FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
CENTRAL DISTRICT
3319 MAGUIRE BOULEVARD, SUITE 232
ORLANDO, FLORIDA 32803-3767

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

JONATHAN P. STEVERSON
SECRETARY

March 31, 2015

NOTICE OF PERMIT

E-Mail
harold.g.williams@nasa.gov

Mr. Harold Williams
Environmental Assurance Branch Chief
National Aeronautics and Space Administration (NASA)
Mail code: TA-A4B
Kennedy Space Center, FL 32899

SPCD-SW-15-3544

Brevard County – SW WACS Facility I.D.16450
KSC/Schwartz Road Landfill – Class III
DEP File Nos. **0150308-007-SO-T3 & 0150308-008-SF-14**

Dear Mr. Williams:

Enclosed are Permit Numbers 0150308-007-SO-T3 and 0150308-008-SF-14. This is a combined permit to operate 39 acres of the KSC/Schwartz Road Landfill, Class III and to continue the post-closure and maintenance activities of the 64 acres of the closed class III landfill, issued under Sections 403.061(14) and 403.707, of the Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit under section 120.68 of the Florida Statutes, by the filing of a Notice of Appeal under rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000 and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this notice is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]

Director, Central District

FILING AND ACKNOWLEDGMENT

FILED, March 31, 2015 pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

[redacted]

March 31, 2015
Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were sent before the close of business on March 31, 2015 to the listed persons.

[redacted]

JP/TL/ll

Enclosures
1. Permit Nos. 0150308-007-SO-T3 & 0150308-008-SF-14
2. Appendix A – List of Documents Incorporated into Permit
3. Exhibit I – Monitoring Plan Implementation Schedule (MPIS)

Copies furnished to:
Rodney Brown – NASA, rodney.j.brown@nasa.gov
Carolyn Seringer, P.E. – Nelson Engineering Co., c.seringer@nelsonengrco.com
Richard B. Tedder, P.E. – FDEP Tallahassee, Richard.Tedder@dep.state.fl.us
Susan F. Eldredge – FDEP Tallahassee, Susan.F.Eldredge@dep.state.fl.us
Marjorie Heidorn, P.G. – FDEP Central District, Marjorie.Heidorn@dep.state.fl.us
Reggie Phillips – FDEP Central District, Reggie.Phillips@dep.state.fl.us
Gloria DePradine – FDEP Central District, Gloriajean.depradine@dep.state.fl.us

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LT. GOVERNOR

JONATHAN P. STEVERSON
SECRETARY

Permit Issued to:

National Aeronautics and Space Administration (NASA)
Located at: Mail Code: TA-A4B
Kennedy Space Center, Florida 32899
Telephone No. (321) 867-9081

WACS Facility ID No.: 16450
Facility Name: KSC/Schwartz Road Landfill – Class III
Facility Address: South of Schwartz Road,
approximately 1.4 miles east of Kennedy Parkway North
Kennedy Space Center, Brevard County, Florida

Authorized Representative: Harold Williams
harold.g.williams@nasa.gov
(321) 867-9081

Solid Waste Operation and Closure Permit – KSC/Schwartz Road Landfill – Class III
Permit Nos.: 0150308-007-SO-T3 and 0150308-008-SF-14
Replace Permit Nos.: SO05-0150308-006 and SF05-0150308-005

Permit Issued: March 31, 2015
Permit Renewal Application Due Date: 01/21/2025
Permit Expires: 03/23/2025

Permitting Authority
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, suite 232
Orlando, Florida 32803
(407) 897-4100

SECTION 1 - SUMMARY INFORMATION

A. Authorization

The permittee is hereby authorized to continue to operate the 39-acre class III landfill and to perform the 30-year long-term care activities of the approximately 45-acre closed Class III area in the southwest portion of the site as described below in accordance with the specific and general conditions of this permit and any documents attached to this permit or specifically referenced in this permit and made a part of this permit.

This solid waste operation and closure permit is issued under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code Chapters 62-4 and 62-701.

This permit does not relieve the permittee from complying with any other appropriate local zoning or land use ordinances or with any other laws, rules or ordinances. Receipt of any permits from the Department does not relieve the applicant from obtaining other federal, state, and local permits and/or modifications required by law, including those from other Sections within the Department or of the Water Management District.

B. Facility Location

The facility is located directly south of Schwartz Road, approximately 1.4 miles east of Kennedy Parkway North. It is located in the southeast quarter of Section 20, Township 22 South, Range 37 East, with approximate latitude of 28°33'30"North and longitude 80°38'36" West.

C. Facility Description

KSC/Schwartz Road Landfill Class III
The site is approximately 64 acres.

Active Landfill Class III
On 8/22/1994, a construction/operation permit was issued to the National Aeronautics and Space Administration (NASA) at Kennedy Space Center (KSC) for a new 39-acre site for disposal of class III waste. The landfill is located on KSC, Brevard County, Florida. The landfill's operation permit is being renewed in this action. The landfill is unlined and has no leachate collection system. An average quantity of waste received is 34 tons/day.

Closed Landfill Class III
Prior to the current 39-acre landfill, the NASA-KSC operated an unlined solid waste disposal landfill site that was approximately 45 acres. This closed landfill is located adjacent to the current landfill, which is to the west. The closed landfill started its operation in 07/1968. The landfill received class III waste, commercial and industrial wastes from KSC facilities. Initially, landfilled waste was disposed of in shallow trenches (estimated to be 3'-6' deep 30'-50' wide). In later years, landfilled waste was disposed in high-rise lifts over the existing trench-filled areas. Permit SF05-223326 was issued on 7/14/1993 to close the landfill. The final cover consists of 12-inch of soil, 30-mil PVC geomembrane, 18-inch of sand, and 6-inch of topsoil and vegetative cover. The official date of closing is 6/12/2001 based upon the Department's receipt of

documentation of the Declaration to the Public. The landfill is currently in the 30-year long-term care period that will end on 6/12/2031. The long-term care includes maintenance, operation, and monitoring of the closed landfill.

Both active and closed landfills have methane gas monitoring, passive gas control system, and share the same ground water and surface water monitoring network. The stormwater is directed to the perimeter drainage ditches.

D. Appendices Made Part of This Permit

APPENDIX 1 - General Conditions

APPENDIX 2 – Approved Application Documents

APPENDIX 3 – Water Quality Monitoring Plan

E. Attachments for Informational Purposes Only
(Not Applicable)

SECTION 2 - SPECIFIC CONDITIONS

A. Administrative Requirements

1. Documents Part of This Permit. The permit application **as revised in final form replaced or amended** in response to the Department's Request(s) for Additional Information are contained in the Department's files and are made a part of this permit. Those documents that make up the complete permit application are listed in APPENDIX 2.

2. Permit Modification. Any change to construction, operation, monitoring, or closure requirements of this permit may require a modification to this permit, in accordance with the provisions of Rule 62-701.320(4), F.A.C.

3. Permit Renewal. In order to ensure uninterrupted operation of this facility, a timely and sufficient permit renewal application must be submitted to the Department in accordance with Rule 62-701.320(10), F.A.C. A permit application submitted at least 610 days prior to the expiration of this permit is considered timely and sufficient.

4. Transfer of Permit or Name Change. In accordance with Rule 62-701.320(11), F.A.C., the Department must be notified by submitting Form 62-701.900(8) within 30 days: (a)

of any sale or conveyance of the facility; (b) if a new or different person takes ownership or control of the facility; or (c) if the facility name or permittee's legal name is changed.

5. Air Construction Permit Requirements
   a. The landfill owner or operator is not required to obtain an air construction permit, unless landfill construction or any modification is subject to the prevention of significant deterioration (PSD) requirements of Chapter 62-212, F.A.C.
   b. The Permittee is required to comply with the requirements of the facility's current Title V air permit.

B. Construction Requirements
(Not applicable; no construction is authorized)

C. Operation Requirements

1. General Operating Requirements. The Permittee shall operate the landfill in accordance with the approved Operation Plan. The Department shall be notified before any changes, other than minor deviations, to the approved Operation Plan are implemented in order to determine whether a permit modification is required.

2. Operation Plan. A copy of the approved Operation Plan, including the operating record as defined in Rule 62-701.500(3), F.A.C., shall be kept at or near the landfill facility and shall be accessible to landfill operators.

3. Authorized Waste Types. The facility is authorized to manage only class III waste defined in 62-701.200(14), regulated and non-regulated asbestos containing material wastes, PCB bulk product waste, and non-hazardous blast media.
   a. Asbestos Disposal: Currently, NASA policy does not allow receipt of RACM into the Landfill. However, NASA may elect to receive RACM in the future with appropriate notice to FDEP.
      i. Disposal of non-regulated asbestos containing material (NRACM) shall be conducted as described in Attachment 2 Updated Operation Plan dated 1/28/2015 and received 2/25/2015 (Item 2 in Appendix 2) Section 5.
      ii. Disposal of regulated asbestos containing material (RACM) shall meet the requirements of 40 CFR Part 61.154. After placement of the asbestos, operation personnel shall immediately place a minimum of six (6) inches of cover soil over the asbestos.
      iii. Records shall be kept for all asbestos containing materials received at the landfill.

   b. PCB Bulk Product Waste (Attachment 2 Updated Operation Plan dated 1/28/2015 and received 2/25/2015 (Item 2 in Appendix 2) Section 6.): The KSC/Schwartz Road Class III landfill accepts certain types of PCB Bulk Product Waste; these types of waste include non-liquid construction and demolition wastes. PCB Bulk Product

Waste is defined in 40 CFR 761.3 as waste derived from manufactured products containing PCBs in a non-liquid state at any concentration, where the concentration of PCBs at the time of designation for disposal is greater than or equal to 50 parts per million (PPM). PCB bulk product waste does not include debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which have not been disposed of, decontaminated, or otherwise cleaned up in accordance with 40 CFR 761 Subpart D. Bulk waste from construction and demolition projects will be assumed greater than 50 ppm PCBs unless laboratory analysis results are provided that indicate otherwise. PCB Bulk Product Waste that is accepted at KSC/Schwartz Road Class III landfill include: plastics (such as plastic insulation from wire or cable); molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; and other non liquid bulk construction and demolition wastes.

