Staff will use the following checklist to determine the completeness of your application for construction drawings within ten business days of submittal. Please make sure all of the listed items are included. The Director shall not process an application for further review until it is determined to be complete.

Major Subdivision

Submittal Checklist – Construction Drawings

Date Received: _____ TRC Date: _____

Project Name: Sunrise on the Sound

Applicant/Property Owner: Sound Woods, LLC

Construction Drawings Submittal Checklist		
1	Complete Major Subdivision application (For amended drawings include $250 fee)	✓
2	Construction drawing with engineer's seal	✓
3	Proposed landscape plan, including common areas, open space set-aside configuration and schedule, required buffers, fences and walls, and tree protection plan	✓
4	Stormwater form(s), final stormwater management narrative and grading plan, if changed since preliminary plat	✓
5	Proposed construction drawings (road, stormwater management infrastructure, utilities)	✓
6	NCDEQ wastewater line extension permit, if applicable	
7	NCDEQ wastewater plant construction permit, if applicable	
8	NCDEQ waterline extension permit, if applicable	✓
9	NCDEQ stormwater permit including application, plan, and narrative with calculations	✓
10	NCDEQ soil erosion and sedimentation control permit	✓
11	NCDEQ CAMA major permit, if applicable	
12	NCDOT driveway permit and encroachment agreement, if applicable	✓
13	Wetland fill permit(s), if applicable	

For Staff Only

Pre-application Conference *(Optional)*

Pre-application Conference was held on _____ and the following people were present:

_____

Comments

_____

_____

Deel Engineering, PLLC
NC Firm License P-1045

October 8, 2026

Currituck County Planning & Zoning
Currituck Historic Courthouse
153 Courthouse Road, Suite 110
Currituck, North Carolina 27929

Re: Major Stormwater Plan
Sunrise on the Sound Subdivision
Moyock, Currituck County, NC

On behalf of Sound Woods, LLC, we hereby submit for review and approval a Currituck County Major Stormwater Plan application package for the aforementioned project. An NCDEQ Low-Density Stormwater Permit (Permit #SW7260609) has been issued for the development.

The accompanying .pdf package documents the stormwater design for the Sunrise on the Sound subdivision. This package consists of the following:

1. Currituck County Forms SW-002 & SW-004
2. NCDEQ Low Density SWM Permit Approval
3. Stormwater Management Plan Narrative & Calculations / Tabulations
4. 24”x36” EPA SWMM Model Existing Conditions Schematic Plan
5. 24”x36” EPA SWMM Model Proposed Conditions Schematic Plan
6. 24” x 36” Construction Plans Submittal

At your earliest convenience, please review the attached information for compliance. If you have any questions, or if you require any additional information, please do not hesitate to contact me at (252) 202-3803.

Sincerely,

David A. Deel, P.E.
Encl: as stated

Major Stormwater Plan Form SW-002

Review Process

Contact Information

Currituck County
Planning and Community Development
153 Courthouse Road, Suite 110
Currituck, NC 27929

Phone: 252.232.3055
Fax: 252.232.3026

Website: http://www.co.currituck.nc.us/planning-community-development.cfm

Currituck County
Engineering Department
153 Courthouse Road, Suite 302
Currituck, NC 27929

Phone: 252.232.6035

General

Major stormwater plan approval is required for:

- Major subdivisions.
- Major site plans - development or expansion on a nonresidential, multi-family, or mixed use lot by 5,000 square feet or more of impervious coverage or resulting in 10% or more total impervious coverage.

Step 1: Application Submittal

The applicant must submit a complete application packet consisting of the following:

- Completed Currituck County Minor Stormwater Plan Form SW-002 (unless submitting a major subdivision or major site plan).
- Completed Rational Method Form SW-003 or NRCS Method Form SW-004.
- Stormwater management plan drawn to scale. The plan shall include the items listed in the major stormwater plan design standards checklist.
- Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable.
- NCDENR permit applications, if applicable.
- Number of Copies Submitted:
  - 3 Copies of required plans
  - 3 Hard copies of ALL documents
  - 1 PDF digital copy (ex. Compact Disk – e-mail not acceptable) of all plans AND documents.

On receiving an application, staff shall determine whether the application is complete or incomplete. A complete application contains all the information and materials listed above, and is in sufficient detail to evaluate and determine whether it complies with appropriate review standards. An application for major stormwater plan must be submitted and approved prior altering an existing drainage system, performing any land disturbing activity or, before construction documents are approved.

Step 2: Staff Review and Action

Once an application is determined complete staff shall approve, approve subject to conditions or disapprove the application.

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Major Stormwater Plan
Form SW-002

Contact Information

APPLICANT:

Name: Sound Woods, LLC

Address: 155 Survey Road, Suite A

Moyock, NC 27958

Telephone: 252-435-6402

E-Mail Address: smiller@millerhomesandbuilding.com

PROPERTY OWNER:

Name: same as applicant

Address: _____

_____

Telephone: _____

E-Mail Address: _____

Property Information

Physical Street Address: Baxter Estates Road, Moyock, NC 27958

Parcel Identification Number(s): 0049000009C0000

FEMA Flood Zone Designation: X & shaded X

Request

Project Description: Proposed Residential Subdivision of 17.48 Ac. of vacant land

Total land disturbance activity: 17.5 ac sf

Calculated volume of BMPs: 387,864 sf

Maximum lot coverage: n/a sf

Proposed lot coverage: 166,642 total sf

TYPE OF REQUEST

- [X] Major subdivision (10-year, 24-hour rate)
- [ ] Major site plan (5-year, 24-hour rate)

METHOD USED TO CALCULATE PEAK DISCHARGE

- [ ] Rational Method
- [X] NRCS Method (TR-55 and TR-20)
- [ ] Simple volume calculation for small sites (less than 10 acres)
- [ ] Alternative stormwater runoff storage analysis
- [ ] Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for purposes of determining compliance. All information submitted and required as part of this process shall become public record.

_____ _____

Property Owner(s)/Applicant Date

The table below depicts the design standards of the major stormwater plan application. Please make sure to include all applicable listed items to ensure all appropriate standards are reviewed.

Major Stormwater Plan

Design Standards Checklist

Date Received: _____

Project Name: Sunrise on the Sound subdivision

Applicant/Property Owner: Sound Woods, LLC

Minor Stormwater Plan Design Standards Checklist		
General		
1	Property owner name and address.	DAD
2	Site address and parcel identification number.	DAD
3	North arrow and scale to be 1" = 100' or larger.	DAD
Site Features		
4	Scaled drawing showing existing and proposed site features: Property lines with dimensions, acreage, streets, easements, structures (dimensions and square footage), fences, bulkheads, septic area (active and repair), utilities, vehicular use areas, driveways, and sidewalks.	DAD
5	Approximate location of all designated Areas of Environmental Concern (AEC) or other such areas which are environmentally sensitive on the property, such as Maritime Forest, CAMA, 404, or 401 wetlands as defined by the appropriate agency.	DAD
6	Existing and proposed ground elevations shown in one foot intervals. All elevation changes within the past six months shall be shown on the plan.	DAD
8	Limits of all proposed fill, including the toe of fill slope and purpose of fill.	DAD
9	Square footage of all existing and proposed impervious areas (structures, sidewalks, walkways, vehicular use areas regardless of surface material), including a description of surface materials.	DAD
10	Existing and proposed drainage patterns, including direction of flow.	DAD
11	Location, capacity, design plans (detention, retention, infiltration), and design discharge of existing and proposed stormwater management features.	DAD
12	Elevation of the seasonal high water level as determined by a licensed soil scientist.	DAD
13	Plant selection.	DAD
Permits and Other Documentation		
14	NCDENR stormwater permit application (if 10,000sf or more of built upon area).	DAD
15	NCDENR erosion and sedimentation control permit application (if one acre or more of land disturbance).	DAD
16	NCDENR coastal area management act permit application, if applicable.	N/A
17	Stormwater management narrative with supporting calculations.	DAD
18	Rational Method Form SW-003 or NRCS Method Form SW-004	DAD
19	Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable	N/A
20	Design spreadsheets for all BMPs (*Appendix F – Currituck County Stormwater Manual*).	N/A
21	Detailed maintenance plan for all proposed BMPs.	

Certificate		
22	The major stormwater plan shall contain the following certificate: I, _____, owner/agent hereby certify the information included on this and attached pages is true and correct to the best of my knowledge. On the plan entitled _____, stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements. Date:_____ Owner/Agent:_____	

Major Stormwater Plan Submittal Checklist

Staff will use the following checklist to determine the completeness of your application. Please make sure all of the listed items are included. Staff shall not process an application for further review until it is determined to be complete.

Major Stormwater Plan Form SW-002

Submittal Checklist

Date Received: _____

Project Name: Sunrise on the Sound subdivision

Applicant/Property Owner: Sound Woods, LLC

Major Stormwater Plan Form SW-002 Submittal Checklist		
1	Completed Major Stormwater Plan Form SW-002	
2	Completed Rational Method Form SW-003 or NRCS Method Form SW-004	
3	Stormwater plan	
4	NCDENR permit applications, if applicable	
5	3 copies of plans	
6	3 hard copies of ALL documents	
7	**1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)**	

Comments

_____

_____

_____

NRCS Method Peak Flow
Form SW-004

Project Information

Project Location: Sunrise on the Sound subdivision

Parcel Identification Number(s): 0049000009C0000

Check One: ☒ Pre-Development ☐ Post-Development

Calculations

Runoff Curve Number and Runoff

1. Runoff Curve Number (CN)

Soil Type	Cover Description	CN (Table 2-6)	Area (acres)	CN*A
		Totals		

See Appendix D in SWM Narrative

$CN_{Weighted} = \frac{SCN*A}{SA} =$ _____

Use CN =

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency. . . . . Yr			
Rainfall, P (24-hour) (Use Table 2-7). . . . . In			
Runoff, Q. . . . . In			

Time of Concentration (Tc)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments

Sheet flow	**(Applicable to T_c only)**							
	Segment ID		Pre			Post		
1.	Surface description							
2.	Manning's roughness coeff., n (Table 2-9)							
3.	Flow Length, L (total L<= 300 ft)	ft						
4.	24-hr rainfall, P	in	4.0			6.0		
5.	Land Slope, s	ft / ft						
6.	$T_t = 0.42(nL)^{0.8} / P_2^{0.5} s^{0.4}$			+			=	
Shallow concentrated flow								
	Segment ID							
7.	Surface Description: paved (P) or unpaved (U)?							
8.	Flow Length, L	ft						
9.	Watercourse slope, s	ft / ft						
10.	Average velocity, V (Table 2-8)	ft / sec						
11.	$T_t = L / V$	min		+			=	
Channel flow								
	Segment ID							
	Pipe (P) or Channel (C)?							
	If pipe, enter D (in):							
	If channel, enter bottom width:							
	If channel, enter side slopes (_:1):							
12.	Cross sectional flow area, a	sq ft						
13.	Wetted perimeter, w_p	ft						
14.	Hydraulic radius, $r = a / w_p$	ft						
15.	Channel slope, s	ft / ft						
16.	Manning's roughness coeff., n							
17.	$V = 1.49\ r^{0.67}\ s^{0.5} / n$	ft / sec						
18.	Flow length, L	ft						
19.	$T_t = L / 60V$	min		+			=	
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)						min	

See Calculations in SWM Narrative / EPA SWMM Narrative

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

					Storm #3
2.	Frequency				
3.	Rainfall, P (24-hour)				
4.	Initial abstraction, I_a . . . . . (Use CN)	in			
5.	Compute I_a/P				
6.	Unit peak discharge, q_u . . . . . (use T_c and I_a/P with Figure 2-9)	csm/in			
7.	Runoff, Q . . . . . (From Runoff Curve Number Worksheet)	in			
8.	Pond and swamp adjustment factor, F_p . . . . . (Use Table 2-10)				
9.	Peak discharge, Q_p . . . . . (Where $Q_p = q_u A_m Q F_p$)	cfs			

Applicant

Date

NRCS Method Peak Flow
Form SW-004

Project Information

Project Location: Sunrise on the Sound subdivision

Parcel Identification Number(s): 0049000009C0000

Check One: ☐ Pre-Development ☒ Post-Development

Calculations

Runoff Curve Number and Runoff

1. Runoff Curve Number (CN)

Soil Type	Cover Description	CN (Table 2-6)	Area (acres)	CN*A
		Totals		

See Appendix D in SWM Narrative

$CN_{Weighted} = \frac{SCN*A}{SA} =$ _____

Use CN =

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency. . . . . Yr			
Rainfall, P (24-hour) (Use Table 2-7). . . . . In			
Runoff, Q. . . . . In			

Time of Concentration (Tc)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments

Sheet flow	**(Applicable to T_c only)**							
	Segment ID		Pre			Post		
1.	Surface description							
2.	Manning's roughness coeff., n (Table 2-9)							
3.	Flow Length, L (total L<= 300 ft)	ft						
4.	24-hr rainfall, P	in	4.0			6.0		
5.	Land Slope, s	ft / ft						
6.	$T_t = 0.42(nL)^{0.8} / P_2^{0.5} s^{0.4}$			+			=	
Shallow concentrated flow								
	Segment ID							
7.	Surface Description: paved (P) or unpaved (U)?							
8.	Flow Length, L	ft						
9.	Watercourse slope, s	ft / ft						
10.	Average velocity, V (Table 2-8)	ft / sec						
11.	$T_t = L / V$	min		+			=	
Channel flow								
	Segment ID							
	Pipe (P) or Channel (C)?							
	If pipe, enter D (in):							
	If channel, enter bottom width:							
	If channel, enter side slopes (_:1):							
12.	Cross sectional flow area, a	sq ft						
13.	Wetted perimeter, w_p	ft						
14.	Hydraulic radius, $r = a / w_p$	ft						
15.	Channel slope, s	ft / ft						
16.	Manning's roughness coeff., n							
17.	$V = 1.49\ r^{0.67}\ s^{0.5} / n$	ft / sec						
18.	Flow length, L	ft						
19.	$T_t = L / 60V$	min		+			=	
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)						min	

See Calculations in SWM Narrative / EPA SWMM Narrative

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

					Storm #3
2.	Frequency				
3.	Rainfall, P (24-hour)				
4.	Initial abstraction, I_a . . . . . (Use CN)	in			
5.	Compute I_a/P				
6.	Unit peak discharge, q_u . . . . . (use T_c and I_a/P with Figure 2-9)	csm/in			
7.	Runoff, Q . . . . . (From Runoff Curve Number Worksheet)	in			
8.	Pond and swamp adjustment factor, F_p . . . . . (Use Table 2-10)				
9.	Peak discharge, Q_p . . . . . (Where $Q_p = q_u A_m Q F_p$)	cfs			

Applicant

Date

Stormwater Management Plan Narrative
Sunrise on the Sound
Residential Subdivision
Moyock
Currituck County Submittal
October 8, 2026



General

The Sunrise on the Sound project is a proposed Residential Subdivision to be located on (+/-) 17.48 acres across two parcels. The project is located to the east of Tulls Creek Road, to the south of Baxter Estates Road, and to the north of Sanderson Court and Mary Catherine Way in Moyock, Currituck County, NC. The project will be limited to a maximum of 24% Built-Upon-Area (BUA) and, accordingly, an NCDEQ Low Density Stormwater Permit has been issued for this Project.

The following narrative will detail the proposed Stormwater Management design for the Sunrise on the Sound subdivision development and demonstrate compliance with the Currituck County Peak Flow Mitigation requirements.

Summary of Existing Conditions

The project site consists of 17.48 acres located to the east of Tulls Creek Road, to the south of Baxter Estates Road, and to the north of Sanderson Court and Mary Catherine Way in Moyock, Currituck County, NC. The project area primarily consists of farm fields surrounded by residential developments to the south and west, with additional farm fields to the north and a mixture of farm fields and large lot residences to the east. Runoff from the project site and the surrounding area is drained via overland flow into a series of ditches that run along the outside of the project site. These ditches then convey to five separate outfalls that ultimately drain into the wetland fringes of Wedgewood Lakes Outlet to the north and Baxter Grove Ditch to the south. Soil across the site consists primarily of fine loamy sand.

Summary of Proposed Conditions

The Sunrise on the Sound project proposes to subdivide 15 single family residential lots with associated subdivision road and infrastructure improvements. Runoff from the proposed subdivision roads, lots, and open space will be collected via a system of grassed swales running through and around the project site and conveying to three wet ponds; two located on the western end of the project area and one to the southeast. The two western wet ponds are connected by a singular pipe, allowing for equalization between the ponds, and both share a singular outlet control structure draining to the primary northern outfall via the existing off-site ditch system.

For each outfall, modeled post-construction runoff resulting from a 10-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the modeled 2-yr, 24 hr peak runoff rate for the site in a theoretical pre-development wooded condition. Post-construction runoff resulting from a modeled 100-yr, 24 hr storm event will also be retained and released in a manner which reflects the modeled existing condition.

Stormwater Collection, Treatment, Storage and Disposal

Collection

The stormwater runoff will be collected and directed to one of three wet ponds via a combination of site grading and conveyance swales.

Treatment

Runoff from the drainage area will enter the basins primarily via the proposed conveyance swales. Initial and primary treatment will be primarily provided via filtration from the swale vegetation. A small portion of the runoff will enter the basins via overland flow, and initial and primary treatment from these areas is provided via filtration through the overland vegetation.

The Project has been issued an NCDEQ Low Density Stormwater Permit. Therefore, the three proposed wet ponds are NOT Stormwater Control Measures (SCM's) for the purposes of NCDEQ permitting. They are designed to handle storage of runoff directed via conveyance swales and overland flow but not for primary treatment. The outlet control structures for these wet ponds will each incorporate a trash rack in order to provide secondary treatment in filtering out debris.

Storage

Currituck County's Stormwater Ordinance requires that the runoff rate from the 10-yr, 24-hr storm in the post-construction condition not exceed the runoff rate from the 2-yr, 24-hr storm in the pre-construction, theoretical fully wooded condition. In order to demonstrate compliance and to adequately account for off-site, downstream factors, an EPA SWMM Model was constructed of the entire drainage shed. This model & peak mitigation design are discussed below.

Disposal

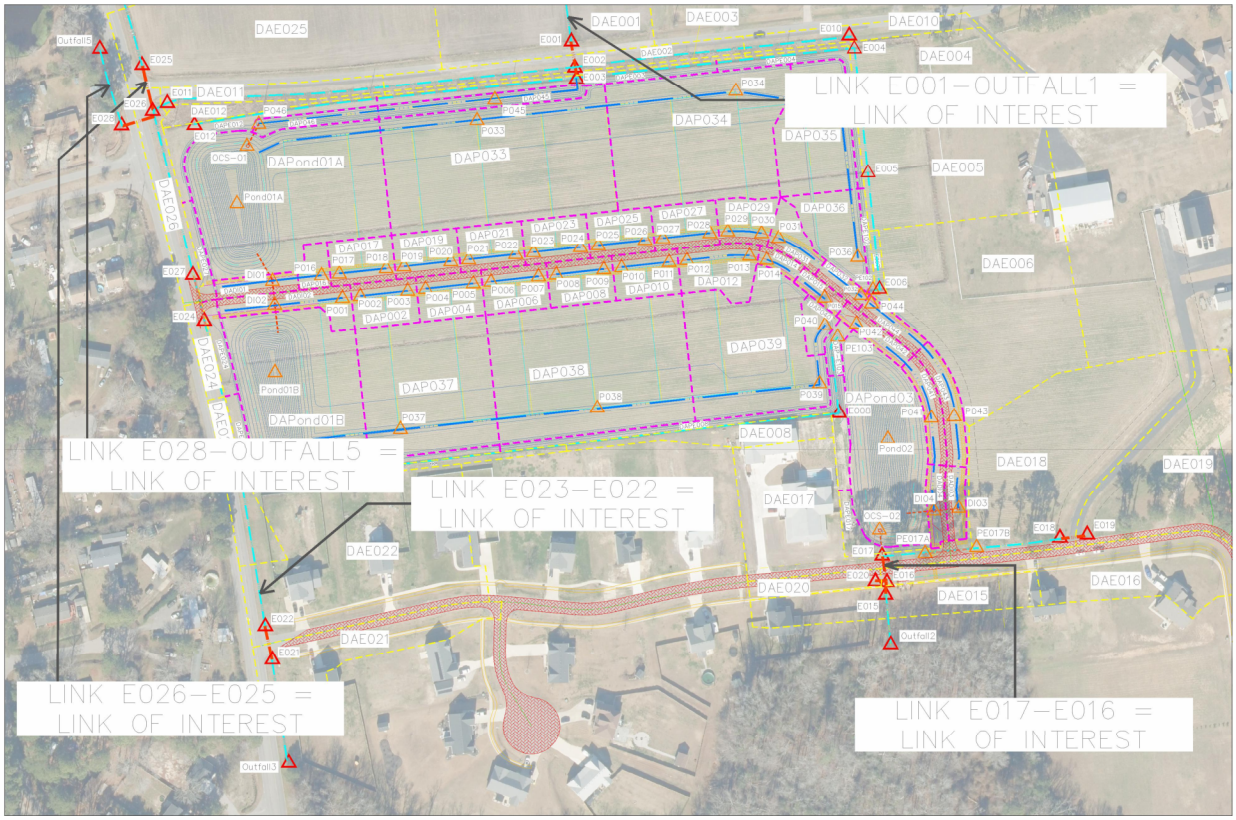
A small amount of the runoff will be infiltrated or be disposed of via infiltration and evapotranspiration. The primary source of disposal, however, will be via discharge to the outfall via the Outlet Control Structures.

Peak Flow Mitigation

Currituck County's Stormwater Ordinance requires that the runoff rate from the 10-yr, 24-hr storm in the post-construction condition not exceed the runoff rate from the 2-yr, 24-hr storm in the pre-construction, theoretical fully wooded condition. In order to demonstrate compliance and to adequately account for off-site, downstream factors and interconnection of outfalls via internal farm ditches, an EPA SWMM Model was constructed of the entire drainage shed.

Pre-development peak flow was calculated utilizing the NRCS (SCS) Method within EPA SWMM as per the Currituck Stormwater Ordinance. Due to the large number of drainage areas which were individually analyzed, the results are presented in excel spreadsheet format in the Appendix to this narrative rather than on the County's forms. Pre-development & post-development peak flows calculated for the link of interest are as follows:

E001-Outfall1	Ditch link to the north of the project site and downstream of the western wet ponds' outlet control structure
E017-E016	Culvert link southeast of the project site and downstream of the eastern wet pond's outlet control structure
E023-E022	Ditch link to the southwest of the project site and downstream of the western wet ponds' outlet control structure
E026-E025	Culvert link to the northwest of the project site and downstream of the western wet ponds' outlet control structure
E028-Outfall5	Ditch link to the northwest of the project site and downstream of the western wet ponds' outlet control structure



It should be noted that, in both the pre- and post-construction conditions, Link E001-Outfall1 and Link E017-E016 carry the bulk of runoff from the Project Site. The other three outfalls are included in the model due to their minor interactions with the existing drainage system as a whole.

2yr-10yr Rainfall Peak Flow Mitigation

	2yr-10yr Pre* (cfs)	10yr Post (cfs)
E001-Outfall1	6.74	6.65
E017-E016	2.98	1.96
E023-E022†	0.50	0.52
E026-E025	0.60	0.48
E028-Outfall5	2.56	2.42

100yr Analysis (Currituck County Req'mt):

	100yr Pre (cfs)	100yr Post (cfs)
E001-Outfall1	25.74	18.32
E017-E016	6.10	4.56
E023-E022	0.86	0.94
E026-E025†	1.38	1.26
E028-Outfall5‡	5.31	5.46

* "2-yr / 10yr Pre" results reported represent results from the existing conditions model with the 10-yr rainfall event applied to all off-site drainage areas and the 2-yr rainfall event applied to the Project Site.

† E026-E025 post-development flow results show increases (0.02-0.06 cfs) which are generally within the expected tolerances for the model, and the associated culvert and link have adequate capacity to accommodate the marginal increase in flow.

‡ E028-Outfall5 post-development flow results show an increase of 0.15 cfs in the 100-yr storm which is tolerated since the increase is marginal and the associated culvert and link have adequate capacity to accommodate the marginal increase in flow.

Soils

Information collected on site indicates that the soils found throughout this site are composed primarily of fine sandy loam. These soil types will have moderately high to high permeability. These findings generally correlate with the description mapped and discussed in the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Currituck County, North Carolina, which map the soil for this site as follows:

AtA - Altavista fine sandy loam, Permeability is moderately high to high

At – Augusta fine sandy loam, Permeability is moderately high to high

BoA - Bojac loamy sand, Permeability is high

StB – State fine sandy loam, Permeability is moderately high to high

A soils report has been included in the appendix of this narrative.

Calculations

A set of Drainage Area Tabulations & EPA SWMM Model Report can be found within appendix portion of this narrative.

Conclusions

The proposed stormwater management plan for this site will handle the difference in runoff between the pre-development 2-yr, 24hr and the post-development 10-yr, 24 hr storm events, as prescribed by the Currituck County Stormwater Management Ordinance. Additionally, the design mitigates peak flows from the 100-yr, 24 hr storm events. This proposed design will more than adequately serve the stormwater management requirements of this site

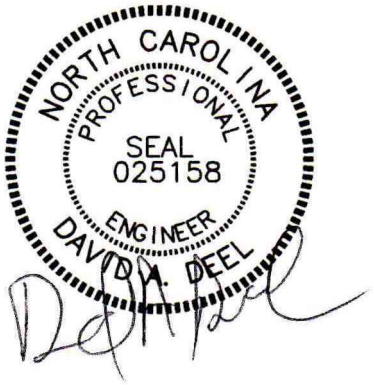
APPENDIX A
Aerial GIS Imagery


County Map
Wedgewood Lakes Outlet
BAXTER ESTATES RD
WEDGEWOOD DR
WEDGEWOOD BLVD
MAPLE CIR
ASH CIR
SANDERSON CT
SURINA CT
MARY CATHERINE WAY
TULLS CREEK RD
Baxter Grove Ditch
GUNSMOKE TRL
: 1 inch = 413 feet

APPENDIX B
EPA SWMM Model Report

EPA SWMM Model Report

Sunrise on the Sound – Residential Subdivision
Moyock, Currituck County
October 8, 2026



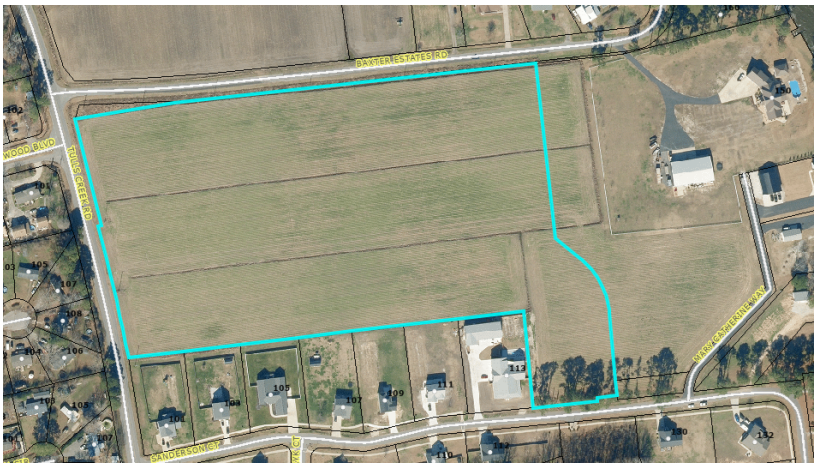
General

The following report will detail the EPA SWMM Model which was constructed & analyzed in order to provide design guidance for the stormwater management systems to be installed with the construction of the proposed Sunrise on the Sound residential subdivision in Moyock, NC.

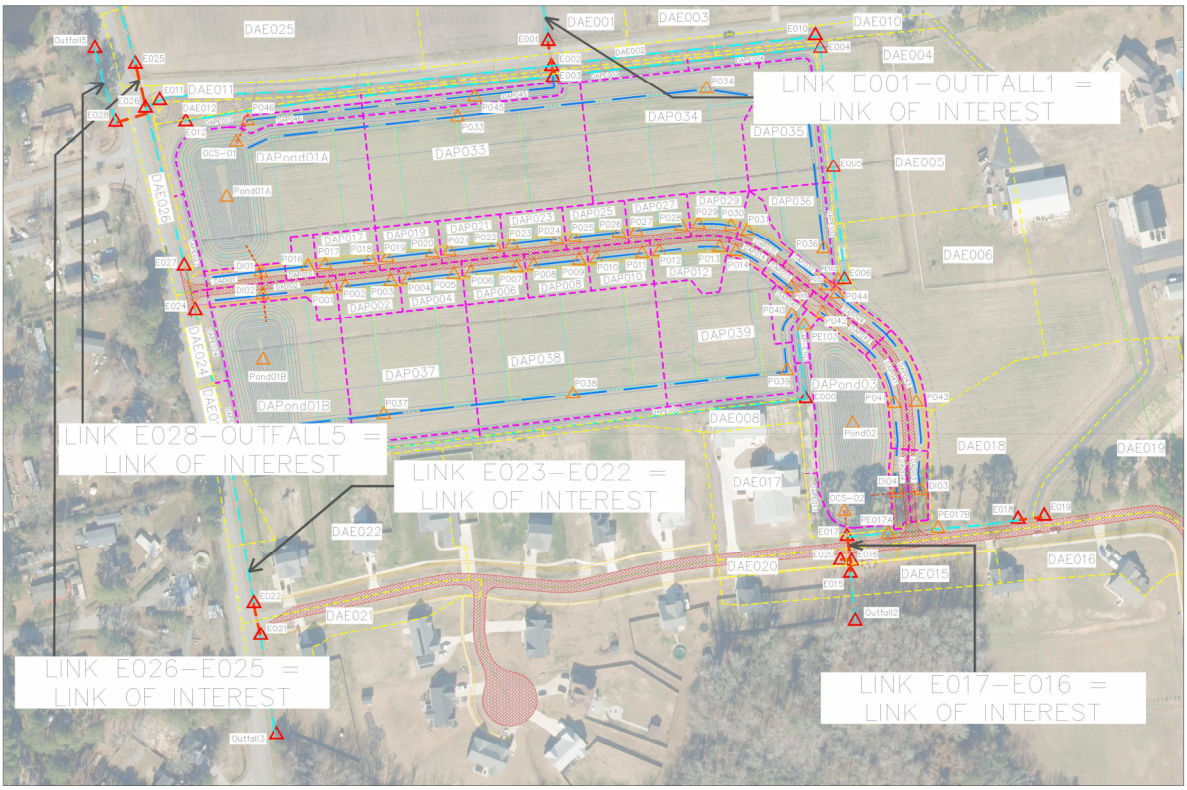
The Project Site

The Sunrise on the Sound project is a proposed Residential Subdivision to be located on (+/-) 17.48 acres across two parcels. The project is located to the east of Tulls Creek Road, to the south of Baxter Estates Road, and to the north of Sanderson Court and Mary Catherine Way in Moyock, Currituck County, NC. The project will be limited to a maximum of 24% Built-Upon-Area (BUA) and, accordingly, an NCDEQ Low Density Stormwater Permit has been issued for this Project.

The project area primarily consists of farm fields surrounded by residential developments to the south and west, with additional farm fields to the north and a mixture of farm fields and large lot residences to the east. Runoff from the project site and the surrounding area is drained via overland flow into a series of ditches that run along the outside of the project site. These ditches then convey to five separate outfalls that ultimately drain into the wetland fringes of Wedgewood Lakes Outlet to the north and Baxter Grove Ditch to the south. Soil across the site consists primarily of fine loamy sand.



The Sunrise on the Sound project proposes to construct 15 single family residential lots with associated subdivision road and infrastructure improvements. Runoff from the proposed subdivision roads, lots, and open space will be collected via a system of grassed swales running through and around the project site all conveying to three wet ponds, two located on the western side of the project area and one to the southeast. The two western wet ponds are connected by a singular pipe, and both share a singular outlet control structure draining to offsite ditches.



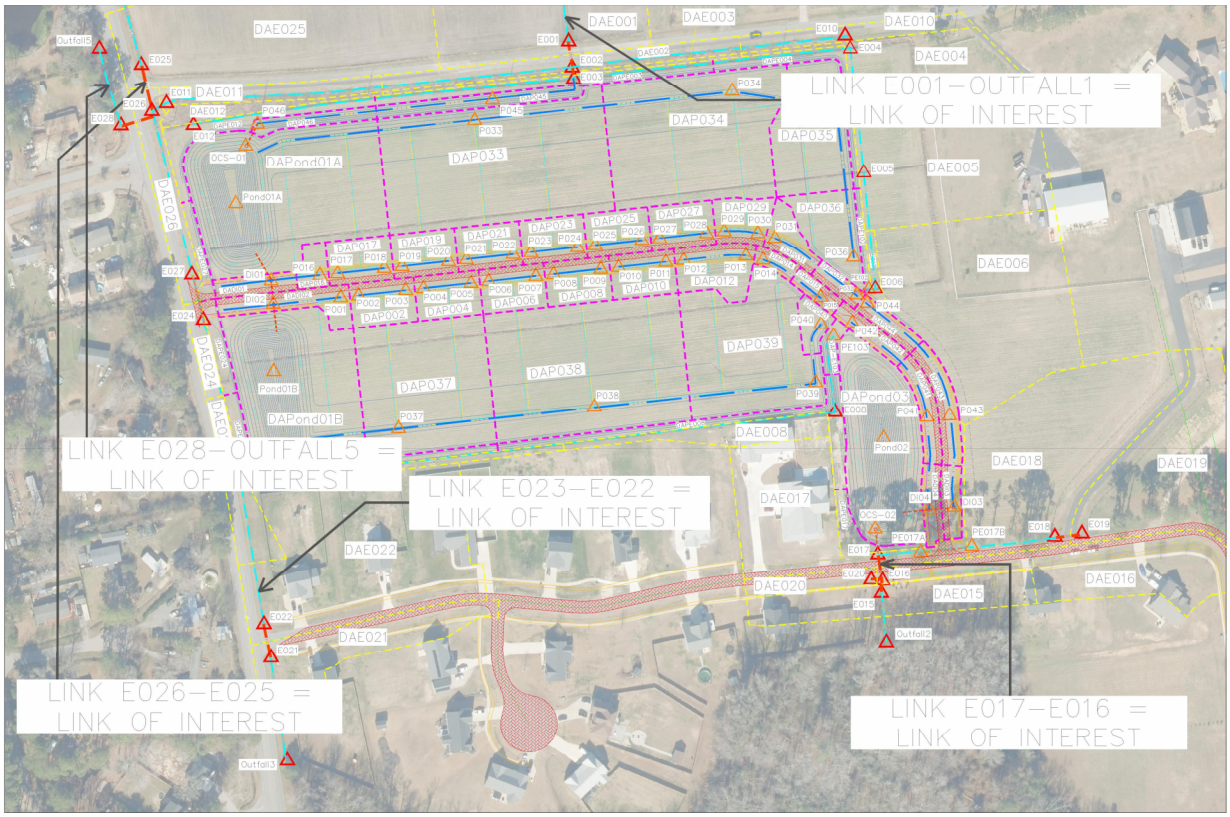
Plans which accompany this submittal are schematic in nature and are intended to provide guidance in how the SWMM Model was constructed. A separate submission of detailed Construction Plans will be submitted for Currituck County Construction Plans review

Target Design Standards

Post-construction runoff resulting from a 10-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the modeled 2-yr, 24 hr peak runoff rate for the site in a theoretical pre-development wooded condition. Post-construction runoff resulting from a modeled 100-yr, 24 hr storm event will also be retained and released in a manner which reflects the modeled existing condition.

Pre-development peak flow was calculated utilizing the NRCS (SCS) Method as incorporated into EPA SWMM software. Five ditches around the project site were identified and analyzed as links of interest, with two ditches, Link E001-Outfall1 and Link E017-E016, carrying the bulk of runoff from the Project Site. The other three outfalls are included in the model due to their minor interactions with the existing drainage system as a whole.

E001-Outfall1	Ditch link to the north of the project site and downstream of the western wet ponds' outlet control structure
E017-E016	Culvert link southeast of the project site and downstream of the eastern wet pond's outlet control structure
E023-E022	Ditch link to the southwest of the project site and downstream of the western wet ponds' outlet control structure
E026-E025	Culvert link to the northwest of the project site and downstream of the western wet ponds' outlet control structure
E028-Outfall5	Ditch link to the northwest of the project site and downstream of the western wet ponds' outlet control structure



Pre-development (target) peak flows calculated for the links of interest are as follows:

2yr-10yr Analysis (Currituck County Req'mt):

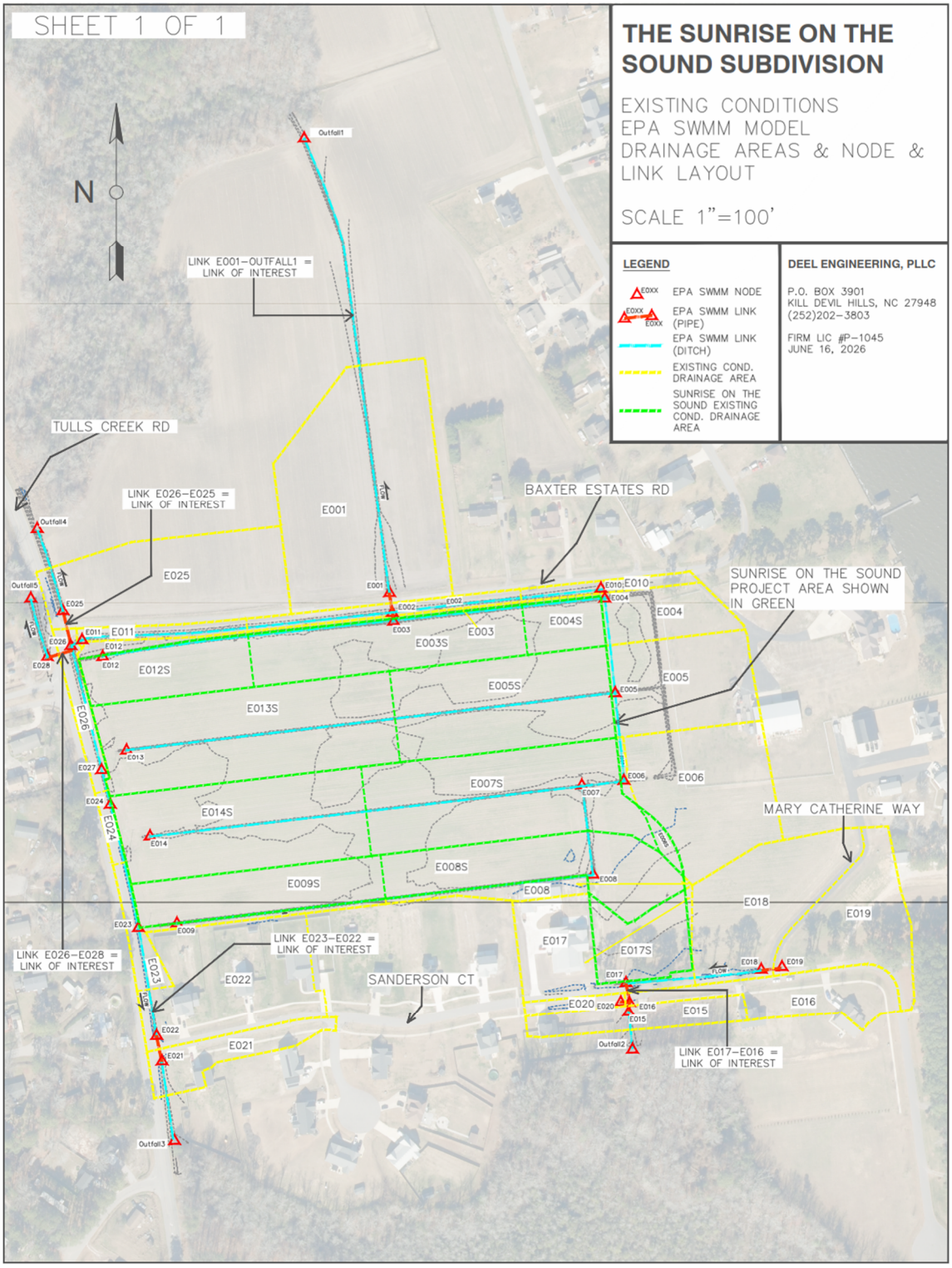
	2yr-10yr Pre (cfs)
E001-Outfall1	6.74
E017-E016	2.98
E023-E022	0.50
E026-E025	0.60
E028-Outfall5	2.56

100yr Analysis (Currituck County Req'mt):

	100yr Pre (cfs)
E001-Outfall1	25.74
E017-E016	6.10
E023-E022	0.86
E026-E025	1.38
E028-Outfall5	5.31

EPA SWMM Model (Ex. Conditions Aerial Schematic):

Electronic (readable) Copy enclosed with this submission



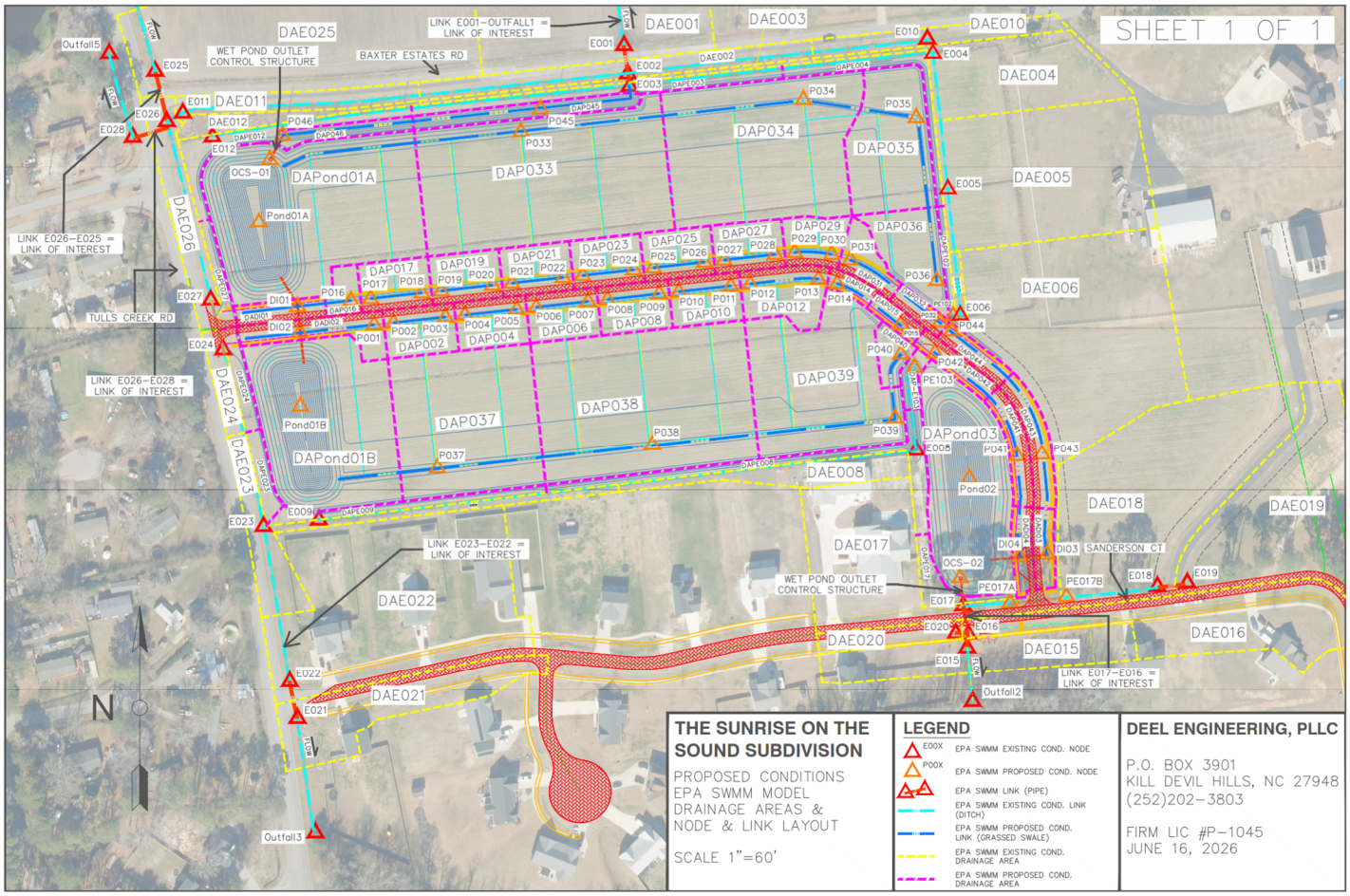
EPA SWMM Model (Ex. Conditions Graphical Model):

Electronic Copy enclosed with this submission



EPA SWMM Model (Prop. Conditions Aerial Schematic):

Full-Size (readable) Copy enclosed with this submission



EPA SWMM Model (Prop. Conditions Graphical Model):

Electronic Copy enclosed with this submission



Model Hydrology

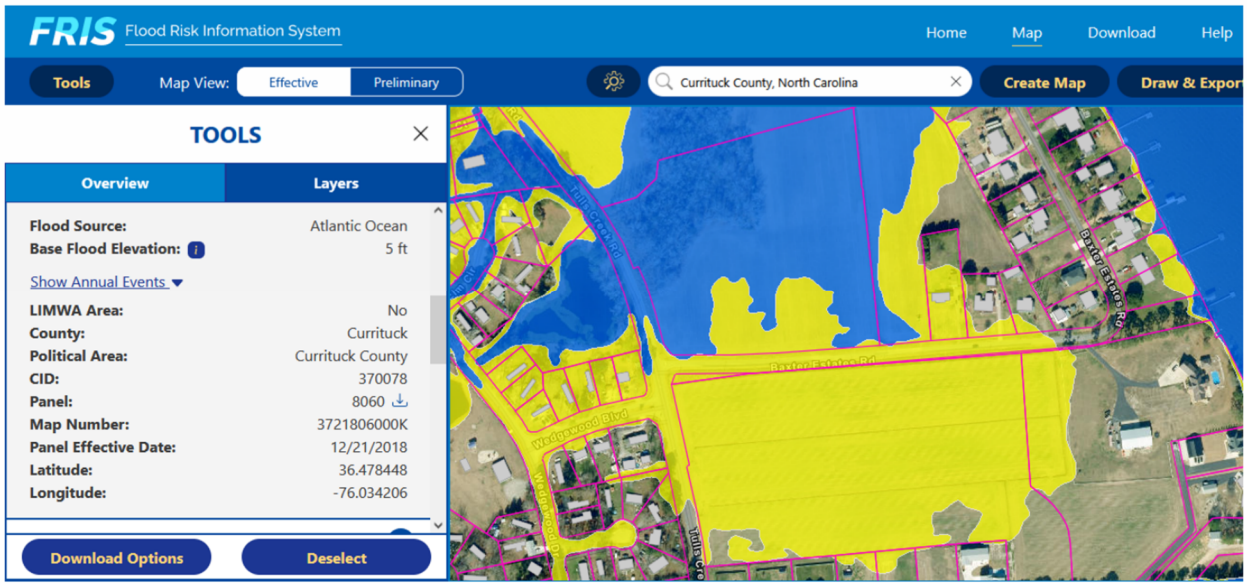
Runoff was modeled utilizing the NRCS (SCS) Method for the 2-yr, 10-yr, and 100-yr, 24-hour storm events. NRCS standard Type III (coastal) rainfall distributions were utilized with total rainfall depths of:

2yr, 24hr Total Rainfall Depth = 3.74 in. (Currituck County Standard)
10yr, 24 hr Total Rainfall Depth = 5.74 in. (NOAA Atlas 14)
100yr, 24 hr Total Rainfall Depth = 9.54 in. (NOAA Atlas 14)

Runoff was routed through the model utilizing a Dynamic Wave method.

Model Tailwater

Tailwater conditions are obtained via flood analysis data posted to the NCEM FRIS website:



*Since the only available tailwater information is for the 100yr-24hr storm event a fixed tailwater is only applied to that model. The "2-yr,10-yr" and 10-yr models utilize a 'normal' state applied to the outlet

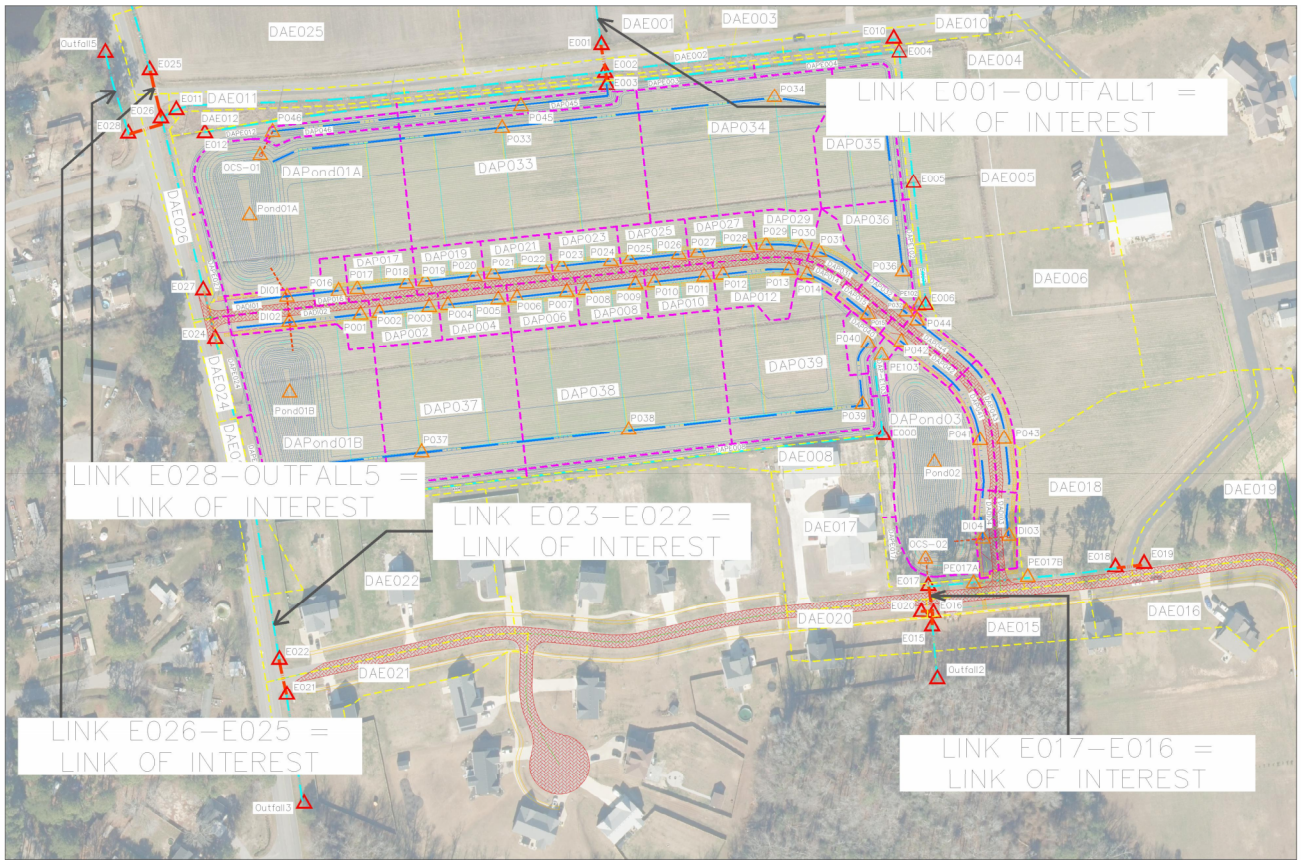
Model Elements

Model Elements input data is included in the electronic files accompanying this narrative.

Methodology

In an examination of the drainage shed, five Links of Interest (LOI's) within the drainage system were identified:

E001-Outfall1	Ditch link to the north of the project site and downstream of the western wet ponds' outlet control structure
E017-E016	Culvert link southeast of the project site and downstream of the eastern wet pond's outlet control structure
E023-E022	Ditch link to the southwest of the project site and downstream of the western wet ponds' outlet control structure
E026-E025	Culvert link to the northwest of the project site and downstream of the western wet ponds' outlet control structure
E028-Outfall5	Ditch link to the northwest of the project site and downstream of the western wet ponds' outlet control structure



Runoff from the project site and the surrounding area is drained via overland flow into a series of ditches that run along the outside of the project site.

All contributing drainage areas flowing towards the outlets were analyzed and the proposed project area was segregated from off-site areas so that on-site conditions can be changed for the pre- / post- construction analysis. The LOI's were identified within the existing drainage system downstream of the project area. The LOI's were utilized as the "comparison location" to analyze the effectiveness of the system design in mitigating post-construction flows to pre-construction levels.

Off-site drainage areas were included in the analysis so that tailwater effects at the outfall can be properly accounted for in the model.

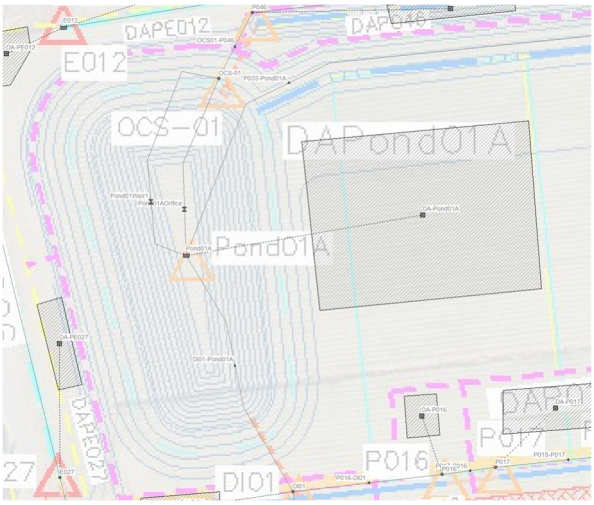
The Post-Construction runoff from the proposed subdivision roads, lots, and open space will be collected via a series of grassed swales running through and around the project site all conveying to three wet ponds. Two of those wet ponds are connected via a single pipe and are to be located in the west side of the developed area, and the third wet pond will be located in the southeast corner of the developed area. The west side wet ponds are designed to maintain a Normal Water Surface Elevation (NWSEL) of 2.5', and the southeast wet pond is designed to maintain a NWSEL of 3.14'. These wet ponds are regulated at their respective levels via weir & orifice structures which discharge into the existing ditches surrounding the project area.

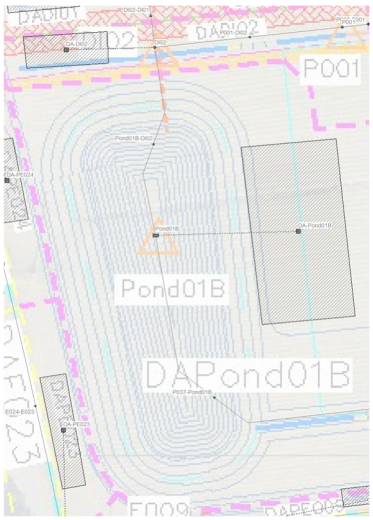
Existing and Proposed Conditions models were run to generate peak flow results for the "2-yr,10-yr", 10-yr, and 100-yr, 24 hr rainfall events.

