STORM WATER POLLUTION PREVENTION PLAN (SWPPP) UPDATE - 2019

MARINE CORPS AIR STATION BEAUFORT, SOUTH CAROLINA

Submitted to:

Marine Corps Air Station
Natural Resources and Environmental Affairs Office
PO Box 55001
Beaufort, SC 29904

21 August 2019

MultiMAC JV

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MARINE CORPS AIR STATION BEAUFORT, SOUTH CAROLINA

Contract N62470-13-D-8025
Task Order N4008518F6342
Security Classification: Unclassified
MultiMAC JV Project 6480188098

Submitted to:
Marine Corps Air Station
Natural Resources and Environmental Affairs Office
PO Box 55001
Beaufort, SC 29904

21 August 2019

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This report was produced under the direction of a professional engineer and reviewed by a senior professional.

8/21/2019	8/21/2019
Prepared by: Date	Reviewed by: Date
Angela Vandelay, PE	Shaun Rankin, CHMM
Senior Engineer	Principal Scientist

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Distribution of Storm Water Pollution Prevention Plan

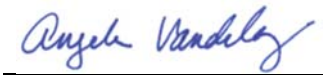
PERSON/SECTION	DATE	INITIALS

SWPP PLAN CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

AUTHORIZED SIGNATORY(S)	TITLE	PHONE NO.	DATE

This SWPP Plan has been examined by a licensed professional engineer familiar with the NPDES permit rules and regulations. It should be clearly noted that there is no legal guarantee associated with the SWPP Plan, but is a statement that, to the best of his/her knowledge, the plan has been prepared in accordance with good engineering practices. No other warranties, expressed or implied, are provided. This statement shall in no way relieve MCAS Beaufort of their duty to prepare or fully implement this plan.



8/21/2019

Angela Vandelay, PE
SC# 32022

Date

ANNUAL SWPPP REVIEW CERTIFICATION SHEET

DATE OF REVIEW	REVIEW STATUS, NO CHANGE, OR AMENDMENT REQUIRED	PRINTED NAME	SIGNATURE – OTHER

Note: If Professional Engineer certification is required, enter state and license number in the "other" column.

As a result of this review, this activity may be required by 40 CFR 122 to amend this SWPP Plan to include more effective pollution prevention technology and best management practices (BMPs), if such technology is field proven and if implementation of the technology will significantly reduce the likelihood of the contamination of storm water.

The SWPPP Team leader is assigned the responsibility of ensuring that this plan will be reviewed and amended in accordance with 40 CFR 122.

RECORD OF AMENDMENTS

40 CFR 122 requires an activity to amend their SWPP Plan whenever there is a change in facility design, construction, operation, or maintenance that materially affects the potential for storm water contamination at the facility. All amendments will be implemented as soon as possible after such change occurs.

This record sheet is provided to summarize amendments to the SWPP Plan. The SWPP Team leader will be responsible for ensuring that the SWPP Plan is amended in strict accordance with 40 CFR 122.

DATE	SUMMARY OF AMENDMENT (REFERENCE ATTACHMENTS)	PRINTED NAME	SIGNATURE
12/2005	Change to Tank 979; update with review of landfills	JB Sinclair	
01/2007	Changes to staff/team and unit listings	JB Sinclair	
02/2007	Update SWPP Team listing to reflect promotions (SSgt Brady)	JB Sinclair	
06/2007	Update SWPP Team members – Figure 1 and Table 1	JB Sinclair	
01/2009	Update SWPP Team members – Figure 1 and Table 1; update OCRM; remove WWTPs	JB Sinclair	
11/2009	Update SWPP Team member, add FHA guidelines, complete re-printing	JB Sinclair	
3/2010	Update Team, modify BMP for hangars, update drawing, update FHA guidance	JB Sinclair	
12/2010	Update Team.	JB Sinclair	
02/2010	Update Team, add monitoring specifics.	JB Sinclair	
02/2012	Complete update.	Reece Batten	
12/2012	Update Team, spill summary.	Reece Batten	
12/2014	Update spill summary, checklists, areas updated	Reece Batten	
10/2015	Update team	Reece Batten	
08/2019	Five-year SWPPP recertification	Angela Vandelay	

USER ACKNOWLEDGEMENT SHEET

My signature below certifies that I have read this SWPP Plan, dated 21 August 2019, and clearly understand my responsibilities, as laid out in this plan, concerning the prevention of potential pollutants entering storm drainage systems and this command's dedication to the quality of water at MCAS Beaufort.

DATE	PERSONNEL NAME	SIGNATURE	RANK/CODE

1 INTRODUCTION

Marine Corps Air Station (MCAS) Beaufort is in southeast South Carolina, near the City of Beaufort. The MCAS Beaufort is on the northern end of Port Royal Island in Beaufort County. Port Royal Island is separated from the mainland by the Broad River to the west and by Whale Branch and the Coosaw River to the north. MCAS Beaufort lies approximately three miles northwest of downtown Beaufort, on the east side of U.S. Highway 21. South Carolina State Route 116 extends west from the main gate of MCAS Beaufort three miles to the entrance gate of the Laurel Bay Housing Area.

MCAS Beaufort is situated in an environmentally sensitive tidewater area, in a low-lying coastal plain. Marsh areas and tidal creeks dominate the eastern boundary, and the MCAS Beaufort encompasses extensive wetlands and low-lying areas. Groundwater elevations are as high as 3.5 feet below ground surface. The southern and central portions of MCAS Beaufort are well developed, including administrative, maintenance, and support structures; barracks; and housing.

1.1 BACKGROUND

The Federal Clean Water Act (CWA) prohibits the discharge of any pollutant to waters of the United States from a point source unless that discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The Water Quality Act of 1987 (WQA) added to the CWA a provision requiring the United States Environmental Protection Agency (EPA) to promulgate regulations governing storm water discharges under the NPDES program.

In November 1990, the EPA published final regulations that established permitting requirements for storm water point-source discharges associated with industrial activity. The State of South Carolina, through delegation from the EPA, administers the NPDES program in the State. Administration of the NPDES program includes management of the storm water program. As a delegated state, South Carolina must have requirements that are at least as stringent as the federal program. A copy of the MCAS Beaufort Order implementing the requirements of the NPDES Storm Water Permit and the MCAS Beaufort's SWPP program is included in Appendix A.

In September 1992, the South Carolina Department of Health and Environmental Control (SCDHEC), Division of Industrial and Agricultural Wastewater, issued NPDES General Permit No. SCR000000 for storm water discharges associated with industrial activity (IGP). General Permit SCR000000 became effective on 01 October 1992 and expired on 30 September 1997. The IGP has since been renewed four times. The most recent version of the IGP, effective 01 October 2016, did not include significant changes to the SWPPP requirements from the 2011 IGP. A copy of the 2016 IGP is included in Appendix B.

The contact for industrial and construction activity storm water permitting in South Carolina is:

South Carolina Department of Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, SC 29201
803-898-3544

1.2 PURPOSE OF THIS DOCUMENT

This SWPPP was developed specifically for the MCAS Beaufort, located at Geiger Boulevard, Beaufort, SC (Figure 1A in Appendix E). The SWPPP was prepared in accordance with the terms and conditions outlined in the IGP, and guidance set forth in the EPA document titled "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices" (1992).

The purposes of the SWPPP are to:

- Identify sources of pollution that potentially affect the quality of storm water discharges from the MCAS Beaufort;
- Describe and provide a means to ensure that practices are implemented to eliminate, minimize, or control pollutants from entering storm water discharges; and
- Ensure compliance with the terms and conditions of the storm water discharge permit.

The contents of the SWPPP are specified in Section 5 of the IGP. In general, the SWPPP must contain a detailed site description (including figures), summary of potential pollutant sources, description of control measures, schedules and procedures, spill prevention and response procedures, a Storm Water Pollution Prevention Team, an employee training program and inspection and monitoring procedures. Updated copies of documentation of training, monitoring, inspections, and maintenance activities are to be kept with the annual review documentation.

The SWPPP must be amended whenever there is a change in the design, construction, operation, or maintenance of the site that significantly affects the potential for discharge of pollutants to the waters of South Carolina. The SWPPP must also be amended if the SWPPP proves to be ineffective in eliminating or significantly minimizing discharge of pollutants from potential pollutant sources, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Where corrective actions result in changes to any of the controls or procedures documented in the SWPPP, the SWPPP must be modified accordingly within 14 calendar days of completing corrective action work. In addition, the SCDHEC may notify the site at any time that the SWPPP does not meet the minimum requirements. Within 30 days of notification, required changes to the plan must be made and written certification must be submitted to SCDHEC that the requested changes have been completed.

Implementation of the SWPPP includes documentation of corrective measures, inspections and maintenance activities, and training provided to employees. The MCAS Beaufort must retain the SWPPP, copies of all reports required by the IGP, and records of all data used to complete the NOI until at least three years after Permit coverage expires. Such information must be made available to the SCDHEC upon request.

The SWPPP shall be signed by either a principal executive officer, mayor or other duly authorized employee or ranking elected official or by a duly authorized representative of that person. All reports required by the IGP or other information requested by the SCDHEC must be signed by the person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if authorization is made in writing and submitted to the SCDHEC. The authorized person must have responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company or organization.

1.3 ELEMENTS OF A STORM WATER POLLUTION PREVENTION PLAN

The SWPPP consists of information regarding potential sources of storm water pollution at a given site and the BMPs either recommended or in place at that site that minimize that potential. BMPs include structures, processes, procedures, and prohibitions on activities or practices that could prevent pollutants from (or reduce the amount of pollutants) entering storm water.

This SWPPP contains the information suggested by the EPA for preparation of such plans. Section 2 describes various elements of the SWPP program at MCAS Beaufort, including training, monitoring, maintenance of the SWPPP, and overlap with other programs affecting storm water management. Section 3 describes the organization of the SWPP team, identifies its members, and lists their responsibilities; and Section 4 is an overview of the MCAS Beaufort's industrial activities. Potential sources of pollutants are detailed by industrial area in Section 5. For each area, the BMPs used as the fundamental means of minimizing releases of hazardous or toxic compounds to storm water are detailed. BMPs recommended for implementation at specific areas are also included. Under the IGP, quarterly monitoring is required; the monitoring requirements and plan for such monitoring at the MCAS Beaufort are described in Section 6.

2 STORM WATER POLLUTION PREVENTION PROGRAM

The goal of all federal, state, and local storm water management programs is to improve water quality by reducing pollutants contained in storm water discharges. Several things can make this challenging. The original sources of pollutants transported in storm water can be spread out over a wide area. Small oil and grease spills at hundreds of different activities at a single facility can collectively represent a major pollution problem once combined in storm water effluent. Further, the nature of storm water is such that the amount of pollutants that enter the receiving waters will vary in accordance with the frequency, intensity, and duration of rainfall and the nature of the drainage patterns.

A program to prevent storm water pollution will consist of a variety of elements, from structural to practical. MCAS Beaufort's program includes the following:

- Identifying and evaluating potential sources of storm water pollution,
- Implementing BMPs (both structural and operational) to prevent operations and facilities from becoming actual sources of storm water pollution,
- Training personnel involved in industrial operations that are potential sources of storm water pollution to ensure they know and understand BMPs applicable to their operations,
- Inspecting industrial facilities to ensure that BMPs are fully implemented and that the integrity of structures in place to prevent releases to storm water is maintained,
- Regularly evaluating the adequacy and effectiveness of existing BMPs to determine whether additional or modified BMPs are needed,
- Monitoring discharges to ensure conformance with guidelines, and
- Implementing timely corrective actions to address unauthorized releases or discharges, a discharge that violates a numeric effluent limit, control measures not stringent enough for the discharge to meet applicable water quality standards, modifications to control measures are necessary to meet the non-numeric effluent limits or control measures are not being properly operated or maintained.

Further, the MCAS Beaufort has implemented a long-term strategy to reduce the potential risk to surrounding waters by reducing storm water runoff from. For any new construction of impervious surfaces at the MCAS Beaufort, an equal (or greater) amount of existing impervious surface is demolished, resulting in a net decrease over time.

The IGP that applies to the MCAS Beaufort includes requirements for the elements listed above, most of which are included in the Section that addresses the contents of an SWPPP (Part 5). Documentation of the first two elements (identifying and evaluating potential sources of storm water pollution and the BMPs put in place to eliminate or reduce the risk of storm water pollution) is in Section 5. Every facility and activity that might "reasonably be expected to add significant amounts of pollutants to storm water discharges" are described, including the types of materials

used or stored at those locations that could contribute to storm water pollution and their locations with respect to storm water drains. Spills and leaks at these areas have also been listed (required under 5.1.3.3).

Section 2.5 addresses the overall program's relationship with other pollution prevention and response programs, including MCAS Beaufort's responsibilities for reporting water priority chemical releases under EPCRA Section 313. Section 2.6 updates the MCAS Beaufort's program to correct illicit discharges, and Section 2.7 reviews potential requirements of Phase II regulations.

2.1 PERSONNEL TRAINING

Facilities covered under the IGP are required to train employees in good housekeeping and storm water pollution preventive measures at the facility. At the MCAS Beaufort, storm water training will be conducted annually, or more often if considered necessary by the Pollution Prevention Team, with each industrial facility. The training will address each component of the SWPPP. Focused areas of training will include:

- Relevant regulatory requirements and industry standards
- Good housekeeping practices
- Preventive maintenance activities
- Spill prevention and response

Documentation of employee training is included in each Storm Water Pollution Prevention Annual Comprehensive Site Inspection Reviews. A brief description of each topic, as applicable, to be covered as part of the storm water management training program is outlined below.

Regulatory Requirements and Industry Standards

- Employees will be instructed on applicable federal and state NPDES storm water regulations, and other applicable regulations regarding storm water management.
- Employees will receive instruction on use of the SWPPP for storm water management.

Good Housekeeping Practices

- Employees will be instructed on proper storage of oils and chemicals.
- Employees will be instructed to promptly clean up materials spilled in order to prevent storm water from becoming contaminated.
- Places will be designated where housekeeping and spill response equipment (e.g., brooms, absorbents) will be located.

Preventive Maintenance Activities

- Employees will be instructed to recognize the improper functioning of storm water controls and site equipment.
- Employees will be instructed to clean and/or drain equipment and other materials before storage outside.

Spill Prevention and Response

- Employees responsible for spill response activities will be taught how to implement the site's spill response procedures quickly and safely.
- Employees will be shown the potential spill areas and storm water drainage routes.
- Employees will be given instructions on spill reporting and notification procedures.
- Locations of spill response equipment will be designated.

Personnel refresher training is held annually, and new personnel receive training within thirty (30) days of assignment. Personnel training is documented through the CETEP coordinator, who maintains records of all environmental training at the MCAS Beaufort. The SWPP team leader coordinates training for all SWPP team members in the elements of the SWPPP. The SWPP team members coordinate training for all area personnel within their jurisdiction on the proper implementation of BMPs.

2.2 INSPECTIONS, MONITORING, AND EVALUATIONS

The permit requires a system of inspections (Part 4.1) and monitoring and evaluations (Part 4.2) to ensure pollutants are not discharged to waters of the State and to improve the effectiveness of this program.

2.2.1 Routine Inspections

The facility inspections should be performed by qualified personnel with at least one member of the Storm Water Pollution Prevention Team participating. Based on the results of each facility inspection, the description of potential pollutant sources and pollution prevention measures and controls identified in the SWPPP must be revised as appropriate. All Routine and Comprehensive Inspection results along with any Corrective Action reports will be recorded on inspection sheets and recorded in the Annual Comprehensive Site Inspection Review Report and kept for a period of at least 3 years after the date that coverage under the IGP expires or is terminated.

The IGP requires facility inspections of the MCAS Beaufort quarterly, or more frequently if considered necessary by the Storm Water Pollution Prevention Team. The Facility Inspection checklist form is found in Appendix C. Per the IGP, the documentation of each routine inspection must include:

- The inspection date and time;
- The name(s) and signature(s) of the inspector(s);
- Weather information and a description of any discharges occurring at the time of the inspection;
- Any previously unidentified discharges of pollutants from the site;
- Any control measures needing maintenance or repairs;
- Any failed control measures that need replacement;
- Any incidents of noncompliance observed; and
- Any additional control measures needed to comply with the permit requirements.

2.2.2 Monitoring

Monitoring requirements in the IGP include effluent limitations monitoring, benchmark monitoring, impaired waters monitoring, Total Maximum Daily Load (TMDL) monitoring and visual assessments.

Effluent Limitations Monitoring – MCAS Beaufort has no industrial activity with effluent limitations monitoring requirements.

Benchmark Monitoring – The industrial activities at MCAS Beaufort have no benchmark monitoring requirements.

Impaired Waters Monitoring – As part of the annual review, the status of impaired streams and TMDL development for receiving waters is determined. Under the IGP, the permittee "must monitor once per year at each outfall (except substantially identical outfalls) discharging storm water to impaired waters". This monitoring may cease after one year if the pollutant for which the water body is impaired is not detected above natural background levels in the storm water discharge. MCAS Beaufort discharges to two subwatersheds, one of which is impaired:

- Coosaw River – Approximately a third of the northern property of MCAS Beaufort discharges into subwatershed 030502071102 – the Coosaw River. Several stations in this subwatershed are impaired for turbidity (RT-11015, RT-02015, MD-281), fecal coliform (14-02, 14-13A) and copper (RT-02015). These impaired stations are listed as long-term priority (Priority 3) and will be addressed by SCDHEC through development of a TMDL (or alternative restoration plan) during the 2019-2022 timeframe.

  Although the MCAS Beaufort is located on the Coosaw River watershed, the only industrial activities in the area which discharges to the Coosaw River Subwatershed are firing ranges, Explosive Ordnance Disposal (EOD) and ordnance activities. Therefore, MCAS Beaufort will monitor annually one of the substantially identical outfalls in the Coosaw River subwatershed for turbidity, fecal coliform, and copper. The monitoring for one or more of these three parameters may cease after one year if the that parameter is not detected above natural background levels in the storm water discharge.

- Upper Beaufort River – Atlantic Intracoastal Waterway – A majority of the MCAS Beaufort discharges into subwatershed 030502080502 – the Upper Beaufort River. The Beaufort River has a TMDL for dissolved oxygen (DO), which is addressed below under TMDL monitoring. There are no additional impairments in the Upper Beaufort River subwatershed. Therefore, there are no impaired waters monitoring requirements related to the Upper Beaufort River subwatershed.

Total Maximum Daily Loads (TMDL) - The IGP requires an annual review of TMDLs for the receiving water(s). This information is available from the storm water pages of the SCDHEC

website. The Beaufort River is the only MCAS Beaufort receiving water with a TMDL (for dissolved oxygen (DO)). The current IGP states “No monitoring under this permit is required related to the impairment where the impairment is instream dissolved oxygen (DO) below the stream standard.” Therefore, no monitoring is required during the current permit cycle related to the Beaufort River TMDL for DO.

Visual Assessment - The IGP requires sampling of outfalls to assess the quality of water leaving the industrial sites after a rainfall event and to assess potential release of pollutants. Like most military installations, especially those in coastal regions, MCAS Beaufort has a large (100+) number of outfalls. The IGP allows sampling of substantially equivalent outfalls. Fuels are the most significant potential pollutant from the MCAS Beaufort industrial operations and thus a drainage basin representing the greatest potential for such releases was selected as having the characteristics of an essentially equivalent outfall: Fuels-001 - the discharge of the stormwater at adjacent to Hangar 2146 (hangar for VMFAT-501). If pollutants are identified for this location, the mitigation strategy devised to address the source(s) will be applied to all outfalls, or more extensive sampling undertaken for all such other outfalls. After qualifying rainfall events (and at least once every quarter), a storm water sample will be collected and visually evaluated for qualification of pollutant discharge.

The storm water discharges at outfall Fuels-001 will be visually assessed quarterly for the following water quality characteristics:

- Color
- Odor
- Clarity
- Floating solids
- Settled solids
- Suspended solids
- Foam
- Oil sheen

The visual examination will be of a sample collected in a clean, clear glass or plastic container and must be made during daylight hours within 30 minutes after storm water begins to runoff. Observed problems and comments will be recorded with date and time. The source of contamination and corrective action taken to eliminate it will also be recorded. The Visual Outfall Assessment Inspection Log is in Appendix D.

The following information should be included in the documentation:

- Sample location
- Sample collection date and time
- Personnel collecting the sample
- Nature of the discharge (e.g. runoff or snowmelt)
- Results of observation of the storm water discharge
- Probable sources of any observed storm water contamination and

- If applicable, why it was not possible to take the sample within the first 30 minutes.

2.2.3 Annual Comprehensive Inspections and SWPPP Evaluation

The Annual Comprehensive Site Inspection and SWPPP Evaluation Report documents the quarterly inspections and visual assessments conducted at the facility throughout the year and the conclusions of the annual SWPPP evaluation. The Annual Comprehensive Site Inspection may take the place of a quarterly Routine Facility Inspection.

As with routine facility inspections, all areas contributing to storm water discharges associated with industrial activity must be inspected during an annual inspection. Potential pollutants include sediment and fuels.

The annual inspection should:

- verify list of potential pollutant sources;
- confirm the accuracy of the SWPPP drainage map;
- determine if all storm water pollution prevention measures are accurately identified in the SWPP Plan, and are in place, maintained and working properly to adequately minimize pollutant loadings;
- determine if additional or alternative control measures are required;
- document findings; and
- complete SWPPP modifications as needed.

The Annual Comprehensive Site Inspection must include:

(1) The date of the inspection;
(2) The name(s) and title(s) of the personnel making the inspection;
(3) Findings from the examination of areas of the facility identified in Section 3.2 of this plan;
(4) All observations relating to the implementation of your control measures (including storm water ponds) including:
    a. previously unidentified discharges from the site;
    b. previously unidentified pollutants in existing discharges;
    c. evidence of, or the potential for, pollutants entering the drainage system;
    d. evidence of pollutants discharging to receiving waters at all facility outfall(s), and the condition of and around the outfall, including flow dissipation measures to prevent scouring; and
    e. additional control measures needed to address any conditions requiring corrective action identified during the inspection;
(5) Any required revisions to the SWPPP resulting from the inspection or corrective action;
(6) Any incidents of noncompliance observed or a certification stating the facility is in compliance with this permit (if there is no noncompliance); and
(7) A statement, signed and certified in accordance with SC R. 61-9.122.22.

As with routine facility inspections, the Annual Comprehensive Inspection must be documented on the form provided in Appendix C.

2.2.4 Corrective Actions

Corrective actions must take place after any incidence of an unauthorized release or discharge, a violation of a numeric effluent limit, if SCDHEC gives notice that control measures are not stringent enough, or if control measures are found to be inadequate during routine facility inspections. If construction or a change in design, operation or maintenance significantly changes the quantity of pollutants discharged, or if 4 quarterly sampling results exceed benchmark requirements, the corrective actions must be reviewed to determine if modifications are necessary to meet the effluent limits permitted.

Immediate action should be taken to temporarily minimize or prevent the discharge until new control measures can be put in place.

According to the IGP, there is a maximum of 14 calendar days to implement new control measures for the corrective action. If the corrective action implementation will exceed a 45-day (after discovery of incident) timeframe, SCDHEC must be notified with the intention, explanation, and completion date of the corrective action with the rationale of why an extension is needed.

This SWPPP must be updated with the new control measures within 14 days of the completion of the corrective action work.

2.2.4.1 Corrective Action Documentation

Within 24 hours or by the end of the next business day, the corrective action for an incident must be documented with the following information:

- Identification of the condition triggering the need for a corrective action;
- Description of the problem identified;
- The date and time the problem was identified; and
- Any immediate actions taken to temporarily correct the situation.

Within 14 days of the discovery any of the conditions listed in Section 5.3 of this plan, the incident must be documented with the following information:

- Summary of the permanent corrective action taken or to be taken;
- Notice of whether SWPPP modifications are required as a result of this corrective action;
- Date the corrective action is initiated; and
- Date the corrective action is completed or expected to be completed.

Corrective action reports must be kept on file and included in the Annual Compressive Site Inspection detailed in Section 2.2.3 of this plan.

2.3 MAINTENANCE OF STORM WATER POLLUTION PREVENTION PLAN

2.3.1 Plan Revisions and Updates

This SWPPP is maintained on site at the office of the SWPP team leader (Section 3). It represents operations at the MCAS Beaufort as of the date listed for this revision. The IGP requires that the SWPP Plan be revised if inspections reveal that either the description of potential sources or BMPs need to be added or amended. Such would be the case, for example, if MCAS Beaufort added or eliminated an activity or facility that represented a potential source of storm water pollution. Updates reflecting personnel changes do not constitute substantive changes to the plan. Review and revision of this plan should occur, but not be limited to, any of the following times:

- When there are changes in the design, construction, operation, or maintenance of an operation potentially affecting storm water that will have a significant effect on the potential for pollutant discharge into storm water released from the site;
- When new chemicals or other materials are brought onto the site, and the storage or use of the chemicals or other materials potentially affects storm water releases of pollutants;
- When a portion of the SWPPP is noted as ineffective through routine inspections or an annual audit (or assessment) of program performance; and
- When the permit is being renewed

Revisions are tracked in the log sheet placed inside the front cover of this plan. Each plan revision will be numbered, dated, and initialed by the SWPP team leader. Changes to the plan will be communicated to operating staff through routine meetings of the team.