If the concentration of PCBs at the time of designation for disposal is less than or equal to 50 PPM, the waste is not considered PCB Bulk Product Waste. NASA encourages all organizations generating metal waste containing PCBs less than or equal to 50 PPM to recycle this material, when possible. If these materials cannot be recycled, they should be disposed of in the same manner as PCB Bulk Product Waste.

4. Unauthorized Waste Types. The facility is not authorized to accept, process or dispose any waste types not listed in Section 2.C.3. above.

5. Waste Management and Handling
   a. Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one-foot vertical rise or as authorized by this permit in accordance with the approved operation plan.
   b. No solid waste shall be disposed of outside of the permitted footprint of the solid waste disposal units.
   c. The sequence of waste filling shall be as specified in the approved operation plan.

6. Landfill Elevation. The final (maximum) elevation of the Landfill shall not exceed 35 feet NGVD as shown on sheets 7 & 8 of construction/operation permit application SC05-243089 & SO05-243090 received 1/5/1994 (included in Appendix 2).

7. Cover Requirements:
   a. At the end of each work week, at least six inches of soil cover shall be applied and maintained in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, unauthorized wastes, blowing litter, odors, vectors, or fires.
   b. An intermediate soil cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover.

8. Erosion Control: Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system. Such measures shall be implemented within three days of occurrence. If the erosion cannot be corrected within seven days of occurrence, the landfill operator shall notify the Department and propose a correction schedule.

9. Contingency Plan and Notification of Emergencies. The Permittee shall notify the Department in accordance with the approved Contingency Plan. Notification shall be made to the Solid Waste Section of DEP's Central District at (407) 897-4100.

10. Housekeeping. The facility shall be operated to control dust, vectors, litter and objectionable odors. If objectionable odors are confirmed beyond the landfill property boundary, the owner or operator shall comply with the gas management requirement in Section 2, Part E.

11. Spotters and Operators.
    a. This facility shall have at least one spotter present when waste is accepted as specified in the operation plan, to be located as specified in the operation plan.
    b. A trained operator shall be on duty at the facility at all times the facility is operating.
    c. Operators and spotters shall be properly trained as required by Rule 62-701.320(15), F.A.C. Approved training courses can be found at the following web site: http://www.treeo.ufl.edu

12. Record Keeping Requirements.
    a. Waste Quantity Records. Waste records shall be compiled monthly, and copies shall be provided to the Department ~~no less than~~ annually by February 1 of each year. This information shall be reported to the Department through the DEP Business Portal located at: http://www.fldepportal.com/go.
    b. Estimate of Remaining Life. The permittee shall submit the annual estimate of the remaining life and capacity by February 1 of each year. (The 2014 estimate was provided in the application, page 170 of 559 in Item 1 of Appendix 2.) The report is required by Rule 62-701.500(13)(c), F.A.C. and must be submitted to the Central District Office at DEP_CD@dep.state.fl.us and to:
        Florida Department of Environmental Protection
        Solid Waste Section, MS 4565
        2600 Blair Stone Road
        Tallahassee, Florida, 32399-2400

13. Hazardous Waste. If any regulated hazardous wastes are discovered to be deposited at the facility, the facility operator shall promptly notify the Department, the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the facility operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous

waste management facility. In the event that hazardous wastes are discovered they shall be managed in accordance with the procedures provided in facility Operation Plan.

14. Stormwater. Leachate shall not be discharged into the stormwater management system. Stormwater or other surface water which comes into contact with or mixes with the solid waste or leachate shall be considered leachate and is subject to the requirements of Rule 62-701.500(8), F.A.C.

D. Water Quality Monitoring Requirements

1. Zone of Discharge (ZOD). The zones of discharge for both the active and closed Class III landfills have been combined; the horizontal extent of the zone of discharge had been expanded to the west.

   a. The zone of discharge (ZOD) for the facility is a three dimensional volume. In the vertical plane the ZOD extends from the top of the ground to the base of lower surficial monitoring well screens. In the horizontal plane the ZOD extends 100 feet to the north, east, and south from the edge of the solid waste deposit. To the west the ZOD extends to the edge of the Land Use Controls Implementation Plan (LUCIP) area.
   b. The LUCIP is depicted on Figure 2 of Appendix 4 of the permit application (page 164 of 559 of the Application, Item 1 of Appendix 2) and shown in Attachment B of Appendix 3 of this permit.
   c. As required by the LUCIP, KSC's Environmental Assurance Office will conduct quarterly inspections to monitor that the institutional land use controls specified are in place and operating. The inspections will verify there are no wells removing groundwater from within the expanded zone of discharge. The inspections will be documented in the Operating Record of the landfill.
   d. Class G-II ground water quality standards must be met at the boundary of the zone of discharge in accordance with Rule 62-520.465, F.A.C.

2. Electronic Reporting. Required water quality monitoring reports and all ground water and surface water analytical results shall be submitted electronically. Water quality monitoring reports shall be submitted in pdf format. The water quality data Electronic Data Deliverable (EDD) shall be provided to the Department in an electronic format consistent with requirements for importing the data into the Department's databases. Water quality monitoring reports shall be signed and sealed by a Florida registered professional geologist or professional engineer with experience in hydrogeological investigations and shall include the following:
   a. Cover letter;
   b. Summary of exceedances and sampling problems, if any (e.g., variation from SOP field criteria);
   c. Conclusions and recommendations;
   d. Ground water contour maps;
   e. Chain of custody forms;
   f. Water levels, water elevation table;

g. Ground Water Monitoring Report Certification, using the appropriate Department form;
h. Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01); and,
i. Laboratory and Field EDDs and error logs, as applicable.

All submittals in response to this specific condition shall be sent to ADaPT.EDDs.and.Reports@dep.state.fl.us. If attachments are too large to e-mail, monitoring reports may also be transmitted to the FDEP Solid Waste program in Tallahassee using the following FTP site: ftp;//ftp.dep.state.fl.us/pub/WACS-ADaPT/EDDS_and_Reports. Please e-mail; us at ADaPT.EDDs.and.Reports@dep.state.fl.us informing of what files were transmitted via FTP for which facility sampling event.

3. Water Quality Monitoring Plan. The Water Quality Monitoring Plan for this permit is included in APPENDIX 3.

E. Gas Management System Requirements

1. Monitoring Requirements. Monitoring for methane gas at the property boundary and within structures on the property shall be performed quarterly to determine the effectiveness of the gas migration controls. The gas monitoring results shall be reported as a percent of the lower explosive limit (LEL), calibrated to methane. The report shall be submitted to the Department within 30 days of receipt of data. If the gas monitoring results show that combustible gas concentrations exceed 25% of the LEL in structures and 100% of the LEL at the property boundary, the permittee shall implement a Gas Remediation Plan as required in rule 62-701.530(3)(a), F.A.C.

2. Odor Remediation Plan. The facility shall be operated to control objectionable odors. If objectionable odors are confirmed beyond the property boundary then upon notification by the Department the permittee shall develop and implement an odor remediation plan in accordance with the requirements of Rule 62-701.530(3)(b), F.A.C.

F. Financial Assurance and Cost Estimates

1. Financial Assurance Mechanism. The permittee may not receive waste for disposal or storage in any disposal unit for which financial assurance has not been approved. Proof that the financial mechanisms are established and funded in accordance with Rule 62-701.630, F.A.C. shall be submitted to the Department at least sixty (60) days prior to the planned acceptance of solid waste in any disposal unit. When established, the permittee shall maintain, in good standing, the financial assurance mechanisms. Supporting documentation and evidence of increases associated with cost estimate increases shall be submitted within the time frames specified in Rule 62-701.630, F.A.C. All submittals in response to this specific condition shall be sent to: Florida Department of Environmental Protection, Financial Coordinator - Solid Waste Section, 2600 Blair Stone Road, MS 4565, Tallahassee, Florida 32399-2400

a. The Department acknowledges the written response dated November 10, 2009 (submitted as cover letter to the Response to First RAI, Reference 3 of Appendix A) provided by Harold Williams regarding the financial assurance. In summary, the letter says NASA-KSC cannot provide financial assurance in a manner required by Chapter 62-701, F.A.C.
b. Until the Florida Department of Environmental Protection, Solid Waste Section, determines the appropriate financial assurance mechanism from the federal government, no further action regarding providing a financial assurance mechanism is required by NASA-KSC.