Multiple weir configurations were tested in an iterative process until balance between pre-construction model peak flows and post-construction peak flows were achieved. The final design calls for the following control structure:

Pond	**Outfall**	**Weir Configuration**
Pond 1A and Pond 1B	Wedgewood Lakes Outlet	Conc. Weir Structure with: 4" diameter circular orifice @ elev. 2.5' 3' wide weir @ elev. 4.5'
Pond 2	Baxter Grove Ditch	Conc. Weir Structure with: 1' wide weir @ elev. 3.0' 5' wide weir @ elev. 3.1'

Pond 1A and Pond 1B outlet and volume information used in SWMM:





Weir Pond01Weir1

Property	Value
Name	Pond01Weir1
Inlet Node	Pond01A
Outlet Node	OCS-01
Description	
Tag	
Type	TRANSVERSE
Height	15
Length	3
Side Slope	0
Inlet Offset	4.5
Discharge Coeff.	3.33
Flap Gate	NO
End Contractions	0
End Coeff.	0
Can Surcharge	YES
Coeff. Curve	

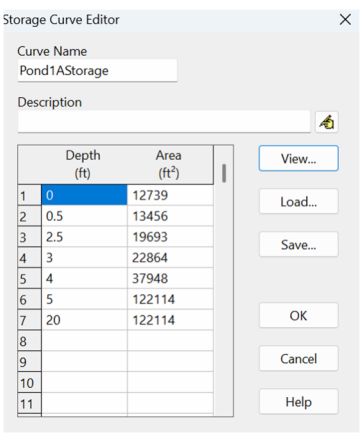
User-assigned name of weir

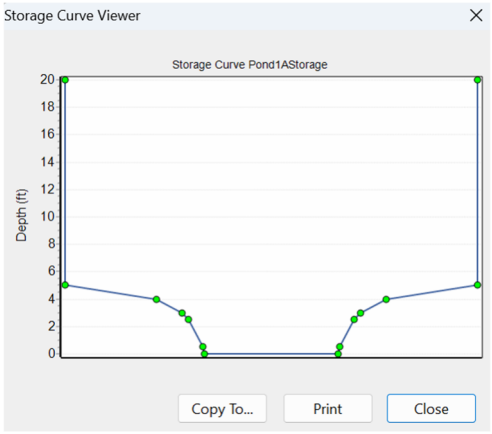
Orifice Pond01AOrifice

Property	Value
Name	Pond01AOrifice
Inlet Node	Pond01A
Outlet Node	OCS-01
Description	
Tag	
Type	SIDE
Shape	CIRCULAR
Height	0.333
Width	0
Inlet Offset	2.5
Discharge Coeff.	0.65
Flap Gate	NO
Time to Open/Close	0

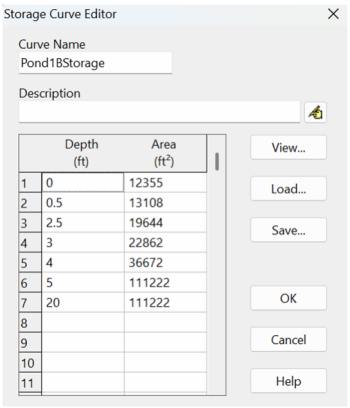
User-assigned name of orifice

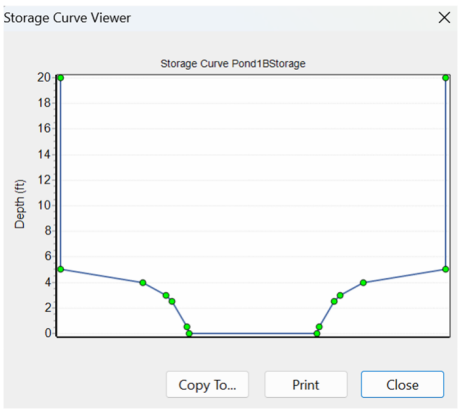
Pond 1A Stage / Storage (Perm Pool @ Elev 2.5’):



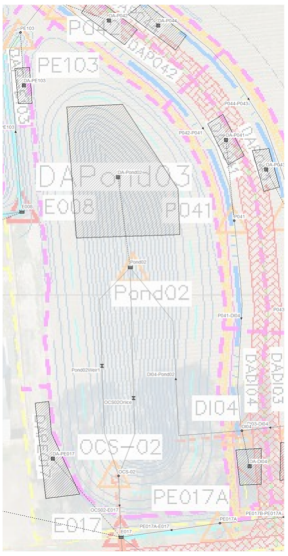


Pond 1B Stage / Storage (Perm Pool @ Elev 2.5’):





Pond 2 outlet and volume information used in SWMM:



Weir OCS02Oriice

Property	Value
Name	OCS02Oriice
Inlet Node	Pond02
Outlet Node	OCS-02
Description	
Tag	
Type	TRANSVERSE
Height	10
Length	1
Side Slope	0
Inlet Offset	3
Discharge Coeff.	3.33
Flap Gate	NO
End Contractions	0
End Coeff.	0
Can Surcharge	YES

User-assigned name of weir

Weir Pond02Weir1

Property	Value
Name	Pond02Weir1
Inlet Node	Pond02
Outlet Node	OCS-02
Description	
Tag	
Type	TRANSVERSE
Height	15
Length	5
Side Slope	0
Inlet Offset	3.1
Discharge Coeff.	3.33
Flap Gate	NO
End Contractions	0
End Coeff.	0
Can Surcharge	YES

User-assigned name of weir

Pond 2 Stage / Storage (*Perm Pool @ Elev 3.14'):

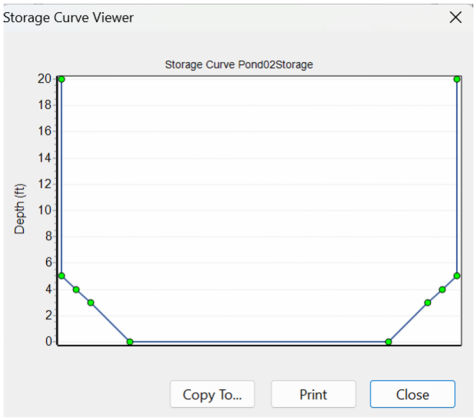
Storage Curve Editor

Curve Name: Pond02Storage

Description:

	Depth (ft)	Area (ft²)
1	0	13733
2	3	23304
3	4	27528
4	5	31979
5	20	31979
6		
7		
8		
9		
10		
11		

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*Note: An off-site, downstream pipe south of Sanderson Court has an elevated invert of 3.14', which will retain water in the upstream system, including Pond 2, during wet periods. Therefore, a permanent pool of 3.14' was utilized in order to produce conservative results from the modeling work. During normal to dry periods, the pond will draw-down to a permanent pool elevation of 3.0', where the outlet control structure orifice will regulate the permanent pool elevation.

Results:

A complete tabulation of flow & velocity results for the proposed project can be found in the Appendix to the Stormwater Narrative. Summary results pertaining to the design and Currituck County Compliance are as follows:

Peak Flow Mitigation Results:

2yr-10yr Rainfall Peak Flow Mitigation

	2yr-10yr Pre* (cfs)	10yr Post (cfs)
E001-Outfall1	6.74	6.65
E017-E016	2.98	1.96
E023-E022†	0.50	0.52
E026-E025	0.60	0.48
E028-Outfall5	2.56	2.42

100yr Analysis (Currituck County Req'mt):

	100yr Pre (cfs)	100yr Post (cfs)
E001-Outfall1	25.74	18.32
E017-E016	6.10	4.56
E023-E022†	0.86	0.94
E026-E025	1.38	1.26
E028-Outfall5‡	5.31	5.46

* "2-yr / 10yr Pre" results reported represent results from the model with the 10-yr rainfall event applied to all off-site drainage areas and the 2-yr rainfall event applied to the Project Site.

† E023-E022 post-development flow results show increases (0.02-0.06 cfs) which are generally within the expected tolerances for the model, and the associated culvert and existing ditch have adequate capacity to accommodate the marginal increase in flow.

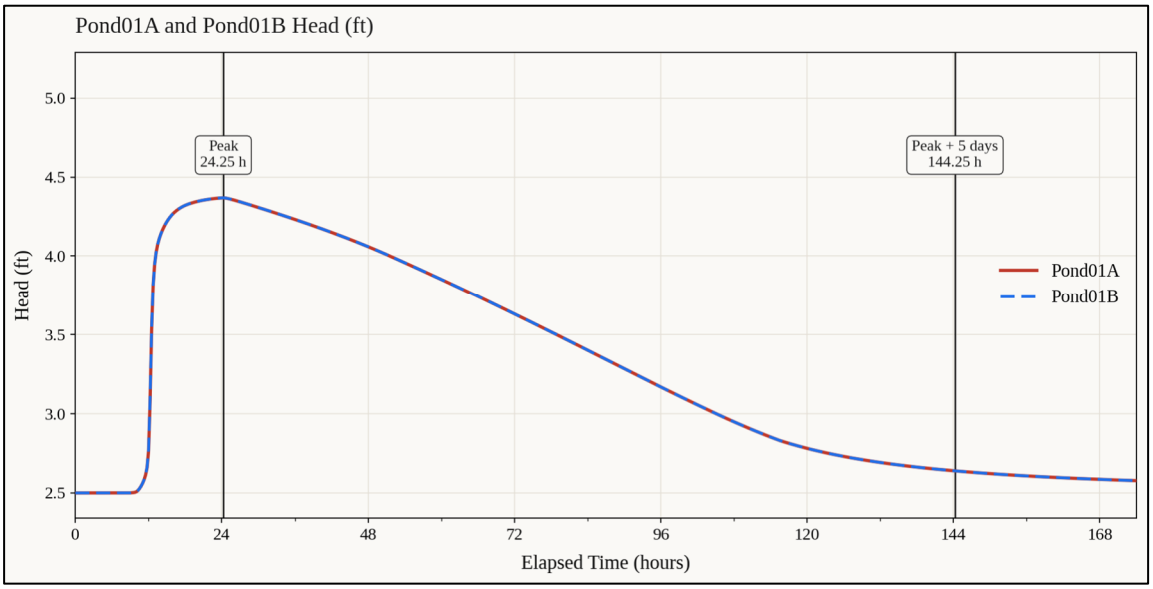
‡ E028-Outfall5 post-development flow results show an increase of 0.15 cfs in the 100-yr storm which is tolerated since the increase is marginal and the associated culvert and existing ditch have adequate capacity to accommodate the marginal increase in flow.

Pond System Draw-down:

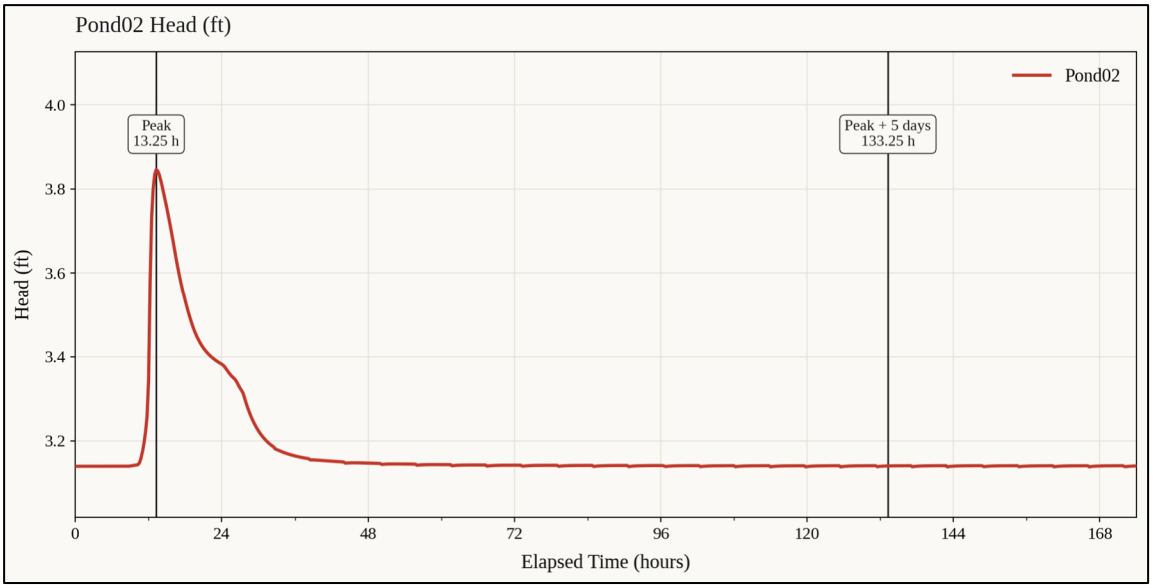
The draw-down target for the west ponds (Pond01A & Pond01B) is 2.5’ and the draw-down target for the southeast pond (Pond02) is 3.14’:

10-yr, 24 hr Rainfall draw-down (Ponds):

After 5 days following the peak Head in the west ponds, the ponds draw down to an elevation of 2.64 ft. which represents a recovery of 95.4% of pond storage.



After 5 days following the peak Head in the southeast pond, the pond draws down to an elevation of 3.14, which represents a recovery of 100% of pond storage.



Conclusions:

SWMM Modeling of the entire Sunrise on the Sound subdivision drainage shed demonstrates that the proposed design complies with the Currituck County Stormwater Ordinance requirement that post-development peak flow from the 10-yr, 24 hr rainfall event be maintained at or below the pre-development peak flow from a 2-yr, 24hr rainfall event across a theoretical wooded site. The proposed design also addresses post-development peak flow of the 100-yr rainfall event via a combination of peak flow reduction and conveyance adequacy analysis.

APPENDIX C
NRCS Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina

The Sunrise on the Sound



June 14, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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At—Augusta fine sandy loam..... 11
BoA—Bojac loamy sand, 0 to 3 percent slopes..... 13
StB—State fine sandy loam, 2 to 6 percent slopes.....14
References.....16

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaA	Altavista fine sandy loam, 0 to 2 percent slopes	13.7	35.2%
At	Augusta fine sandy loam	12.4	31.8%
BoA	Bojac loamy sand, 0 to 3 percent slopes	2.8	7.2%
StB	State fine sandy loam, 2 to 6 percent slopes	10.1	25.9%
Totals for Area of Interest		**39.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Currituck County, North Carolina

AaA—Altavista fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3rn7
Landscape: Coastal plains
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Altavista and similar soils: 80 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Altavista

Setting

Landscape: Coastal plains
Landform: Marine terraces
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 12 inches: fine sandy loam
BE - 12 to 15 inches: sandy clay loam
Bt - 15 to 35 inches: sandy clay loam
BC - 35 to 42 inches: sandy loam
Cg - 42 to 80 inches: coarse sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Tomotley, undrained

Percent of map unit: 5 percent
Landscape: Coastal plains
Landform: Depressions on stream terraces, Flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY090NC - Flooded Mineral Soil Flood Plains and Terraces, F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

At—Augusta fine sandy loam

Map Unit Setting

National map unit symbol: 3rn8
Landscape: Coastal plains
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Augusta, drained, and similar soils: 80 percent
Augusta, undrained, and similar soils: 10 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Augusta, Drained

Setting

Landscape: Coastal plains
Landform: Flats on marine terraces, Depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 5 inches: fine sandy loam
Bt - 5 to 23 inches: loam
BCg - 23 to 31 inches: sandy loam
Cg - 31 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Description of Augusta, Undrained

Setting

Landscape: Coastal plains
Landform: Flats on marine terraces, Depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 5 inches: fine sandy loam
Bt - 5 to 23 inches: loam
BCg - 23 to 31 inches: sandy loam
Cg - 31 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Tomotley, undrained

Percent of map unit: 5 percent
Landscape: Coastal plains
Landform: Depressions on stream terraces, Flats on marine terraces
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: F153AY090NC - Flooded Mineral Soil Flood Plains and Terraces, F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Tetotum

Percent of map unit: 5 percent
Landscape: Coastal plains
Landform: Flats on marine terraces
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

BoA—Bojac loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnb
Landscape: Coastal plains
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bojac and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landscape: Coastal plains
Landform: Low ridges on marine terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and sandy fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: loamy fine sand
Bt - 8 to 47 inches: fine sandy loam
C - 47 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Conetoe
Percent of map unit: 4 percent
Landscape: Coastal plains
Landform: Low ridges on stream terraces, Low ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Seabrook
Percent of map unit: 3 percent
Landscape: Coastal plains
Landform: Depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY020NC - Moist Sands
Hydric soil rating: No

Munden
Percent of map unit: 3 percent
Landscape: Coastal plains
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

StB—State fine sandy loam, 2 to 6 percent slopes

Map Unit Setting
National map unit symbol: 3rp3
Landscape: Coastal plains

Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: All areas are prime farmland

Map Unit Composition

State and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of State

Setting

Landscape: Coastal plains
Landform: Low ridges on marine terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 6 inches: fine sandy loam
E - 6 to 18 inches: sandy loam
Bt - 18 to 44 inches: sandy clay loam
C - 44 to 80 inches: sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F153AY030NC - Dry Loamy Rises and Flats, F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

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APPENDIX D
Drainage Area Tabulations

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E001

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 72
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.10	4366	Area Ac. Area SF
Open Space - Good	C Soils	74	0.05	2103	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	2.94	128052	
Fields - Good Cond	C Soils	79	0.83	36355	Disconnected Impervious Tabulation:
	CN SubTotal		3.92	170876	Area Ac. Area SF
					Measured: 0.08 3685

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.08	3685
% of DA:	2%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	4.01	174561	174561

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	3.8		Ia= 0.76	1026.83
Elev Up	4.2	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.41	Tc =	15.0	Minutes		
CN =	72					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E002

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 64
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.20	8719	Area Ac. Area SF
Open Space - Good	C Soils	74	0.07	3005	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		0.27	11724	Area Ac. Area SF
					Measured: 0.13 5737

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.13	5737
% of DA:	33%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.40	17461	17461

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	15	S=	5.5		Ia= 1.11	1164.07
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	3.33	Tc =	0.9	Minutes		
CN =	64					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E003S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.07	3039
Open Space - Good	C Soils	74	0.03	1186
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	1.10	47983
Fields - Good Cond	C Soils	79	0.41	17972
	CN SubTotal		1.61	70180

Pervious Comp CN = 73

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.61	70180	70180

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	3.8		Ia= 0.75	701.80
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.50	Tc =	8.8	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E003

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.07	2932
Open Space - Good	C Soils	74	0.02	962
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.18	7929
Fields - Good Cond	C Soils	79	0.07	3020
	CN SubTotal		0.34	14843

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.34	14843	14843

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	10	S=	4.1		Ia= 0.82	1484.30
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	5.00	Tc =	0.5	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E003S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.99	43093
Wooded - Good Cond	C Soils	70	0.37	16139
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.36	59232

Pervious Comp CN = 59

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

	Area Ac	Area SF	
	1.36	59232	59232

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	6.9		Ia= 1.38	592.32
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.50	Tc =	12.6	Minutes		
CN =	59					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E004

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.42	18288
Open Space - Good	C Soils	74	0.04	1900
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.30	13249
Fields - Good Cond	C Soils	79	0.06	2742
	CN SubTotal		0.83	36179

Pervious Comp CN = 67

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.02	912

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.02	912
% of DA:	2%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

	Area Ac	Area SF	
	0.85	37091	37091

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	130	S=	5.0		Ia= 1.00	285.32
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.38	Tc =	14.6	Minutes		
CN =	67					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E004S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.03	1176
Open Space - Good	C Soils	74	0.00	92
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.29	12519
Fields - Good Cond	C Soils	79	0.13	5778
	CN SubTotal		0.45	19565

Pervious Comp CN = 73

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.45	19565	19564

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	3.7		Ia= 0.75	195.65
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.50	Tc =	8.8	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E004S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.24	10505
Wooded - Good Cond	C Soils	70	0.10	4482
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.34	14987

Pervious Comp CN = 59

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.34	14987	14987

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	6.8		Ia= 1.36	149.87
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.50	Tc =	12.5	Minutes		
CN =	59					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E005

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.85	36941
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.44	19321
Fields - Good Cond	C Soils	79	0.13	5853
	CN SubTotal		1.43	62115

Pervious Comp CN = 66

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.12	5410

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.12	5410
% of DA:	8%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	1.55	67525	67526

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	160	S=	5.2		Ia= 1.04	422.03
Elev Up	4.5	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.63	Tc =	13.8	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E005S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.81	35366
Fields - Good Cond	C Soils	79	1.46	63813
	CN SubTotal		2.28	99179

Pervious Comp CN = 76

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.28	99179	99179

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	3.1		Ia= 0.63	1043.99
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.53	Tc =	7.5	Minutes		
CN =	76					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E005S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 65
Wooded - Good Cond	B Soils	55	0.79	34523	
Wooded - Good Cond	C Soils	70	1.43	62420	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		2.23	96943	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.23	96943	96943

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	5.5		Ia= 1.09	1020.45
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.53	Tc =	10.2	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E006

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 67
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.03	1523	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.62	26953	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.10	4552	Measured: 0.00 0
Fields - Good Cond	B Soils	71	1.17	51140	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		1.93	84168	Area Ac. Area SF
					Measured: 0.05 2219

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2219
% of DA:	3%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	1.98	86387	86387

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	145	S=	5.0		Ia= 1.00	595.77
Elev Up	4	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.3	Hours		
Slope % = Y	0.34	Tc =	16.9	Minutes		
CN =	67					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E006S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.09	3877
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.09	3877

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	3877	3877

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	167	S=	4.1		Ia= 0.82	23.22
Elev Up	4	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.3	Hours		
Slope % = Y	0.30	Tc =	18.0	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E006S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.09	3877
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.09	3877

Pervious Comp CN = 55

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	3877	3877

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	167	S=	8.2		Ia= 1.64	23.22
Elev Up	4	Lag =	0.3	Hours		
Elev Dn (Inv)	3.5	Tc =	0.5	Hours		
Slope % = Y	0.30	Tc =	27.2	Minutes		
CN =	55					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E007

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.09	3729
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.09	3729

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.09	3729	3729

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	73	S=	4.1		Ia= 0.82	51.08
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.68	Tc =	6.1	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E007S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.94	40944
Fields - Good Cond	C Soils	79	1.79	77966
	CN SubTotal		2.73	118910

Pervious Comp CN = 76

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.73	118910	118909

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	120	S=	3.1		Ia= 0.62	990.92
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.42	Tc =	10.1	Minutes		
CN =	76					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E007S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 65
Wooded - Good Cond	B Soils	55	0.87	38054	
Wooded - Good Cond	C Soils	70	1.79	77966	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		2.66	116020	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.66	116020	116020

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	120	S=	5.4		Ia= 1.07	966.83
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.42	Tc =	13.7	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E008

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 69
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.17	7614	Area Ac. Area SF
Open Space - Good	C Soils	74	0.07	2975	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.16	7020	
Fields - Good Cond	C Soils	79	0.08	3323	Disconnected Impervious Tabulation:
	CN SubTotal		0.48	20932	Area Ac. Area SF
					Measured: 0.05 2277

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2277
% of DA:	10%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.53	23209	23209

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	35	S=	4.5		Ia= 0.90	663.11
Elev Up	5	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	4.29	Tc =	1.4	Minutes		
CN =	69					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E008S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.03	1233
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	1.12	48644
Fields - Good Cond	C Soils	79	0.57	24876
	CN SubTotal		1.72	74753

Pervious Comp CN = 73

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.72	74753	74754

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	90	S=	3.6		Ia= 0.72	830.59
Elev Up	5	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	1.67	Tc =	4.3	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E008S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.99	43121
Wooded - Good Cond	C Soils	70	0.50	21870
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.49	64991

Pervious Comp CN = 60

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.49	64991	64991

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	90	S=	6.7		Ia= 1.33	722.12
Elev Up	5	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	1.67	Tc =	6.2	Minutes		
CN =	60					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E009

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 77
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.13	5616	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.23	10121	Disconnected Impervious Tabulation:
	CN SubTotal		0.36	15737	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.36	15737	15737

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	24	S=	3.0		Ia= 0.59	655.71
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	2.08	Tc =	1.2	Minutes		
CN =	77					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E009S

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 79
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	28	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	1.25	54332	Disconnected Impervious Tabulation:
	CN SubTotal		1.25	54360	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	1.25	54360	54355

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	90	S=	2.7		Ia= 0.53	604.00
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.56	Tc =	6.4	Minutes		
CN =	79					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E009S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 70
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	1.03	44873	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		1.03	44873	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	1.03	44873	44873

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	90	S=	4.3		Ia= 0.86	498.59
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.56	Tc =	8.3	Minutes		
CN =	70					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E010

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 66
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.10	4558	Area Ac. Area SF
Open Space - Good	C Soils	74	0.06	2487	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		0.16	7045	Area Ac. Area SF
					Measured: 0.08 3616

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.08	3616
% of DA:	34%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.24	10661	10661

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	15	S=	5.2		Ia= 1.05	710.73
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	3.33	Tc =	0.9	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E011

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.18	7788
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.18	7788

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.08	3666

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.08	3666
% of DA:	32%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.26	11454	11454

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	15	S=	6.4		Ia= 1.28	763.60
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	3.33	Tc =	1.0	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E012

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.15	6328
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.21	9297
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.36	15625

Pervious Comp CN = 67

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.36	15625	15625

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	4.9		Ia= 0.99	520.83
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	1.67	Tc =	2.2	Minutes		
CN =	67					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E012S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.03	1333
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.95	41230
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.98	42563

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.98	42563	42563

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	105	S=	4.1		Ia= 0.83	405.36
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.48	Tc =	9.9	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E012S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.75	32666
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.75	32666

Pervious Comp CN = 55

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.75	32666	33266

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	105	S=	8.2		Ia= 1.64	311.10
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.48	Tc =	14.9	Minutes		
CN =	55					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E013

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.05	2325
Fields - Good Cond	C Soils	79	0.04	1737
	CN SubTotal		0.09	4062

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	4062	4062

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	18	S=	3.4		Ia= 0.69	225.67
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	2.78	Tc =	0.9	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E013S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	17
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	1.89	82240
Fields - Good Cond	C Soils	79	1.20	52217
	CN SubTotal		3.09	134474

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
3.09	134474	134474

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	3.5		Ia= 0.70	1415.52
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.53	Tc =	7.9	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E013S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 61
Wooded - Good Cond	B Soils	55	1.83	79914	
Wooded - Good Cond	C Soils	70	1.16	50497	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		2.99	130411	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.99	130411	130411

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	6.4		Ia= 1.29	1372.75
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	0.53	Tc =	11.3	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E014

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 79
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.00	0	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.11	4899	Disconnected Impervious Tabulation:
	CN SubTotal		0.11	4899	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.11	4899	4899

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	24	S=	2.7		Ia= 0.53	204.13
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	2.08	Tc =	1.1	Minutes		
CN =	79					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E014S

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	11
Fields - Good Cond	C Soils	79	2.51	109524
	CN SubTotal		2.51	109535

Pervious Comp CN = 79

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.51	109535	109535

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	2.7		Ia= 0.53	1153.00
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.53	Tc =	6.9	Minutes		
CN =	79					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E014S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	11
Wooded - Good Cond	C Soils	70	2.40	104625
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		2.40	104636

Pervious Comp CN = 70

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.40	104636	104636

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	95	S=	4.3		Ia= 0.86	1101.43
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.53	Tc =	8.9	Minutes		
CN =	70					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E015

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.01	322
Open Space - Good	B Soils	61	0.50	21774
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.51	22096

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.10	4533

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.10	4533
% of DA:	17%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.61	26629	26629

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	235	S=	6.5		Ia= 1.30	113.31
Elev Up	4	Lag =	0.4	Hours		
Elev Dn (Inv)	3.5	Tc =	0.6	Hours		
Slope % = Y	0.21	Tc =	36.8	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E016

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.54	23464
Open Space - Good	B Soils	61	0.09	3938
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.63	27402

Pervious Comp CN = 42

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.36	15492

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.36	15492
% of DA:	36%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.98	42894	42894

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	110	S=	13.7		Ia= 2.74	389.95
Elev Up	4	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.4	Hours		
Slope % = Y	0.45	Tc =	22.0	Minutes		
CN =	42					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E017

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 61
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.65	28142	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.03	1410	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		0.68	29552	Area Ac. Area SF
					Measured: 0.52 22443

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.52	22443
% of DA:	43%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	1.19	51995	51995

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	200	S=	6.3		Ia= 1.25	259.98
Elev Up	6	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	1.25	Tc =	13.1	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E017S

Pervious CN Calc		CN	Area Ac.	Area SF	
Wooded - Good Cond	A Soils	30	0.00	0	Pervious Comp CN = 69
Wooded - Good Cond	B Soils	55	0.00	0	
Wooded - Good Cond	C Soils	70	0.00	0	
Open Space - Good	A Soils	39	0.00	0	Connected Impervious Tabulation:
Open Space - Good	B Soils	61	0.18	8008	Area Ac. Area SF
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	Measured: 0.00 0
Fields - Good Cond	B Soils	71	0.59	25841	
Fields - Good Cond	C Soils	79	0.00	0	Disconnected Impervious Tabulation:
	CN SubTotal		0.78	33849	Area Ac. Area SF
					Measured: 0.00 0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.78	33849	33854

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	200	S=	4.6		Ia= 0.91	169.25
Elev Up	6	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	1.25	Tc =	10.9	Minutes		
CN =	69					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E017S (Wooded)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.63	27551
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.63	27551

Pervious Comp CN = 55

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.63	27551	27551

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	200	S=	8.2		Ia= 1.64	137.76
Elev Up	6	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.3	Hours		
Slope % = Y	1.25	Tc =	15.4	Minutes		
CN =	55					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E018

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.11	4752
Open Space - Good	B Soils	61	0.16	6776
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.38	16633
Fields - Good Cond	B Soils	71	1.00	43549
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.65	71710

Pervious Comp CN = 65

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.14	6035

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.14	6035
% of DA:	8%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.78	77745	77746

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	285	S=	5.3		Ia= 1.07	272.79
Elev Up	8.5	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	1.75	Tc =	13.3	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E019

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	1.22	52984
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.22	52984

Pervious Comp CN = 39

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.20	8496

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.20	8496
% of DA:	14%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.41	61480	61480

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	300	S=	15.6		Ia= 3.13	204.93
Elev Up	9	Lag =	0.3	Hours		
Elev Dn (Inv)	3.5	Tc =	0.4	Hours		
Slope % = Y	1.83	Tc =	26.7	Minutes		
CN =	39					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E020

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.08	3448
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.08	3448

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.08	3372

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.08	3372
% of DA:	49%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.16	6820	6820

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	15	S=	6.4		Ia= 1.28	454.67
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	3.33	Tc =	1.0	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E021

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.40	17541
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.40	17541

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.24	10477

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.24	10477
% of DA:	37%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.64	28018	28018

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	53	S=	3.5		Ia= 0.70	528.64
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.94	Tc =	3.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E022

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	1.60	69716
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.60	69716

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.48	20717

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.48	20717
% of DA:	23%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.08	90433	90433

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	300	S=	3.5		Ia= 0.70	301.44
Elev Up	4	Lag =	0.4	Hours		
Elev Dn (Inv)	3.5	Tc =	0.6	Hours		
Slope % = Y	0.17	Tc =	35.5	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E023

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.17	7254
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.01	482
	CN SubTotal		0.18	7736

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.11	4914

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.11	4914
% of DA:	39%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF
	0.29	12650

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5) — 12650

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	35	S=	3.5		Ia= 0.69	361.43
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	1.43	Tc =	2.2	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E024

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.04	1798
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.01	256
	CN SubTotal		0.05	2054

Pervious Comp CN = 75

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.07	2868

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	2868
% of DA:	58%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF
	0.11	4922

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5) — 4921

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	20	S=	3.4		Ia= 0.68	246.10
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.0	Minutes		
CN =	75					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E025

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.25	10824
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	1.82	79236
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		2.07	90060

Pervious Comp CN = 70

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.17	7612

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.17	7612
% of DA:	8%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	2.24	97672	97673

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	160	S=	4.3		Ia= 0.87	610.45
Elev Up	4	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.3	Hours		
Slope % = Y	0.31	Tc =	17.6	Minutes		
CN =	70					

Drainage Area Parameters - SWMM SCS Method
Ex. Cond - The Sunrise on the Sound

DA-E026

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.12	5231
Open Space - Good	C Soils	74	0.02	938
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.03	1141
Fields - Good Cond	C Soils	79	0.01	351
	CN SubTotal		0.18	7661

Pervious Comp CN = 65

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.17	7570

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.17	7570
% of DA:	50%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.35	15231	15232

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	25	S=	5.4		Ia= 1.08	609.24
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	2.00	Tc =	1.8	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-DI01

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 72
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.01	368	
Open Space - Good	C Soils	74	0.04	1956	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.05	2324	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.05	2124
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2124
% of DA:	48%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.10	4448	4448

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	3.9		Ia= 0.78	278.00
Elev Up	6.4	Lag =	0.0	Hours		
Elev Dn (Inv)	5.2	Tc =	0.0	Hours		
Slope % = Y	7.50	Tc =	0.5	Minutes		
CN =	72					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-DI02

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.03	1364	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	10	
Open Space - Good	C Soils	74	0.08	3634	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.11	5008	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.08	3390
On Res Lots:	0.01	584

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.04	1948
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.09	3974
% of DA:	44%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.21	8982	8982

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	45	S=	3.5		Ia= 0.70	199.60
Elev Up	6.4	Lag =	0.0	Hours		
Elev Dn (Inv)	5.2	Tc =	0.0	Hours		
Slope % = Y	2.67	Tc =	1.9	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-DI03

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.05	2282	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.05	2282	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1878
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.04	1878
% of DA:	45%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.10	4160	4160

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	260.00
Elev Up	5.8	Lag =	0.0	Hours		
Elev Dn (Inv)	5.1	Tc =	0.0	Hours		
Slope % = Y	4.38	Tc =	0.9	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-DI04

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.04	1601	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.04	1601	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.06	2676
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.06	2676
% of DA:	63%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.10	4277	4277

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	267.31
Elev Up	5.8	Lag =	0.0	Hours		
Elev Dn (Inv)	5.1	Tc =	0.0	Hours		
Slope % = Y	4.38	Tc =	0.9	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P002

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.08	3497	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	81	
Open Space - Good	C Soils	74	0.04	1584	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5162	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1665
On Res Lots:	0.03	1499

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4995
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3164
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF
0.19	8325

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.6		Ia= 0.71	219.08
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P004

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.08	3497	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.04	1665	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5162	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1665
On Res Lots:	0.03	1499

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4995
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3164
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8325	8325

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.5		Ia= 0.70	219.08
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P006

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.08	3497	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.04	1665	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5162	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1665
On Res Lots:	0.03	1499

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4995
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3164
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8325	8325

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.5		Ia= 0.70	219.08
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P008

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.08	3497	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.04	1665	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5162	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1665
On Res Lots:	0.03	1499

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4995
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3164
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8325	8325

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.5		Ia= 0.70	219.08
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P010

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.00	28	
Res Lot Perv	C Soils	74	0.08	3469	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.01	556	
Open Space - Good	C Soils	74	0.03	1109	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5162	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1665
On Res Lots:	0.03	1499

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	40
Lot Area (C Soils):	0.11	4955
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3164
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8325	8325

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.8		Ia= 0.76	219.08
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P012

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.11	4720	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.01	329	
Open Space - Good	C Soils	74	0.04	1726	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.16	6775	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.05	2075
On Res Lots:	0.05	2023

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.15	6743
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.09	4098
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.25	10873	10873

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	60	S=	3.6		Ia= 0.73	181.22
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	5.9	Tc =	0.1	Hours		
Slope % = Y	1.00	Tc =	4.1	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P014

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	50	
Open Space - Good	C Soils	74	0.03	1206	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.03	1256	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.03	1179
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.03	1179
% of DA:	48%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.06	2435	2435

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	3.6		Ia= 0.72	152.19
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	0.9	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P015

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.03	1209	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.03	1209	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1668
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.04	1668
% of DA:	58%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.07	2877	2877

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	179.81
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P016

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.03	1358
Res Lot Perv	C Soils	74	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.02	825
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.05	2183

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.02	813
On Res Lots:	0.01	582

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.04	1940
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.03	1395
% of DA:	39%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.08	3578	3578

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	6.4		Ia= 1.28	94.16
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	2.4	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P017

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.08	3465
Res Lot Perv	C Soils	74	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.04	1650
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.12	5115

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.11	4950
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	6.4		Ia= 1.28	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	2.4	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P019

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.05	2119
Res Lot Perv	C Soils	74	0.03	1346
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.01	307
Open Space - Good	C Soils	74	0.03	1343
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.12	5115

Pervious Comp CN = 68

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.07	3027
Lot Area (C Soils):	0.04	1923
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	4.7		Ia= 0.95	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	2.0	Minutes		
CN =	68					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P021

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.00	0
Res Lot Perv	C Soils	74	0.08	3465
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.04	1650
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.12	5115

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4950
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.5		Ia= 0.70	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P023

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.08	3465	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.04	1650	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5115	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.11	4950
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.5		Ia= 0.70	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P025

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.01	264	
Res Lot Perv	C Soils	74	0.07	3201	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	182	
Open Space - Good	C Soils	74	0.03	1468	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5115	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.01	377
Lot Area (C Soils):	0.10	4573
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.7		Ia= 0.74	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P027

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.08	3465	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.03	1497	
Open Space - Good	C Soils	74	0.00	153	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.12	5115	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1650
On Res Lots:	0.03	1485

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.11	4950
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3135
% of DA:	38%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8250	8250

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	6.3		Ia= 1.26	217.11
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	2.3	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P029

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.01	462	
Res Lot Perv	C Soils	74	0.07	2836	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.03	1292	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.11	4590	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.03	1267
On Res Lots:	0.03	1414

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.02	660
Lot Area (C Soils):	0.09	4052
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.06	2681
% of DA:	37%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.17	7271	7271

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.8		Ia= 0.75	191.34
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P031

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 73
Res Lot Perv	B Soils	61	0.00	29	
Res Lot Perv	C Soils	74	0.04	1840	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.01	336	
Open Space - Good	C Soils	74	0.03	1200	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.08	3405	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.03	1496
On Res Lots:	0.02	801

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	42
Lot Area (C Soils):	0.06	2628
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2297
% of DA:	40%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.13	5702	5702

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	38	S=	3.8		Ia= 0.75	150.05
Elev Up	6.35	Lag =	0.0	Hours		
Elev Dn (Inv)	5.3	Tc =	0.0	Hours		
Slope % = Y	2.76	Tc =	1.7	Minutes		
CN =	73					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P032

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.04	1543	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.04	1543	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.03	1402
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.03	1402
% of DA:	48%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.07	2945	2945

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	184.06
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P033

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 66
Res Lot Perv	B Soils	61	0.59	25729	
Res Lot Perv	C Soils	74	0.51	22107	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.15	6681	
Open Space - Good	C Soils	74	0.03	1313	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		1.28	55830	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.47	20501

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.84	36756
Lot Area (C Soils):	0.73	31581
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.47	20501
% of DA:	27%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.75	76331	76331

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	5.0		Ia= 1.01	449.01
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.2	Hours		
Slope % = Y	1.53	Tc =	9.1	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P034

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 65
Res Lot Perv	B Soils	61	0.49	21458	
Res Lot Perv	C Soils	74	0.28	12158	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.23	10157	
Open Space - Good	C Soils	74	0.10	4463	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		1.11	48236	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.33	14407

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.70	30654
Lot Area (C Soils):	0.40	17369
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.33	14407
% of DA:	23%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.44	62643	62643

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	5.3		Ia= 1.05	368.49
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.2	Hours		
Slope % = Y	1.53	Tc =	9.4	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P035

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.02	921
Res Lot Perv	C Soils	74	0.11	4712
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.09	3825
Open Space - Good	C Soils	74	0.33	14459
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.55	23917

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.06	2414

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.03	1316
Lot Area (C Soils):	0.15	6731
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.06	2414
% of DA:	9%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.60	26331	26331

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	4.0		Ia= 0.80	154.89
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.53	Tc =	8.0	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P036

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.00	0
Res Lot Perv	C Soils	74	0.04	1775
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.16	6918
Open Space - Good	C Soils	74	0.09	3957
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.29	12650

Pervious Comp CN = 67

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.02	761

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.06	2536
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.02	761
% of DA:	6%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.31	13411	13411

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	110	S=	4.9		Ia= 0.99	121.92
Elev Up	6.5	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	2.27	Tc =	5.2	Minutes		
CN =	67					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P037

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.00	0
Res Lot Perv	C Soils	74	0.63	27273
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.24	10276
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.86	37549

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.27	11688

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.89	38961
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.27	11688
% of DA:	24%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.13	49237	49237

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	3.5		Ia= 0.70	289.63
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.53	Tc =	7.4	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P038

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.00	0
Res Lot Perv	C Soils	74	0.94	40909
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.33	14525
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.27	55434

Pervious Comp CN = 74

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.40	17532

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	1.34	58441
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.40	17532
% of DA:	24%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.68	72966	72966

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	3.5		Ia= 0.70	429.21
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.53	Tc =	7.4	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P039

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 66
Res Lot Perv	B Soils	61	0.20	8884	
Res Lot Perv	C Soils	74	0.28	12003	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.34	15028	
Open Space - Good	C Soils	74	0.03	1416	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.86	37331	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.21	8952

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.29	12692
Lot Area (C Soils):	0.39	17147
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.21	8952
% of DA:	19%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.06	46283	46283

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	5.2		Ia= 1.05	272.25
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.2	Hours		
Slope % = Y	1.53	Tc =	9.3	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P040

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.09	3986	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.09	3986	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	3986	3986

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	6.4		Ia= 1.28	132.87
Elev Up	4.3	Lag =	0.0	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.00	Tc =	3.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P041

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.07	3052	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.07	3052	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.07	2842
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	2842
% of DA:	48%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.14	5894	5894

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	368.38
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P042

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.05	2048	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.05	2048	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.06	2441
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.06	2441
% of DA:	54%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.10	4489	4489

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	280.56
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P043

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.09	4075	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.09	4075	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.07	3174
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3174
% of DA:	44%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.17	7249	7249

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	453.06
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P044

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.05	2056	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.05	2056	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.04	1853
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.04	1853
% of DA:	47%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	3909	3909

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	16	S=	6.4		Ia= 1.28	244.31
Elev Up	6.5	Lag =	0.0	Hours		
Elev Dn (Inv)	6.1	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.2	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P045

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.19	8088	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.19	8088	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.19	8088	8088

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	11	S=	6.4		Ia= 1.28	735.27
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	2	Tc =	0.0	Hours		
Slope % = Y	18.18	Tc =	0.3	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-P046

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.11	4729	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.11	4729	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.11	4729	4729

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	11	S=	6.4		Ia= 1.28	429.91
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	2	Tc =	0.0	Hours		
Slope % = Y	18.18	Tc =	0.3	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-Pond01A

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.48	20875	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.48	20888	
Open Space - Good	C Soils	74	0.03	1210	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Water	All Soils	100	0.45	19693	
	CN SubTotal		1.44	62666	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.21	8946

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.68	29821
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.21	8946
% of DA:	12%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.64	71612	71612

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	3.6		Ia= 0.72	421.25
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.53	Tc =	7.5	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-Pond01B

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 84
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.17	7202	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.53	22939	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Water	All Soils	100	0.45	19644	
	CN SubTotal		1.14	49785	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.07	3087

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.24	10289
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.07	3087
% of DA:	6%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.21	52872	52872

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	170	S=	1.9		Ia= 0.37	311.01
Elev Up	6.6	Lag =	0.1	Hours		
Elev Dn (Inv)	4	Tc =	0.1	Hours		
Slope % = Y	1.53	Tc =	5.4	Minutes		
CN =	84					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-Pond2

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 83
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.40	17374	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Water	All Soils	100	0.53	23304	
	CN SubTotal		0.93	40678	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.93	40678	40678

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	22	S=	2.0		Ia= 0.40	1849.00
Elev Up	5.6	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	11.82	Tc =	0.4	Minutes		
CN =	83					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE004

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 66
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.10	4241	
Open Space - Good	C Soils	74	0.06	2777	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.16	7018	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.16	7018	7018

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	5.1		Ia= 1.02	233.93
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.8	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE102

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.05	2008	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.05	2008	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.05	2008	2008

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	6.4		Ia= 1.28	66.93
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	2.1	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE103

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.06	2578	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.06	2578	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.06	2578	2578

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	6.4		Ia= 1.28	85.93
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	2.1	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE003

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 65
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.16	7167	
Open Space - Good	C Soils	74	0.07	3020	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.23	10187	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.23	10187	10187

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	5.4		Ia= 1.08	339.57
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.9	Minutes		
CN =	65					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE004

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 66
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.10	4188	
Open Space - Good	C Soils	74	0.06	2830	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.16	7018	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF		
0.16	7018	7018	0

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	5.1		Ia= 1.02	233.93
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.8	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE008

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 66
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.18	7655	
Open Space - Good	C Soils	74	0.10	4408	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.28	12063	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.28	12063	12063

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	5.2		Ia= 1.04	402.10
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.8	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE009

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.13	5781	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.13	5781	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.13	5781	5781

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	3.5		Ia= 0.70	192.70
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.5	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE012

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.22	9461	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.22	9461	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.22	9461	9461

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	6.4		Ia= 1.28	315.37
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	2.1	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE017

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 61
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.10	4484	
Open Space - Good	C Soils	74	0.00	0	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.10	4484	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.10	4484	4484

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	6.4		Ia= 1.28	149.47
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	2.1	Minutes		
CN =	61					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE023

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.08	3560	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.08	3560	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.08	3560	3560

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	3.5		Ia= 0.70	118.67
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.5	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE024

Pervious CN Calc		CN	Area Ac.	Area SF	
Res Lot Perv	A Soils	39	0.00	0	Pervious Comp CN = 74
Res Lot Perv	B Soils	61	0.00	0	
Res Lot Perv	C Soils	74	0.00	0	
Open Space - Good	A Soils	39	0.00	0	
Open Space - Good	B Soils	61	0.00	0	
Open Space - Good	C Soils	74	0.08	3632	
Fields - Good Cond	A Soils	59	0.00	0	
Fields - Good Cond	B Soils	71	0.00	0	
Fields - Good Cond	C Soils	79	0.00	0	
	CN SubTotal		0.08	3632	

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.01	352
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.01	352
% of DA:	9%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

	Area Ac	Area SF	
Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.09	3984	3984

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	3.5		Ia= 0.70	132.80
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.5	Minutes		
CN =	74					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-PE027

Pervious CN Calc		CN	Area Ac.	Area SF
Res Lot Perv	A Soils	39	0.00	0
Res Lot Perv	B Soils	61	0.00	0
Res Lot Perv	C Soils	74	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.04	1925
Open Space - Good	C Soils	74	0.02	1027
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.07	2952

Pervious Comp CN = 66

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.01	367
On Res Lots:	0.00	0

Proposed Lots Tabulation:

	Area Ac.	Area SF
Lot Area (B Soils):	0.00	0
Lot Area (C Soils):	0.00	0
Max Lot Coverage:	30%	

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.01	367
% of DA:	11%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.08	3319	3319

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	5.3		Ia= 1.05	110.63
Elev Up	3.75	Lag =	0.0	Hours		
Elev Dn (Inv)	3	Tc =	0.0	Hours		
Slope % = Y	2.50	Tc =	1.8	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-E003 (REVISED)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.07	2932
Open Space - Good	C Soils	74	0.02	962
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	0
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.09	3894

Pervious Comp CN = 64

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.09	3894	3894

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	10	S=	5.6		Ia= 1.11	389.40
Elev Up	4	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	5.00	Tc =	0.6	Minutes		
CN =	64					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-E006 (REVISED)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.03	1523
Open Space - Good	B Soils	61	0.62	26953
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.10	4552
Fields - Good Cond	B Soils	71	1.14	49515
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		1.89	82543

Pervious Comp CN = 66

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.05	2219

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2219
% of DA:	3%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.95	84762	84762

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	145	S=	5.0		Ia= 1.01	584.57
Elev Up	4	Lag =	0.2	Hours		
Elev Dn (Inv)	3.5	Tc =	0.3	Hours		
Slope % = Y	0.34	Tc =	16.9	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-E007 (REVISED)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.00	0
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.05	2249
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.05	2249

Pervious Comp CN = 71

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.00	0
% of DA:	0%	
% Routed to Perv:	#DIV/0!	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.05	2249	2249

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	73	S=	4.1		Ia= 0.82	30.81
Elev Up	4	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.1	Hours		
Slope % = Y	0.68	Tc =	6.1	Minutes		
CN =	71					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-E008 (REVISED)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.14	6148
Open Space - Good	C Soils	74	0.07	2975
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.00	105
Fields - Good Cond	C Soils	79	0.01	316
	CN SubTotal		0.22	9544

Pervious Comp CN = 66

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.05	2277

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.05	2277
% of DA:	19%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.27	11821	11821

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	35	S=	5.2		Ia= 1.04	337.74
Elev Up	5	Lag =	0.0	Hours		
Elev Dn (Inv)	3.5	Tc =	0.0	Hours		
Slope % = Y	4.29	Tc =	1.6	Minutes		
CN =	66					

Drainage Area Parameters - SWMM SCS Method
Prop. Cond - The Sunrise on the Sound

DA-E017 (REVISED)

Pervious CN Calc		CN	Area Ac.	Area SF
Wooded - Good Cond	A Soils	30	0.00	0
Wooded - Good Cond	B Soils	55	0.00	0
Wooded - Good Cond	C Soils	70	0.00	0
Open Space - Good	A Soils	39	0.00	0
Open Space - Good	B Soils	61	0.50	21845
Open Space - Good	C Soils	74	0.00	0
Fields - Good Cond	A Soils	59	0.00	0
Fields - Good Cond	B Soils	71	0.02	775
Fields - Good Cond	C Soils	79	0.00	0
	CN SubTotal		0.52	22620

Pervious Comp CN = 61

Connected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.00	0

Disconnected Impervious Tabulation:

	Area Ac.	Area SF
Measured:	0.52	22443

Impervious Tabulations	Area Ac.	Area SF
Coverage Total:	0.52	22443
% of DA:	50%	
% Routed to Perv:	100%	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.03	45063	45063

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	200	S=	6.3		Ia= 1.26	225.32
Elev Up	6	Lag =	0.1	Hours		
Elev Dn (Inv)	3.5	Tc =	0.2	Hours		
Slope % = Y	1.25	Tc =	13.1	Minutes		
CN =	61					

APPENDIX E
SESCP Flow & Velocities Check

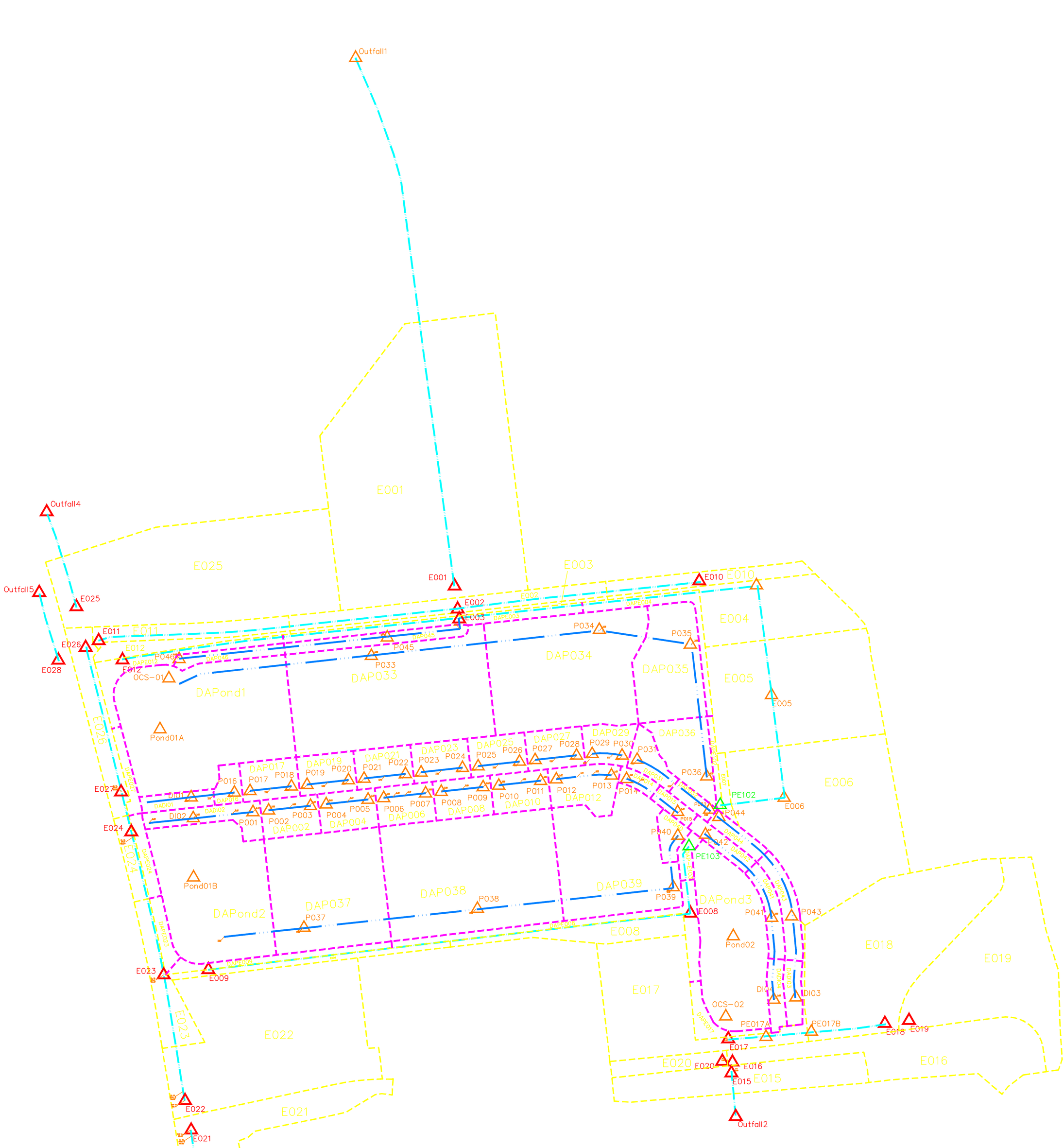
APPENDIX – SEDIMENTATION & EROSION CONTROL CALCULATIONS

Calculations Include the Following:

- **EPA SWMM -POST DEVELOPMENT - LINK & NODE MAP**
- **EROSIVE VELOCITY CHECKS**
- **SEDIMENT BASIN CALCULATIONS**
- **EROSION CONTROL SKIMMER CALCULATIONS**



EPA SWMM -POST DEVELOPMENT - LINK & NODE MAP


Outfall1
E001
E025
E003
E010
E002
E011
E004
E026
E012
E028
E005
E027
E006
E024
E007
E008
E023
E009
E018
E019
E017
E022
E020
E016
E021
E015
Outfall5
Outfall4
Outfall3
Outfall2
E001
DAPond1
DAPond2
DAPond3
Pond01A
Pond01B
Pond02
OCS-01
OCS-02
PE102
PE103
PE017A
PE017B
DAP033
DAP034
DAP035
DAP036
DAP037
DAP038
DAP039
DAP002
DAP004
DAP006
DAP008
DAP010
DAP012
DAP017
DAP019
DAP021
DAP023
DAP025
DAP027
DAP029
DI01
DI02
DI03
DI04
P001
P002
P003
P004
P005
P006
P007
P008
P009
P010
P011
P012
P013
P014
P015
P016
P017
P018
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P020
P021
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P023
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P025
P026
P027
P028
P029
P030
P031
P033
P034
P035
P036
P037
P038
P039
P040
P041
P042
P043
P044
P045
P046

EROSIVE VELOCITY CHECK

Calculations Include the Following:

- 2 Year, Bare Soil Condition; 2 fps Max Velocity
- 10 Year, Vegetated Condition; 4 fps Max Velocity

Note:
This check is performed by highlighting respective summaries of conveyances that exceed maximum permissible velocities as determined by EPA SWMM modeling performed by Deel Engineering, PLLC.

2 YEAR, BARE SOIL CONDITION; 2 FPS MAX VELOCITY

Link Flow and Velocity - 2yr			
Link	Type	Flow (cfs)	Velocity (fps)
DI02-DI01	CONDUIT	3.91	0.80
DI03-DI04	CONDUIT	0.43	0.24
P001-DI02	CONDUIT	1.44	1.21
P002-P001	CONDUIT	1.44	1.60
P003-P002	CONDUIT	1.23	0.53
P004-P003	CONDUIT	1.23	1.35
P005-P004	CONDUIT	1.01	0.45
P006-P005	CONDUIT	1.02	1.16
P007-P006	CONDUIT	0.79	0.42
P008-P007	CONDUIT	0.80	1.00
P009-P008	CONDUIT	0.57	0.39
P010-P009	CONDUIT	0.58	0.85
P011-P010	CONDUIT	0.38	0.34
P012-P011	CONDUIT	0.42	0.72
P013-P012	CONDUIT	0.15	0.21
P014-P013	CONDUIT	0.19	0.44
P015-P014	CONDUIT	0.11	0.29
P016-DI01	CONDUIT	1.45	1.27
P017-P016	CONDUIT	1.40	1.60
P018-P017	CONDUIT	1.29	0.59
P019-P018	CONDUIT	1.29	1.42
P020-P019	CONDUIT	1.18	0.52
P021-P020	CONDUIT	1.18	1.30
P022-P021	CONDUIT	0.95	0.44
P023-P022	CONDUIT	0.95	1.10
P024-P023	CONDUIT	0.72	0.41
P025-P024	CONDUIT	0.73	0.93
P026-P025	CONDUIT	0.52	0.38
P027-P026	CONDUIT	0.54	0.81
P028-P027	CONDUIT	0.41	0.32
P029-P028	CONDUIT	0.42	0.70
P030-P029	CONDUIT	0.23	0.23
P031-P030	CONDUIT	0.25	0.48
P032-P031	CONDUIT	0.07	0.20
P034-P033	CONDUIT	0.94	0.36
P035-P034	CONDUIT	0.22	0.28
P036-P035	CONDUIT	0.05	0.14
P038-P037	CONDUIT	1.62	0.54
P039-P038	CONDUIT	0.52	0.31
P040-P039	CONDUIT	0.04	0.07
P041-DI04	CONDUIT	0.32	0.80
P042-P041	CONDUIT	0.17	0.35
P043-DI03	CONDUIT	0.30	0.78

Velocity Check
Bare Soil > 2 fps
ok
ok
ok

P044-P043	CONDUIT	0.13	0.28	ok
P046-P045	CONDUIT	0.78	0.50	ok
OCS01-P046	CONDUIT	0.40	1.51	ok
E027-E024	CONDUIT	0.13	0.07	ok
P033-Pond01A	CONDUIT	1.98	0.83	ok
P037-Pond01B	CONDUIT	2.44	1.02	ok
DI01-Pond01A	CONDUIT	2.48	0.51	ok
Pond01B-DI02	CONDUIT	2.11	0.43	ok
DI04-Pond02	CONDUIT	0.94	0.30	ok
P045-E003	CONDUIT	0.78	0.77	ok
PE102-E006	CONDUIT	0.11	0.52	ok
PE103-PE102	CONDUIT	0.11	0.22	ok
OCS02-E017	CONDUIT	2.02	2.22	ok, culvert
PE017A-E017	CHANNEL	0.50	1.45	ok
PE017B-PE017A	CONDUIT	0.97	0.46	ok

*Estimated peak flows and velocities per EPA SWMM calculations prepared by Deel Engineering, PLLC.

