

State of Washington Department of Ecology  
**WASTEWATER TREATMENT PLANT  
COMPLIANCE INSPECTION REPORT**

Northwest Regional Office  
3190160<sup>th</sup> Ave SE  
Bellevue, WA 98008  
(425) 649-7000 ph  
(425) 649-7098 fax

Section A: General Information

Report Version <input checked="" type="checkbox"/> New <input type="checkbox"/> Amended	PERMIT # <b>WA-002370-1</b>	mo/day/yr <b>04/21/15</b>	Inspection Type <b>A</b>	Inspector Code <b>E</b>	Facility Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
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Remarks

Inspection work days <b>1.0</b>	Facility Self-Monitoring Evaluation Rating <b>5</b>	Photos Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Lead Ecology Inspector(s) Lazaro Eleuterio, Ph.D., PE
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Section B: Facility Data

Name, Location, and Phone of Facility Inspected Manchester Wastewater Treatment Plant 8020 East Carraway Road Manchester, WA 98353	Entry Time 08:15 AM	Permit Effective Date 03/01/2013
	Exit Time 10:01 AM	Permit Expiration Date 02/28/2018
Name(s)/Title(s) of On-Site Representative(s) Patrick Kongsle, Operations Supervisor Ken Young, Operator IV	Ecology Staff On-Site Lazaro Eleuterio (NWRO)	
Name, Address, Title, Phone, and Fax Number of Responsible Official Stella Vakarc, P.E., Senior Program Manager Kitsap County Public Works – Wastewater Division 614 Division Street (MS 27), Port Orchard, WA 98366-4699	Other Facility Data	
Phone Number (360) 337-5777      Fax      Contacted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

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 checked="" type="checkbox"/> Sludge Handling/Disposal	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Facility Site Review	<input type="checkbox"/> Receiving Water	<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 type="checkbox"/> Other

Section D: Summary of Findings/Comments

**I. INTRODUCTION:**

A NPDES Class I inspection was conducted at the Manchester Wastewater Treatment Plant (WWTP) on April 21, 2015. Lazaro Eleuterio (Municipal Permit Manager) with the Washington State Department of Ecology conducted the inspection with assistance from Mr. Ken Young and Mr. Patrick Kongsle, Kitsap County Water Division. This was an announced inspection to assure that a key facility contact was available.

The treatment system at Manchester WWTP consists of screening and grit removal (preliminary treatment) followed by secondary treatment and UV disinfection prior to discharge to Rich Passage, Puget Sound. Further discussion on the treatment processes is provided below.

The purpose of this inspection was to fulfill the NPDES Class I compliance inspection requirements by conducting a site inspection, assessing flow measurements and evaluating compliance with the permit requirements.

Permit Status

The facility is regulated by NPDES Permit no. WA-002370-1 issued on February 12, 2013 and expires on February 28, 2018. The facility was built in 1991 as a 0.23 MGD sequencing batch reactor system, and in 1998 was expanded and converted to a 0.46 MGD conventional activated sludge system. The facility has received nineteen consecutive Outstanding Performance Awards from 1995 through 2013.

## II. RESULTS AND DISCUSSION:

### Collection System

Domestic sewage from residential and light commercial activities is the primary source of wastewater collected at the facility. Additionally, the facility treats domestic wastewater from the Manchester State Park, wastewater from the Environmental Protection Agency (EPA)/Ecology Accreditation laboratory, and sewage from the Manchester Naval Fuel Depot. The latter, consists of domestic sewage from on-shore facilities and gray water from ships that dock at the Naval Fuel Depot. Non-domestic wastewater from the Ecology/EPA laboratory is pretreated for pH adjustment prior to discharge into the Kitsap County sewage lift station. The laboratory waste stream is collected into separate mixing tanks equipped with mechanical mixer, pH meter and metering pump to add either sodium hydroxide or sulfuric acid to the mixing tanks. The average volume of laboratory wastes generated is approximately 5,000 gallons per week.

The collection system serves approximately 940 residential equivalents.

There are six lift stations in the service area. Five lift stations have the capability to be hooked up to a trailer-mounted portable generator and one lift station has a 45-Kilowatts onsite generator. The lift stations discharge raw sewage to the local manholes from where it flows to the plant by gravity.