2. Cost Estimates.
a. The permittee shall submit closure cost estimates, including annual adjustments for inflation, in accordance with the requirements of Rule 62-701.630(3) and (4), F.A.C., and 40 CFR Part 264.142(a) and .144(a) using Form 62-701.900(28). The annual inflation adjusted cost estimate must be submitted between January 1 and March 1.
b. A cost estimate covering disposal units not previously covered by financial assurance mechanisms must be submitted prior to submitting financial assurance for such disposal units.
c. All submittals in response to this specific condition shall be sent to the District Office at DEP_CD@dep.state.fl.us and a copy to Solid.Waste.Financial.Coordinator@dep.state.fl.us.

G. Closure Requirements

1. Closure Permit Requirements.
a. As stated in Attachment 2 Updated Operation Plan dated 1/28/2015 and received 2/25/2015 (Item 2 in Appendix 2) Section 4.10, there will not be any phased closure. The entire landfill will be capped when design heights have been met or the operation of an active landfill is no longer required.
b. At least 90 days prior to the date when waste will no longer be accepted at the landfill, the owner or operator shall submit a closure permit application or a modification application of this permit. The application must describe:
iv. Any substantive changes in the closure plan, or the Permittee may demonstrate that the closure plan in this operation permit includes sufficient detail to provide reasonable assurance of compliance with the provisions for closure.
v. A construction quality assurance plan which meets the requirements of Rule 62-701.400(7) and (8), F.A.C.
vi. A plan for long-term care. And,
vii. A demonstration that proof of financial assurance for long-term care will be provided (see Section 2.F.1.).
c. Closure operations cannot begin until the closure permit has been approved.

2. Closure Design. All closure construction shall be done in accordance with the approved closure design plan as stated in Attachment 2 Updated Operation Plan dated 1/28/2015 and received 2/25/2015 (Item 2 in Appendix 2) Section 4.11.1 and shown in section 6

volume I of III and on sheets 7 to 10 of construction/operation permit application SC05-243089 and SO05-243090 received 1/5/1994.

a. Final cover will consist from bottom to top of a 12-inch thick sand layer, an 18-inch-thick barrier layer with a maximum hydraulic conductivity of $1x10^{-5}$ cm/sec, an 18-inch thick soil fill, and a 6-inch topsoil layer capable of supporting vegetation and graded and compacted as necessary to eliminate ponding, promote drainage, and minimize erosion.
b. Final side slopes will be constructed with minimum slopes of 4 horizontal to 1 vertical (4:1) and a bench terrace for stormwater control.
c. Finished grades for the top of the landfill will be constructed on 3% slopes.
d. Landfill construction will be phased, and completed areas will have final cover applied within 180 days of completing waste filling operations. Grass vegetation will be planted on each covered area immediately after final cover has been constructed.
e. The Department shall be notified before any changes, other than minor deviations, to the approved closure design are implemented in order to determine whether a permit modification is required.

3. Closure Operation Plan. All closure shall be done in accordance with the approved closure operation plan stated in Attachment 2 Updated Operation Plan dated 1/28/2015 and received 2/25/2015 (Item 2 in Appendix 2) Section 4.11.3. Intermediate cover will be placed over the entire surface of each completed section of filled area within 180 days following the final placement of waste as final design grades are achieved.

4. Certification of closure construction completion. After closure construction has been completed, the engineer of record shall certify to the Department on Form 62-701.900(2) that the closure is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

5. The permittee shall determine whether a new stormwater permit is necessary prior to the construction of the final cover.

H. Long Term Care Requirements

(This section is for the closed 45-acre Class III landfill)

1. Long-Term Care Period. The 30-year long-term care started 6/12/2001. The Permittee shall continue to monitor and maintain the integrity and effectiveness of the final cover as well as other appurtenances of the facility, control erosion, fill subsidences, comply with the ground water monitoring plan and gas monitoring program, and maintain the stormwater system, in accordance with an approved closure plan. The long-term care period is scheduled to end on 6/12/2031.

2. Stabilization Report. Every five years after issuance of a permit for long-term care, the permittee shall submit a report to the Department that addresses stabilization of the landfill. The submittal shall include the technical report required in Rule 62-701.510(9)(b), F.A.C., and shall also address subsidence, barrier layer effectiveness,

storm water management, and gas production and management. The following is the schedule for the submittal of future Stabilization Reports:

Report	Due Date
Stabilization Report	February 28, 2019
Stabilization Report	With the Permit Renewal Application (Due 1/21/2025)

3. Reduced long-term care period. The permittee may apply to the District Office of the Department for a permit modification to reduce the long-term care period or eliminate some aspects of the long-term care. The Department will grant such modification if reasonable assurance is provided that there is no threat to human health and the environment as specified in Rule 62-701.620(3), F.A.C.

4. End of Long-Term Care. Following completion of the long-term care period for each solid waste management unit, the owner or operator shall submit to the Department a certification, signed and sealed by a professional engineer, verifying that long-term care has been completed in accordance with the closure plan has been placed in the operating record.

Executed in Orange County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]

Director, Central District

FILED, on this date, pursuant to Section 120.52, F.S. with the designated Department Clerk, receipt of which is hereby acknowledged.

[redacted]

March 31, 2015
Date

Enclosures:
1. Appendix 1 - General Conditions
2. Appendix 2 - List of Documents Incorporated into Permit
3. Appendix 3 -Water Quality Monitoring Plan Implementation Schedule

APPENDIX 1 - General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes (F.S.) The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup and auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be

required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under conditions of this permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. A description of and cause of noncompliance; and

b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The Permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, Florida Administrative Code (F.A.C.), as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring information) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

APPENDIX 2 - List of Documents Incorporated into Permit

Documents Generated for this Permit Application:

1. "Application for Permit Renewal Kennedy Space Center (KSC)/Schwartz Road Class III Landfill", was submitted on January 9, 2015 to DEP-Central District. The application was signed and sealed by Carolyn S. Seringer, P.E., of Nelson Engineering Co, Merritt Island, Florida on January 9, 2015. Received and stamped January 12, 2015, DEP-Central District.

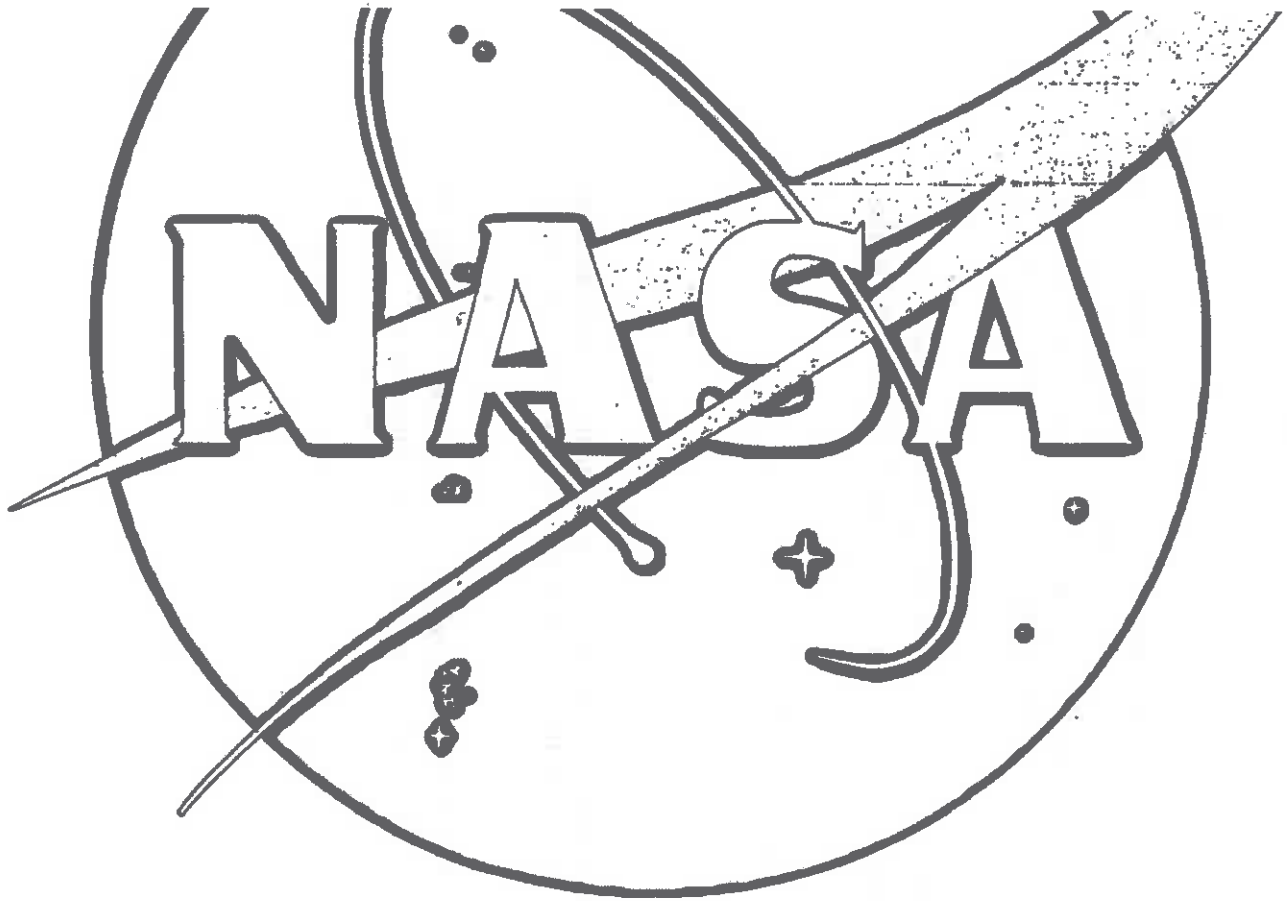
2. Electronic response to DEP's 1/26/2015 Request for Additional Information from Carolyn S. Seringer, P.E., of Nelson Engineering Co, Merritt Island, Florida on February 25, 2015. Received February 25, 2015, DEP-Central District.

