United States Environmental Protection Agency

REGION 5 Enforcement and Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	04/20/2022	Announced: Yes
Time:	Entry: 08:46 AM (ET)	Exit: 04:19 PM (ET)
Media:	Water	
Statute(s)/Program(s):	Clean Water Act, NPDES, Industrial	
Type of inspection:	CEI - Compliance Evaluation Inspection with Sampling	
Access:	Granted	
Permittee Name:	REPUBLIC STEEL LORAIN PLANT	
Facility or Site Name:	REPUBLIC STEEL LORAIN PLANT	
Facility/Site Physical Address:	1807 EAST 28TH STREET	
(City, state, zip code)	LORAIN, OH 44055	
County/Parish:		
Facility GPS Coordinates:	41.448518, -82.133082	
Mailing address: (If different)		
(City, state, zip code)		
Facility/Site Identifier:	110000385645	
Permit Number:	OH0001562	
SIC or NAICS:	3312, 3317	

Persons Participating in Inspection:

Title	Name	Phone	Email	Present at Opening Conf.	Present at Closing Conf.
Lead Inspector	Dean Maraldo	3123532098	Maraldo.Dean@epa.gov	Yes	Yes
Inspector	Mark Conti	(440) 250-1706	conti.mark@epa.gov	Yes	Yes
Inspector	Matthew Schulte	(312) 886-2405	Schulte.Matthew@epa.gov	Yes	Yes
Environmental Director	Greg Bosiljcic	(330) 507-0179	GBosiljcic@RepublicSteel.com	Yes	Yes
Compliance Officer	Ed Pollock	(412) 719-3507		Yes	Yes
Maintenance Manager	Zoran Zoric			No	No

Director of Operations	Thiago Ribeiro			No	No

Lead Inspector:			
Dean Maraldo	*[Signature]* DINO MARALDO Digitally signed by DINO MARALDO Date: 2022.04.26 07:18:46 -05'00'		
	REGION 5	maraldo.dean@epa.gov	(312) 353-2098
Supervisor Review:			
Ryan Bahr	*[Signature]* Bahr, Ryan Digitally signed by Bahr, Ryan Date: 2022.04.26 07:52:12 -05'00'		
	REGION 5	bahr.ryan@epa.gov	

SECTION I – INTRODUCTION

Site Entry and Inspection Objectives

CEI and Order Monitoring Inspection.

I, Region 5 Lead Inspector, Dean Maraldo, arrived at the Republic Steel Lorain Plant (the "Site" or "Facility"), located at 1807 East 28th Street, at 08:46 AM (ET) on 04/20/2022 for an announced inspection. Region 5 Inspectors Mark Conti and Matthew Schulte joined me for the inspection. I presented my credentials to Greg Bosiljcic and informed him that this was a Region 5 inspection to determine compliance with the Clean Water Act (CWA) and the National Pollutant Discharge Elimination System (NPDES) permit program. I conducted the inspection under the authority of the Federal CWA Section 308. The table above identifies the attendees that participated in the inspection. This report is based on information supplied by Republic Steel Lorain Plant representatives, observations made by the Region 5 inspectors, and records and reports maintained by the permittee and the Region 5 inspectors, including: direct observations made by the Region 5 inspectors, photographs taken by Region 5 inspectors, physical evidence collected by the Region 5 inspectors, measurements taken by Region 5 inspectors, verbal or written statements made by and information supplied by Republic Steel Lorain Plant representatives (the permittee) during or subsequent to the on-site inspection, and materials, processes, data, photographs, or documents shown, demonstrated, or submitted to the Region 5 inspectors by Republic Steel Lorain Plant representatives during the on-site inspection. In addition, information gathered prior to or subsequent to the inspection from a review of USEPA, State, and public records may be included in this report.

After introductions, I went over the proposed inspection plan, including:

- After opening conference, conduct records review including status of Republic Steel's efforts to comply with the June 9, 2021 Administrative Order on Consent ("AOC") with USEPA, reports required under the NPDES permit ("Permit"), and recent effluent limit violations.
- Conduct facility tour focusing on outfalls 002, 003, 005.
- Perform a closing conference to briefly highlight and discuss observations made during the inspection.

Greg Bosiljcic said the plant was idled since early February, due to production issues in other plants. The plant may not return to normal operation until June. He added that when they are in operation only the 9-10" bar mill is used in production (status of other production units is provided below). Approximately 60

people are currently laid off. All steel is produced at the Canton plant right now.

Greg Bosiljcic said they currently use the 605 discharge wastewater treatment plant ("605 WWTP") for cooling tower blowdown. The 605 WWTP includes just sand filter treatment, with effluent going to outfall 005. He added that the 605 WWTP is only used as needed during the current plant shutdown.

