Coastal Zone Consistency Determination

To:	Mallory Ware, BOW Coastal Stormwater Permitting Section
From:	Michele Hartung, OCRM Coastal Zone Consistency Section MCH
Applicant:	Ray Funnye, Georgetown County Department of Public Works
Project Name:	Murrells Inlet Landing & Parking Access Relocation Belin
Finding:	Conditionally Consistent with the SC Coastal Zone Management Program
Site Location:	Highway 17 Business, Murrells Inlet, Georgetown County, South Carolina (TMS#: 41-0118A-001-02-00, 41-0114-150-00-00)
Reference #:	HPP-Y3E5-2WKNJ
Date:	June 8, 2023

The staff of the Office of Ocean and Coastal Resource Management (OCRM) reviewed the above referenced Coastal Zone Consistency project request for land disturbance associated with a Transportation project. The construction activities include the demolition of an existing boat launch driveway, grading, relocation, and installation of new driveway with associated stormwater management including a pond. No wetland impacts permitted. The total area of disturbance will be 1.82 acres of a 4.86 acre project site.

We hereby certify that the above referenced project is **Conditionally Consistent** with the ***Guidelines for Evaluation of All Projects*** as well as the Transportation Facilities *(Roads and Parking Facilities),* Marine Related Facilities (*Boat Ramps),* Activities in Areas of Special Resource Significance *(Wetlands),* and Stormwater Management *(Runoff)* policies contained in the S.C. Coastal Zone Management Program provided the following conditions are included in the permits and adhered to by the applicant.

1. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work, the applicant must notify the State Historic Preservation Office and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

2. Due to the close proximity of shellfish beds (within 1000' of the project), the applicant must demonstrate that the first one and half (1½) inches of runoff from the built upon portion of the property is retained onsite.

3. All construction BMPs must be installed, inspected and maintained to hold sediment onsite and to protect any adjacent or downstream critical area, wetlands and waters through the life of the project. Upon completion of construction activities, all disturbed (includeing undeveloped) areas, including those impacted for access, must be immediately stabilized.

4. The project must be consistent with State Stormwater Permitting requirements during and post construction for protection of water quality.

5. The applicant is not authorized to impact any wetlands. In the event any impacts to wetlands occur, the US Army Corps of Engineers and DHEC-OCRM must be notified, and all work must cease to minimize additional impacts until the applicant receives authorization.

6. The project must be fully consistent with local zoning and comprehensive plans prior to work being conducted.

7. The project must demonstrate water quality practices specifically to reduce pollutant loadings of heavy metals, oil and grease and PAHs.

This determination shall serve as the SCDHEC OCRM Coastal Zone Consistency Determination for the work described above. However, this determination ***does not*** serve as a Department permitting decision and ***does not*** alleviate the applicant's responsibility to obtain any applicable State or Federal permit(s) for the work. Local government authorizations ***may also*** be required.

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
Encroachment Permit

Permit No : 243603
Permit Decision Date : 4/8/2021
Expiration Date : 3/12/2025
Extension Date : 3/12/2024

Type Permit : DRIVEWAY - COMMERCIAL

Location:

District	Work County	Type	Route	Aux	Begin MP	End MP
5	Georgetown, SC	US	17	BUS	2.684	2.684

Contact Information

Applicant: GeorgetownCountyDepartmentofPublicServices Phone:
Contact: Ray Funnye
Address: 108 Screven Street,
City: Georgetown State: SC Zip: 29440

Comments

Public boat landing adjacent to Belin Memorial United Methodist Church in Murrells Inlet. (see attached plans)

Special Provisions:

0004 - SCDOT SHALL BE NOTIFIED WHEN WORK DEFINED IN THE PERMIT STARTS AS WELL AS WHEN THE WORK IS COMPLETED. REFERENCE SHALL BE MADE BY PERMIT NUMBER.

0005 - APPLICANT SHALL PROVIDE TO THE DEPARTMENT THE OPPORTUNITY OF ATTENDING ANY PRE-CONSTRUCTION MEETING PRIOR TO THE BEGINNING OF WORK.

0123 - ALL WORK PERFORMED IN CONNECTION WITH THIS PERMIT SHALL CONFORM TO THE SCDOT "A POLICY FOR ACCOMODATING UTILITIES ON HIGHWAY RIGHT-OF-WAY" MOST CURRENT EDITION.

0207 - PIPE USED IN THIS INSTALLATION SHALL BE IN ACCORDANCE WITH SCDOT SPECIFICATION SC-M-714 AND COMPLY WITH CURRENT SCDOT POLICY.

0301 - THE DITCHES AND/OR SHOULDERS DISTURBED DURING THE INSTALLATION SHALL BE RE-ESTABLISHED TO PROPER GRADE, ORIGINAL CROSS SECTION, STABILIZED, AND ALL DRAIN PIPES CLEARED.

0304 - PAVEMENT MARKINGS ALTERED DURING THIS INSTALLATION SHALL

BE RESTORED BY THE APPLICANT.

0306 - TRAFFIC CONTROL, LIGHTS, SIGNS AND FLAG-MEN WILL BE FURNISHED BY APPLICANT AND WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

0309 - THE PERMITTEE SHALL MAKE THE INSTALLATION UNDER THE SUPERVISION OF THE DEPARTMENT AND SHALL NOT BLOCK TRAFFIC AT ANY TIME.

0310 - FIELD CHANGES, IF NECESSARY, MUST BE APPROVED IN WRITING BEFORE ACTUAL CONSTRUCTION OF PROPOSED CHANGES.

0311 - SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED TO MINIMIZE THE MOVEMENT OF SEDIMENT.

0312 - THE PERMITTEE SHALL HOLD THE DEPARTMENT HARMLESS FOR DAMAGES TO BOTH UPSTREAM AND DOWNSTREAM PROPERTIES.

0316 - ALL NON-PERMITTED OBJECTS ON THE RIGHT-OF-WAY, WHICH MUST BE REMOVED, SHALL NOT BE REPLACED ON THE RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION OF THE DEPARTMENT.

0318 - THE APPLICANT SHALL BE RESPONSIBLE FOR IMMEDIATE REMOVAL OF SUCH TRAFFIC HAZARDS AS MUD, DEBRIS, LOOSE STONE, AND TRASH AS MAY BE WASHED OR SPILLED ON THE TRAVELED ROADWAY AS A RESULT OF THE PROPOSED WORK.

Comprehensive

Stormwater Pollution Prevention Plan (C-SWPPP) For Construction Activities:

Project/Site Name:

MURRELLS INLET LANDING & PARKING ACCESS RELOCATION- BELIN CHURCH

Project Address/Location:
Boat Landing adjacent to Belin Church
4183 U.S. Highway 17 Business
Murrells Inlet, SC

Primary Permittee:

Georgetown County Dept of Public Works
108 Screven Street
Georgetown, SC 29440
Contact: Ray C. Funnye
Phone: (843) 545-3325
Email: rcfunnye@gtcounty.org

Permittee/Owner Contact:
Georgetown County Dept of Public Works
108 Screven Street
Georgetown, SC 29440
Contact: Ray C. Funnye
Phone: (843) 545-3325
Email: rcfunnye@gtcounty.org

SWPPP Preparer:

Bolton & Menk
James M. Wooten, PE
1298 Professional Drive
Myrtle Beach, SC 29577
Phone: (843) 692-3200
Email: James.Wooten@bolton-menk.com

Day-to-Day Operator:

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

C-SWPPP Preparation Date: 9*/19/2023*

Modification Dates:
Modification I: 10/26/2023
Modification II: 03/07/2024
Modification III: 04/04/2024
P/N: 18101E

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Section 1 PROJECT OVERVIEW

1.1 Narrative (CGP Section 3.2.1)

Construction Activities and BMP Summary

This construction site includes the removal of an existing roadway and construction of a new roadway to access the public boat and trailer parking lot. Other improvements include a relocated access drive to the public boat ramp.

Perimeter Control BMPs and tree protection for the protected tress will be installed prior to the initiation of the minor clearing/grubbing and grading of the site. The construction activities at this site will be implemented as demonstrated on the associated construction plans. Stormwater management BMP's will be installed and maintained during construction activities and permanent stabilization measures will be in place at the conclusion of construction.

Pre-Development Conditions

Total area of disturbance for this site is 1.82 acres. Stormwater is routed via overland flow to an existing wetland and further routed to Main Creek which flows to the Atlantic Ocean. Runoff from the boat ramp site sheet flows directly to the creek.

Post-Development Conditions

The proposed driveway removal and relocation and additional driveway construction with associated drainage and grading activities will take place. The Public boat Landing Parcel ID# is 41-0118A-001-02-00 & Belin Church Parcel ID# is 41-0114-150-00-00. Post-development runoff will match pre-development routing. Stormwater will be routed via overland flow to proposed roadside swales and discharge to the BMP detention basin located between the new drive and wetland. The basin and outfall have been sized to control the peak discharge for the post-development conditions to be less than the per-development discharge and to provide the required water quality detention.

An ADS underground infiltration chamber system will be installed for the new drive at the boat ramp. The system will capture and infiltrate the required water quality volume as well as provide retention to keep the peak discharge below the pre-development rates.

The results of the pre- and post-development analysis and routing for the basins is included in the Stormwater Report included in **Appendix D.**

The dry pond data is listed in **Table 1.1** and as shown in **Table 1.2**, the post-development peak discharge is less than the pre-development peak discharge at each outfall.

Table 1.1: Dry Pond (BMP Basin) Data

Normal Pool	Top of Bank	2-Year	10-Year	25-Year	100-Year
5.75	8.50	7.23	7.47	7.62	7.87

Table 1.2: Pre/Post Peak Discharge Rates

Summary of Pre/Post Peak Discharges				
	BNDY-1		BNDY-2	
	Pre	Post	Pre	Post
2-YR	3.14 cfs	2.67 cfs	1.78 cfs	1.61 cfs
10-YR	6.74 cfs	5.94 cfs	3.09 cfs	2.97 cfs
25-YR	9.56 cfs	8.69 cfs	4.13 cfs	4.00 cfs
100-YR	15.23 cfs	14.01 cfs	6.08 cfs	5.86 cfs

Flooding Issues

Project site is located in flood zone AE-11 and flood zone "X" – 500-year flood and there are no known flooding problems within the surrounding area.

1.2 Stormwater Management and Sediment Control (CGP Section 3.2.2)

Erosion Prevention BMPs

As the existing site is cleared, grubbed, and graded to the proposed contours shown on the construction site plans, erosion prevention BMPs shall be placed throughout the construction site to aid in the prevention of sediment-laden stormwater runoff. These BMPs shall be focused in areas with high potential of erosion, areas preceding infiltration practices, and shall be applied to all steep slopes. That is slopes equal to or greater than **3H:1V**.

Each erosion prevention measure shall be selected on a site-specific basis and details have been provided on the construction site plans. The plans identify all proposed Erosion Prevention BMPs and the recommended installation, maintenance, and inspection procedures.

Examples of Erosion Prevention BMPs are, but are not limited to, surface roughening, temporary seeding, erosion control blankets, turf reinforcement mats, sodding, riprap, outlet protection, dust control, and polyacrylamide (PAM). Information on the design and proper use of Erosion Prevention BMPs can be located in the SCDHEC's BMP Handbook.

Sediment Control BMPs

Sediment Control BMPs are designed to remove some of the sediment accumulated within stormwater runoff, to the best extent practicable. These BMPs help prevent sediment impacts to adjacent properties and water bodies from stormwater discharges originating from construction sites.

Typically, these BMPs are placed near each of the site's outfalls and are installed prior to clearing and grubbing of the site (before large areas of soil are exposed). However, these BMPs can also be located throughout the construction site and, in these circumstances, are installed after mass grading has occurred. Placement, sizing and modifications of Sediment Control BMPs should be left to the SWPPP preparer and/or the Site Engineer. **Contractors must consult the**

SWPPP Preparer as listed at the front of this SWPPP before making any significant changes to these BMPs.

Each sediment control BMP shall be selected on a site-specific basis. Examples of Sediment Control BMPs are, but are not limited to sediment traps, sediment basins, silt fence, rock check dams, rock sediment dikes, sediment tubes, and inlet protection. Please consult SC DHEC's BMP Handbook for more information on Sediment Control BMPs.

Construction Entrances and Dust Control

All access areas into and out of the limits of disturbance, as shown on the construction site plans, are required to be equipped with a construction entrance. The use of this BMP will limit the amount of sediment being transported by construction vehicles onto existing roadways or other impervious areas. Any tracked sediment, along with any attached pollutants, deposited on impervious areas could be washed downstream during the next rain event. Each construction entrance must be installed as shown in the details section of the construction site plans.

If a new entrance or exit is required, that is not shown on the plans, install the construction entrance as noted by the construction entrance detail, mark the location on the plans and make a record of this minor modification in the SWPPP's modification log, which is located within one of the appendices of the On-site SWPPP.

Each stabilized construction entrance should be used in conjunction with Street Sweeping measures if it becomes apparent that sediment is still being tracked onto adjacent impervious areas, even with the use of the construction entrance.

During extremely dry conditions, drought, and/or excessive winds, the construction site should be treated for dust control to prevent the suspension of fine sediment particles into the air, being carried offsite, and deposited on adjacent properties or surface waters. This practice may not be directly called out for on the construction site plans. A water tanker used to spray the soil down may be an effective way to prevent excessive dust at a construction site.

Post-Construction Water Quality

The proposed roadside swales are designed to treat water quality post-construction. These water quality controls must be installed and stabilized prior to terminating coverage under the CGP. These controls will require routine maintenance to remain functional; this is to be conducted by the Primary Permittee or the entity that accepts responsibility for these structures once construction has been completed. Additional information, including permanent maintenance and inspection procedures, can be found in **Appendix C** of the OS-SWPPP or within the construction site plans.

Other Stormwater Management Procedures

Based on the nature, conditions, and/or procedures associated with this construction site, the following items must be followed and adopted by all those conducting land disturbing activities at this site:

- All construction debris must be stockpiled in designated areas, which have been provided with the proper BMPs to prevent the discharge of pollutants through stormwater runoff form building or other similar materials off-site or into surface waters.
- Any additional waste material or stockpile material (i.e., soil and mulch) must also be stored in the designated areas as shown on the Construction Site Plans or as the contractor, responsible for day-day activities at this site, deems appropriate. Silt fence or an approved equal shall surround all stockpiled materials.
- All parties conducting work at this construction site must be informed of and make note of pollutant sources, both industrial and construction, at this site, and be informed of all controls and measures the will be implemented to prevent the discharge of these pollutants in stormwater runoff.
- Any additional non-stormwater discharges, as referenced in the CGP, should be eliminated or reduced to the maximum extent feasible. All unpreventable non-stormwater discharges shall be treated through the approved stormwater management system before release off-site. Following is a list of allowable non-stormwater discharges:
    - Fire hydrant flushing
    - Wash water without detergents
    - Water used for dust control
    - Potable water
    - Building wash down water without detergents
    - Uncontaminated pavement wash water
    - Uncontaminated condensation from mechanical equipment
    - Uncontaminated ground or spring water
    - Water from foundation of footing drains
    - Uncontaminated excavation dewatering
    - Landscape irrigation.

1.3 Sequence of Construction

The construction sequence for this project has been provided on Sheet 1 of the construction site plans. Each item/step of that construction sequence has been listed is the sequence that should generally be implemented.

1.4 Non-Numeric Effluent Limits

Stormwater Volume and Velocity Control

During the implementation of construction activities, all parties performing work at this construction site whose work may affect the implementation of the SWPPP must be informed of and directed on how to comply with this Non-Numeric Effluent Limit, which requires the management of stormwater runoff **within** the construction site and at **each outfall**. The purpose of this requirement is to control the stormwater volume and velocity at these locations to minimize erosion.