3. DEP issued "Permit Application Complete" 3/20/2015.

Referenced Historical Documents:

4. Construction/Operation Permit Application dated November 1993 and received January 5, 1994. The application was for permit SC05-243089/SO05-243090 to operate a new 39-acre class III landfill.

5. Closure Permit Application dated November 1992 and received November 24, 1992. The application was for permit SF05-223326 to close the 45-acre class III landfill.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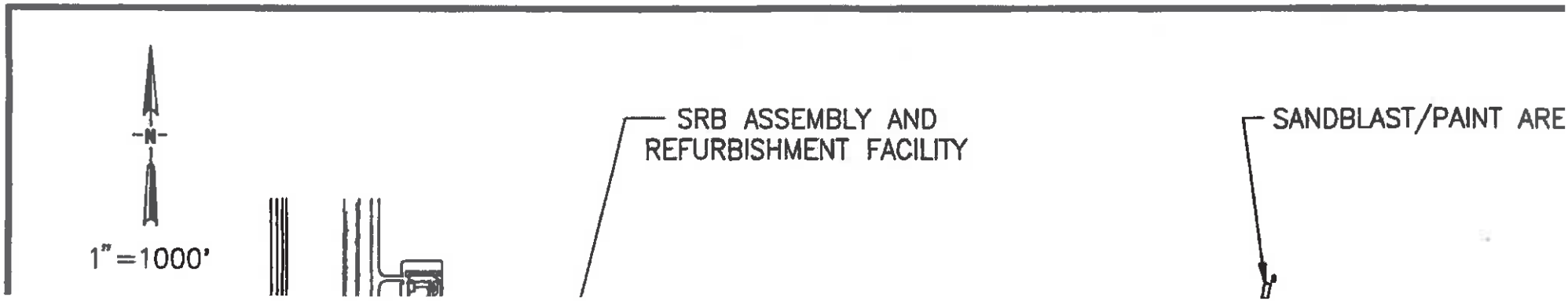
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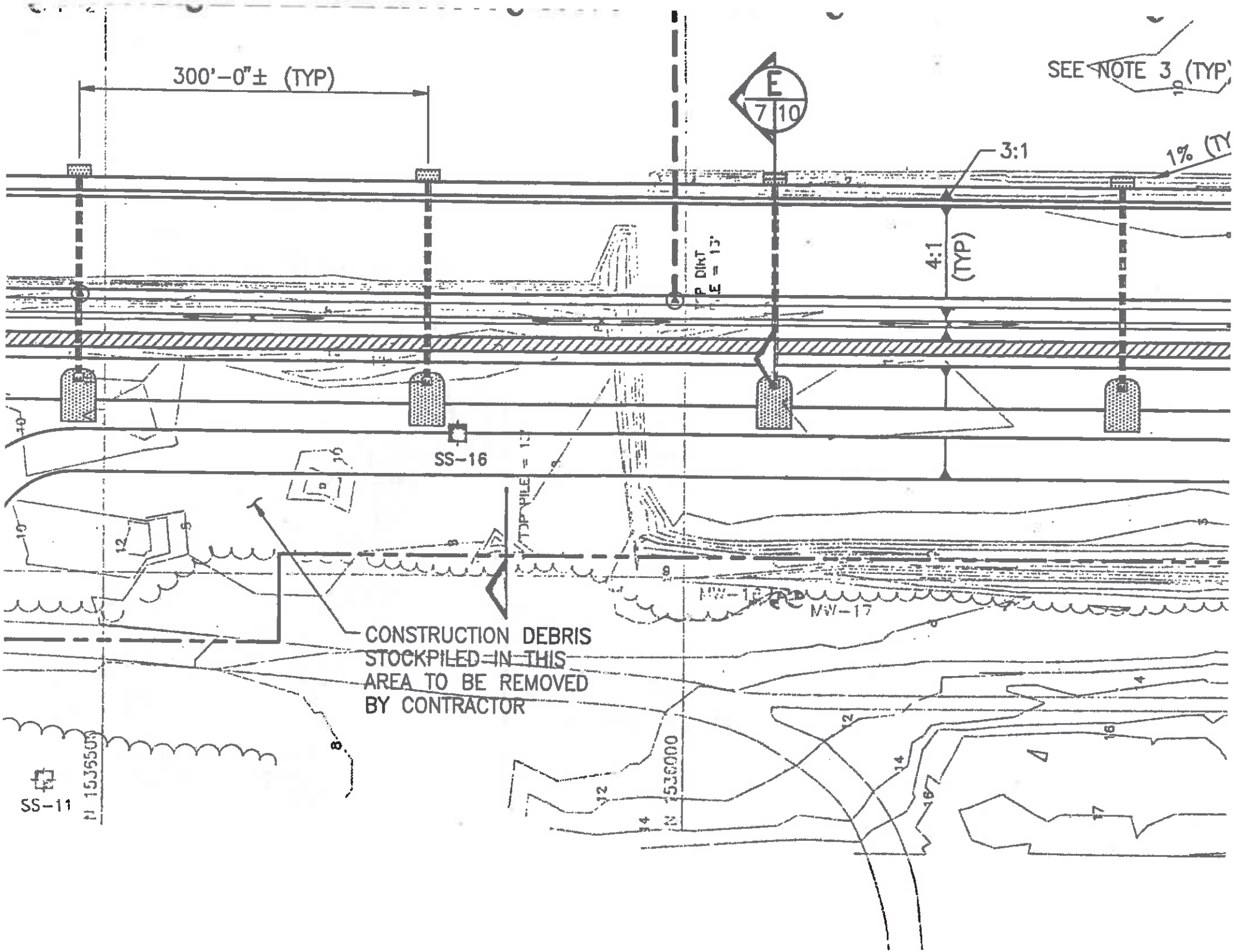
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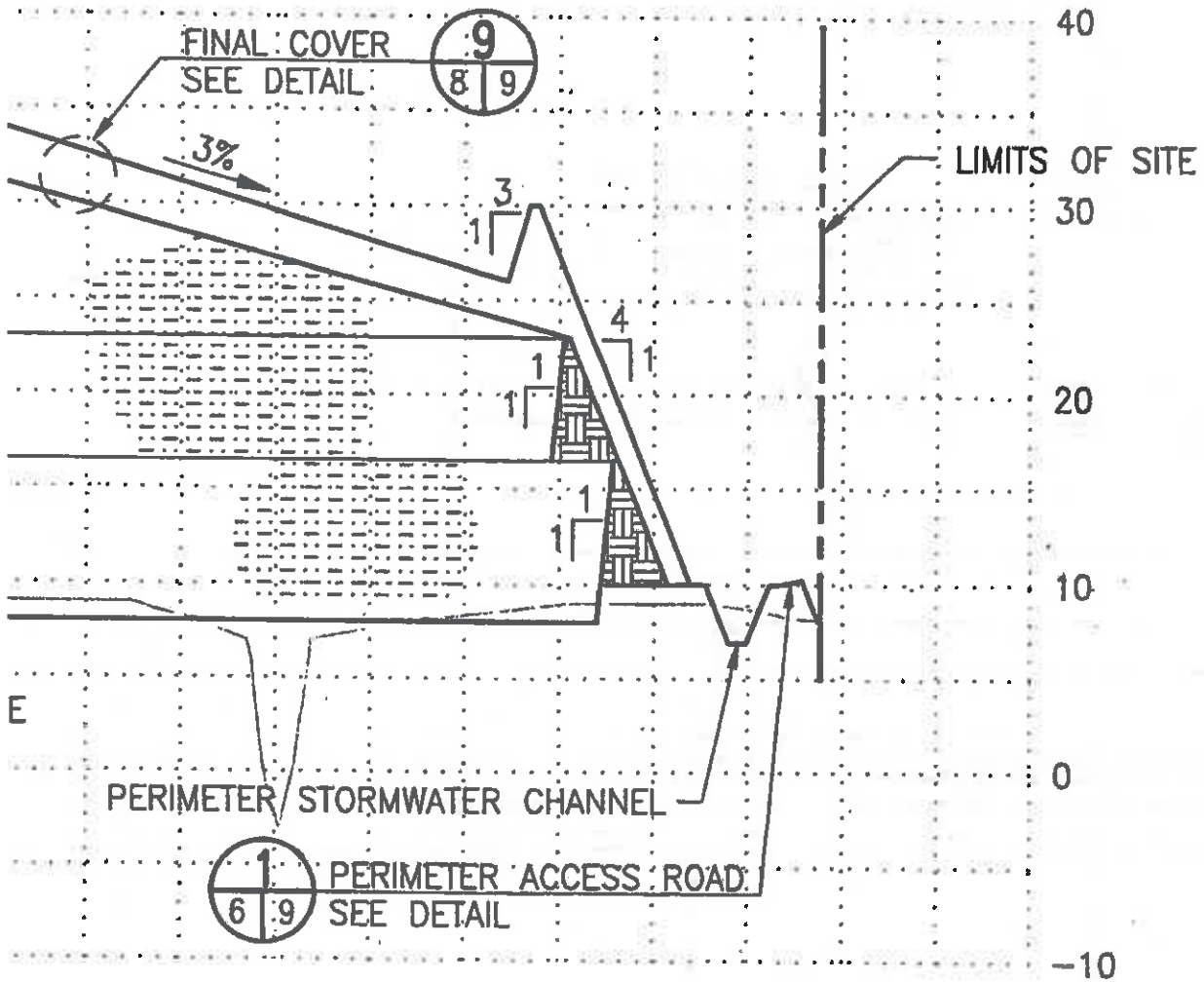
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APPENDIX 3