Oil and grease tests are conducted twice a year. The latest oil and grease test was conducted on May 23, 2014 and showed non-detectable concentrations.

The last I/I analysis was conducted in 2010 and indicated non-excessive infiltration/inflow. However, in the most recent years, the County has observed higher infiltration flows during wet weather months when groundwater level is higher. The next NPDES permit cycle may require an I/I analysis to better assess the extent of the infiltration observed during the current permit cycle.

### Liquid Stream Operation:

The liquid stream treatment process consists of a mechanical rotary screen, two manual bar screens, a Pista grit removal system, two aeration basins, two secondary clarifiers, an UV disinfection system, and a Parshall Flume for effluent flow measurement. The final effluent is discharged to the Rich Passage, Puget Sound.

Raw sewage from the lift stations commingle in the influent wet well (Photo # 1 and # 2) and is pumped to the rotary mechanical screen (Photo # 3). The wet well is equipped with three influent pumps, one on duty and two standby. Pumps are controlled by water level - they turn on at 2.5 feet and off at 2.0 feet. A manual (bypass) bar screen can be used in an emergency or when the rotary screen is offline for maintenance. After screening, wastewater flows by gravity to an aerated grit removal chamber (Photo # 4) to protect downstream equipment from excessive wear and tear. Accumulated grit is sent to the grit cyclone and classifier (Photo # 5) and then disposed in a dumpster (Photo # 25) with the screenings debris.

Degritted wastewater is directed to the second manual bar screen and enters the activated sludge system through the headworks flow splitter box (Photo # 7) and two channels before aeration basin # 1 (Photo # 11) and # 2 (Photo # 12). Sluice gates at the head of each channel control influent flow to the aeration basins. Each aeration basin is equipped with coarse bubble diffusers, a biological selector (Photo # 10), water spray (Photo # 13) and a single speed Roots blower (Photo # 14). At the time of this inspection, aeration basin # 2 was offline because only one basin is sufficient to provide biological treatment. In the summer months, aeration basin # 1 is offline and aeration basin # 2 is placed in service. Aeration basin # 1 has been operating at an average mixed liquor concentration per week between 2,000 mg/L and 2,600 mg/L, and a solids retention time of 7 days. Typical return activated sludge rate at Manchester WWTP is approximately 40 percent (20 percent from each clarifier). Photo # 15 depicts partial view of the RAS Station.

The anaerobic selector was primarily designed to control filamentous bulking in the original sequencing batch reactor system. Currently, the selector is bypassed because the operators do not observe any benefits to the biological treatment. Towards the very end of the aeration basins (effluent), two water sprays are used to control foam formation. No excessive filamentous growth has been reported to date. The aeration system has three blowers. One blower is on duty and two blowers are standby. The on duty blower is ON for four hours and OFF for two hours.

The aeration basins effluent flows by gravity to a flow splitter box (Photo # 16 and # 17) and is directed to two secondary clarifiers for TSS removal. Clarifiers were designed as center feed and peripheral overflow units, and equipped with inboard launders, weirs, and RAS and WAS pumps. The plant operates with both clarifiers in service (Photo # 18 and # 19), which provides a greater surface area and, consequently, yields excellent solids removal. In the last five years (from January 2010 through April 2015), the plant has reliably achieved about 97 percent of TSS removal. A scum box (Photo # 20) is used to collect scum from both clarifiers. Collected scum is pumped to the WAS storage tank.

Effluent from secondary clarifier # 1 and # 2 combine and flow to a two-bank UV disinfection system (Photo # 21) and a Parshall Flume (Photo # 22) for effluent flow measurement before discharge to Rich Passage. Each UV bank has 42 lamps and operates for twenty four hours. After twenty four hours, the system switches from the bank that was in service to the bank that was idle automatically.

#### Solids Stream Operation

The solids stream treatment process includes one gravity belt thickener (GBT) for waste activated sludge (WAS) thickening (Photo # 27) and three sludge storage tanks. Two storage tanks are used to store and aerate the WAS (Photo # 26), and one storage tank is used to store thickened WAS (Photo # 28). Each storage tank is equipped with a single speed blower (Photo # 29). Once a week, the WAS is thickened by the gravity belt thickener to approximately 4.5% solids concentration, stored and then hauled to the Central Kitsap WWTP for further treatment in the anaerobic digester. The County uses a 4,500-gallon truck to load the biosolids at the plant's biosolids loading station (Photo # 30) and transport them to the Central Kitsap WWTP.