Specifically, each responsible party should be made aware of the practices that have been or should be implemented at the construction site to accomplish these particular stormwater

management practices. Below is a list of practices that may be utilized within the disturbed area and at each outfall at construction sites to control stormwater volume and velocity:

Volume Control

- Limiting the amount of disturbed area and exposed soils
- Staging and/or Phasing of the Construction Sequence;
- Sediment Basins and Sediment Traps
- Diverting off-site flow around the construction site;
- Controlling the Drainage Patterns within the Construction Site;
- Temporary Stabilization of Disturbed Areas.

Velocity Control

- Surface Roughening and/or other Slope Stabilization Practices;
- Level Spreaders, Riprap Plunge Pools and/or other Velocity Dissipation BMPS located at the Construction Site's and Sediment Basin Outfalls.
- Use of Rock Checks, Sediment Tubes, Etc. in Temporary Diversions Swales and Ditches.
- Use of Erosion Control Blankets, Turf Reinforcement Mats, and other Non-Vegetative BMPs that can be used to Quickly Stabilize Disturbed Areas.

The SWPPP Preparer/Engineer should approve any modifications (Additional BMPs or Changes to Existing BMPs) to address the management of stormwater volume and velocity prior to implementation. All approved SWPPPs that were issued coverage under the CGP should include ample BMPs and other control measures to address this specific Non-Numeric Effluent Limit.

Soil Exposure, Compaction and Preservation

Throughout construction activities, **the amount of soil exposed during construction should be kept to a minimum**. This may be accomplished by minimizing the amount the disturbed area within the permitted Limits of Disturbance (shown on the approved construction site plans) to only that which is necessary to complete the proposed work. For areas that have already been disturbed and where construction activities will not begin for a period of 14 days or more, temporary stabilization techniques must be implemented.

Prior to implementation of any major grading activities, **topsoil is to be preserved** by placing it in areas designated for stockpiling until final grades are reached. Each stockpile must be equipped with proper sediment and erosion controls to preserve the topsoil and protect adjacent areas from impacts. Once final grades have been reached, the preserved topsoil should be utilized to apply to areas identified for stabilization. Topsoil contains nutrients and organisms that aid in the growth of vegetation.

The **Compaction of Soil** should also be minimized to the degree practicable during grading activities. This is especially important during the replacement of topsoil to aid in a quick establishment of vegetative cover. Compaction of soil may also reduce rainfall's ability to infiltrate into the soil, increasing the amount of stormwater runoff.

Soil Stabilization

Throughout construction activities, soil stabilization techniques are to be initiated as soon as practicable whenever any clearing, grading, excavating, or other land-disturbing activities have permanently or temporarily ceased on any portion of the construction site and will not resume for

a period exceeding 14 calendar days. For areas where initiating stabilization measures is infeasible, (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization), initiate vegetative or non-vegetative stabilization measures as soon as practicable.

Sediment Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install and maintain all erosion and sediment BMPs that are identified on the approved construction site plans. These BMPs have been designed and approved to address such factors as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soils particle sizes expected to be present on the construction site. **Proper installation, inspection, and maintenance will allow these BMPs to operate at maximum efficiencies in order to minimize sediment discharges to the maximum extent practical.**

Pollutant Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, the following items must be implemented:

- **Minimize the discharge of pollutants from dewatering trenches and excavations** by managing runoff with the appropriate controls. Otherwise, these discharges are prohibited;
- **Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters**. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- **Minimize the exposure of building materials, building products, construction wastes, trash,** landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
- **Minimize the discharge of pollutants from spills and leaks** and implement chemical spill and leak prevention and response procedures.

Prohibited Discharges

Permittees, Contractors, and all other responsible parties for conducting land-disturbing activities are prohibited to discharges, from the construction site, the following items:

- **Wastewater from washout of concrete**, unless managed by an appropriate control;
- **Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials**;
- **Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance**; and
- **Soaps or solvents used in vehicle and equipment washing**.

1.5 Buffer Zone Management

No buffer zones are proposed in association with this project. The project site was previously cleared and there is only a small area of natural vegetation remaining that would provide a buffer. The remaining vegetation is between the new road and the wetland is located where the BMP detention basin will be installed. The BMP basin will be excavated first to provide

sediment protection during construction in lieu of the buffer. Double row silt fence will also be installed along the wetland border prior to beginning any land disturbance activities. The detention basin will be excavated and functional prior to beginning construction for the roadway to further provide protection for the wetlands.

1.6 Certification Statement

I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."

Name: James M. Wooten

Title: Principal Engineer

Date: April 5, 2024

Section 2 *SITE FEATURES AND SENSITIVE AREAS*

2.1 Sources of Pollution

Throughout construction activities, each permittee, contractor, and person responsible for conducting work will need to ensure that sources of pollution are managed to prevent their discharge from the construction site. Expected pollution sources during construction have been identified in **Table 2.1-A**, but due to the nature of construction activities, it is often tough to predict all pollution sources that may appear throughout the life of a construction project. For that reason, the following table has also been provided to help all those performing work at this construction site identify possible sources of pollution

Stormwater runoff subjected to the identified pollution sources must be treated by the appropriate BMPs as directed by this SWPPP.

In the event that any additional sources of pollution are identified during construction, the person(s) with day-to-day operational control at the site is to add the new source(s) to **Table 2.1-A** and consult with the SWPPP Preparer to properly address this source and to prevent the discharge of it's pollutant through stormwater runoff.

Table 2.1-A: Potential Sources of Pollution

Source	Material or Chemical	Location*	Appropriate Control Measures
Loose soil exposed/disturbed during clearing, grubbing and grading activities	Sediment	All areas within the Limits of Disturbance	As directed by the construction Plans. This includes Silt Fence, sediment tubes, sediment basins, and sediment traps.
Areas where construction equipment are cleaned, a.k.a. concrete washout	Heavy Metals & pH	Located adjacent to each construction entrance	Concrete Washout Basin as shown on sheet 1 and 5 of the plans.
Water encountered during trenching	Nutrients & Sediment	In and around any trenching activities.	Direct water into impoundments such as basins or traps to allow for the sedimentation of the listed pollutants.
Paving Operations	Sediment & Trash	All areas to be paved.	Inlet protection.

***Area where material/chemical is used on site.**

2.2 Surface Waters

Stormwater runoff from the proposed construction site discharges to an unnamed tributary (wetland) at the Boat Ramp to Main Creek then to the Atlantic Ocean.as outlined on the Drainage Map located in **Appendix B**. The project is in proximity to shellfish beds and the area of the project located east of Highway 17 is adjacent to a Section 10 Critical Area. No impacts are proposed for the wetlands or critical areas. Necessary BMPs will be installed to meet the required water quality requirements.

2.3 Impairments and TMDLs

The nearest DHEC WQMS site located is 04-17A and the corresponding waterbody is listed as Parsonage Creek and is not located on the most current 303(d) list. The WQMS(s) MD-277 and the corresponding waterbody is listed as Parsonage Creek at Inlet and is on the most current 303(d) List with the causes for impairment as “ENTERO” Enterococci. WQMS 04-03A and the corresponding waterbody is listed as Main Creek SE Side and is not on the current 303(d) list. The impairment for 04-17A and 04-03A is “FC” (Fecal Coliform Bacteria) and a standard has been “Attained” or “Fully Supported”. No TMDL or standard has been “Attained” or “Fully Supported” for MD-277.

The use of structural practices and the implementation of maintenance requirements included in this SWPPP will result in no further impairment of the water quality of this section of the Ocean during the construction of this project.

Any construction site whose discharges are released into a WoS listed on the 303(d) List or for which an EPA-approved TMDL has been developed must address the specific pollutant set forth in the TMDL and/or potential pollutants for the impairment. The SWPPP must include a description of BMPs to address these pollutants.

The primary permittee and/or contractor must ensure that the construction site discharges remain in compliance with the State's water quality standards. To do so, these parties will have to ensure the function of all approved BMPs to handle the specific pollutant.

Site-Specific Requirements

This construction site's discharges drain into WoS that is either Impaired or has an established TMDL for the following impairment: Fecal Coliform. Due to the possibility of pollutants in construction stormwater discharges from this site that may contribute to any of these impairments, the following must be conducted throughout the lifespan of all land-disturbing activities at this site:

- Monthly monitoring of the construction site's outfalls;
- Biweekly inspections of all the primary sediment control BMPs;
- Employee training/acknowledgement during the Pre-Construction Meeting;
- Installation of additional BMPs to meet the water quality standards (as directed by the SWPPP preparer and as approved by the regulating agency); and
- All sediment control BMPs have been designed to meet or exceed an 80% trapping efficiency.

Additionally post-construction BMPs may be required to be installed, once final stabilization is reached, to address any established TMDL or Impairment once construction operations have been completed.

2.4 Critical Areas (CZC only)

There are Critical Areas located within and/or directly adjacent to the proposed disturbed areas.

Section 3

Compliance Requirements

3.1 SWPPP Availability

A copy of the SWPPP, NOI, Construction General Permit, and permit coverage letter from SC DHEC must be available at the construction site from the date of project initiation to the date of final stabilization. Copies of all certified construction drawings will also be available on site. The General Contractor will provide a watertight enclosure for storing the required documents. A copy of the SWPPP will be made available upon request to the US EPA, SC DHEC or any local agency approving sediment and erosion control plans, grading plans, or stormwater management plans. Notice of the document's location will be posted near the main entrance to the construction site.

The SWPPP, including the site map(s), must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that will result in discharges that will cause, have the reasonable potential to cause, or contribute to violations to SC Water Quality Standards.

Based on the results of an inspection, the SWPPP must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Implementation of these additional or modified BMP's must be accomplished as described in SCR100000, Part 3.1.7, but no later than fourteen (14) calendar days from the date of the problem discovery. Additionally, SWPPP updates shall reference the reason for any required change.

The SWPPP must be amended, if during inspections or investigations by site staff, or by local, state, tribal or federal officials, it is determined that the SWPPP is ineffective in either eliminating (when reasonably possible), or significantly minimizing pollutants in stormwater discharges from the construction site.

All design modifications of the SWPPP must be made in accordance with SCR100000, Part 3.1.7. The Permittee/Owner is responsible for communicating to the Contractor any updates to the plan. Any changes communicated to the Contractor will be the responsibility of the Contractor to implement.

Plan updates shall be documented on the drawings and in the OS-SWPPP. Updated records shall describe all changes and updates to the OS-SWPPP. They should include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, and updates to site maps, etc. Actions related to the findings of inspections, maintenance, or by local, state, tribal or federal officials, should be referenced by a specifically referenced report. They should also describe implementation actions taken, dates completed, and note the party that completed the work. The SWPPP Inspection Log and the Permittee Inspection Reports are located in **Appendix E**, Inspection Log & Reports. The SWPPP Modification Log and SWPPP Soil Stabilization Log are retained in **Appendix G**, Additional Site Logs & Records.

3.2 Pre-Construction Conferences

An on-site pre-construction meeting is required as a condition of this CGP for each construction project or site with an approved On-Site Stormwater Pollution Prevention Plan (OS-SWPPP). The pre-construction meeting is to follow the requirements outlined in SCR100000, Section 4, Part 4.1. The Permittee, Contractor and all other personnel working on the project site are required to attend this meeting where this plan is to be thoroughly reviewed. Meeting minutes are required to be taken that identify the topics covered and the participants in attendance. The SWPPP Pre-Construction Attendance Log, Pre-Construction Conference Certification Form, and the SWPPP Contractor & Sub-contractor Log and the Contractor Certification Form are included in **Appendix G**,

Additional Site Logs & Records.

3.3 Inspection Requirements

Weekly Inspection Report - An inspection report will be completed for each required field inspection performed every seven (7) calendar days and will include, at a minimum, the following information:

- Inspection date,
- Names and qualifications of personnel making the inspection,
- Weather information for the period since the last inspection,

- Weather information and a description of any discharges occurring at the time of the inspection,
- Location(s) of discharges of sediment or other pollutants from the site,
- Location(s) of BMP's requiring maintenance,
- Location(s) of BMP's that failed to operate as designed or proved inadequate for a particular location,
- Location(s) where additional BMP's are needed that did not exist at the time of inspection,
- Corrective action required including any necessary changes to the SWPPP and the implementation dates of those changes, and
- Record in Rain Log storm events with rainfall amounts of one-half (1/2) inch or greater measured with a rain gauge on site or by using data from a certified weather record that covers the site.

Permittee Inspection Reports are located in **Appendix E**, Inspection Log & Reports and the Rainfall Records & Reports are located in **Appendix F**, Rainfall Records & Reports.

3.4 Maintenance Requirements

Maintenance Procedures

Maintenance of the erosion and sediment controls will be performed as follows:

Sediment barriers - Sediment will be removed from the upstream side of the filter fabric fences when the depth of accumulated sediment reaches approximately one-third (1/3) the height of the structure,

Temporary controls - All temporary controls will be removed after the disturbed areas have been stabilized.

Permanent Stormwater Management Structure Maintenance

A Stormwater Management Maintenance Plan "Attachment A" is located in **Appendix G**, Additional Site Logs & Records.

Maintenance Record Keeping

The Contractor is the responsible party for the maintenance of all BMPs. The SWPPP Inspection Log and the Permittee Inspection Reports are located in **Appendix E**, Inspection Log & Reports. The SWPPP Modification Log and SWPPP Soil Stabilization Log are retained in **Appendix G**, Additional Site Logs & Records.

3.5 Record Keeping

Plan updates shall be documented on the construction site plans and, in the OS,-SWPPP. Update records shall describe the changes and updates to the SWPPP. They should include additions of new BMP's, replacement of failed BMP's, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, and updates to site maps, etc. Actions related to the findings of inspections, maintenance, or by local, state, tribal or federal officials, should be referenced by a specifically referenced report. They should also describe implementation actions taken; dates completed and note the party that

completed the work. The SWPPP Inspection Log and the Permittee Inspection Reports are located in **Appendix E**, Inspection Log & Reports. The SWPPP Modification Log and SWPPP Soil Stabilization Log are retained in **Appendix G**, Additional Site Logs & Records.

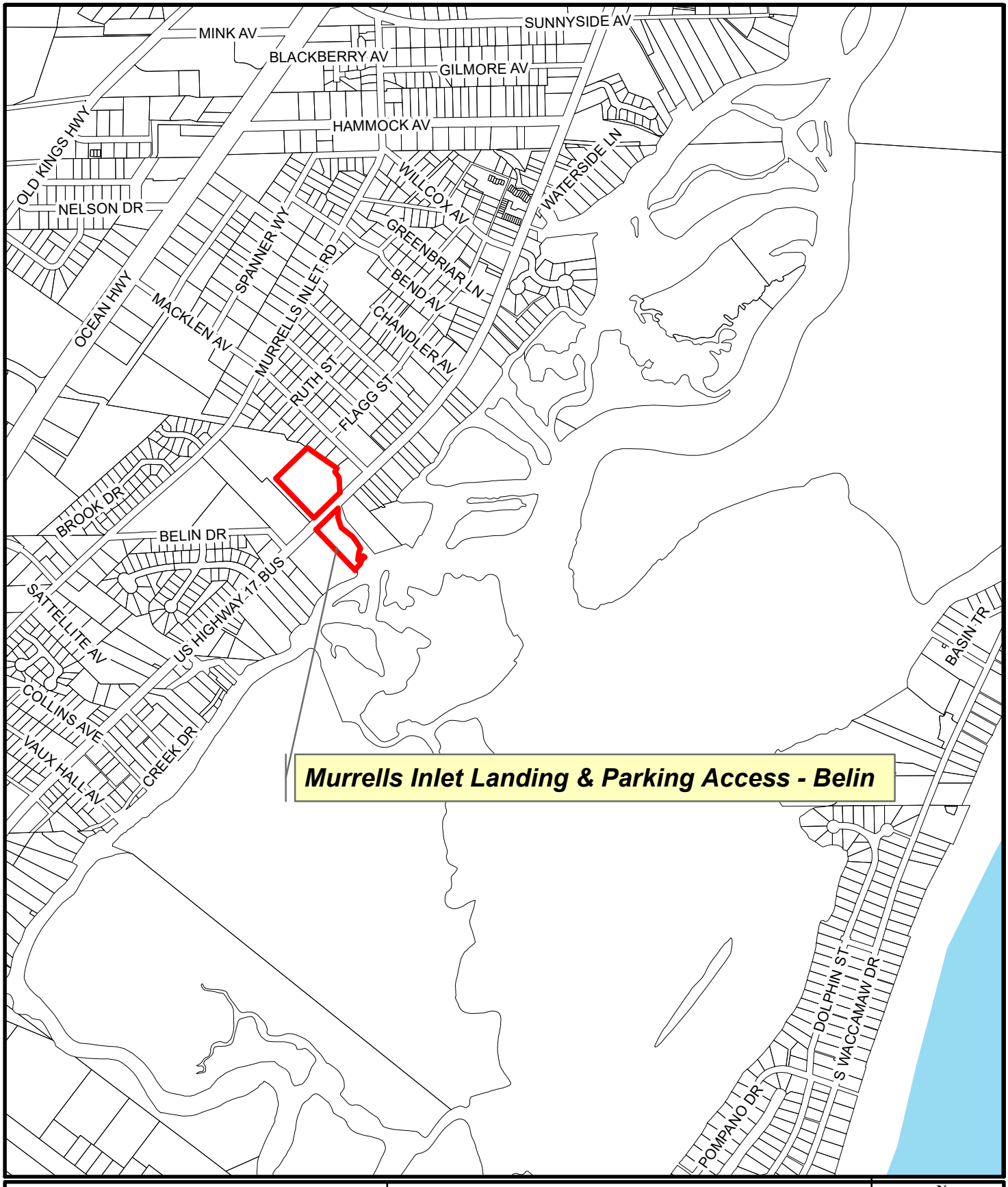
3.6 Final Stabilization

Permanent or final stabilization of the disturbed areas of the site will be considered accomplished when installation of the final landscape requirements (e.g., grass) are complete. The Contractor will mark the Site Construction Plans located in **Appendix B**, Site Construction Plans & Drainage Maps to indicate areas that have achieved final stabilization. Once final stabilization has been reached on all disturbed areas, the Notice of Termination (NOT) is to be submitted. A blank copy of the Notice of Termination is located in Appendix I, Notice of Termination. A copy of the completed and submitted NOT is to be placed in the **Appendix I**, Notice of Termination.

