

# CREEKSIDE

## MASONBORO SOUND RD

### WILMINGTON, NORTH CAROLINA 28409

# CONSTRUCTION PLANS

## MARCH 2019

LAST REVISED: MAY 2019

#### NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

#### CONTACT THESE UTILITIES

**CITY OF WILMINGTON PLANNING & DEVELOPMENT**  
ATTN: BRIAN CHAMBERS, PLANNER  
PH: 910-342-2782

ATTN: ZONING INSPECTIONS  
PH: 910-254-0900

**PIEDMONT NATURAL GAS**  
ATTN: CATHY PLEASANT  
PH: 910-251-2827

**EMERGENCY DIAL 911**  
**POLICE - FIRE - RESCUE**  
ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY  
PH: 910-343-0696

**CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)**  
ENGINEERING/INSPECTIONS  
PH: 910-332-6550

OPERATIONS/MAINTENANCE  
PH: 910-322-6550

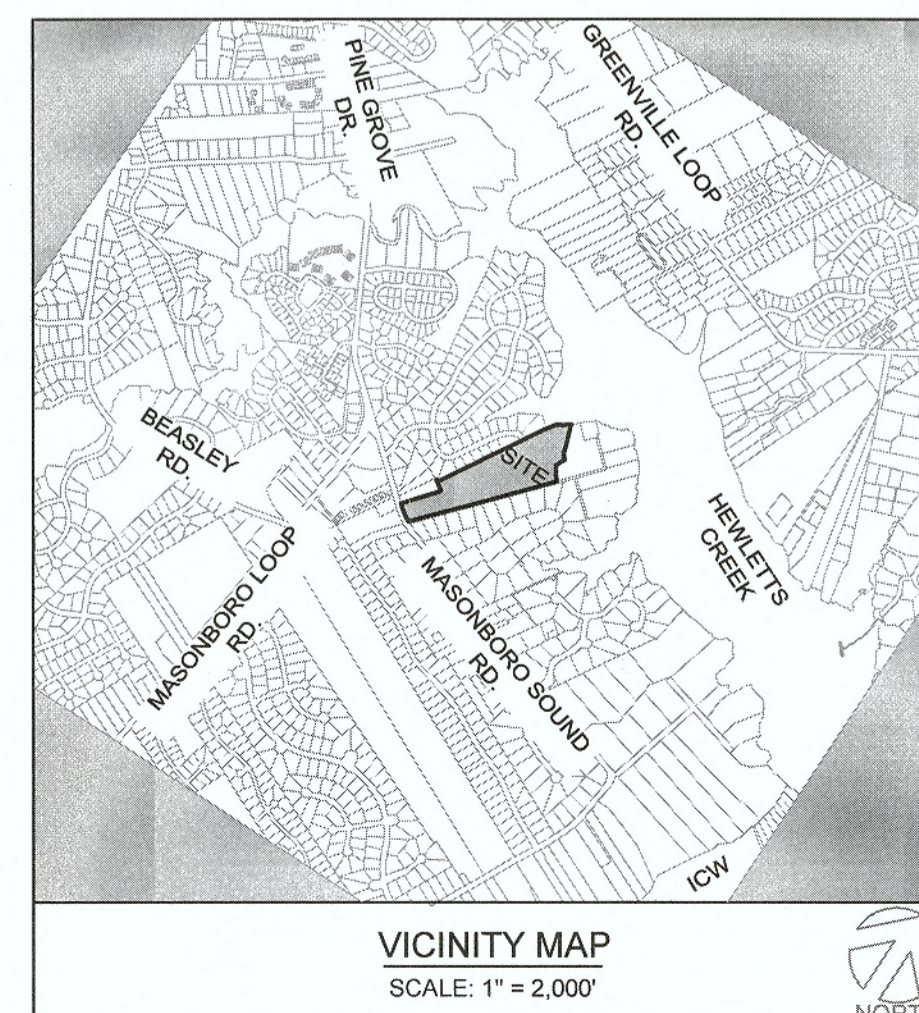
**DUKE ENERGY**  
DISTRIBUTION CONSTRUCTION SERVICE  
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT  
BILL WILDER  
PH: 910-772-4903

**AT&T/BELL SOUTH**  
ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)  
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING  
PH: 910-341-1621

**SPECTRUM**  
GENERAL PH: 800-892-4357



SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0	GENERAL NOTES
C-2.0	SITE INVENTORY PLAN
C-2.1	SITE PLAN
C-2.2 - C-2.4	TREE REMOVAL PLAN
C-3.0 - C-3.2	EROSION CONTROL
C-4.0 - C-4.1	GRADING AND DRAINAGE
C-5.0 - C-5.2	PLAN AND PROFILE
C-6.0 - C-6.4	DETAILS
L-1.0 - L-1.1	LANDSCAPE PLAN

Professional Seal  
redacted on electronic  
copy per City of  
Wilmington Policy



Approved Construction Plan	
Name	Date
Planning	6-4-19
Traffic	6-3-19
Fire	6-3-19
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.	
NC DENR PWSS WATER PERMIT #:	GPD
WATER CAPACITY:	GPD
DWQ SEWER PERMIT #:	GPD
SEWER CAPACITY:	GPD
SEWER SHED # AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)
Public Services • Engineering Division	
APPROVED STORMWATER MANAGEMENT PLAN	
Date:	6-3-19 Permit # 2019030
Signed:	E. J. J. J.

**OWNER / DEVELOPER:**  
SUNRISE LAND INVESTMENTS, LLC.  
7923 REUNION DR.  
WILMINGTON, NC 28411

RECEIVED  
MAY 23 2019  
PLANNING DIVISION

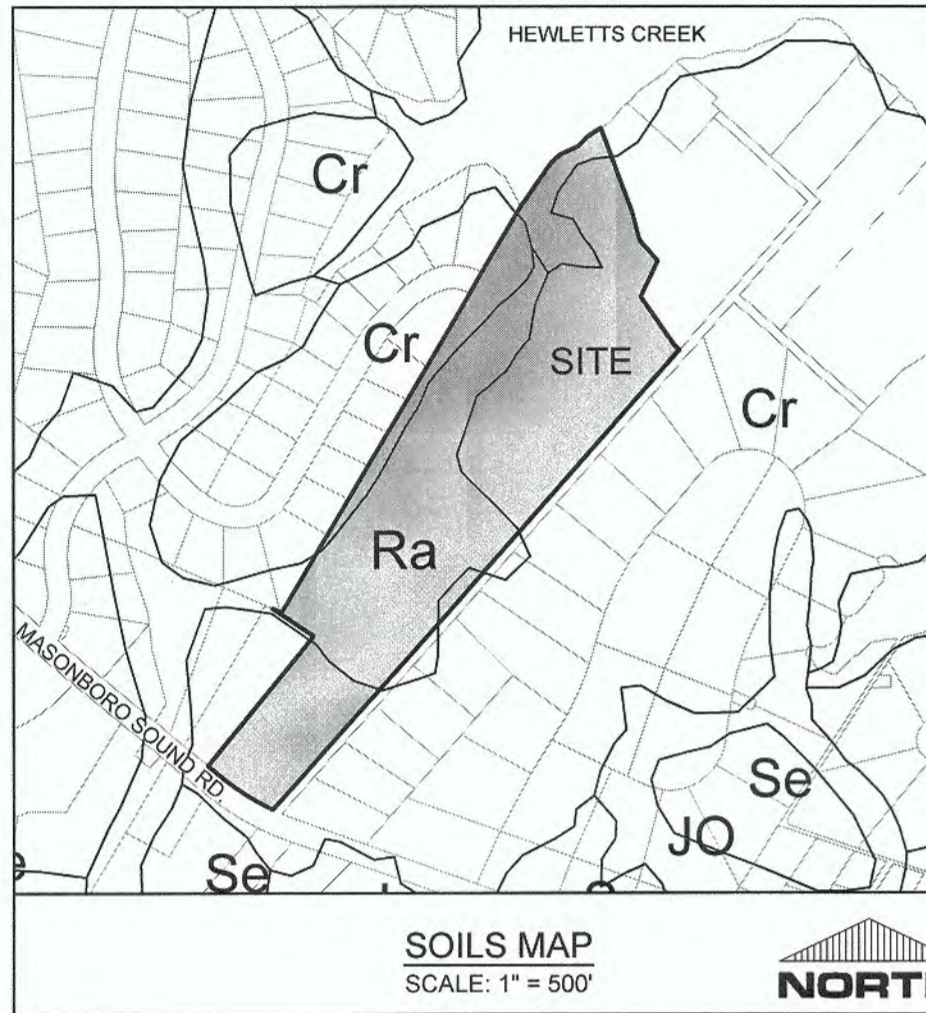
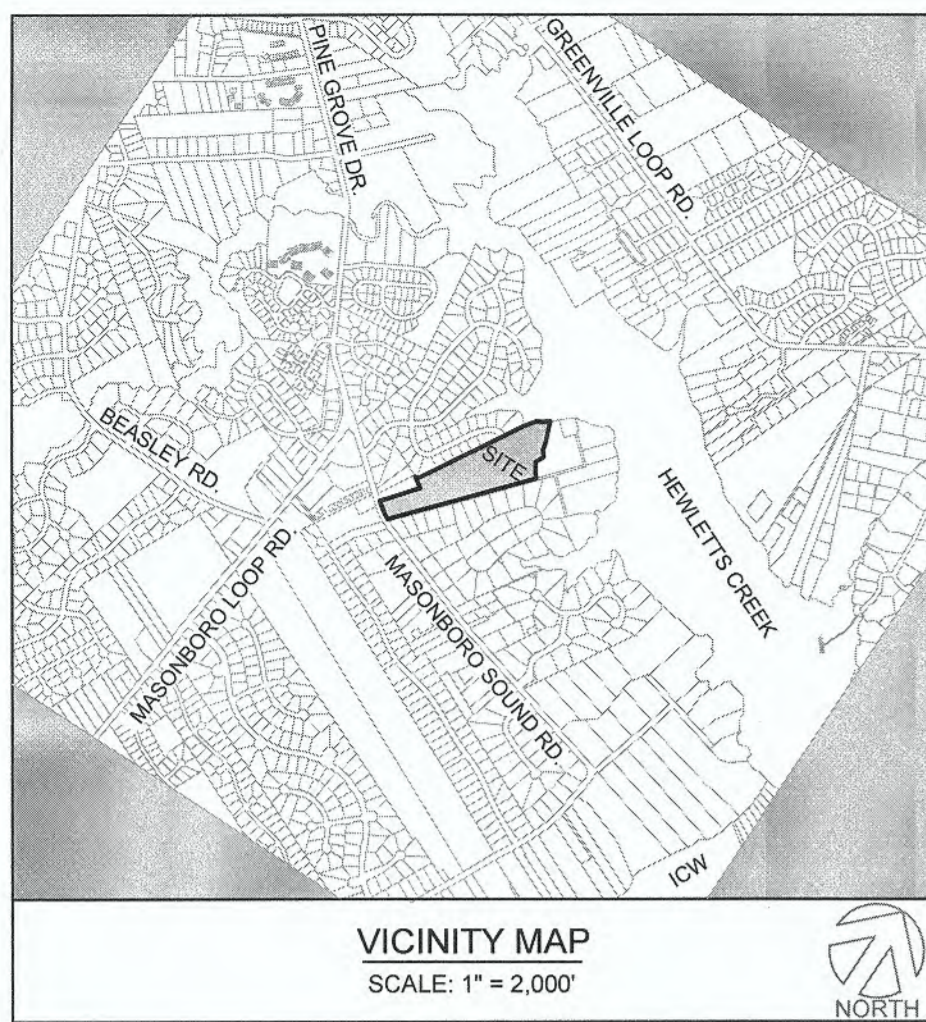
**ENGINEER (CIVIL), SURVEY & LAND PLANNER:**  
PARAMOUNTE ENGINEERING, INC.  
122 CINEMA DRIVE  
WILMINGTON, NORTH CAROLINA 28403  
ATTN: DAN FISK, P.E. (910) 791-6707 (CIVIL)  
ATTN: CLAY MATTHEWS (LAND PLANNER)

PREPARED BY:

**PARAMOUNTE**  
ENGINEERING, INC.

122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (C) (910) 791-6760 (F)  
NC License #: C-2846  
PROJECT # 18390.PE





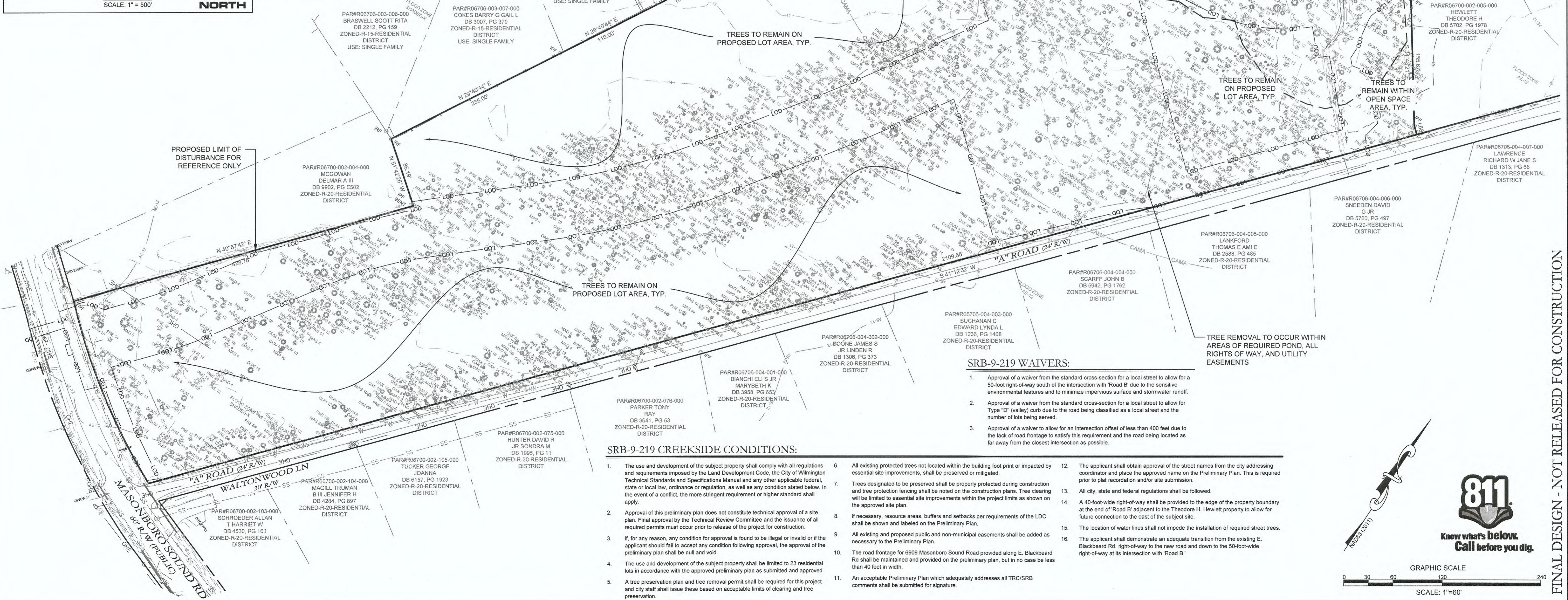
SITE INVENTORY DATA			
1. PREPARER OF THE PLAN:	PARAMOUNT ENGINEERING, INC. 122 CINEMA DRIVE WILMINGTON, NC 28403	11. LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS:	SEE PLAN
2. APPLICANT/ DEVELOPER:	SUNRISE LAND INVESTMENTS, LLC. 7923 REUNION DR WILMINGTON, NC 28411	12. SOILS:	CrAVEN FINE SANDY LOAM (C), RAINS FINE SANDY LOAM (Ra) (SEE SOILS MAP THIS SHEET)
3. SITE ADDRESS:	MASONBORO SOUND RD. WILMINGTON, NC 28409	13. CAMA AEC & ASSOCIATED SETBACKS:	SEE PLAN
4. PROPERTY OWNER:	SAME AS APPLICANT	14. CAMA LAND CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA
5. PROPERTY BOUNDARY:	SEE PLAN	15. CONSERVATION RESOURCES:	SEE PLAN
6. ZONING:	R-20	16. LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE:	N/A
7. ADJACENT PROPERTY INFORMATION (OWNER AND ZONING):	SEE PLAN	17. LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS:	N/A
8. VICINITY MAP:	SEE MAP THIS SHEET	18. SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES:	N/A
9. TOPOGRAPHY:	SEE PLAN	19. SECTION 404 WETLANDS AND SECTION 10 WATERS:	SEE PLAN
10. 100 YEAR FLOOD PLAIN BOUNDARY:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018	20. PROTECTED SPECIES OR HABITAT:	N/A
		21. THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING OR PROPOSED):	SEE PLAN & VICINITY MAP

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 6-3-19 Permit # 2019030  
Signed: E. J. J. J.

Approved Construction Plan		
Name	Date	
Planning	6-4-19	
Traffic	6-3-19	
Fire	6-3-19	

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

LINE	BEARING	DISTANCE	L38	N 22°11'48" W	16.54
L1	N 99°40'44" E	42.49	L39	N 20°09'03" W	20.11
L2	S 04°32'57" W	2.36	L40	N 14°22'50" W	5.17
L3	S 04°48'02" E	2.16	L41	N 27°02'58" W	2.02
L4	S 23°42'29" E	39.18	L42	N 04°52'44" E	5.54
L5	S 20°58'45" E	9.33	L43	N 09°38'06" E	10.66
L6	S 07°22'29" E	6.07	L44	N 05°26'41" E	29.25
L7	S 01°53'48" W	7.75	L45	N 09°58'25" E	9.98
L8	S 08°30'38" W	13.71	L46	N 09°53'51" E	33.78
L9	S 00°34'32" W	4.22	L47	N 11°30'24" E	17.46
L10	S 12°05'32" E	3.78	L48	N 14°22'11" E	10.33
L11	S 29°52'32" E	2.30	L49	N 64°47'45" E	2.94
L12	S 54°27'54" E	2.97	L50	N 22°50'20" E	5.21
L13	S 71°00'00" E	3.39	L51	N 48°33'24" E	13.01
L14	N 58°29'21" E	15.93	L52	N 52°26'40" E	15.57
L15	S 84°34'29" E	3.59	L53	S 71°27'15" E	2.32
L16	N 14°45'58" E	6.78	L54	S 87°36'32" E	32.78
L17	S 87°28'13" E	2.48	L55	S 72°26'47" E	1.85
L18	N 46°26'02" E	1.41	L56	S 56°13'33" E	4.92
L19	N 28°14'51" E	3.46	L57	S 68°32'42" E	21.07
L20	N 87°02'37" E	6.77	L58	S 85°52'10" E	4.94
L21	S 88°25'01" E	43.33	L59	N 88°10'32" E	10.88
L22	N 38°10'21" E	0.77	L60	N 84°02'42" E	21.07
L23	N 30°33'59" W	1.13	L61	S 83°26'59" E	2.05
L24	N 17°16'35" E	11.29	L62	N 85°21'07" E	2.67
L25	N 19°56'19" E	24.02	L63	N 85°14'59" E	7.17
L26	N 20°13'19" E	5.09	L64	N 91°11'56" E	18.51
L27	N 43°27'56" E	8.14	L65	N 55°14'04" E	3.94
L28	N 18°35'12" E	2.68	L66	N 85°53'17" E	6.87
L29	N 13°29'17" W	7.74	L67	N 28°22'04" E	46.19
L30	N 28°58'48" W	6.53	L68	S 48°50'56" E	11.14
L31	N 32°49'52" W	6.87			
L32	N 27°12'17" W	4.38			
L33	N 01°02'28" W	6.12			
L34	N 08°24'41" E	18.79			
L35	N 00°33'26" E	3.50			
L36	N 33°22'21" W	2.19			
L37	N 43°35'28" W	4.94			



**SRB-9-219 CREEKSIDE CONDITIONS:**

- The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
- Approval of this preliminary plan does not constitute technical approval of a site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
- If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the preliminary plan shall be null and void.
- The use and development of the subject property shall be limited to 23 residential lots in accordance with the approved preliminary plan as submitted and approved.
- A tree preservation plan and tree removal permit shall be required for this project and city staff shall issue these based on acceptable limits of clearing and tree preservation.
- All existing protected trees not located within the building foot print or impacted by essential site improvements, shall be preserved or mitigated.
- Trees designated to be preserved shall be properly protected during construction and tree protection fencing shall be noted on the construction plans. Tree clearing will be limited to essential site improvements within the project limits as shown on the approved site plan.
- If necessary, resource areas, buffers and setbacks per requirements of the LDC shall be shown and labeled on the Preliminary Plan.
- All existing and proposed public and non-municipal easements shall be added as necessary to the Preliminary Plan.
- The road frontage for 6909 Masonboro Sound Road provided along E. Blackbeard Rd shall be maintained and provided on the preliminary plan, but in no case be less than 40 feet in width.
- A tree preservation plan and tree removal permit shall be required for this project and city staff shall issue these based on acceptable limits of clearing and tree preservation.
- All existing protected trees not located within the building foot print or impacted by essential site improvements, shall be preserved or mitigated.
- The applicant shall obtain approval of the street names from the city addressing coordinator and place the approved name on the Preliminary Plan. This is required prior to plat recording and/or site submission.
- All city, state and federal regulations shall be followed.
- A 40-foot-wide right-of-way shall be provided to the edge of the property boundary at the end of Road B' adjacent to the Theodore H. Hewlett property to allow for future connection to the east of the subject site.
- The location of water lines shall not impede the installation of required street trees.
- The applicant shall demonstrate an adequate transition from the existing E. Blackbeard Rd. right-of-way to the new road and down to the 50-foot-wide right-of-way at its intersection with Road B'.

**SRB-9-219 WAIVERS:**

- Approval of a waiver from the standard cross-section for a local street to allow for a 50-foot right-of-way south of the intersection with Road B' due to the sensitive environmental features and to minimize impervious surface and stormwater runoff.
- Approval of a waiver from the standard cross-section for a local street to allow for Type "D" (valley) curb due to the road being classified as a local street and the number of lots being served.
- Approval of a waiver to allow for an intersection offset of less than 400 feet due to the lack of road frontage to satisfy this requirement and the road being located as far away from the closest intersection as possible.

**811**  
Know what's below.  
Call before you dig.

GRAPHIC SCALE  
SCALE: 1"=60'

**PARAMOUNT ENGINEERING**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

**SUNRISE LAND INVESTMENTS, LLC.**  
7923 REUNION DR  
WILMINGTON, NC 28411

**PROJECT STATUS:**  
CONCEPTUAL LAYOUT:  
FINAL DESIGN:  
RELEASED FOR CONSTRUCTION

**DRAWING INFORMATION:**  
DATE: 6/3/19  
SCALE:  
DESIGNED:  
CHECKED:

**Professional Seal**  
redacted on electronic copy per City of Wilmington Policy

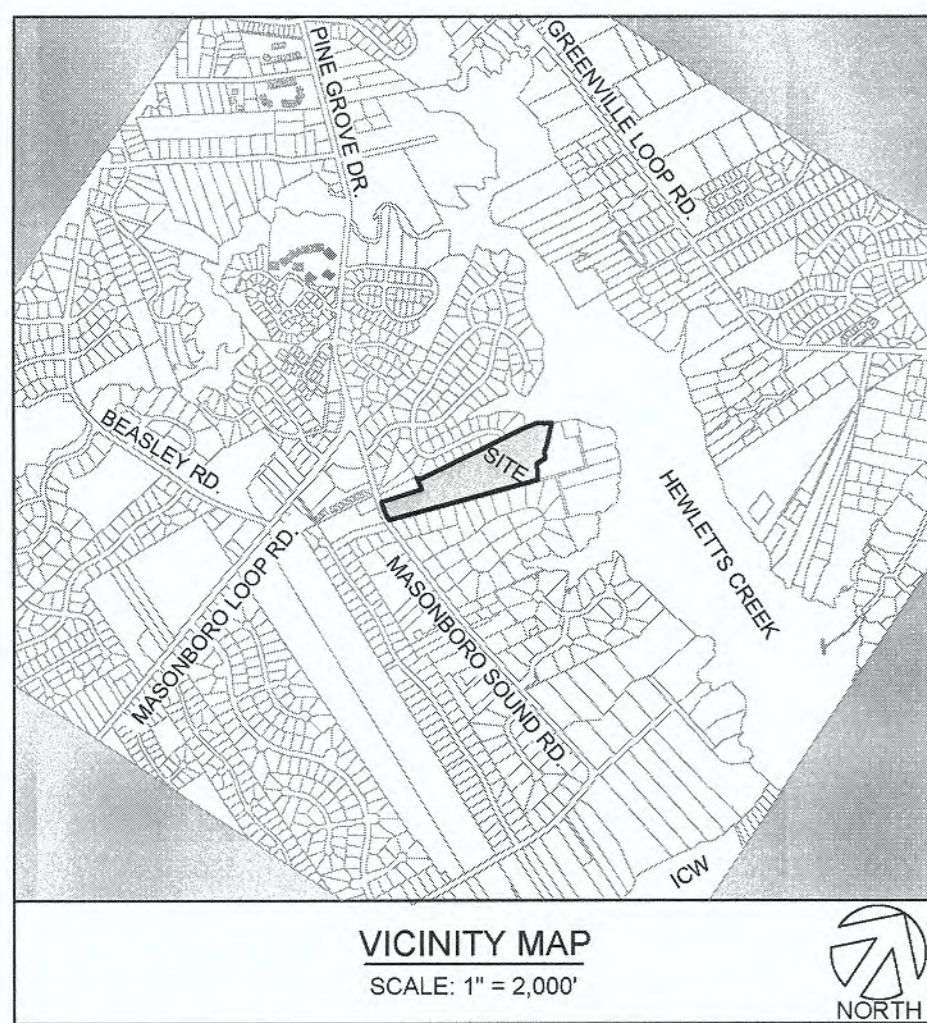
**C-2.0**  
PEI JOB#: 18390.PE

REVISIONS:  
1. PER CIVIL TRC COMMENTS  
2. PER CIVIL TRC COMMENTS

CLIENT INFORMATION:  
**PARAMOUNT ENGINEERING**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

**SITE INVENTORY PLAN**  
CREEKSIDE  
MASONBORO SOUND RD.  
WILMINGTON, NC; NEW HANOVER COUNTY

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



**SITE INFORMATION:**

PARCEL ID: R06700-002-136-000  
 CURRENT ZONING: R-20  
 PROPOSED USE: DETACHED SINGLE FAMILY RESIDENTIAL ± 16.29 ACRES (± 709,639 SF)  
 PROJECT SITE AREA: ± 16.29 ACRES (± 709,639 SF)

**OWNER INFORMATION:**  
 SUNRISE LAND INVESTMENTS, LLC.  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**FLOOD INFORMATION:**  
 THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018  
 WATERSHED RESOURCE PROTECTION, CONSERVATION AREA

**CAMA LAND USE CLASSIFICATION:**

**DIMENSIONAL REQUIREMENTS:**

R-20

- MINIMUM LOT AREA: 20,000 SF
- MINIMUM LOT WIDTH: 80'
- MAXIMUM LOT COVERAGE: 50%
- MINIMUM FRONT SETBACK: 30'
- MINIMUM REAR SETBACK: 25'
- MINIMUM INTERIOR SIDE SETBACK: 15'
- MINIMUM CORNER LOT SIDE SETBACK: 30'
- MAXIMUM BUILDING HEIGHT: 35'

**PROVIDED BUILDING SETBACKS:**

- FRONT: 30'
- REAR: 25'
- INTERIOR SIDE: 15'
- CORNER LOT SIDE: 30'
- LOT COVERAGE: 50% MAX.
- BUILDING HEIGHT: 35% MAX.

**OPEN SPACE DATA:**

REQUIRED: 0.03 AC/Lot OR UNIT  
 23 LOTS X 0.03 AC = 0.69 AC OR 30,056 SF

PROVIDED:

ACTIVE: 0.79 AC OR 34,363 SF  
 PASSIVE: 19,325 SF

**GENERAL NOTES:**

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- IT SHALL BE THE RESPONSIBILITY OF THE SUB-DIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUB-DIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUB-DIVIDER SHALL PAY THE COST 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.

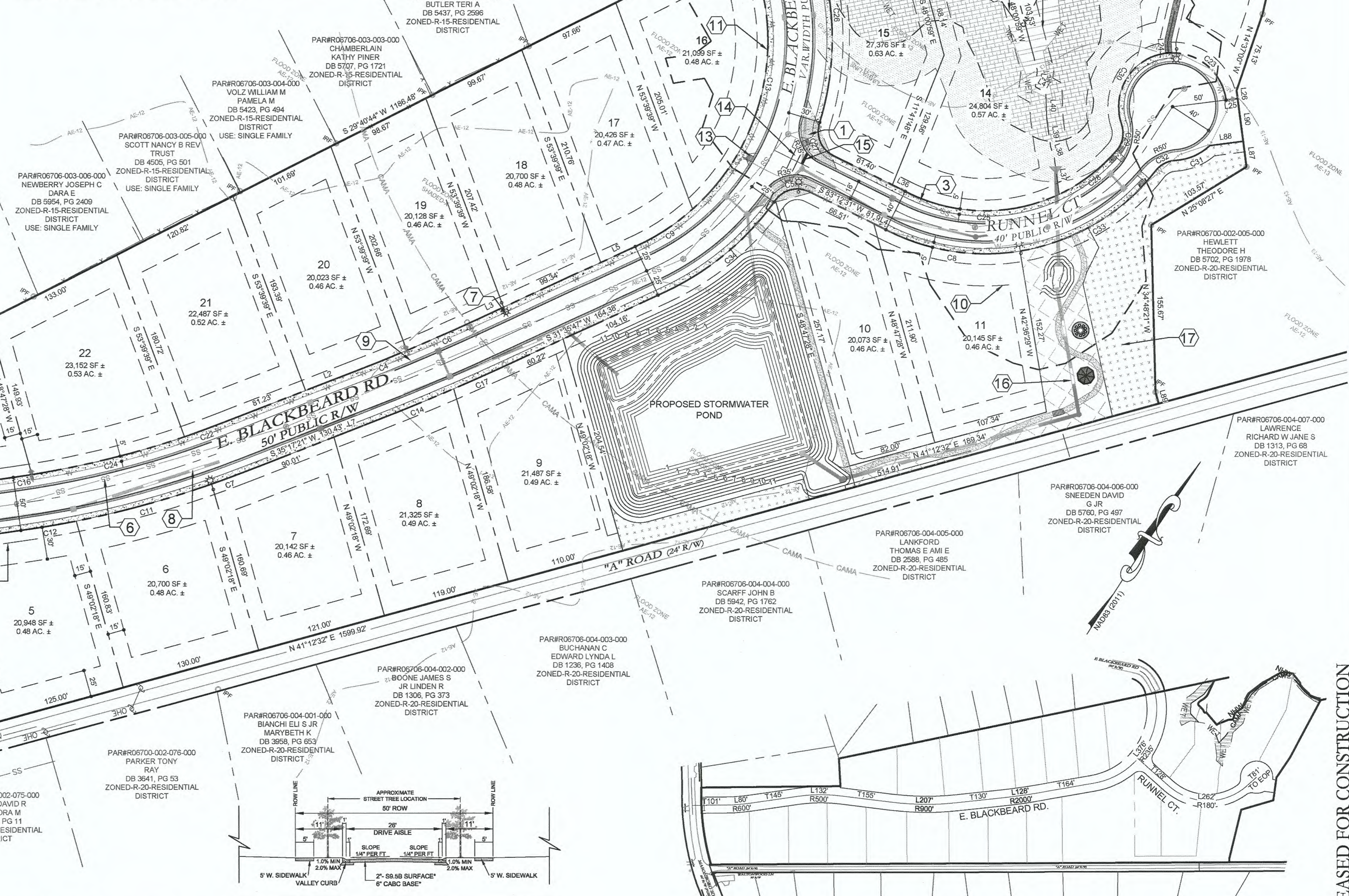
**IMPERVIOUS DATA:**

IMPERVIOUS AREA: 0 SF  
 EXISTING IMPERVIOUS: 141,200 SF  
 PROPOSED IMPERVIOUS (23 TOTAL): 59,390 SF  
 PROPOSED SIDEWALKS: 20,800 SF  
 MISC. FUTURE IMPERVIOUS: 21,520 SF  
 TOTAL IMPERVIOUS: 241,910 SF

COASTAL WETLANDS: 8,356 SF  
 PROJECT % IMPERVIOUS (241,910/709,639-8356): 34.1 %

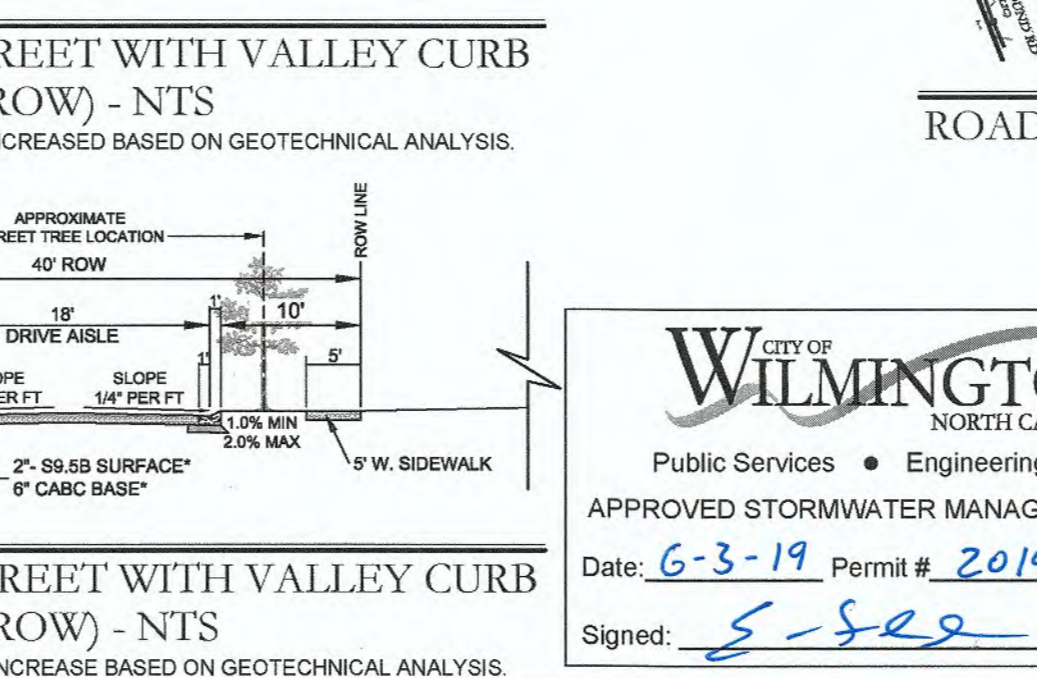
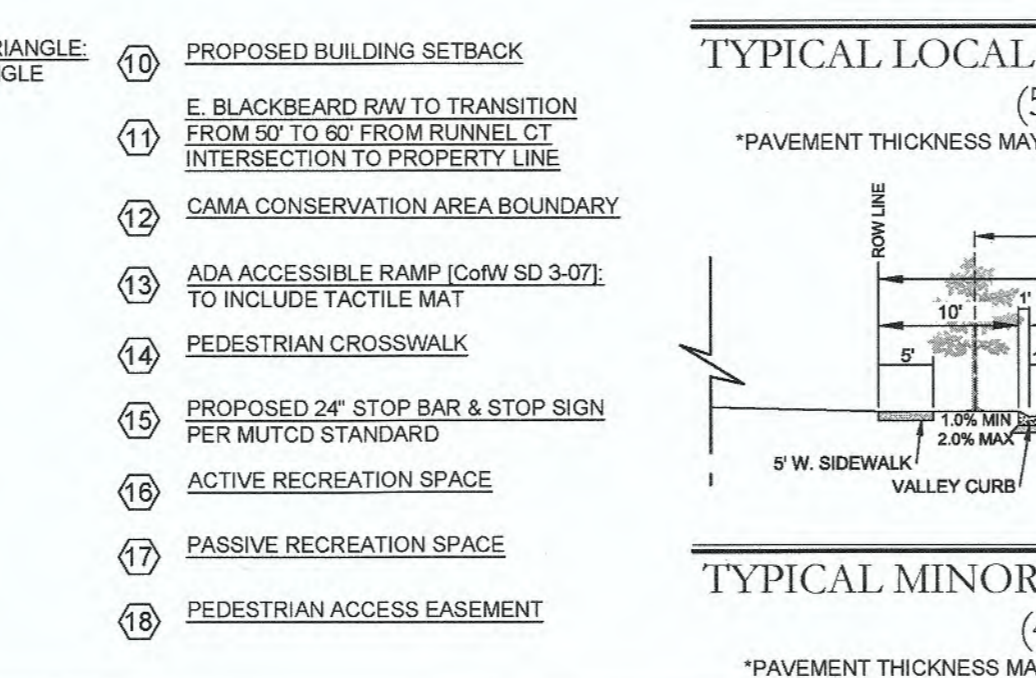
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA
C1	175.00	8.22	8.22	S 33°43'06" W	73.3583
C2	525.00	84.69	84.60	N 37°55'02" E	914.333
C3	770.99	30.01	30.01	S 47°38'12" E	213.468
C4	1875.00	61.83	61.83	S 42°32'14" E	1332.139
C5	25.00	35.49	32.58	S 42°32'14" W	81°19'39"
C6	1875.00	75.46	75.46	N 32°41'28" E	2111.21
C7	925.00	31.54	31.54	S 38°15'37" W	151.719
C8	200.00	125.02	123.00	S 65°18'01" W	35°48'59"
C9	210.00	61.71	61.48	N 29°10'43" E	16°50'08"
C10	925.00	130.11	130.00	S 41°18'19" W	810.333
C11	925.00	52.00	52.00	S 46°54'44" W	913.16
C12	210.00	27.87	26.50	N 22°42'32" W	74°56'22"
C13	210.00	27.87	26.50	N 22°42'32" W	74°56'22"
C14	2025.00	73.34	73.33	S 34°10'00" W	2144.62
C15	925.00	4.78	4.78	N 48°19'47" E	0°31'09"
C16	875.00	17.44	17.44	N 47°57'06" E	1108.30
C17	2025.00	61.17	61.17	S 34°10'00" W	1265.62
C18	770.99	161.43	161.13	S 58°29'04" E	1158.947
C19	625.00	74.40	74.36	S 37°33'04" W	849.15
C20	475.00	39.40	39.39	S 46°18'49" W	441.11
C21	475.00	86.83	86.71	S 38°31'56" W	1012.25
C22	875.00	38.79	38.79	N 36°33'33" E	232.224
C23	50.00	79.27	69.05	S 84°03'05" E	67°42'32"
C24	875.00	145.87	145.70	N 42°38'18" E	933.06
C25	180.00	144.97	140.06	N 57°15'04" E	61°54'52"
C26	265.00	233.78	189.78	S 33°03'04" E	440°03'11"
C27	25.00	35.20	32.36	S 58°27'27" E	80°40'04"
C28	180.00	67.28	66.79	N 19°14'49" E	24°05'39"
C29	180.00	26.01	24.85	N 19°14'49" E	24°05'39"
C30	50.00	91.35	79.17	N 00°03'48" W	90°40'37"
C31	50.00	35.33	34.60	S 33°15'47" W	40°29'20"
C32	25.00	71.37	29.72	S 22°01'19" W	48°58'59"
C33	200.00	149.50	146.14	S 25°57'48" W	42°51'27"
C34	280.00	134.64	133.34	S 16°44'19" W	29°42'56"
C35	170.99	50.03	50.02	S 50°37'30" E	9°43'04"

Creekside Lot Frontage Widths		Creekside Lot Frontage Widths	
Lot No.	Width	Lot No.	Width
1	144.11'	14	139.68'
2	121.86'	15	85.29'
3	120.29'	16	209.33'
4	120.87'	17	96.57'
5	125.63'	18	99.00'
6	130.26'	19	98.00'
7	121.47'	20	101.00'
8	119.71'	21	130.27'
9	111.38'	22	142.89'
10	95.07'	23	178.37'
11	129.79'		
12	69'18" Avg.		
13	169.60'		



**KEY NOTES:**

- CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 46746' SIGHT TRIANGLE
- 24" VALLEY CURB & GUTTER: TO COMPLY WITH CITY DETAIL SD 3-11
- CONCRETE SIDEWALK: TO COMPLY WITH CITY DETAIL SD 3-10
- 10' GENERAL UTILITY EASEMENT
- PROPOSED WATER MAIN: SEE PLAN AND PROFILE SHEETS
- PROPOSED SEWER MAIN: SEE PLAN AND PROFILE SHEETS
- PROPOSED STREET LIGHT: FINAL LOCATION TO BE DETERMINED
- PROPOSED STORM CONVEYANCE: SEE GRADING AND DRAINAGE PLANS
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING SETBACK
- E BLACKBEARD RW TO TRANSITION FROM 50' TO 60' FROM RUNNEL CT INTERSECTION TO PROPERTY LINE
- CAMA CONSERVATION AREA BOUNDARY
- ADA ACCESSIBLE RAMP (C&W SD 3-07): TO INCLUDE TACTILE MAT
- PEDESTRIAN CROSSWALK
- PROPOSED 24" ST OP BAR & STOP SIGN PER MUTCD STANDARD
- ACTIVE RECREATION SPACE
- PASSIVE RECREATION SPACE
- PEDESTRIAN ACCESS EASEMENT



**ROADWAY CENTERLINE DIMENSIONS - NTS**

APPROXIMATE STREET TREE LOCATION

APPROXIMATE STREET TREE LOCATION

**Approved Construction Plan**

Name: [Signature] Date: 6-4-19

Planning: [Signature] Date: 6-3-19

Traffic: [Signature] Date: 6-3-19

Fire: [Signature] Date: 6-3-19

Signed: [Signature]

Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 6-3-19 Permit # 2019030

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

811 Know what's below. Call before you dig.

GRAPHIC SCALE  
 0 30 60 120 240  
 SCALE: 1"=60'

