

State Permit No. LTS 5004-90-12
DEN Number: 359141-05
Effective Date: July 13, 2012
Amended Date: October 16, 2012
Amended Date: March 14, 2013
Amended Date: October 8, 2015
Amended Date: October 20, 2015
Amended Date: October 17, 2016
Expiration Date: July 12, 2017

Spray Irrigation Permit

Issued by: Groundwater Discharges Section
Division of Water
Department of Natural Resources
and Environmental Control
89 Kings Highway
Dover Delaware 19901
302-739-9948




AUTHORIZATION TO OPERATE AND MAINTAIN
UNDER THE LAWS OF THE
STATE OF DELAWARE

PERMITTEE: Sussex County Council
PO Box 589
Georgetown DE 19947

FACILITY: Inland Bays Regional Wastewater Treatment Facility

1. Pursuant to the provisions of 7 Del. C. §6003, **Sussex County Council** is herein authorized to operate and maintain the facility known as **Inland Bays Regional Wastewater Treatment Facility** located on the north side of County Road 306, between County Road 307 and 303, Sussex County, Delaware (Sussex County Tax Map Parcel Number 2-34-22-14) to collect and treat domestic wastewater from the Long Neck Sanitary Sewer District (LNSSD), the Oak Orchard Sanitary Sewer District (OOSSD), and the Angola Sanitary Sewer District (ANSSD) and to spray irrigate the treated wastewater on spray fields located both north and south of County Road 306, west of County Road 307, east of County Road 303, and north of County Road 297, Sussex County Delaware.
2. The effluent limitations, monitoring requirements and other permit conditions are set forth in Part I, II and III hereof.



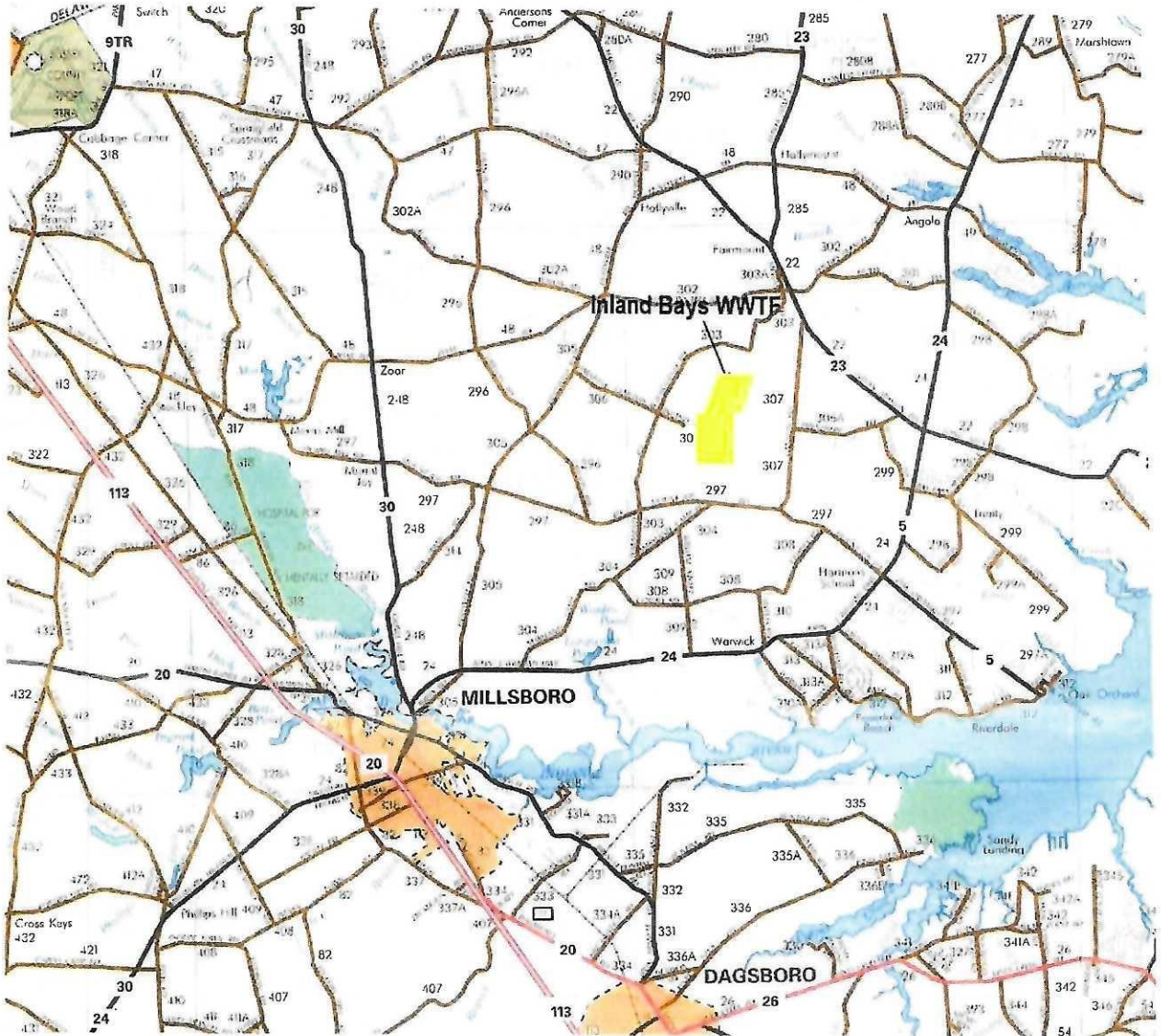
John G. "Jack" Hayes, Jr.
Environmental Program Manager
Groundwater Discharges Section
Division of Water
Delaware Department of Natural Resources
and Environmental Control