The SC DHEC considers the project covered by the NPDES CGP until the Agency has received a copy of the NOT at the completion of the project. The weekly site inspections must continue to be performed and the inspections reports continued to be sent to SC DHEC until such time as they have received a copy of the NOT and consider the project
closed.

Appendix A

Site Maps



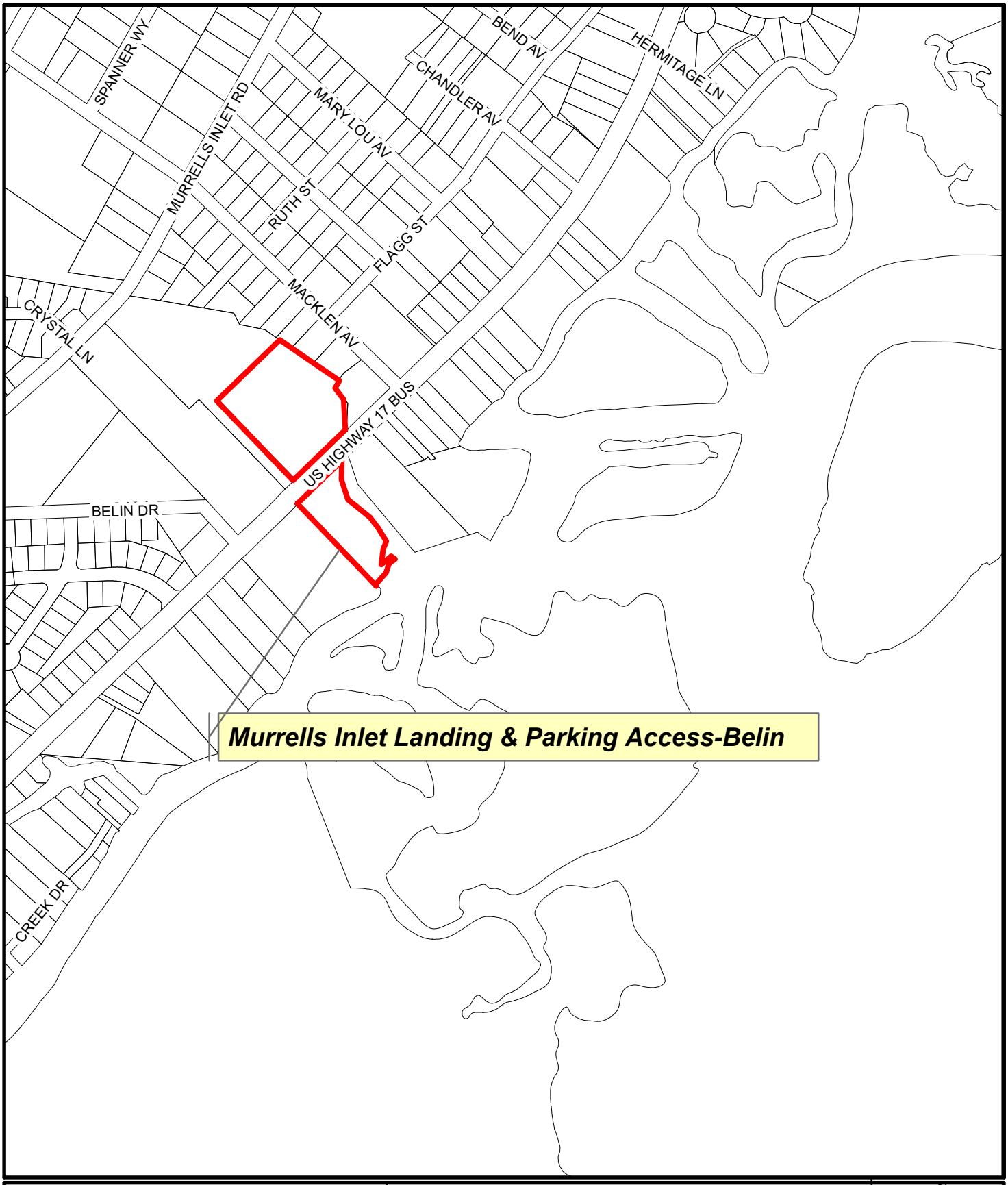
DDC Engineers
BOLTON & MENK, INC.

Murrells Inlet Boat Landing-Belin Church
Vicinity Map

N
W E
S

Date: 3/08/2022
Scale: 1"=1,000'
County: Georgetown
Job No.: 18101E

Figure: 1



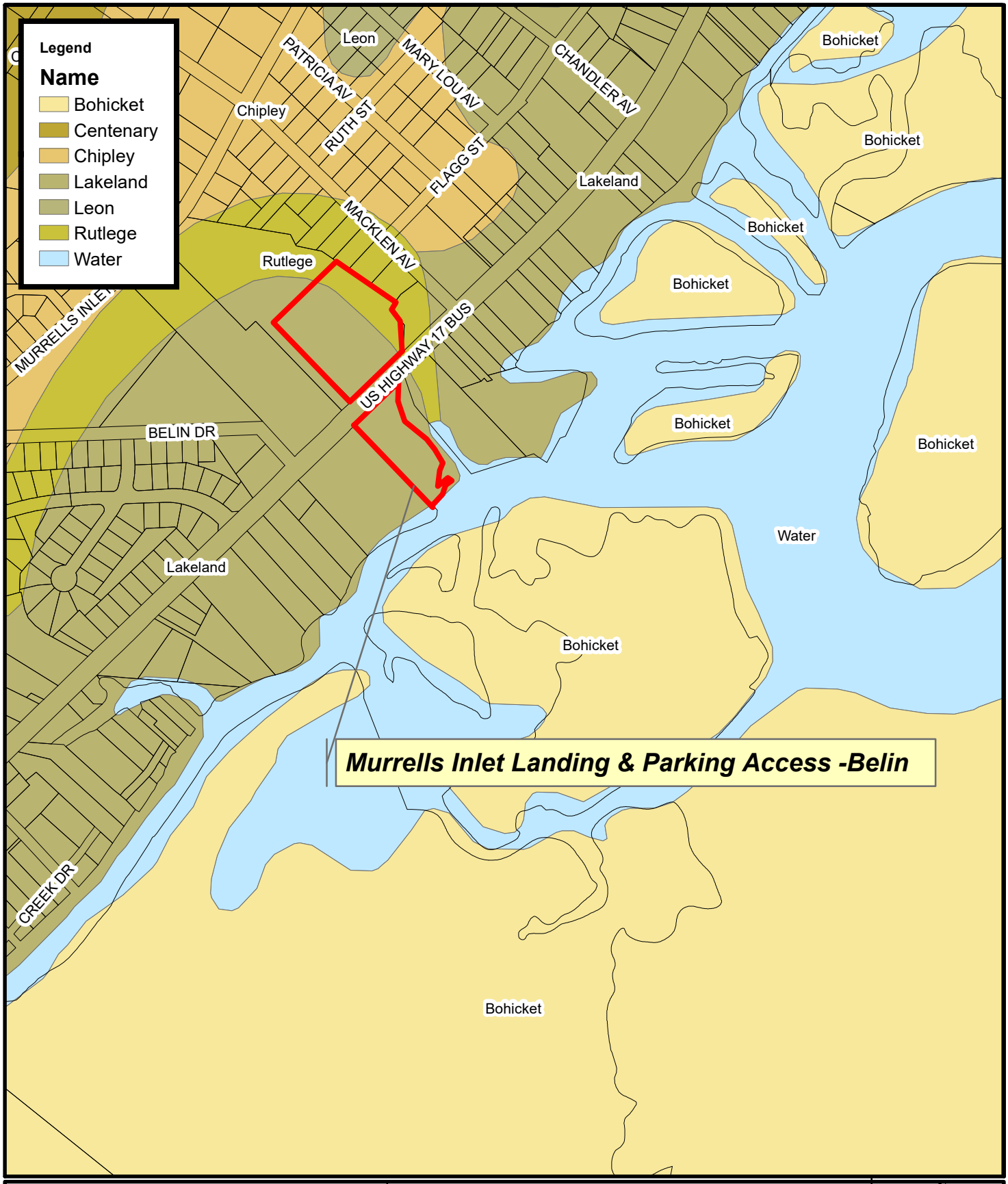
DDC Engineers
BOLTON & MENK, INC.

Murrells Inlet Boat Landing-Belin Church Location Map

N
W E
S

Date: 3/08/2022
Scale: 1"=500'
County: Georgetown
Job No.: 18101E

Figure: 2



DDC Engineers
BOLTON & MENK, INC.

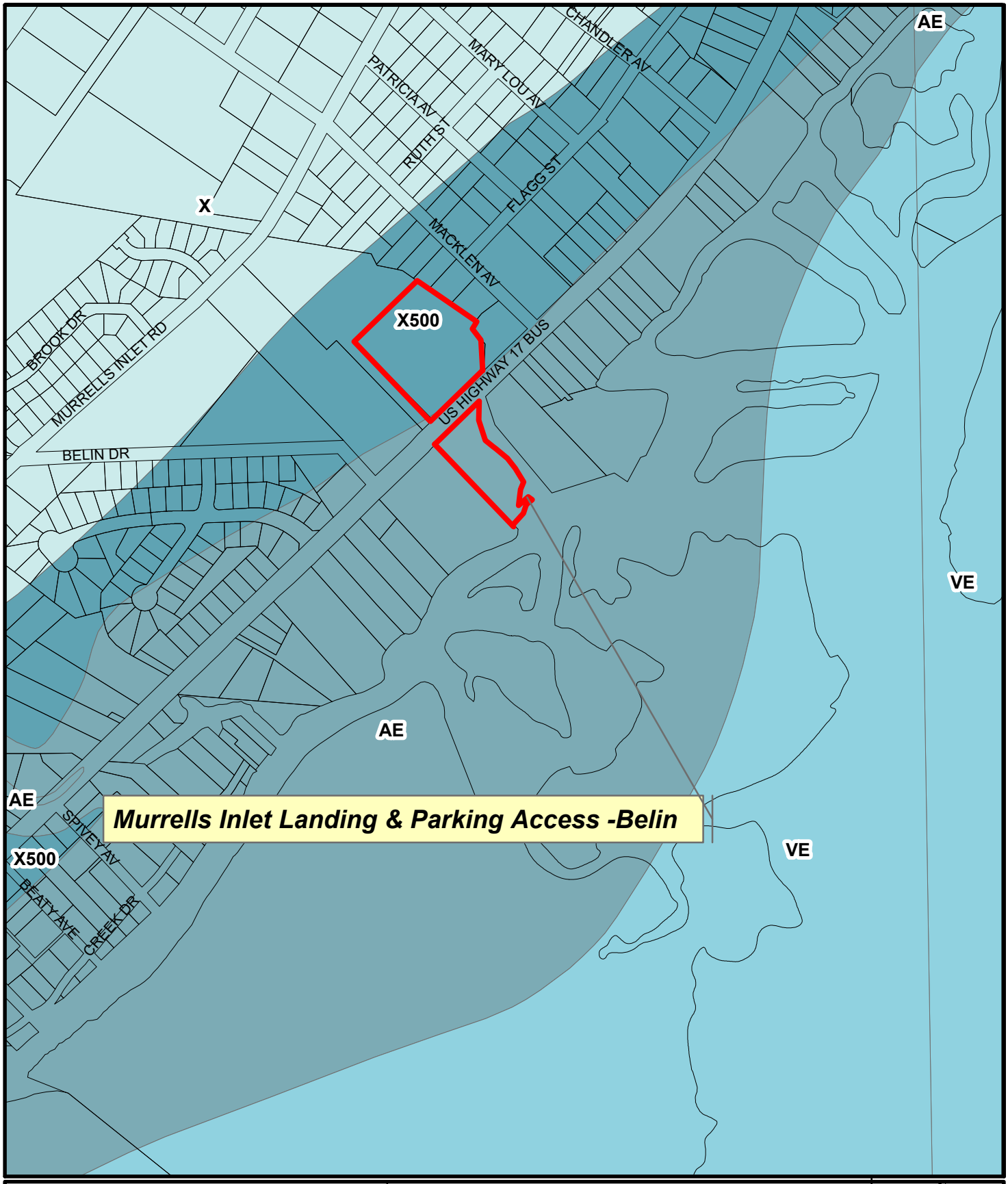
Murrells Inlet Boat Landing-Belin Church Soils Map

N W E S

Date: 3/08/2022 Scale: 1"=500'

County: Georgetown Job No.: 18101E

Figure: 3



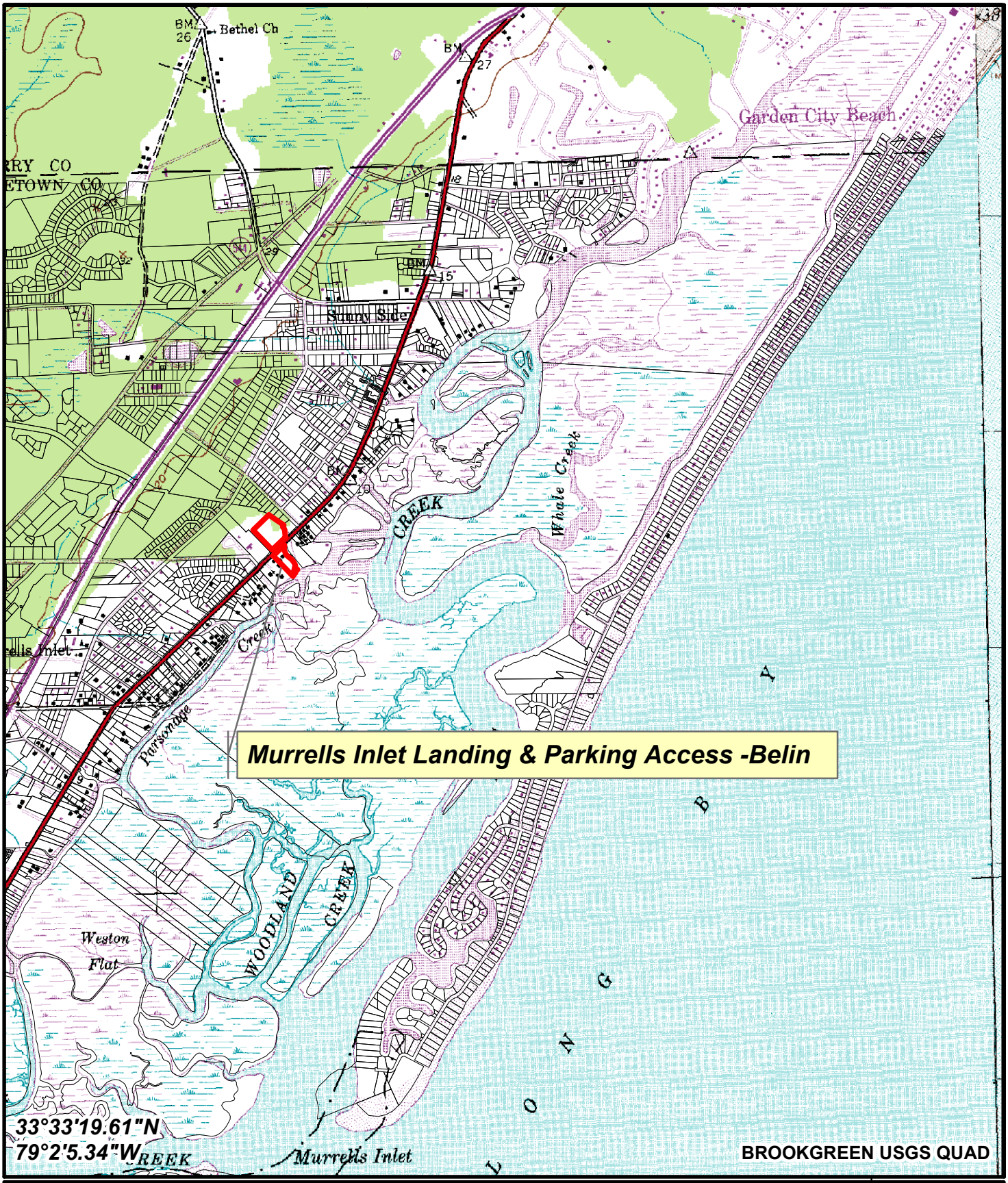
DDC Engineers
BOLTON & MENK, INC.