I asked about the status of the administratively continued NPDES Permit. Greg Bosiljcic said the Permit renewal is still in process.

Facility/Site Description

I asked the Republic Steel representatives to verify the Facility Description per the Permit Fact Sheet (2019). Greg Bosiljcic verified the status of the following operations (his response in italics):

- 2 Blast Furnaces for production of molten iron: *No longer used and probably never again*;
- 2 Basic Oxygen Furnaces (BOFs) for production of molten steel: No longer in operation;
- 2 Continuous Casters (bloom caster & billet caster): *No longer in operation*;
- 1 Vacuum Degasser for steel: *No longer in operation*;
- 1 Electric Arc Furnace (EAF) to process steel scrap into molten steel: *No longer in operation*;
- 2 Ladle Metallurgy Facilities (LMF): *No longer in operation*;
- 1 Primary Rolling Mill: *No longer in operation*;
- 1 9-10" Bar Mill: *Yes, will operate when the plant is back on line*.

Greg Bosiljcic also confirmed the Standard Industrial Classification (SIC) category for the plant, including 3312, "Steel Works, Blast Furnace, Rolling" and 3317, "Steel Pipe and Tube".

Facility/Site Information

Responses provided by Greg Bosiljcic.

Responsible official verified	John Wilkinson
What is the principal product generated?	Coils when in operation
What are the raw materials used?	None, use product processed at other plants
Size of Facility	About 500 acres
Outfalls (and do the numbers and locations match the permit?)	002, 003, 005 are main outfalls. Outfall 004 historically dry. Outfall 605 is the only internal outfall currently managed
Do you use in-house or contract out for laboratory analyses? Or both?	All sampling and lab work handled by Test America. They analyze for pH and total residual chlorine ("TRC") in the field
Shifts/Hours of Operations: Operation schedule (days of operation, # shifts/day, # operators/shift, coverage overnight, weekends & emergencies), and is staffing sufficient for proper operation?	2 shift of 8 hours. 5 day per week
Number of employees	Maybe 20 currently. Maintenance only on 9" bar mill. Regular

	operations about 80 workers
Status of expired permit?	Still pending
Any CBI concerns? Photo CBI?	No. If they see something in the field, they will let us know
How are things going at the facility? Any wastewater or stormwater issues?	605 WWTP works well when in operation.
Identify all active wastewater treatment plants	605 WWTP only
Operators for 605 WWTP	Staffed by maintenance department

Inspection Units

Unit/Area	Description
Flow Monitoring	Interview questions
Operations and Maintenance	Interview questions
Self Monitoring	Interview questions
Records Review	Interview questions
Field Inspection	Field Inspection Notes and Observations. Began field inspection at 12:35 p.m. on 4/20/2022 , led by Greg Bosiljcic and Ed Pollock.
Internal Outfall 605	Area includes the manhole to internal outfall 605 and the 605 WWTP
Scale Pit	Bar mill scale pit (inside building).
Outfall 005	Outfall flowing at time of inspection. Sample collected (pH, TRC, Temp)
Outfall 002	Outfall flowing at time of inspection. Sample collected (pH, TRC, Temp)
Outfall 003	Outfall not flowing at time of inspection.
Unidentified Outfall Just East of Outfall 003	Outfall flowing at time of inspection. Sample collected (pH, TRC, Temp)

SECTION II – INTERVIEW

Interview observations and record reviews may not be in sequential order.

Unit: Flow Monitoring	**Contains CBI:** No
Observation #: OB-01	**Date:** 04/20/2022

Mark Conti asked about flow monitoring. Greg Bosiljcic said that for effluent flow monitoring they are currently estimating based on the bucket test method at outfalls 005 and 003. For outfall 002 they report no flows because they have no flow meter and can't estimate flow. They are hoping to correct this within two or three weeks. A consultant is looking into laser sensors for outfalls 002 and 005. They will continue with the bucket method at Outfall 003 given low flows. Greg Bosiljcic acknowledged it is difficult to bucket test outfalls at 100 gallons per minute ("gpm"). Republic Steel relies on system control of 100 gpm as the estimated flow for outfall 605. This estimate was based on an initial vendor test. However, flow at outfall 605 has not been measured since.

The Permit Part 1.A. requires 24-hour total flow monitoring for outfalls 002, 003, 005, and 605.

Unit: Operations and Maintenance	**Contains CBI:** No
Observation #: OB-02	**Date:** 04/20/2022

I asked several operation and maintenance-related questions (below) and Greg Bosiljcic provided the following responses (his responses in italics):

- On a regular basis, do operators monitor the key operating parameters at the 605 WWTP? *Operations and maintenance staff check sand filter pressures daily, and change sand out about once a month*.

