Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

NCDEQ Comment		DuPont Response
1.	Section 2.6.6 – As indicated in HWS comments on the Remedial Investigation Workplan (RIW) and the Remedial Investigation Report (RIR), data from boring logs advanced during the Phase II RFI and during implementation of the RIW indicate there may not be sufficient cap/cover at some of the SWMUs where waste remains in place. During a December 2015 meeting, DuPont personnel indicated they would consider installation of additional cover materials (e.g. gravel at SWMU 13 of sufficient quantity to use as a potential parking area) at some site SWMUs. If DuPont is still considering this plan, it should be indicated in the RAP.	DuPont is not considering installing additional cover materials at any SWMUs on the Site. During the final Site field investigation, soil cores were collected from the following SWMUs: SWMUs 4, 12A, 12B, 12C, 13, 15, 16, 18A&B, 19, and 20 (see Section 5.1.2 of the RIR). The results of the final field investigation indicated that, despite the presence of some miscellaneous debris, adequate soil covers were intact at these SWMUs (see Figure 1). The miscellaneous debris observed in the soil cores were from three of the SWMUs: • SWMU 12B (Former North Landfill): Green turquoise plastic was found in one of six soil cores (SWMU-12B/C-CB-3). • SWMU 15 (Former Silicon Disposal Area): Plastic, high purity silicone fragments, and/or other materials were found in three of 10 soil cores (SWMU-15-SS-1, SWMU-15-SS-2, SWMU-15-SBS-1). • SWMU 18B (Former Disposal Area 8 for evaporation basin wastewater containing zinc chloride): PVC pipe, a soda can, pipe jacket with Tedlar coating, and a small piece of metal were found in one of three soil cores (SWMU-18B-CB-1). This topic was discussed further at a meeting on April 7, 2016 in Raleigh with NCDEQ and NCDA&CS. NCDEQ indicated that they would consider this response further and provide a recommendation in the near future.
2.	Section 2.6.7 and 2.7.3 - SWMU 2C is listed as requiring No Further Action (NFA). In comments on the Phase II RFI Report, the HWS requested DuPont collect additional samples at SWMU 2C. Additional analysis was requested due to the presence of additional potential contamination identified in the bore log for SB-1. The additional contamination was identified below the sample interval that was submitted to the laboratory for analysis indicating potential higher concentration of contamination further below the surface. SWMU 2C is within the former manufacturing area proposed for restricted use (notification and sampling required) so that any future users will know that potentially contaminated soil could be encountered during excavation. However, it could be important to future owners of the site to realize there may be underlying contamination in this area that, if disturbed, will need to be managed properly, up to and including excavation and offsite disposal.	To make sure that future users know that potentially-contaminated soil could be encountered during excavations in the former manufacturing area, all SWMUs and AOCs located in the former manufacturing area will be identified as Test Before Dig Areas in the future. In Test Before Dig Areas, sampling must be performed before any invasive work (e.g., excavations) can be conducted. Before the RAP is submitted to NCDEQ, the in-text table in Section 2.8 and Figure 2-9 will be revised to clarify that, in the future, all of the SWMUs and AOCs in the former manufacturing area will be subject to sampling prior to any excavation activities being conducted (see Figure 2 and Attachment 1). In addition, historical data, including reports and analytical data with location coordinates will be provided to future property owners, so that they can evaluate existing data when considering intrusive activities at the Site.

Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

NCDEQ Comment		DuPont Response
3.	Section 2.6.7 - This Section of the RAP lists AOCs I and J as requiring No Further Action. AOC I is the former Powerhouse Area while AOC J is the Dowtherm Vaporizer Area. Both these AOCs are in the vicinity of DU-6 and DU-11, where additional work is proposed (additional PCB soil sampling, fence installation, etc.). The status of these AOCs should be clarified.	The NFA determinations for AOC I and AOC J were based on historical data. Before the RAP is submitted to NCDEQ, the in-text table in Section 2.8 and Figure 2-9 will be revised to clarify that these AOCs will be subject to sampling prior to any future excavation activities (see Figure 2 and Attachment 1). In addition, DU-6 and DU-11 will be identified in Section 7.2.3 as areas where additional soil sampling will be conducted to further characterize PCB concentrations.
4.	Section 2.7.3 – The Land Management Plan creates an area where the owner must notify DEQ and conduct confirmatory sampling prior to beginning excavation. It will be important to future owners of the site to realize there may be underlying contamination in this area that, if disturbed, will need to be managed, up to and including excavation and offsite disposal.	DuPont agrees that soil and other materials in the former manufacturing area must be sampled and managed appropriately if any invasive activities are going to occur in this area in the future. To address this issue, the following text will be added to Section 5 of the RAP before it is submitted to NCDEQ, "Implement an IC to require that soil is sampled prior to any excavation activities within the former manufacturing area (see Figure 3). The purpose of this IC is to ensure that appropriate measures are taken to manage excavated material, as necessary, based on an evaluation of the pre-excavation sample results." Before the RAP is submitted to NCDEQ, the Property Control Plan presented in Section 7.6 will be updated to require that a notification be submitted to NCDEQ prior to any future excavation activities in the former manufacturing area. This notification should include a summary of the excavation, sampling, and analytical plans. In addition, the future deed restriction will also require that a pre-excavation notification be submitted to NCDEQ.
5.	Section 2.8 – AOC 2C should be moved from NFA to the category that requires notification and sampling prior to excavation.	Before the RAP is submitted to NCDEQ, Section 2.8 and Figure 2-9 will be revised to clarify that all SWMUs and AOCs located in the former manufacturing area, including AOC 2C, are considered Test Before Dig Areas and must be sampled prior to any excavation activities (see Figure 2 and Attachment 1).
6.	Section 2.8 - AOC F is listed as NFA in the Permit but is listed in the RAP as an area where excavation is prohibited. The status of AOC F should be clarified.	Before the RAP is submitted to NCDEQ, AOC F will be reassigned from a No Dig Area to a Test Before Dig Area (i.e., Implement ICs to Require that Soil is Sampled Prior to Any Excavation Activities Area), based on discussions with NCDEQ and NCDA&CS (see Figures 2 and 3).
7.	Section 2.8 – See comment 3.	Before the RAP is submitted to NCDEQ, Section 2.8 and Figure 2-9 will be revised to clarify that all of the SWMUs and AOCs located in the former manufacturing area are considered Test Before Dig Areas and must be sampled prior to any excavation activities (see Figure 2 and Attachment 1).
8.	Section 2.8 - AOC A is listed as Further Action Needed in this Section. The status of this AOC should be clarified.	Before the RAP is submitted to NCDEQ, Section 2.8 and Figure 2-9 will be revised to clarify that all of the SWMUs and AOCs located in the former manufacturing area are considered Test Before Dig Areas and must be sampled prior to any excavation activities (see Figure 2 and Attachment 1).

Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

NCDEQ Comment		DuPont Response
9.	Section 2.12 - In August 2015, EPA revised Ecological Screening Values (ESVs) used for evaluating ecological systems. DuPont should use the 2015 EPA ESVs document to develop Remedial Levels based on ESVs for the site. https://www.epa.gov/risk/region-4-ecological-risk-assessment-supplemental-guidance	Additional sediment sampling is recommended in Section 7.2.3 of the RAP. The sediment screening values in the August 2015 EPA guidance will be considered when sediment data are screened in the future.
10.	Section 2.12 – 130A-310.68 states site-specific remediation standards for surface waters shall be the water quality standards adopted by the Commission. Therefore the surface water standards will be those listed in NC 2B. If hazardous constituents related to the site are detected above NC 2B standards in surface water, steps must be taken to reduce these constituents in surface water.	DuPont agrees that the NC 2B surface water standards are the applicable cleanup standards for site-related constituents. Before the RAP is submitted to NCDEQ, Section 2.12 will be updated to clarify that 2B values, not site-specific RLs, are appropriate for evaluating surface water concentrations. The only site-related constituent concentration that exceeded a 2B value was vinyl chloride. The concentration that exceeded the 2B value was at the polishing pond seep and DuPont is planning to collect additional surface water samples at this location. The only other constituent concentrations that exceeded 2B values were not site-related constituents (iron and manganese).
11.	Section 4.1 and 4.2 – DuPont should clarify that no additional remedial action is required for the surface and subsurface soil, so long as Institutional and or Engineering Controls preventing or restricting exposure are instituted and maintained. For example, if the cover at SWMU 13 is not maintained to prevent erosion or excavation is allowed at this SWMU, then users could be exposed to surface or subsurface soil at levels above site specific remedial levels.	DuPont agrees that as long as the remedial actions and ICs/ECs are implemented and maintained, the Site will remain protective. Before the RAP is submitted to NCDEQ, the sentence "No additional remedial action is required" will be revised to "No additional remedial action is required as long as ICs/ECs preventing or restricting exposure are instituted and maintained."
12.	Section 4.2 – As part of Institutional Controls (ICs) for the Facility, the RAP should propose methods for future users of the site to identify that an area is restricted (e.g. signs with "Contact DEQ prior to excavation" or similar wording, etc.).	Before the RAP is submitted to NCDEQ, Section 4.2 will be updated to include a sentence stating that sign(s) or other permanent markings will be required to identify areas at the Site with ICs or ECs. It was agreed during the April 7, 2017 meeting that NCDEQ, NCDAG&CS, and the DuPont State Recreational Forest (DSRF) will work together to determine the content of the sign(s) assuming that NCDAG&CS is indeed the future property owner. In addition, these areas will also be surveyed and identified in figures in the Property Control Plan.

Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

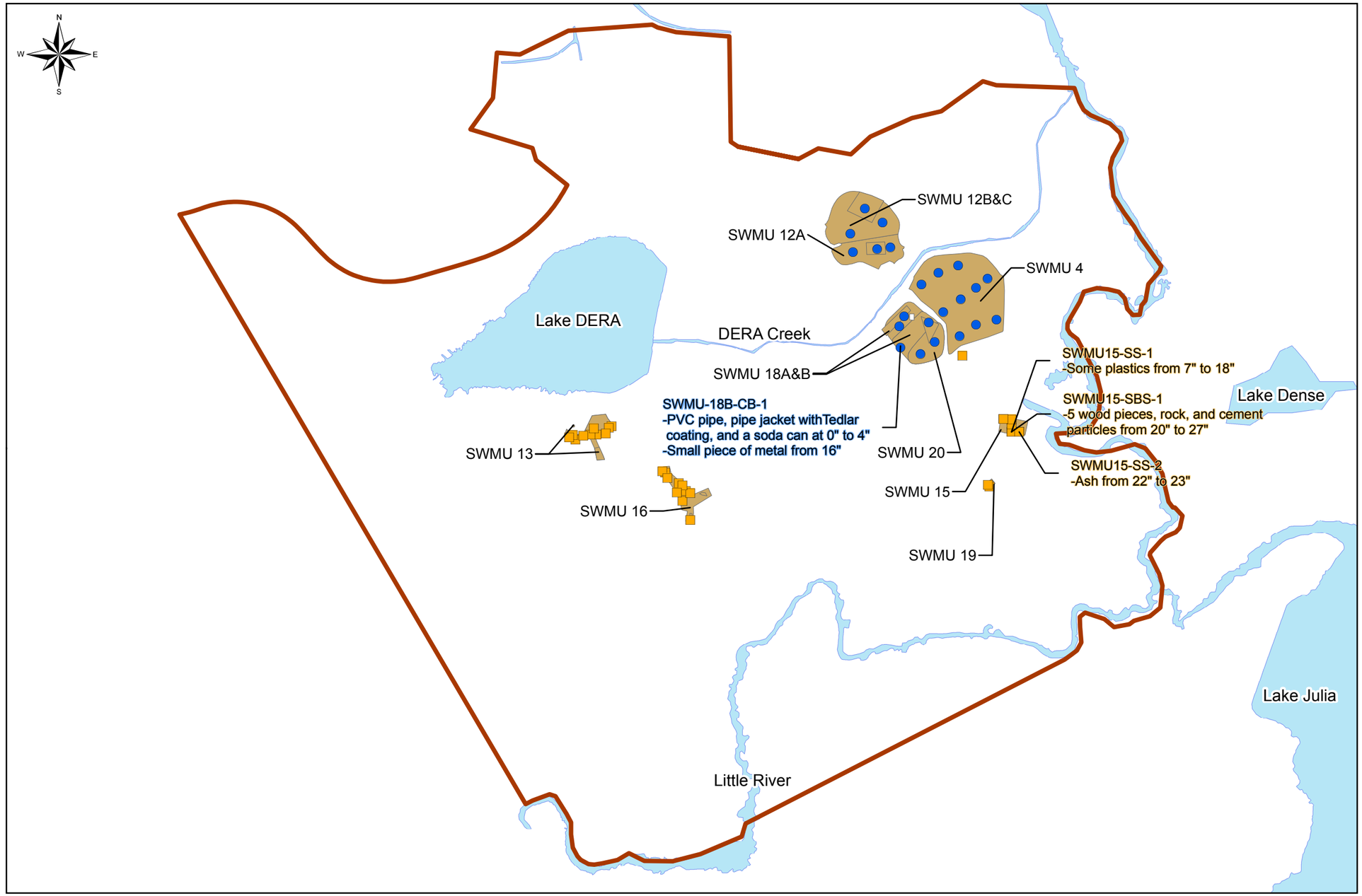
NCDEQ Comment		DuPont Response
13.	Section 5 – The RAP should include statements that additional samples are to be collected in order to complete assessment of the nature and extent of PCB contamination in all potentially impacted media at the Facility. The RAP should state that assessment and potential cleanup of PCBs at the site will comply with: EPA rules for PCB remediation; follow the February 28, 2013 guidance on PCB characterization referenced in the U.S. EPA Region 4 Issue Paper for PCB Characterization at Region 4 Superfund and RCRA Sites available at https://www.epa.gov/risk/region-4-issue-paper-pcb-characterization ; and, will be protective of human health and the environment.	Before the RAP is submitted to NCDEQ, Section 5 will be revised to reflect that DuPont is working with the EPA and NCDEQ to address PCBs in Site soil in a manner that is protective of human health and the environment. Based on a conference call on April 14th with NCDEQ and EPA, the following text will be added to the RAP: "A proposed soil sampling plan for DU-6 and DU-11 will be included in a work plan that will be submitted to NCDEQ and EPA. The soil samples will be extracted using a TSCA extraction method and analyzed for Aroclors. A subset of the samples will also be analyzed for 209 PCB congeners. The sampling will be conducted as soon as the work plan is approved." After the final RAP is approved, a separate work plan will also be drafted in which the approach for further characterizing constituents (e.g., PAHs, PCBs, metals) in Lake DERA, DERA Creek, and the polishing pond seep surface water and sediment will be presented. The PCB data collected from these two future sampling efforts will be evaluated to ensure protection of people and the environment as well as to comply with appropriate guidance and regulations.
14.	Section 5 – The RAP should include a statement that a RCRA Part B Permit Renewal Application will be prepared and submitted as required in 40CFR 270.30 unless the RAP Completion Report has been approved by DEQ prior to the due date of the Renewal Permit.	Before the RAP is submitted to NCDEQ, Section 5 will be updated to include the recommended statement. During the April 7, 2016 meeting, NCDEQ indicated that they would clarify which properties (i.e., DuPont property, DSRF Visitors Center, or the whole DSRF) would be included in the permit, and provide that information to DuPont.
15.	Section 5 – The RAP should include plans for: surveying the areas where Land Use Restrictions (LURs) will be implemented; development of plat maps that meet the requirements of NCGS 47-30 and 143B-279.10; development of LUR language to be included on plats; and, the recordation of the LURs and plats in the register of deeds office.	Before the RAP is submitted to NCDEQ, Section 7.6 will be updated to include a plan for surveying LUR areas, developing plat maps with LUR language, and recording the LURs and plats.
16.	Section 5 – The RAP should include a plan to abandon site monitoring wells to comply with NCAC 2C requirements. The plan should address near term abandonment of wells that will no longer be utilized for monitoring purposes and for abandonment of additional monitoring wells once it is determined they are no longer needed.	Before the RAP is submitted to NCDEQ, Section 5 will be updated to include a Site monitoring well abandonment plan. In addition, Section 7.3 will be updated to include text about abandoning monitoring wells in accordance with NCAC 2C requirements.

