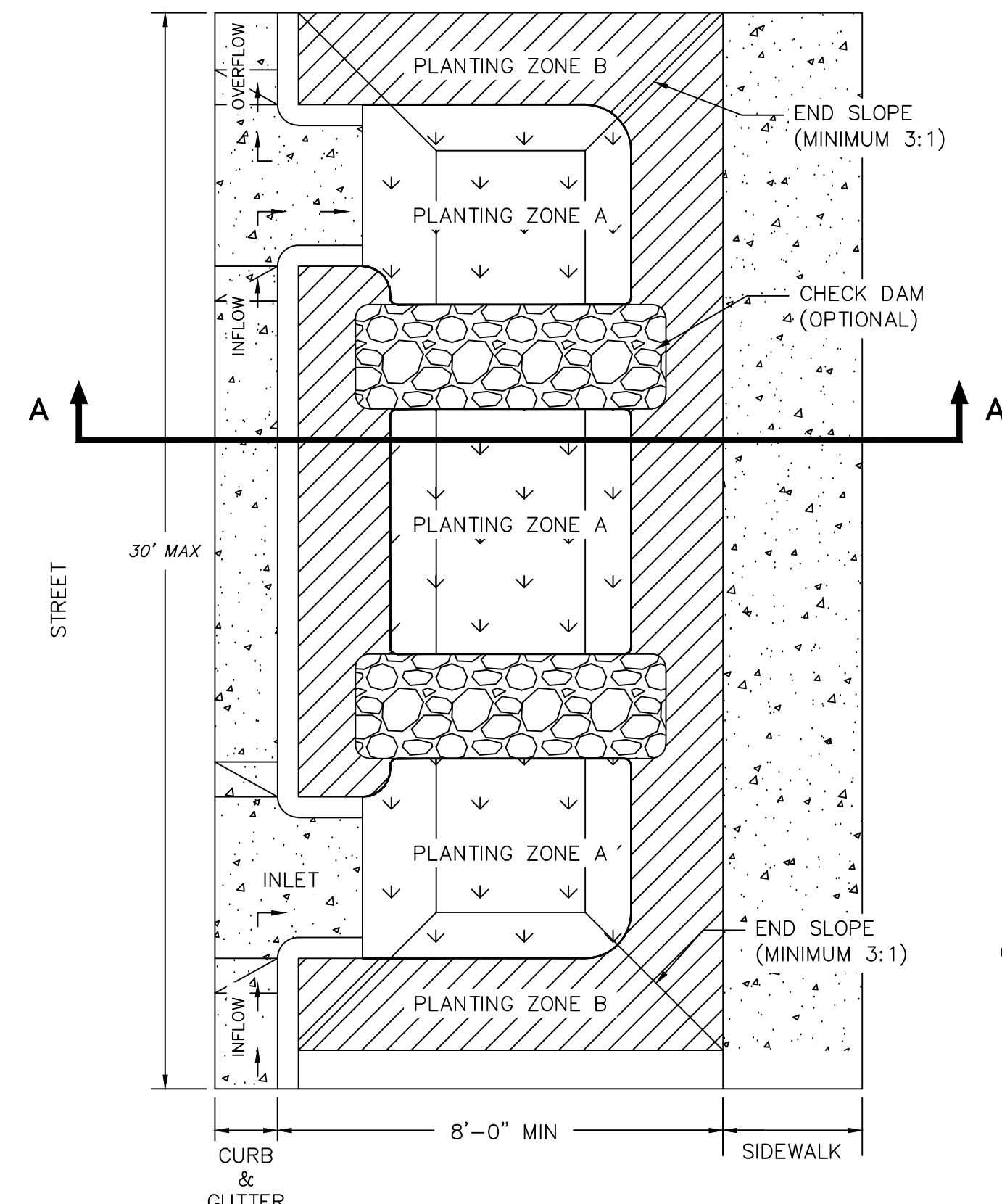
GUIDELINES FOR BEDDING DETAILS, STORM SEWER CLASS C

- SD 2-17
NOT TO SCALE
- EXCAVATION FOR STORM DRAINAGE PIPE SHALL BE TO THE LINES AND GRADES AS SHOWN ON THE PLANS.
 - THE BEDDING SHALL BE SHAPED IN ACCORDANCE WITH CLASS "C" BEDDING AS SHOWN ON CITY STANDARD DETAIL SD 2-17.
 - THE BEDDING SHALL PROVIDE A FIRM FOUNDATION OF UNIFORM DENSITY ALONG THE ENTIRE LENGTH OF PIPE. RECESSES SHALL BE MADE TO ACCOMMODATE BELLS AND JOINTS.
 - WHERE UNSTABLE SOILS ARE ENCOUNTERED AS DETERMINED BY GEOTECHNICAL ENGINEER, A MINIMUM 4-INCH THICK BEDDING OF STONE SHALL BE PLACED, SEE FIGURE 2, SD 2-17.
 - THE STONE SHALL BE UNIFORMLY GRADED FROM 3/4 INCH TO NO. 4 IN ACCORDANCE WITH ASTM C-33. CARE SHALL BE TAKEN TO PREVENT UNDERCUTTING IN SUITABLE SOIL.
 - AREAS UNDERCUT SHALL BE FILLED WITH SUITABLE SOIL AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 1557 STANDARD TEST METHOD.

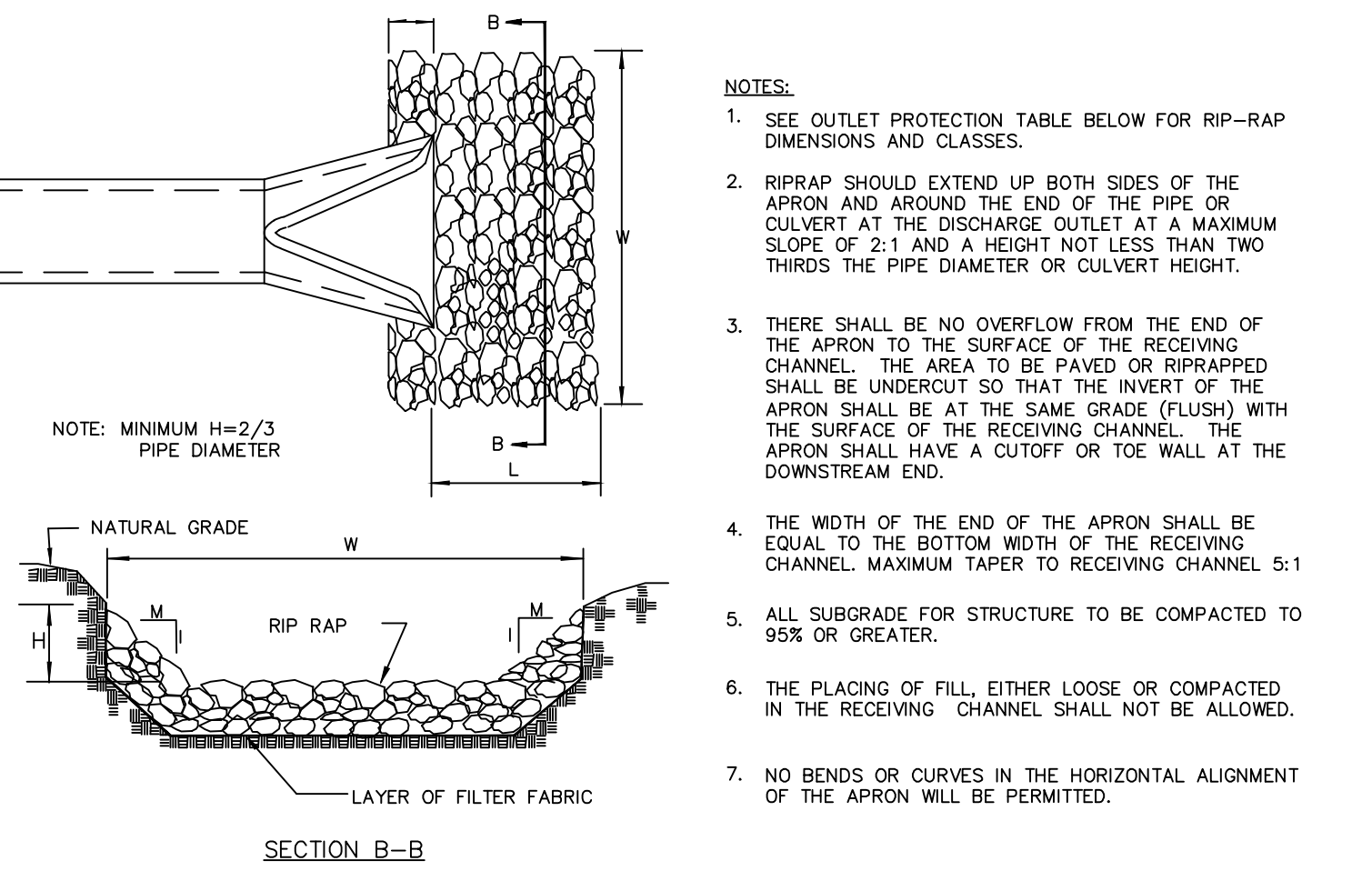


- NOTES:
- BACKFILL TO BE INSTALLED IN 6" LIFTS (MAXIMUM) AND COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. STANDARD METHOD T-99
 - CUT - BACK TO BE PREPARED AFTER TRENCH BACKFILLING AND COMPACTION

STANDARD SHOWING METHOD MAKING PAVEMENT REPAIRS WHERE PIPE IS INSTALLED



ROOF LEADER COLLECTION DETAILS FOR NON-TRAFFIC AREAS
NOT TO SCALE



STORM DRAINAGE NOTES:

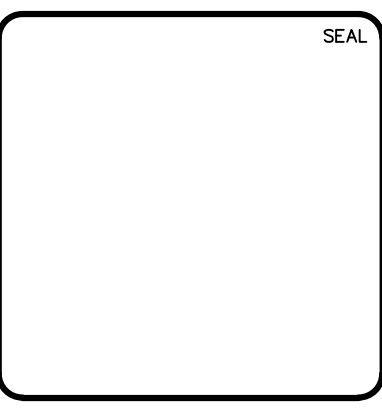
- ALL PIPE BEDDING SHALL BE CLASS "C" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- ALL STORM DRAINAGE PIPES SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED ON THE PLANS.
- DO NOT PLANT TREES WITHIN UTILITY AND DRAINAGE EASEMENTS.
- THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
- THE CONTRACTOR SHALL CONTACT ONECALL BEFORE COMMENCING ANY WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WHETHER INDICATED ON THE DRAWINGS OR NOT. THE CONTRACTOR WILL ASSURE THE PRESENCE ON SITE OF A REPRESENTATIVE OF THE GAS COMPANY WHEN WORKING IN THE VICINITY OF ANY GAS MAINS.

OUTLET NUMBER	OUTLET DIA (in)	Q (cfs)	V (fps)	ZONE	RIPRAP CLASS	Dmax (in)	THICKNESS (in)	LENGTH (ft)	WIDTH (ft)	
1	30	17.90	6.20	2	B	B	12	22	12	7.5

NOTES:

- Minimum apron length of 10 ft shall be installed.
- Dmax = D50 x 1.5
- Thickness = Dmax x 1.5
- Width = 3 x Pipe Dia.

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0			03/17/2016



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RIVERLIGHTS
by Newland COMMUNITIES

NORTH AMERICA SEXISUS HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

STORMWATER DRAINAGE DETAILS

DATE: 17MAR16
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DRAWN: ALM
DESIGNED: NJL
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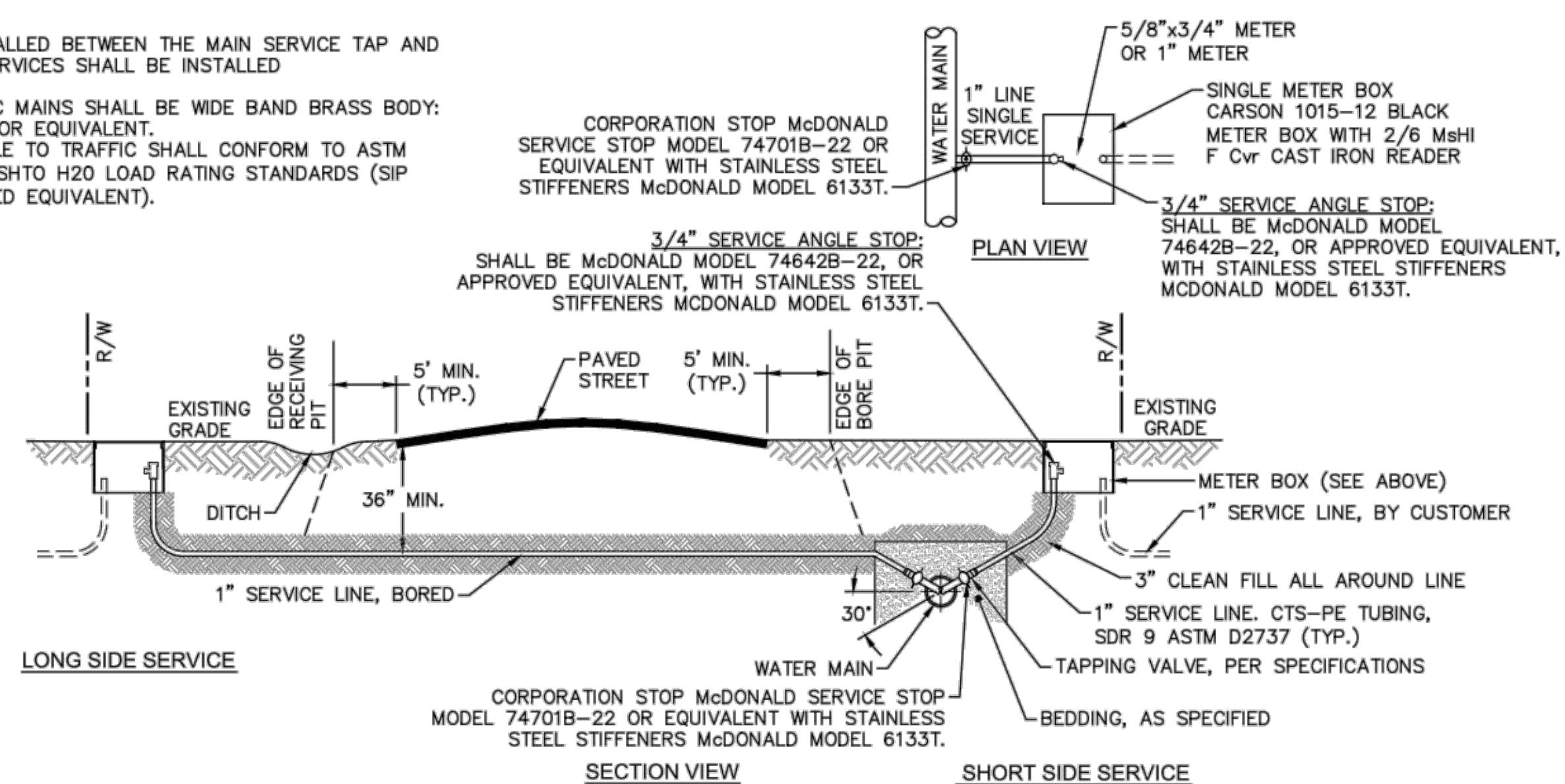
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DRAWING NUMBER: 31

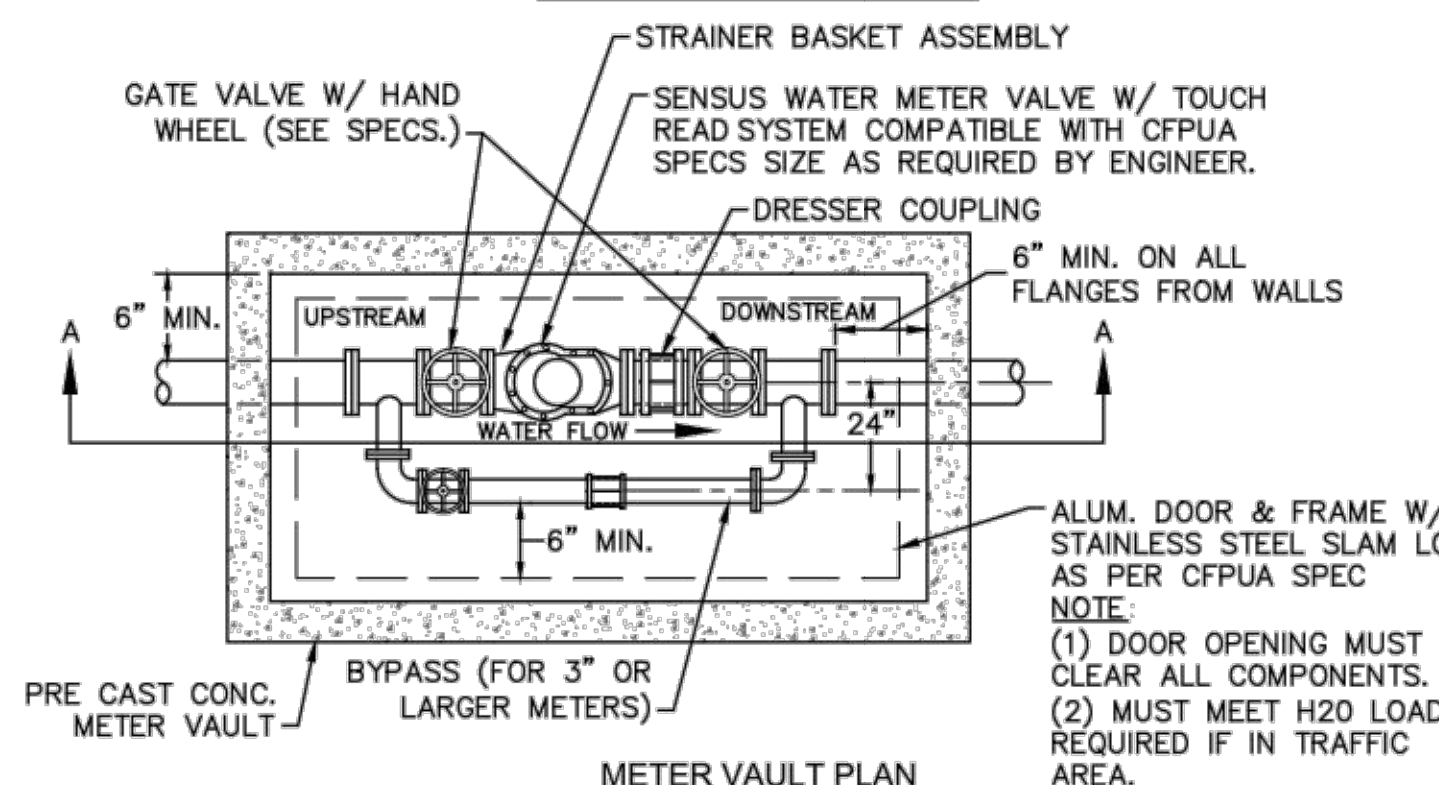
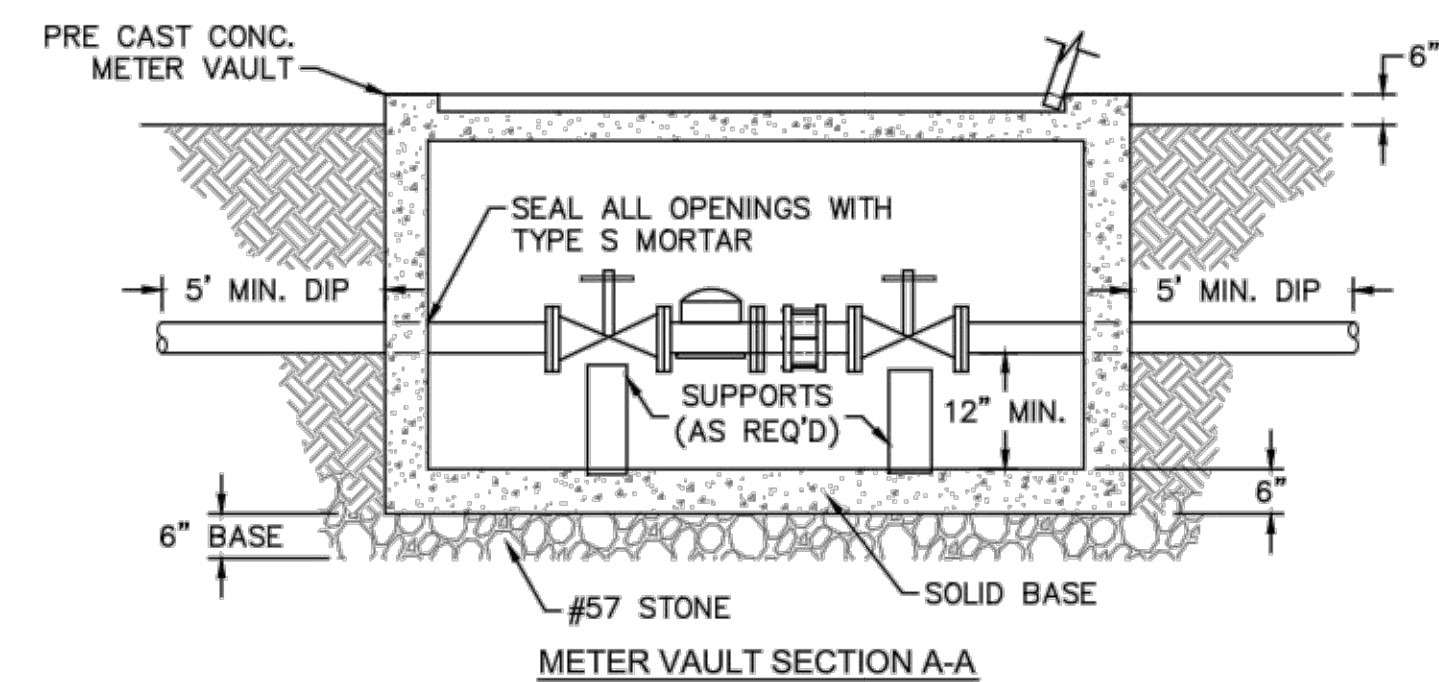
STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

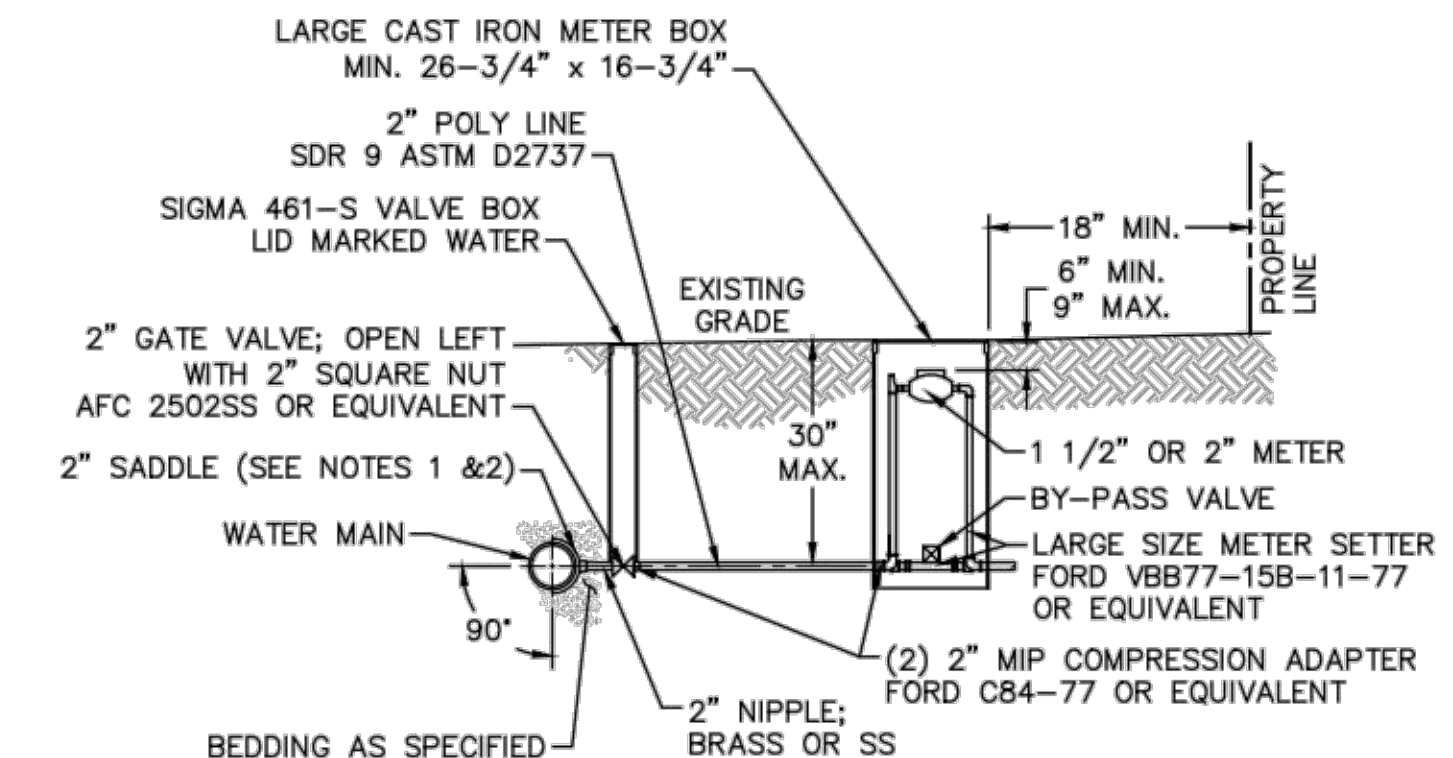
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM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