Murrells Inlet Boat Landing-Belin Church
FEMA Flood Map

N
W E
S

Date: 3/08/2022
Scale: 1"=500'
County: Georgetown
Job No.: 18101E

Figure: 4



DDC Engineers
BOLTON & MENK, INC.

Murrells Inlet Boat Landing-Belin Church
USGS Topo Map

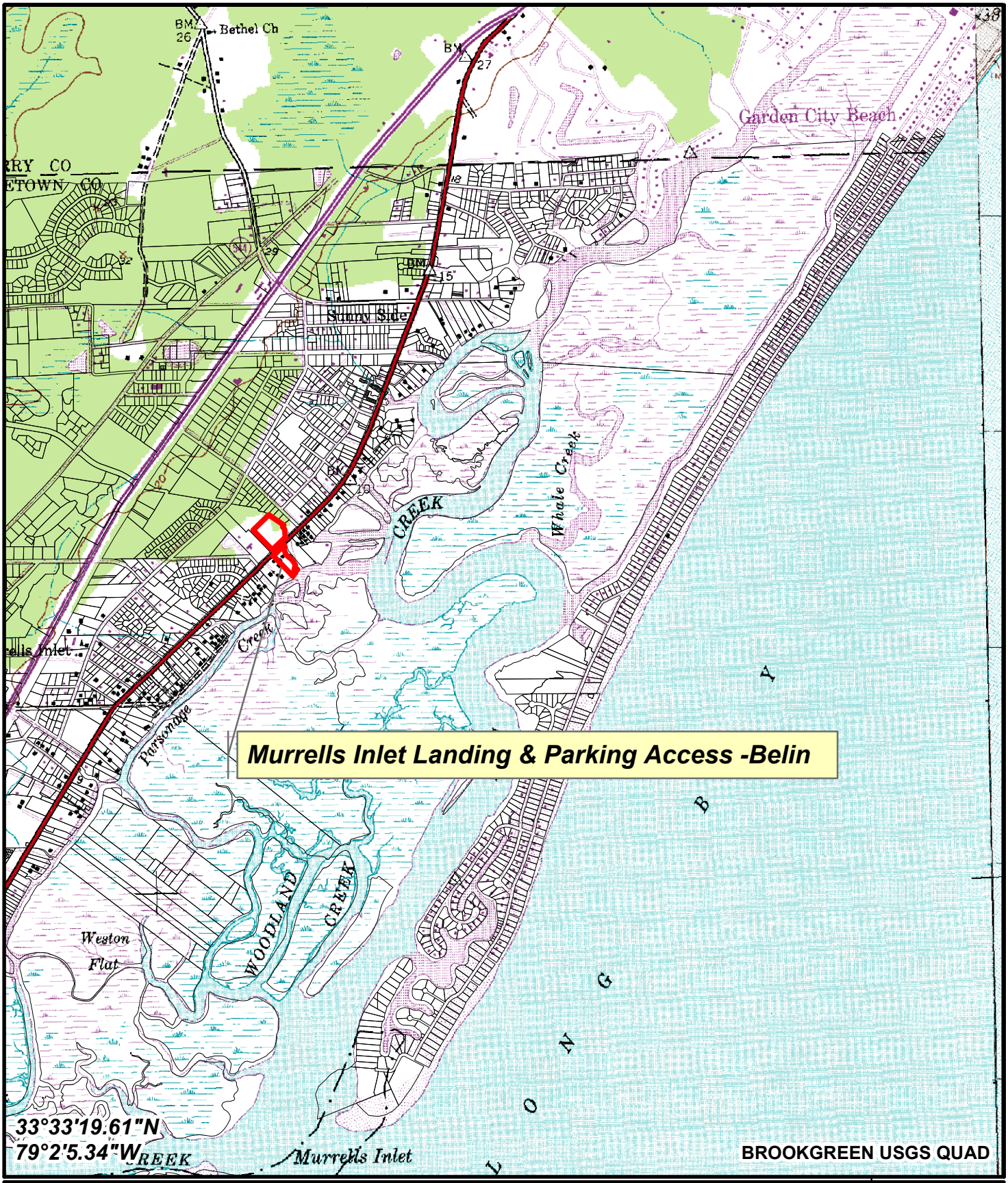
N
W E
S

Date: 3/08/2022
Scale: 1"=2,000'
County: Georgetown
Job No.: 18101E

Figure: 5

Appendix B

Drainage Maps



DDC Engineers BOLTON & MENK, INC.	**Murrells Inlet Boat Landing-Belin Church Drainage Map**	N W E S
	Date: 3/08/2022 Scale: 1"=2,000' County: Georgetown Job No.: 18101E	Figure:

Appendix C

Additional Approvals/Certifications

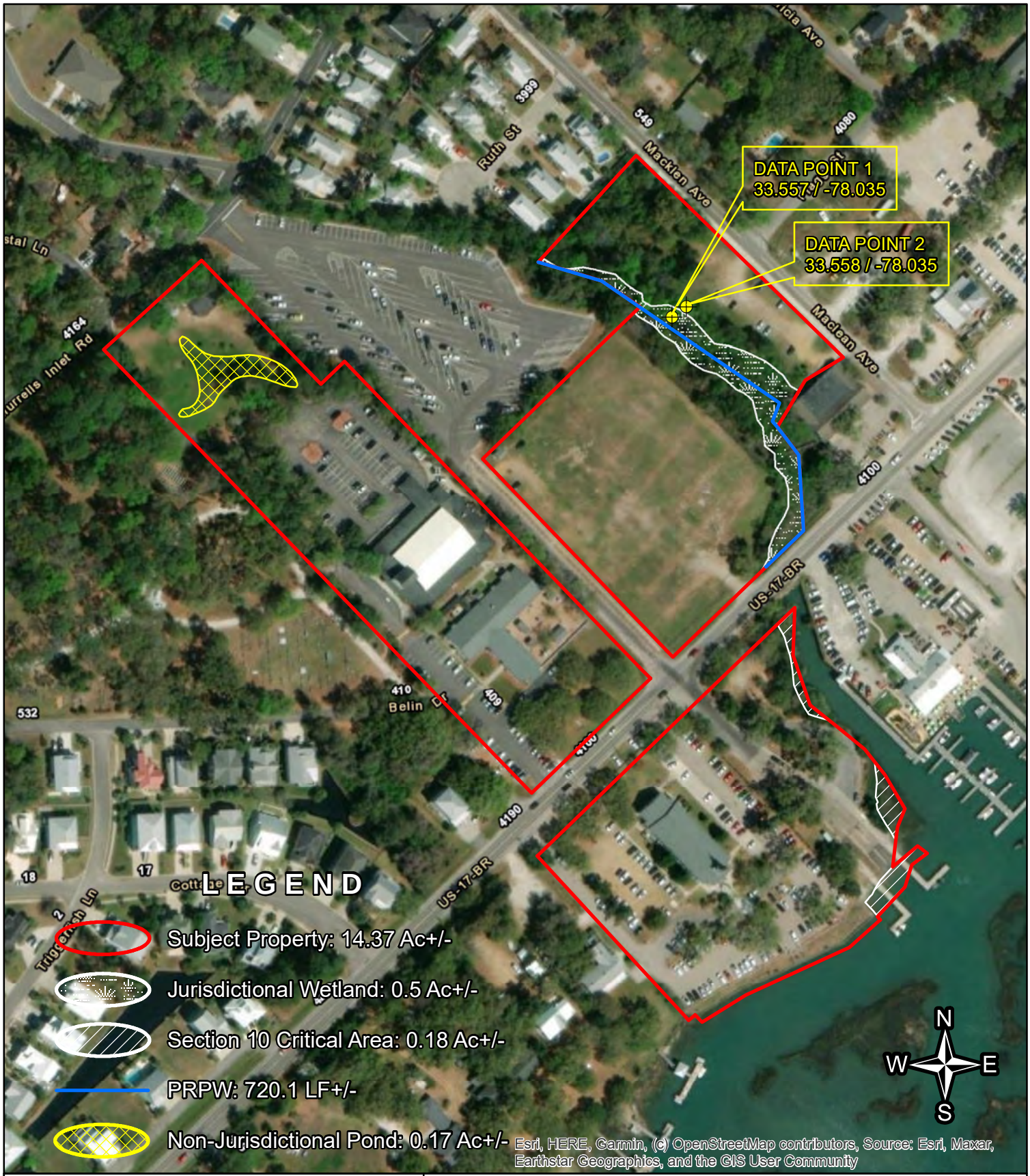


EXHIBIT DISCLAIMER: PLEASE NOTE THIS EXHIBIT IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES REGARDING ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS EXHIBIT.

0 100 200 400 600 800 Feet

SCALE:	1"= 200'
SOURCE:	ESRI
SOURCE DATE:	2013
DATE:	November 8, 2022

SAC-2022-01626 Approved Jurisdictional Determination Map

S&ME PROJECT NO.: 4263-18-095

EXHIBIT #

3

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, CHARLESTON DISTRICT
1949 INDUSTRIAL PARK ROAD, ROOM 140
CONWAY, SOUTH CAROLINA 29526

November 15, 2022

Regulatory Division

Mr. Charles Oates, Jr.
The Brigman Company
P.O. Box 1532
Conway, South Carolina 29528
coates@thebrigmancompany.com

Dear Mr. Oates, Jr.:

This is in response to your request for an Approved Jurisdictional Determination (AJD) (SAC-2022-01626) received in our office on November 8, 2022, for a 14.37-acre site identified as Tax Map Sequence (TMS) # 41-0114-150-00-00 & 41-0118A-001-02-00 located west of and adjacent to Maclean Avenue and Highway 17 Business, Murrells Inlet, Georgetown County, South Carolina (Latitude: 33.5568°, Longitude: -79.0361°). An AJD is used to indicate the Corps has identified the presence or absence of wetlands and/or other aquatic resources on a site, including their accurate location(s) and boundaries, as well as their jurisdictional status pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344) and/or navigable waters of the United States pursuant to Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. § 403).

The site is shown on the attached map entitled "SAC-2022-01626 Approved Jurisdictional Determination Map" and dated November 8, 2022, prepared by The Brigman Company. Based on a review of aerial photography, topographic maps, National Wetlands Inventory maps, soil survey information, and Wetland Determination Data Form(s), and LiDAR imagery, we conclude the referenced map accurately reflects the location and boundaries of aquatic resources within the site. The site contains 0.5 acres of jurisdictional wetlands, and 720 linear feet of other waters of the United States that are subject to Corps' jurisdiction under Section 404 of the CWA. The site in question contains 0.18 acres of other aquatic resources subject to Corps' jurisdiction under both Section 404 of the CWA and Section 10 of the RHA.

The site also contains aquatic resources that are not subject to Corps' jurisdiction under Section 404 of the CWA or Section 10 of the RHA.

Attached is a form describing the basis of jurisdiction for the delineated area(s). Be aware that a Department of the Army (DA) permit may be required for certain activities in the areas subject to Corps' regulatory jurisdiction, and these areas may be subject to restrictions or requirements of other state or local government agencies.

If you submit a permit application as a result of this AJD, include a copy of this letter and the map as part of the application. Not submitting the letter and depiction will cause a

delay while we confirm an AJD was performed for the proposed permit project area. Note that some or all of these areas may be regulated by other state or local government entities, and you should contact the South Carolina Department of Health and Environmental Control, Bureau of Water, or Department of Ocean and Coastal Resource Management, to determine the limits of their jurisdiction..

This AJD is valid for five (5) years from the date of this letter unless new information warrants revision before the expiration date. This AJD is an appealable action under the Corps of Engineers administrative appeal procedures defined at 33 CFR Part 331. The administrative appeal options, process and appeals request form is attached for your convenience and use.

This AJD was conducted pursuant to Corps of Engineers' regulatory authority to identify the limits of Corps of Engineers' jurisdiction for the particular site identified in this request. This AJD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

In all future correspondence, please refer to file number SAC-2022-01626. A copy of this letter is forwarded to State and/or Federal agencies for their information. If you have any questions, please contact T. Brian Hardee, Project Manager, at (843) 365-0848, or by email at Tony.B.hardee@usace.army.mil.

Sincerely,

T. Brian Hardee
Project Manager

Attachments:
Approved Jurisdictional Determination Form
Notification of Appeal Options

Copies Furnished:

Mr. Paul Gardner
Belin Memorial UMC
Post Office Box 528
Murrells Inlet, South Carolina 29576
paulg@belinumc.org

SCDHEC – Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201
WQCWetlands@dhec.sc.gov

SCDHEC - OCRM
1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405
OCRMPermitting@dhec.sc.gov

Appendix D

Engineering Reports

Soil Map—Georgetown County, South Carolina
(Belin UMC)

Map Scale: 1:2,840 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 40 80 160 240

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Georgetown County, South Carolina
Survey Area Data: Version 22, Aug 29, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 11, 2022—May 15, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15	Bohicket silty clay loam	0.6	1.9%
27	Rutlege sand	4.7	13.6%
36B	Lakeland fine sand, 0 to 6 percent slopes	26.3	76.5%
W	Water	2.8	8.0%
Totals for Area of Interest		**34.3**	**100.0%**

GEOMETRICS CONSULTING

GEOTECHNICAL CONSULTANTS
ENVIRONMENTAL SERVICES
QUALITY CONTROL SPECIALISTS

March 25, 2024

Bolton & Menk, Inc.
1298 Professional Drive
Myrtle Beach, SC 29577

Attn: James M. Wooten, P.E.
Principle Engineer

RE: ***Infiltration Testing and Seasonal High-Water Table***
Belin Church Boat Landing
Murrells Inlet, South Carolina
GeoMetrics No. BC-BM04-W1M

Mr. Wooten:

GeoMetrics Consulting, LLC has completed a water resources soils investigation on the property referred to above and located along Business 17 adjacent to Belin Memorial United Methodist Church in Murrells Inlet, South Carolina. The purpose of the investigation was to determine the depth to the seasonal high-water table on the property, as well as infiltration rates at the time of investigation. A site plan depicting the soil test boring locations is presented in *Appendix I - Figures.*

SEASONAL HIGH WATER TABLE
One (1) test pit was excavated at the location of the proposed storm water detention facilities on the subject property on March 20, 2024. An attachment to this letter depicts the location of test pits. The elevation of the seasonal high-water table was determined at each location by noting the depth along the wall of the test pit at which the *in-situ* soil was noted to be visibly wet or mottled. The seasonal high-water table was measured and is report alongside infiltration information.