**REVISIONS:**

04.22.18	1. PER CIVIL ENGINEERING COMMENTS
04.26.18	2. PER CIVIL TRIC COMMENTS
05.22.18	3. PER CIVIL TRIC COMMENTS

**CLIENT INFORMATION:**  
 SUNRISE LAND INVESTMENTS, LLC.  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**SITE PLAN**

**CREEKSIDE**  
 MASONBORO SOUND RD.  
 WILMINGTON, NC, NEW HANOVER COUNTY

**PROJECT STATUS:**  
 CONCEPTUAL LAYOUT:  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONSTRUCTION

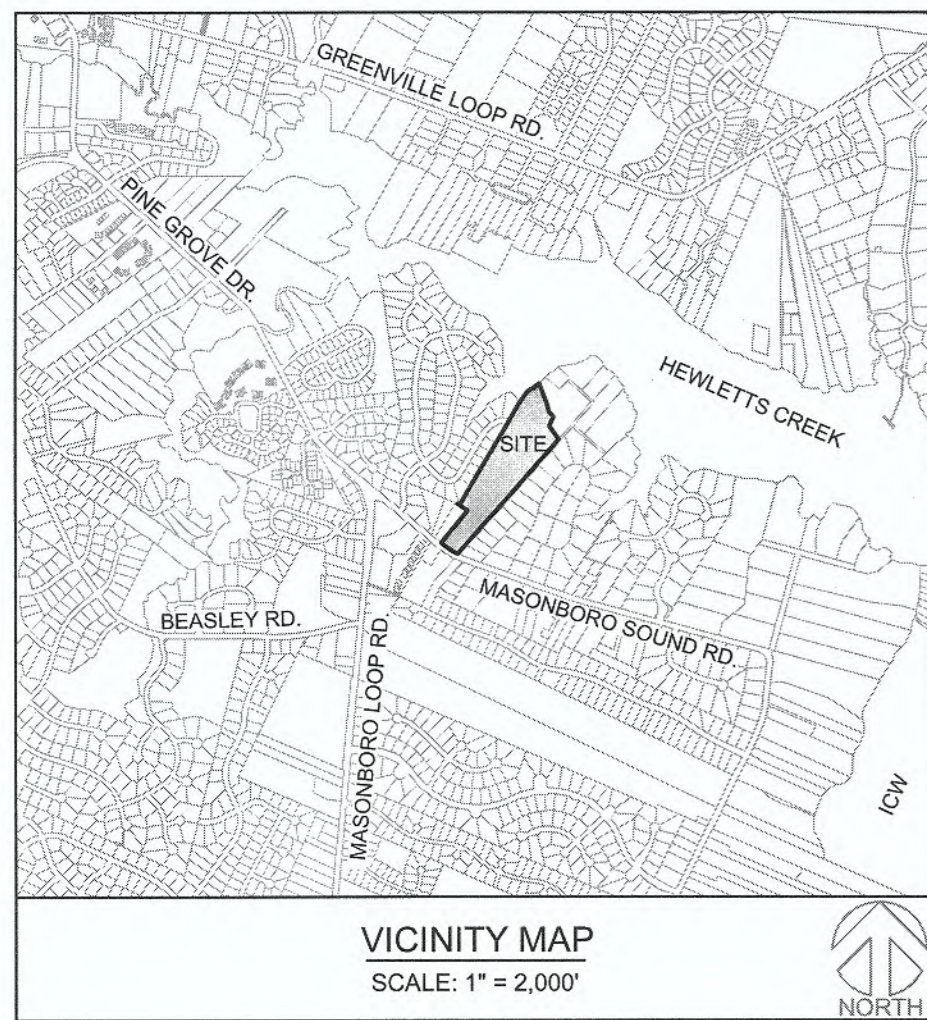
**DRAWING INFORMATION:**  
 DATE: 6-3-19  
 DRAWN: [Signature]  
 CHECKED: [Signature]

Professional Seal  
 redacted on electronic copy per City of Wilmington Policy

**C-2.1**

PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



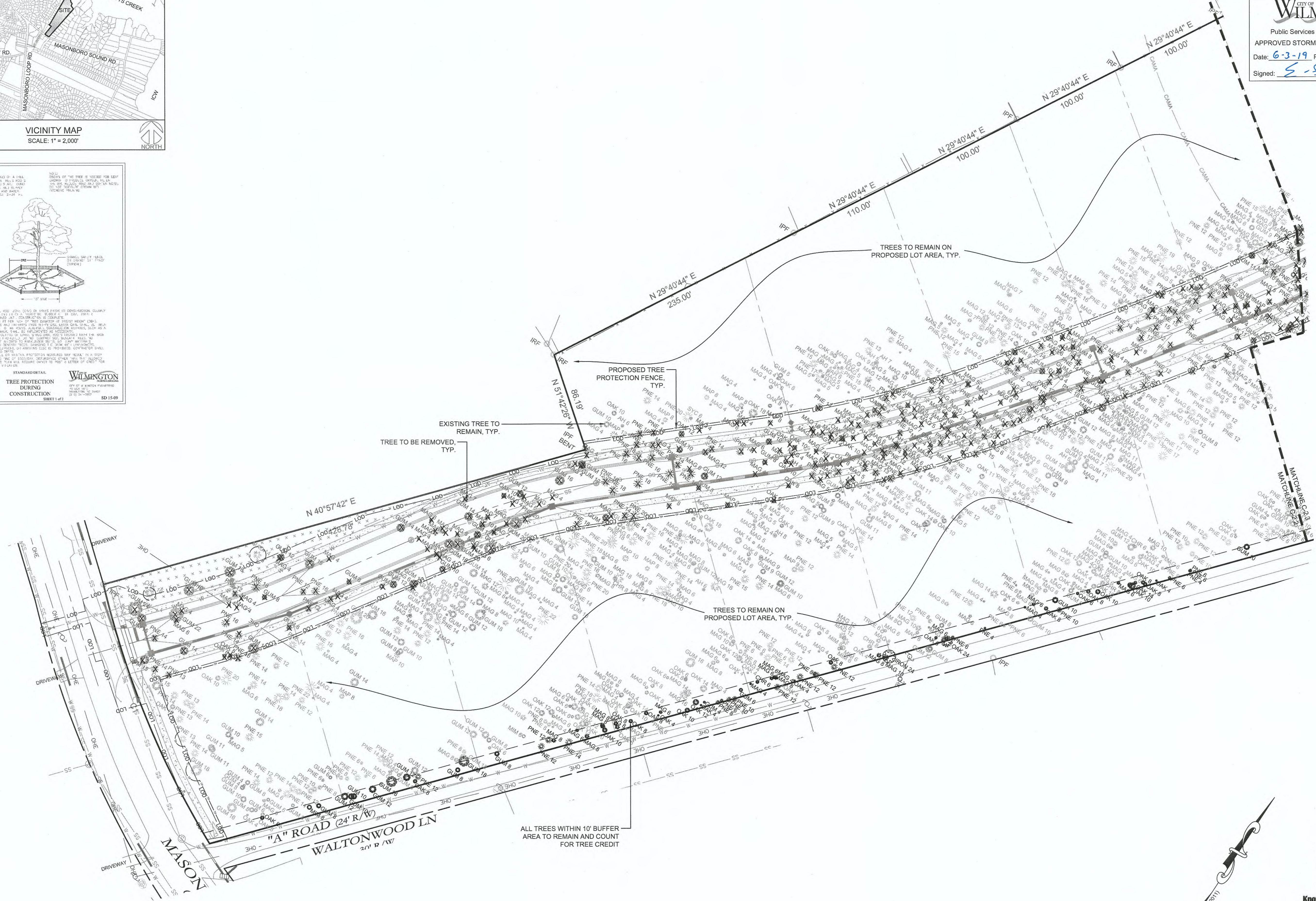
NOTES:  
SEE SHEETS C-2.4 FOR TREE REMOVAL SCHEDULE.

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: 6-4-19  
Planning: \_\_\_\_\_ 6-3-19  
Traffic: \_\_\_\_\_ 6-3-19  
Fire: \_\_\_\_\_ 6-3-19

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 6-3-19 Permit # 2019030  
Signed: S. S. S.

NOTE: THE SPECIAL AGENT SHALL BE A FULLY LICENSED PROFESSIONAL ENGINEER OR ARCHITECT...  
STANDARD DETAIL  
**WILMINGTON**  
TREE PROTECTION DURING CONSTRUCTION  
SHEET 1 OF 2 SD 15-09



811  
Know what's below.  
Call before you dig.  
GRAPHIC SCALE  
SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:  
REV. 1: REVISED PER TRC COMMENTS

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC**  
7923 REUNION DR  
WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**  
122 Cinema Drive  
Wilmington, North Carolina, 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

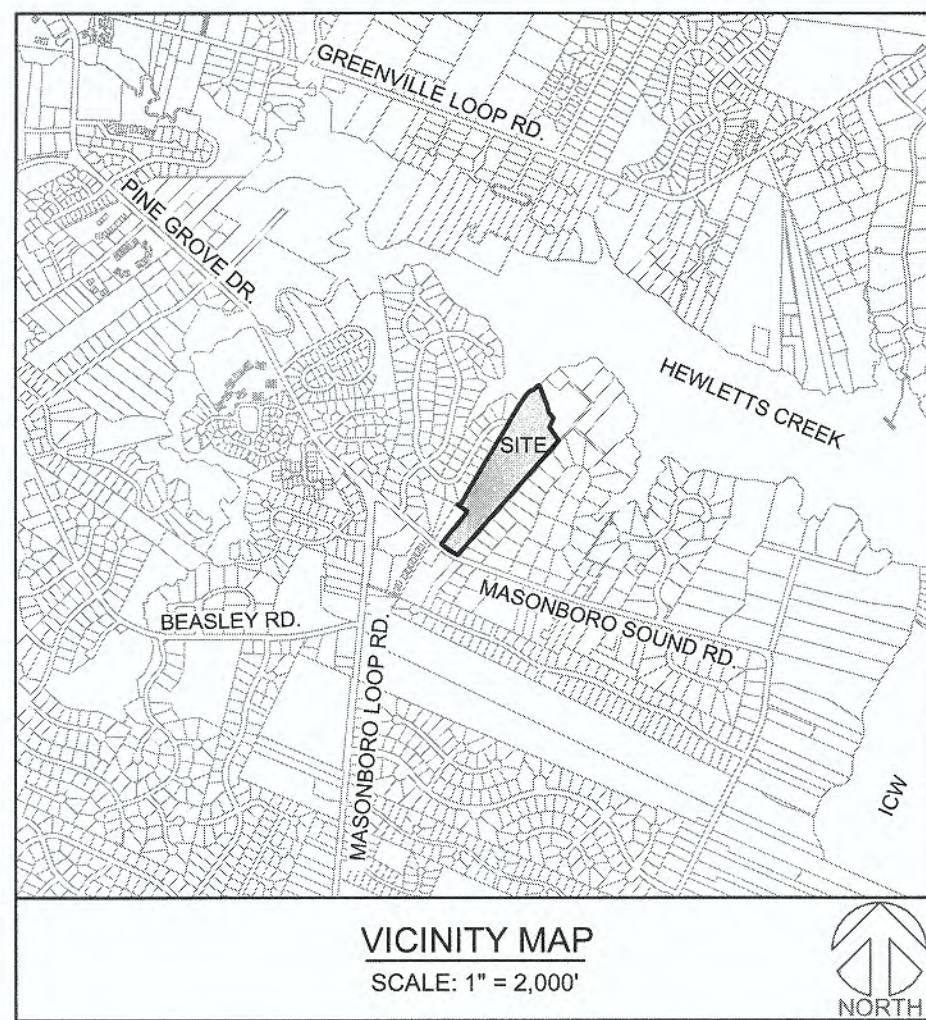
TREE REMOVAL PLAN  
CREEKSIDE  
MASONBORO SOUND RD.  
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS:  
CONCEPTUAL LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONST:

DRAWING INFORMATION:  
DATE: 04/28/19  
SCALE: 1" = 40'  
DESIGNED: JCF  
CHECKED: DJF

Professional Seal redacted on electronic copy per City of Wilmington Policy

**C-2.2**  
PEJ JOB#: 18390.PE



**SITE INFORMATION:**

PARCEL ID: R06700-002-136-000  
 CURRENT ZONING: R-20  
 PROPOSED USE: DETACHED SINGLE FAMILY RESIDENTIAL  
 PROJECT SITE AREA: ± 16.29 ACRES (± 709,592 SF)

OWNER INFORMATION: SUNSET LAND INVESTMENTS, LLC.  
 6310 SEA MIST CT  
 WILMINGTON, NC 28409

FLOOD INFORMATION: THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314600K DATED AUGUST 28, 2018  
 WATERSHED RESOURCE PROTECTION, CONSERVATION AREA

CAMA LAND USE CLASSIFICATION:

**NOTES:**  
 SEE SHEETS C-2.4 FOR TREE REMOVAL SCHEDULE.



CONTRACTOR TO ENSURE PROPER BOARDWALK CLEARANCE FROM EXISTING REGULATED/SIGNIFICANT TREES DURING CONSTRUCTION

PROPOSED LIMITS OF DISTURBANCE, TYP.

TREE TO BE REMOVED, TYP.

EXISTING TREE TO REMAIN, TYP.

PROPOSED TREE PROTECTION FENCE, TYP.

ALL TREES WITHIN 10' BUFFER AREA TO REMAIN AND COUNT FOR TREE CREDIT

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: 6-4-19

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_ 6-3-19

Fire: \_\_\_\_\_ 4-3-19

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 6-3-19 Permit # 2019030  
 Signed: E-S-22

811  
 Know what's below.  
 Call before you dig.

GRAPHIC SCALE  
 SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>REVISIONS:</p> <p>REV 1: REVISED PER TRC COMMENTS</p>	<p>CLIENT INFORMATION:</p> <p><b>SUNRISE LAND INVESTMENTS, LLC.</b>          7923 REUNION DR          WILMINGTON, NC 28411</p>
<p>PARAMOUNT ENGINEERING, INC.</p> <p>122 Cinema Drive          Wilmington, North Carolina 28403          (910) 791-6707 (O) (910) 791-6760 (F)          NC License #: C-2846</p>	<p>TREE REMOVAL PLAN</p> <p>CREEKSIDE          MASONBORO SOUND RD          WILMINGTON, NC; NEW HANOVER COUNTY</p>
<p>PROJECT STATUS</p> <p>CONCEPTUAL LAYOUT: _____</p> <p>FINAL DESIGN LAYOUT: _____</p> <p>RELEASED FOR CONST: _____</p>	<p>Professional Seal          redacted on electronic          copy per City of          Wilmington Policy</p>
<p>DRAWING INFORMATION</p> <p>DATE: 6-3-19</p> <p>SCALE: 1"=40'</p> <p>DESIGNED: _____</p> <p>CHECKED: _____</p>	<p><b>C-2.3</b></p> <p>PEI JOB#: 18390.PE</p>



**NOTES:**

- 1.) SEE GENERAL NOTES SHEET (C-1.0) FOR GRADING, DRAINAGE AND EROSION CONTROL NOTES AND DETAILS FOR MORE INFORMATION.
- 2.) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NEW HANOVER COUNTY STANDARDS AND SPECIFICATIONS.
- 3.) IT IS RECOMMENDED THAT GEOTECHNICAL TESTING BE PERFORMED ON-SITE. A GEOTECHNICAL ENGINEER SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION IN FILL AREAS.
- 4.) ALL GRADE TIE-INS, ROAD CONNECTIONS, AND UTILITY CONNECTIONS SHALL BE FIELD VERIFIED TO CONFIRM THAT THE AS-BUILT CONDITIONS MATCH THE DESIGN CONDITIONS AS DEPICTED. CONTRACTOR SHALL CONTACT THE OWNER AND ENGINEER WITH ANY DISCREPANCIES.

**ASPHALT AREA NOTE:**

- 1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

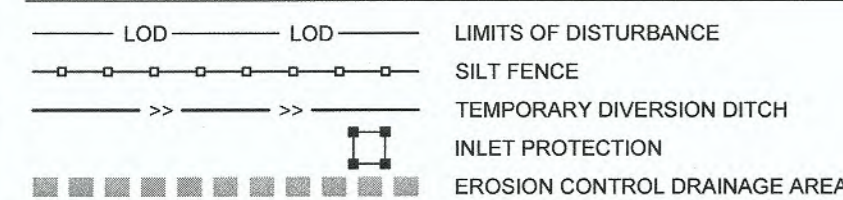
**BUILDING PAD NOTE:**

- 1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

**EROSION CONTROL NOTES:**

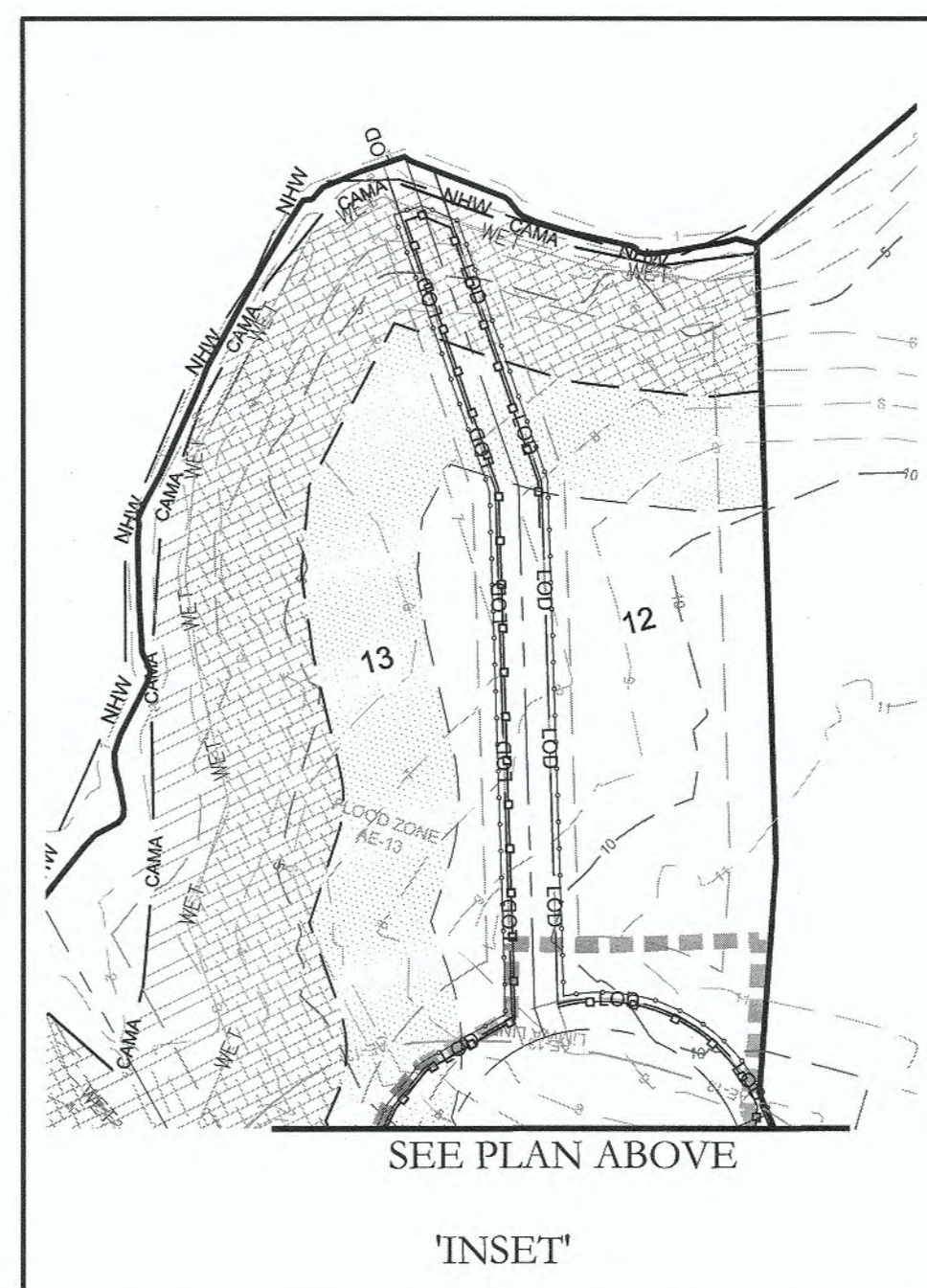
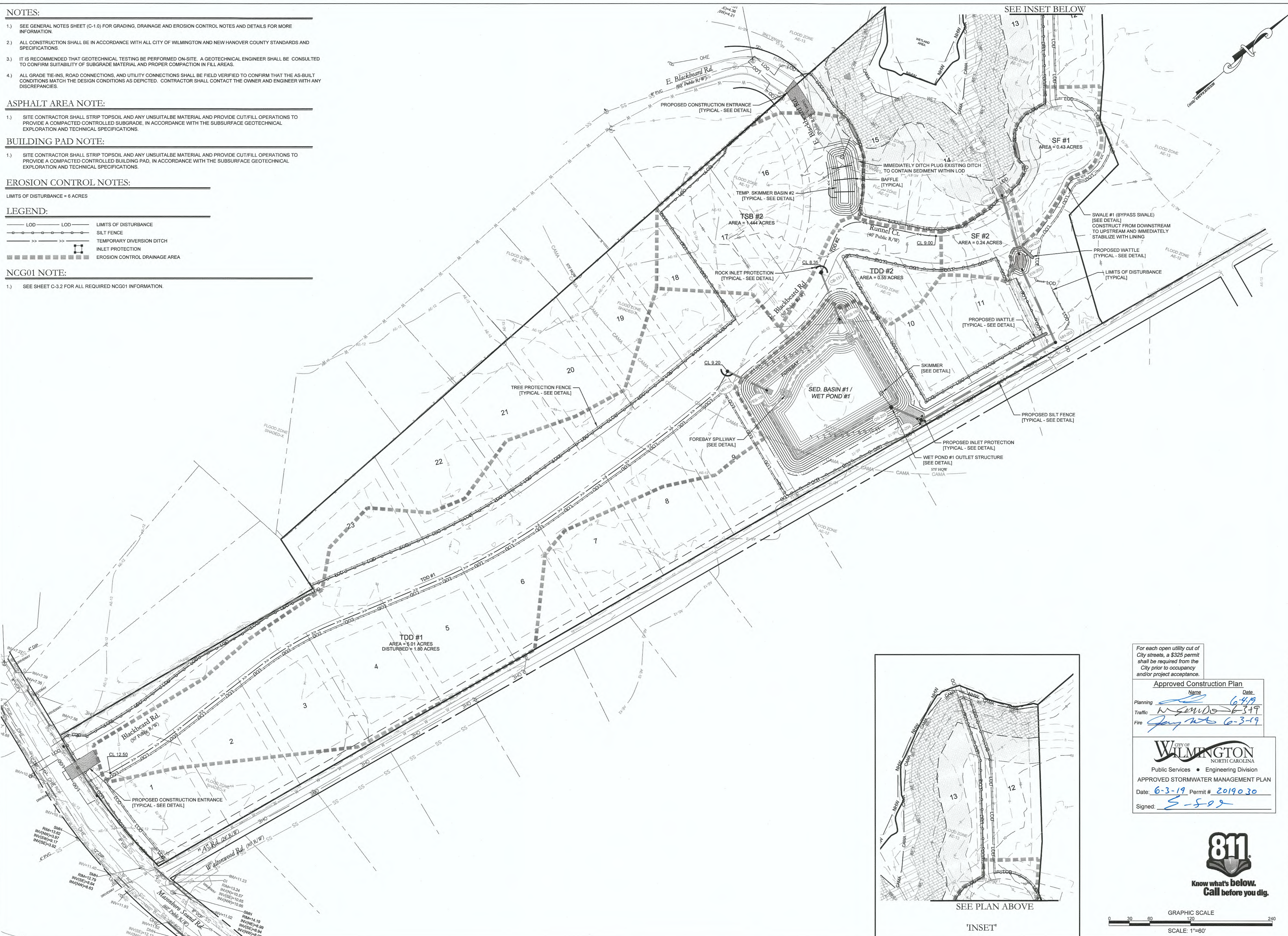
LIMITS OF DISTURBANCE = 6 ACRES

**LEGEND:**



**NCG01 NOTE:**

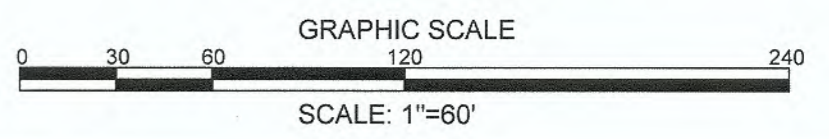
- 1.) SEE SHEET C-3.2 FOR ALL REQUIRED NCG01 INFORMATION.



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: <i>[Signature]</i>	6-4-19
Traffic: <i>[Signature]</i>	6-3-19
Fire: <i>[Signature]</i>	6-3-19

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
**APPROVED STORMWATER MANAGEMENT PLAN**  
 Date: 6-3-19 Permit # 2019030  
 Signed: *[Signature]*



REVISIONS:

NO.	DATE	DESCRIPTION
1	04.18.19	PER NHC ENGINEERING COMMENTS

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

**EROSION CONTROL PLAN**  
**PHASE 1**  
 CREEKSIDE  
 MASONBORO SOUND RD.  
 WILMINGTON, NC, NEW HANOVER COUNTY

PROJECT STATUS

CONCEPTUAL LAYOUT	DATE: 03.12.18
FINAL DESIGN	DATE: 03.12.18
RELEASED FOR CONST.	DATE: 03.12.18

DRAWING INFORMATION

DATE: 03.12.18	DESIGNED: [Signature]
1"=60'	DRAWN: [Signature]
	CHECKED: [Signature]

Professional Seal redacted on electronic copy per City of Wilmington Policy

**C-3.0**  
 PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



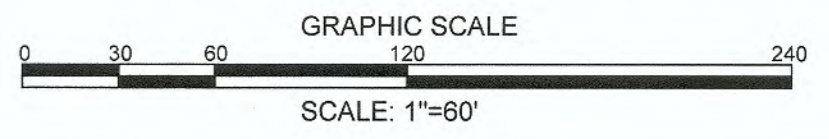


For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan	
Name	Date
Planning <i>[Signature]</i>	6-19
Traffic <i>[Signature]</i>	6-19
Fire <i>[Signature]</i>	6-19

<b>CITY OF WILMINGTON</b> NORTH CAROLINA	
Public Services • Engineering Division	
APPROVED STORMWATER MANAGEMENT PLAN	
Date: 6-3-19	Permit # 2019030
Signed: <i>[Signature]</i>	



REVISIONS:	
1.	PER INC ENGINEERING COMMENTS
2.	PER CIVIL TRC COMMENTS

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (C) (910) 791-6760 (F)  
 NC License #: C-2846

EROSION CONTROL PLAN  
 PHASE II  
 CREEKSIDE  
 MASONBORO SOUND RD.  
 WILMINGTON, NC, NEW HANOVER COUNTY

PROJECT STATUS	
CONCEPTUAL LAYOUT:	
FINAL DESIGN:	
PRELIMINARY LAYOUT:	
RELEASED FOR CONSTRUCTION:	

DRAWING INFORMATION	
DATE:	03.12.19
SCALE:	1" = 60'
DRAWN:	DF
CHECKED:	DF

Professional Seal  
 redacted on electronic  
 copy per City of  
 Wilmington Policy

**C-3.1**  
 PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**  
Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**  
Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

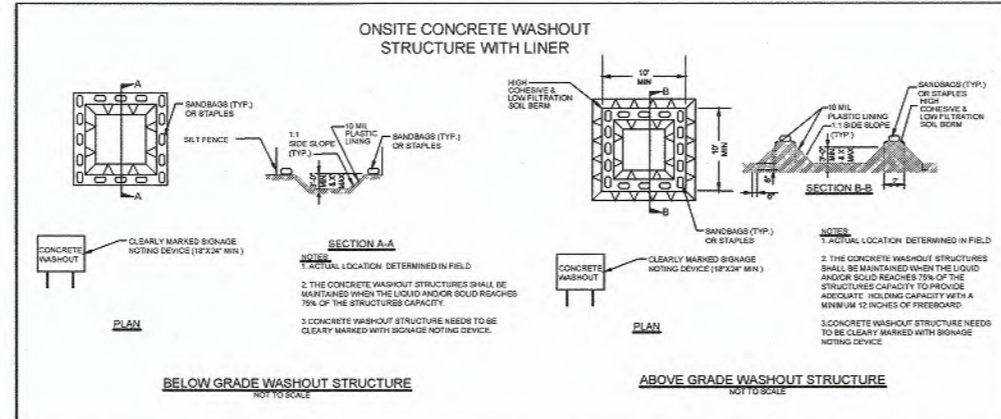
Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li>Roller erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li>Roller erosion control products with grass seed</li> </ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.



**CONCRETE WASHOUTS**

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sited and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

**HERBICIDES, PESTICIDES AND RODENTICIDES**

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 04/01/19**

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**  
Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-measuring device approved by the Division.
(2) E&S Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part II, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover), 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

**NOTE:** The rain inspection resets the required 7 calendar day inspection requirement.

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**  
**1. E&S Plan Documentation**  
The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&S Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S Plan.	Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S Measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S Measures or if the E&S Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S Plan.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&S Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S Measures.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation**  
In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that must be reported**  
Permittees shall report the following occurrences:  
(a) Visible sediment deposition in a stream or wetland.  
(b) Oil spills if:  
• They are 25 gallons or more,  
• They are less than 25 gallons but cannot be cleaned up within 24 hours,  
• They cause sheen on surface waters (regardless of volume), or  
• They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.  
(b) Anticipated bypasses and unanticipated bypasses.  
(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> <li><b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(i)(7)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

CLIENT INFORMATION: SUNRISE LAND INVESTMENTS, LLC, 7923 REUNION DR WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846

EROSION CONTROL PLAN PHASE II CREEKSIDE MASONBORO SOUND RD. WILMINGTON, NC, NEW HANOVER COUNTY

PROJECT STATUS: CONCEPTUAL LAYOUT, PRELIMINARY LAYOUT, RELEASED FOR CONSTRUCTION. DRAWING INFORMATION: DATE: 04.18.19, BY: NTS, DESIGNED: NTS, CHECKED: DLF.

Professional Seal redacted on electronic copy per City of Wilmington Policy

C-3.2 PEI JOB#: 18390.PE

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: 6-4-19

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

City of Wilmington North Carolina

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit #: 2019030

Signed: E-S-000



**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING EFFECTIVE: 04/01/19**

**DRAINAGE NOTES:**

- 1.) DRAINAGE EASEMENT AND STORMWATER SYSTEM MAINTENANCE IS THE RESPONSIBILITY OF THE DEVELOPER OR HOA, INCLUDING PONDS, PIPES, AND INFILTRATION BASINS AND TRENCHES.
- 2.) ALL IMPERVIOUS MUST DRAIN TO THE DESIGNED STORMWATER SYSTEM, PER THE APPROVED PLANS. LOTS / BUILDING PADS SHALL BE FILLED AS NECESSARY TO FACILITATE IMPERVIOUS DRAINAGE TO THE STORM CONVEYANCE SYSTEM AND SCM (STORMWATER CONTROL MEASURE).
- 3.) NO OBSTRUCTIONS ARE ALLOWED IN DRAINAGE EASEMENTS, INCLUDING FENCES.
- 4.) ALL STORM DRAINAGE STRUCTURES SHALL MEET NCDOT STANDARDS AND SPECIFICATIONS AND SHALL BE TRAFFIC RATED FOR H-20 LOADS AT A MINIMUM.
- 5.) ALL CATCH BASIN (CB) RIM ELEVATIONS AND YARD INLET (YI) THROAT ELEVATIONS ARE LISTED AS THE "GUTTER OF FLOWLINE ELEVATION" WITHIN THE CURB SECTION. THE CONTRACTOR SHALL MAINTAIN A UNIFORM EDGE OF PAVEMENT (EOP) WHEN PLACING THE STORM INLETS WITHIN THE CURB LINE (SEE "CURB TRANSITION" DETAIL). FOR CATCH BASINS WITHIN A TRANSITION FROM 24" STANDARD CURB & GUTTER, THE RIM ELEVATION GIVEN IS 1" INCH BELOW EOP. FOR MODIFIED VALLEY, THE RIM ELEVATION GIVEN IS 1/2 INCH BELOW EOP.
- 6.) MANHOLE RIM ELEVATION SHOWN ABOVE IS FLUSH WITH PROPOSED GRADE. CONTRACTOR SHALL PROVIDE 6" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA, AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.
- 7.) PROPOSED BUILDINGS SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM.
- 8.) CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AREAS TO MATCH PROPOSED GRADES.

**BUILDING PAD NOTES:**

- 1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.
- 2.) FUTURE MINIMUM BUILDING PAD REFERENCED PER TYPICAL LOT GRADING DETAIL ON SHEET C-6.0. MINIMUM BUILDING PAD ELEVATION SHOWN DOES NOT REFERENCE FFE. 100-YEAR FLOOD ELEVATION AND DRAINAGE AROUND BUILDING PAD SHALL BE USED IN SETTING FFE.

**ASPHALT AREA NOTE:**

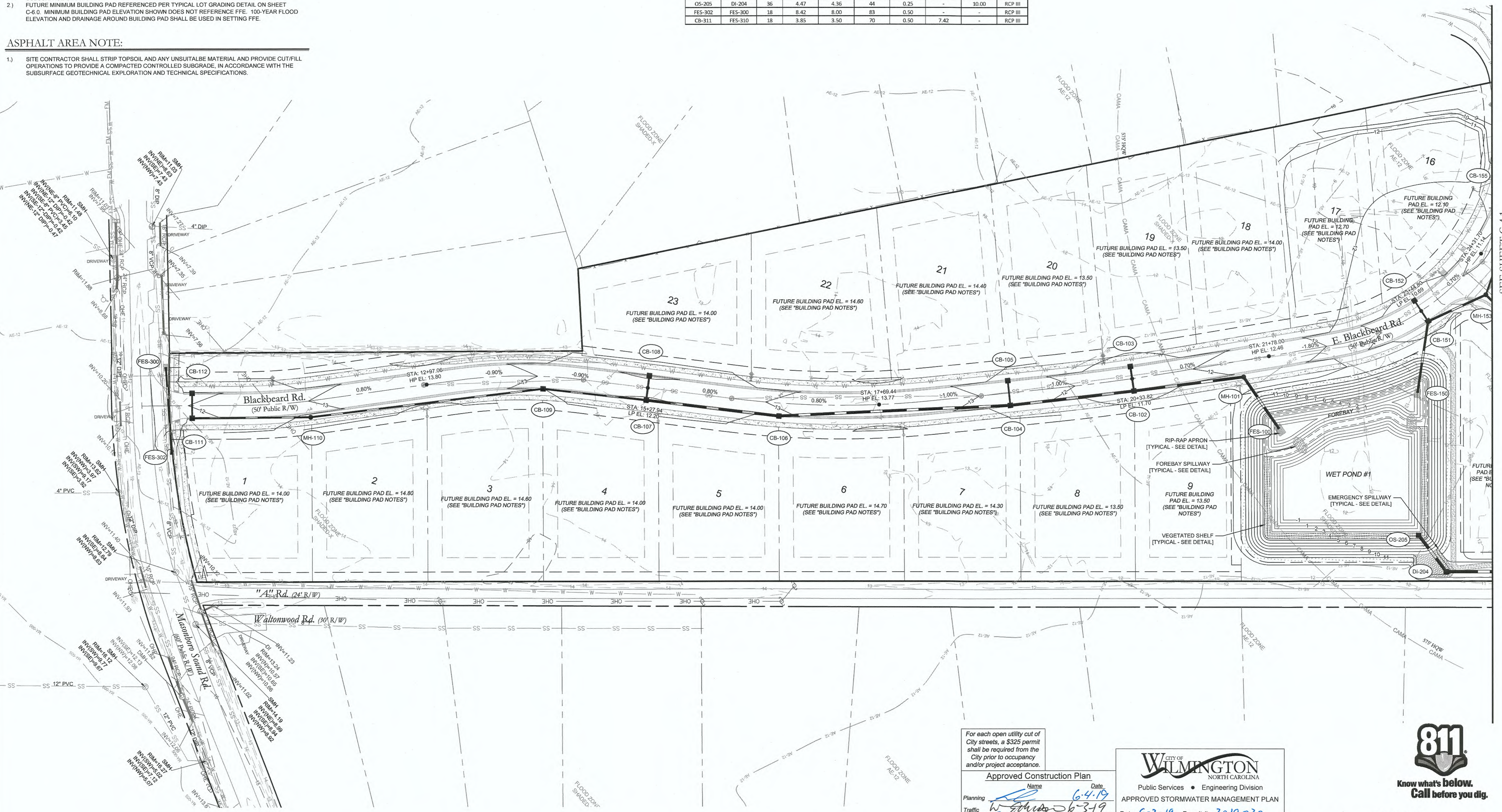
- 1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

**NOTATION:**

- CB = CATCH BASIN [NCDOT STD. 840.02 | 840.03]
- DCB = DOUBLE CATCH BASIN
- DI = DROP INLET [NCDOT STD. 840.16 | 840.46]
- DDI = DOUBLE DROP INLET [NCDOT STD. 840.35]
- EW = ENDWALL [NCDOT STD. 838.80]
- FES = FLARED END SECTION [NCDOT STD. 838.80]
- HW = HEADWALL
- IFS = INTERFERENCE STRUCTURE
- SM = STORM MANHOLE [C&W SD 2-03]
- OS = OUTLET STRUCTURE [SEE DETAILS SHEET]
- YD = YARD DRAIN [ADS NYLOPLAST]
- YI = YARD INLET (2-SIDE OPEN THROAT) [NCDOT STD. 840.04]
- BC = BOTTOM OF CURB (GUTTER/FLOWLINE) ELEVATION
- FLUME = CONCRETE DRAINAGE FLUME FLOWLINE ELEVATION
- HP = HIGH POINT ELEVATION
- LP = LOW POINT ELEVATION
- PAD = DUMPSTER PAD ELEVATION
- PG = PROPOSED GRADE
- RP = RAMP ELEVATION
- SW = SIDEWALK ELEVATION
- TC = TOP OF CURB ELEVATION

**STORM SCHEDULE:**

Upstream Node	Downstream Node	Diameter (in)	Upstream Invert	Downstream Invert	Pipe Length (ft)	Slope (%)	Upstream Rim Elev	Downstream Rim Elev	Pipe Material
MH-101	FES-100	30	1.31	1.00	62	0.50	12.49	-	RCP III
CB-102	MH-101	30	3.03	2.46	115	0.50	11.40	12.49	RCP III
CB-103	CB-102	18	3.16	3.03	26	0.50	11.40	11.40	RCP III
CB-104	CB-102	30	3.68	3.03	129	0.50	12.40	11.40	RCP III
CB-105	CB-104	15	9.00	8.87	26	0.50	12.40	12.40	RCP III
CB-106	CB-104	30	4.88	3.68	241	0.50	13.00	12.40	RCP III
CB-107	CB-106	30	5.57	4.88	139	0.50	11.91	13.00	RCP III
CB-108	CB-107	18	5.70	5.57	26	0.50	11.91	11.91	RCP III
CB-109	CB-107	18	6.11	5.57	108	0.50	12.65	11.91	RCP III
MH-110	CB-109	18	7.32	6.11	243	0.50	13.14	12.65	RCP III
CB-111	MH-110	18	7.94	7.32	123	0.50	11.74	13.14	RCP III
CB-112	CB-111	15	8.07	7.94	26	0.50	11.74	11.74	RCP III
CB-151	FES-150	24	1.32	1.00	72	0.45	10.40	-	RCP III
CB-152	CB-151	15	7.15	7.02	26	0.49	10.40	10.40	RCP III
MH-153	CB-151	24	1.63	1.32	86	0.47	10.41	10.40	RCP III
CB-154	MH-153	18	2.35	1.63	144	0.50	9.12	10.41	RCP III
CB-155	CB-154	15	6.45	6.32	26	0.52	9.20	9.12	RCP IV
CB-156	MH-153	24	4.56	4.12	87	0.50	9.51	10.41	RCP III
CB-157	CB-156	18	5.75	5.66	18	0.50	9.51	9.51	RCP III
MH-158	CB-156	18	5.00	4.56	87	0.50	10.11	9.51	RCP III
MH-159	MH-158	18	5.33	5.00	67	0.50	10.16	10.11	RCP III
CB-160	MH-159	18	6.75	6.55	79	0.25	9.57	10.16	RCP IV
CB-161	CB-160	18	6.80	6.75	18	0.28	9.57	9.57	RCP IV
MH-201	EW-202	36	2.93	2.50	85	0.50	-	-	RCP III
MH-203	EW-202	36	3.79	3.50	116	0.25	10.50	-	RCP III
DI-204	MH-203	36	4.36	3.79	228	0.25	10.00	10.50	RCP III
OS-205	DI-204	36	4.47	4.36	44	0.25	-	10.00	RCP III
FES-302	FES-300	18	8.42	8.00	83	0.50	-	-	RCP III
CB-311	FES-310	18	3.85	3.50	70	0.50	7.42	-	RCP III



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: *E. Ser* Date: *6-4-19*

Planning: *W. Shuler* Date: *6-3-19*

Traffic: *Jan M* Date: *6-3-18*

Fire: *Jan M* Date: *6-3-18*

**City of WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: *6-3-19* Permit # *2019030*  
Signed: *E. Ser*

**811**  
Know what's below.  
Call before you dig.

GRAPHIC SCALE  
SCALE: 1"=50'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**