SCHWARTZ ROAD CLASS III LANDFILL

WACS_FACILITY: 16450

MONITORING PLAN IMPLEMENTATION SCHEDULE (MPIS)
2/27/2015

GENERAL

1. This MPIS is becomes part of permits 05-0150308-007-SO-T3 & 05-0150308-008-SF-14 and is effective from the date of the attached permit. **[62-701.510(1)(b)&(c), 62-520.600(5),(F.A.C.)]**

2. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with Chapter 62-160 (F.A.C.) Approved methods as published by the Department or as published in Standard Methods, ASTM, or EPA Methods shall be used. **[62-701.510(2)(b), F.A.C.]**

3. The organization collecting samples at this site must use the Field and Laboratory Standard Operating Procedures (DEP-SOP-001/01) referenced in Chapter 62-160, F.A.C. Sampling personnel must have a copy of the SOP for purging and sampling in the field when sampling and must be knowledgeable of its contents, procedures, and forms. The laboratory designated to conduct the chemical analyses must be certified by the Florida Department of Health Environmental Laboratory Certification Program (DoH ELCP). This Certification must be for the test method and analyte(s) that are reported. **[62-160.210(1), 62-160.300(1), F.A.C.]**

   NOTE: DEP-SOP-001/01 can be accessed at:
   http://www.dep.state.fl.us/water/sas/sop/sops.htm

4. If, at any time, analyses detect parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., in the detection wells or at the edge of the Zone of Discharge, the Permittee, to confirm the data, shall resample the wells within thirty (30) days of receipt of the sampling data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. The permittee must notify the Department within 14 days of receipt of the sampling data whether the original data will be accepted as representative of current ground water conditions or whether resampling will be accomplished to confirm the data.

   If the resampling event detects parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the Permittee shall notify the Department in writing within 14 days of receipt of the sampling data. Confirmed data must be submitted to the Department within 60 days from completion of lab analyses. Use "CONF" (for confirmation data) in the report type column. **[62-701.510(6)(a), F.A.C.]**

Upon notification by the Department, the permittee shall initiate evaluation monitoring in accordance with Rule 62-701.510(6) F.A.C. **[62-701.510(6)(a), F.A.C.]**

GROUND WATER QUALITY MONITORING

5. Based on historic sampling, the Department accepts as background 4.5 STU for pH at the site.

6. The forty-two (42) ground water monitoring wells designated for water quality testing are listed on Attachment A and are shown on Attachment B. **[62-701.510(3)(d)2 & 3, F.A.C.]**

7. Any Initial sample collected from a ground water monitoring well shall be analyzed for the following Initial Ground Water Monitoring Parameters. **[62-701.510(6)(b)2, F.A.C.]**

Field Parameters	Laboratory Parameters
1. Static water level in wells before purging	1. Chlorides
2. Dissolved oxygen	2. Iron
3. pH	3. Sodium
4. Specific conductivity	4. Nitrate
5. Temperature	5. Total ammonia as N
6. Turbidity	6. Total Dissolved Solids
7. Colors and sheens (by observation)	7.Those parameters listed in 40 CFR Part 258 Appendix II

* Mercury not on list because it is included in Appendix II

8. Routine semi-annual samples from current ground water monitoring wells shall be collected in **March** and **October**. The samples shall be analyzed for the following reduced list of Ground Water Monitoring Parameters. **[62-701.510(5)(c) & (7)(a), F.A.C.]**

GROUND WATER (21)

Field Parameters (6)	General Chemistry (4)	Metals (3)	Organic Compounds (8)	
Water Levels	Total Ammonia (N)	Arsenic	Benzene	Trichloroethene (TCE)*
Dissolved Oxygen	Chloride	Iron	Vinyl Chloride	Cis-1,2-Dichloroethene*
pH	Nitrate	Sodium	Xylenes (total)	Trans-1,2,-Dichloroethene*
Specific Conductivity	TDS		PCBs (Total)	Tetrachloroethene (PCE)*
Temperature	* These analytes meet the criteria for suspension, however, they are parent compounds of degradation products currently exceeding their FDEP ground water criterion and therefore monitoring will continue.			
Turbidity				

9. In addition, Methylene Chloride shall be sampled in the monitoring wells.

10. Every 5 years, in the sampling event before the Technical Report is due, all wells shall be sampled for the standard full list of semi-monitoring parameters. The sampling results shall be included in the Technical Report. The 5-year parameter list is:

Field Parameters	Laboratory Parameters
1. Static water level in wells before purging	1. Total ammonia as N
2. Dissolved oxygen	2. Chloride
3. pH	3. Iron
4. Specific conductivity	4. Mercury
5. Temperature	5. Nitrate
6. Turbidity	6. Sodium
	7. Total dissolved solids
	8. Those parameters listed in 40 CFR Part 258 Appendix I

SURFACE WATER MONITORING

11. The two (2) surface water sites included in this monitoring plan are listed on **Attachment A** and shown on **Attachment B. [62-701.510(4)(c), F.A.C.]**

12. Semi-annual samples from the two (2) surface water monitoring sites shall be collected in March and October. The samples shall be analyzed for the following reduced list of Semi-Annual Surface Water Parameters: **[62-701.510(6)(e) & (8)(b), F.A.C.]**

SURFACE WATER (27)

Field Parameters (6)	General Chemistry (12)		Metals (2)	Organic Compounds (7)	
Water Levels	Unionized Ammonia	Chlorophyll-a	Arsenic	Benzene	Trichloroethene (TCE)*
Dissolved Oxygen	Chloride	Hardness	Iron	Vinyl Chloride	Cis-1,2-Dichloroethene*
pH	Nitrate	Total Nitrogen		Xylenes (total)	Trans-1,2,-Dichloroethene*
Specific Conductivity	TDS	Total Phosphorus			Tetrachloroethene (PCE)*
Temperature	BOD	TOC	*These analytes meet the criteria for suspension, however, they are parent compounds of degradation products currently exceeding their FDEP ground water criterion and therefore monitoring will continue.		
Turbidity	COD	TSS			

13. Every 5 years (in the sampling event before the Technical Report is due) surface water sites shall be sampled for the full list of semi-monitoring parameters. The sampling results shall be included in the Technical Report. The list of 5-year parameters is:

Semi-Annual Surface Water Monitoring Parameters	
Field Parameters	**Laboratory Parameters**
1. Specified conductivity	1. Ammonia, Unionized – N
2. pH	2. Total hardness (as mg/L CaCO3)
3. Dissolved oxygen	3. BOD5
4. Turbidity	4. Iron
5. Temperature	5. Mercury
6. Colors sheens (by observation)	6. Nitrate
	7. TDS
	8. TOC
	9. Fecal Coliform
	10. Total phosphorus (as mg/L P)
	11. Chlorophyll A
	12. Total Nitrogen as N
	13. Chemical Oxygen Demand (COD)
	14. Total Suspended Solids (TSS)
	15. Those parameters listed in 40 CFR Part 258 Appendix I

[62-701.510 (6)(e) & (8)(b), F.A.C.]

14. Please confer with your consultant and analytical laboratory prior to sampling to ensure the analytical method is capable of achieving detection limits at or below the Freshwater Surface Water Criteria in Table I, Chapter 62-777, F.A.C. except those listed in Table C of the "FDEP Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits dated 10/12/2004". Freshwater Surface Water Criteria that are not water quality standards are used as screening tools and interim guidelines for ground water minimum criteria until standards are promulgated.

15. Unless otherwise approved by the Department, wells with high turbidities must be remediated or reinstalled to reduce the turbidity value to less than 20 NTU prior to sample collection. Should any ground water sample exhibit dissolved oxygen concentrations greater than 20% of oxygen saturation at the field measured temperature, the sampled well must be repurged then resampled as soon as an acceptable dissolved oxygen value has been attained unless it can be demonstrated that in situ ground water contains higher levels of dissolved oxygen. All water quality analyses will be performed on unfiltered samples unless approved by the Department.

16. Please confer with your consultant and analytical laboratory prior to sampling to ensure the analytical method is capable of achieving detection limits at or below the Groundwater Cleanup Target Levels (GCTLs) in Table I, Chapter 62-777, F.A.C. except those listed in Table C of the "FDEP Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits dated 10/12/2004". GCTLs that are not water quality standards are used as screening tools and interim guidelines for ground water minimum criteria until standards are promulgated.