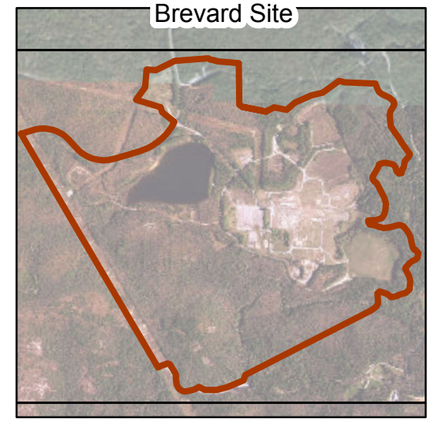
Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

NCDEQ Comment		DuPont Response
17.	Section 7.2.3 – In order to further define the extent of contaminated groundwater and as part of the investigation process to determine the potential for vapor intrusion at the DuPont State Forest Visitor Center, the RAP should include a plan for installation of a monitoring well near the Visitor Center. The well should be installed to monitor the uppermost aquifer (i.e. screened across the top of the water table).	Before the RAP is submitted to NCDEQ, Section 7.2.3 will be updated to include a plan for installing a monitoring well near the Visitor Center. During DuPont's discussions with NCDEQ on December 2, 2015, it became apparent that NCDEQ is concerned with the potential for vapor intrusion into the Aleen Steinberg Center. Although vapor intrusion was not of concern from potentially-contaminated shallow groundwater based on the results of soil gas samples collected around the Aleen Steinberg Center, and future land use plans provided by the State indicating that no new buildings will be constructed in this area, DuPont understands NCDEQ's concern and will work with NCDEQ to create a scope of work (SOW) to address this issue. During the April 7, 2016 meeting, it was discussed further that this monitoring well will be installed in a location near the Visitor Center and initially sampled by DuPont to better characterize potential shallow groundwater impacts related to SWMU 17. The need for and scope of additional monitoring or other actions necessary to ensure vapor intrusion will not be a concern in the Visitor Center will be worked out between NCDEQ and the NCDAG&CS.
18.	Section 7.6.2 – see comment 6.	Before the RAP is submitted to NCDEQ, the in-text table in Section 7.6.2 will be updated to change the designation for AOC F from a No Dig Area to a Test Before Dig Area (Require that soil is sampled prior to any excavation activities). Figure 5-3 will also be updated to reflect the change (see Figure 3 [Revised RAP Figure 5-3]).
19.	Section 7.6.2 – the RAP should indicate potential methods for future users of the site to identify that an area is restricted (e.g. signs with "Contact NCDEQ or NCDA&CS prior to excavation" or similar wording). Related to this, consideration should be given to establishment and maintenance of on-site and electronic repositories for the Property Control Plan for future owners/operators of the site.	Before the RAP is submitted to NCDEQ, the Property Control Plan presented in Section 7.6 will be updated to indicate that signs will be posted near restricted use areas notifying potential users of the site that a notification is to be submitted to NCDEQ prior to any future excavation activities in the former manufacturing area. In addition the submitted RAP will include a statement that future users of the site will maintain an on-site repository of all pertinent information, including the Site Control Plan. DuPont recommends discussions with NCDEQ and NCDA&CS to more clearly define how this will be accomplished.
20.	Diphenyl Ether and Biphenyl were both detected in sediment samples from DERA Creek and Diphenyl Ether was detected in surface water collected from DERA Creek. The RAP should propose additional sediment sampling and analysis for these constituents in addition to the analysis proposed for PAHs.	The diphenyl ether and 1,1-biphenyl sediment and surface water concentrations are less than screening values. However, additional sampling is proposed (see Figure 4) and laboratory analyses will include diphenyl ether and 1,1-biphenyl for DERA Creek and the polishing pond seep sediment and surface water samples.

