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|  | State of Washington Department of Ecology WASTEWATER TREATMENT PLANT COMPLIANCE INSPECTION REPORT | | Northwest Regional Office 15700 Dayton Ave N Shoreline, WA 98133 206-594-0000 ph 206-366-7810 fax (last update 7-6-2021) |
| | Section A: General Information | | |

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|---|--------------------------------------|---|--|----------------------------|---|
| Report Version <input checked="" type="checkbox"/> New <input type="checkbox"/> Changed <input type="checkbox"/> Delete | PERMIT # WA0030597 | mo/day/yr 08/19/2021 | Inspection Type C | Inspector Code S | Facility Type <input checked="" type="checkbox"/> 1 Municipal <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private |
| Remarks | | | | | |
| Inspection work days 1 | Facility Self-Monitoring 5 | Photos Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Samples Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | BI N | QA N |
| Lead Ecology Inspector(s) Tonya Lane | | | | | |

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| Section B: Facility Data | | | |
| Name, Location, and Phone of Facility Inspected Big Lake WWTP 17079 Highway 9 Mt. Vernon, WA 98274 | | Entry Time 1:26am | Permit Effective Date 3/1/2021 |
| | | Exit Time 3:20pm | Permit Expiration Date 2/28/2026 |
| Name(s)/Title(s) of On-Site Representative(s) Gareth Moore Brian Walker | | Ecology Staff On-Site Tonya Lane Greg Lipnickey | |
| Name, Address, Title, Phone, and Fax Number of Responsible Official Kelly Wynn, District Manager Skagit County Sewer District No. 2 17079 Highway 9 Mt. Vernon, WA 98274 Phone Number (360) 466-4443 Fax | | Other Facility Data Contacted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

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| Section C: Areas Evaluated During Inspection (Check only those areas evaluated) | | | |
| <input checked="" type="checkbox"/> Permit | <input checked="" type="checkbox"/> Flow Measurement | <input checked="" type="checkbox"/> Operations & Maintenance | <input type="checkbox"/> CSO/SSO (Sewer Overflow) |
| <input checked="" type="checkbox"/> Records/Reports | <input checked="" type="checkbox"/> Effluent <input type="checkbox"/> Receiving Water | <input type="checkbox"/> Sludge Handling/Disposal | <input type="checkbox"/> Pollution Prevention |
| <input checked="" type="checkbox"/> Facility Site Review | <input type="checkbox"/> Compliance Schedules | <input type="checkbox"/> Pretreatment | <input type="checkbox"/> Multimedia |
| <input checked="" type="checkbox"/> Self-Monitoring Program | <input type="checkbox"/> Laboratory | <input type="checkbox"/> Storm Water | <input checked="" type="checkbox"/> Other |

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| Section D: Summary of Findings/Comments |
| <p>I. INTRODUCTION</p> <p>The purpose of this non-sampling inspection was to inspect the Big Lake treatment plant, review recent permit compliance, and introduce Ecology's new compliance lead to Big Lake personnel. The most recent non-sampling inspection of this facility occurred on September 8, 2017 and was conducted by Tonya Lane.</p> <p>II. RESULTS AND DISCUSSION</p> <p>The Big Lake treatment plant is an MBR facility that serves a small residential community in Skagit County and discharges treated effluent to the Skagit River.</p> <p><u>Collection System:</u></p> <p>The Skagit County Sewer District No. 2 (District) system serves approximately 1700 people. Big Lake staff indicated there has been an increase in the number of grinder pumps maintained by the District since the last site visit. Currently the system includes 97 grinder pumps. Winter I/I flows are estimated at 30,000-40,000 gpd. The District conducts an ongoing program of collection system repairs in an effort to reduce I/I that contributes flows to the MBR facility.</p> <p><u>Treatment Process:</u></p> <p>Influent flow is screened via 2mm in-channel fine screens just prior to measurement in a Parshall flume. Flow then enters anoxic basins before being routed to aeration basins and finally into two MBR basins. Permeate from the membranes then undergoes UV disinfection. Disinfected effluent is then pumped to the Skagit River for discharge. Incidental solids generated during treatment (e.g. grit and screenings) are collected and landfilled. Waste sludge from the treatment process is pumped to the digester. Solids are removed and transported to the La Conner treatment plant for further processing.</p> |

Sampling:

Both influent and effluent flow-paced composite samplers were observed to be adequately cooled per 40 CFR Part 136 requirements for aqueous samples to be kept at or beneath 6.0 degrees Celsius. The influent sampler internal temperature was 5.0 degrees Celsius, and the effluent sampler internal temperature was 4.0 degrees Celsius on the day of the site visit. DMR data indicates consistently good effluent quality is discharged from the facility. Laboratory accreditation was confirmed to be current.