MCAS Beaufort is not required to submit the SWPPP for review by the EPA or the South Carolina SCDHEC, unless specifically requested by them. If the SWPPP is reviewed by the EPA or the SCDHEC and found to be deficient is some way, the reviewing authority can require MCAS Beaufort to amend the SWPPP.

2.3.2 Certification of the Plan

The IGP specifies that the principal executive officer or senior executive officer having responsibility for the overall operations of the principal geographic unit of the agency must sign the SWPPP. The Assistant Chief of Staff for I&L (AC/S, I&L) is that responsible official for MCAS Beaufort; the NREAO is an authorized alternate designee. The certification for this SWPPP follows the Table of Contents at the front of this document.

2.4 RECORD KEEPING AND REPORTING

The record of the annual inspection and evaluation (described in Section 2.2.3 and Part 4.3 of the permit) must be certified and signed by the authorized representative of MCAS Beaufort, AC/S, I&L. The SWPP team leader maintains these records and must do so for at least one year after coverage under the permit terminates. The annual no exposure certifications, which also must be signed by the authorized representative, are maintained as part of this SWPPP and can be found at the beginning of the document. MCAS Beaufort is not required to submit these reports and certifications to the SCDHEC unless requested.

2.5 OTHER ENVIRONMENTAL MANAGEMENT PROGRAMS AND PLANS

Requirements of existing environmental management programs and plans that are applicable to storm water management have been evaluated and incorporated as appropriate into the SWPP Plan. Future storm water management practices required by other regulations will be evaluated by the SWPP Team and incorporated into the SWPP Plan during annual updates.

In September 2001, MCAS Beaufort completed and implemented an Integrated Contingency Plan (ICP). The ICP was prepared according to the National Response Team guidelines, which consolidated the requirements for response planning contained in several federal regulations—most particularly the EPA's Oil Pollution Prevention Regulation [containing Spill Prevention, Control, and Countermeasure (SPCC)] and OSHA's Emergency Response Action Plan (ERAP) regulation. Assessments made for those plans and updated for the ICP, such as potential spill routes and adequacy of containment, are applicable to the SWPPP. These programs work together to minimize the potential for storm water pollution at the MCAS Beaufort.

Another program that overlaps with SWPP is the EPA's reporting requirements under the Emergency Planning Community Right-to-Know Act (EPCRA). Guidance from the Department of Defense has resulted in additional reporting under SARA Title III, Section 313; MCAS Beaufort reports chemicals released from munitions used on the firing ranges, and any additional such releases from MCAS Beaufort operations. In accordance with the guidance, the firing range releases are reported separately from other releases at the MCAS Beaufort, that is, as if from a part of a common facility (under one TRI Facility ID). Releases from munitions discharges include copper and lead, which are Section 313 "water priority chemicals". The MCAS Beaufort also reports lead releases as waste from lead-based paint waste disposal and as a constituent in the solvent used to clean weapons at the Armory.

The requirement for reporting releases of "water priority chemicals" under Section 313 triggers additional requirements under SWPP regulations and the IGP. These requirements apply to facilities that have releases (not simply discharges) associated with industrial activity—which the firing ranges are not. However, requirements specifically apply to storage and loading/unloading areas for "water priority chemicals" and areas where "water priority chemicals" could be spilled or improperly disposed of. While none of these provisions would apply to the use of munitions on

the ranges, they do apply to other operations such as the Armory. Finally, because no chemicals are stored or used where they could be exposed to storm water at the ranges, these areas have not been included in this plan.

The following pollution management plans may contain potentially relevant elements that have been incorporated into the SWPP Plan.

- Integrated Contingency Plan (2010, 2014)
- S C Coastal Zone Management Program
- Hazardous Waste Management Plan (1994, 2000, 2013, 2018)
- Pesticide Management Plan (2016)

2.6 ILLICIT CONNECTION INVESTIGATION

Illicit connections are defined as direct physical connections to the storm drainage system that allow non-permitted waste waters or illicit flows to discharge to the storm drainage system. Illicit discharge reports, dated 13 January 1995, and 21 January 2000, detail the procedures and findings for the illicit connection investigation at MCAS Beaufort. Dye testing was used in the investigation to test potential sources of illicit discharges. All industrial related buildings and structures were tested and documented in these reports.

All of the findings of the 13 January 1995 illicit discharge report were implemented by January 2000. The 21 January 2000 illicit discharge report found seven discharges to the storm water collection system, which were eliminated or re-routed to the sanitary sewer by March 2002.

3 POLLUTION PREVENTION TEAM

3.1 PURPOSE OF THE TEAM

The purpose of the SWPP Team, as defined by the EPA, is to assist in the implementation, evaluation, and revision of the SWPP Plan. Individuals selected to serve on the team represent industrial and administrative activities at MCAS Beaufort and will provide proper coordination of the military commands and support activities.

Implementation of the initial SWPP Plan involved evaluation of existing BMPs; implementation of recommended BMPs (including associated design and construction activities); personnel training; inspections; and establishment of required records. Ongoing implementation includes inspections, record keeping, continuing evaluation of the effectiveness of existing BMPs, and revisions and/or additions of BMPs as needed for new and/or modified activities that have potential to be sources of storm water pollution. SWPP Plan implementation continues to involve all members of the team and all facilities that are addressed in the SWPP Plan.

Implementation of the BMPs described in the SWPP Plan is the responsibility of the individual operating units, working under the direction of a designated SWPP Team member. As with the other environmental programs at MCAS Beaufort, NREAO personnel assist and coordinate as described herein.

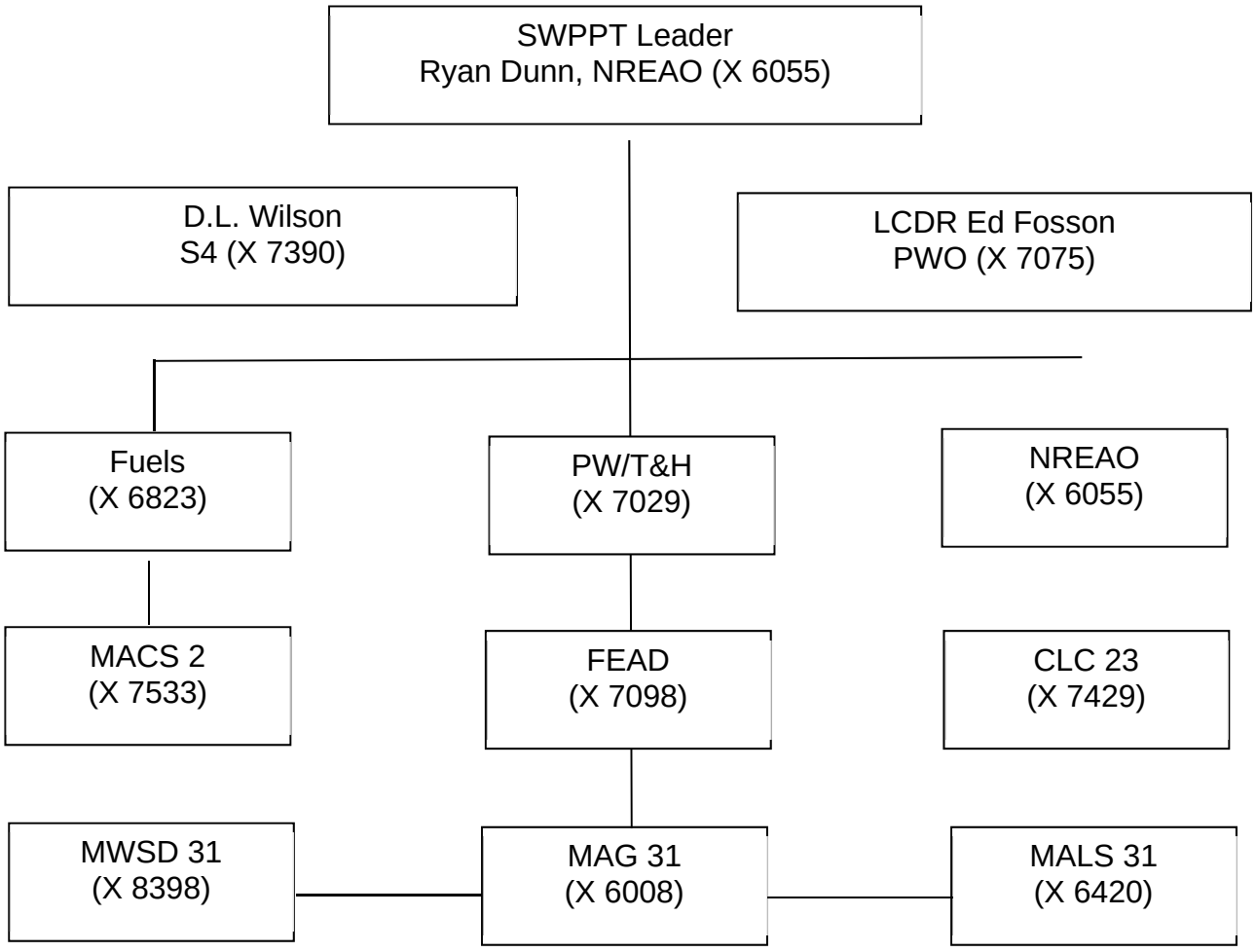
3.2 ORGANIZATION OF THE TEAM

The individual responsible for all activities at MCAS Beaufort, including implementation of the SWPP Plan, is the Commanding Officer. However, the SWPP Plan requires many detailed actions at all levels that are best handled by the SWPP Team. To accommodate the military chain-of-command, the SWPP Team is organized to follow established command structures and includes all levels of responsibility from the office to work center personnel.

The organizational arrangement of the SWPP Team is presented schematically in Figure 1. The SWPP Team leader will assist in coordinating the compliance activities of each command by providing guidance, training coordination, site inspections, and detailed assistance as required.

The SWPP Team meets at least once per year. Meeting minutes become part of the required documentation showing implementation of the SWPP Plan and are included in the Annual Comprehensive Site Inspection Review Report .

Figure 1: Storm Water Pollution Prevention Team



3.3 RESPONSIBILITIES OF THE TEAM MEMBERS

Table 1: Pollution Prevention Team Responsibilities

POSITION	RESPONSIBILITIES
Responsible Official (RO)	• Implement the SWPP Plan at all commands at MCAS Beaufort. • Ensure compliance with the SWPP Plan at each activity. • Certify the SWPP Plan and approve revisions based on annual site compliance evaluations for all facilities.

SWPP Team Leader	• Assist the RO in implementing the SWPP Plan.
	• Serve as chairperson of the SWPP Team.
	• Coordinate with the SWPP Team members to verify compliance with SWPP Plan implementation and operating requirements.
	• Coordinate with the SWPP Team members to verify that qualified personnel conduct compliance evaluations at appropriate intervals as specified in the SWPP Plan.
	• Prepare annual revisions of the SWPP Plan, as necessary, based on the quarterly inspections and SWPP Team member recommendations.
	• Review and forward to the RO for approval the annual update of the SWPP Plan, as necessary, covering all industrial facilities.
	• Verify the adequacy of SWPP Team member response actions for spills, leaks, or other discharges covered by the SWPP Plan.
	• Verify that SWPP Team members properly keep, update, and retain records within their area of responsibility as required by this SWPP Plan.
	• Coordinate annual SWPP Plan compliance inspections and evaluations of the designated units within each Command as specified in the SWPP Plan including:
	  • Evidence of pollutant discharges;
	  • Use of pollutant reduction measures;
	  • Maintenance and condition of spill response equipment; and,
	  • Records maintenance and updating.
	• Monitor the activities of facility personnel on a random basis as needed to ensure compliance with SWPP Plan implementation and operating requirements.
	• Prepare a report summarizing the results of each annual compliance inspection and evaluation. Annual reviews must include all incidents of non-compliance.
	• Review plans and drawings related to industrial facilities for new construction or remodeling for erosion control, maintenance, and recommended BMPs, to determine whether a revision to the SWPP Plan is required.

SWPP Team Leader (continued)	• Implement any modifications required to achieve compliance with the SWPP Plan as soon as possible after a change in design, construction operations, or maintenance of a facility. • Provide technical guidance for training in storm water pollution prevention. • Coordinate corrective actions for non-compliance within the timeframes required by the IGP.
SWPP Team Member	• Implement the initial SWPP Plan requirements within designated area of responsibility. • Ensure compliance with the SWPP Plan implementation and operating requirements.

POSITION	RESPONSIBILITIES
	• Conduct and/or direct qualified personnel to complete compliance evaluations and BMP forms at the intervals specified in this plan. • Oversee facility personnel to ensure compliance with the SWPP Plan implementation and operating requirements. • Provide recommendations for SWPP Plan revisions based on quarterly and annual site compliance inspections. • Designate and direct qualified personnel to conduct and document appropriate response action for spills, leaks, or other discharges covered by the SWPP Plan. • Ensure that records are properly kept, updated, and retained at each facility within their area of responsibility. • Provide training and technical guidance for SWPP Plan compliance and implementation for implementers.

3.4 POLLUTION PREVENTION TEAM MEMBERS

To ensure proper implementation, operation, and updating of the SWPP Plan, specific individuals are identified to serve on the SWPP Team (as listed below).

Table 2: Pollution Prevention Team

Team Member	Organization	Phone Number
C. Johnson	Fuels	(843) 228-6824
HAZMAT Coordinator*	CLC 23	(843) 228-8534
HAZMAT Coordinator*	JHC/MAG 31	(843) 228-6008
HAZMAT Coordinator*	MAG 31/JHC	(843) 228-6529
HAZMAT Coordinator*	MALS 31	(843) 228-6008
HAZMAT Coordinator*	MWSD 31	(843) 228-8353
HAZMAT Coordinator*	MACS 2	(843) 228-7848
Ryan Dunn	NREAO	(843) 228-6055
FEAD (representative varies)	FEAD	(843) 228-7098
Molly Grissom (Vinnie Francese)	Public Works/T&H	(843) 228-6129

*INDIVIDUAL CHANGES FREQUENTLY; POSITION IS CONSTANT.

4 MCAS BEAUFORT INDUSTRIAL ACTIVITY OVERVIEW

4.1 SITE ASSESSMENT

MCAS Beaufort is considered to have the following activities that can be classified as industrial:

- Hazardous Waste Treatment, Storage, or Disposal Facilities. Discharges included under this section are those from facilities that treat, store, or dispose of hazardous wastes, including those operating under interim status or a permit under subtitle C of RCRA.
- Vehicle Maintenance and Equipment Cleaning Operations. Discharges covered under this item include vehicle and equipment fluid changes, mechanical repairs, parts cleaning, sanding, refinishing, painting, fueling, storage of vehicles and equipment waiting for repair or maintenance, and storage of the related materials and waste materials such as oil, fuel, batteries, tires, or oil filters.
- Boat Maintenance and Equipment Cleaning Operations (minor). Discharges covered under this item include boat and equipment fluid changes, mechanical repairs, parts cleaning, sanding, refinishing, painting, fueling, storage of boats and equipment waiting for repair or maintenance, and storage of the related materials and waste materials such as oil, fuel, batteries, or oil filters.
- Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities. Discharges covered under this section include airports, air terminals, and flying fields that have vehicle maintenance shops, material handling facilities, equipment cleaning operations, or airport deicing operations.
- Landfills and Land Application Sites. Discharges included in this section are those associated with waste disposal at landfills and land application sites that receive or have received industrial wastes, past or present. The inactive landfills at MCAS Beaufort are being addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) and therefore will not be addressed under the this SWPP Plan.
- Wastewater Treatment for Domestic and Industrial Sewage. Discharges covered under this item include treatment works for domestic sewage, industrial sewage, or wastewater treatment system. The wastewater facilities are no longer in operation at the MCAS Beaufort and the facilities have been demolished.

4.2 SITE DESCRIPTION AND DRAINAGE

MCAS Beaufort is the base of operations for Fleet Marine Force units. MCAS Beaufort covers approximately 5,844 acres.

The drainage network within MCAS Beaufort comprises various types of drainage structures, grass swales, and lined channels. Other drainage on the MCAS Beaufort flow directly to the surrounding creeks or tidal marshes. Three main bodies of water act as receiving streams from the MCAS

Beaufort. To the north is McCalleys Creek, to the south is Albergottie Creek, and to the east is Brickyard Creek.

A study originally completed by Hendon Engineering identified 49 drainage basins throughout MCAS Beaufort. During development of the SWPP Plan, 26 of the 49 total drainage areas were identified as containing potential sources of industrial pollutants. Further investigation determined that several of the 26 basins contained no industrial activity. One of the largest basins, Basin 14, was sub-divided because multiple activities occur within its boundary. Basin 14 was divided into 19 sub-basins numbered 14-B through 14-T. Each of these sub-basins, along with the remaining 24 basins, is identified below and on the enclosed site maps.

Basin 4 was divided into three sub-basins by Hendon Engineering. Basins 4-A and 4-B contain 26 and 69 acres, respectively. These basins contain no industrial activity. Basin 4-D contains 43 acres with limited industrial activities. This basin contains an ordnance handling facility with several administration buildings. The outfalls from these basins are on the north ends of each basin.

Basin 5 is one of the two largest basins on the MCAS Beaufort (approximately 1140 acres), but industrial activities within its borders are limited. It is composed mainly of heavily wooded areas and ordnance storage. A hazardous waste RCRA Part B Storage Facility, operated by NREAO, is located in the southern end of this basin, along with some burn and explosion sites along the southern and western edges. This basin also receives off-base drainage from approximately 100 acres. The outfall from this basin is located on the northeast end of the basin near the end of Runway 5.

Basin 8 consists of 235 acres of mainly non-industrial area, although it does contain an active pistol range. This activity presents no threat to storm water in this area, and no other notable industrial activity occurs in this basin. The outfall from this basin is located on the northeast end of the basin near the end of Runway 5/23.

Sub-basin 14-B consists of 8 acres located west of the flight line. This sub-basin contains the outdoor engine test stand, where POLs are used regularly. Any uncontained spills would be discharged to the ditch flowing out of this sub-basin.

Sub-basin 14-C consists of 28.4 acres. This sub-basin contains the aircraft fuel tank storage area, ground support equipment maintenance area, and an aircraft hangar. This sub-basin outfalls to a ditch leading to the drainage-way along Longstaff Avenue.

Sub-basin 14-D contains 25.1 acres of almost completely impervious area. This sub-basin contains aircraft maintenance and storage areas. It includes most of the west apron area. This sub-basin discharges to the drainage-way along Longstaff Avenue.

Sub-basin 14-E contains 30 acres of highly impervious area. This sub-basin contains aircraft maintenance, aircraft parking, and an aircraft wash facility. This sub-basin discharges to the drainage-way along Longstaff Avenue.

Sub-basin 14-F contains 8.1 acres of non-industrial area, consisting of administration and training buildings. This sub-basin outfalls to a ditch leading to the drainage-way along Longstaff Avenue.

Sub-basin 14-G contains 12.7 acres of highly impervious area. This sub-basin contains aircraft maintenance and ground support equipment maintenance. The outfall from this basin is near the intersection of Douglas Drive and Longstaff Avenue. This sub-basin outfalls to the large paved drainage ditch which conveys most of the storm water from this area of the MCAS Beaufort.

Sub-basin 14-H consists of 1.9 acres of industrial area. This sub-basin contains ground support maintenance and an equipment fueling area. The outfall from this sub-basin is on the other side of the bridge from the Sub-basin 14-G outfall.

Sub-basin 14-I contains 23.2 acres of industrial and administrative areas. This sub-basin includes aircraft maintenance, storage, and administrative areas. The outfall from this basin is near the intersection of Simpson Street and the hangar apron.

Sub-basin 14-J contains 15.5 acres of highly impervious area and consists mostly of the east apron and taxiway. The outfall from this basin is north of Simpson Street near the taxiway.

Sub-basin 14-K is one of the largest sub-basins in Basin 14, consisting of 146.9 acres of highly impervious area. It contains runways, taxiways, and the hot fuel pits on the east and west sides of the flight line. The outfall from this basin is near the southeast corner of Runway 32.

Sub-basin 14-L contains 104 acres of mainly woods and permeable area. No industrial activity occurs within this basin. This basin's outfall is near the outfall of Sub-basin 14-K.

Sub-basin 14-M covers 83 acres. This sub-basin contains mainly non-industrial facilities. The outfall for this basin is near the intersection of Elrod and Itami Streets.

Sub-basins 14-N and 14-O consist of 41 and 23.6 acres of commercial and administrative area, respectively. No industrial activity occurs within these basins. The outfall from Sub-basin 14-N is directly behind the MCCS Service Station. The outfall for Sub-basin 14-O is directly east of the MCCS Service Station.

Sub-basin 14-P covers 89 acres. This basin contains administrative buildings and material warehouses. This sub-basin includes the outfalls from a majority of basins within Basin 14. A concrete storm water ditch flowing through this basin conveys most of the flight line area's drainage.

Sub-basin 14-Q contains 140 acres of mainly wooded permeable area. This sub-basin represents the area into which all other sub-basins within Basin 14 flow. The outfall from this sub-basin and Basin 14 is at Geiger Boulevard near the split of Geiger Street.

Sub-basin 14-R contains only 1.9 acres. This sub-basin consists of the day tank area. Uncontained spills of POLs would be concentrated at this basin’s outfall, which is in the southwest corner of the facility.

Sub-basin 14-S represents the largest sub-basin within Basin 14; it covers 150 acres of highly permeable area. MWSD 31 has a construction grader training area in this basin; the closed landfill is near the grader training area. No other industrial activity occurs within this sub-basin. The outfall for this basin is in the southwest corner of the basin, just south of the oil boom facility (1083).

Sub-basin 14-T consists of 14.3 acres of industrial area, including vehicle maintenance and material storage areas. The outfall for this basin is near the intersection of Rutledge Street and Moore Street, across from Station Fuels.

Basin 22 consists of 42.5 acres of non-industrial area. This basin is near the officer's quarters on the northeast side of the MCAS Beaufort. The outfall from this basin is under Quilali Road, adjacent to the wetland area near the housing quarters.

Basin 30 contains 48.7 acres of non-industrial area and includes the entrance to the MCAS Beaufort from Highway 21. The outfall for this basin is near Gate 1.

Basin 31 contains 45.3 acres of administrative area. This basin contains no industrial activities—only administrative and housing facilities. The outfall for this basin is south of Delalio Avenue, across from the Temporary Lodging Facility.

Basin 32 consists of 7.8 acres containing an area of vehicle maintenance and materials storage. The outfall for this basin is south of Delalio Avenue near the walking trail.

Basins 33, 34, 35, 36, and 37 contain 8.4, 7.9, 5.3, 4.0 and 13.4 acres, respectively. These basins contain administrative and housing facilities. No industrial activity occurs within these basins. The outfalls from these basins are on the southern end of each basin adjacent to the undeveloped wooded area near Albergottie Creek.

Basins 38 and 39 contain 0.6 and 0.7 acres, respectively. This area drains by overland flow directly to the receiving stream. The outfalls from these basins are on the southwest corners of both basins.

Basin 40 contains 2.5 acres of almost entirely impervious area. This basin includes vehicle and material storage. The outfall for this basin is in the southwest corner of the basin across Geiger Boulevard.

Basins 41 and 42 contain 5.1 and 1.8 acres, respectively. These basins contain vehicle and equipment maintenance, vehicle and materials storage, and equipment storage. The outfalls from these basins are on the northeast sides of the basins.

Basins 43 and 44 contain 2.1 and 4.4 acres, respectively. These basins contain vehicle and equipment maintenance and storage. The outfalls from these basins are on the southwest corners of each basin.

Basin 46 contains 1.4 acres of vehicle storage. This area is designated for private vehicle storage only. The outfall from this basin is west of the baseball field and north of the football field.

Basin 47 consists of 0.4 acres of non-industrial activity and represents the area directly behind Building 661. The outfall from this basin is directly across Geiger Boulevard from the basin.

Basin 48 contains 126 acres of mixed land use facilities. This basin includes a portion of Runway 5 and Tank Farm C. The outfall for this basin is under Highway 21 on the west side of the MCAS Beaufort.

Basin 49 consists of 3.5 acres of impervious parking lot area at Facility 565. This lot normally contains military trucks and equipment. This basin discharges through a pipe on the south side of the facility at the closed wash rack.

Two site plans enclosed represent information obtained from the following:

- USGS quadrangle maps,
- Aerial mapping provided by the MCAS Beaufort Public Works Department,
- As-built and design plans for specific facilities as obtained from public works,
- On-site observations, 08 August – 15 August 1994, and
- 1"=100' topography maps developed by Hendon Engineering.

Figure 1A in Appendix E is an overall map of MCAS Beaufort showing the outfalls identified by the Hendon Engineering study. Figure 1B in Appendix E is an overall map of MCAS Beaufort showing the locations of the industrial facilities. The individual facility site maps in Figures 2 through 21 in Appendix E indicate the building, ASTs, USTs, and operation and storage areas, as well as information on drainage, direction of surface flow, storm water control structures, storm water outfalls and receiving streams at each industrial facility at MCAS Beaufort.

5 BEST MANAGEMENT PRACTICES FOR POTENTIAL SOURCES

MCAS Beaufort contains numerous fuel storage areas, but few industrial operations that might lead to contamination of storm water that would migrate off-site. Besides the fuel storage areas spread across the MCAS Beaufort, nineteen sites house MCAS Beaufort's industrial operations (listed below). This section includes a general description of each area and operations in that area, and BMPs implemented in each area. Spills or leaks that have occurred each year are included in each Storm Water Pollution Prevention Annual Comprehensive Site Inspection Review Report. Appendix E contains a site map for each building/area (except for ASTs addressed collectively), which shows building locations, existing structural BMPs, and general storm water runoff patterns.