SINGLE SERVICE CONNECTION
NOT TO SCALE

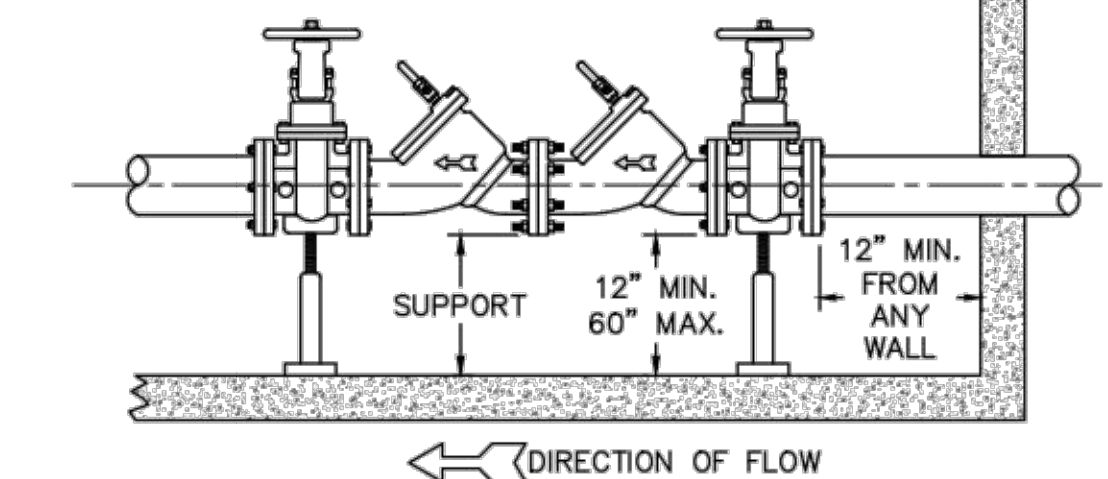
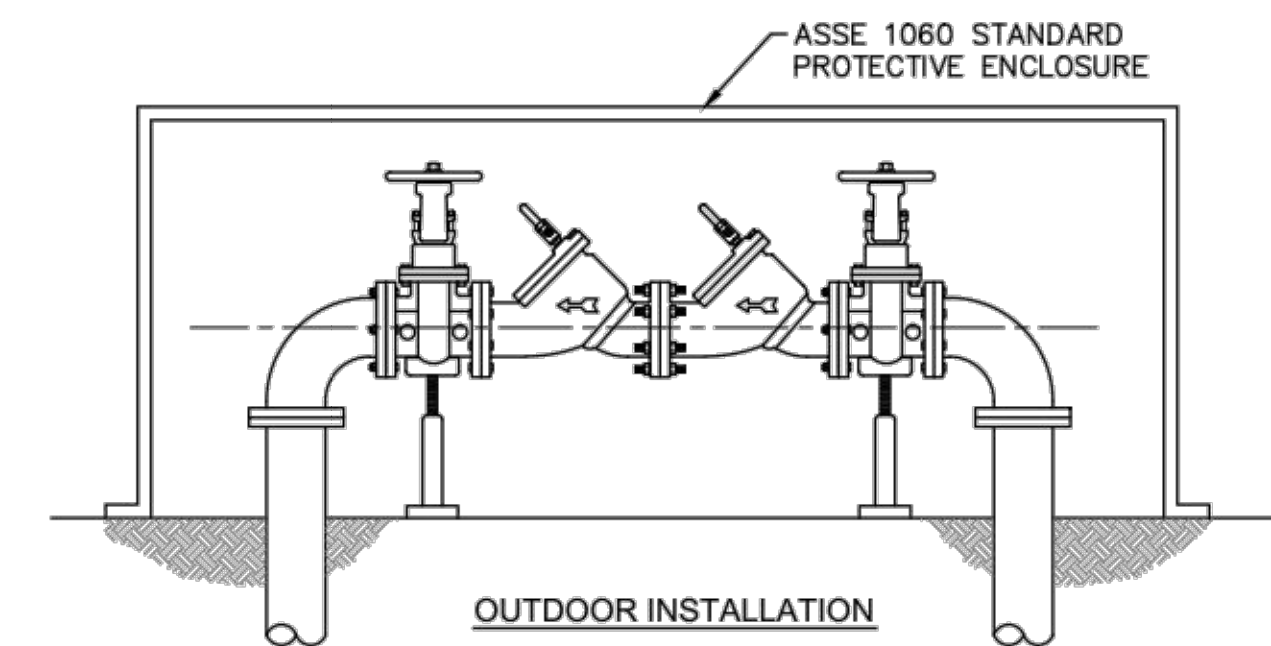


WATER METER VAULT
NOT TO SCALE



- 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.

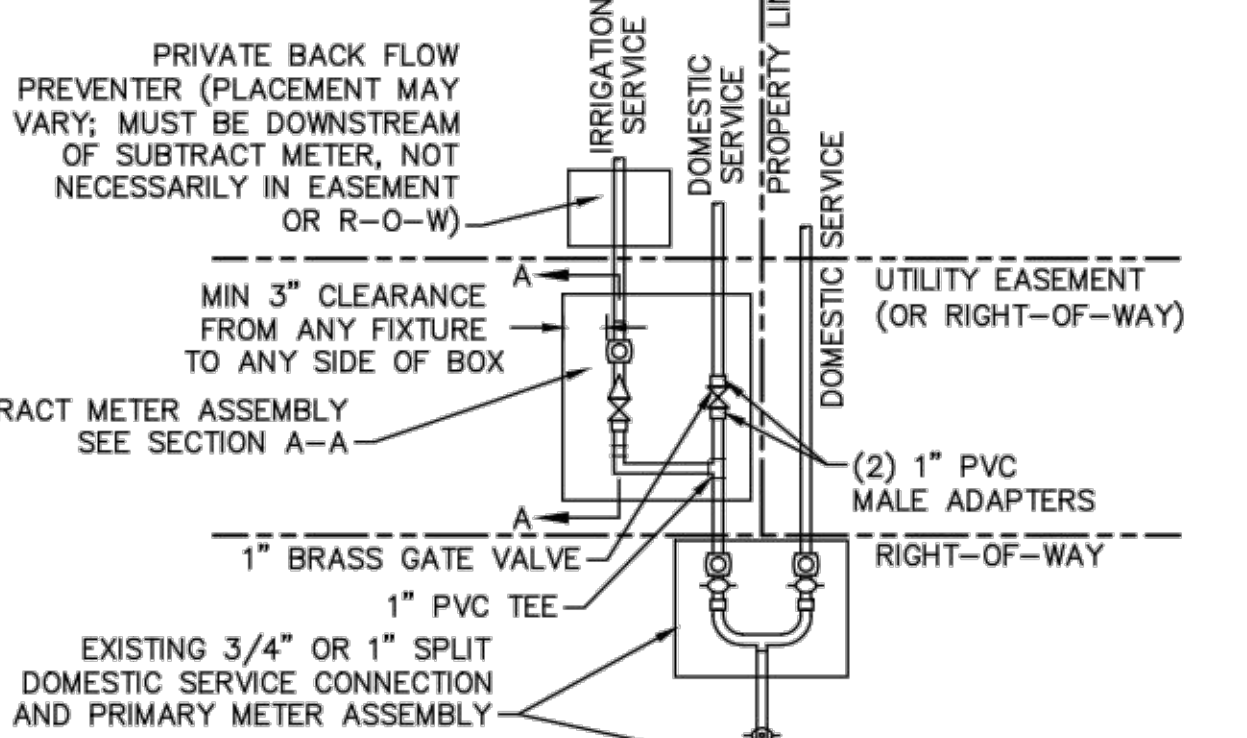
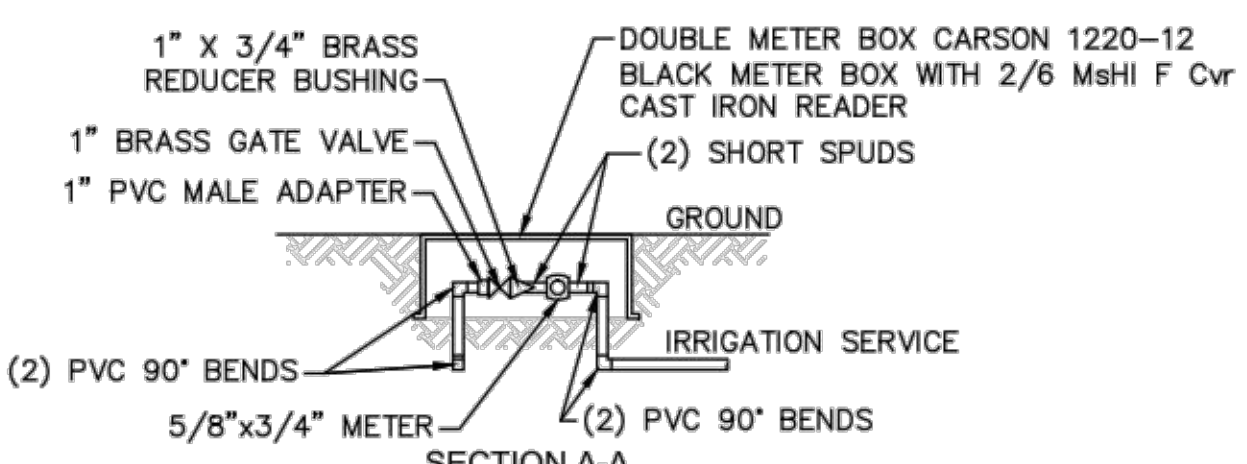
FOR 1-1/2" OR 2" WATER SERVICES
LARGE METER
NOT TO SCALE



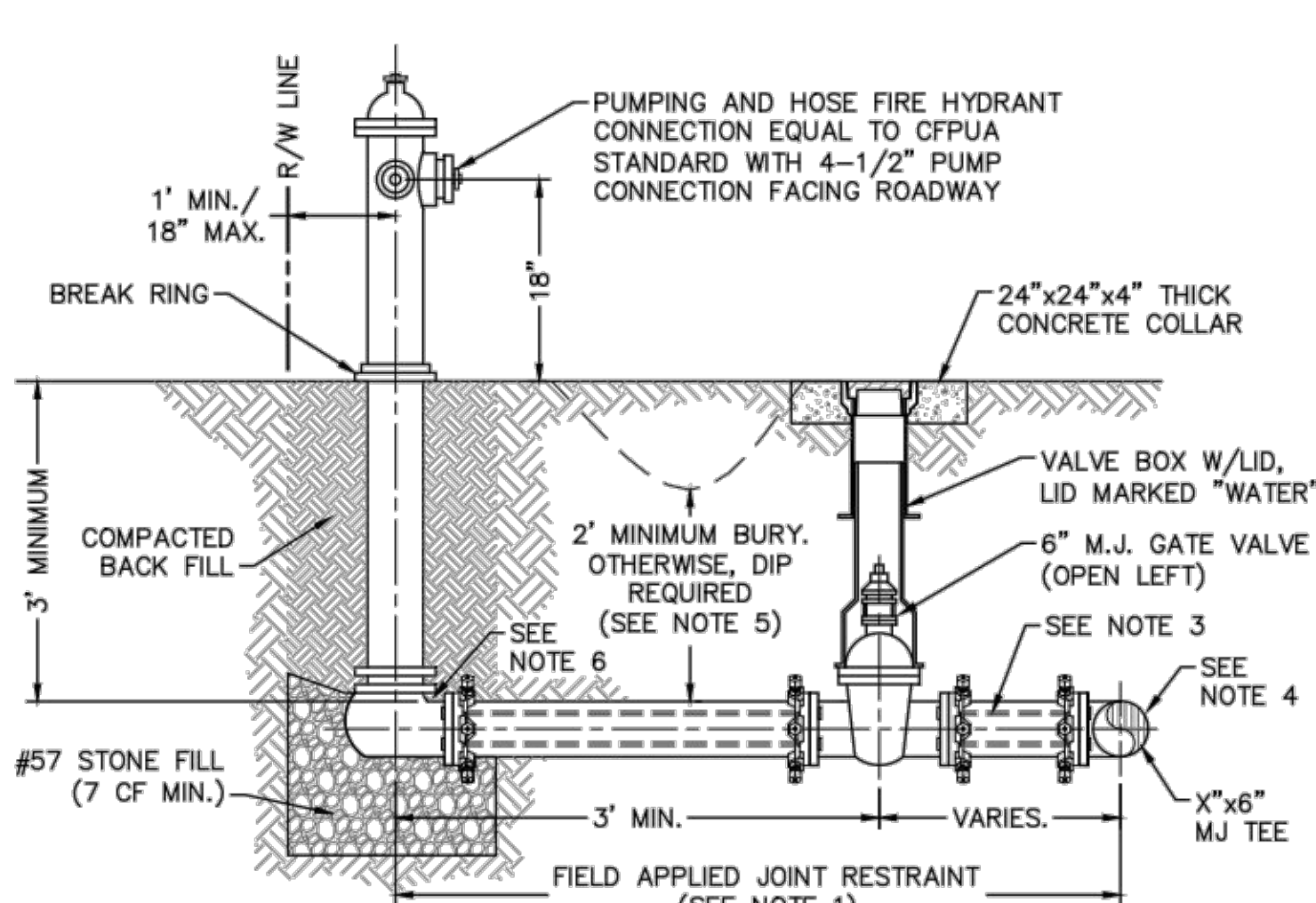
DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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 - 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

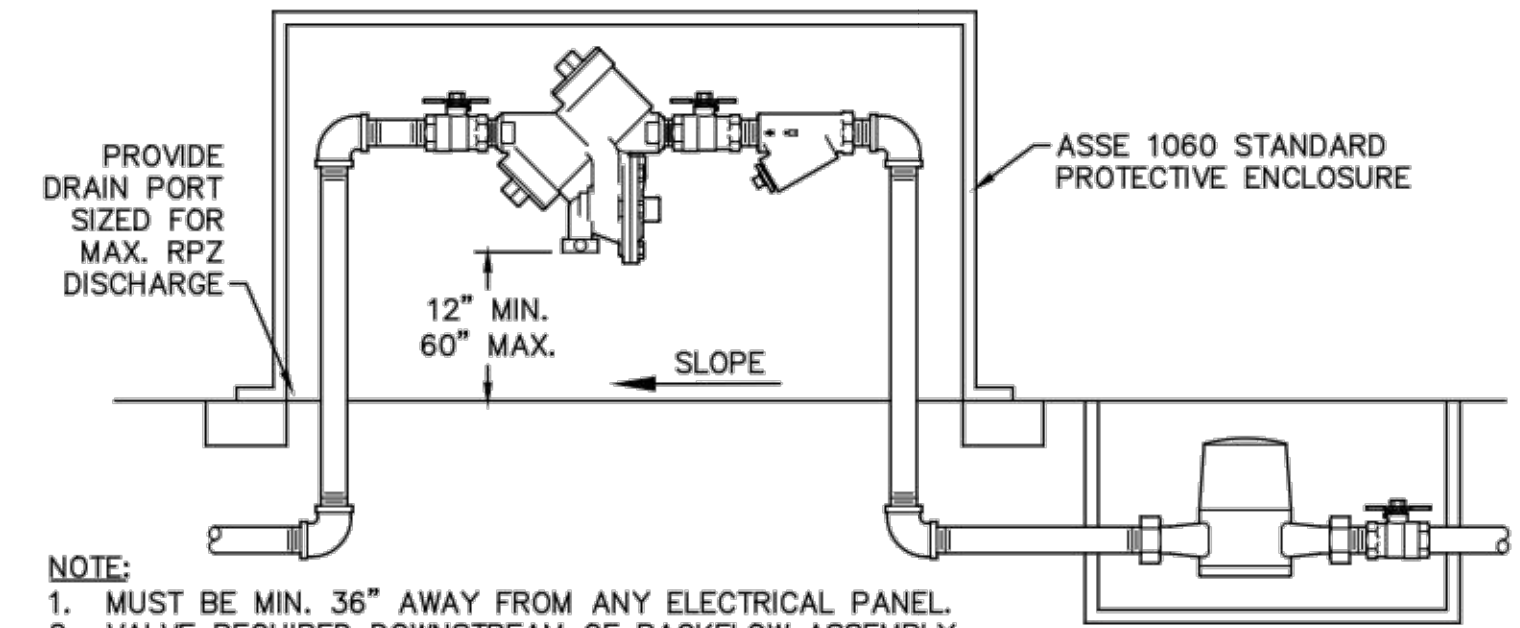
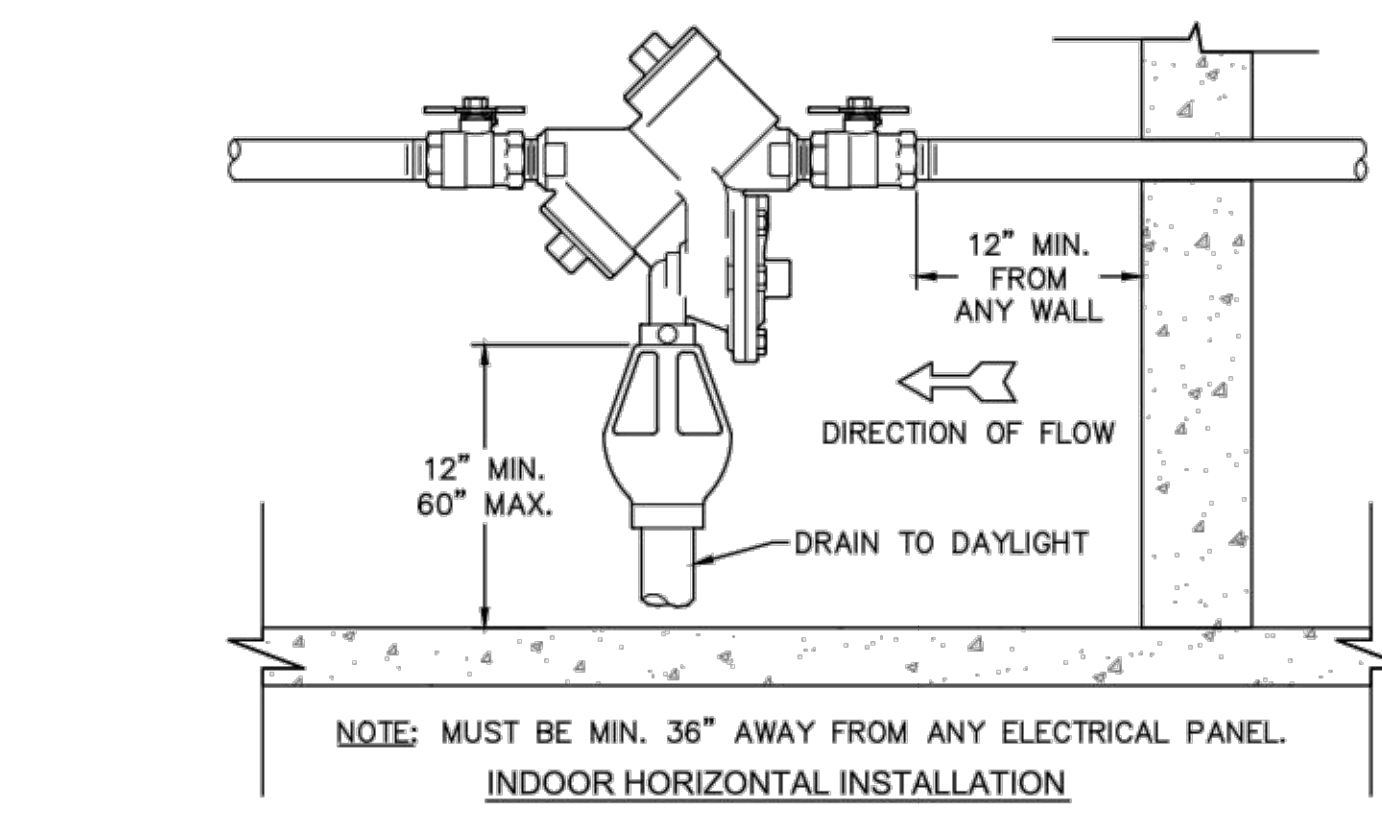


DOUBLE SERVICE CONNECTION USING SUBTRACT METER
NOT TO SCALE



- 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.

FIRE HYDRANT ASSEMBLY
NOT TO SCALE



REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE

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

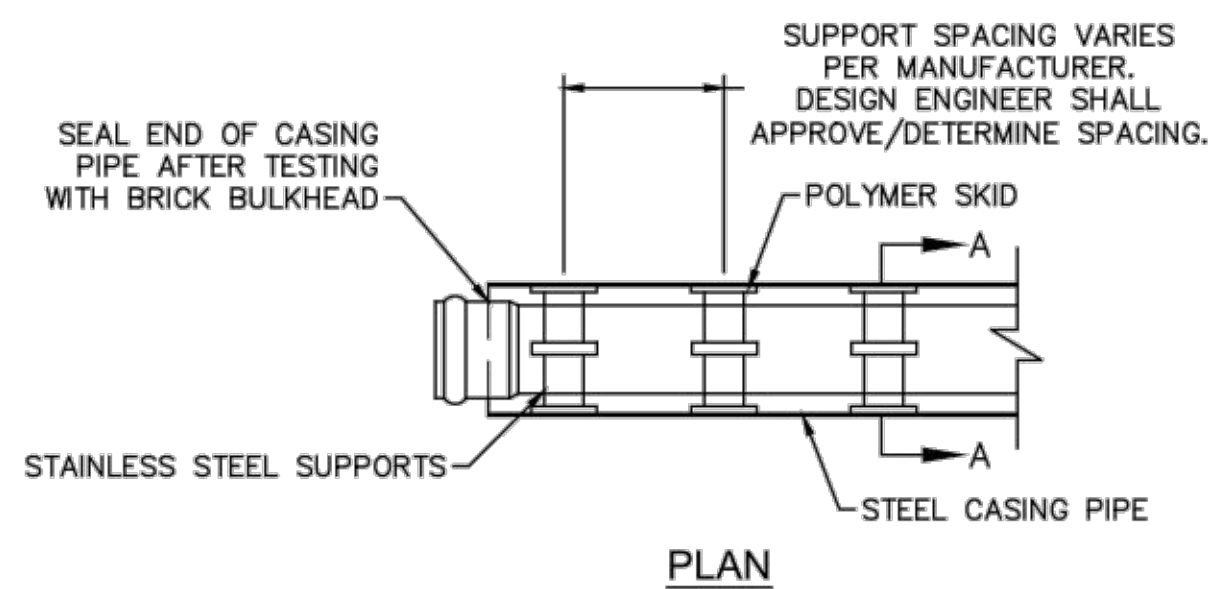
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

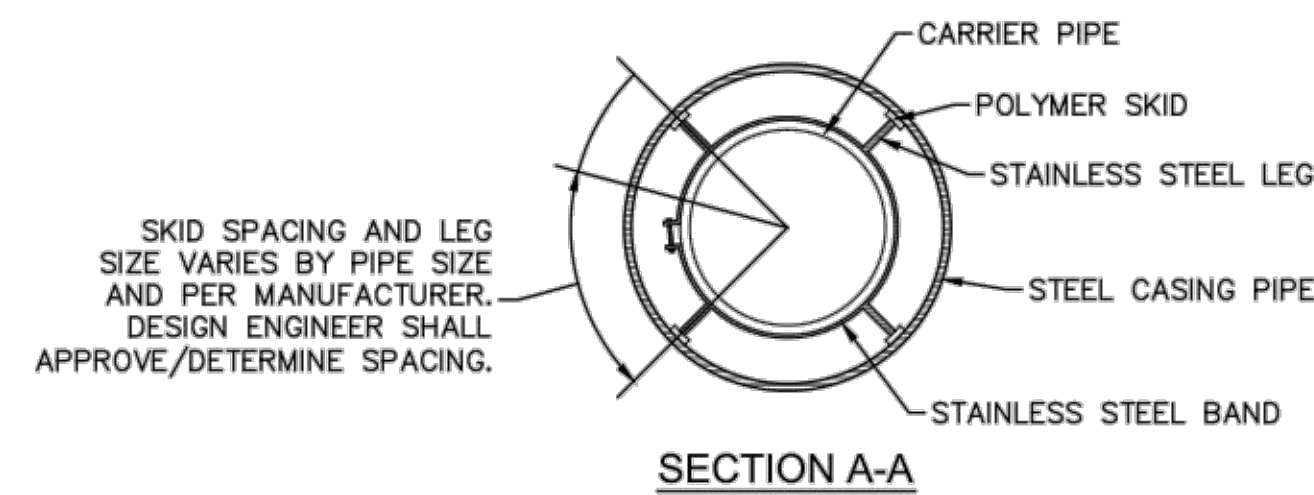
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

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

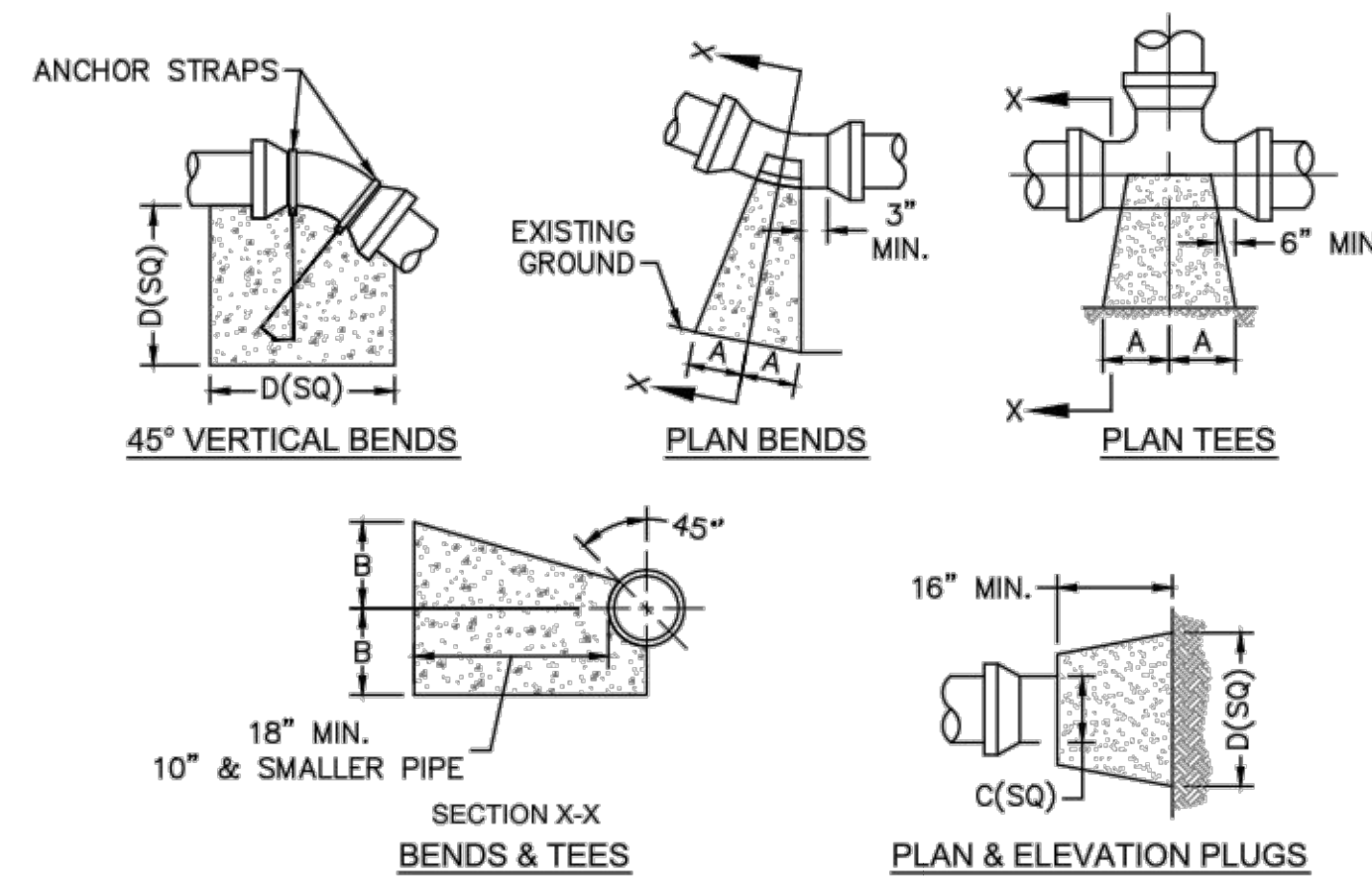
S:\2\307\24 Main\3\1\Phase\Drawings\Phase 1\DCS-503.dwg, 3/17/2016 8:32:37 PM, hlsu@ctia



NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



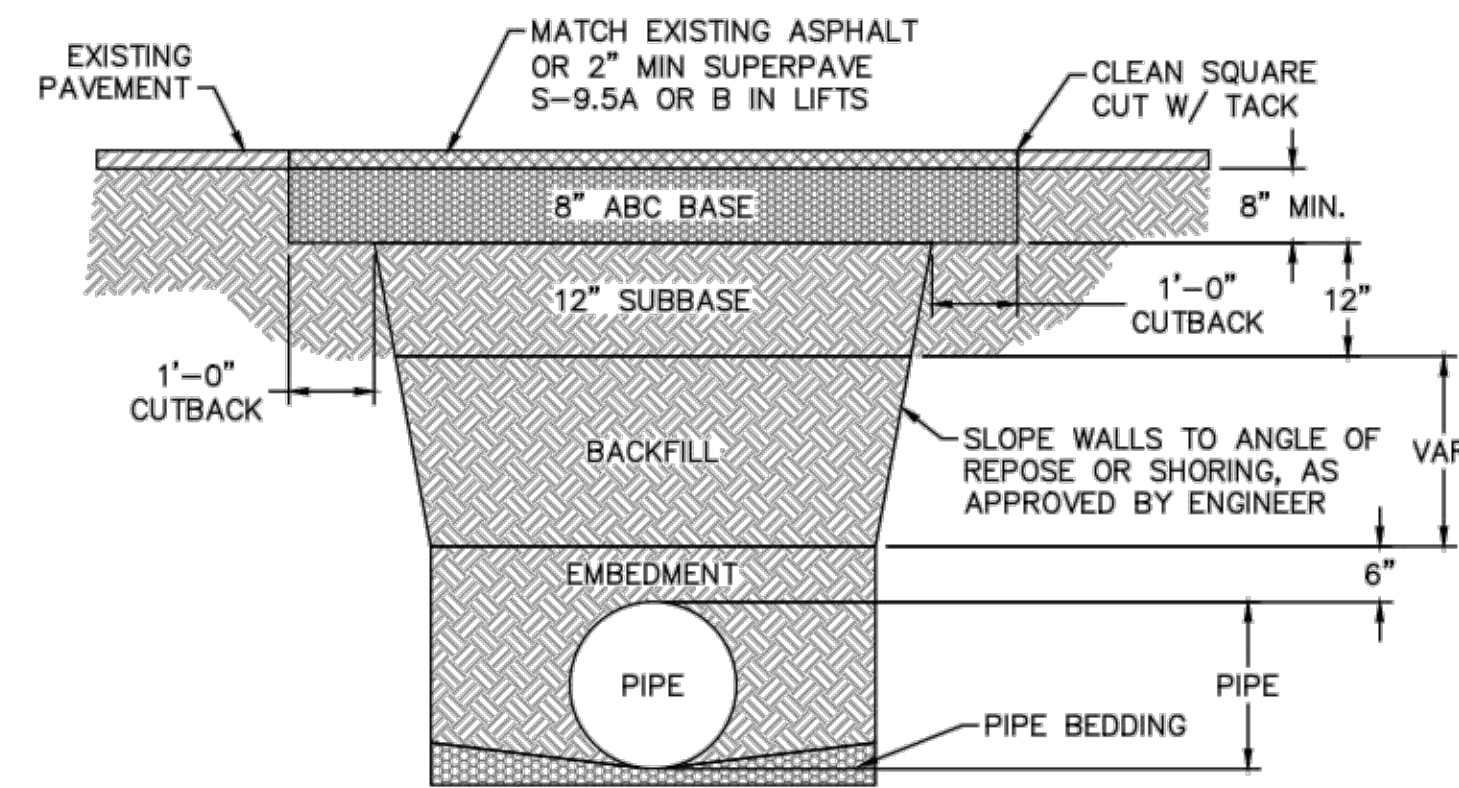
PIPE CASING SUPPORT DETAIL
NOT TO SCALE



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"

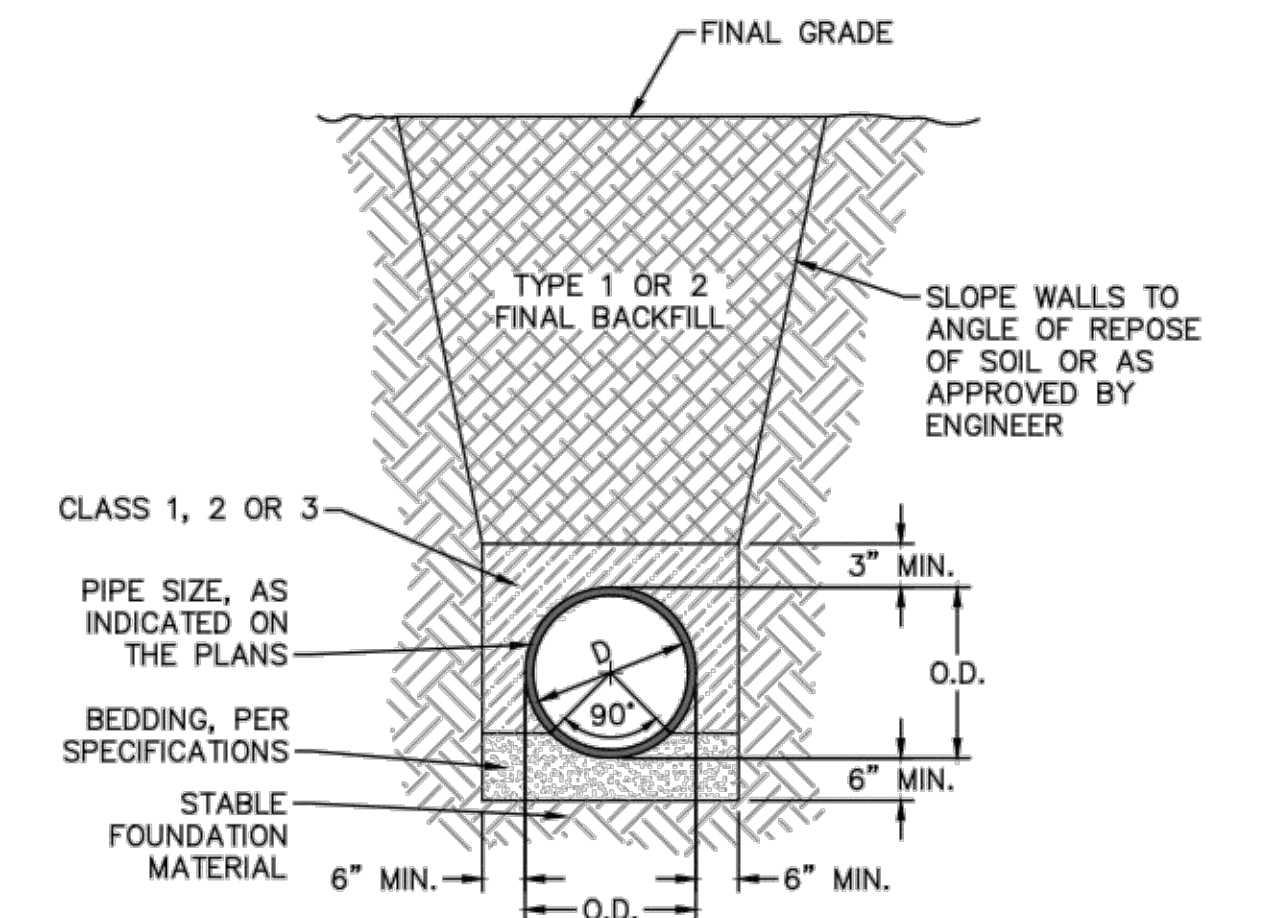
NOTES:
1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

THRUST BLOCK DETAIL
NOT TO SCALE

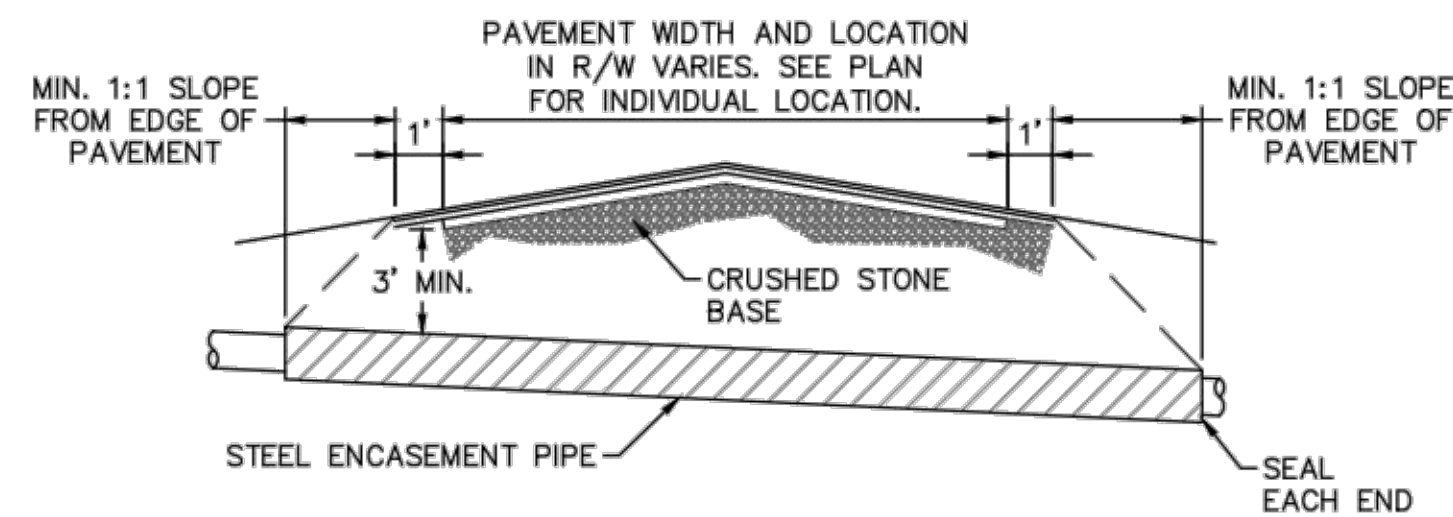


NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. 8-INCH OF ABC 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-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE

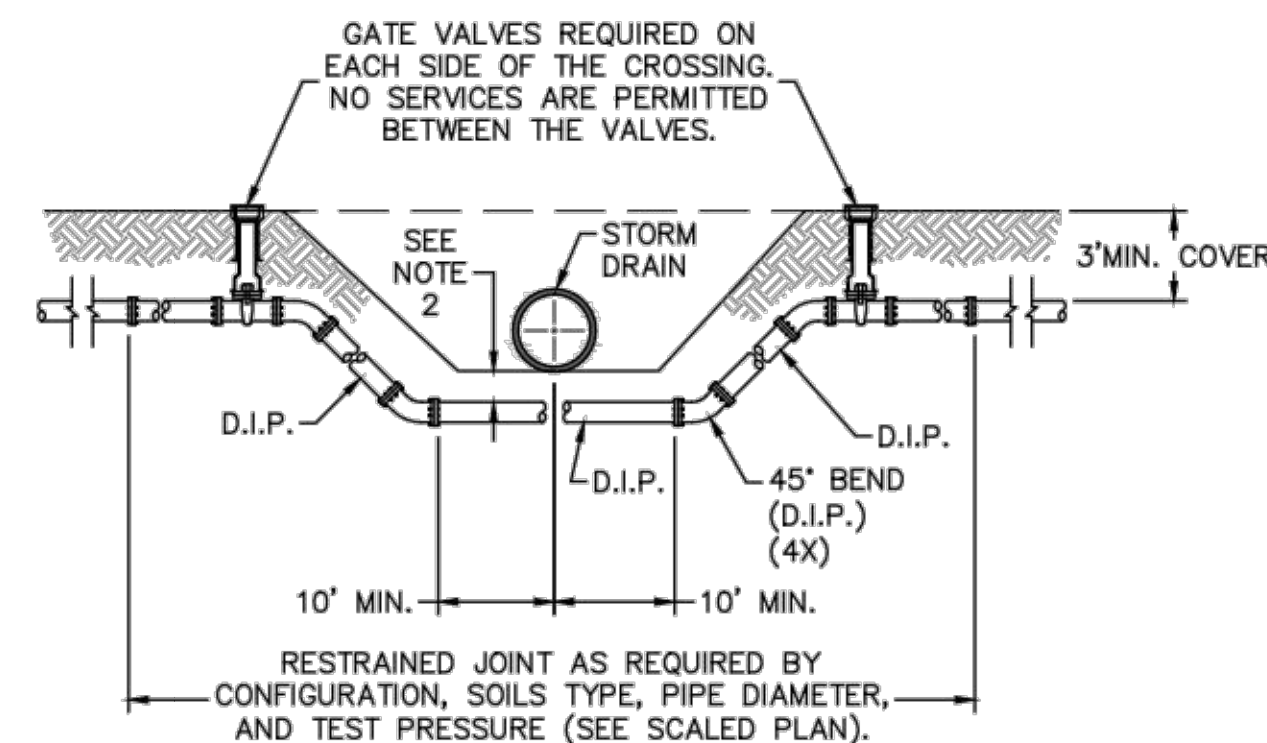


TYPICAL TRENCH DETAIL
NOT TO SCALE



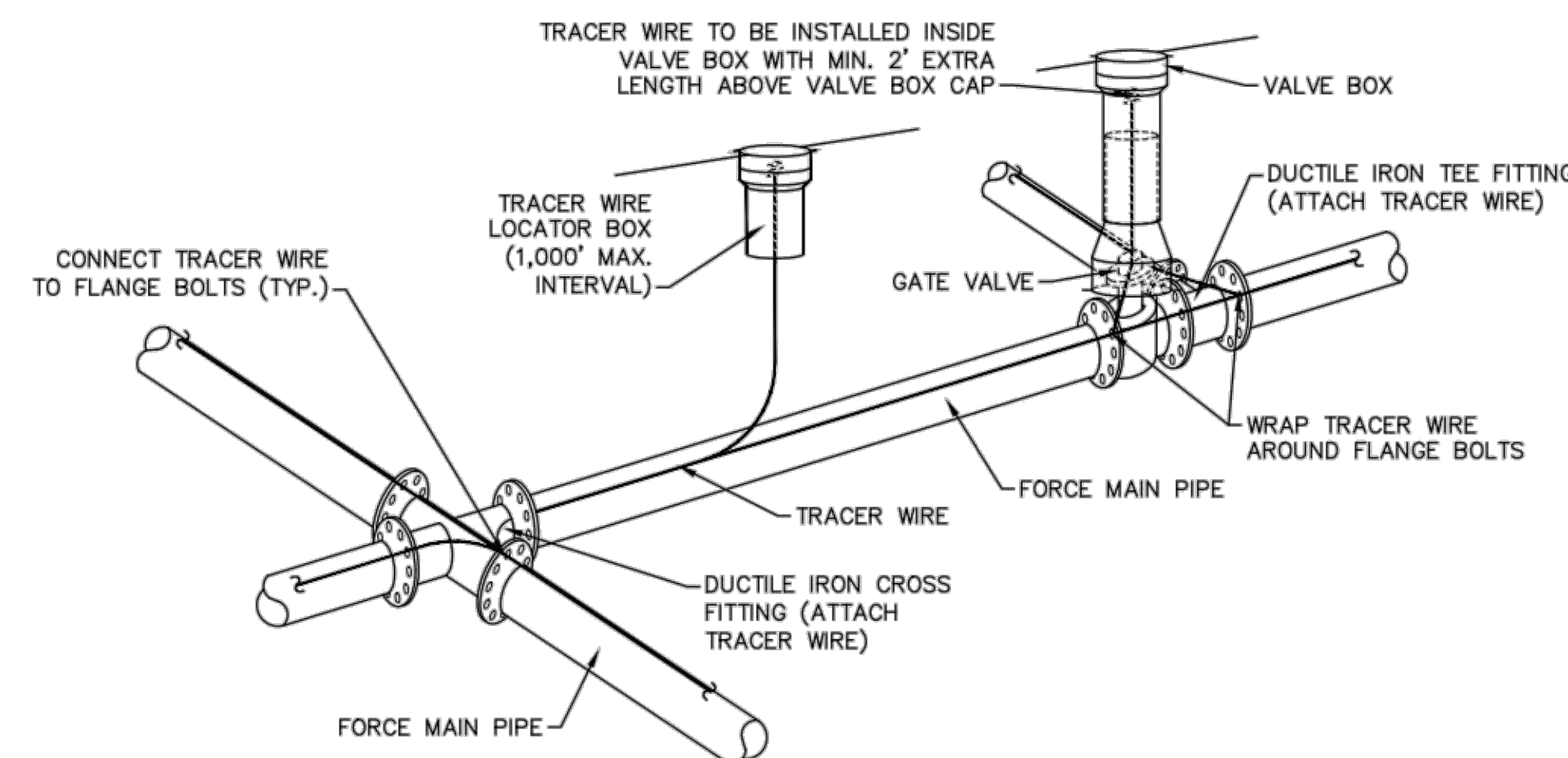
NOTES:
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/JACKING DETAIL
NOT TO SCALE



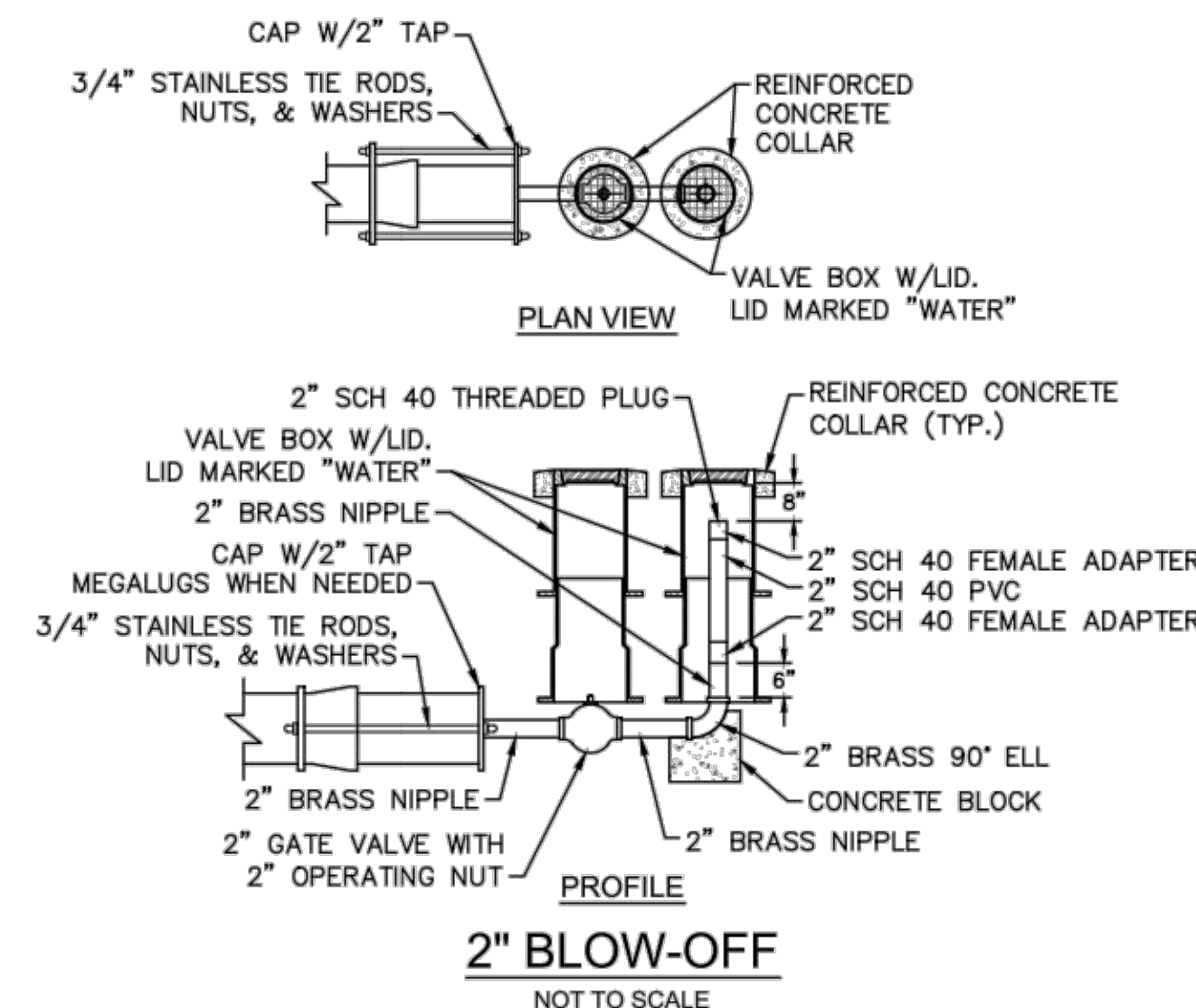
NOTES:
1. USE PRESSURE CLASS 350 DIP, UNLESS SPECIFIED OTHERWISE.
2. MINIMUM DEPTH REQUIRED, UNLESS SPECIFIED OTHERWISE BY CFPUA:
a. IN DOT R/W, 36" MIN. TYPICAL, OR 24" MIN. WHEN CROSSING A DITCH LINE.
b. ALL OTHER LOCATIONS, 30" MIN.
c. WHEN STORM DRAIN INVERT IS BURIED AT OR BELOW ABOVE DEPTHS, 18" MIN. CLEARANCE IS REQUIRED.