Response to NCDEQ Comments on the Brevard Conceptual Remedial Action Plan

NCDEQ Comment		DuPont Response
Verbal comment 4/7/2016	NCDEQ indicated at the 4/7/16 meeting that post-remedial groundwater monitoring should occur at SWMU 11 and SWMU 17.	Before the RAP is submitted to NCDEQ, the bulleted list in Section 7.4 will be updated to include the following sentence: Post-remedial groundwater monitoring in the vicinity of SWMU 11 and SWMU 17 will be conducted to confirm that remedial actions do not have an adverse impact and existing, shallow groundwater conditions are stable or improving.





Legend

- Site Boundary
- Lake or Stream
- SWMUs with Adequate Soil Cover
- Discrete Soil Sample Locations
- Cover Verification Boring

0 250 500 1,000 1,500 Feet

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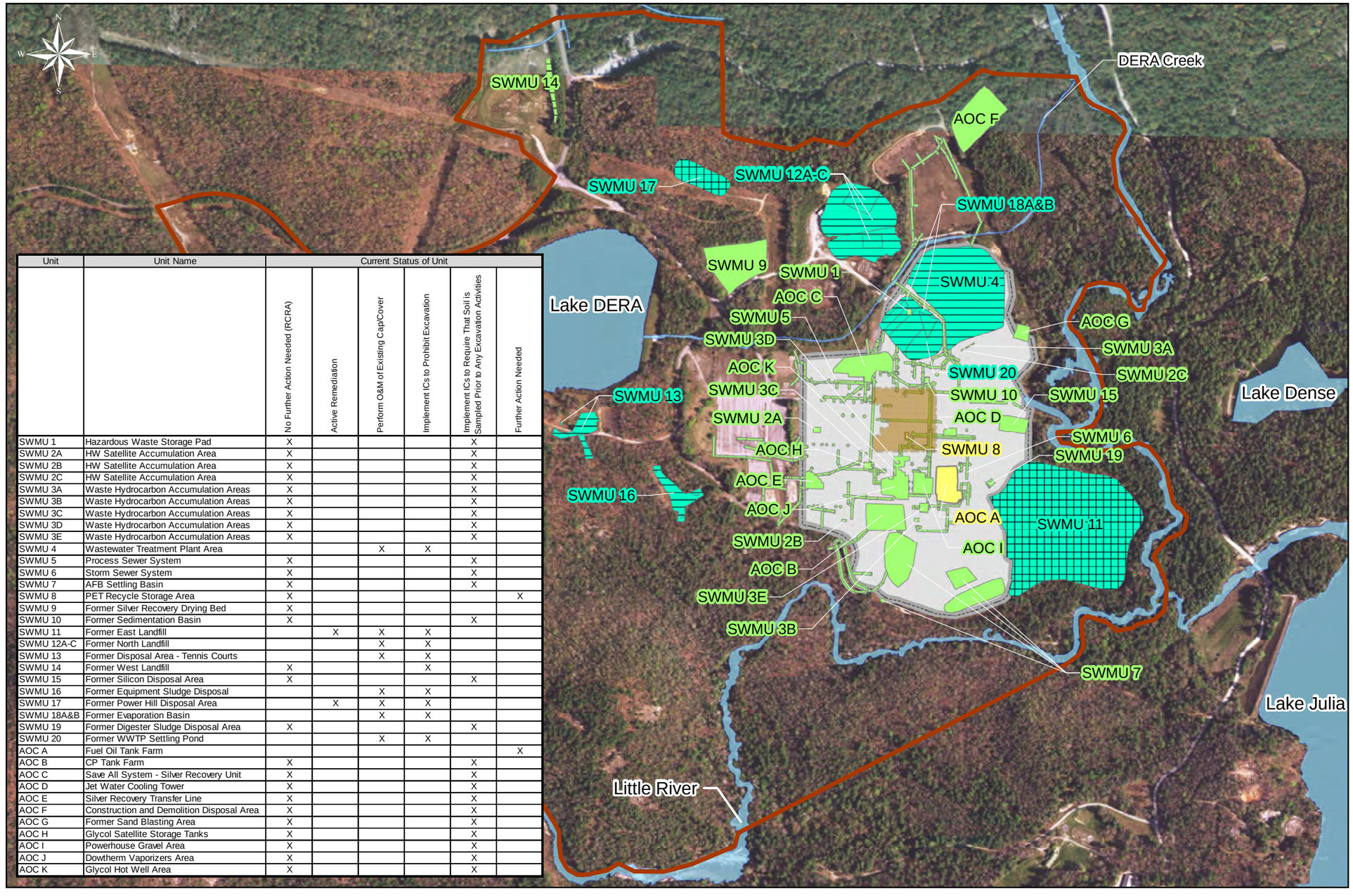
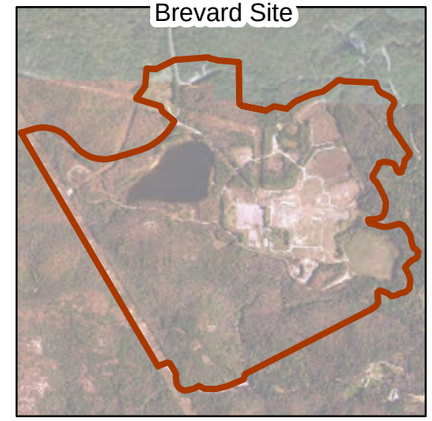
Soil Cover Verification
Response to NCDEQ Comments
Brevard Site
Cedar Mountain, North Carolina