MONITORING WELL REQUIREMENTS

17. If a monitoring well or piezometer becomes damaged or inoperable, the Permittee shall notify the Department in writing within seven (7) days. The written report shall describe what problem has occurred and the remedial measures that have been taken to prevent a recurrence. The Department can require the replacement of inoperable monitoring wells or piezometers. **[62-4.070(3), F.A.C.]**

18. New or replacement monitoring well design or placement must be approved by the Department. Either:
    a. Proposed well construction details based on site-specific borings must be submitted with all supporting data (grain size distribution analyses, in-situ hydraulic conductivity testing, depth to water, etc.) for the Department's approval prior to well installation. or

    b. The Department approves in advance of installation that the anticipated lithology and the proposed well construction is similar to close wells in the MPIS and that the final determination of this information (grain size distribution analyses, in-situ hydraulic conductivity testing, depth to water, etc.) can be evaluated by an engineer or geologist at the time of well installation and submitted with the well completion information. (This condition is satisfied for the 17 new wells specified in this MPIS.)

19. Use of hollow stem auger equipment is recommended. Other drilling methods must be approved by the Department prior to well installation. **[62-520.600(3), F.A.C.]**

20. All wells and piezometers shall be clearly and permanently labeled and the well site maintained so that the well is visible at all times. Unless otherwise authorized in a Department permit, new monitoring wells, and existing monitoring wells at the time of permit renewal, shall have protective bollards or other devices installed around them if they are located in areas of high traffic flow to prevent damage from passing vehicles. **[62-701.510(3)(d)5, F.A.C.]**

21. An abandonment plan for abandoning any well that is unsuitable for ground water monitoring or for any piezometer must be approved by the Department prior to abandonment. **[62-701.510(3)(d)6, F.A.C.]**

REPORTING REQUIREMENTS

FIELD ACTIVITIES

22. The Department must be notified in writing at least fourteen (14) days prior to the installation and/or sampling of any monitoring well(s). The notification must be submitted in electronic format to DEP_CD@dep.state.fl.us. **[62-701.510(8)(a), F.A.C.]**

MONITORING WELL COMPLETION

23. Submit **Attachment C Monitoring Well Completion Report** (as modified by the Central District) and required Attachments (for example, construction diagram and lithologic log) in electronic format to **DEP_CD@dep.state.fl.us**. The Report must be submitted to the Department within thirty (30) days after installation of any new or replacement monitoring well(s). In addition, as-built well construction diagrams and soil boring logs that cover the entire depth of the monitoring well(s) must be submitted to the Department.

    NOTE: The top of casing elevation of each well, to an accuracy of 0.01 feet, and the latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and certified by a Florida Licensed Surveyor and Mapper and provided on the form. **[62-701.510(3)(d)1 & 62-532.410, F.A.C.]**

SURVEYING

24. The survey must be submitted within thirty (30) days following monitoring well installation in electronic format to **DEP_CD@dep.state.fl.us**. The survey must show the location of all monitoring sites (active, abandoned, and Evaluation Monitoring), piezometers, water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to NGVD 1929 with an accuracy of 0.01

feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. **[62-701.510(1)(c)&(3)(d)1, F.A.C.]**

25. If a monitoring well is being replaced or new wells are being added to an existing ground water monitoring plan, only the new wells need to be surveyed as long as all other monitoring wells in the MPIS have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have changed. The location and elevation determinations and the certification must be provided with the Monitoring Well Completion Form for the new well,

DEPTH MEASUREMENTS

26. A total depth measurement must be made on each well at time of permit renewal. This information must be provided as part of permit renewal application. This measurement is to be reported as total apparent depth below ground surface and should be compared to the original total depth of the well.

INITIAL AND SEMI-ANNUAL SAMPLING

27. Required monitoring reports must be submitted to the Department within sixty (60) days from completion of laboratory analyses. Requirement for submitting the report is outlined in **Attachment D (ADaPT Electronic Reporting Requirement) [Rule 62-701.510(8), F.A.C.]**

WATER ELEVATIONS

28. Water levels in all monitoring wells, whether sampled or not, all piezometers and all surface water sites must be measured to the nearest 0.01 foot and reported semi-annually.

29. Surface water elevations at sampling locations must be measured to the nearest 0.01 foot on the same day as ground water levels in the wells and piezometers and reported semiannually.

30. All water level measurements must be made within a one-day period.

31. These measurements should be reported in a table that includes well or surface water point name, date water level measured, measuring point elevation referenced to NGVD 1929, depth to water and calculated water level elevation referenced to NGVD 1929. The ground water elevations shall be reported in the ADaPT data for the upload into WACS. **[62-701.510(8)(a)8, F.A.C.]**

GROUND WATER CONTOUR MAPS

32. Ground water elevation contour maps for each monitored aquifer zone must be submitted semi-annually to the Department. Ground water elevation contour map(s) should include

monitoring well and piezometer locations, ground water elevation at each monitoring well or piezometer location referenced to NGVD 1929, a bar scale, north arrow, ground water contour interval, date of measurement and ground water flow direction. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate. These maps shall be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 492 which require that documents requiring the practice of professional engineering or professional geology, as described in Chapter 471 or 492, F.S., be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a licensed professional who is able to demonstrate competence in this subject area. **[62-701.510(8)(a)9, F.A.C.]**

MPIS Technical Report (formerly Biennial Report)

33. A technical report, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department approximately every two and one-half years during the active life of the facility, and every five years during the long-term care period. The report shall summarize and interpret the water quality and leachate monitoring results and water level measurements collected since the last Technical Report. The report shall contain, at a minimum, the following [62-701.510(8)(b), F.A.C.]:
    a Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitor wells;
    b Trend analyses of any monitoring parameters exceeded (rather than detected) Comparisons among shallow, middle, and deep zone wells;
    c Comparisons between the corresponding background well and the water quality in detection and compliance wells;
    d Correlations between related parameters such as total dissolved solids and specific conductance;
    e Discussion of erratic and/or poorly correlated data;
    f An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
    g An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

34. One electronic copy (Adobe pdf format) of the MPIS Technical Report shall be submitted to the Department at DEP_CD@dep.state.fl.us :

March & Oct

Report	Sampling Periods Covered	Number Of Semi-annual Sampling Events in Report	MPIS Technical Report Due
Interim Technical Report	March 2015 thru March 2017	5	July 31, 2017
Interim Technical Report	October 2017 thru October 2019	5	February 28, 2019
Interim Technical Report	March 2020 thru March 2022	5	July 31, 2022
Permit Renewal Report	October 2022 thru October 2024	5	With the Permit Renewal Application (Due 1/21/2025)

Requirements for Electronic Reporting of Water Quality Data

35. Required water quality monitoring reports and all ground water, and surface water analytical results shall be submitted as described in Attachment **D (ADaPT electronic reporting requirement)**. Required monitoring reports must be submitted to the Department within sixty (60) days from completion of laboratory analyses. **(62-160.240 and 62-160.340, F.A.C.)**

36. Monitoring Plan Implementation Schedule--Tracking versions for current permit period:

Date	Type	Notation
2/5/2005	Permit	Issued with Permit
3/8/2010	Update at Permit Renewal for Closed III	• Added: 1. Add West Well edge of LUCIP 2. Add a 2-well cluster—shallow and intermediate zones—on the SE corner of the closed landfill to close a data gap. 3. Add an intermediate well to the MW-36-MW-37 cluster, because of elevated levels of ammonia and benzene detects in deep surficial MW-37. 4. Add staff gauge to the pond south of the active landfill for more complete water level information for ground water maps. • Update for ADaPT electronic submittal of data • Biennial timing changed to Mid-Permit Technical Report and Renewal Technical Report per pending Chapter 62-701 F.A.C. revision.
4/13/10	Correct and Revise	• Correct-include PCBs in GW sampling list • Change Mid Permit Technical Report due March 2012 instead of Jan 2012.
4/23/2012	Correct, Update, Revise	<u>MPIS Conditions Document</u> • Condition #5 Note that the Department accepts as background 4.5 STU for pH at the site. • Condition #31.b. Allows the Technical Report Tables to be used for trend analysis • Condition #31.d. Specifies that background wells be used for water quality comparisons instead of relative "upgradient" wells. <u>MPIS Attachment A</u>

		• Correct MW-53 WACS# from "2450" to "24450". • Reclassify MW-13 from Compliance Well to a Background Well. • Reclassify all Compliance Wells in the LUCIP to Detection Wells. • Change MW-32 and MW-33 from Compliance Wells to Detection Wells.
2/27/2015	Permit Renewal	MPIS Conditions Document • Updated for rule revisions • Based on monitoring history and formal request from KSC (11/25/2014) reduced parameter list. (See Conditions #8-13) • Removed MW-23889 from Att A • Updated attachments. (e.g. paper copies are no longer required)
5/14/2015	Correction	Corrected the footer date in this MPIS Conditions document from "5/22/2014 and 2/17/2015" to "2/27/2015"