Back-up Power

An on-site generator provides back-up power to the entire plant in the event of an emergency power outage. The generator is exercised weekly, and is tested under full load annually.

Staffing:

Current contract operations staff assigned to this facility include:

- 1 Group IV operator
- 1 Group II operator
- 1 Group I operator

Compliance Review:




A review of recent compliance records shows no issues of concern for this facility. There have been a couple of late DMRs in recent years, but it is not a chronic issue and effluent quality remains consistently very good. Big Lake staff were able to readily provide a copy of the current permit, O&M manuals, maintenance and calibration records, and specific laboratory documentation that enabled Ecology to check the lab records against associated monthly DMR reports that had been submitted per permit requirements.

Other:

Like other regional wastewater treatment plants during the pandemic, Big Lake staff have noted increased difficulty in getting timely responses from some equipment suppliers. Given the significant role that grinder pump management, for example, plays in the District, supply issues could become a problem. However, supply constraints are not significant enough to prevent the facility from meeting permit and proper O&M requirements. Big Lake staff also expressed some concern about the upcoming nutrient general permit. Ecology called attention to draft language about grant money that will be made available to facilities impacted by the general permit to help pay for initial nutrient removal optimization efforts. Big Lake and Ecology staff discussed the possibility of a flow equalization project that might help operators to better optimize the facility for nutrient removal.

III. CONCLUSION

The Big Lake treatment facility appears to be well operated and maintains a good compliance record. The facility is relatively new (coming online circa-2014), and already produces relatively low nitrogen loads. Nutrient-related requirements in the recently issued individual NPDES permit will need to be removed after the nutrient general permit is issued.

| Name(s) and Signatures of Inspector(s) | Agency/Office/Telephone | Date |
|---|---|------------|
| Tonya Lane, PE  | WA Dept. of Ecology, NWRO, (206) 594-0152 | 9/27/2021 |
| Greg Lipnickey, QEP  | WA Dept. of Ecology, NWRO, (425) 449-6560 | 09/30/2021 |
| Name and Signature of Management QA Reviewer | Agency/Office/Telephone | Date |
| Shawn McKone, PE  | WA Dept. of Ecology, NWRO, (206) 594-0158 | 10/4/2020 |

ANNOUNCED Inspection

INSTRUCTIONS

Section A: General Information

Report Version: N for 1st version, C for Changed or amended, or D for Delete

NPDES Permit No.: Enter the facility's NPDES or State permit number.

Inspection Date: Insert the date entry was made into the facility. Use the month/day/year format (e.g., 06/30/04 = June 30, 2004).

Inspection Type: Use one of the codes listed below to describe the type of inspection:

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| A Performance Audit | L Enforcement Case Support | 2 IU Sampling Inspection |
| B Compliance Biomonitoring | M Multimedia | 3 IU Non-Sampling Inspection |
| C Compliance Evaluation (non-sampling) | P Pretreatment Compliance Inspection | 4 IU Toxics Inspection |
| D Diagnostic | R Reconnaissance | 5 IU Sampling Inspection with Pretreatment |
| E Corps of Engineers Inspection | S Compliance Sampling | 6 IU Non-Sampling Inspection with pretreatment |
| F Pretreatment Follow-up | U IU Inspection with Pretreatment Audit | 7 IU Toxics with Pretreatment |
| G Pretreatment Audit | X Toxics Inspection | |
| I Industrial User (IU) Inspection | Z Sludge | |

Inspector Code: Use one of the codes listed below to describe the *lead agency* in the inspection:

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| C - Contractor or Other Inspectors (Specify in Remarks Columns) | N - NEIC Inspectors |
| E - Corps of Engineers | R - EPA Regional Inspector |
| J - Joint EPA/State Inspectors - EPA Lead | S - State Inspector |
| | T - Joint State/EPA Inspectors - State Lead |

Facility Type: Use one of the choices below to describe the facility.