The screenings and grit removed at the headworks are drained, transported and disposed at a local landfill. Scum from the secondary clarifier is drained to the WAS sludge storage tanks. Dumpster is emptied and cleaned every two months and its content is disposed at a landfill.

#### Flow Measurement:

Effluent flow is measured downstream of the UV disinfection system using an ultrasonic flowmeter (Photo # 23) above a Parshall flume. The meter is calibrated once a quarter. At the time of the inspection, the flow was around 0.08 MGD.

#### Samplers:

Both influent and effluent composite samplers were inspected. The composite influent sample (Photo # 6) and composite effluent sample (Photo # 24) have been refrigerated at 3.0° C and 2.5° C, respectively. Both temperature values were within the typical range for sample storage and preservation (2 – 4° C).

#### Alarms/Back-up Power

One standby generator with a total capacity of approximately 350 Kilowatts can power the plant and the laboratory during power outages (Photo # 31). The generator is exercised once a month for an hour.

#### Staffing:

The plant is staffed with either one Class IV operator or one Class I operator on week days and weekends. The normal operating hours are from 7 a.m. to 3:30 p.m., from Monday through Friday. On the weekends, the plant is staffed for approximately 3 hours each day. In emergencies when the plant is not staffed, an auto dialer system notifies the Central Kitsap plant staff.

#### Records Review:

The laboratory records were not reviewed during this inspection. A copy of the current permit and fact sheet was on site and available.

#### Odor Control:

A wet chemical odor scrubber (Photo # 8) packed with plastic media is used to process odorous air generated from the headworks, sludge storage tanks and GBT room. Sodium hypochlorite and sodium hydroxide are used to remove odorous compounds from the ambient air exhausted from these units. Chemical feed (Photo # 9) is controlled by the system pH and oxidation-reduction potential (ORP) meter. The odorous compounds in the air from these units are very low in concentrations and as a result, there has not been a need to clean or replace the plastic media.

Odor containment enclosures, buildings and covers for the solids processes have been used throughout the plant. No odors were noticeable in the vicinity of the plant at the time of the inspection.

### **III. OPERATION AND MAINTENANCE:**

Kitsap County Manchester WWTP has redundancy with either double treatment process trains or multiple equipment units, which is beneficial to operation and maintenance, and overall treatment performance. The influent wet well has three influent pumps, but only one influent pump is required to convey upcoming flows. This redundant design approach allows the operators to rotate the pumps once a week. In 2015, the County installed two new Flygt pumps in the influent wet well to replace two Meyer's pumps. The influent wet well is part of the 5 year facility plan for repairs and new interior coating.

All standby equipments run interchangeably with the on duty equipments to assure that both equipments work and accumulate equal running hours. This has been a common operating practice and has reduced the volume of maintenance work considerably.

At the headworks, two manual bar screens can be used to bypass the rotary mechanical screen in an emergency situation or when the rotary mechanical screen is offline for its yearly maintenance, which involves checking bearings, cutter clearance and oil. The rotary mechanical screen is visually inspected once a week. The manual bar screen upstream of the headworks flow splitter box is cleaned weekly and helps prevent damage of downstream equipment.

Aeration basin # 1 and # 2 are maintained and inspected yearly. Aeration basin # 1 is offline during the summer months and aeration basin # 2 is offline the rest of the year (fall, winter and spring). The blowers are rotated on a weekly basis.

Secondary clarifiers' launders and weirs are cleaned weekly. Clarifiers are maintained and inspected once a year. The inspection entails checking the connections and mechanical devices. The plant can achieve required treatment levels with only one clarifier in service.

UV lamps are cleaned once a month per manufacturer recommendations. Each lamp is cleaned with sodium hypochlorite and lime away.

Mr. Young stated the County will install inline HACH pH meter to monitor pH continuously. This upgrade is seen as a good asset to the plant because it will not demand operator's time to perform pH measurements on a daily basis.