INFILTRATION TESTING
One (1) infiltration test was performed within predesignated area. Testing was accomplished using a Turf-Tec® double-ring infiltrometer, in general accordance with ASTM D 3385. The 18-inch deep rings of the double ring apparatus were driven four inches into the soil approximately 1 foot above seasonal high water table. Water was introduced into the inner and outer rings until a constant head could be maintained in the outer ring. After stabilizing the water level in the outer ring, the inner ring was filled with water to a depth of approximately 12 inches and the rate of water level decline was measured with a rule and stopwatch. Measurements were continued until the incremental infiltration rate stabilized. The infiltration rate for each location is the final cumulative infiltration rate. The results of the test are as follows:

Test Location 1 *(33.55583° N, 79.03485° W)* ***SHWT @ 6 ft***

Elapsed Time (h:mm:ss)	Time Increment (hr)	Total Infiltration (in)	Incremental Infiltration (in)	Incremental Infiltration Rate (in/hr)	Cumulative Infiltration Rate (in/hr)
0:00:00		0	0	0	0
0:05:00	0.084	3.500	3.500	41.667	41.667
0:10:00	0.084	5.750	2.250	26.786	33.824
0:15:00	0.084	8.000	2.250	26.786	32.000
0:30:00	0.25	13.000	5.000	20.000	26.000
0:45:00	0.25	20.000	7.000	28.000	26.667
1:00:00	0.25	27.000	7.000	28.000	**27.000**

GeoMetrics Consulting, LLC has performed this engineering study in a manner consistent with the degree of care and skill ordinarily exercised by members of the profession currently practicing under similar circumstances. The test results in this report incorporate industry standards and procedures and are based on the in-situ soil conditions encountered, the analysis of the site and subsurface conditions, and previous company experience. If subsurface conditions are discovered during construction activities that deviate from the soils encountered during the field investigation, GeoMetrics should be contacted to evaluate the impact of the identified conditions. This report has been prepared for the exclusive use of Bolton & Menk, Inc. and its design team for the specific application to Belin Church Boat Landing located along Business 17 adjacent to Belin Memorial United Methodist Church in Murrells Inlet, South Carolina.

Sincerely,

GeoMetrics Consulting, LLC

Nathan Kovacs, E.I.T.
Project Manager

J.C. Bishop, P.E.
Principal

APPENDIX I

Figures

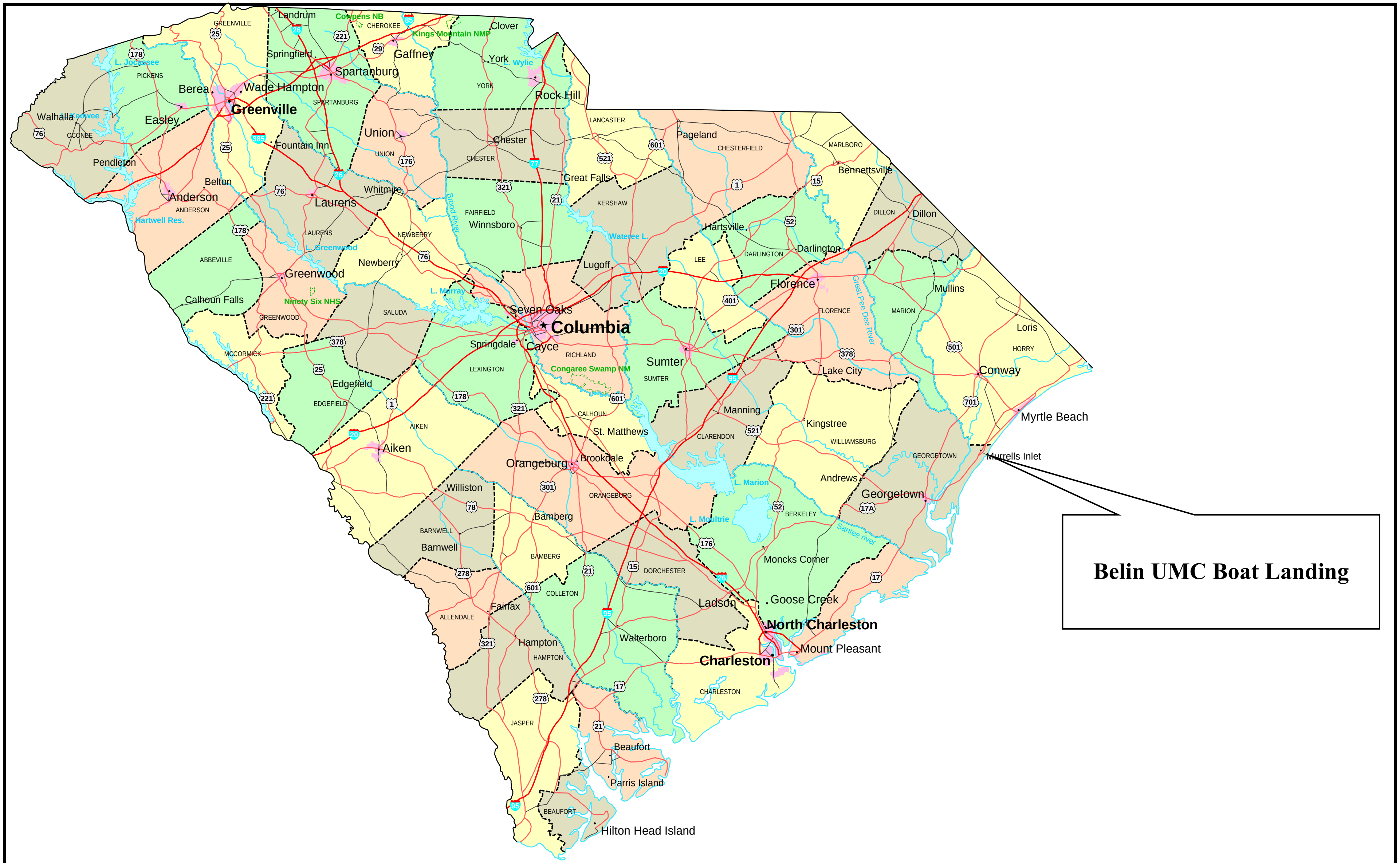


Figure 1	**Vicinity Map** **Belin UMC—Boat Landing Infiltration** **Murrells Inlet, South Carolina**	GeoMetrics No. **BC-CM04-W1M**	
GEOMETRICS CONSULTING	***Prepared For:*** **Bolton & Menk, Inc.** ***Myrtle Beach, SC***	**March 25, 2024**	

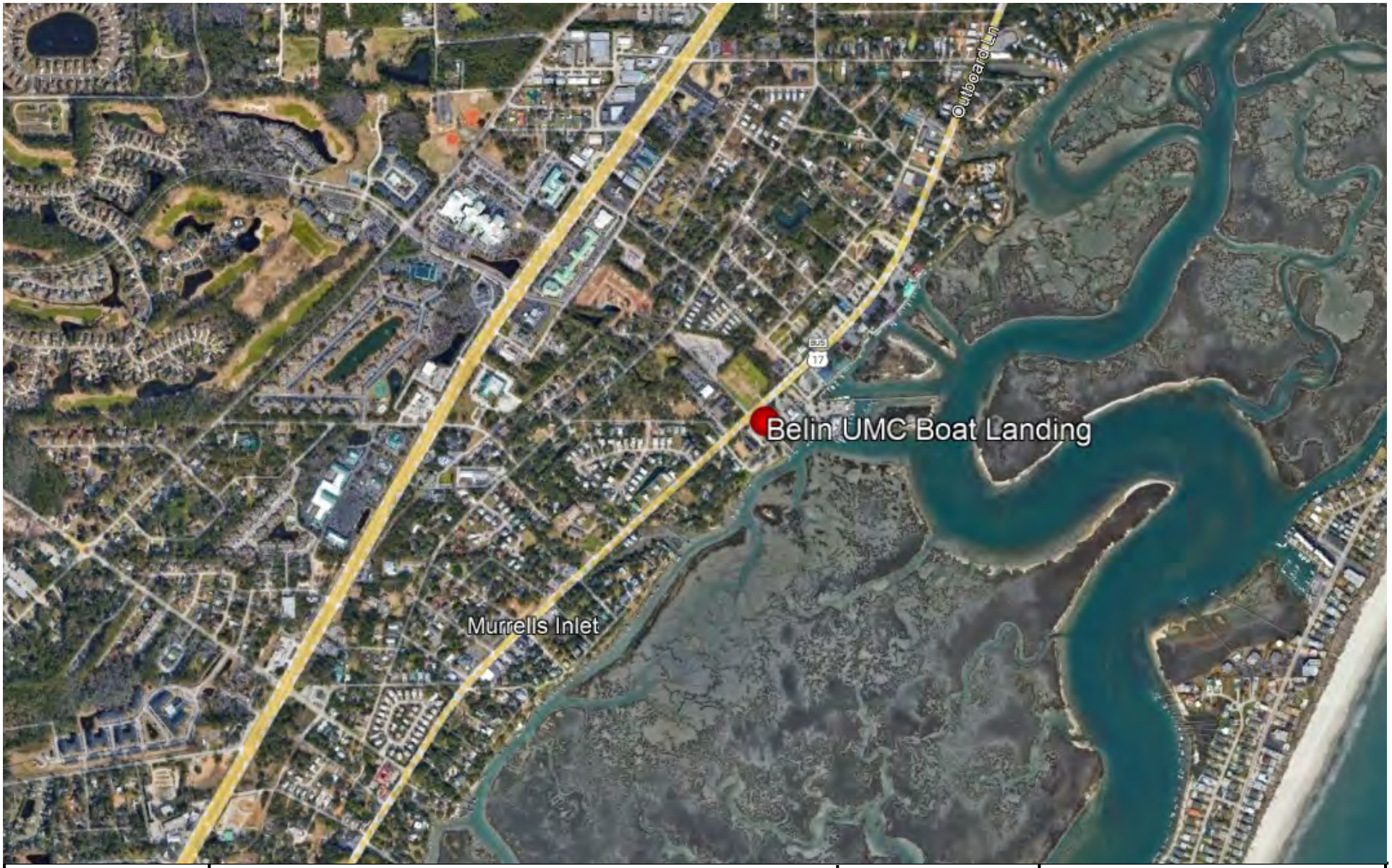


Figure 2	**Vicinity Map** **Belin UMC—Boat Landing Infiltration** **Murrells Inlet, South Carolina**	GeoMetrics No. **BC-CM04-W1M**	N W E S
GeoMetrics Consulting	***Prepared For:*** **Bolton & Menk, Inc.** ***Myrtle Beach, SC***	**March 25, 2024**	

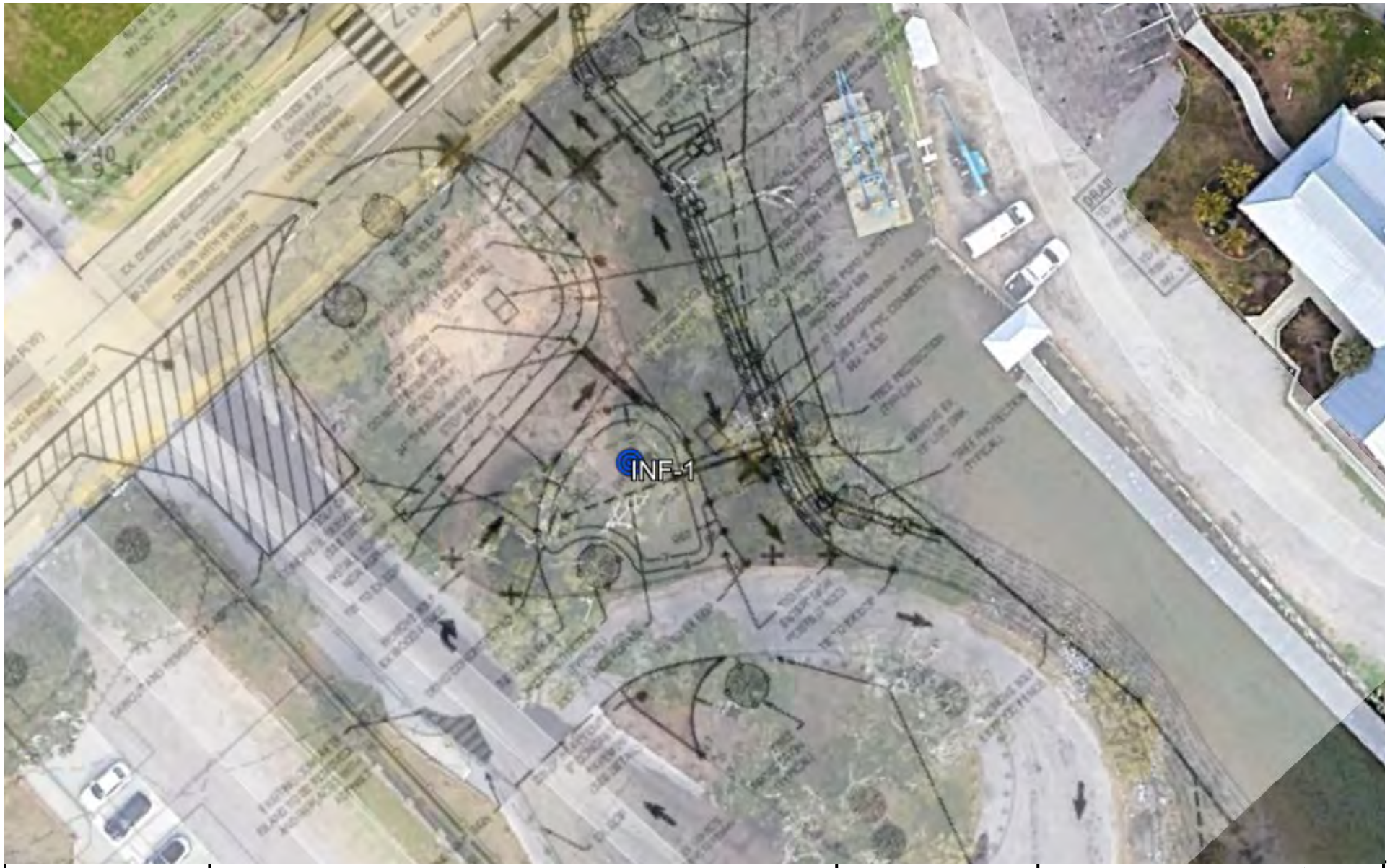


Figure 3	**Boring Location Plan** **Belin UMC—Boat Landing Infiltration** **Murrells Inlet, South Carolina**	GeoMetrics No. **BC-CM04-W1M**	N W E S
GeoMetrics Consulting	***Prepared For:*** **Bolton & Menk, Inc.** ***Myrtle Beach, SC***	**March 25, 2024**	