Figure 1



Unit	Unit Name	Current Status of Unit					
		No Further Action Needed (RCRA)	Active Remediation	Perform O&M of Existing Cap/Cover	Implement ICs to Prohibit Excavation	Implement ICs to Require That Soil is Sampled Prior to Any Excavation Activities	Further Action Needed
SWMU 1	Hazardous Waste Storage Pad	X				X	
SWMU 2A	HW Satellite Accumulation Area	X				X	
SWMU 2B	HW Satellite Accumulation Area	X				X	
SWMU 2C	HW Satellite Accumulation Area	X				X	
SWMU 3A	Waste Hydrocarbon Accumulation Areas	X				X	
SWMU 3B	Waste Hydrocarbon Accumulation Areas	X				X	
SWMU 3C	Waste Hydrocarbon Accumulation Areas	X				X	
SWMU 3D	Waste Hydrocarbon Accumulation Areas	X				X	
SWMU 3E	Waste Hydrocarbon Accumulation Areas	X				X	
SWMU 4	Wastewater Treatment Plant Area			X	X		
SWMU 5	Process Sewer System	X				X	
SWMU 6	Storm Sewer System	X				X	
SWMU 7	AFB Settling Basin	X				X	
SWMU 8	PET Recycle Storage Area	X					X
SWMU 9	Former Silver Recovery Drying Bed	X					
SWMU 10	Former Sedimentation Basin	X				X	
SWMU 11	Former East Landfill		X	X	X		
SWMU 12A-C	Former North Landfill			X	X		
SWMU 13	Former Disposal Area - Tennis Courts			X	X		
SWMU 14	Former West Landfill	X			X		
SWMU 15	Former Silicon Disposal Area	X				X	
SWMU 16	Former Equipment Sludge Disposal			X	X		
SWMU 17	Former Power Hill Disposal Area		X	X	X		
SWMU 18A&B	Former Evaporation Basin			X	X		
SWMU 19	Former Digester Sludge Disposal Area	X				X	
SWMU 20	Former WWTP Settling Pond			X	X		
AOC A	Fuel Oil Tank Farm						X
AOC B	CP Tank Farm	X				X	
AOC C	Save All System - Silver Recovery Unit	X				X	
AOC D	Jet Water Cooling Tower	X				X	
AOC E	Silver Recovery Transfer Line	X				X	
AOC F	Construction and Demolition Disposal Area	X				X	
AOC G	Former Sand Blasting Area	X				X	
AOC H	Glycol Satellite Storage Tanks	X				X	
AOC I	Powerhouse Gravel Area	X				X	
AOC J	Dowtherm Vaporizers Area	X				X	
AOC K	Glycol Hot Well Area	X				X	



Legend

- Site Boundary
- Lake or Stream
- Former Manufacturing Area
- Decision Unit 6

SWMU and AOC Status

- No Further Action Needed
- Active Remediation
- Perform O&M of Existing Cap/Cover
- Implement ICs to Prohibit Excavation
- Implement ICs to Require That Soil is Sampled Prior to Any Excavation Activities
- Further Action Needed

0 250 500 1,000 1,500 Feet

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Current Status of SWMUs and AOCs
Response to NCDEQ Comments
Brevard Site
Cedar Mountain, North Carolina

Figure 2
(Revised RAP Figure 2-9)