List of Attachments

Attachment A – Monitoring Site List

Attachment B – Monitoring Locations Map

Attachment C – Monitoring Well Completion Report Form

Attachment D – ADaPT Electronic Reporting Requirements

Attachment E – Ground Water Monitoring Report Certification Form

Attachment F – Water Sampling Log

ATTACHMENT A
SCHWARTZ ROAD CLASS III LANDFILL
WACS_FACILITY: 16450
MONITORING SITES

	Monitoring Site Number	WACS Well	Well Type	Zone/ Screen	GW/SW Class	WACS Report Type
Monitoring Wells						
1.	MW-6	11099	BG	Upper Surficial	G-II	SEMGW
2.	MW-12	11486	BG	Intermediate Surficial	G-II	SEMGW
3.	MW-13	11487	BG	Lower Surficial	G-II	SEMGW
4.	MW-16	11490	DE	Upper Surficial	G-II	SEMGW
5.	MW-17	11491	DE	Intermediate Surficial	G-II	SEMGW
6.	MW-18	11492	DE	Upper Surficial	G-II	SEMGW
7.	MW-19	11493	DE	Lower Surficial	G-II	SEMGW
8.	MW-20	11494	DE	Upper Surficial	G-II	SEMGW
9.	MW-21	11495	DE	Intermediate Surficial	G-II	SEMGW
10.	MW-22	11496	DE	Upper Surficial	G-II	SEMGW
11.	MW-23	11497	DE	Lower Surficial	G-II	SEMGW
12.	MW-24	11498	DE	Upper Surficial	G-II	SEMGW
13.	MW-25	11499	DE	Intermediate Surficial	G-II	SEMGW
14.	MW-26	11500	DE	Upper Surficial	G-II	SEMGW
15.	MW-27	11501	DE	Lower Surficial	G-II	SEMGW
16.	MW-28	11502	DE	Upper Surficial	G-II	SEMGW
17.	MW-29	11503	DE	Intermediate Surficial	G-II	SEMGW
18.	MW-30	11504	DE	Upper Surficial	G-II	SEMGW
19.	MW-31	11505	DE	Lower Surficial	G-II	SEMGW
20.	MW-32	11506	DE	Upper Surficial	G-II	SEMGW
21.	MW-33	11507	DE	Intermediate Surficial	G-II	SEMGW
22.	MW-34	11544	DE	Upper Surficial	G-II	SEMGW
23.	MW-35	11545	DE	Intermediate Surficial	G-II	SEMGW
24.	MW-36	11546	DE	Upper Surficial	G-II	SEMGW
25.	MW-37	11547	DE	Lower Surficial	G-II	SEMGW
26.	MW-38	11548	DE	Upper Surficial	G-II	SEMGW
27.	MW-39	11549	DE	Intermediate Surficial	G-II	SEMGW
28.	MW-40	11550	DE	Upper Surficial	G-II	SEMGW
29.	MW-41	11551	DE	Lower Surficial	G-II	SEMGW
30.	MW-42	11552	DE	Upper Surficial	G-II	SEMGW
31.	MW-43	11553	DE	Intermediate Surficial	G-II	SEMGW
32.	D-3	18861	DE	Lower Surficial	G-II	SEMGW
33.	MW-44	11554	DE	Intermediate Surficial	G-II	SEMGW
34.	MW-45	11555	DE	Upper Surficial	G-II	SEMGW
35.	MW-46	11556	DE	Intermediate Surficial	G-II	SEMGW
36.	MW-47	11557	DE	Upper Surficial	G-II	SEMGW
37.	MW-48	11558	DE	Intermediate Surficial	G-II	SEMGW
38.	MW-49	11559	DE	Lower Surficial	G-II	SEMGW
39.	MW-50	24447	DE	Upper Surficial	G-II	SEMGW
40.	MW-51	24448	DE	Intermediate Surficial	G-II	SEMGW
41.	MW-52	24449	DE	Intermediate Surficial	G-II	SEMGW
42.	MW-53	24450	DE	Upper Surficial	G-II	SEMGW
Surface Water						
1.	SW-11	11216	CO	Ditch	SW-IIIF	SEMSW
2.	SW-16	11508	CO	Retention Pond	SW-IIIF	SEMSW

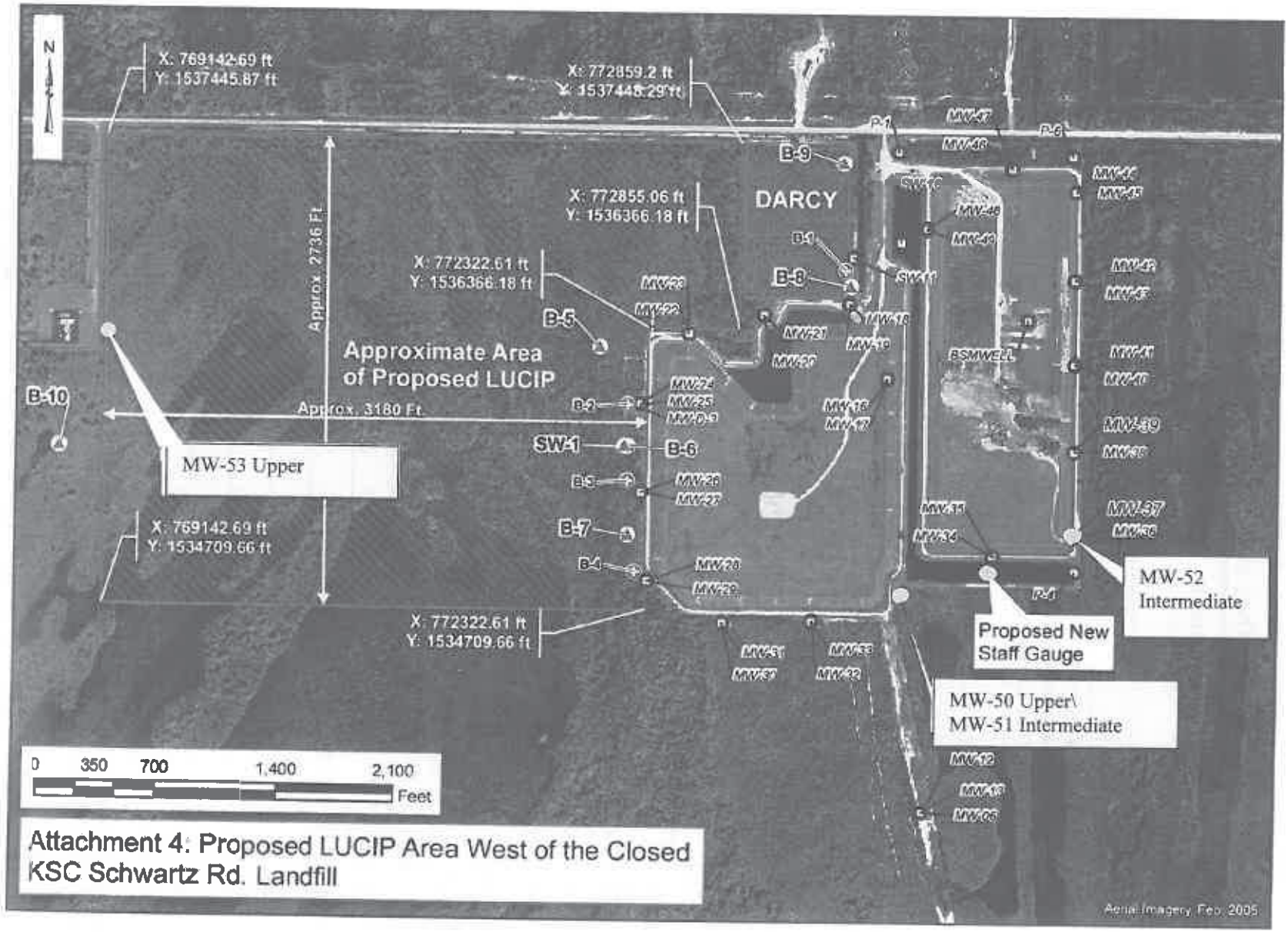
*To be determined if monitoring well will be added to routine sampling

Well Type Codes (AS) Assessment (BG) Background (CO) Compliance (DE) Detection

5/4/2012 reissued 2/27/2015

Attachment B of MPIS
KSC-Schwartz Road

Monitoring Locations



Attachment 4: Proposed LUCIP Area West of the Closed KSC Schwartz Rd. Landfill

2/27/2015

ATTACHMENT C

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

MONITORING WELL COMPLETION REPORT FORM

Facility Name: **DeLand Class III Landfill**		Date:
DEP Permit No.:	WACS Facility ID #: **29244**	
WACS Monitoring Site ID #:	WACS Monitoring Site Name:	
Well Type: ❑ Background ❑ Detection ❑ Compliance ❑ Other_____		
LATITUDE AND LONGITUDE (See Next Page For Requirements):		
Coordinate Accuracy:	Datum:	Elevation Datum:
Collection Method:	Collection Date:	
Collector Name:	Collector Affiliation:	
Aquifer Monitored:		
Drilling Method:	Date Installed:	
Installed By:		
Bore Hole Diameter:	Total Depth:(BLS)	
Casing Type:	Casing Diameter:	Casing Length:
Screen Type:	Screen Slot Size:	Screen Length:
Screen Diameter:	Screen Interval: _____ To_____(BLS)	
Filter Pack Type:	Filter Pack Grain Size:	
Filter Interval Covered:	Filter Interval: _____ To_____(BLS)	
Sealant Type:	Sealant Interval: _____ To_____(BLS)	
Grout Type:	Grout Interval: _____ To_____(BLS)	
Top Of Casing Elev. (NGVD):	Ground Surface Elev. (NGVD):	
Post Development Water Level Elev. (NGVD):	Date And Time Measured:	
Describe Well Development:		
Remarks:		
Name Of Person Preparing Report:		
Organization:	Phone Number:	