WATER MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE

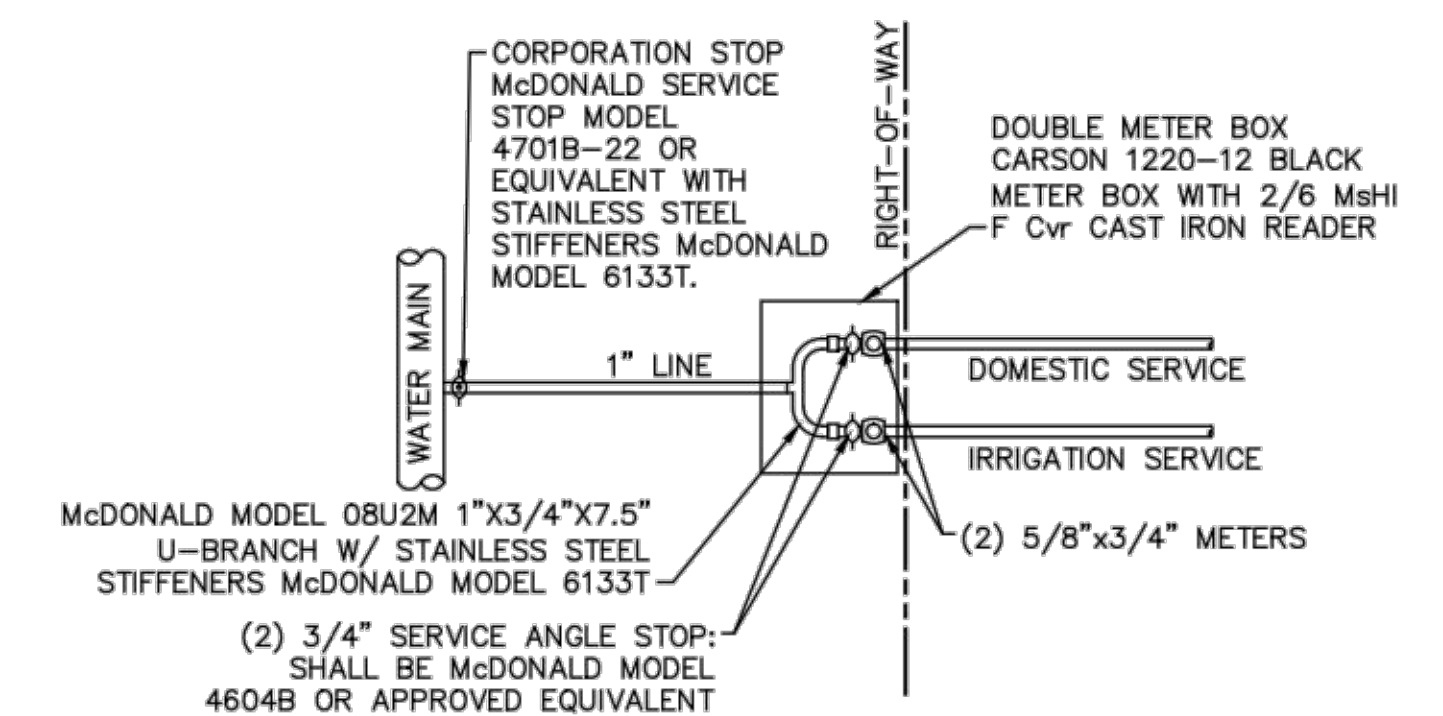


NOTES:
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12-FT. INTERVALS.
3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

TRACER WIRE DETAIL
NOT TO SCALE



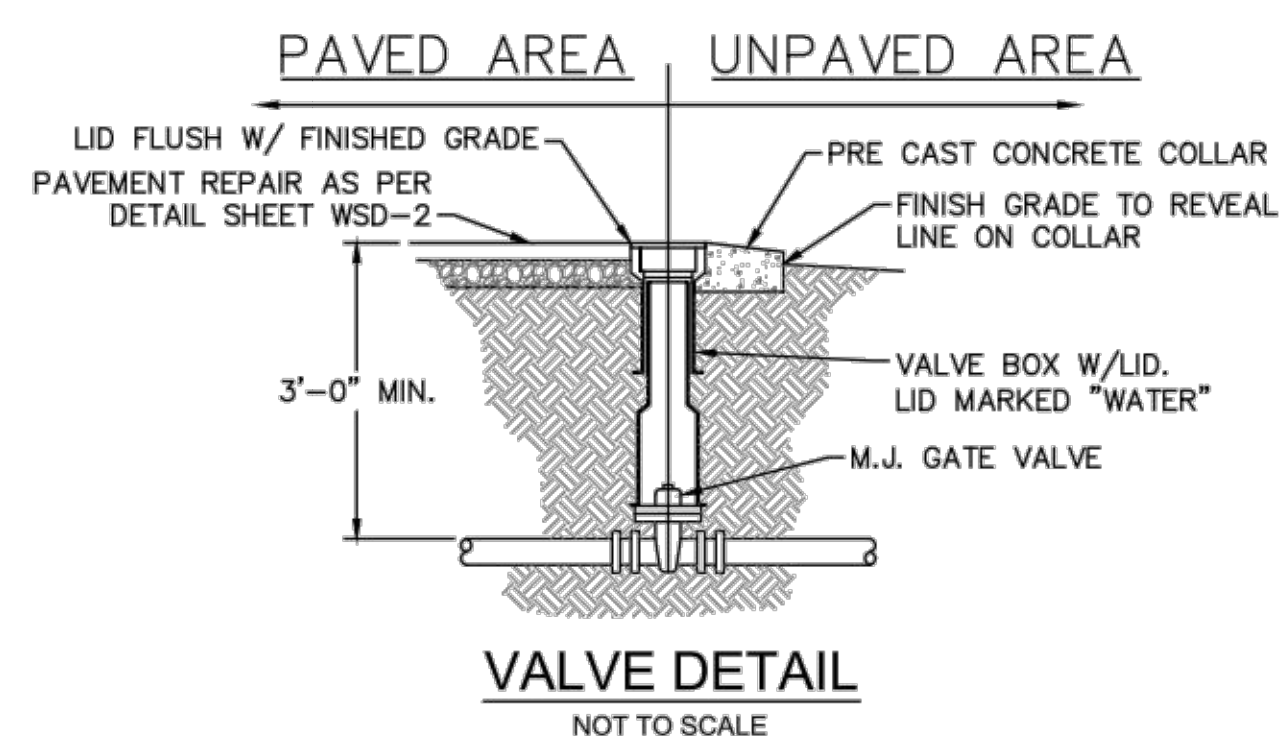
2" BLOW-OFF
NOT TO SCALE



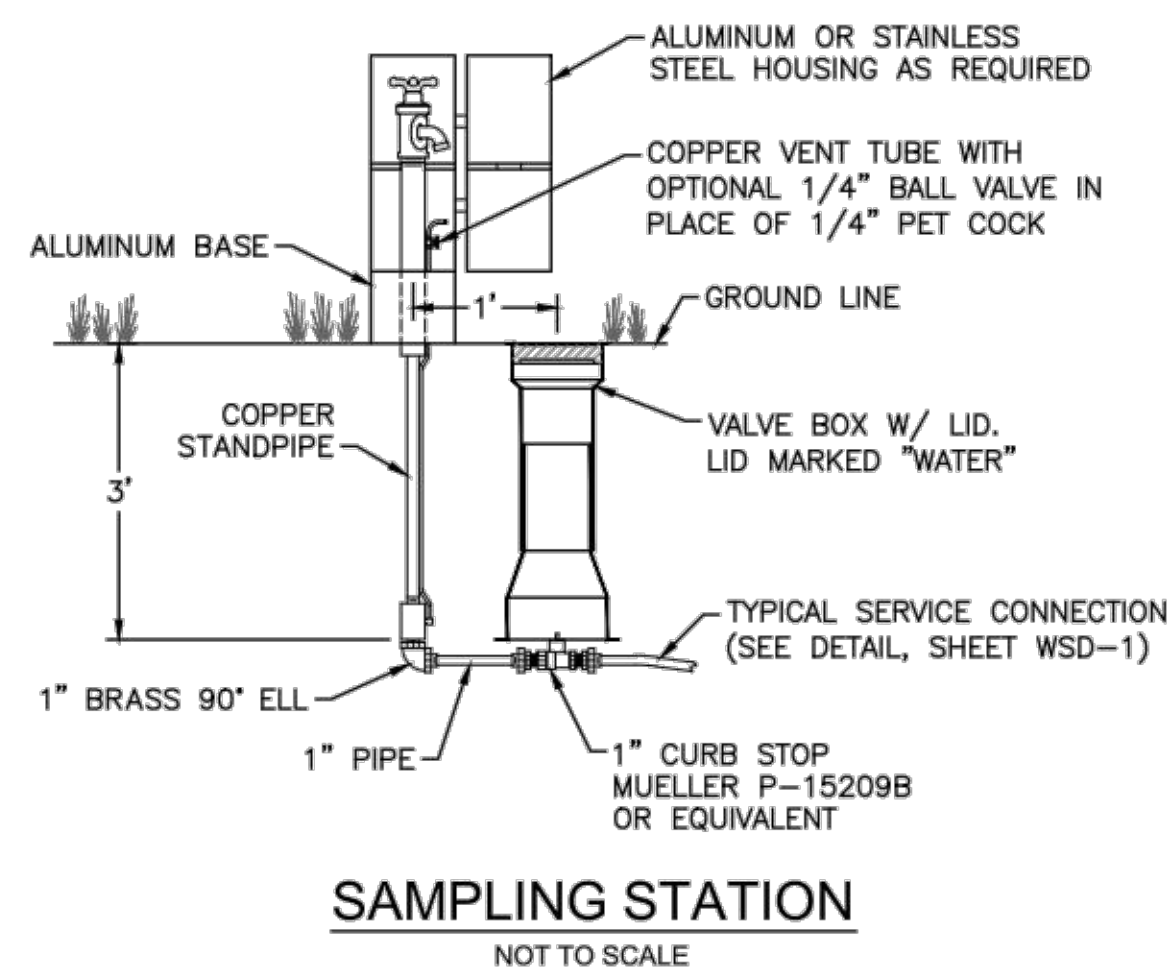
DOUBLE SERVICE CONNECTION
NOT TO SCALE

GENERAL NOTES:
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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VALVE DETAIL
NOT TO SCALE



SAMPLING STATION
NOT TO SCALE

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

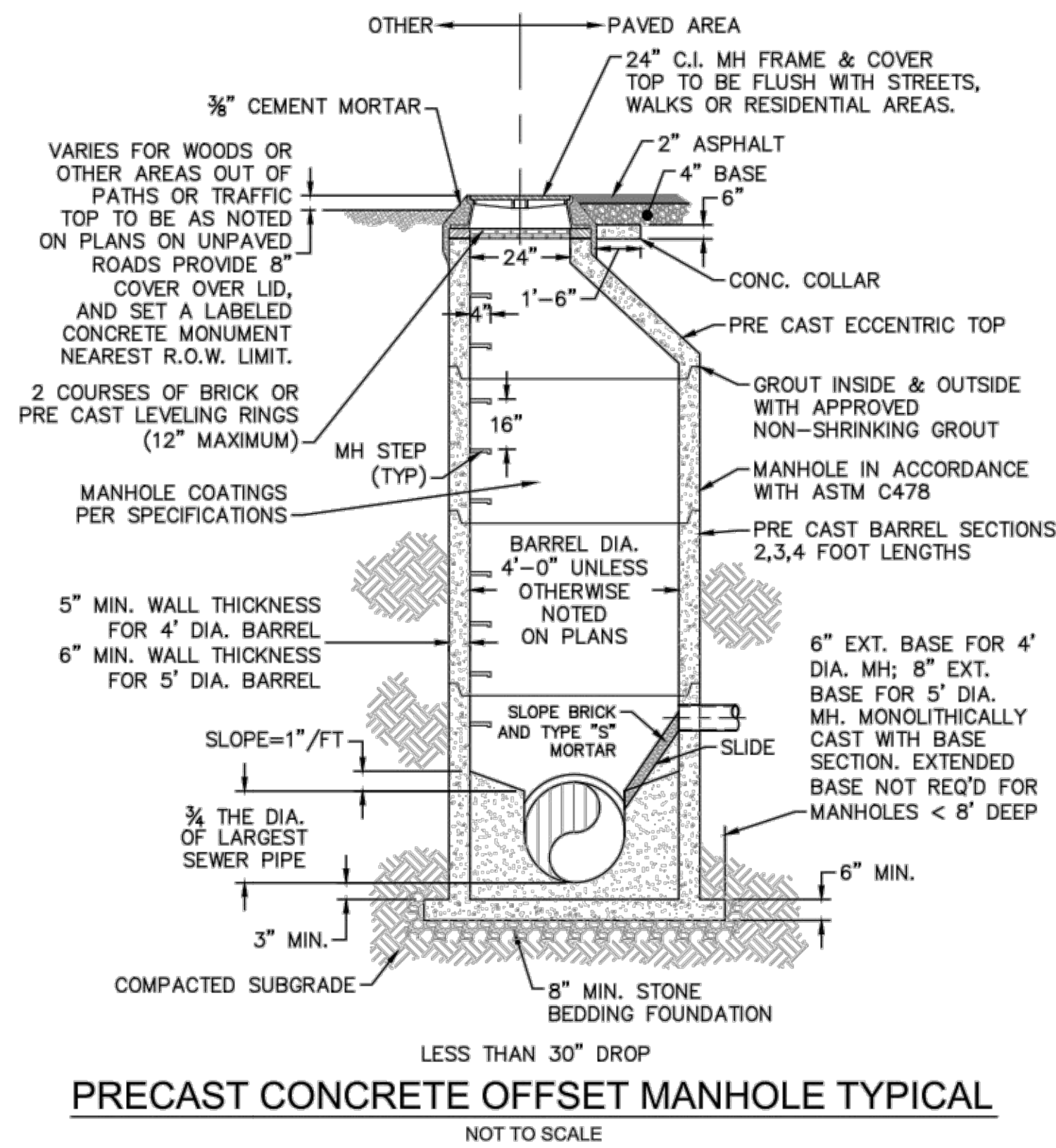
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

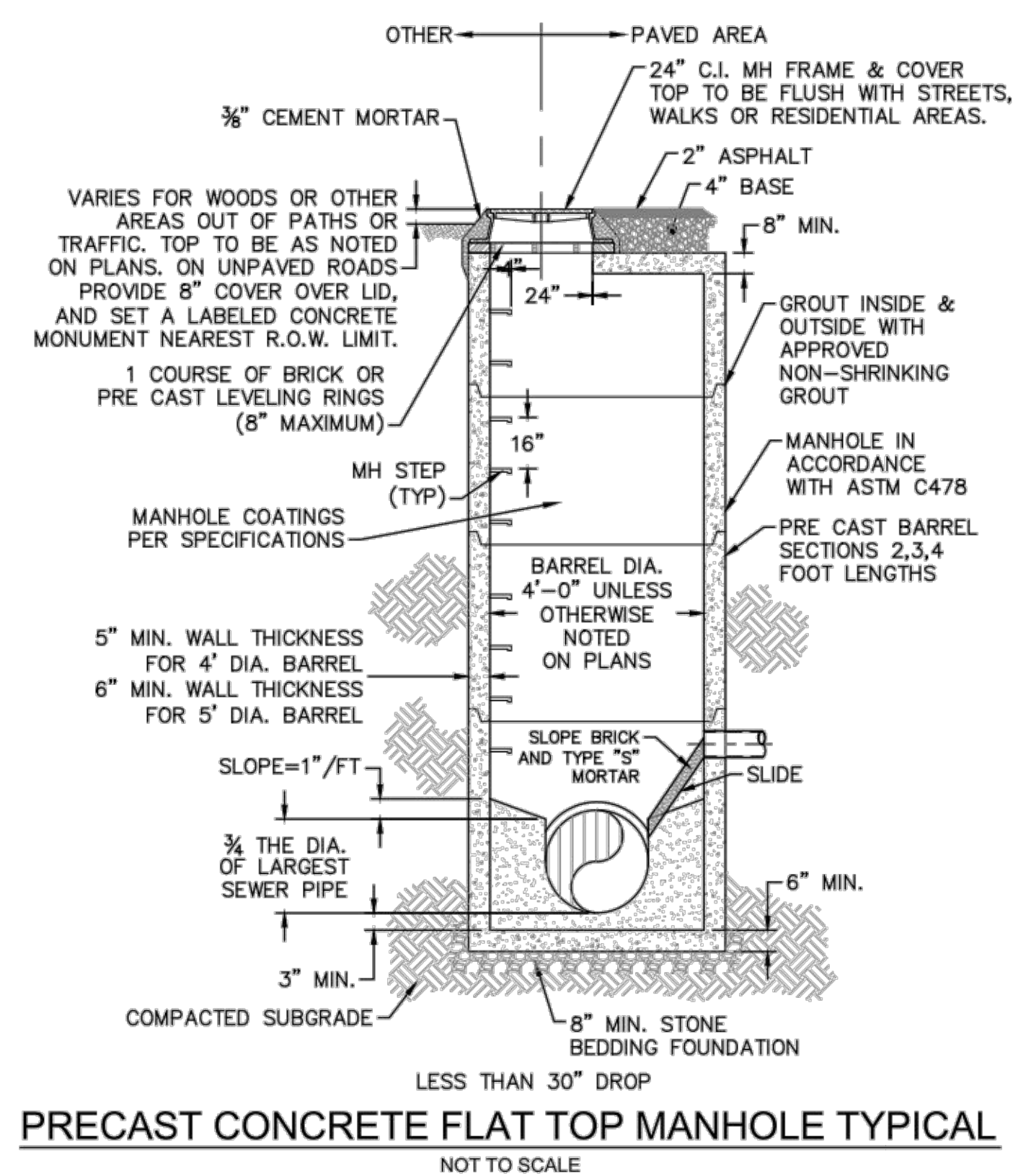
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

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

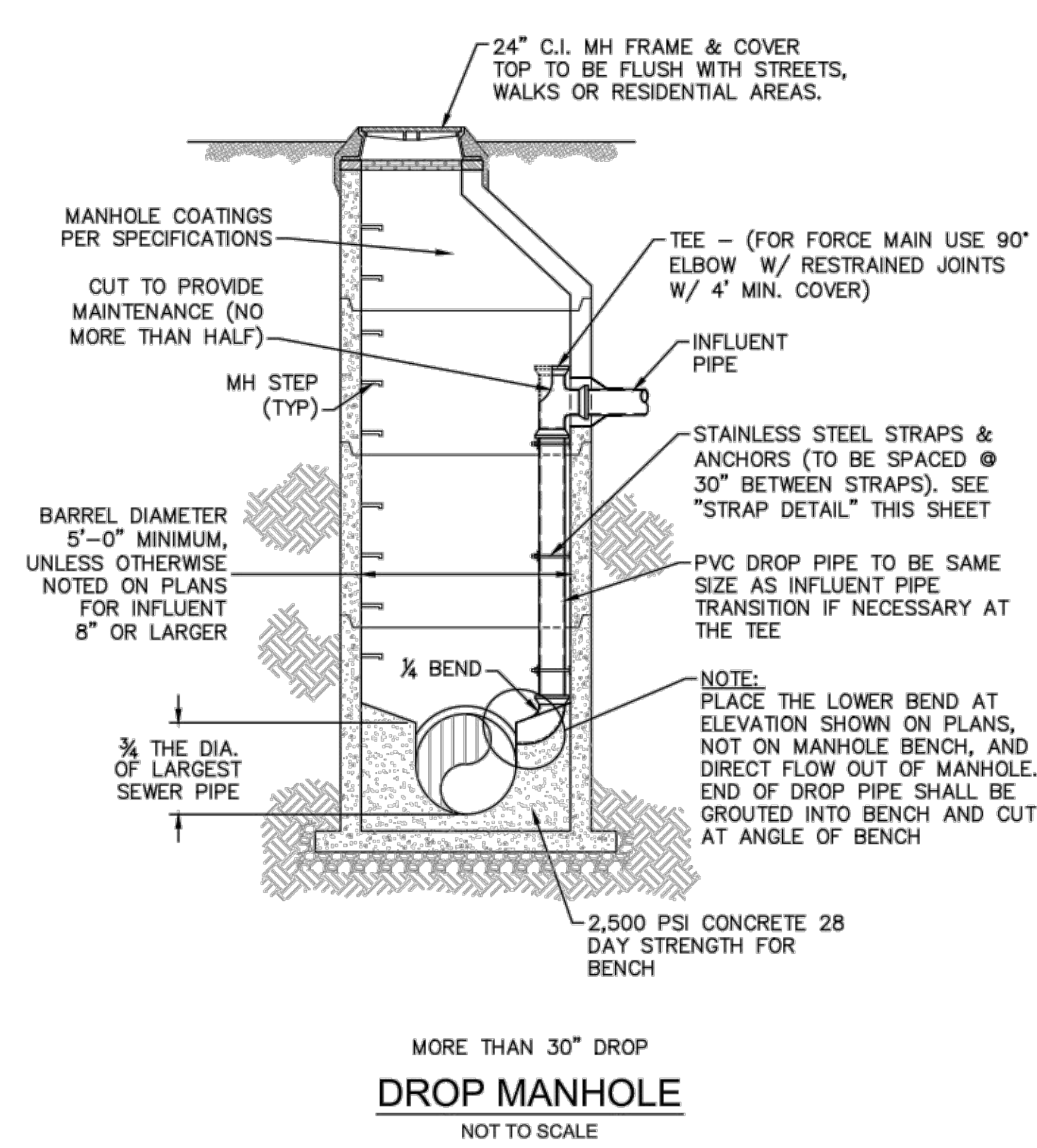
SHEET NO: **WSD-2**



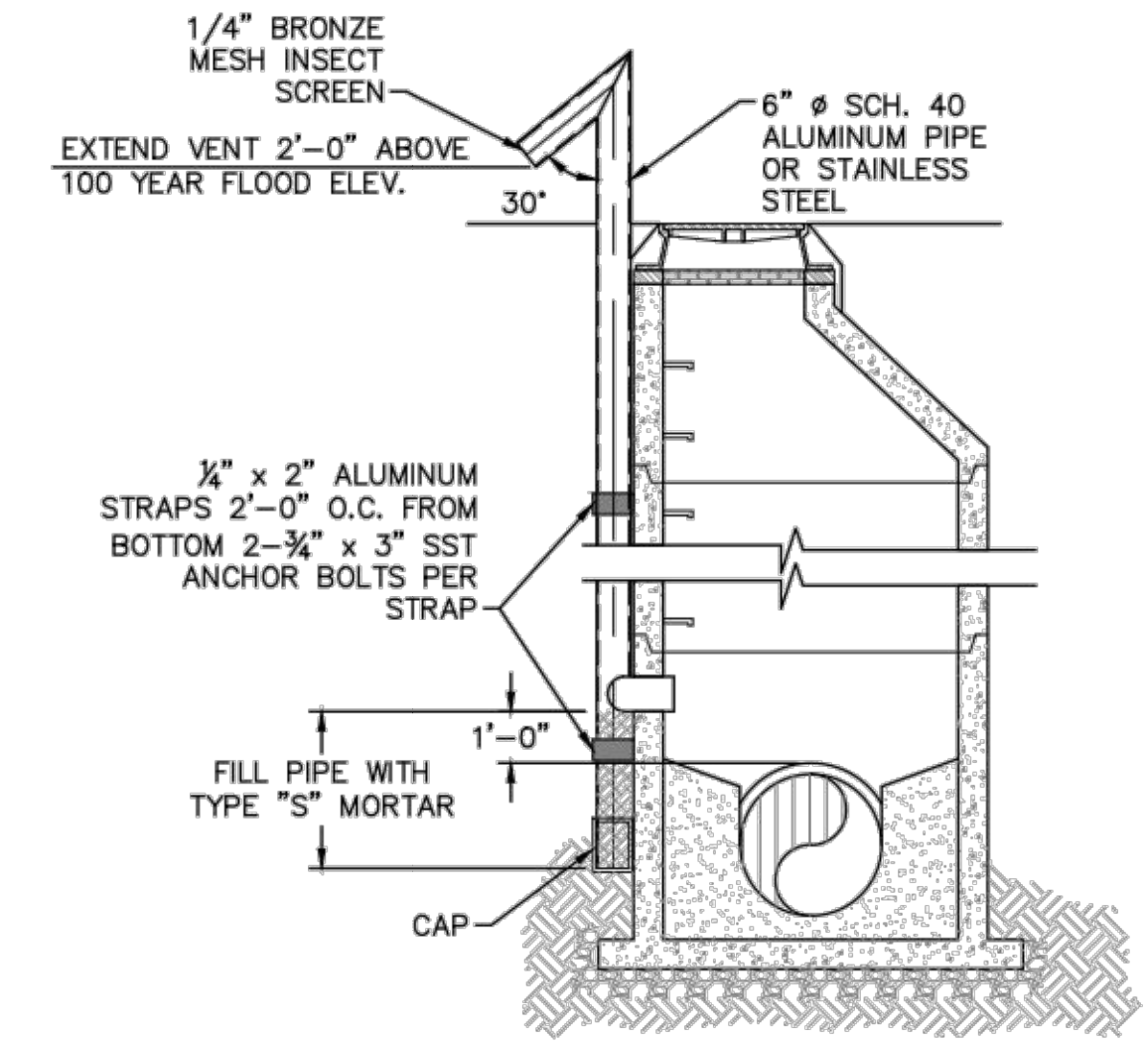
PRECAST CONCRETE OFFSET MANHOLE TYPICAL
NOT TO SCALE



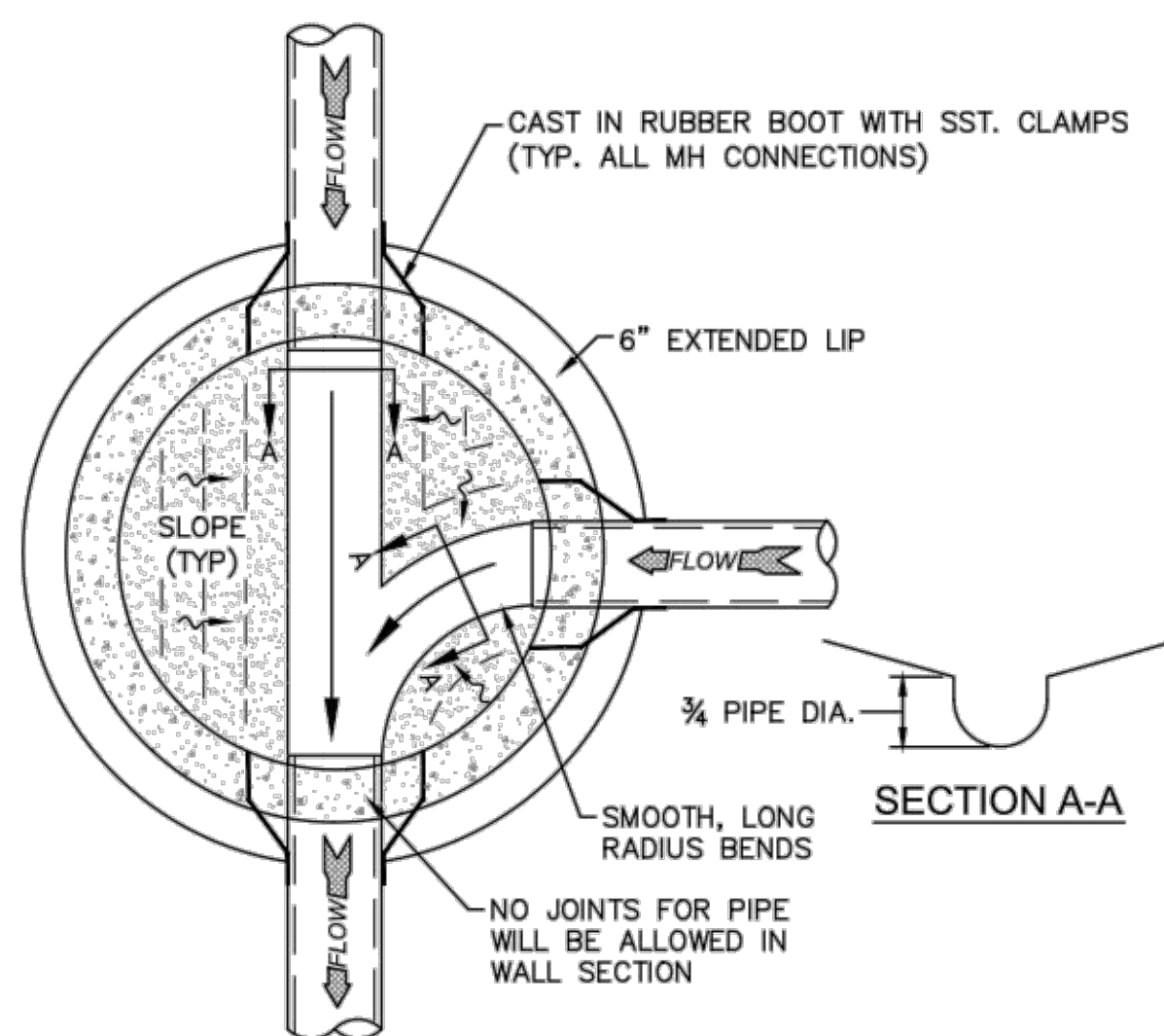
PRECAST CONCRETE FLAT TOP MANHOLE TYPICAL
NOT TO SCALE