Table 3: Sources of Potential Pollution

#	INDUSTRIAL ACTIVITY AREA	TENANT
1	Aboveground Storage Tanks	Miscellaneous Tenants
2	MCAS Hazardous Waste and Recycling Center	NREAO
3	Building 1219 - Hobby Shop	MCCS
4	Building 565 - Combat Vehicle Maintenance Shopt	CLC 23
5	Hangar 594 Area	MALS 31
6	East Maintenance Hangar Area	MAG 31
7	Hangar 418 Area	MALS 31/MCAS S3
8	MACS 2 Area	MACS 2
9	Vehicle Hill – Northwest	PWM/Fuels/MWSD 31
10	Vehicle Hill – Southeast	MWSD 31
11	West Maintenance Hangar Area	MAG 31
13	Day Tank Facility	Fuels/NREAO
14	Tank Farm C and DRMO	Fuels/DRMO
15	Fuel Pier	Fuels
16	East and West Hot Fuel Pits	Fuels
17	Waste Storage Tanks	PWD/NREAO
18	Firefighting Training and Engine Testing	MALS 31
19	Van Pad Area	MALS 31
20	MCX Service Station	MCCS
21	Station Fire Department	Station FD

Storm water pollution is prevented through the use of BMPs, which, for the most part, fall into the following categories:

1. **Baseline BMPs.** which are general in nature (e.g., good housekeeping),
2. **Activity Specific BMPs,** which pertain to specific functions of a facility (e.g., fueling), and
3. **Site Specific BMPs,** which pertain to a certain facility (e.g., construction of concrete containment around an individual fuel tank).

The EPA emphasizes the implementation of pollution prevention measures and BMPs that reduce the possibility of pollutant discharges at the source. Source reduction measures include preventive maintenance, chemical substitution, spill prevention, good housekeeping, training, and proper materials management. Where such practices are not appropriate to a particular source or do not effectively reduce pollutants in storm water discharges, the EPA supports the use of source control measures and BMPs such as material segregation or covering, water diversion, and dust control. Like source reduction measures, source control measures and BMPs are intended to keep pollutants out of storm water. BMPs that involve recycling or treatment of storm water allow the reuse of storm water or attempt to lower pollutant concentrations before effluent discharge.

BMPs are to be implemented to the maximum extent practicable, given existing technology. The SWPP Team continues to review activities at MCAS Beaufort to determine what additional BMPs can and should be implemented at the various facilities. Additional BMP needs could result from changes in activities performed in the building or outside areas. Regular (quarterly) inspections confirm that new personnel are properly trained in the BMPs at each location or activity. During the quarterly inspections, applicable BMP checklists must be completed for each building/area. The following BMPs are part of standard operating procedures implemented throughout MCAS Beaufort.

Table 4: BMPs for MCAS Beaufort

Best Management Practice
All spills are reported to the Structural Fire Department and NREAO
All hazardous waste storage areas have less than a 90-day hold time
Industrial activities are conducted inside and isolated from storm water contact
Good housekeeping procedures are applied throughout MCAS Beaufort
Above ground storage tanks are properly contained
A maintenance program is in place for oil/water separators. The program includes monthly inspections, maintenance, and removal of oil
Drain valves on containment areas are closed and locked at all times
A spill kit is readily available, well-labeled, and easily accessible at all hazardous material/waste storage areas
All containment basins are regularly inspected for cracks, valve operation, locks, and proper sizing
Contractors are provided with environmental management plans pertinent to their activities; the plans are implemented as standard operating procedures with any specialized procedures of the individual contractor
Proper security measures are in place throughout MCAS Beaufort

Best Management Practice
Wherever practical, dumpsters and recycle bins are covered to prevent rainfall from contacting the contents of the containers. Bungs are in place to ensure that nothing can drain from the dumpsters
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Maintenance activities for vehicles are performed under a roof whenever possible

MCAS Beaufort's base-wide effort to prevent storm water pollution includes the maintenance of several oil/water separators. These are located throughout the MCAS Beaufort to collect oil from water that could be a source of storm water pollution, either directly (such as from a wash rack) or indirectly (such as sheet flow from paved areas like runways or hangar aprons). MCAS Beaufort maintains the following inventory of oil/water separators.

Table 5: Inventory of Oil/Water Separators

ID	Location/Association
	Building 403—Tank Farm C
	Building 426— Former Heating Plant Area
	Hangar 414
	Hangar 418
	Building 2072—Day Tanks (Tank Farm B)
	Building 565—CLC 23
	Hangar 594
	Building 661—Vehicle Maintenance (MACS 2)
	Hangar 728
	Hangar 729
	Building 843—Vehicle Maintenance (Public Works)
	Building 1064—Administration Building Bay Area (MWSD 31)
	Building 1084—FA 18 Fuel Maintenance Facility
	Building 1208—GSE Shop
	Building 1226—Day Tanks Laboratory (Tank Farm B)
	Building 1256—Corrosion Control Facility
	Building 1269—T-10 Test Cell
	Building 1313—ARFF
	Building 1331—Acoustical Enclosure (Hush House)
	Building 2085 – Structural Fire Department
1004A	Burn Pit
1070	Wash Rack Adjacent to Building 626
953	Wash Rack Adjacent to Hangar 728
959	Wash Rack Adjacent to Hangar 594
	Hangar 2146
	Hangar 3031

5.1 ABOVEGROUND STORAGE TANKS

Accidental releases of chemicals from aboveground storage tanks (listed below) can contaminate storm water. Materials spilled, leaked, or lost from storage tanks may accumulate in soils or on other surfaces and can be carried away by rainfall runoff. Unintentional releases can be caused by external corrosion and structural failure of the tank, installation problems, spills and overflows due to operator error, and failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves).

Table 6: Aboveground Storage Tanks at MCAS Beaufort

Tank	Location	Fuel
404	Runway Lighting Vault	Diesel
432	BOQ (431)	Fuel Oil #2
433	BOQ (431)	Fuel Oil #2
448	Building 448	Diesel
599	Telephone Exchange	Diesel
606	TACAN Facility	Diesel
607	Medium Gen. Building	Diesel
622	Station Fuels (Tank Farm D)	Mogas
623	Station Fuels (Tank Farm D)	Mogas
624	Station Fuels (Tank Farm D)	Diesel
E85	Station Fuels (Tank Farm D)	E85 Gasoline
Bryant	Station Fuels (Tank Farm D)	JP5
741	App. Lighting Gen. Building	Diesel
845	Inert Ordnance Maintenance	Fuel Oil #2
865	Day Tanks (Tank Farm B)	JP-5
903	Day Tanks (Tank Farm B)	JP-5
3064	Day Tanks (Tank Farm B)	?
3065	Day Tanks (Tank Farm B)	?
3066	Day Tanks (Tank Farm B)	?
917	Outdoor Test Stand (T-14)	JP-5
941	Fuel Truck Stand (Tank Farm B)	Waste Oil
942	Fuel Truck Stand (Tank Farm B)	Waste Oil
993	Combat Logistics Company (565)	Used Oil
1004	Crash Fire Rescue/Fire Training Area	Mostly JP-5
1103	Approach Lighting Generator Building	Diesel
1225	FEAD (Building 658)	Fuel Oil #2
979	Oily Waste Tanks	Waste Oil
428A	Oily Waste Tanks	Waste Oil
428B	Oily Waste Tanks	Waste Oil

Table 7: BMPs for Aboveground Storage Tanks

Best Management Practice
One individual is responsible for inspecting and draining secondary containment
Corrective action items and inspections are documented
A preventive maintenance program is in place to control leaks and spills
Equipment is regularly inspected
Tanks are routinely inspected for leaks that could lead to contact with storm water
Tanks have overflow protection
Access to tanks and valves is restricted
Valves are maintained in proper position

5.2 MCAS HAZARDOUS WASTE AND RECYCLING CENTER

Buildings 1205, 1030, and 1258 (located near the southwest end of Runway 5) constitute the Hazardous Waste and Recycling Center. Building 1205 is a new, three-sided building used to separate hazardous waste. It contains bermed, sumped areas and houses the hazardous waste office. Building 1030 is a covered, contained facility used to store and separate hazardous wastes. Within the facility, the area is divided by concrete walls approximately 18 inches high so that each waste is contained and separated from other wastes. All wastes are stored on pallets. Each division has a contained floor drain, which is pumped out when rain water collects in the drain. Non-regulated POLs, such as fuel, glycol, anti-freeze, rags, speedy dry, and conweb, are stored outside Building 1030 on pallets; there is no secondary containment for these wastes. Building 1258 stores scrap metals and recyclable materials such as plastic containers, wood pallets, 55-gallon drum lids, batteries, and PVC piping. Waste materials awaiting recycle to outside vendors are sorted, with hazardous materials (such as batteries) stored under cover and metals and pallets not under cover. Roll-offs containing sorted, non-hazardous materials (with no potential for contamination release to storm water) are secured in a locked, controlled area; such roll-offs would not require cover.

Table 8: BMPs for Hazardous Waste and Recycling Center

Best Management Practice
All regulated hazardous wastes are stored in covered, contained hazardous waste areas
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Storage tanks/drums are properly labeled
The area is properly secured with fences and signed
Wastes are properly segregated to avoid mixing of spilled wastes
Roll-on, roll-offs containing materials that have not been sorted (and are potentially hazardous) are kept covered to prevent exposure to rainfall. Emergency and hazardous waste phone numbers are readily available in case of spills.

5.3 BUILDING 1219 – HOBBY SHOP

The Hobby Shop is on the corner of Delalio Avenue and Gordon Street where maintenance is performed on personal vehicles. The Hobby Shop includes a two-bay, covered wash rack for automobiles and a covered area where boats can be washed. These areas have drains connected to the sanitary sewer. A used oil tank in the covered area is contained. Used oil filters are drained for recycling. Some spot painting (but no large-scale painting) is done at this facility. The service bays do not have drains. Therefore, washing down of the shop floor, which could introduce oils and/or greases to the environment, is avoided.

Table 9: BMPs for the Hobby Shop

Best Management Practice
Hazardous wastes are stored in hazardous waste covered structure
The used oil tank is in concrete containment
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Most storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities should be conducted under roof or in covered areas, where feasible
All incoming and outgoing delivery trucks should be inspected for leaks; drip pans should be placed under all leaks

5.4 BUILDING 565 – COMBAT LOGISTICS COMPANY 23

Maintenance of equipment and automobiles is conducted in Building 565, which is under the responsibility of CLC 23. An outdoor lube rack on the north side of the building is used when the

indoor space is occupied. The lube rack is contained, discharging to the sanitary sewer via an oil/water separator. A used oil bowser in concrete containment is maintained within this lube rack. A separate, covered hazardous waste storage area is located along the fence on the north side of the compound. Flammable materials in use are stored in a flammable locker in sandbag/tarp containment along the same fence. Most of the parking facility drains south to a detention basin.

Table 10: BMPs for Combat Logistics Company

Best Management Practice
Hazardous wastes are stored in hazardous waste area in concrete containment basins
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
The area is properly secured with fences
Emergency and hazardous waste phone numbers are readily available in case of spill

5.5 HANGAR 594 AREA

5.5.1 Hangar 594 – Aircraft Maintenance Hangar

Hangar 594, operated by MALS 31, houses aircraft maintenance and component repair. Outside Hangar 594 are two hazardous/flammable material storage buildings (Buildings 1014 and 924), and waste is stored at the east end of the hangar. Ground support equipment parking is evident around the hangar.

Table 11: BMPs for the Aircraft Maintenance Hangar

Best Management Practice
Most hazardous wastes are stored in hazardous waste concrete containment basins
Hazardous materials are stored in covered lockers
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Most storage tanks/drums are properly labeled
The area is properly secured with fences
Vehicles are positioned properly during unloading and loading to eliminate discharges of leaks or spills to the storm water system
All metal stock is stored under cover and off the ground
Maintenance activities are conducted under roof, where feasible

5.5.2 Building 958 – Ground Support Equipment Wash Rack

The aircraft wash rack is located between Hangar 594 and Building 958. Drainage from the wash rack goes to the sanitary sewer system via an oil/water separator.

Table 12: BMPs for the GSE Wash Rack

Best Management Practice
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Vehicles and aircraft are positioned to prevent discharge of wash water to storm water system

5.5.3 Building 3031 – Ground Support Equipment Maintenance

This facility houses a main building and sheds for maintenance work for the ground support equipment division. This area includes storage for hazardous materials. Maintenance of aircraft ground support equipment is performed in various structures in the complex. A fuel island is located on the north end of this building 3032; it is contained.

Table 13: BMPs for Building 3031

Best Management Practice
Sorbents are readily available for use in the event of a spill
Concrete containment is around the fuel pumps (north end of Bldg. 3032)
Most hazardous wastes are properly segregated and disposed, with concrete containment
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
The entire area is properly secured with fences
Maintenance activities are conducted under roof

5.5.4 Building 858 – VMFA 312 Ordnance Bay

Building 858 is enclosed with three solid walls and one wall that is a series of garage doors.

Table 14: BMPs for Building 858

Best Management Practice
Most hazardous materials are stored indoors
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.5.5 Building 1256 – Corrosion Control Facility

The corrosion control facility (CCF) was constructed in 2001 to house all aircraft painting operations at the MCAS Beaufort. The CCF is located at the eastern end of the flight line. All operations at the CCF occur in enclosed, controlled service bays. Storm water from the roof and surrounding area drains away from the building and collects in surface drains on the northeastern and southwestern corners of the facility. Storm water from the CCF drains east to the retention basin east of the facility.

Table 15: BMPs for Corrosion Control Facility

Best Management Practice
Hazardous materials are stored indoors
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
The area is properly secured inside the flight line (fencing)
Maintenance activities are conducted under roof, where feasible

5.5.6 Hangar 2146 – VMFAT 501

This facility serves as an aircraft maintenance and repair facility for an F-35B Lightning squadron. A used POL tank (double-wall) is available. Aircraft are staged under covers outside the hangar. Material management and spill control are similar to those techniques applies to other squadron hangars.

Table 16: BMPs for Hangar 2045

Best Management Practice
Sorbents are readily available for use in the event of a spill
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Most storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.6 EAST MAINTENANCE HANGAR AREA

5.6.1 Hangar 729 – VMFA 251

This facility serves as an aircraft maintenance and repair facility for an F/A-18 squadron. A used POL tank with spill containment is at the east end of Hangar 729. Empty aircraft belly tanks are stored outside the hangar; aircraft are parked on the apron adjacent to the hangar.

Table 17: BMPs for Hangar 729

Best Management Practice
Sorbents are readily available for use in the event of a spill
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Most storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.6.2 Building 1313 – Fire/Rescue Station

Fire/Rescue personnel respond to all MCAS Beaufort flightline fires, spills, and disasters, especially any incident involving aircraft. The Fire/Rescue station is alerted when any chemical (including oil) is spilled along the flightline. Fire trucks are parked both inside and outside the station. Firefighting equipment is also stored outside the building. With this new facility, minor maintenance activities are conducted inside one the several bays which house the rolling equipment.

Table 18: BMPs for Fire/Rescue Station

Best Management Practice
Hazardous materials are stored in covered lockers
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
No materials are stored outside of the building
Wastes are properly segregated and disposed
Storage tanks/drums are properly labeled

5.6.3 Building 1213 – East Wash Rack

This aircraft wash rack Building 1213 is located southeast of Hangar 3060 Drainage from the wash rack goes to the sanitary sewer system via an oil/water separator.

Table 19: BMPs for the East Wash Rack

Best Management Practice
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures techniques
Vehicle and aircraft are positioned to prevent discharge of wash water to storm water system

5.7 HANGAR 418 AREA

5.7.1 Hanger 418 – VMFA 332 and VMFA 533

This hangar, which is used by VMFA 332 and VMFA 533, houses aircraft maintenance and repair operations. One contained hazardous waste storage area is located on the south side of the building. A used oil bowser at this facility is also contained. Enclosed containers housing jet engines and components are stored around the perimeter of the building. Aircraft are parked on the apron north of the hangar.

Table 20: BMPs for Hangar 418

Best Management Practice
Most hazardous wastes are stored in concrete containment
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
The used oil tank is in concrete containment
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated
Most storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.7.2 Building 857 – AGSE Maintenance

This ground support equipment shop is responsible for maintenance of the fuel tanks and other support equipment. A storage area for aircraft fuel tanks is south of this shop. These fuel tanks are reportedly empty during storage or transport.

Table 21: BMPs for Building 857

Best Management Practice
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.7.3 Hangar 1084 – Fuel Maintenance Facility

Hangar 1084 is currently occupied by Beech Aerospace Support Services (BASS). It was constructed to be a fuel maintenance facility and is currently used to house small aircraft. No material is stored outside the hangar.

Table 22: BMPs for Hangar 1084

Best Management Practice
Sorbents are readily available for use in the event of a spill
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Good housekeeping and preventive maintenance measures are implemented
No material is stored outside of the hangar
Deliveries are made under roof, when feasible
Maintenance activities are conducted under roof, where feasible

5.7.4 Building 1208 – Ground Support Equipment Mechanical Maintenance

This facility houses mechanical maintenance work for the ground support equipment division. This area includes an outdoor storage building for hazardous materials.

Table 23: BMPs for Building 1208

Best Management Practice
Most hazardous wastes are stored in concrete containment basins
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.8 MACS 2 AREA

5.8.1 Building 661 – Auto Vehicle Maintenance

This facility houses auto maintenance and repair. A vehicle storage area for Jeeps and transport trucks is adjacent to this building. Oil-dry is used to control oil drips from these vehicles. The hazardous waste/hazardous material storage area and a used oil tank in this area are under cover with secondary containment. All secondary containment is closed and locked.

A closed wash rack, lube rack, and materials storage area is located on the east side of the building. The wash rack pavement is sloped toward the center area inlets and has containment curbing. The lube rack, which is not in use, is not contained. There is a bermed containment area with drums lying on side to dispense lube oil. The spill containment has a drain valve that is closed and locked. This area includes storage of engine oils and antifreeze.

Table 24: BMPs for Building 661

Best Management Practice
Most hazardous wastes are stored in a covered contained area
The used oil tank is in concrete containment
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.8.2 Building 1094 – Equipment Maintenance Shed

This shop houses maintenance and repairs for MACS 2 equipment. The open bays to this shop do not have floor drains. The pavement in this shop slopes outward toward the parking lot. Any spills in this building not contained would discharge directly to the storm water system. Washing down of the shop floor, which could introduce oils and/or greases to the environment, is avoided.

Table 25: BMPs for Building 1094

Best Management Practice
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Storage tanks/drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.8.3 Building 1171 – MWSD 31

Vehicles are stored around this building. Drip pans are used around some vehicles.

Table 26: BMPs for Building 663

Best Management Practice
Good housekeeping and preventive maintenance measures are implemented
Wastes are properly segregated and disposed
The area is properly secured with fences

5.8.4 Building 662 – Storage Building

This storage building is used for shipping and receiving in the MACS 2 area; the building has an outside loading dock. No material is stored around this building.

Table 27: BMPs for Building 662

Best Management Practice
Good housekeeping and preventive maintenance measures are implemented
The area is properly secured with fences

5.9 VEHICLE HILL – NORTHWEST

5.9.1 Building 626 – Refueler Vehicle Shop

Building 626, located on Geiger Boulevard, is the refueler maintenance shop, which provides aircraft defueling and refueling (JP-5). Maintenance on bulk fuel transport trucks is also done at this activity. Bulk fuel transport trucks are parked at the facility and two are kept full; one with diesel and the other with JP-5. Most of the other trucks are empty. The refueler maintenance shop area typically houses the following:

- Three defueler trucks, approximately 1000-4500 gallons each;
- Five refueler tanker trucks, approximately 7000 gallons each (one full);
- Two diesel tanker trucks;
- Three 1200-gallon tanker trucks (two empty); and
- A wash rack with oil/water separator.

The area where the trucks are parked is contained. Any major spill from the fuel delivery trucks would flow into a containment grate that discharges to the sanitary sewer. Transfer of fuel to the trucks is done at other locations on the MCAS Beaufort. The tanks are purged before maintenance. Water containing fuel residue is dumped into the oil/water separator.

The parking area north of Building 626 is paved with a center trench (covered with a grate). The area slopes gently to the west. Drip pans are used when maintaining heavy equipment in this area. However, drips and leaks would be transported by storm water to the center trench. This trench is connected to the storm sewer which traverses west-northwest toward the old wastewater treatment plant where it discharges to an open ditch, which discharges to Albergottie Creek. The storm sewer is valved in a normally closed position; storm water is visually checked for presence of oil before discharging to the storm ditch. If oily sheen is present, the surface sheen is removed with a vacuum truck before discharging water.

Table 28: BMPs for Building 626

Best Management Practice
Drip pans are used under valves to contain leaks
Sorbents are readily available in case of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Storage tanks and drums are properly labeled
Tanker trucks are parked within containment
Storm water is checked for oily sheen before discharge.
Wash rack facility is adequately sized and discharges to the sanitary sewer via an oil/water separator

5.9.2 Building 843 – Public Works Motor Transport Maintenance

Building 843 houses auto maintenance and repairs. The several storage areas around this building include a large, covered open-end storage shed (Building 1050) north of Building 843 where drums and equipment are stored. Buildings 954, 1051, and 1081 are located around Building 843 and are used for storage and additional maintenance of equipment. A covered waste storage site is used by the facility. Vehicles are stored in several areas around this building, as are tires and scrap metal.

Table 29: BMPs for Building 843

Best Management Practice
Hazardous wastes are stored in concrete containment
Used oil tank is in concrete containment
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
The area is properly secured with fences
Drip pans are placed under leaking vehicles

5.9.3 MWSD 31 Administrative Storage Lot

A gravel parking lot east of Building 626 is used for storage of light trucks and heavy equipment. A POL storage facility is located at the northeast corner of the lot. The storage is made of a rubber net floor with sandbags and cover.

Table 30: BMPs for MWSD-31 Administrative Storage Lot

Best Management Practice
The area is properly secured with fences
Drip pans or sorbent materials are used under leaky trucks or heavy equipment

5.9.4 Building 625 – Public Works Maintenance Shop

This facility is used for general maintenance of the MCAS Beaufort and contains several welding, painting, and woodworking shops. Outside storage areas include a vehicle and scrap metal storage area and a small flammable locker (1013) on the southwest side of the building. A less-than-90-day hazardous waste storage site that is contained and covered is located beside Building 1013.

Table 31: BMPs for Public Works Maintenance Shop

Best Management Practice
Hazardous wastes are stored in concrete containment
Maintenance activities are performed under cover
Sorbents are readily available for use in the event of a spill
The area is properly secured with fences

5.9.5 Building 617 – Public Works Warehouse

This facility is used for storage and distribution of facility maintenance supplies. Materials are stored around the perimeter of the building. Non-PCB transformers are stored on the paved area north of the building. Several drums of AFFF fire protection liquid are stored in an uncontained area north of the building; empty drums are stored in this same area. A concrete containment area exists on the southeast side of the building.

Table 32: BMPs for Public Works Warehouse

Best Management Practice
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
The area is properly secured with fences

5.9.6 Building 620 – Government Gas Station

The government gas station, also known as Tank Farm D, is located at the intersection of Rutledge and Moore Streets. The purpose of this facility is to dispense diesel fuel and unleaded gasoline for use in government owned vehicles.

The government gas station includes the following permanent features:

- One 5,000-gallon steel underground gasoline tank (770)
- One 5,000-gallon steel underground diesel tank (771)
- One 15,000-gallon steel aboveground gasoline tank (622)
- Two 15,000-gallon steel aboveground diesel tanks (623, 624)
- One 10,046-gal E85 gasoline tank (E85)
- One 8,254-gal Bryant portable, self-contained JP5 tank
- One truck fuel unloading station (621)
- Six fuel dispensers (620)

Fuel is delivered to the aboveground storage tanks at the fuel unloading station. Fuel is gravity dropped to pumps, which then pump the fuels into the storage tanks. The fuel unloading station is covered and has drive-through containment berms made of concrete. The containment area has grated sumps that discharge to a large secondary containment tank. This tank has a discharge valve that is kept in the closed position. Discharge from the containment travels west northwest under Rutledge Street and eventually into a tributary of Albergottie Creek.

The tank farm includes the seven storage tanks and the fuel truck unloading stand. Containment is provided for the aboveground tanks; one tank is portable, with its own containment incorporated into its design. Two concrete-lined earthen dikes provide containment for the larger tanks, one for the gasoline tank and the other for the two diesel fuel storage tanks. Discharge from the containment areas is controlled by valves that are in the closed position. The E85 tank is equipped with its own berm and discharge. The Bryant tank for JP5 is self-contained. The underground storage tanks serve the fuel dispensers and are gravity filled from the aboveground tanks.

The fuel dispensing area is covered (although the E85 dispenser is not under cover). Drainage from the dispenser islands is controlled with spill collection sumps. Piping to the fuel dispensers are secondary-contained piping with leak detection monitoring. The dispenser containment sumps also have integral leak detection monitoring.