10 YEAR, VEGETATED CONDITION; 4 FPS MAX VELOCITY

Link Flow and Velocity - 10yr			
Link	Type	Flow (cfs)	Velocity (fps)
DI02-DI01	CONDUIT	1.89	0.39
DI03-DI04	CONDUIT	0.78	0.44
P001-DI02	CONDUIT	2.96	1.50
P002-P001	CONDUIT	2.97	2.52
P003-P002	CONDUIT	2.51	0.57
P004-P003	CONDUIT	2.49	2.03
P005-P004	CONDUIT	2.07	0.48
P006-P005	CONDUIT	2.05	1.67
P007-P006	CONDUIT	1.66	0.42
P008-P007	CONDUIT	1.63	1.33
P009-P008	CONDUIT	1.26	0.38
P010-P009	CONDUIT	1.22	1.01
P011-P010	CONDUIT	0.87	0.34
P012-P011	CONDUIT	0.82	0.72
P013-P012	CONDUIT	0.38	0.21
P014-P013	CONDUIT	0.30	0.44
P015-P014	CONDUIT	0.15	0.29
P016-DI01	CONDUIT	2.87	1.57
P017-P016	CONDUIT	2.79	2.43
P018-P017	CONDUIT	2.60	0.62
P019-P018	CONDUIT	2.60	2.14
P020-P019	CONDUIT	2.18	0.53
P021-P020	CONDUIT	2.17	1.77
P022-P021	CONDUIT	1.77	0.44
P023-P022	CONDUIT	1.74	1.42
P024-P023	CONDUIT	1.39	0.40
P025-P024	CONDUIT	1.36	1.12
P026-P025	CONDUIT	1.03	0.37
P027-P026	CONDUIT	0.99	0.86
P028-P027	CONDUIT	0.73	0.34
P029-P028	CONDUIT	0.71	0.82
P030-P029	CONDUIT	0.43	0.25
P031-P030	CONDUIT	0.40	0.48
P032-P031	CONDUIT	0.16	0.20
P034-P033	CONDUIT	2.78	0.58
P035-P034	CONDUIT	1.26	0.39
P036-P035	CONDUIT	0.39	0.20
P038-P037	CONDUIT	4.62	0.73
P039-P038	CONDUIT	1.29	0.34
P040-P039	CONDUIT	0.12	0.08
P041-DI04	CONDUIT	0.52	0.91
P042-P041	CONDUIT	0.26	0.39
P043-DI03	CONDUIT	0.49	0.90

Velocity Check
Vegetated > 4 fps
ok
ok
ok

P044-P043	CONDUIT	0.20	0.32	ok
P046-P045	CONDUIT	3.90	0.76	ok
OCS01-P046	CONDUIT	3.88	2.01	ok
E027-E024	CONDUIT	0.55	0.20	ok
P033-Pond01A	CONDUIT	4.81	0.88	ok
P037-Pond01B	CONDUIT	7.18	1.30	ok
DI01-Pond01A	CONDUIT	4.77	0.97	ok
Pond01B-DI02	CONDUIT	2.17	0.44	ok
DI04-Pond02	CONDUIT	1.49	0.47	ok
P045-E003	CONDUIT	3.94	0.96	ok
PE102-E006	CONDUIT	1.08	0.89	ok
PE103-PE102	CONDUIT	0.98	0.68	ok
OCS02-E017	CONDUIT	2.95	2.44	ok
PE017A-E017	CHANNEL	17.40	1.29	ok
PE017B-PE017A	CONDUIT	1.40	0.52	ok

*Estimated peak flows and velocities per EPA SWMM calculations prepared by Deel Engineering, PLLC.

SEDIMENT BASIN CALCULATIONS

Sediment Basin - Pond-1A

Requirements			
*Tributary Disturbed Area**	14.23	*acres*	
Min. Required Storage Volume	25,614	ft^3	*(1,800 ft^3/acre)*
*Estimated 10 year peak inflow***	12.57	*cfs*	
Min. Required Surface Area	5,468	ft^2	*(435 ft^2/cfs)*
Design			
Choose Avg. Storage Depth	2.50	*ft*	
Necessary Storage Surface Area	10,246	ft^2	
Is Necessary Surface Area > Required	YES		
Choose Storage Width, W	60	*ft*	
Choose Storage Length, L	120	*ft*	
Length to Width Ratio	**2.0**	***OK***	
Surface Area Provided	**7,200**	ft^2	*1.3* ***times required***
Is Surface Area Provided > Required	YES		
Storage Volume Provided	**25,875**	ft^3	
Is Storage Volume Provided > Required	YES		*1.0* ***times required***

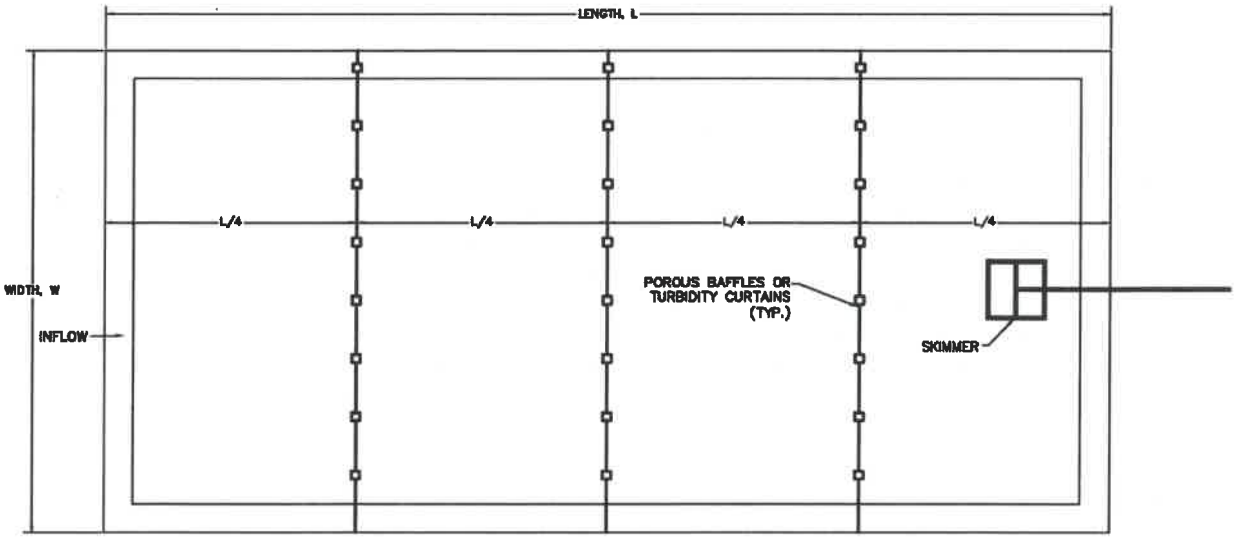
The above calculations determine minimum required sediment basin dimensions as detailed below. During construction, the stormwater management pond will be used as an oversized sediment basin providing the following actual area and volume:

Actual Pond Surface Area Provided	**19,693**	ft^2	3.6 ***times required***
Actual Pond Volume Provided	**60,569**	ft^3	2.4 ***times required***

Porous Baffles or Turbidity Curtains shall be installed within the stormwater pond at the spacing dimensioned below and as illustrated on the Erosion and Sediment Control Plan

* Tributary Disturbed Area from Autocad

** Estimated 10 year peak flows per EPA SWMM calculations prepared by Deel Engineering, PLLC.



Typical Sediment Basin Detail and Minimum Dimensions

Sediment Basin - Pond-2

Requirements			
*Tributary Disturbed Area**	1.64	*acres*	
Min. Required Storage Volume	2,952	ft^3	*(1,800 ft^3/acre)*
*Estimated 10 year peak inflow***	8.18	*cfs*	
Min. Required Surface Area	3,558	ft^2	*(435 ft^2/cfs)*
Design			
Choose Avg. Storage Depth	2.50	*ft*	
Necessary Storage Surface Area	1,181	ft^2	
Is Necessary Surface Area > Required	NO		
Choose Storage Width, W	45	*ft*	
Choose Storage Length, L	90	*ft*	
Length to Width Ratio	**2.0**	***OK***	
Surface Area Provided	**4,050**	ft^2	*1.1* ***times required***
Is Surface Area Provided > Required	YES		
Storage Volume Provided	**16,313**	ft^3	
Is Storage Volume Provided > Required	YES		*5.5* ***times required***

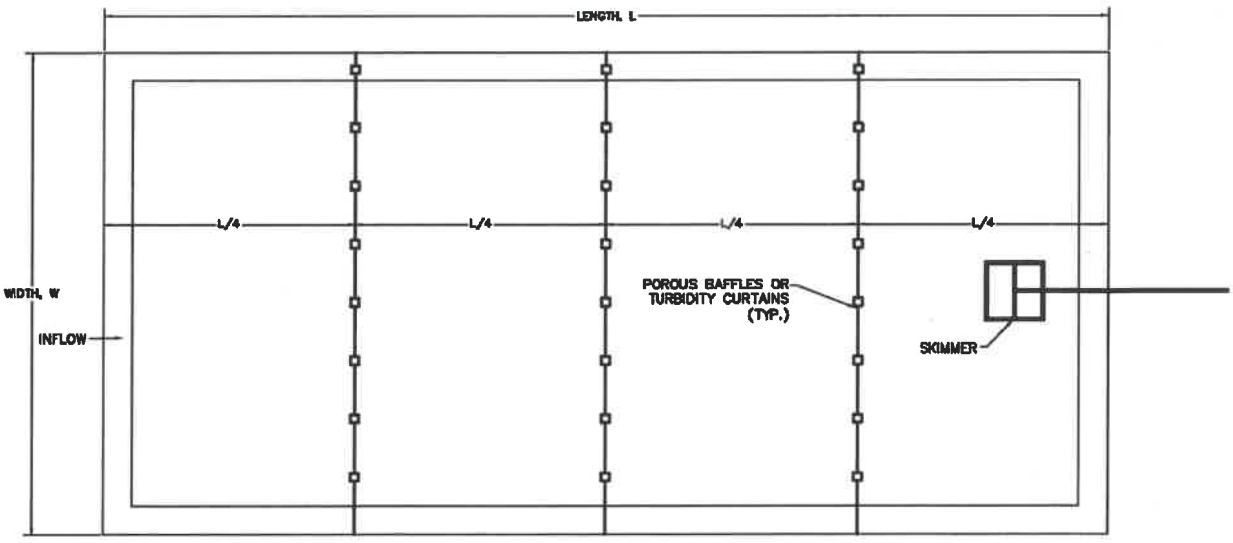
The above calculations determine minimum required sediment basin dimensions as detailed below. During construction, the stormwater management pond will be used as an oversized sediment basin providing the following actual area and volume:

Actual Pond Surface Area Provided	**23,304**	ft^2	6.5 ***times required***
Actual Pond Volume Provided	**71,991**	ft^3	24.4 ***times required***

Porous Baffles or Turbidity Curtains shall be installed within the stormwater pond at the spacing dimensioned below and as illustrated on the Erosion and Sediment Control Plan

* Tributary Disturbed Area from Autocad

** Estimated 10 year peak flows per EPA SWMM calculations prepared by Deel Engineering, PLLC.



Typical Sediment Basin Detail and Minimum Dimensions

EROSION CONTROL SKIMMER CALCULATIONS

Sediment Basin - Pond-1A - Skimmer

Drawdown Period [t_d]	2.00	*days*		
**Drawdown Volume [V]*	25,614	*ft^3*		
Drawdown Discharge Rate [Q_d]	12,807	*ft^3/day*	*0.15*	*cfs*
Choose Skimmer Body Diameter	4.0	*in.*	*1.70*	*fps*
Head on Orifice from Table [H]	0.333	*ft.*		
Resulting Orifice Diameter [D]	**3.1**	*in.*		
Is Orifice Diameter < Skimmer Body Diameter	**YES**			

**Drawdown volume based on min. required volume per separate Sediment Basin Calculations.*

Head on orifice of various skimmer sizes

Skimmer Size (in.)	Head on Orifice (ft.)
1.5	0.125
2	0.167
2.5	0.208
3	0.250
4	*0.333*
5	*0.333*
6	*0.417*
8	*0.500*

Table 6.64a NC Erosion Control Manual

Equations:

$Q_d = V / t_d$ (ft^3/day)

$D = \sqrt{[Q_d/(2310*\sqrt{H})]}$ (inches)

Sediment Basin - Pond-2 - Skimmer

Drawdown Period [t_d]	2.00	*days*		
**Drawdown Volume [V]*	2,952	*ft^3*		
Drawdown Discharge Rate [Q_d]	1,476	*ft^3/day*	*0.02*	*cfs*
Choose Skimmer Body Diameter	2.0	*in.*	*0.78*	*fps*
Head on Orifice from Table [H]	0.167	*ft.*		
Resulting Orifice Diameter [D]	**1.3**	*in.*		
Is Orifice Diameter < Skimmer Body Diameter	**YES**			

**Drawdown volume based on min. required volume per separate Sediment Basin Calculations.*

Head on orifice of various skimmer sizes

Skimmer Size (in.)	Head on Orifice (ft.)
1.5	0.125
2	0.167
2.5	0.208
3	0.250
4	*0.333*
5	*0.333*
6	*0.417*
8	*0.500*

Table 6.64a NC Erosion Control Manual

Equations:

$Q_d = V / t_d$ (ft^3/day)

$D = \sqrt{[Q_d/(2310*\sqrt{H})]}$ (inches)

SHEET 1 OF 1

THE SUNRISE ON THE SOUND SUBDIVISION

EXISTING CONDITIONS
EPA SWMM MODEL
DRAINAGE AREAS & NODE & LINK LAYOUT

SCALE 1"=100'

LEGEND

- EOXX — EPA SWMM NODE
- EOXX — EOXX — EPA SWMM LINK (PIPE)
- EPA SWMM LINK (DITCH)
- EXISTING COND. DRAINAGE AREA
- SUNRISE ON THE SOUND EXISTING COND. DRAINAGE AREA

DEEL ENGINEERING, PLLC

P.O. BOX 3901
KILL DEVIL HILLS, NC 27948
(252)202-3803

FIRM LIC #P-1045
JUNE 16, 2026

N

Outfall1

LINK E001-OUTFALL1 = LINK OF INTEREST

TULLS CREEK RD

LINK E026-E025 = LINK OF INTEREST

LINK E026-E028 = LINK OF INTEREST

LINK E023-E022 = LINK OF INTEREST

BAXTER ESTATES RD

SUNRISE ON THE SOUND PROJECT AREA SHOWN IN GREEN

MARY CATHERINE WAY

SANDERSON CT

LINK E017-E016 = LINK OF INTEREST

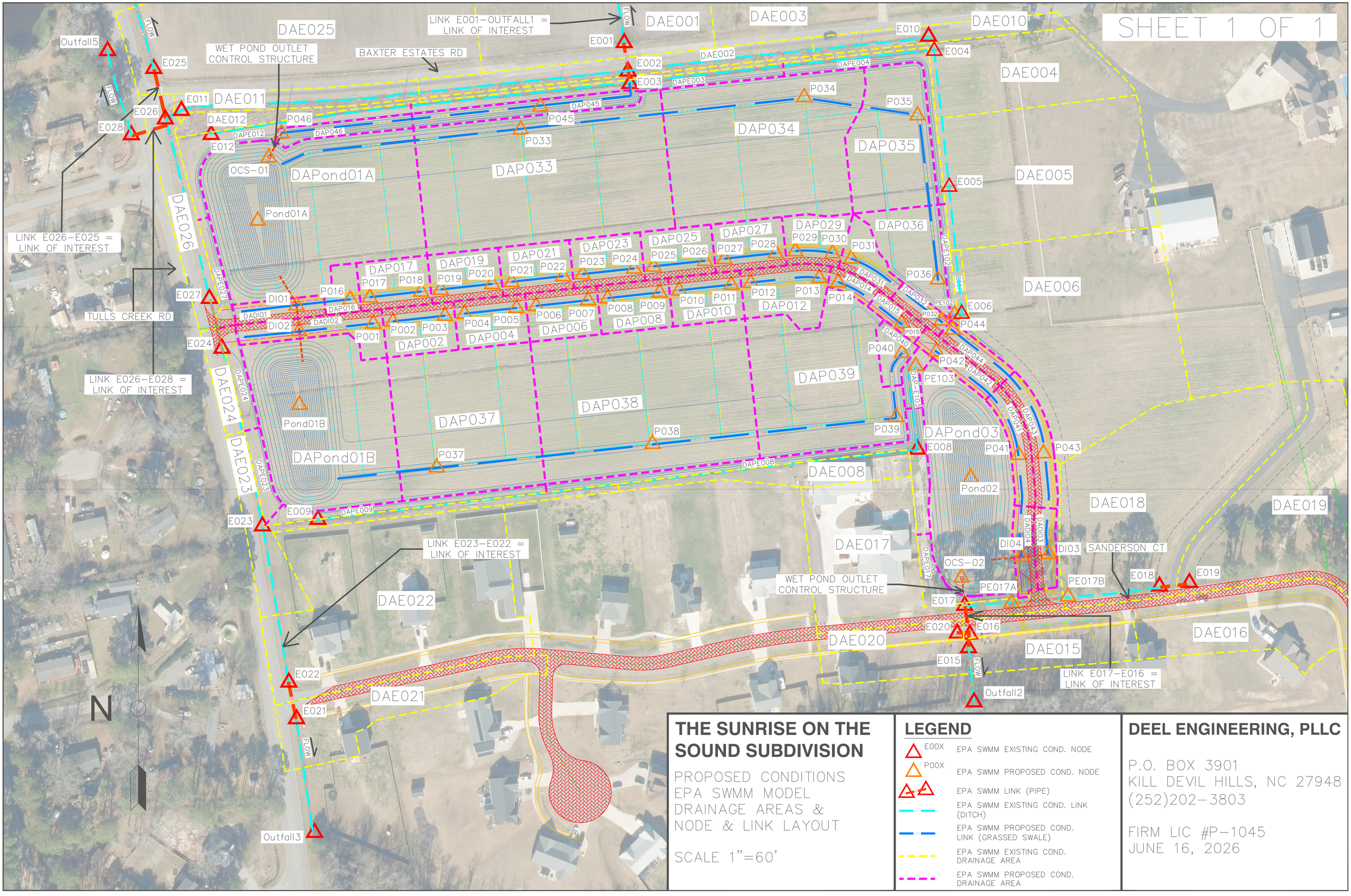
Outfall4 Outfall5 Outfall2 Outfall3

E001 E002 E003 E004 E005 E006 E007 E008 E009 E010 E011 E012 E013 E014 E015 E016 E017 E018 E019 E020 E021 E022 E023 E024 E025 E026 E027 E028

E001 E002 E003S E004 E004S E005 E005S E006 E006S E007S E008 E008S E009S E010 E011 E012S E013S E014S E015 E016 E017 E017S E018 E019 E020 E021 E022 E023 E024 E025 E026 E027 E028

FLOW

SHEET 1 OF 1



THE SUNRISE ON THE SOUND SUBDIVISION

PROPOSED CONDITIONS
EPA SWMM MODEL
DRAINAGE AREAS &
NODE & LINK LAYOUT

SCALE 1"=60'

LEGEND

- E00X — EPA SWMM EXISTING COND. NODE
- P00X — EPA SWMM PROPOSED COND. NODE
- EPA SWMM LINK (PIPE)
- EPA SWMM EXISTING COND. LINK (DITCH)
- EPA SWMM PROPOSED COND. LINK (GRASSED SWALE)
- EPA SWMM EXISTING COND. DRAINAGE AREA
- EPA SWMM PROPOSED COND. DRAINAGE AREA

DEEL ENGINEERING, PLLC

P.O. BOX 3901
KILL DEVIL HILLS, NC 27948
(252)202–3803

FIRM LIC #P–1045

JUNE 16, 2026

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Major Stormwater Plan
Form SW-002

Contact Information

APPLICANT:

Name: Sound Woods, LLC
Address: 155 Survey Road, Suite A
Moyock, NC 27958
Telephone: 252-435-6402
E-Mail Address: smiller@millerhomesandbuilding.com

PROPERTY OWNER:

Name: same as applicant
Address: _____
_____
Telephone: _____
E-Mail Address: _____

Property Information

Physical Street Address: Baxter Estates Road, Moyock, NC 27958
Parcel Identification Number(s): 0049000009C0000
FEMA Flood Zone Designation: X & shaded X

Request

Project Description: Proposed Residential Subdivision of 17.48 Ac. of vacant land

Total land disturbance activity: 17.5 ac sf
Calculated volume of BMPs: 387,864 sf
Maximum lot coverage: n/a sf
Proposed lot coverage: 166,642 total sf

TYPE OF REQUEST

- ☒ Major subdivision (10-year, 24-hour rate)
- ☐ Major site plan (5-year, 24-hour rate)

METHOD USED TO CALCULATE PEAK DISCHARGE

- ☐ Rational Method
- ☒ NRCS Method (TR-55 and TR-20)
- ☐ Simple volume calculation for small sites (less than 10 acres)
- ☐ Alternative stormwater runoff storage analysis
- ☐ Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for purposes of determining compliance. All information submitted and required as part of this process shall become public record.

MALAIER
Property Owner(s)/Applicant

10/9/26
Date

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

			Storm #3
2.	Frequency		
3.	Rainfall, P (24-hour)		
4.	Initial abstraction, I_a ..... (Use CN)	in	
5.	Compute I_a/P		
6.	Unit peak discharge, q_u ..... (use T_c and I_a/P with Figure 2-9)	csm/in	
7.	Runoff, Q ..... (From Runoff Curve Number Worksheet)	in	
8.	Pond and swamp adjustment factor, F_p ..... (Use Table 2-10)		
9.	Peak discharge, Q_p ..... (Where $Q_p = q_u A_m Q F_p$)	cfs	

Applicant

10/9/26
Date

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

		Storm #3
2. Frequency		
3. Rainfall, P (24-hour)		
4. Initial abstraction, I_a ..... (Use CN)	in	
5. Compute I_a/P		
6. Unit peak discharge, q_u ..... (use T_c and I_a/P with Figure 2-9)	csm/in	
7. Runoff, Q ..... (From Runoff Curve Number Worksheet)	in	
8. Pond and swamp adjustment factor, F_p ..... (Use Table 2-10)		
9. Peak discharge, Q_p ..... (Where $Q_p = q_u A_m Q F_p$)	cfs	

, MANAGER
Applicant

10/9/26
Date

CERTIFICATE OF PLAN APPROVAL

The posting of this certificate certifies that an erosion and sedimentation control plan has been approved for this project by the North Carolina Department of Environmental Quality in accordance with North Carolina General Statute 113A – 57 (4) and 113A – 54 (d) (4) and North Carolina Administrative Code, Title 15A, Chapter 4B.0107 (c). This certificate must be posted at the primary entrance of the job site before construction begins and until establishment of permanent groundcover as required by North Carolina Administrative Code, Title 15A, Chapter 4B.0127 (b).

Sunrise on the Sound
Tulls Creek Rd Moyock, NC 27958

06/24/2026	CURRI-2026-0164
Date of Plan Approval	**Project Identifier**

Certificate of Coverage Number: _____

JOSH STEIN
Governor
D. REID WILSON
Secretary
WILLIAM E. TOBY VINSON, JR
Director

NORTH CAROLINA
Environmental Quality

June 24, 2026

LETTER OF APPROVAL

Sound Woods, LLC
155 Survey Rd
Moyock, NC 27958

RE: Project Name: Sunrise on the Sound
Permit Number: CURRI-2026-0164
Acres Approved: 17.5
County: Currituck
City: Moyock
Address: Tulls Creek Rd
River Basin: Pasquotank
Stream Classification: SC: Aquatic Life, Secondary Contact Recreation, Tidal Salt Water
Plan Type: New Plan - Single Family Residential Lots (15) with Associated Roadway, Utility, and Stormwater Infrastructure

Dear Sound Woods, LLC,

This office has received and reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The enclosed Certificate of Approval must be posted at the job site. This plan shall expire three (3) years following the date of approval, if no land disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0129.

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (eNOI) form requesting a COC under the NCG010000 Construction Stormwater General Permit. You must apply for coverage by submitting a "Construction Stormwater – NCG01 (Subject to the SPCA) in the AccessDEQ Portal. Once your application is complete, you will receive an invoice for the $127 annual permit fee and can submit payment through the AccessDEQ Portal. Once the fee is processed and the application approved, you will receive the COC via email. As the Financially Responsible Party shown on the FRO form submitted for this project, you MUST obtain the COC prior to commencement of any land disturbing activity. Please direct questions about the eNOI form to the Stormwater Program staff in the Raleigh central office. If the owner/operator of this project changes in the future, the new responsible party must obtain a new COC.

North Carolina Department of Environmental Quality
Division of Energy, Mineral and Land Resources | Washington Regional Office
943 Washington Square Mall | Washington, North Carolina 27889
252.948.3800

Title 15A NCAC 4B .0118(a) and the NCG01 permit require that the following documentation be kept on file at the job site:

1. The approved E&SC plan as well as any approved deviation.
2. The NCG01 permit and the COC, once it is received.
3. Records of inspections made during the previous 12 months.

Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to ensure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to ensure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form and on the plan which you provided. You are requested to file an amended form if there is any change in the information included on the form.

Your cooperation is appreciated.

Sincerely,

Ginger Turner

Ginger Y. Turner, PE for
Samir Dumpor, PE
Regional Engineer
Land Quality Section

General Comments

1. This permit allows for a land disturbance, as called for on the application plan, not to exceed **17.5** acres. Exceeding that acreage will be a violation of this permit and would require a revised plan and additional application fee. Land disturbance should be conducted in a manner to minimize land exposure. Any addition in impervious surface, over that already noted on the approved plan, would also require a revised plan to verify the appropriateness of the erosion control measures and stormwater retention measures (NCGS 113A-54.1(b)).

2. Additional measures may be required - the applicant is responsible for the control of sediment on-site. If the approved erosion and sedimentation control measures prove insufficient, the applicant must take those additional steps necessary to stop sediment from leaving this site (NCGS 113A-57(3); 15A NCAC 4B .0115). Each sediment storage device must be inspected after each storm event (NCGS 113A54.1(e)). Maintenance and/or clean out is necessary anytime the device is at 50% capacity. All sediment storage measures will remain on site and functional until all grading and final landscaping of the project is complete (15A NCAC 04B .0113).

3. The applicant is responsible for obtaining any and all permits and approvals necessary for the development of this project prior to the commencement of this land disturbing activity. This could include our agency's Stormwater regulations and the Division of Water Resources' enforcement requirements within Section 401 of the Clean Water Act, the U.S. Army Corps of Engineers' jurisdiction of Section 404 of the Clean Water Act, the Division of Coastal Management's CAMA requirements, the Division of Solid Waste Management's landfill regulations, the Environmental Protection Agency and/or The U.S. Army Corps of Engineers jurisdiction of the Clean Water Act, local County or Municipalities' ordinances, or others that may be required. This approval cannot supersede any other permit or approval; however, in the case of a Cease-and-Desist Order from the Corps of Engineers, that Order would only apply to wetland areas. All highlands would still have to be in compliance with the N.C. Sedimentation Pollution Control Act.

4. If any area on site falls within the jurisdiction of Section 401 or 404 of the Clean Water Act, the applicant is responsible for compliance with the requirements of the Division of Water Resources (DWR), the Corps of Engineers and the Environmental Protection Agency (EPA) respectively. Any erosion control measures that fall within jurisdictional wetland areas must be approved by the aforementioned agencies prior to installation. The Land Quality Section must be notified of a relocation of the measures in question to the transition point between the wetlands and the uplands to assure that the migration of sediment will not occur. If that relocation presents a problem or contradicts any requirements of either DWR, the Corps, or the EPA, it is the responsibility of the applicant to inform the Land Quality Section regional office so that an adequate contingency plan can be made to ensure sufficient erosion control remains on site. Failure to do so will be considered a violation of this approval (NCGS 113A-54.1(b)).

5. Any off-site borrow and waste required for this project must come from a site with an approved erosion control plan, a site regulated under the Mining Act of 1971, or a landfill regulated by the Division of Solid Waste Management. Trash/debris from demolition activities or generated by any activities on site must be disposed of at a facility regulated by the Division of Solid Waste Management or per Division of Solid Waste Management or Division of Water Resources rules and regulations. [15A NCAC 4B .0110]

6. A graveled construction entrance must be located at each point of access and egress available to construction vehicles during the grading and construction phases of this project. Access and egress from the project site at a point without a graveled entrance will be considered a violation of this approval. Routine maintenance of the entrances is critical (113A-54.1(b)).

7. If sediment traps and basins are shown on the plan as the primary sedimentation and erosion control devices on this project, it is necessary that the traps and basins and their collection systems be installed before any other grading takes place on site, and that every structure that receives more than one acre of drainage is built so that each dewaters only from the surface (NCG010000). If that proves to be impractical, a revised plan must be submitted and approved that addresses erosion and sediment control needs during the interim period until the traps and basins are fully functioning (113A-54.1(b)).

8. Any and all existing ditches on this project site are assumed to be left undisturbed by the proposed development unless otherwise noted. The removal of vegetation within any existing ditch or channel is prohibited unless the ditch or channel is to be regraded with side slopes of 2 horizontal to 1 vertical or less steep (15A NCAC 04B .0124 (d)). Bank slopes may be mowed but stripping of vegetation is considered new earth work and is subject to the same erosion control requirements as new ditches (NCGS 113A52(6)).

9. As a condition of the NPDES General Stormwater Permit (NCG010000), the financially responsible party shall comply with the NCG01 Ground Stabilization and Materials Handling requirements that became effective April 1, 2019. The NCG01 Ground Stabilization and Materials Handling standard detail can be printed from the deq.nc.gov/NCG01 website.

10. As a condition of the NPDES General Stormwater Permit (NCG010000), the financially responsible party shall comply with the NCG01 Self-Inspection, Recordkeeping and Reporting requirements that became effective April 1, 2019. The NCG01 Self-Inspection, Recordkeeping and Reporting standard details can be printed from the deq.nc.gov/NCG01 website.

11. As a part of routine monitoring of the approved land-disturbing activity, the financially responsible party shall ensure inspections of the area covered by the approved plan after each phase of the plan has been completed and after establishment of temporary ground cover in accordance with North Carolina General Statute 113A-54.1(e).

12. The NCG01 has a yearly fee and our office often receives closure inspection requests days prior to yearly NCG01 fee payment due dates. Be advised the project requires a closure inspection report by DEMLR prior to filing the Notice of Termination (NOT) to terminate NCG01 coverage. The closure inspection should not be requested until after the site has achieved full vegetative stabilization and measures have been removed. The removal of temporary ESC measures, including basins, requires prior approval. Often, a full growing season is necessary between initial seeding/mulching and removal of measures. Please plan your construction accordingly to avoid contacting our office prematurely for a closure inspection. Also be advised you may be asked for representative site pictures prior to a closure inspection.

JOSH STEIN
Governor
D. REID WILSON
Secretary
WILLIAM E. TOBY VINSON, JR
Director

NORTH CAROLINA
Environmental Quality

June 26, 2026

Sound Woods, LLC
Attn: Hugh Samuel Miller, IV – Manager
155 Survay Road, Suite A
Moyock, NC 27958

Subject: **State Stormwater Management Permit No. SW7260609**
Sunrise on the Sound
Low Density Subdivision Project
Currituck County

Dear Hugh Samuel Miller:

The Washington Regional Office received a complete State Stormwater Management Permit Application for the subject project on June 17, 2026. Staff review of the plans and specifications has determined that the project, as proposed, complies with the Stormwater Regulations set forth in 15A NCAC 2H.1000 amended on January 1, 2017 (2017 Rules). We are hereby forwarding Permit No. SW7260609 dated June 26, 2026, for the construction of the built-upon areas (BUA) and vegetated conveyances associated with the subject project.

This permit shall be effective from the date of issuance until rescinded and the project shall be subject to the conditions and limitations as specified therein and does not supersede any other agency permit that may be required. Failure to comply with these requirements will result in future compliance problems. Please note that this permit is not transferable except after notice to and approval by the Division.

This cover letter, attachments, and all documents on file with DEMLR shall be considered part of this permit and is herein incorporated by reference.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing by filing a written petition with the Office of Administrative Hearings (OAH). The written petition must conform to Chapter 150B of the North Carolina General Statutes and must be filed with the OAH within thirty (30) days of receipt of this permit. You should contact the OAH with all questions regarding the filing fee (if a filing fee is required) and/or the details of the filing process at 6714 Mail Service Center, Raleigh, NC 27699-6714, or via telephone at 919-431-3000, or visit their website at www.NCOAH.com. Unless such demands are made this permit shall be final and binding.

If you have any questions concerning this permit, please contact Denis Hyska in the Washington Regional Office, at (252) 948-3973 or denis.hyska@deq.nc.gov.

Sincerely,

Denis Hyska, CAPM
Division of Energy, Mineral and Land Resources

Enclosures: Attachment A – Max Allowable BUA per Lot
Attachment B – Designer's Certification Form
Application Documents

cc: David Deel, PE – Deel Engineering, PLLC. (dadeeleng@gmail.com)
Currituck County – Jennie Turner (jennie.turner@currituckcountync.gov)
Washington Regional Office

STATE OF NORTH CAROLINA

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF ENERGY, MINERAL AND LAND RESOURCES

STATE STORMWATER MANAGEMENT PERMIT

LOW DENSITY SUBDIVISION DEVELOPMENT

In compliance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations promulgated and adopted by the North Carolina Environmental Management Commission, including 15A NCAC 02H.1000 amended on January 1, 2017 (2017 Rules), the "stormwater rules"),

PERMISSION IS HEREBY GRANTED TO

Sound Woods, LLC

Sunrise on the Sound

600 ft north of intersection of Sanderson Rd and Tulls Creek Rd

Moyock, Currituck County

FOR THE

construction, management, operation and maintenance of built-upon area (BUA) for a 24% low density subdivision project (the "low density area") discharging to Class SC, waters as outlined in the application, approved stormwater management plans, supplements, calculations, operation and maintenance agreement, recorded documents, specifications, and other supporting data (the "approved plans and specifications") as attached and/or on file with and approved by the Division of Energy, Mineral and Land Resources (the "Division" or "DEMLR"). The project shall be constructed, operated and maintained in accordance with these approved plans and specifications. The approved plans and specifications are incorporated by reference and are enforceable parts of this permit.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the following specified conditions and limitations. The permit issued shall continue in force and effect until the permittee files a request with the Division for a permit modification, transfer, or rescission; however, these actions do not stay any condition. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit for cause as allowed by the laws, rules, and regulations contained in 15A NCAC 2H.1000 and NCGS 143-215.1
et.al.

1. BUA REQUIREMENTS. The maximum amount of BUA allowed for the entire project is 166,642 square feet. The BUA requirements and allocations for this project are as follows:

   a. LOW DENSITY AREA BUA LIMITS. The low-density area, in the approved plans and specifications, must not exceed 24% per the requirements of the stormwater rules. Within this low-density area, this permit approves a percent BUA of 21.89% and the construction of a total of 166,642 square feet of BUA. This permit does not provide any allocation of BUA for future development within this low-density area.

   b. BUA FOR INDIVIDUAL LOTS. Each of the ten (15) lots are limited to a maximum of BUA, as indicated in the approved plans and specifications. **The maximum BUA assigned to each lot via this permit and the recorded deed restrictions and protective covenants may not be increased or decreased by either the individual lot owner or the permittee unless and until the permittee notifies the Division and obtains written approval from the Division.**

2. PERVIOUS AREA IMPROVEMENTS. At this time, none of the pervious area improvements listed in G.S. 143-214.7(b2) or the Stormwater Design Manual have been proposed for this project. Pervious area improvements will be allowed in this project if documentation is provided demonstrating those improvements meet the requirements of the stormwater rule.

3. LOW DENSITY AREA REQUIREMENTS. The low-density area requirements for this project are as follows:

   a. LOW DENSITY AND CONVEYANCE DESIGN. The low-density area is permitted based on the design criteria presented in the sealed, signed and dated supplement and as shown in the approved plans and specifications. This low-density area and conveyances must be provided and maintained at the design condition.

   b. PIPING. Other than the piping shown on the approved plans, only minimal amounts of piping under driveways and roads is allowed within the low-density area when it cannot be avoided. No additional piping is allowed.

   c. DISPERSED FLOW. The low-density area has maximized dispersed flow of stormwater runoff through vegetated areas and minimized the channelization of flow.

   d. VEGETATED CONVEYANCES. Stormwater runoff that could not be released as dispersed flow may be transported by vegetated conveyances with minimum side slopes of 3:1 (H:V) designed to not erode during the peak flow from the 10-year storm event as defined in the stormwater rules and approved by the Division

4. NON-ENFORCEABLE SCMS. The two wet ponds shown on the plans are **not** required by the Division and have not been demonstrated to meet the Minimum Design Criteria and therefore are not considered a part of the approved stormwater treatment system. These additional measures are incorporated only by reference and are not enforceable parts of the permit.

5. VEGETATED SETBACKS. A 50-foot wide vegetative setback must be provided and maintained in grass or other vegetation adjacent to all surface waters as shown on the approved plans. The setback is measured horizontally from the normal pool elevation of impounded structures, from the top of bank of each side of streams or rivers, and from the mean high waterline of tidal waters, perpendicular to the shoreline.

   a. RELEASE OF STORMWATER NOT TREATED IN A STORMWATER CONTROL MEASURE (SCM). Stormwater that is not treated in an SCM, such as in the low-density area (including roof drains), must be released at the edge of the vegetated setback and allowed to flow through the setback as dispersed flow.

6. RECORDED DOCUMENT REQUIREMENTS. The stormwater rules require the following documents to be recorded with the Office of the Register of Deeds prior to the sale of individual lots or groups of lots:

   a. ACCESS AND/OR EASEMENTS. The entire stormwater conveyance system and maintenance accesses must be located in public rights-of-way, dedicated common areas that extend to the nearest public right-of-way, and/or permanent recorded easements that extend to the nearest public right-of-way for the purpose of inspection, operation, maintenance, and repair.

   b. OPERATION AND MAINTENANCE AGREEMENT. The operation and maintenance agreement must be recorded with the Office of the Register of Deeds.

   c. FINAL PLATS. The final recorded plats must reference the operation and maintenance agreement and must also show all public rights-of-way, dedicated common areas, and/or permanent drainage easements, in accordance with the approved plans.

   d. DEED RESTRICTIONS AND PROTECTIVE COVENANTS. Recorded deed restrictions and protective covenants must include, at a minimum, the following statements related to stormwater management:

      i. The following covenants are intended to ensure ongoing compliance with State Stormwater Management Permit Number SW7240606, as issued by the Division of Energy, Mineral and Land Resources (the "Division") under 15A NCAC 02H.1000, effective January 1, 2017.
      ii. The State of North Carolina is made a beneficiary of these covenants to the extent necessary to maintain compliance with the Stormwater Management Permit.
      iii. These covenants are to run with the land and be binding on all persons and parties claiming under them.
      iv. The covenants pertaining to stormwater may not be altered or rescinded without the express written consent of the Division.
      v. Alteration of the drainage as shown on the approved plans may not take place without the concurrence of the Division.
      vi. The maximum built-upon area (BUA) per lot is **15,000** square feet. This allotted amount includes any BUA constructed within the lot property boundaries, and that portion of the right-of-way between the front lot line and the edge of the pavement not shown on the approved plans. BUA has the same meaning as G.S. 143-214.7, as amended.
      vii. The maximum allowable BUA shall not be exceeded on any lot until the permit is modified to ensure compliance with the stormwater rules, permit, and the approved plans and specifications.
      viii. Filling in, piping or altering any vegetated conveyances (ditches, swales, etc.) associated with the development, except for average driveway crossings, is prohibited by any persons.

ix. A 50-foot wide vegetative setback must be provided and maintained adjacent to all surface waters in accordance with 15A NCAC 02H.1003(4) and the approved plans.
x. All roof drains shall be released no closer than at the edge of the 50-foot wide vegetated setback and allowed to flow through the setback as dispersed flow. At no time shall stormwater runoff be piped into or through the setback.
xi. Any individual or entity found to be in noncompliance with the provisions of a stormwater management permit or the requirements of the stormwater rules is subject to enforcement procedures as set forth in NCGS 143, Article 21.

e. DEEDS FOR INDIVIDUAL LOTS. The permittee shall record deed restrictions and protective covenants prior to the issuance of a certificate of occupancy to ensure the permit conditions and the approved plans and specifications are maintained in perpetuity.

7. CONSTRUCTION. During construction, erosion shall be kept to a minimum and any eroded areas of the on-site stormwater system will be repaired immediately.

a. PROJECT CONSTRUTION, OPERATION AND MAINTNEANCE. During construction, all operation and maintenance for the project and stormwater system shall follow the Erosion Control Plan requirements until the Sediment-Erosion Control devices are no longer needed.

b. FINAL GRADING. The vegetated areas and vegetated conveyances shall be entirely constructed and vegetated. Once the final grading is completed and the site is stabilized, the permittee shall provide and perform the operation and maintenance as outlined in the applicable section below.

8. MODIFICATIONS. No person or entity, including the permittee, shall alter any component shown in the approved plans and specifications, except for minimum driveway crossings. Prior to the construction of any modification to the approved plans, the permittee shall submit to the Director, and shall have received approval for modified plans, specifications, and calculations including, but not limited to, those listed below. For changes to the project that impact the certifications, a new or updated certification(s), as applicable, will be required and a copy must be submitted to the appropriate DEQ regional office upon completion of the modification.

a. Any modification to the approved plans and specifications, regardless of size including the BUA, details, etc.

b. Redesign or addition to the approved amount of BUA.

c. Further development, subdivision, acquisition, lease or sale of any, all or part of the project and/or property area as reported in the approved plans and specifications.

d. The construction of any permeable pavement, #57 stone area, public trails, or landscaping material within the common areas to be considered a permeable surface that were not included in the approved plans and specifications.

e. Altering, modifying, removing, relocating, redirecting, regarding, or resizing of any component of the approved stormwater collection system and/or vegetative conveyance shown on the approved plan, except for minimum driveway crossings within the low density area.

f. The construction of any allocated future BUA.

g. Adding the option to use permeable pavement or #57 stone within the lots as a permeable surface. The request may require a proposed amendment to the deed restrictions and protective covenants for the subdivision to be submitted and recorded.

h. Other modifications as determined by the Director.

9. DESIGNER'S CERTIFICATION. Upon completion of the project, the permittee shall determine if the project is in compliance with the approved plans and take the necessary following actions:

a. If the permittee determines that the project is in compliance with the approved plans, then within 45 days of completion, the permittee shall submit to the Division one hard copy and one electronic copy of the following:

   i. The completed and signed Designer's Certification provided in Attachment A noting any deviations from the approved plans and specifications. Deviations may require approval from the Division.
   ii. A copy of the recorded operation and maintenance agreement.
   iii. Unless already provided, a copy of the recorded deed restrictions and protective covenants; and
   iv. A copy of the recorded plat delineating the public rights-of-way, dedicated common areas and/or permanent recorded easements, when applicable.

b. If the permittee determines that the project is <u>not</u> in compliance with the approved plans, the permittee shall submit an application to modify the permit within 30 days of completion of the project or provide a plan of action, with a timeline, to bring the site into compliance.

10. OPERATION AND MAINTENANCE. The permittee shall provide and perform the operation and maintenance necessary, as listed in the signed operation and maintenance agreement to assure that all components of the permitted on-site stormwater system are maintained at the approved design condition. The approved operation and maintenance agreement must be followed in its entirety and maintenance must occur at the scheduled intervals.

    a. CORRECTIVE ACTIONS REQUIRED. In the event that the low-density area fails to meet the requirements of low density, the permittee shall take immediate corrective actions. This includes actions required by the Division and the stormwater rules such as the construction of additional or replacement on-site stormwater systems. These additional or replacement measures shall receive a permit from the Division prior to construction.

    b. MAINTENANCE RECORDS. Records of maintenance activities must be kept and made available upon request to authorized personnel of the Division. The records will indicate the date, activity, name of person performing the work and what actions were taken.

11. CURRENT PERMITTEE NAME OR ADDRESS CHANGES. The permittee shall submit a completed Permit Information Update Application Form to the Division within 30 days to making any one or more of the following changes:

    a. A name change of the current permittee;

    b. A name change of the project;

    c. A mailing address change of the permittee.

12. TRANSFER. This permit is not transferable to any person or entity except after notice to and approval by the Director. Neither the sale of the project and/or property, in whole or in part, nor the conveyance of common area to a third party constitutes an approved transfer of the permit.

    a. TRANSFER REQUEST. The transfer request must include the appropriate application, documentation and the processing fee as outlined in 15A NCAC 02H.1045(2) and must be submitted upon occurrence of any one or more of the following events:

        i. The sale or conveyance of the project and/or property area in whole or in part, except in the case of an individual residential lot sale that is made subject to the recorded deed restrictions and protective covenants;
        ii. The assignment of declarant rights to another individual or entity;
        iii. The sale or conveyance of the common areas to a Homeowner's or Property Owner's Association, subject to the requirements of NCGS 143-214.7(c2);
        iv. Dissolution of the partnership, corporate, or LLC entity, subject to NCGS 55-14-05 or NCGS 57D-6-07 and 08;
        v. Bankruptcy.
        vi. Foreclosure, subject to the requirements of Session Law 2013-121;

    b. TRANSFER INSPECTION. Prior to transfer of the permit, a file review and site inspection will be conducted by Division personnel to ensure the permit conditions have been met and that the project and the on-site stormwater system complies with the permit conditions. Records of maintenance activities performed to date may be requested. Projects not in compliance with the permit will not be transferred until all permit and/or general statute conditions are met.

13. COMPLIANCE. The permittee is responsible for complying with the terms and conditions of this permit and the approved plans and specifications until the Division approves the transfer request.

    a. REVIEWING AND MONITORING EACH LOT FOR COMPLIANCE. The permittee is responsible for verifying that the proposed BUA on each individual lot, within each drainage area and for the entire project does not exceed the maximum amount allowed by this permit. The permittee shall review all individual lot plans for new construction and all subsequent modifications and additions for compliance. The plans reviewed must include all proposed BUA, grading, and driveway pipe placement. The permittee shall not approve any lot plans where the maximum allowed BUA limit has been exceeded or where modifications are proposed to the grading and/or to the stormwater collection system and/or to the vegetated conveyance unless and until a permit modification has been approved by the Division. The permittee shall review and routinely monitor the project and each lot to ensure continued compliance with the conditions of the permit, the approved plans and specifications, and the recorded deed restrictions and protective covenants. The permittee shall notify any lot owner that is found to be in noncompliance with the conditions of this permit in writing and shall require timely resolution.

    b. ARCHITECTURAL REVIEW BOARD (ARB) OR COMMITTEE (ARC). The permittee may establish an ARB or ARC to conduct individual lot reviews. However, any approval given by the ARB or ARC on behalf of the permittee does not relieve the permittee of the responsibility to maintain compliance with the conditions of the permit and the approved plans and specifications.

    c. APPROVED PLANS AND SPECIFICATIONS. A copy of this permit, approved plans, application, supplements, operation and maintenance agreement, all applicable recorded documents, and specifications shall be maintained on file by the permittee at all times.

    d. MAINTENANCE ACCESS. SCMs, stormwater collection systems, and vegetated conveyances must be accessible for inspection, operation, maintenance and repair as shown on the approved plans.

    e. DIVISION ACCESS. The permittee grants Division Staff permission to enter the property during normal business hours to inspect all components of the permitted project.

    f. ENFORCEMENT. Any individual or entity found to be in noncompliance with the provisions of a stormwater management permit or the requirements of the stormwater rules is subject to enforcement procedures as set forth in NCGS 143 Article 21.

    g. ANNUAL CERTIFICATION. The permittee shall electronically submit to the Division an annual certification completed by either the permittee or their designee confirming the projects conformance with permit conditions.

    h. OBTAINING COMPLIANCE. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of modified plans and certification in writing to the Director that the changes have been made.

i. OTHER PERMITS. The issuance of this permit does not preclude the permittee from obtaining and complying with any and all other permits or approvals that are required for this development to take place, as required by any statutes, rules, regulations, or ordinances, which are imposed by any other Local, State or Federal government agency having jurisdiction. Any activities undertaken at this site that cause a water quality violation or undertaken prior to receipt of the necessary permits or approvals to do so are considered violations of NCGS 143-215.1, and subject to enforcement procedures pursuant to NCGS 143-215.6.

The permit was issued this the 26th day of June 2026.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



For Toby Vinson, Director
Division of Energy, Mineral and Land Resources
By Authority of the Environmental Management Commission

Permit Number SW7260609

Attachment A

Maximum Allowable BUA for Each Lot

Sunrise on the Sound
Residential Subdivision - Low Density

Allowable Built-Upon Area and Deed Restriction Calculations

5/22/2026

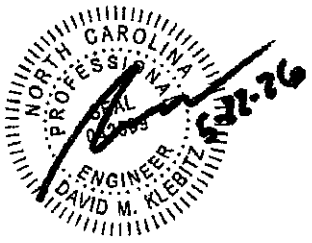
LOT NO.	LOT AREA (sf)	Max Allowable Built-Upon Area (BUA) (sf)
1	25,025	7,508
2	25,025	7,508
3	25,025	7,508
4	25,025	7,508
5	25,025	7,508
6	25,025	7,508
7	25,093	7,528
8	25,042	7,512
9	25,004	7,501
10	25,031	7,509
11	25,031	7,509
12	25,031	7,509
13	25,031	7,509
14	25,031	7,509
15	25,031	7,509
Total	375,472	112,642

Property Area Data:	Area (sf)	Area (Ac)
Proposed Subdivision Property Area:	761,217	17.48

Project Area Data:	Area (sf)	Area (Ac)
Proposed Lot Area:	375,472	8.62
Proposed Right-of-Way Area:	81,107	1.86
Proposed Common Area:	304,638	6.99
Total Project Area:	761,217	17.48

Project Built-Upon Area Data:	Area (sf)	Area (Ac)
Residential Lot Coverage:	112,642	2.59
Roadway Coverage:	32,300	0.74
Parking Coverage:	600	0.01
Sidewalk Coverage:	16,100	0.37
Misc. Amenity Coverage:	5,000	0.11
Total Built-Upon Area:	166,642	3.83

Percentage Built-Upon Area: **21.89%**



Attachment B

Certification Forms

The following blank Designer Certification forms are included and specific for this project:

- As-Built Permittee Certification
- As-Built Designer's Certification for Low Density Projects

A separate certification is required for each SCM. These blank certification forms may be copied and used, as needed, for each SCM and/or as a partial certification to address a section or phase of the project.

AS-BUILT PERMITTEE CERTIFICATION

I hereby state that I am the current permittee for the project named above, and I certify by my signature below, that the project meets the below listed Final Submittal Requirements found in NCAC 02H.1042(4) and the terms, conditions and provisions listed in the permit documents, plans and specifications on file with or provided to the Division.

☐ Check here if this is a partial certification. Section/phase/SCM #?_____
☐ Check here if this is part of a Fast Track As-built Package Submittal.

Printed Name_____Signature_____

I, _____, a Notary Public in the State of _____

County of _____, do hereby certify that _____

personally appeared before me this _____ day of _____, 20_____

and acknowledge the due execution of this as-built certification. (SEAL)

Witness my hand and official seal

_____

My commission expires _____

Permittee's Certification NCAC .1042(4)	Completed / Provided	N/A
A. DEED RESTRICTIONS / BUA RECORDS		
1. The deed restrictions and protective covenants have been recorded and contain the necessary language to ensure that the project is maintained consistent with the stormwater regulations and with the permit conditions.	Y or N	
2. A copy of the recorded deed restrictions and protective covenants has been provided to the Division.	Y or N	
3. Records which track the BUA on each lot are being kept. (See Note 1)	Y or N	
B. MAINTENANCE ACCESS		
1. The SCMs are accessible for inspection, maintenance and repair.	Y or N	
2. The access is a minimum of 10 feet wide.	Y or N	
3. The access extends to the nearest public right-of-way.	Y or N	
C. EASEMENTS		
1. The SCMs and the components of the runoff collection / conveyance system are located in recorded drainage easements.	Y or N	
2. A copy of the recorded plat(s) is provided.	Y or N	
D. SINGLE FAMILY RESIDENTIAL LOTS - Plats for residential lots that have an SCM include the following:	Y or N	
1. The specific location of the SCM on the lot.	Y or N	
2. A typical detail for the SCM.	Y or N	

3. A note that the SCM is required to meet stormwater regulations and that the lot owner is subject to enforcement action as set forth in NCGS 143 Article 21 if the SCM is removed, relocated or altered without prior approval.	Y or N	
E. OPERATION AND MAINTENANCE AGREEMENT	Y or N	
1. The O&M Agreement is referenced on the final recorded plat.	Y or N	
2. The O&M Agreement is recorded with the Register of Deeds and appears in the chain of title.	Y or N	
F. OPERATION AND MAINTENANCE PLAN – maintenance records are being kept in a known set location for each SCM and are available for review.	Y or N	
G. DESIGNER'S CERTIFICATION FORM – has been provided to the Division.	Y or N	

Note 1- Acceptable records include ARC approvals, as-built surveys, and county tax records.

Provide an explanation for every requirement that was not met, and for every "N/A" below. Attach additional sheets as needed.

AS-BUILT DESIGNER'S CERTIFICATION FOR LOW DENSITY PROJECTS

I hereby state that I am a licensed professional and I certify by my signature and seal below, that I have observed the construction of the project named above to the best of my abilities with all due care and diligence, and that the project meets all of the MDC found in 15A NCAC 02H.1003, in accordance with the permit documents, plans and specifications on file with or provided to the Division, except as noted on the "AS-BUILT" drawings, such that the intent of the stormwater rules and the general statutes has been preserved.

☐ Check here if this is a partial certification. Section or phase_____

☐ Check here if this is part of a Fast-Track As-Built Package Submittal per 15A NCAC 02H .1044(3).

☐ Check here if the Designer did not observe the construction but is certifying the project.

☐ Check here if pictures of the project are provided.

Printed Name_____Signature _____

NC Registration Number_____Date _____

SEAL:

Consultant's Mailing Address:

_____

City:_____State:_____ Zip:_____

Phone:(___) _____

Consultant's Email address:

_____

① Circle N if the as-built value differs from the Plan/permit. If N is circled, provide an explanation on page 3.
② N/E = Not Evaluated (provide explanation on page 2). ③N/A = Not Applicable to this project/plan.

Consultant's Certification (MDC 15A NCAC 02H .1003)			
Project Density and Built-Upon Area	①As-built	②N/E	③N/A
1. The project has areas of high density based on natural drainage area boundaries, variations in land use or construction phasing.	Y or N		
2. The project's built-upon area does not exceed the maximum limit specified in the permit.	Y or N		
Dispersed Flow	①As-built	②N/E	③N/A
1. The project maximizes dispersed flow through vegetated areas and minimizes channelized flow.	Y or N		

Vegetated Conveyances	①As-built	②N/E	③N/A
1. Stormwater that is not released as dispersed flow is transported by vegetated conveyances.	Y or N		
2. The project has a minimal amount of non-vegetated conveyances to reduce erosion.	Y or N		
3. Other than minimal piping under driveways and roads, no piping has been added beyond what is shown on the approved plans.	Y or N		
4. Side slopes are no steeper than 3H:1V.	Y or N		
5. The conveyance does not erode in response to the peak flow from the 10-year storm.	Y or N		
Curb outlet systems (if applicable)	①As-built	②N/E	③N/A
1. The swale or vegetated area can carry the peak flow from the 10-year storm at a non-erosive velocity.	Y or N		
2. The longitudinal slope of the swale or vegetated areas does not excee 5%.	Y or N		
3. The swale has a trapezoidal cross-section and a minimum bottom wid of two feet.	Y or N		
4. The minimum length of the swale or vegetated area is 100 feet.	Y or N		
5. Side slopes are no steeper than 3H:1V.	Y or N		
6. The project utilizes treatment swales designed per Section .1061 in lieu of the curb outlet system requirements.	Y or N		
Vegetated Setbacks (if applicable)	①As-built	②N/E	③N/A
1. The width of the vegetated setback is at least 50'.	Y or N		
2. The width of the vegetated setback has been measured from the norm pool of impounded waters, the MHW line of tidal waters, or the top of bank of each side of rivers or streams.	Y or N		
3. The vegetated setback is maintained in grass or other vegetation.	Y or N		
4. BUA that meets the requirements of NCGS 143-214.7(b2)(2) is locate in the setback.	Y or N		
5. BUA that does NOT meet the requirements of NCGS 143-214.7(b2)(2) located within the setback and is limited to: • Publicly-funded linear projects (road, greenway, or sidewalk) • Water dependent structures • Minimal footprint uses such as poles, signs, utility appurtenances, and security lights.	Y or N		
6. The amount of BUA within the setback is minimized, and channeling of the runoff from the BUA has been avoided.	Y or N		

7. Stormwater is not discharged (via swale or pipe) through a vegetated setback. Stormwater is released at the edge of the setback and allowed to flow through the setback as dispersed flow.	Y or N		
Outlets	①As-built	②N/E	③N/A
1. Stormwater outlets do not cause erosion downslope of the discharge point during the peak flow from the 10-year storm.	Y or N		
Variations	①As-built	②N/E	③N/A
1. The project has variations from the MDC that were not previously approved. (Modification may be required.)	Y or N		
Deed restrictions (if applicable)	①As-built	②N/E	③N/A
1. Deed restrictions are recorded and ensure that the project and the BUA will be maintained in perpetuity consistent with the permit, approved plans, and specifications.	Y or N		
For Subdivisions Only (Residential or Commercial)	①As-built	②N/E	③N/A
1. The number of platted lots is consistent with the approved plans.	Y or N		
2. The project area is consistent with the approved plans.	Y or N		
3. The layout of the lots and streets is consistent with the approved plan.	Y or N		
4. The width / radius of streets, paved accesses, cul-de-sacs and sidewal is consistent with the approved plan.	Y or N		
5. No piping, other than those minimum amounts needed under a driveway or under a road, has been added.	Y or N		
6. The lot grading, road grading, vegetated conveyances, piping, inverts, and elevations are consistent with the approved plans.	Y or N		

Provide an explanation for every requirement that was not met, and for every "N/A" below. Attach additional sheets as needed.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

August 11, 2026

Driveway Permit ID:
D011-027-26-00051
D011-027-26-00052

Subject: Driveway Permit – Sunrise on the Sound
County: Currituck

Sound Woods, LLC
155 Survey Road, Suite A
Moyock, NC 27958

Dear Applicant,

Attached for your files is a copy of two Commercial Driveway Permits, which have been properly executed. Please note any comments, which may appear on the permit form.

Please feel free to contact the District Office at (252) 621-6400 if you have any questions.

Sincerely,

DocuSigned by:
Caitlin A Spear
930880FAC40F45A...