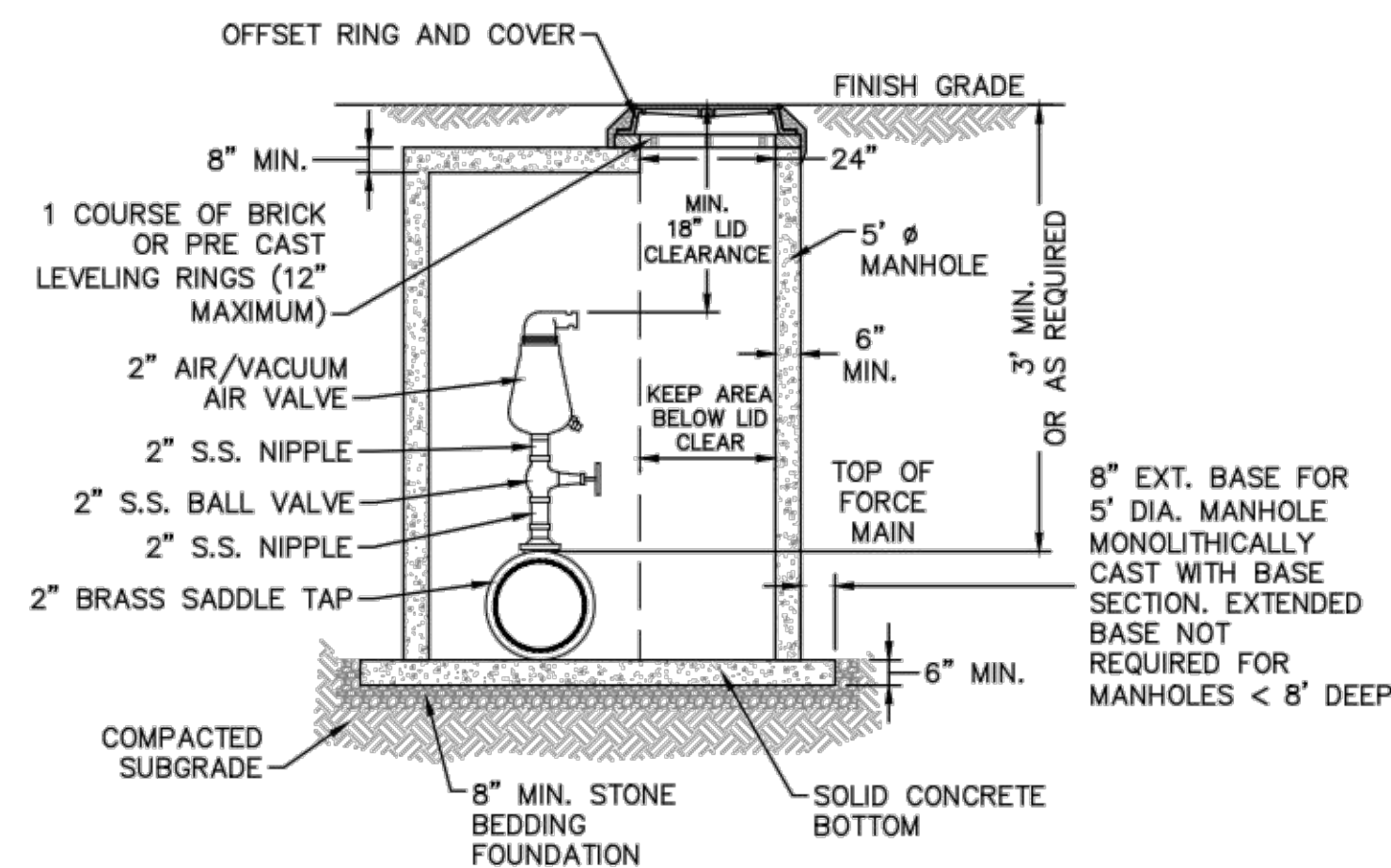
DROP MANHOLE
NOT TO SCALE



STANDARD VENT MANHOLE
NOT TO SCALE

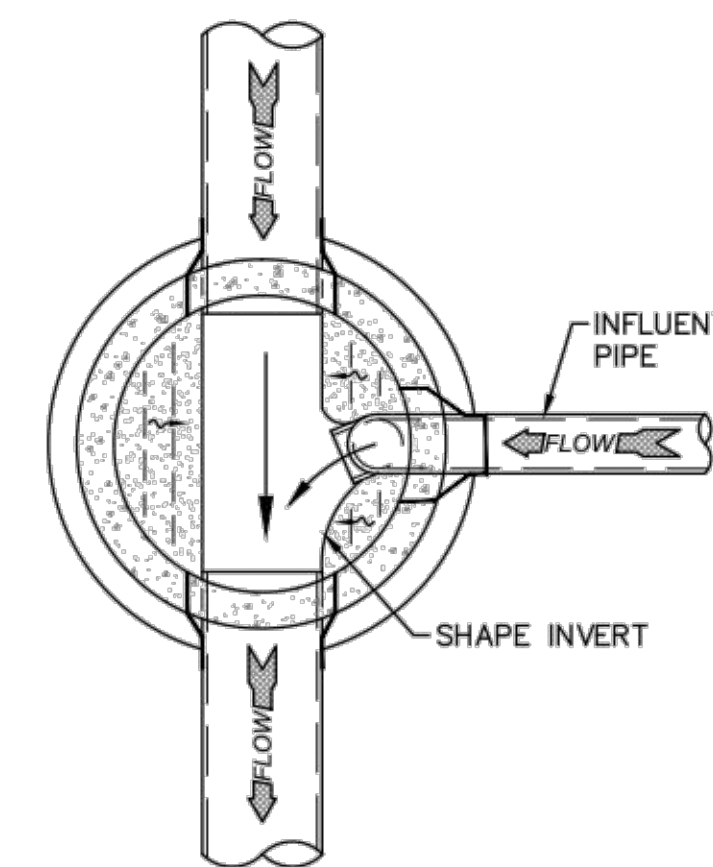


MANHOLE FLOOR PLAN
NOT TO SCALE

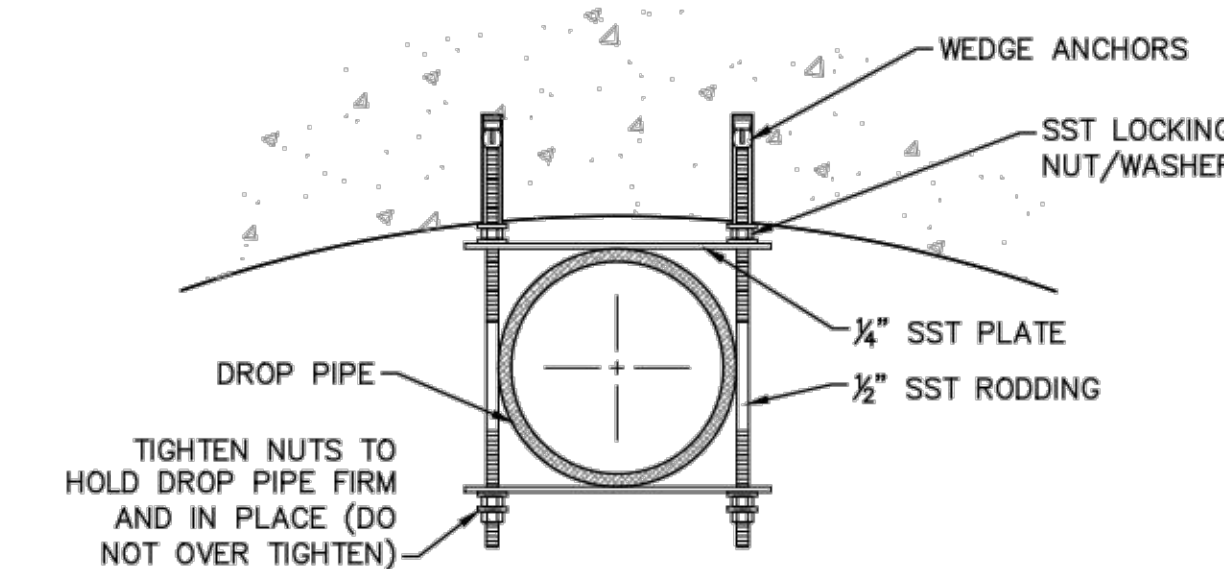


NOTES:
1. CONTRACTOR TO INSTALL VALVE AND MANHOLE AT SUFFICIENT DEPTH TO ALLOW FOR ACCESS.
2. FORCE MAIN TO BE OFFSET IN MANHOLE TO KEEP AREA BELOW LID CLEAR.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. USE CAST IN RUBBER BOOT WITH SST. CLAMPS FOR ALL MH CONNECTIONS, INCLUDING FORCE MAIN.

AIR / VACUUM AND AIR RELEASE COMBINATION VALVE
NOT TO SCALE



DROP MANHOLE FLOOR PLAN
NOT TO SCALE



NOTE: ALL PARTS TO BE SST.

STRAP DETAIL
NOT TO SCALE

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)