Table 33: BMPs for Government Gas Station

Best Management Practice
Building 620 has a spill block mat, fire extinguisher, and fire pull alarm
Fuel unloading area is contained and covered
Aboveground storage tanks have containment
Aboveground storage tanks have overfill warning
Sorbents are readily available for use in the event of a spill
Employees are trained in spill prevention measures and techniques
The area is well-lit and patrolled by PMO 24 hours per day, 7 days per week

5.10 VEHICLE HILL – SOUTHEAST

This area houses the MWSD 31 Construction Equipment Shop (Buildings 1064 and 780), where storage, maintenance, and repair of vehicles and equipment occurs. Several storage areas exist along the north fence of this facility. Building 1066 is an open storage shed where materials such as used filters, flammables, and equipment are stored; this shed is not contained. Another shed with concrete containment is used to house the daily use POLs. Several other enclosed buildings and lockers house hazardous materials and wastes.

Some maintenance of vehicles takes place outside of the building. A closed wash rack remains on the southeast side, where outdoor maintenance routinely occurs.

Table 34: BMPs for MWSD 31 Construction Equipment Shop

Best Management Practice
Hazardous wastes are stored under cover or in concrete containment basins
Sorbents are readily available for use in the event of a spill
Drip pans are in use at this facility
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
The area is properly secured with fences

5.11 WEST MAINTENANCE HANGAR AREA

5.11.1 Hangar 414 – VMFA 115 and VMFA 122

This hangar serves two squadrons of F/A-18s in the maintenance and repair of aircraft. Storage of aircraft occurs on the apron adjacent to the hangar. This facility includes a contained hazardous waste site and a contained used oil bowser.

Table 35: BMPs for Hangar 414

Best Management Practice
Hazardous wastes (paints, paint thinner) are stored in lockers
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
Wastes are properly segregated and disposed
Storage tanks and drums are properly labeled
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.11.2 Hangar 728 – VFMA 224

Hangar 728 houses one of the F/A-18 squadrons and provides facilities for aircraft maintenance and repair. Several buildings around the perimeter of the hangar are used to store materials. Buildings 785 and 786 belong to Hangar 728. Spill kits were located at the waste storage area.

Table 36: BMPs for Hangar 728

Best Management Practice
Sorbents are readily available for use in the event of a spill
Drip pans are used for aircraft; drip pans are properly emptied to avoid overflow.
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
No material is stored outdoors
The area is properly secured with fences
Maintenance activities are conducted under roof, where feasible

5.11.3 Building 953 – West Wash Rack

This facility is one of the three aircraft wash racks on base. This wash rack has curbing and sloping pavement that force all flow toward the center grate inlets, which discharge through an oil/water separator to the sanitary system. All wash racks go through post indicator valves. When valves are “open,” flow goes to sanitary sewer. When valves are “closed,” flow goes to storm sewer.

Table 37: BMPs for West Wash Rack

Best Management Practice
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
No material is stored in outdoor areas without tarp or cover
Pavement slopes toward center grate, which discharges to sanitary sewer

5.12 DAY TANK FACILITY

5.12.1 Day Tanks (Tank Farm B)

The Day Tank facility, also known as Tank Farm B, is located just southeast of the flight line on Kimes Avenue. This facility stores fuel for staging of daily operations on the flight line. Activities at this location include filling of fuelers, defueling, supplying JP-5 to the eight hot fueling pits on the flight line, and fuel loading from trucks when fuel cannot be supplied by barge from the fuel pier.

The day tank facility includes the following permanent features:

- Two 10,000-gallon steel aboveground waste oil tanks (941, 942)
- Two 210,000 gallon aboveground JP-5 tanks (3064 and 3065)
- One truck fuel defueling/unloading station
- One truck fuel loading rack (four trucks at a time) (628)

The fuel storage area contains the two 210,000-gallon tanks and the 10,000-gallon defueling storage tank. The 210,000-gallon storage tanks are filled by underground pipes from the bulk cut-and-cover storage tanks at the Fuel Pier (Tank Farm A). These tanks are used to supply fuel directly to the hot fueling pits on the flight line and to the fuel loading rack for truck fueling. The entire fuel storage area is in a contained area. Each of the two aboveground storage tanks has its own containment, which in turn discharges to the earthen berm containment. Tank 903 is inside a spill containment area having valved discharge.

Unused fuel is unloaded from aircraft on the flight line to a defueling truck and returned to the Day Tank area for reuse. Fuel trucks unload JP-5 at a defueling stand adjacent to the storage tanks. The fuel is pumped from the truck to a 10,000-gallon holding tank (903). Fuel in the holding tank is pumped back to the 210,000-gallon storage tanks through a battery of fuel filters, which are also located within the contained area. The fuel unloading station has both concrete curbing and a grated sump to capture any spilled material. The sump has a valve box which is normally closed and locked.

The truck fueling stand is used to load JP-5 into fuelers for routine fueling of the aircraft on the flight line aprons. The fueling stand has capacity for loading up to four fuelers at one time. The area around the fuel loading stand is completely contained by a system of curbs and drive-over concrete berms. The four bays of the fuel loading stand are covered. A grated sump runs the

length of the south side of the containment and has a discharge valve that is closed and locked. Filled fuelers are parked with their tanks inside the containment and the cab of the truck outside the contained area. The containment has sufficient area to park several filled fuelers without interrupting the use of the loading rack. Small volumes of fuel are spilled when disconnecting the fueling hose.

The fuel unloading facility is used for filling the Day Tanks from trucks when service from the Fuel Pier storage facility is interrupted. On average, this facility is used no more than twice per year. The truck unloading station is inside the northern end of the containment provided for the truck fuel loading stand. Drainage from this area is conducted to an oil-water separator on the north side of the rack, and then discharges to the old drainage facility.

Waste oil is stored in two 10,000-gallon tanks (941 and 942), which are completely contained within a concrete containment structure. The containment has one discharge point valved to the oil-water separator installed at the transfer rack.

Fuel trucks are parked on the fuel truck stand, which drains to a trench. The trench is valved, and the valve is locked within a manhole. The valve discharges to the aforementioned ditch alongside the railroad tracks.

Table 38: BMPs for the Day Tank Facility

Best Management Practice
Good housekeeping and preventive maintenance procedures are implemented
Visual inspections are held daily
Containment is provided around all tanks and the truck loading stand
Bays are covered at truck loading stand
Containment discharge valves are closed and locked at all times
Sump discharge valves are closed and locked at all times
Liquids in sumps are inspected before discharge; contaminated liquids in sumps are pumped into tank trucks for proper disposal
Sorbent materials are stored on site
Drip pans are used when pumping used oil from storage tanks
Emergency phone is located at operator building
Employees are trained in spill prevention measures and techniques
Booms are permanently deployed at the Oil Spill Prevention Structure immediately downstream in the drainage system
Site is protected by fence and locked gate
Site is well-lit
Site is patrolled by Provost Marshall 24 hours per day, 7 days per week

5.12.2 Facility 1083 – Oil Spill Prevention Structure

The Oil Spill Prevention Structure is located in a tributary to Albergottie Creek just south of Kimes Avenue and across the street from the Day Tanks. This facility serves as a last line of control and containment for spills along the flight line and from the Day Tank area.

The structure consists of four sheet pile seawalls forming a box configuration. The walls are approximately 100 feet apart with a floating boom spanning the opening between the outside walls. This structure is equipped with an oil skimmer pump to remove spilled oils from behind the boom and a waste oil tank to store the skimmed oil in. Additional booms are stored in a building adjacent to the structure.

Table 39: BMPs for Facility 1083

Best Management Practice
Structure is visually inspected daily
Booms are permanently deployed

5.13 TANK FARM C AND DRMO

5.13.1 Tank Farm C

Tank Farm C, where fuel is stored and dispensed for operations on the flight line, is located on Reed Avenue just west of the flight line. Activities at this location include filling of fuelers and fuel unloading from trucks.

The fuel farm contains two 210,000-gallon JP-5 aboveground tanks (401 and 402), which are filled by bulk fuel deliveries to the fuel unloading stand. The entire fuel storage area is contained by an earthen berm that has a discharge valve kept in the closed position.

The fuel unloading rack is equipped to receive fuel oil deliveries by either truck. There is drive-through containment provided for fuel trucks on the western end of Reed Avenue (Building 748). The containment includes a grated sump and a discharge valve located inside a locked vault. Discharge is to the storm sewer. A second drive-through containment area, for the loading operation, is located on the east end of Reed Avenue. The containment includes a grated sump and a discharge valve inside a locked vault. Discharge is to the storm sewer. Two fuelers can be loaded at a time at this location. Spill equipment is stored in a building on the west end of the facility.

Table 40: BMPs for Tank Farm C

Best Management Practice
Containment dikes surround the fuel tanks
Sorbents are readily available
Fuel loading and unloading areas are contained
Discharges from containment have lockable valves
The area is fenced with lockable gate
The area is well-lit
Patrolled by Provost Marshall 24 hours per day, 7 days per week
Fuel transfer hoses are stored in contained racks
Containment valves are more accessible to persons loading/unloading fuel; valves are in closed position when transferring fuel
Signs describing operation of containment are posted

5.13.2 DRMO

This facility serves as a storage and distribution lot for used materials (e.g., cranes, refrigerators, metals, and dumpsters). Most of the area is paved, with the rest being impervious gravel and two buildings (1172 and 1173).

Table 41: BMPs for DRMO

Best Management Practice
No hazardous waste is kept at this facility
Most of the runoff from this facility is conveyed by a grass-lined ditch in the rear of the area which helps facilitate contaminant removal
Fluids are drained from wrecked vehicles

5.14 FUEL PIER (TANK FARM A)

The Fuel Pier (Tank Farm A) is on the Intracoastal Waterway at the end of Quilali Road. This area includes both a fuel unloading pier and two 596,250-gallon underground storage tanks (567 and 568). This facility is the primary location of unloading operations for JP-5 jet fuel. On average, 450,000 gallons of jet fuel are delivered by barge and unloaded weekly.

The pier is not covered, but containment curbing designed to prevent storm water discharge to the bay is present beneath pipe valves. Two booms are used on the pier: one boom encloses the landside area of the pier as backup containment to the curbing on the pier; the second boom is kept on the pier in a roll and is deployed around the barge and tug while moored at the fuel unloading side of the pier. This second boom also encircles the loading area of the pier, leaving the walkway between the landside and shipside piers as the only area without a backup form of containment. A covered building that houses spill prevention equipment (986) is on the pier.

The underground storage tanks are filled via an eight-inch pipe that originates at the ship side pier and runs to shore and to the storage tanks. The underground storage tank area is completely enclosed by an earthen containment dike. The dike has unlocked gate valves located at opposite corners of the containment. The only fuel unloaded at the pier and stored in these tanks is JP-5 jet fuel. Fuel is pumped from the underground storage to the Day Tank Fuel Farm.

Table 42: BMPs for Fuel Pier

Best Management Practice
Good housekeeping and preventive maintenance measures are implemented
Visual inspections are held daily/weekly
Booms are permanently deployed at the pier, and barges are enclosed before commencement of fuel unloading operations
Containment is provided on the pier by curbing beneath valves
Sorbent materials and additional booms are stored on site
Emergency phone is located at entrance to fuel pier
Employees are trained in spill prevention measures and techniques
Containment dikes are provided around underground tank area
Tank containment discharge valves are closed and locked at all times
Site is protected by fence and locked gate on shore side
Site is well-lit
Site is patrolled by Provost Marshall 24 hours per day, 7 days per week

5.15 EAST AND WEST HOT FUEL PITS

Four pairs of fuel sites are located between the aircraft parking apron and taxiway for Runway 32 (East Hot Fuel Pits). Two pairs of fuel pits are located between the aircraft parking apron and the taxiway for Runway 5 (West Hot Fuel Pits). A concrete containment curb borders the perimeter of each site at both the East and West Hot Fuel Pits. The curbs direct storm water runoff and any spill that may occur in the fueling area into concrete flumes, which drain to grated pits in a grass median. Three pits are located along the Runway 5 taxiway, and five pits are located along the Runway 32 taxiway.

The discharge from the pits is controlled by a manually operated valve that allows the effluent from the pit to flow into the storm drainage system. The pits function as a containment system when the valves are closed to prevent spilled fuel from entering the storm drainage system. The valves are locked in the closed position such that each pit retains storm water runoff as well as any fuel that is spilled. Waste oil trucks periodically visit each pit and suction the fuel off the water surface with vacuum hoses. The valve is then opened to drain the remaining water.

Any fuel that spills during refueling on the apron would flow into the grass median and/or the concrete flumes. There is no containment around the apron areas where the refueling of aircraft occurs. The Fire Department responds to a fuel spill.

Table 43: BMPs for East and West Hot Fuel Pits

Best Management Practice
Fuel pumps and lines are in curbed areas and drain via concrete chutes to pits which function as containment for fuel spills
Valves to drain the pits are locked in the closed position and a warning sign is printed on the roof of the valve pit stating that the valve is to be closed during fueling and is to be opened only to drain
Fuel is suctioned off the water surface in the pits to a waste oil truck before discharging to storm water system
All spills are immediately reported to the Fire Department
Operator who suction fuel off the water surface in the pits are trained to recognize the presence of oil; test kits are provided for detecting petroleum products before discharge to storm water system
Rainwater accumulated in the pits should be removed in a timely manner, particularly during periods of heavy rain
The pit valves are routinely inspected

5.16 WASTE STORAGE TANKS – FACILITY 428

The two tanks at Facility 428 (Gordon Street just south of the intersection with Kimes Avenue) were previously used for fuel oil storage (210,000 gal and 60,000 gal) but are now available for oily waste storage. These tanks are surrounded by a concrete berm.

When the back-up fuel for the boilers at the Central Heating Plant was converted from No. 6 fuel oil to liquefied petroleum gas (LPG), the vertical storage tanks formerly used for fuel oil were drained, cleaned, and prepared for potential use for liquids spilled at the MCAS Beaufort. Under normal circumstances, these tanks remain empty, requiring no special BMPs. However, if these tanks are used to store spilled materials, BMPs consistent with hazardous liquid storage should be implemented.

Table 44: BMPs for Oily Waste Storage

Best Management Practice
Tank has secondary containment
Area is properly secured with fence

5.17 FIREFIGHTING TRAINING AND JET ENGINE TEST FACILITIES

Fire fighter training and jet engine testing facilities are collocated along the northwestern stretch of the old Merritt Field runway, north of the primary East/West runway at the MCAS Beaufort. This area lies along the northern edge of Basin 48.

5.17.1 Firefighting Training

MCAS Beaufort trains Aircraft Rescue and Fire Fighting (ARFF) personnel to extinguish fires involving jet fuel at a circular pit that has an area of approximately 1,900 square feet and is surrounded by a berm approximately 4 inches high. A 10,000-gallon tank (Tank 1004) that contains fuel for training fires is also surrounded by a concrete berm. During a training exercise, the pit is covered with a layer of water and jet fuel is pumped onto the surface of the water and

ignited. Approximately 25 gallons of fuel are burned per event. Water remaining in the pit after exercises is drained through an oil/water separator before discharge to the sewer system.

Adjacent to the ARFF training pit is a concrete block building for training on structural fires. This "smokehouse" is a two-story structure that is fueled with wooden pallets and straw for training of Structural Fire Department personnel up to five times each month. Water used in training at the smokehouse drains from this area to the main storm water drains along the runway and into the surrounding woods.

Table 45: BMPs for Firefighting Training

Best Management Practice
Tank has secondary containment
Employees are trained in spill prevention measures and techniques

5.17.2 Jet Engine Testing Facilities

Until 2002, jet engine testing at MCAS Beaufort has been conducted at various locations around the runways. With construction of the T10 enclosed test cell, all engine testing was consolidated along the northwestern reach of the old Merritt Field runway, east of the ARFF training pit. Engine testing facilities include the T10 enclosed test cell, an enclosed test stand for auxiliary power units (APUs), and an open test stand. An acoustical enclosure (Building 1331) for testing engines still mounted on the wing (i.e., a hush house) stands at the end of this engine testing area.

The T10 cell is equipped with an oil/water separator. The open stands are not so equipped, although water used in the open stand testing is collected and pumped into a truck. Storm water from the engine testing area drains to the surrounding woods and to the main storm water drains along the runway. The jet engine testing facility is no longer in use; however, the oil/water separator is still present.

Table 46: BMPs for Jet Engine Testing

Best Management Practice
Emergency response alarms are installed in T-10 Test Cell
Fuel trailer is inside drive-in concrete containment area
Temporary, uncovered containment is used for POL
Employees are trained in spill prevention measures and techniques
Sorbent materials are kept near the fuel transfer area

5.18 VAN PAD AREA

The van pad was constructed in 1999 to house all readiness vans and the associated maintenance activities, which are performed in Building 1253. The maintenance activities include

water blasting and painting of the vans. Water blasting is completely enclosed, and painting is conducted inside a paint booth which exhausts through the roof of Building 1253. Storm water from the van pad collects in several drains and is conducted to a discharge point at the southeast corner of the van pad, near the large concrete drainage way which runs east/west along Longstaff Avenue.

To the northeast of the van maintenance building is Building 1252, which houses one of the squadrons assigned to the MCAS Beaufort. Aircraft parking for this squadron is to the east of Building 1252. Storm water in the aircraft parking area drains directly south toward the concrete drainage channel.

Table 47: BMPs for Van Pad Area

Best Management Practice
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
No material is stored in outdoor areas
Pavement slopes toward drains, which discharge together into the storm sewer
Maintenance is conducted inside building and vans, where feasible

5.19 BUILDING 1319 – MCX SERVICE STATION

The MCX Service Station is located with the Marine Corps Exchange, Post Office, and eating establishments. The service station supplies fuel, groceries, and other items to occupants of the MCAS Beaufort. The service station fronts Geiger Boulevard at the intersection with Elrod Street. The service station has six sets of pumps under cover supplied by two underground tanks. Two 12,000-gallon underground tanks are in service containing unleaded fuel.

There is no containment for either the fuel dispensing islands or the underground tank filling area. Any spills would flow east to Elrod Street.

Table 48: BMPs for MCX Service Station

Best Management Practice
There is an emergency fuel cut-off switch to tanker
Fueling islands are covered
Security is provided by Provost Marshal 24 hours a day
Dry sweep is used for clean-up of small spills

5.20 BUILDING 2085 – STATION FIRE DEPARTMENT

Station Fire Department is located in new quarters outside the flightline. Station Fire Department personnel respond to all MCAS Beaufort fires, spills, and disasters. The Fire Department is alerted

when any chemical (including oil) is spilled along the flightline (i.e., emergency calls). Fire trucks are parked both inside and outside the station. Firefighting equipment is also stored outside the building in ancillary structures. With this new facility, minor maintenance activities are conducted inside one the several bays which house the rolling equipment.

Table 49: BMPs for Station Fire Department

Best Management Practice
Hazardous materials are stored in covered lockers
Sorbents are readily available for use in the event of a spill
Good housekeeping and preventive maintenance measures are implemented
Employees are trained in spill prevention measures and techniques
No materials are stored outside of the building
Wastes are properly segregated and disposed
Storage tanks/drums are properly labeled

6 SAMPLING AND ANALYSIS

The 2016 IGP requires routine sampling to assess the quality of the storm water being discharged (Section 6 – Monitoring). Sampling is conducted on outfalls and substantially identical outfalls for the pollutants associated with (1) parameters for which the receiving water of the state is impaired and/or (2) parameters associated with the industrial operation associated with the outfall. The aspects of the monitoring program include the following:

- Determination of parameters for which samples are analyzed
- Identification of outfalls for sampling
- Frequency of sampling

The IGP includes a number of specific industry sectors for which the permit specifies the parameters to be sampled and the effluent limits associated with each parameter. None of these specific industry sectors apply to the operations identified as industrial activities at the installation. Therefore, the parameters and effluent limits of these specific industry sectors do not apply.

6.1 FREQUENCY OF SAMPLING

The permit requires quarterly evaluations of the outfalls with quarterly sampling after qualifying rainfall events. The sample must be taken during the quarter after a **measurable storm event** (that is, a storm event that results in an actual discharge from the site). Although the quarter is not explicitly defined in this section, this plan establishes the following periods as the quarters:

- 01 January – 31 March;
- 01 April – 30 June;
- 01 July – 30 September; and
- 01 October – 31 December.

Samples should be collected within the **first 30 minutes** of an actual discharge from a storm event. The permit recognizes that collecting a sample within the first 30 minutes of a storm event may not be possible, so the sample should be as soon as practicable after the first 30 minutes; if this approach is necessary, though, the reason(s) for the delay must be documented. It is clear that sampling must be conducted after storm events. In the case of multiple storm events and associated discharges, samples should be collected on discharges that occur at least 72 hours (3 days) from the previous discharge from a measurable storm event.

Given these constraints, this plan requires that samples be collected within the first 30 minutes of an actual discharge from a storm event. Because the environmental staff who must collect these samples is only present during regular business hours (M—F, 7:30 am – 4:00 pm), sampling is limited to these hours. Should a measurable rain event fall outside those hours, lack of staff must be documented and sampling must be conducted during the next measurable rain event.

The permit recognizes that there will occasionally be periods where adverse weather conditions prohibit the regular quarterly sampling. In this case, that quarterly sample must be taken in the following quarter during the **next qualifying storm event**. In addition, the rationale for not taking the regular sample must be documented in the records and reported on the annual review of the program. The permit describes adverse weather conditions as "those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions."

6.1.1 Parameters for Determination

The general sampling requirements in the permit (Part 4.2) specify parameters for assessment during the quarterly assessment of discharges. Samples must be collected in clean, clear containers, for assessment later, in a well-lit place. Clean bottles and a well-lit environment is needed to make proper visual assessment of the following required parameters:

- Color;
- Odor;
- Clarity;
- Floating solids;
- Settled solids;
- Suspended solids;
- Foam;
- Oil sheen; and
- Other obvious indicators of storm water pollution.

The industrial activities at the installation predominately involve fuel storage and transfer. Thus, the parameters above are reflective of the installation's industrial operations, by targeting hydrocarbons or oils.

Corrective actions are required should any samples indicate abnormal levels, such a presence of oil sheen or obvious fuel odor.

6.1.2 Outfalls – Sampling Locations

According to the IGP, each outfall "authorized by the permit" must be monitored for pollutant discharges every quarter. The MCAS Beaufort has identified 49 drainage basins within the installation, with 40 outfalls. Of these, only 29 basins have been identified as potentially having industrial activities. This is still a large number of potential locations for sampling. The permit recognizes the potential for facilities to have substantially identical outfall, that is, outfalls discharging "substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to storm water, and runoff coefficients of their drainage areas."

All outfalls at the installation are provided in **Section 4**, with descriptions of industrial activities given in **Section 5**. The industrial activities that potentially release pollutants to storm water involve fuel storage and handling. Accordingly, the discharge outfalls from "industrial" basins at the installation are considered substantially identical.

Once it is determined that outfalls from the industrial activities have substantially identical effluents, then representativeness of the effluent and presence of flow serve to identify which outfall to use. Fuels are used along the flightline and, thus, selection of an outfall representative of fueling areas is reasonable. The east end of the flightline (Sub-basin 14-K) includes taxiways, runways, and the hot fueling pits. The outfall of this sub-basin is considered representative of the industrial activities at the installation.

- The primary sampling location services the flightline and discharges into the concrete lined drainage ditch along Longstaff Avenue at the bridge near Building 3031. This location is accessible for sampling after qualifying rainfall events using bailer-type equipment.

By electing the approach of sampling a representative outfall for substantially identical outfalls, the installation agrees that the results of that sampling are truly representative of all substantially identical outfalls. Thus, should storm water contamination be identified through visual assessment performed at the identified outfall, control measures for each substantially identical outfall must assessed and modified as appropriate based on the assessment.

6.1.3 Record Keeping and Reporting

Sampling activities must be documented. Records of sampling and rationale for selection of the timing is required, should there be delays in sampling or in the event of adverse weather conditions and/or lack of rainfall events. The following records must be maintained for each quarterly sampling event:

- Location of sampling,
- Date and duration (in hours) of the rainfall event,
- Rainfall total (in inches) for that rainfall event, and
- Time (in days) since the previous measurable storm event.

Alternatively, a complete description of the adverse weather conditions prohibiting the safe collection of samples is required. Also, if there has not been a measurable rain event, the absence of measurable precipitation in the 72 hours (3 days) preceding the monitoring event must be completely documented. Finally, the installation is located in the coastal region where high tides may prohibit a proper sample from being collected during the measurable storm event. In that case, those conditions must be documented.

Reporting is made in the routine quarterly summaries of inspections. The sampling and assessment for each quarter are also included in the report of the comprehensive annual assessment of the program, as required by the IGP.