NOTE Attach As-Built Mw Construction Diagram, Lithologic Log, And Survey Drawing (See Next Page).
(NGVD)=National Geodetic Vertical Datum Of 1929 (BLS) = Below Land Surface

DEP Form 62-520.900(3) Effective April 14, 1994

Additional Survey Notes:

1. Latitude and Longitude Requirements and Definitions:

   a. **Latitude** must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

   b. **Longitude** must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

   c. **Eastings and northings** (State Plane Coordinates) **must** be converted to latitude and longitude.

   d. **Coordinate Accuracy:** the measured, estimated degree of correctness of the measurement. An accuracy of 15 feet or 5 meters is required.

   e. **Datum:** the horizontal reference for measuring locations on the Earth's surface. NAD83-North American Datum of 1983 is preferred.

   f. **Elevation Datum:** the reference datum from which elevation measurements are made. NGVD29 (National Geodetic Vertical Datum of 1929 is required.

   g. **Collection Method:** the method or mechanism used to derive the measurements, e.g. GPS, map, aerial photo, etc.

   h. **Collection Date:** the date and time on which the measurements were taken.

   i. **Collector Name:** the name of the person taking the measurement.

   j. **Collector Affiliation:** the agency or company for whom the collector works.

2. As specified in the MPIS, a drawing must be submitted within thirty (30) days following monitoring well installation in electronic format to DEP_CD@dep.state.fl.us. The drawing must show the location of all monitoring wells (active and abandoned), water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to NGVD with an accuracy of 0.01 feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. [***62-701.510(1)(c)&(3)(d)1, F.A.C.***]

3. If a monitoring well is being replaced or new wells are being added to an existing ground water monitoring plan, only the new wells needs to be surveyed as long as all other monitoring wells in the MPIS have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have changed. This location and elevation determinations and the certification must be provided with the Monitoring Well Completion Form for the new well.

Attachment D

Guidance for Submitting Electronic Water Quality Data To the FDEP Central District Waste & Air Resource Programs February 27, 2015

I General Information

Water quality monitoring reports and all groundwater, surface water, and leachate (when required) analytical results for the Solid Waste Program shall be submitted to the Department electronically via email, FTP site, compact disc, or flash drive media readable by Microsoft Windows. **(Rules 62-160.240 and 62-160.340, F.A.C.)**

Water quality monitoring reports shall be submitted in Adobe pdf format. The water quality Electronic Data Deliverable (EDD) shall be compatible with software called Florida DEP Automated Data Processing Tool (ADaPT) --unless otherwise approved by the Department.

ADaPT has been developed to evaluate and upload water quality data into the Department's Water Assurance Compliance System (WACS) database. A copy of this ADaPT software with installation instructions and EDD specifications can be downloaded from the following website address:
http://www.dep.state.fl.us/waste/categories/shw/pages/ADaPT.htm

II. Monitoring Report

The groundwater monitoring report shall be submitted in Adobe PDF format, with the EDDs as an attachment. The report shall include the following items:

1. Cover letter;
2. Summary of exceedances and sampling issues (if any, for example, variation from SOP field criteria);
3. Conclusions and recommendations;
4. Groundwater contour maps;
5. Chain of custody forms;
6. Water levels, water elevation table;
7. Groundwater Monitoring Report Certification, using the appropriate Department form **(Attachment E)**;
8. Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01); **(Attachment F);**
9. Laboratory EDDs and associated Lab EDD Error Logs, Field EDDs that are compatible with ADaPT software and ADaPT export file(s).

(NOTE: You no longer have to complete or submit the DEP Form 62-522.900(2), Parameter Monitoring Report.)

The monitoring report (including ADaPT EDDs) should be emailed to Tallahassee using the following email address: ADaPT.EDDs.and.Reports@dep.state.fl.us.

Submit all ADaPT files in a single zip file named as follows:
12345_200811_swldd.zip

Submit the monitoring report in a single (text, no scanned content) PDF file named as follows:
12345_200811_swgwmr.pdf

Please do not submit multiple documents for the monitoring report; combine all documents in a single PDF document. Less preferable, zip these documents into a single zip file named as follows:
12345_200811_swgwmr.zip

(Note: refer to Section III below for details of file nomenclature.)

If attachments are too large to email, monitoring reports may also be transmitted to the FDEP Solid Waste program in Tallahassee using the following FTP site: ftp://ftp.dep.state.fl.us/pub/WACS-ADaPT/EDDS_and_Reports

Note: When submitting files to the FTP site, please combine all ADaPT EDDs and the groundwater monitoring report into a single zip file (sw_12345_200811_gwmr.zip).

Please email us at ADaPT.EDDs.and.Reports@dep.state.fl.us informing us of what files were transmitted via FTP for which facility sampling event.

If you are unable to submit the groundwater monitoring report electronically via email or FTP, it can also be sent by regular mail to:

Florida Department of Environmental Protection
Solid Waste Section, MS 4565
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

III. ADaPT EDDs

The ADaPT EDD consists of two electronic deliverables:
(1) a Laboratory EDD, identified as swldd.txt; and
(2) a Field EDD identified as swfdd.txt.

The Laboratory EDD shall be submitted in a comma separated (csv format) text file using the .txt filename extension. The Laboratory EDD file name format shall be:
[WACS Facility I.D] underscore [Begin Sampling Year and Month (yyyymm)] underscore SWldd.txt
For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the Laboratory EDD file name should be:
12345_200811_swldd.txt

The Field EDD shall be submitted in the same comma separated (.csv format) text file as the Laboratory EDD. The Field EDD file name format shall be:
[WACS Facility I.D.] underscore [Begin Sampling Year and Month (yyyymm)] underscore swfdd.txt
For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the file name should be: 12345_200811_swfdd.txt

For confirmation sampling, add the term "_conf" to the EDD filenames as follows:
12345_200811_conf_swldd.txt for the Laboratory EDD or
12345_200811_conf_swfdd.txt for the Field EDD.

For radiochemistry results, add the term "_rad" similar to confirmation sampling indicated above.

IV. Signatures Required

Water quality monitoring reports and interpretative documents (such as recommendations about exceedances and/or contour maps) shall be signed and sealed by a Florida registered professional geologist or professional engineer with experience in hydrogeological investigations.

An electronic signed and sealed signature page may be submitted with the report provided a stamped seal is used. If a raised seal is used, ensure that the seal is legible (gray the embossed seal and scan). Otherwise, you must separately mail the signed and sealed page.

V. Process Required

Three steps are generally required.

First, the Laboratory EDD, in comma separated text format, must be submitted by the laboratory. In order to validate the QA/QC aspects of the Laboratory EDD, the permittee shall ensure the laboratory processes the Laboratory EDD through ADaPT using both their laboratory specific library and the Department's Division of Waste Management Master library and corrects all critical errors and explains all non-critical errors prior to submittal.

Second, the appropriate entity (laboratory, consultant, or permittee) shall process the Field EDD through ADaPT and correct all Field EDD errors prior to submittal.

Third, as a completeness check, the laboratory, permittee or consultant shall process both the Laboratory EDD and the Field EDD through ADaPT and confirm a successful export to disk and submit the ADaPT generated export file (ADaPTYYYYMMDDHHMMSS.txt).

VI. Resources

In the event help is needed to prepare these EDDs, or monitoring testsite information needs updating in the WACS Oracle database, or if you need help in submitting the groundwater monitoring report, please contact the Laxsamee Levin (407-897-4313) at the Central District office:

Florida Department of Environmental Protection
Central District Office
Waste and Air Resource Programs
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767

DEP_CD@dep.state.fl.us

You can also receive assistance by contacting Clark Moore, clark.b.moore@dep.state.fl.us, (850) 245-8739 or by emailing ADaPT.EDDs.and.Reports@dep.state.fl.us

ATTACHMENT E

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

GROUND WATER MONITORING REPORT

Rule 62-522.600(11)

PART I GENERAL INFORMATION

(1) Facility Name SCHWARTZ ROAD CLASS III LANDFILL

Address _____

City _____ Zip _____ County _____

Telephone Number ( ) _____ E-mail address _____

(2) WACS_Facility 16450

(3) DEP Permit Number _____

(4) Authorized Representative's Name _____ Title _____

Address _____

City _____ Zip _____ County _____

Telephone Number ( ) _____ E-mail address _____

(5) Type of Discharge N/A

(6) Method of Discharge N/A

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

_____ _____

Date Owner or Authorized Representative's Signature

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP # _____

Analytical Lab NELAC #/ HRS Certification _____

Lab Name _____

Address _____

Phone Number ( ) _____

E-mail Address _____

From DER Form Rule 62-520.900(2), F.A.C.

2/27/2015

Attachment F
WATER SAMPLING LOG
DEP-SOP-001/01 FS 2200 Groundwater Sampling
Form FD 9000-24

FACILITY NAME: **Schwartz Road Class III Landfill** **WACS #16450**	FACILITY LOCATION:	
MONITORING_SITE_NUM:	WACS_WELL:	DATE:

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: **1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)