04.03.18	1. STORM REVISIONS PER OFFICIAL SANITARY SEWER REVISIONS
04.21.18	2. PER CIVIL ENGINEERING COMMENTS

**CLIENT INFORMATION:**  
**SUNRISE LAND INVESTMENTS, LLC.**  
7923 REUNION DR  
WILMINGTON, NC 28411

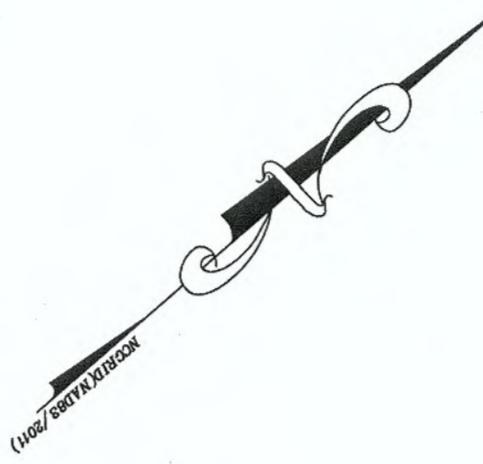
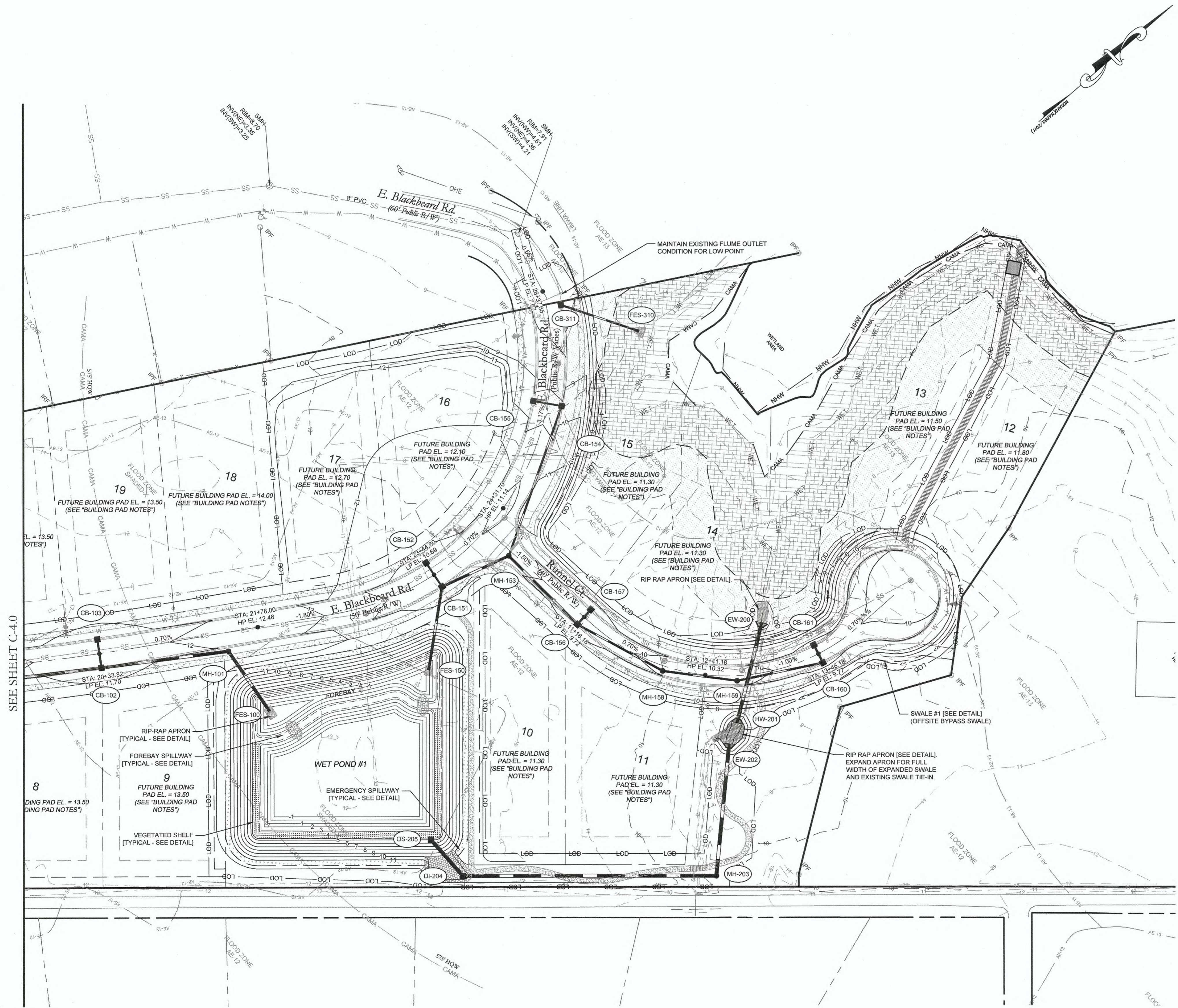
**PARAMOUNT ENGINEERING**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

**PROJECT STATUS:**  
CONCEPTUAL LAYOUT  
PRELIMINARY LAYOUT  
FINAL DESIGN  
RELEASED FOR CONSTRUCTION

**DRAWING INFORMATION:**  
DATE: 03.04.19  
1" = 50'  
DESIGNED: E. Ser  
DRAWN: J. M.  
CHECKED: J. M.

**Professional Seal**  
redacted on electronic copy per City of Wilmington Policy

**C-4.0**  
PEI JOB#: 18390.PE

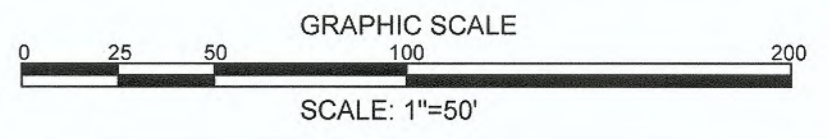


SEE SHEET C-4.0

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

Approved Construction Plan  
 Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Planning: \_\_\_\_\_ 6-4-19  
 Traffic: \_\_\_\_\_ 6-3-19  
 Fire: \_\_\_\_\_ 6-3-19

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 6-3-19 Permit # 2019030  
 Signed: E-SRR



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

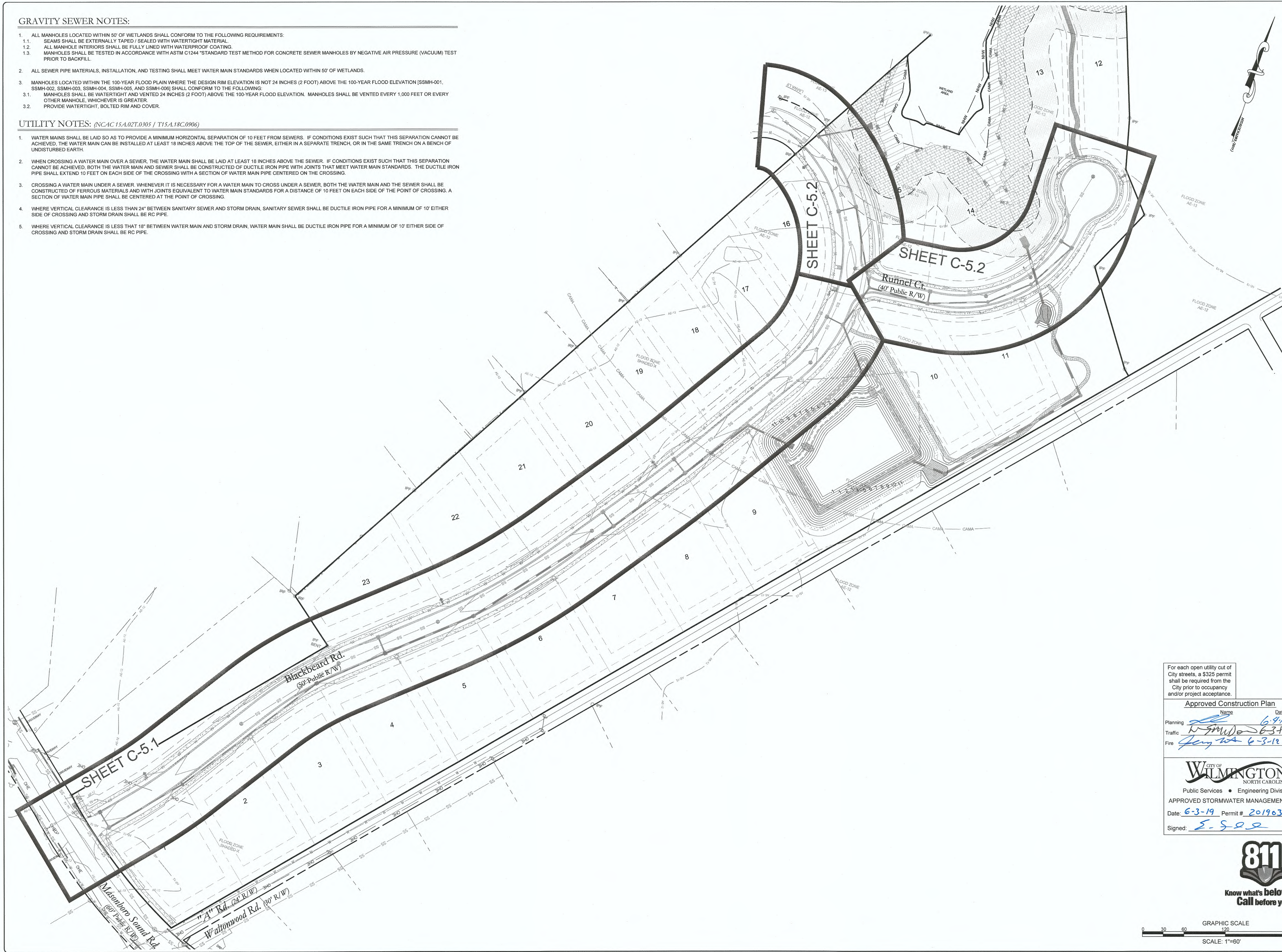
<b>REVISIONS:</b> 1. PER CIVIL ENGINEERING COMMENTS 2. PER CIVIL/ESC COMMENTS	
<b>CLIENT INFORMATION:</b> <b>SUNRISE LAND INVESTMENTS, LLC.</b> 7923 REUNION DR WILMINGTON, NC 28411	
<b>PARAMOUNT ENGINEERING</b> 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846	
<b>GRADING &amp; DRAINAGE PLAN</b> CREEKSIDE MASONBORO SOUND RD. WILMINGTON, NC, NEW HANOVER COUNTY	
<b>PROJECT STATUS:</b> CONCEPTUAL LAYOUT PRELIMINARY LAYOUT RELEASED FOR CONSTRUCTION	<b>DRAWING INFORMATION:</b> DATE: 03.04.19 SCALE: 1"=50' DRAWN: [Signature] CHECKED: [Signature]
Professional Seal redacted on electronic copy per City of Wilmington Policy	
<b>C-4.1</b>	
PEI JOB#: 18390.PE	

**GRAVITY SEWER NOTES:**

1. ALL MANHOLES LOCATED WITHIN 50' OF WETLANDS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
  - 1.1. SEAMS SHALL BE EXTERNALLY TAPED / SEALED WITH WATER TIGHT MATERIAL.
  - 1.2. ALL MANHOLE INTERIORS SHALL BE FULLY LINED WITH WATERPROOF COATING.
  - 1.3. MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C1244 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL.
2. ALL SEWER PIPE MATERIALS, INSTALLATION, AND TESTING SHALL MEET WATER MAIN STANDARDS WHEN LOCATED WITHIN 50' OF WETLANDS.
3. MANHOLES LOCATED WITHIN THE 100-YEAR FLOOD PLAIN WHERE THE DESIGN RIM ELEVATION IS NOT 24 INCHES (2 FOOT) ABOVE THE 100-YEAR FLOOD ELEVATION [SSMH-001, SSMH-002, SSMH-003, SSMH-004, SSMH-005, AND SSMH-006] SHALL CONFORM TO THE FOLLOWING:
  - 3.1. MANHOLES SHALL BE WATER TIGHT AND VENTED 24 INCHES (2 FOOT) ABOVE THE 100-YEAR FLOOD ELEVATION. MANHOLES SHALL BE VENTED EVERY 1,000 FEET OR EVERY OTHER MANHOLE, WHICHEVER IS GREATER.
  - 3.2. PROVIDE WATER TIGHT, BOLTED RIM AND COVER.

**UTILITY NOTES:** (NCAC 15A.02T.0305 / T15A.18C.0906)

1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
5. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.



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	6-3-19
Traffic	6-3-19
Fire	6-3-19

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit # 2019030

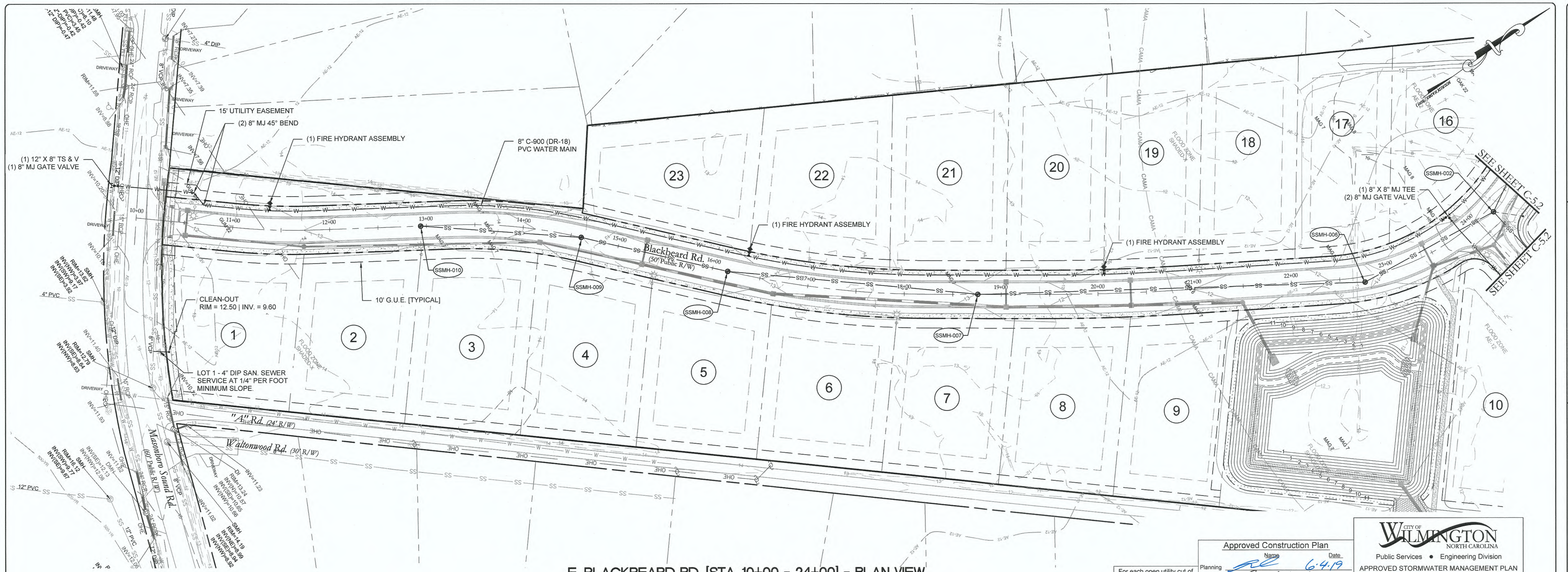
Signed: E. S. S. S.

Know what's below. Call before you dig.

GRAPHIC SCALE  
 0 30 60 120 240  
 SCALE: 1"=60'

REVISIONS: 1. PRELIMINARY COMMENTS 04.03.19	CLIENT INFORMATION: SUNRISE LAND INVESTMENTS, LLC, 7923 REUNION DR WILMINGTON, NC 28411
PROJECT STATUS: PRELIMINARY LAYOUT RELEASED FOR CONSTRUCTION	PLAN & PROFILE INDEX MAP CREEKSIDE MASONBORO SOUND RD. WILMINGTON, NC, NEW HANOVER COUNTY
DRAWING INFORMATION: DATE: 03.12.18 SCALE: 1" = 60' DRAWN: [Signature] CHECKED: [Signature]	PROJECT INFORMATION: PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (C) (910) 791-6760 (F) NC License #: C-2846
PEI JOB#: 18390.PE	C-5.0

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

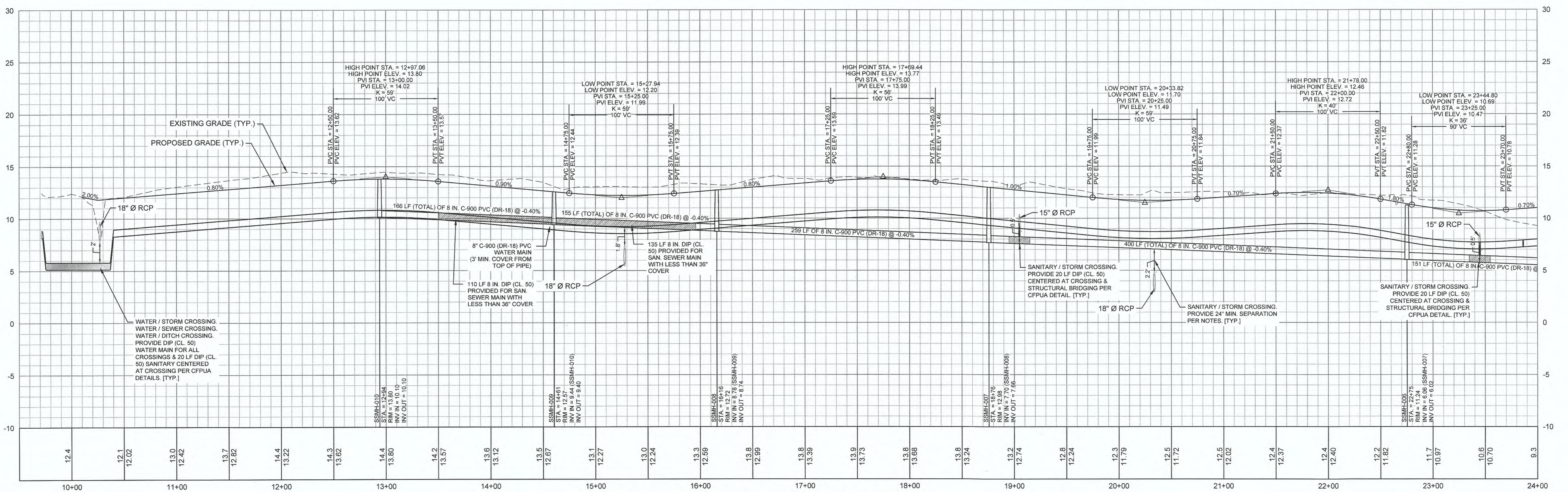


**E. BLACKBEARD RD. [STA. 10+00 - 24+00] - PLAN VIEW**  
SCALE: 1" = 50'

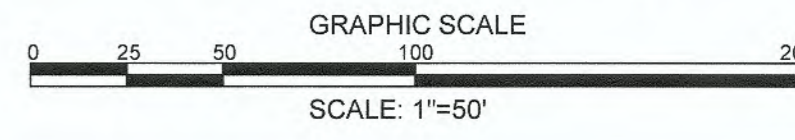
**Approved Construction**

Planning: *RL* Date: *6-4-19*  
 Traffic: *W.S.M.D.* Date: *6-3-19*  
 Fire: *Jay* Date: *6-3-19*

City of Wilmington, North Carolina  
 Public Services • Engineering Division  
**APPROVED STORMWATER MANAGEMENT PLAN**  
 Date: *6-3-19* Permit # *2019030*  
 Signed: *E.S.R.*



**E. BLACKBEARD RD. [STA. 10+00 - 24+00] - PROFILE VIEW**  
HORIZONTAL SCALE: 1" = 50'  
VERTICAL SCALE: 1" = 5'



**REVISIONS:**  
 1. PER CFP/IA COMMENTS  
 2. PER CWT TRC COMMENTS

**CLIENT INFORMATION:**  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING, INC.**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6700 (F)  
 NC License #: C-2846

**PROJECT STATUS:**  
 CONCEPTUAL LAYOUT:  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONSTRUCTION

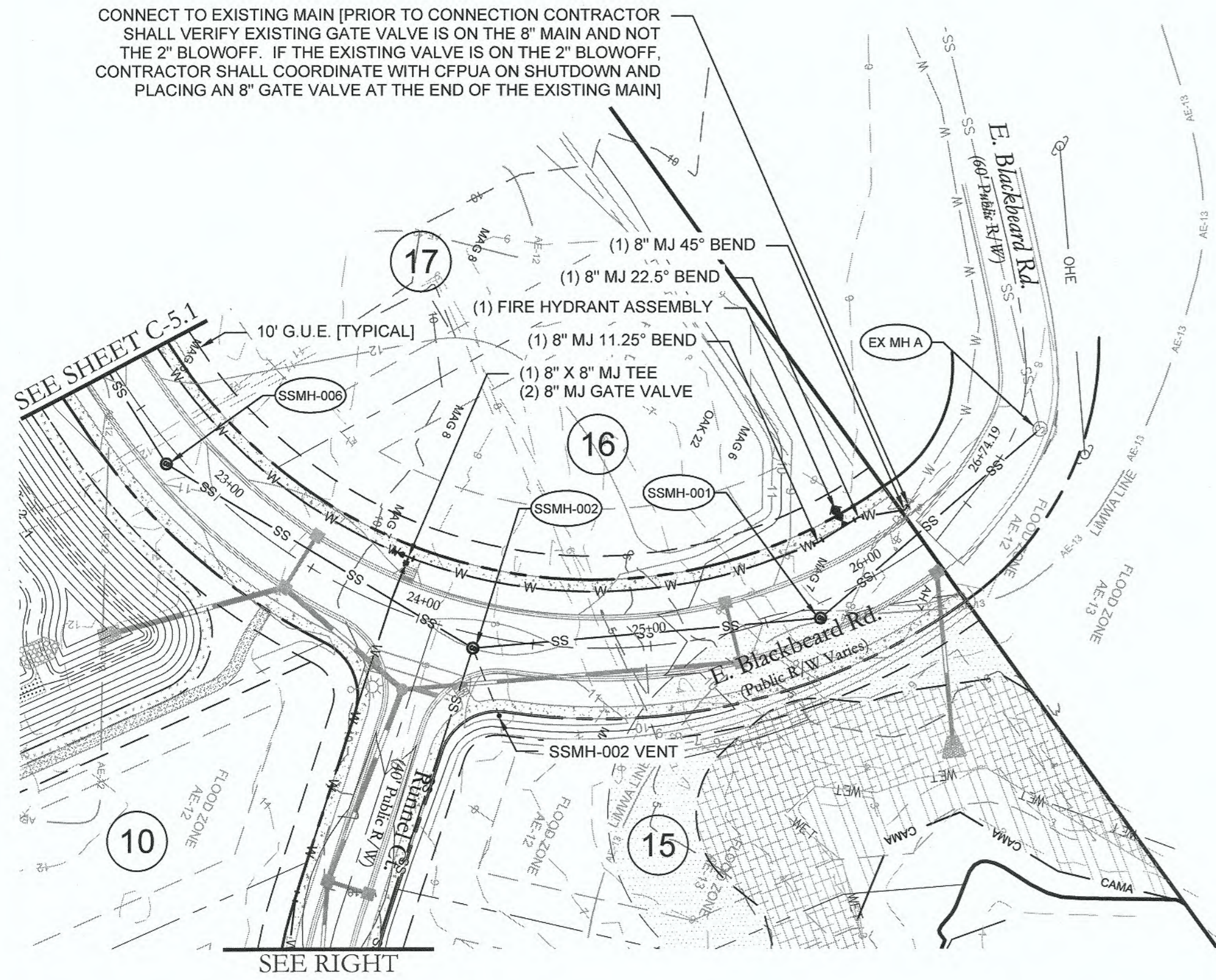
**DRAWING INFORMATION:**  
 DATE: 03/04/19  
 1" = 50' HORIZONTAL SCALE  
 1" = 5' VERTICAL SCALE  
 DESIGNED: [Signature]  
 DRAWN: [Signature]  
 CHECKED: [Signature]

**Professional Seal**  
 retracted on electronic copy per City of Wilmington Policy

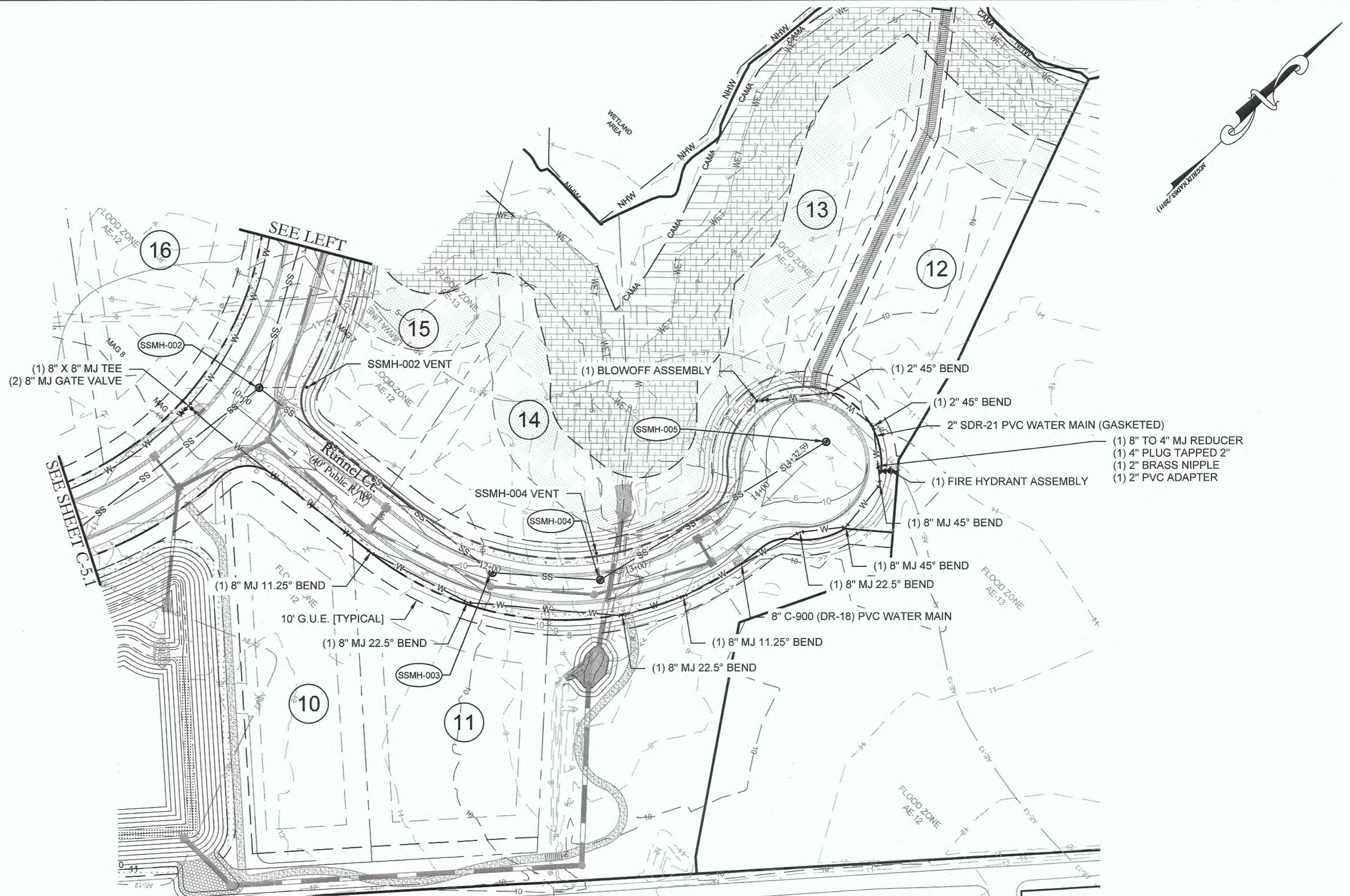
**C-5.1**  
 PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

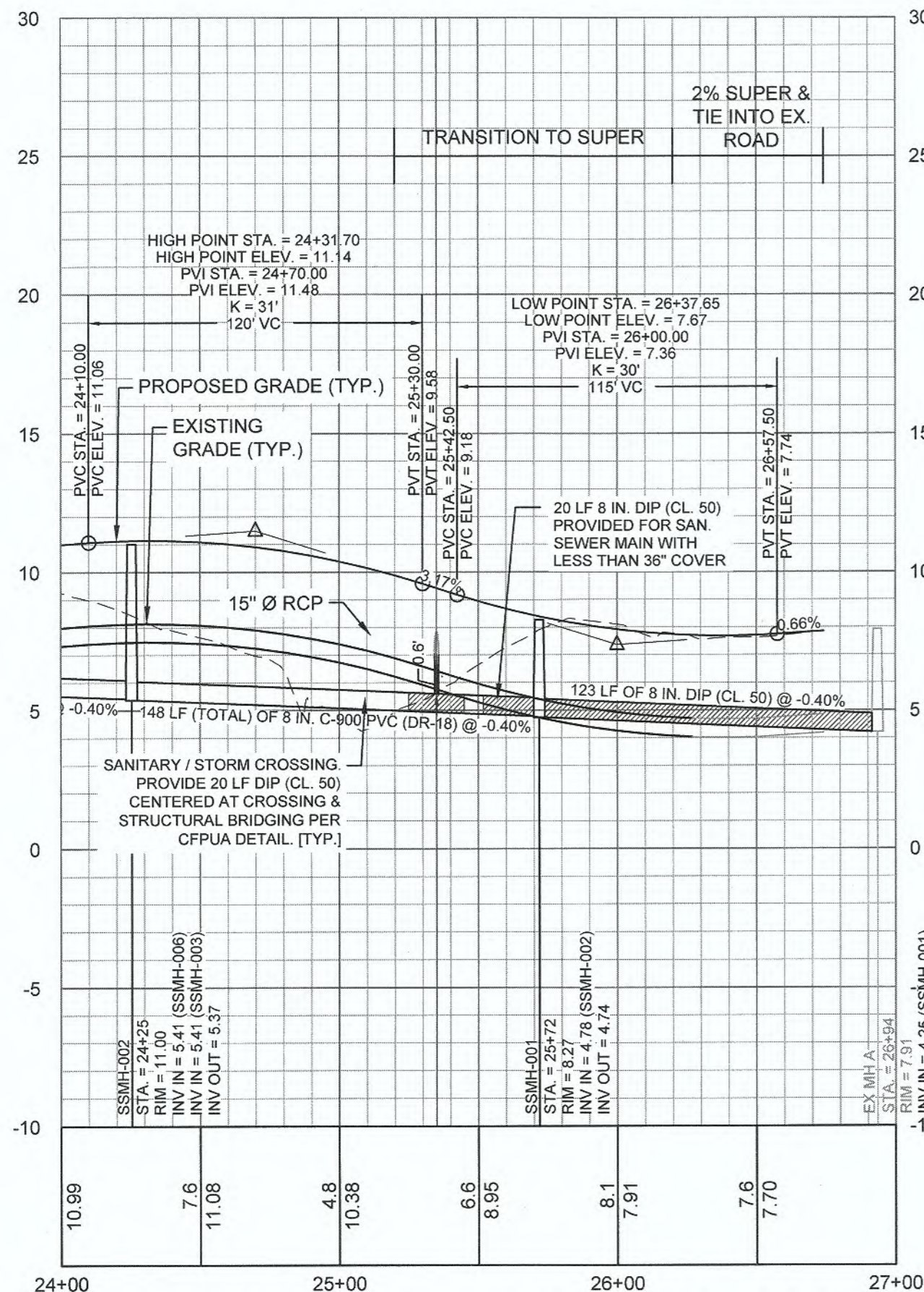
CONNECT TO EXISTING MAIN [PRIOR TO CONNECTION CONTRACTOR SHALL VERIFY EXISTING GATE VALVE IS ON THE 8" MAIN AND NOT THE 2" BLOWOFF. IF THE EXISTING VALVE IS ON THE 2" BLOWOFF, CONTRACTOR SHALL COORDINATE WITH CFPUA ON SHUTDOWN AND PLACING AN 8" GATE VALVE AT THE END OF THE EXISTING MAIN]



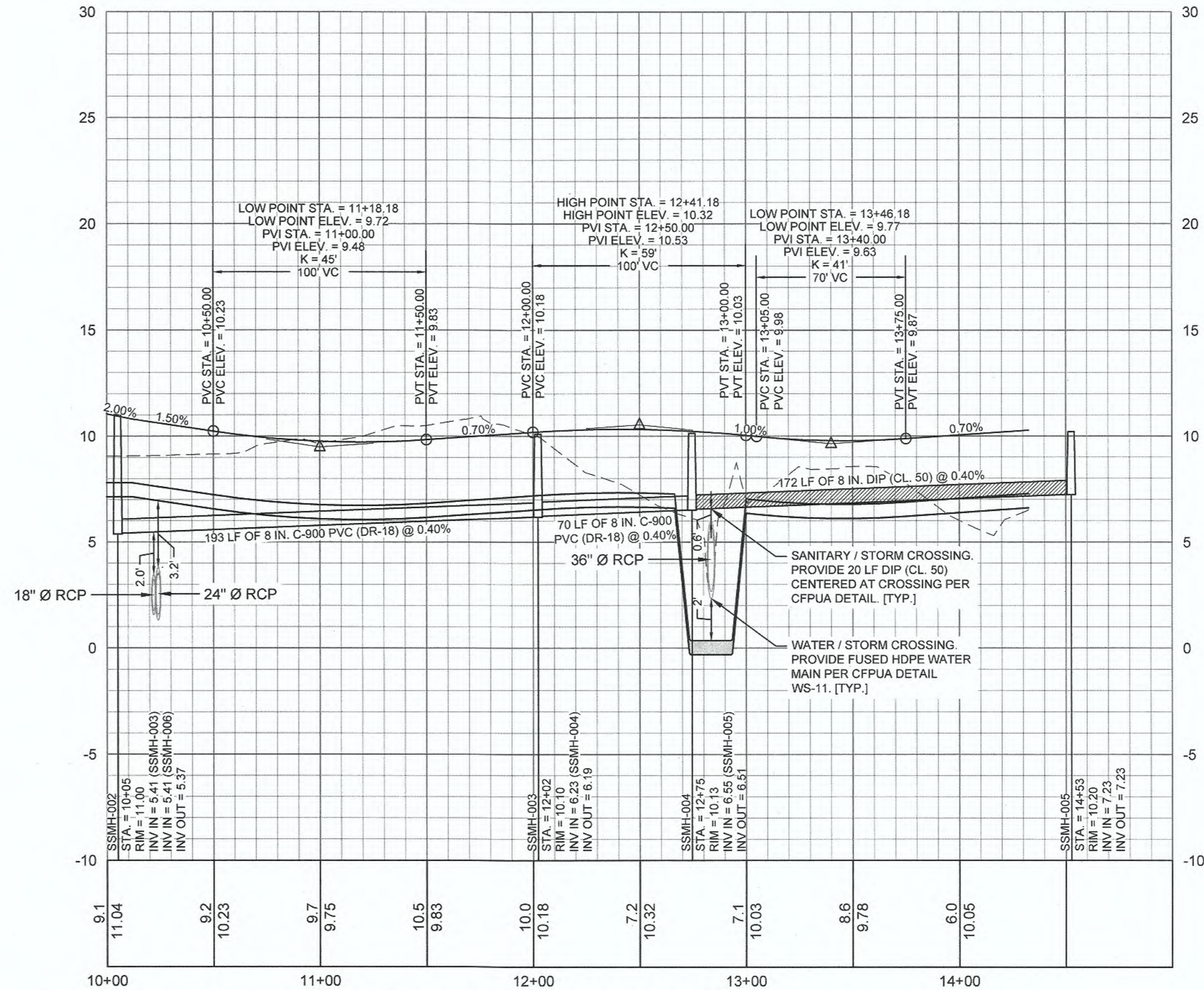
**E. BLACKBEARD RD. [STA. 24+00 - END] - PLAN VIEW**  
SCALE: 1" = 50'



**RUNNEL CT. - PLAN VIEW**  
SCALE: 1" = 50'



**E. BLACKBEARD RD. [STA. 24+00 - END] - PROFILE VIEW**  
HORIZONTAL SCALE: 1" = 50'  
VERTICAL SCALE: 1" = 5'

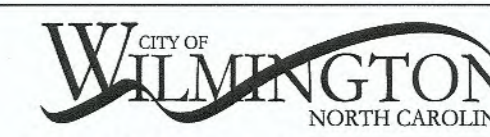


**RUNNEL CT. - PROFILE VIEW**  
HORIZONTAL SCALE: 1" = 50'  
VERTICAL SCALE: 1" = 5'

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

Approved Construction Plan

Name: *[Signature]* Date: *6-4-19*  
 Planning: *[Signature]* Date: *6-3-19*  
 Traffic: *[Signature]* Date: *6-3-19*  
 Fire: *[Signature]* Date: *6-3-19*

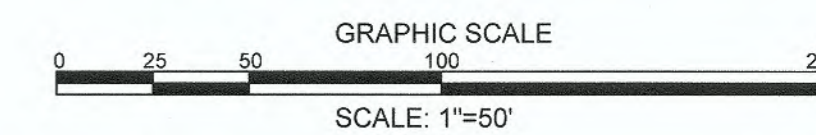


Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: *6-3-19* Permit #: *2019030*

Signed: *[Signature]*



REVISIONS:	DATE	BY	DESCRIPTION
1. PER CFPUA COMMENTS	04.03.19		
2. PER COW TRG COMMENTS	05.22.19		

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

PROJECT STATUS:  
 CONCEPTUAL LAYOUT  
 PRELIMINARY LAYOUT  
 RELEASED FOR CONSTRUCTION

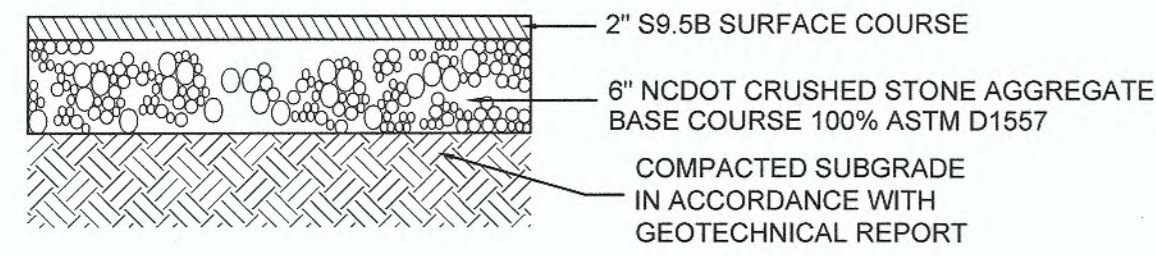
PLAN & PROFILE  
 BLACKBEARD RD | RUNNEL CT

DRAWING INFORMATION:  
 DATE: 6-3-19  
 DESIGNED: [Signature]  
 DRAWN: [Signature]  
 CHECKED: [Signature]

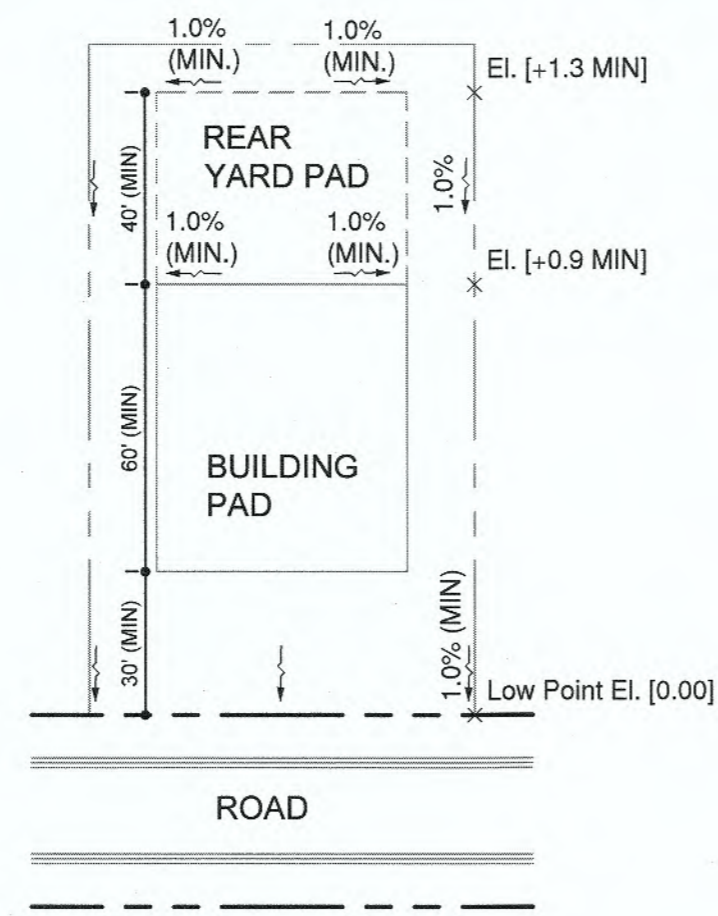
Professional Seal  
 redacted on electronic  
 copy per City of  
 Wilmington Policy