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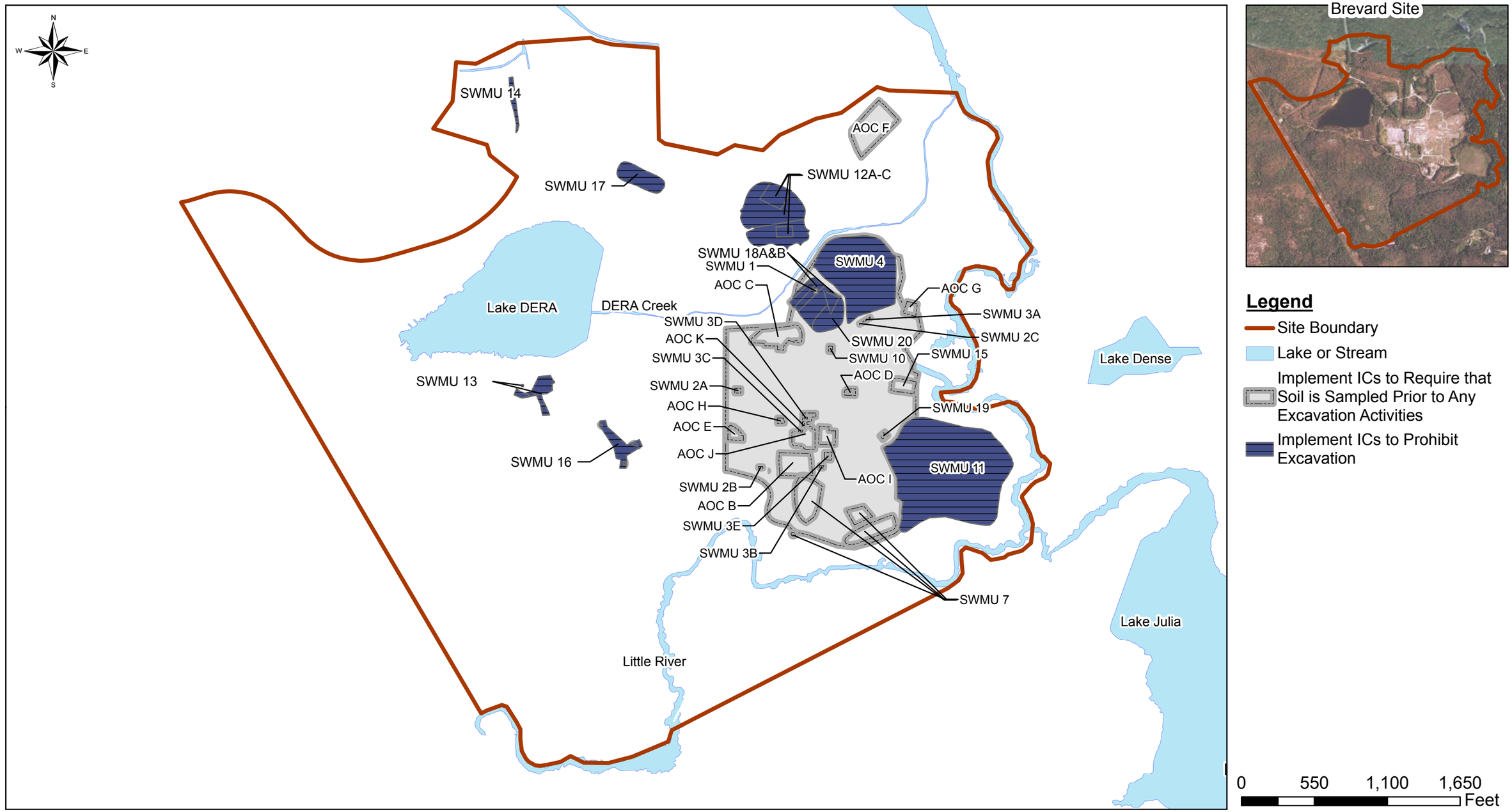

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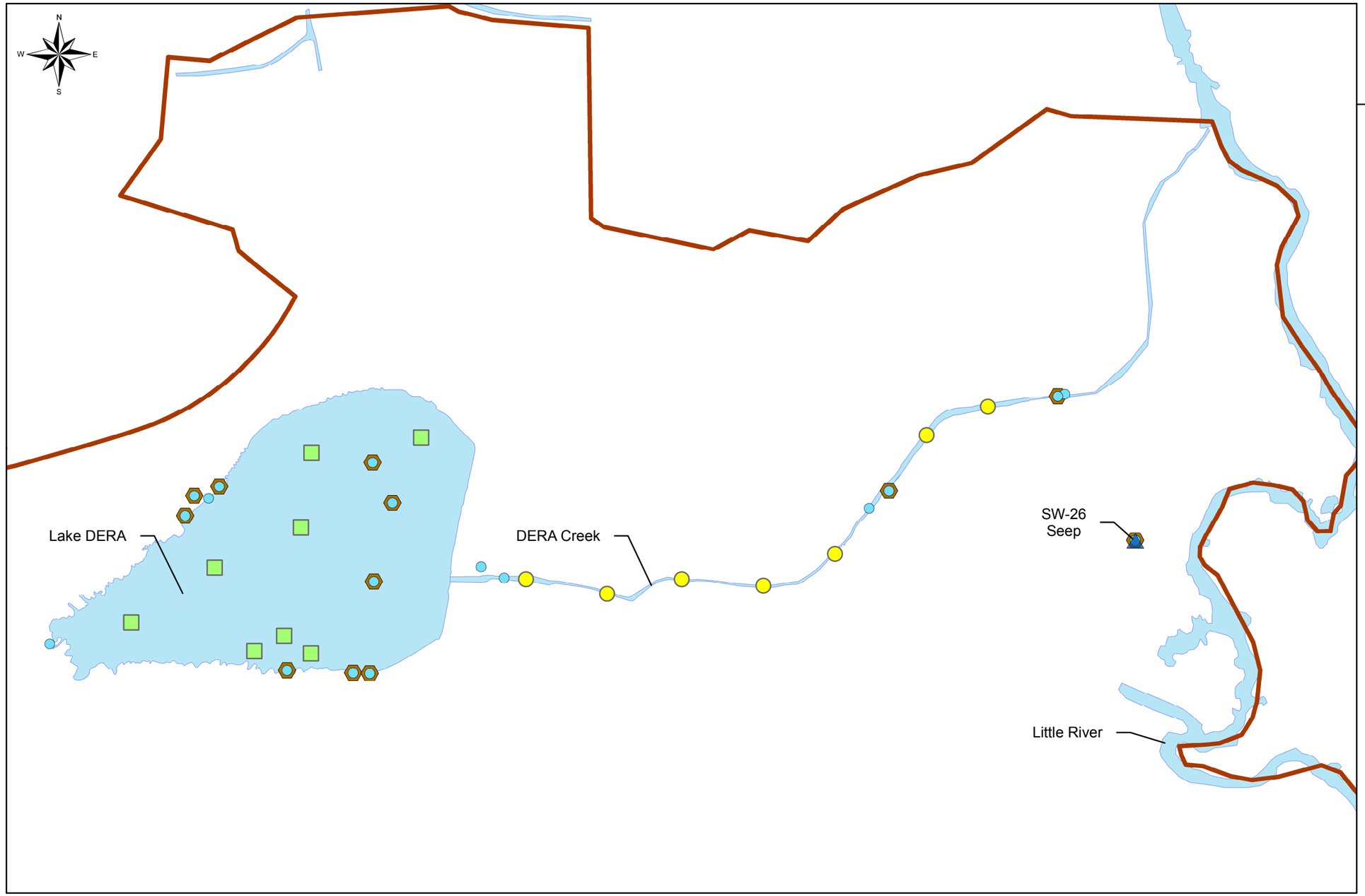
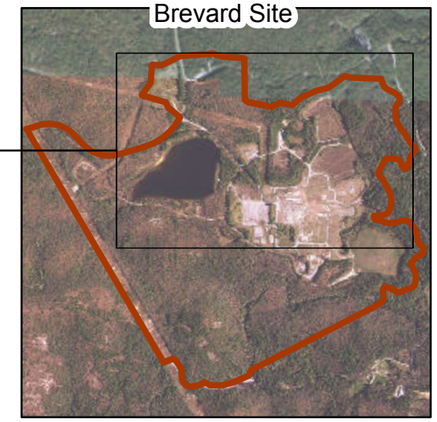
Test Before Dig and No Dig Areas
Response to NCDEQ Comments
Brevard Site
Cedar Mountain, North Carolina