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CFPUA SANITARY SEWER

STANDARD DETAILS

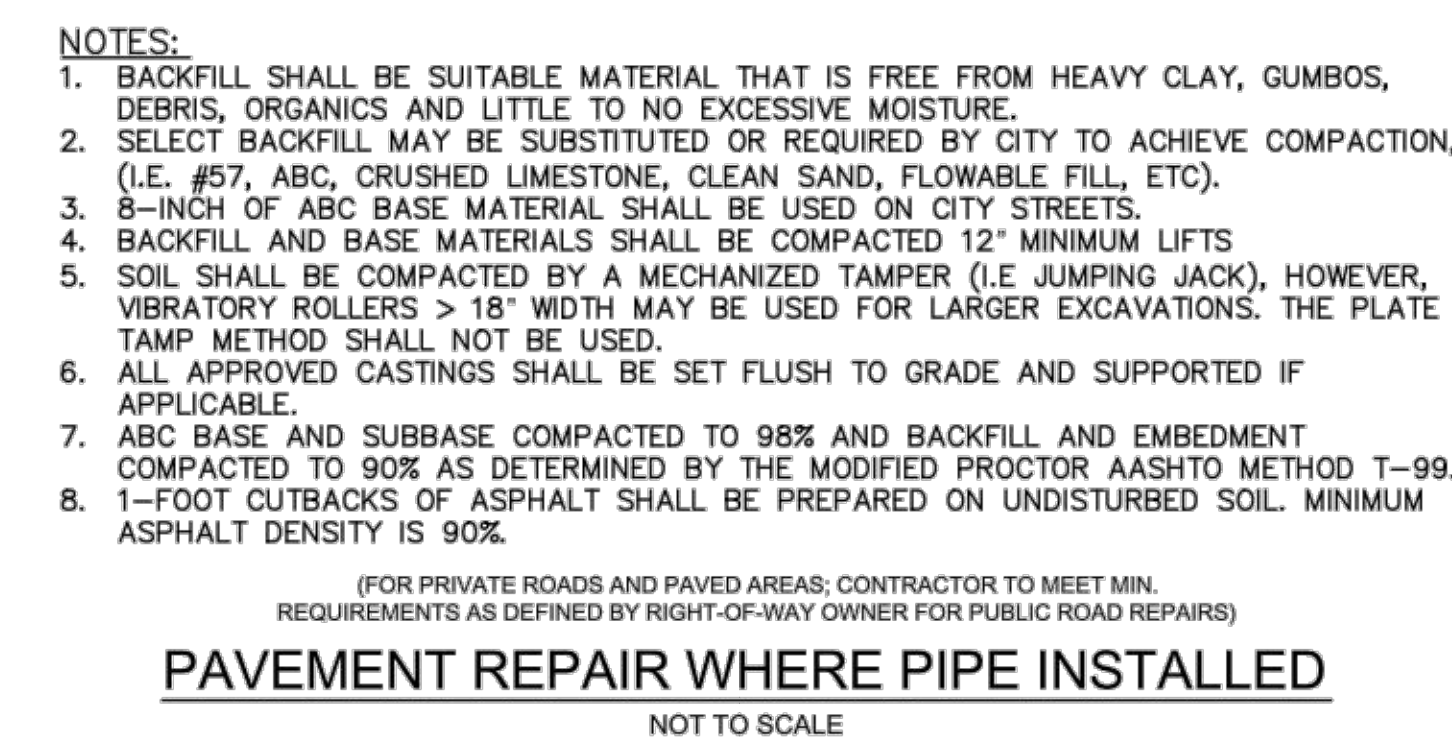
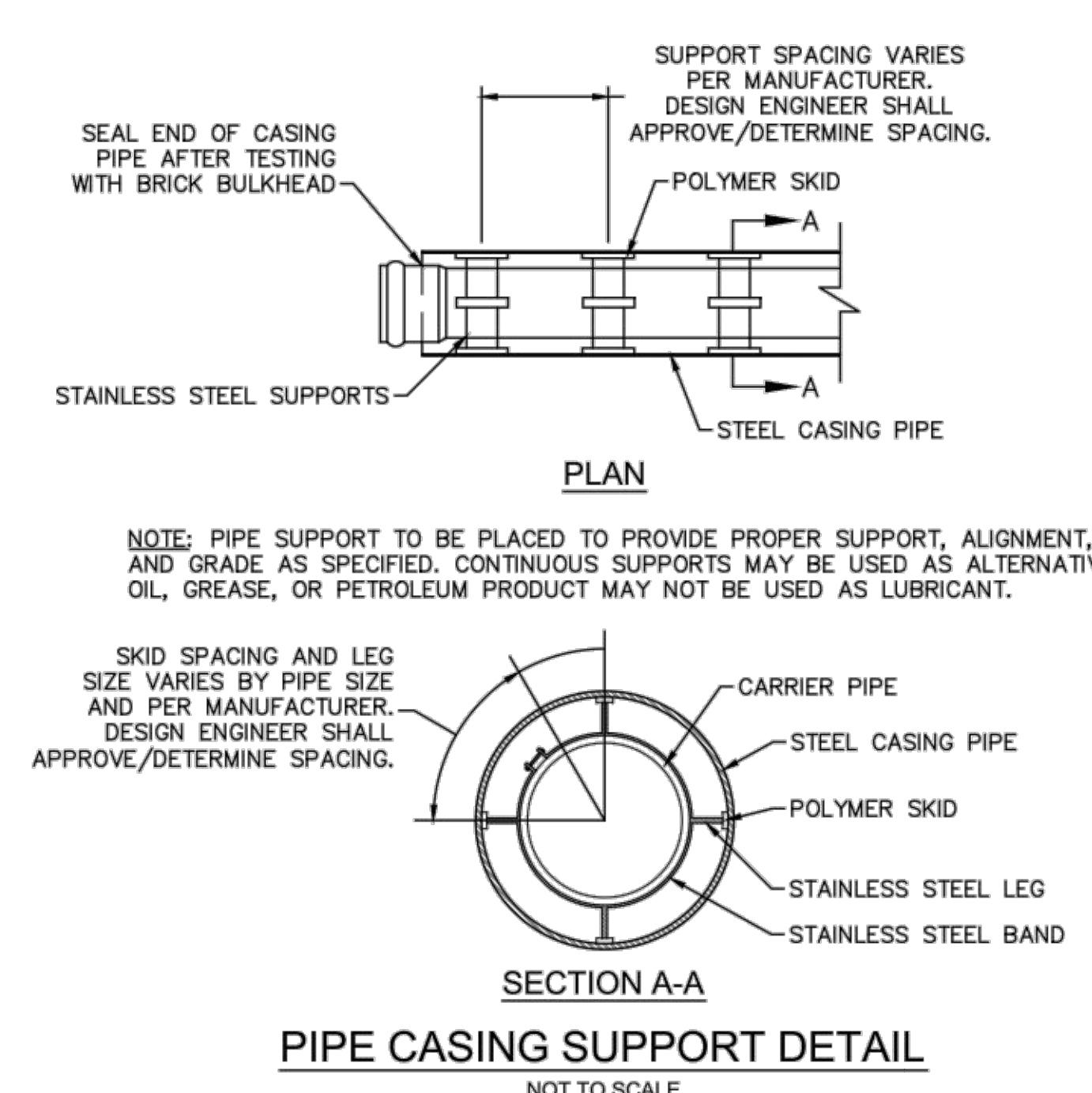
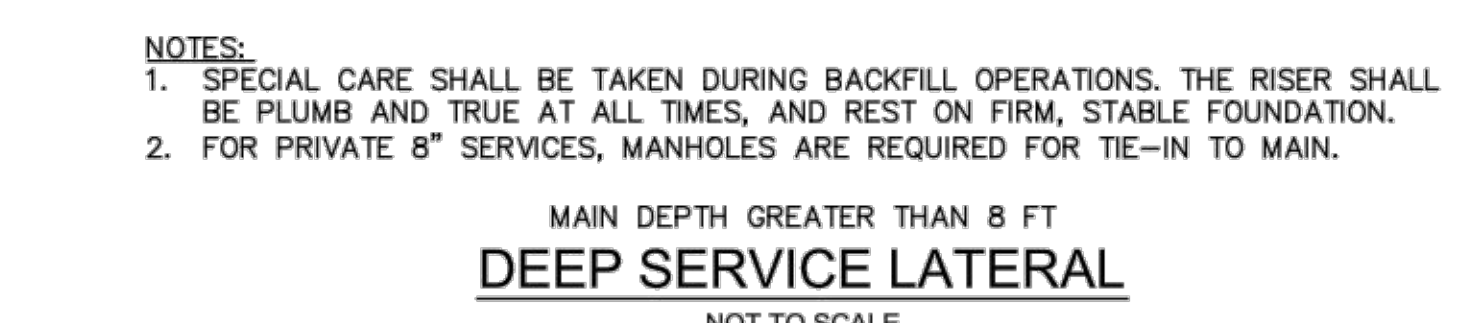
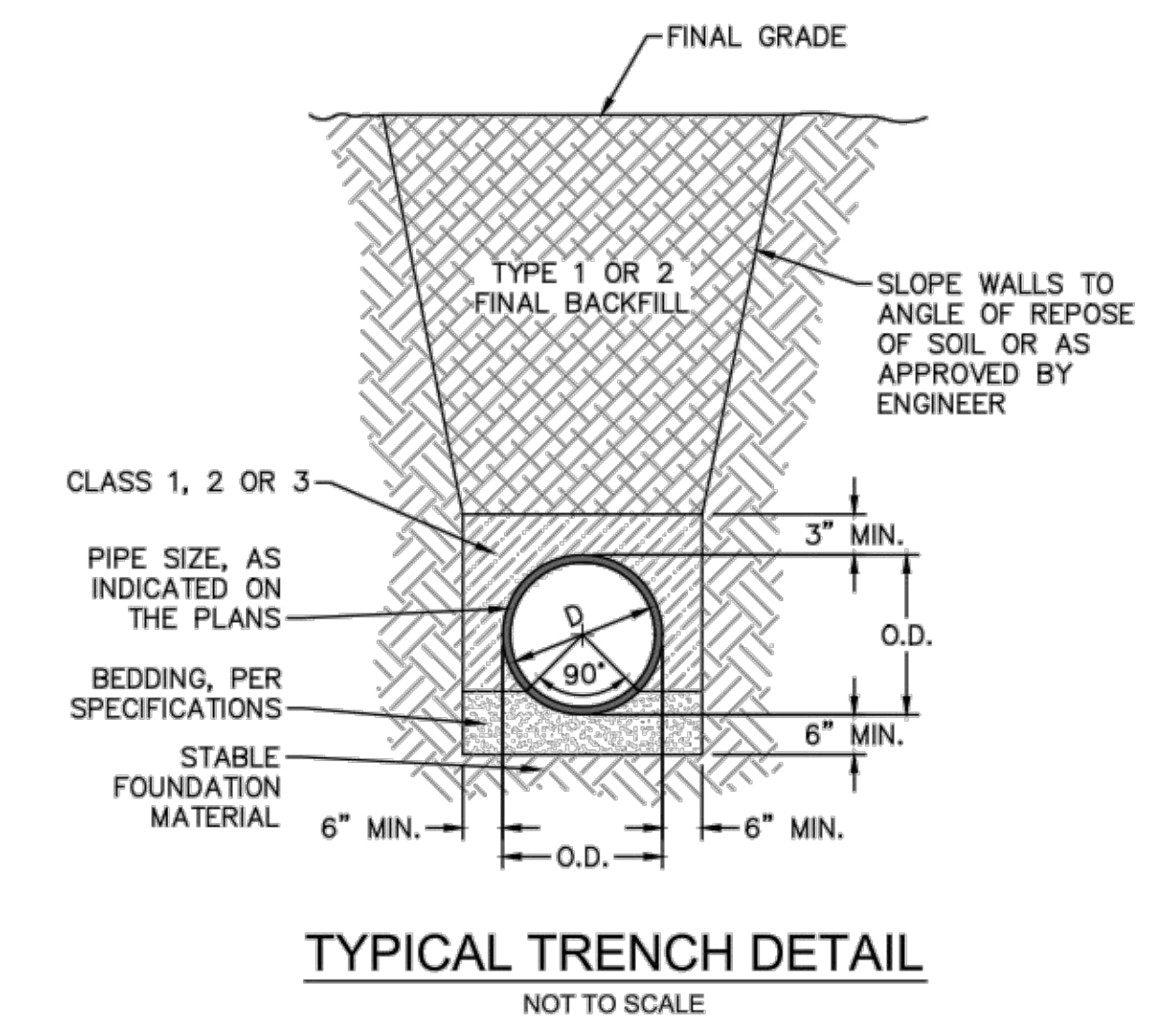
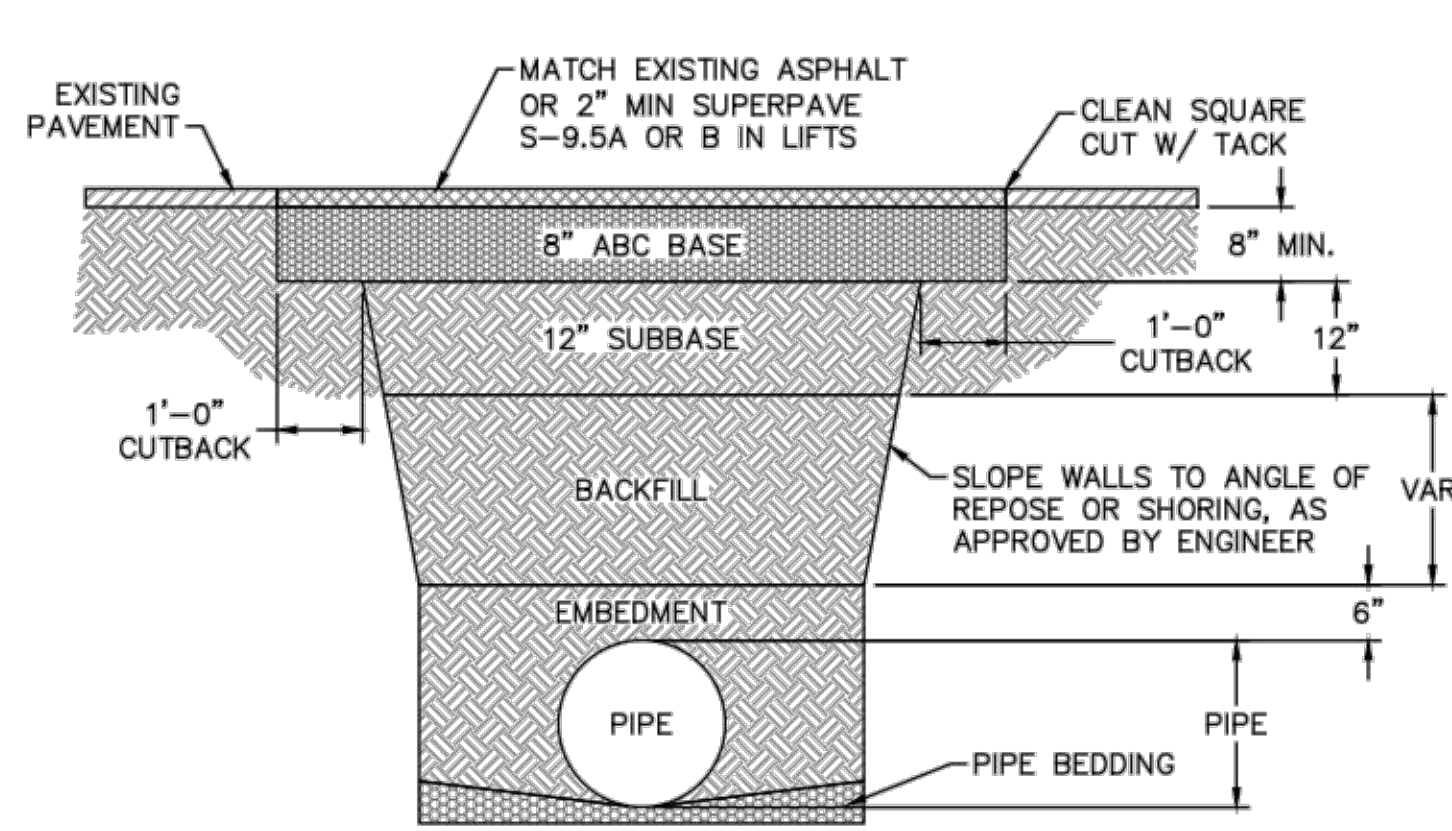
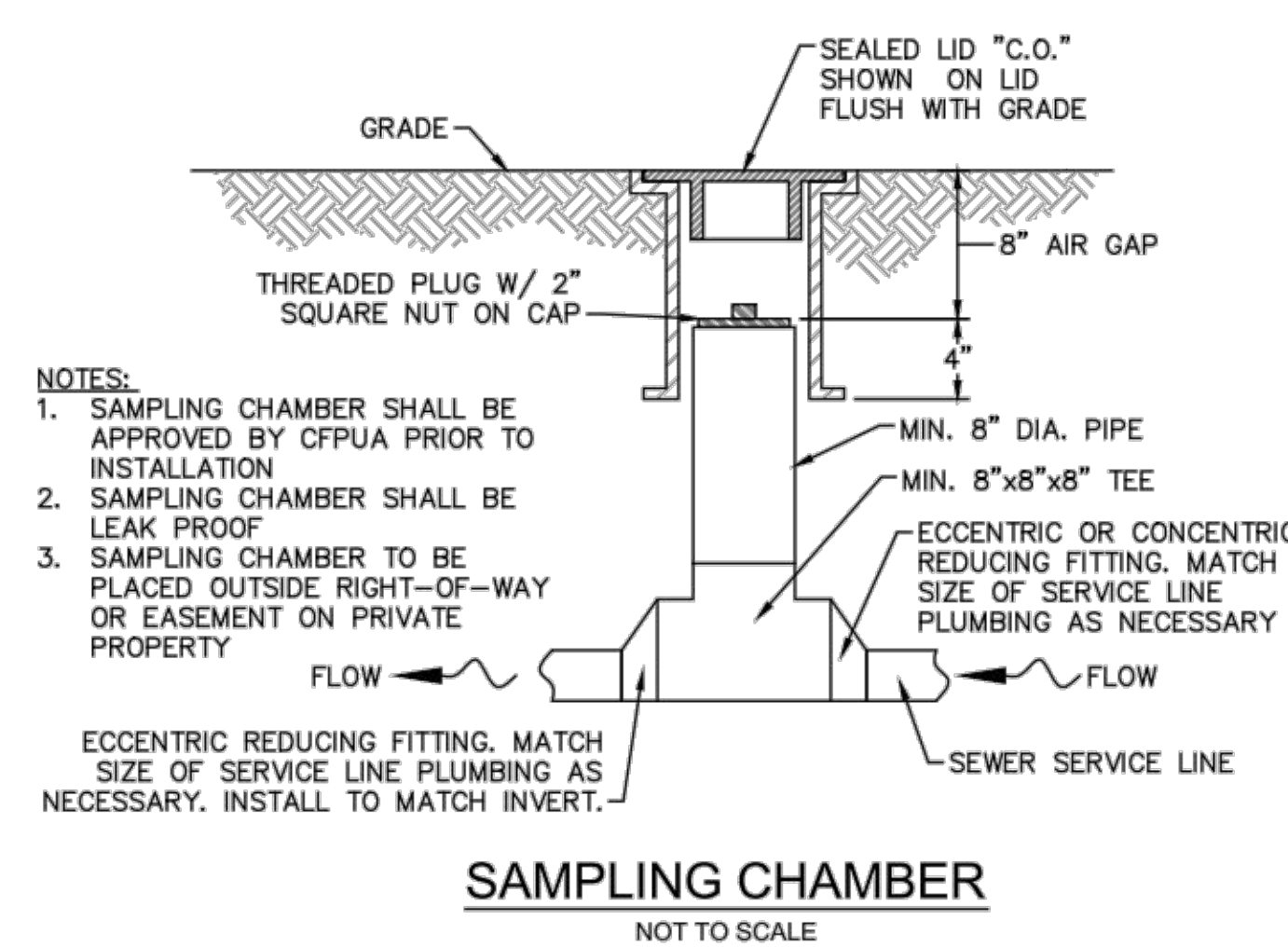
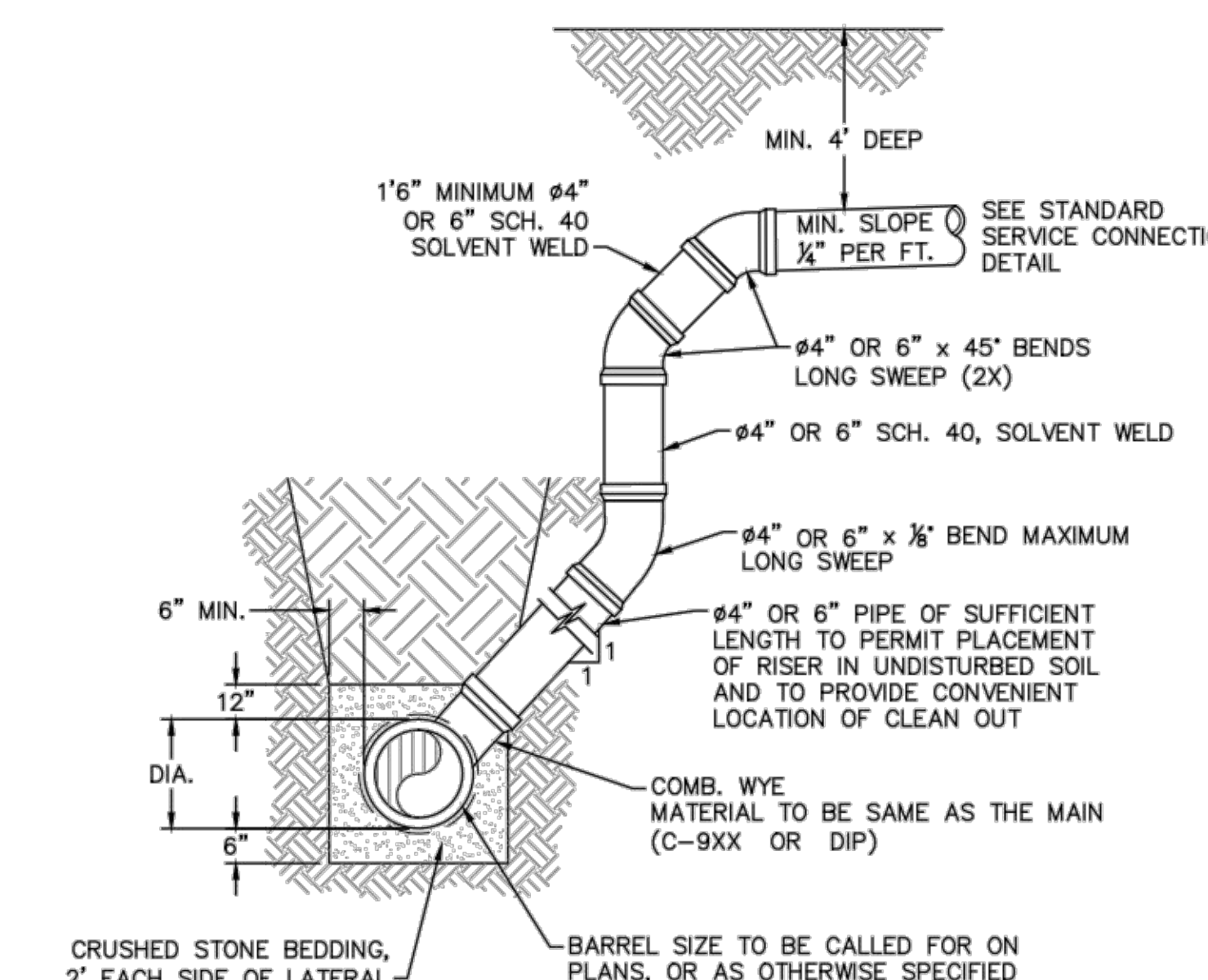
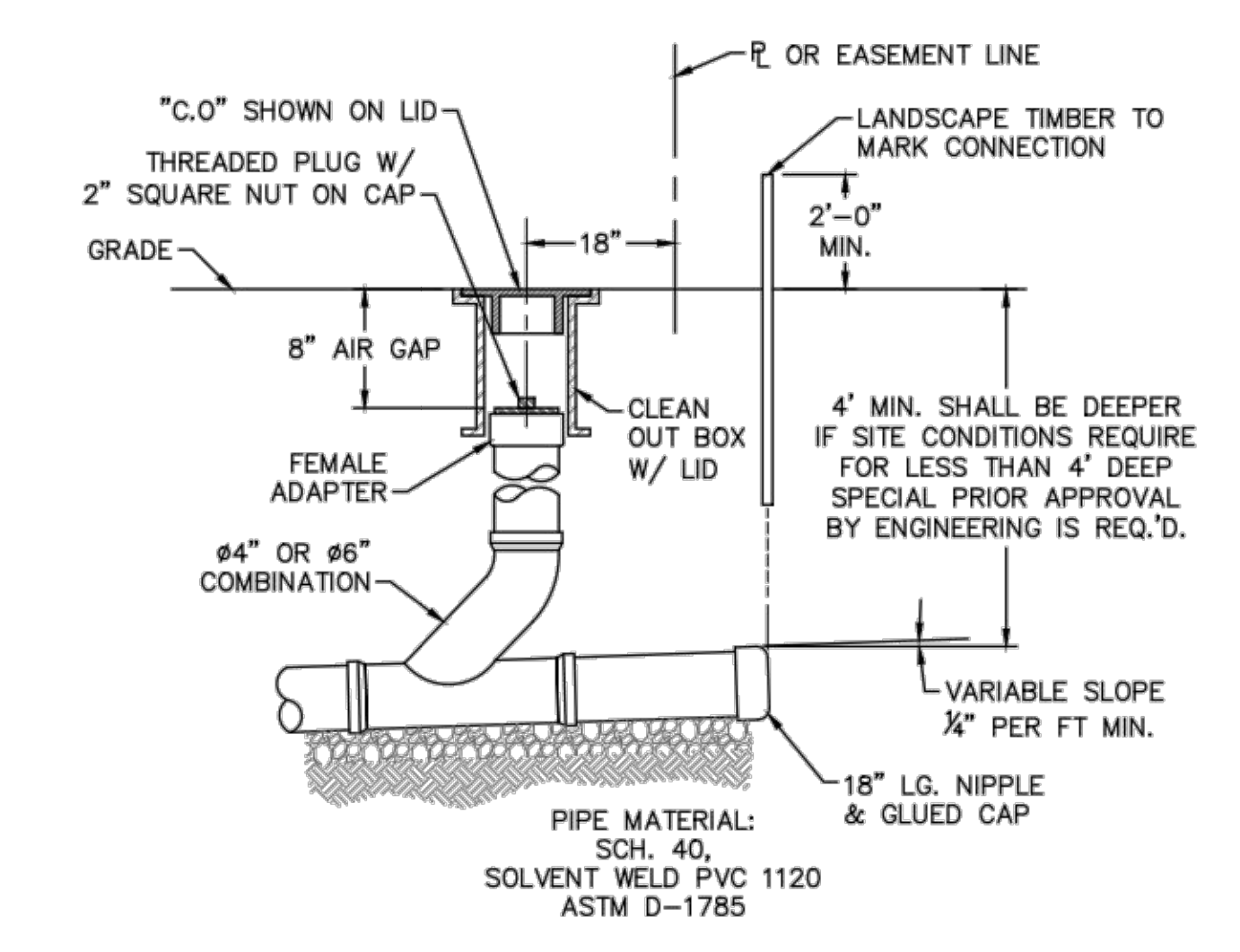
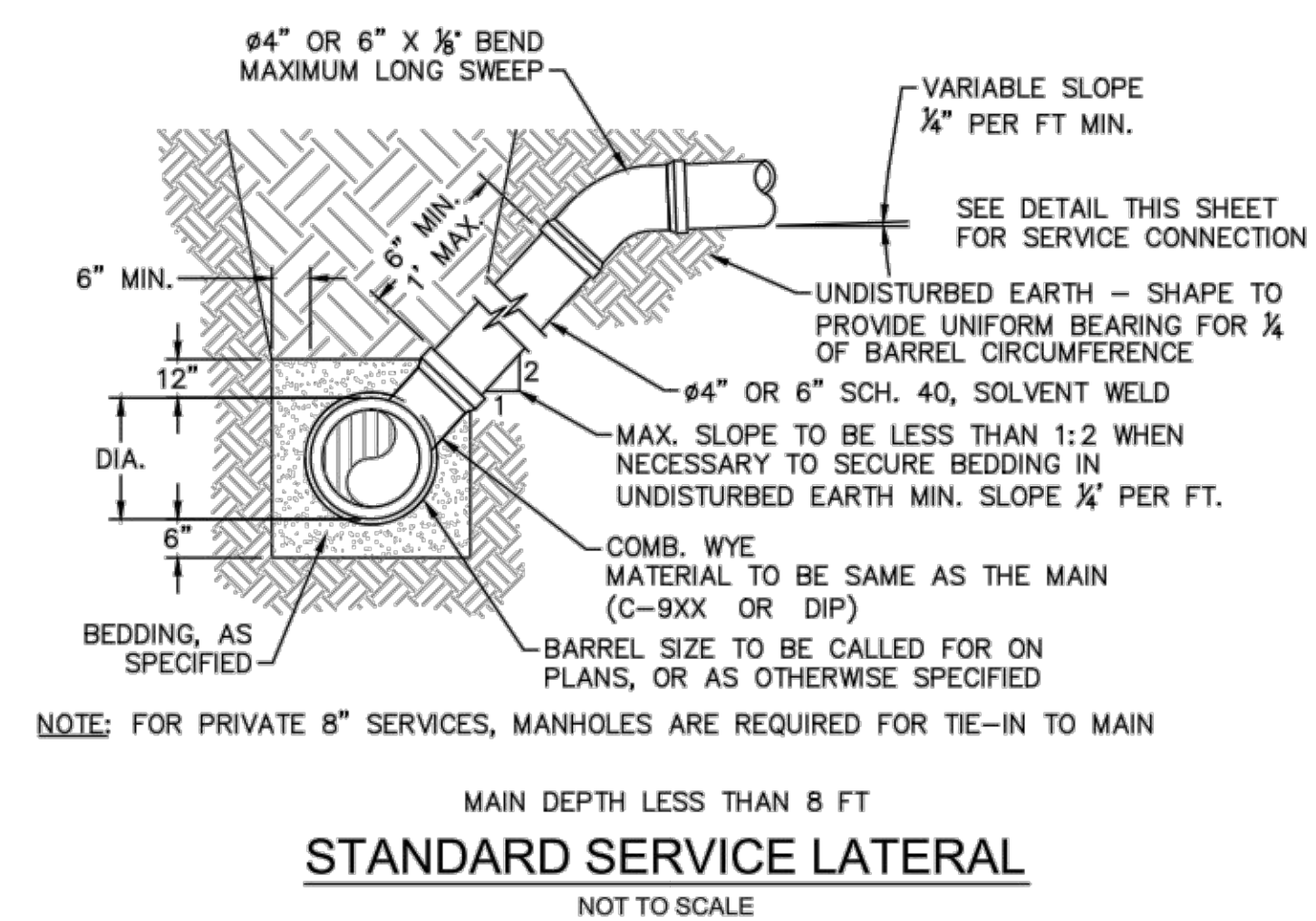
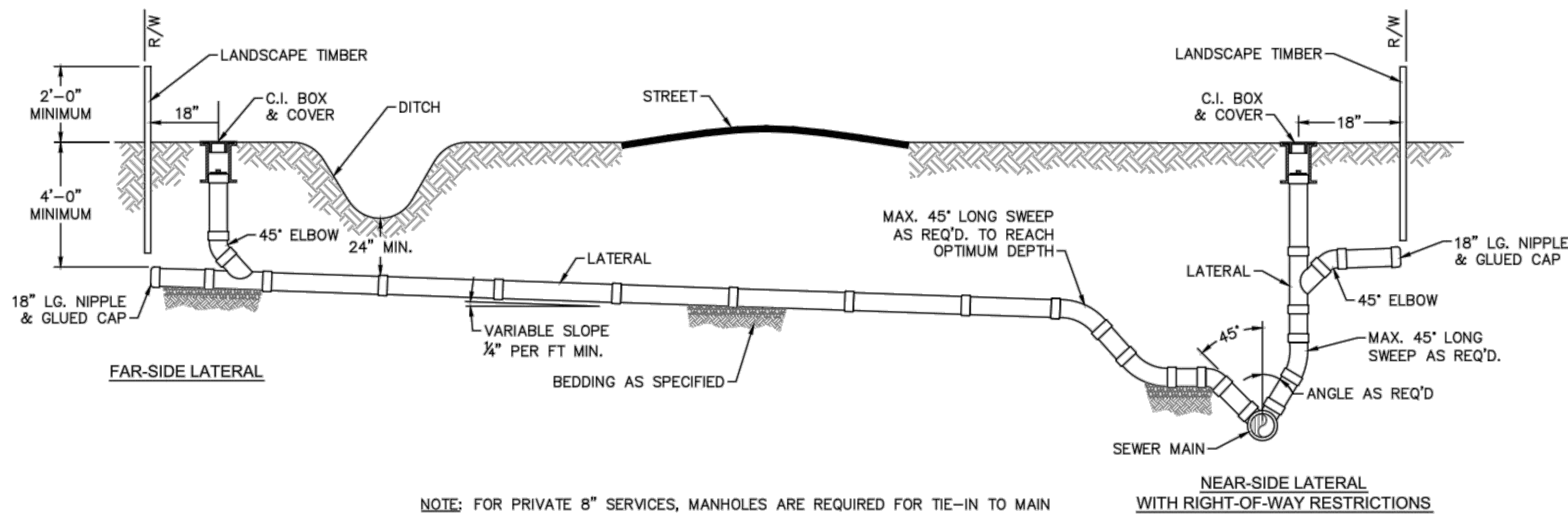
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

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

SHEET NO:
SSD-1

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





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CFPUA SANITARY SEWER

STANDARD DETAILS



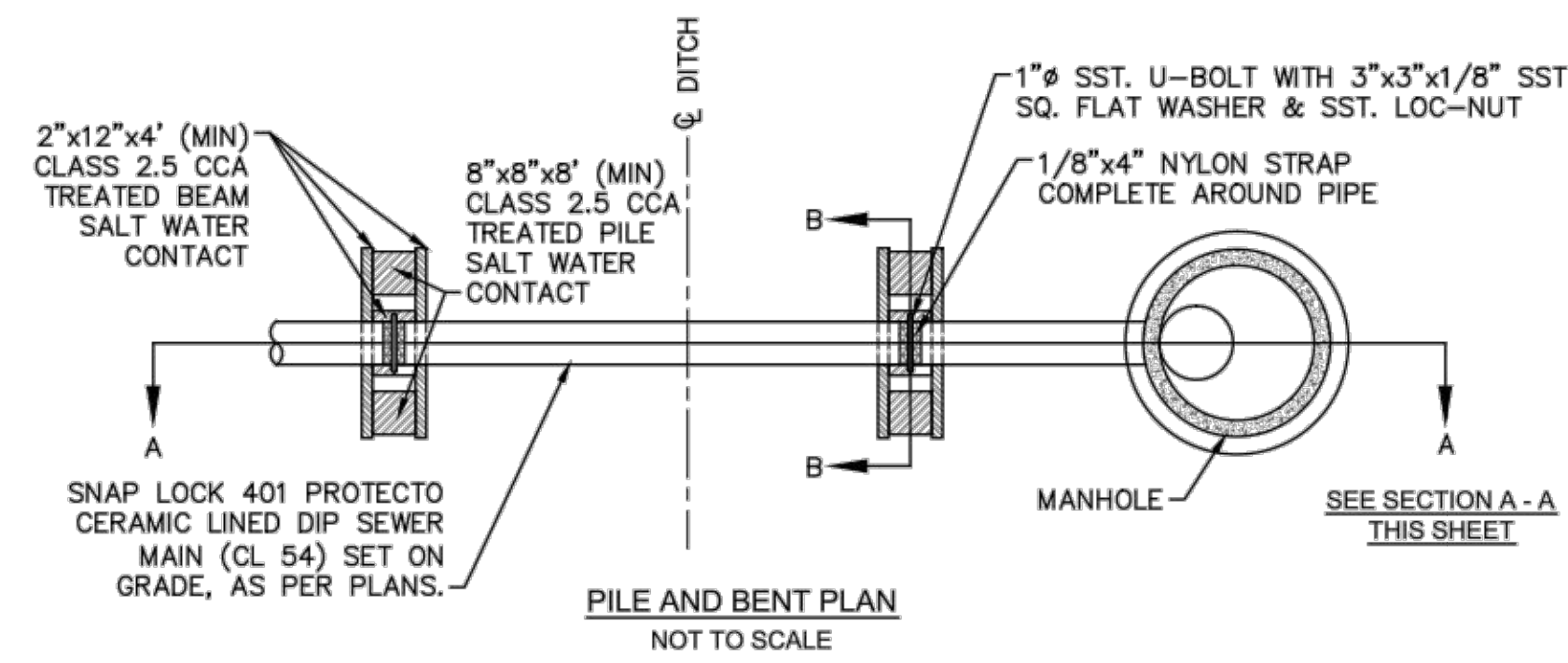
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12
SCALE:
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PROJECT NO.:

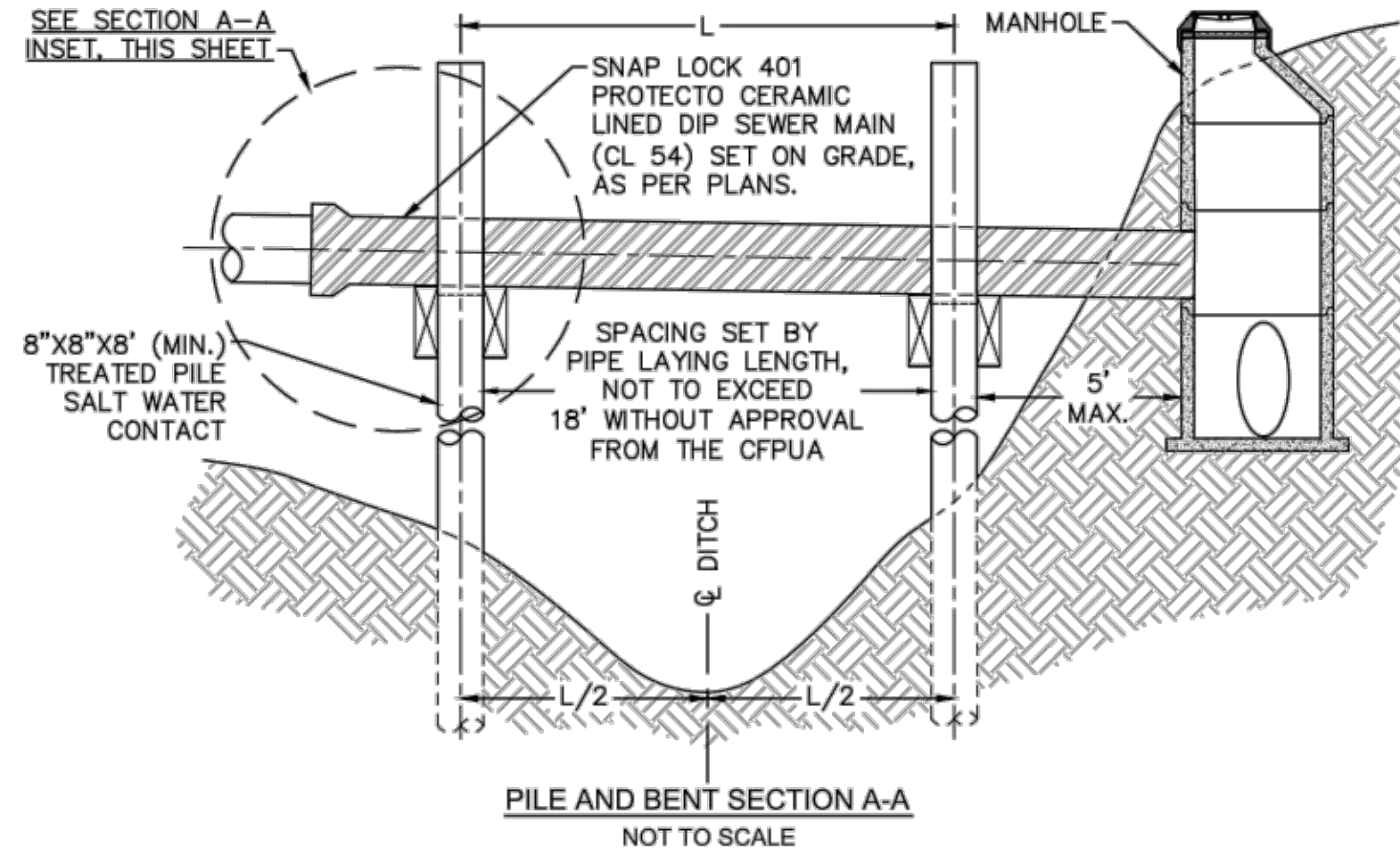
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SSD-2