Caitlin A. Spear, PE
District Engineer

Attachments

Cc: Division Engineer
County Maintenance Engineer

Street and Driveway Access Permit
General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

Pre-Construction Notices

PCN 1 Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the Street and Driveway Access Permit.

PCN 2 Prior to beginning work, the Applicant shall contact the Road Maintenance Supervisor for the corresponding county, to provide or verify the proposed pipe diameter. Please see the last page of the General Provisions for Contact Information

PCN 3 Prior to beginning work, it is the requirement of the Applicant to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.

PCN 4 It shall be the responsibility of the Applicant to determine the location of utilities within the permitted area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The Applicant shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.

PCN 7 Trenching, bore pits and/or other excavations shall not be left open or unsafe overnight.

Legal & Right-of-Way

RW 1 This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the District Engineer's office or their representative prior to construction or during construction, if an issue arises during construction to warrant changes.

RW 2 NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the Applicant to verify the right of way.

RW 3 Prior to the approval of any privately maintained facility within NCDOT right of way which the State of North Carolina is not the fee simple owner, written permission that each and every property owner affected by the installation shall be provided to NCDOT by the Applicant. (See corresponding attachment.)

RW 4 Applicant shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.

RW 6 No commercial advertising shall be allowed within NCDOT Right of Way.

Street and Driveway Access Permit
General Provisions

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Work Zone Traffic Control

TC 2 WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

TC 3 The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

A) Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).

B) NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

TC 4 If the Traffic Control Supervisor determines that portable concrete barrier (PCB) is required to shield a hazard within the clear zone, then PCB shall be designed and sealed by a licensed North Carolina Professional Engineer. PCB plans and design calculations shall be submitted to the District Engineer for review and approval prior to installation.

TC 5 Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.

TC 6 Traffic shall be maintained at all times. All lanes of traffic are to be open during the hours of 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. Monday through Friday, during any time of inclement weather, or as directed by the District Engineer. Any violation of these hours will result in ceasing any further construction by the Encroaching Party or their contractor.

TC A) The Contractor shall not perform any work on US158 and/or NC12 that would require a lane closure or alter the traffic flow during the following day and time restrictions: May14th from thirty (30) minutes before sunset to thirty (30) minutes after sunrise October 4th or any other time when traffic is unusually heavy.

Street and Driveway Access Permit
General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

TC 9 Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.

TC 10 Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TC 13 Any pavement markings that are damaged or obliterated shall be restored by the Applicant at no expense to NCDOT.

TC 14 Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The Applicant must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at https://www.youtube.com/watch?v=AOuYa5lW3dg&feature=youtu.be

TC 15 Parking and material storage shall not be allowed along the shoulders of any NCDOT roadways, any NCDOT roadways along the route and adjacent to the route.

TC 16 During periods of construction inactivity, place approved traffic control drums 3' minimum from the existing travel way.

TC 17 Any violation of the Traffic Control provisions will result in the termination of the permit application and liquidated damages in the amount of $2,000 per hour or any portion thereof and will be assessed by the District Engineer's office.

Environmental Regulations

EC 1 The Applicant shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310

EC 2 When surface area in excess of one acre will be disturbed, the Applicant shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.

EC 3 The Verification of Compliance with Environmental Regulations (VCER-1) form is required for all non-utility permits or any utility permits when land disturbance within NCDOT right of way exceeds 1 acre. The VCER-1 form must be PE sealed by a NC registered professional engineer who has verified that all appropriate environmental permits (if applicable) have been obtained and all applicable environmental regulations have been followed.

EC 4 All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Applicant in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest NCDOT Standards Specifications for Roads and Structures and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this permit shall be replaced with plants of like kind or similar shape.

EC 5 No trees within NCDOT shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.

Street and Driveway Access Permit
General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

EC 6 Prior to installation, the Applicant shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.

EC 7 The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.

EC 8 The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the District Engineer or their agent.

EC 9 The contractor shall perform all monitoring and record keeping and any required maintenance of erosion and sediment control measures to maintain compliance with stormwater regulations.

EC 10 Vegetative cover shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer.

General

G 1 An executed copy of the Street and Driveway Access Permit, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.

G 2 The Applicant and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this permit, the District Office shall be notified by the encroaching party immediately if any violations are cited.

G 3 Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved permit.

G 4 All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the District Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.

G 5 The Applicant shall notify the District Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the District Engineer or their representative.

G 8 Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Recovery Area. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.

G 9 No access to the job site, parking or material storage shall be allowed along or from the Control of Access Roadway.

G 10 Guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the District Engineer or their representative.

G 12 Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.

G 13 All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the District Engineer or their representative.

Street and Driveway Access Permit
General Provisions

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G 16 All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.

G 17 Conformance with driveway permit review should be required in conjunction with this encroachment agreement. In the event there is a conflict between the driveway permit and the encroachment agreement, the District Engineer should resolve the conflict and notify the parties involved.

G 18 If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.

G 22 Strict compliance with the Policy on Street and Driveway Access to North Carolina Highways manual shall be required.

G 23 The Applicant may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the Applicant from its obligations to the terms and provisions of the permit.

Engineering

E 1 All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: ASTM Standards, Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings, NCDOT Asphalt Quality Management System manual, and the approved plans.

Excavation

EX 1 Excavation material shall not be placed on pavement.

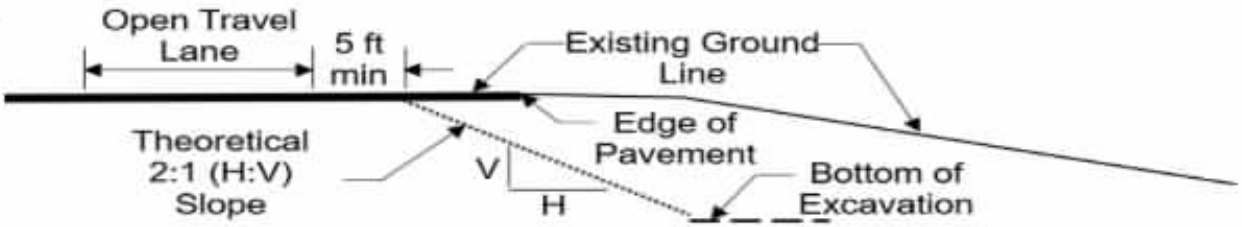
EX 2 It is the responsibility of the applicant and their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.

EX 3 The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries. Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.

Street and Driveway Access Permit
General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

EX 3



EX 4 Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx and see SP11 R002).

A) Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT Utilities Accommodations Manual for more information on requirements for shoring plans and design calculations.) Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation.

B) All trench excavation inside the limits of the theoretical one-to-one slope, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.

C) At the discretion of the District Engineer, a qualified NCDOT inspector shall be on the site at all times during construction. The applicant shall reimburse NCDOT for the cost of providing the inspector. If NCDOT cannot supply an inspector, the applicant (not the utility contractor) should make arrangements to have a qualified inspector, under the supervision of a licensed North Carolina Professional Engineer, on the site at all times. The Professional Registered Engineer shall certify that the utility was installed in accordance with the permit and that the backfill material meets the Statewide Borrow Criteria.

Street and Driveway Access Permit
General Provisions

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D) The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.

EX 5 The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest NCDOT Standard Specifications for Roads and Structures, which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.

EX 6 All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.

EX 7 All roadway sections, ditch lines and slopes, and shoulders affected by the operations under this encroachment shall be restored to the satisfaction of the District Engineer.

Pavement Repair

PR 7 Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform the permitted work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Applicant.

Post-Construction

I 1 The Applicant shall notify the Roadway Maintenance Supervisor's office within 2 business days after construction is complete. The Roadway Maintenance Supervisor may perform a construction inspection. Any deficiencies may be noted and reported to the Applicant to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

Roadway Maintenance Contact Information by County:

Camden
(252) 621-6420

Currituck
(252) 421-7200

Currituck OBX / Dare
(252) 473-2990

Gates
(252) 401-6050

Pasquotank
(252) 621-6420

Perquimans
(252) 426-4170

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION
Driveway Permit No. **D011-027-26-00051**	Date of Application , 2026	**STREET AND DRIVEWAY ACCESS PERMIT APPLICATION**
County: Currituck		
Development Name: Sunrise on the Sound.		

LOCATION OF PROPERTY:

Route/Road: SR1222 Tulls Creek Rd

Exact Distance 380 ☐ Miles ☒ Feet N ☐ S ☒ E ☐ W ☐

From the Intersection of Route No. SR 1222 and Route No. SR 1293 Toward Currituck

Property Will Be Used For: ☒ Residential /Subdivision ☐ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☐ Other

Property: ☒ is ☐ is not within Currituck County City Zoning Area.

AGREEMENT

- I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location.
- I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation.
- I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT.
- I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans.
- I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary.
- I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction.
- I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways".
- I agree to pay a $50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied.
- I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel.
- I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer.
- I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction.
- I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction.
- I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system.
- The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point.
- I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees.
- **I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.**

SIGNATURES OF APPLICANT

PROPERTY OWNER (APPLICANT)		WITNESS	
COMPANY	Sound Woods, LLC	NAME	Glenda J White
SIGNATURE	MANAGER	SIGNATURE	Glenda J White
ADDRESS	155 Survey Road, Suite A	ADDRESS	155 Survey Rd, Suite A
	Moyock, NC 27958 Phone No. 252-435-6402		Moyock, NC 27958

AUTHORIZED AGENT		WITNESS	
COMPANY	Bissell Professional Group	NAME	Marcie Respass
SIGNATURE		SIGNATURE	Marcie Respass
ADDRESS	3512 N. Croatan Highway	ADDRESS	P.O. Box 1068
	Kitty Hawk, NC 27949 Phone No. 252-261-3266		Kitty Hawk NC 27949

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE DATE

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE TITLE DATE

APPLICATION APPROVED BY NCDOT

DocuSigned by:
Caitlin A Lane
SIGNATURE
930660FAC40F45A...

DISTRICT ENGINEER — TITLE

09/16/2026 — DATE

INSPECTION BY NCDOT

SIGNATURE TITLE DATE

COMMENTS:

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION STREET AND DRIVEWAY ACCESS PERMIT APPLICATION
Driveway Permit No. **D011-027-26-00052**	Date of Application A 2026	
County: Currituck		
Development Name: Sunrise on the Sound.		

LOCATION OF PROPERTY:

Route/Road: SR1577 Sanderson Rd

Exact Distance 1195 ☐ Miles ☒ Feet N ☐ S ☐ E ☒ W ☐

From the Intersection of Route No. SR 1222 and Route No. SR 1577 Toward Currituck Sound

Property Will Be Used For: ☒ Residential /Subdivision ☐ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☐ Other

Property: ☒ is ☐ is not within Currituck County City Zoning Area.

AGREEMENT

- I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location.
- I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation.
- I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT.
- I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans.
- I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary.
- I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction.
- I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways".
- I agree to pay a $50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied.
- I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel.
- I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer.
- I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction.
- I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction.
- I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system.
- The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point.
- I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees.
- **I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.**

SIGNATURES OF APPLICANT

PROPERTY OWNER (APPLICANT)			WITNESS
COMPANY	Sound Waste, LLC	NAME	Glenda J. White
SIGNATURE		SIGNATURE	Glenda J. White
ADDRESS	155 Survey Road, Suite A	ADDRESS	155 Survey Rd Ste A
	Moyock, NC 27958 Phone No. 252-435-6402		Moyock, NC 27958

AUTHORIZED AGENT			WITNESS
COMPANY	Bissell Professional Group	NAME	Marcie Respess
SIGNATURE		SIGNATURE	Marcie Respess
ADDRESS	3512 N. Croatan Highway	ADDRESS	PO Box 1068
	Kitty Hawk, NC 27949 Phone No. 252-261-3266		Kitty Hawk, NC 27949

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE DATE

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE TITLE DATE

APPLICATION APPROVED BY NCDOT

DocuSigned by:
Caitlin A. Sams
SIGNATURE
6308B0FAC40F45A...

DISTRICT ENGINEER
TITLE

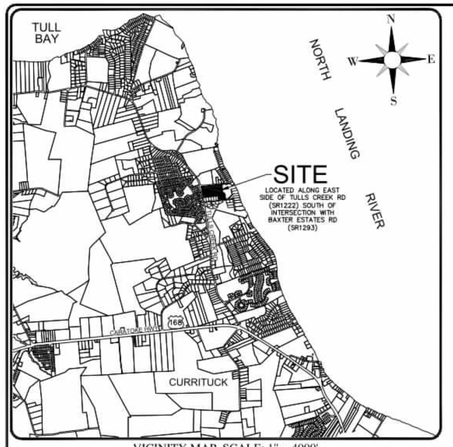
09/16/2026
DATE

INSPECTION BY NCDOT

SIGNATURE TITLE DATE

COMMENTS:

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VICINITY MAP SCALE: 1" = 4000'

CONSTRUCTION DRAWINGS FOR

SUNRISE ON THE SOUND

A 15 LOT RESIDENTIAL CONSERVATION SUBDIVISION

CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

GENERAL NOTES:

1. PROJECT NAME: SUNRISE ON THE SOUND
2. OWNER/APPLICANT: SOUND WOODS, LLC
   155 SURVEY RD., SUITE A
   MOYOCK, NC 27958
3. PROPERTY DATA:
   PARCEL ID# 0049-000-009C-0000
   ADDRESS: BAXTER ESTATES RD., MOYOCK, NC
   RECORDED REFERENCES: DB. 1763, PG. 189; PC. S, SL. 173
   PROPERTY ZONING: SFM-SINGLE FAMILY-MAINLAND
4. F.I.R.M. DATA:
   THE PROPERTY IS LOCATED IN F.E.M.A. FLOOD ZONES X & SHADED X - REFERENCE F.I.R.M. MAP# 3721806000 K, CID 370078, EFFECTIVE DATE DECEMBER 21, 2018. (SUBJECT TO CHANGE BY FEMA)
5. THIS PROPERTY CONTAINS NO KNOWN ACOE "404" JURISDICTIONAL WETLANDS.
6. EXISTING CONDITION INFORMATION BASED ON A COMBINATION OF THE FOLLOWING:
   - BOUNDARY AND TOPOGRAPHIC SURVEY DATA OBTAINED BY BISSELL PROFESSIONAL GROUP
   - 2024 AERIAL IMAGERY OBTAINED FROM NCONEMAP.COM
   - ELEVATIONS ARE REFERENCED TO NAVD 1988 VERTICAL DATUM.
7. DRAINAGE AND UTILITY EASEMENTS WILL BE PROVIDED ON THE FINAL PLATS PREPARED FOR RECORDING OF THE SUBDIVISION
   - A 10' EASEMENT FOR UTILITIES AND DRAINAGE SHALL BE ESTABLISHED ALONG REAR AND SIDE PROPERTY LINES
   - A 25' EASEMENT FOR UTILITIES, DRAINAGE, PEDESTRIAN SIDEWALK AND STREET TREES SHALL BE ESTABLISHED ALONG FRONT PROPERTY LINES.
   - A NON-EXCLUSIVE DRAINAGE EASEMENT SHALL BE ESTABLISHED ACROSS ALL OPEN SPACE AREAS AND ALONG ALL MAJOR DRAINAGE WAYS SERVING MORE THAN 5 ACRES
8. ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND
9. NCDOT'S MAINTENANCE RESPONSIBILITY IS INCLUSIVE OF THE RIGHT-OF-WAY ONLY. MAINTENANCE OF UPSTREAM AND DOWNSTREAM COVEYANCES AND ANY PIPES OR STRUCTURES LOCATED OUTSIDE OF OR SPANNING ACROSS THE RIGHT-OF-WAY ARE THE EXPRESS RESPONSIBILITY OF THE DEVELOPER OR HOMEOWNER'S ASSOCIATION.

DEVELOPMENT NOTES:

1. PROPERTY SUMMARY:
   TOTAL PROPERTY AREA: 17.48 AC.
2. DEVELOPMENT SUMMARY:
   PROPOSED LOT AREA: 8.62 AC.
   PROPOSED R/W AREA: 1.86 AC.
   PROPOSED OPEN SPACE AREA: 6.99 AC.
   TOTAL SUBDIVISION AREA: 17.48 AC.

   # OF PROPOSED LOTS: 15
   MINIMUM LOT AREA: 25,004 SF
   PROPOSED RIGHT-OF-WAY WIDTH: 50 FT.
   PROPOSED PAVED ROADWAY WIDTH: 20 FT.
   PROPOSED PAVED ROADWAY LENGTH: 1,636 L.F.±
3. DEVELOPMENT IMPERVIOUS COVERAGE DATA (BUA):
   COVERAGE ON INDIVIDUAL LOTS WILL BE LIMITED TO 30.0% OF LOT AREA
   MAXIMUM TOTAL LOT COVERAGE: 112,642 SF
   PROPOSED ROADWAY: 32,300 SF
   PROPOSED PARKING: 600 SF
   PROPOSED SIDEWALKS: 16,100 SF
   MISC. AMENITY: 5,000 SF
   TOTAL COVERAGE: 166,642 SF
   COVERAGE PERCENTAGE: 21.89%
4. PROPOSED DISTURBED AREA: 17.5 ACRES

THIS PERMITTED UNDER THE CONDITION THAT ONCE A CONTRACTOR IS SELECTED FOR THE WATERLINE INSTALLATION/TAP THAT THE CHOSEN INSTALLATION METHOD AND APPLICABLE SUPPLEMENTAL INFORMATION WILL BE SUBMITTED TO THE DISTRICT OFFICE FOR APPROVAL PRIOR TO BEGINNING WORK

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET, DEVELOPMENT NOTES & SIDE LOCATION
2	EXISTING CONDITIONS & SITE FEATURES MAP
3	DEVELOPMENT OVERVIEW PLAN
4	GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN
5	EROSION & SEDIMENTATION CONTROL PLAN
6	WATER MAIN EXTENSION & WATER SERVICE PLAN
7	LANDSCAPING, BUFFERING & SIGNAGE PLAN
8	REEDY LN. PLAN & PROFILE - STA. 0+00 - 8+50
9	REEDY LN. PLAN & PROFILE - STA. 8+50 - 16+63
10	ROADWAY AND SIDEWALK TYP. CONSTRUCTION DETAILS
11	GRADING AND DRAINAGE TYP. CONSTRUCTION DETAILS
12	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
13	NCG01 GROUND STABILIZATION & MATERIALS HANDLING
14	NCG01 SELF-INSPECTION, RECORD KEEPING & REPORTING

LEGEND

	ROADWAY CENTERLINE
	RIGHT-OF-WAY
	PROPERTY BOUNDARY
	ADJOINING PROPERTY LINE
	EXISTING DITCH CENTERLINE
	EXISTING TREE LINE (APPROXIMATE)
	PROPOSED SWALE W/ FLOW ARROW
	PROPOSED SWALE HIGH POINT
6	EXISTING GRADE CONTOUR
6	PROPOSED GRADE CONTOUR
x 0.00	EXISTING SPOT GRADE
+0.00	PROPOSED SPOT GRADE
	EXISTING CULVERT
	PROPOSED CULVERT
D	PROPOSED DRAINAGE STRUCTURE
	NO PARKING SIGN
	CROSSWALK

EROSION CONTROL LEGEND

	PROPOSED LIMITS OF DISTURBANCE
	PROPOSED SILT FENCE
	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	PROPOSED TEMPORARY CHECK DAM

UTILITY LEGEND

EWL EWL	EXISTING WATER LINE
WL WL	PROPOSED WATER LINE (SIZE AS NOTED)
	PROPOSED FIRE HYDRANT (APRX)
	PROPOSED WATER SERVICE (APRX)
	PROPOSED VALVE (APRX)
	PROPOSED BLOW-OFF (APRX)
	PROPOSED REDUCER (APRX)

PROFILE LEGEND

	EXISTING GRADE @ ROAD C/L
	PROPOSED GRADE @ ROAD C/L
WL WL	PROPOSED WATER LINE (SIZE AS NOTED)
	PROPOSED HYDRANT ASSEMBLY
	PROPOSED GATE VALVE
	PROPOSED REDUCER

THE FOLLOWING PERMITS ARE REQUIRED PRIOR TO PROJECT CONSTRUCTION:

PERMIT	AGENCY	REFERENCE NUMBER	DATE OF ISSUANCE
SEDIMENTATION AND EROSION CONTROL PERMIT	N.C.D.E.Q. - DIVISION OF LAND RESOURCES	CURRI-2026-0164	6/24/2026
STORMWATER MANAGEMENT LOW DENSITY PERMIT	N.C.D.E.Q - DIVISION OF LAND RESOURCES	SW7260609	6/26/2026
WATERMAIN EXTENSION AUTHORIZATION TO CONSTRUCT	N.C.D.E.Q - PUBLIC WATER SUPPLY		
DRIVEWAY PERMIT	N.C.D.O.T.		
ENCROACHMENT AGREEMENT	N.C.D.O.T.		
CURRITUCK COUNTY PRELIMINARY PLAT & USE PERMIT	CURRITUCK COUNTY BOARD OF COMMISSIONERS	PB 24-25	1/28/2025
CURRITUCK COUNTY CONSTRUCTION AUTHORIZATION	CURRITUCK COUNTY PLANNING STAFF		

STORMWATER CERTIFICATE

I, _____, OWNER/AGENT HEREBY CERTIFY THE INFORMATION INCLUDED ON THIS AND ATTACHED PAGES IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ON THE PLAN ENTITLED, SUNRISE ON THE SOUND CONSTRUCTION DRAWINGS - GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN, STORMWATER DRAINAGE IMPROVEMENTS SHALL BE INSTALLED ACCORDING TO THESE PLANS AND SPECIFICATIONS AND APPROVED BY CURRITUCK COUNTY. YEARLY INSPECTIONS ARE REQUIRED AS PART OF THE STORMWATER PLAN. THE OWNER IS RESPONSIBLE FOR ALL MAINTENANCE REQUIRED. CURRITUCK COUNTY ASSUMES NO RESPONSIBILITY FOR THE DESIGN, MAINTENANCE, OR PERFORMANCE OF THE STORMWATER IMPROVEMENTS.

_____ DATE

_____ OWNER/AGENT

North Carolina One-Call Center Inc. 811 Know what's below Call before you dig.

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

SURVEY LEGEND

SCM□	SET CONCRETE MONUMENT
SIR •	SET IRON ROD
EIR ○	EXISTING IRON ROD
EIP ○	EXISTING IRON PIPE
CP o	CALCULATED POINT
M.B.L.	MAXIMUM BUILDING LIMIT
N.T.S.	NOT TO SCALE
P.C.	PLAT CABINET
D.B.	DEED BOOK
SL	SLIDE
SF	SQUARE FEET
AC	ACRES

NOTE:
EXISTING SITE INFORMATION DESCRIBED HEREON IS BELIEVED TO BE ACCURATE, HOWEVER, BPG INC. MAKES NO WARRANTY AS TO THE ACCURACY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THIS INFORMATION BEFORE RELYING ON IT. THE CONTENT OF THESE DOCUMENTS MAY ALSO INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. IF SUCH CONDITIONS EXIST, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO PROCEEDING WITH THE SCHEDULED WORK AND MAY CONTINUE AFTER AN AUTHORIZATION TO PROCEED HAS BEEN GRANTED.

BISSELL PROFESSIONAL GROUP
Firm License # C-906
Surveyor Office Boston Highway
P.O. Box 1088
Jarvisburg, North Carolina 27949
(252) 491-8855
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

COVER SHEET, DEVELOPMENT NOTES & SITE LOCATION

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PROJECT: SUNRISE ON THE SOUND NORTH CAROLINA
CRAWFORD TOWNSHIP CURRITUCK COUNTY
CONSTRUCTION DRAWINGS

REVISIONS

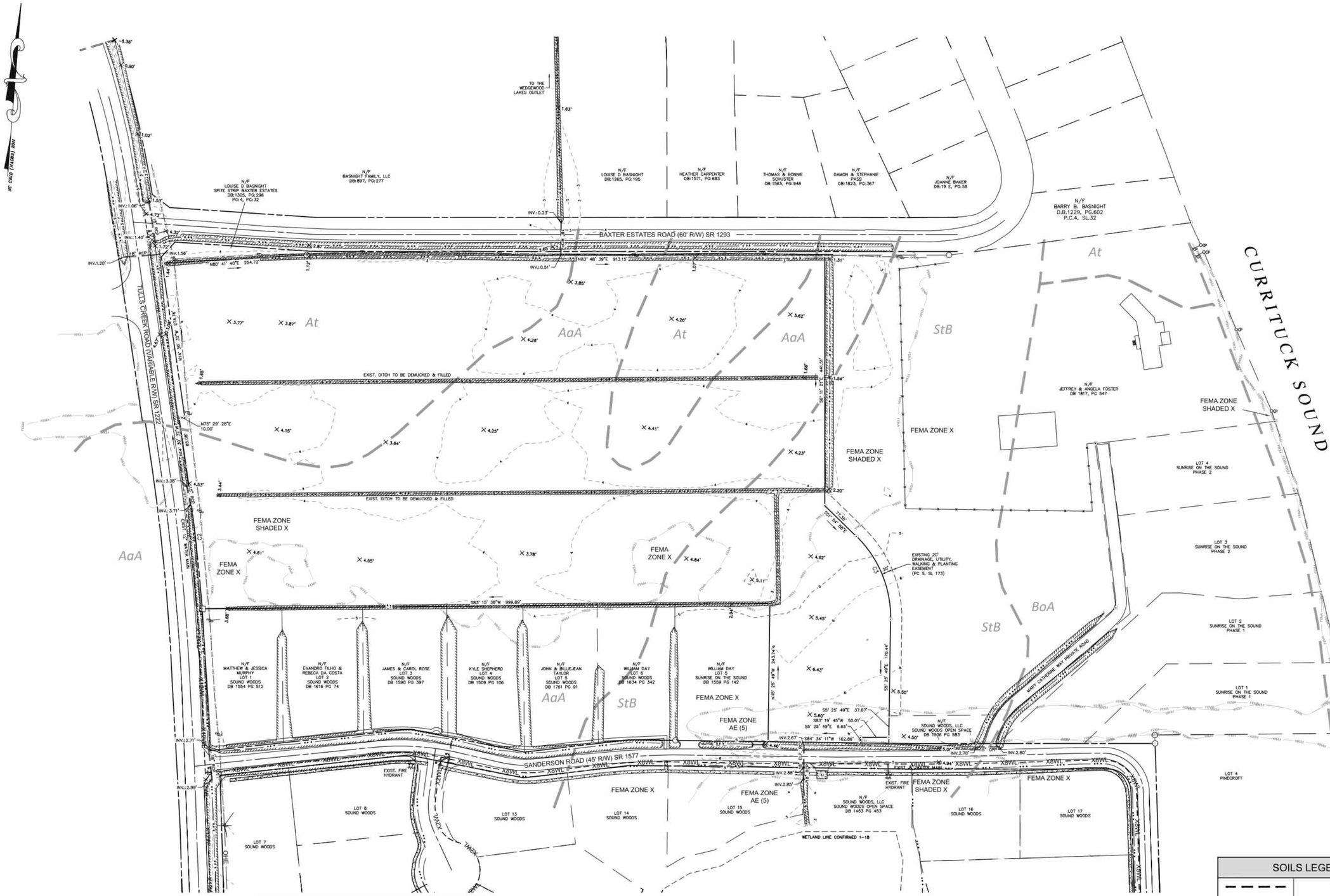
NO.	DATE	DESCRIPTION	BY
1	8-6-26	UPDATE PERMIT TABLE	DMK

Docusigned by: MARK S. BISSELL LICENSE NO. L-2639 76B82DFDFA6D4CE... 8/6/2026

DATE: 6/2/26 SCALE: N/A
DESIGNED: BPG CHECKED: MSB
DRAWN: KFW APPROVED: BPG
SHEET: 1 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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CURVE TABLE					
CURVE	LENGTH	RADIUS	CHORD	BEARING	DELTA
C1	38.06'	124.00'	37.91'	S34° 46' 36"W	17°35'13"
C2	253.49'	3849.72'	253.44'	N12° 38' 14"W	3°46'22"
C3	162.22'	200.00'	157.81'	N28° 39' 58"W	46°28'18"

80 0 40 80 160 320

1" = 80'
GRAPHIC SCALE

EXISTING DITCH FILL NOTE:
EXISTING DITCHES NOTED AS BEING FILLED SHALL BE DEMUCKED AND BACKFILLED WITH CLEAN, COMPACTED SELECT MATERIAL. DITCH FILLING SHALL COINCIDE WITH DRAINAGE PATTERNS AND EROSION CONTROL MEASURES AS PROVIDED IN THESE PLANS.

SOILS LEGEND	
	SOILS LINE
AaA	ALTAVISTA FINE SANDY LOAM
At	AUGUSTA FINE SANDY LOAM
BoA	BOJAC LOAMY SOIL
StB	STATE FINE SANDY LOAM

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

BISSELL PROFESSIONAL GROUP
Firm License # C-956
3312 N. Croatan Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3570
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

EXISTING CONDITIONS & SITE FEATURES MAP

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DocuSigned by:
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8-6-26

DATE: 6/2/26	SCALE: 1" = 80'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG
SHEET: 2 OF 14	
CAD FILE: 467900B1	
PROJECT NO: 4679	

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80 0 40 80 160 320

1" = 80'

GRAPHIC SCALE

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

Bissell Professional Group
Firm License # C-906
3212 Virginia Dare Trail
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-3300
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

DEVELOPMENT OVERVIEW PLAN

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	8-6-26	AMEN. RETURN AVENUE DIMENSIONS	DMC

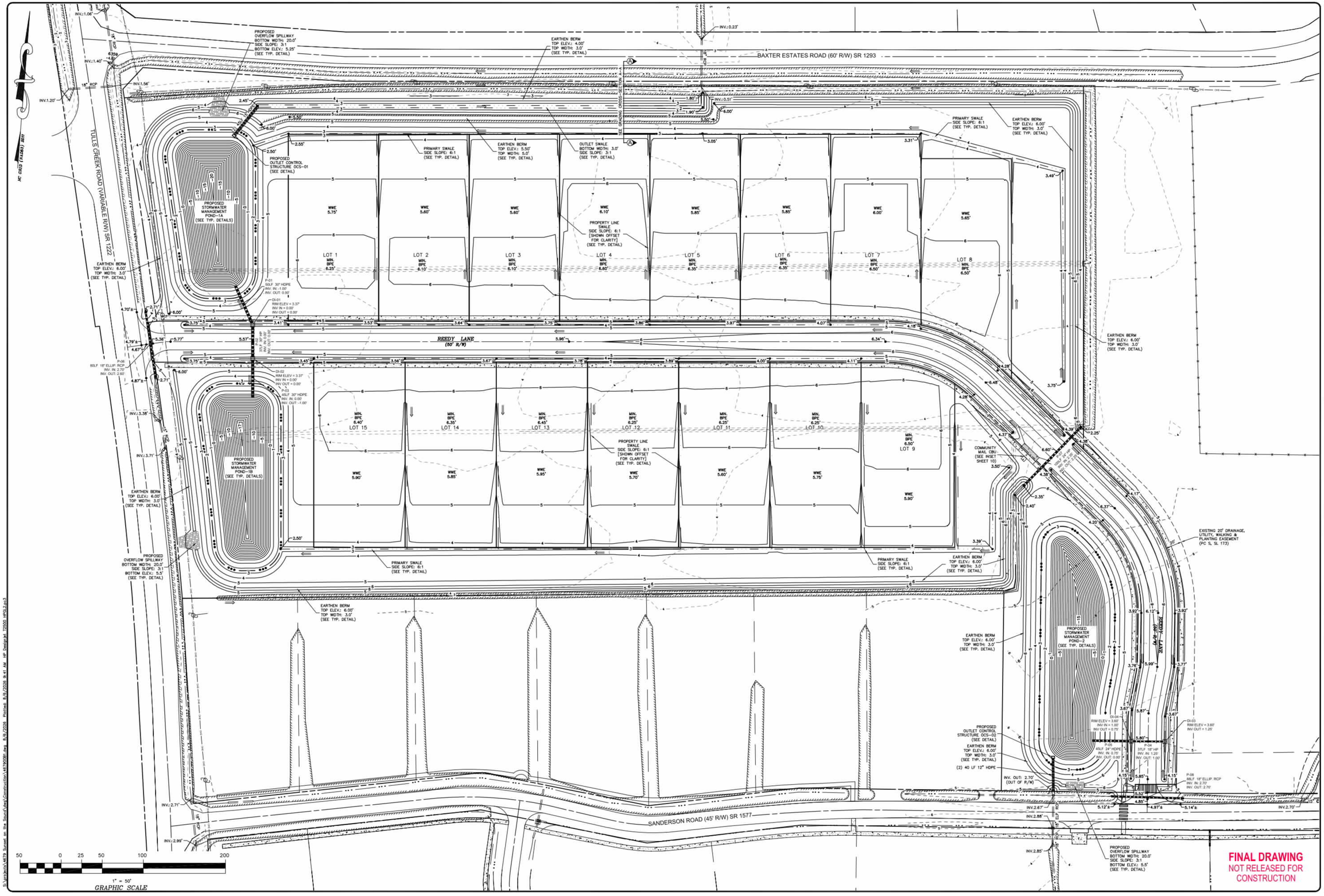
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MARK S. BISSELL
L-2639
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8-6-26

DATE: 6/2/26	SCALE: 1" = 80'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 3 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN

SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

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REVISIONS

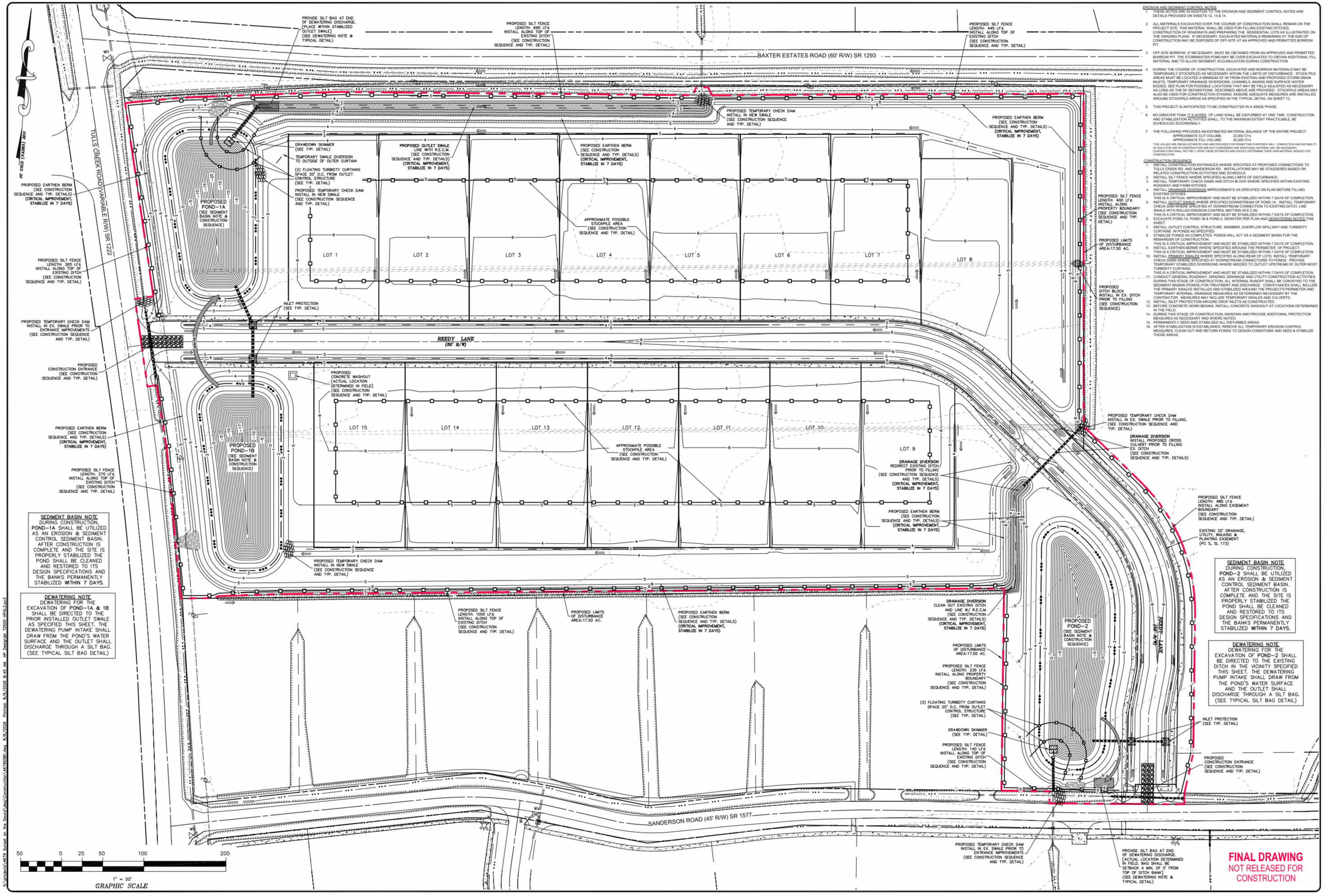
NO.	DATE	DESCRIPTION	BY
1	6-4-26	SHORTEN OCS-02 OUTLET PIPE	DMC

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6/2/2026

DATE: 6/2/26
SCALE: 1" = 50'
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 4 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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SEDIMENT BASIN NOTE
DURING CONSTRUCTION, POND-1A SHALL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

DEWATERING NOTE
DEWATERING FOR THE EXCAVATION OF POND-1A & 1B SHALL BE DIRECTED TO THE PRIOR INSTALLED OUTLET SWALE AS SPECIFIED THIS SHEET. THE DEWATERING PUMP INTAKE SHALL DRAW FROM THE POND'S WATER SURFACE AND THE OUTLET SHALL DISCHARGE THROUGH A SILT BAG. (SEE TYPICAL SILT BAG DETAIL)

SEDIMENT BASIN NOTE
DURING CONSTRUCTION, POND-2 SHALL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

DEWATERING NOTE
DEWATERING FOR THE EXCAVATION OF POND-2 SHALL BE DIRECTED TO THE EXISTING DITCH IN THE VICINITY SPECIFIED THIS SHEET. THE DEWATERING PUMP INTAKE SHALL DRAW FROM THE POND'S WATER SURFACE AND THE OUTLET SHALL DISCHARGE THROUGH A SILT BAG. (SEE TYPICAL SILT BAG DETAIL)

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

EROSION AND SEDIMENT CONTROL NOTES

1. THESE NOTES ARE IN ADDITION TO THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS PROVIDED ON SHEETS 12, 13 & 14.
2. ALL MATERIALS EXCAVATED OVER THE COURSE OF CONSTRUCTION SHALL REMAIN ON THE PROJECT SITE. THIS MATERIAL SHALL BE USED FOR FILLING EXISTING DITCHES, CONSTRUCTION OF ROADWAYS AND PREPARING THE RESIDENTIAL LOTS AS ILLUSTRATED ON THE GRADING PLANS. IF NECESSARY, EXCAVATED MATERIALS REMAINING AT THE END OF CONSTRUCTION MAY BE DISPOSED OF OFF-SITE AT AN APPROVED AND PERMITTED BORROW PIT.
3. OFF-SITE BORROW, IF NECESSARY, MUST BE OBTAINED FROM AN APPROVED AND PERMITTED BORROW PIT. THE STORMWATER POND MAY BE OVER EXCAVATED TO OBTAIN ADDITIONAL FILL MATERIAL AND TO ALLOW SEDIMENT ACCUMULATION DURING CONSTRUCTION.
4. DURING THE COURSE OF CONSTRUCTION, EXCAVATED AND BORROW MATERIALS MAY BE TEMPORARILY STOCKPILED AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE. STOCK PILE AREAS MUST BE LOCATED A MINIMUM OF 50' FROM EXISTING AND PROPOSED STORM DRAIN INLETS, TEMPORARY DRAINAGE DIVERSIONS, CHANNELS, BASINS AND SURFACE WATER BODIES. SEE PLAN FOR POSSIBLE LOCATIONS THAT MAY BE FIELD ADJUSTED AS NECESSARY AS LONG AS THE 50' SEPARATIONS DESCRIBED ABOVE ARE PROVIDED. STOCKPILE AREAS MAY ALSO BE USED FOR CONSTRUCTION STAGING. ENSURE ADEQUATE MEASURES ARE INSTALLED AROUND STOCKPILE AREAS AS SPECIFIED IN THE TYPICAL DETAIL ON SHEET 12.
5. THIS PROJECT IS ANTICIPATED TO BE CONSTRUCTED IN A SINGE PHASE.
6. NO GREATER THAN 17.5 ACRES OF LAND SHALL BE DISTURBED AT ONE TIME. CONSTRUCTION AND STABILIZATION ACTIVITIES SHALL, TO THE MAXIMUM EXTENT PRACTICABLE, BE SCHEDULED ACCORDINGLY.
7. THE FOLLOWING PROVIDES AN ESTIMATED MATERIAL BALANCE OF THE ENTIRE PROJECT:
   APPROXIMATE CUT VOLUME: 23,000 CY±
   APPROXIMATE FILL VOLUME: 30,000 CY±
   *THE VALUES ARE GROSS ESTIMATES AND ARE PROVIDED FOR PERMITTING PURPOSES ONLY. COMPACTION AND SUITABILITY OF SOILS FOR USE IN CONSTRUCTION ARE NOT CONSIDERED AND ADDITIONAL MATERIAL MAY BE NECESSARY. CONTRACTORS SHALL NOT RELY UPON THESE ESTIMATES AND SHOULD DETERMINE THEIR OWN MATERIAL NEEDED FOR CONSTRUCTION.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCES WHERE SPECIFIED AT PROPOSED CONNECTIONS TO TULLS CREEK RD. AND SANDERSON RD. INSTALLATIONS MAY BE STAGGERED BASED ON RELATED CONSTRUCTION ACTIVITIES AND SCHEDULE.
2. INSTALL SILT FENCE WHERE SPECIFIED ALONG LIMITS OF DISTURBANCE.
3. INSTALL TEMPORARY CHECK DAMS AND DITCH BLOCK WHERE SPECIFIED WITHIN EXISTING ROADWAY AND FARM DITCHES.
4. INSTALL DRAINAGE DIVERSION IMPROVEMENTS AS SPECIFIED ON PLAN BEFORE FILLING EXISTING DITCHES.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
5. INSTALL OUTLET SWALE WHERE SPECIFIED DOWNSTREAM OF POND-1A. INSTALL TEMPORARY CHECK DAM WHERE SPECIFIED AT DOWNSTREAM CONNECTION TO EXISTING DITCH. LINE SWALES WITH ROLLED EROSION CONTROL MATTING (R.E.C.M).
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
6. EXCAVATE POND-1A, POND-1B & POND-2. DEWATER PER PLAN AND DEWATERING NOTES THIS SHEET.
7. INSTALL OUTLET CONTROL STRUCTURE, SKIMMER, OVERFLOW SPILLWAY AND TURBIDITY CURTAINS IN PONDS AS SPECIFIED
8. STABILIZE PONDS AS COMPLETED. PONDS WILL ACT AS A SEDIMENT BASIN FOR THE REMAINDER OF CONSTRUCTION.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
9. INSTALL EARTHEN BERMS WHERE SPECIFIED AROUND THE PERIMETER OF PROJECT.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
10. INSTALL PRIMARY SWALES WHERE SPECIFIED ALONG REAR OF LOTS. INSTALL TEMPORARY CHECK DAMS WHERE SPECIFIED AT DOWNSTREAM CONNECTIONS TO PONDS. PROVIDE TEMPORARY STABILIZED DIVERSIONS WHERE NEEDED TO OUTLET UPSTREAM OF OUTER MOST TURBIDITY CURTAINS.
    THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
11. CONDUCT GENERAL ROADWAY, GRADING, DRAINAGE AND UTILITY CONSTRUCTION ACTIVITIES. DURING THIS STAGE OF CONSTRUCTION, ALL INTERNAL RUNOFF SHALL BE CONVEYED TO THE SEDIMENT BASINS (PONDS) FOR TREATMENT AND DISCHARGE. CONVEYANCES SHALL INCLUDE THE PRIMARY SWALES INSTALLED AND STABILIZED AROUND THE PROJECT'S PERIMETER AND TEMPORARY INTERNAL DRAINAGE MEASURES AS DETERMINED NECESSARY BY THE CONTRACTOR. MEASURES MAY INCLUDE TEMPORARY SWALES AND CULVERTS.
12. INSTALL INLET PROTECTION AROUND DROP INLETS AS CONSTRUCTED.
13. BEFORE CONCRETE WORK BEGINS, INSTALL CONCRETE WASHOUT AT LOCATIONS DETERMINED IN THE FIELD.
14. DURING THIS STAGE OF CONSTRUCTION, MAINTAIN AND PROVIDE ADDITIONAL PROTECTION MEASURES AS NECESSARY AND WHERE NOTED.
15. PERMANENTLY SEED AND STABILIZED ALL DISTURBED AREAS.
16. AFTER STABILIZATION IS ESTABLISHED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES, CLEAN OUT AND RETURN PONDS TO DESIGN CONDITIONS AND SEED & STABILIZE THOSE AREAS.

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Engineers, Planners, Surveyors and Environmental Specialists

SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

EROSION & SEDIMENTATION CONTROL PLAN
CONSTRUCTION DRAWINGS

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REVISIONS

NO.	DATE	DESCRIPTION	BY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032639 BRIAN K. BISSELL

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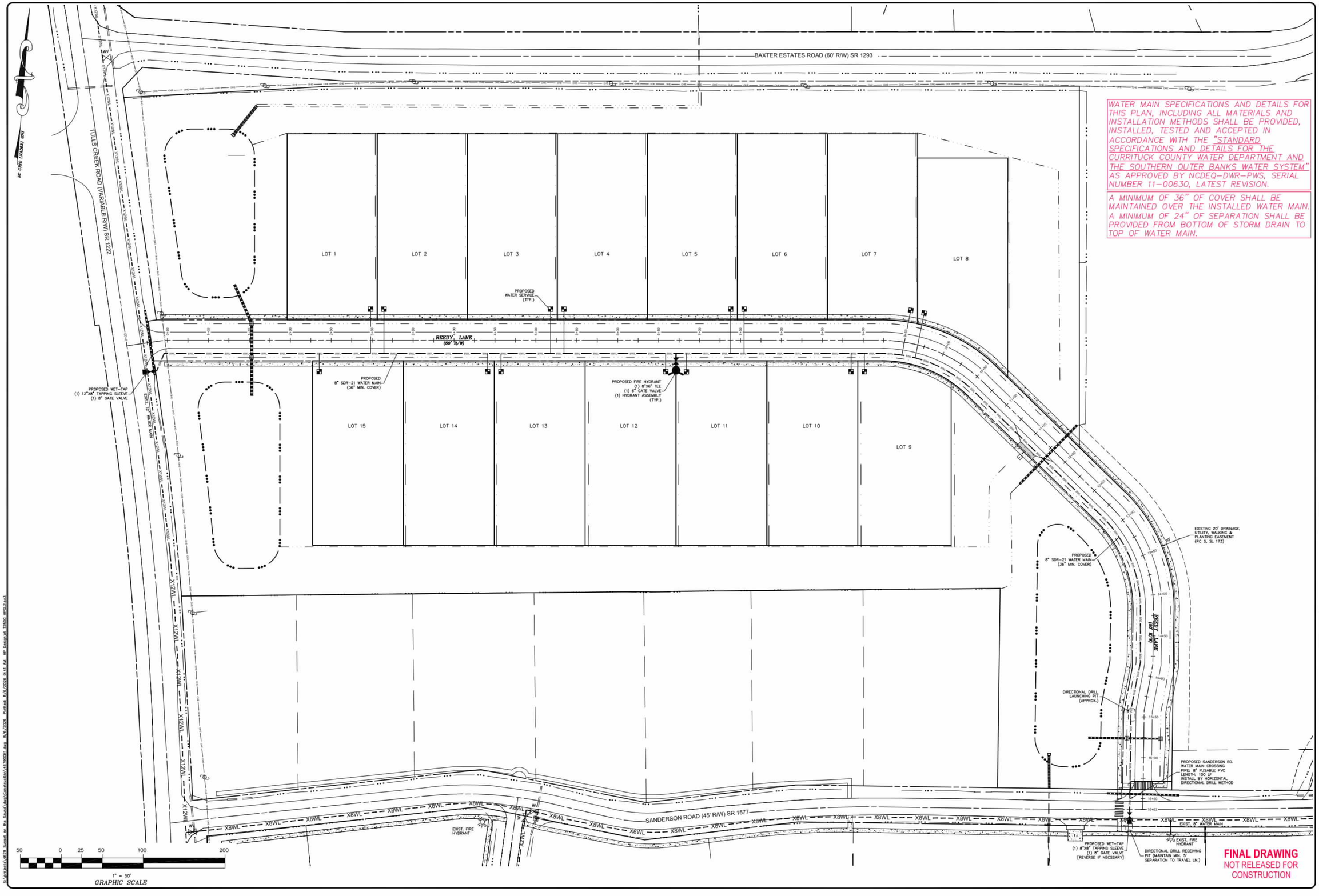
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DRAWN: KFW	APPROVED: BPG

SHEET: 5 OF 14

CAD FILE: 467900B1

PROJECT NO: 4679

Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E



WATER MAIN SPECIFICATIONS AND DETAILS FOR THIS PLAN, INCLUDING ALL MATERIALS AND INSTALLATION METHODS SHALL BE PROVIDED, INSTALLED, TESTED AND ACCEPTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS AND DETAILS FOR THE CURRITUCK COUNTY WATER DEPARTMENT AND THE SOUTHERN OUTER BANKS WATER SYSTEM" AS APPROVED BY NCDEQ-DWR-PWS, SERIAL NUMBER 11-00630, LATEST REVISION.

A MINIMUM OF 36" OF COVER SHALL BE MAINTAINED OVER THE INSTALLED WATER MAIN. A MINIMUM OF 24" OF SEPARATION SHALL BE PROVIDED FROM BOTTOM OF STORM DRAIN TO TOP OF WATER MAIN.

FINAL DRAWING
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BISSELL PROFESSIONAL GROUP
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WATER MAIN EXTENSION & WATER SERVICE PLAN

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
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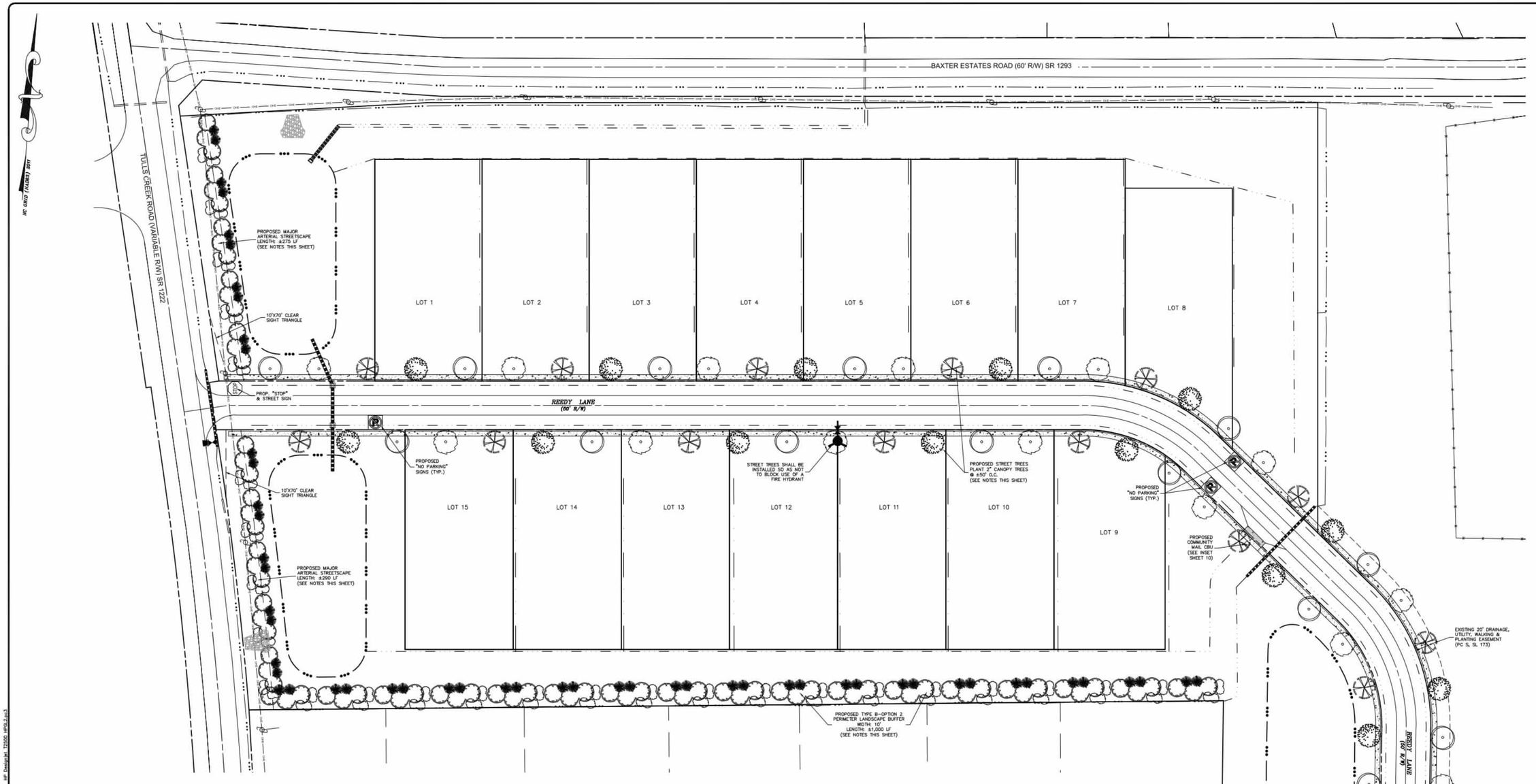
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SHEET: 6 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E



PROPOSED STREET TREES (SEE NOTES THIS SHEET)

PROPOSED PERIMETER & STREETSCAPER BUFFER (SEE NOTES THIS SHEET)

PROPOSED STOP/STREET SIGN (SEE DETAIL/NOTES THIS SHEET)

PROPOSED NO PARKING SIGN TYPE R8-3 (TYP.)

PROPOSED SIGHT TRIANGLE

50 0 25 50 100 200

1" = 50'

GRAPHIC SCALE

GENERAL LANDSCAPING AND BUFFERING NOTES:

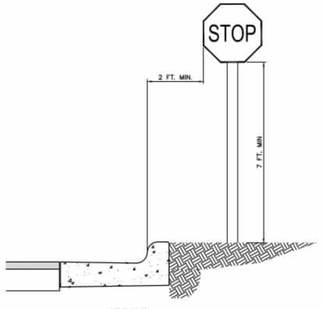
1. STREET TREES (6.2.1.L)
   REQUIREMENTS:
   - TREES SHALL BE PLANTED ALONG EACH SIDE OF ROADWAYS AS GENERALLY SPECIFIED ON THIS LANDSCAPE PLAN.
   - TREES SHALL BE PLANTED ±38' FROM CENTERLINE OF THE STREET. SEE TYPICAL ROADWAY SECTION DETAILS ON SHEET 10.
   - TREES SHALL BE PLANTED WITHIN PLANTING EASEMENTS.
   - TREES SHALL BE CANOPY TYPE PLANTED A MAXIMUM OF 50' O/C. UNDERSTORY TYPE TREES MAY BE SUBSTITUTED AND PLANTED A MAXIMUM OF 30' O/C
   - SEE TREE SPECIES AND PLANTING NOTE BELOW.
2. PERIMETER LANDSCAPE BUFFER (5.2.6)
   - REQUIREMENTS: [TYPE B - OPTION 2]
     a. (2) AGGREGATE CALIPER INCHES OF CANOPY TREES PER 100 LINEAR FEET.
     b. (14) AGGREGATE CALIPER INCHES OF UNDERSTORY TREES PER 100 LINEAR FEET.
     c. (20) SHRUBS PER 100 LINEAR FEET
   - PROVISIONS.
     a. SEE PLAN FOR ±1,000 LF OF PERIMETER LANDSCAPE BUFFER ALONG SOUTHERN DEVELOPMENT BOUNDARY.
     b. PLANTINGS SHALL BE INSTALLED AS REQUIRED ABOVE.
3. STREETSCAPE (5.2.8)
   - REQUIREMENTS: [MAJOR ARTERIAL W/ ACCESS]
     a. (6) AGGREGATE CALIPER INCHES OF CANOPY TREES PER 100 LINEAR FEET.
     b. (3) AGGREGATE CALIPER INCHES OF UNDERSTORY TREES PER 100 LINEAR FEET.
     c. (5) SHRUBS PER 100 LINEAR FEET.
   - PROVISIONS:
     a. SEE PLAN FOR ±290 LF + ±275 LF OF MAJOR ARTERIAL STREETSCAPING ALONG TULLS CREEK RD.
     b. PLANTINGS SHALL BE INSTALLED AS REQUIRED ABOVE

SIDEWALK, WALKING TRAIL AND MULTI-USE PATH NOTE:
ALL SIDEWALKS, WALKING TRAILS AND MULTI-USE PATHS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ACCESSIBILITY CODE. WALKS, TRAILS AND PATHS SHALL BE HARD SURFACE WITH CROSS SLOPES NOT EXCEEDING 2% AND LONGITUDINAL SLOPES NOT EXCEEDING 20:1. WALKWAYS LESS THAN 5' IN WIDTH SHALL PROVIDE A 5' WIDE PASSING ZONE EVERY 200'.