1 - Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.

2 - Industrial. Other than municipal, agricultural, and Federal facilities.

3 - Agricultural. Facilities classified with 1987 SIC 0111 to 0971.

4 - Federal. Facilities identified as Federal by the EPA Regional Office

Remarks: These columns are reserved for remarks.

Inspection Work Days.: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, travel time and preparation time. This estimate does not require detailed documentation.

Facility Evaluation Rating: Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Quality Assurance Data Inspection. Enter Q if the inspection was conducted as follow-up on quality assurance sample results. Enter N otherwise.

Photos Taken: Yes or No

Samples Taken: Yes or No

Lead Ecology Inspector: Enter lead inspector's name

Section B: Facility Data

This section is self-explanatory except for: "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record), e-mail addresses...; and "Ecology Staff On-Site", which may include staff names, titles, phone numbers, or e-mail addresses.

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary.

Section D: Summary of Findings/Comments

Support the findings, as necessary, in a narrative report. Use the headings given on the report form (staffing, back-up power) as appropriate. Reference a list of attachments, such as completed checklists, photos, lab reports, etc. Use extra sheets as necessary.

LINKS AND INFORMATION:

“Informational Manual for Treatment Plant Operators”; February 2004; by the Department of Ecology
Publication Number 04-10-020:

<http://www.ecy.wa.gov/pubs/0410020.pdf>

The manual was prepared to help wastewater treatment plant operators complete and submit their Discharge Monitoring Reports (DMRs) and other annual reports to the Department of Ecology. The manual is available in hard copy. To request a copy, contact the Department of Ecology, Publications Distribution Center at P.O. Box 47600, Olympia, WA 98504-7600 or by Telephone: (360) 407-7472. Updates to the manual are included on the website version.

Ecology's Wastewater and Reuse website:

<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>

Ecology's Operator Certification website:

http://www.ecy.wa.gov/programs/wq/wastewater/op_cert/index.html

Ecology's Laboratory Accreditation website:

http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

Ecology's Biosolids website:

<http://www.ecy.wa.gov/programs/swfa/biosolids/>

Ecology's Operator Outreach: Shane Cooper, (360) 870-6297; shane.cooper@ecy.wa.gov

Ecology's Municipal Compliance Specialist (Northwest Regional Office): Greg Lipnickey, QEP (425) 449-6560;

greg.lipnickey@ecy.wa.gov

Ecology's Wastewater Operator Certification Coordinator: Poppy Carre; (360) 407-6449; poca461@ecy.wa.gov

Ecology's Biosolids Coordinator (Northwest Regional Office): Amber Corfman; (360) 918-4786; amber.corfman@ecy.wa.gov

Reporting Spills/Overflows/Upsets/Bypasses/Loss of Disinfection IMMEDIATELY:

Ecology's 24-hour number: (206) 594-0000 to report a spill

Department of Health – Shellfish Program 24-hour number: (360) 236-3330; Shellfish Safety Hotline (recorded): 1-800-562-5632

Inspection Photos

PHOTO NO. 1



Date: 8/19/21
Taken by: G. Lipnickey
Description: Influent fine screens

PHOTO NO. 2



Date: 8/19/21
Taken by: G. Lipnickey
Description: Floor-mounted influent flow meter

PHOTO NO. 3



Date: 8/19/21

Taken by: G. Lipnickey

Description: Influent flow-paced sampler

PHOTO NO. 4



Date: 8/19/21

Taken by: G. Lipnickey

Description: Anoxic basin

PHOTO NO. 5



Date: 8/19/21
Taken by: G. Lipnickey
Description: Aeration basin

PHOTO NO. 6



Date: 8/19/21
Taken by: G. Lipnickey
Description: MBR basin

PHOTO NO. 7



Date: 8/19/21
Taken by: G. Lipnickey
Description: Digester

PHOTO NO. 8



Date: 8/19/21
Taken by: G. Lipnickey
Description: UV disinfection channel

PHOTO NO. 9



Date: 8/19/21
Taken by: G. Lipnickey
Description: Effluent composite sampler

PHOTO NO. 10



Date: 8/19/21
Taken by: G. Lipnickey
Description: Effluent pumps