### **IV. RECOMMENDATIONS:**

1. Excessive corrosion was noticeable in the chemical feed equipment of the odor scrubber system (Photo # 9). Ecology recommends inspecting the pipe connections, pumps, meters, fittings, and tanks more frequently to resolve leaks as soon as possible. Off-gassing caused by the degradation of sodium hypochlorite can bind pumps or rupture valves. Although there is no risk of any spill reaching the waters of the state, there is a safety concern because sodium hypochlorite and sodium hydroxide are highly unstable, extremely corrosive, and exposure can cause damage to the skin and eyes. A preferable option would be to replace the corroded equipment with corrosion resistant equipment and protective coating to minimize the risk of any accident.
2. The plant is equipped with low efficiency blowers in the aeration basins and WAS storage tanks, and low efficiency sludge pumps. It has been proven that aeration and pumping are the major contributors to high energy demands and costly operations in wastewater treatment plants. Ecology recommends applying to the Puget Sound Energy's (PSE) Energy-efficiency Incentives for Municipalities program for possible funding. High efficiency pumps and blowers equipped with variable speed drives will enhance the aeration basin and secondary clarifiers overall performance and decrease energy costs. For more information, please visit the PSE website at <https://www.pse.com>.
3. In order to better understand the County's I/I issues, it is recommended that the County review EPA's I/I guidelines on how to determine whether excessive Infiltration/Inflow exists. The EPA guidelines, namely *I/I Analysis and Project Certification* can be found at <http://www.ecy.wa.gov/programs/wq/permits/guidance.html>.

### **V. CONCLUSIONS:**



Overall, the facility is well operated and maintained. Contact Lazaro Eleuterio, Municipal Facility Manager, at 425-649-7027 if there are any questions related to this inspection report.

Attachments: Photographs  
Copies to:

Patrick Kongsle, Operations Supervisor  
Lazaro Eleuterio, Municipal Facility Manager, NWRO  
Central Records, NWRO

**VI. ACKNOWLEDGEMENTS:**

The author of this inspection report wants to thank Mr. Young and Mr. Kongsle for the very informative tour at the Manchester WWTP and the discussions regarding the facility's operation and maintenance.

Name(s) and Signatures of Inspector(s)	Agency/Office/Telephone	Date
Lazaro Eleuterio 	WA Dept. of Ecology, NWRO, (425) 649-7027	May 4, 2015
Name and Signature of Supervisor/QA Reviewer		
Mark Henley 	WA Dept. of Ecology, NWRO, (425) 649-7103	May 4, 2015

**ANNOUNCED** Inspection

**INSTRUCTIONS**

**Section A: General Information**

**Report Version:** New for 1<sup>st</sup> version, Amended for amended versions

**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:

- |                                                  |                                              |
|--------------------------------------------------|----------------------------------------------|
| A Compliance Evaluation (non-sampling)           | G Compliance Evaluation (Sampling) Re-Sample |
| B Compliance Evaluation (sampling)               | H Reconnaissance                             |
| C Enforcement Case Support                       | I Reconnaissance                             |
| D Multimedia                                     | J Site Visit                                 |
| E Pretreatment Compliance Inspection             | K Other                                      |
| F Compliance Evaluation (non sampling) Follow-up |                                              |

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

- |                                                 |                                                                          |
|-------------------------------------------------|--------------------------------------------------------------------------|
| E - Ecology Inspector                           | L - Joint Ecology/Laboratory Accreditation Inspectors - Ecology Lead     |
| H - Joint Ecology/Health - Ecology Lead         | T - Joint EPA/Ecology Inspectors - EPA Lead                              |
| J - Joint Ecology/EPA Inspectors - Ecology Lead | C - Contractor or Other Inspectors ( <i>Specify in Remarks Columns</i> ) |

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

- Public - Municipal Publicly Owned Treatment Works (POTWs)
- Private - Municipal Privately Owned Treatment Works

**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.

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.