TREE & SHRUB SPECIES AND PLANTING GUIDELINES:
ALL TREES AND SHRUBS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING STANDARDS SPECIFIED IN SECTION 3.5 OF THE CURRITUCK COUNTY ADMINISTRATIVE MANUAL AND THIS PLAN.
- CANOPY AND UNDERSTORY TREE SPECIES SHALL BE OF THOSE LISTED UNDER "TABLE 3.4.6: RECOMMENDED PLANTINGS" IN THE SAME MANUAL.
- TREE SPECIES SHALL BE DIVERSE. A MINIMUM OF (4) DIFFERENT SPECIES OF CANOPY AND UNDERSTORY TREES SHALL BE INSTALLED IN ROUGHLY EQUAL PROPORTIONS.
- AT INSTALLATION, CANOPY TREES SHALL HAVE A MINIMUM CALIPER OF 2 INCHES MEASURED AT 6 INCHES. ABOVE GRADE. EIGHT FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- AT INSTALLATION, UNDERSTORY TREES SHALL HAVE A MINIMUM CALIPER OF 1.5 INCHES MEASURES AT 6 INCHES ABOVE GRADE. SIX FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- SHRUBS SHALL BE PLANTED AT THE SPACING NOTED ON THE PLANS AND FORM A VISUAL SCREEIN WITH A MIN. MATURE HEIGHT OF 36". SHRUBS SHALL BE EVERGREEN AS NOTED AND BE A MINIMUM OF (3) GALLON SIZE AT PLANTING.
- MATERIALS SHALL BE OF HIGH-QUALITY NURSERY GRADE.
- THE USE OF NATIVE, DROUGHT TOLERANT TREES IS ENCOURAGED.
- A REPUTABLE LANDSCAPE CONTRACTOR OR SUPPLIER SHALL PREPARE AN ITEMIZED SCHEDULE OF TREES TO BE INSTALLED IN ACCORDANCE WITH THIS LANDSCAPE PLAN. THIS SCHEDULE SHALL BE REVIEWED BY CURRITUCK COUNTY AND THE ENGINEER TO DETERMINE COMPLIANCE BEFORE ORDERING AND INSTALLATION. ALTERNATE TREES AND SPECIFICATIONS MAY BE PRESENTED FOR REVIEW AND APPROVAL.

STREET SIGN ORDERING INFORMATION / CURRITUCK DEPARTMENT OF PLANNING
SIGN SPECIFICATIONS:
9"WIDE EXTRUDED ALUMINUM BLADE
5"WHITE LETTERS ON GREEN BACKGROUND
PVT DESIGNATION AS REQUIRED (INDICATES 'PRIVATE')
STOP SIGNS ARE TO BE 24"IN SIZE.

INSTALLATION:
STREET SIGN POSTS SHALL BE INSTALLED AT LEAST 2 FT. OFF THE EDGE OF PAVEMENT. IT IS RECOMMENDED THAT THE STREET BLADE BE LOCATED 7'-8' ABOVE THE FINISHED GROUND SURFACE. (SEE DETAIL.) INSTALL NO PARKING SIGNS AT ALL FIRE HYDRANTS.
FOR STOP SIGN INSTALLATIONS, PLEASE CONTACT NCDOT MAPLE MAINTENANCE YARD. STREET NAME AND STOP SIGNS MUST BE INSTALLED PRIOR TO APPROVAL OF PRIVATE ACCESS AND FINAL SUBDIVISIONS.



NOT TO SCALE
ROAD SIGN INSTALLATION

FINAL DRAWING
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LANDSCAPING, BUFFERING & SIGNAGE PLAN

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PROJECT
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

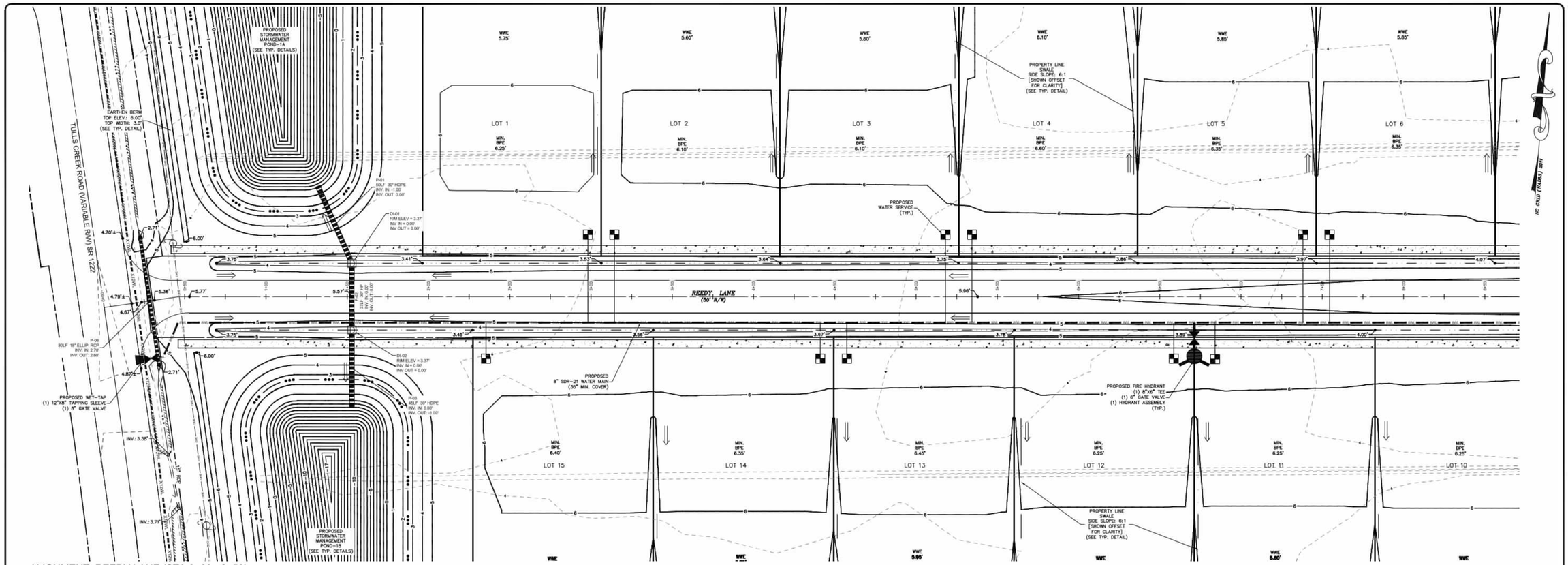
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DATE:	SCALE
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DRAWN: KFW	APPROVED: BPG

SHEET: 7 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

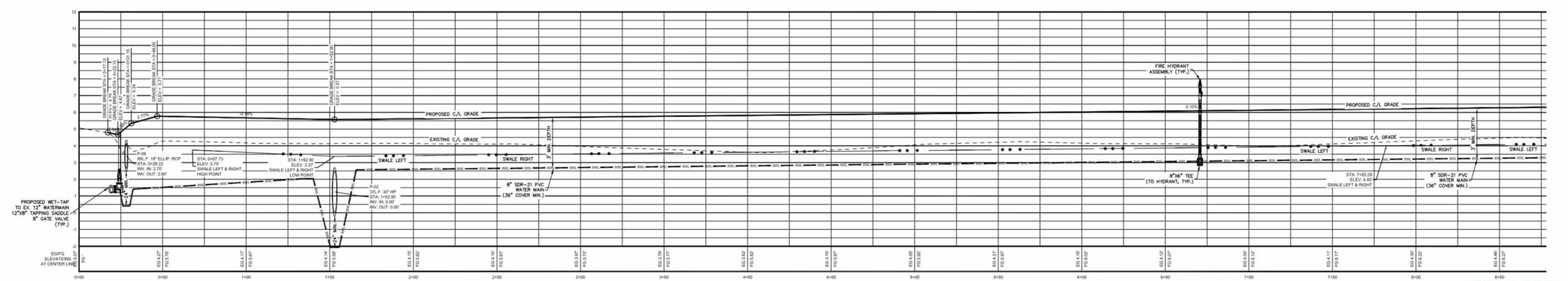
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ALIGNMENT: REEDY LANE (STA 0+00 - 8+50)
SCALE: HOR.: 1"=30' (PLAN VIEW)

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1" = 30'
GRAPHIC SCALE



ALIGNMENT: REEDY LANE (STA 0+00 - 8+50)
SCALE: HOR.: 1"=30', VERT.: 1"=3' (PROFILE VIEW)

FINAL DRAWING
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REEDY LN. PLAN & PROFILE
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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
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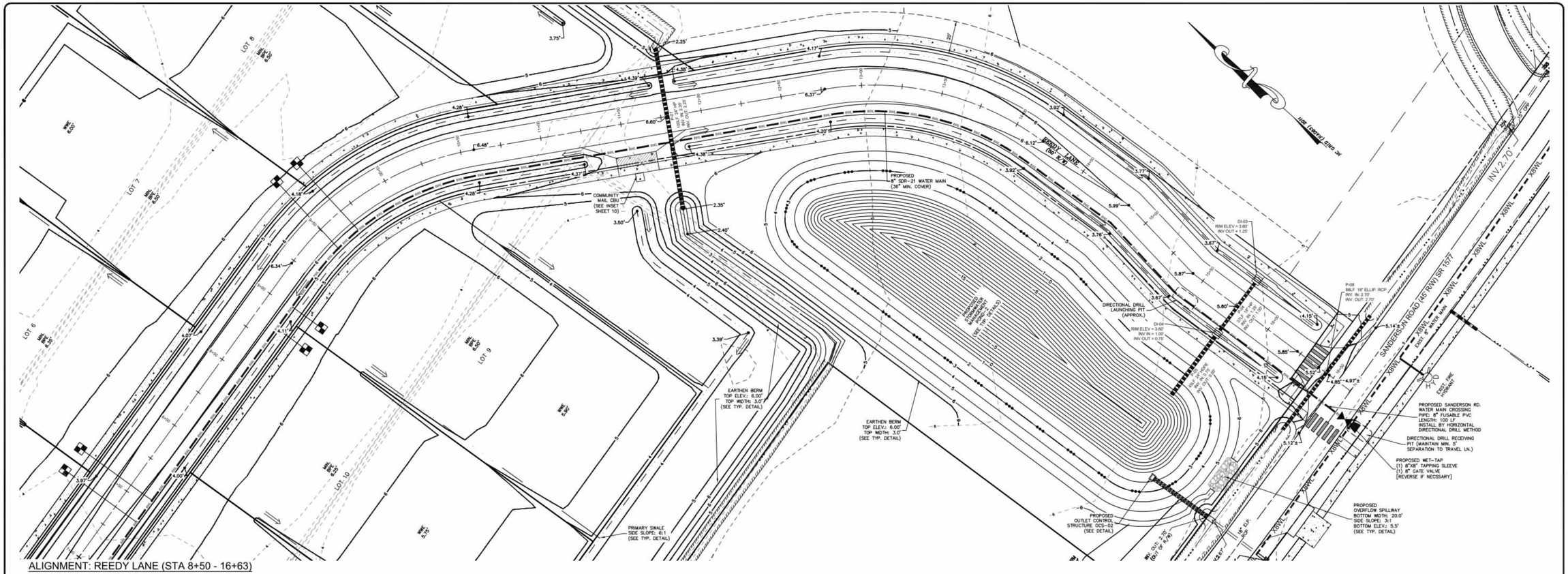
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32639 BRIAN PATRICK GREGORY
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8/5/2026

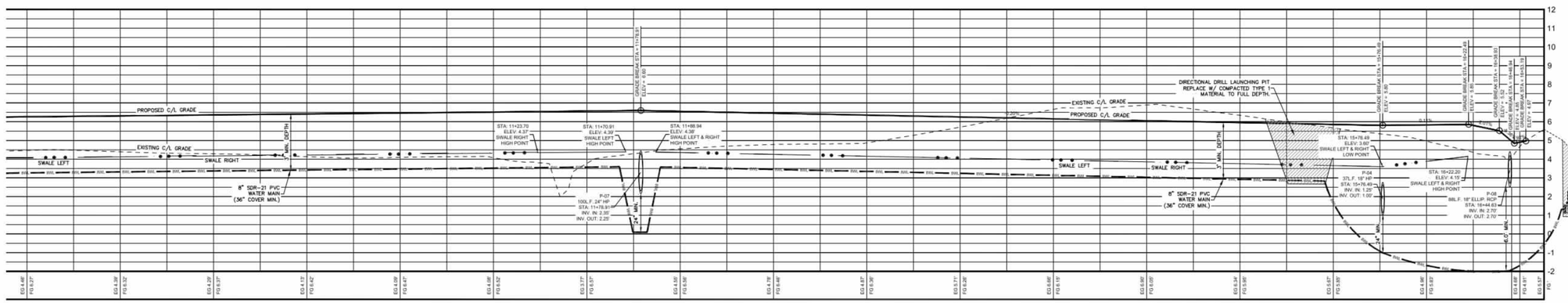
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DRAWN: KFW	APPROVED: BPG

SHEET: 8 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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1" = 30'
GRAPHIC SCALE

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PROJECT
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

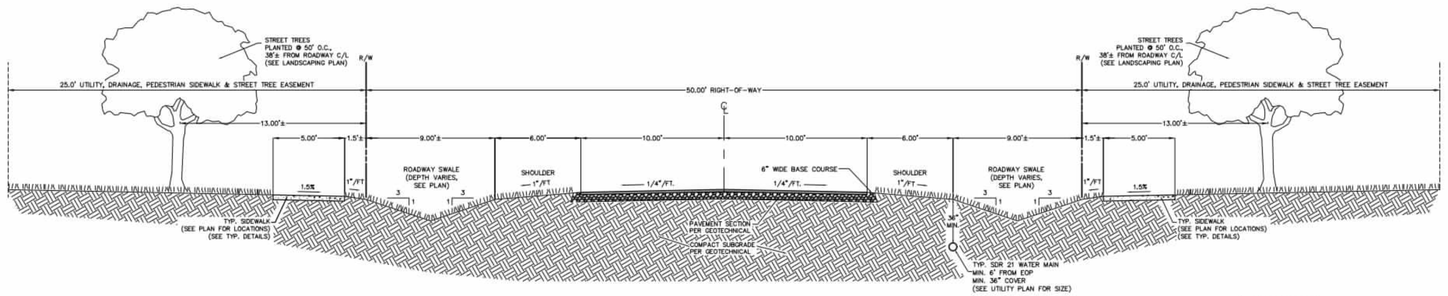
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MARK S BISSELL
L-2639
76B82DFDFA6D4C8...
9/4/26

DATE: 6/2/26	SCALE: 1"=30'; 1"=3'
DESIGNED: BPG	CHECKED: MSB
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SHEET: 9 OF 14	
CAD FILE: 467900B1	
PROJECT NO: 4679	

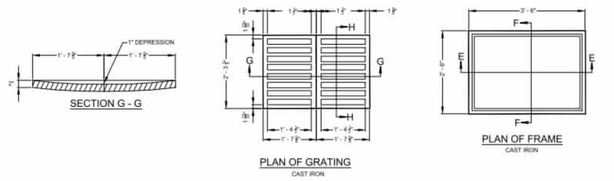
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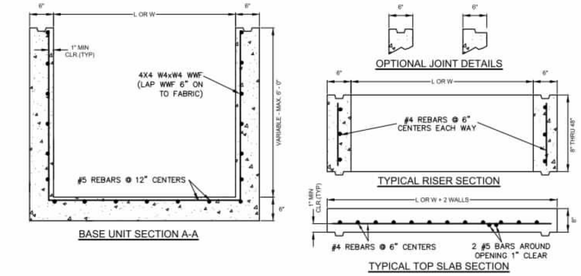
TYPICAL LOCAL ROADWAY W/ SWALES

SCALE: 1" = 5' SECTION VIEW



DROP INLET FRAME AND GRATE DETAILS

NOT TO SCALE NCDOT STD 840.16



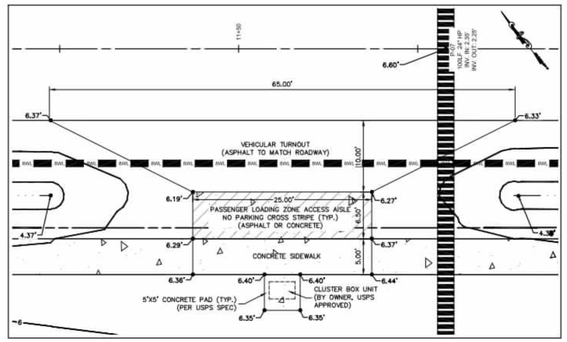
IN ACCORDANCE WITH NCDOT'S CONCRETE CATCH BASIN STANDARD DETAIL 840.02,
1. ALL PIPE CONNECTIONS SHALL BE MADE FLUSH WITH THE VERTICAL INSIDE WALL OF THE STRUCTURE.
2. ALL STRUCTURE INVERTS SHALL BE MADE FLUSH WITH THE INVERT OF THE LOWEST CONNECTED PIPE. SUMPS SHALL BE FILLED WITH CONCRETE AS NECESSARY TO ACHIEVE THIS REQUIREMENT.

STANDARD TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

NOT TO SCALE NCDOT STD 840.46

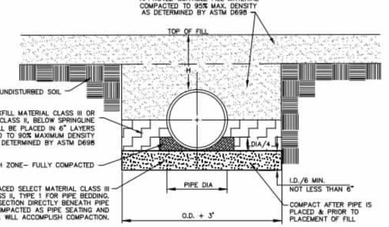
PRECAST DRAINAGE STRUCTURE GENERAL NOTES

1. DESIGN SHALL CONFORM TO LATEST NCDOT 840.46 SPECIFICATIONS FOR "TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE".
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4,000PSI.
3. USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A1064 WELDED WIRE FABRIC (WWF).
4. LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15' - 0"
5. PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
6. ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL
7. PRECAST ALL ELEMENTS TO MEET ASTM C913.
8. FRAME AND GRADE HEIGHT MAY BE ADJUSTED IN ACCORDANCE WITH STANDARD 840.25
9. PROVIDE PRECAST STRUCTURES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS PER STANDARD 840.66
10. WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
11. SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATIONS SS-S-21A, AASHTO M-198, TYPE-B BUTYL RUBBER
12. LIMIT MAXIMUM STRUCTURE SIZES INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0"
13. THE OUTSIDE PIPE DIAMETER PLUS 2" IS MINIMUM STRUCTURE SIZE, OR THE OPENING REQUIRED FOR FRAME AND GRATE, WHICHEVER IS GREATER.
14. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



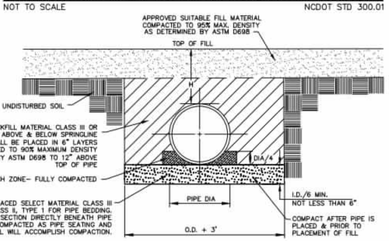
COMMUNITY MAIL CBU INSET

SCALE: 1" = 10'



STANDARD RIGID PIPE INSTALLATION DETAIL

NOT TO SCALE NCDOT STD 300.01



STANDARD FLEXIBLE PIPE INSTALLATION DETAIL

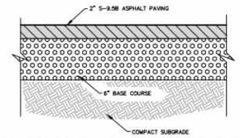
NOT TO SCALE (ALL PROPOSED H.D.P.E. PIPING SHALL BE DOUBLE WALL, ADS N-12 TYPE OR APPROVED EQUAL) NCDOT STD 300.01

GENERAL PIPE INSTALLATION NOTES:

1. ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA "SAFETY AND HEALTH REGULATIONS FOR THE CONSTRUCTION" CHAPTER XVII OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON THE JOB AT ALL TIMES AND SHALL EMPLOY A PROFESSIONAL ENGINEER TO ACT UPON ALL PERTINENT MATTERS OF THE WORK.
2. DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
3. THE STANDARD DETAILS ABOVE ILLUSTRATE TYPICAL TRENCH INSTALLATIONS IN "NORMAL EARTH FOUNDATION" CONDITIONS. FOR ABOVE GROUND INSTALLATIONS AND ALTERNATE FOUNDATION CONDITIONS, SUCH AS ROCK AND UNSUITABLE MATERIAL, REFERENCE NCDOTS TYPICAL STANDARD DETAIL 300.01.

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT OR THE BOTTOM OF THE PAVEMENT STRUCTURE AT THAT POINT.

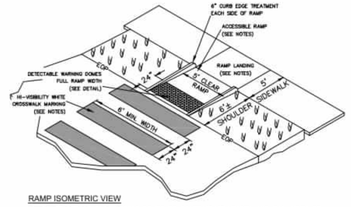
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE FOR MAXIMUM AND MINIMUM ALLOWABLE FILL HEIGHTS (H) BY PIPE AND INSTALLATION TYPE.



TYPICAL RESIDENTIAL ROADWAY PAVEMENT SECTION

NOTE: NOT TO SCALE

PAVING SHALL CONSIST OF FINE GRADING THE SPECIFIED PARKING & DRIVE AREAS AND INSTALLING 2" S-9.5B ASPHALT CONCRETE SURFACE COURSE IN CONJUNCTION WITH A 6" AGGREGATE BASE COURSE. THE SOIL SUBGRADE BENEATH PAVEMENTS SHALL BE COMPACTED TO AT LEAST 95% OF ASTM D 698 PRIOR TO ANY PLACEMENT OF SUBBASE FILL OR STONE BASE COURSE. ALL SITE PREPARATION AND THE DESIGN AND CONSTRUCTION OF ALL FOUNDATIONS, GROUND SLABS, AND PAVEMENTS SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED BY A GEOTECHNICAL ENGINEER.

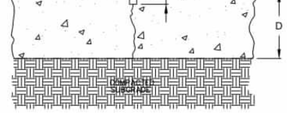


RAMP ISOMETRIC VIEW

1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FILL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.
3. SEE ACCESSIBLE RAMP GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

TYP. ACCESSIBLE RAMP DETAIL

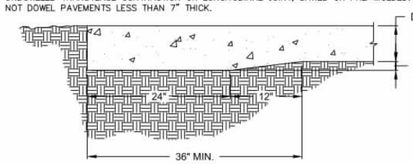
NOT TO SCALE ALT. TO NCDOT STD 848.05



CONVENTIONAL CONCRETE CONTROL JOINT DETAIL

NOT TO SCALE SECTION VIEW

NOTES:
MINIMUM PAVEMENT THICKNESS (D) = 6" W/6x6-W2.9 x W2.9 WWF REINFORCEMENT, PLACE 2" BELOW TOP OF SLAB
UNDOWELED TRANSVERSE CONTRACTION OR LONGITUDINAL JOINT, SAWED OR PRE-MOLDED. DO NOT DOWEL PAVEMENTS LESS THAN 7" THICK.

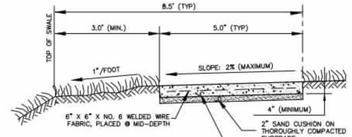


CONVENTIONAL CONCRETE THICKENED EDGE DETAIL

NOT TO SCALE SECTION VIEW

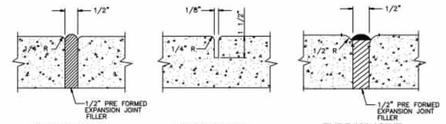
CONVENTIONAL CONCRETE SPECIFICATIONS:

1. USE ACI CERTIFIED FLATWORK FINISHER
2. USE ACI 330R-01 GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS.
3. USE ACI 330.1-94 STANDARD SPECIFICATION FOR PLAIN CONCRETE PARKING LOTS.
4. ALL CONCRETE USED IN PARKING LOT, UNLESS OTHERWISE INDICATED, SHALL HAVE A COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
5. IF SUBGRADE SOILS ARE FOUND BY THE CONTRACTOR TO BE UNSUITABLE, TESTING AND PREPARATION RECOMMENDATIONS BY A GEOTECHNICAL ENGINEER MUST BE PROVIDED PRIOR TO CONCRETE PLACEMENT.
6. IMPORTED SOIL USED FOR BACK FILL SHOULD BE FREE OF HEAVY CLAY, SILTS, STONES, PLANT ROOT OR OTHER FOREIGN MATERIAL GREATER THAN 1½" IN DIAMETER IN ORDER TO ACHIEVE ADEQUATE COMPACTION AROUND ANY FIXED OBJECT IN GROUND. ALTERNATE WILL BE TO USE FLOWABLE FILL
7. KEEP ALL JOINTS CONTINUOUS WITH A MAXIMUM JOINT SPACING OF 10 FT.
8. CONTROL JOINTS SHALL BE FORMED OR SAWED WITHIN 12 HOURS FROM TIME OF PLACEMENT:
   A. SIDEWALK–SPACING SHALL BE SAME AS WIDTH OF PAVEMENT AND LESS THAN 5 FEET IN LENGTH
   B. PAVEMENT–MAXIMUM SPACING SHALL BE 2.5 TIMES THICKNESS IN UNIT OF FEET AND LESS THAN 15 FEET IN LENGTH (E.G. T=4 INCH SPACING AT 10'x10')
9. CURE CONCRETE IMMEDIATELY AFTER FINISHING OPERATION IS COMPLETED BY USING ONE OF THE FOLLOWING METHODS: WATER, PIGMENTED WATER–BASED CURING COMPOUND OR VISQUEEN AND BURLAP



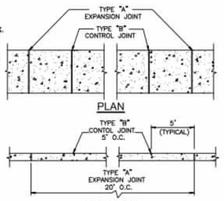
TYP. CONCRETE SIDEWALK DETAIL

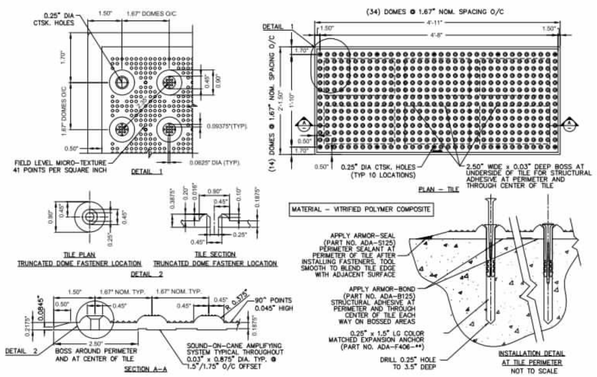
NOT TO SCALE



SIDEWALK AND WALKING TRAIL NOTES:
1. WALKS SHALL HAVE A 4 INCH MINIMUM THICKNESS.
2. CONCRETE SHALL BE A MINIMUM OF 3,000 PSI.
3. WALKS SHALL HAVE A 5 FOOT MINIMUM WIDTH.
4. CROSS SLOPE SHALL BE LIMITED TO A MAXIMUM OF 2%
5. LONGITUDINAL SLOPE SHALL BE LIMITED TO A MAXIMUM OF 1:20 (5%) EXCEPT WHERE ACCESIBILTY RAMPS ARE PROVIDED AS NOTED.
6. ALL SIDEWALKS AND TRAILS SHALL BE COMPLIANT WITH THE LATEST HANDICAP ACCESSIBILITY REQUIREMENTS.

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	20' CENTER TO CENTER ON SIDEWALKS, P.C., AND P.T. OF CURVES, JUNCTION OF EXISTING AND NEW SIDEWALKS, DRIVEWAYS, AND SIMILAR STRUCTURES.
"B"	5' CENTER TO CENTER ON SIDEWALKS.





DETECTABLE WARNING SURFACE PANEL DETAIL

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DETECTABLE WARNING GENERAL NOTES

1. DETECTABLE WARNING SURFACES SHALL BE "ARMOR–TILE SURFACE APPLIED TACTILE WARNING SURFACE" AS MANUFACTURED BY "SUREWERX USA", OR APPROVED EQUAL, AS LISTED ON NCDOT'S APPROVED PRODUCTS LIST.
2. PANELS SHALL START AT BACK OF CURB, BE 24 INCHES IN DEPTH AND COVER THE FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON RAMP DETAILS. 60 INCHES WIDTH TYPICAL.
3. PANELS SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL AND DIRECTED TOWARD THE RAMP ON THE OPPOSITE SIDE OF STREET.
4. PANELS SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT SEQUENCE COVERING THE ENTIRE RAMP. SAFETY YELLOW IS A DEFAULT COLOR.
5. PANELS SHALL BE SURFACE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. CONCRETE SHALL BE POURED AND FINISHED, TRUE AND SMOOTH (NON–GROOVED) TO THE REQUIRED DIMENSIONS AND SLOPE PRIOR TO PLACEMENT OF PANELS.

ACCESSIBLE RAMP GENERAL NOTES: [NCDOT STD. DETAIL 848.06]

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT AND LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A MIN. 4'X4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SETBACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO PROJECT DRAWINGS FOR STOP BAR LOCATIONS, IF PROVIDED, OR AS DIRECTED BY THE ENGINEER..
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE, OR AS SPECIFIED ON PLANS.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP @ 5.33% (12:1 H:V) MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS IS 2% MAXIMUM.
10. WHERE REQUIRED, CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MIN. OF 4'X4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MIN. OF 5'X5' WITH A MAXIMUM SLOPE OF 2% IN AN DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE A PASSAGE OVER OR THROUGHOUT THE ISLAND
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMP, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE, PLANTING OR OTHER NON–WALKING SURFACE ON THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING #848.01
17. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS.

PEDESTRIAN CROSSWALK GENERAL NOTES: [NCDOT STD. DETAIL 1205.07]

1. USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
2. THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI–VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER.
3. THE STANDARD CROSSWALK IS THE TWO WHITE 6" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI–VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL. HI–VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE OR AS SPECIFIED ON THE PROJECT DRAWINGS. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING AN FLARES.
4. STOP BARS (IF PROVIDED) SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.
5. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.
6. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'X4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.
7. SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL.
8. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS.

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ROADWAY AND SIDEWALK
TYP. CONSTRUCTION DETAILS

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SUNRISE ON THE SOUND
NORTH CAROLINA
CURRITUCK COUNTY
CRAWFORD TOWNSHIP
CONSTRUCTION DRAWINGS

PROJECT

REVISIONS

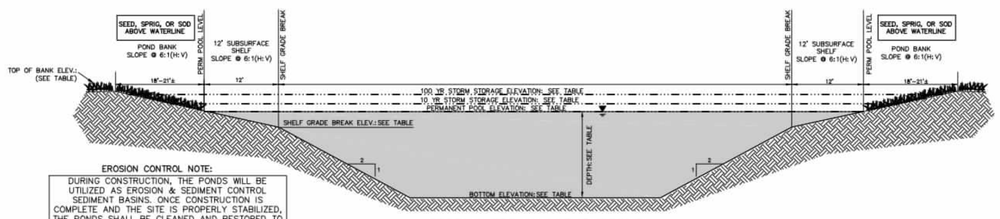
NO.	DATE	DESCRIPTION	BY
1	8-27-26	DRIVE TURNOUT TAPERS	DMK

DocuSigned by:
76B82DFDFA6D4CE...
8/27/2026
FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 10 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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STORMWATER MANAGEMENT POND
TYPICAL POND CROSS SECTION
NOT TO SCALE

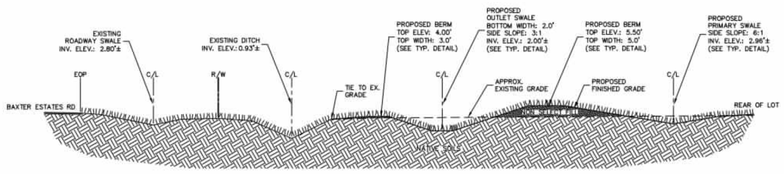
EROSION CONTROL NOTE:
DURING CONSTRUCTION, THE PONDS WILL BE UTILIZED AS EROSION & SEDIMENT CONTROL SEDIMENT BASINS. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED, THE PONDS SHALL BE CLEANED AND RESTORED TO THEIR DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

BMP CONSTRUCTION SEQUENCE NOTES:
THE FOLLOWING SEQUENCE IS IN ADDITION TO THE "CONSTRUCTION SEQUENCE SCHEDULE" PROVIDED UNDER THE EROSION AND SEDIMENT CONTROL SPECIFICATIONS.
1. THE POND SHALL BE CONSTRUCTED AS DIRECTED ON THE PLAN AND DETAILS. PERIMETER SLOPE IMPROVEMENTS SHALL BE STABILIZED WITH TEMPORARY VEGETATION WITHIN 7 DAYS OF CONSTRUCTION. THIS WILL CREATE A TEMPORARY SEDIMENT BARRIER DURING PROJECT CONSTRUCTION. A GOOD TEMPORARY MEANS OF STABILIZATION IS A WET HYDROSEED MIX.
2. THE POND MAY BE OVER EXCAVATED TO OBTAIN SUITABLE MATERIALS FOR CONSTRUCTION OF THE PROJECT. UNSUITABLE OVERBURDEN MATERIALS MAY BE PLACED BACK INTO THE POND, HOWEVER, THE FINAL BOTTOM SHALL NOT EXCEED THE ELEVATION NOTED ON THE PLAN AND DETAILS.
3. DURING CONSTRUCTION, THE POND WILL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.
4. WHERE SPECIFIED, FINAL PERMANENT AQUATIC VEGETATION SHALL BE INSTALLED AND STABILIZED WITHIN 14 DAYS OF FINAL BMP GRADING. PLANTINGS SHALL BE IN ACCORDANCE WITH THE PLANTING SPECIFICATIONS PROVIDED AND ANY AMENDMENTS DETERMINED IN THE ABOVE SEQUENCE.

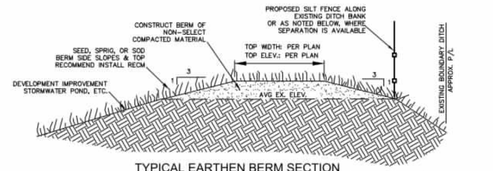
STORMWATER POND	TOP ELEV (FMSL)	100YR STORM STAGE (FMSL)	10YR STORM STAGE (FMSL)	PERM. POOL ELEV. (FMSL)	SHELL BREAK ELEV. (FMSL)	BOTTOM POND* ELEV. (FMSL)	POND DEPTH* (FT)	SIDE SLOPE ABOVE SHELF	SHELF SLOPE	SIDE SLOPE BELOW SHELF
POND-1A/1B	6.00	5.56	4.00	2.50	0.50	-20.0±/-17.0±	12.5±	6:1	6:1	2:1
POND-2	6.00	5.48	3.90	3.00	1.00	-15.0±	13.0±	6:1	6:1	2:1

POND TABLE

*NOTE:
THE POND IS BEING OVER-EXCAVATED TO OBTAIN SUITABLE FILL MATERIAL. ACTUAL DEPTHS MAY VARY BASED FIELD CONDITIONS AND UNSUITABLE SOILS MAY BE PLACED BACK INTO THE EXCAVATION, IF NECESSARY.



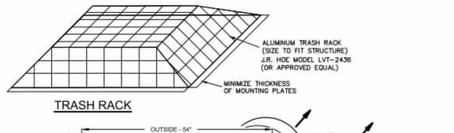
GRADING SECTION A - A
SCALE: 1" = 10' SECTION VIEW



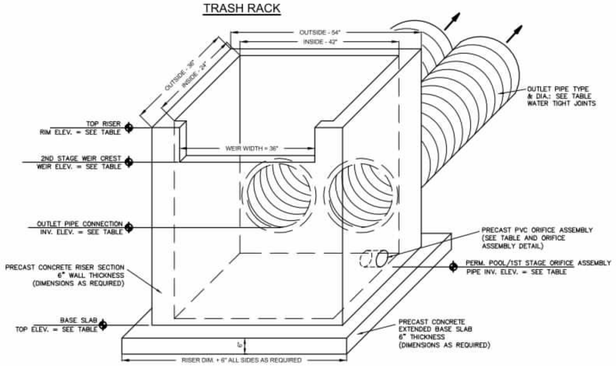
TYPICAL EARTHEN BERM SECTION
NOT TO SCALE LOCATION PER PLAN

EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.

SEPARATION NOTE:
AT LOCATIONS WHERE SEPARATION IS AVAILABLE BETWEEN THE BERM AND DITCH, THE SILT FENCE SHALL BE INSTALLED ALONG THE TOE OF BERM TO ALLOW SPACE FOR MAINTENANCE.



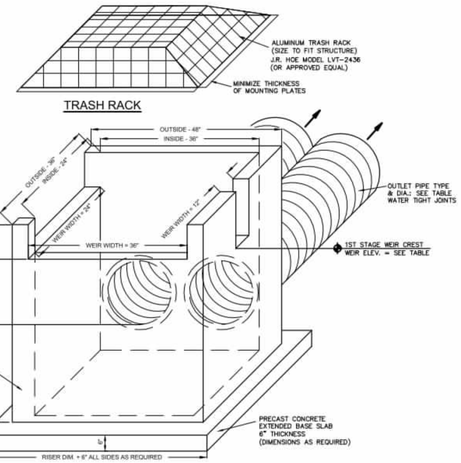
TRASH RACK



OUTLET CONTROL STRUCTURE - 01 DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

STRUCTURE	RIM ELEV. (FMSL)	BASE ELEV. (FMSL)	1ST STAGE ORIFICE: PVC PIPE DIA. (INCHES)	1ST STAGE ORIFICE: PIPE INV. ELEV. (FMSL)	1ST STAGE ORIFICE: ORIFICE DIA. (INCHES)	2ND STAGE WEIR: LENGTH (INCHES)	2ND STAGE WEIR: CREST ELEV. (FMSL)	OUTLET PIPE: DIAMETER (INCHES)	OUTLET PIPE: INVERT IN (FMSL)
OCS-01	4.1	1.1'	4" (SEE ASSEMBLY DETAIL BELOW)	2.5	4"	36"	3.5'	(2) 15" HDPE	2.50

OUTLET CONTROL STRUCTURE TABLE

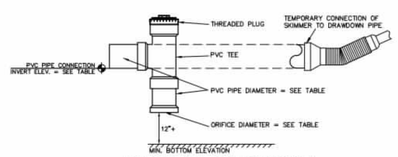


TRASH RACK

OUTLET CONTROL STRUCTURE - 02 DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

STRUCTURE	RIM ELEV. (FMSL)	BASE ELEV. (FMSL)	1ST STAGE WEIR: LENGTH (INCHES)	1ST STAGE WEIR: CREST ELEV. (FMSL)	2ND STAGE WEIR: LENGTH (INCHES)	2ND STAGE WEIR: CREST ELEV. (FMSL)	OUTLET PIPE: DIAMETER (INCHES)	OUTLET PIPE: INVERT IN (FMSL)
OCS-02	4.0	1.0'	12"	3.0'	36" SIDE + 24" SIDE	3.1'	(2) 12" HDPE	2.80

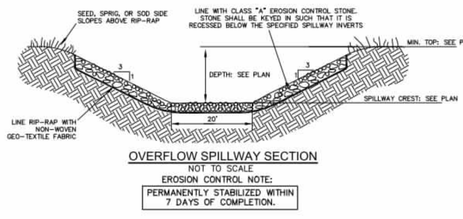
OUTLET CONTROL STRUCTURE TABLE



PVC ORIFICE ASSEMBLY DETAIL

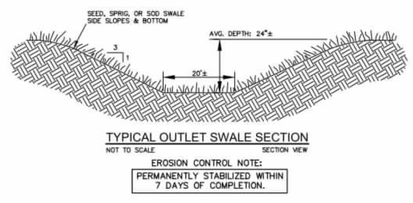
THE CONTRACTOR SHALL CONFIRM ALL STRUCTURE DIMENSIONS AND COORDINATE WITH MANUFACTURER BEFORE FABRICATION

OUTLET STRUCTURE NOTES:
1. STRUCTURE DESIGN SPECIFICATIONS SHALL CONFORM TO LATEST ASTM C913 SPECIFICATIONS FOR "PRECAST CONCRETE WATER & WASTEWATER STRUCTURES.
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3,000PSI.
3. STEEL REINFORCING DESIGN TO CONFORM TO THE REQUIREMENTS OF ASTM C890 SPECIFICATIONS FOR "STRUCTURAL DESIGN LOADING FOR WATER & WASTEWATER STRUCTURES" AND SHALL UTILIZE GRADE 60 RE-BARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 OR WWF CONFORMING TO THE REQUIREMENTS OF ASTM A185 OR BOTH.
4. PIPE PENETRATION TO BE AS SPECIFIED. PIPE TO BE INSTALLED AS PER NCDOT STANDARDS FOR MORTAR JOINT CONNECTIONS.
5. JOINTS TO BE SEALED WITH BUTYL RUBBER JOINT SEALANT CONFORMING TO THE REQUIREMENTS OF ASTM C990, OR MORTAR AS PER NCDOT REQUIREMENTS OR BOTH.
6. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



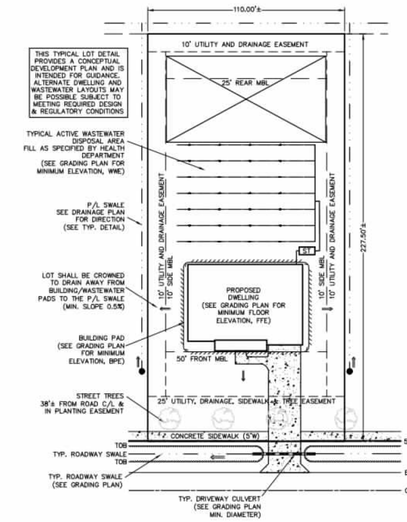
OVERFLOW SPILLWAY SECTION
NOT TO SCALE

EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.

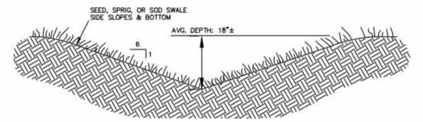


TYPICAL OUTLET SWALE SECTION
NOT TO SCALE SECTION VIEW

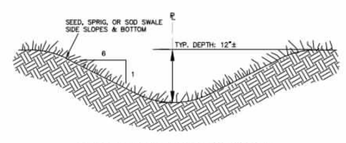
EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.



MINIMUM DEMENSIONAL STANDARDS
SCALE: 1"= 40'



TYPICAL PRIMARY SWALE SECTION
NOT TO SCALE SECTION VIEW



TYPICAL PROPERTY LINE SWALE
NOT TO SCALE SECTION VIEW

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-906
1637 Dock Boston Highway
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-1760
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

GRADING AND DRAINAGE
TYP. CONSTRUCTION DETAILS

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DocuSigned by:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 42639 ENGINEERING
76B82DFDFA6D4CB...
8-6-26

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 11 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

S:\projects\4679_Sunset on the Sound\Dwg\Construction\467900B1.dwg, 8/6/2026 - Plotted: 8/6/2026 9:41 AM - HP Designjet T2500 eMFP-2.ctb3

Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E

1. PROJECT NAME: SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP, CURRITUCK COUNTY, NORTH CAROLINA
2. DEVELOPER: SOUND WOODS, LLC
155 SURVEY RD., SUITE A
MOYOCK, NC 27958
3. PROJECT DESCRIPTION: 15 LOT RESIDENTIAL CONSERVATION SUBDIVISION
4. NEAREST RECEIVING STREAM: NORTH LANDING RIVER - INDEX NUMBER: 30-1-2
5. STREAM CLASSIFICATION: SC; RIVER BASIN: PASQUOTANK
6. PROJECT AREA TABULATION:

TOTAL PROPERTY AREA:	17.48 AC.
TOTAL PROPOSED DISTURBED AREA :	17.50 AC.

AREA CALCULATION NOTE:
All areas have been calculated utilizing properties within the Autocad software.

MATERIAL BALANCE NOTE:
All excavated material occurring during the course of construction shall remain on-site for roadway construction and lot grading. See SCHEDULE OF LAND DISTURBING ACTIVITIES provided on Sheet 5 of this set for an estimated cut fill material balance for the project.

WETLAND NOTE:
The property contains no known 404 jurisdictional wetlands.

STABILIZATION NOTE:
The angle of graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures.
In any event, all disturbed areas left exposed will, WITHIN 14 CALENDAR DAYS OF COMPLETION of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
Additionally, certain critical areas as identified on the plan, such as, but not limited to, perimeter dikes, swales, slopes steeper than 3:1, and areas located within High Quality Water Zones, must be temporarily or permanently stabilized WITHIN 7 CALENDAR DAYS OF COMPLETION of any phase of grading in these areas.
A permanent ground cover for all disturbed areas must be provided WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (whichever is shorter) following completion of construction or development.

CONSTRUCTION SEQUENCE SCHEDULE

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
Construction Access– Construction entrance, construction routes, equipment parking areas	First land–disturbing activity–Stabilize bare areas immediately with gravel & temporary vegetation as construction takes place.
Sediment Traps & Barriers Basin traps, sediment fences, & outlet protection	Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.
Runoff Control– Diversions, perimeter dikes, water bars, and outlet protection	Install key practices after principal sediments traps and before land grading. Install additional runoff–control conveyance measures during grading.
Runoff Conveyance System– Stabiles stream banks, storm drains, channels, inlet & outlet protection, slope drains	Where necessary, stabilize stream banks as early as possible. Install principal runoff conveyance system with runoff–control measures. Install remainder of system after grading.
Land Clearing & Grading– Site preparation– cutting, filling & grading, sediment traps, barriers, diversions, drains, surface roughening	Begin major clearing and grading after principal & key runoff–control measures area installed. Clear borrow & disposal areas as needed. Install additional control measures as grading progresses. Mark trees & buffer areas for preservation.
Surface Stablization– Temporary & permanent seeding, mulching, sodding, rip rap.	Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.
Building Construction– Buildings, utilities, paving.	Install necessary erosion & sedimentation control practices as work takes place.
Landscaping & Final Stablization– Topsoiling, trees & shrubs, permanent seeding, mulching, sodding, rip rap	Stabilize all open areas, including borrow & spoil areas. Remove & stabilize all temporary control measures.

LAND GRADING CONSTRUCTION SPECIFICATIONS

1. Construct & maintain all erosion & sedimentation control practices & measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear & grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen material or soft, mucky, or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods.
11. Following completion of any phase of grading, provide a groundcover (temporary or permanent) on all exposed slopes within 14 calendar days, or 7 calendar days in critical areas identified on the plan; and, a permanent groundcover for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.
12. Provide adequate protection from erosion for all topsoil stockpiles, borrow areas, and spoil areas.

MAINTENANCE
Periodically check all graded areas & the supporting erosion & sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversions and other water–disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small–eroded areas before they become significant gullies is an essential part of an effective erosion & sedimentation control plan.

PERMANENT SEEDING

The purpose of permanent seeding is to reduce erosion and decrease sediment yield from disturbed areas, and to permanently stabilize such areas in a manner that is economical, adapts to site conditions, and allows selection of the most appropriate plant materials. These areas must be seeded or planted within 15 working days or 90 calendar days after final grade is reached, unless temporary stabilization is applied.

PERMANENT SEEDING SPECIFICATIONS
Seeding Recommendations for Summer
SEEDING DATES – April to July
SEEDING MIXTURE

Species	Rate
Common bermudagrass	10/1,000 sf (sprigs)
	1–2 lb/1,000 sf (seed)
	SOD (See Sodding Notes)

Seeding Recommendations for Early Fall through Early Spring
SEEDING DATES – August to March (early fall and spring recommended)

Species	Rate
Kentucky 31 Tall Fescue	6 lb/1,000 sf (broadcast seed)

SEEDING NOTES–
1. Sprig or sod. Moisture is essential during initial establishment. Sod must be kept watered for 2–3weeks, but can be planted earlier or later than sprigs.

Soil Amendments–
It is highly recommended that soils be tested and amended as found necessary. If a soils are not tested follow these recommendations:
Apply 3,000 lb/acre of ground agricultural limestone and 500 lb/acre of 10–10–10 starter fertilizer, or 50 lb/acre nitrogen from turf–type slow–release fertilizer. Add 25–50 lb/acre nitrogen at 2–3 week intervals through midsummer.

Sprigging–
Plant sprigs in furrows with a tractor–drawn transplanter, or broadcast by hand. (Not recommended for Tall Fescue)

Furrows should be 4–6 inches deep and 2 feet apart. Place sprigs about 2 ft. apart in a row with one end at or above ground level.

Broadcast at rates shown above, and press sprigs into the top 1/2–2 inches of soil with a disk set straight so that sprigs are not brought back toward the surface.

Mulch–
Do not mulch Bermuda Grass. For Tall Fesuce seed, apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Water as needed. Mow bermuda to 3/4 to 1–inch height and tall fescue to 2.5 – 3.5 inch height. Topdress bermuda with 40 lb/acre nitrogen in April, 50 lb in May, 50 lb in June, 50 lb in July, and 25 lb in August. Top dress tall fescue in mid September,again in November and February with turf–grade 3–1–2 or 4–1–2 ratio turf–grade fertilizer. Fertilize with 1 lb of actual nitrogen per 1,000 sf. Do not fertilze tall fescue between Mid March and Early September.

TEMPORARY SEEDING

The purpose of temporary seeding is to temporarily stabilize denuded areas that will not be brought to final grade or permanently seeded for a period of more than 14 calendar days, or 7 days in critical areas indentified on the plan.

TEMPORARY SEEDING SPECIFICATIONS
Seeding Recommendations for Late Winter & Early Spring
SEEDING DATES– December 1 to April 15
SEEDING MIXTURE

Species	Rate (lb/acre)	
Winter Rye (grain)	120	(Annual Ryegrass shall not be used)
Annual Lespedeza (Kobe)	50	

*Omit Annual Lespedeza when duration of temporary cover is not to extend beyond June

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Summer
SEEDING DATES– April 15 to August 15
SEEDING MIXTURE

Species	Rate (lb/acre)
German Milliet	40

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Fall
SEEDING DATES– August 15 to December 30
SEEDING MIXTURE

Species	Rate (lb/acre)
Winter Rye (grain)	120

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 ld/acre Kobe Lespedeza in late February or Early March.

SODDING

The purpose of permanent seeding is to prevent erosion and damage from sediment and runoff by stabilizing the soil surface with permanent vegetation for the purpose of:
–the provision of immediate vegetative cover in critical areas
–to stabilize disturbed areas with a suitable plant material that cannot be established by seed.
–to stabilize drainage ways & channels and other areas of concentrated flow where flow velocities will not exceed that specified grass lining.

SODDING SPECIFICATIONS
Sod Quality
–Sod should be machine cut at a uniform depth of 1/2–2 inches
–Sod should not have been cut in excessively wet or dry weather.
–Sections of sod should be standard size as determined by the supplier, uniform, and untorn.
–Sections of sod should be strong enough to support their own weight and retain their size and shape when lifted by one end.
–Harvest, delivery, and installation of sod should take place within a period of 36 hours.

Soil Amendments–
Apply lime and fertilizer according to soil tests or apply 2 tons/acre of pulverized agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer in the fall, or 5–10–10 in spring.

Prior to laying sod, clear the soil surface of trash, debris, roots, branches, stones, and clods larger than 2 inches in diameter. Fill or level low spots in order to avoid standing water. Rake or harrow the site to achieve a smooth and level final grade. Complete soil preparation by rolling or cultipacking to firm soil.

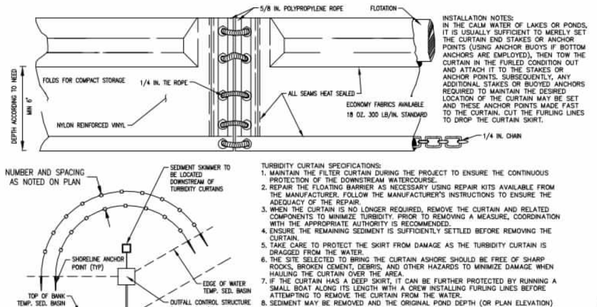
Sod Installation–
1. Moistening the sod after it is unrolled helps maintain viability. Store in shade during installation.
2. Rake the soil surface to break the crust just before laying sod. During the summer, lightly irrigate the soil, immediately before laying sod to cool the soil and reduce root burning & dieback.
3. Do not sod on grave, frozen soils, or soils that have been treated recently with sterilants or herbicides.
4. Lay the first row of sod in a straight line with subsequent rows placed parallel to and butting tightly against each other. Stagger strips in a brick–like pattern. Be sure that the sod is not stretched or overlapped and that all joints are butted tightly to prevent voids. Use a knife or sharp spade to trim and fit irregular shaped areas.
5. Install strips of sod with their longest dimension perpindicular to the slope. On slopes of 3:1 or greater, or wherever erosion may be a problem, secure sod with pegs or staples.
6. As sodding of clearly defined areas is completed, roll sod to provide good contact between roots and soil.
7. After rolling, irrigate until the soil is wet 4 inches below the sod.
8. Keep sodded areas moist to a depth of 4 inches until the grass takes root. This can be determined by tugging on the sod.
9. Mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks.

Sodded Waterways
1. Prepare soil as described above.
2. Lay sod strips perpindicular to the direction of flow, with the lateral joints staggered in a brick–like pattern. Butt edges tightly together.

Maintenance–
After the first week, water as necessary to maintain adequate moisture in the root zone & prevent dormancy of the sod.

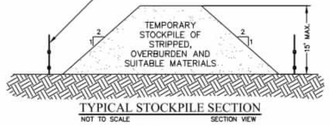
Do not remove more than one–third of the shoot in any one mowing. Grass height should be maintained between 2–3 inches unless otherwise specified.

After first growing season, established sod requires fertilization, and may also require lime. Follow soil test recommendations.



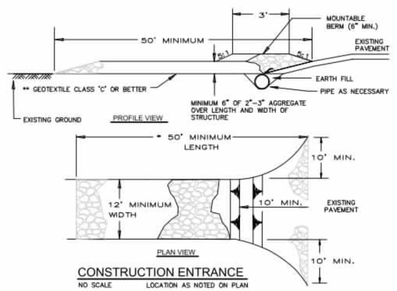
TURBIDITY CURTAIN SPECIFICATIONS:
1. MAINTAIN THE FILTER CURTAIN DURING THE PROJECT TO ENSURE THE CONTINUOUS PROTECTION OF THE DOWNSTREAM WATERCOURSE.
2. REPAIR THE FLOATING BARRIER AS NECESSARY USING REPAIR KITS AVAILABLE FROM THE MANUFACTURER. FOLLOW THE MANUFACTURER'S INSTRUCTIONS TO ENSURE THE ADEQUACY OF THE REPAIR.
3. WHEN THE CURTAIN IS NO LONGER REQUIRED, REMOVE THE CURTAIN AND RELATED COMPONENTS TO MINIMIZE TURBIDITY. PRIOR TO REMOVING A MEASURE, COORDINATION WITH THE APPROPRIATE AUTHORITY IS RECOMMENDED.
4. ENSURE THE REMAINING SEDIMENT IS SUFFICIENTLY SETTLED BEFORE REMOVING THE CURTAIN.
5. TAKE CARE TO PROTECT THE SKIRT FROM DAMAGE AS THE TURBIDITY CURTAIN IS DRAGGED FROM THE WATER.
6. THE SITE SELECTED TO BRING THE CURTAIN ASHORE SHOULD BE FREE OF SHARP ROCKS, BROKEN CEMENT, DEBRIS, AND OTHER HAZARDS TO MINIMIZE DAMAGE WHEN HAULING THE CURTAIN OVER THE AREA.
7. IF THE CURTAIN HAS A DEEP SKIRT, IT CAN BE FURTHER PROTECTED BY RUNNING A SMALL BOAT ALONG ITS LENGTH WITH A CREW INSTALLING FURLING LINES BEFORE ATTEMPTING TO REMOVE THE CURTAIN FROM THE WATER.
8. SEDIMENT MAY BE REMOVED AND THE ORIGINAL POND DEPTH (OR PLAN ELEVATION) RESTORED. TRANSPORT ANY SPOILS TO AN UPLAND AREA AND STABILIZE THE SPOILS. TO ENSURE COMPLIANCE WITH PERMIT CONDITIONS COORDINATION WITH THE APPROPRIATE AUTHORITY IS RECOMMENDED.

TYPICAL TURBIDITY CURTAIN DETAIL
NOT TO SCALE



TYPICAL STOCKPILE SECTION
NOT TO SCALE SECTION VIEW

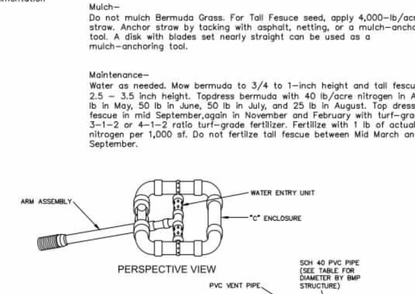
STOCKPILE CONSTRUCTION SPECIFICATION
1. INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE AREA. LEAVE OPENING AS NECESSARY FOR ACCESS.
2. STOCKPILES HAVING 2:1 SIDE SLOPES ARE CONSIDERED CRITICAL AREAS.
3. SEE STABILIZATION NOTES FOR TEMPORARY AND PERMANENT STABILIZATION REQUIREMENTS.
4. LEVEL GRADE AREA AND STABILIZE AT COMPLETION.



CONSTRUCTION ENTRANCE
NO SCALE LOCATION AS NOTED ON PLAN

CONSTRUCTION ENTRANCE SPECIFICATIONS
1. LENGTH – MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT).
2. WIDTH – 12' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. **THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY, PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

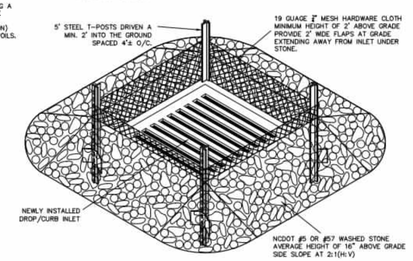
MAINTENANCE OF CONSTRUCTION ENTRANCE
1. MAINTAIN THE GRAVEL ENTRANCE IN A CONDITION TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
2. PERIODIC TOP DRESSING WITH 2" STONE MAY BE NECESSARY AFTER SIGNIFICANT RAINFALL EVENTS.
3. INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



STRAW MULCHING:
1. FOR AREAS OF SITE WITH LESS THAN 30% SLOPE; 2–3 BALES OF STRAW EQUALS 2–INCHES OF STRAW MULCH OVER 1000 SQARE FEET.
2. MULCH SHALL BE WEED FREE STRAW.