Background Image: Pre-Development

Murrells Inlet Landing and Parking Access

Georgetown County

Exisitng Condition Node Map

03/2024

BOLTON & MENK

B3
2.78 ACRE
Tc: 31.0

B2
1.32 ACRE
Tc: 11.0

B1
1.72 ACRE
Tc: 12.0

B4
1.31 ACRE
Tc: 8.0

Tc >>

BNDY-1

BNDY-2

N1

N2

P:N1-N2

P:N2-BNDY1

n/f
Georgetown County
Tms #41-0118A-001-02-00
D.B. 2990, Pg. 59
P.B. 4, Pg. 352

n/f
Georgetown County
Tms #41-0116-001-00-00
D.B. 2990, Pg. 59
P.B. 4, Pg. 352

n/f
Belin Memorial United
Methodist Church, Inc
Tms #41-0113-011-00-00
D.B. 1050, Pg. 304
P.B. "U", Pg. 95

n/f
Belin Memorial United
Methodist Church, Inc.
Tms #41-0113-005-00-00
D.B. 1050, Pg. 315
P.B. "U", Pg. 95

n/f
Floranne K. Goldston
& Mary C. Sutherland
Tms #41-0118A-002-00-00
D.B. 326, Pg. 198

n/f
Parsonage Creek, LLC
Tms #41-0118A-003-00-00
D.B. 2017, Pg. 154
P.B. 102, Pg. 5A

Murrells Inlet Road (50' Public R/W)

Belin Drive (50' Public R/W)

U. S. Highway #17 Business (75' Public R/W)

Salt Creek

HORZ SCALE 0 50 100 FEET

I:\PROJECTS\18\18101E -Belin UMC\18101E - Existing Node Map.dwg 3/19/2024 8:18:23 AM

Node Max Conditions [Existing Condition]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
BNDY-1	Pre-002	6.00	2.50	0.0000	3.41	0.00	0
BNDY-1	Pre-010	6.00	2.50	0.0000	6.74	0.00	0
BNDY-1	Pre-025	6.00	2.50	0.0000	9.56	0.00	0
BNDY-1	Pre-100	6.00	2.50	0.0000	15.23	0.00	0
BNDY-2	Pre-002	4.00	4.00	0.0025	1.78	0.00	0
BNDY-2	Pre-010	4.00	4.00	0.0025	3.09	0.00	0
BNDY-2	Pre-025	4.00	4.00	0.0025	4.13	0.00	0
BNDY-2	Pre-100	4.00	4.00	0.0025	6.08	0.00	0
N1	Pre-002	8.22	5.88	-0.0010	1.59	1.59	106
N1	Pre-010	8.22	6.09	0.0010	2.68	2.68	108
N1	Pre-025	8.22	6.24	0.0010	3.56	3.55	108
N1	Pre-100	8.22	6.61	0.0010	5.34	5.31	109
N2	Pre-002	7.20	5.20	0.0010	1.98	1.98	298
N2	Pre-010	7.20	5.52	0.0010	3.79	3.78	402
N2	Pre-025	7.20	5.78	0.0010	5.43	5.41	451
N2	Pre-100	7.20	6.29	0.0010	8.82	8.77	537

Link Min/Max Conditions [Existing Condition]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P:N1-N2	Pre-002	1.59	0.00	0.01	2.19	1.48	1.83
P:N1-N2	Pre-010	2.68	0.00	-0.01	2.55	1.78	2.16
P:N1-N2	Pre-025	3.55	0.00	-0.01	2.80	2.03	2.41
P:N1-N2	Pre-100	5.31	0.00	-0.01	3.22	3.01	3.07
P:N2-BNDY1	Pre-002	1.98	0.00	0.01	2.33	2.67	2.50
P:N2-BNDY1	Pre-010	3.78	0.00	-0.01	2.85	3.46	3.16
P:N2-BNDY1	Pre-025	5.41	0.00	0.01	3.30	4.07	3.69
P:N2-BNDY1	Pre-100	8.77	0.00	0.01	4.96	5.43	5.20

Manual Basin Runoff Summary [Existing Condition]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
B1	Pre-002	1.59	12.2667	4.78	1.57	1.7848	65.9	0.00	0.00
B1	Pre-010	2.68	12.2833	7.32	2.69	1.7848	58.8	0.00	0.00
B1	Pre-025	3.56	12.2833	8.97	3.56	1.7848	55.9	0.00	0.00
B1	Pre-100	5.34	12.2833	11.80	5.25	1.7848	52.7	0.00	0.00
B2	Pre-002	0.39	12.2667	4.78	0.60	1.3972	50.1	0.00	0.00
B2	Pre-010	1.11	12.3000	7.32	1.51	1.3972	46.4	0.00	0.00
B2	Pre-025	1.88	12.3000	8.97	2.30	1.3972	45.4	0.00	0.00

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
B2	Pre-100	3.51	12.3000	11.80	3.93	1.3972	44.4	0.00	0.00
B3	Pre-002	1.64	12.4833	4.78	1.43	2.8454	64.1	0.00	0.00
B3	Pre-010	3.33	12.4833	7.32	2.93	2.8454	61.3	0.00	0.00
B3	Pre-025	4.65	12.4833	8.97	4.05	2.8454	60.2	0.00	0.00
B3	Pre-100	7.15	12.4667	11.80	6.14	2.8454	58.8	0.00	0.00
B4	Pre-002	1.78	12.2500	4.78	2.15	1.3089	73.6	0.00	0.00
B4	Pre-010	3.09	12.2500	7.32	3.71	1.3089	68.5	0.00	0.00
B4	Pre-025	4.13	12.2500	8.97	4.85	1.3089	66.4	0.00	0.00
B4	Pre-100	6.08	12.2500	11.80	6.97	1.3089	64.0	0.00	0.00

Manual Basin: B1

Scenario: Existing Condition
Node: N1
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 12.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.7848 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.5951	IMPERVIOUS	36B	
0.5312	WOODS	36B	
0.6581	GRASS	36B	
0.0005	IMPERVIOUS	27	

Comment:

Manual Basin: B2

Scenario: Existing Condition
Node: N2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 11.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.3972 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1438	IMPERVIOUS	36B	

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0076	WOODS	36B	
1.2458	GRASS	36B	

Comment:

Manual Basin: B3

Scenario: Existing Condition
Node: BNDY-1
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 31.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 2.8454 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0435	IMPERVIOUS	36B	
1.3172	GRASS	36B	
0.0340	WOODS	36B	
0.0316	wetland	36B	
0.0305	IMPERVIOUS	27	
0.3901	GRASS	27	
0.5711	WOODS	27	
0.4239	wetland	27	
0.0035	wetland	27	

Comment:

Manual Basin: B4

Scenario: Existing Condition
Node: BNDY-2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 8.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.3089 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.6879	GRASS	36B	
0.5768	IMPERVIOUS	36B	
0.0005	IMPERVIOUS	36B	

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0437	SOIL	36B	

Comment:

Node: BNDY-1

Scenario: Existing Condition
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 2.50 ft
Warning Stage: 6.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	2.50
0	0	0	24.0000	2.50

Comment: Ex Wetland

Node: BNDY-2

Scenario: Existing Condition
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 0.40 ft
Warning Stage: 4.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	0.40
0	0	0	12.0000	4.00
0	0	0	24.0000	0.40

Comment: Ex Inlet - Mean High Tide

Node: N1

Scenario: Existing Condition
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 5.23 ft
Warning Stage: 8.22 ft

Stage [ft]	Area [ac]	Area [ft2]
5.23	0.0001	4
6.50	0.0005	22
7.00	0.0089	388
7.50	0.0320	1394
8.00	0.1000	4356

Comment: ex. ditch
8.22' Edge of Ex. Pavement

Node: N2

Scenario: Existing Condition
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 4.32 ft
Warning Stage: 7.20 ft

Stage [ft]	Area [ac]	Area [ft2]
4.30	0.0001	4
5.00	0.0016	70
6.00	0.0100	436
7.00	0.0170	741

Comment: ex. ditch
7.20 - ex. edge of pavement (lowest pt)

Pipe Link: P:N1-N2		Upstream		Downstream	
Scenario:	Existing Condition	Invert:	5.23 ft	Invert:	4.32 ft
From Node:	N1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	N2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	124.80 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: Ex. 18" rcp

Pipe Link: P:N2-BNDY1		Upstream		Downstream	
Scenario:	Existing Condition	Invert:	4.47 ft	Invert:	4.27 ft
From Node:	N2	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BNDY-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	42.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: Ex. 18" rcp

Simulation: Pre-002

Scenario: Existing Condition
Run Date/Time: 3/19/2024 8:20:14 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Pre
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Pre

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 4.78 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: Pre-010

Scenario: Existing Condition
Run Date/Time: 3/19/2024 8:20:25 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

Hydrology [sec]	Surface Hydraulics [sec]

Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Pre
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Pre

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 7.32 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: Pre-025

Scenario: Existing Condition
Run Date/Time: 3/19/2024 8:20:33 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Pre
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Pre

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

		Opt:	
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	8.97 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: Pre-100

Scenario: Existing Condition
Run Date/Time: 3/19/2024 8:20:43 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

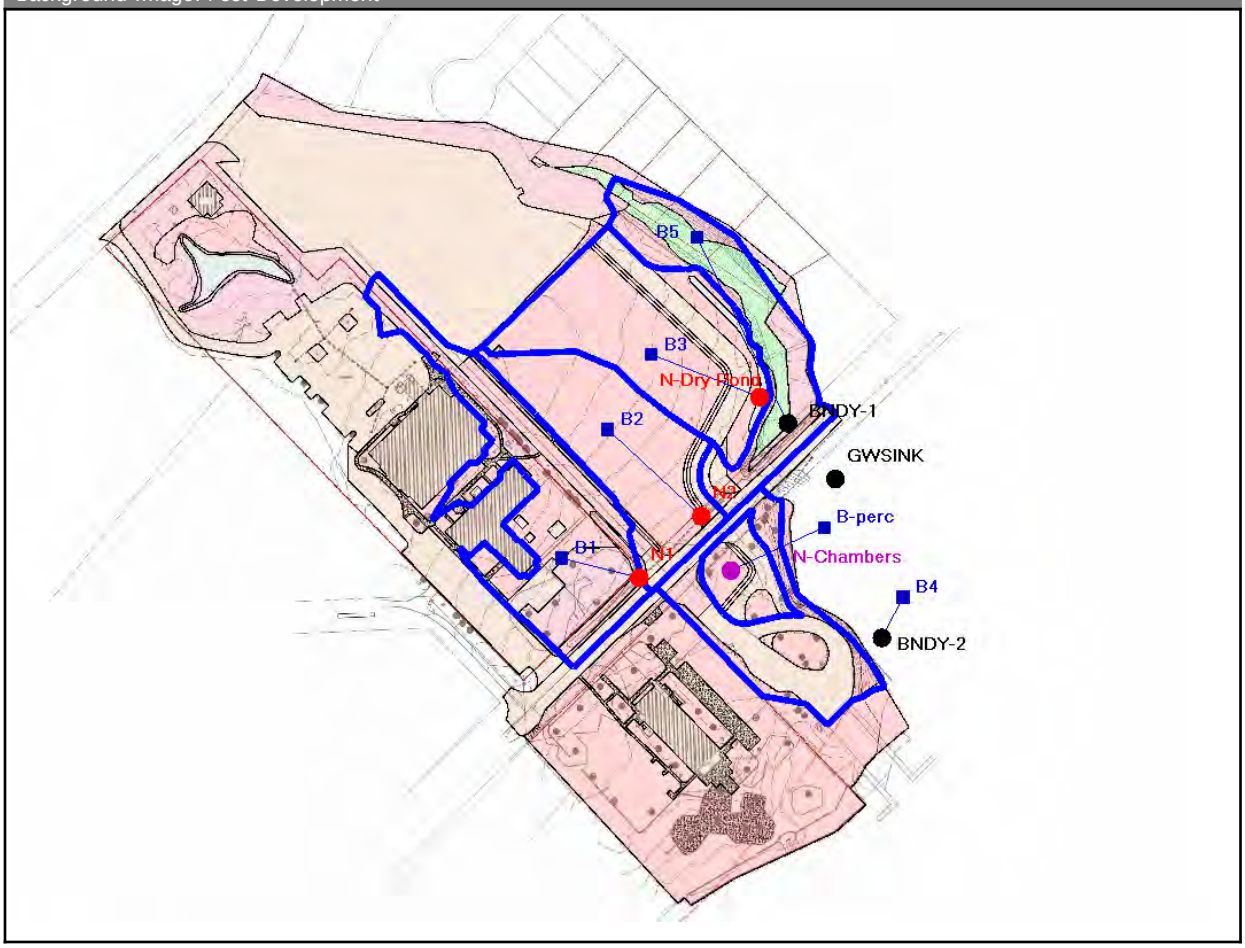
Resources & Lookup Tables

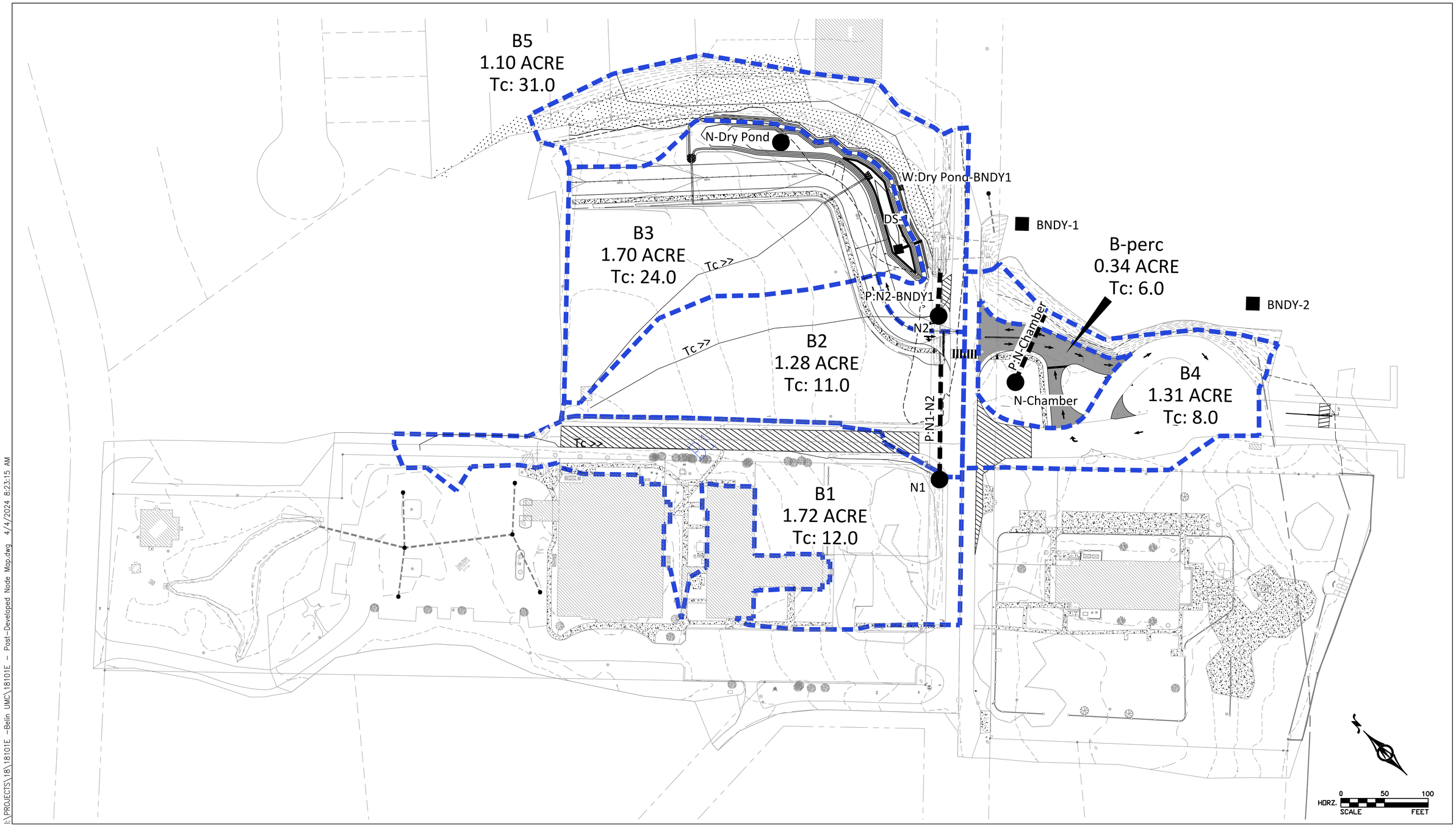
Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	Pre
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	Pre