**C-5.2**  
 PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

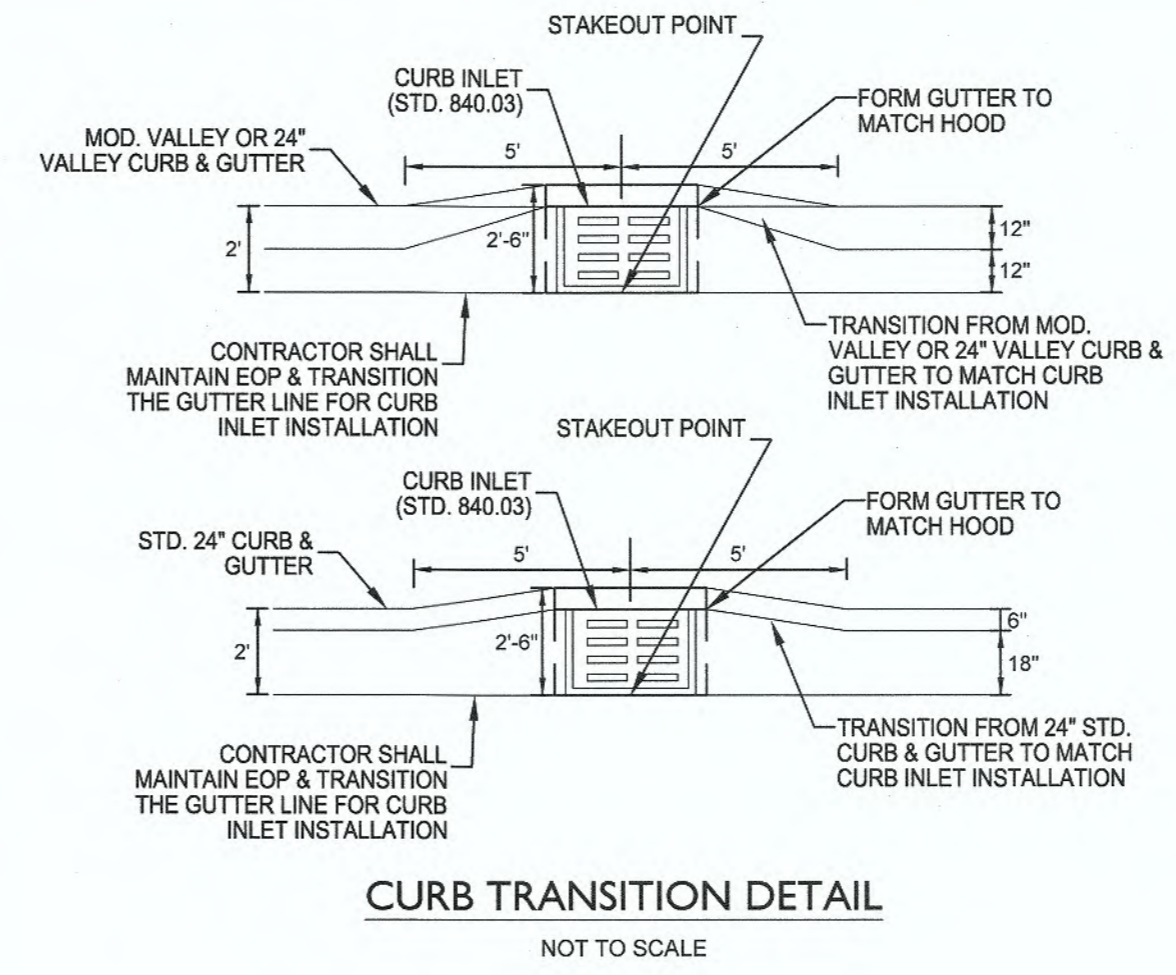


**ASPHALT PAVING SECTION**  
NOT TO SCALE

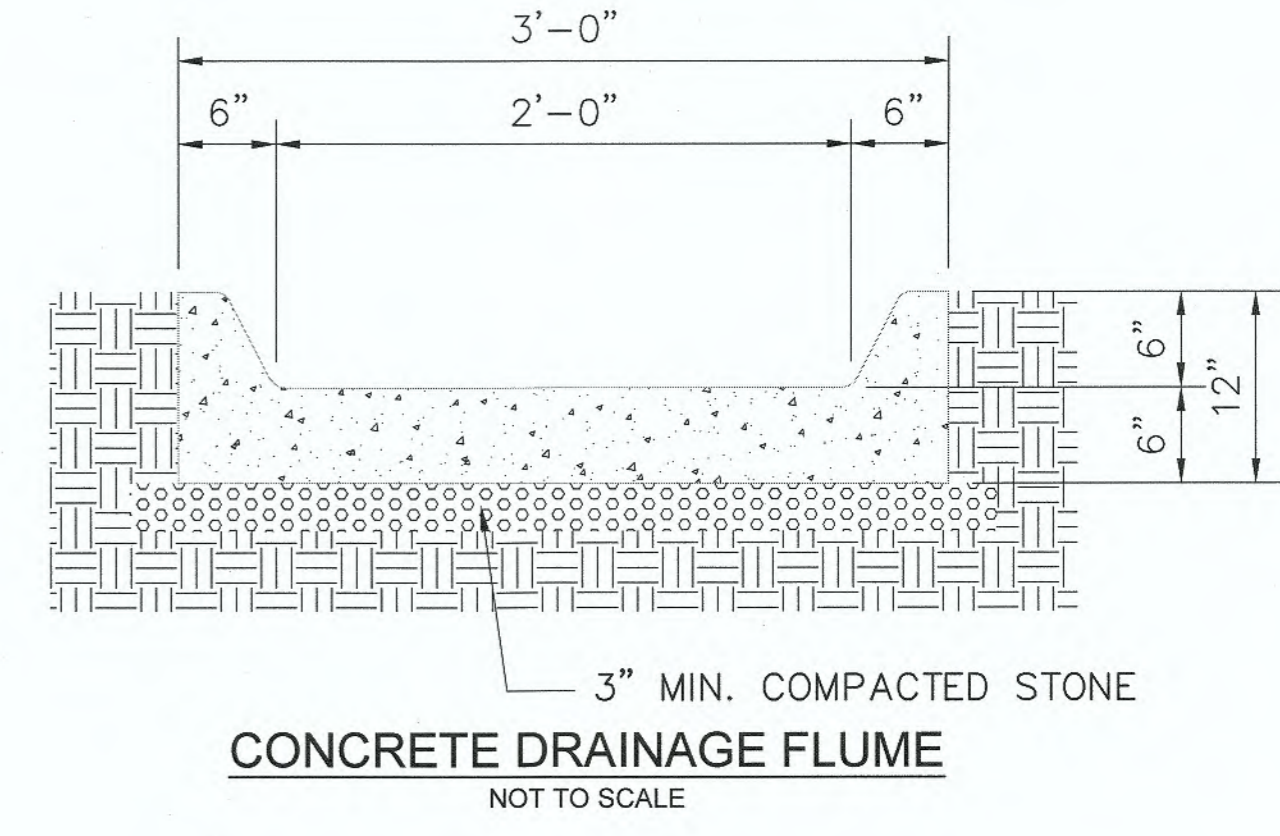


**TYPICAL LOT GRADING DETAIL**  
NOT TO SCALE

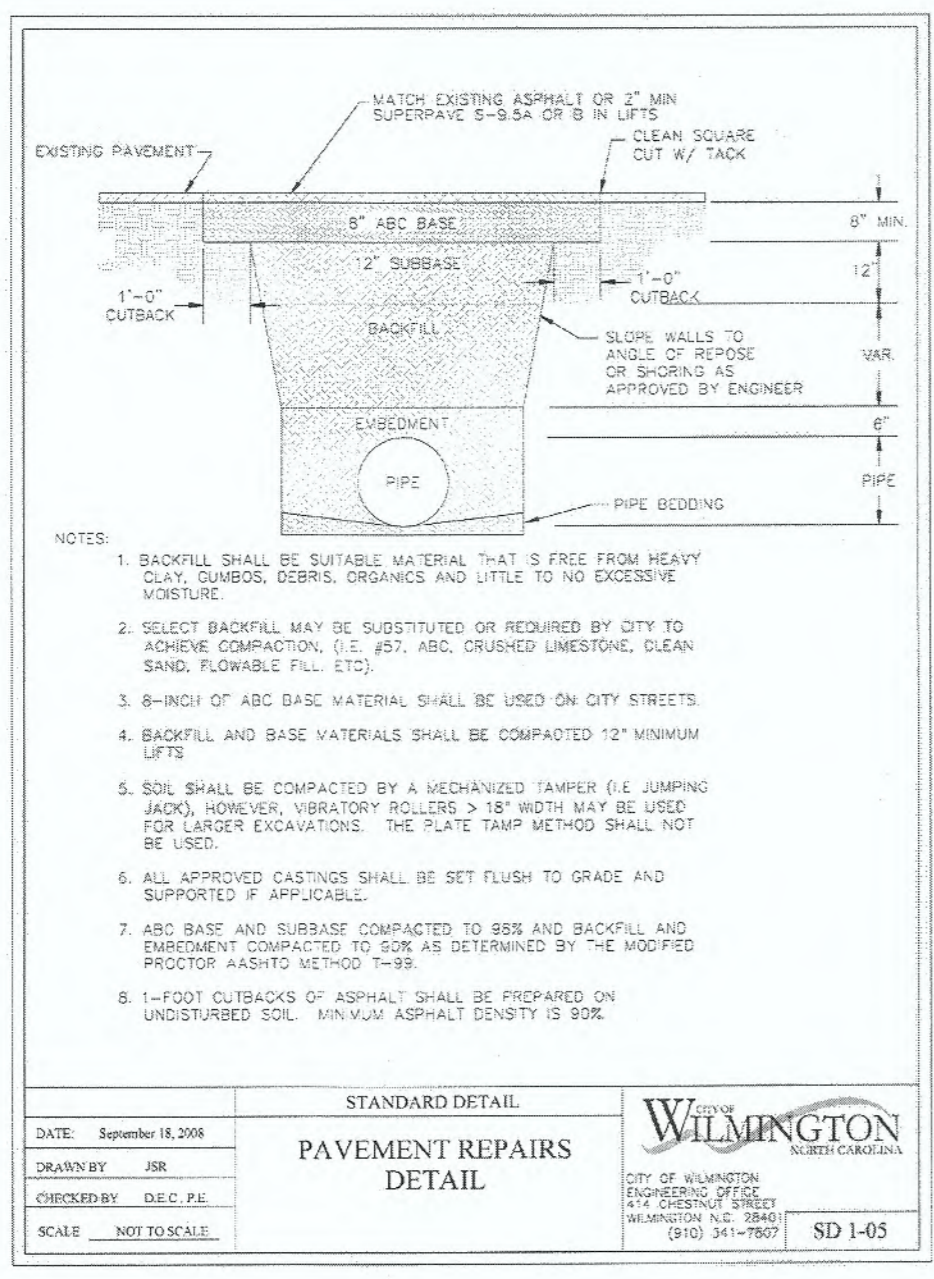
- NOTES:**
- ALL BUILT UPON (IMPERVIOUS) AREA SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION FIRST.
  - MIN. BUILDING PAD ELEVATION DOES NOT EQUAL FFE. 100-YEAR FLOOD ELEVATION AND DRAINAGE AROUND BUILDING PAD SHALL BE CONSIDERED WHEN SETTING FFE.



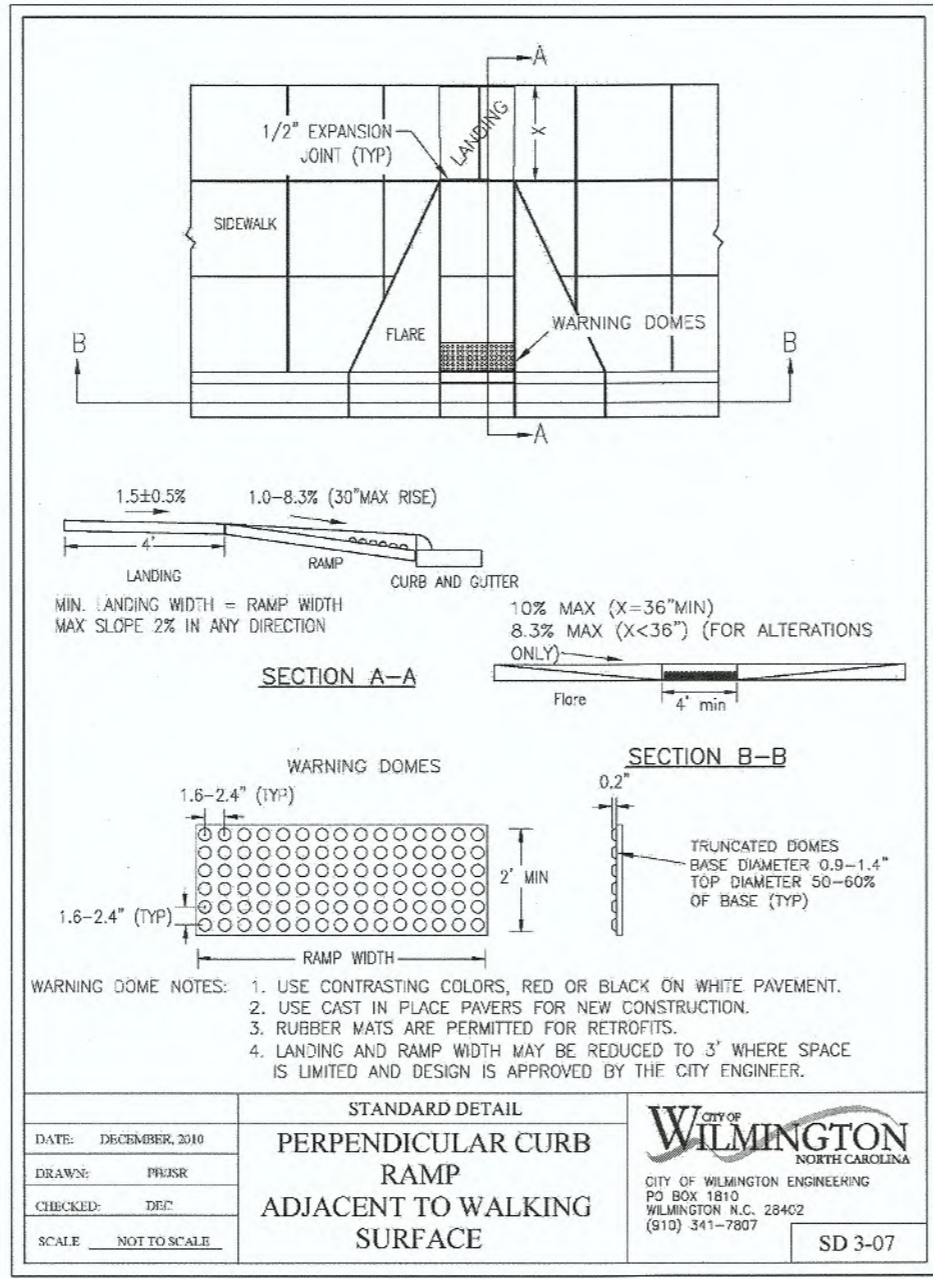
**CURB TRANSITION DETAIL**  
NOT TO SCALE



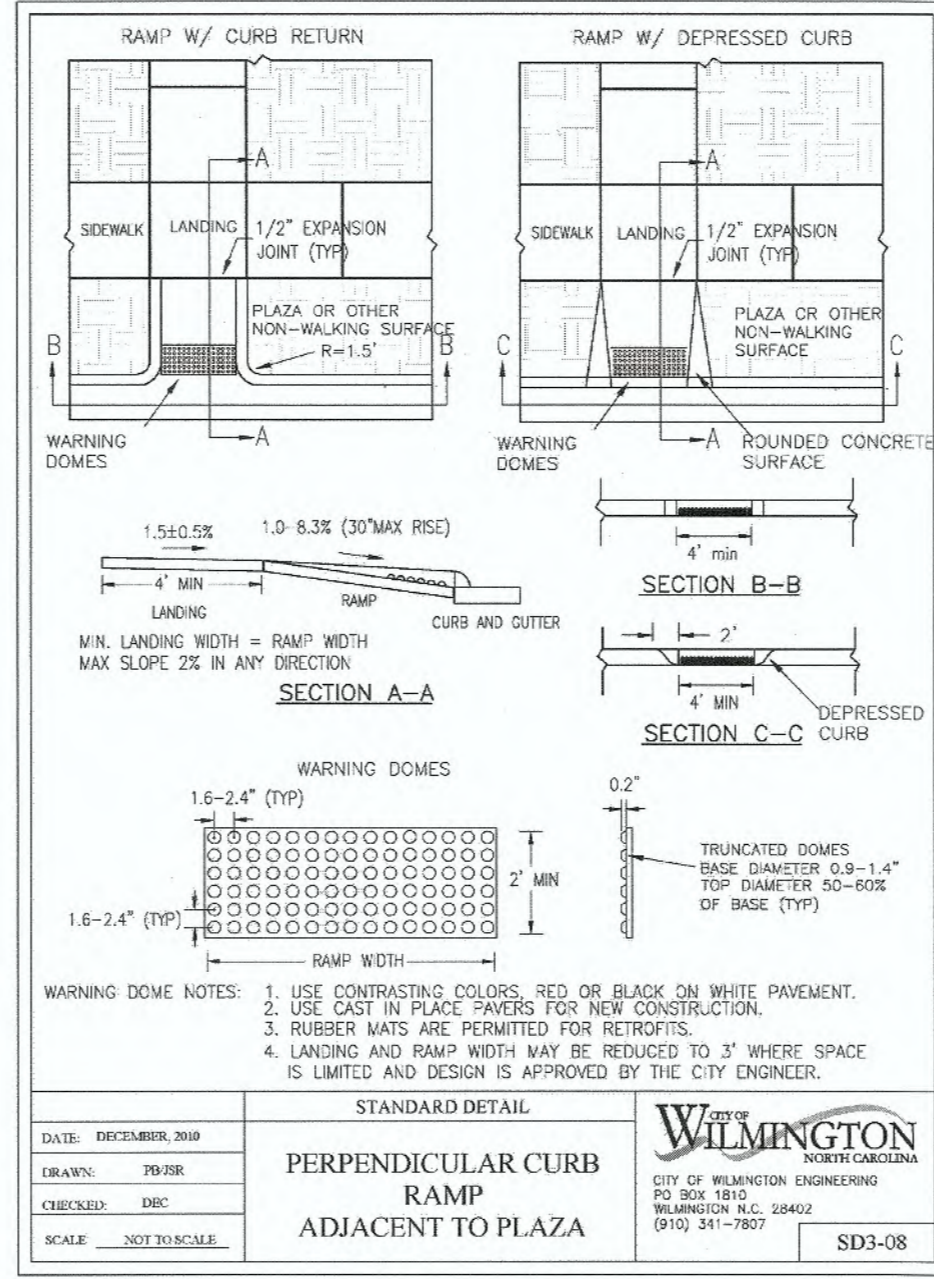
**CONCRETE DRAINAGE FLUME**  
NOT TO SCALE



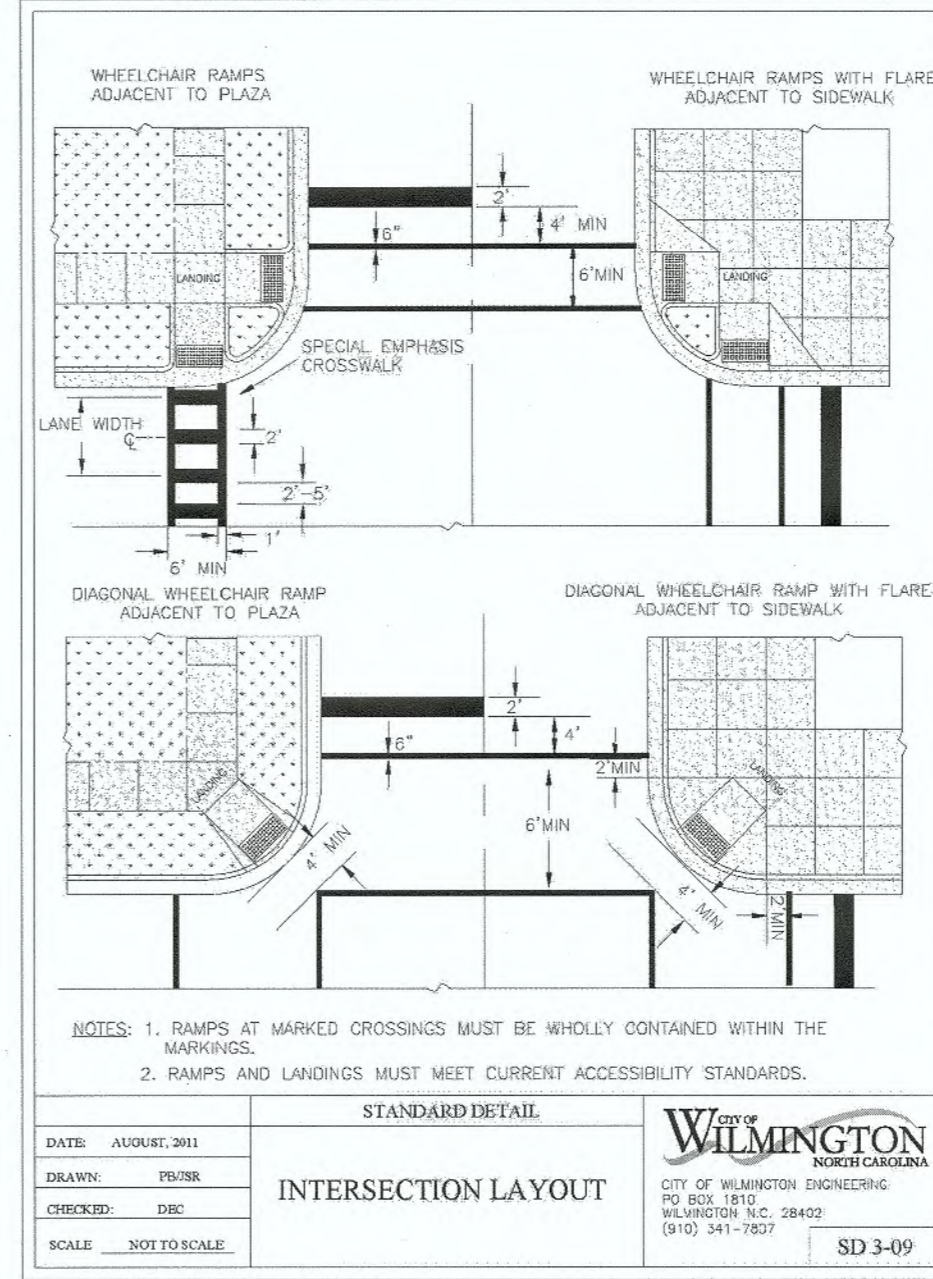
**PAVEMENT REPAIRS DETAIL**  
SD 1-05



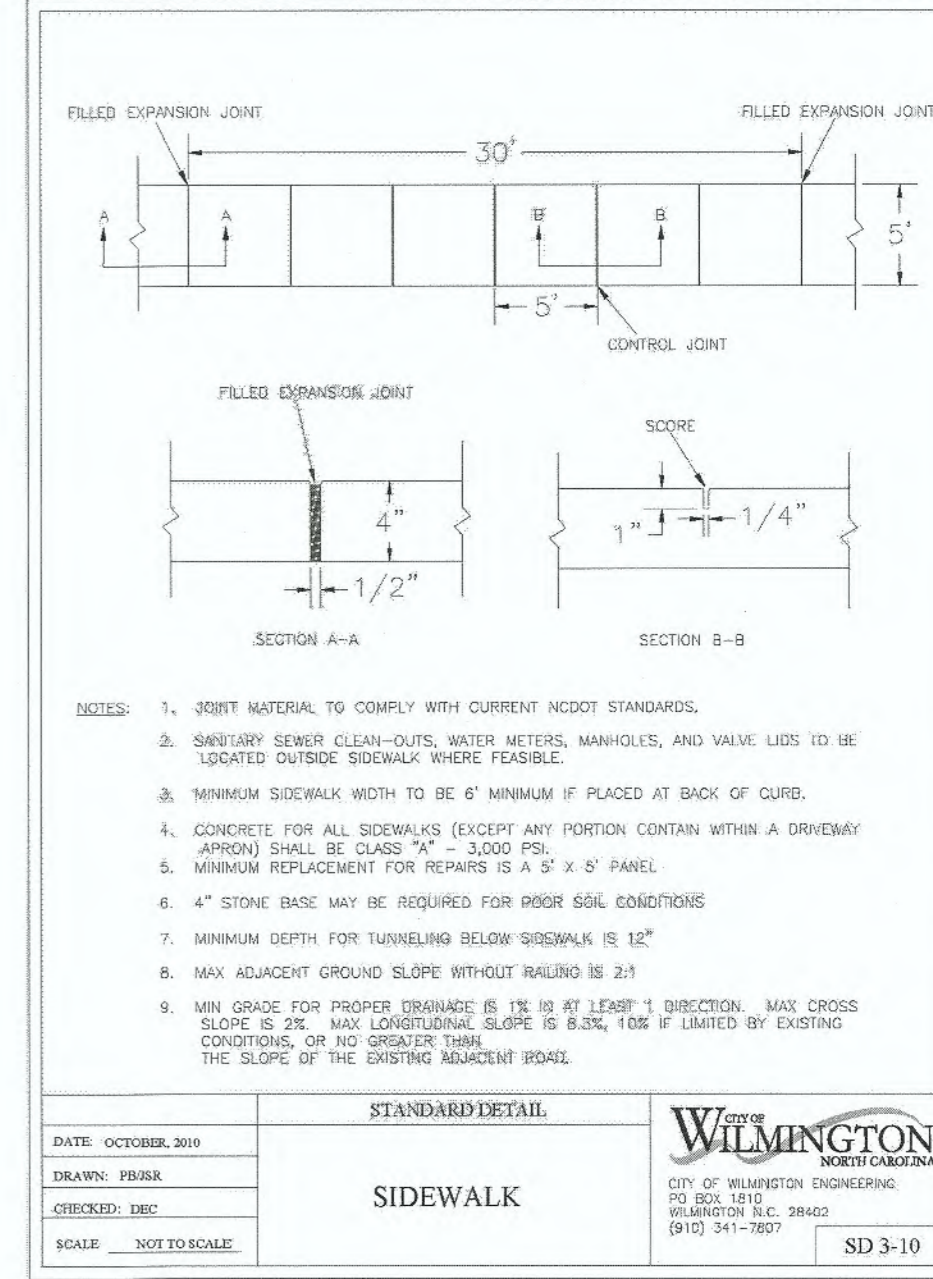
**PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE**  
SD 3-07



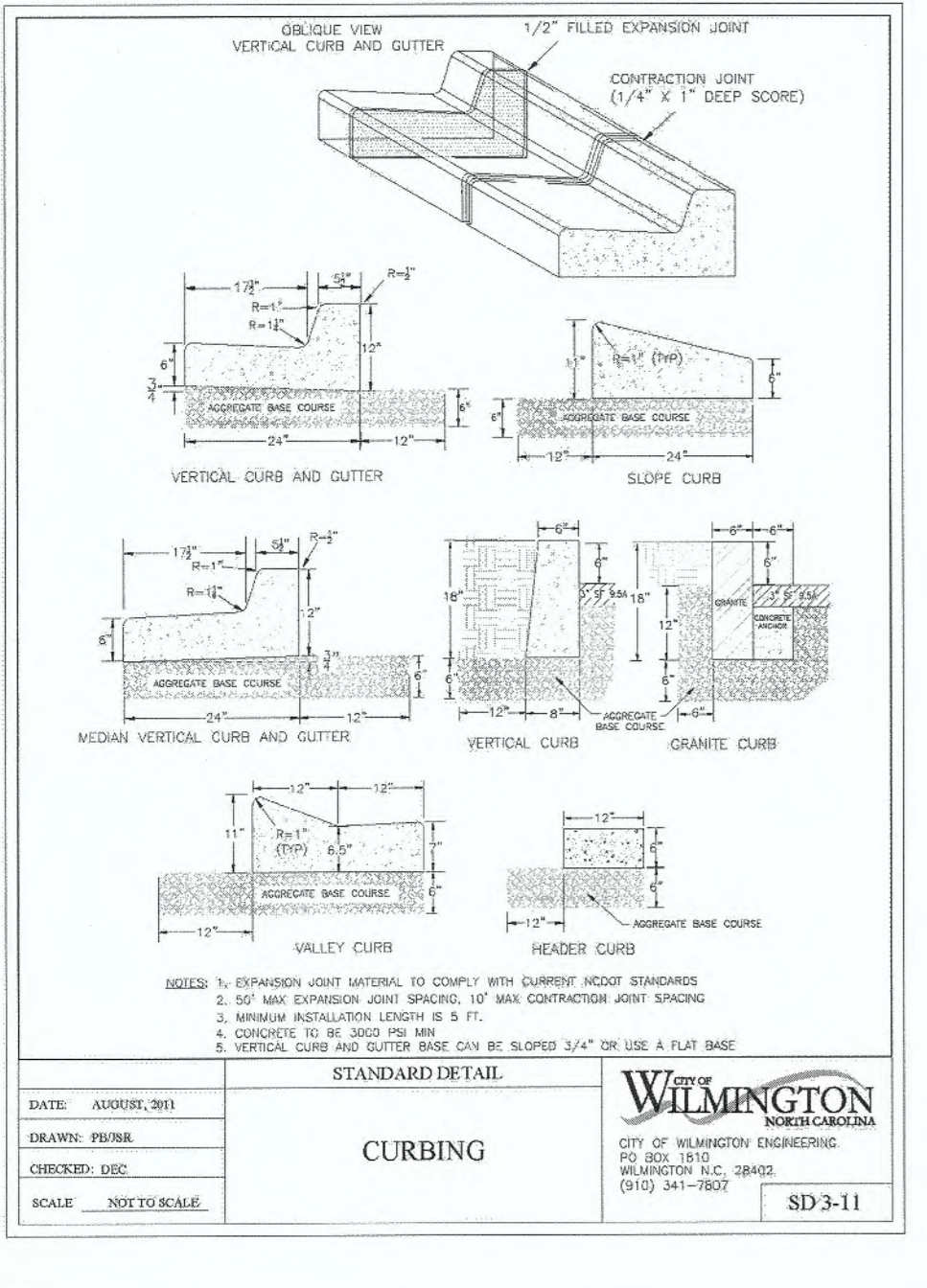
**PERPENDICULAR CURB RAMP ADJACENT TO PLAZA**  
SD 3-08



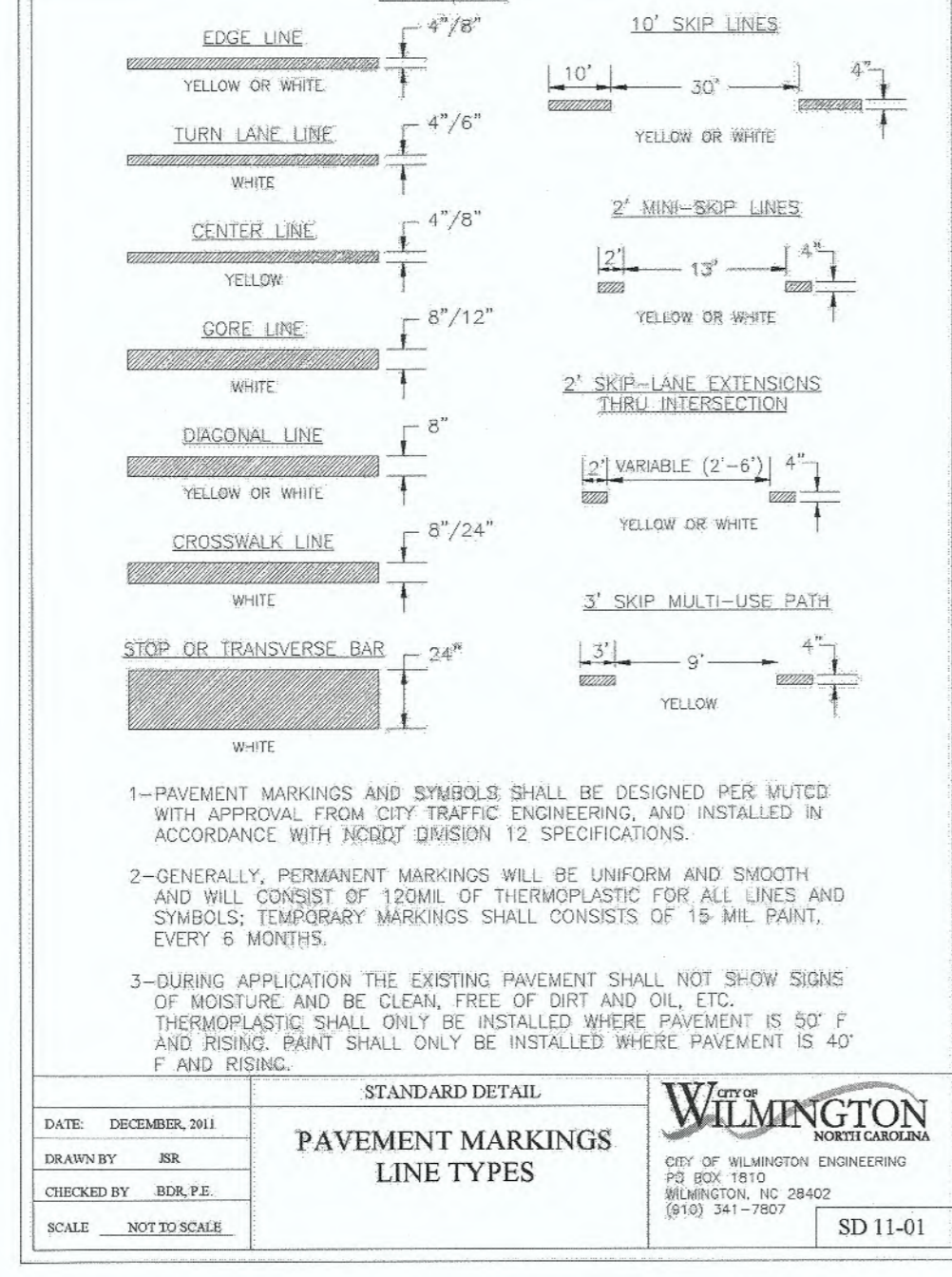
**INTERSECTION LAYOUT**  
SD 3-09



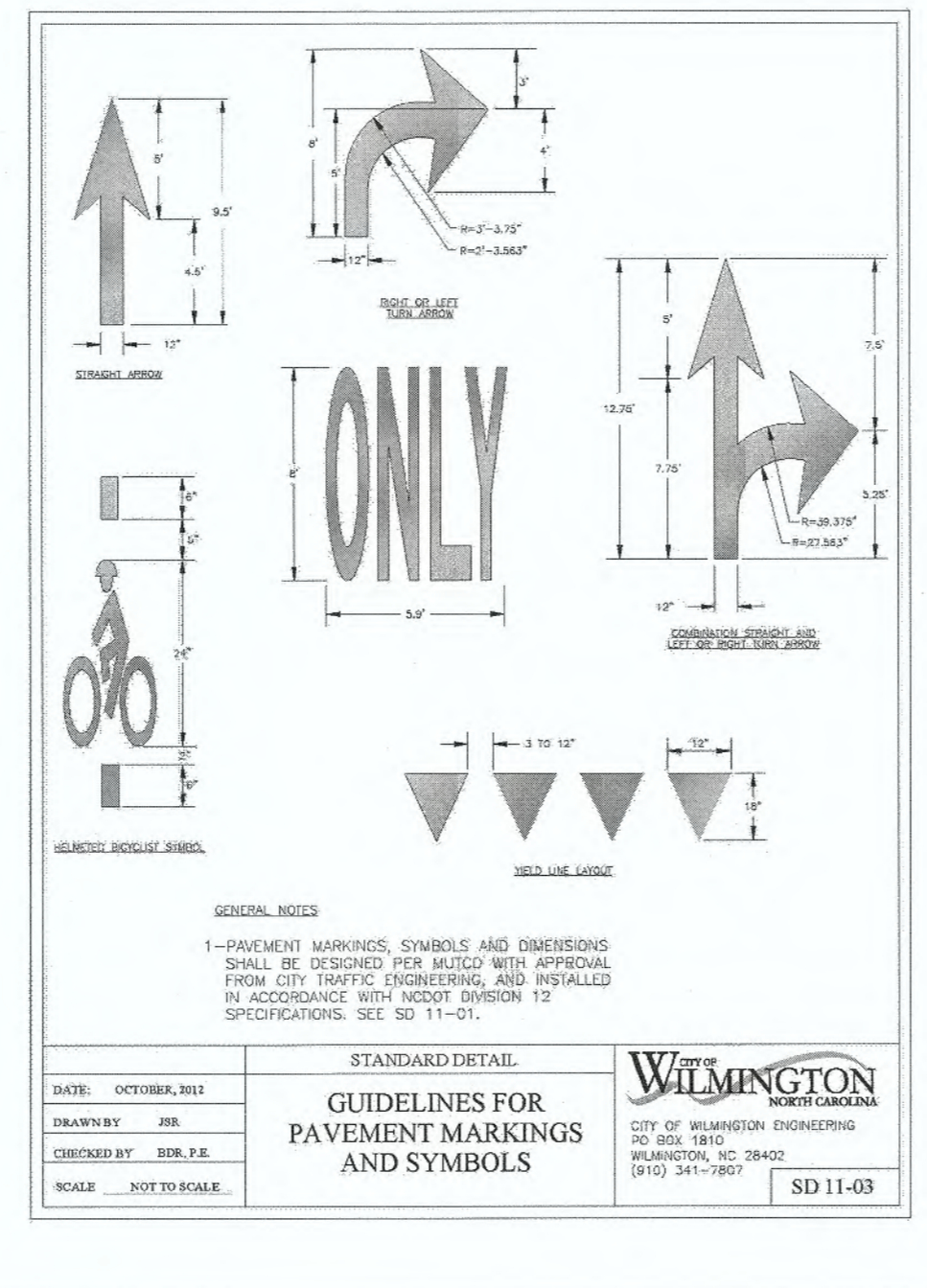
**SIDEWALK**  
SD 3-10



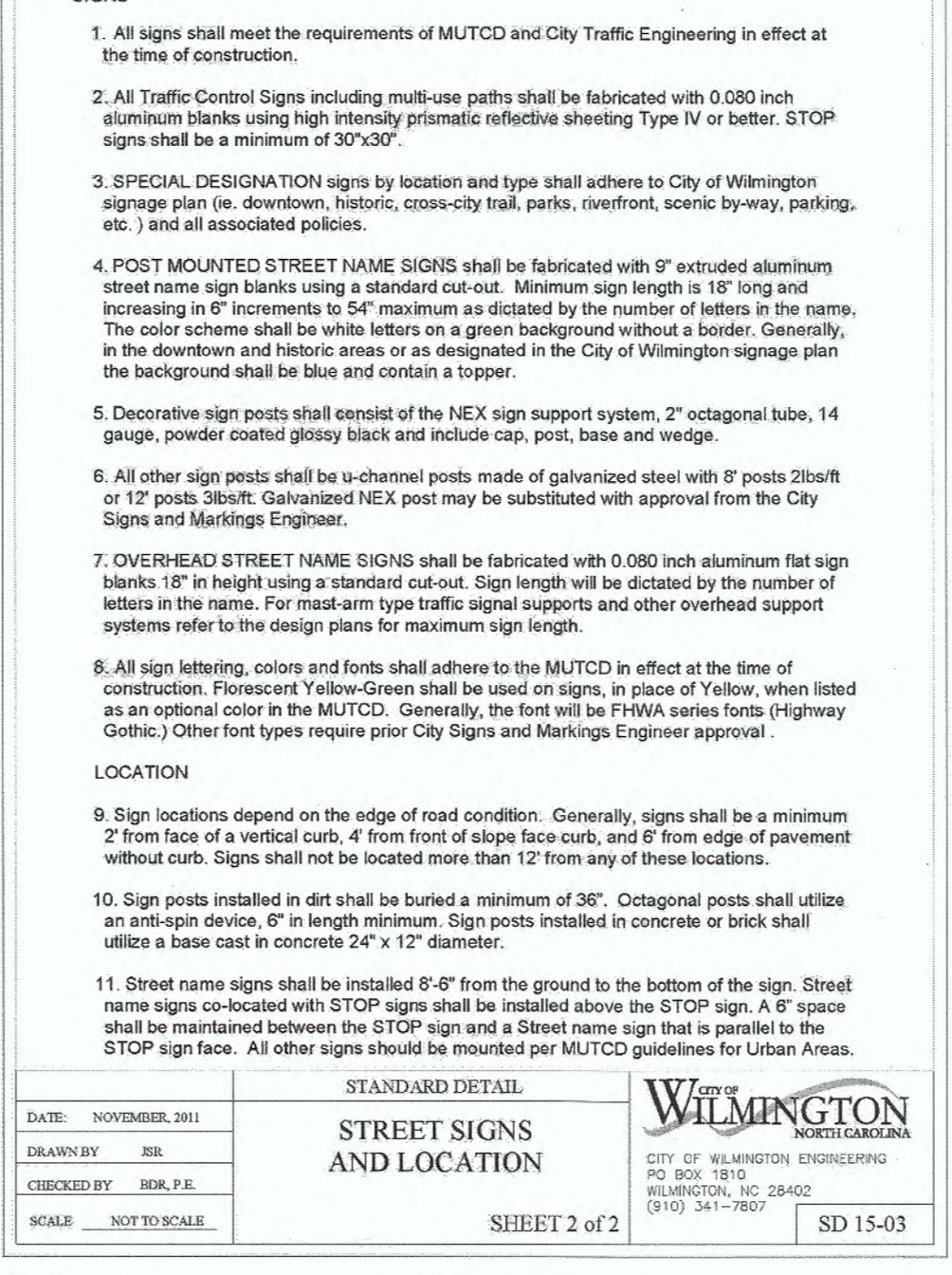
**CURBING**  
SD 3-11



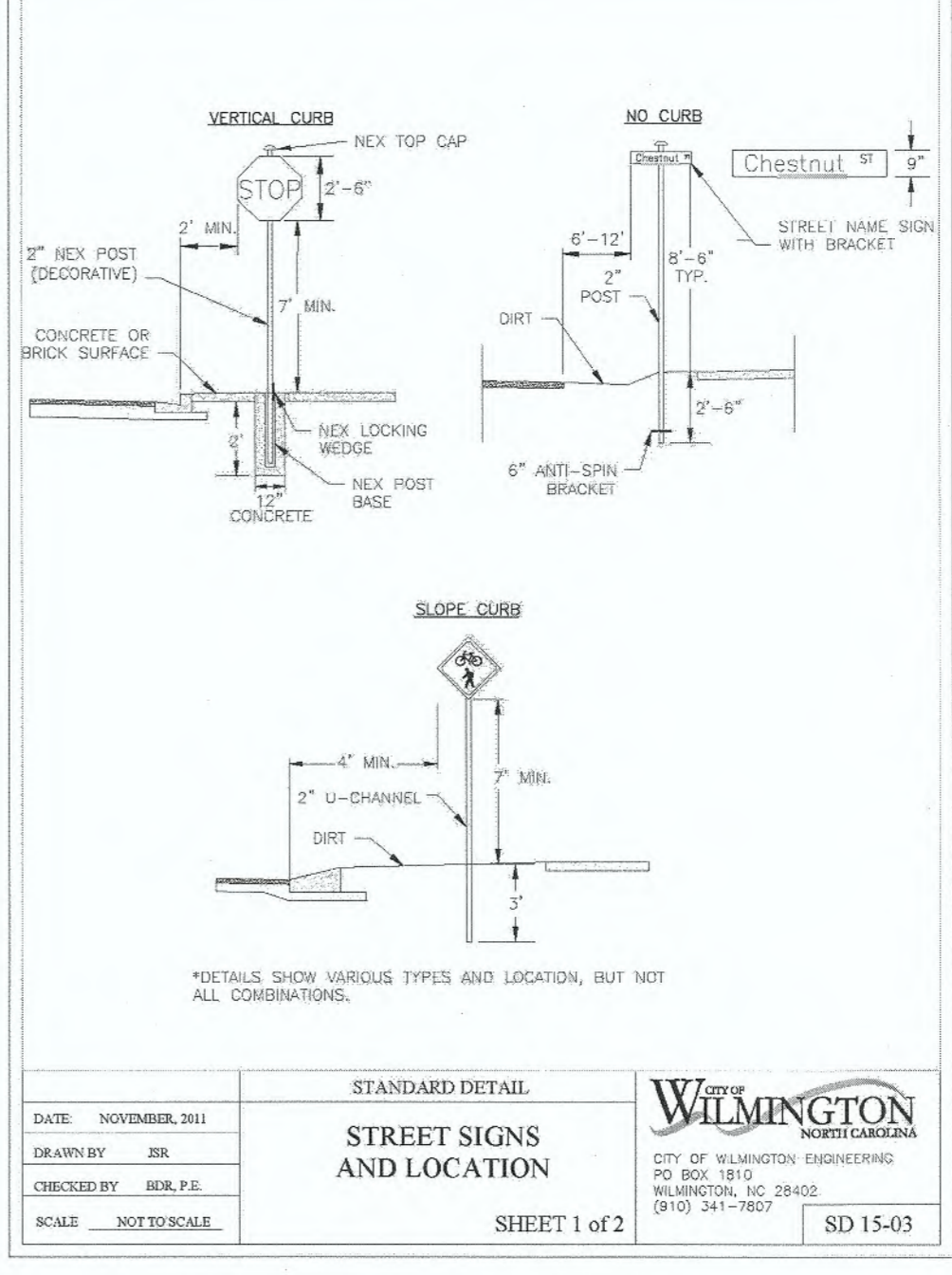
**PAVEMENT MARKINGS LINE TYPES**  
SD 11-01