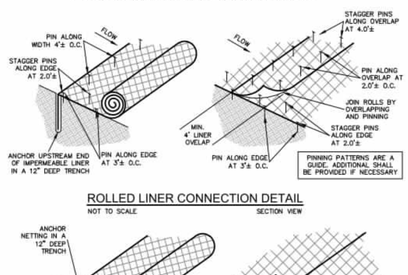
TO PROVIDE TEMPORARY SOIL STABILIZATION BY PLANTING GRASSES AND LEGUMES TO AREAS THAT WOULD REMAIN BARE FOR MORE THAN 14 CALENDAR DAYS, OR 7 DAYS IN IDENTIFIED CRITICAL AREAS. WHERE PERMANENT COVER IS NOT NECESSARY OR APPROPRIATE.

LAND DISTURBANCE & STABILIZATION DETAIL
NOT TO SCALE

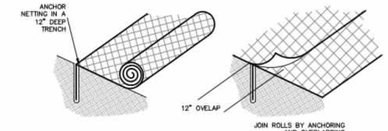


DROP/CURB INLET PROTECTION
NO SCALE ISOMETRIC VIEW

INLET PROTECTION SPECIFICATIONS
1. INSPECT AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (.5" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE DEBRIS FROM MESH AND REPLACE STONES AS NEEDED.
2. REMOVE ONCE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



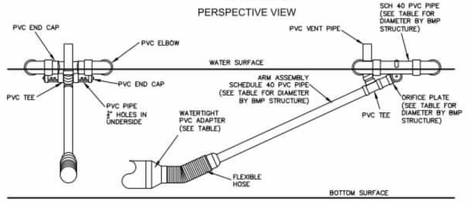
ROLLED LINER CONNECTION DETAIL
NOT TO SCALE SECTION VIEW



ROLLED EROSION CONTROL MATTING DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

ROLLED EROSION CONTROL MATTING (R.E.C.M.) SPECIFICATIONS
1. ALL AREAS IDENTIFIED ON THESE PLANS AS REQUIRING AN EROSION CONTROL MATTING SHALL BE LINED WITH A PROTECTIVE COVERING TO MINIMIZE EROSION AND PROTECT SEED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
2. COVERING SHALL BE COMPOSED OF A BIO OR PHOTO DEGRADABLE MATERIAL TO MINIMIZE LONG TERM ENVIRONMENTAL IMPACTS.
3. MULCHING WITH STRAW OR OTHER ORGANIC MATERIALS CAN BE UTILIZED ONLY WHEN IT WILL NOT IMPEDE THE ESTABLISHMENT OF PERMANENT VEGETATION. MULCHES MUST BE PROPERLY ANCHORED WHICH MAY BE DIFFICULT IN SOME ENVIRONMENTS. AN EXAMPLE IS STRAW MULCH WITH JUTE NETTING STAPLED OR PINNED IN PLACE.
4. PRE–MANUFACTURED ROLLED EROSION CONTROL PRODUCTS (RECP) ARE HIGHLY RECOMMENDED FOR THIS APPLICATION. RECP'S SHALL BE INSTALLED ACCORDING TO MANUFACTURER SPECIFICATIONS FOR CHANNEL LININGS. AN EXAMPLE IS A WOVEN STRAW OR WOODEN FIBER EXCELSIOR MATTING.

PERSPECTIVE VIEW



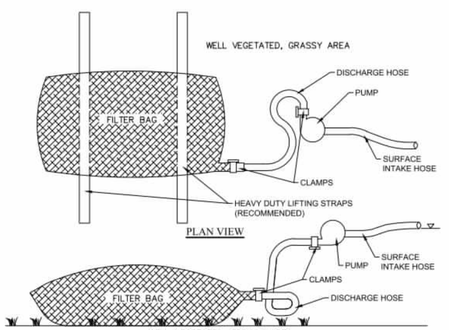
END VIEW FRONT VIEW

TYPICAL DRAWDOWN SKIMMER DETAIL
NOT TO SCALE LOCATION AS NOTED ON PLAN

DETAIL MODIFIED FROM NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

SED. BASIN	PVC ARM AND ENCLOSURE DIA.	ORIFICE PLATE DIA.	PVC ADAPTER
POND–1A	4 INCHES	3.00 INCHES	AS REQ'D
POND–2	2 INCHES	1.25 INCHES	AS REQ'D

SKIMMER TABLE



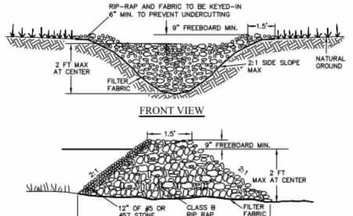
PLAN VIEW

ELEVATION VIEW

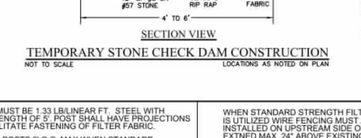
SEDIMENT FILTER BAG DETAIL
NOT TO SCALE LOCATIONS AS NOTED ON PLAN

SEDIMENT FILTER BAG CONSTRUCTION SPECIFICATION
THE FOLLOWING IS IN ADDITION TO THE "CONSTRUCTION SEQUENCE SCHEDULE" PROVIDED UNDER THE EROSION AND SEDIMENT CONTROL SPECIFICATIONS.
1. THE FILTER BAG SHALL BE CONTINUOUSLY MONITORED DURING OPERATION.
2. INTAKE HOSE FOR PUMPING OPERATION SHALL UTILIZE FLOATS TO DRAW FROM SURFACE OF WATER SOURCE.
3. SEE PLAN SHEETS FOR APPROXIMATE LOCATION OF SEDIMENT FILTER BAG PER PHASE.

MAINTENANCE OF SEDIMENT FILTER BAG
1. INSPECT THE FILTERING DEVICES DAILY AND REPAIR OR REPLACE ONCE THE SEDIMENT BUILDUP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED.
2. REMOVE THE ACCUMULATED SEDIMENT FROM THE DEWATERING DEVICE, SPREAD ON SITE, AND STABILIZE OR DISPOSE OF AT AN APPROVED DISPOSAL SITE AS PER APPROVED PLAN.
3. MONITOR THE DEWATERING STRUCTURE DURING OPERATION TO ENSURE THAT THE DISCHARGE IS NOT CAUSING EROSION. PROVIDE SOIL STABILIZATION BLANKETS AND MATTING OR COMPOST FILTER SOCKS AS NEEDED TO MAINTAIN STABILIZED AREAS DOWNSTREAM OF STRUCTURE.



FRONT VIEW



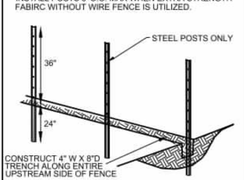
SECTION VIEW

TEMPORARY STONE CHECK DAM CONSTRUCTION
NOT TO SCALE LOCATIONS AS NOTED ON PLAN

TEMPORARY STONE CHECK DAM CONSTRUCTION SPECIFICATIONS
1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSAL OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA.
2. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
3. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
4. EXTEND STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
5. ALL CUT AND FILL SLOPES SHOULD BE 2:1 OR FLATTER.
6. PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.
7. MATERIAL USED IN THE STONE SECTION SHOULD BE A WELL–GRADED MIXTURE OF STONE WITH A d50 SIZE OF 9 INCHES(CLASS B EROSION CONTROL STONE IS RECOMMENDED) AND A MAXIMUM STONE SIZE OF 14 INCHES. THE STONE MAY BE MACHINE PLACED AND THE SMALLER STONES WORKED INTO THE VOIDS OF THE LARGER STONES. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER–RESISTANT.
8. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE TRAP IMMEDIATELY AFTER CONSTRUCTION.
9. ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW THE CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

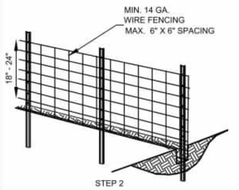
MAINTENANCE OF TEMPORARY STONE CHECK DAMS
1. INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS WHEN NEEDED.
2. REMOVE SEDIMENT ACCUMULATION BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION. ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

POSTS MUST BE 1.33 LB/LINEAR FT. STEEL WITH A MIN. LENGTH OF 5' POST SHALL HAVE PROJECTIONS TO FACILITATE FASTENING OF FILTER FABRIC.
INSTALL POSTS 8' O.C. MAX WHEN STANDARD FABRIC & WIRE SUPPORT FENCE ARE UTILIZED.
INSTALL POSTS 6' O.C. MAX WHEN EXTRA STRENGTH FABIRC WITHOUT WIRE FENCE IS UTILIZED.



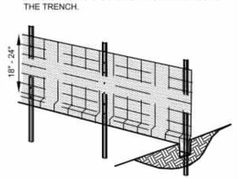
STEP 1

WHEN STANDARD STRENGTH FILTER FABRIC IS UTILIZED WIRE FENCING MUST ALSO BE INSTALLED ON UPSTREAM SIDE OF POSTS. EXTEND MAX. 24" ABOVE EXISTING GRADE TO BOTTOM OF TRENCH.



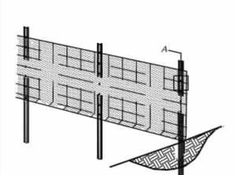
STEP 2

FASTEN THE FILTER FABRIC TO THE UPSTREAM SIDE OF POSTS OR WIRE FENCE IF UTILIZED. EXTEND FABRIC 8" DOWN & 4" FORWARD ALONG THE TRENCH.



STEP 3

BACKFILL THE TRENCH AND COMPACT THE SOIL FIRMLY TO ANCHOR THE BOTTOM OF THE SILT FENCE. BURIED FABRIC SHALL NOT BE VISIBLE.



STEP 4

1. USE SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUF

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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 feet 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
• Temporary grass seed covered with straw or other mulches and tackifiers. • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting (PRSM) • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

Note: The use of techniques listed above which promote and assist in establishment of vegetation does not consitute permanet stabilization prior to the establishment of permanent vegetation.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

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

PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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.

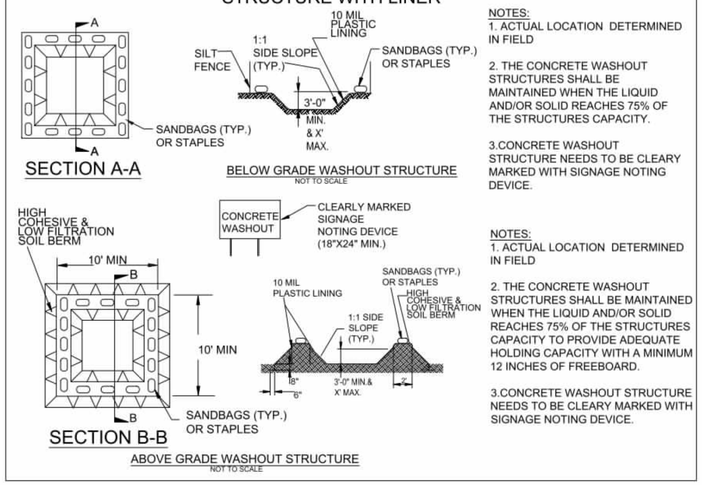
EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets and surface waters unless it can be shown no other alternatives are reasonably available. It is recommended to locate stockpile areas at least 50 feet away from skimmer basins and anywhere stormwater flow is concentrated.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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.

HAZARDOUS AND TOXIC WASTE

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

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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.
3. 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.
4. Do not stockpile these materials onsite.

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA
Department of Environmental Quality

GROUND COVER & MATERIALS HANDLING

Effective:
April 1, 2024

Bissell Professional Group
Firm License # C-906
2323 Bypass Boston Highway
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-3113
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

NCG01 GROUND STABILIZATION & MATERIALS HANDLING

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	6-18-26	UPDATE SHEET	DMC

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DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 13 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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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 on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (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-monitoring device approved by the Division.
(2) E&SC 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 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 record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 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 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 2)Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading.	1. The phase of grading (installation of perimeter E&SC 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 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&SC Plan Documentation
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Document Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC 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&SC plan.	Initial and date a copy of the approved E&SC 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&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site
In addition to the E&SC plan documents above, the following items shall be kept on the site and available for 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:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. 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.

3. Documentation to be Retained for Three Years*
*All data used to complete the e-NOI and all 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).

(c) 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.
(d) Anticipated bypasses and unanticipated bypasses.
(e) 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 Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframe (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• Within 24 hours, an oral or electronic notification. • Within 7 Calendar Days, 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. • If the stream is named on the NC 303(d) list as impaired for sediment-related caused, 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.
(b) Oil spills and release of hazardous substances per item 1(b)-(c) above	• Within 24 Hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• *A report at least ten days before the date of the bypass, if possible.* The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• Within 24 Hours, an oral or electronic notification • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	• Within 24 Hours, an oral or electronic notification • Within 7 calendar days, 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 reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA
Department of Environmental Quality

INSPECTION, RECORD KEEPING AND REPORTING

Effective:
April 1, 2024

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

Bissell Professional Group
Firm License # C-906
1351 Dobbs Station Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3113
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

NCG01 SELF-INSPECTION, RECORD KEEPING & REPORTING

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	4-15-26	UPDATE SHEET	DM

DocuSigned by:
76B82DFDFAED4CB...
9.6.25

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 14 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

S:\projects\4679 Sunset on the Sound\Dwg\Construction\467900B1.dwg 9/6/2025 Plotted: 9/6/2025 9:42 AM HP Designjet T2500 eMFP.pc3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

August 11, 2026

Sound Woods, LLC
155 Survey Road, Suite A
Moyock, NC 27958

-AND-

Currituck County
153 Courthouse Rd
Currituck, NC 27929

County: Currituck

Subject: Encroachment to allow the installation of a waterline and appurtenances under SR1222 and SR1577

Dear Applicant,

Attached for your records is a copy of the approved encroachment package to allow the installation of a waterline and appurtenances under SR1222 and SR1577 to service the Sunrise on the Sound subdivision. **Any and all damages done to State Routes must be properly repaired.** This approval will expire on Augus 11, 2027, unless construction has started or been completed prior to that date.

Please feel free to contact the District Office at (252) 621-6400 if you have any questions.

Sincerely yours,

DocuSigned by:
Caitlin A Spear
930880FAC40F45A...

Caitlin A. Spear, PE
District Engineer

Attachments
Cc: Division Engineer (W/Attachments)
County Maintenance Engineer (W/Attachments)

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION ONE – DISTRICT ONE
1929 NORTH ROAD STREET
ELIZABETH CITY, NC 27909

Telephone: (252) 621-6400
Fax: (252) 621-6410
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1929 NORTH ROAD STREET
ELIZABETH CITY, NC 27909

Pre-Construction

Contact Offices & Outside Agency issues / Contacts / Info.

1. Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.

2. The Encroaching party or their contractor shall provide the following notices prior to construction activity within the NCDOT Right of Way:
    a. Three (3) business days advance phone call at telephone (252) 621-6400 or email to div1permitnotifications@ncdot.gov to the District Engineer's office
    b. If the construction falls within the limits of an NCDOT managed construction project, five (5) business days advance phone call to the Resident Engineer, Mr. Caleb Sawyer, PE at (252) 621-6400 or email to chsawyer@ncdot.gov.

    Failure to provide these notifications prior to beginning construction is subject to the Division Engineer's discretion to cease construction activity for this encroachment. NCDOT reserves the right to cease any construction or maintenance work associated with this installation by the encroaching party until the construction or maintenance meets the satisfaction of the Division Engineer or their representative.

3. Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.

4. It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.

5. The encroaching party shall notify the appropriate municipal office prior to beginning any work within the municipality's limits of jurisdiction.

6. Excavation within 1000 feet of a signalized intersection will require notification by the encroaching party to the Division Traffic Engineer at telephone number (252) 482-1857 no less than one week prior to beginning work. All traffic signal or detection cables must be located prior to excavation. Cost to replace or repair NCDOT signs, signals, pavement markings or associated equipment and facilities shall be the responsibility of the encroaching party.

7. At the option of the District Engineer, a preconstruction meeting including representatives of NCDOT, the encroaching party, contractors and municipality, if applicable, shall be required. A pre-construction conference held between a municipality (or other facility owner) and a contractor without the presence of NCDOT personnel with subsequent construction commencing may be subject to NCDOT personnel ceasing any work on NCDOT right-of-way related to this encroachment until such meeting is held. Contact the District office to schedule.

8. At the discretion of the District Engineer, a NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W form (See corresponding attachment) with the scheduled pre-construction meeting and associated construction schedule details must be completed and submitted to the District Engineer's office a minimum of one week prior to construction.

9. At the discretion of the District Engineer, the encroaching party (not the utility contractor) shall make arrangements to have a qualified inspector, under the supervision of a Professional Engineer registered in North Carolina, on site at all times during construction. The registered Professional Engineer shall be required to submit a signed and PE sealed certification that the utility was installed in accordance with the encroachment agreement.

Legal & Right-of-Way Issues

10. This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction if an issue arises during construction to warrant changes.

11. NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.

12. Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.

13. All Right of Way and easements necessary for construction and maintenance shall be dedicated to NCDOT with proof of dedication furnished to the District Engineer prior to beginning work.

14. No commercial advertising shall be allowed within NCDOT Right of Way.

15. The encroaching party shall obtain proper approval from all affected pole owners prior to attachment to any pole.

16. This agreement does not authorize installations within nor encroachment onto railroad rights of way. Permits for installations within railroad right of way must be obtained from the railroad and are the responsibility of the encroaching party.

Work Zone Traffic

17. Traffic control shall be coordinated with the District Engineer and the Division Traffic Engineer at telephone (252) 621-6400, prior to construction.

18. <u>WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM</u>

    All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

    All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this

certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

19. The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:
    a. Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).
    b. NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

20. If the Traffic Control Supervisor determines that portable concrete barrier (PCB) is required to shield a hazard within the clear zone, then PCB shall be designed and sealed by a licensed North Carolina Professional Engineer. PCB plans and design calculations shall be submitted to the District Engineer for review and approval prior to installation.

21. Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.

22. Traffic shall be maintained at all times. All lanes of traffic are to be open during the hours of 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. Monday through Friday, during any time of inclement weather, **or as directed by the District Engineer**. If the location of work calls for a rolling roadblock on a divided highway for US routes, the restriction is to work only on Sunday from 1:00 A.M. to 10:00 A.M, **or as Directed by the District Engineer**. Any violation of these hours will result in ceasing any further construction by the Encroaching Party or their contractor.

23. Nighttime and weekend operations will NOT be allowed unless written approval is received from the District Engineer. If nighttime or weekend work is allowed or required, all signs must be retro-reflective, and a work zone lighting plan must be submitted for approval prior to construction.

24. Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.

25. Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.

26. Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current *NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.*

27. At the discretion of the District Engineer, a traffic control plan shall be developed and submitted under the seal and signature of a Licensed North Carolina Professional Engineer prior to construction. The plan shall be specific to the site and adequately detailed. Issues such as the close proximity to intersections shall be addressed.

28. Temporary and final pavement markings are the responsibility of the encroaching party. Final pavement markings and sign plans shall be submitted with the encroachment request to the Division Traffic Engineer prior to construction. Final pavement markings shall be thermoplastic unless otherwise directed by the Division Traffic Engineer or District Engineer.

29. Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.

30. Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The encroaching party must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at https://www.youtube.com/watch?v=AOuYa5IW3dg&feature=youtu.be

Roadside Environmental

31. The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310.

32. When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.

33. The Verification of Compliance with Environmental Regulations (VCER-1) form is required for all non-utility encroachment agreements or any utility encroachments when land disturbance within NCDOT right of way exceeds 1 acre. When required, the VCER-1 form must be PE sealed by a NC registered professional engineer who has verified that all appropriate environmental permits (if applicable) have been obtained and all applicable environmental regulations have been followed.

34. All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest *NCDOT Standards Specifications for Roads and Structures* and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.

35. No trees within NCDOT right of way shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.

36. Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.

37. The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.

38. The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.

39. The contractor shall perform all monitoring and record keeping and any required maintenance of erosion and sediment control measures to maintain compliance with stormwater regulations.

Bonds

40. A Performance and Indemnity Bond in the amount of $0 shall be posted with the District Engineer's Office by the Party of the Second Part prior to beginning any work within the NCDOT Right of Way. The bond shall be held for a minimum of one year after a satisfactory final inspection of the installation by NCDOT. The bond may be held for a period longer than one year after completion if, in the opinion of NCDOT, the size or complexity of the installation warrants a longer period.

41. The release of the bond is subject to a final inspection by NCDOT. Contact the District office to schedule a Final Inspection and to request release of the bond.

42. When a Continuing Indemnity bond is on file with the central Raleigh office, the cashing of that bond may be used to fund any necessary repairs by NCDOT forces for unaddressed defects in workmanship by the encroaching party and/or by their contractor.

Control of Access

43. No access to the job site, parking or material storage shall be allowed along or from the **Control of Access Roadway.**

44. The installation within the Control of Access fence shall not adversely affect the design, construction, maintenance, stability, traffic safety or operation of the controlled access highway, and the utility must be serviced without access from the through-traffic roadways or ramps.

45. The resetting of the Control of Access fence shall be in accordance with the applicable NCDOT standard and as directed by the Division Engineer or their representative.

STIP (or Division Managed) Projects

46. State Transportation Improvement Project (STIP) X-XXXX is scheduled for future construction. Any encroachment determined to be in conflict with the construction of this NCDOT project shall be removed and/or relocated at the encroaching party's expense.

Construction

General

47. An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.

48. If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.

49. Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.

50. All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.

51. The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.

52. A minimum of five-foot clearance is required for utility installations beneath or near drainage pipes, headwalls, and a minimum of two-foot clearance below the flowline of streams. If directional drilling, a minimum of ten-foot clearance distance is required from drainage structures and a minimum of five feet below flowline of streams.

53. At points where the utility is placed under existing storm drainage, the trench will be backfilled with excavatable flowable fill up to the outside diameter of the existing pipe.

54. Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Zone. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.

55. The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.

56. Any guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the Division Engineer or their representative.

57. Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.

58. All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.

59. Detection tape, where required by NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act, shall be buried in the trench approximately 1 foot above the installed facility. Where conduit is installed in the right of way and is not of ferrous material, locating tape or detection wire shall be installed with the conduit.

60. All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.

61. Conformance with driveway permit review should be required in conjunction with this encroachment agreement. In the event there is a conflict between the driveway permit and the encroachment agreement, the District Engineer should resolve the conflict and notify the parties involved.

Engineering

62. All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: *ASTM Standards*, *Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings,* NCDOT *Asphalt Quality Management System* manual, **and the approved plans.**

63. Regulator stations, metering stations, cathodic test stations, and anode beds are not permitted within NCDOT right of way. Header wires are permitted.

64. Non-Utility Communication and Data Transmission installations (ground mounted type or Small Cell pole-mounted type) must adhere to guidelines in the Utilities Accommodations Manual and, when located within municipal jurisdictions, are subject to review and approval by municipal ordinances and any additional municipal approval for proximity to historic districts and landmarks. All wiring and related telecommunications work shall conform to the latest regulations by the Federal Communications Commission.

65. All wiring and related electrical work shall conform to the latest edition of the National Electrical Safety Code.

66. Prior approval for any blasting must be obtained from the Division Engineer or their representative.

Location within R/W

67. All utility access points, such as manholes, vaults, handholes, splice boxes and junction boxes shall be located as close to the right of way line as possible and shall not be placed in the ditch line, side slopes of the ditches or in the pavement. All manholes, handholes, splice boxes, junction boxes and vaults and covers shall be flush with the ground when located within the vehicle clear zone. Slack loops for telecommunications in industry standard housing units shall be buried a minimum of 18 inches when buried or meet minimum NCDOT vertical and horizontal clearances when installed aerially.

68. Any utility markers, cabinets, pedestals, meter bases and services for meter reading required shall be as close to the Right of Way line as possible. If it is not feasible to install at or near Right of Way line, then written approval shall be obtained from NCDOT prior to installation.

69. Fire Hydrants shall be of the breakaway type. Hydrants shall be placed near the right of way line. In curb and gutter sections with written approval from the District, the hydrants may be placed at 6' behind the back of the curb or minimum 2' back of sidewalk.

70. Hot box (aka ASSE 1060) or Safe-T-Cover type enclosures covering utility main pipe joints, backflow preventers, valves, vent pipes, cross connections, pumps, grinders, irrigation assemblies, transformers, generators, and other similar large appurtenances shall be located outside sight distance triangles and off of the NCDOT Right-of-Way.

71. Sprinkler heads shall be located a minimum of 10 feet from the edge of pavement, edge of shoulder, or back of curb whichever is greater and shall be directed so that water does not spray or drain on the roadway surface, sidewalk, or passing vehicles at any time. Upon completion of the installation and prior to activation of the system, the Encroacher shall contact the District Engineer to schedule a test of the system to verify the spray pattern. Sprinkler systems shall not be operated during periods of high wind or freezing weather, or to the extent that the subgrade adjacent to the pavement structure becomes saturated. NCDOT reserves the right to require immediate termination and removal of any sprinkler system which in its judgement and opinion adversely affects safety, maintenance, or operation of the roadway.

72. Luminaire and/or utility poles and guy wires shall be set as close to the Right of Way line as practical and outside the Clear Zone in accordance with the latest version of the AASHTO Roadside Design Guide (See corresponding attachment) or made breakaway in accordance with the requirements of NCHRP Report 350. Any relocation of the utility poles from the original design due to Clear Zone requirements shall require a re-submittal for the utility design.

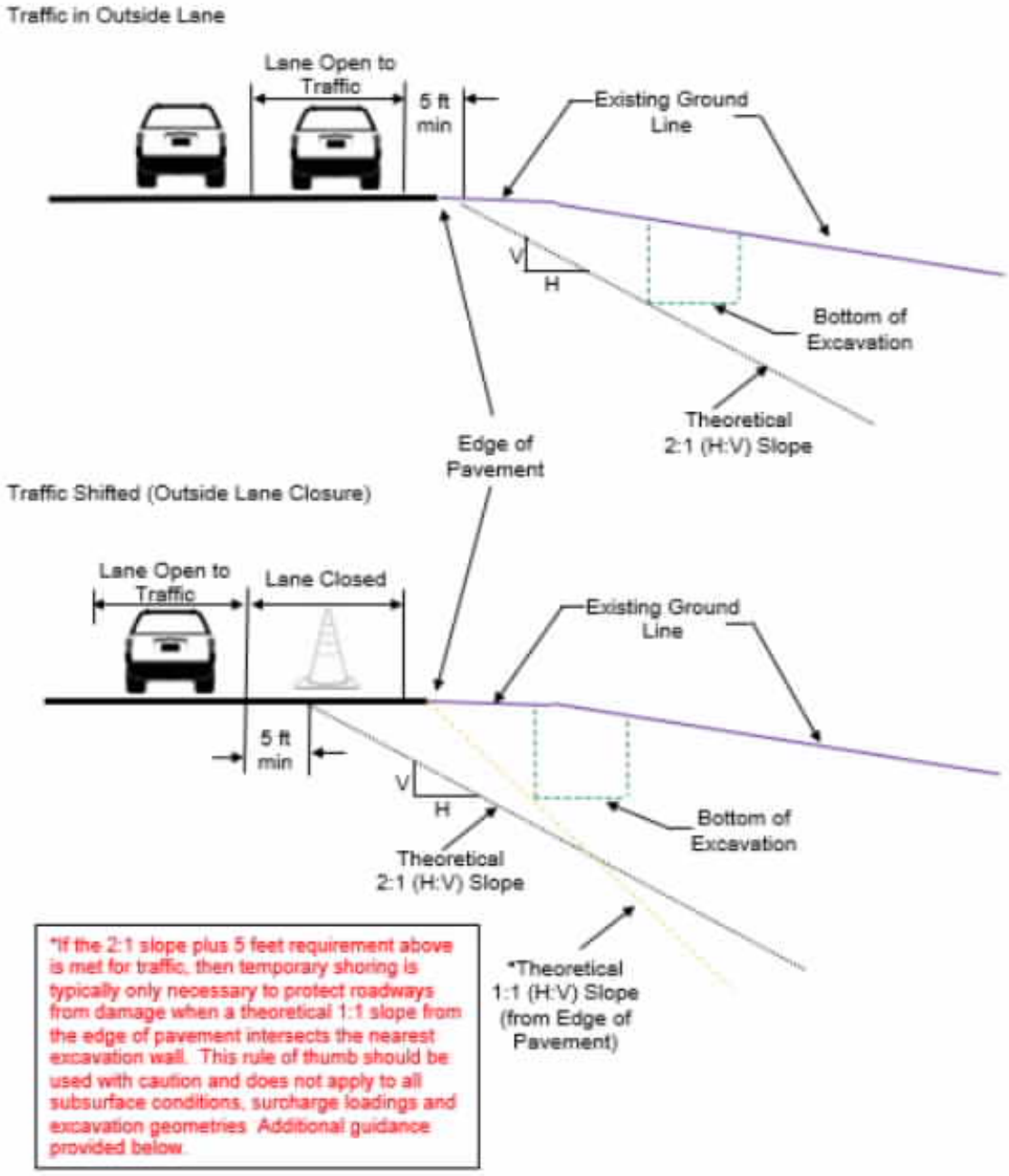
73. Luminaire and/or utility poles shall be set a minimum of 5'-6" behind face of any guardrail or otherwise sufficiently protected. However, standard placement may be reduced to 3'-6" behind face of guardrail when posts are spaced 3'-1 ½", or where speed limit is less than 55 MPH.

Excavation

74. Excavation material shall not be placed on pavement.

75. It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.

76. The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.



If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries.

Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected.

Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx and see SP11 R002

a. Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT *Utilities Accommodations Manual* for more information on requirements for shoring plans, design calculations, and subsurface investigation report.) **Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation**.
b. All trench excavation inside the limits of the theoretical two-to-one slope plus 5 feet requirement, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.
c. The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest *NCDOT Standard Specifications for Roads and Structures,* which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.
d. At the discretion of the Division Engineer, a qualified NCDOT inspector shall be on the site at all times during construction. The encroaching party shall reimburse NCDOT for the cost of providing the inspector. If NCDOT cannot supply an inspector, the encroaching party (not the utility contractor) should make arrangements to have a qualified inspector, under the supervision of a licensed North Carolina Professional Engineer, on the site at all times. The Professional Registered Engineer shall certify that the utility was installed in accordance with the encroachment agreement and that the backfill material meets the Statewide Borrow Criteria.
e. The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.

77. All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.

Boring

78. Boring equipment will be provided of a type and size to facilitate boring in the local geologic conditions and shall be able to facilitate the encroachment work.

79. When Horizontal Directional Drilling (HDD) is used, the following stipulations apply:
    a. Use drilling fluids as appropriate for the type soils but use of water alone is prohibited. Pump drilling fluids only while drilling or reaming. Directional boring using jetting with a Bentonite (or equivalent material) slurry is recommended. Monitor flow rates to match the amount leaving the bore hole and do not increase pressure or flow to free stuck drill heads, reamers or piping. Open cutting to retrieve stuck drill heads is not allowed without prior permission from the District Engineer.
    b. The minimum depth shall adhere to the table below for transverse (under non-controlled access, partial controlled access, or limited controlled access roadway) installations and refers to maximum diameter of hole drilled and not the dimension of the carrier or encasement pipe.

Diameter of Drilled Hole (Backream)	Minimum Depth of Cover
2" to 6"	5 feet
>6" to 15"	12 times hole diameter (e.g. 6-inch hole means 6 feet minimum depth)
>15" to 36"	15 feet or greater

    c. Under fully controlled access roadway installations, the minimum depth for transverse crossings shall be 15 feet under any pavement (ramps or thru lanes)
    d. An overbore (backream diameter) shall not be more than 1.5 times the outside diameter of the pipe or encasement under any highway for pipes 12 inches in diameter or less. For pipes with outer diameter larger than 12 inches, the overbore may be no larger than outer diameter of pipe plus 6 inches. An overbore exceeding 1.5 times greater than the outside diameter of the pipe or encasement may be considered if the encroachment agreement includes a statement signed and sealed by a licensed North Carolina Professional Engineer indicating that an overbore in excess of 1.5 times the outside diameter of the pipe or encasement will appropriately arch and no damage will be done to the pavement or sub-grade.
    e. Directional boring is allowed beneath embankment material in naturally occurring soil.
    f. Any parallel installation utilizing the directional boring method shall be made at a minimum depth of three (3') feet (cover) below the ground surface and outside the theoretical 1:1 slope from the existing edge of pavement except where the parallel installation crosses a paved roadway.
    g. All directional bores shall maintain ten (10) feet minimum (clear) distance from the nearest part of any structure, including but not limited to bridges, footings, pipe culverts or box culverts. Directional bores are not allowed beneath bridge footings, culvert wingwall footings, slope protection or retaining walls.
    h. The tip of the drill string shall have a cutter head.
    i. Detection wire shall be installed with non-ferrous material.
    j. HDPE pipe installed by directional boring shall not be connected to existing pipe or fittings for one (1) week from the time of installation to allow tensional stresses to relax.

Aerial clearances

80. Vertical clearance of overhead power and communication lines shall meet the National Electrical Safety Code requirements except the minimum vertical clearance shall be 18' for crossings over NCDOT roadways (24' over Fully Controlled Access roadways) and 16' for parallel installations.

81. When applicable for aerial installations, in relation to the bridge, the utility line shall be located with minimum clearances as indicated in Figure 3-3 in the Utilities Accommodations Manual for NCDOT **Required Clearances for Aerial Installations by Encroachment Near Bridge Structures**.

Pavement Detail and Repair

82. The paving of this roadway shall be in accordance with the latest version of NCDOT Standard Specifications, Sections 610, 1012 and 1020. The Contractor shall follow all procedures of the latest Quality Management System (QMS) Asphalt Manual for asphalt pavement - Maintenance Version (see https://connect.ncdot.gov/resources/Materials/MaterialsResources/Forms/Default.aspx) to find the most recent version. The Contractor must adhere to all testing requirements and quality control requirements specified. The Contractor shall contact the NCDOT Division QA Supervisor prior to producing plant mix and make the Supervisor aware that the mix is being produced for a future NCDOT road. Contact the District Engineer to determine the NCDOT Division QA Supervisor. Only NCDOT approved mix designs will be acceptable. A Quality Control Plan shall be submitted (as Directed by the District Engineer) to the District Engineer's Office prior to asphalt production utilizing form QMS-MV1. Failing mixes and/or densities are subject to penalties including monetary payments or removal and replacement. To minimize traffic queuing in construction areas, the possibility of traffic detours may be considered when working on high traffic routes even if traffic control is used. The District Engineer may require traffic detours.

83. When paving beyond utility installation is involved, a Roadway certification report sealed by a Professional Engineer shall be submitted to the District Engineer's office indicating the following:
    - Pavement thickness by type
    - Pavement density, core and/or test locations
    - Base thickness
    - Base density
    - Subgrade density

    Test frequency and method shall be in conformance with the NCDOT *Materials and Tests Manual*. Test must be performed by a Certified Technician including name and Certification number on report.

84. "Potholing" (or "daylighting") pavement cores to expose existing utilities shall be made with a circular minimum 6" to maximum 18" diameter "test" hole to a maximum depth of 12 inches. Pavement core locations shall not be placed in the wheel path whenever possible. Vacuum excavation shall be utilized to expose underground utilities below pavement subgrade. Displaced dirt and rock debris must be suctioned away from the excavation area through a large hose to a vacuum truck and disposed by the encroaching party. Avoid using mechanized equipment in the proximity of all exposed underground utility lines. Pavement cores shall be repaired within the same working day. The pavement core shall be retained and evaluated for reuse to fill the core hole.

    The excavation shall be backfilled and compacted with select material to the bottom of the existing pavement structure or as indicated by the District Engineer. If in good condition, the retained core shall be placed in the hole and secured with a waterproof, mechanical joint. If the pavement core is damaged and cannot be re-used, the core may be replaced with the surface mix, S9.5B. The asphalt patch shall match the thickness of the existing asphalt or four inches, whichever is greater and the use

of NCDOT approved sealant applied to the cracks to fill the voids. All materials must be listed on the NCDOT Approved Products List (APL) found at: https://apps.ncdot.gov/vendor/approvedproducts/.

85. The minimum pavement design for pavement repair shall be according to the most recent version of NCDOT Standard Drawing 654.01 (https://connect.ncdot.gov/resources/Specifications/Pages/default.aspx). The version valid in 2024 through 2030 is located at https://connect.ncdot.gov/resources/Specifications/2024StandardRdwyDrawings/Div%206%20Combined.pdf. The pavement design shall include a mechanical overlay extent to be a minimum of 25 feet each side of the pavement repair area OR as directed by the District Engineer.
86. Pavement cuts shall be repaired the same day the cuts are made unless an asphalt patch cannot be accomplished the same day due to material availability or time restrictions. When the asphalt patch is not feasible, the following apply:
    a. The pavement cut shall be filled to the surface with ABC stone or Flowable Fill per NCDOT's Standards and Specifications.
    b. Once the cut is filled, a minimum ¾-inch steel plate shall be placed and pinned to prevent moving. Plates shall be designed large enough to span a minimum of 1-foot on all sides on the pavement cut.
    c. When flowable fill is used, it shall cure for 24 hours prior to any asphalt material placement. Flowable fill bleed water shall not be present during paving operations. Paving shall not cause damage (shoving, distortion, pumping, etc.) to the flowable fill.
    d. Install and leave "BUMP" signs according to MUTCD until the steel plate has been removed. Once the flowable fill has cured, remove the steel plate, and mill/fill according to the directions of the District Engineer.
    e. All pavement cuts must be sealed with NCDOT approved sealant to prevent future pavement separation or cracking.
87. Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.

Post Construction

Close out/ Inspection

88. The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.
89. At the discretion of the District Engineer, a final inspection report may be provided to the encroaching party upon satisfactory completion of the work.
90. When a performance bond is required, a written acknowledgement of the completed work by the District Engineer's office begins the one-year warranty period associated with the performance bond.

91. If the actual construction differs from the approved plans associated with this encroachment, a copy of "as-built" plans shall be submitted to the District Engineer's office in a PDF format and in a current ESRI GIS format within 4 weeks of construction.

92. The encroaching party shall provide the North Carolina Turnpike Authority (NCTA) with an electronic copy of coordinate correct as-built plans within two weeks of installation completion. Failure to provide the as-built plans may jeopardize future approvals within NCTA right of way.

93. A copy (in PDF format) of the completed ground water analysis shall be given to the District Engineer, including detailed drawings of the "as-built" wells showing location, depth and water level in well.

ATTACHMENT FORM

NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W

Instructions for use:
This form must be completed in its entirety and submitted directly to the designated personnel in the District Engineer's office via email, fax or hand delivery a minimum of one week prior to construction for the encroachment. If the designated NCDOT personnel names are unknown by the person completing this form, please contact the District Engineer's office to determine that contact info.

Date: _____ Submitted by Name: _____

To: District Personnel Name: Caitlin Spear
District Personnel Email: caspear@ncdot.gov
District Fax No.: (252) 621-6410

This notification is to inform you that we (encroaching party or their contractor) will begin construction work on the following project in a minimum of one week.

Encroachment number
(assigned by NCDOT) for the project: _____

Construction start date: _____

Approximate ending date: _____

Contact NCDOT inspector a minimum of 72 hrs. in advance to set-up Preconstruction meeting in the District Engineer's office or other location as directed by the District Engineer

Preconstruction meeting date & time: _____

Preconstruction meeting address: _____
_____

Type of project: _____
[Examples: power, telecommunication, water, sewer, gas, petroleum, other (describe)]

Contact Info for this project:

Contractor Company Name:
_____
Contractor Contact Name:
_____
Contractor Phone Number:
_____
Contractor Email:
_____

NCDOT Utility Inspector Name:
_____
NCDOT Utility Inspector Phone:
_____
NCDOT Utility Inspector Email:
_____
NCDOT Utility Project Manager Name:
_____
NCDOT Utility Project Manager Phone:
_____
NCDOT Utility Project Manager Email:
_____

Attachment for Clear Zone Guidelines from AASHTO

Roadside Design Guide Clear - Zone Table

TABLE 3.1 (Cont'd)

[U.S. Customary Units]

DESIGN SPEED	DESIGN ADT	FORESLOPES			BACKSLOPES		
		1V:6H or flatter	1V:5H TO 1V:4H	1V:3H	1V:3H	1V:5H TO 1V:4H	1V:6H or flatter
40 mph or less	UNDER 750	7 – 10	7 – 10	**	7 – 10	7 – 10	7 – 10
	750 – 1500	10 – 12	12 – 14	**	10 – 12	10 – 12	10 – 12
	1500 – 6000	12 – 14	14 – 16	**	12 – 14	12 – 14	12 – 14
	OVER 6000	14 – 16	16 – 18	**	14 – 16	14 – 16	14 – 16
45–50 mph	UNDER 750	10 – 12	12 – 14	**	8 – 10	8 – 10	10 – 12
	750 – 1500	14 – 16	16 – 20	**	10 – 12	12 – 14	14 – 16
	1500 – 6000	16 – 18	20 – 26	**	12 – 14	14 – 16	16 – 18
	OVER 6000	20 – 22	24 – 28	**	14 – 16	18 – 20	20 – 22
55 mph	UNDER 750	12 – 14	14 – 18	**	8 – 10	10 – 12	10 – 12
	750 – 1500	16 – 18	20 – 24	**	10 – 12	14 – 16	16 – 18
	1500 – 6000	20 – 22	24 – 30	**	14 – 16	16 – 18	20 – 22
	OVER 6000	22 – 24	26 – 32 *	**	16 – 18	20 – 22	22 – 24
60 mph	UNDER 750	16 – 18	20 – 24	**	10 – 12	12 – 14	14 – 16
	750 – 1500	20 – 24	26 – 32 *	**	12 – 14	16 – 18	20 – 22
	1500 – 6000	26 – 30	32 – 40 *	**	14 – 18	18 – 22	24 – 26
	OVER 6000	30 – 32 *	36 – 44 *	**	20 – 22	24 – 26	26 – 28
65–70 mph	UNDER 750	18 – 20	20 – 26	**	10 – 12	14 – 16	14 – 16
	750 – 1500	24 – 26	28 – 36 *	**	12 – 16	18 – 20	20 – 22
	1500 – 6000	28 – 32 *	34 – 42 *	**	16 – 20	22 – 24	26 – 28
	OVER 6000	30 – 34 *	38 – 46 *	**	22 – 24	26 – 30	28 – 30

* Where a site specific investigation indicates a high probability of continuing crashes, or such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear-zone shown in Table 3.1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

** Since recovery is less likely on the unshielded, traversable 1V:3H slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters which may enter into determining a maximum desirable recovery area are illustrated in Figure 3.2.

NCDOT Required Clearances for Aerial Installations Near Bridge Structures

NOT TO SCALE

Any variation to this detail must be approved by the Division Engineer and/or State Utilities Manager.

Published by NCDOT Utilities Unit
June 2020

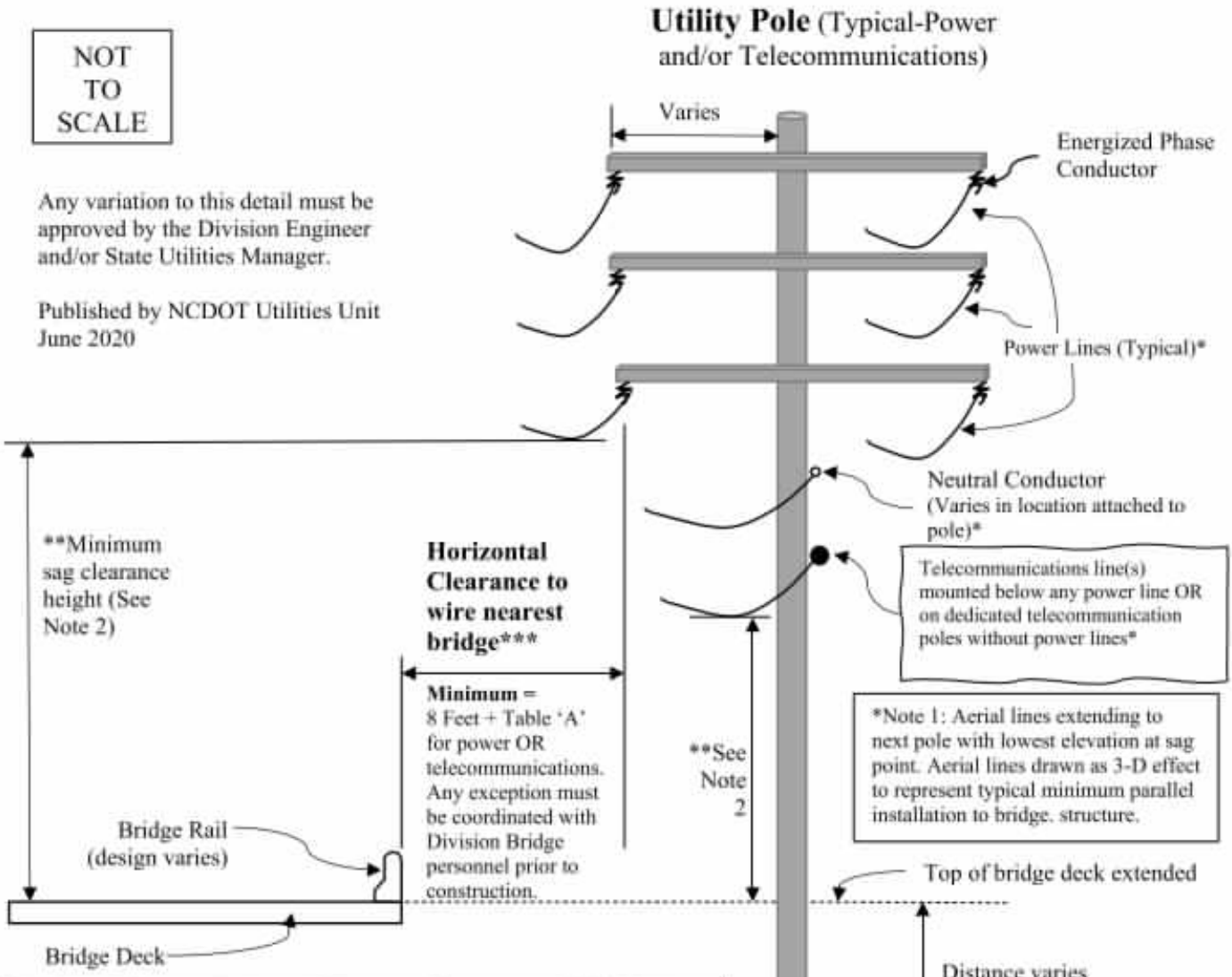


Table A – Minimum Horizontal Clearance Distances to POWER Lines (from OSHA)	
VOLTAGE (nominal, kV, alternating current)	**MINIMUM CLEARANCE (feet)**
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution

***Note 3: HORIZONTAL CLEARANCE EXCEPTION. If vertical sag clearance height for power above bridge deck is ≥ 45 feet AND voltage is ≤ 350kV, then Minimum Horizontal Clearance may be reduced to 3 feet. Any telecommunications attachment to power pole allowed in this exception must have a minimum 25 feet sag clearance height above bridge deck.

ROUTE SR 1577 PROJECT Sunrise on the Sound COUNTY OF Currituck STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

-AND-

Sound Woods, LLC

155 Survey Road, Suite A, Moyock, NC 27958

-AND-

County of Currituck, North Carolina

153 Courthouse Rd., Currituck, NC 27929

THREE PARTY RIGHT OF WAY ENCROACHMENT AGREEMENT ON PRIMARY AND SECONDARY SYSTEM

E011-027-26-00514

THIS AGREEMENT, made and entered into this the 11th day of Aug, 20 26, by and between the Department of Transportation, party of the first part; and Sound Woods, LLC party of the second part: and County of Currituck, North Carolina party of the third part.

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) SR1577 (Sanderson Rd.), located approx. 1,180 feet east from the intersection with SR 1222 (Tulls Creek Rd.) towards Currituck Sound

with the construction and/or erection of: installation of water main tap and roadway crossing extension to serve a proposed subdivision.

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest UTILITIES ACCOMMODATIONS MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utilities Manager of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

a. Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,

(1) withholding of payments to the contractor under the contract until the contractor complies, and/or
(2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

That when title to the subject that constitutes the aforesaid encroachment passes from the party of the second part and vests in the party of the third part, the party of the third part agrees to assume all responsibilities and rights and to perform all obligations as agreed to hereln by the party of the second part.

R/W (166) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (166) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION
DocuSigned by:
BY: Caitlin A Sams
DISTRICT ENGINEER
0308B0FAC40F45A...

WITNESS:

Glenda J. White

Sound Woods, LLC

MANAGER

Second Party

WITNESS:

Jessica Timmons
Currituck County
153 Courthouse Rd #204

County of Currituck, North Carolina

Third Party

ROUTE SR1222 PROJECT Sunrise on the Sound COUNTY OF Currituck STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

-AND-

Sound Woods, LLC

155 Survey Road, Suite A, Moyock, NC 27958

-AND-

County of Currituck, North Carolina

153 Courthouse Rd., Currituck, NC 27929

THREE PARTY RIGHT OF WAY ENCROACHMENT AGREEMENT ON PRIMARY AND SECONDARY SYSTEM

E011-027-26-00514

THIS AGREEMENT, made and entered into this the 11th day of Aug, 20 26, by and between the Department of Transportation, party of the first part; and Sound Woods, LLC party of the second part; and County of Currituck, North Carolina party of the third part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) SR1222 (Tulls Creek Rd.), located approx. 390 feet south from the intersection with SR 1293 (Baxter Estates Road) towards Currituck Courthouse

with the construction and/or erection of: installation of water main tap and extension to serve a proposed subdivision.

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest UTILITIES ACCOMMODATIONS MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utilities Manager of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic, the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

a. Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,

(1) withholding of payments to the contractor under the contract until the contractor complies, and/or
(2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

That when title to the subject that constitutes the aforesaid encroachment passes from the party of the second part and vests in the party of the third part, the party of the third part agrees to assume all responsibilities and rights and to perform all obligations as agreed to herein by the party of the second part.

R/W (166) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (166) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: DocuSigned by: Cathy de Lapp DISTRICT ENGINEER
830880FAC40F45A...

WITNESS:

Glenda J White

Sound Woods, LLC

, MANAGER

Second Party

WITNESS:

Jessica Timmons
Currituck County
153 Courthouse Rd #204

County of Currituck, North Carolina

Third Party

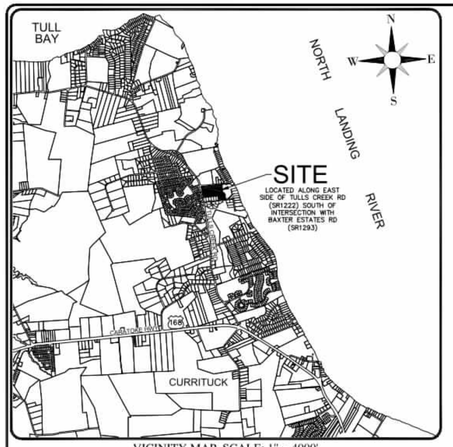
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CONSTRUCTION DRAWINGS FOR

SUNRISE ON THE SOUND

A 15 LOT RESIDENTIAL CONSERVATION SUBDIVISION

CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA



VICINITY MAP SCALE: 1" = 4000'

GENERAL NOTES:

1. PROJECT NAME: SUNRISE ON THE SOUND
2. OWNER/APPLICANT: SOUND WOODS, LLC
   155 SURVEY RD., SUITE A
   MOYOCK, NC 27958
3. PROPERTY DATA:
   PARCEL ID# 0049-000-009C-0000
   ADDRESS: BAXTER ESTATES RD., MOYOCK, NC
   RECORDED REFERENCES: DB. 1763, PG. 189; PC. S, SL. 173
   PROPERTY ZONING: SFM-SINGLE FAMILY-MAINLAND
4. F.I.R.M. DATA:
   THE PROPERTY IS LOCATED IN F.E.M.A. FLOOD ZONES X & SHADED X - REFERENCE F.I.R.M. MAP# 3721806000 K, CID 370078, EFFECTIVE DATE DECEMBER 21, 2018. (SUBJECT TO CHANGE BY FEMA)
5. THIS PROPERTY CONTAINS NO KNOWN ACOE "404" JURISDICTIONAL WETLANDS.
6. EXISTING CONDITION INFORMATION BASED ON A COMBINATION OF THE FOLLOWING:
   - BOUNDARY AND TOPOGRAPHIC SURVEY DATA OBTAINED BY BISSELL PROFESSIONAL GROUP
   - 2024 AERIAL IMAGERY OBTAINED FROM NCONEMAP.COM
   - ELEVATIONS ARE REFERENCED TO NAVD 1988 VERTICAL DATUM.
7. DRAINAGE AND UTILITY EASEMENTS WILL BE PROVIDED ON THE FINAL PLATS PREPARED FOR RECORDING OF THE SUBDIVISION
   - A 10' EASEMENT FOR UTILITIES AND DRAINAGE SHALL BE ESTABLISHED ALONG REAR AND SIDE PROPERTY LINES
   - A 25' EASEMENT FOR UTILITIES, DRAINAGE, PEDESTRIAN SIDEWALK AND STREET TREES SHALL BE ESTABLISHED ALONG FRONT PROPERTY LINES.
   - A NON-EXCLUSIVE DRAINAGE EASEMENT SHALL BE ESTABLISHED ACROSS ALL OPEN SPACE AREAS AND ALONG ALL MAJOR DRAINAGE WAYS SERVING MORE THAN 5 ACRES
8. ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND
9. NCDOT'S MAINTENANCE RESPONSIBILITY IS INCLUSIVE OF THE RIGHT-OF-WAY ONLY. MAINTENANCE OF UPSTREAM AND DOWNSTREAM COVEYANCES AND ANY PIPES OR STRUCTURES LOCATED OUTSIDE OF OR SPANNING ACROSS THE RIGHT-OF-WAY ARE THE EXPRESS RESPONSIBILITY OF THE DEVELOPER OR HOMEOWNER'S ASSOCIATION.

DEVELOPMENT NOTES:

1. PROPERTY SUMMARY:
   TOTAL PROPERTY AREA: 17.48 AC.
2. DEVELOPMENT SUMMARY:
   PROPOSED LOT AREA: 8.62 AC.
   PROPOSED R/W AREA: 1.86 AC.
   PROPOSED OPEN SPACE AREA: 6.99 AC.
   TOTAL SUBDIVISION AREA: 17.48 AC.

   # OF PROPOSED LOTS: 15
   MINIMUM LOT AREA: 25,004 SF
   PROPOSED RIGHT-OF-WAY WIDTH: 50 FT.
   PROPOSED PAVED ROADWAY WIDTH: 20 FT.
   PROPOSED PAVED ROADWAY LENGTH: 1,636 L.F.±
3. DEVELOPMENT IMPERVIOUS COVERAGE DATA (BUA):
   COVERAGE ON INDIVIDUAL LOTS WILL BE LIMITED TO 30.0% OF LOT AREA
   MAXIMUM TOTAL LOT COVERAGE: 112,642 SF
   PROPOSED ROADWAY: 32,300 SF
   PROPOSED PARKING: 600 SF
   PROPOSED SIDEWALKS: 16,100 SF
   MISC. AMENITY: 5,000 SF
   TOTAL COVERAGE: 166,642 SF
   COVERAGE PERCENTAGE: 21.89%
4. PROPOSED DISTURBED AREA: 17.5 ACRES

THIS PERMITTED UNDER THE CONDITION THAT ONCE A CONTRACTOR IS SELECTED FOR THE WATERLINE INSTALLATION/TAP THAT THE CHOSEN INSTALLATION METHOD AND APPLICABLE SUPPLEMENTAL INFORMATION WILL BE SUBMITTED TO THE DISTRICT OFFICE FOR APPROVAL PRIOR TO BEGINNING WORK

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET, DEVELOPMENT NOTES & SIDE LOCATION
2	EXISTING CONDITIONS & SITE FEATURES MAP
3	DEVELOPMENT OVERVIEW PLAN
4	GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN
5	EROSION & SEDIMENTATION CONTROL PLAN
6	WATER MAIN EXTENSION & WATER SERVICE PLAN
7	LANDSCAPING, BUFFERING & SIGNAGE PLAN
8	REEDY LN. PLAN & PROFILE - STA. 0+00 - 8+50
9	REEDY LN. PLAN & PROFILE - STA. 8+50 - 16+63
10	ROADWAY AND SIDEWALK TYP. CONSTRUCTION DETAILS
11	GRADING AND DRAINAGE TYP. CONSTRUCTION DETAILS
12	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
13	NCG01 GROUND STABILIZATION & MATERIALS HANDLING
14	NCG01 SELF-INSPECTION, RECORD KEEPING & REPORTING

LEGEND

- ROADWAY CENTERLINE
- RIGHT-OF-WAY
- PROPERTY BOUNDARY
- ADJOINING PROPERTY LINE
- EXISTING DITCH CENTERLINE
- EXISTING TREE LINE (APPROXIMATE)
- PROPOSED SWALE W/ FLOW ARROW
- PROPOSED SWALE HIGH POINT
- 6 EXISTING GRADE CONTOUR
- 6 PROPOSED GRADE CONTOUR
- x 0.00 EXISTING SPOT GRADE
- +0.00 PROPOSED SPOT GRADE
- EXISTING CULVERT
- PROPOSED CULVERT
- D PROPOSED DRAINAGE STRUCTURE
- NO PARKING SIGN
- CROSSWALK

EROSION CONTROL LEGEND

- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED TEMPORARY CHECK DAM

UTILITY LEGEND

- EWL EWL EXISTING WATER LINE
- WL WL PROPOSED WATER LINE (SIZE AS NOTED)
- PROPOSED FIRE HYDRANT (APRX)
- PROPOSED WATER SERVICE (APRX)
- PROPOSED VALVE (APRX)
- PROPOSED BLOW-OFF (APRX)
- PROPOSED REDUCER (APRX)

PROFILE LEGEND

- EXISTING GRADE @ ROAD C/L
- PROPOSED GRADE @ ROAD C/L
- WL WL PROPOSED WATER LINE (SIZE AS NOTED)
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- PROPOSED REDUCER

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

SURVEY LEGEND

SCM□	SET CONCRETE MONUMENT
SIR •	SET IRON ROD
EIR ○	EXISTING IRON ROD
EIP ○	EXISTING IRON PIPE
CP o	CALCULATED POINT
M.B.L.	MAXIMUM BUILDING LIMIT
N.T.S.	NOT TO SCALE
P.C.	PLAT CABINET
D.B.	DEED BOOK
SL	SLIDE
SF	SQUARE FEET
AC	ACRES

NOTE:
EXISTING SITE INFORMATION DESCRIBED HEREON IS BELIEVED TO BE ACCURATE, HOWEVER, BPG INC. MAKES NO WARRANTY AS TO THE ACCURACY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THIS INFORMATION BEFORE RELYING ON IT. THE CONTENT OF THESE DOCUMENTS MAY ALSO INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. IF SUCH CONDITIONS EXIST, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO PROCEEDING WITH THE SCHEDULED WORK AND MAY CONTINUE AFTER AN AUTHORIZATION TO PROCEED HAS BEEN GRANTED.