APPENDIX A: MCAS BEAUFORT ORDER

UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION
BEAUFORT, SOUTH CAROLINA 29904-5001

ASO 5090.4B
NREAO
30 AUG 2012

AIR STATION ORDER 5090.4B

From: Commanding Officer, Marine Corps Air Station Beaufort
To: Distribution List

Subj: STORM WATER POLLUTION PREVENTION PLAN

Ref: (a) Storm Water General Permit No. SCR000000, NPDES General Permit for Storm Water Discharges Associated With Industrial Activities
(b) Storm Water Construction General Permit No. SCR100000, NPDE General Permit for Storm Water Discharges from Large and Small Construction Activities
(c) Storm Water Pesticide General Permit No. SCG160000, NPDES General Permit for Storm Water Discharges from Pesticide Application
(d) 40 CFR 122, 123, AND 124, National Pollution Discharge Elimination System (NPDES) Permit Application Regulations for Storm Water Discharge
(e) 40 CFR 124.10, NPDES General Permits and Facts Sheet, Storm Water Discharges from Industrial Activity
(f) Storm Water Management Plan Overview (SWMPO) for Marine Corps Air Station (MCAS) Beaufort
(g) Storm Water Pollution Prevention Plan (SWPPP) for Marine Corps Air Station (MCAS) Beaufort
(h) MCO 5090.2A, Environmental Compliance and Protection Manual (NOTAL)
(i) SC DHEC Regulation 72-300

1. Situation. This Order implements the Storm Water Management Plan Overview (SWMPO) and the Storm Water Pollution Prevention (SWPP) Plan. The SWMPO establishes procedures and requirements for management of storm water from various activities at Marine Corps Air Station (MCAS) Beaufort under multiple National Pollutant Discharge Elimination System (NPDES) permits pertaining to storm water discharges. The SWPP Plan is required by reference (a) and establishes procedures for monitoring storm water and assessing operations to ensure the protection of the quality of storm water runoff from property industrial activities at MCAS Beaufort. General storm water controls are required for other structures at MCAS Beaufort and Laurel Bay Housing Area (LBHA) for management to the maximum extent practicable.

2. Cancellation. ASO 5090.4A

3. Mission. Per the references, MCAS Beaufort will fully support and implement the requirements within. MCAS Beaufort will manage storm water releases within the requirements of the applicable permits through regular inspections performed by Natural Resources and Environmental Affairs Office (NREAO) staff, contractors working at their direction, construction contractors (or their qualified representatives), and the Storm Water Pollution Prevention Team (SWPPT) to ensure implementation and adherence of the SWPP Plan. Specifically, the SWPPT will be responsible for performing inspections of areas of industrial activity.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The policies and responsibilities established in this instruction shall be fully implemented in conjunction with those described in the SWMPO and the SWPP Plan, both of which describe the requirements for managing storm water releases and for personnel managing the compliance program implementing those plans.

(2) Concept of Operations

(a) In accordance with federal and state requirements, storm water runoff from industrial activities, construction activities, pesticide application, and other operations will be managed in accordance with applicable general permits for storm water discharges issued by the South Carolina Department of Health and Environmental Control (DHEC) and with a program of source and structural controls and work practices identified in the SWMPO and SWPP Plan, which applies to storm water from industrial activities alone.

(b) The SWPP Plan applies to operations which might contribute to the release of pollutants from industrial activities at the MCAS Beaufort. The SWPP Plan presents the requirements for monitoring storm water releases and reviewing practices at the following selected work centers in accordance with regulatory requirements:

1. Maintenance, fueling, washing and servicing of aircraft (excluded from sampling based on non-exposure certification).

2. Vehicle and equipment maintenance shops (excluded from sampling based on non-exposure certification).

3. Treatment, storage and disposal sites.

4. Landfill (certified as closed and capped, indicating no need for monitoring), including Storm Water Management Unit 1 (SWMU)-Fenced Hazard Area, SWMU2-Lafrene Road Landfill, SWMU3-Borrow Pit Landfill, SWMU4-Southeast Point Disposal Area, SWMU14/6-Inert Landfill and Seepage Trenches, SWMU8-Kavieng Street Landfill, and SWMU17-Funa Futi Road Disposal Area.

(c) Under the industrial activities general permit and SWPP Plan, MCAS Beaufort is required to conduct quarterly sampling at each outfall from the facility, or from equivalent outfalls. Such sampling is conducted quarterly at a single substantially identical outfall from the flight line and runway. Further, visual monitoring should be conducted quarterly to confirm the effectiveness of the SWPP Plan.

(d) Under the construction general permit, MCAS Beaufort is required to apply for releases under the permit through submittal of a notice of intent (NOI), with the construction contractor as co-permittee. The permittee(s) must follow all the requirements of the approved SWPP plan for the project and conduct inspections weekly and after rainfall events to

ensure the best management practices determined for the project remain effective.

(e) Under the pesticides general permit, MCAS Beaufort is required to log all pesticide use, the amount used, the date(s) of use, and the specific locations of the pesticide use. The logging of use requirement also applies to use by contractors operating aboard MCAS Beaufort.

(f) The SWMPO and the SWPP Plan shall be reviewed annually for potential changes, with page updates as warranted but a complete update at least every four years.

b. Subordinate Element Missions. Headquarters and Headquarters Squadron and Marine Aircraft Group 31.

(1) The Commanding Officer, Marine Aircraft Group 31 shall concur with this Order insofar as it pertains to Fleet Marine Force units stationed aboard MCAS Beaufort.

(2) Commanding Officers, Department Heads, and Officers-in-Charge shall ensure all personnel assigned to the above referenced activities aboard MCAS Beaufort become familiar with the contents of the SWPP Plan.

(3) Commanding Officers, Department Heads, and Officers-in-Charge shall ensure no unpermitted release of storm water occurs from operations under their command.

(4) Resident Officers-in-Charge of Construction and their construction contractors shall ensure no unpermitted release of storm water occurs from projects and associated operations under their command.

5. Administration and Logistics. In accordance with the requirements and guidance contained in the SWMPO and SWPP Plan, the NREAO Officer is responsible for managing storm water within all applicable state and federal regulations listed under the references.

6. Command and Signal

a. Command. This Order is applicable to Marine Aircraft Group 31 and all applicable tenant commands and contractors conducting operations listed in the SWPP Plan, application of pesticides, or construction activities.

b. Signal. This Order is effective the date signed.

B. C. MURTHA

DISTRIBUTION: A

APPENDIX B: INDUSTRIAL GENERAL STORM WATER PERMIT

APPENDIX C: FACILITY INSPECTION CHECKLIST

MCAS Beaufort - Storm Water Routine Facility Inspection Checklist	626 WR	1064	780	Yard	Admin Storage	Comments/ Observations
General Practice						
Are Safety Data Sheets (SDS) available and up to date?	Select	Select	Select	Select	Select	
Is good housekeeping implemented?	Select	Select	Select	Select	Select	
Check general condition of shop and surroundings. Are conditions acceptable?	Select	Select	Select	Select	Select	
Are dumpsters closed and not draining toward storm drains?	Select	Select	Select	Select	Select	
Spill Response and Management						
Is a spill kit readily available?	Select	Select	Select	Select	Select	
Is the spill kit fully equipped for the site?	Select	Select	Select	Select	Select	
Do personnel know where the spill kit is located?	Select	Select	Select	Select	Select	
Are personnel trained in the use of spill kit materials?	Select	Select	Select	Select	Select	
Has this area experienced a spill during the last quarter? Reported? List date(s)	Select	Select	Select	Select	Select	
Operations and Maintenance of Equipment						
Is all chemical mixing done inside or under cover?	Select	Select	Select	Select	Select	
Is all equipment and vehicle maintenance done inside or under cover?	Select	Select	Select	Select	Select	
Are drip pans in use for stored equipment or is equipment being maintained?	Select	Select	Select	Select	Select	
Are materials stored inside, under cover, or under tarp?	Select	Select	Select	Select	Select	
Is vehicle washing done only in designated areas?	Select	Select	Select	Select	Select	
Storm Water Control Structures						
Are all control structures operating properly?	Select	Select	Select	Select	Select	
Has maintenance of control structures been performed?	Select	Select	Select	Select	Select	
Are grit chambers cleaned and OWS cleaned? (if applicable)	Select	Select	Select	Select	Select	
Are catch basin sumps < 2/3 full of debris & is debris >6" below lowest outlet pipe?	Select	Select	Select	Select	Select	
Are control measures sufficient to address corrective actions (no additional control measures needed)?	Select	Select	Select	Select	Select	
Weather Conditions During Inspection						
Is there a discharge at outfall(s)? (If yes, any noncompliance observed - sheen, etc?) Is there evidence of pollutants discharging to receiving waters?	Select	Select	Select	Select	Select	
Are there any issues with condition of (and/or around) outfall(s)?	Select	Select	Select	Select	Select	
Weather - amount & duration of rain or days since last rain, temp (e.g. 70 deg. & sunny)						
Has at least one quarterly inspection this fiscal year been conducted during rain?	Select	Select	Select	Select	Select	
Are all tanker trucks parked within containment, where applicable?	Select	Select	Select	Select	Select	
Are fuel transfer hoses stored in contained racks?	Select	Select	Select	Select	Select	
Notes:						
Signature:	Date: 8/21/2019					Facility: *MWSD*

MCAS Beaufort - Storm Water Routine Facility Inspection Checklist	594	958 (Wash)	3031 GSE	1213 (Wash)	1256 CCF	1253 Van	Comments/ Observations
General Practice							
Are Safety Data Sheets (SDS) available and up to date?	Select	Select	Select	Select	Select	Select	
Is good housekeeping implemented?	Select	Select	Select	Select	Select	Select	
Check general condition of shop and surroundings. Are conditions acceptable?	Select	Select	Select	Select	Select	Select	
Are dumpsters closed and not draining toward storm drains?	Select	Select	Select	Select	Select	Select	
Spill Response and Management							
Is a spill kit readily available?	Select	Select	Select	Select	Select	Select	
Is the spill kit fully equipped for the site?	Select	Select	Select	Select	Select	Select	
Do personnel know where the spill kit is located?	Select	Select	Select	Select	Select	Select	
Are personnel trained in the use of spill kit materials?	Select	Select	Select	Select	Select	Select	
Has this area experienced a spill during the last quarter? Reported? List date(s)	Select	Select	Select	Select	Select	Select	
Operations and Maintenance of Equipment							
Is all chemical mixing done inside or under cover?	Select	Select	Select	Select	Select	Select	
Is all equipment and vehicle maintenance done inside or under cover?	Select	Select	Select	Select	Select	Select	
Are drip pans in use for stored equipment or is equipment being maintained?	Select	Select	Select	Select	Select	Select	
Are materials stored inside, under cover, or under tarp?	Select	Select	Select	Select	Select	Select	
Is vehicle washing done only in designated areas?	Select	Select	Select	Select	Select	Select	
Storm Water Control Structures							
Are all control structures operating properly?	Select	Select	Select	Select	Select	Select	
Has maintenance of control structures been performed?	Select	Select	Select	Select	Select	Select	
Are grit chambers cleaned and OWS cleaned? (if applicable)	Select	Select	Select	Select	Select	Select	
Are catch basin sumps < 2/3 full of debris & is debris >6" below lowest outlet pipe?	Select	Select	Select	Select	Select	Select	
Are control measures sufficient to address corrective actions (no additional control measures needed)?	Select	Select	Select	Select	Select	Select	
Weather Conditions During Inspection							
Is there a discharge at outfall(s)? (If yes, any noncompliance observed - sheen, etc?) Is there evidence of pollutants discharging to receiving waters?	Select	Select	Select	Select	Select	Select	
Are there any issues with condition of (and/or around) outfall(s)?	Select	Select	Select	Select	Select	Select	
Weather - amount & duration of rain or days since last rain, temp (e.g. 70 deg. & sunny)							
Has at least one quarterly inspection this fiscal year been conducted during rain?	Select	Select	Select	Select	Select	Select	
Are all tanker trucks parked within containment, where applicable?	Select	Select	Select	Select	Select	Select	
Are fuel transfer hoses stored in contained racks?	Select	Select	Select	Select	Select	Select	
Notes:							
Signature:	Date: 8/21/2019						Facility: *MALS*

MCAS Beaufort - Storm Water Routine Facility Inspection Checklist	Yes/No	Comments/ Observations
General Practice		
Are Safety Data Sheets (SDS) available and up to date?	Select	
Is good housekeeping implemented?	Select	
Check general condition of shop and surroundings. Are conditions acceptable?	Select	
Are dumpsters closed and not draining toward storm drains?	Select	
Spill Response and Management		
Is a spill kit readily available?	Select	
Is the spill kit fully equipped for the site?	Select	
Do personnel know where the spill kit is located?	Select	
Are personnel trained in the use of spill kit materials?	Select	
Has this area experienced a spill during the last quarter? Reported? List date(s)	Select	
Operations and Maintenance of Equipment		
Is all chemical mixing done inside or under cover?	Select	
Is all equipment and vehicle maintenance done inside or under cover?	Select	
Are drip pans in use for stored equipment or is equipment being maintained?	Select	
Are materials stored inside, under cover, or under tarp?	Select	
Is vehicle washing done only in designated areas?	Select	
Storm Water Control Structures		
Are all control structures operating properly?	Select	
Has maintenance of control structures been performed?	Select	
Are grit chambers cleaned and OWS cleaned? (if applicable)	Select	
Are catch basin sumps < 2/3 full of debris & is debris >6" below lowest outlet pipe?	Select	
Are control measures sufficient to address corrective actions (no additional control measures needed)?	Select	
Weather Conditions During Inspection		
Is there a discharge at outfall(s)? (If yes, any noncompliance observed - sheen, etc?) Is there evidence of pollutants discharging to receiving waters?	Select	
Are there any issues with condition of (and/or around) outfall(s)?	Select	
Weather - amount & duration of rain or days since last rain, temp (e.g. 70 deg. & sunny)		
Has at least one quarterly inspection this fiscal year been conducted during rain?	Select	
Are all tanker trucks parked within containment, where applicable?	Select	
Are fuel transfer hoses stored in contained racks?	Select	
Signature:	Facility: MCX Service Station	

MCAS Beaufort - Storm Water Routine Facility Inspection Checklist	TF A	TF B	TF C	E Pits	W Pits	Bldg 620	Comments/ Observations
General Practice							
Are Safety Data Sheets (SDS) available and up to date?	Select	Select	Select	Select	Select	Select	
Is good housekeeping implemented?	Select	Select	Select	Select	Select	Select	
Check general condition of shop and surroundings. Are conditions acceptable?	Select	Select	Select	Select	Select	Select	
Are dumpsters closed and not draining toward storm drains?	Select	Select	Select	Select	Select	Select	
Spill Response and Management							
Is a spill kit readily available?	Select	Select	Select	Select	Select	Select	
Is the spill kit fully equipped for the site?	Select	Select	Select	Select	Select	Select	
Do personnel know where the spill kit is located?	Select	Select	Select	Select	Select	Select	
Are personnel trained in the use of spill kit materials?	Select	Select	Select	Select	Select	Select	
Has this area experienced a spill during the last quarter? Reported? List date(s)	Select	Select	Select	Select	Select	Select	
Operations and Maintenance of Equipment							
Is all chemical mixing done inside or under cover?	Select	Select	Select	Select	Select	Select	
Is all equipment and vehicle maintenance done inside or under cover?	Select	Select	Select	Select	Select	Select	
Are drip pans in use for stored equipment or is equipment being maintained?	Select	Select	Select	Select	Select	Select	
Are materials stored inside, under cover, or under tarp?	Select	Select	Select	Select	Select	Select	
Is vehicle washing done only in designated areas?	Select	Select	Select	Select	Select	Select	
Storm Water Control Structures							
Are all control structures operating properly?	Select	Select	Select	Select	Select	Select	
Has maintenance of control structures been performed?	Select	Select	Select	Select	Select	Select	
Are grit chambers cleaned and OWS cleaned? (if applicable)	Select	Select	Select	Select	Select	Select	
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Are there any issues with condition of (and/or around) outfall(s)?	Select	Select	Select	Select	Select	Select	
Weather - amount & duration of rain or days since last rain, temp (e.g. 70 deg. & sunny)							
Has at least one quarterly inspection this fiscal year been conducted during rain?	Select	Select	Select	Select	Select	Select	
Are all tanker trucks parked within containment, where applicable?	Select	Select	Select	Select	Select	Select	
Are fuel transfer hoses stored in contained racks?	Select	Select	Select	Select	Select	Select	
Notes:							
Signature:	Date: 8/21/2019						Facility: *FUELS*

MCAS Beaufort - Storm Water Routine Facility Inspection Checklist	1313	3060	729	2045	418	1208	414	1084	New Hangar, under construction (728)	Comments/ Observations
General Practice										
Are Safety Data Sheets (SDS) available and up to date?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Is good housekeeping implemented?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Check general condition of shop and surroundings. Are conditions acceptable?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are dumpsters closed and not draining toward storm drains?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Spill Response and Management										
Is a spill kit readily available?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Is the spill kit fully equipped for the site?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Do personnel know where the spill kit is located?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are personnel trained in the use of spill kit materials?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Has this area experienced a spill during the last quarter? Reported? List date(s)	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Operations and Maintenance of Equipment										
Is all chemical mixing done inside or under cover?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Is all equipment and vehicle maintenance done inside or under cover?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are drip pans in use for stored equipment or is equipment being maintained?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are materials stored inside, under cover, or under tarp?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Is vehicle washing done only in designated areas?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Storm Water Control Structures										
Are all control structures operating properly?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Has maintenance of control structures been performed?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are grit chambers cleaned and OWS cleaned? (if applicable)	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are catch basin sumps < 2/3 full of debris & is debris >6" below lowest outlet pipe?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are control measures sufficient to address corrective actions (no additional control measures needed)?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Weather Conditions During Inspection										
Is there a discharge at outfall(s)? (If yes, any noncompliance observed - sheen, etc?) Is there evidence of pollutants discharging to receiving waters?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are there any issues with condition of (and/or around) outfall(s)?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Weather - amount & duration of rain or days since last rain, temp (e.g. 70 deg. & sunny)										
Has at least one quarterly inspection this fiscal year been conducted during rain?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are all tanker trucks parked within containment, where applicable?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Are fuel transfer hoses stored in contained racks?	Select	Select	Select	Select	Select	Select	Select	Select	Select	
Notes:										
Signature:	Date: 8/21/2019						Facility: MAG			

APPENDIX D: VISUAL OUTFALL ASSESSMENT LOG

Quarterly Visual Assessment Form *(Complete one form for each outfall sampled.)*

Name of Facility: Marine Corps Air Station Beaufort	Permit No.: SCR000000		
Street Address: Geiger Boulevard	City: Beaufort	State: SC	Zip Code: 29904
Outfall Number:	"Substantially Identical Outfall"? ☐ No ☐ Yes (identify substantially identical outfalls – see Section 2.2.2 of the SWPPP)		
Quarter/Year:	Substitute Sample? ☐ No ☐ Yes		
Person(s) Title(s) collecting sample:			
Person(s) Title(s) examining sample:			
Date & Time Storm or Snowmelt Began:			
Date & Time Storm or Snowmelt Collected:			
Date & Time Storm or Snowmelt Examined:			
Nature of Discharge: ☐ Rainfall ☐ Snowmelt			
Rainfall Amount: _____ inches	Previous Storm Ended >72 hours Before Start of This Storm? ☐ No ☐ Yes (Explain)		
Parameter Assessments			
Color	☐ No ☐ Other (describe)		
Odor	☐ No ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Petroleum/Gas ☐ Solvents ☐ Other (describe:)		
Clarity	☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ Other (describe:)		
Floating Solids	☐ No ☐ Yes (describe:)		
Settled Solids **	☐ No ☐ Yes (describe:)		
Suspended Solids	☐ No ☐ Yes (describe:)		
Oil Sheen	☐ No ☐ Yes (describe:)		
Foam (gently shake sample)	☐ No ☐ Yes (describe:)		
Other Obvious Indicators of storm water pollution:	☐ No ☐ Yes (describe:)		

**72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.*

***Observe for settled solids after allowing the sample to site for approximately 30 minutes.*

Sampling not performed due to adverse conditions: ☐ No ☐ Yes (explain:)
Sampling not performed due to no measurable storm event occurring that resulted in a discharge during the monitoring quarter: ☐ No ☐ Yes (explain:)

Detail any concerns, additional comments, description of pictures taken, and any corrective actions taken below (attach additional sheets as necessary).

_____

_____

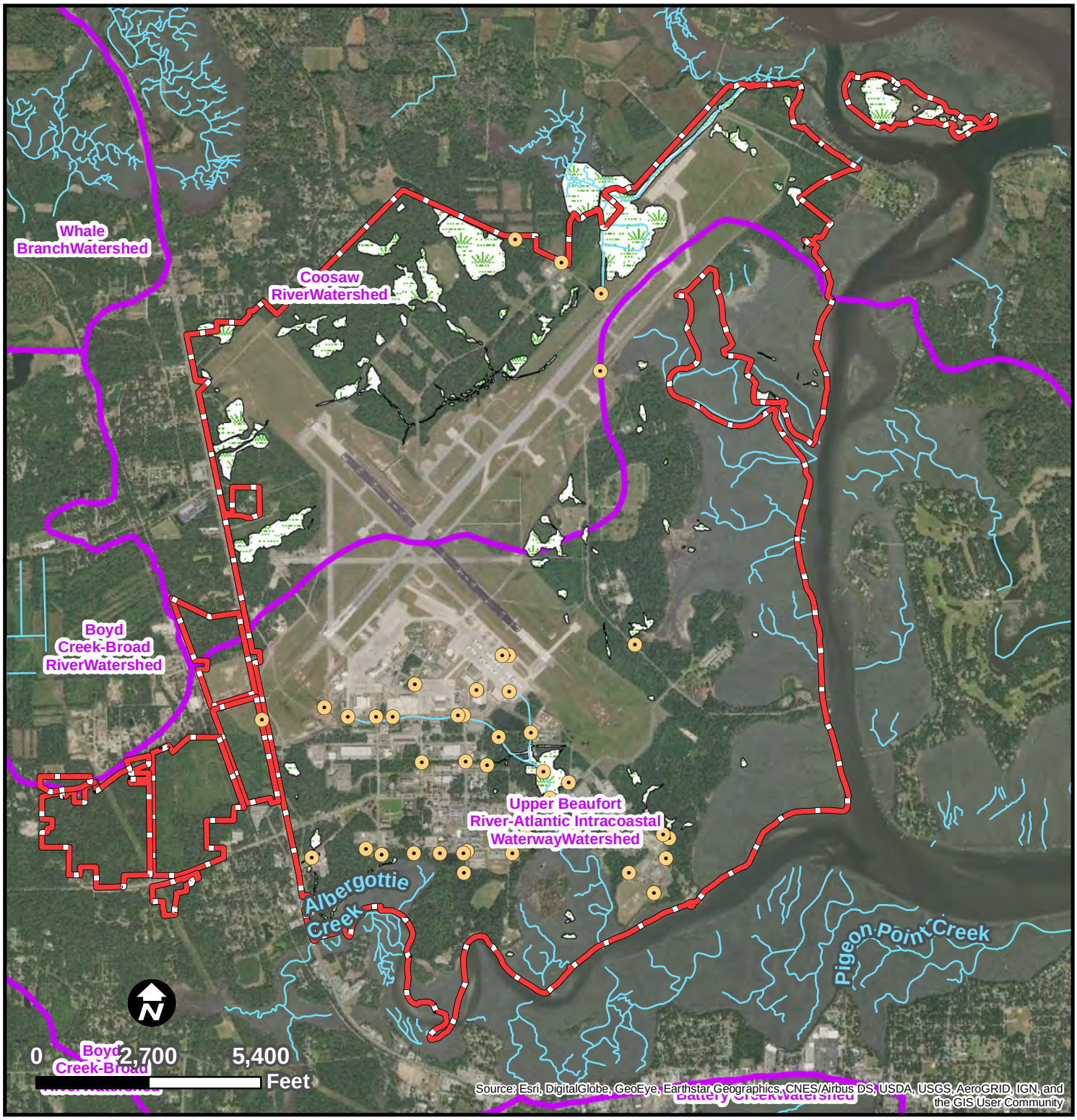
_____

_____

A. Name _____ B. Title _____

C. Signature _____ D. Date Signed _____

APPENDIX E: OUTFALL MAP AND DRAWINGS OF INDUSTRIAL FACILITIES



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 1. Outfall Locations.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- MCAS Beaufort Property
- Outfall
- USGS Flowpaths (National Hydrology Dataset)
- USGS HUC-12 Boundary
- Wetland