**GUIDELINES FOR PAVEMENT MARKINGS AND SYMBOLS**  
SD 11-03



**STREET SIGNS AND LOCATION**  
SHEET 2 of 2  
SD 15-05



**STREET SIGNS AND LOCATION**  
SHEET 1 of 2  
SD 15-05

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: 6-4-19

Planning: \_\_\_\_\_

Traffic: W. Stiles 6-3-19

Fire: \_\_\_\_\_

City of Wilmington, North Carolina

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit # 2019030

Signed: S. S. Lee

**REVISIONS:**

1 PER ENGINEERING COMMENTS

**CLIENT INFORMATION:**

SUNRISE LAND INVESTMENTS, LLC,  
7923 REUNION DR  
WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**

122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6700 (F)  
NC License #: C-2846

**DETAILS**

CREEKSIDE  
MASONBORO SOUND RD.  
WILMINGTON, NC; NEW HANOVER COUNTY

**PROJECT STATUS:**

CONCEPT LAYOUT: \_\_\_\_\_  
PRELIMINARY LAYOUT: \_\_\_\_\_  
RELEASED FOR CONST: \_\_\_\_\_

**DRAWING INFORMATION:**

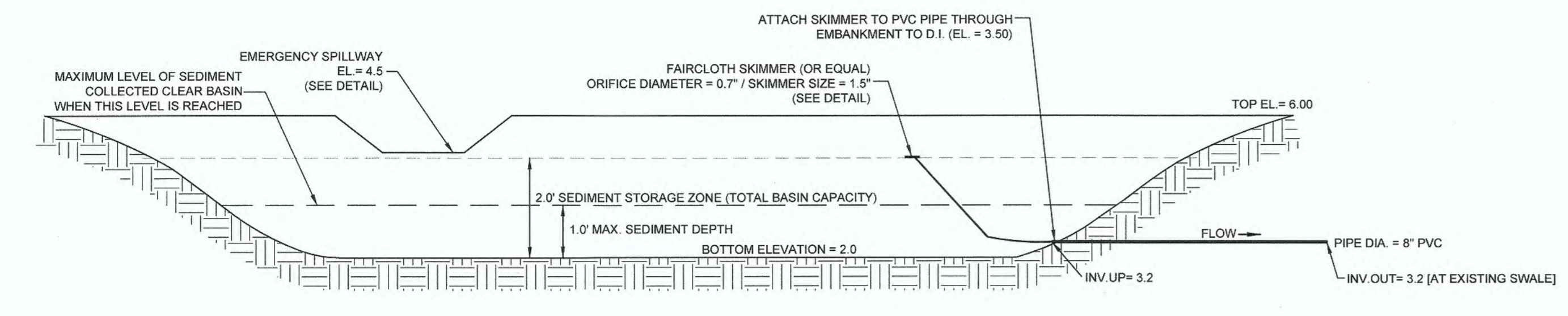
DATE: 03.04.19  
AS NOTED  
DATE: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
CHECKED: \_\_\_\_\_

Professional Seal  
redacted on electronic  
copy per City of  
Wilmington Policy

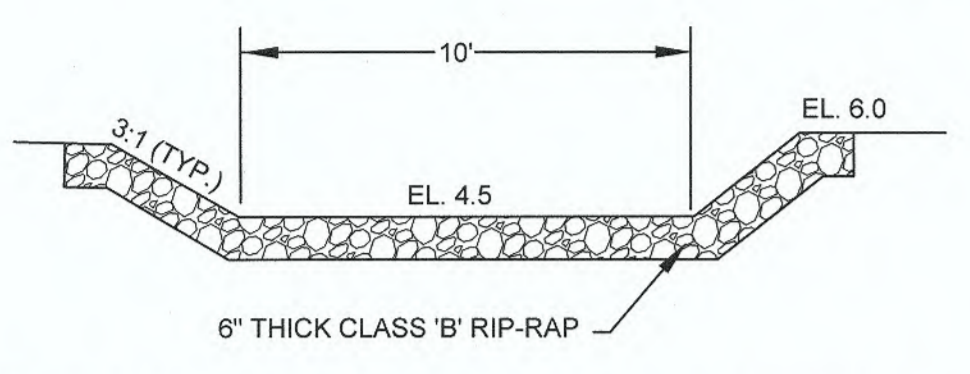
**C-6.0**

PEI JOB#: 18380.PE

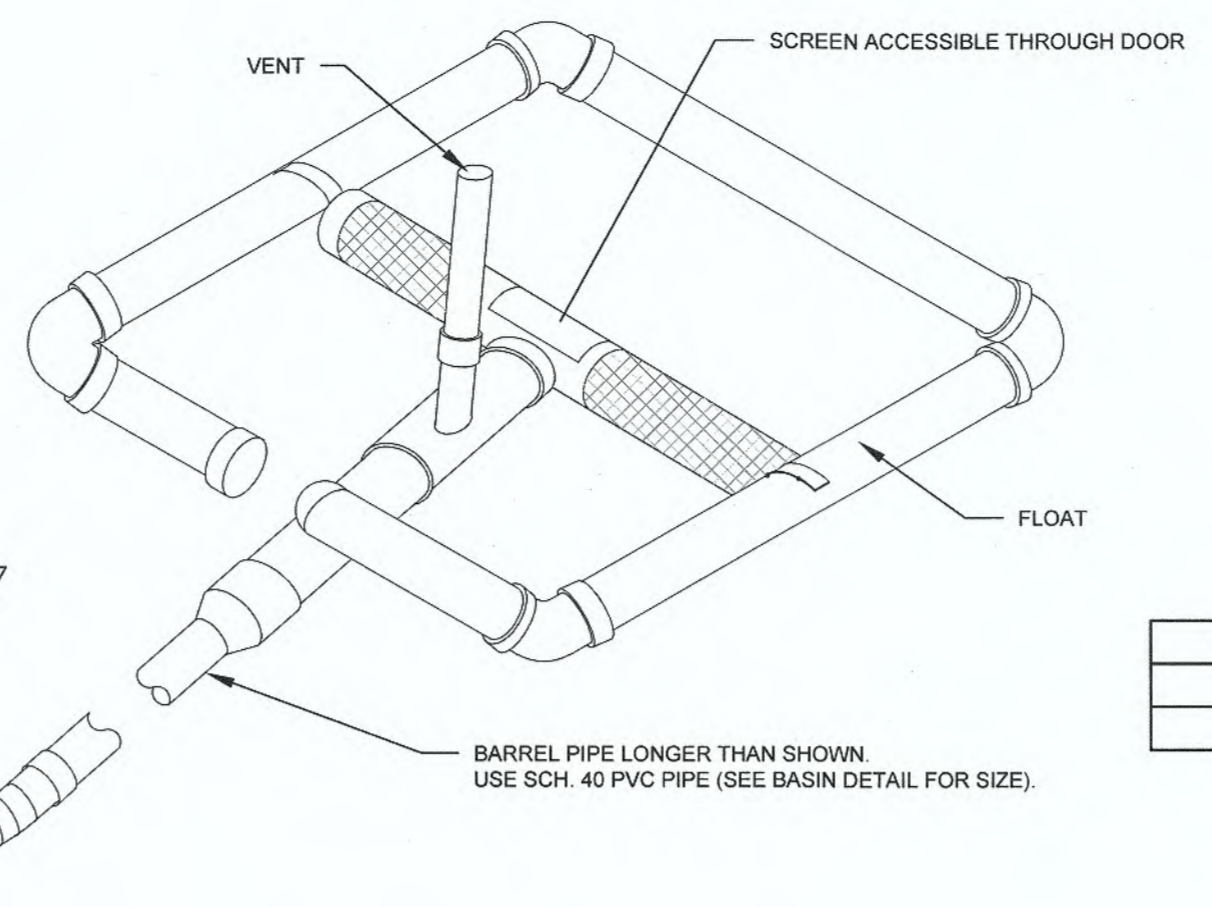




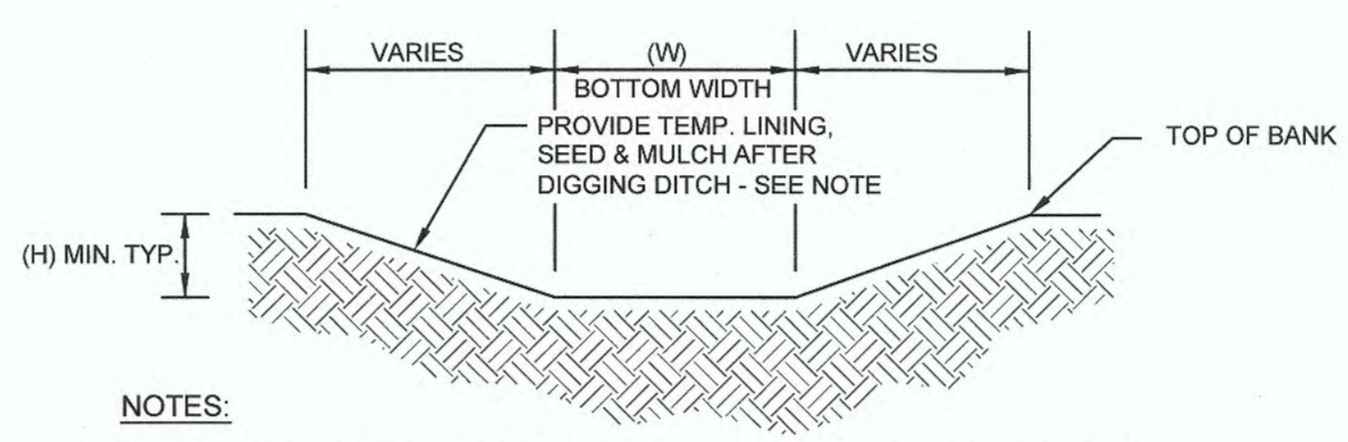
TEMP. SKIMMER BASIN #2 DETAIL  
NOT TO SCALE



TEMP SKIMMER BASIN #2 SPILLWAY DETAIL  
NOT TO SCALE



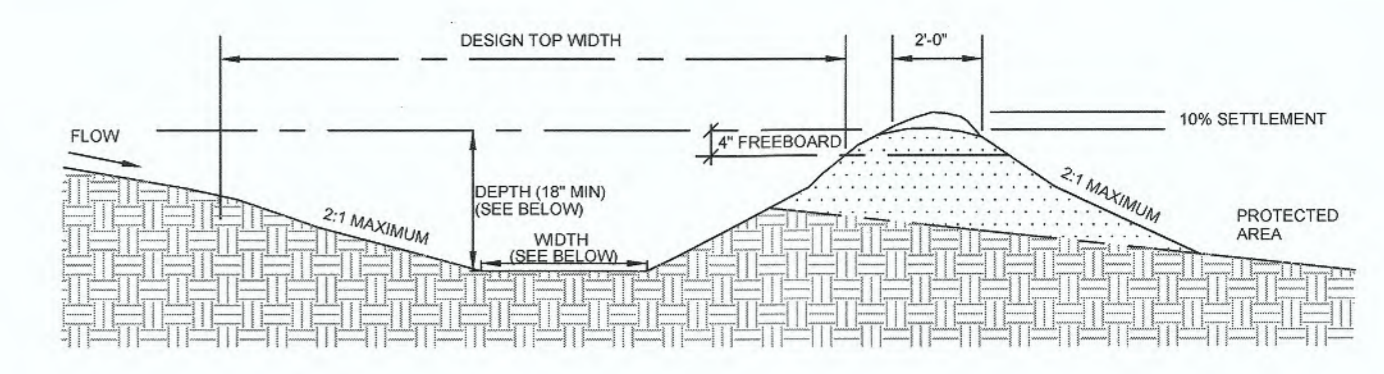
FAIRCLOTH SKIMMER DETAIL  
NOT TO SCALE



NOTES:  
1. PROVIDE NA GREEN S150 TEMP. LINING (STAPLE PATTERN D) OR APPROVED EQUAL.

SWALE #	LENGTH (FT)	INV UP	INV DN	SLOPE (FT/FT)	WIDTH (FT)	SIDESLOPE (H:V)	DEPTH (FT)
1	225	8.00	6.00	0.0089	1	3:1	1.25 (MIN)

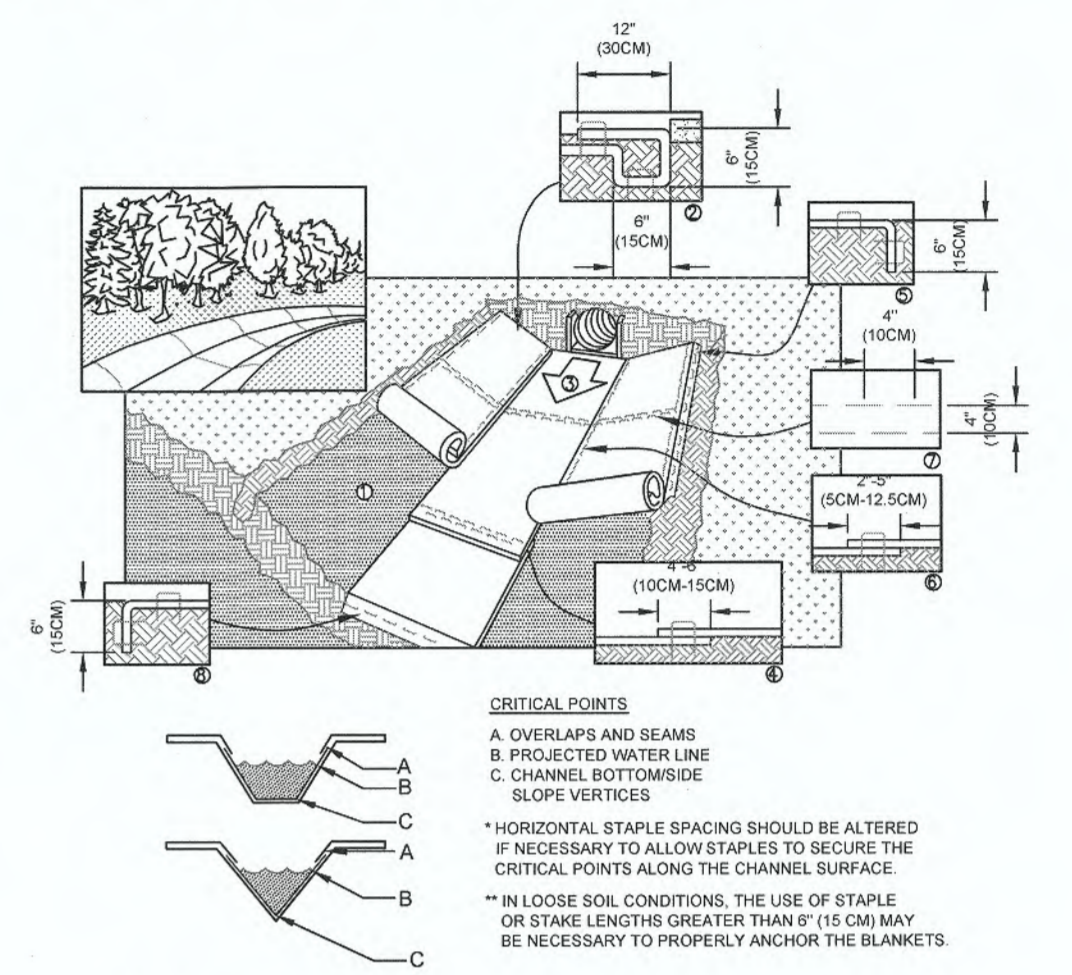
PROPOSED DRAINAGE SWALE SECTION DETAIL  
NOT TO SCALE



TEMPORARY DIVERSION DITCH  
NOT TO SCALE

TDD #	LENGTH (FT)	INV UP	INV DN	SLOPE (FT/FT)	WIDTH (FT)	DEPTH (FT)
1	1100	12.50	9.20	0.0030	2	1.5
2	210	9.00	8.35	0.0031	2	1.5

PROVIDE TEMPORARY LINING (NA GREEN S75 OR APPROVED EQUAL FOR BOTH TDD #1 AND #2)



NOTES:  
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.  
2. DO NOT SCALE DRAWINGS.

ROLLED EROSION CONTROL LINING  
NOT TO SCALE

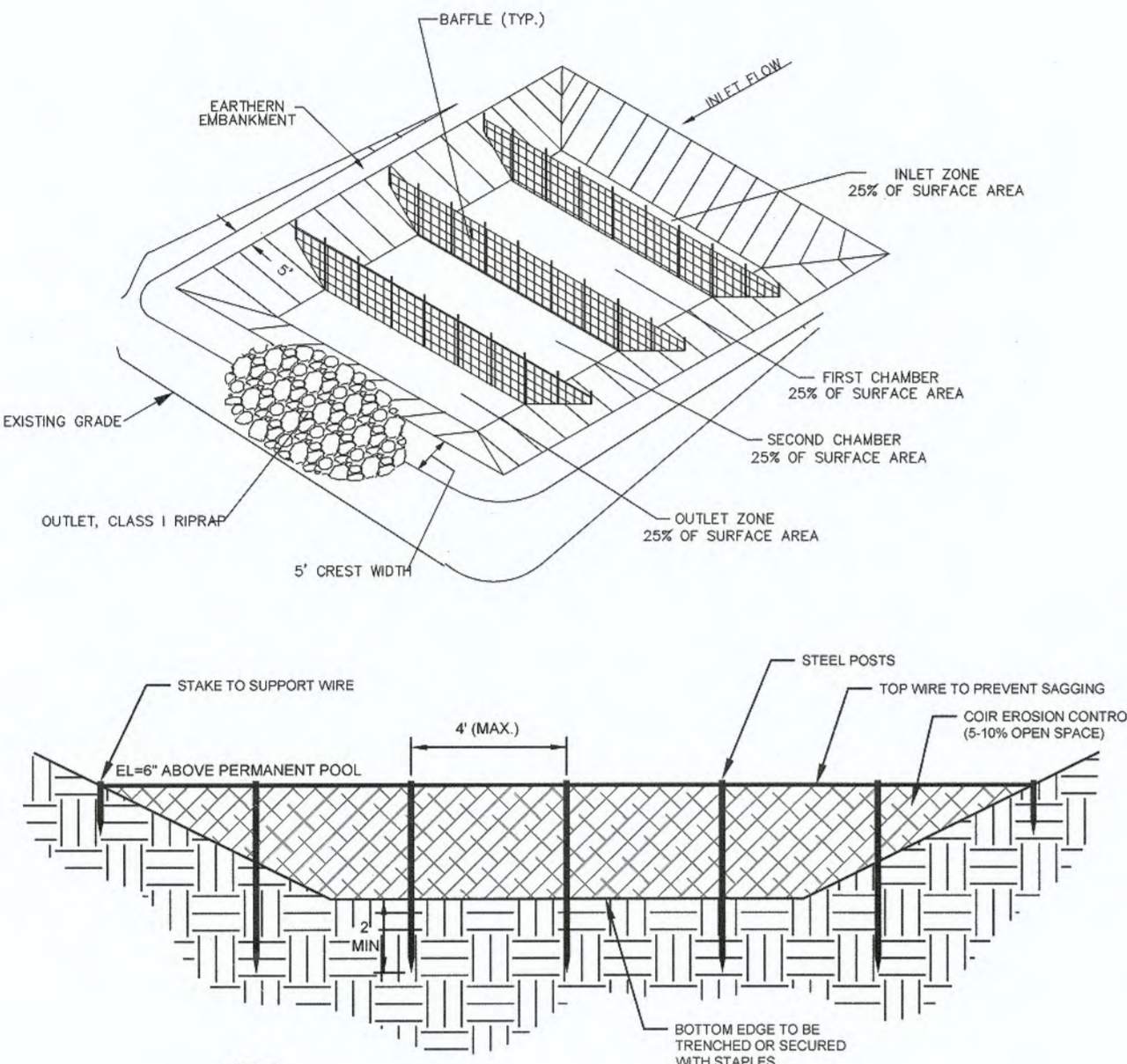
- BAFFLES**
- CONSTRUCTION SPECIFICATION**
- Grade the basin so that the bottom is level front to back and side to side.
  - Install posts or saw horses across the width of the sediment trap (Practice 642, *Sediment Fence*).
  - Steel posts should be driven to a depth of 24 inches, spaced a maximum of 4 feet apart, and installed up the side of the basin as well. The top of the fabric should be 6 inches higher than the invert of the spillway. Tops of baffles should be 2 inches lower than the top of the berms. Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
  - When using posts, add a support wire or rope across the top of the measure to prevent sagging.
  - Wrap into, backed by coir material, over a sawhorse or the top wire. Hammer rebar into the sawhorse legs for anchoring. The fabric should have five to ten percent openings in the weave. Attach fabric to a rope and a support structure with zip ties, wire or staples.
  - The bottom and sides of the fabric should be anchored in a trench or pinned with 8-inch erosion control matting staples.
  - Do not splice the fabric, but use a continuous piece across the basin.

**MAINTENANCE**

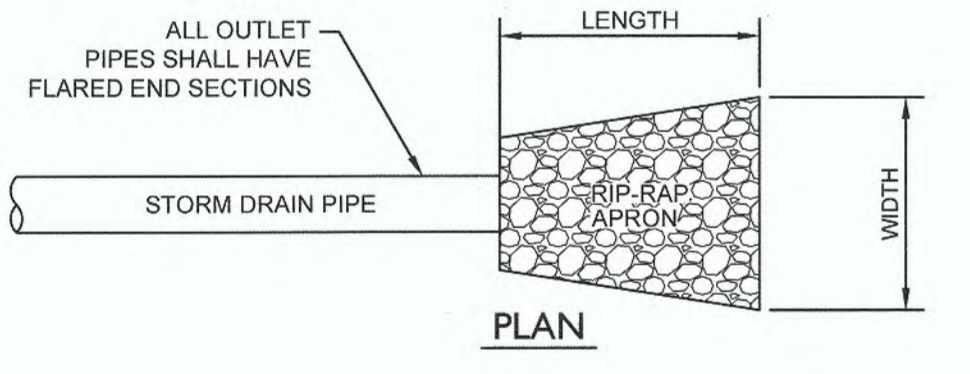
Inspect baffles at least once a week and after each rainfall. Make any required repairs immediately. Be sure to maintain access to the baffles. Should the fabric of a baffle collapse, tear, decompose, or become ineffective, replace it promptly.

Remove sediment deposits when it reaches half full to provide adequate storage volume for the next rain and to reduce pressure on the baffles. Take care to avoid damaging the baffles during cleanout. Sediment depth should never exceed half the designed storage depth.

After the contributing drainage area has been properly stabilized, remove all baffle materials and unstable sediment deposits, bring the area to grade, and stabilize it.

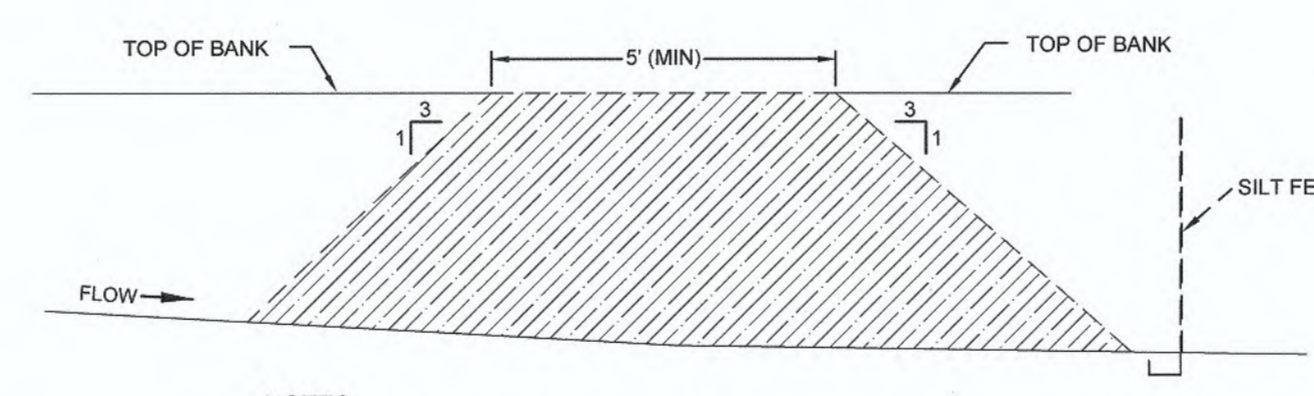
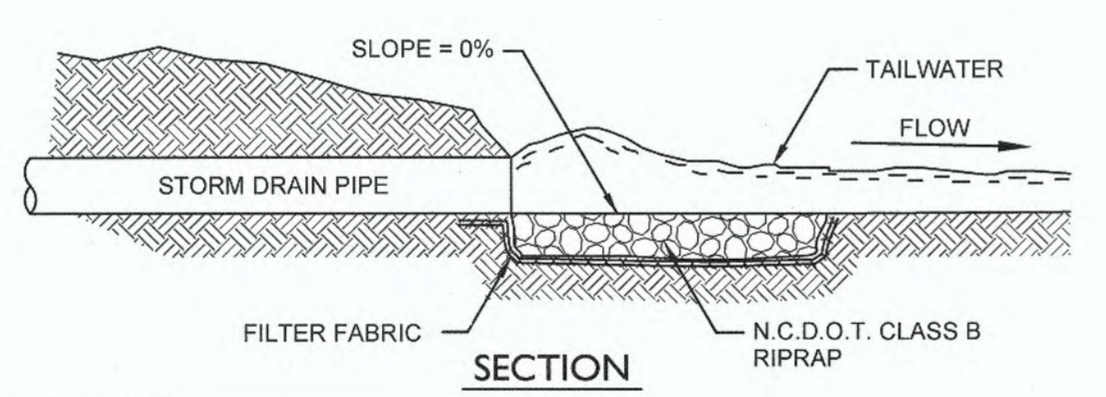


BAFFLE DETAIL  
NOT TO SCALE



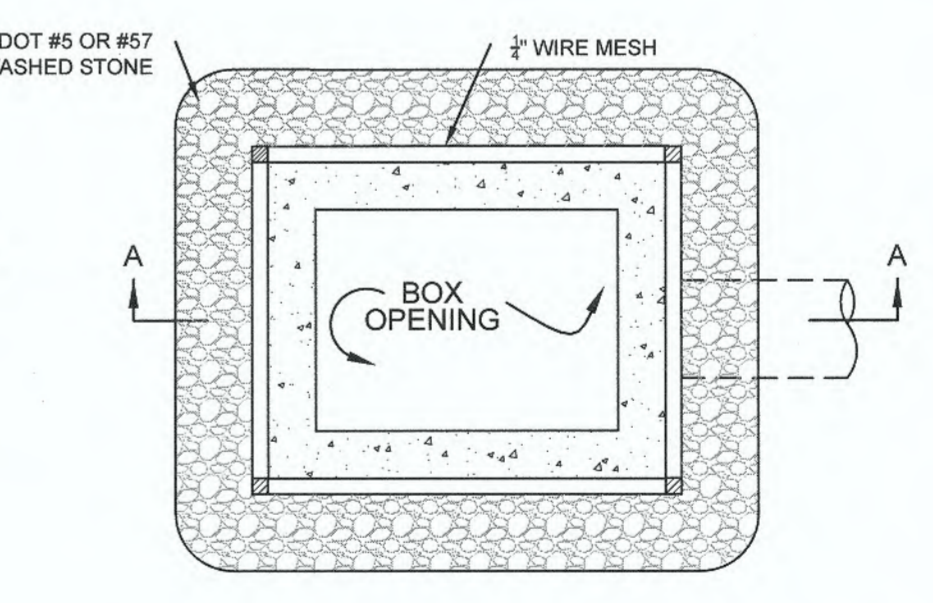
APRON #	PIPE DIA. (IN.)	LENGTH (FT.)	UP WIDTH (FT.)	DWN WIDTH (FT.)	THICKNESS (IN.)
FES-100	30"	11	7.5	7.5	18
FES-150	24"	9	6	6	18
EW-200	36"	18	9	9	18
EW-202	36"	18	9	9	18
FES-300	18"	7	4.5	4.5	18
FES-310	18"	9	4.5	10.5	18

RIP-RAP APRON  
NTS

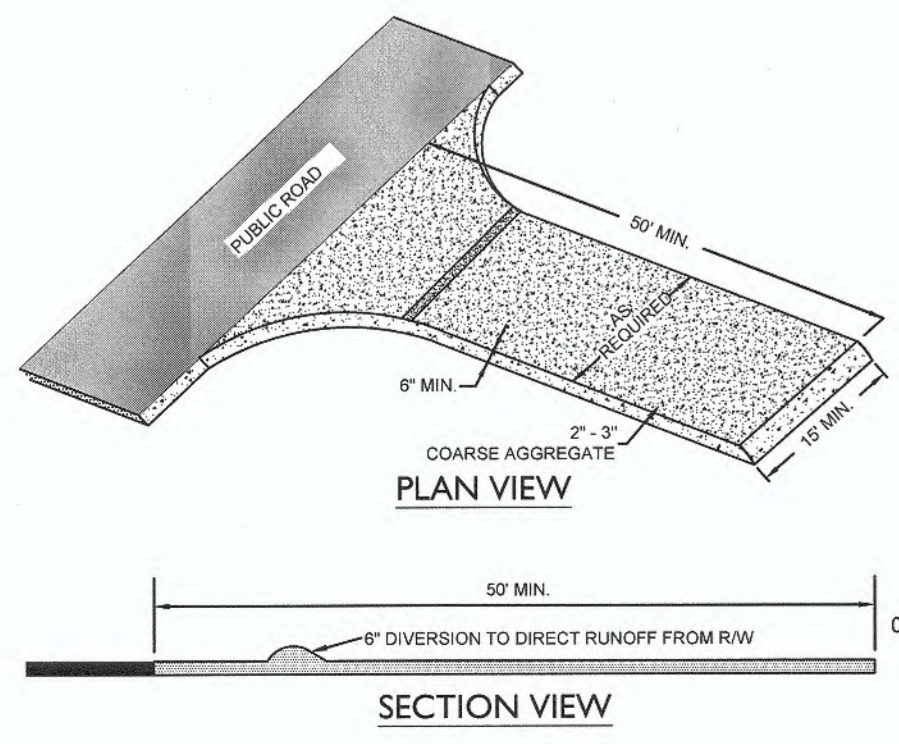


NOTES:  
1. CONTRACTOR TO INSTALL DITCH PLUGS AS SHOWN ON PLANS IN ALL DITCHES TO BE FILLED.  
2. DITCH PLUGS ARE TO BE INSTALLED AND DITCHES TO BE FILLED PRIOR TO ANY RAIN EVENT.

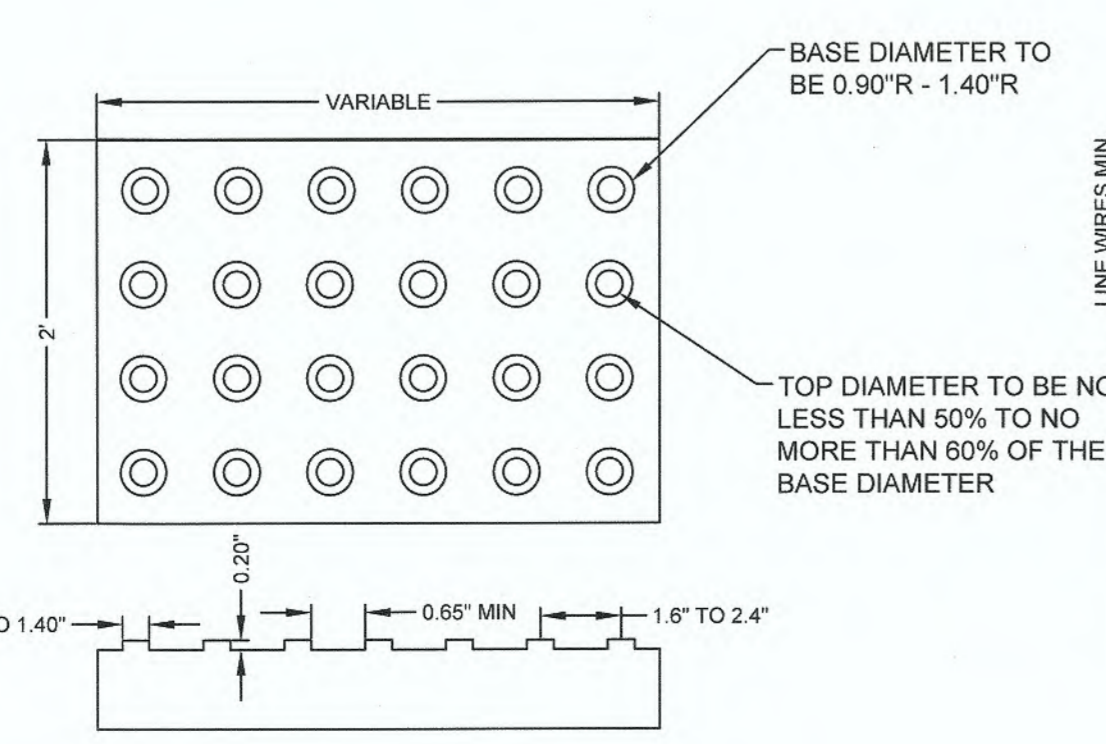
DITCH PLUG  
NOT TO SCALE



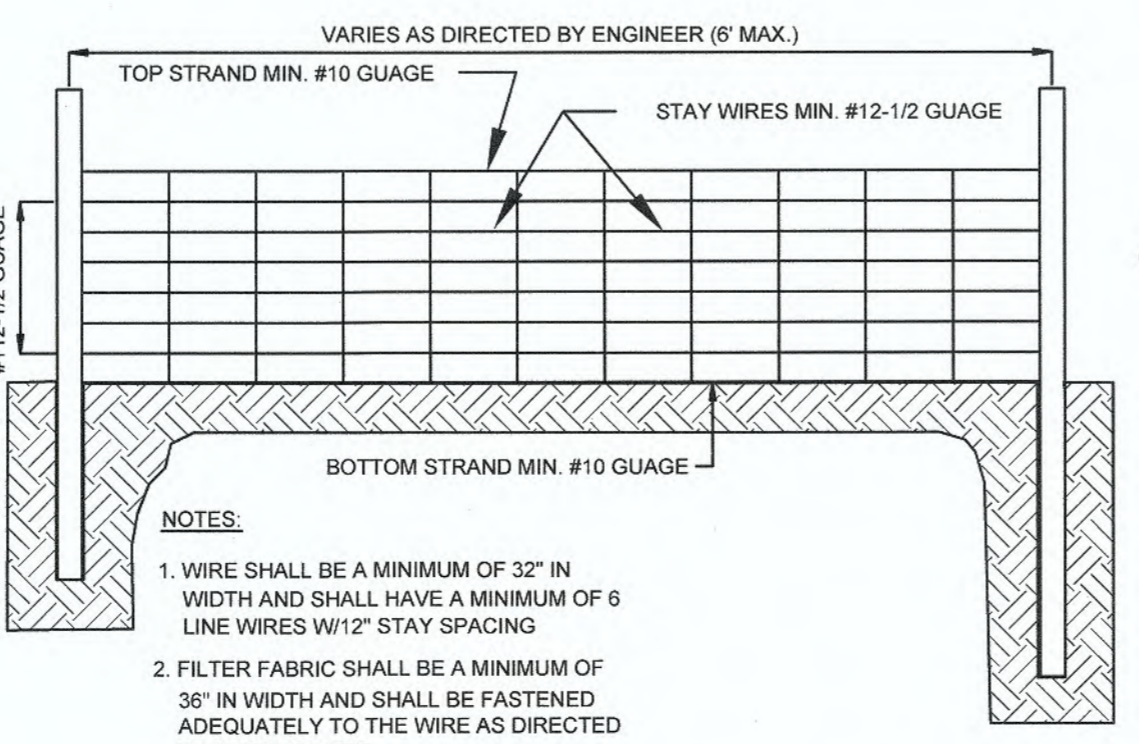
CONCRETE WASHOUT AREA



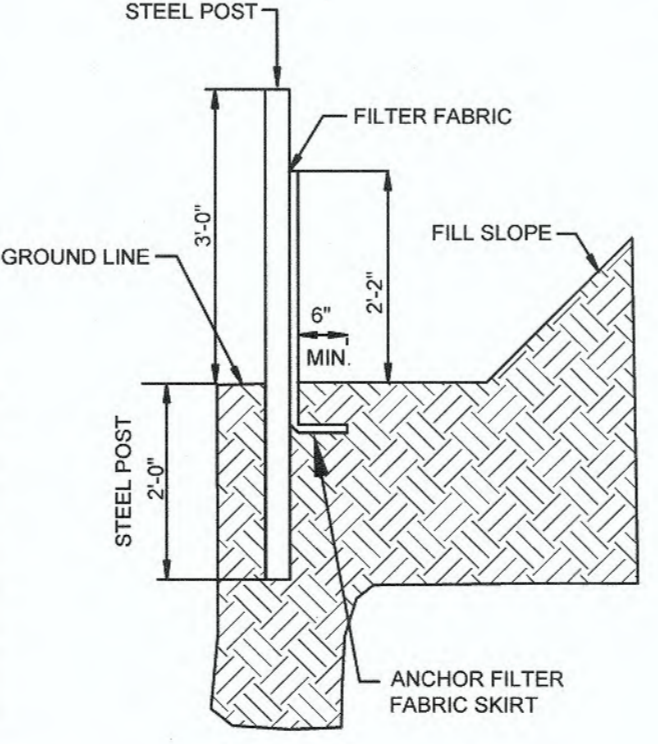
TEMPORARY CONSTRUCTION ENTRANCE  
NOT TO SCALE



DETECTABLE WARNING MAT  
NOT TO SCALE



NOTES:  
1. WIRE SHALL BE A MINIMUM OF 32\"/>



SECTION A - A

NOTE:  
FOR CURB INLETS AND DROP INLETS  
INLET PROTECTION

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: \_\_\_\_\_ 6-4-19

Traffic: \_\_\_\_\_ 6-3-19

Fire: \_\_\_\_\_ 6-3-19

Signed: \_\_\_\_\_

CITY OF WILMINGTON  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 6-3-19 Permit # 2019030

REVISIONS:  
1. PER NCE ENGINEERING COMMENTS

CLIENT INFORMATION:  
SUNRISE LAND INVESTMENTS, LLC,  
7923 REUNION DR  
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (C) (910) 791-6760 (F)  
NC License #: C-2846

DETAILS  
CREEKSIDE  
MASONBORO SOUND RD.  
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS  
CONCEPTUAL LAYOUT  
PRELIMINARY LAYOUT  
RELEASED FOR CONSTRUCTION