THE FOLLOWING PERMITS ARE REQUIRED PRIOR TO PROJECT CONSTRUCTION:

PERMIT	AGENCY	REFERENCE NUMBER	DATE OF ISSUANCE
SEDIMENTATION AND EROSION CONTROL PERMIT	N.C.D.E.Q. - DIVISION OF LAND RESOURCES	CURRI-2026-0164	6/24/2026
STORMWATER MANAGEMENT LOW DENSITY PERMIT	N.C.D.E.Q - DIVISION OF LAND RESOURCES	SW7260609	6/26/2026
WATERMAIN EXTENSION AUTHORIZATION TO CONSTRUCT	N.C.D.E.Q - PUBLIC WATER SUPPLY		
DRIVEWAY PERMIT	N.C.D.O.T.		
ENCROACHMENT AGREEMENT	N.C.D.O.T.		
CURRITUCK COUNTY PRELIMINARY PLAT & USE PERMIT	CURRITUCK COUNTY BOARD OF COMMISSIONERS	PB 24-25	1/28/2025
CURRITUCK COUNTY CONSTRUCTION AUTHORIZATION	CURRITUCK COUNTY PLANNING STAFF		

STORMWATER CERTIFICATE

I, _____, OWNER/AGENT HEREBY CERTIFY THE INFORMATION INCLUDED ON THIS AND ATTACHED PAGES IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ON THE PLAN ENTITLED, SUNRISE ON THE SOUND CONSTRUCTION DRAWINGS - GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN, STORMWATER DRAINAGE IMPROVEMENTS SHALL BE INSTALLED ACCORDING TO THESE PLANS AND SPECIFICATIONS AND APPROVED BY CURRITUCK COUNTY. YEARLY INSPECTIONS ARE REQUIRED AS PART OF THE STORMWATER PLAN. THE OWNER IS RESPONSIBLE FOR ALL MAINTENANCE REQUIRED. CURRITUCK COUNTY ASSUMES NO RESPONSIBILITY FOR THE DESIGN, MAINTENANCE, OR PERFORMANCE OF THE STORMWATER IMPROVEMENTS.

_____ DATE

_____ OWNER/AGENT

North Carolina One-Call Center Inc. 811 Know what's below Call before you dig.

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-906
1351 Caratoke Highway
P.O. Box 1068
Jarvisburg, North Carolina 27949
(252) 491-8147
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

COVER SHEET, DEVELOPMENT NOTES & SITE LOCATION

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SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

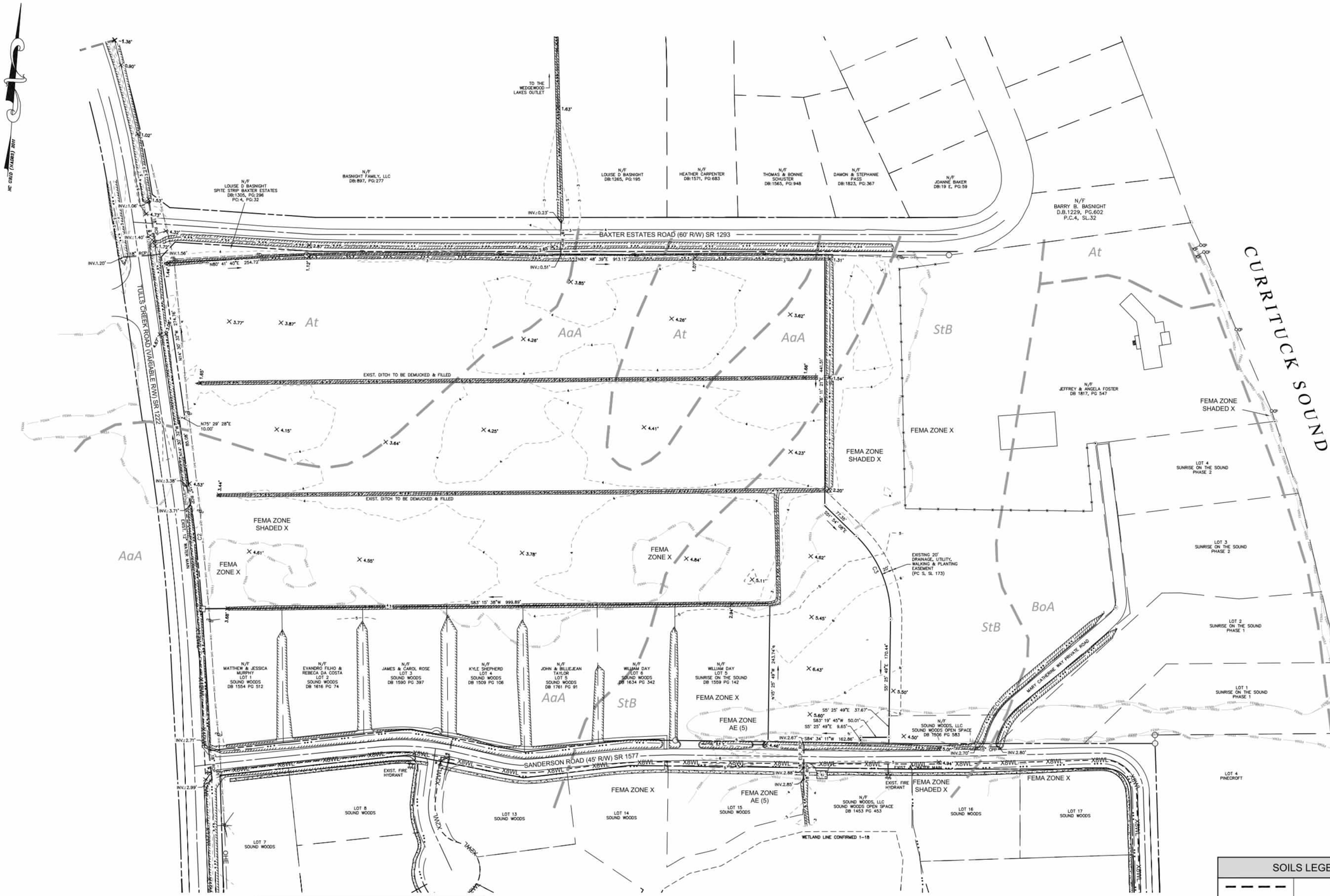
NO.	DATE	DESCRIPTION	BY
1	8-6-26	UPDATE PERMIT TABLE	DMC

Docusigned by: SARA S. BISSELL, PE, SEAL 22639, 76B82DFDFA6D4CE... 8-6-26

DATE: 6/2/26 SCALE: N/A
DESIGNED: BPG CHECKED: MSB
DRAWN: KFW APPROVED: BPG
SHEET: 1 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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CURVE TABLE					
CURVE	LENGTH	RADIUS	CHORD	BEARING	DELTA
C1	38.06'	124.00'	37.91'	S34° 46' 36"W	17°35'13"
C2	253.49'	3849.72'	253.44'	N12° 38' 14"W	3°46'22"
C3	162.22'	200.00'	157.81'	N28° 39' 58"W	46°28'18"

80 0 40 80 160 320

1" = 80'
GRAPHIC SCALE

EXISTING DITCH FILL NOTE:
EXISTING DITCHES NOTED AS BEING FILLED SHALL BE DEMUCKED AND BACKFILLED WITH CLEAN, COMPACTED SELECT MATERIAL. DITCH FILLING SHALL COINCIDE WITH DRAINAGE PATTERNS AND EROSION CONTROL MEASURES AS PROVIDED IN THESE PLANS.

SOILS LEGEND	
	SOILS LINE
AaA	ALTAVISTA FINE SANDY LOAM
At	AUGUSTA FINE SANDY LOAM
BoA	BOJAC LOAMY SOIL
StB	STATE FINE SANDY LOAM

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

BISSELL PROFESSIONAL GROUP
Firm License # C-956
3312 N. Croatan Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3570
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

EXISTING CONDITIONS & SITE FEATURES MAP

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

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8-6-26

DATE: 6/2/26	SCALE: 1" = 80'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG
SHEET: 2 OF 14	
CAD FILE: 467900B1	
PROJECT NO: 4679	

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80 0 40 80 160 320

1" = 80'
GRAPHIC SCALE

FINAL DRAWING
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Bissell Professional Group
Firm License # C-906
3212 Virginia Dare Trail
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-3300
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

DEVELOPMENT
OVERVIEW PLAN

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PROJECT:
SUNRISE ON THE SOUND
NORTH CAROLINA
CRAWFORD TOWNSHIP CURRITUCK COUNTY
CONSTRUCTION DRAWINGS

REVISIONS

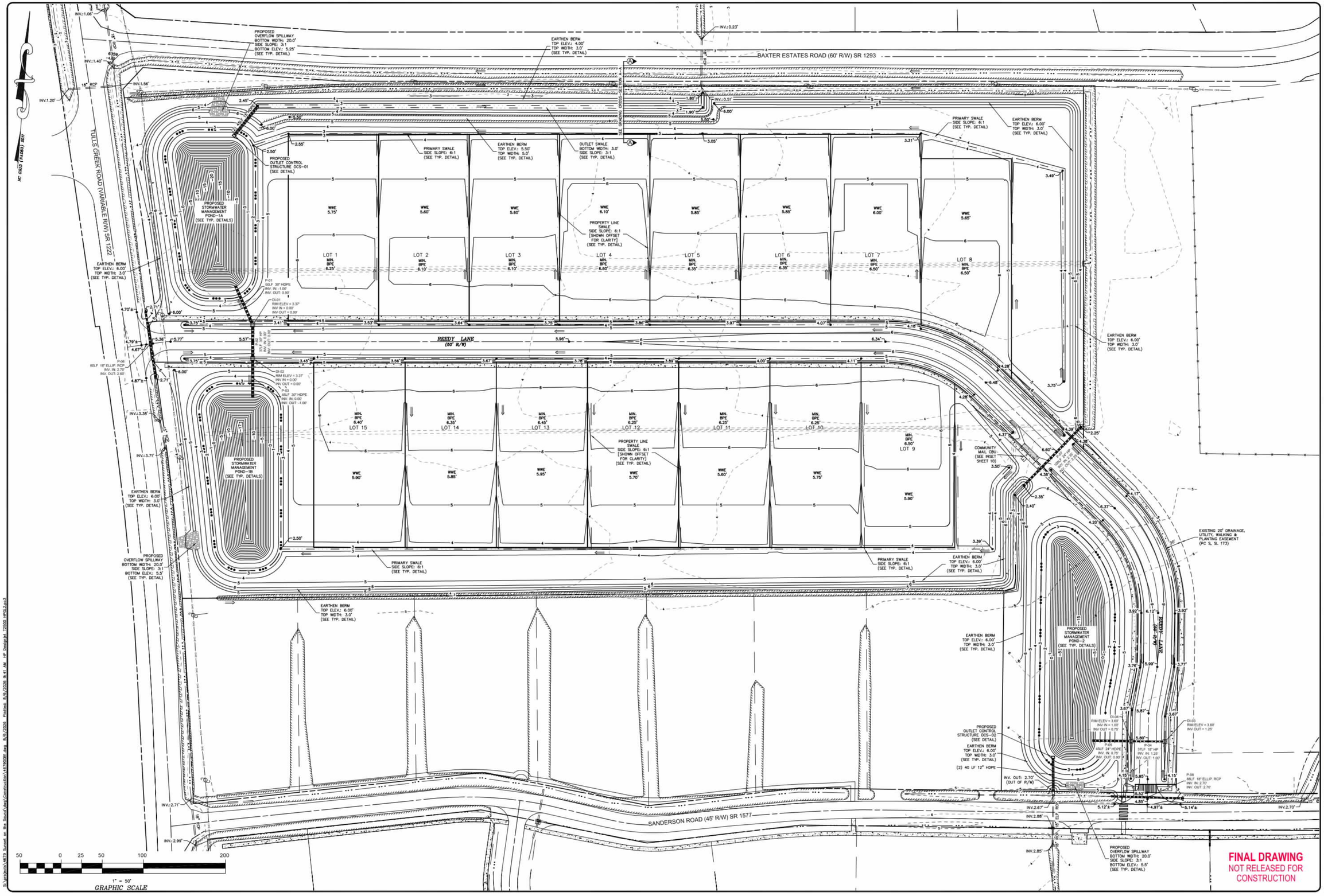
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1	8-6-26	ADDRESS PER REVISED PARCEL RETURN	DMC

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MARK S. BISSELL
L-2639
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8-6-26

DATE: 6/2/26	SCALE: 1" = 80'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG
SHEET: 3 OF 14	
CAD FILE: 467900B1	
PROJECT NO: 4679	

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BISSELL PROFESSIONAL GROUP
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GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN

SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

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REVISIONS

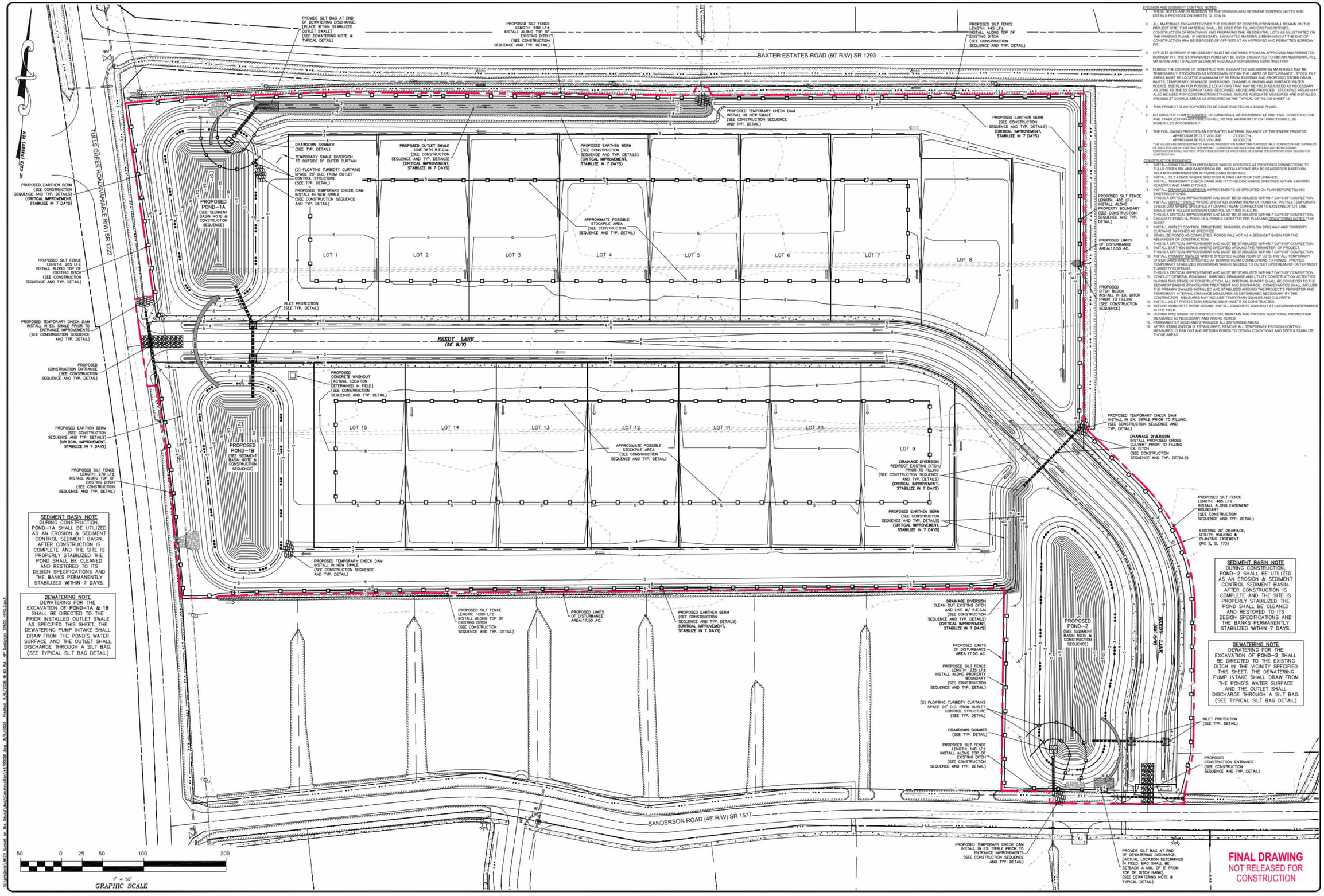
NO.	DATE	DESCRIPTION	BY
1	6-4-26	SHORTEN OCS-02 OUTLET PIPE	DMC

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6/2/2026

DATE: 6/2/26
SCALE: 1" = 50'
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 4 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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SEDIMENT BASIN NOTE
DURING CONSTRUCTION, POND-1A SHALL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

DEWATERING NOTE
DEWATERING FOR THE EXCAVATION OF POND-1A & 1B SHALL BE DIRECTED TO THE PRIOR INSTALLED OUTLET SWALE AS SPECIFIED THIS SHEET. THE DEWATERING PUMP INTAKE SHALL DRAW FROM THE POND'S WATER SURFACE AND THE OUTLET SHALL DISCHARGE THROUGH A SILT BAG. (SEE TYPICAL SILT BAG DETAIL)

SEDIMENT BASIN NOTE
DURING CONSTRUCTION, POND-2 SHALL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

DEWATERING NOTE
DEWATERING FOR THE EXCAVATION OF POND-2 SHALL BE DIRECTED TO THE EXISTING DITCH IN THE VICINITY SPECIFIED THIS SHEET. THE DEWATERING PUMP INTAKE SHALL DRAW FROM THE POND'S WATER SURFACE AND THE OUTLET SHALL DISCHARGE THROUGH A SILT BAG. (SEE TYPICAL SILT BAG DETAIL)

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

EROSION AND SEDIMENT CONTROL NOTES

1. THESE NOTES ARE IN ADDITION TO THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS PROVIDED ON SHEETS 12, 13 & 14.
2. ALL MATERIALS EXCAVATED OVER THE COURSE OF CONSTRUCTION SHALL REMAIN ON THE PROJECT SITE. THIS MATERIAL SHALL BE USED FOR FILLING EXISTING DITCHES, CONSTRUCTION OF ROADWAYS AND PREPARING THE RESIDENTIAL LOTS AS ILLUSTRATED ON THE GRADING PLANS. IF NECESSARY, EXCAVATED MATERIALS REMAINING AT THE END OF CONSTRUCTION MAY BE DISPOSED OF OFF-SITE AT AN APPROVED AND PERMITTED BORROW PIT.
3. OFF-SITE BORROW, IF NECESSARY, MUST BE OBTAINED FROM AN APPROVED AND PERMITTED BORROW PIT. THE STORMWATER POND MAY BE OVER EXCAVATED TO OBTAIN ADDITIONAL FILL MATERIAL AND TO ALLOW SEDIMENT ACCUMULATION DURING CONSTRUCTION.
4. DURING THE COURSE OF CONSTRUCTION, EXCAVATED AND BORROW MATERIALS MAY BE TEMPORARILY STOCKPILED AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE. STOCK PILE AREAS MUST BE LOCATED A MINIMUM OF 50' FROM EXISTING AND PROPOSED STORM DRAIN INLETS, TEMPORARY DRAINAGE DIVERSIONS, CHANNELS, BASINS AND SURFACE WATER BODIES. SEE PLAN FOR POSSIBLE LOCATIONS THAT MAY BE FIELD ADJUSTED AS NECESSARY AS LONG AS THE 50' SEPARATIONS DESCRIBED ABOVE ARE PROVIDED. STOCKPILE AREAS MAY ALSO BE USED FOR CONSTRUCTION STAGING. ENSURE ADEQUATE MEASURES ARE INSTALLED AROUND STOCKPILE AREAS AS SPECIFIED IN THE TYPICAL DETAIL ON SHEET 12.
5. THIS PROJECT IS ANTICIPATED TO BE CONSTRUCTED IN A SINGE PHASE.
6. NO GREATER THAN 17.5 ACRES OF LAND SHALL BE DISTURBED AT ONE TIME. CONSTRUCTION AND STABILIZATION ACTIVITIES SHALL, TO THE MAXIMUM EXTENT PRACTICABLE, BE SCHEDULED ACCORDINGLY.
7. THE FOLLOWING PROVIDES AN ESTIMATED MATERIAL BALANCE OF THE ENTIRE PROJECT:
   APPROXIMATE CUT VOLUME: 23,000 CY±
   APPROXIMATE FILL VOLUME: 30,000 CY±
   *THE VALUES ARE GROSS ESTIMATES AND ARE PROVIDED FOR PERMITTING PURPOSES ONLY. COMPACTION AND SUITABILITY OF SOILS FOR USE IN CONSTRUCTION ARE NOT CONSIDERED AND ADDITIONAL MATERIAL MAY BE NECESSARY. CONTRACTORS SHALL NOT RELY UPON THESE ESTIMATES AND SHOULD DETERMINE THEIR OWN MATERIAL NEEDED FOR CONSTRUCTION.

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCES WHERE SPECIFIED AT PROPOSED CONNECTIONS TO TULLS CREEK RD. AND SANDERSON RD. INSTALLATIONS MAY BE STAGGERED BASED ON RELATED CONSTRUCTION ACTIVITIES AND SCHEDULE.
2. INSTALL SILT FENCE WHERE SPECIFIED ALONG LIMITS OF DISTURBANCE.
3. INSTALL TEMPORARY CHECK DAMS AND DITCH BLOCK WHERE SPECIFIED WITHIN EXISTING ROADWAY AND FARM DITCHES.
4. INSTALL DRAINAGE DIVERSION IMPROVEMENTS AS SPECIFIED ON PLAN BEFORE FILLING EXISTING DITCHES.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
5. INSTALL OUTLET SWALE WHERE SPECIFIED DOWNSTREAM OF POND-1A. INSTALL TEMPORARY CHECK DAM WHERE SPECIFIED AT DOWNSTREAM CONNECTION TO EXISTING DITCH. LINE SWALES WITH ROLLED EROSION CONTROL MATTING (R.E.C.M).
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
6. EXCAVATE POND-1A, POND-1B & POND-2. DEWATER PER PLAN AND DEWATERING NOTES THIS SHEET.
7. INSTALL OUTLET CONTROL STRUCTURE, SKIMMER, OVERFLOW SPILLWAY AND TURBIDITY CURTAINS IN PONDS AS SPECIFIED
8. STABILIZE PONDS AS COMPLETED. PONDS WILL ACT AS A SEDIMENT BASIN FOR THE REMAINDER OF CONSTRUCTION.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
9. INSTALL EARTHEN BERMS WHERE SPECIFIED AROUND THE PERIMETER OF PROJECT.
   THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
10. INSTALL PRIMARY SWALES WHERE SPECIFIED ALONG REAR OF LOTS. INSTALL TEMPORARY CHECK DAMS WHERE SPECIFIED AT DOWNSTREAM CONNECTIONS TO PONDS. PROVIDE TEMPORARY STABILIZED DIVERSIONS WHERE NEEDED TO OUTLET UPSTREAM OF OUTER MOST TURBIDITY CURTAINS.
    THIS IS A CRITICAL IMPROVEMENT AND MUST BE STABILIZED WITHIN 7 DAYS OF COMPLETION.
11. CONDUCT GENERAL ROADWAY, GRADING, DRAINAGE AND UTILITY CONSTRUCTION ACTIVITIES. DURING THIS STAGE OF CONSTRUCTION, ALL INTERNAL RUNOFF SHALL BE CONVEYED TO THE SEDIMENT BASINS (PONDS) FOR TREATMENT AND DISCHARGE. CONVEYANCES SHALL INCLUDE THE PRIMARY SWALES INSTALLED AND STABILIZED AROUND THE PROJECT'S PERIMETER AND TEMPORARY INTERNAL DRAINAGE MEASURES AS DETERMINED NECESSARY BY THE CONTRACTOR. MEASURES MAY INCLUDE TEMPORARY SWALES AND CULVERTS.
12. INSTALL INLET PROTECTION AROUND DROP INLETS AS CONSTRUCTED.
13. BEFORE CONCRETE WORK BEGINS, INSTALL CONCRETE WASHOUT AT LOCATIONS DETERMINED IN THE FIELD.
14. DURING THIS STAGE OF CONSTRUCTION, MAINTAIN AND PROVIDE ADDITIONAL PROTECTION MEASURES AS NECESSARY AND WHERE NOTED.
15. PERMANENTLY SEED AND STABILIZED ALL DISTURBED AREAS.
16. AFTER STABILIZATION IS ESTABLISHED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES, CLEAN OUT AND RETURN PONDS TO DESIGN CONDITIONS AND SEED & STABILIZE THOSE AREAS.

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Engineers, Planners, Surveyors and Environmental Specialists

SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

EROSION & SEDIMENTATION CONTROL PLAN
CONSTRUCTION DRAWINGS

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REVISIONS

NO.	DATE	DESCRIPTION	BY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032639 BRIAN K. BISSELL

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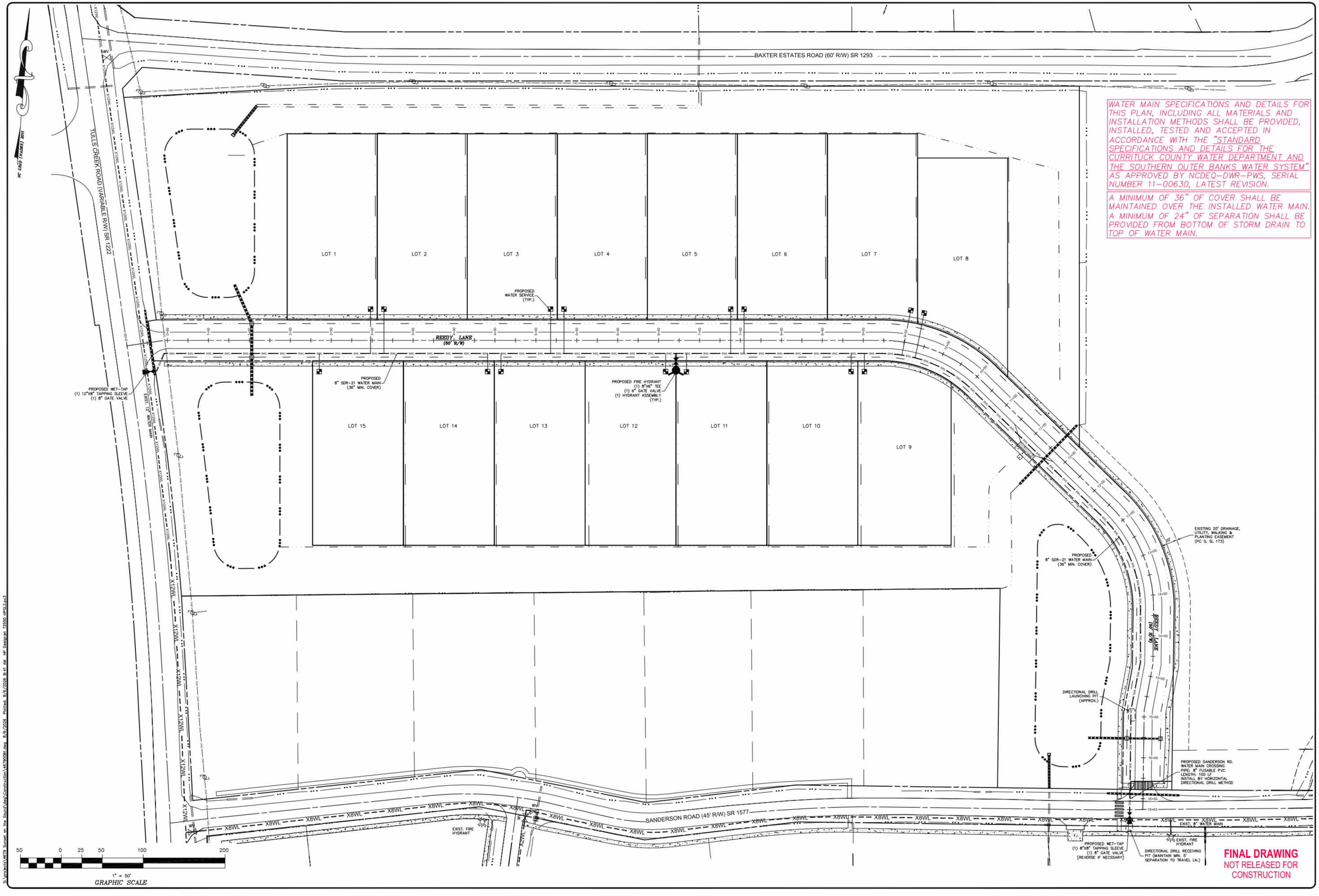
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DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 5 OF 14

CAD FILE: 467900B1

PROJECT NO: 4679

Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E



WATER MAIN SPECIFICATIONS AND DETAILS FOR THIS PLAN, INCLUDING ALL MATERIALS AND INSTALLATION METHODS SHALL BE PROVIDED, INSTALLED, TESTED AND ACCEPTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS AND DETAILS FOR THE CURRITUCK COUNTY WATER DEPARTMENT AND THE SOUTHERN OUTER BANKS WATER SYSTEM" AS APPROVED BY NCDEQ-DWR-PWS, SERIAL NUMBER 11-00630, LATEST REVISION.

A MINIMUM OF 36" OF COVER SHALL BE MAINTAINED OVER THE INSTALLED WATER MAIN. A MINIMUM OF 24" OF SEPARATION SHALL BE PROVIDED FROM BOTTOM OF STORM DRAIN TO TOP OF WATER MAIN.

FINAL DRAWING
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BISSELL PROFESSIONAL GROUP
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WATER MAIN EXTENSION & WATER SERVICE PLAN

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
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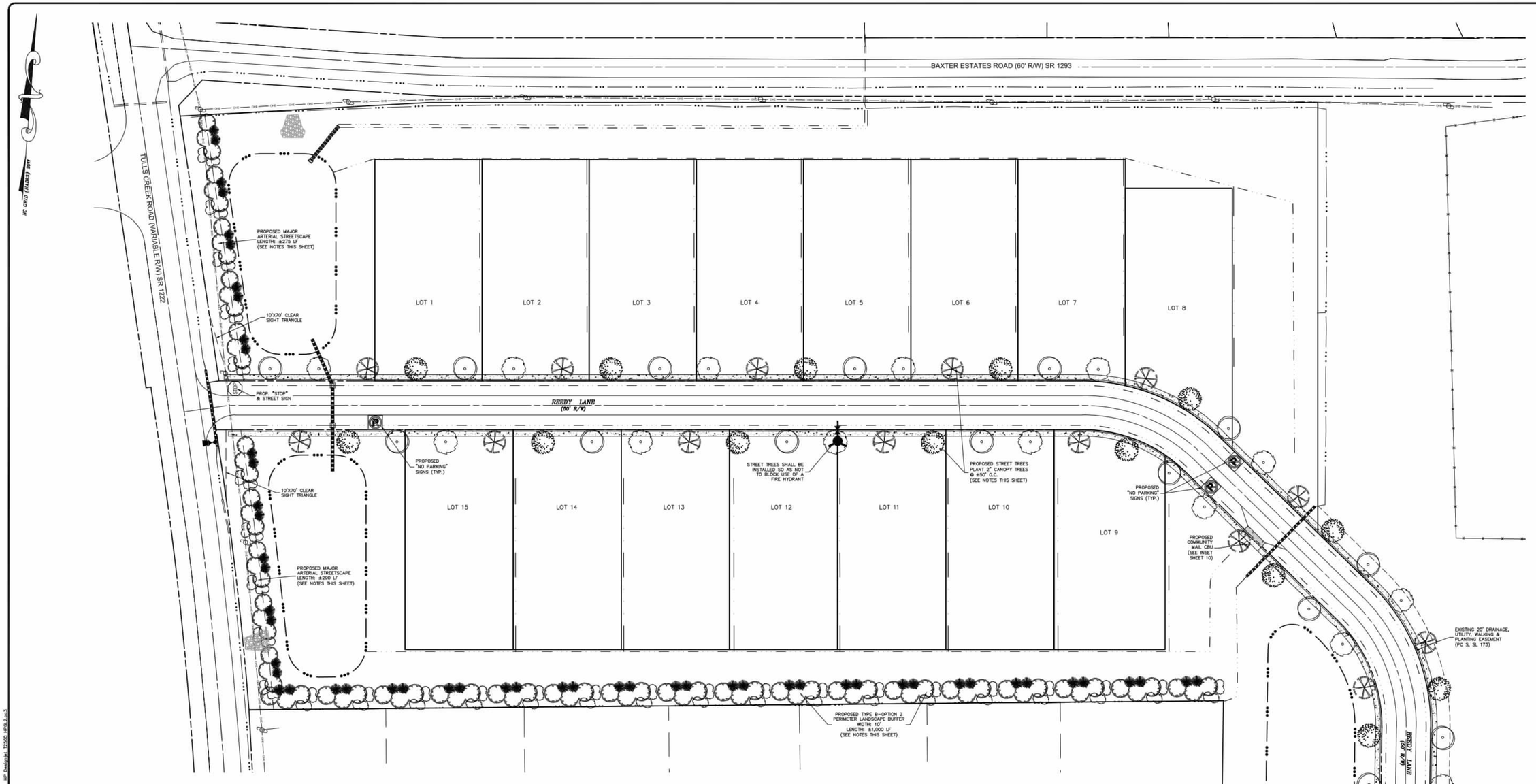
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8/6/2026

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SHEET: 6 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E



PROPOSED STREET TREES (SEE NOTES THIS SHEET)

PROPOSED PERIMETER & STREETSCAPER BUFFER (SEE NOTES THIS SHEET)

PROPOSED STOP/STREET SIGN (SEE DETAIL/NOTES THIS SHEET)

PROPOSED NO PARKING SIGN TYPE R8-3 (TYP.)

PROPOSED SIGHT TRIANGLE

50 0 25 50 100 200

1" = 50'

GRAPHIC SCALE

GENERAL LANDSCAPING AND BUFFERING NOTES:

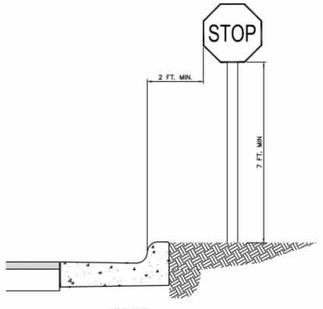
1. STREET TREES (6.2.1.L)
   REQUIREMENTS:
   - TREES SHALL BE PLANTED ALONG EACH SIDE OF ROADWAYS AS GENERALLY SPECIFIED ON THIS LANDSCAPE PLAN.
   - TREES SHALL BE PLANTED ±38' FROM CENTERLINE OF THE STREET. SEE TYPICAL ROADWAY SECTION DETAILS ON SHEET 10.
   - TREES SHALL BE PLANTED WITHIN PLANTING EASEMENTS.
   - TREES SHALL BE CANOPY TYPE PLANTED A MAXIMUM OF 50' O/C. UNDERSTORY TYPE TREES MAY BE SUBSTITUTED AND PLANTED A MAXIMUM OF 30' O/C
   - SEE TREE SPECIES AND PLANTING NOTE BELOW.
2. PERIMETER LANDSCAPE BUFFER (5.2.6)
   - REQUIREMENTS: [TYPE B - OPTION 2]
     a. (2) AGGREGATE CALIPER INCHES OF CANOPY TREES PER 100 LINEAR FEET.
     b. (14) AGGREGATE CALIPER INCHES OF UNDERSTORY TREES PER 100 LINEAR FEET.
     c. (20) SHRUBS PER 100 LINEAR FEET
   - PROVISIONS.
     a. SEE PLAN FOR ±1,000 LF OF PERIMETER LANDSCAPE BUFFER ALONG SOUTHERN DEVELOPMENT BOUNDARY.
     b. PLANTINGS SHALL BE INSTALLED AS REQUIRED ABOVE.
3. STREETSCAPE (5.2.8)
   - REQUIREMENTS: [MAJOR ARTERIAL W/ ACCESS]
     a. (6) AGGREGATE CALIPER INCHES OF CANOPY TREES PER 100 LINEAR FEET.
     b. (3) AGGREGATE CALIPER INCHES OF UNDERSTORY TREES PER 100 LINEAR FEET.
     c. (5) SHRUBS PER 100 LINEAR FEET.
   - PROVISIONS:
     a. SEE PLAN FOR ±290 LF + ±275 LF OF MAJOR ARTERIAL STREETSCAPING ALONG TULLS CREEK RD.
     b. PLANTINGS SHALL BE INSTALLED AS REQUIRED ABOVE

SIDEWALK, WALKING TRAIL AND MULTI-USE PATH NOTE:
ALL SIDEWALKS, WALKING TRAILS AND MULTI-USE PATHS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ACCESSIBILITY CODE. WALKS, TRAILS AND PATHS SHALL BE HARD SURFACE WITH CROSS SLOPES NOT EXCEEDING 2% AND LONGITUDINAL SLOPES NOT EXCEEDING 20:1. WALKWAYS LESS THAN 5' IN WIDTH SHALL PROVIDE A 5' WIDE PASSING ZONE EVERY 200'.

TREE & SHRUB SPECIES AND PLANTING GUIDELINES:
ALL TREES AND SHRUBS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING STANDARDS SPECIFIED IN SECTION 3.5 OF THE CURRITUCK COUNTY ADMINISTRATIVE MANUAL AND THIS PLAN.
- CANOPY AND UNDERSTORY TREE SPECIES SHALL BE OF THOSE LISTED UNDER "TABLE 3.4.6: RECOMMENDED PLANTINGS" IN THE SAME MANUAL.
- TREE SPECIES SHALL BE DIVERSE. A MINIMUM OF (4) DIFFERENT SPECIES OF CANOPY AND UNDERSTORY TREES SHALL BE INSTALLED IN ROUGHLY EQUAL PROPORTIONS.
- AT INSTALLATION, CANOPY TREES SHALL HAVE A MINIMUM CALIPER OF 2 INCHES MEASURED AT 6 INCHES. ABOVE GRADE. EIGHT FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- AT INSTALLATION, UNDERSTORY TREES SHALL HAVE A MINIMUM CALIPER OF 1.5 INCHES MEASURES AT 6 INCHES ABOVE GRADE. SIX FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- SHRUBS SHALL BE PLANTED AT THE SPACING NOTED ON THE PLANS AND FORM A VISUAL SCREEIN WITH A MIN. MATURE HEIGHT OF 36". SHRUBS SHALL BE EVERGREEN AS NOTED AND BE A MINIMUM OF (3) GALLON SIZE AT PLANTING.
- MATERIALS SHALL BE OF HIGH-QUALITY NURSERY GRADE.
- THE USE OF NATIVE, DROUGHT TOLERANT TREES IS ENCOURAGED.
- A REPUTABLE LANDSCAPE CONTRACTOR OR SUPPLIER SHALL PREPARE AN ITEMIZED SCHEDULE OF TREES TO BE INSTALLED IN ACCORDANCE WITH THIS LANDSCAPE PLAN. THIS SCHEDULE SHALL BE REVIEWED BY CURRITUCK COUNTY AND THE ENGINEER TO DETERMINE COMPLIANCE BEFORE ORDERING AND INSTALLATION. ALTERNATE TREES AND SPECIFICATIONS MAY BE PRESENTED FOR REVIEW AND APPROVAL.

STREET SIGN ORDERING INFORMATION / CURRITUCK DEPARTMENT OF PLANNING
SIGN SPECIFICATIONS:
9"WIDE EXTRUDED ALUMINUM BLADE
5"WHITE LETTERS ON GREEN BACKGROUND
PVT DESIGNATION AS REQUIRED (INDICATES 'PRIVATE')
STOP SIGNS ARE TO BE 24"IN SIZE.

INSTALLATION:
STREET SIGN POSTS SHALL BE INSTALLED AT LEAST 2 FT. OFF THE EDGE OF PAVEMENT. IT IS RECOMMENDED THAT THE STREET BLADE BE LOCATED 7'-8' ABOVE THE FINISHED GROUND SURFACE. (SEE DETAIL.) INSTALL NO PARKING SIGNS AT ALL FIRE HYDRANTS.
FOR STOP SIGN INSTALLATIONS, PLEASE CONTACT NCDOT MAPLE MAINTENANCE YARD. STREET NAME AND STOP SIGNS MUST BE INSTALLED PRIOR TO APPROVAL OF PRIVATE ACCESS AND FINAL SUBDIVISIONS.



NOT TO SCALE
ROAD SIGN INSTALLATION

FINAL DRAWING
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LANDSCAPING, BUFFERING & SIGNAGE PLAN

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PROJECT
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

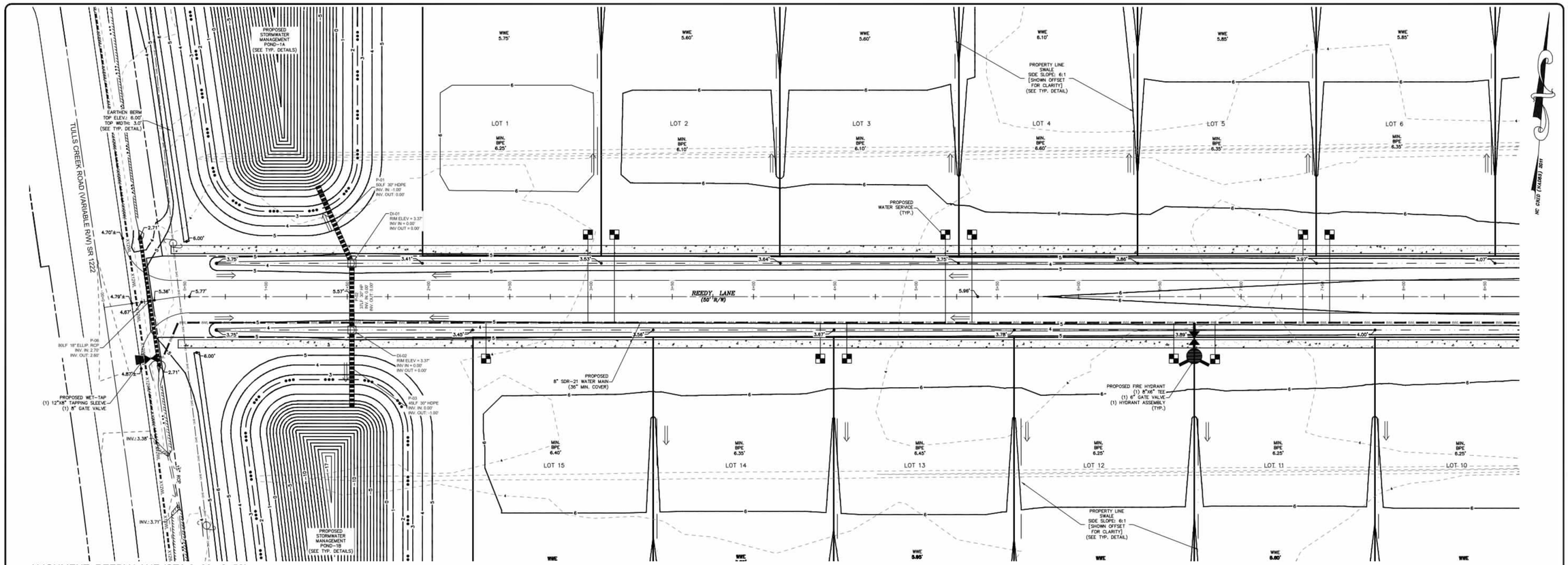
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DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 7 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

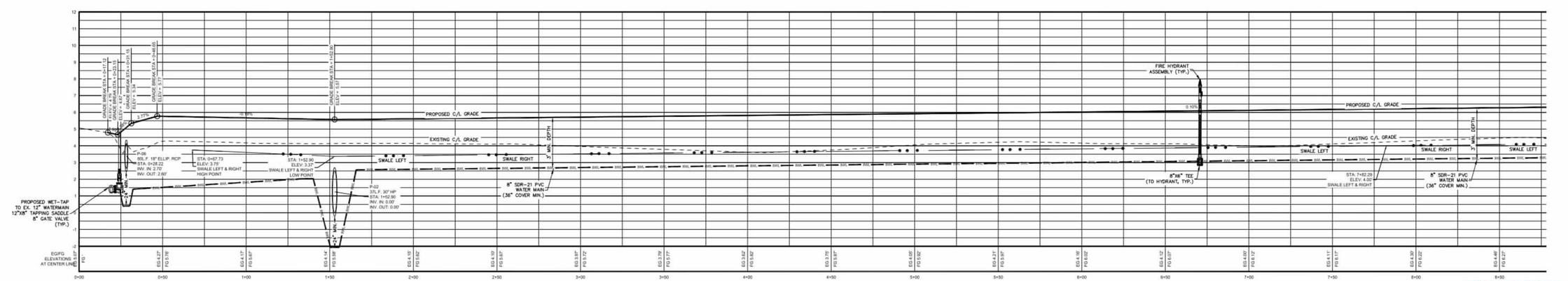
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ALIGNMENT: REEDY LANE (STA 0+00 - 8+50)
SCALE: HOR.: 1"=30' (PLAN VIEW)

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1" = 30'
GRAPHIC SCALE



ALIGNMENT: REEDY LANE (STA 0+00 - 8+50)
SCALE: HOR.: 1"=30', VERT.: 1"=3' (PROFILE VIEW)

FINAL DRAWING
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REEDY LN. PLAN & PROFILE
STA. 0+00 - 8+50

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
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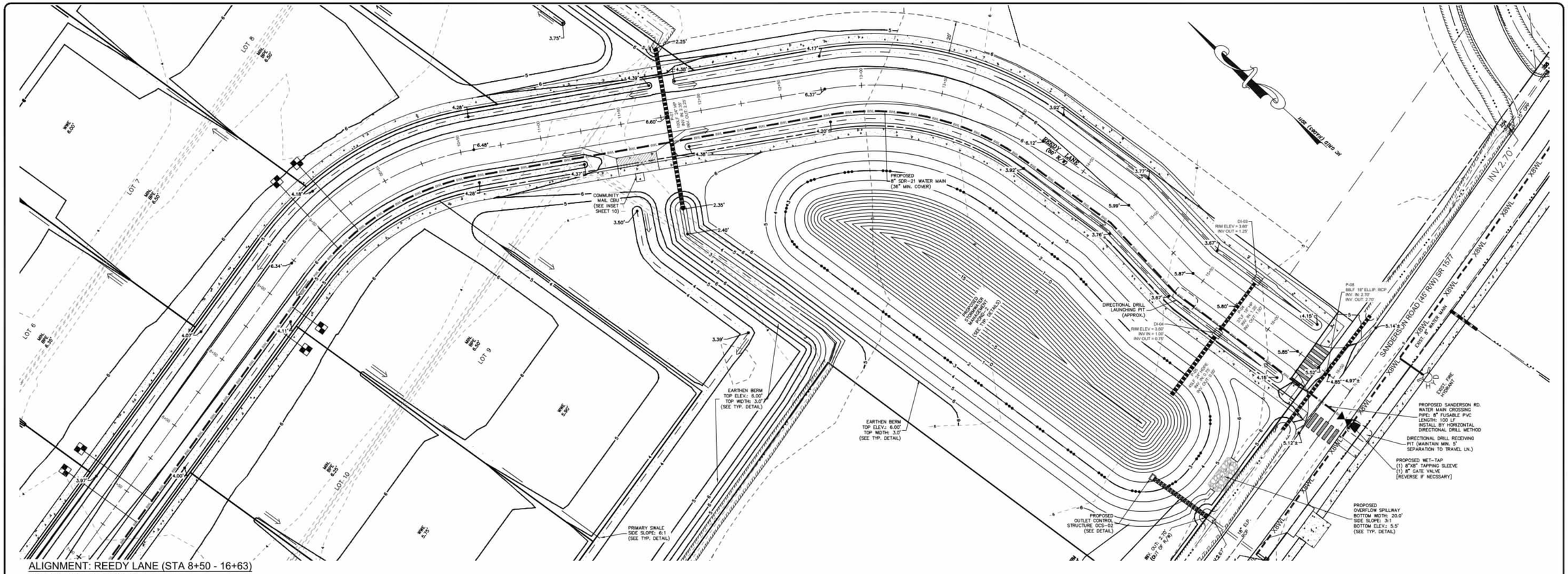
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32639 BRIAN PATRICK GREGORY
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8/5/2026

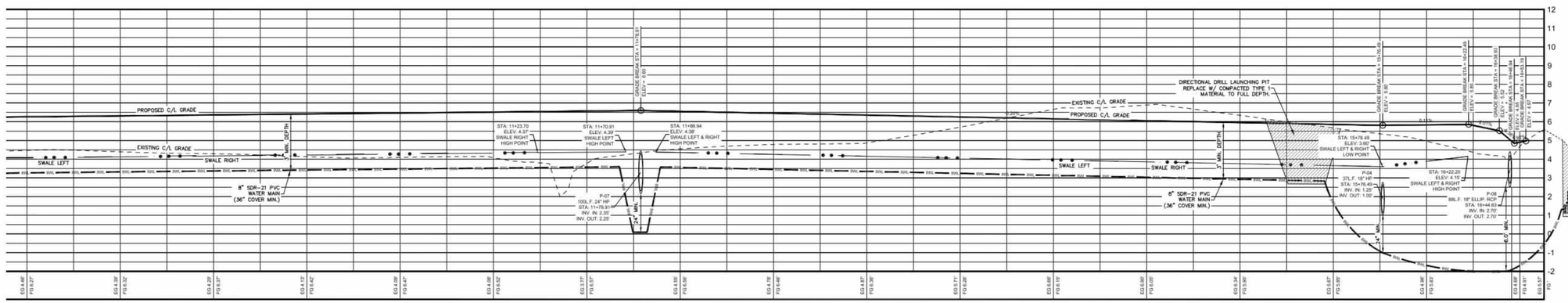
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SHEET: 8 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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1" = 30'
GRAPHIC SCALE

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PROJECT
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

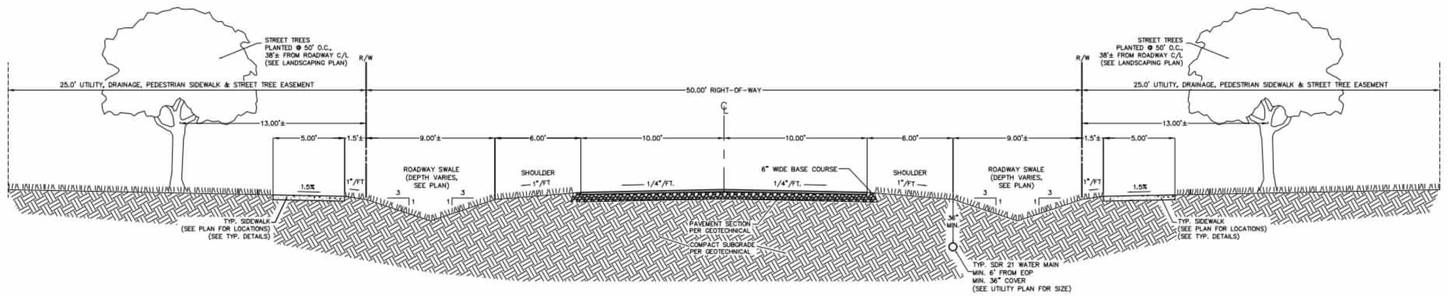
NO.	DATE	DESCRIPTION	BY

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MARK S BISSELL
L-2639
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9/4/26

DATE: 6/2/26	SCALE: 1"=30'; 1"=3'
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SHEET: 9 OF 14	
CAD FILE: 467900B1	
PROJECT NO: 4679	

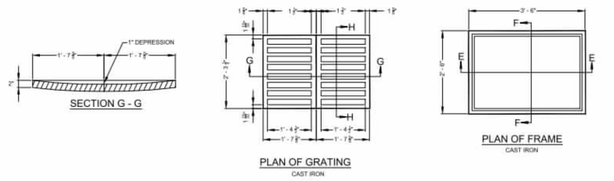
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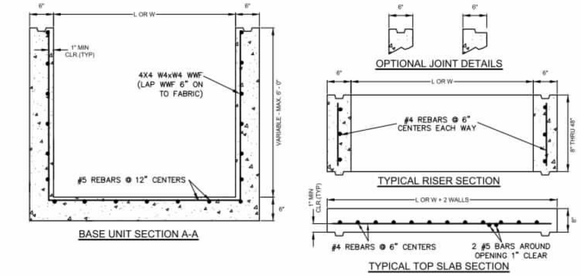
TYPICAL LOCAL ROADWAY W/ SWALES

SCALE: 1" = 5' SECTION VIEW



DROP INLET FRAME AND GRATE DETAILS

NOT TO SCALE NCDOT STD 840.16



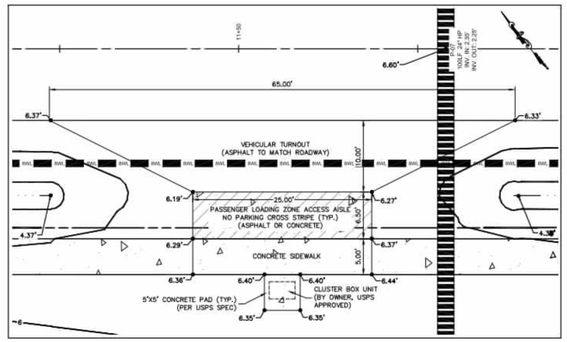
IN ACCORDANCE WITH NCDOT'S CONCRETE CATCH BASIN STANDARD DETAIL 840.02,
1. ALL PIPE CONNECTIONS SHALL BE MADE FLUSH WITH THE VERTICAL INSIDE WALL OF THE STRUCTURE.
2. ALL STRUCTURE INVERTS SHALL BE MADE FLUSH WITH THE INVERT OF THE LOWEST CONNECTED PIPE. SUMPS SHALL BE FILLED WITH CONCRETE AS NECESSARY TO ACHIEVE THIS REQUIREMENT.

STANDARD TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

NOT TO SCALE NCDOT STD 840.46

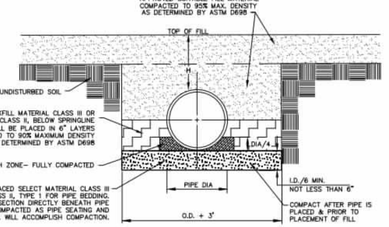
PRECAST DRAINAGE STRUCTURE GENERAL NOTES

1. DESIGN SHALL CONFORM TO LATEST NCDOT 840.46 SPECIFICATIONS FOR "TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE".
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4,000PSI.
3. USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A1064 WELDED WIRE FABRIC (WWF).
4. LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15' - 0"
5. PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
6. ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL
7. PRECAST ALL ELEMENTS TO MEET ASTM C913.
8. FRAME AND GRADE HEIGHT MAY BE ADJUSTED IN ACCORDANCE WITH STANDARD 840.25
9. PROVIDE PRECAST STRUCTURES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS PER STANDARD 840.66
10. WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
11. SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATIONS SS-S-21A, AASHTO M-198, TYPE-B BUTYL RUBBER
12. LIMIT MAXIMUM STRUCTURE SIZES INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0"
13. THE OUTSIDE PIPE DIAMETER PLUS 2" IS MINIMUM STRUCTURE SIZE, OR THE OPENING REQUIRED FOR FRAME AND GRATE, WHICHEVER IS GREATER.
14. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



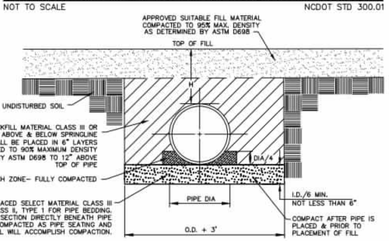
COMMUNITY MAIL CBU INSET

SCALE: 1" = 10'



STANDARD RIGID PIPE INSTALLATION DETAIL

NOT TO SCALE NCDOT STD 300.01



STANDARD FLEXIBLE PIPE INSTALLATION DETAIL

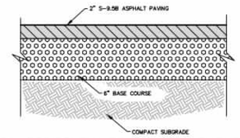
NOT TO SCALE (ALL PROPOSED H.D.P.E. PIPING SHALL BE DOUBLE WALL, ADS N-12 TYPE OR APPROVED EQUAL) NCDOT STD 300.01

GENERAL PIPE INSTALLATION NOTES:

1. ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA "SAFETY AND HEALTH REGULATIONS FOR THE CONSTRUCTION" CHAPTER XVII OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON THE JOB AT ALL TIMES AND SHALL EMPLOY A PROFESSIONAL ENGINEER TO ACT UPON ALL PERTINENT MATTERS OF THE WORK.
2. DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
3. THE STANDARD DETAILS ABOVE ILLUSTRATE TYPICAL TRENCH INSTALLATIONS IN "NORMAL EARTH FOUNDATION" CONDITIONS. FOR ABOVE GROUND INSTALLATIONS AND ALTERNATE FOUNDATION CONDITIONS, SUCH AS ROCK AND UNSUITABLE MATERIAL, REFERENCE NCDOTS TYPICAL STANDARD DETAIL 300.01.