Tolerances & Options			
Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	11.80 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Background Image: Post-Development





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Node Max Conditions [Post-Condition-Perc]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
BNDY-1	Post-002	6.00	2.50	0.0000	2.67	0.00	0
BNDY-1	Post-010	6.00	2.50	0.0000	5.94	0.00	0
BNDY-1	Post-025	6.00	2.50	0.0000	8.69	0.00	0
BNDY-1	Post-100	6.00	2.50	0.0000	14.01	0.00	0
BNDY-2	Post-002	4.00	4.00	0.0025	1.61	0.00	0
BNDY-2	Post-010	4.00	4.00	0.0025	2.97	0.00	0
BNDY-2	Post-025	4.00	4.00	0.0025	4.00	0.00	0
BNDY-2	Post-100	4.00	4.00	0.0025	5.86	0.00	0
GWSINK	Post-002	2.00	2.00	0.0000	0.39	0.00	0
GWSINK	Post-010	2.00	2.00	0.0000	0.43	0.00	0
GWSINK	Post-025	2.00	2.00	0.0000	0.46	0.00	0
GWSINK	Post-100	2.00	2.00	0.0000	0.54	0.00	0
N-Chambers	Post-002	8.00	5.19	0.0010	0.51	0.48	330
N-Chambers	Post-010	8.00	5.51	0.0010	0.87	0.84	330
N-Chambers	Post-025	8.00	5.77	0.0010	1.15	1.11	330
N-Chambers	Post-100	8.00	6.57	0.0010	1.68	1.57	330
N-Dry Pond	Post-002	8.50	7.23	0.0010	1.04	0.49	4810
N-Dry Pond	Post-010	8.50	7.47	0.0010	1.96	1.35	5419
N-Dry Pond	Post-025	8.50	7.62	0.0010	2.75	2.02	5880
N-Dry Pond	Post-100	8.50	7.87	0.0010	4.32	3.29	6647
N1	Post-002	8.22	5.74	0.0009	1.04	1.04	101
N1	Post-010	8.22	5.95	-0.0008	1.92	1.92	107
N1	Post-025	8.22	6.10	0.0010	2.70	2.70	108
N1	Post-100	8.22	6.38	0.0010	4.39	4.39	108
N2	Post-002	7.00	4.95	-0.0010	1.50	1.50	245
N2	Post-010	7.00	5.27	-0.0010	3.10	3.09	255
N2	Post-025	7.00	5.54	0.0010	4.63	4.62	255
N2	Post-100	7.00	6.11	0.0010	7.89	7.88	255

Link Min/Max Conditions [Post-Condition-Perc]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
DS-1 - Pipe	Post-002	0.49	0.00	0.00	0.00	0.00	0.00
DS-1 - Weir: 1	Post-002	0.05	0.00	0.00	0.00	0.00	0.00
DS-1 - Weir: 2	Post-002	0.45	0.00	0.00	1.54	1.54	1.54
DS-1 - Weir: 3	Post-002	0.00	0.00	0.00	0.00	0.00	0.00
DS-1 - Pipe	Post-010	1.34	0.00	0.00	0.00	0.00	0.00
DS-1 - Weir: 1	Post-010	0.05	0.00	0.00	0.00	0.00	0.00

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
DS-1 - Weir: 2	Post-010	1.30	0.00	0.00	2.20	2.20	2.20
DS-1 - Weir: 3	Post-010	0.00	0.00	0.00	0.00	0.00	0.00
DS-1 - Pipe	Post-025	2.02	0.00	-0.01	0.00	0.00	0.00
DS-1 - Weir: 1	Post-025	0.05	0.00	0.00	0.00	0.00	0.00
DS-1 - Weir: 2	Post-025	1.98	0.00	0.00	2.53	2.53	2.53
DS-1 - Weir: 3	Post-025	0.00	0.00	0.00	0.00	0.00	0.00
DS-1 - Pipe	Post-100	3.29	0.00	-0.01	0.00	0.00	0.00
DS-1 - Weir: 1	Post-100	0.05	0.00	0.00	0.00	0.00	0.00
DS-1 - Weir: 2	Post-100	3.24	0.00	0.00	2.98	2.98	2.98
DS-1 - Weir: 3	Post-100	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration-Chambers	Post-002	0.39	0.00	0.00	0.00	0.00	0.00
Infiltration-Chambers	Post-010	0.43	0.00	0.00	0.00	0.00	0.00
Infiltration-Chambers	Post-025	0.46	0.00	0.00	0.00	0.00	0.00
Infiltration-Chambers	Post-100	0.54	0.00	0.00	0.00	0.00	0.00
P:N-Chamber	Post-002	0.08	0.00	-0.01	1.21	0.00	0.61
P:N-Chamber	Post-010	0.41	0.00	0.01	2.08	3.01	2.35
P:N-Chamber	Post-025	0.65	0.00	-0.01	3.30	3.64	3.47
P:N-Chamber	Post-100	1.04	0.00	0.01	5.27	5.46	5.37
P:N1-N2	Post-002	1.04	0.00	-0.01	1.94	1.49	1.72
P:N1-N2	Post-010	1.92	0.00	-0.01	2.31	1.65	1.97
P:N1-N2	Post-025	2.70	0.00	-0.01	2.56	1.76	2.16
P:N1-N2	Post-100	4.39	0.00	-0.01	3.02	2.48	2.75
P:N2-BNDY1	Post-002	1.50	0.00	-0.01	2.14	4.50	3.32
P:N2-BNDY1	Post-010	3.09	0.00	-0.01	2.62	5.52	4.07
P:N2-BNDY1	Post-025	4.62	0.00	-0.01	3.00	6.16	4.58
P:N2-BNDY1	Post-100	7.88	0.00	-0.01	4.46	6.35	4.75
W:Dry Pond-BNDY1	Post-002	0.00	0.00	0.00	0.00	0.00	0.00
W:Dry Pond-BNDY1	Post-010	0.00	0.00	0.00	0.00	0.00	0.00
W:Dry Pond-BNDY1	Post-025	0.00	0.00	0.00	0.00	0.00	0.00
W:Dry Pond-BNDY1	Post-100	0.00	0.00	0.00	0.00	0.00	0.00

Manual Basin Runoff Summary [Post-Condition-Perc]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
B-perc	Post-002	0.51	12.2000	4.78	2.28	0.3357	75.1	0.00	0.00
B-perc	Post-010	0.87	12.2500	7.32	3.88	0.3357	70.0	0.00	0.00
B-perc	Post-025	1.15	12.2500	8.97	5.04	0.3357	67.9	0.00	0.00
B-perc	Post-100	1.68	12.2500	11.80	7.18	0.3357	65.4	0.00	0.00
B1	Post-002	1.04	12.2667	4.78	1.06	1.7850	58.3	0.00	0.00
B1	Post-010	1.92	12.3000	7.32	1.98	1.7850	51.5	0.00	0.00
B1	Post-025	2.70	12.3000	8.97	2.74	1.7850	49.1	0.00	0.00
B1	Post-100	4.39	12.3000	11.80	4.28	1.7850	46.5	0.00	0.00
B2	Post-002	0.46	12.2667	4.78	0.70	1.3384	52.0	0.00	0.00
B2	Post-010	1.18	12.3000	7.32	1.65	1.3384	48.0	0.00	0.00
B2	Post-025	1.93	12.3000	8.97	2.46	1.3384	46.7	0.00	0.00
B2	Post-100	3.50	12.3000	11.80	4.12	1.3384	45.5	0.00	0.00
B3	Post-002	1.04	12.3833	4.78	1.42	1.7029	63.9	0.00	0.00
B3	Post-010	1.96	12.4167	7.32	2.74	1.7029	59.3	0.00	0.00
B3	Post-025	2.75	12.4167	8.97	3.75	1.7029	57.6	0.00	0.00
B3	Post-100	4.32	12.4000	11.80	5.69	1.7029	55.7	0.00	0.00
B4	Post-002	1.53	12.2500	4.78	2.48	0.9732	77.6	0.00	0.00
B4	Post-010	2.57	12.2500	7.32	4.16	0.9732	72.7	0.00	0.00
B4	Post-025	3.36	12.2500	8.97	5.36	0.9732	70.6	0.00	0.00
B4	Post-100	4.85	12.2500	11.80	7.56	0.9732	68.1	0.00	0.00
B5	Post-002	1.29	12.4667	4.78	2.58	1.2011	78.9	0.00	0.00
B5	Post-010	2.37	12.4667	7.32	4.71	1.2011	77.9	0.00	0.00
B5	Post-025	3.09	12.4667	8.97	6.17	1.2011	77.5	0.00	0.00
B5	Post-100	4.36	12.4667	11.80	8.75	1.2011	76.9	0.00	0.00

Manual Basin: B-perc

Scenario:	Post-Condition-Perc
Node:	N-Chambers
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	6.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.3357 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1625	IMPERVIOUS	36B	
0.1731	GRASS	36B	

Comment:

Manual Basin: B1

Scenario: Post-Condition-Perc
Node: N1
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 12.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.7850 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.3895	IMPERVIOUS	36B	
0.5312	WOODS	36B	
0.8639	GRASS	36B	
0.0005	IMPERVIOUS	27	

Comment:

Manual Basin: B2

Scenario: Post-Condition-Perc
Node: N2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 11.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.3384 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1677	IMPERVIOUS	36B	
0.0076	WOODS	36B	
1.1631	GRASS	36B	

Comment:

Manual Basin: B3

Scenario: Post-Condition-Perc
Node: N-Dry Pond
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 24.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr

Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.7029 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.0904	GRASS	36B	
0.1232	IMPERVIOUS	36B	
0.0113	DRY POND	36B	
0.2005	GRASS	27	
0.0515	DRY POND	27	
0.2261	IMPERVIOUS	27	

Comment:

Manual Basin: B4

Scenario: Post-Condition-Perc
Node: BNDY-2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 8.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 0.9732 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.4563	GRASS	36B	
0.5164	IMPERVIOUS	36B	
0.0005	IMPERVIOUS	36B	

Comment:

Manual Basin: B5

Scenario: Post-Condition-Perc
Node: BNDY-1
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 31.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 1.2011 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1386	IMPERVIOUS	36B	
0.0743	GRASS	36B	

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0152	WOODS	36B	
0.0316	wetland	36B	
0.0305	IMPERVIOUS	27	
0.1936	GRASS	27	
0.2807	WOODS	27	
0.0001	DRY POND	36B	
0.4239	wetland	27	
0.0117	wetland	27	
0.0008	DRY POND	27	

Comment:

Node: BNDY-1

Scenario: Post-Condition-Perc
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 2.50 ft
Warning Stage: 6.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	2.50
0	0	0	24.0000	2.50

Comment: Ex Wetland

Node: BNDY-2

Scenario: Post-Condition-Perc
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 0.40 ft
Warning Stage: 4.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	0.40
0	0	0	12.0000	4.00
0	0	0	24.0000	0.40

Comment: Ex Inlet - Mean High Tide

Node: GWSINK

Scenario: Post-Condition-Perc
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 2.00 ft
Warning Stage: 2.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	2.00
0	0	0	30.0000	2.00

Comment: Groundwater Table

Node: N-Chambers

Scenario: Post-Condition-Perc
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 4.50 ft
Warning Stage: 8.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
4.50	0.0000	0.00
4.58	0.0004	17.42
4.67	0.0008	34.85
4.75	0.0011	47.92
4.83	0.0015	65.34
4.92	0.0019	82.76
5.00	0.0023	100.19
5.08	0.0029	126.32
5.17	0.0035	152.46
5.25	0.0040	174.24
5.33	0.0046	200.38
5.42	0.0051	222.16
5.50	0.0057	248.29
5.58	0.0062	270.07
5.67	0.0068	296.21
5.75	0.0073	317.99
5.83	0.0078	339.77
5.92	0.0083	361.55
6.00	0.0088	383.33
6.08	0.0092	400.75
6.17	0.0097	422.53
6.25	0.0101	439.96
6.33	0.0105	457.38
6.42	0.0108	470.45
6.50	0.0112	487.87

Stage [ft]	Volume [ac-ft]	Volume [ft3]
6.58	0.0116	505.30
6.67	0.0120	522.72
6.75	0.0124	540.14
6.83	0.0127	553.21
6.83	0.0127	553.21

Comment: StormTech
Model SC-310
Chamber bottom elev=5.0
Number of Chambers=12
Bottom stone = 4.5

Stage/Volume Calc from stormtech Chamber Model -
SC-310

Node: N-Dry Pond

Scenario: Post-Condition-Perc
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 5.75 ft
Warning Stage: 8.50 ft

Stage [ft]	Area [ac]	Area [ft2]
5.00	0.0005	22
6.00	0.0160	697
6.50	0.0430	1873
7.00	0.0970	4225
7.50	0.1260	5489
8.00	0.1620	7057
8.50	0.2000	8712

Comment: Dry Pond

Node: N1

Scenario: Post-Condition-Perc
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 5.23 ft
Warning Stage: 8.22 ft

Stage [ft]	Area [ac]	Area [ft2]
5.23	0.0001	4
6.50	0.0005	22

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.0089	388
7.50	0.0320	1394
8.00	0.1000	4356

Comment: ex. ditch
8.22' Edge of Ex. Pavement

Node: N2

Scenario: Post-Condition-Perc
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 4.32 ft
Warning Stage: 7.00 ft

Comment: Rim Elev - CB1

Drop Structure Link: DS-1

Scenario: Post-Condition-Perc
From Node: N-Dry Pond
To Node: BNDY-1
Link Count: 1
Flow Direction: Both
Solution: Combine
Increments: 0
Pipe Count: 1
Damping: 0.0000 ft
Length: 16.00 ft
FHWA Code: 0
Entr Loss Coef: 0.00
Exit Loss Coef: 0.00
Bend Loss Coef: 0.00
Bend Location: 0.00 dec
Energy Switch: Energy

Upstream Pipe		Downstream Pipe	
Invert:	5.75 ft	Invert:	5.50 ft
Manning's N:	0.0110	Manning's N:	0.0110
Geometry: Circular		Geometry: Circular	
Max Depth:	1.25 ft	Max Depth:	1.25 ft
Bottom Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000
Top Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000

Pipe Comment:

Weir Component

Weir: 1
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical
Geometry Type: Circular
Invert: 5.75 ft

Bottom Clip
Default: 0.00 ft
Op Table:
Ref Node:

Top Clip
Default: 0.00 ft
Op Table:

Control Elevation:	5.75 ft
Max Depth:	0.10 ft

Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment: 1.25 in dia. orifice

Weir Component

Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	7.00 ft
Control Elevation:	7.00 ft
Max Depth:	1.00 ft
Max Width:	1.25 ft
Fillet:	0.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	8.00 ft
Control Elevation:	8.00 ft
Max Depth:	2.00 ft
Max Width:	3.00 ft
Fillet:	0.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Drop Structure Comment:

Rating Curve Link: Infiltration-Chambers

Scenario:	Post-Condition-Perc
From Node:	N-Chambers
To Node:	GWSINK

Link Count: 1
Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
Infiltration-Chamber	4.51		4.50	

Comment: Stone Bottom

Pipe Link: P:N-Chamber		Upstream		Downstream	
Scenario:	Post-Condition-Perc	Invert:	5.00 ft	Invert:	4.50 ft
From Node:	N-Chambers	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	BNDY-2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	0.50 ft	Max Depth:	0.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	60.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: 6" Dia. Wq outfall

Pipe Link: P:N1-N2		Upstream		Downstream	
Scenario:	Post-Condition-Perc	Invert:	5.23 ft	Invert:	4.32 ft
From Node:	N1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	N2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	124.80 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: Ex. 18" rcp

Pipe Link: P:N2-BNDY1	Upstream	Downstream

Scenario:	Post-Condition-Perc	Invert:	4.32 ft	Invert:	3.00 ft
From Node:	N2	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BNDY-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	110.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: W:Dry Pond-BNDY1