DRAWING INFORMATION  
DATE: 03.18.19  
SCALE: AS NOTED  
AS NOTED  
DWF  
DWF  
DRAWN: \_\_\_\_\_  
CHECKED: \_\_\_\_\_

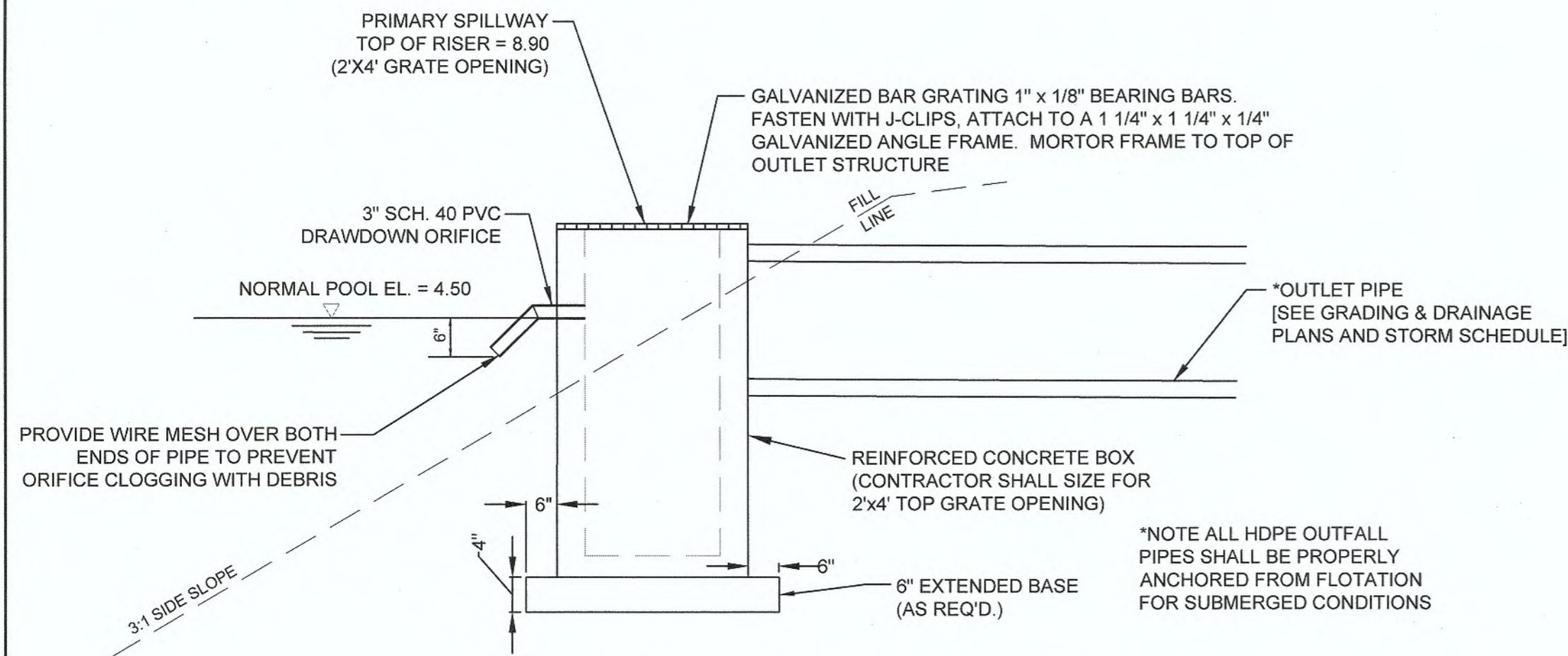
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C-6.1

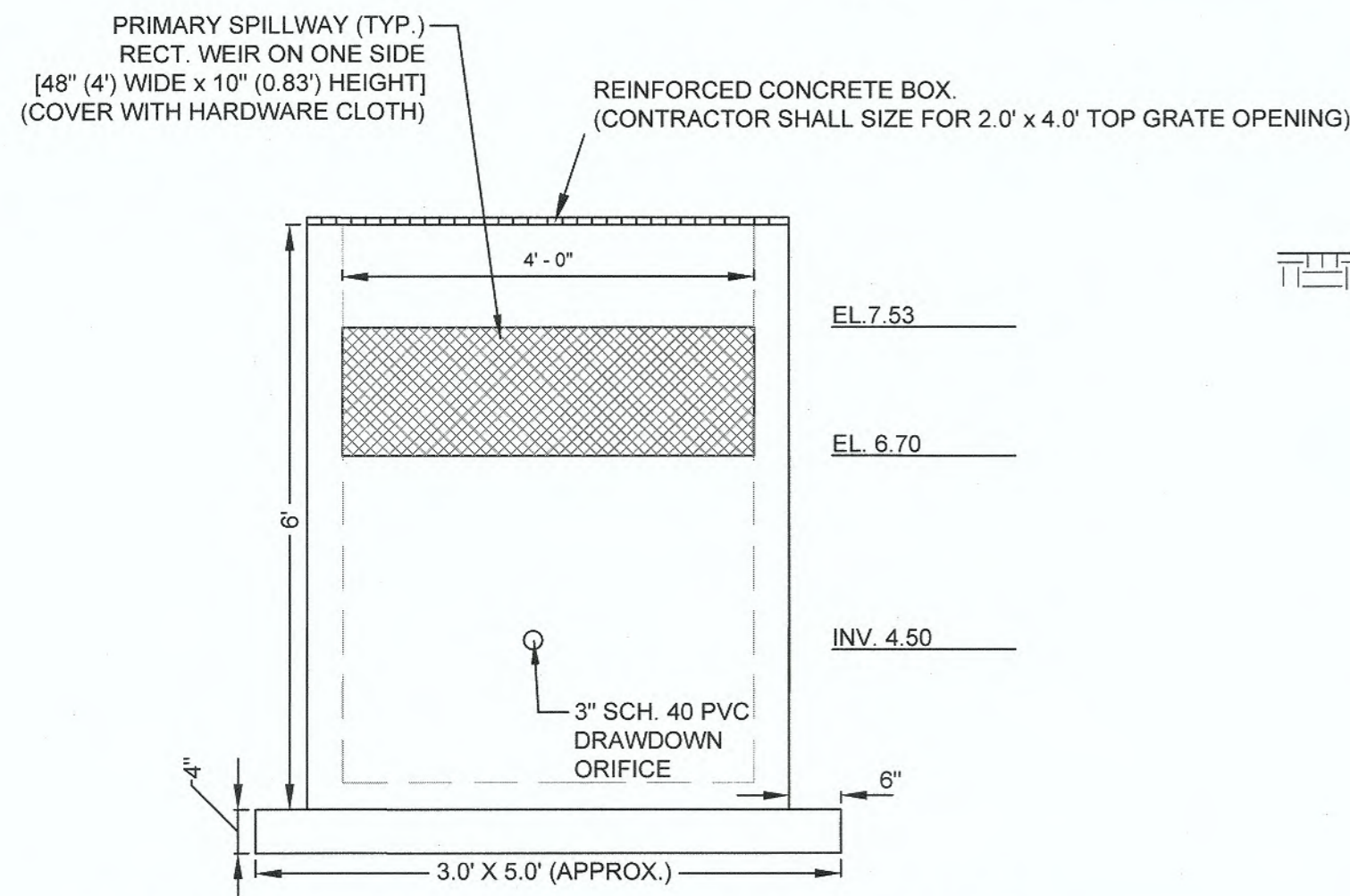
PEI JOB#: 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

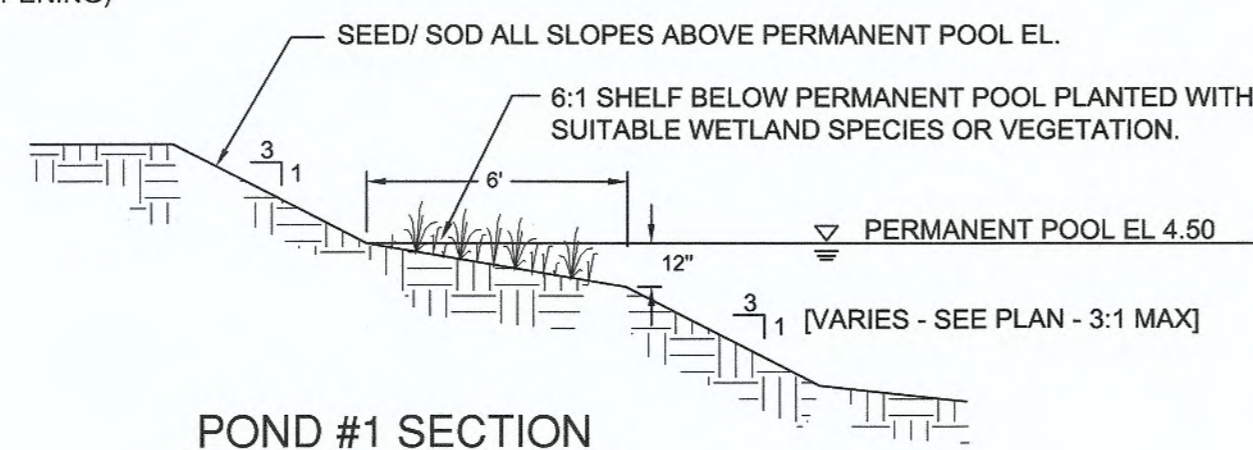
**\*NOTE:**  
THE CONTRACTOR SHALL CUT IN AN ORIFICE AT THE PROPOSED SEDIMENT STORAGE ELEVATION TO ATTACH THE SKIMMER. ONCE THE AREA DRAINING TO THE BASIN IS STABILIZED, THE CONTRACTOR CAN ESTABLISH THE FINAL WET POND, REMOVE THE SKIMMER, AND CUT IN THE PRIMARY WEIR.



**POND #1 OUTLET STRUCTURE SECTION (SIDE)**  
NOT TO SCALE



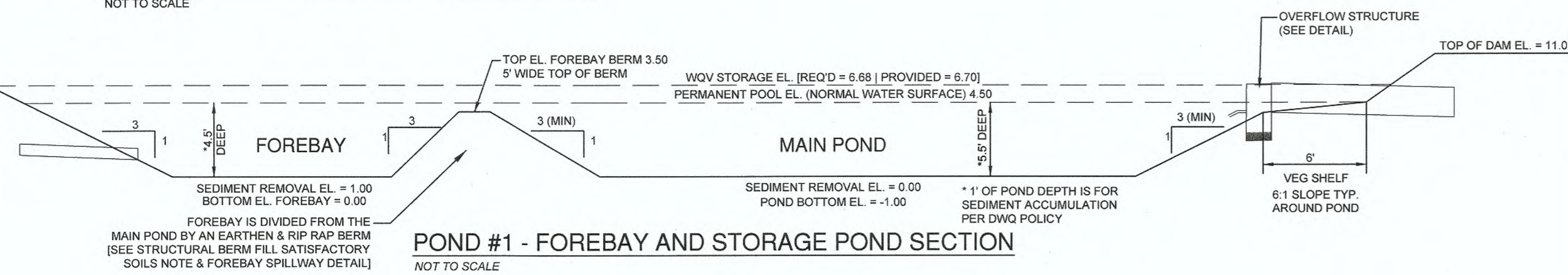
**POND #1 OUTLET STRUCTURE SECTION (FRONT)**  
NOT TO SCALE



**POND #1 SECTION**  
NOT TO SCALE

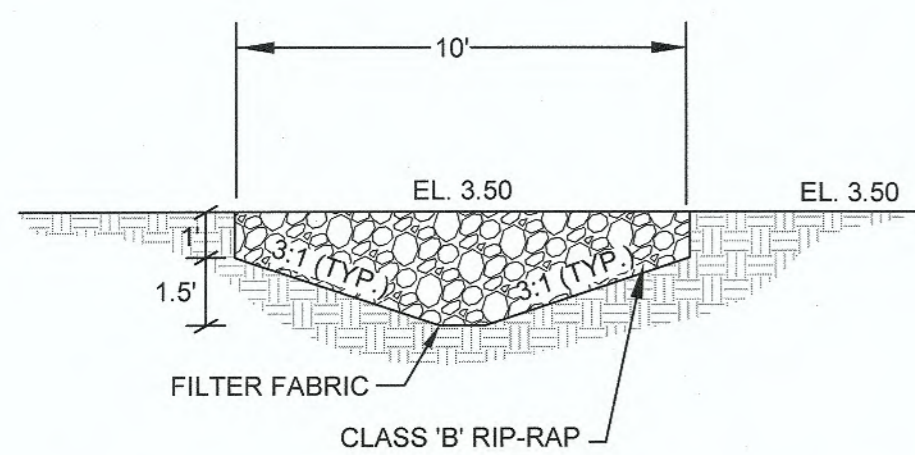
**SUITABLE PLANTS**  
PICKERELWEED (PONTEDERIA CORDATA)  
DUCK POTATO (SAGGITARIA LATIFOLIA AND SAGGITARIA CARDINALIS)  
SWAMP ROSE (HIBISCUS MOSHEUTOS)  
BLUE FLAG (IRIS VIRGINICA)  
CARDINAL FLOWER (LOBELIA CARDINALIS)

**WET DETENTION POND PLANTING**  
CONTRACTOR TO INSTALL ON THE 6:1 SLOPED SHELF, EQUAL NUMBERS OF EACH OF THE LISTED SUITABLE PLANTS. DURING INSTALLATION, GROUP SIMILAR SPECIES OF PLANTS TOGETHER. INSTALL PLANTS 24" O.C. IN A CHECKERBOARD PATTERN.

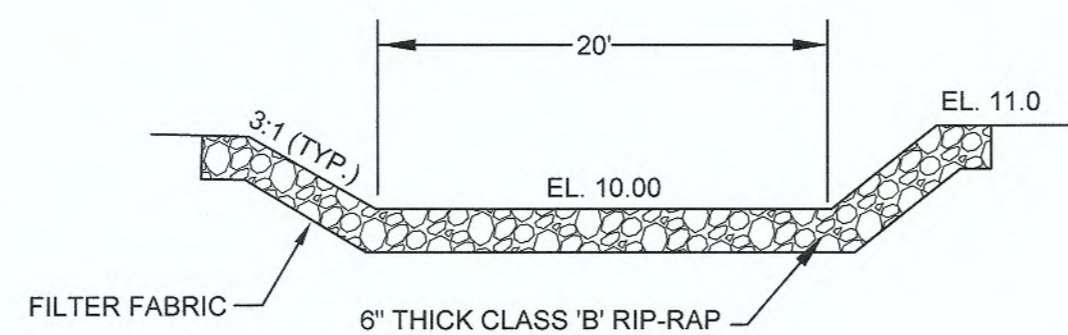


**POND #1 - FOREBAY AND STORAGE POND SECTION**  
NOT TO SCALE

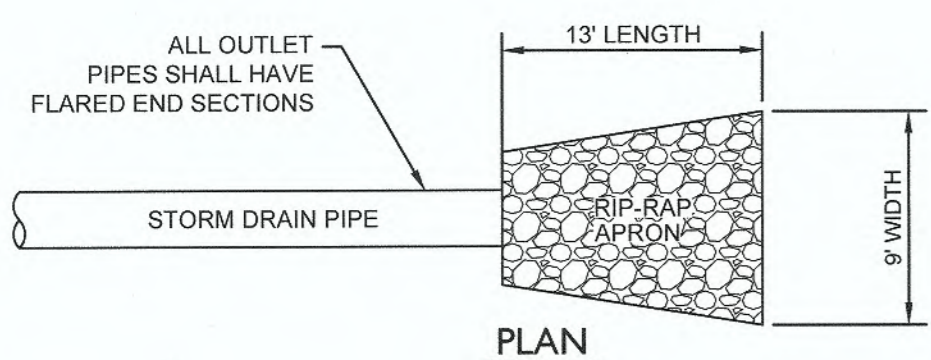
**STRUCTURAL BERM FILL SATISFACTORY SOILS:**  
SOILS WITH ORGANICS LESS THAN 2% WITH BETWEEN 30% AND 60% PASSING THE NO. 200 SIEVE WITH A PLASTICITY INDEX AND LIQUID LIMIT OF LESS THAN 20 AND 50 PERCENT, RESPECTIVELY WITH A UNIFIED SOIL CLASSIFICATION OF SC OR CL, FREE OF ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, ROOTS, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER AS INDICATED BY ENGINEER. COMPACT TO MIN. 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D 698; SOIL SHOULD BE MOISTURE CONDITIONED BY THE CONTRACTOR BY DRYING OR WETTING THE MATERIAL TO WITHIN +/- 3 PERCENT OF THE MATERIALS OPTIMUM MOISTURE CONTENT.



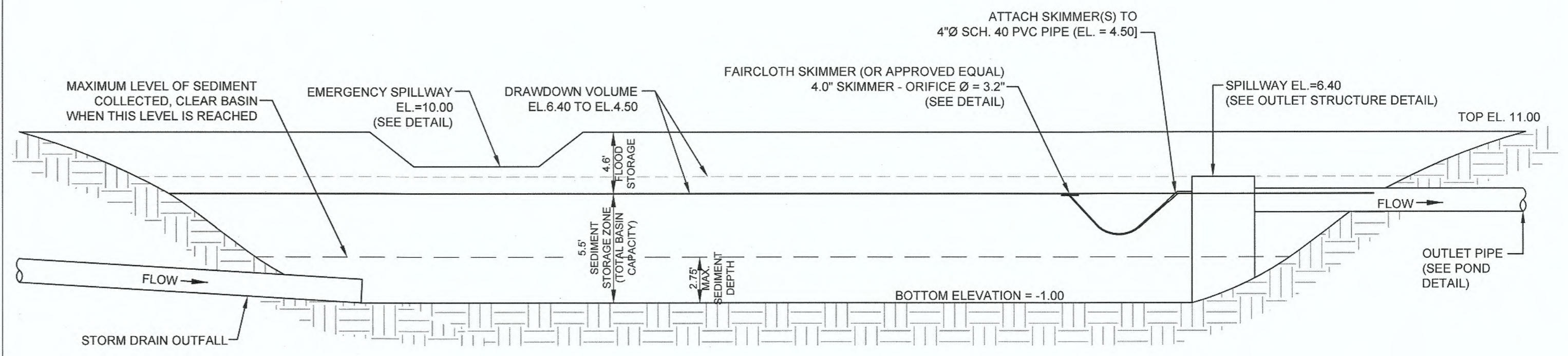
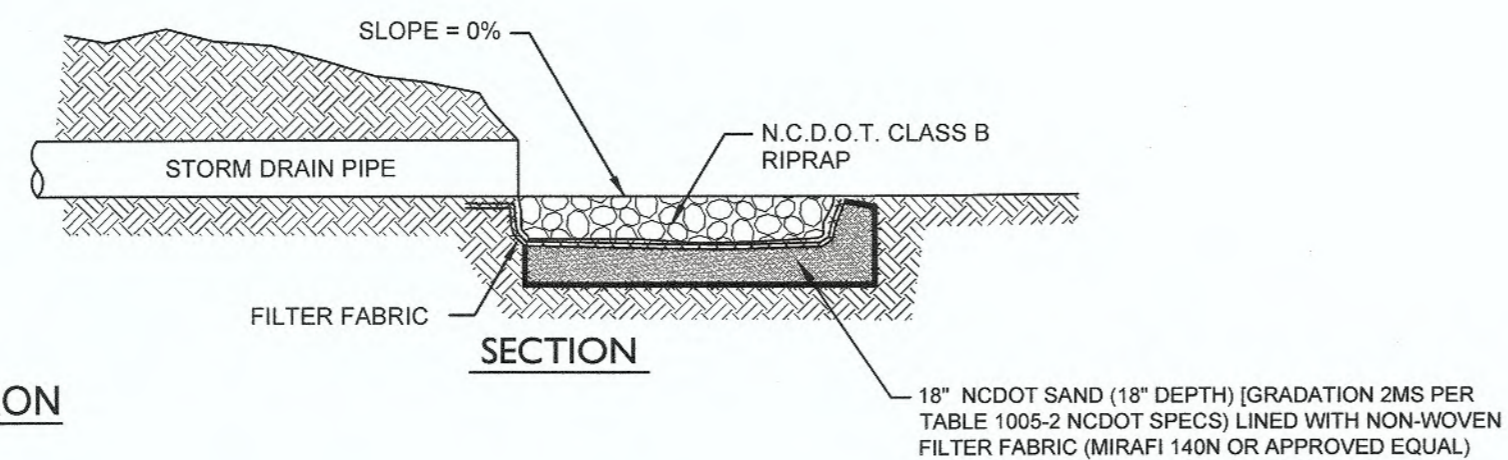
**POND #1 FOREBAY SPILLWAY DETAIL**  
NOT TO SCALE



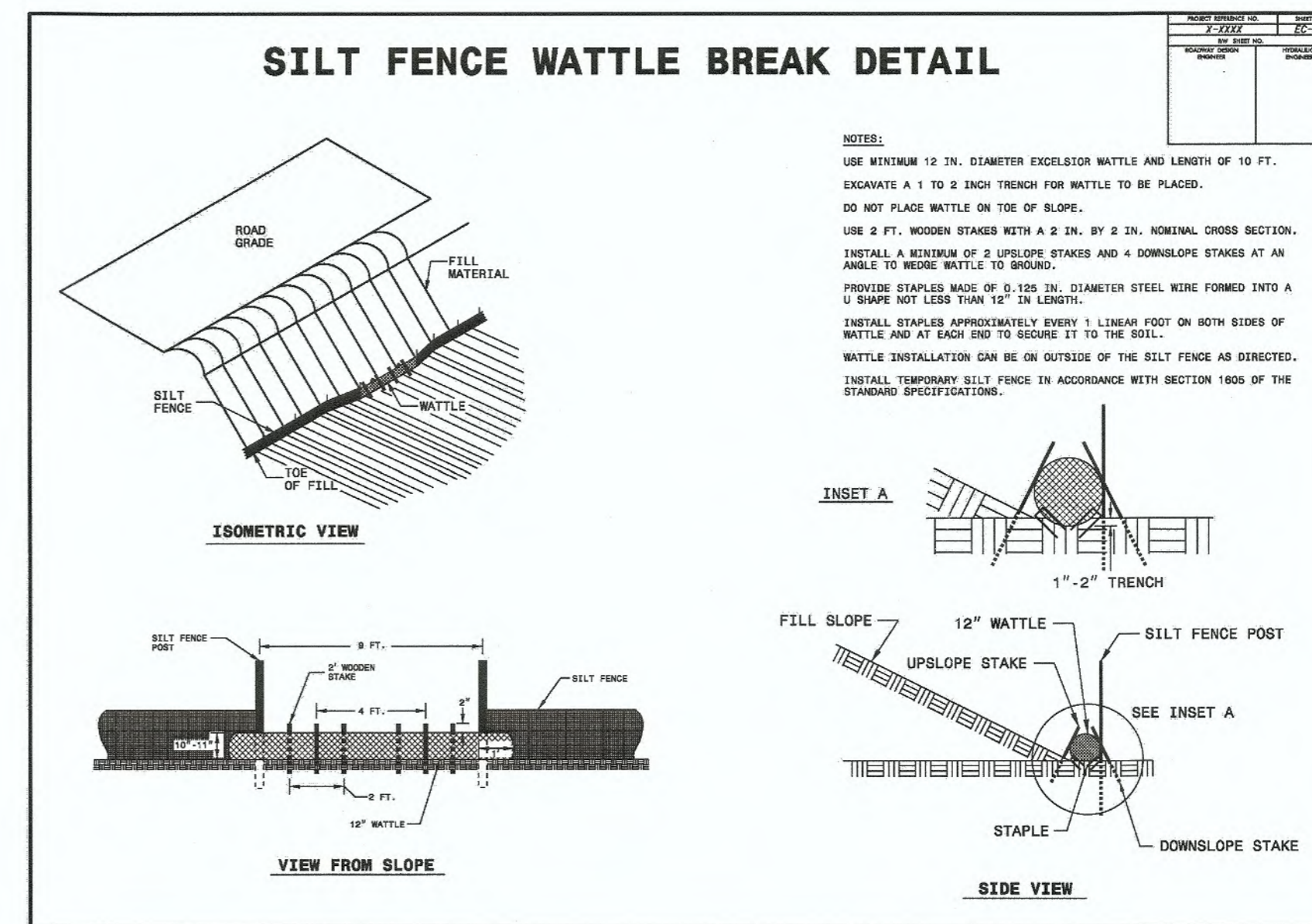
**POND #1 EMERGENCY SPILLWAY DETAIL**  
NOT TO SCALE



**POND #1 OUTLET APRON**  
NOT TO SCALE

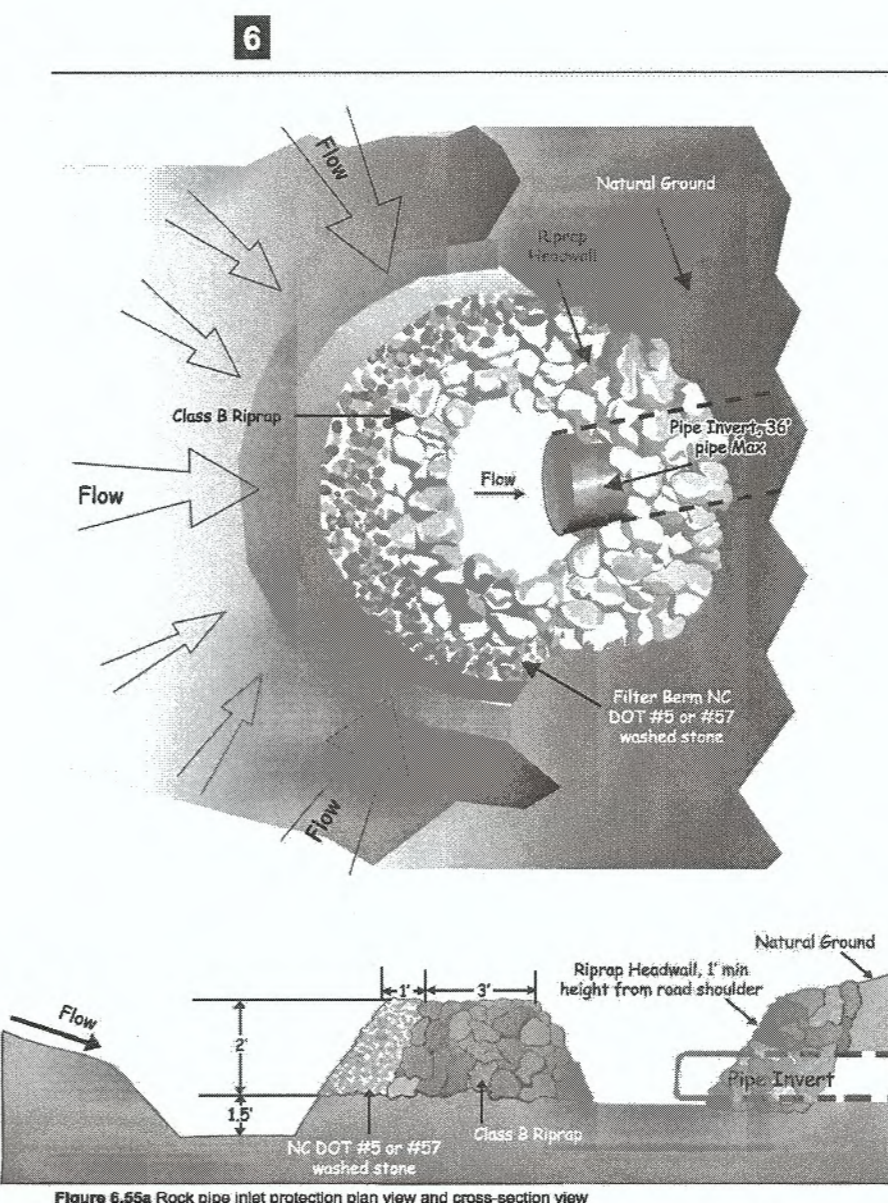


**SEDIMENT BASIN #1 DETAIL**  
NOT TO SCALE



**SILT FENCE WATTLE BREAK DETAIL**

**NOTES:**  
USE MINIMUM 1/2 IN. DIAMETER ENCLASURE WATTLE AND LENGTH OF 10 FT.  
EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.  
DO NOT PLACE WATTLE ON TOE OF SLOPE.  
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.  
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.  
PROVIDE STAPLES MADE OF 9-12S IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPES NOT LESS THAN 1/2 IN LENGTH.  
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.  
WATTLE INSTALLATION SHOULD BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.  
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1005 OF THE STANDARD SPECIFICATIONS.



**ROCK PIPE INLET PROTECTION DETAIL**  
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.

**Approved Construction Plan**

Name	Date
Planning	6-4-19
Traffic	6-3-19
Fire	6-3-19

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit # 2019030

Signed: E. J. O. R.

NO.	DATE	DESCRIPTION
1	04.18.19	1. PER IHC ENGINEERING COMMENTS
2	04.22.19	2. PER GWM ENGINEERING COMMENTS

REVISIONS:

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
7923 REUNION DR  
WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

PROJECT STATUS:  
CONCEPTUAL LAYOUT:  
PRELIMINARY LAYOUT:  
RELEASED FOR CONSTRUCTION:  
DATE: 6-3-19

DETAILS

CREEKSIDE  
MASONBORO SOUND RD.  
WILMINGTON, NC; NEW HANOVER COUNTY

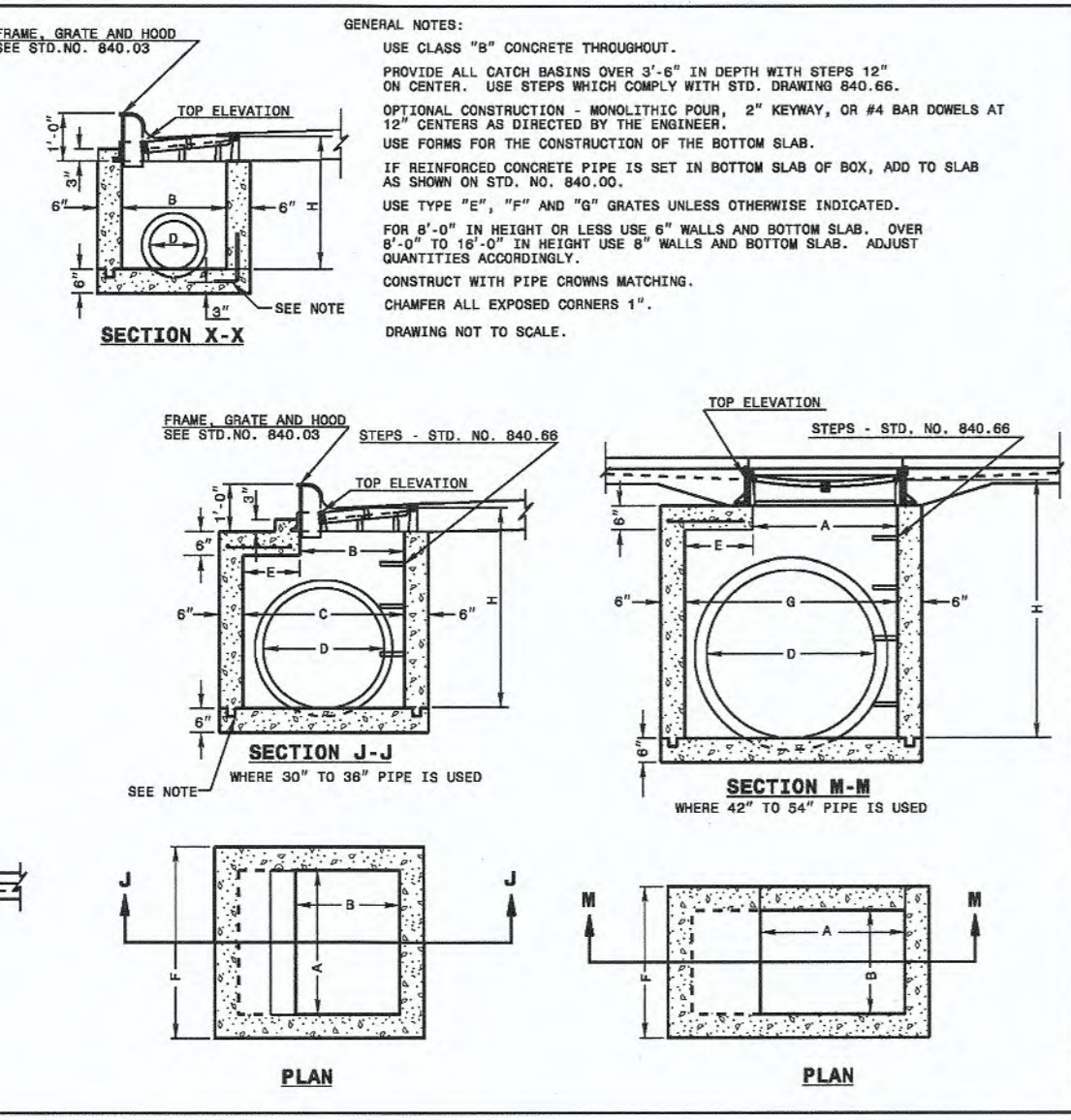
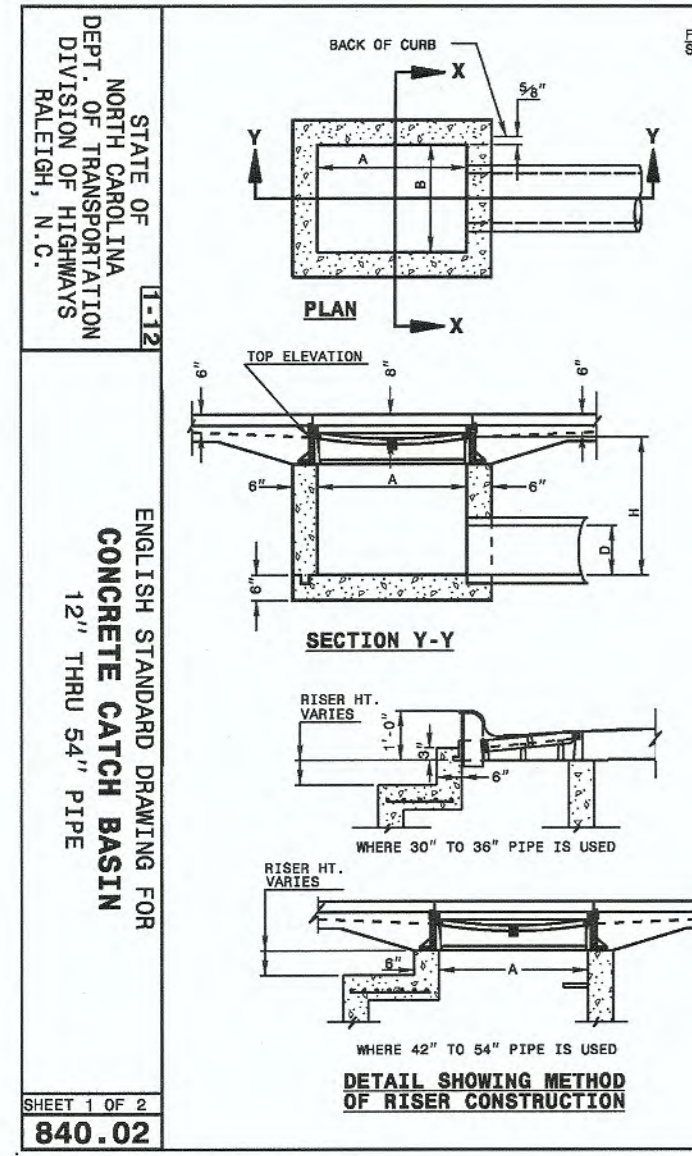
DRAWING INFORMATION:  
DATE: 03.04.19  
SCALE: AS SHOWN  
DESIGNED: [Signature]  
CHECKED: [Signature]

Professional Seal redacted on electronic copy per City of Wilmington Policy

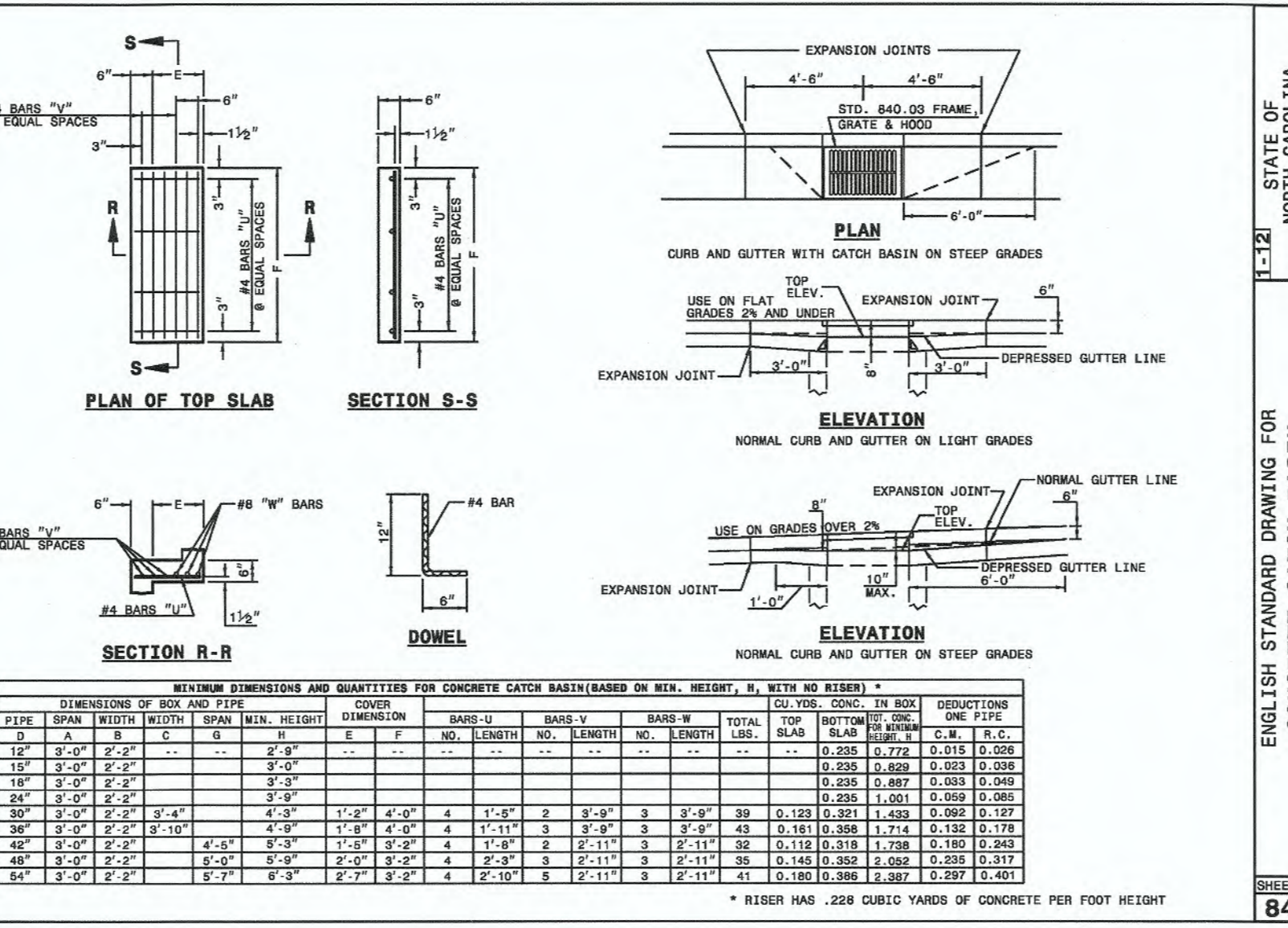
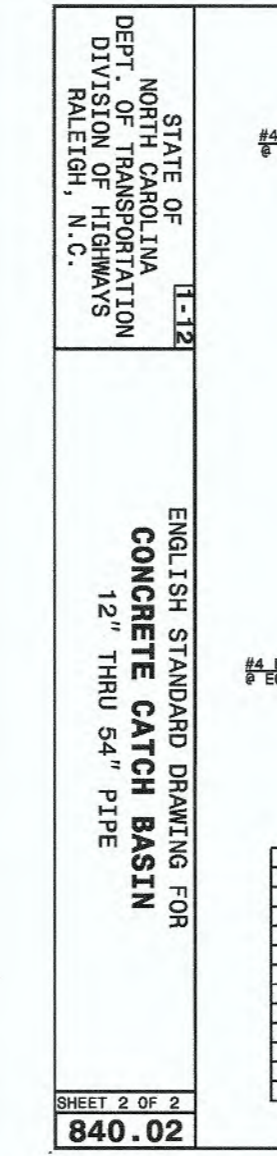
**C-6.2**