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

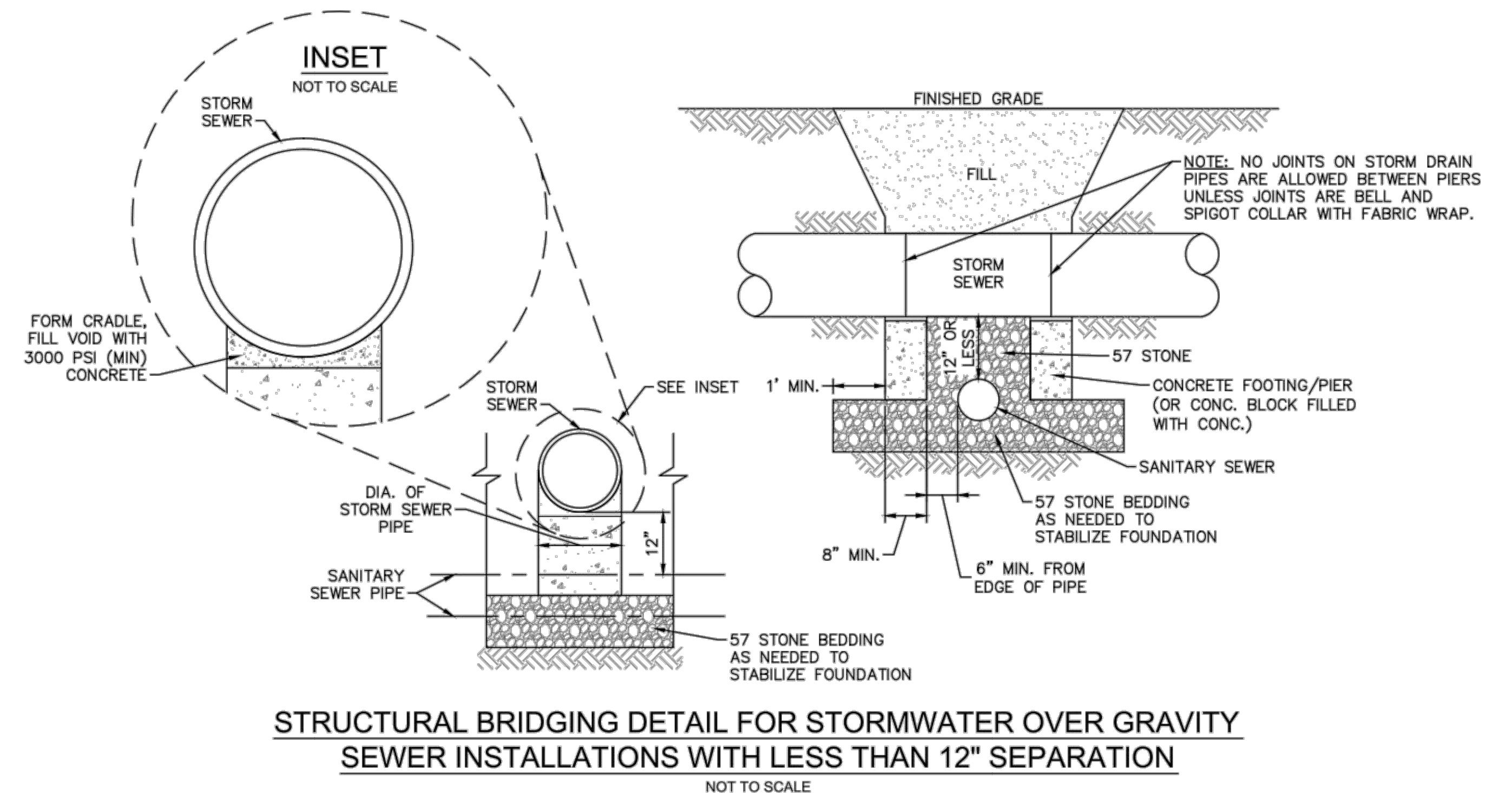
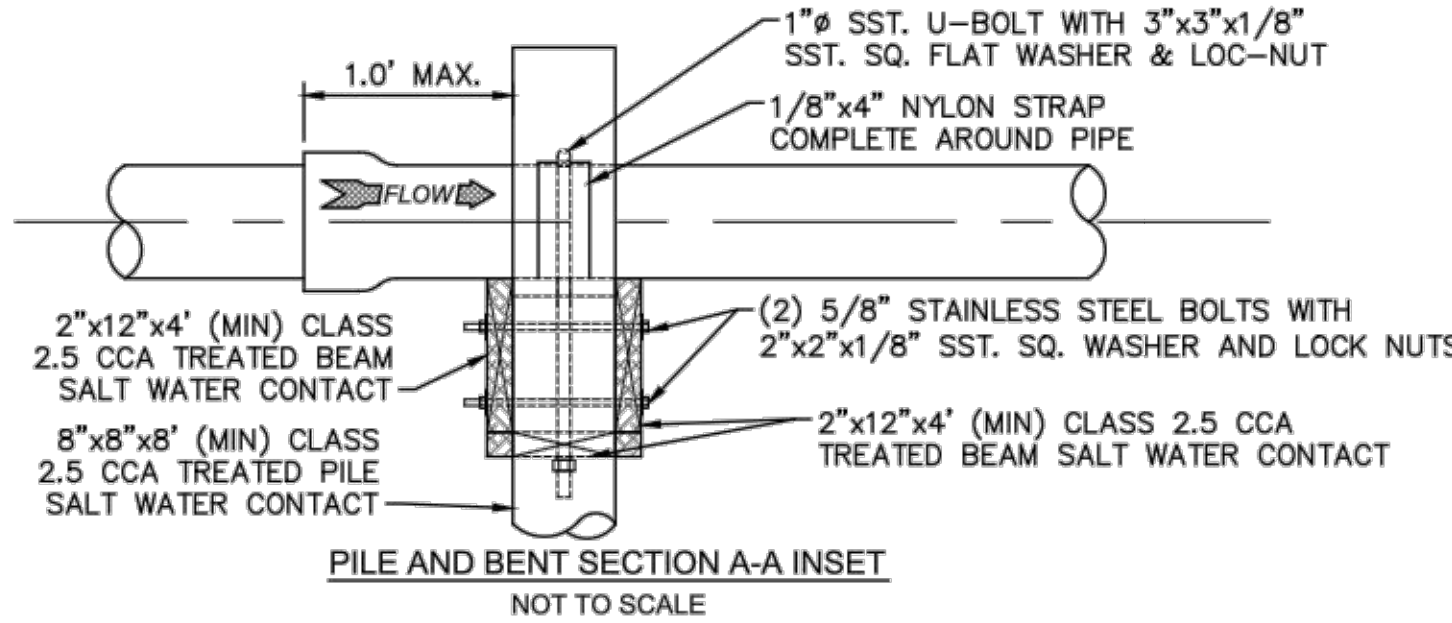
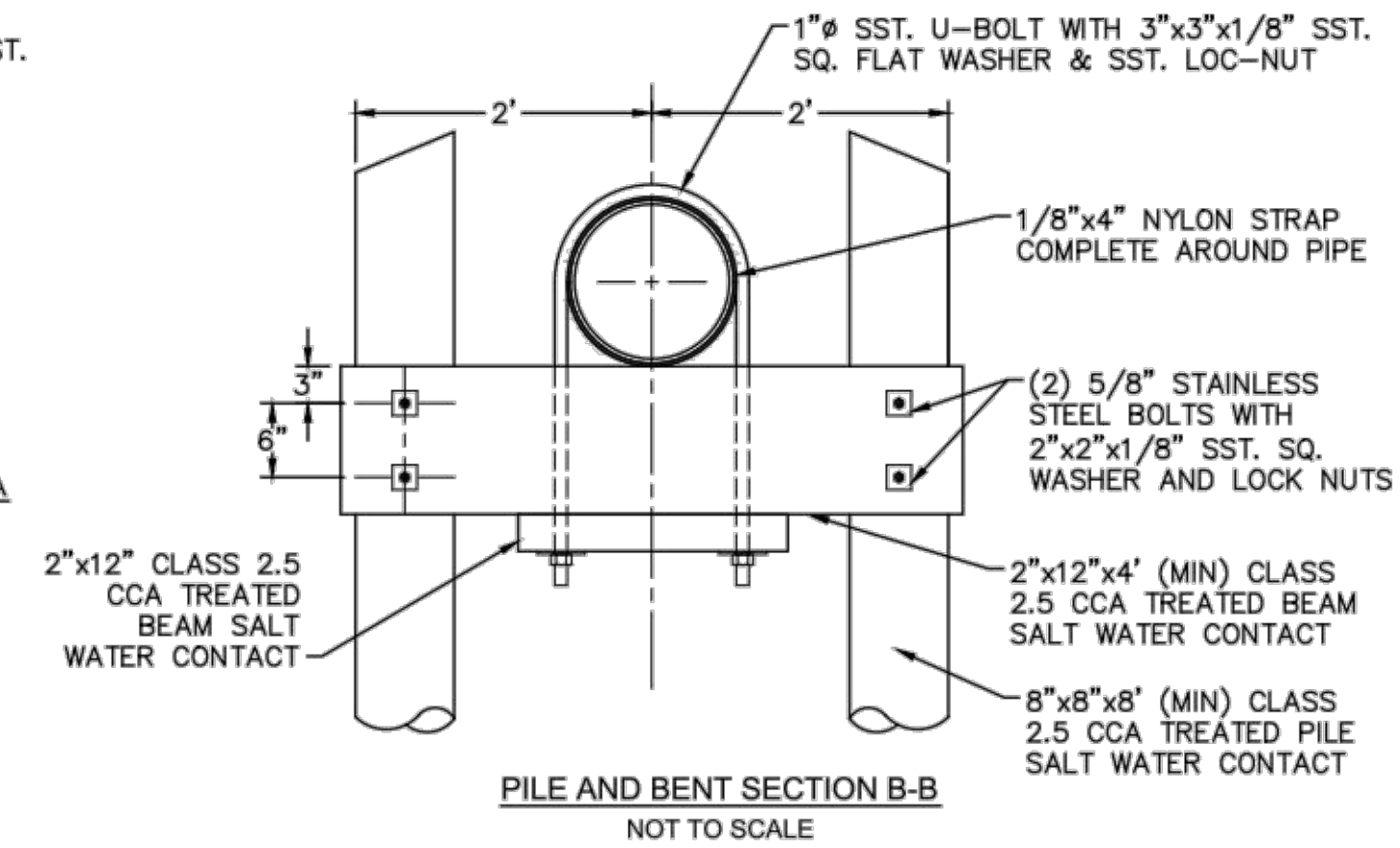
S:\23507\24 Main\13 V\13ag\88-Drawing\Phase 1B\CS-503.dwg, 3/17/2016 8:32:42 PM, hlsuratta



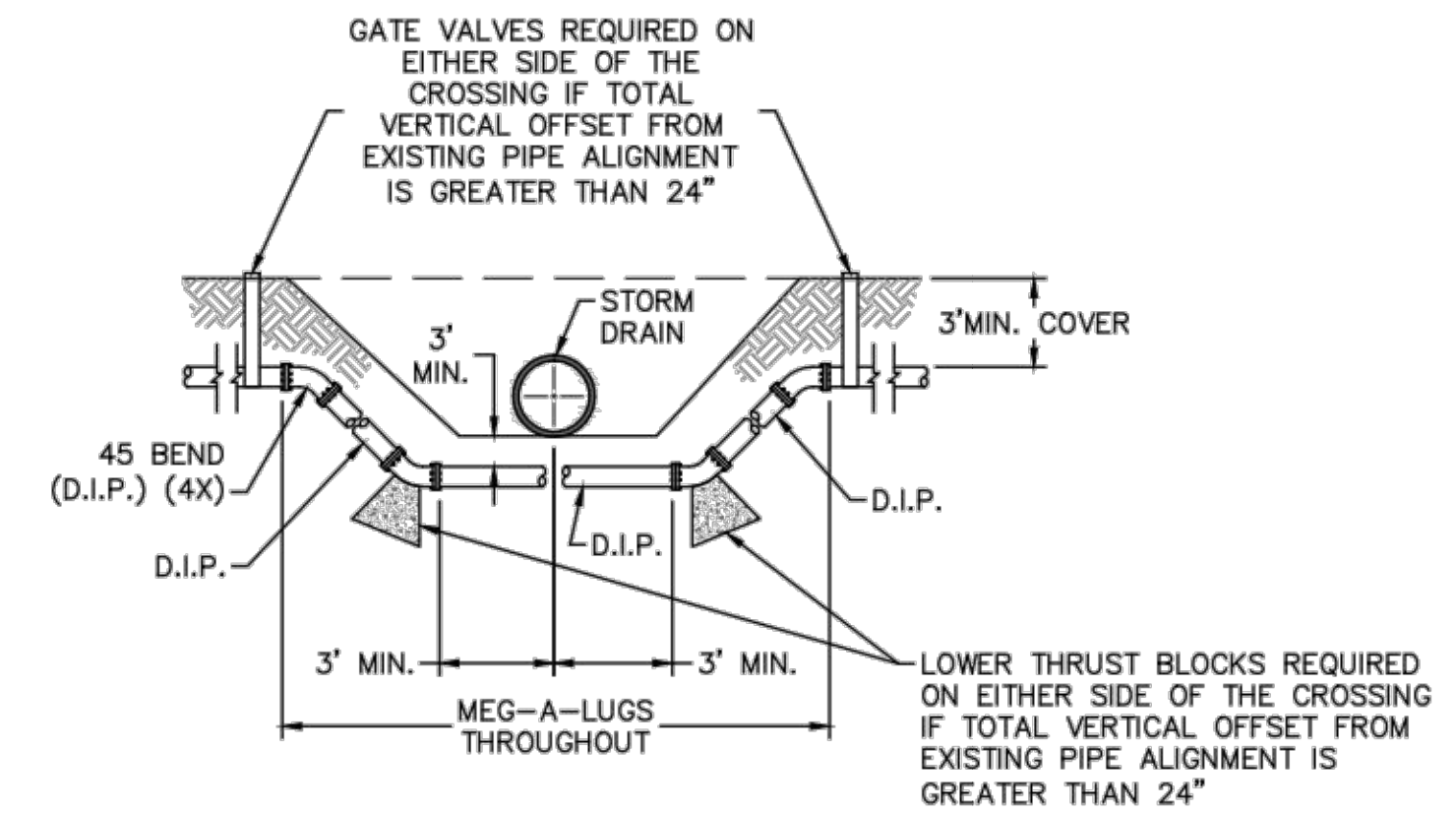
- NOTES:**
1. PILES AND PILE DRIVING SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, JANUARY 2002, SECTIONS 445, 450, 1082-2 & 1084-2.
 2. CENTERLINE OF BOLTS TO BE A MINIMUM OF 3" FROM OUTSIDE EDGE OF TIMBER. BOLTS TO BE A MINIMUM OF 3" CENTERLINE TO CENTERLINE.
 3. ALL STAINLESS STEEL SHALL BE 316. STAINLESS STRAP TO BE COLD FORMED.
 4. PILE SHALL NOT OBSTRUCT FLOW OR CAUSE EROSION OF DITCH/STREAM BANK.
 5. MIN. CLASS 54 DIP-ENGINEER MUST DESIGN LOADING.
 6. DESIGN SHALL BE APPROVED BY CFPUA.



PILE AND BENT DETAIL
NOT TO SCALE

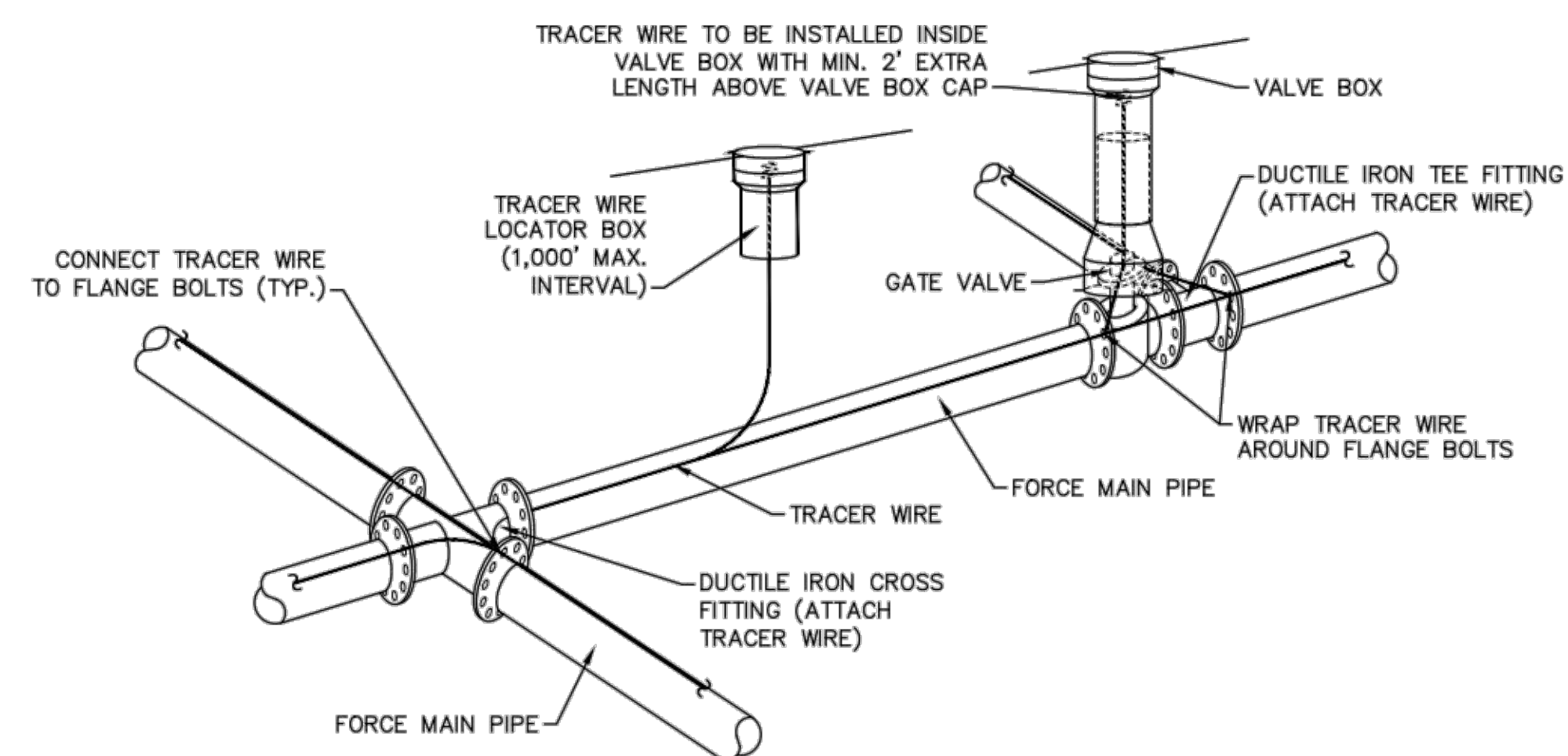


STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION
NOT TO SCALE



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.

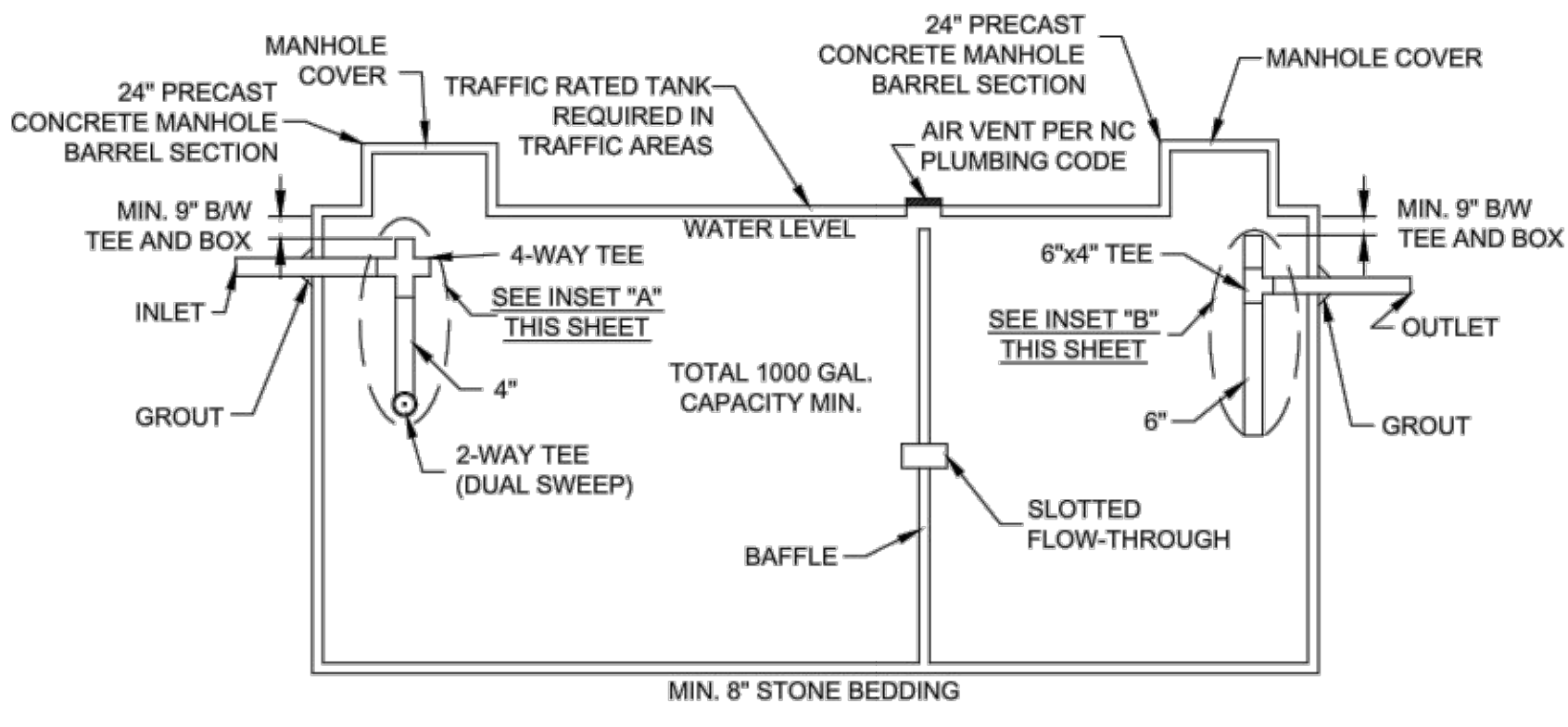
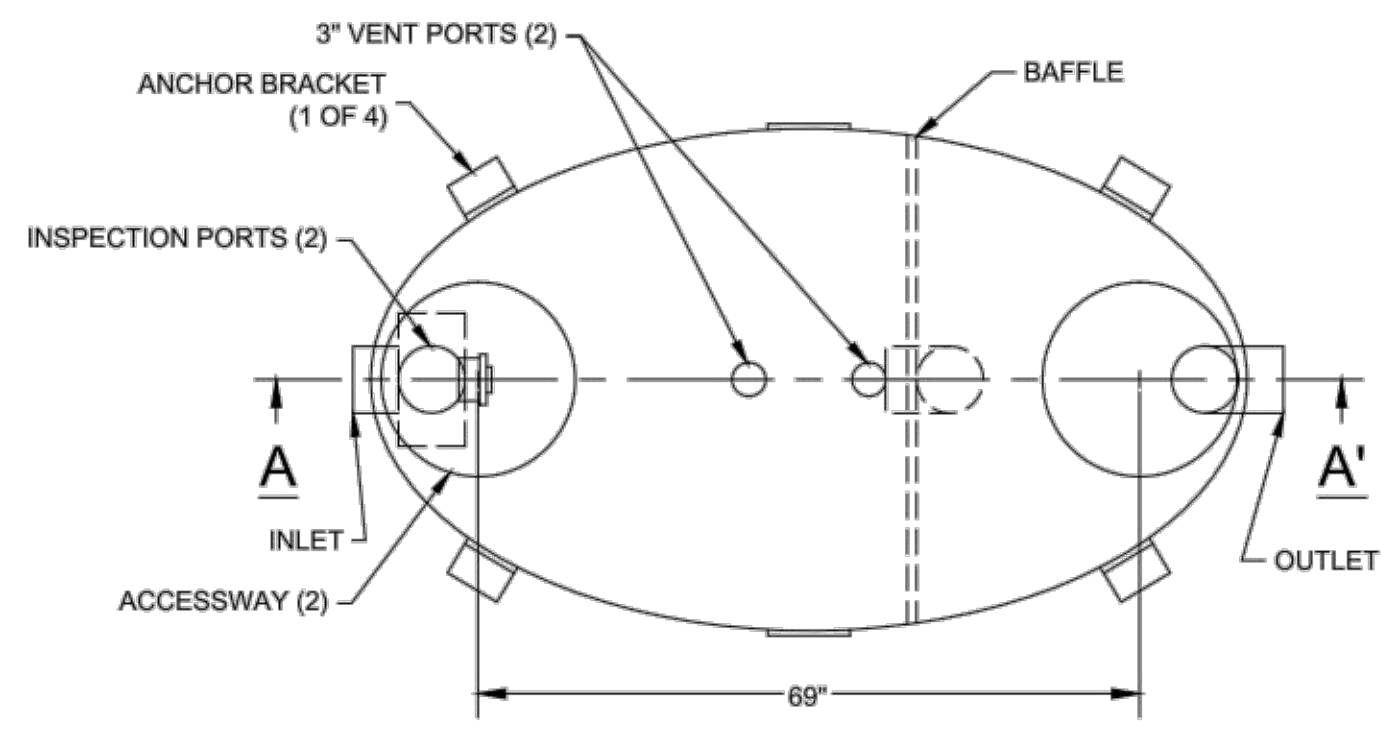
TRACER WIRE DETAIL
NOT TO SCALE

- GENERAL NOTES:**
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 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).