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 1 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: INFLUENT WET WELL (INFLUENT PUMP STATION)



PHOTO # 2 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: INFLUENT WET WELL (DETAIL)

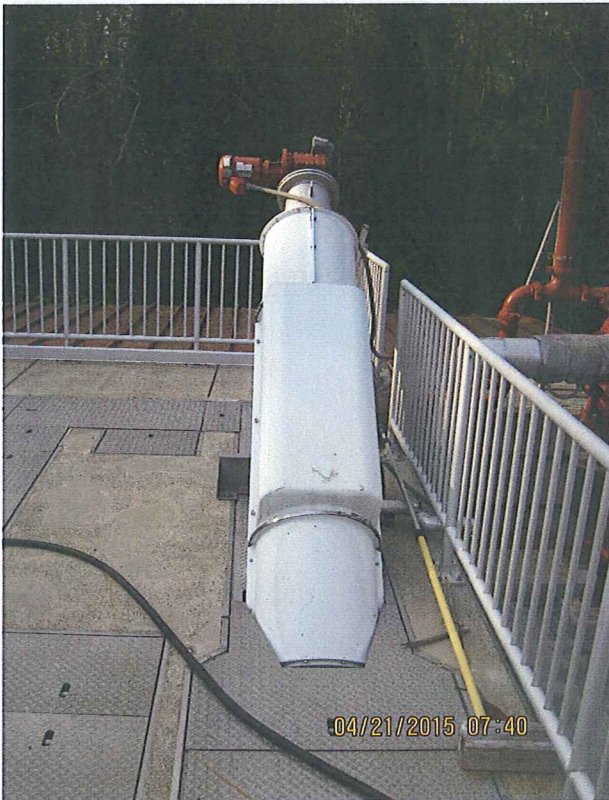


PHOTO # 3 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: ROTARY MECHANICAL SCREEN (1/4-INCH)



PHOTO # 4 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: GRIT REMOVAL CHAMBER

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 5 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: GRIT CYCLONE AND CLASSIFIER



PHOTO # 6 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: INFLUENT COMPOSITE SAMPLER



**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**

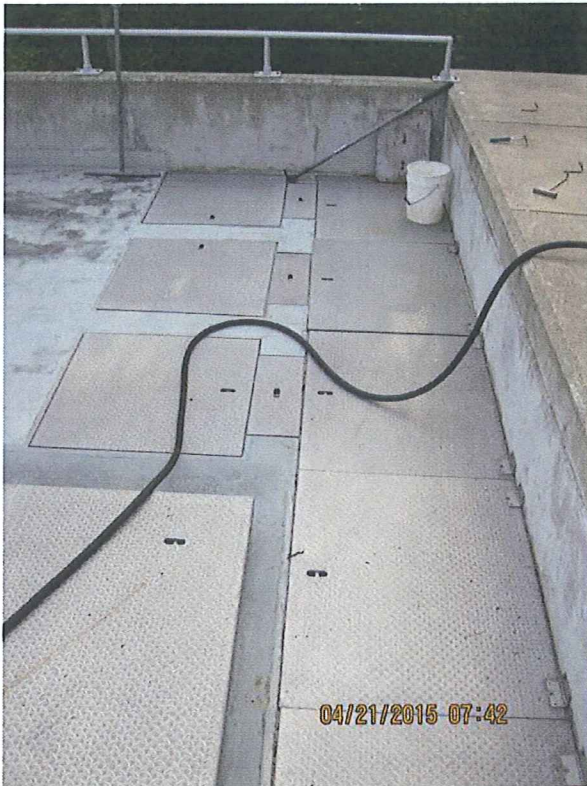


PHOTO # 7 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: HEADWORKS FLOW SPLITTER BOX (UPSTREAM OF AERATION BASINS)



PHOTO # 8 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: ODOR SCRUBBER SYSTEM



PHOTO # 9 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: ODOR SCRUBBER CHEMICAL FEED SYSTEM



PHOTO # 10 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: BIOLOGICAL SELECTOR

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 11 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: AERATION BASIN # 1



PHOTO # 12 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: AERATION BASIN # 2



PHOTO # 13 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: WATER SPRAY FOR SCUM CONTROL



PHOTO # 14 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: AERATION BASINS' BLOWERS

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 15 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: RETURN ACTIVATED SLUDGE (RAS) STATION



PHOTO # 16 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: AERATION BASINS FLOW SPLITTER BOX (UPSTREAM OF SECONDARY CLARIFIERS)



PHOTO # 17 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: AERATION BASINS FLOW SPLITTER BOX (DETAIL)



PHOTO # 18 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: SECONDARY CLARIFIER # 1

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 19 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: SECONDARY CLARIFIER # 2



PHOTO # 20 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: SECONDARY CLARIFIERS SCUM BOX