PEI JOB#: 18390.PE

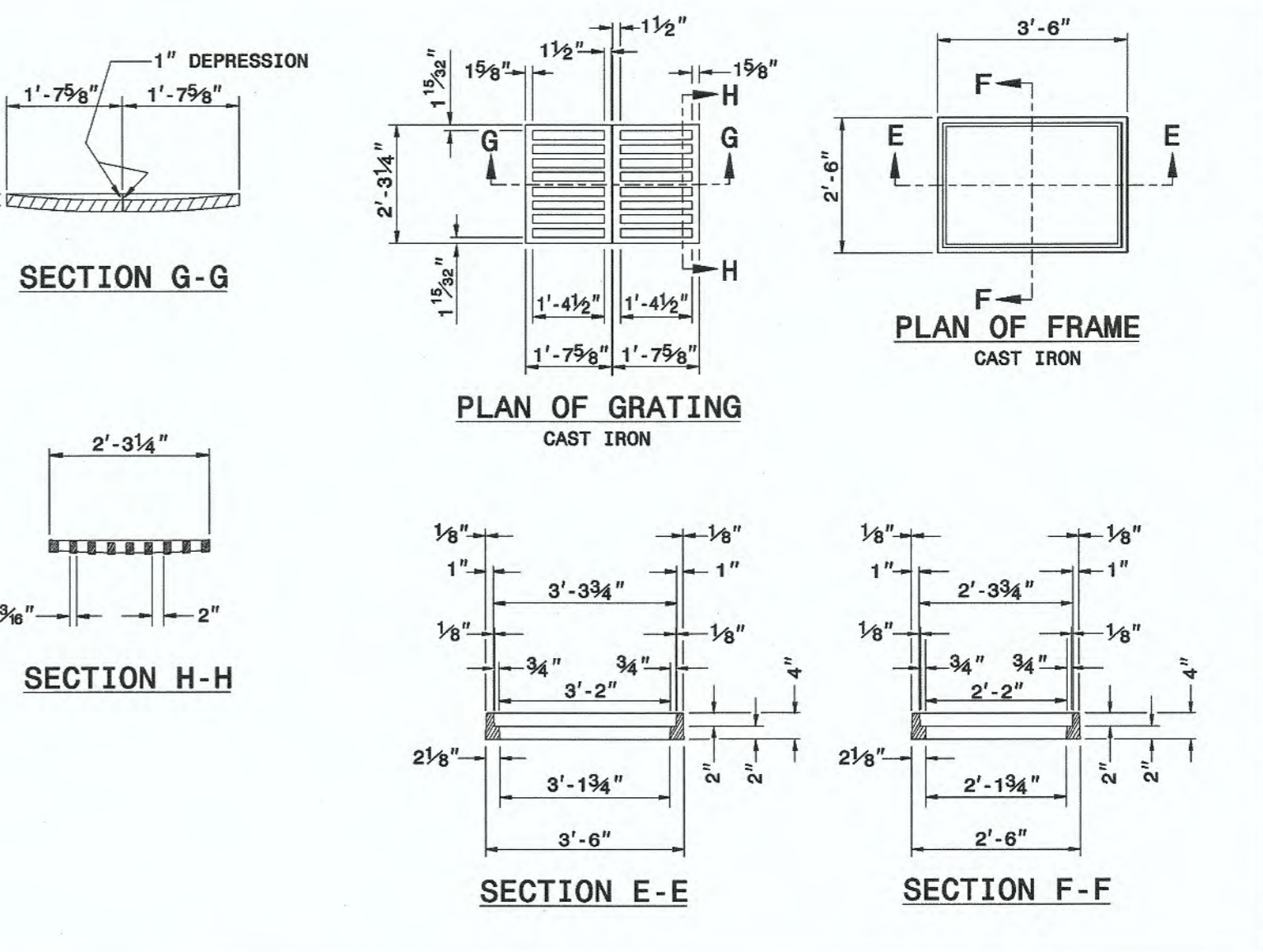
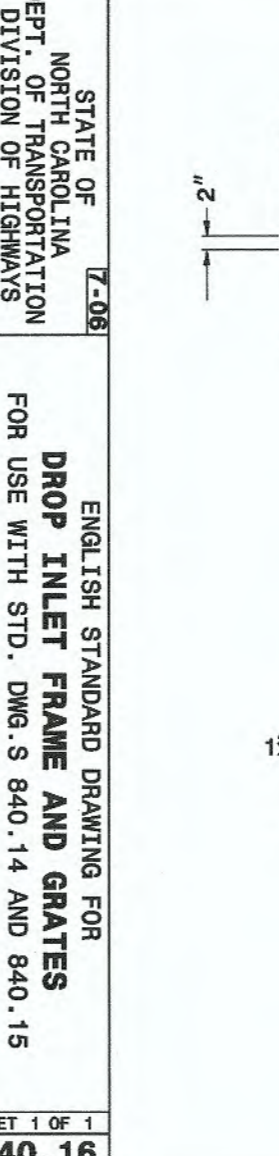
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



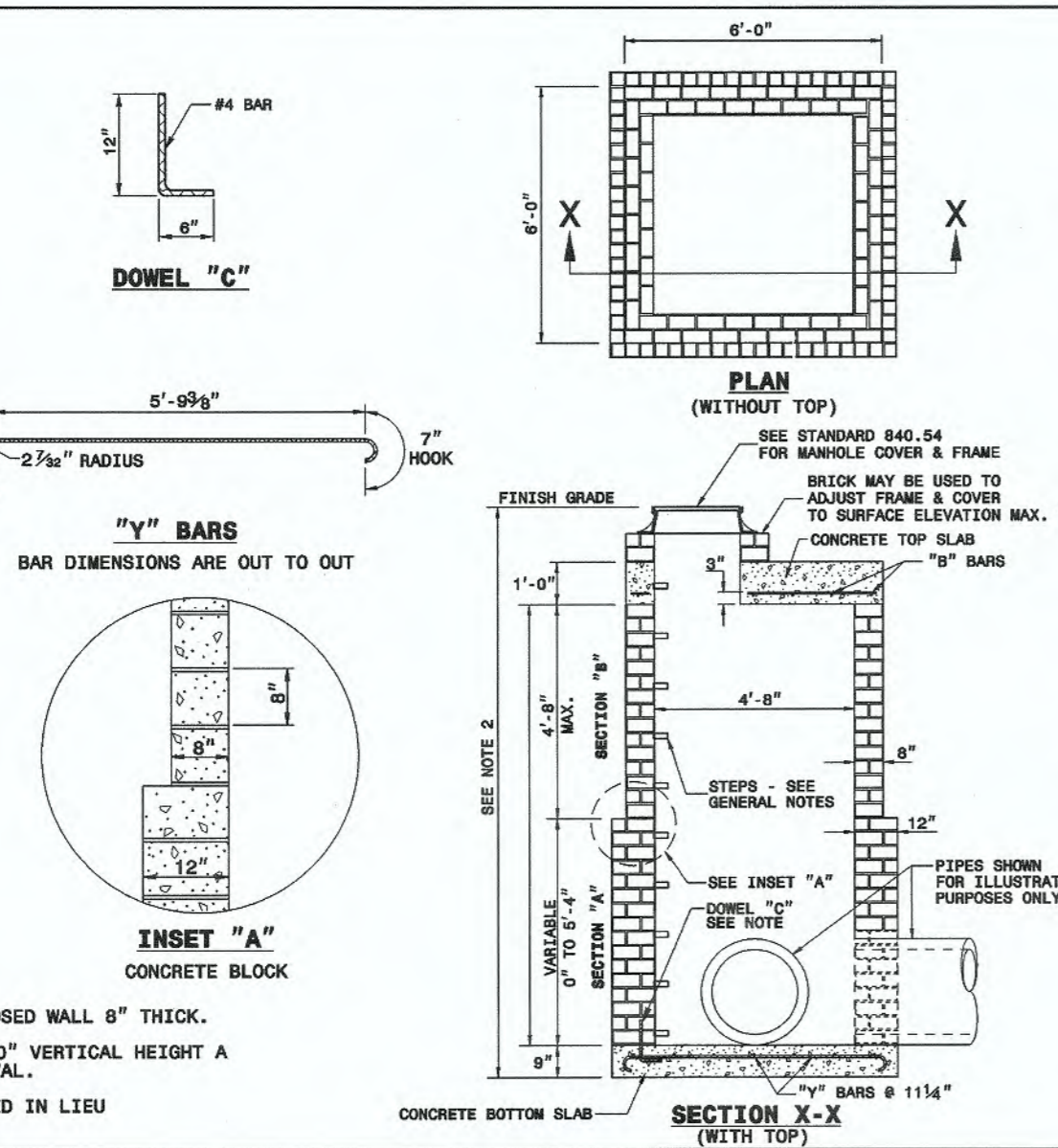
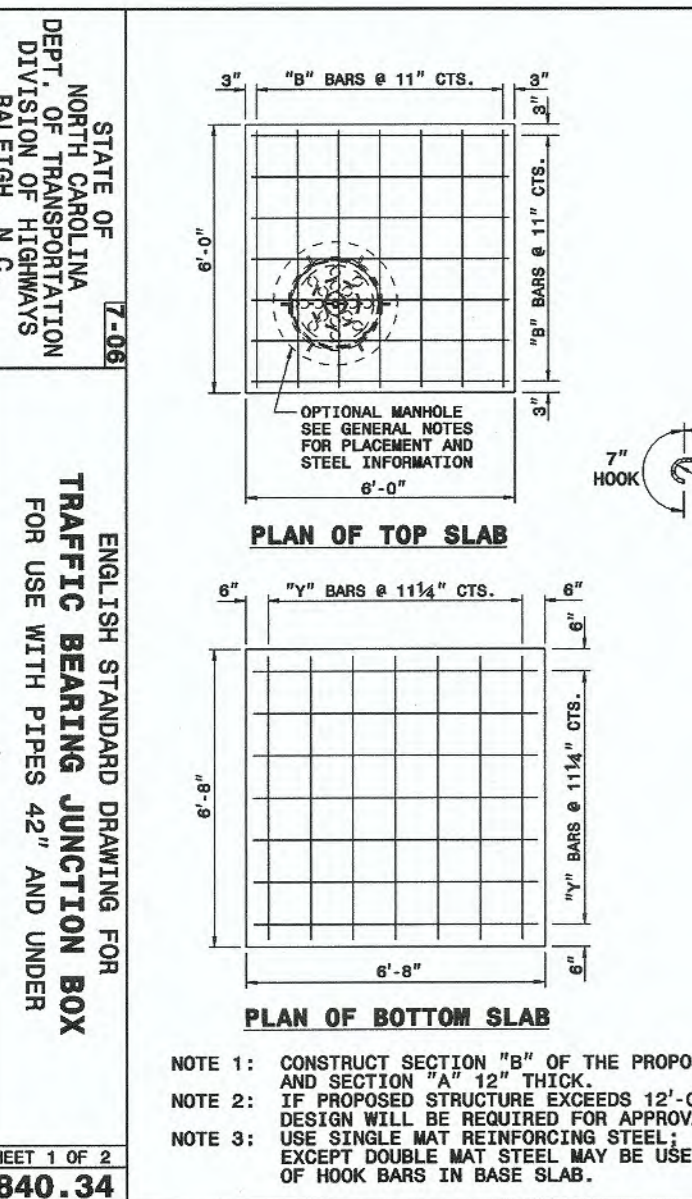
ENGLISH STANDARD DRAWING FOR  
CONCRETE CATCH BASIN  
12" THRU 54" PIPE  
SHEET 1 OF 2  
840.02



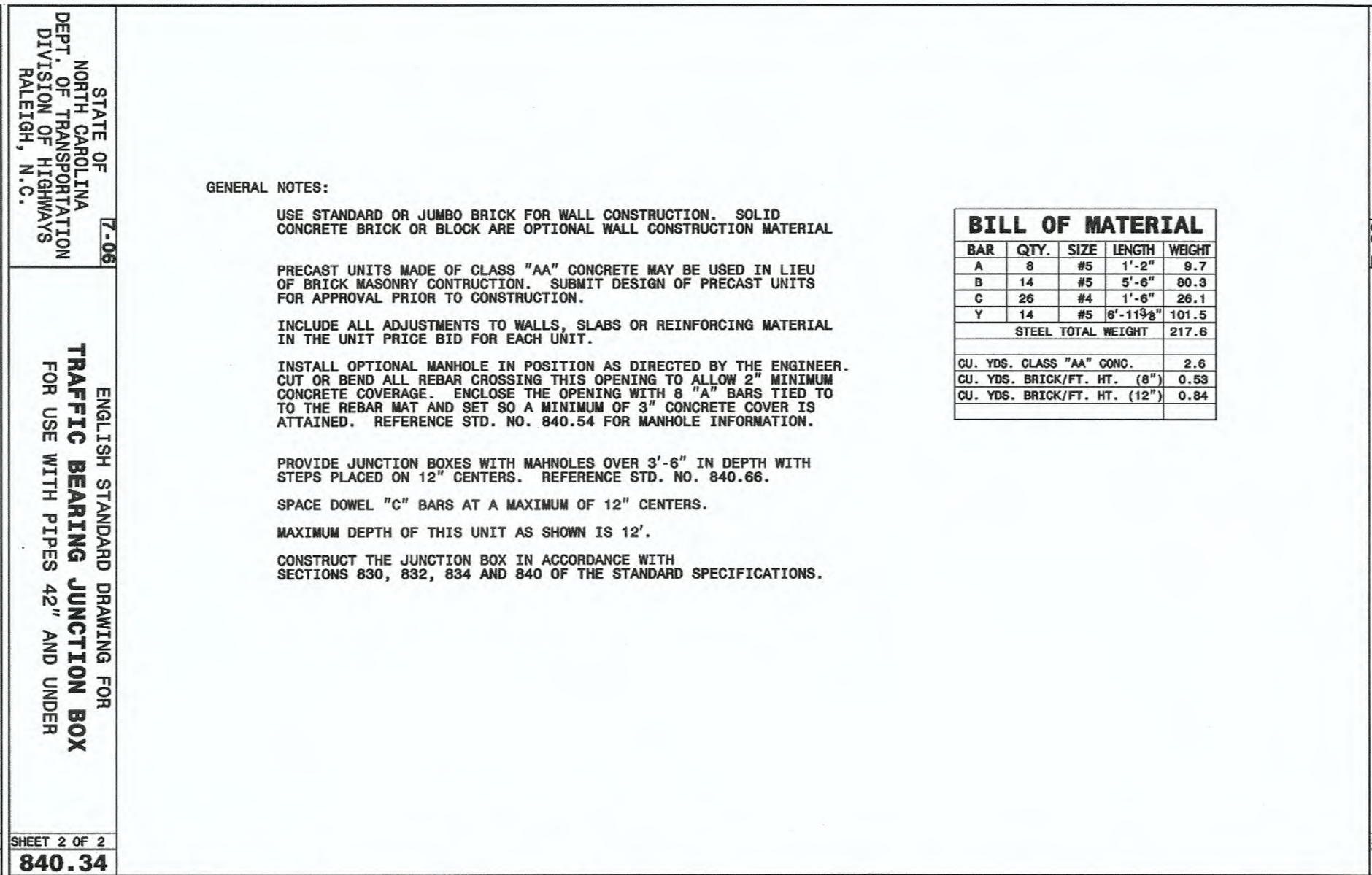
ENGLISH STANDARD DRAWING FOR  
CONCRETE CATCH BASIN  
12" THRU 54" PIPE  
SHEET 2 OF 2  
840.02



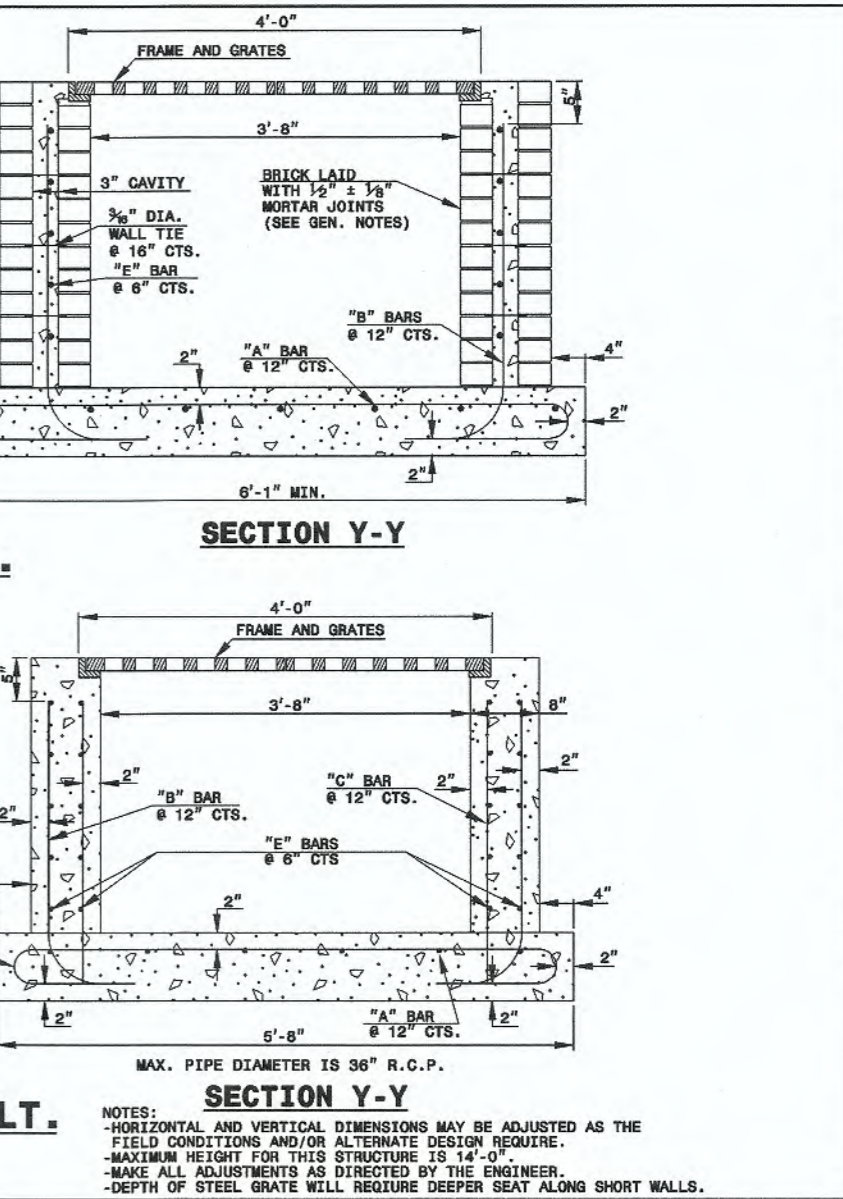
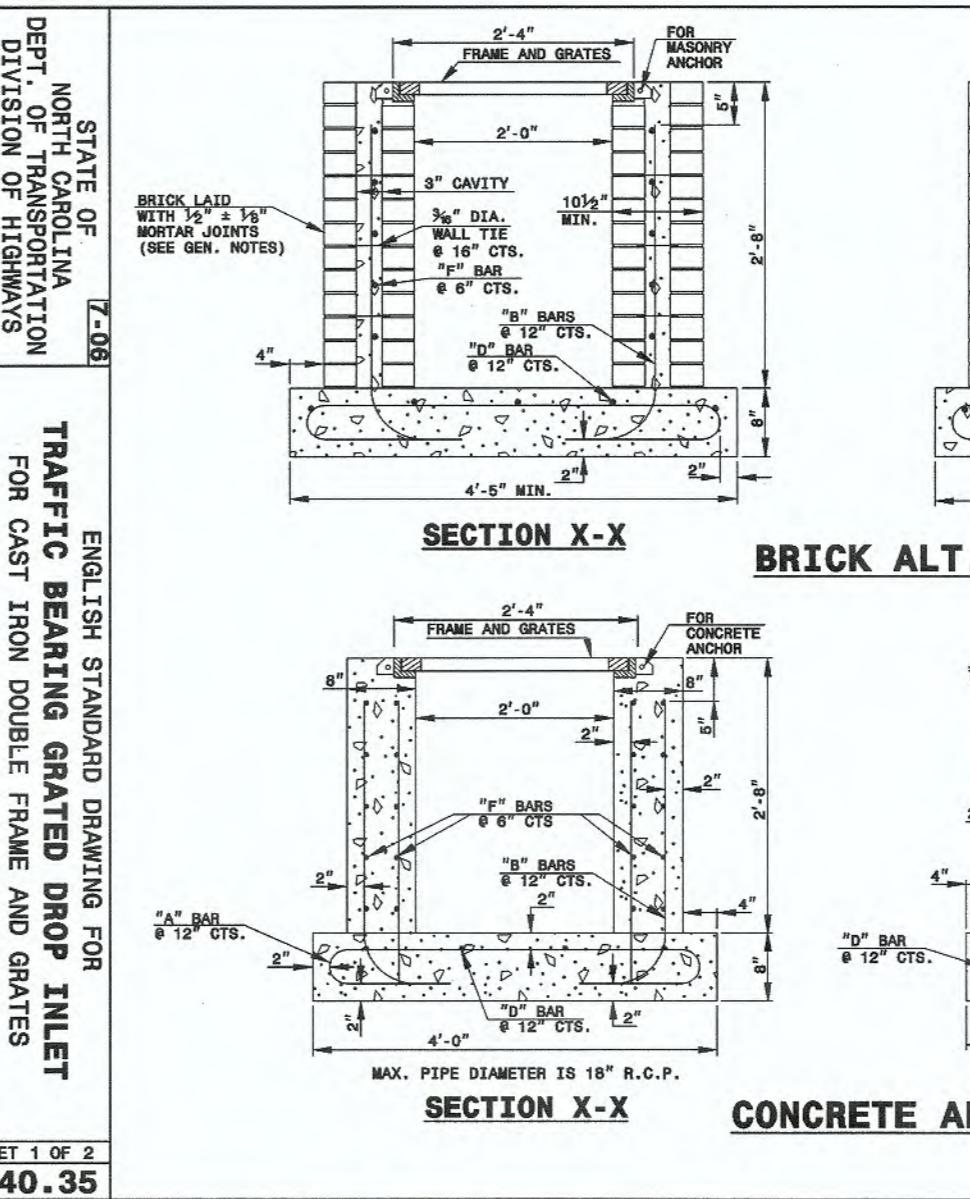
ENGLISH STANDARD DRAWING FOR  
DROP INLET FRAME AND GRATES  
FOR USE WITH STD. DMS S 840.14 AND 840.15  
SHEET 1 OF 1  
840.16



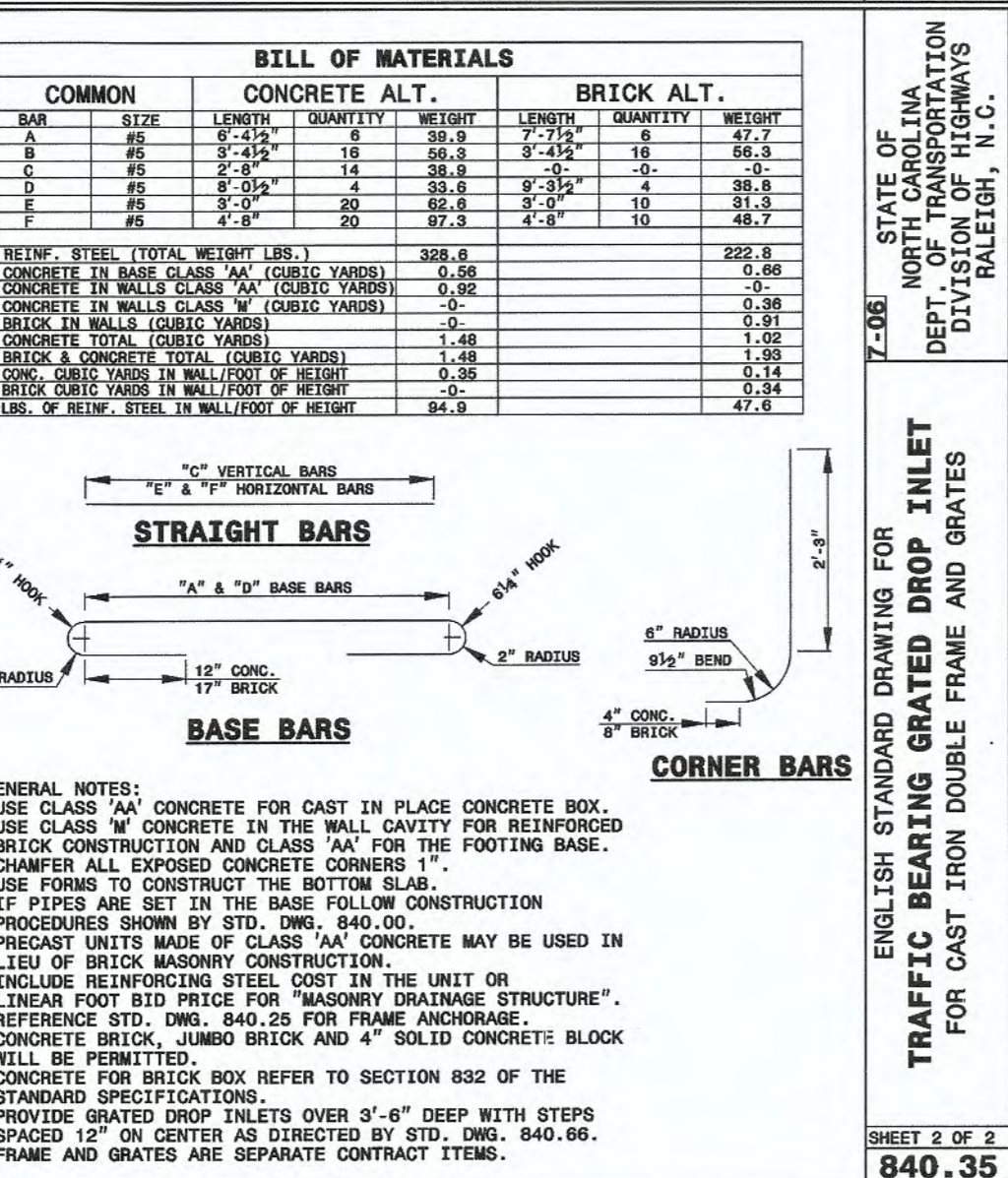
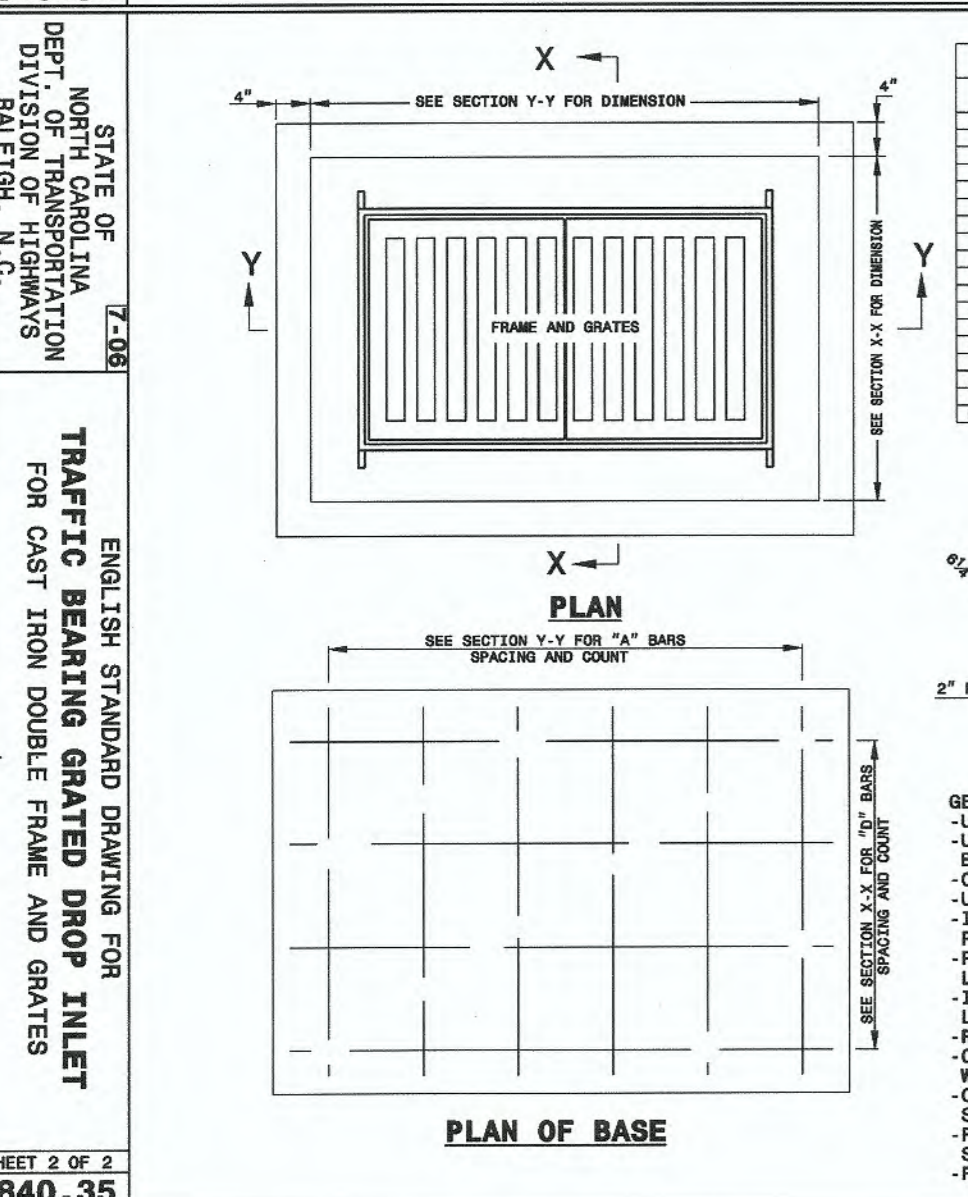
ENGLISH STANDARD DRAWING FOR  
TRAFFIC BEARING JUNCTION BOX  
FOR USE WITH PIPES 42\"/>



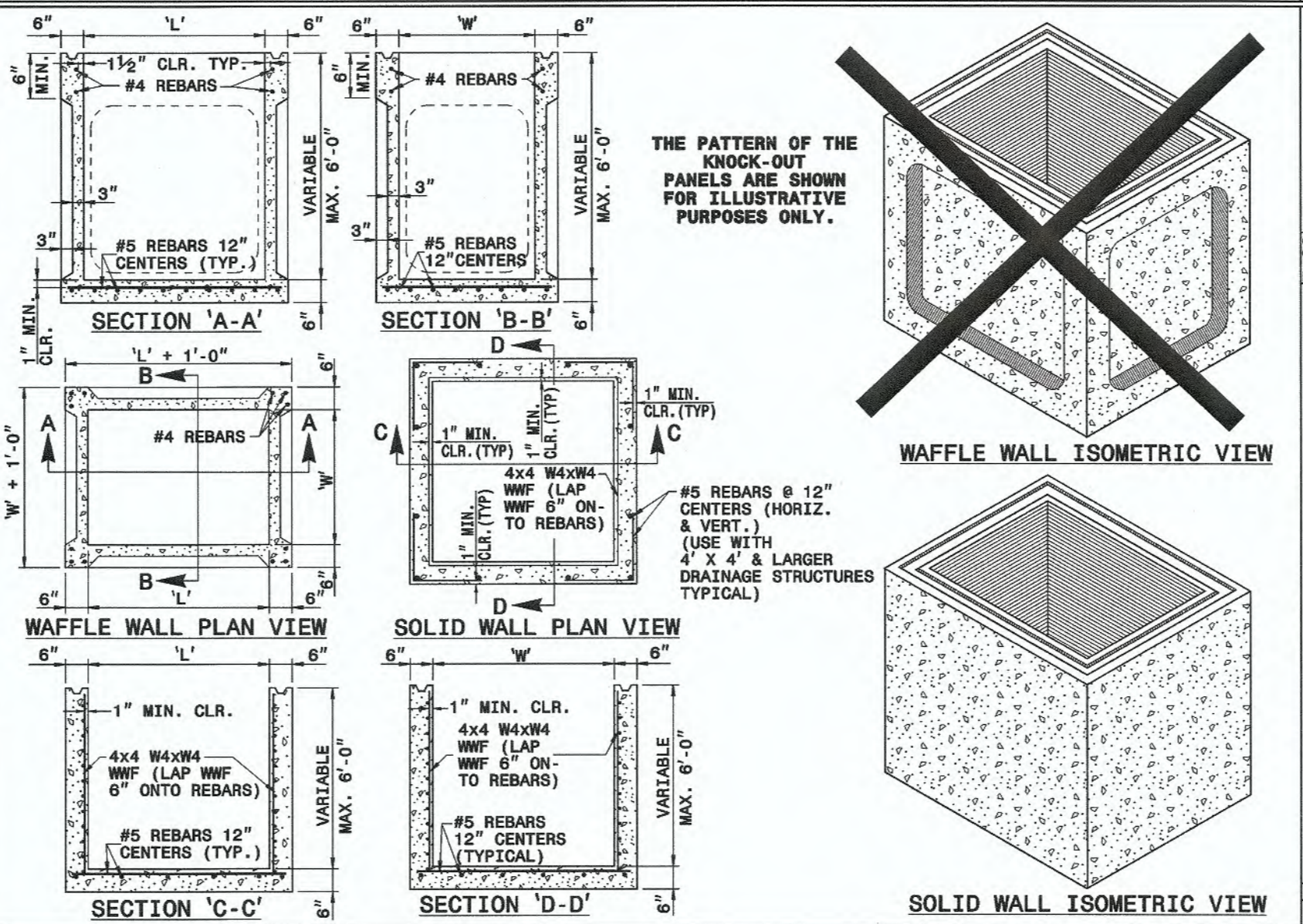
ENGLISH STANDARD DRAWING FOR  
TRAFFIC BEARING JUNCTION BOX  
FOR USE WITH PIPES 42\"/>



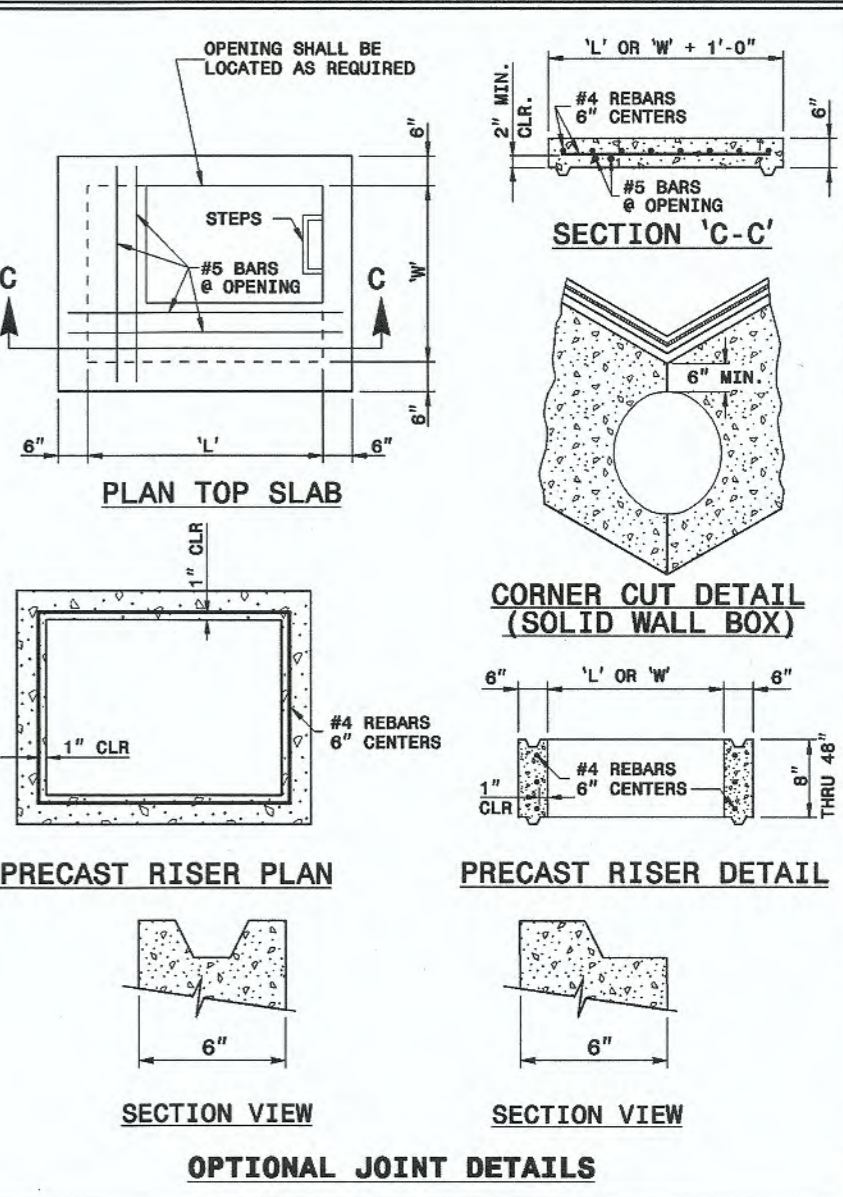
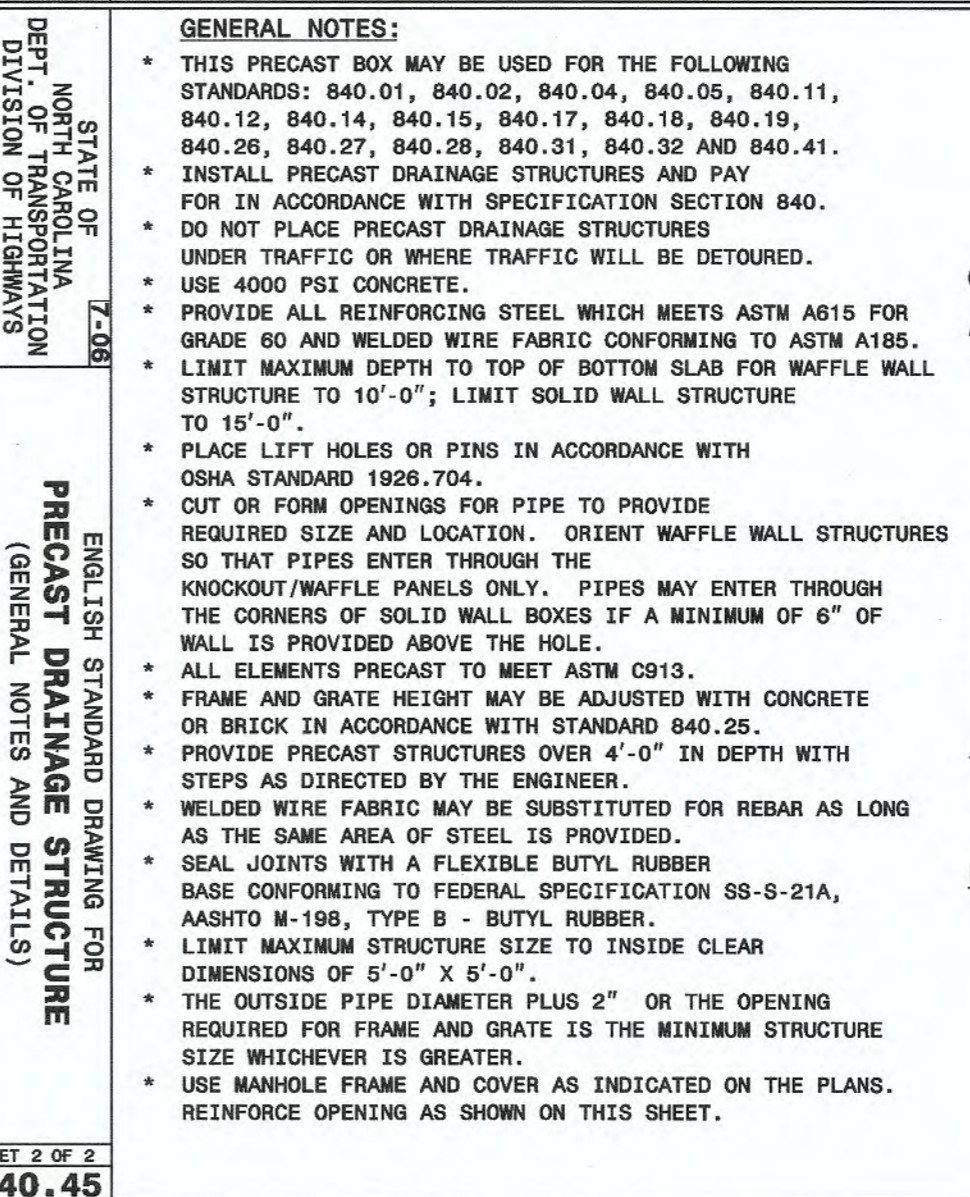
ENGLISH STANDARD DRAWING FOR  
TRAFFIC BEARING GRADED DROP INLET  
FOR CAST IRON DOUBLE FRAME AND GRATES  
SHEET 1 OF 2  
840.35



ENGLISH STANDARD DRAWING FOR  
TRAFFIC BEARING GRADED DROP INLET  
FOR CAST IRON DOUBLE FRAME AND GRATES  
SHEET 2 OF 2  
840.35



ENGLISH STANDARD DRAWING FOR  
PRECAST DRAINAGE STRUCTURE  
(SOLID AND WAFFLE WALL)  
SHEET 1 OF 2  
840.45



ENGLISH STANDARD DRAWING FOR  
PRECAST DRAINAGE STRUCTURE  
(GENERAL NOTES AND DETAILS)  
SHEET 2 OF 2  
840.45

**COMMON CONCRETE ALT.**

MAX. SIZE	QUANTITY	WEIGHT
A	8.25	8.25
B	4.0	4.0
C	3.0	3.0
D	2.0	2.0
E	1.5	1.5
F	1.0	1.0
G	0.75	0.75
H	0.5	0.5
I	0.25	0.25

**COMMON CONCRETE ALT.**

MAX. SIZE	QUANTITY	WEIGHT
A	8.25	8.25
B	4.0	4.0
C	3.0	3.0
D	2.0	2.0
E	1.5	1.5
F	1.0	1.0
G	0.75	0.75
H	0.5	0.5
I	0.25	0.25

REVISIONS:


CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
7923 REUNION DR  
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING & CONSULTANTS  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

DRAWING INFORMATION  
DATE: 03.04.19  
DESIGNED: [Signature]  
DRAWN: [Signature]  
CHECKED: [Signature]

Professional Seal  
reduced on electronic copy per City of Wilmington Policy

# C-6.3

PEI JOB#: 18390.PE

Approved Construction Plan

Name: [Signature] Date: 6-4-19

Planning: [Signature] 6-3-19

Traffic: [Signature] 6-3-19

Fire: [Signature] 6-3-19

City of Wilmington  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit # 2019030

Signed: E-S.O.R.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

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

SECTION VIEWS  
OPTIONAL JOINT DETAILS

PLAN VIEW OF BASE UNIT

PRECAST RISER PLAN

TYPICAL PRECAST RISER SECTION

TYPICAL SECTION TOP SLAB

TYPICAL SECTION OF BASE UNIT

ISOMETRIC VIEW

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 MOST 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 ON 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 C913.  
 \* FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.26.  
 \* PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.  
 \* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.  
 \* SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF MOST 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 ON THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.  
 \* 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. DWG. 840.34 FOR MANHOLE INSTALLATION.

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE  
SHEET 1 OF 1  
840.46

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS  
SHEET 1 OF 1  
840.66

NOTES:  
 \* 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.