10/18/16

Date Signed

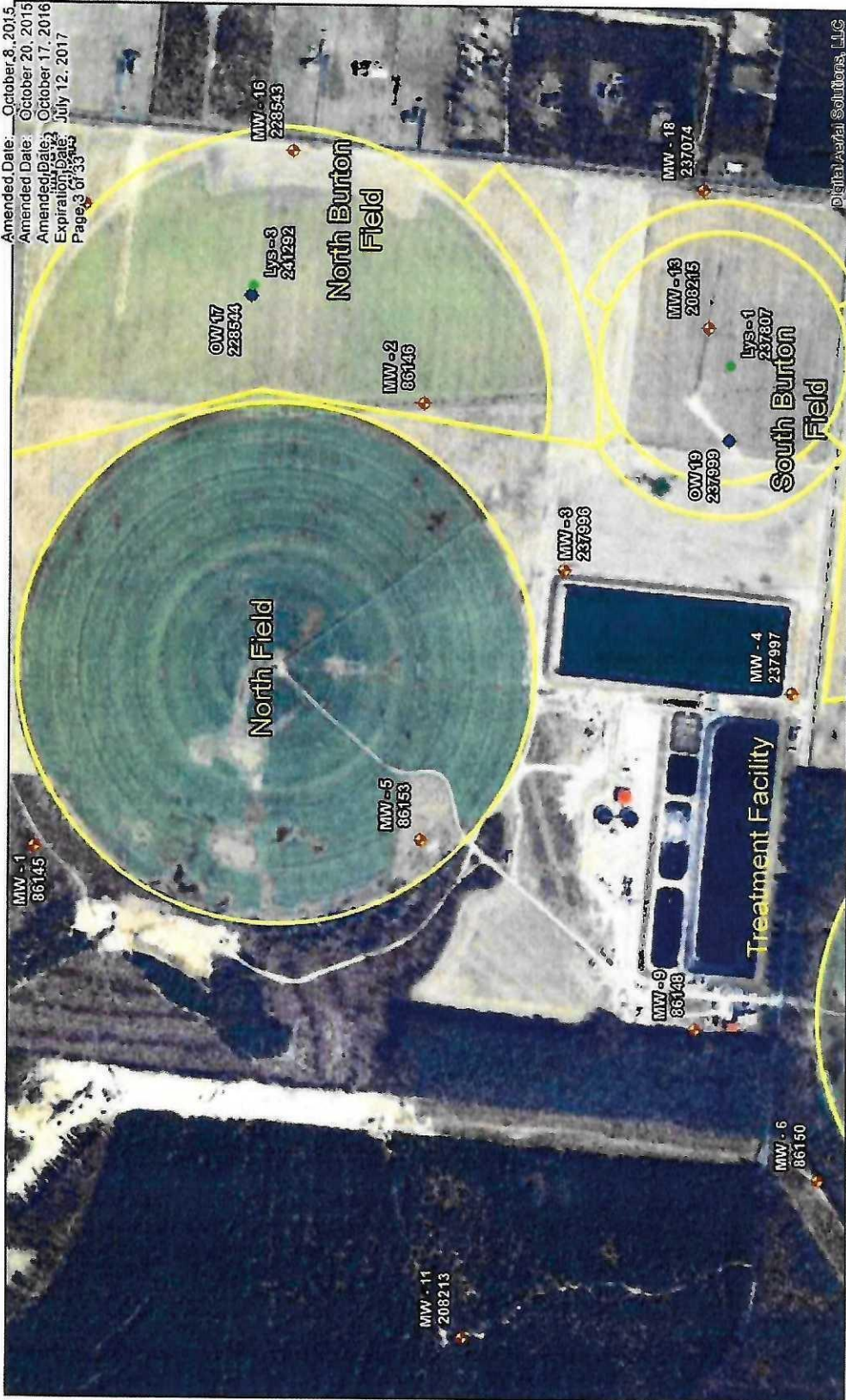
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LOCATION MAP