Figure 3
(Revised RAP Figure 5-3)





Legend

- Site Boundary
- Lake or Stream

Previous Surface Water and Sediment Sample Locations

- Surface Water
- Sediment

Proposed Surface Water and Sediment Sample Locations

- Metals, PAHs, and PCBs
- Metals, PAHs, PCBs, Diphenyl Ether, and 1,1-Biphenyl.
- Metals, PAHs, PCBs, VOCs, Diphenyl Ether, and 1,1-Biphenyl

Note:
Sediment samples will also be analyzed for total organic carbon and grain size.

0 150 300 600 900
Feet

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Previous and Proposed Surface Water and Sediment Sample Locations
Response to NCDEQ Comments
Brevard Site
Cedar Mountain, North Carolina

Figure 4

- Implement ICs to require that soil is sampled prior to any excavation activities within the former manufacturing area (which includes SWMU 15 and SWMU 19).[7]

2.8 Current Status of SWMUs and AOCs

Based on the completed remedial actions (see Section 2.6) and the existing DuPont remedial action commitments (see Section 2.7), further action is needed at 13 SWMUs and AOCs as summarized in the table below and Figure 2-9.

No Further Action Needed[8]	Active Remediation	Perform O&M of Existing Cap/Cover	Implement ICs to Prohibit Excavation	Implement ICs to Require That Soil is Sampled Prior to Any Excavation Activities[9]	Further Action Needed
SWMU 1	SWMU 11	SWMU 4	SWMU 4	SWMU 1	AOC A (i.e., address the soil exceedance discussed in Section 4.1.1)
SWMU 2A	SWMU 17	SWMU 11	SWMU 11	SWMU 2A	
SWMU 2B		SWMU 12A-C	SWMU 12A-C	SWMU 2B	
SWMU 2C		SWMU 13	SWMU 13	SWMU 2C	
SWMU 3A		SWMU 16	SWMU 14	SWMU 3A	
SWMU 3B		SWMU 17	SWMU 16	SWMU 3B	
SWMU 3C		SWMU 18A&B	SWMU 17	SWMU 3C	
SWMU 3D		SWMU 20	SWMU 18A&B	SWMU 3D	
SWMU 3E			SWMU 20	SWMU 3E	
SWMU 5			AOC F	SWMU 5	
SWMU 6				SWMU 6	
SWMU 7				SWMU 7	
SWMU 8				SWMU 8	
SWMU 9				SWMU 10	
SWMU 10				SWMU 15	
SWMU 14				SWMU 19	
SWMU 15				AOC B	
SWMU 19				AOC C	
AOC B				AOC D	
AOC C				AOC E	
AOC D				AOC G	
AOC E				AOC H	
AOC F				AOC I	
AOC G				AOC J	
AOC H				AOC K	
AOC I					
AOC J					
AOC K					

2.9 Current and Future Land Uses

The site is no longer used for manufacturing operations and the manufacturing infrastructure was dismantled during demolition and removal activities. Current use of the site is minimal. The only current site users are DSRF Visitor Center workers and visitors, security guards, and military personnel who use the site periodically for military training (e.g., flight landing practice). According to information

[7] Even though no further action is necessary for SWMU 15, SWMU 19, and the former manufacturing area, DuPont has decided to implement this IC across the entire former manufacturing area (which encompasses the estimated locations of SWMU 15 and SWMU 19) since former process features and/or wastes could be present in this area.

[8] No Further Action in the context of RCRA Corrective Action