PHOTO # 21 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: UV DISINFECTION SYSTEM



PHOTO # 22 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: EFFLUENT PARSHALL FUME

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**

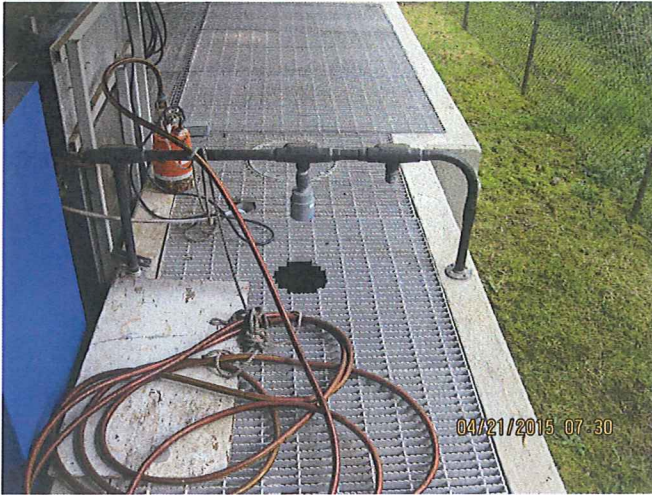


PHOTO # 23 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: EFFLUENT ULTRASONIC FLOWMETER



PHOTO # 24 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: EFFLUENT COMPOSITE SAMPLER



PHOTO # 25 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: CLASSIFIER DUMPSTER



PHOTO # 26 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: WAS STORAGE TANKS

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**



PHOTO # 27 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: GRAVITY BELT THICKENER (GBT)



PHOTO # 28 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: TWAS STORAGE TANK (UNDERGROUND)



PHOTO # 29 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: WAS AND TWAS STORAGE TANKS' BLOWERS



PHOTO # 30 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: TWAS LOADING TRUCK STATION

**PHOTO ADDENDUM – MANCHESTER WWTP (KITSAP COUNTY – WASTEWATER DIVISION)**

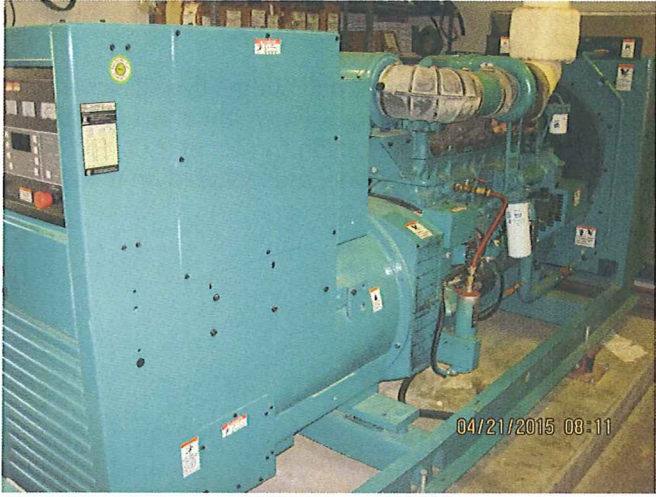


PHOTO # 31 DATE: 04/21/2015  
TAKEN BY: LAZARO ELEUTERIO  
DESCRIPTION: POWER GENERATOR

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](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](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:

Carl Jones (360) 407-6431; [carl.jones@ecy.wa.gov](mailto:carl.jones@ecy.wa.gov)

Ecology's Municipal Compliance Specialist (Northwest Regional Office):

Amy Jankowiak (425) 649-7195; [amy.jankowiak@ecy.wa.gov](mailto:amy.jankowiak@ecy.wa.gov)

Ecology's Wastewater Operator Certification Coordinator:

Poppy Carre (360) 407-6449; 1-800-633-6193 (within the state); [poppy.carre@ecy.wa.gov](mailto:poppy.carre@ecy.wa.gov)

Ecology's Biosolids Coordinator (Northwest Regional Office):

Rebecca Singer (425) 649-7258; [rebecca.singer@ecy.wa.gov](mailto:rebecca.singer@ecy.wa.gov)

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

Ecology's 24-hour number: (425) 649-7000 to report a spill

Department of Health – Shellfish Program: (360) 236-3330 (business hours) or (360) 789-8962 (after hours)