Inland Bays Regional Wastewater Treatment Facility Site Map - North

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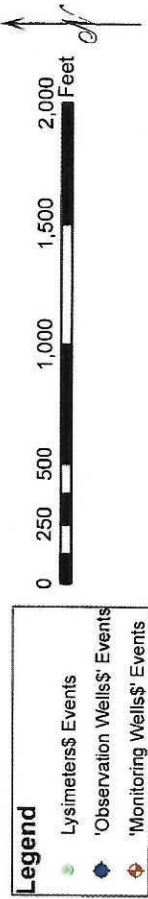


Legend

- Lysimeters' Events
- 'Observation Wells' Events
- 'Monitoring Wells' Events

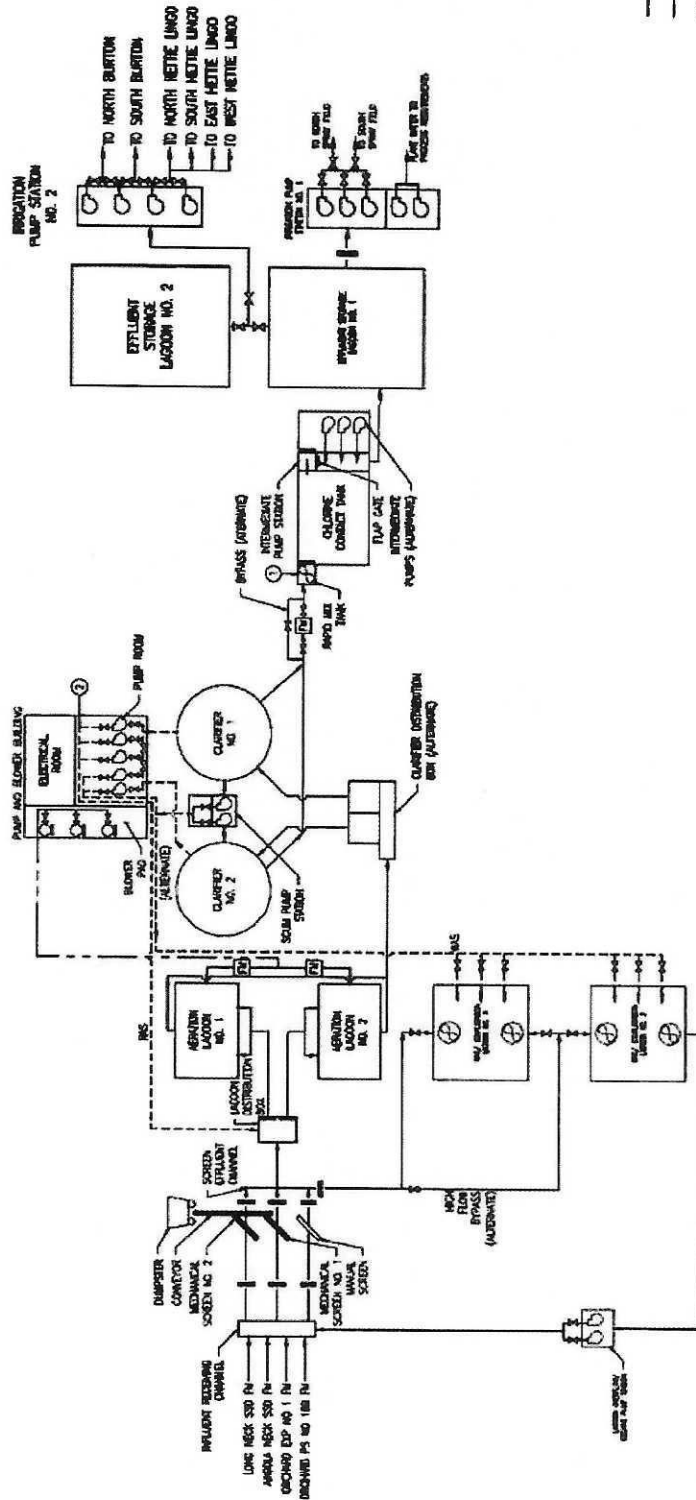
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Inland Bays Regional Wastewater Treatment Facility Site Map - South