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 1. Outfall Locations

Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

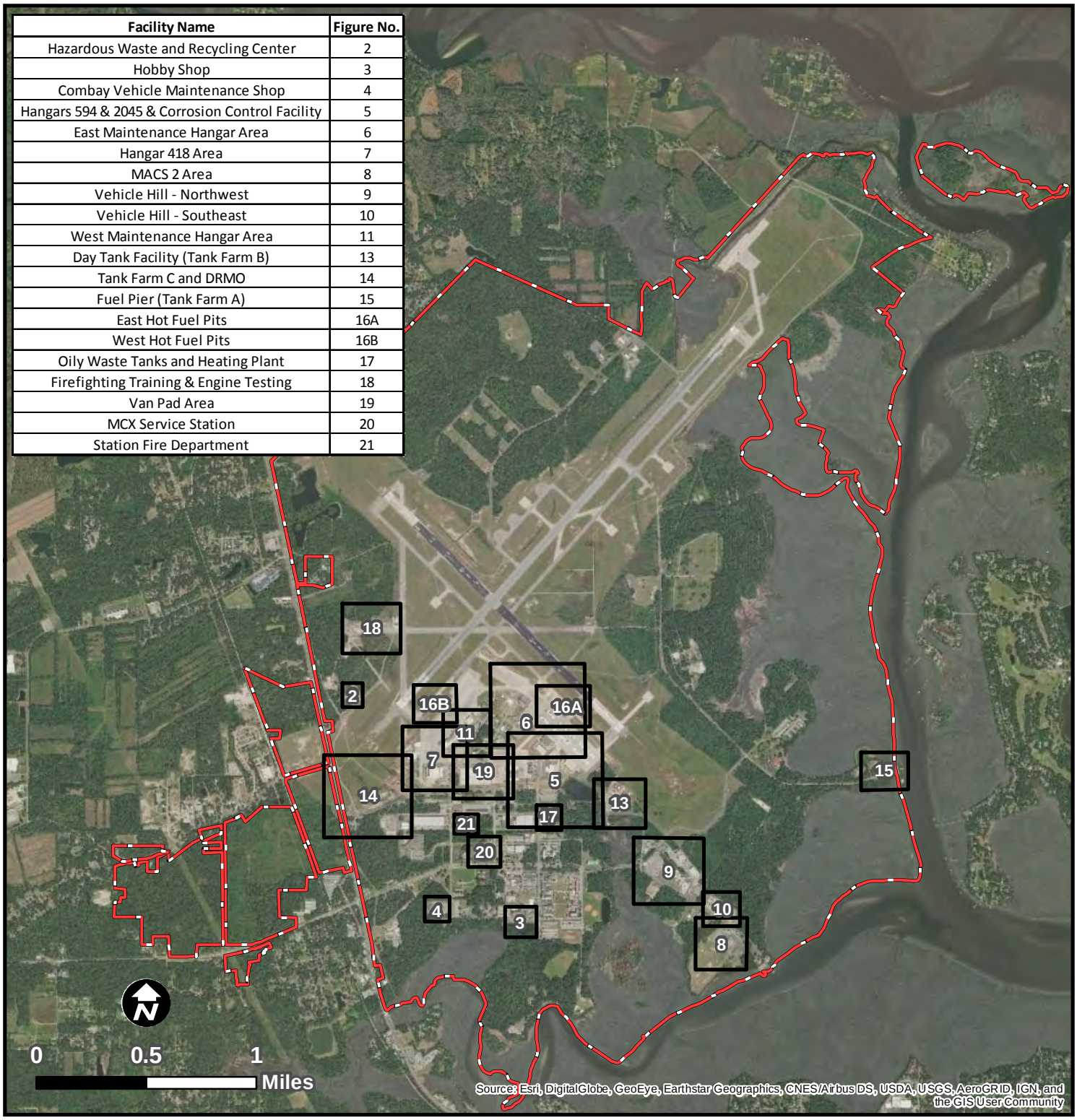
Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. (Wood) project number 6480177133. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Facility Name	Figure No.
Hazardous Waste and Recycling Center	2
Hobby Shop	3
Combay Vehicle Maintenance Shop	4
Hangars 594 & 2045 & Corrosion Control Facility	5
East Maintenance Hangar Area	6
Hangar 418 Area	7
MACS 2 Area	8
Vehicle Hill - Northwest	9
Vehicle Hill - Southeast	10
West Maintenance Hangar Area	11
Day Tank Facility (Tank Farm B)	13
Tank Farm C and DRMO	14
Fuel Pier (Tank Farm A)	15
East Hot Fuel Pits	16A
West Hot Fuel Pits	16B
Oily Waste Tanks and Heating Plant	17
Firefighting Training & Engine Testing	18
Van Pad Area	19
MCX Service Station	20
Station Fire Department	21



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-608\ Beaufort FY17 Support\GIS\SWPPP Maps\Figure 1a. Industrial Facility Locations.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- MCAS Beaufort Property
- Approximate Facility Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 1a. Industrial Facility Locations

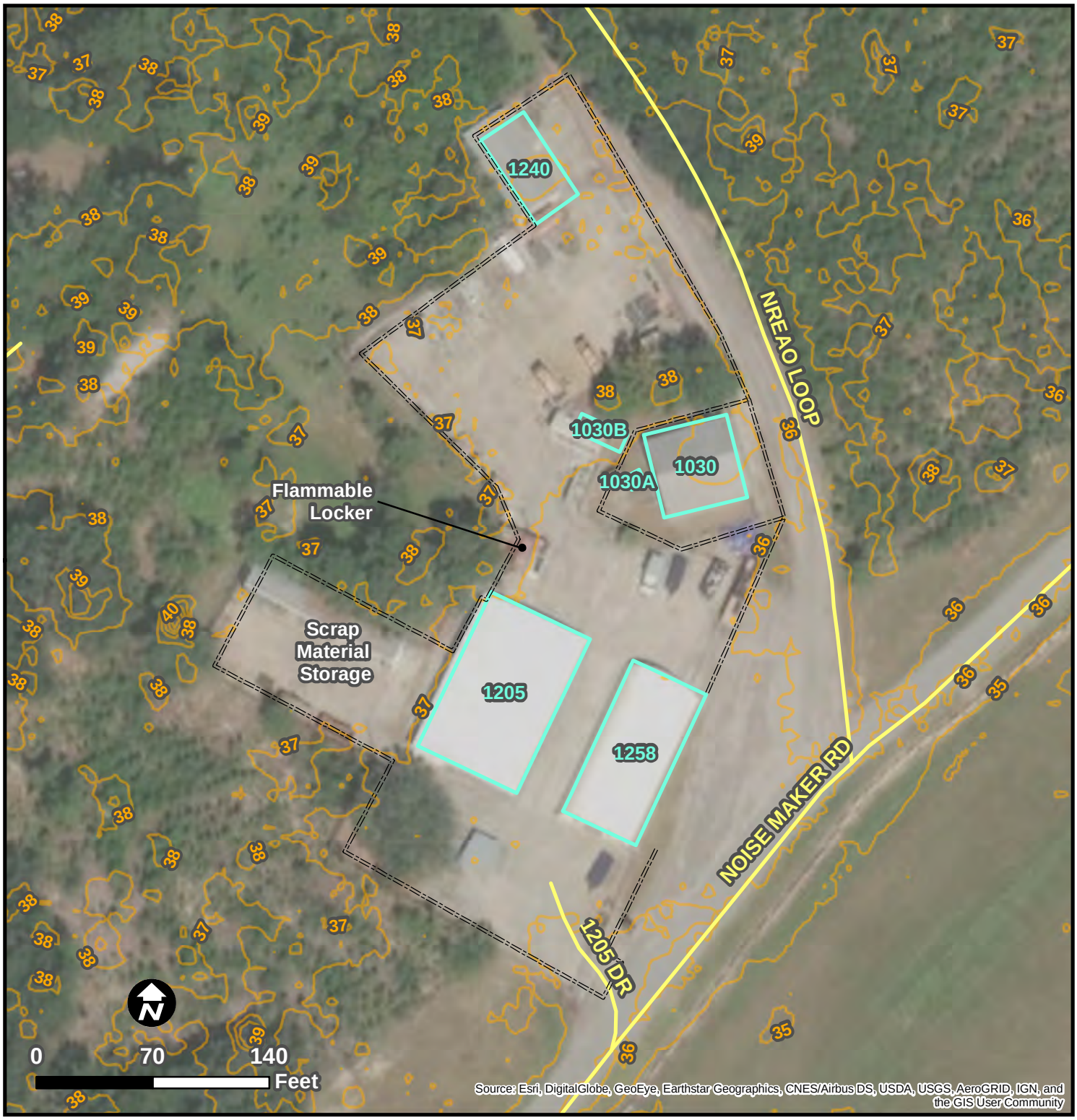
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/3/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 2. Hazardous Waste and Recycling Center.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Building
- Fence
- Road Centerline

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 2. Hazardous Waste and Recycling Center

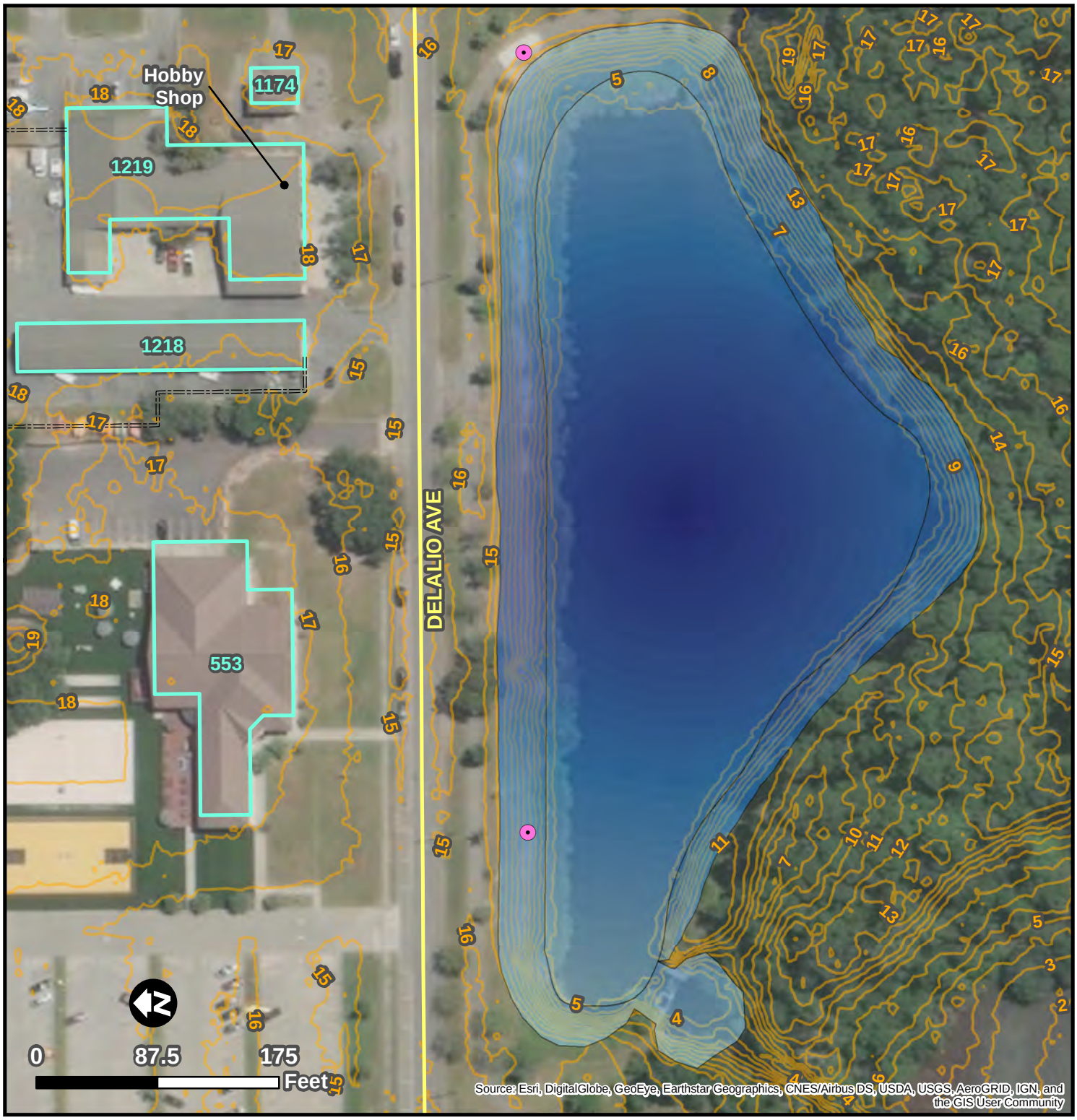
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/1/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 3. Hobby Shop.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Fence
- Road Centerline
- Building
- Stormwater Pond
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 3. Hobby Shop

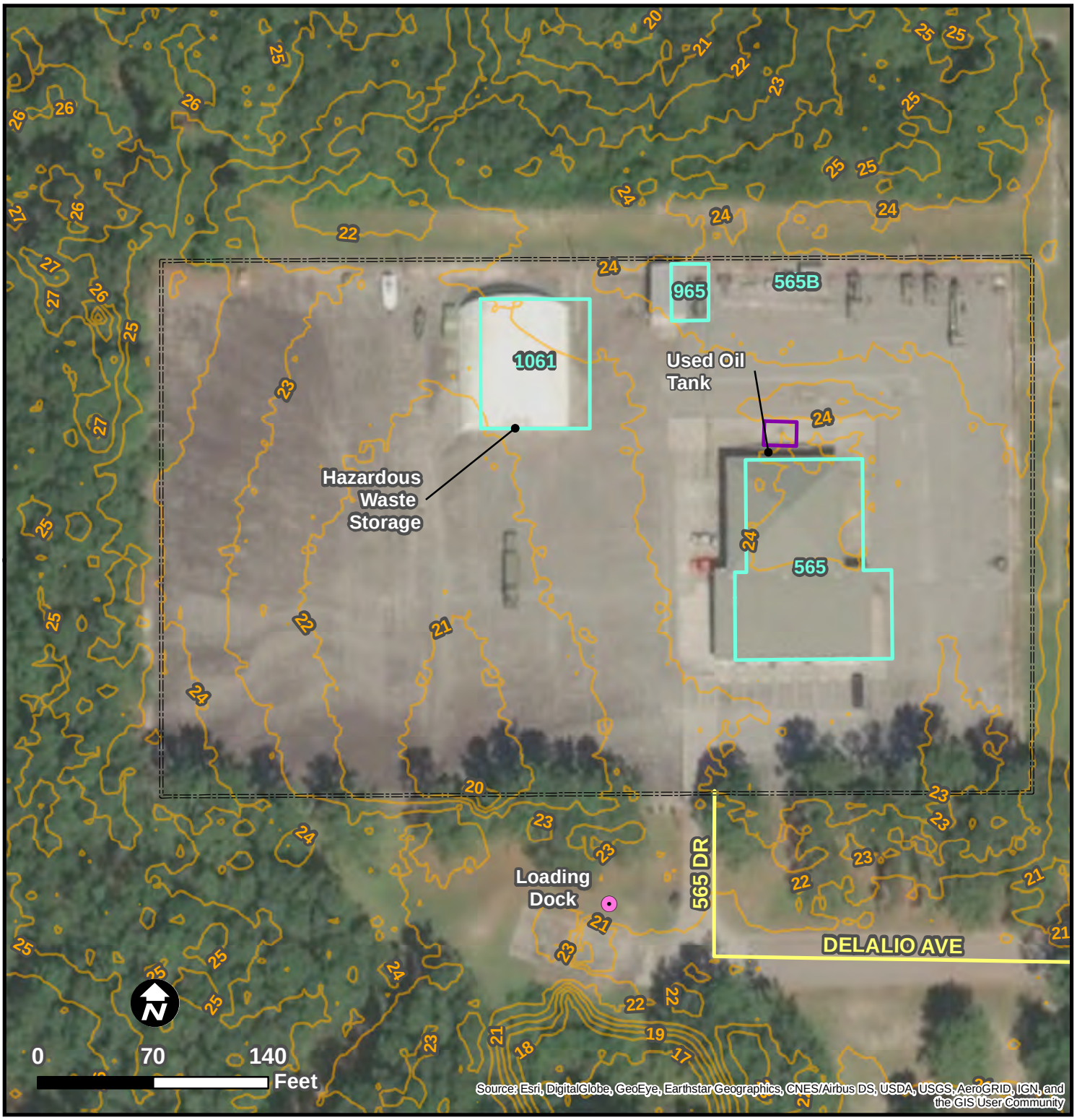
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/1/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 4. Combat Vehicle Maintenance Shop (CLC 23).mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Fence
- Road Centerline
- Oil Water Separator
- Building
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 4. Combat Vehicle Maintenance Shop (CLC 23)

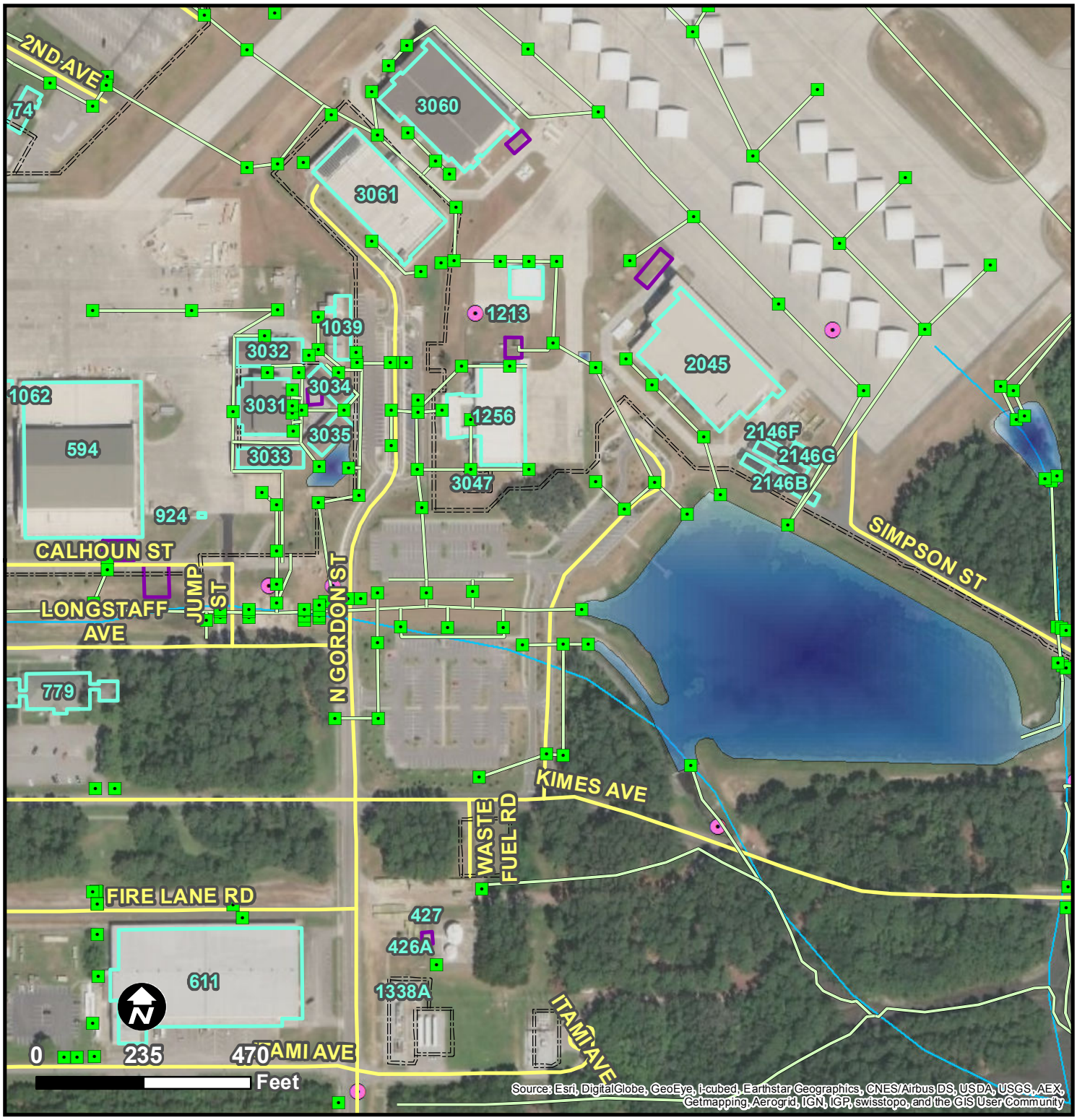
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



P:\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 5. Hangars 594 and 2045 and Corrosion Control Facility.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- Oil Water Separator
- Building
- Stormwater Pond
- USGS Flow Path (NHD)
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 5. Hangars 594 and 2045 and Corrosion Control Facility

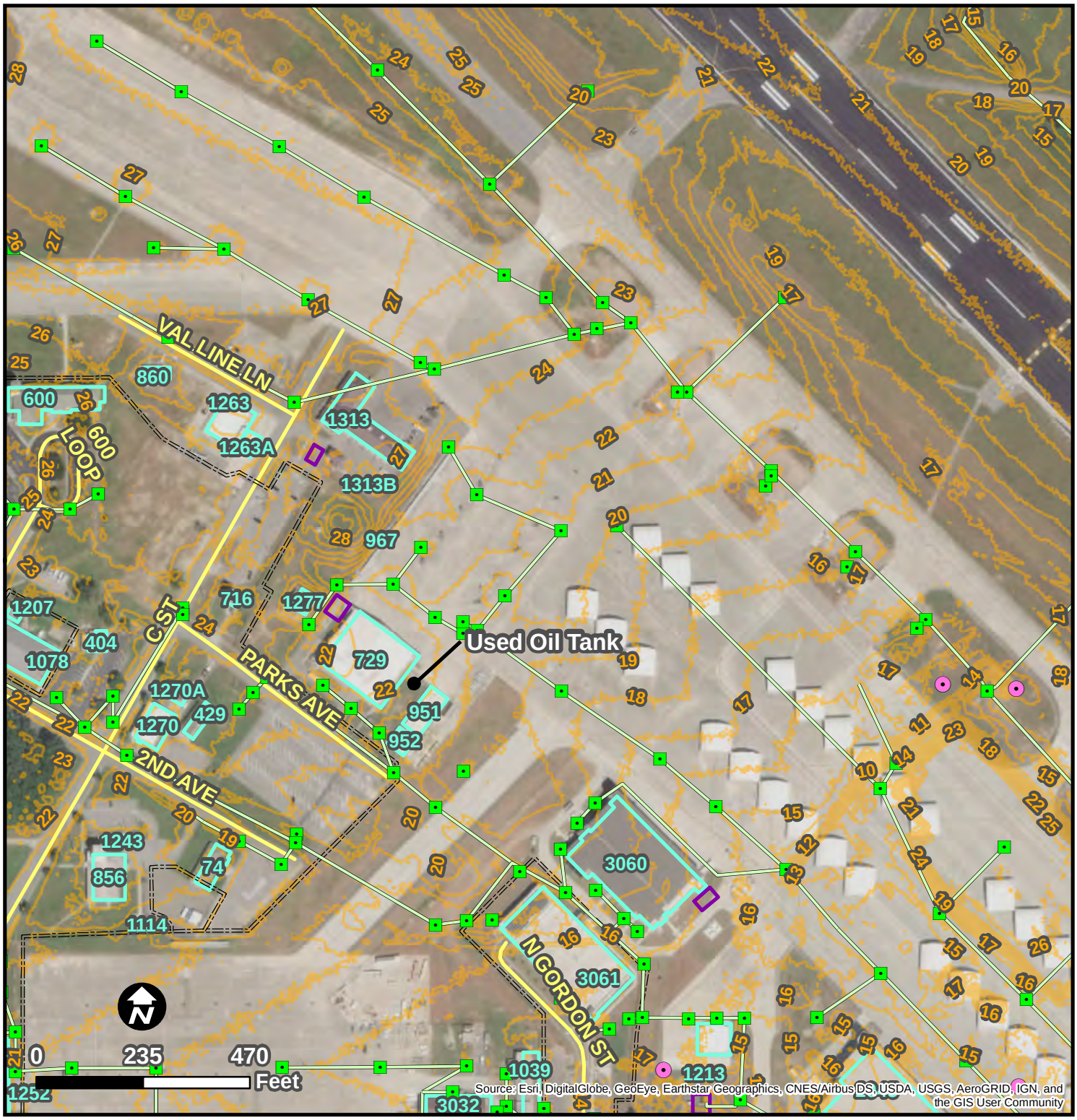
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 2/28/2019



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 6. East Maintenance Hangar Area (729).mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- Oil Water Separator
- Building
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 6. East Maintenance Hangar Area (729)

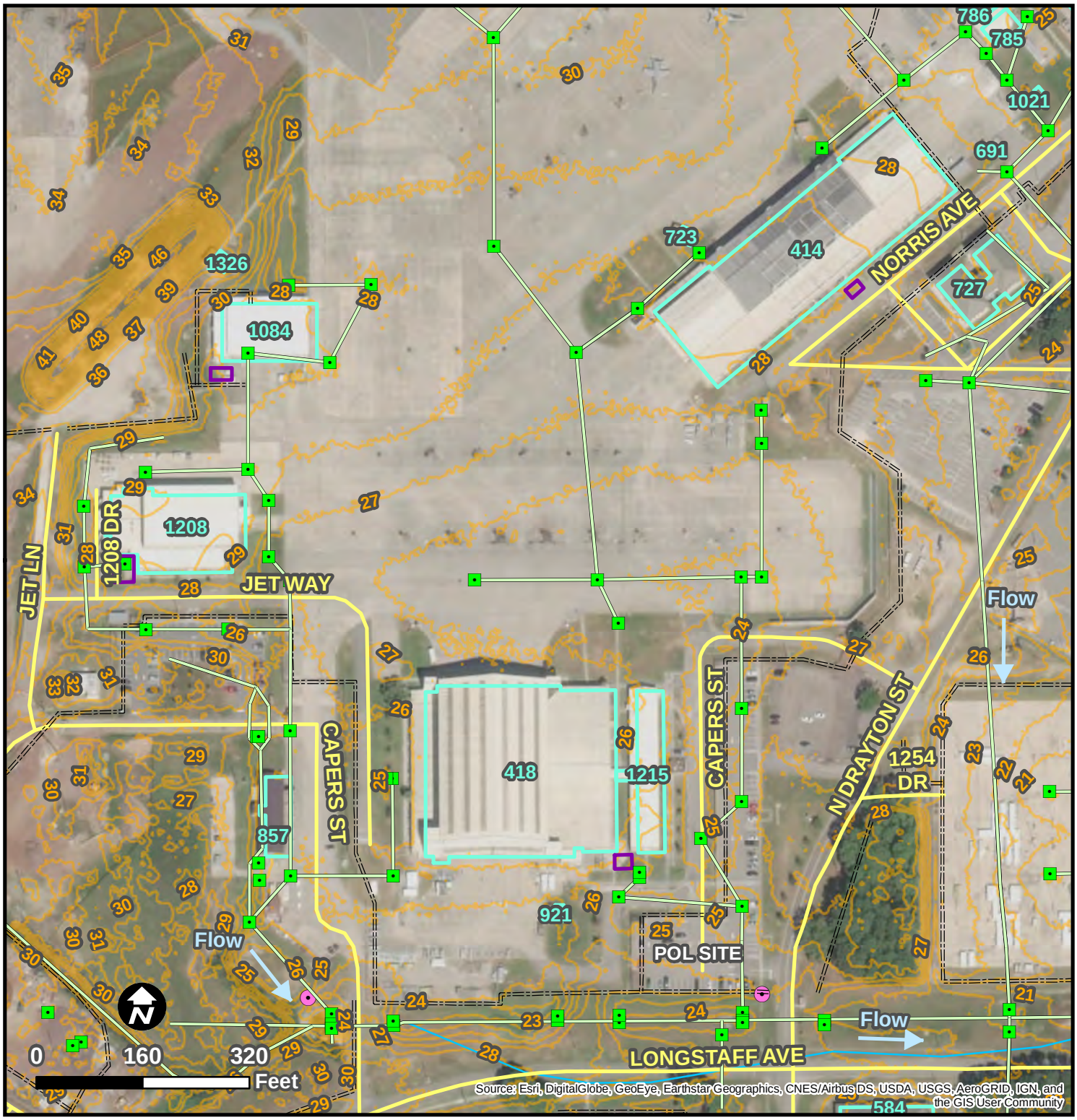
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/1/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 7. Hangar 418 Area.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- Oil Water Separator
- Building
- USGS Flow Path (NHD)
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 7. Hangar 418 Area