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT OR THE BOTTOM OF THE PAVEMENT STRUCTURE AT THAT POINT.

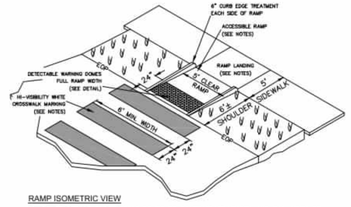
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE FOR MAXIMUM AND MINIMUM ALLOWABLE FILL HEIGHTS (H) BY PIPE AND INSTALLATION TYPE.



TYPICAL RESIDENTIAL ROADWAY PAVEMENT SECTION

NOTE: NOT TO SCALE

PAVING SHALL CONSIST OF FINE GRADING THE SPECIFIED PARKING & DRIVE AREAS AND INSTALLING 2" S-9.5B ASPHALT CONCRETE SURFACE COURSE IN CONJUNCTION WITH A 6" AGGREGATE BASE COURSE. THE SOIL SUBGRADE BENEATH PAVEMENTS SHALL BE COMPACTED TO AT LEAST 95% OF ASTM D 698 PRIOR TO ANY PLACEMENT OF SUBBASE FILL OR STONE BASE COURSE. ALL SITE PREPARATION AND THE DESIGN AND CONSTRUCTION OF ALL FOUNDATIONS, GROUND SLABS, AND PAVEMENTS SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED BY A GEOTECHNICAL ENGINEER.

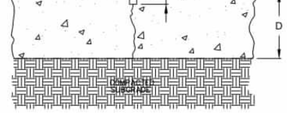


RAMP ISOMETRIC VIEW

1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FILL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.
3. SEE ACCESSIBLE RAMP GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

TYP. ACCESSIBLE RAMP DETAIL

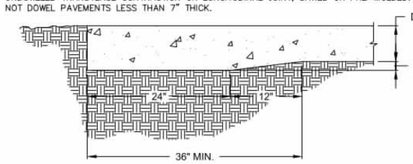
NOT TO SCALE ALT. TO NCDOT STD 848.05



CONVENTIONAL CONCRETE CONTROL JOINT DETAIL

NOT TO SCALE SECTION VIEW

NOTES:
MINIMUM PAVEMENT THICKNESS (D) = 6" W/6x6-W2.9 x W2.9 WWF REINFORCEMENT, PLACE 2" BELOW TOP OF SLAB
UNDOWELED TRANSVERSE CONTRACTION OR LONGITUDINAL JOINT, SAWED OR PRE-MOLDED. DO NOT DOWEL PAVEMENTS LESS THAN 7" THICK.

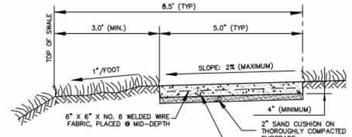


CONVENTIONAL CONCRETE THICKENED EDGE DETAIL

NOT TO SCALE SECTION VIEW

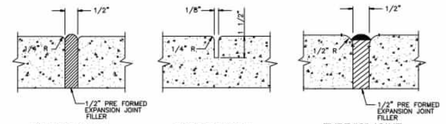
CONVENTIONAL CONCRETE SPECIFICATIONS:

1. USE ACI CERTIFIED FLATWORK FINISHER
2. USE ACI 330R-01 GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS.
3. USE ACI 330.1-94 STANDARD SPECIFICATION FOR PLAIN CONCRETE PARKING LOTS.
4. ALL CONCRETE USED IN PARKING LOT, UNLESS OTHERWISE INDICATED, SHALL HAVE A COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
5. IF SUBGRADE SOILS ARE FOUND BY THE CONTRACTOR TO BE UNSUITABLE, TESTING AND PREPARATION RECOMMENDATIONS BY A GEOTECHNICAL ENGINEER MUST BE PROVIDED PRIOR TO CONCRETE PLACEMENT.
6. IMPORTED SOIL USED FOR BACK FILL SHOULD BE FREE OF HEAVY CLAY, SILTS, STONES, PLANT ROOT OR OTHER FOREIGN MATERIAL GREATER THAN 1½" IN DIAMETER IN ORDER TO ACHIEVE ADEQUATE COMPACTION AROUND ANY FIXED OBJECT IN GROUND. ALTERNATE WILL BE TO USE FLOWABLE FILL
7. KEEP ALL JOINTS CONTINUOUS WITH A MAXIMUM JOINT SPACING OF 10 FT.
8. CONTROL JOINTS SHALL BE FORMED OR SAWED WITHIN 12 HOURS FROM TIME OF PLACEMENT:
   A. SIDEWALK–SPACING SHALL BE SAME AS WIDTH OF PAVEMENT AND LESS THAN 5 FEET IN LENGTH
   B. PAVEMENT–MAXIMUM SPACING SHALL BE 2.5 TIMES THICKNESS IN UNIT OF FEET AND LESS THAN 15 FEET IN LENGTH (E.G. T=4 INCH SPACING AT 10'x10')
9. CURE CONCRETE IMMEDIATELY AFTER FINISHING OPERATION IS COMPLETED BY USING ONE OF THE FOLLOWING METHODS: WATER, PIGMENTED WATER–BASED CURING COMPOUND OR VISQUEEN AND BURLAP



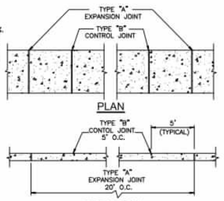
TYP. CONCRETE SIDEWALK DETAIL

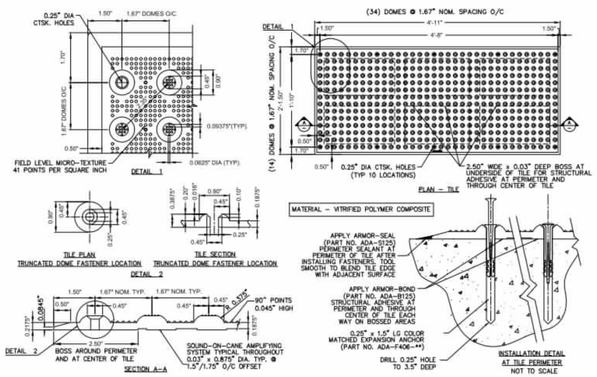
NOT TO SCALE



SIDEWALK AND WALKING TRAIL NOTES:
1. WALKS SHALL HAVE A 4 INCH MINIMUM THICKNESS.
2. CONCRETE SHALL BE A MINIMUM OF 3,000 PSI.
3. WALKS SHALL HAVE A 5 FOOT MINIMUM WIDTH.
4. CROSS SLOPE SHALL BE LIMITED TO A MAXIMUM OF 2%
5. LONGITUDINAL SLOPE SHALL BE LIMITED TO A MAXIMUM OF 1:20 (5%) EXCEPT WHERE ACCESIBILTY RAMPS ARE PROVIDED AS NOTED.
6. ALL SIDEWALKS AND TRAILS SHALL BE COMPLIANT WITH THE LATEST HANDICAP ACCESSIBILITY REQUIREMENTS.

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	20' CENTER TO CENTER ON SIDEWALKS, P.C., AND P.T. OF CURVES, JUNCTION OF EXISTING AND NEW SIDEWALKS, DRIVEWAYS, AND SIMILAR STRUCTURES.
"B"	5' CENTER TO CENTER ON SIDEWALKS.





DETECTABLE WARNING SURFACE PANEL DETAIL

COPY RIGHT 2008 ENGINEER PLASTICS WWW.ARMOR–TILE.COM NOT TO SCALE

DETECTABLE WARNING GENERAL NOTES

1. DETECTABLE WARNING SURFACES SHALL BE "ARMOR–TILE SURFACE APPLIED TACTILE WARNING SURFACE" AS MANUFACTURED BY "SUREWERX USA", OR APPROVED EQUAL, AS LISTED ON NCDOT'S APPROVED PRODUCTS LIST.
2. PANELS SHALL START AT BACK OF CURB, BE 24 INCHES IN DEPTH AND COVER THE FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON RAMP DETAILS. 60 INCHES WIDTH TYPICAL.
3. PANELS SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL AND DIRECTED TOWARD THE RAMP ON THE OPPOSITE SIDE OF STREET.
4. PANELS SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT SEQUENCE COVERING THE ENTIRE RAMP. SAFETY YELLOW IS A DEFAULT COLOR.
5. PANELS SHALL BE SURFACE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. CONCRETE SHALL BE POURED AND FINISHED, TRUE AND SMOOTH (NON–GROOVED) TO THE REQUIRED DIMENSIONS AND SLOPE PRIOR TO PLACEMENT OF PANELS.

ACCESSIBLE RAMP GENERAL NOTES: [NCDOT STD. DETAIL 848.06]

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT AND LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A MIN. 4'X4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SETBACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO PROJECT DRAWINGS FOR STOP BAR LOCATIONS, IF PROVIDED, OR AS DIRECTED BY THE ENGINEER..
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE, OR AS SPECIFIED ON PLANS.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP @ 5.33% (12:1 H:V) MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS IS 2% MAXIMUM.
10. WHERE REQUIRED, CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MIN. OF 4'X4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MIN. OF 5'X5' WITH A MAXIMUM SLOPE OF 2% IN AN DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE A PASSAGE OVER OR THROUGHOUT THE ISLAND
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMP, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE, PLANTING OR OTHER NON–WALKING SURFACE ON THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING #848.01
17. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS.

PEDESTRIAN CROSSWALK GENERAL NOTES: [NCDOT STD. DETAIL 1205.07]

1. USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
2. THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI–VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DRAWINGS OR AS DIRECTED BY THE ENGINEER.
3. THE STANDARD CROSSWALK IS THE TWO WHITE 6" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI–VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL. HI–VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE OR AS SPECIFIED ON THE PROJECT DRAWINGS. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING AN FLARES.
4. STOP BARS (IF PROVIDED) SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.
5. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.
6. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'X4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.
7. SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL.
8. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS.

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ROADWAY AND SIDEWALK
TYP. CONSTRUCTION DETAILS

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SUNRISE ON THE SOUND
NORTH CAROLINA
CURRITUCK COUNTY
CRAWFORD TOWNSHIP
CONSTRUCTION DRAWINGS

PROJECT

REVISIONS

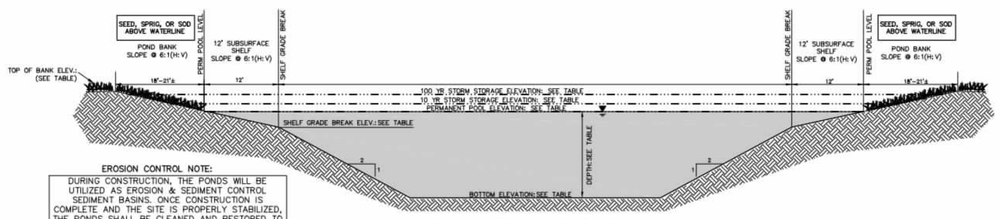
NO.	DATE	DESCRIPTION	BY
1	8-27-26	DRIVE TURNOUT TAPERS	DMK

DocuSigned by:
76B82DFDFA6D4CE...
8/27/2026
FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 10 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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STORMWATER MANAGEMENT POND
TYPICAL POND CROSS SECTION
NOT TO SCALE

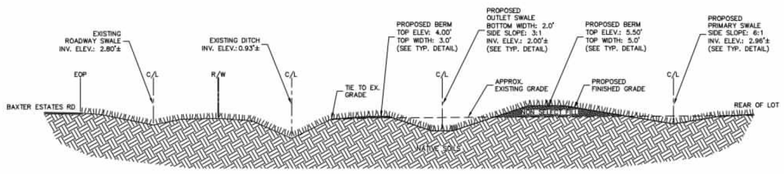
EROSION CONTROL NOTE:
DURING CONSTRUCTION, THE PONDS WILL BE UTILIZED AS EROSION & SEDIMENT CONTROL SEDIMENT BASINS. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED, THE PONDS SHALL BE CLEANED AND RESTORED TO THEIR DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.

BMP CONSTRUCTION SEQUENCE NOTES:
THE FOLLOWING SEQUENCE IS IN ADDITION TO THE "CONSTRUCTION SEQUENCE SCHEDULE" PROVIDED UNDER THE EROSION AND SEDIMENT CONTROL SPECIFICATIONS.
1. THE POND SHALL BE CONSTRUCTED AS DIRECTED ON THE PLAN AND DETAILS. PERIMETER SLOPE IMPROVEMENTS SHALL BE STABILIZED WITH TEMPORARY VEGETATION WITHIN 7 DAYS OF CONSTRUCTION. THIS WILL CREATE A TEMPORARY SEDIMENT BARRIER DURING PROJECT CONSTRUCTION. A GOOD TEMPORARY MEANS OF STABILIZATION IS A WET HYDROSEED MIX.
2. THE POND MAY BE OVER EXCAVATED TO OBTAIN SUITABLE MATERIALS FOR CONSTRUCTION OF THE PROJECT. UNSUITABLE OVERBURDEN MATERIALS MAY BE PLACED BACK INTO THE POND, HOWEVER, THE FINAL BOTTOM SHALL NOT EXCEED THE ELEVATION NOTED ON THE PLAN AND DETAILS.
3. DURING CONSTRUCTION, THE POND WILL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.
4. WHERE SPECIFIED, FINAL PERMANENT AQUATIC VEGETATION SHALL BE INSTALLED AND STABILIZED WITHIN 14 DAYS OF FINAL BMP GRADING. PLANTINGS SHALL BE IN ACCORDANCE WITH THE PLANTING SPECIFICATIONS PROVIDED AND ANY AMENDMENTS DETERMINED IN THE ABOVE SEQUENCE.

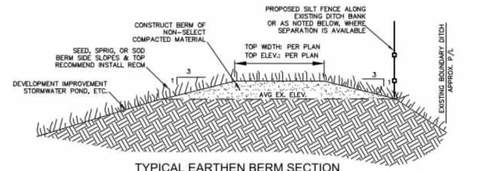
STORMWATER POND	TOP ELEV (FMSL)	100YR STORM STAGE (FMSL)	10YR STORM STAGE (FMSL)	PERM. POOL ELEV. (FMSL)	SHELL BREAK ELEV. (FMSL)	BOTTOM POND* ELEV. (FMSL)	POND DEPTH* (FT)	SIDE SLOPE ABOVE SHELF	SHELF SLOPE	SIDE SLOPE BELOW SHELF
POND-1A/1B	6.00	5.56	4.00	2.50	0.50	-20.0±/-17.0±	12.5±	6:1	6:1	2:1
POND-2	6.00	5.48	3.90	3.00	1.00	-15.0±	13.0±	6:1	6:1	2:1

POND TABLE

*NOTE:
THE POND IS BEING OVER-EXCAVATED TO OBTAIN SUITABLE FILL MATERIAL. ACTUAL DEPTHS MAY VARY BASED FIELD CONDITIONS AND UNSUITABLE SOILS MAY BE PLACED BACK INTO THE EXCAVATION, IF NECESSARY.



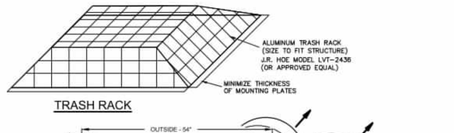
GRADING SECTION A - A
SCALE: 1" = 10' SECTION VIEW



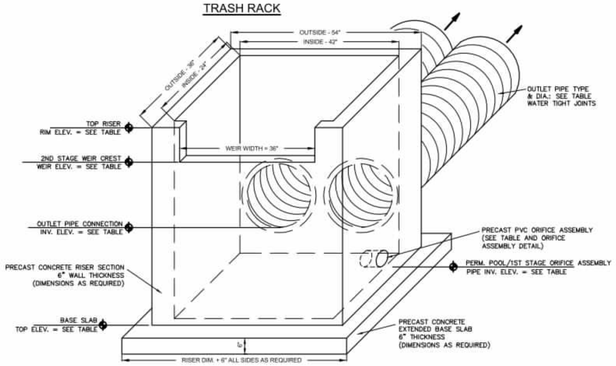
TYPICAL EARTHEN BERM SECTION
NOT TO SCALE LOCATION PER PLAN

EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.

SEPARATION NOTE:
AT LOCATIONS WHERE SEPARATION IS AVAILABLE BETWEEN THE BERM AND DITCH, THE SILT FENCE SHALL BE INSTALLED ALONG THE TOE OF BERM TO ALLOW SPACE FOR MAINTENANCE.



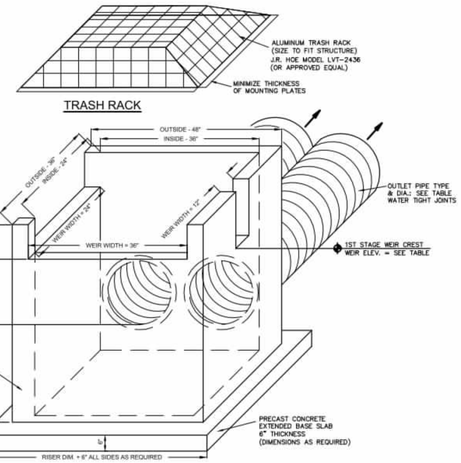
TRASH RACK



OUTLET CONTROL STRUCTURE - 01 DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

STRUCTURE	RIM ELEV. (FMSL)	BASE ELEV. (FMSL)	1ST STAGE ORIFICE: PVC PIPE DIA. (INCHES)	1ST STAGE ORIFICE: PIPE INV. ELEV. (FMSL)	1ST STAGE ORIFICE: ORIFICE DIA. (INCHES)	2ND STAGE WEIR: LENGTH (INCHES)	2ND STAGE WEIR: CREST ELEV. (FMSL)	OUTLET PIPE: DIAMETER (INCHES)	OUTLET PIPE: INVERT IN (FMSL)
OCS-01	4.1	1.1'	4" (SEE ASSEMBLY DETAIL BELOW)	2.5	4"	36"	3.5'	(2) 15" HDPE	2.50

OUTLET CONTROL STRUCTURE TABLE

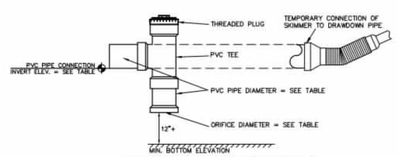


TRASH RACK

OUTLET CONTROL STRUCTURE - 02 DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

STRUCTURE	RIM ELEV. (FMSL)	BASE ELEV. (FMSL)	1ST STAGE WEIR: LENGTH (INCHES)	1ST STAGE WEIR: CREST ELEV. (FMSL)	2ND STAGE WEIR: LENGTH (INCHES)	2ND STAGE WEIR: CREST ELEV. (FMSL)	OUTLET PIPE: DIAMETER (INCHES)	OUTLET PIPE: INVERT IN (FMSL)
OCS-02	4.0	1.0'	12"	3.0'	36" SIDE + 24" SIDE	3.1'	(2) 12" HDPE	2.80

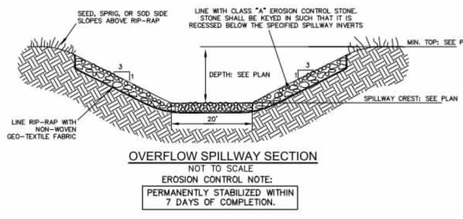
OUTLET CONTROL STRUCTURE TABLE



PVC ORIFICE ASSEMBLY DETAIL

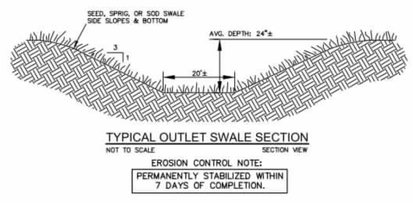
THE CONTRACTOR SHALL CONFIRM ALL STRUCTURE DIMENSIONS AND COORDINATE WITH MANUFACTURER BEFORE FABRICATION

OUTLET STRUCTURE NOTES:
1. STRUCTURE DESIGN SPECIFICATIONS SHALL CONFORM TO LATEST ASTM C913 SPECIFICATIONS FOR "PRECAST CONCRETE WATER & WASTEWATER STRUCTURES.
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3,000PSI.
3. STEEL REINFORCING DESIGN TO CONFORM TO THE REQUIREMENTS OF ASTM C890 SPECIFICATIONS FOR "STRUCTURAL DESIGN LOADING FOR WATER & WASTEWATER STRUCTURES" AND SHALL UTILIZE GRADE 60 RE-BARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 OR WWF CONFORMING TO THE REQUIREMENTS OF ASTM A185 OR BOTH.
4. PIPE PENETRATION TO BE AS SPECIFIED. PIPE TO BE INSTALLED AS PER NCDOT STANDARDS FOR MORTAR JOINT CONNECTIONS.
5. JOINTS TO BE SEALED WITH BUTYL RUBBER JOINT SEALANT CONFORMING TO THE REQUIREMENTS OF ASTM C990, OR MORTAR AS PER NCDOT REQUIREMENTS OR BOTH.
6. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



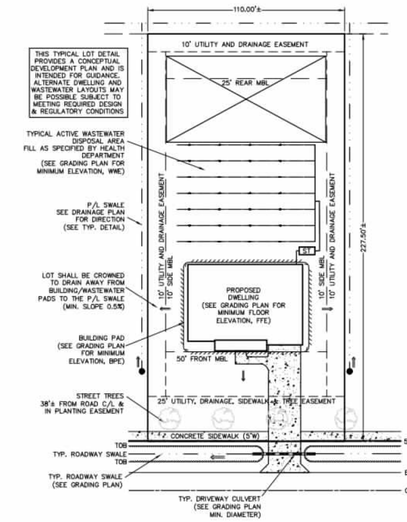
OVERFLOW SPILLWAY SECTION
NOT TO SCALE

EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.

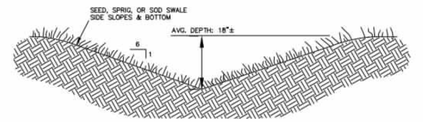


TYPICAL OUTLET SWALE SECTION
NOT TO SCALE SECTION VIEW

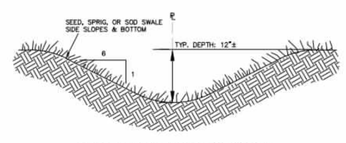
EROSION CONTROL NOTE:
PERMANENTLY STABILIZED WITHIN 7 DAYS OF COMPLETION.



MINIMUM DEMENSIONAL STANDARDS
SCALE: 1"= 40'



TYPICAL PRIMARY SWALE SECTION
NOT TO SCALE SECTION VIEW



TYPICAL PROPERTY LINE SWALE
NOT TO SCALE SECTION VIEW

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-906
1637 Dock Boston Highway
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-1760
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

GRADING AND DRAINAGE
TYP. CONSTRUCTION DETAILS

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DocuSigned by:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 42639 ENGINEERING
76B82DFDFA6D4CB...
8-6-26

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 11 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

S:\projects\4679_Sunset on the Sound\Dwg\Construction\467900B1.dwg, 8/6/2026 - Plotted: 8/6/2026 9:41 AM - HP Designjet T2500 eMFP-2.ctb3

Docusign Envelope ID: 42FD7649-7EDE-87A0-8140-E2DCEE1F966E

1. PROJECT NAME: SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP, CURRITUCK COUNTY, NORTH CAROLINA
2. DEVELOPER: SOUND WOODS, LLC
155 SURVEY RD., SUITE A
MOYOCK, NC 27958
3. PROJECT DESCRIPTION: 15 LOT RESIDENTIAL CONSERVATION SUBDIVISION
4. NEAREST RECEIVING STREAM: NORTH LANDING RIVER - INDEX NUMBER: 30-1-2
5. STREAM CLASSIFICATION: SC; RIVER BASIN: PASQUOTANK
6. PROJECT AREA TABULATION:

TOTAL PROPERTY AREA:	17.48 AC.
TOTAL PROPOSED DISTURBED AREA :	17.50 AC.

AREA CALCULATION NOTE:
All areas have been calculated utilizing properties within the Autocad software.

MATERIAL BALANCE NOTE:
All excavated material occurring during the course of construction shall remain on-site for roadway construction and lot grading. See SCHEDULE OF LAND DISTURBING ACTIVITIES provided on Sheet 5 of this set for an estimated cut fill material balance for the project.

WETLAND NOTE:
The property contains no known 404 jurisdictional wetlands.

STABILIZATION NOTE:
The angle of graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures.
In any event, all disturbed areas left exposed will, WITHIN 14 CALENDAR DAYS OF COMPLETION of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
Additionally, certain critical areas as identified on the plan, such as, but not limited to, perimeter dikes, swales, slopes steeper than 3:1, and areas located within High Quality Water Zones, must be temporarily or permanently stabilized WITHIN 7 CALENDAR DAYS OF COMPLETION of any phase of grading in these areas.
A permanent ground cover for all disturbed areas must be provided WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (whichever is shorter) following completion of construction or development.

CONSTRUCTION SEQUENCE SCHEDULE

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
Construction Access– Construction entrance, construction routes, equipment parking areas	First land–disturbing activity–Stabilize bare areas immediately with gravel & temporary vegetation as construction takes place.
Sediment Traps & Barriers Basin traps, sediment fences, & outlet protection	Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.
Runoff Control– Diversions, perimeter dikes, water bars, and outlet protection	Install key practices after principal sediments traps and before land grading. Install additional runoff–control conveyance measures during grading.
Runoff Conveyance System– Stabiles stream banks, storm drains, channels, inlet & outlet protection, slope drains	Where necessary, stabilize stream banks as early as possible. Install principal runoff conveyance system with runoff–control measures. Install remainder of system after grading.
Land Clearing & Grading– Site preparation– cutting, filling & grading, sediment traps, barriers, diversions, drains, surface roughening	Begin major clearing and grading after principal & key runoff–control measures area installed. Clear borrow & disposal areas as needed. Install additional control measures as grading progresses. Mark trees & buffer areas for preservation.
Surface Stablization– Temporary & permanent seeding, mulching, sodding, rip rap.	Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.
Building Construction– Buildings, utilities, paving.	Install necessary erosion & sedimentation control practices as work takes place.
Landscaping & Final Stablization– Topsoiling, trees & shrubs, permanent seeding, mulching, sodding, rip rap	Stabilize all open areas, including borrow & spoil areas. Remove & stabilize all temporary control measures.

LAND GRADING CONSTRUCTION SPECIFICATIONS

1. Construct & maintain all erosion & sedimentation control practices & measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear & grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen material or soft, mucky, or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods.
11. Following completion of any phase of grading, provide a groundcover (temporary or permanent) on all exposed slopes within 14 calendar days, or 7 calendar days in critical areas identified on the plan; and, a permanent groundcover for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.
12. Provide adequate protection from erosion for all topsoil stockpiles, borrow areas, and spoil areas.

MAINTENANCE
Periodically check all graded areas & the supporting erosion & sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversions and other water–disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small–eroded areas before they become significant gullies is an essential part of an effective erosion & sedimentation control plan.

PERMANENT SEEDING

The purpose of permanent seeding is to reduce erosion and decrease sediment yield from disturbed areas, and to permanently stabilize such areas in a manner that is economical, adapts to site conditions, and allows selection of the most appropriate plant materials. These areas must be seeded or planted within 15 working days or 90 calendar days after final grade is reached, unless temporary stabilization is applied.

PERMANENT SEEDING SPECIFICATIONS
Seeding Recommendations for Summer
SEEDING DATES – April to July
SEEDING MIXTURE

Species	Rate
Common bermudagrass	10/1,000 sf (sprigs)
	1–2 lb/1,000 sf (seed)
	SOD (See Sodding Notes)

Seeding Recommendations for Early Fall through Early Spring
SEEDING DATES – August to March (early fall and spring recommended)

Species	Rate
Kentucky 31 Tall Fescue	6 lb/1,000 sf (broadcast seed)

SEEDING NOTES–
1. Sprig or sod. Moisture is essential during initial establishment. Sod must be kept watered for 2–3weeks, but can be planted earlier or later than sprigs.

Soil Amendments–
It is highly recommended that soils be tested and amended as found necessary. If a soils are not tested follow these recommendations:
Apply 3,000 lb/acre of ground agricultural limestone and 500 lb/acre of 10–10–10 starter fertilizer, or 50 lb/acre nitrogen from turf–type slow–release fertilizer. Add 25–50 lb/acre nitrogen at 2–3 week intervals through midsummer.

Sprigging–
Plant sprigs in furrows with a tractor–drawn transplanter, or broadcast by hand. (Not recommended for Tall Fescue)

Furrows should be 4–6 inches deep and 2 feet apart. Place sprigs about 2 ft. apart in a row with one end at or above ground level.

Broadcast at rates shown above, and press sprigs into the top 1/2–2 inches of soil with a disk set straight so that sprigs are not brought back toward the surface.

Mulch–
Do not mulch Bermuda Grass. For Tall Fesuce seed, apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Water as needed. Mow bermuda to 3/4 to 1–inch height and tall fescue to 2.5 – 3.5 inch height. Topdress bermuda with 40 lb/acre nitrogen in April, 50 lb in May, 50 lb in June, 50 lb in July, and 25 lb in August. Top dress tall fescue in mid September,again in November and February with turf–grade 3–1–2 or 4–1–2 ratio turf–grade fertilizer. Fertilize with 1 lb of actual nitrogen per 1,000 sf. Do not fertilze tall fescue between Mid March and Early September.

TEMPORARY SEEDING

The purpose of temporary seeding is to temporarily stabilize denuded areas that will not be brought to final grade or permanently seeded for a period of more than 14 calendar days, or 7 days in critical areas indentified on the plan.

TEMPORARY SEEDING SPECIFICATIONS
Seeding Recommendations for Late Winter & Early Spring
SEEDING DATES– December 1 to April 15
SEEDING MIXTURE

Species	Rate (lb/acre)	
Winter Rye (grain)	120	(Annual Ryegrass shall not be used)
Annual Lespedeza (Kobe)	50	

*Omit Annual Lespedeza when duration of temporary cover is not to extend beyond June

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Summer
SEEDING DATES– April 15 to August 15
SEEDING MIXTURE

Species	Rate (lb/acre)
German Milliet	40

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Fall
SEEDING DATES– August 15 to December 30
SEEDING MIXTURE

Species	Rate (lb/acre)
Winter Rye (grain)	120

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 ld/acre Kobe Lespedeza in late February or Early March.

SODDING

The purpose of permanent seeding is to prevent erosion and damage from sediment and runoff by stabilizing the soil surface with permanent vegetation for the purpose of:
–the provision of immediate vegetative cover in critical areas
–to stabilize disturbed areas with a suitable plant material that cannot be established by seed.
–to stabilize drainage ways & channels and other areas of concentrated flow where flow velocities will not exceed that specified grass lining.

SODDING SPECIFICATIONS
Sod Quality
–Sod should be machine cut at a uniform depth of 1/2–2 inches
–Sod should not have been cut in excessively wet or dry weather.
–Sections of sod should be standard size as determined by the supplier, uniform, and untorn.
–Sections of sod should be strong enough to support their own weight and retain their size and shape when lifted by one end.
–Harvest, delivery, and installation of sod should take place within a period of 36 hours.

Soil Amendments–
Apply lime and fertilizer according to soil tests or apply 2 tons/acre of pulverized agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer in the fall, or 5–10–10 in spring.

Prior to laying sod, clear the soil surface of trash, debris, roots, branches, stones, and clods larger than 2 inches in diameter. Fill or level low spots in order to avoid standing water. Rake or harrow the site to achieve a smooth and level final grade. Complete soil preparation by rolling or cultipacking to firm soil.

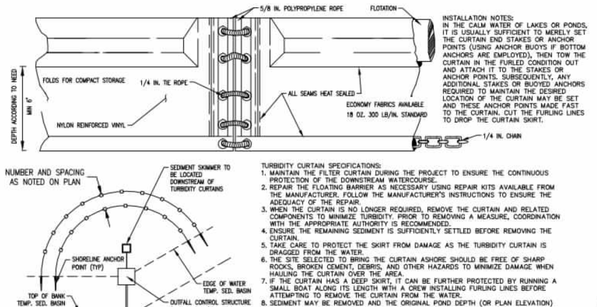
Sod Installation–
1. Moistening the sod after it is unrolled helps maintain viability. Store in shade during installation.
2. Rake the soil surface to break the crust just before laying sod. During the summer, lightly irrigate the soil, immediately before laying sod to cool the soil and reduce root burning & dieback.
3. Do not sod on grave, frozen soils, or soils that have been treated recently with sterilants or herbicides.
4. Lay the first row of sod in a straight line with subsequent rows placed parallel to and butting tightly against each other. Stagger strips in a brick–like pattern. Be sure that the sod is not stretched or overlapped and that all joints are butted tightly to prevent voids. Use a knife or sharp spade to trim and fit irregular shaped areas.
5. Install strips of sod with their longest dimension perpindicular to the slope. On slopes of 3:1 or greater, or wherever erosion may be a problem, secure sod with pegs or staples.
6. As sodding of clearly defined areas is completed, roll sod to provide good contact between roots and soil.
7. After rolling, irrigate until the soil is wet 4 inches below the sod.
8. Keep sodded areas moist to a depth of 4 inches until the grass takes root. This can be determined by tugging on the sod.
9. Mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks.

Sodded Waterways
1. Prepare soil as described above.
2. Lay sod strips perpindicular to the direction of flow, with the lateral joints staggered in a brick–like pattern. Butt edges tightly together.

Maintenance–
After the first week, water as necessary to maintain adequate moisture in the root zone & prevent dormancy of the sod.

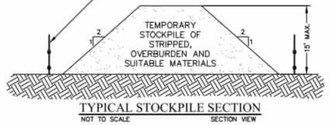
Do not remove more than one–third of the shoot in any one mowing. Grass height should be maintained between 2–3 inches unless otherwise specified.

After first growing season, established sod requires fertilization, and may also require lime. Follow soil test recommendations.



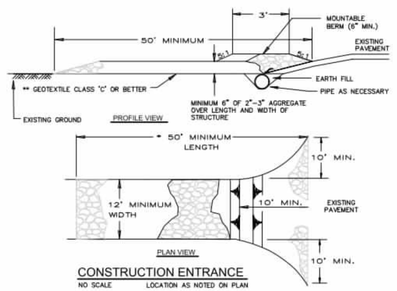
TURBIDITY CURTAIN SPECIFICATIONS:
1. MAINTAIN THE FILTER CURTAIN DURING THE PROJECT TO ENSURE THE CONTINUOUS PROTECTION OF THE DOWNSTREAM WATERCOURSE.
2. REPAIR THE FLOATING BARRIER AS NECESSARY USING REPAIR KITS AVAILABLE FROM THE MANUFACTURER. FOLLOW THE MANUFACTURER'S INSTRUCTIONS TO ENSURE THE ADEQUACY OF THE REPAIR.
3. WHEN THE CURTAIN IS NO LONGER REQUIRED, REMOVE THE CURTAIN AND RELATED COMPONENTS TO MINIMIZE TURBIDITY. PRIOR TO REMOVING A MEASURE, COORDINATION WITH THE APPROPRIATE AUTHORITY IS RECOMMENDED.
4. ENSURE THE REMAINING SEDIMENT IS SUFFICIENTLY SETTLED BEFORE REMOVING THE CURTAIN.
5. TAKE CARE TO PROTECT THE SKIRT FROM DAMAGE AS THE TURBIDITY CURTAIN IS DRAGGED FROM THE WATER.
6. THE SITE SELECTED TO BRING THE CURTAIN ASHORE SHOULD BE FREE OF SHARP ROCKS, BROKEN CEMENT, DEBRIS, AND OTHER HAZARDS TO MINIMIZE DAMAGE WHEN HAULING THE CURTAIN OVER THE AREA.
7. IF THE CURTAIN HAS A DEEP SKIRT, IT CAN BE FURTHER PROTECTED BY RUNNING A SMALL BOAT ALONG ITS LENGTH WITH A CREW INSTALLING FURLING LINES BEFORE ATTEMPTING TO REMOVE THE CURTAIN FROM THE WATER.
8. SEDIMENT MAY BE REMOVED AND THE ORIGINAL POND DEPTH (OR PLAN ELEVATION) RESTORED. TRANSPORT ANY SPOILS TO AN UPLAND AREA AND STABILIZE THE SPOILS. TO ENSURE COMPLIANCE WITH PERMIT CONDITIONS COORDINATION WITH THE APPROPRIATE AUTHORITY IS RECOMMENDED.

TYPICAL TURBIDITY CURTAIN DETAIL
NOT TO SCALE



TYPICAL STOCKPILE SECTION
NOT TO SCALE SECTION VIEW

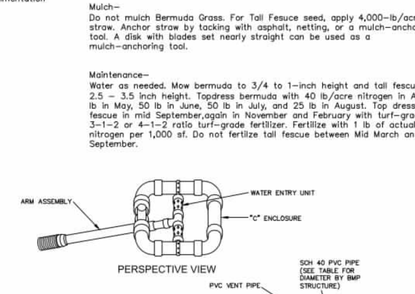
STOCKPILE CONSTRUCTION SPECIFICATION
1. INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE AREA. LEAVE OPENING AS NECESSARY FOR ACCESS.
2. STOCKPILES HAVING 2:1 SIDE SLOPES ARE CONSIDERED CRITICAL AREAS.
3. SEE STABILIZATION NOTES FOR TEMPORARY AND PERMANENT STABILIZATION REQUIREMENTS.
4. LEVEL GRADE AREA AND STABILIZE AT COMPLETION.



CONSTRUCTION ENTRANCE
NO SCALE LOCATION AS NOTED ON PLAN

CONSTRUCTION ENTRANCE SPECIFICATIONS
1. LENGTH – MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT).
2. WIDTH – 12' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. **THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY, PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

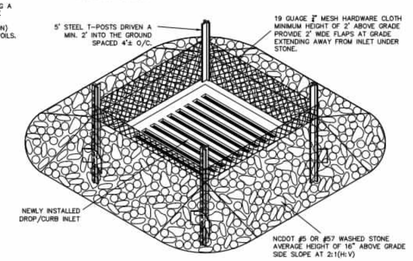
MAINTENANCE OF CONSTRUCTION ENTRANCE
1. MAINTAIN THE GRAVEL ENTRANCE IN A CONDITION TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
2. PERIODIC TOP DRESSING WITH 2" STONE MAY BE NECESSARY AFTER SIGNIFICANT RAINFALL EVENTS.
3. INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



STRAW MULCHING:
1. FOR AREAS OF SITE WITH LESS THAN 30% SLOPE; 2–3 BALES OF STRAW EQUALS 2–INCHES OF STRAW MULCH OVER 1000 SQARE FEET.
2. MULCH SHALL BE WEED FREE STRAW.

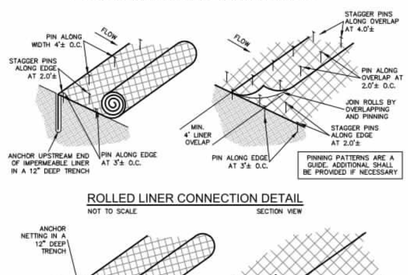
TO PROVIDE TEMPORARY SOIL STABILIZATION BY PLANTING GRASSES AND LEGUMES TO AREAS THAT WOULD REMAIN BARE FOR MORE THAN 14 CALENDAR DAYS, OR 7 DAYS IN IDENTIFIED CRITICAL AREAS. WHERE PERMANENT COVER IS NOT NECESSARY OR APPROPRIATE.

LAND DISTURBANCE & STABILIZATION DETAIL
NOT TO SCALE

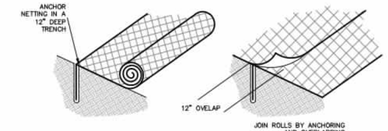


DROP/CURB INLET PROTECTION
NO SCALE ISOMETRIC VIEW

INLET PROTECTION SPECIFICATIONS
1. INSPECT AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (.5" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE DEBRIS FROM MESH AND REPLACE STONES AS NEEDED.
2. REMOVE ONCE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



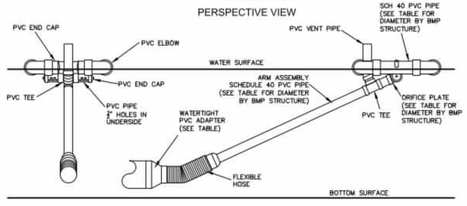
ROLLED LINER CONNECTION DETAIL
NOT TO SCALE SECTION VIEW



ROLLED EROSION CONTROL MATTING DETAIL
NO SCALE LOCATION AS NOTED ON PLAN

ROLLED EROSION CONTROL MATTING (R.E.C.M.) SPECIFICATIONS
1. ALL AREAS IDENTIFIED ON THESE PLANS AS REQUIRING AN EROSION CONTROL MATTING SHALL BE LINED WITH A PROTECTIVE COVERING TO MINIMIZE EROSION AND PROTECT SEED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
2. COVERING SHALL BE COMPOSED OF A BIO OR PHOTO DEGRADABLE MATERIAL TO MINIMIZE LONG TERM ENVIRONMENTAL IMPACTS.
3. MULCHING WITH STRAW OR OTHER ORGANIC MATERIALS CAN BE UTILIZED ONLY WHEN IT WILL NOT IMPEDE THE ESTABLISHMENT OF PERMANENT VEGETATION. MULCHES MUST BE PROPERLY ANCHORED WHICH MAY BE DIFFICULT IN SOME ENVIRONMENTS. AN EXAMPLE IS STRAW MULCH WITH JUTE NETTING STAPLED OR PINNED IN PLACE.
4. PRE–MANUFACTURED ROLLED EROSION CONTROL PRODUCTS (RECP) ARE HIGHLY RECOMMENDED FOR THIS APPLICATION. RECP'S SHALL BE INSTALLED ACCORDING TO MANUFACTURER SPECIFICATIONS FOR CHANNEL LININGS. AN EXAMPLE IS A WOVEN STRAW OR WOODEN FIBER EXCELSIOR MATTING.

PERSPECTIVE VIEW



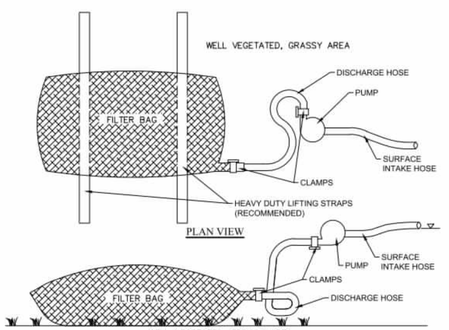
END VIEW FRONT VIEW

TYPICAL DRAWDOWN SKIMMER DETAIL
NOT TO SCALE LOCATION AS NOTED ON PLAN

DETAIL MODIFIED FROM NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

SED. BASIN	PVC ARM AND ENCLOSURE DIA.	ORIFICE PLATE DIA.	PVC ADAPTER
POND–1A	4 INCHES	3.00 INCHES	AS REQ'D
POND–2	2 INCHES	1.25 INCHES	AS REQ'D

SKIMMER TABLE



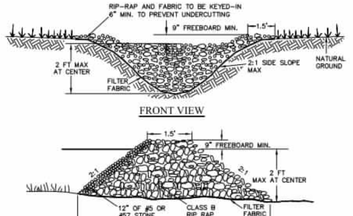
PLAN VIEW

ELEVATION VIEW

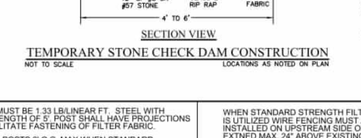
SEDIMENT FILTER BAG DETAIL
NOT TO SCALE LOCATIONS AS NOTED ON PLAN

SEDIMENT FILTER BAG CONSTRUCTION SPECIFICATION
THE FOLLOWING IS IN ADDITION TO THE "CONSTRUCTION SEQUENCE SCHEDULE" PROVIDED UNDER THE EROSION AND SEDIMENT CONTROL SPECIFICATIONS.
1. THE FILTER BAG SHALL BE CONTINUOUSLY MONITORED DURING OPERATION.
2. INTAKE HOSE FOR PUMPING OPERATION SHALL UTILIZE FLOATS TO DRAW FROM SURFACE OF WATER SOURCE.
3. SEE PLAN SHEETS FOR APPROXIMATE LOCATION OF SEDIMENT FILTER BAG PER PHASE.

MAINTENANCE OF SEDIMENT FILTER BAG
1. INSPECT THE FILTERING DEVICES DAILY AND REPAIR OR REPLACE ONCE THE SEDIMENT BUILDUP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED.
2. REMOVE THE ACCUMULATED SEDIMENT FROM THE DEWATERING DEVICE, SPREAD ON SITE, AND STABILIZE OR DISPOSE OF AT AN APPROVED DISPOSAL SITE AS PER APPROVED PLAN.
3. MONITOR THE DEWATERING STRUCTURE DURING OPERATION TO ENSURE THAT THE DISCHARGE IS NOT CAUSING EROSION. PROVIDE SOIL STABILIZATION BLANKETS AND MATTING OR COMPOST FILTER SOCKS AS NEEDED TO MAINTAIN STABILIZED AREAS DOWNSTREAM OF STRUCTURE.



FRONT VIEW



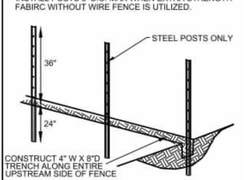
SECTION VIEW

TEMPORARY STONE CHECK DAM CONSTRUCTION
NOT TO SCALE LOCATIONS AS NOTED ON PLAN

TEMPORARY STONE CHECK DAM CONSTRUCTION SPECIFICATIONS
1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSAL OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA.
2. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
3. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
4. EXTEND STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
5. ALL CUT AND FILL SLOPES SHOULD BE 2:1 OR FLATTER.
6. PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.
7. MATERIAL USED IN THE STONE SECTION SHOULD BE A WELL–GRADED MIXTURE OF STONE WITH A d50 SIZE OF 9 INCHES(CLASS B EROSION CONTROL STONE IS RECOMMENDED) AND A MAXIMUM STONE SIZE OF 14 INCHES. THE STONE MAY BE MACHINE PLACED AND THE SMALLER STONES WORKED INTO THE VOIDS OF THE LARGER STONES. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER–RESISTANT.
8. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE TRAP IMMEDIATELY AFTER CONSTRUCTION.
9. ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW THE CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

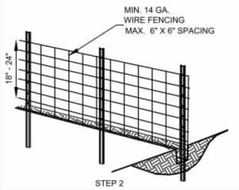
MAINTENANCE OF TEMPORARY STONE CHECK DAMS
1. INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS WHEN NEEDED.
2. REMOVE SEDIMENT ACCUMULATION BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION. ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

POSTS MUST BE 1.33 LB/LINEAR FT. STEEL WITH A MIN. LENGTH OF 5' POST SHALL HAVE PROJECTIONS TO FACILITATE FASTENING OF FILTER FABRIC.
INSTALL POSTS 8' O.C. MAX WHEN STANDARD FABRIC & WIRE SUPPORT FENCE ARE UTILIZED.
INSTALL POSTS 6' O.C. MAX WHEN EXTRA STRENGTH FABIRC WITHOUT WIRE FENCE IS UTILIZED.



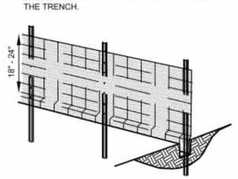
STEP 1

WHEN STANDARD STRENGTH FILTER FABRIC IS UTILIZED WIRE FENCING MUST ALSO BE INSTALLED ON UPSTREAM SIDE OF POSTS. EXTEND MAX. 24" ABOVE EXISTING GRADE TO BOTTOM OF TRENCH.



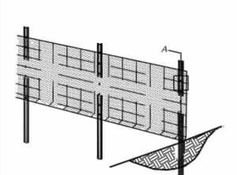
STEP 2

FASTEN THE FILTER FABRIC TO THE UPSTREAM SIDE OF POSTS OR WIRE FENCE IF UTILIZED. EXTEND FABRIC 8" DOWN & 4" FORWARD ALONG THE TRENCH.



STEP 3

BACKFILL THE TRENCH AND COMPACT THE SOIL FIRMLY TO ANCHOR THE BOTTOM OF THE SILT FENCE. BURIED FABRIC SHALL NOT BE VISIBLE.



STEP 4

1. USE SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUF

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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 feet 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
• Temporary grass seed covered with straw or other mulches and tackifiers. • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting (PRSM) • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

Note: The use of techniques listed above which promote and assist in establishment of vegetation does not consitute permanet stabilization prior to the establishment of permanent vegetation.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

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

PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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.

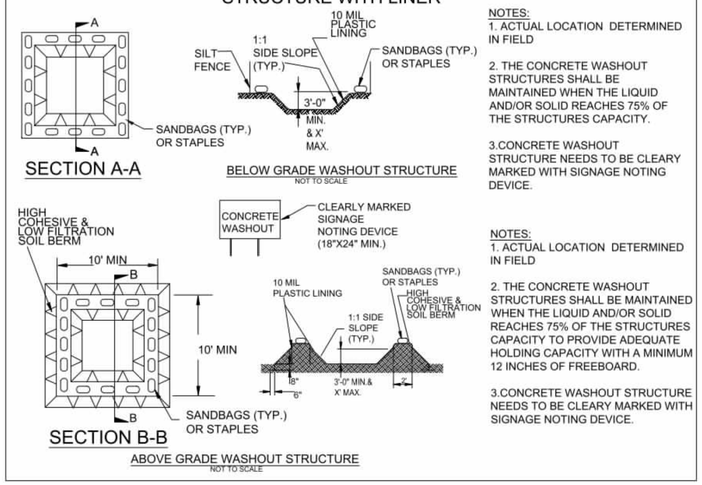
EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets and surface waters unless it can be shown no other alternatives are reasonably available. It is recommended to locate stockpile areas at least 50 feet away from skimmer basins and anywhere stormwater flow is concentrated.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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.

HAZARDOUS AND TOXIC WASTE

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

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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.
3. 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.
4. Do not stockpile these materials onsite.

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA
Department of Environmental Quality

GROUND COVER & MATERIALS HANDLING

Effective:
April 1, 2024

Bissell Professional Group
Firm License # C-906
2323 Bypass Boston Highway
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-3113
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

NCG01 GROUND STABILIZATION & MATERIALS HANDLING

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	6-18-26	UPDATE SHEET	DMC

DocuSigned by:
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DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 13 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

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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 on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (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-monitoring device approved by the Division.
(2) E&SC 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 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 record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 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 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 2)Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading.	1. The phase of grading (installation of perimeter E&SC 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 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&SC Plan Documentation
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Document Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC 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&SC plan.	Initial and date a copy of the approved E&SC 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&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site
In addition to the E&SC plan documents above, the following items shall be kept on the site and available for 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:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. 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.

3. Documentation to be Retained for Three Years*
*All data used to complete the e-NOI and all 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).

(c) 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.
(d) Anticipated bypasses and unanticipated bypasses.
(e) 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 Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframe (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• Within 24 hours, an oral or electronic notification. • Within 7 Calendar Days, 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. • If the stream is named on the NC 303(d) list as impaired for sediment-related caused, 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.
(b) Oil spills and release of hazardous substances per item 1(b)-(c) above	• Within 24 Hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• *A report at least ten days before the date of the bypass, if possible.* The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• Within 24 Hours, an oral or electronic notification • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	• Within 24 Hours, an oral or electronic notification • Within 7 calendar days, 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 reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA
Department of Environmental Quality

INSPECTION, RECORD KEEPING AND REPORTING

Effective:
April 1, 2024

FINAL DRAWING
NOT RELEASED FOR CONSTRUCTION

Bissell Professional Group
Firm License # C-906
1351 Dobbs Station Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3113
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

NCG01 SELF-INSPECTION, RECORD KEEPING & REPORTING

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PROJECT:
SUNRISE ON THE SOUND
CRAWFORD TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	4-15-26	UPDATE SHEET	DM

DocuSigned by:
76B82DFDFAED4CB...
9.6.25

DATE: 6/2/26
SCALE: AS NOTED
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: 14 OF 14
CAD FILE: 467900B1
PROJECT NO: 4679

S:\projects\4679 Sunset on the Sound\Dwg\Construction\467900B1.dwg 9/6/2025 Plotted: 9/6/2025 9:42 AM HP Designjet T2500 eMFP.pc3

JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

August 26, 2026

CURRITUCK COUNTY
ATTN: REBECCA GAY, COUNTY MANAGER
153 COURTHOUSE ROAD, SUITE 204
CURRITUCK, NC 27929

Re: **Authorization to Construct (This is not a Final Approval)**
Issue Date: August 26, 2026
SUNRISE ON THE SOUND CONSERVATION SUBDIVISION
Serial No.: 26-00686 Water System No.: NC0427010
Currituck County

Dear Applicant:

This letter is to confirm that a complete Engineer's Report and a Water System Management Plan have been received, and that engineering plans and specifications have been approved by the Department for **SUNRISE ON THE SOUND CONSERVATION SUBDIVISION, Serial No.: 26-00686.**

The "Authorization to Construct" is valid for 36 months from the issue date. Authorization to construct may be extended if the Rules Governing Public Water Systems [15A NCAC 18C] and site conditions have not changed (see Rule .0305). The "Authorization to Construct" and the engineering plans and specifications approval letter shall be posted at the primary entrance of the job site before and during construction.

Upon completion of the construction or modification, **and prior to placing the new construction or modification into service**, the applicant must submit an Engineer's Certification and Applicant's Certification to the Public Water Supply Section.

- **Engineer's Certification:** in accordance with Rule .0303(a), the applicant shall submit a certification statement signed and sealed by a registered professional engineer stating that construction was completed in accordance with approved engineering plans and specifications, including any provisions stipulated in the Department's engineering plan and specification approval letter.
- **Applicant's Certification:** in accordance with Rule .0303(c), the applicant shall submit a signed certification statement indicating that the requirements for an Operation and Maintenance Plan and Emergency Management Plan have been satisfied in accordance with Rule .0307(d) and (e) and that the system has a certified operator in accordance with Rule .1300. The "Applicant's Certification" form is available at http://www.ncwater.org/ (click on Public Water Supply Section, Plan Review, Plan Review Forms).

Certifications can be sent by mail or attachment to an e-mail message to **PWSSection.PlanReview@deq.nc.gov.**

If this "Authorization to Construct" is for a new public water system, the owner must submit a completed **application for an Operating Permit** and the appropriate fee. For a copy of the application for an Operating Permit please call (919) 707-9076.

Once the certifications and permit application and fee (if applicable) are received and determined adequate, the Department will issue a Final Approval letter to the applicant. In accordance with Rule .0309(a), **no portion of this project shall be placed into service until the Department has issued Final Approval.**

Please contact us at (919) 707-9100 if you have any questions or need additional information.

Sincerely,

RBSadosky

Rebecca Sadosky, Ph.D., Chief
Public Water Supply Section
Division of Water Resources, NCDEQ

cc: JAMIE MIDGETTE, P.E., Regional Engineer
BISSELL PROFESSIONAL GROUP

North Carolina Department of Environmental Quality
Division of Water Resources

Authorization to Construct

Project Applicant:	**CURRITUCK COUNTY**
Public Water System Name:	**CURRITUCK COUNTY WATER SYSTEM**
Water System No.:	**NC0427010**
Project Name:	**SUNRISE ON THE SOUND CONSERVATION SUBDIVISION**
Serial No.:	**26-00686**
Issue Date:	**August 26, 2026**
Expiration Date:	36 Months after Issue Date

In accordance with 15A NCAC 18C .0305, this Authorization to Construct must be posted at the primary entrance to the job site during construction.

MARK BISSELL
BISSELL PROFESSIONAL GROUP
P.O.BOX 1068
KITTY HAWK, NC 27949

JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

August 26, 2026

Currituck County
Attention: Rebecca Gay, County Manager
153 Courthouse Road, Suite 204
Currituck, NC 27929

Re: Engineering Plans Approval
Distribution Extension
Sunrise on the Sound Conservation Subdivision
CURRITUCK COUNTY WATER SYSTEM
Water System No.: NC0427010
Currituck County
Serial No.: 26-00686

Dear Applicant:

Enclosed please find one copy of the "Application for Approval..." together with one copy of the referenced engineering plans bearing the Division of Water Resources stamp of approval for the referenced project. These engineering plans are approved under Division of Water Resources Serial Number, 26-00686 dated August 26, 2026.

Engineering plans prepared by Mark Bissell, P.E. call for the installation of approximately 1,624 linear feet of 8-inch water main, fire hydrant, valves, and associated appurtenances along Reedy Lane in Crawford Township, Currituck County. The proposed 8-inch water main along Reedy Lane will connect to the existing 12-inch water main along Tulls Creek Road (SR 1222) at the intersection. An additional connection is to be made with the existing 8-inch water main along Sanderson Road (SR 1577) at the intersection with Reedy Lane. Construction of this project must be in accordance with Currituck County Water System's standard specifications.

Please note that in accordance with 15A NCAC 18C .0309(a), no construction, alteration, or expansion of a water system shall be placed into service or made available for human consumption until the Public Water Supply Section has issued Final Approval. Final Approval will be issued and mailed to the applicant upon receipt of both an Engineer's Certification and an Applicant's Certification submitted in accordance with 15A NCAC 18C .0303 (a) and (c).

These plans in the foregoing application are approved insofar as the protection of public health is concerned as provided in the rules, standards and criteria adopted under the authority of Chapter 130A-317 of the General Statutes. This approval does not constitute a warranty of the design, construction or future operation of the water system.

One copy of the "Application for Approval..." and a copy of the plans with a seal of approval from the department are enclosed. One copy of the approved documents in a digital format is being forwarded to our Washington Regional Office. Another copy is being retained in our records.

If the Public Water Supply Section can be of further service, please call (919) 707-9100.

Sincerely,

RB Sadosky

Rebecca Sadosky, Ph.D., Chief
Public Water Supply Section
Division of Water Resources

RS/OA

Enclosures: Approval Documents

cc: Jamie Midgette, P.E., Washington Regional Office (via email)
Currituck County Health Department
Bissell Professional Group