PLAN  
SIDE ELEVATION  
ELEVATION  
CAST IRON  
ELEVATION  
CAST IRON  
PLAN  
SIDE ELEVATION  
REINFORCING STEEL  
ELEVATION

SECTION A-A

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS  
SHEET 1 OF 1  
840.66

EXISTING GROUND

COMPACTED BACKFILL TO 95% MODIFIED PROCTOR IF UNDER PAVEMENT

COMPACTED BACKFILL TO 90% MODIFIED PROCTOR

SLOPE WALLS TO ANGLE OF REPOSE OF SOIL OR AS APPROVED BY THE ENGINEER

COMPACTED PIPE EMBEDMENT TO 90% MODIFIED PROCTOR

COMPACTED NO. 57 STONE

PIPE WIDTH +24" TRENCH BOTTOM

STANDARD PIPE TRENCH DETAIL  
SD 1-07  
NOT TO SCALE

PLAN

SECTION "A-A"

FINISH AS GRADED

STD. CITY OF WILMINGTON M.H. COVER. SEE DETAIL SHEET SD-14-01 & 14-02

3/4" CEMENT PLASTER

MAX. CORBEL 1" PER COURSE

STEPS

GUIDELINES FOR STORM DRAIN MANHOLE  
SD 2-03

MARKED: SANITARY SEWER OR STORM DRAIN AS REQUIRED

TOP OF COVER

BOTTOM OF COVER

PLAN

RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING

MINIMUM WEIGHTS:  
RING 190 LBS.  
COVER 120 LBS.

SECTION "A-A"

STANDARD MANHOLE RING AND COVER  
SD 14-01  
NOT TO SCALE

MARKED: SANITARY SEWER OR STORM DRAIN AS REQUIRED

TOP OF COVER

BOTTOM OF COVER

PLAN

NOTE:  
RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING

MINIMUM WEIGHTS:  
RING 261 LBS.  
COVER 120 LBS.

SECTION "A-A"

STANDARD MANHOLE RING & COVER  
SD 14-02  
NOT TO SCALE

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE  
SHEET 1 OF 1  
840.46

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE  
SHEET 1 OF 1  
840.46

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS  
SHEET 1 OF 1  
840.66

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS  
SHEET 1 OF 1  
840.66

REVISIONS:

CLIENT INFORMATION:  
 SUNRISE LAND INVESTMENTS, LLC.  
 7923 REUNION DR  
 WILMINGTON, NC 28411

PARAMOUNT ENGINEERING  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

DETAILS  
 CREEKSIDE  
 MASONBORO SOUND RD.  
 WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS:  
 CONCEPTUAL LAYOUT:  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONSTRUCTION

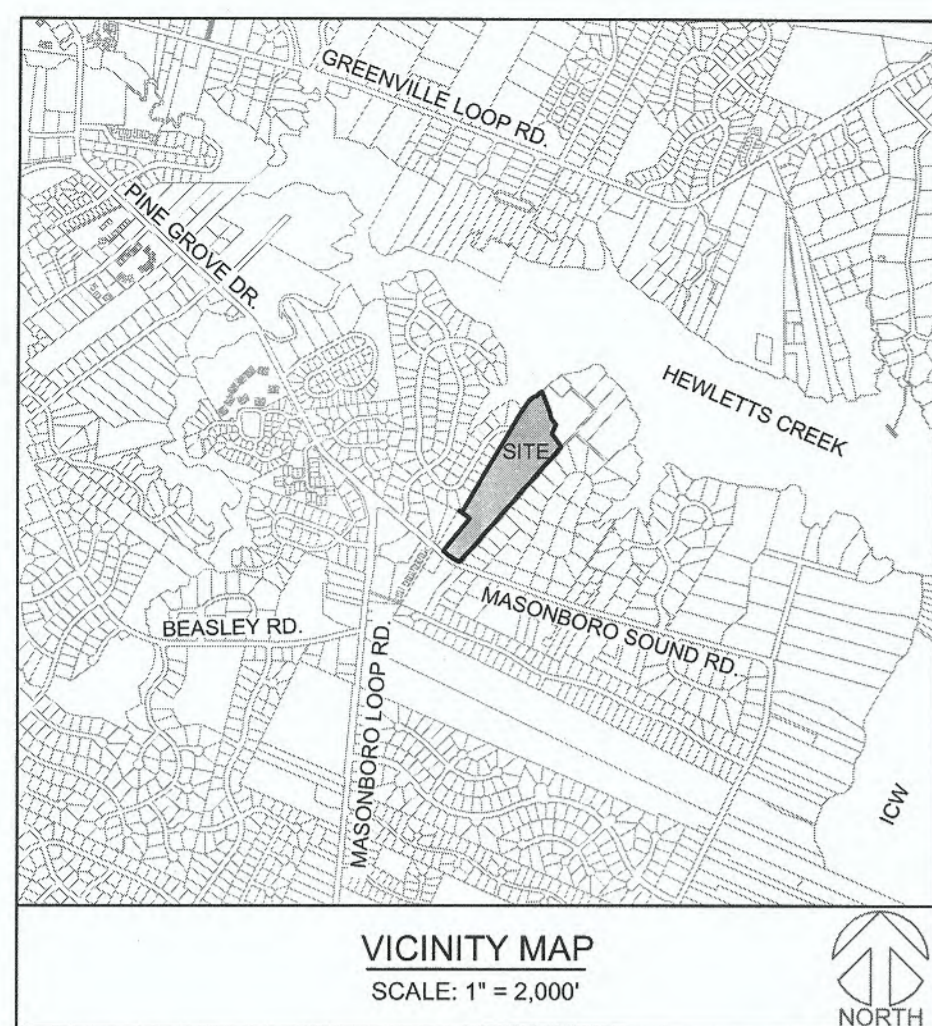
DRAWING INFORMATION  
 03.04.18  
 AS NOTED  
 DATE: 6-3-19  
 DESIGNED: [Signature]  
 DRAWN: [Signature]  
 CHECKED: [Signature]

Professional Seal redacted on electronic copy per City of Wilmington Policy

Approved Construction Plan  
 Name: [Signature] Date: 6-4-19  
 Planning: [Signature] 6-3-19  
 Traffic: [Signature] 6-3-19  
 Fire: [Signature] 6-3-19  
 Date: 6-3-19 Permit # 2019030  
 Signed: [Signature]

WILMINGTON NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 6-3-19 Permit # 2019030  
 Signed: [Signature]

C-6.4  
 PEI JOB#: 18390.PE



**SITE INFORMATION:**

PARCEL ID: R06700-002-136-000  
 CURRENT ZONING: R-20  
 PROPOSED USE: DETACHED SINGLE FAMILY RESIDENTIAL  
 PROJECT SITE AREA: ± 16.29 ACRES (± 709,592 SF)

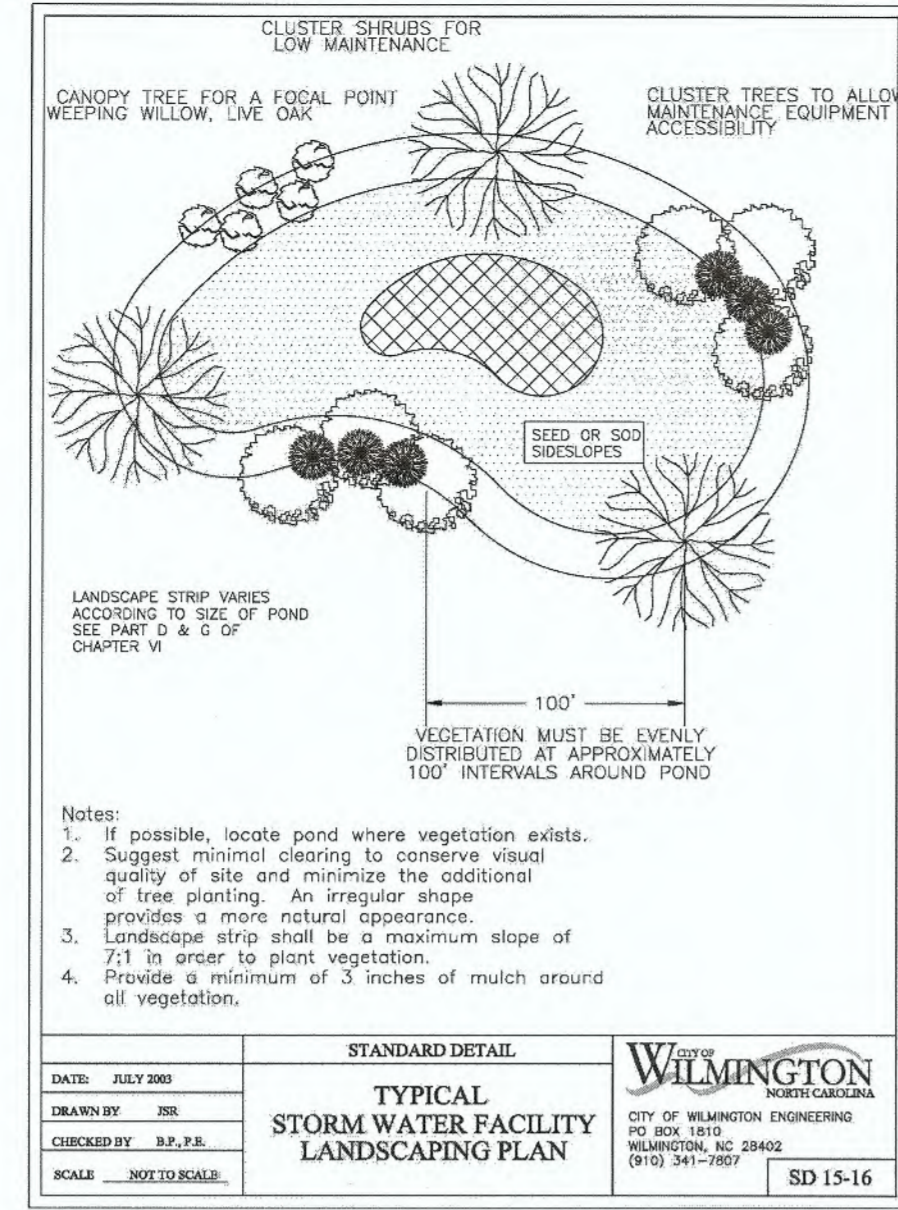
OWNER INFORMATION: SUNSET LAND INVESTMENTS, LLC  
 6310 SEA MIST CT  
 WILMINGTON, NC 28409

FLOOD INFORMATION: THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018  
 WATERSHED RESOURCE PROTECTION: CONSERVATION AREA

CAMA LAND USE CLASSIFICATION:

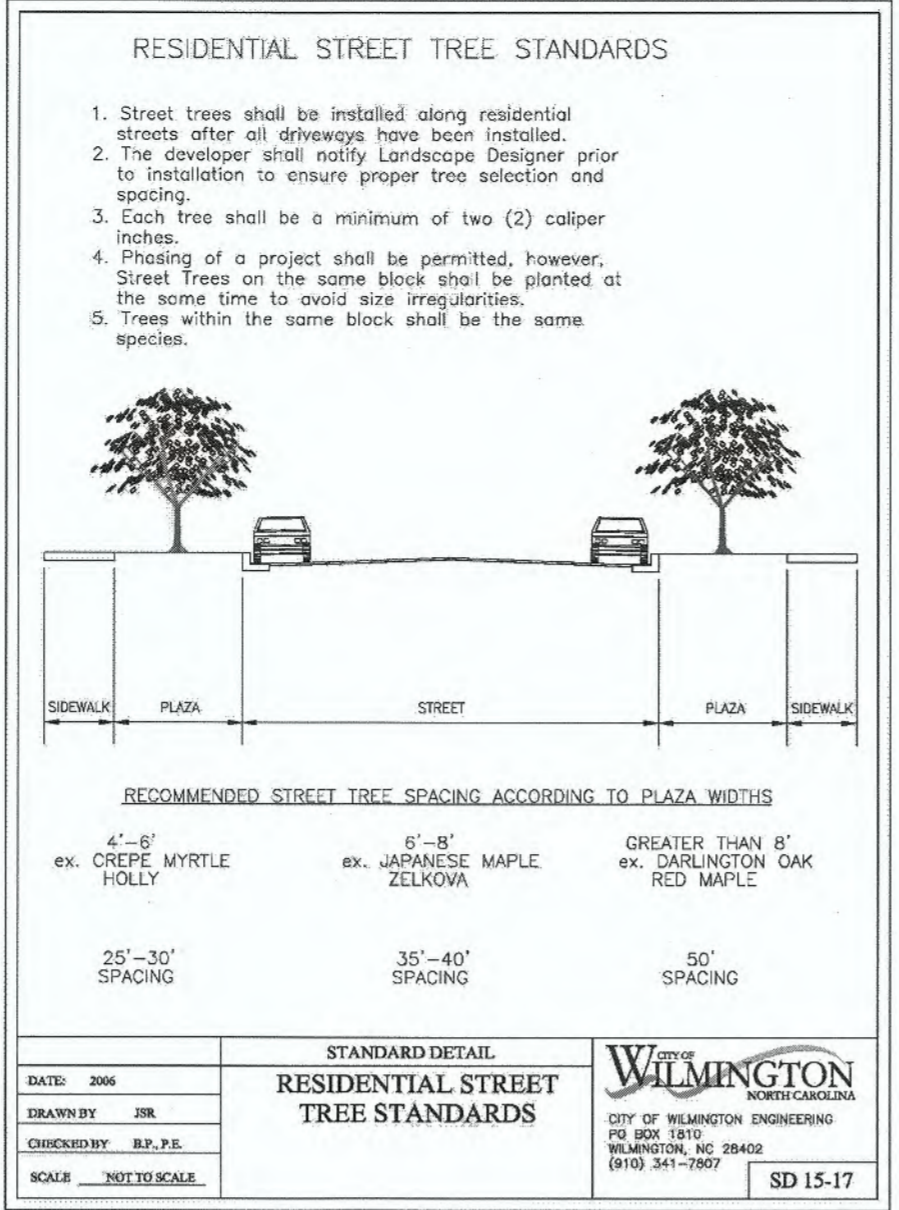
**LANDSCAPE NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
- ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. SINGLE TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
- PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SODDED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELLED GROUND.
- IF AN AUTOMATIC IRRIGATION SYSTEM IS PROVIDED, IT SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
- THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE INSTALLED PLANT MATERIAL FOR A PERIOD OF 6 MONTHS FROM THE ACCEPTANCE OF THE OWNER OR OWNER'S REPRESENTATIVE IF IRRIGATION HAS NOT BEEN INSTALLED AT THE TIME OF SUBSTANTIAL COMPLETION. ALL MATERIAL INCLUDING SOD AND SEEDED AREAS SHALL BE HAND WATERED ONCE WEEKLY OR AS NEEDED TO ENSURE SURVIVAL OF PLANTS.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
- ALL DISTURBED AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDED.
- ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.



DATE: 05/27/2019  
 DRAWN BY: JEB  
 CHECKED BY: J.P.P.  
 SCALE: 1/8"=1'-0"

WILMINGTON CITY OF WILMINGTON ENGINEERING INC. 400 S. 15TH ST. WILMINGTON, NC 28403 (910) 341-7857 SD 15-16



DATE: 2006  
 DRAWN BY: JEB  
 CHECKED BY: J.P.P.  
 SCALE: 1/8"=1'-0"

WILMINGTON CITY OF WILMINGTON ENGINEERING INC. 400 S. 15TH ST. WILMINGTON, NC 28403 (910) 341-7857 SD 15-17

**PLANT SCHEDULE**

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	PEH	10	Carpinus betulus 'Fastigiata' Pyramidal European Hornbeam	2" cal
<b>CANOPY TREES</b>	<b>CODE</b>	<b>QTY</b>	<b>BOTANICAL / COMMON NAME</b>	<b>SIZE</b>
	BE	84	Ulmus parvifolia 'Bosque' Bosque Elm	2" cal
<b>SHRUBS</b>	<b>CODE</b>	<b>QTY</b>	<b>BOTANICAL / COMMON NAME</b>	<b>CONTAINER</b>
	LOR	15	Loropetalum c. 'Ruby' Ruby Loropetalum	7 gal
	PV	15	Pittosporum t. 'Variegata' Variegated Mock Orange	7 gal

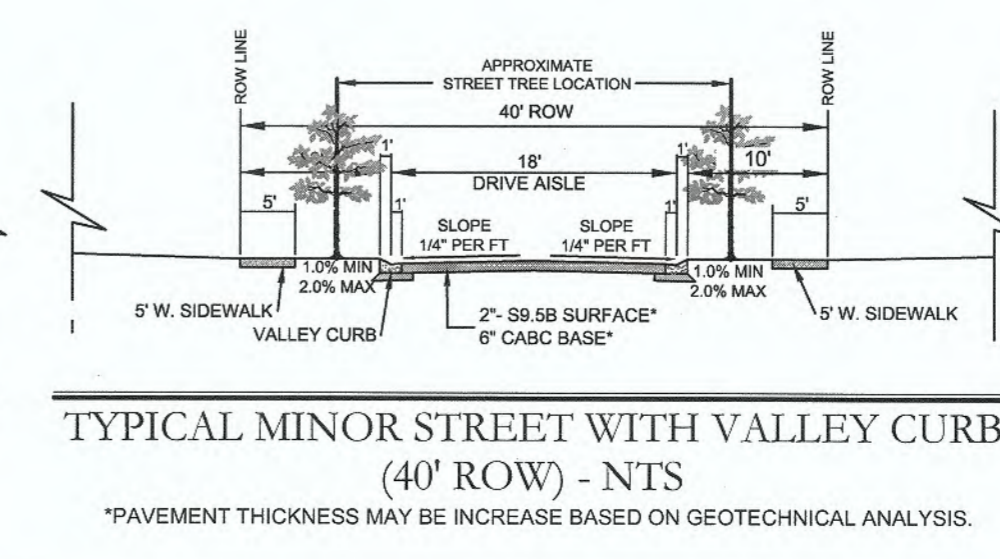
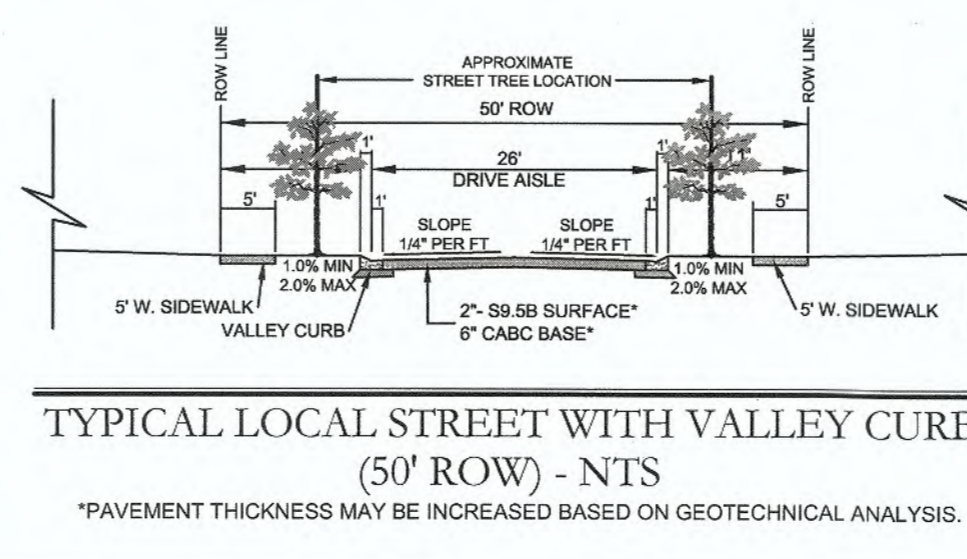
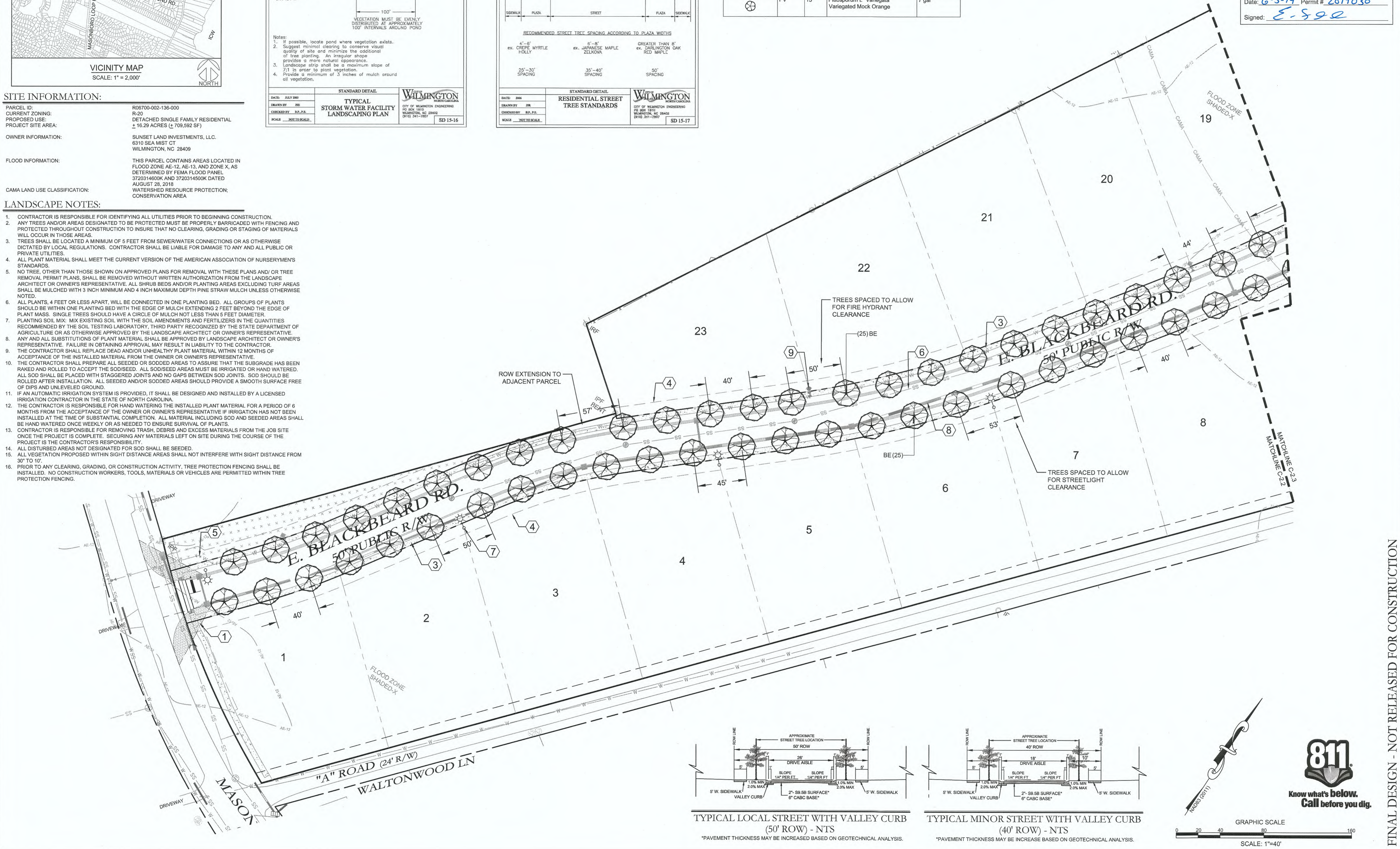
- KEY NOTES:**
- CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 46'X46' SIGHT TRIANGLE
  - CONCRETE SIDEWALK: TO COMPLY WITH CITY DETAIL SD 3-10
  - 10' GENERAL UTILITY EASEMENT
  - PROPOSED WATER MAIN: SEE PLAN AND PROFILE SHEETS
  - PROPOSED SEWER MAIN: SEE PLAN AND PROFILE SHEETS
  - PROPOSED STREET LIGHT: FINAL LOCATION TO BE DETERMINED
  - PROPOSED STORM CONVEYANCE: SEE GRADING AND DRAINAGE PLANS
  - PROPOSED FIRE HYDRANT

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: [Signature] Date: 6-4-19  
 Planning: [Signature] 6-3-19  
 Traffic: [Signature] 6-3-19  
 Fire: [Signature] 6-3-19

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 6-3-19 Permit # 2019030  
 Signed: E. S. G. E.



**811**  
 Know what's below. Call before you dig.

GRAPHIC SCALE  
 0 20 40 80 160  
 SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR.  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING, INC.**  
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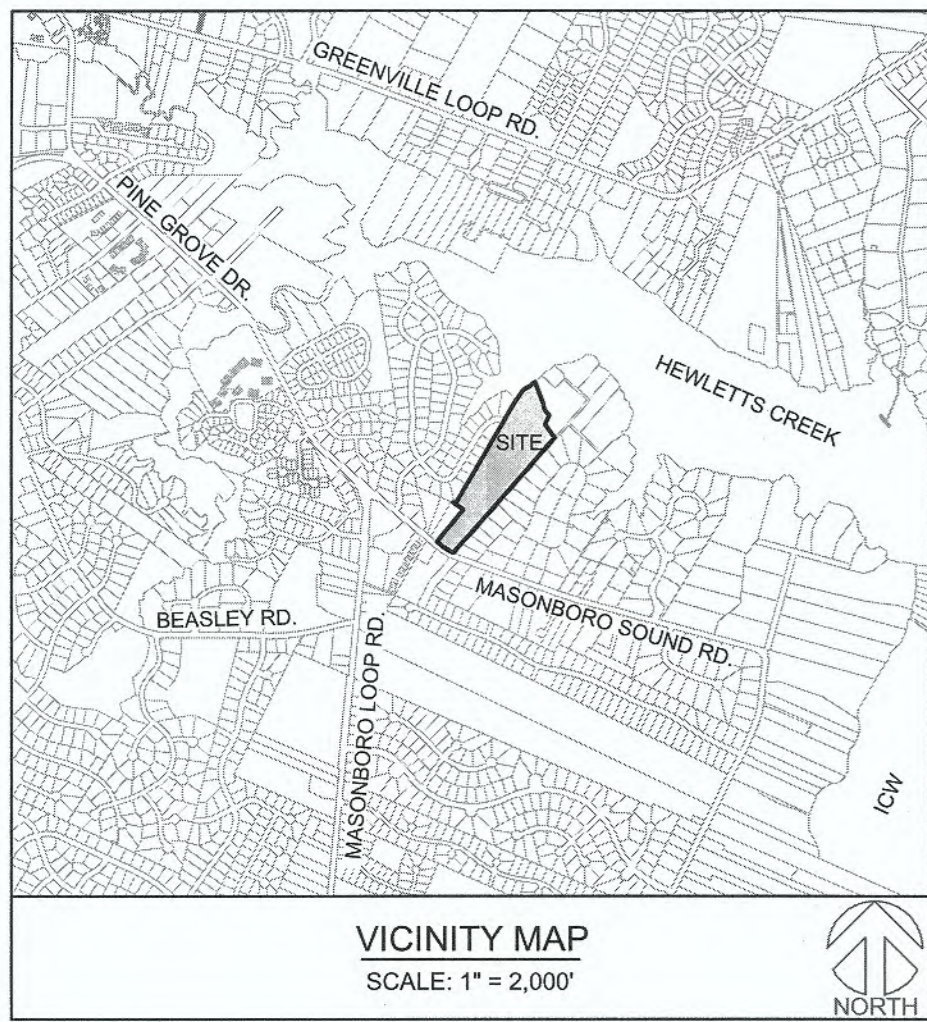
**LANDSCAPE PLAN**  
 CREEKSIDE  
 MASONBORO SOUND RD.  
 WILMINGTON, NC, NEW HANOVER COUNTY

PROJECT STATUS:  
 CONCEPTUAL LAYOUT:  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONST:

DRAWING INFORMATION:  
 DATE: 4/29/19  
 1"=40'  
 J.P.P.  
 J.P.P.  
 J.P.P.  
 J.P.P.  
 J.P.P.

Professional Seal redacted on electronic copy per City of Wilmington Policy

**L-1.0**  
 PEI JOB#: 18390.PE

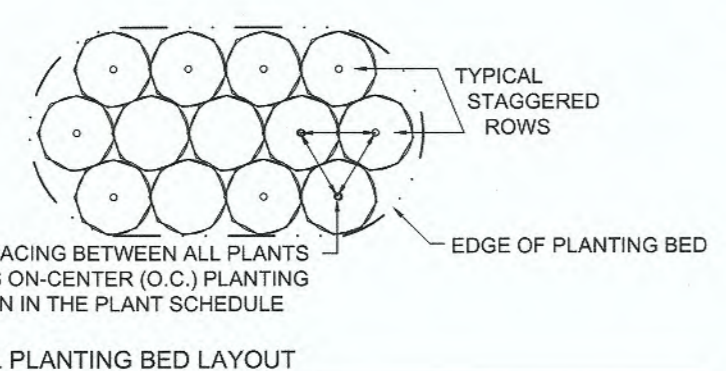
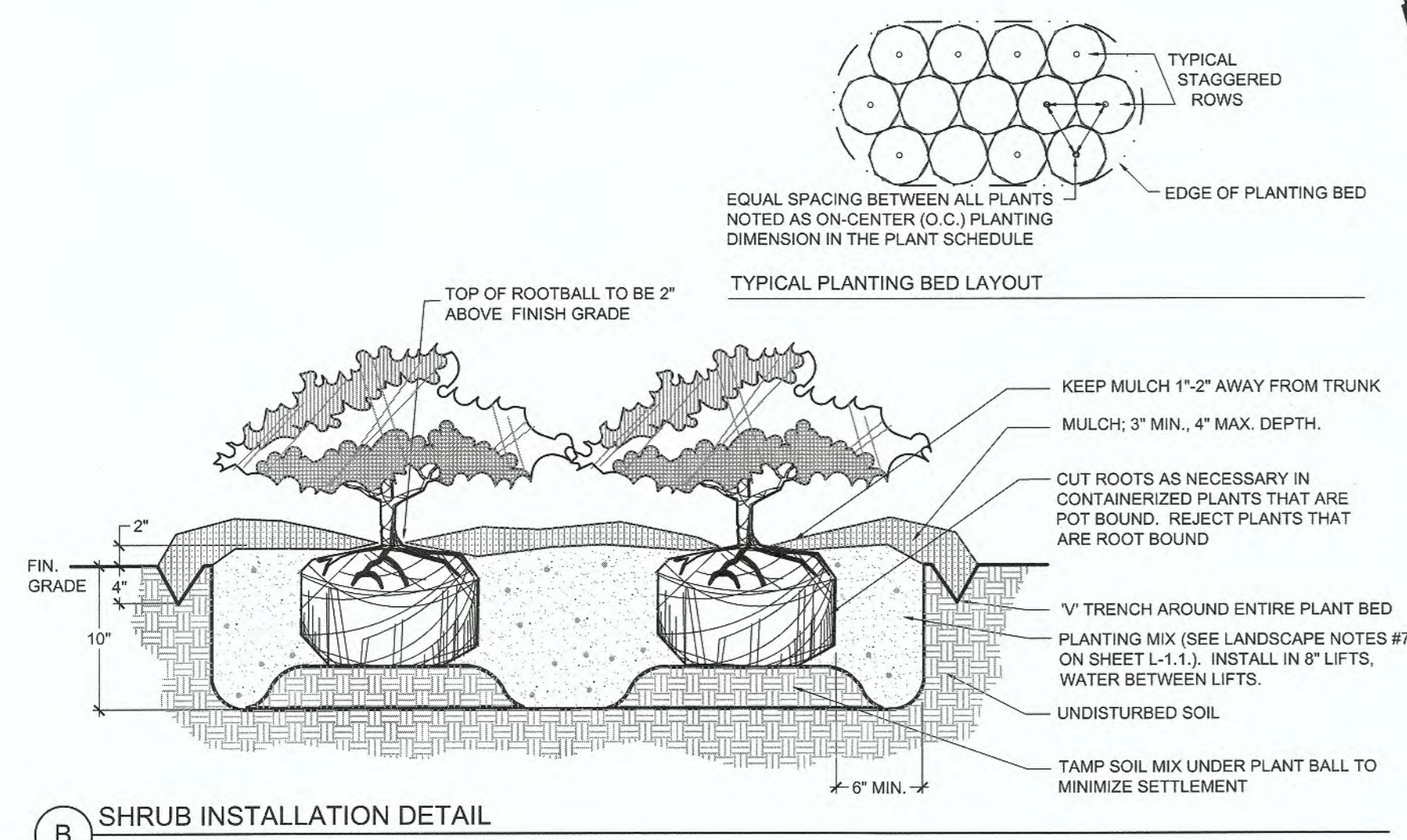
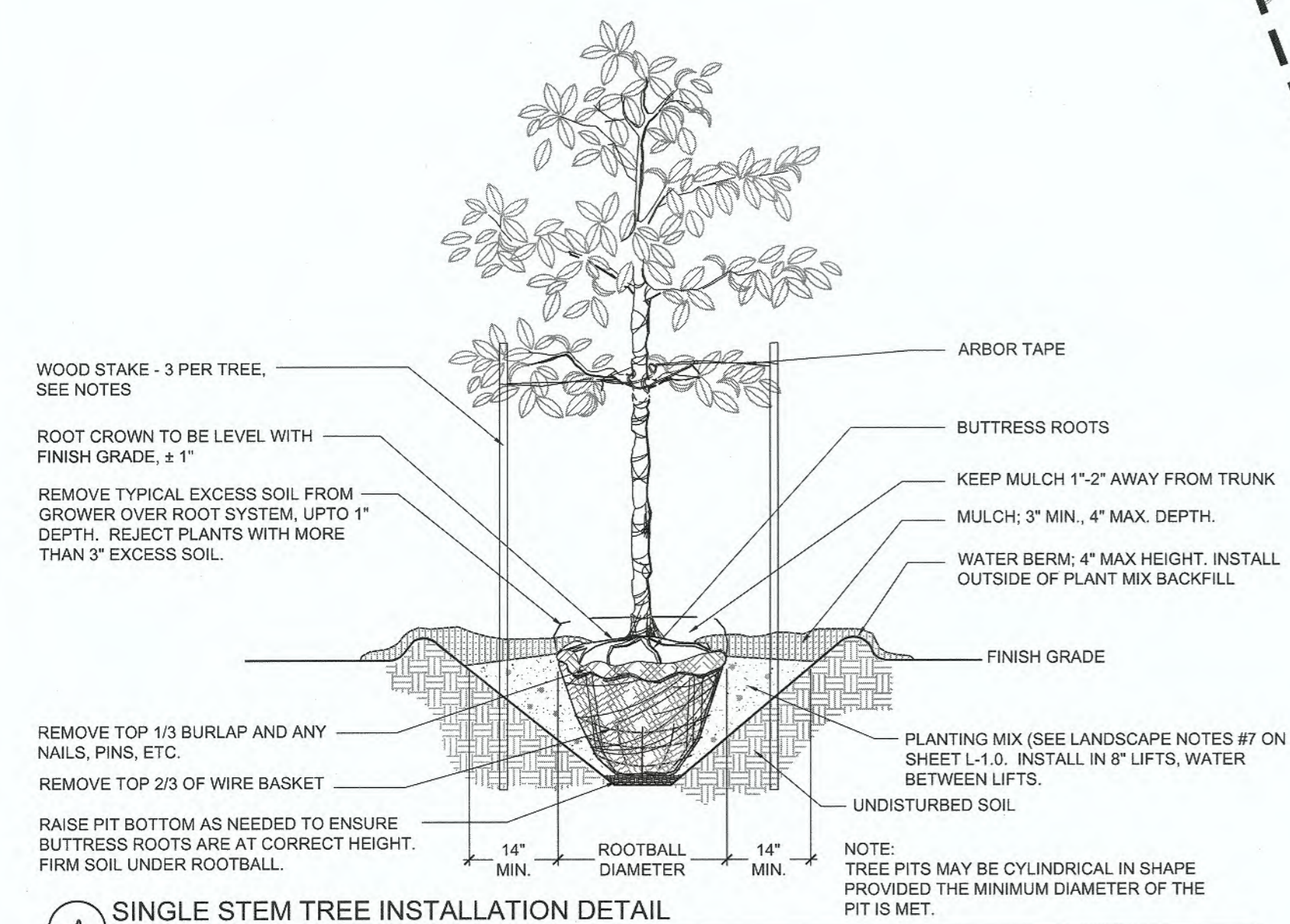
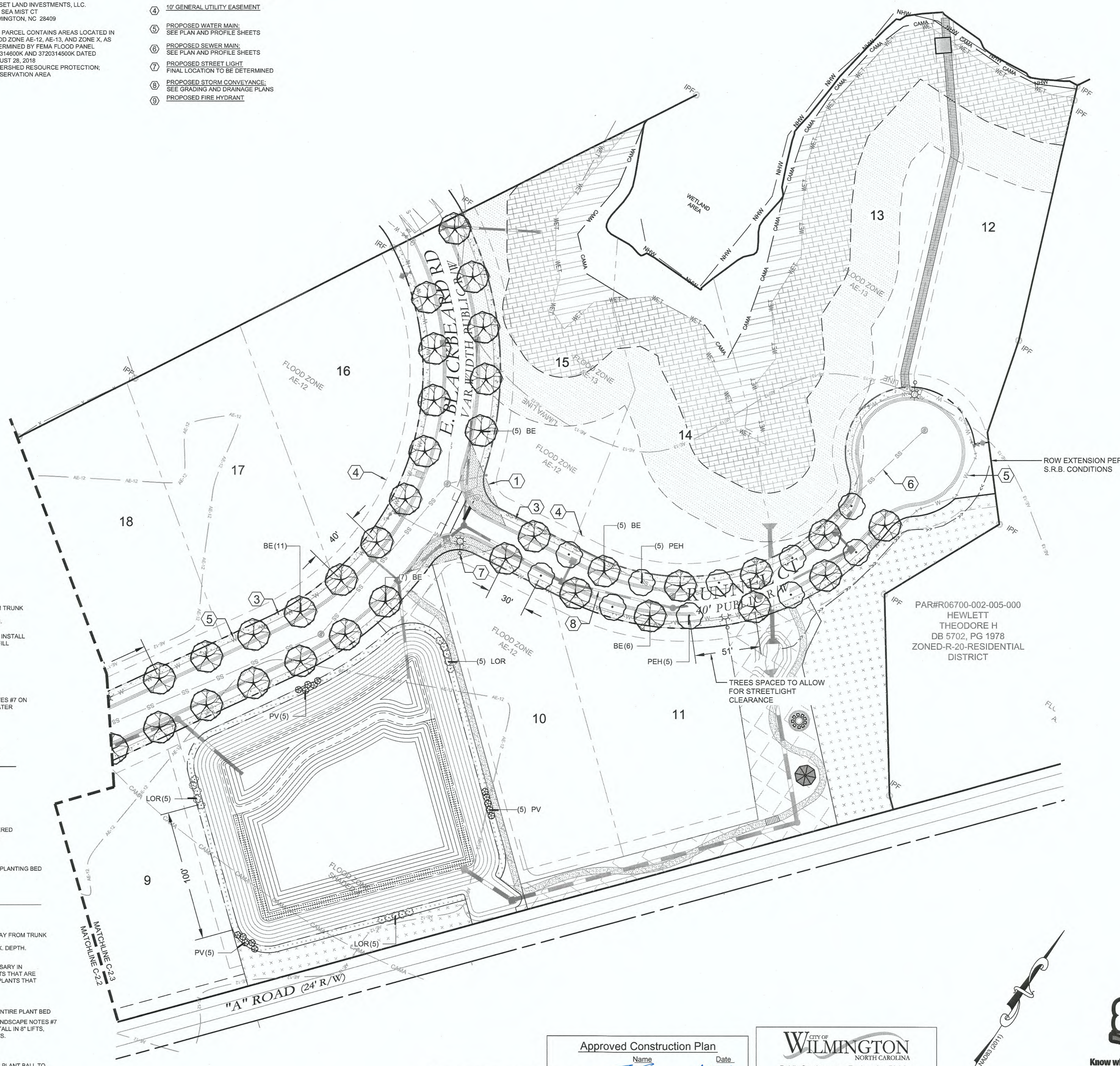


**SITE INFORMATION:**

PARCEL ID: R06700-002-136-000  
 CURRENT ZONING: R-20  
 PROPOSED USE: DETACHED SINGLE FAMILY RESIDENTIAL  
 PROJECT SITE AREA: ± 16.29 ACRES (± 709,592 SF)  
 OWNER INFORMATION: SUNSET LAND INVESTMENTS, LLC.  
 6310 SEA MIST CT  
 WILMINGTON, NC 28409  
 FLOOD INFORMATION: THIS PARCEL CONTAINS AREAS LOCATED IN  
 FLOOD ZONE AE-12, AE-13, AND ZONE X, AS  
 DETERMINED BY FEMA FLOOD PANEL  
 3720314600K AND 3720314500K DATED  
 AUGUST 28, 2016  
 CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION;  
 CONSERVATION AREA

**KEY NOTES:**

- ① CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE;  
CITY OF WILMINGTON 40'X46' SIGHT TRIANGLE
- ② CONCRETE SIDEWALK;  
TO COMPLY WITH CITY DETAIL SD 3-10
- ④ 10' GENERAL UTILITY EASEMENT
- ⑤ PROPOSED WATER MAIN;  
SEE PLAN AND PROFILE SHEETS
- ⑥ PROPOSED SEWER MAIN;  
SEE PLAN AND PROFILE SHEETS
- ⑦ PROPOSED STREET LIGHT  
FINAL LOCATION TO BE DETERMINED
- ⑧ PROPOSED STORM CONVEYANCE;  
SEE GRADING AND DRAINAGE PLANS
- ⑨ PROPOSED FIRE HYDRANT



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: 6-4-19

Planning: \_\_\_\_\_ Date: 6-3-19

Traffic: \_\_\_\_\_ Date: 6-3-19

Fire: \_\_\_\_\_ Date: 6-3-19

**CITY OF WILMINGTON**  
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 6-3-19 Permit # 2019030

Signed: E-S.O.E.

SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:  
**SUNRISE LAND INVESTMENTS, LLC.**  
 7923 REUNION DR  
 WILMINGTON, NC 28411

**PARAMOUNT ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

**LANDSCAPE PLAN**

CREEKSIDE  
 MASONBORO SOUND RD.  
 WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS:  
 CONCEPTUAL LAYOUT:  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONST.

DRAWING INFORMATION:  
 DATE: 6-3-19  
 DESIGNED: JCM  
 DRAWN: JCM  
 CHECKED: JCM

Professional Seal redacted on electronic copy per City of Wilmington Policy

**L-1.1**

PEI JOB#: 18390.PE