Scenario:	Post-Condition-Perc	Bottom Clip	
From Node:	N-Dry Pond	Default:	0.00 ft
To Node:	BNDY-1	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	8.00 ft	Discharge Coefficients	
Control Elevation:	8.00 ft	Weir Default:	2.800
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	6.00 ft	Orifice Table:	
Left Slope:	3.000 (h:v)		
Right Slope:	3.000 (h:v)		

Comment:

Simulation: Post-002

Scenario:	Post-Condition-Perc
Run Date/Time:	4/4/2024 3:06:04 PM
Program Version:	ICPR4 4.07.08

General

Run Mode:	Normal			
	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Post
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Post

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 4.78 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: Post-010

Scenario: Post-Condition-Perc
Run Date/Time: 4/4/2024 3:06:13 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Post
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Post

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	7.32 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: Post-025

Scenario: Post-Condition-Perc
Run Date/Time: 4/4/2024 3:06:22 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Post
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Post

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 8.97 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: Post-100

Scenario: Post-Condition-Perc
Run Date/Time: 4/4/2024 3:06:30 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

Hydrology [sec]	Surface Hydraulics

		[sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Post
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Post

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 11.80 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Pond Water Quality Drawdown Calculation

Dry Pond Basin: B3

Site Information

Roadway

Disturbed area 0.0 acres | Built Upon Area (Imp. Area) Dr 0.45 acres

Detention Time 24.0 hours | area) Draining to Pond

(Whichever is greater: 1/2 an inch over the entire project site or 1 inch over the built upon portion of the site)

0.00 ac.ft 1.5" over the built upon area = 0.06 ac.ft

Storage Required: 0.06 ac.ft

Storage Provided: 0.06 ac.ft

	Contour (ft-MSL):	Area (sf)	Area (Ac)	Inc. Vol (cu. ft)	Acc. Storage (cu. ft)	Storage (Ac-Ft)	Stage (ft)
N.P	6.00	0,685	0.02	0,000	0,000	0.00	0.00
1st overflow weir	7.00	4,216	0.10	2,451	2,451	0.06	1.00

Discharge Rate

Q = Required Storage Volume ÷ 24 hours

Q = 2,450.3 ÷ 24 hours

Q = 0.03 cfs

Maximum Area of Orifice

c (co-efficient) = 0.60

g (gravity) = 32.20 ft. / sec

Ave. Head = (weir overflow elev. - (orifice elev. + ((orifice size ÷ 2) ÷ 12))) ÷ 2

H (Ave. Head) = 0.47 ft.

A = Q ÷ c((2gH)^½)

A = 0.01 sq. ft.

Designed Orifice / Notch Information

Circular Orifice Option

Overflow Weir Elev. = 7.00 ft | Pool Elev. = 6.00 ft

Size of Orifice = 1.25 in. = 0.009 sq. ft.

c (co-efficient) = 0.60

g (gravity) = 32.20 ft. / sec

H (Head) = 0.47 ft.

Q = c A ((2gH)^½)

Q = 0.03 cfs

Rectangular Notch Option

Width of Weir Notch = 0 in. = 0.00 sq. ft.

K = 3.33 (constant for CFS)

L = Length of Weir

H = Driving Head 1.00 ft.

$Q = K (L - 0.2 H) (H^{1.5})$

Q = -0.67 cfs

Drawdown Time for Circular Orfice

Time = Required Storage Volume ÷ Q

Time = **24.1** hours

> 24 hours … O.K.

Drawdown Time for Rectangular Notch

Time = Required Storage Volume ÷ Q

Time = **-1.0** hours

< 24 hours … Re-design

Perc System # Chambers - SC-310

Given Data:

Trench Height =	2.3	ft
Trench Width =	10.0	ft
Trench Length =	50.0	ft
Bottom Trench Elev. =	4.5	ft
Pipe Diameter =	1	in
Pipe Invert Elevation =	5.0	ft
Percent Voids =	40.0	%
System High Water =	6.8	ft
Water Table Elevation =	2.0	ft
Infiltration Rate =	0.0006250	ft / sec

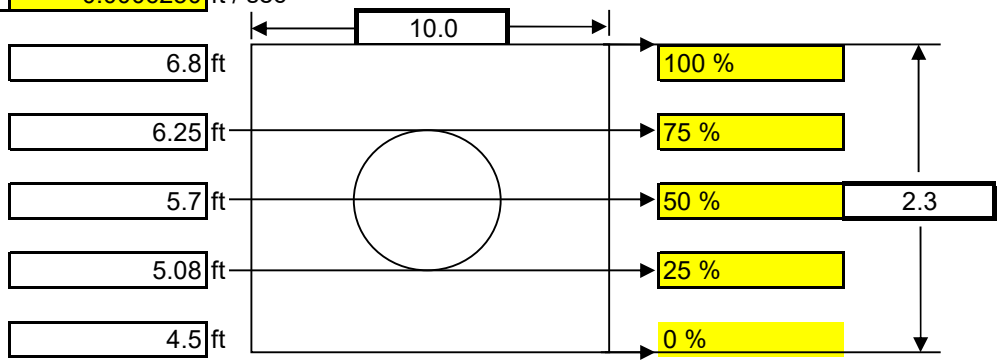
$A = 3.14 \times r^2$

Area Pipe = 0.00 sq. ft.

Infiltration Conversion

27.00 in / hr = 0.00062500 ft / sec

Per Geotech testing



Perc System # Chambers - SC-310

Perc System Recharge Rate $Q = (K \times A \times Hg) \div 2$

Elevation = 4.5 Hg = 0.00
Q = **0.00** **cfs**

Elevation = 5.1 Hg = 1.09
Q = **0.38** **cfs**

Elevation = 5.7 Hg = 1.16
Q = **0.45** **cfs**

Elevation = 6.2 Hg = 1.21
Q = **0.51** **cfs**

Elevation = 6.8 Hg = 1.24
Q = **0.57** **cfs**

Project: **Parking Access Relocation**

Chamber Model -	SC-310	
Units -	**Imperial**	Click Here for Metric
	100	
Number of chambers -	10	
Voids in the stone (porosity) -	40	%
Base of Stone Elevation -	4.50	ft
Amount of Stone Above Chambers -	6	in
Amount of Stone Below Chambers -	6	in
Area of system -	500	sf Min. Area - 237 sf min. area

☑ Include Perimeter Stone in Calculations

Height of System *(inches)*	Incremental Single Chamber *(cubic feet)*	Incremental Total Chamber *(cubic feet)*	Incremental Stone *(cubic feet)*	Incremental Ch & St *(cubic feet)*	Cumulative Chamber *(cubic feet)*	Elevation *(feet)*
28	0.00	0.00	16.67	16.67	555.23	6.83
27	0.00	0.00	16.67	16.67	538.56	6.75
26	0.00	0.00	16.67	16.67	521.89	6.67
25	0.00	0.00	16.67	16.67	505.23	6.58
24	0.00	0.00	16.67	16.67	488.56	6.50
23	0.00	0.00	16.67	16.67	471.89	6.42
22	0.06	0.59	16.43	17.02	455.23	6.33
21	0.15	1.55	16.05	17.59	438.21	6.25
20	0.27	2.66	15.60	18.26	420.61	6.17
19	0.54	5.45	14.49	19.94	402.35	6.08
18	0.70	7.04	13.85	20.89	382.42	6.00
17	0.82	8.25	13.37	21.61	361.52	5.92
16	0.92	9.25	12.97	22.21	339.91	5.83
15	1.01	10.15	12.61	22.76	317.70	5.75
14	1.09	10.95	12.29	23.23	294.94	5.67
13	1.15	11.54	12.05	23.59	271.71	5.58
12	1.21	12.15	11.81	23.96	248.11	5.50
11	1.27	12.75	11.57	24.32	224.16	5.42
10	1.32	13.25	11.37	24.61	199.84	5.33
9	1.36	13.65	11.21	24.86	175.23	5.25
8	1.40	14.05	11.05	25.10	150.37	5.17
7	1.43	14.35	10.93	25.27	125.27	5.08
6	0.00	0.00	16.67	16.67	100.00	5.00
5	0.00	0.00	16.67	16.67	83.33	4.92
4	0.00	0.00	16.67	16.67	66.67	4.83
3	0.00	0.00	16.67	16.67	50.00	4.75
2	0.00	0.00	16.67	16.67	33.33	4.67
1	0.00	0.00	16.67	16.67	16.67	4.58

Conversion Table for Stage-Volume Input to ICPR

(cubic feet)	*(feet)*	Ac-Ft 43560 (Conversion)
0.00	4.50	
16.67	4.58	0.0004
33.33	4.67	0.0008
50.00	4.75	0.0011
66.67	4.83	0.0015
83.33	4.92	0.0019
100.00	5.00	0.0023
125.27	5.08	0.0029
150.37	5.17	0.0035
175.23	5.25	0.0040
199.84	5.33	0.0046
224.16	5.42	0.0051
248.11	5.50	0.0057
271.71	5.58	0.0062
294.94	5.67	0.0068
317.70	5.75	0.0073
339.91	5.83	0.0078
361.52	5.92	0.0083
382.42	6.00	0.0088
402.35	6.08	0.0092
420.61	6.17	0.0097
438.21	6.25	0.0101
455.23	6.33	0.0105
471.89	6.42	0.0108
488.56	6.50	0.0112
505.23	6.58	0.0116
521.89	6.67	0.0120
538.56	6.75	0.0124
555.23	6.83	0.0127

Appendix E

Inspection Log and Reports

SWPPP Inspection Log			
Name of Construction Site	Location of Construction Site		
Murrells Inlet Landing & Parking Access Relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576.**		
Date of Inspection	**Inspector Name**	**Does Inspection Report require maintenance of installed BMPs?**	
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**

SWPPP Inspection Log (Continued)			
Date of Inspection	**Inspector Name**	**Does Inspection Report require maintenance of installed BMPs?**	
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**
		☐ **Yes**	☐ **No**

Appendix F

Rainfall Log and Reports

SWPPP Rainfall Records (January - June)										Year:	
January	Rainfall	February	Rainfall	March	Rainfall	April	Rainfall	May	Rainfall	June	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30				30		30		30		30	
31				31				31			

SWPPP Rainfall Records (July - December)										Year:	
July	Rainfall	August	Rainfall	September	Rainfall	October	Rainfall	November	Rainfall	December	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30		30		30		30		30		30	
31		31				31				31	

Appendix G

Additional Site Logs and Records

SWPPP Pre-Construction Conference Attendance Log	
Date & Time	Description/Outline and Name of the Presenter of SWPPP and Site Requirements

Name	Company	Signature

SWPPP Pre-Construction Conference Attendance Log (Continued)		
Name	**Company**	**Signature**

SWPPP Contractor & Sub-Contractor Log

Name of Construction Site	Location of Construction Site
Murrells Inlet Landing & Parking Access relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576**

Company/Individual Name		Work Responsibilities
1.)		
Start Date:		
Completion Date:		
2.)		
Start Date:		
Completion Date:		
3.)		
Start Date:		
Completion Date:		
4.)		
Start Date:		
Completion Date:		
5.)		
Start Date:		
Completion Date:		
6.)		
Start Date:		
Completion Date:		
7.)		
Start Date:		
Completion Date:		
8.)		
Start Date:		
Completion Date:		
9.)		
Start Date:		
Completion Date:		
10.)		
Start Date:		
Completion Date:		

SWPPP Contractor & Sub-Contractor Log (Continued)		
11.)		
Start Date:		
Completion Date:		
12.)		
Start Date:		
Completion Date:		
13.)		
Start Date:		
Completion Date:		
14.)		
Start Date:		
Completion Date:		
15.)		
Start Date:		
Completion Date:		
16.)		
Start Date:		
Completion Date:		
17.)		
Start Date:		
Completion Date:		
18.)		
Start Date:		
Completion Date:		
19.)		
Start Date:		
Completion Date:		
20.)		
Start Date:		
Completion Date:		
21.)		
Start Date:		
Completion Date:		

SWPPP Modification Log

Name of Construction Site	Location of Construction Site
Murrells Inlet Landing & Parking Access Relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576**

Type of Modification		Description of Modification		Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:			**Approved/Implemented By:**	
Type of Modification		**Description of Modification**		**Location of Modification**
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:			**Approved/Implemented By:**	
Type of Modification		**Description of Modification**		**Location of Modification**
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:			**Approved/Implemented By:**	
Type of Modification		**Description of Modification**		**Location of Modification**
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:			**Approved/Implemented By:**	
Type of Modification		**Description of Modification**		**Location of Modification**
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:			**Approved/Implemented By:**	

SWPPP Modification Log (Continued)

Name of Construction Site	Location of Construction Site
Murrells Inlet Landing & Parking Access Relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576**

Type of Modification			Description of Modification	Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:		**Approved/Implemented By:**		

Type of Modification			Description of Modification	Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:		**Approved/Implemented By:**		

Type of Modification			Description of Modification	Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:		**Approved/Implemented By:**		

Type of Modification			Description of Modification	Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:		**Approved/Implemented By:**		

Type of Modification			Description of Modification	Location of Modification
☐ **Major** ☐ **Minor**				
Start Date:				
Completion Date:				
Reason for Modifications:		**Approved/Implemented By:**		

SWPPP Soil Stabilization Log

Name of Construction Site	Location of Construction Site
Murrells Inlet Landing & Parking Access Relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576**

Type of Stabilization		Description of Stabilization		Location of Stabilization
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	

SWPPP Modification Log (Continued)

Name of Construction Site	Location of Construction Site
Murrells Inlet Landing & Parking Access Relocation – Belin Church	**Public boat landing adjacent to Belin Memorial United Methodist Church 4183 Highway 17 Business, Murrells inlet, Georgetown County, SC 29576**

Type of Stabilization		Description of Stabilization		Location of Stabilization
☐ **Final** ☐ **Temporary**				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			**Inspection Frequency for Stabilized Area:**	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ **Final** ☐ **Temporary**				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			**Inspection Frequency for Stabilized Area:**	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ **Final** ☐ **Temporary**				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			**Inspection Frequency for Stabilized Area:**	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ **Final** ☐ **Temporary**				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			**Inspection Frequency for Stabilized Area:**	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ **Final** ☐ **Temporary**				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			**Inspection Frequency for Stabilized Area:**	

Attachment A - Maintenance Plan

1. Approved Stormwater Management BMP Maintenance Plan.

2. Approved by Georgetown County, South Carolina – Stormwater Management BMP Maintenance Agreement.

3. Approved EXISTING CONDITIONS/WATER QUALITY PLAN – RECORD DRAWING.

SC NPDES Permit Tracking Number: PENDING

Coastal Zone Consistency Reference #: HPP-Y3E5-2WKNJ

Stormwater Management BMP Maintenance Plan
for
Murrells Inlet Landing & Parking Access Relocation
Belin United Methodist Church
Murrells Inlet, Georgetown County, South Carolina

BMP	Maintenance Required	Maintenance Interval
Permanent vegetative ground cover.	Mow grassed areas and maintain healthy condition of all other plantings. Remove and replace any dead vegetation.	Mow when grassed areas reach a maximum of 3 inch height. Remove and replace dead vegetation a minimum of once every six months.
Catch basins, curb inlets and yard drains.	Remove any trash from grates of collection system.	Remove trash every month or as determined to be necessary after visual inspection associated with major storm event.
Dry Detention Pond(s).	Check in-falls, outfalls, mow ponds, and remove woody plants and saplings from embankments.	Mow when grassreachs a maximum of 3 inch height. Remove woody plants and saplings once every year. Remove trash every month or as determined to be necessary after visual inspection associated with major storm event.
Additional Maintenance: Sweep paved private areas as needed to remove sediment, sand, and trash after major storm events or as determined to be necessary after weekly site inspection.		

Appendix H

Construction General Permit SCR100000

A copy of the NPDES General Permit for Stormwater Discharges from Construction Activities (SCR100000) can be found at the following address:

http://www.scdhec.gov/environment/water/swater/docs/CGP-permit.pdf