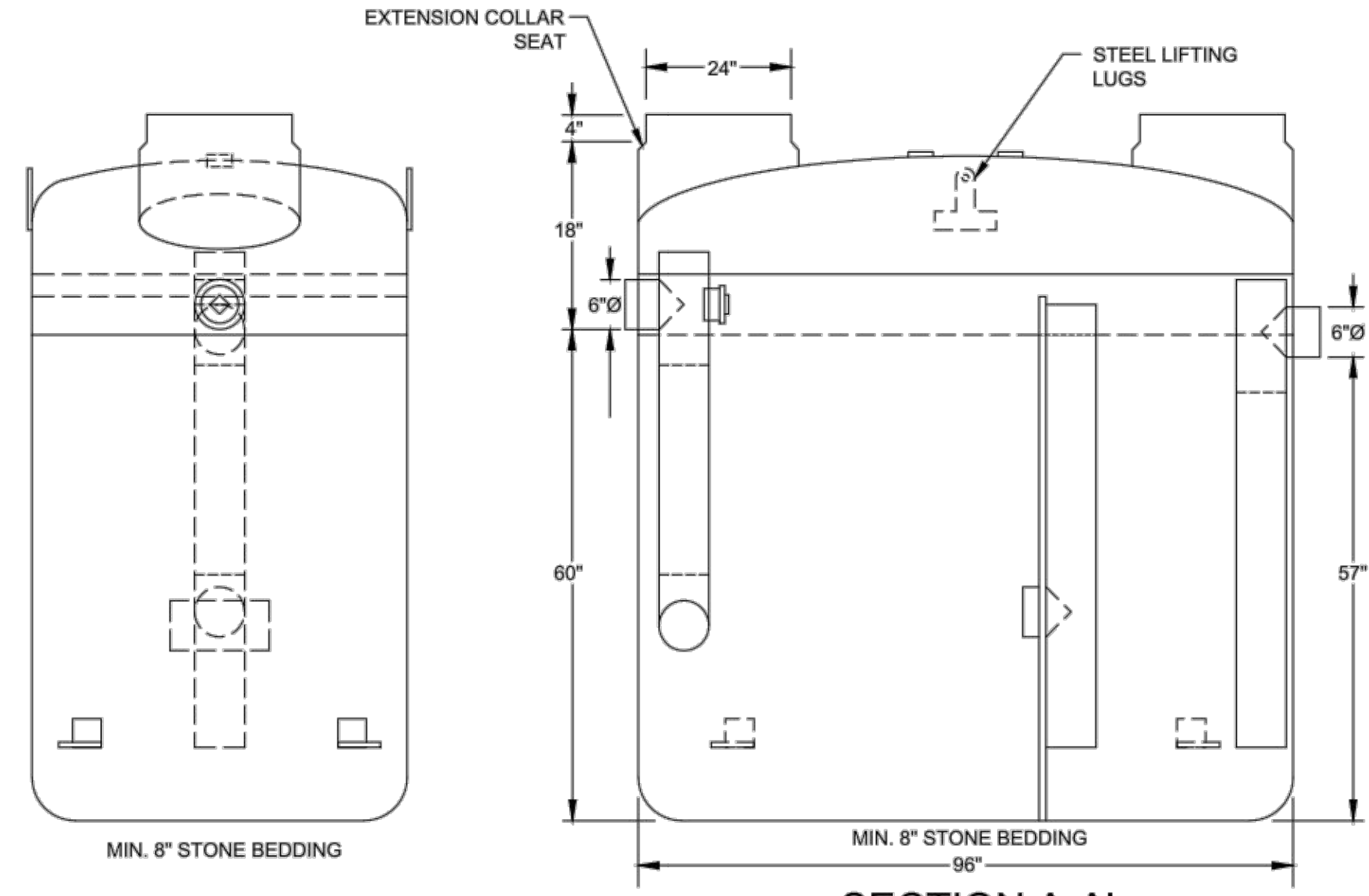
THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:

CFPUA SANITARY SEWER		DATE: 1/9/12
STANDARD DETAILS		SCALE: N/A
		DRAWN BY: CFPUA
		CHECKED BY: CFPUA
CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560		PROJECT NO.:
Stewardship. Sustainability. Service.		SHEET NO: SSD-3



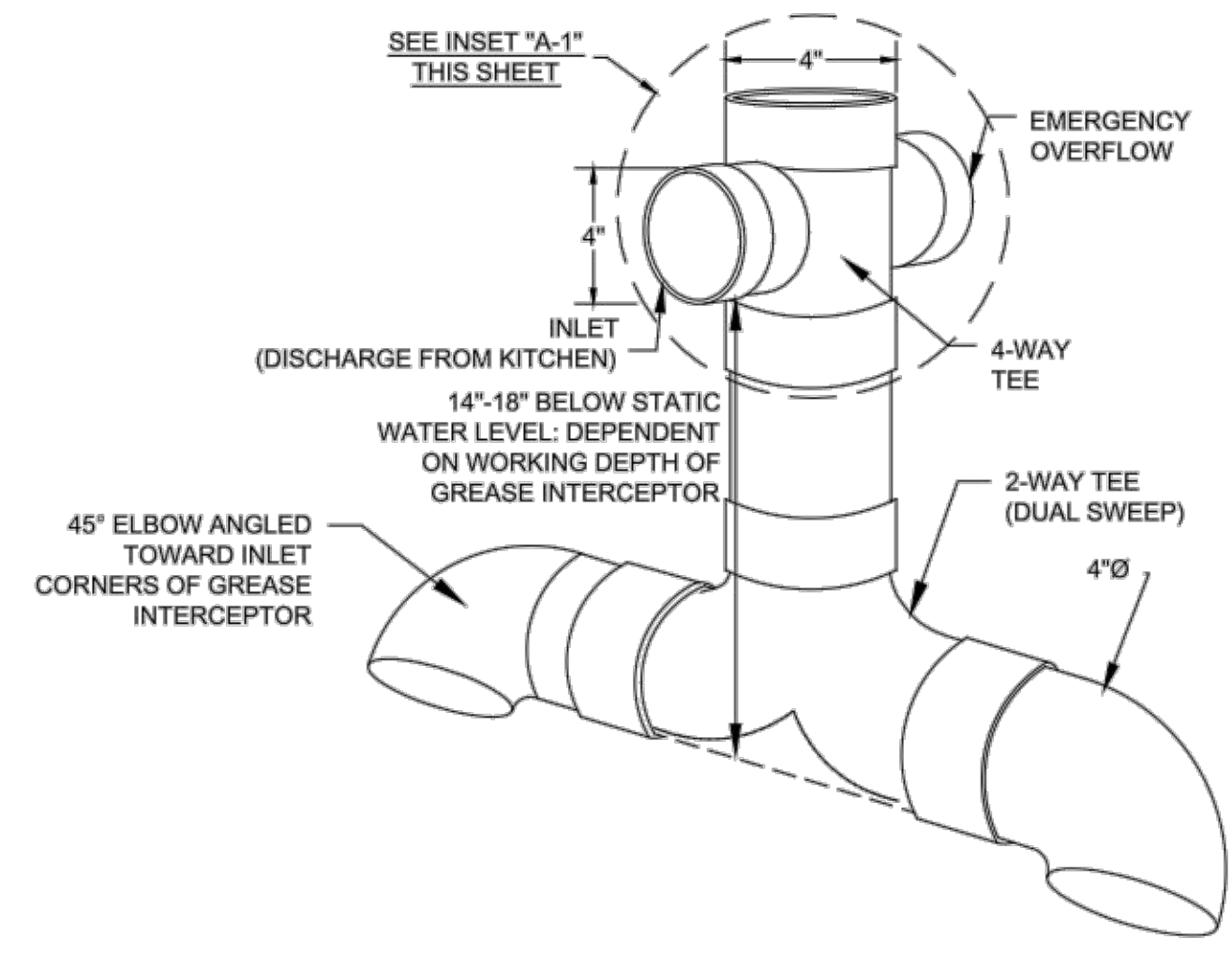
CONCRETE GREASE INTERCEPTOR
NOT TO SCALE



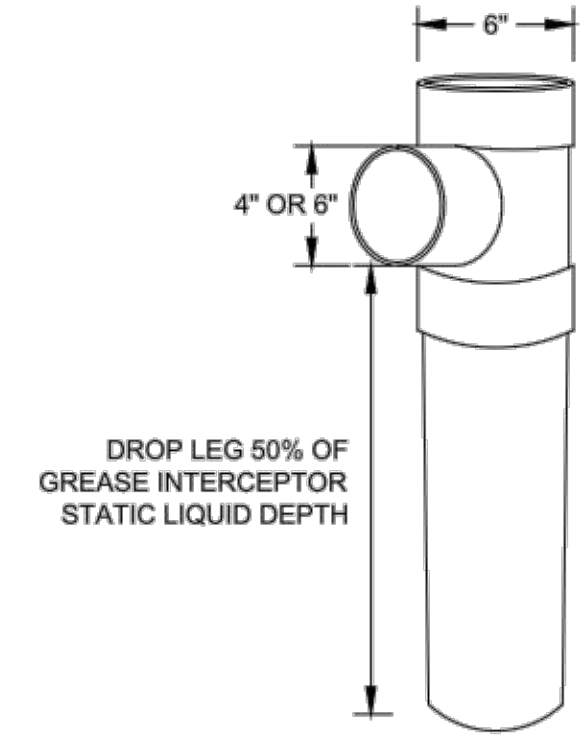
SECTION A-A'

- NOTES:
1. FOR GRAVITY APPLICATIONS 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

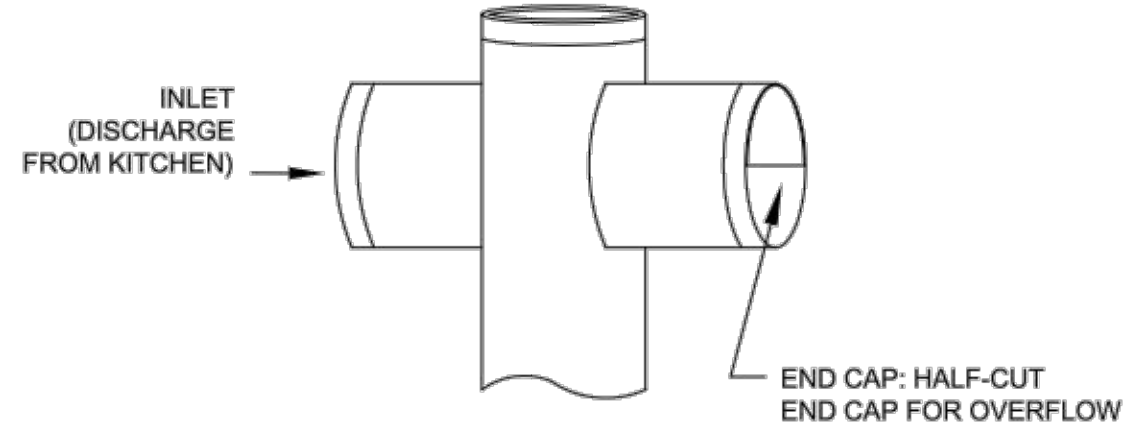
FIBERGLASS GREASE INTERCEPTOR
NOT TO SCALE



**GREASE INTERCEPTOR
INSET "A"
4" SANITARY TEE**
NOT TO SCALE



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



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

GENERAL NOTES:

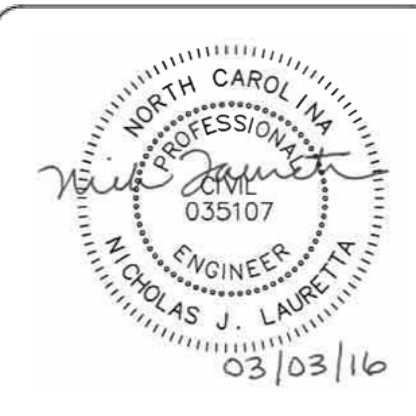
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**THE DETAILS SHOWN HEREON SUPERCEDE CFPUA
WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

CFPUA SANITARY SEWER

STANDARD DETAILS

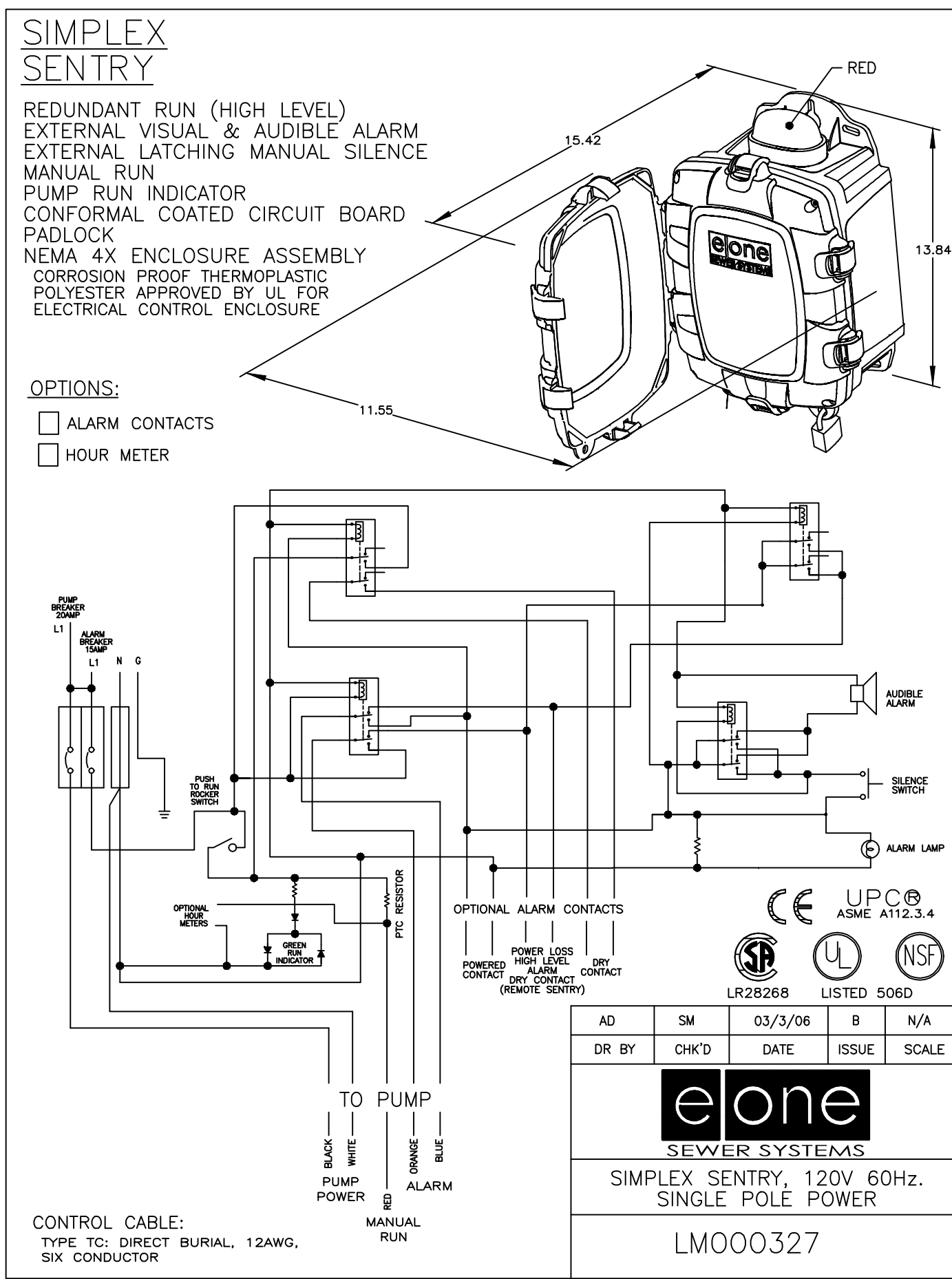
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.



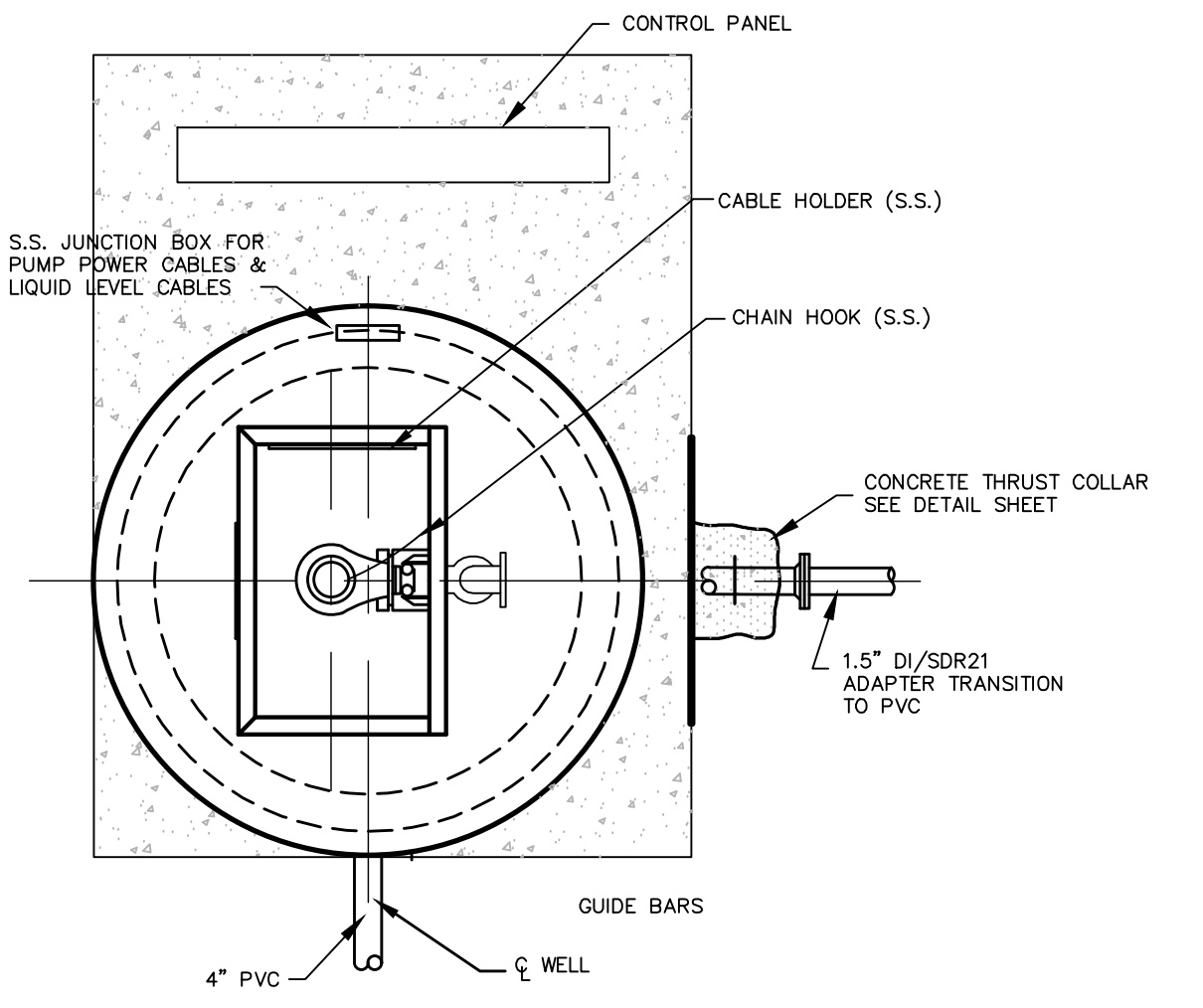
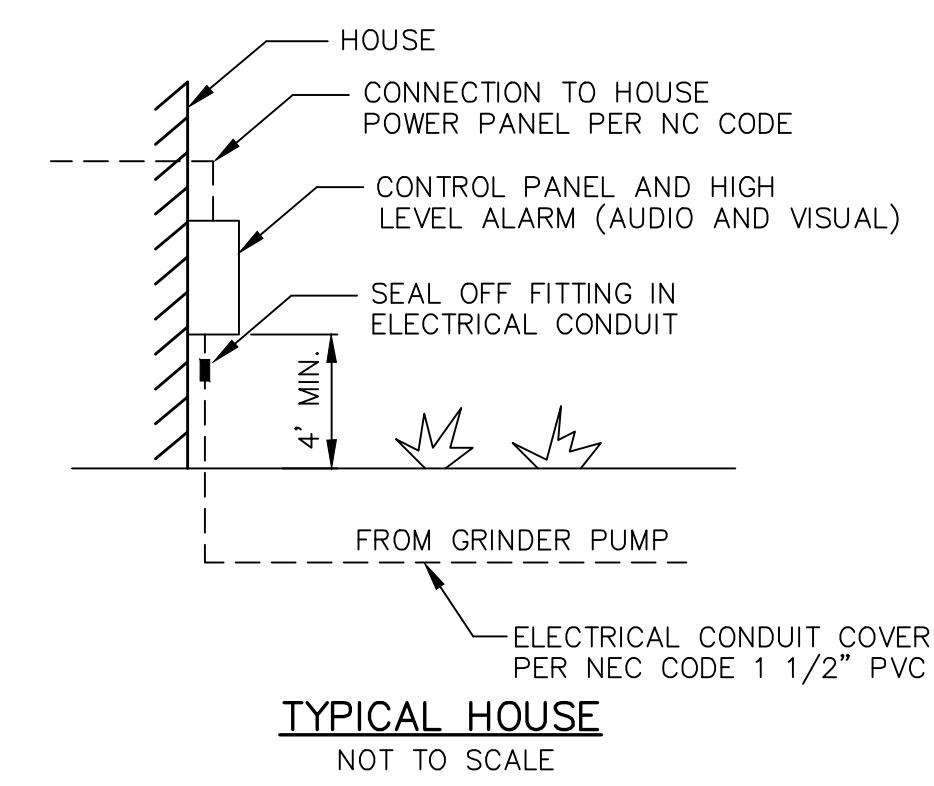
REV:	DESCRIPTION:	DATE:

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

SHEET NO:
SSD-4

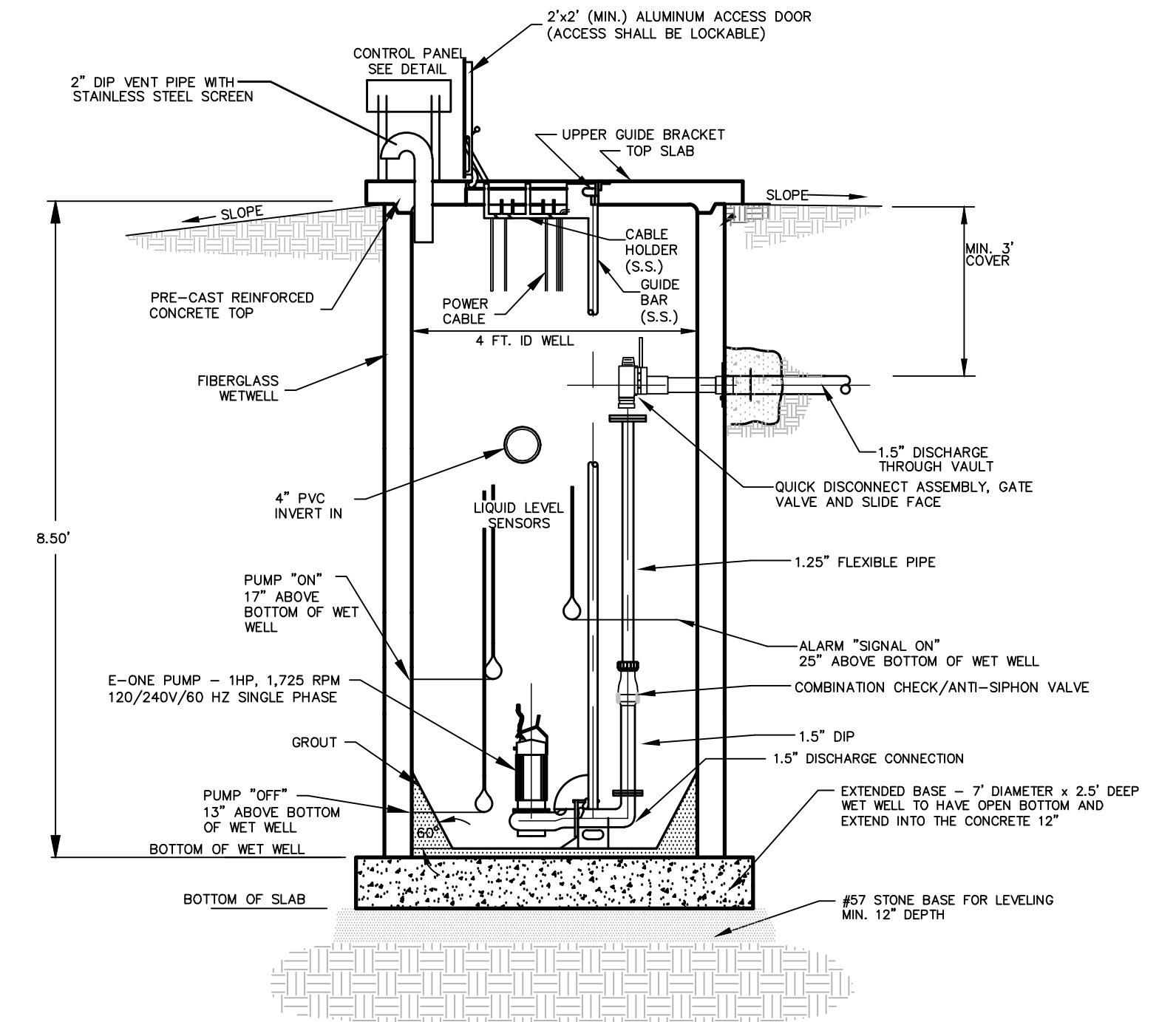


E-ONE GRINDER PUMP WIRING DIAGRAM
NOT TO SCALE



SIMPLEX PUMP STATION - PLAN
NOT TO SCALE

NOTES:
CONTROL PANEL SHALL BE LOCATED ON THE SIDE OF EACH HOUSE. CONTROL PANEL SHALL BE LOCATED ON SIDE OF HOUSE CLOSEST TO THE STEP PUMP INSTALLATION. ALL WIRING BETWEEN CONTROL PANEL AND PUMP SITE SHALL BE INSTALLED WITHIN ELECTRICAL CONDUIT AND MEET NEC CODE. ALL EXPOSED WIRING BETWEEN MAIN HOUSE PANEL AND PUMP CONTROL PANEL SHALL MEET NEC CODE. NO SPLICING SHALL BE PERMITTED. NO SPLICING SHALL BE PERMITTED BETWEEN PUMP CONTROL PANEL AND THE ELECTRICAL QUICK DISCONNECT (EQD) LOCATED IN PUMP STATION.



SIMPLEX PUMP STATION - SECTION
NOT TO SCALE

MARINA VILLAGE PHASE 1B					
LOT	TOP OF WET WELL	ALARM ON	PUMP ON	PUMP OFF	BOTTOM OF WET WELL
SF	11.00	4.58	3.92	3.58	2.50
SF	11.00	4.58	3.92	3.58	2.50

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

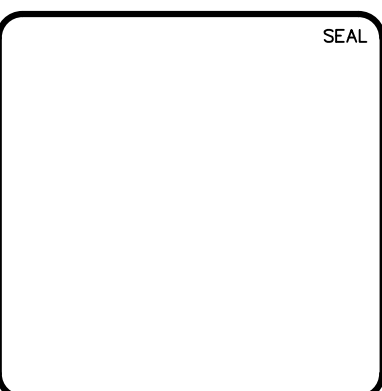
Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	ISSUED FOR CONSTRUCTION	DATE	DESCRIPTIONS REVISIONS
0		03/17/2016	



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 SENIUS HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

SIMPLEX PUMP STATION DETAILS

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: PS-1
DRAWING NUMBER: 38

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0