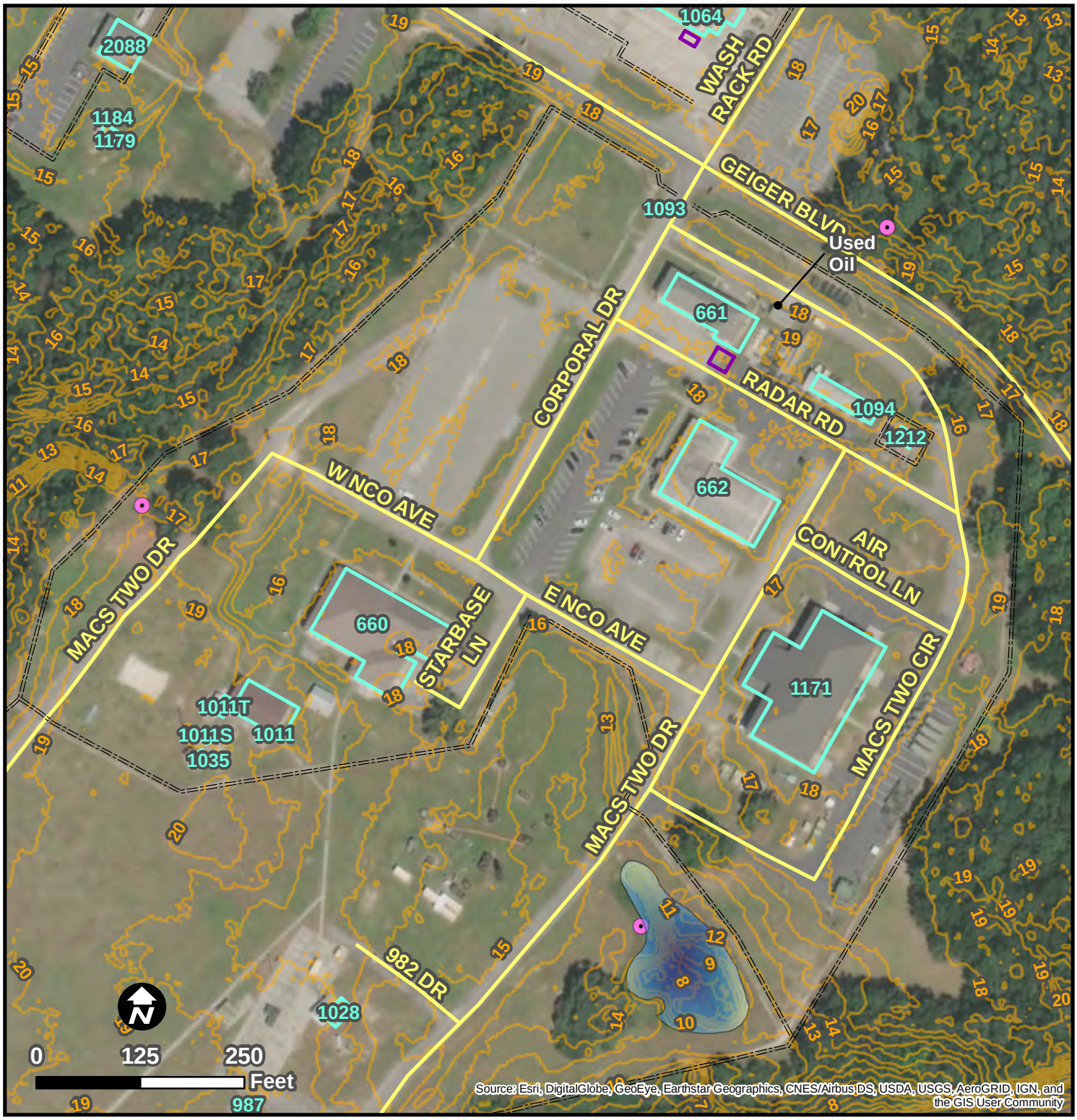
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 8. MACS 2 Area.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Fence
- Road Centerline
- Oil Water Separator
- Building
- Stormwater Pond
- USGS Flow Path (NHD)
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 8. MACS 2 Area

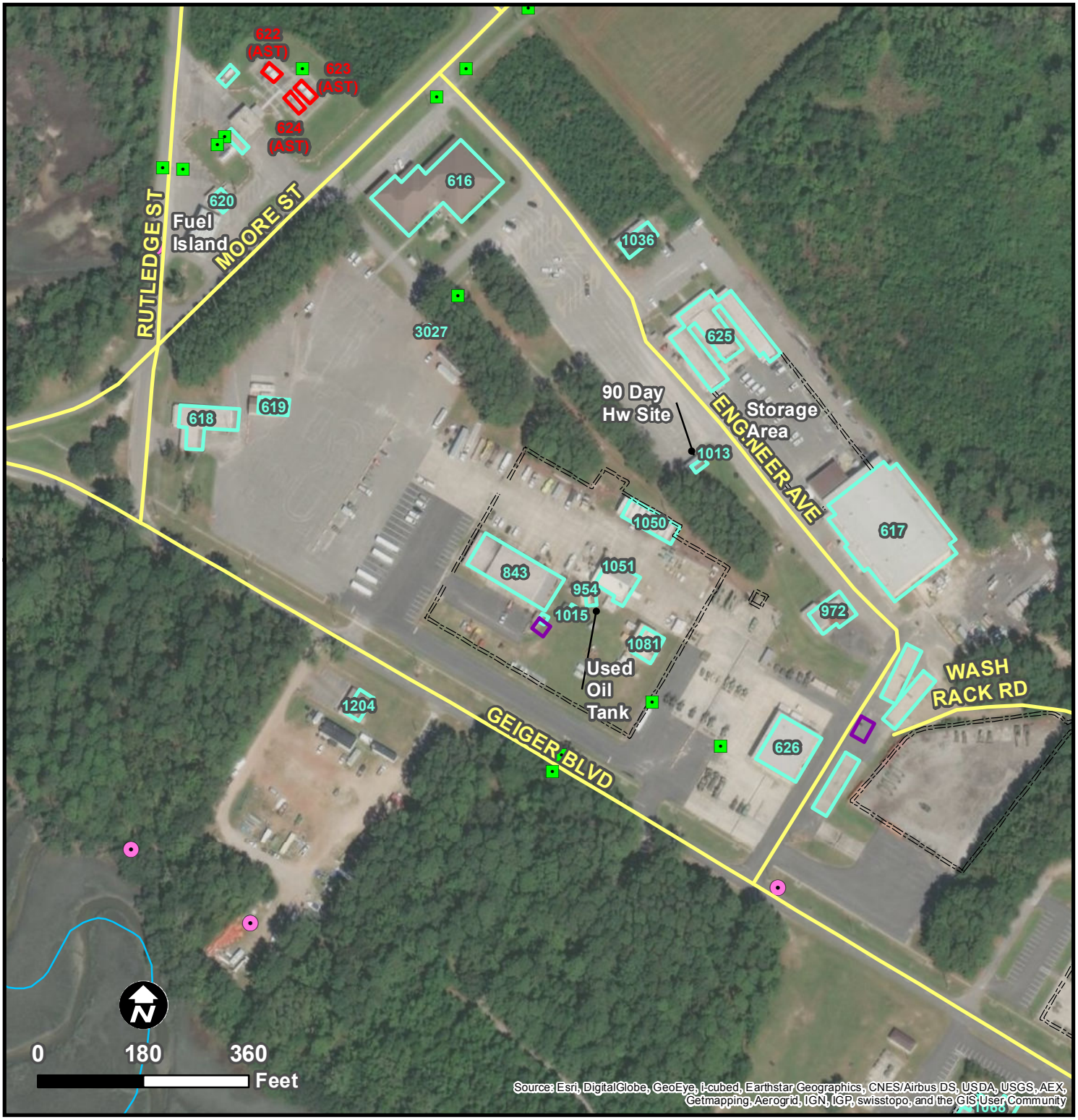
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



P:\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 9. Vehicle Hill - Northwest.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Fence
- Road Centerline
- Oil Water Separator
- UST/AST
- Building
- USGS Flow Path (NHD)
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 9. Vehicle Hill - Northwest

Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 2/28/2019

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P:\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 10. Vehicle Hill - Southeast.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Contours
- Fence
- Road Centerline
- Oil Water Separator
- Stormwater Pond
- Building
- Approximate Outfall Location

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 10. Vehicle Hill - Southeast

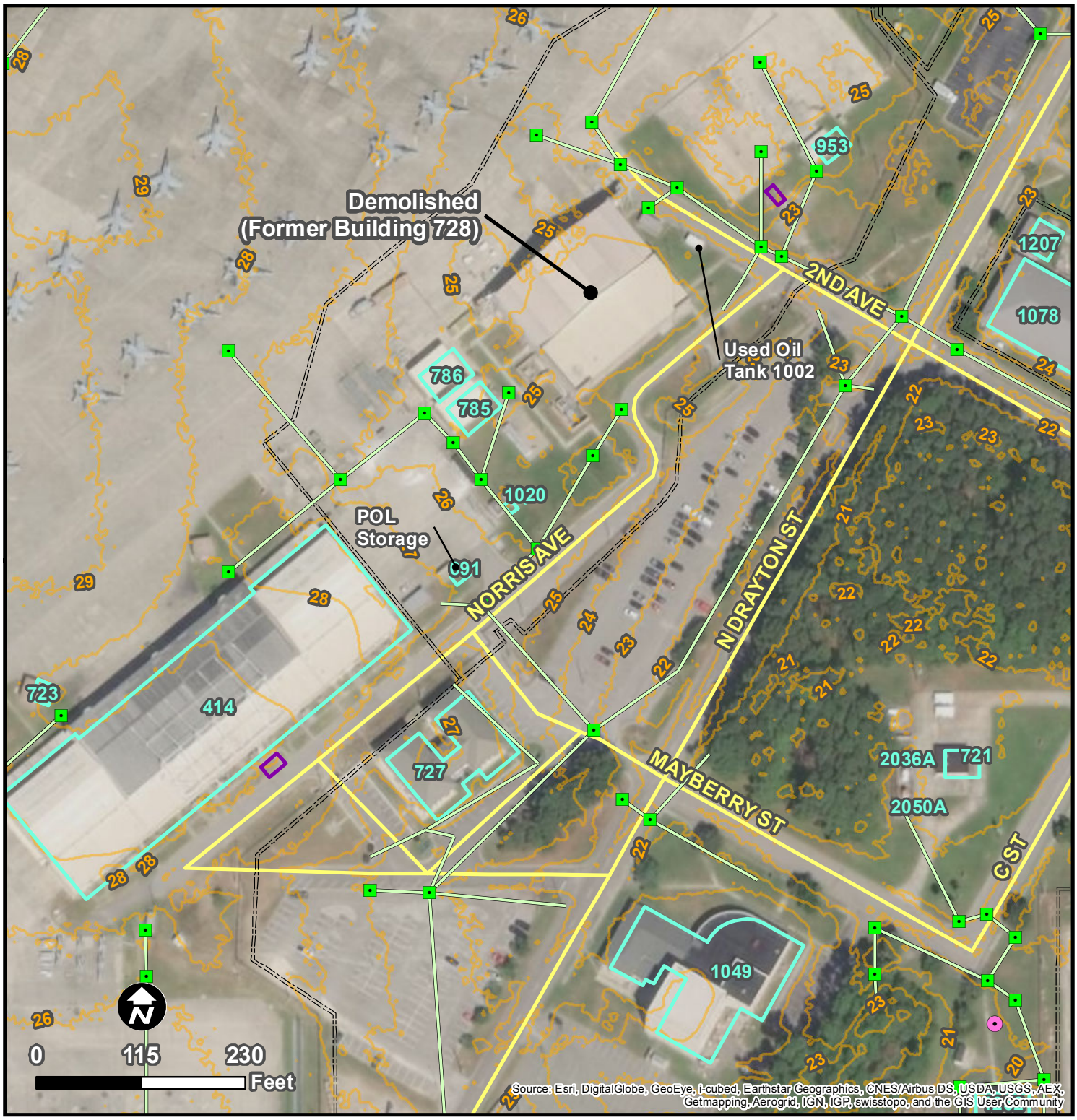
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/3/2018



P:\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 11. West Maintenance Hangar Area (728).mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- Oil Water Separator
- Building
- Approximate Outfall
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 11. West Maintenance Hangar Area (728)

Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

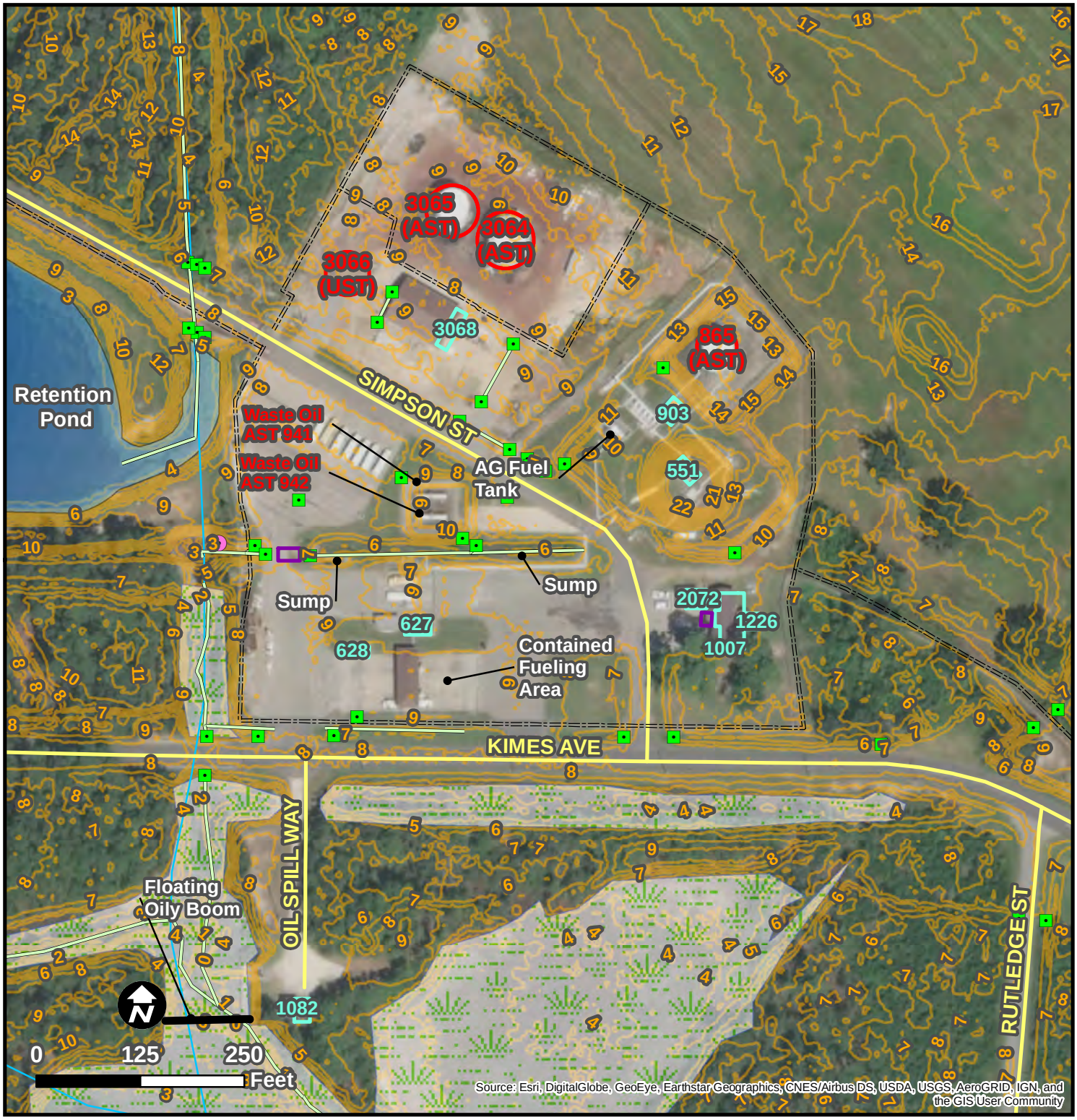
Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 2/28/2019

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. (Wood) project number 6480177133. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 13. Day Tank Facility (Tank Farm B).mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- UST/AST
- Oil Water Separator
- Building
- USGS Flow Path (NHD)
- Approximate Outfall Location
- Stormwater Pond
- Wetland
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 13. Day Tank Facility (Tank Farm B)

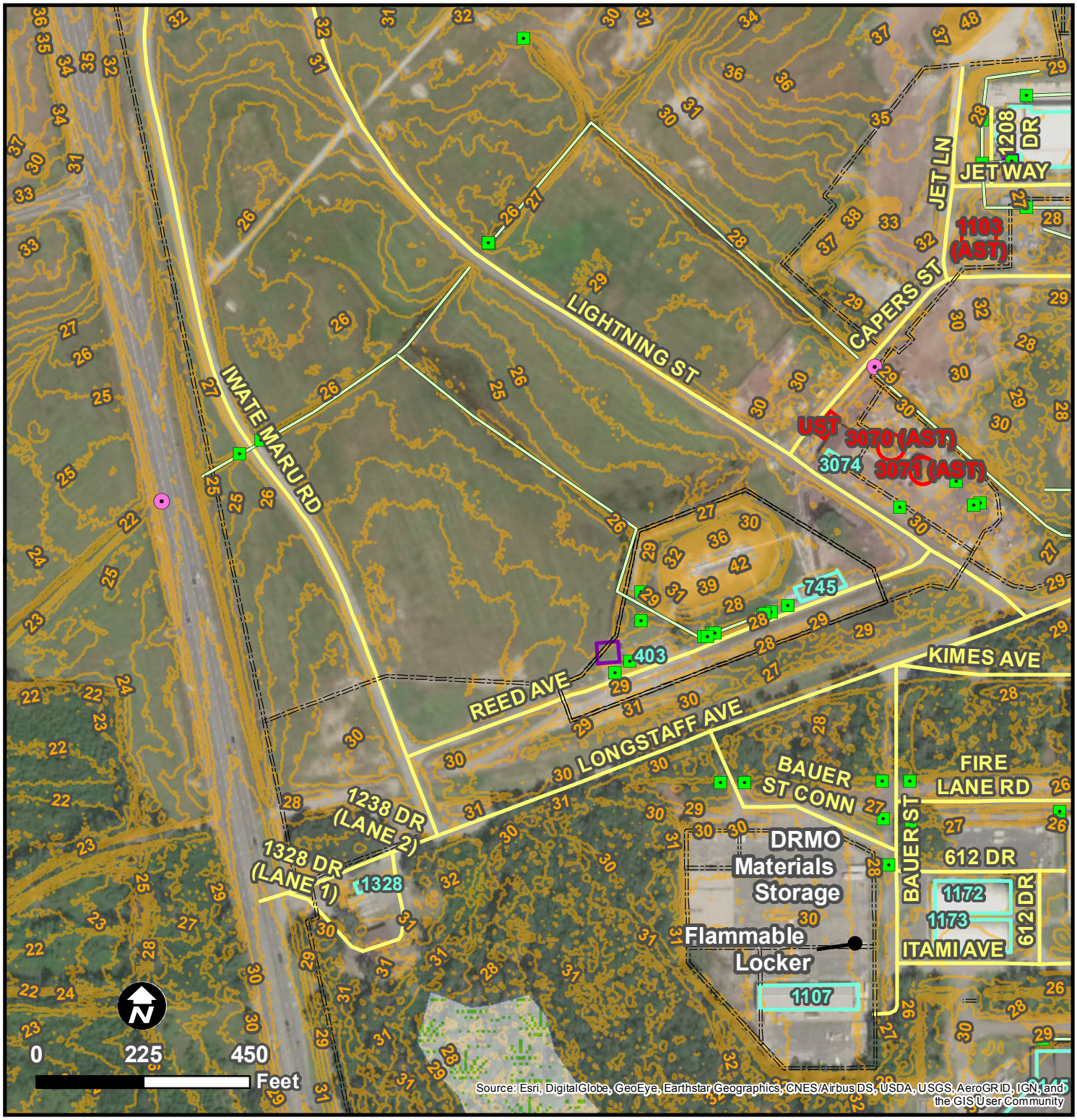
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 14. Tank Farm C and DRMO.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- UST/AST
- Oil Water Separator
- Building
- Approximate Outfall Location
- Wetland
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 14. Tank Farm C and DRMO

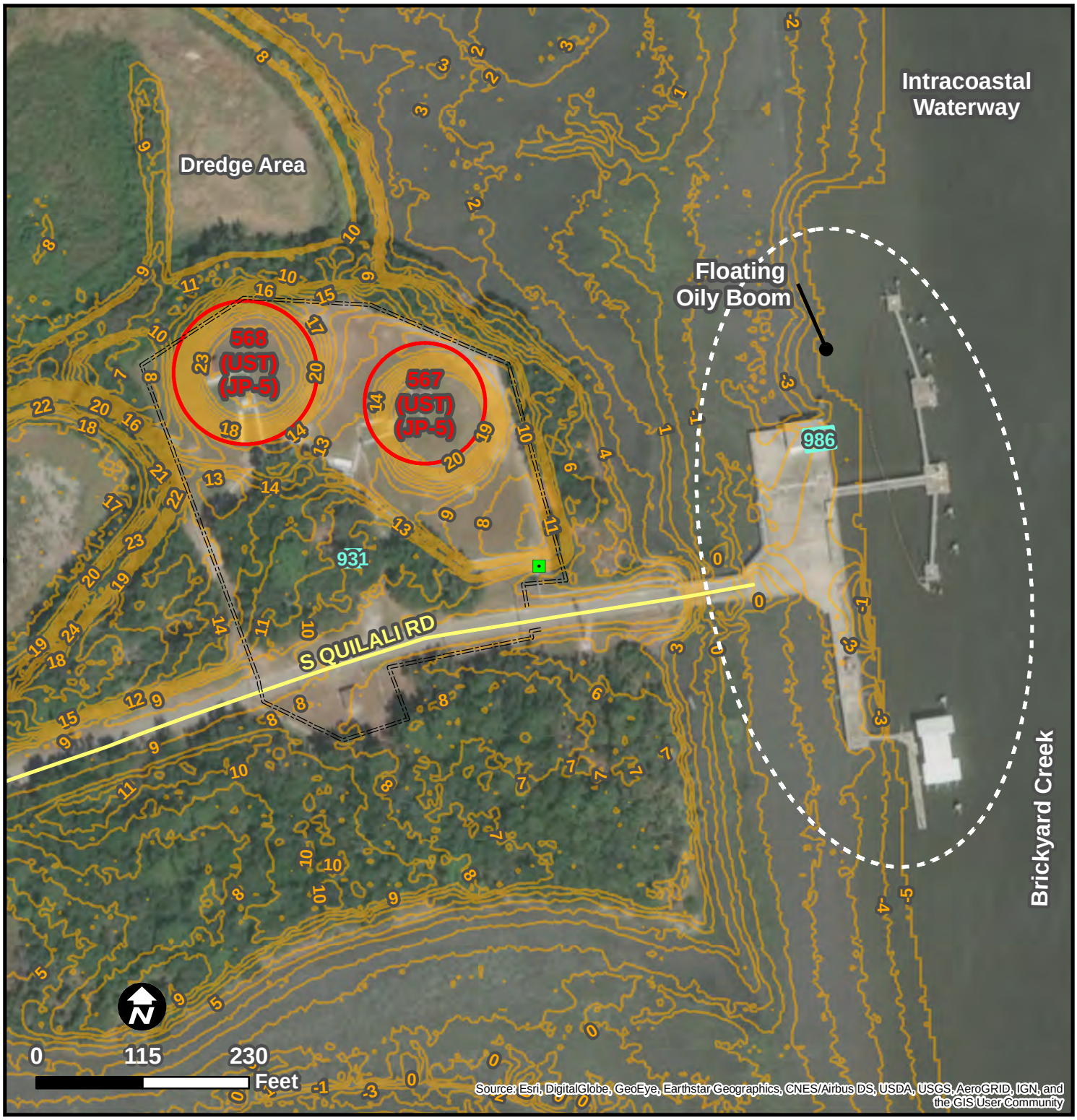
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 15. Fuel Pier (Tank Farm A).mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Fence
- Road Centerline
- UST/AST
- Building
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 15. Fuel Pier (Tank Farm A)