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FLOW DIAGRAM



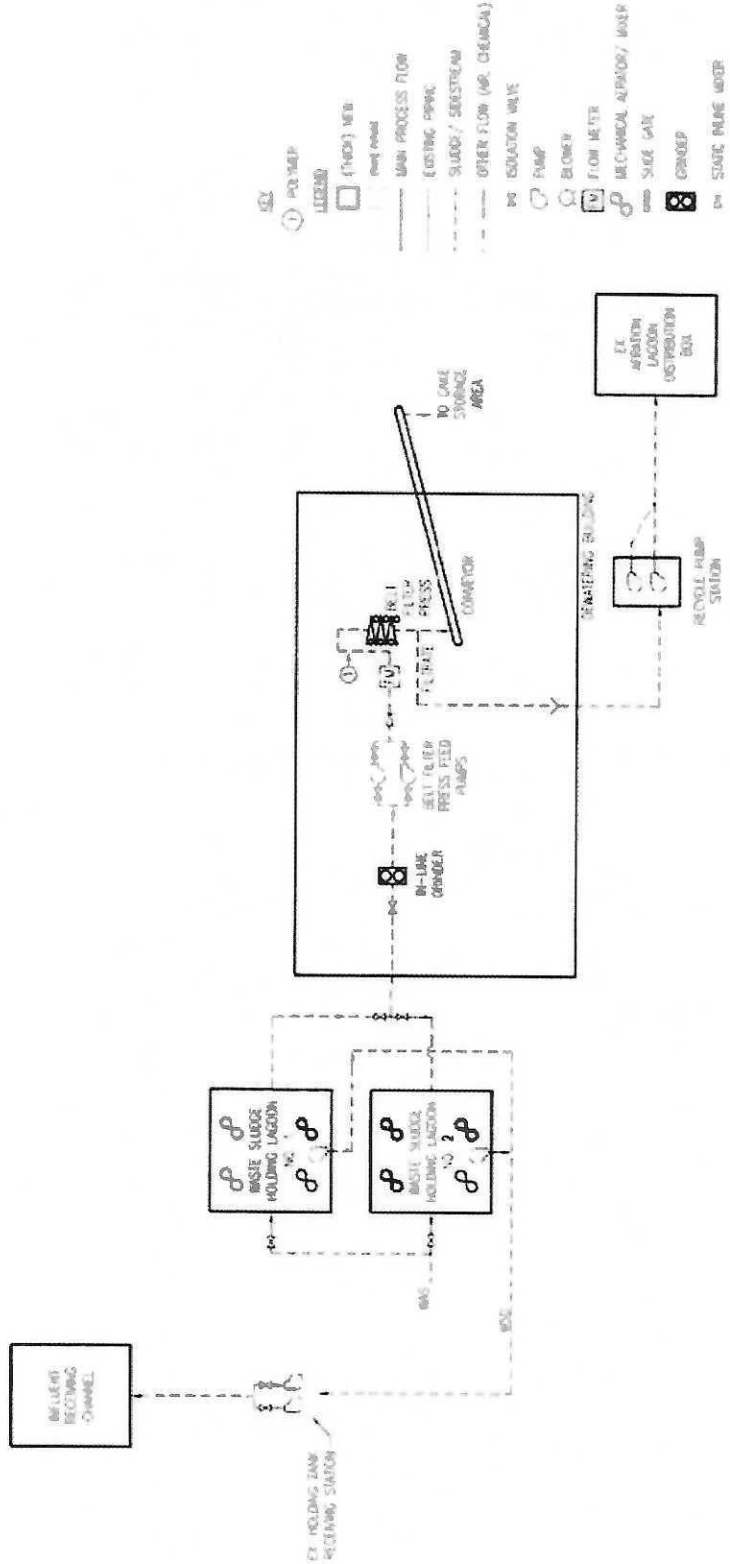
PHASE 1 PROCESS FLOW SCHEMATIC
 NOT TO SCALE

- KEY**
- ① SOBIUM HYPOCHLORITE (CONTINUOUS)
 - ② SOBIUM HYPOCHLORITE (MANUAL)
- LEGEND**
- (THICK) NEW
 - (THIN) EXISTING
 - WASH PROCESS FLOW
 - EXISTING PIPING
 - - - - - SLUDGE/ SOLIDS FLOW
 - - - - - OTHER FLOW (AIR, CHEMICAL)
 - ⊗ ISOLATION VALVE
 - ⊙ PUMP
 - ⊕ BLOWER
 - ⊖ FLOW METER
 - ⊗ MOTOR
 - ⊕ MECHANICAL ABUTTOR/ MOTOR
 - SLIDE GATE

NOTE

1. NOT ALL VALVES SHOWN FOR CLARITY.
2. REFER TO MODEL FOR PHASE 1 DESIGN CRITERIA.

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PART I

A. DOCUMENTATION

The slow rate land treatment operation shall be conducted in accordance with the following documents:

1. The State of Delaware, Department of Natural Resources and Environmental Control's Guidance and Regulations Governing the Land Treatment of Wastes, (hereafter called Regulations).
2. The Design Development Report (DDR) submitted by Metcalf and Eddy, dated April 27, 1989; received May 8, 1989.
3. Plans and Technical Specifications submitted by Metcalf and Eddy dated December 27, 1989.
4. A letter dated March 20, 1990 from Robert J. Zimmerman to Mr. Robert Woods approving the DDR as submitted contingent upon several revisions to the final Plans and Specifications.
5. The Operations and Maintenance Manual dated October 1991; revised April 8, 1992.
6. A letter dated September 21, 1994 from D. Preston Lee, Jr. to Ronald E. Graeber transmitting additional information on the proposed wastewater treatment system and revised DDR.
7. October 18, 2005 *Soil Investigations of the Inland Bays Wastewater Treatment Facility Expansion Tracts* prepared by Geo-Sci Consultants, Inc. on behalf of Sussex County Council submitted to the Ground Water Discharges Section under cover letter dated July 18, 2006.
8. November 27, 2006 *Hydrogeologic Report for the Expansion of the Inland Bays Regional Wastewater Facilities* prepared by Whitman, Requardt and Associates, LLP.
9. April 2009 Design Development Report for the Expansion of the Inland Bays Regional Wastewater Facility to include Burton Field prepared for Sussex County by Stearns & Wheeler, LLC in association with Whitman, Requardt and Associates, LLP received May 6, 2009.
10. June 4, 2009 Hydro Geological Review performed by DNREC's Ground Water Protection Branch and forwarded to Sussex County via standard and electronic mail on June 9, 2009.
11. June 24, 2009 letter from Sussex County to the Ground Water Discharges Section.
12. September 2009 *Final Inland Bays Regional Wastewater Facility Design Development Report* prepared by Stearns & Wheeler Environmental Engineers & Scientists in association with Whitman, Requardt and Associates, LLP on behalf of Sussex County Council submitted to the Ground Water Discharges Section on October 2, 2009.
13. November 5, 2009 Plans and Technical Specifications for the Phase I project, Contract 09-19 prepared by Whitman, Requardt and Associates, LLP in association with Stearns and Wheeler on behalf of Sussex County Council submitted to the Ground Water Discharges Section on November 19, 2009.
14. May 24, 2012 Spray Irrigation Permit Application for renewal and an amendment to included Expansion I construction modifications to increase the treatment and disposal capacity of the Facility.
15. June 2012 Operation and Maintenance Plan Volumes 1 thru 6 titled *Sussex County Inland Bays Facility Expansion Number 1*.
16. August 15, 2012 *Application for a Permit to Spray Irrigate Wastewater*
17. October 2012 *Inland Bays Regional Wastewater Facility Phase 2A Expansion: Spray Irrigation Improvements Design Development Report* prepared by GHD Inc. in association with Whitman, Requardt

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and Associates, LLP on behalf of Sussex County Council submitted to the Ground Water Discharges Section on October 19, 2012.

18. December 2012 Final Plans/Drawings titled *Inland Bays Regional Wastewater Facility Phase 2A Expansion: Spray Irrigation Improvements* prepared by Davis, Bowen and Friedel, Inc. on behalf of Sussex County Council submitted to the Ground Water Discharges Section on December 21, 2012.
19. Emails providing additional calculations and clarification dated:
 - a. January 17, 2013 from Heather Sheridan, Sussex County
 - b. January 24, 2013 from John Stullken, GHD
 - c. March 1, 2013 from Heather Sheridan, Sussex County
20. Project Design Report titled *Inland Bays RWF Phase 2B Solids Dewatering Improvements* dated May 2013 prepared by GHD for Sussex County, received by the Groundwater Discharges Section on July 30, 2015.
21. Plans and Project Specifications for Contract 12-17 dated September 10, 2013 prepared by WR&A in Association with GHD for Sussex County, received by the Groundwater Discharges Section on July 30, 2015.
22. Application for a Construction Permit to Modify an Existing Wastewater Treatment Spray Irrigation Facility dated July 28, 2015.
23. Application for an Amended Operations Permit to include the Phase IIB dewatering improvements dated August 4, 2016 including Engineer's Inspection Report, Record Drawings, and an updated O&M.
24. Any other correspondence, documentation and/or reports related to the **Inland Bays Regional Wastewater Treatment Facility** received and approved by the Ground Water Discharges Section and/or sent by the Ground Water Discharges Section.