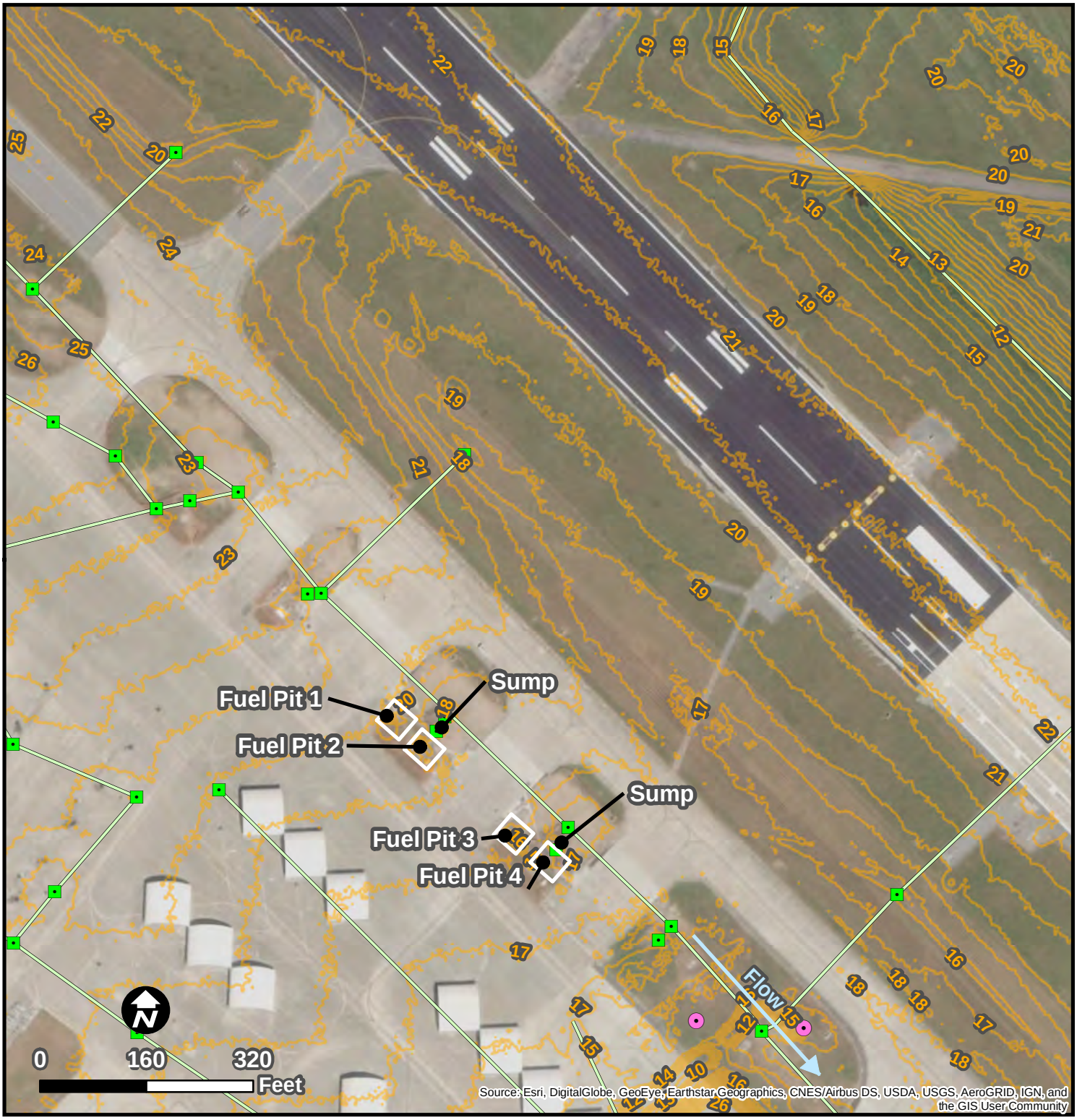
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 16A. East Hot Fuel Pits.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Approximate Outfall Location
- Stormwater Node
- Stormwater Conduit
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 16A. East Hot Fuel Pits

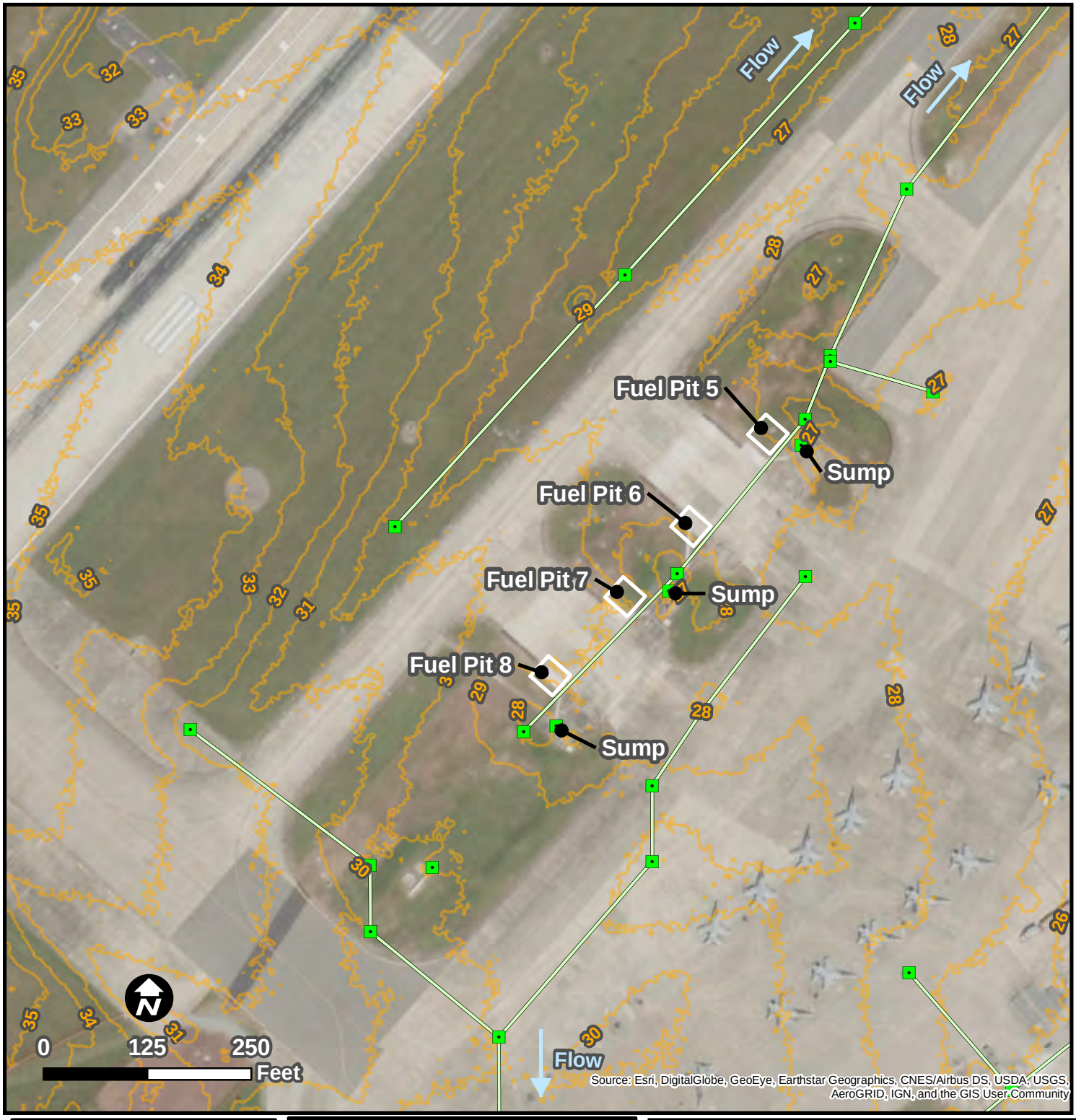
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 16B. West Hot Fuel Pits.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 16B. West Hot Fuel Pits

Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018

\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 17. Oily Waste Tanks and Heating Plant.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- UST/AST
- Oil Water Separator
- Building
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 17. Oily Waste Tanks and Heating Plant

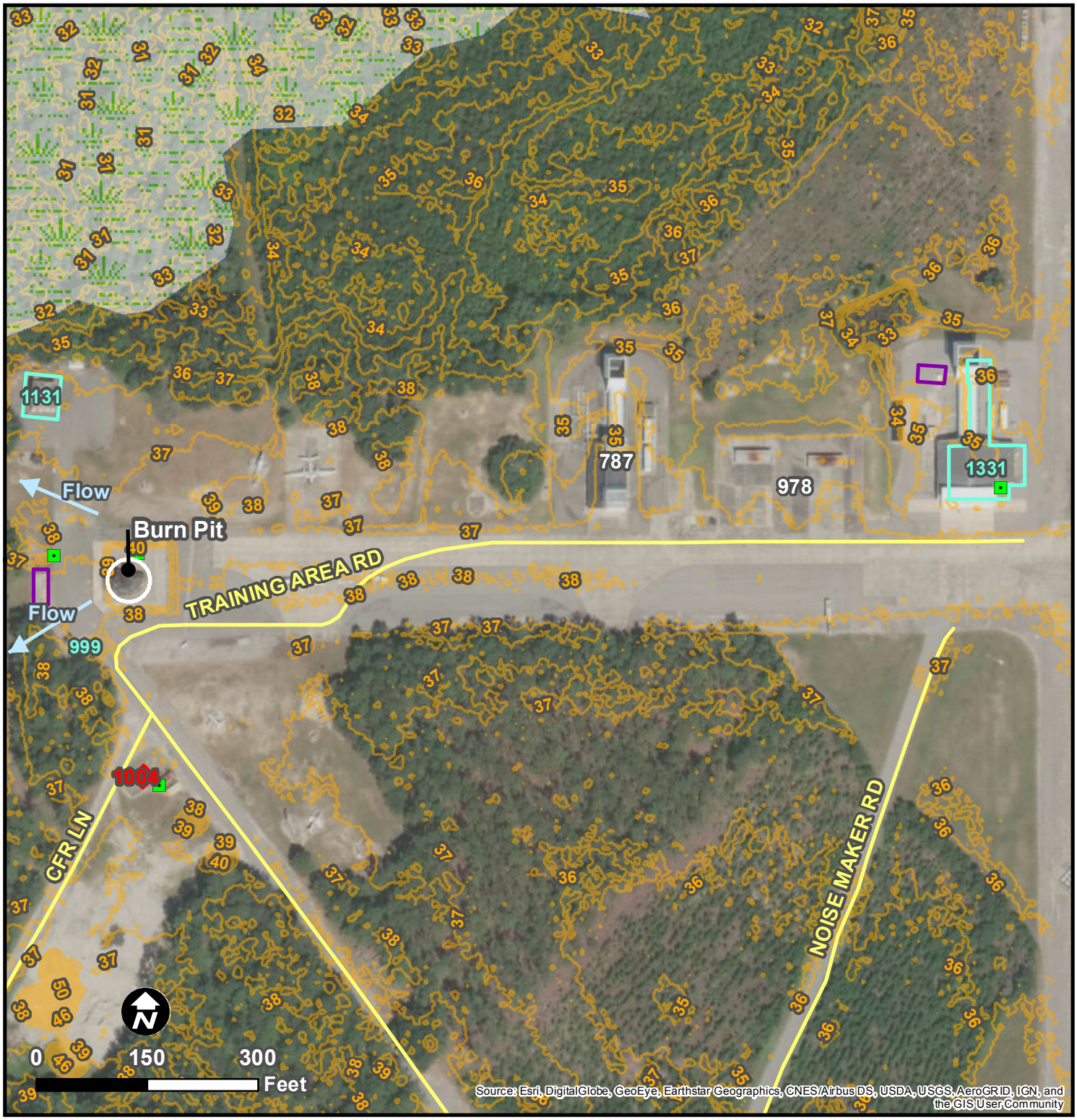
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/10/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 18. Firefighting Training and Engine Testing.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Road Centerline
- UST/AST
- Oil Water Separator
- Building
- Wetland
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 18. Firefighting Training and Engine Testing

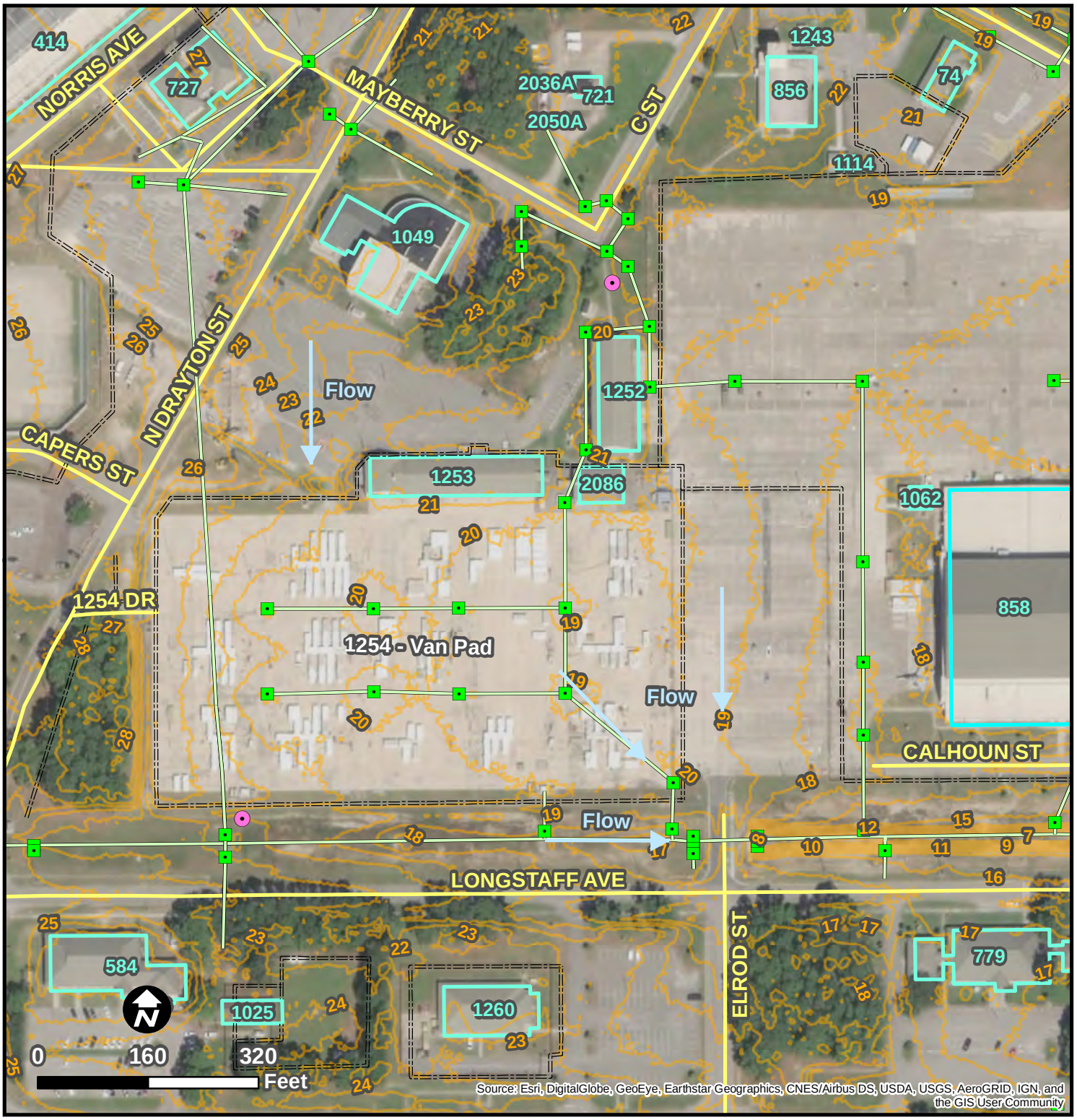
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/10/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 19. Van Pad Area.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Approximate Outfall Location
- Stormwater Node
- Stormwater Conduit
- Fence
- Road Centerline
- Building
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 19. Van Pad Area

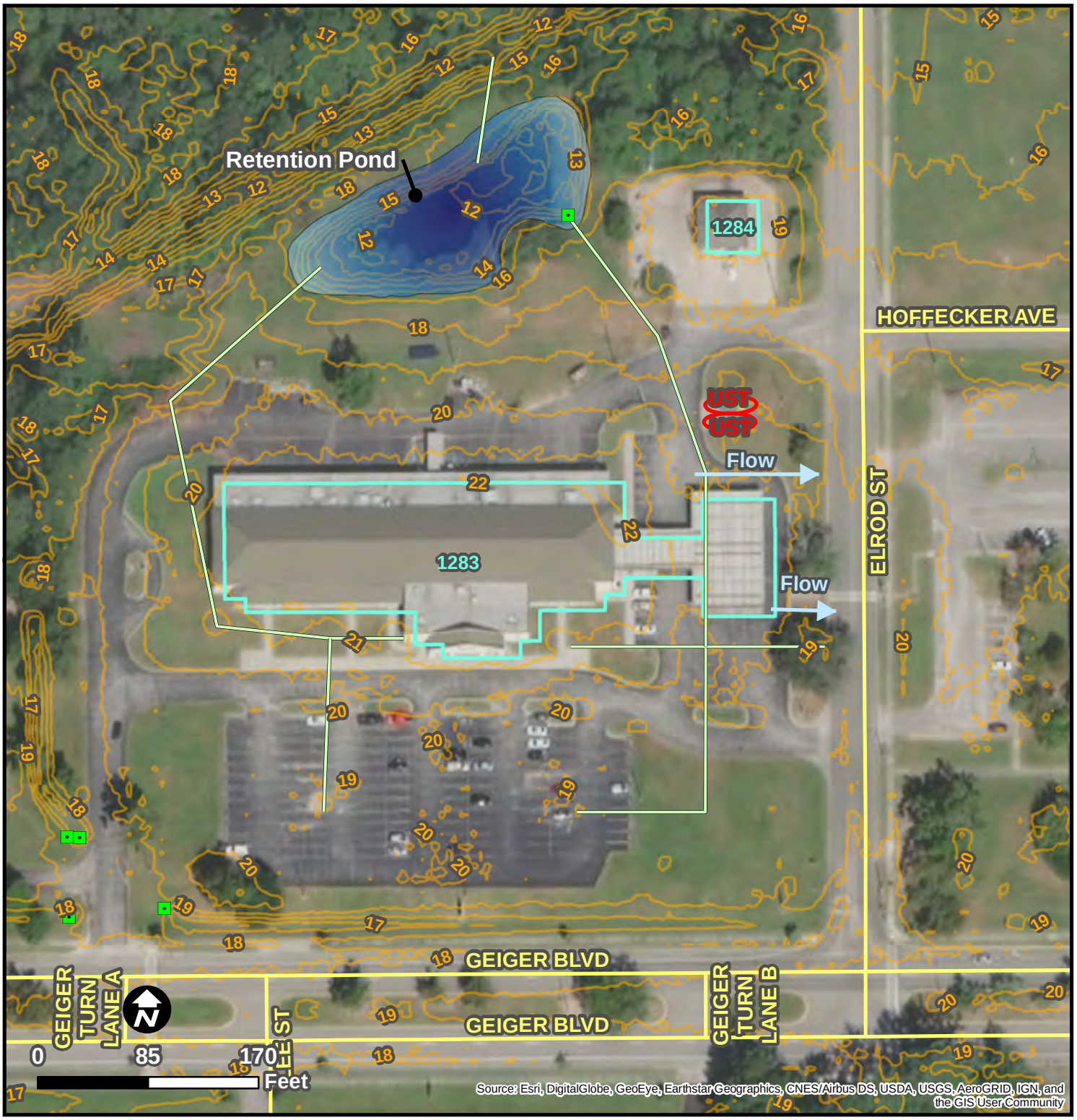
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 20. MCX Service Station.mxd

MultiMAC JV

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Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Stormwater Conduit
- Road Centerline
- UST/AST
- Retention Pond
- Building
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 20. MCX Service Station

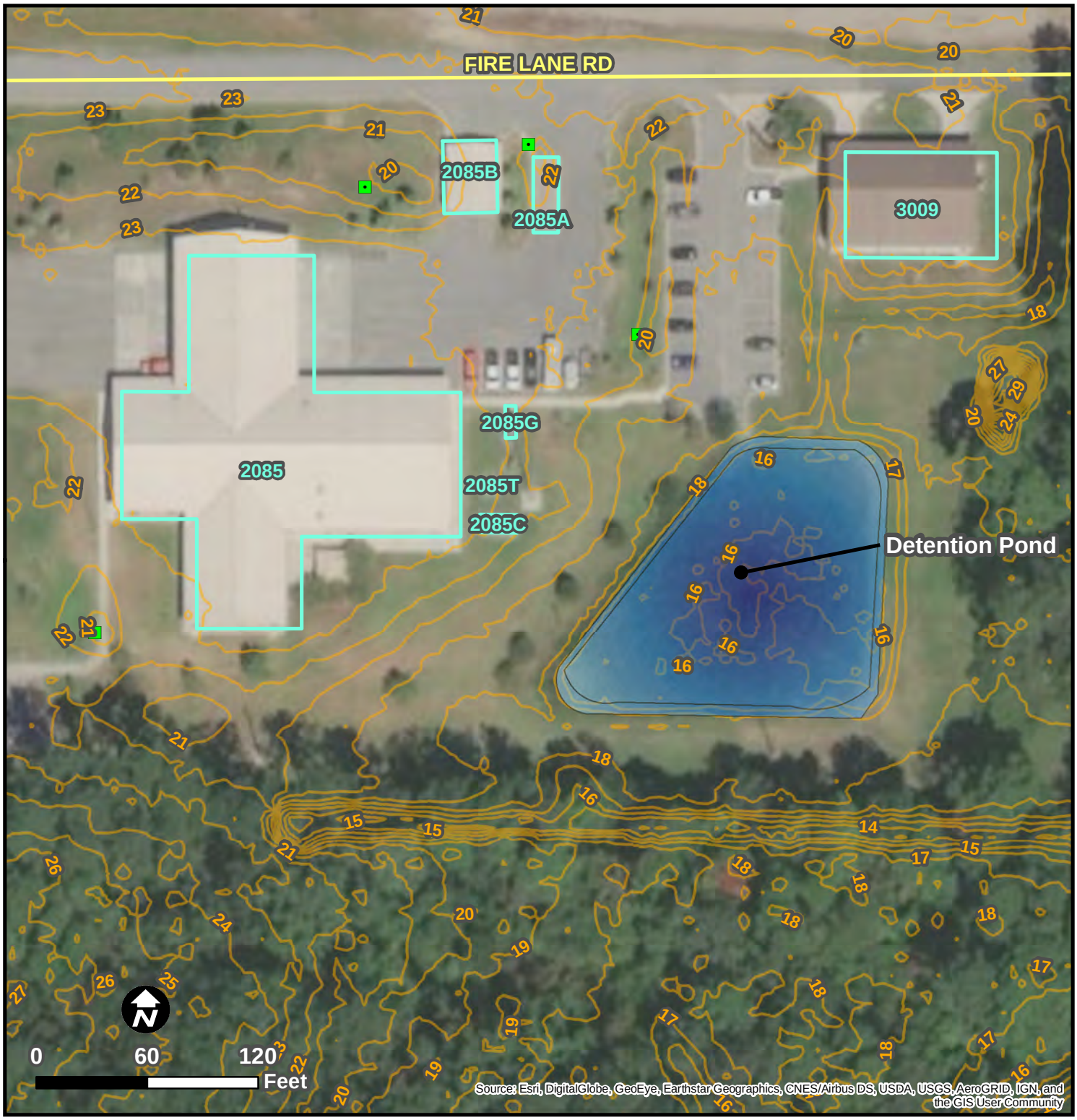
Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018



\\CBA-FS1\projects\Environmental\2012 + Projects\6480-16-6081 Beaufort FY17 Support\GIS\SWPPP Maps\Figure 21. Station Fire Department.mxd

MultiMAC JV

720 Gracern Road, Suite 132
Columbia, SC 29210 USA
(803)-798-1200

Legend

- Stormwater Node
- Road Centerline
- Building
- Detention Pond
- Contours

Note: Data shown in this figure is from various datasets provided by MCAS Beaufort.

Figure 21. Station Fire Department

Storm Water Pollution Prevention Plan
Marine Corps Air Station, Beaufort, South Carolina

Job No. 6480177133

Drawn By: BWS

Reviewed By: AV

Date: 10/2/2018