- Any bypasses? Was Ohio EPA notified of any bypassing? *Since restarting last year, the plant experienced one treatment bypass. An exposed line from a closed loop system broke and wastewater entered an old pipe leading to the Black River.* Greg Bosiljcic estimated less than a gallon or two of discharge and thought the bypass occurred in September or October. Greg Bosiljcic said the bypass was reported to Ohio EPA. I asked for a copy.

- Does the wastewater treatment facility have an alarm system for all essential equipment? *No alarms*. [Greg Bosiljcic later clarified that the 605 WWTP sand filter unit has a sound alarm].

- Are routine and preventive maintenance scheduled performed and recorded? *Operations andmaintenance staff keep daily maintenance records, like sand change outs from sand filter*.

- Is a logbook kept which documents all plant activities on a daily basis? *No forms, but operations and maintenance staff use daily maintenance logs, as per Republic Steel SOP*.

- Does the facility have standby power for all treatment units? *They have diesel generators. But if power is lost protocol is to shut down all wastewater operations*.

Unit: Self Monitoring	**Contains CBI:** No
Observation #: OB-03	**Date:** 04/20/2022

I asked several self monitoring-related questions (below) and Greg Bosiljcic provided the following responses (his responses in italics):

- Are composite samples flow proportioned? *Composite samples are time proportioned as flow cannot be determined.* [Republic Steel does not have operable flow metering at any outfalls where composite samples are required, and cannot collect flow proportioned composite samples as required by the Permit Part II.G].

- Are composite samples cooled to <4°C to properly preserve them during the compositing period?(40 CFR 136)? *Composite samplers not refrigerated*. [The Permit requires composite sampling for parameters with cooling preservation criteria < 6°C, including total suspended solids, and nitrogen, Ammonia (NH_3)].

I asked where outfall samples are collected: Greg Bosiljcic said they collect samples directly from outfalls 002, 003 and 005, using a pole for grabs and a sampling tube for the composite samplers.

Internal outfall 605 is a manhole with direct access for sampling. According to the Permit Part I.A., 24-hour composite samples are required for total suspended solids, zinc, lead, and copper. Greg Bosiljcic said that pursuant to a 2019 Ohio EPA order, they now take grab samples twice per week at outfall 605 for all parameters listed in the Permit, include parameters with 24-hour composite sampling requirements. Ohio EPA's September 4, 2019 Order (page 4) provides "Limits and Monitoring Requirements for Temporary Discharge", including a requirement to collect grab samples, at outfall 605. However, the Order only allows the temporary discharge from outfall 605 if the water has been treated pursuant to the alternative treatment system described in Attachment A of the Order, which included two-stage pH adjustment, clarification, and use of chemical additives. During the inspection Greg Bosiljcic said that treatment at the 605 WWTP was limited to sand filters and a bag filter. He did not mention two-stage pH adjustment, clarification, or the use of chemical additives.

Ohio EPA's September 4, 2019 Director's Final Findings & Orders included in Appendix 3 – Reference Documents.

Document(s) 1. OhioEPA_DFFO_20190904.pdf

Record: Record Review - DMR Reports		**AOC:** Yes
Ref #: RR-01	**Reviewed By:** Dean Maraldo	**Reviewed Date:** 04/20/2022

I reviewed recent effluent limit exceedances for outfalls 002 and 005 during the Enforcement Order Milestones record review below (RR-02).

Greg Bosiljcic provided field sheets for August 2021 through April 13, 2022: a pH effluent limit exceedance was recorded on March 17, 2022 at outfall 002 (9.48). No other issues were identified during review of field sheets.

Greg Bosiljcic provided copies of DMRs for January and February 2022. I reviewed DMRs and noted the following effluent limit exceedances:
Mercury effluent limit exceedance on February 2, 2022 at outfall 002 (4.8 ng/l);
Mercury effluent limit exceedances on January 19, 2022 at outfall 002 (8.6) ng/l and outfall 005 (3.6 ng/l).

Other Permit effluent limit exceedances for the period January 1, 2021 to January 31, 2022 are summarized in the document "ECHO_ELEs_20220413.pdf" included in Appendix 3 – Reference Documents.

Document(s)

1. ECHO_ELEs_20220413.pdf

Record: Record Review - Enforcement Order Milestones **AOC:** No

Ref #: RR-02 **Reviewed By:** Dean Maraldo **Reviewed Date:** 04/20/2022

Review of June 9, 2021 AOC status:

Outfall 002:
Total Residual Chlorine violations: Greg Bosiljcic said that Republic Steel TRC violations are the result of "anomalous false positives". In late 2021 (6 week trial) a consultant, Microbac, conducted a titration method side-by-side study with Test America. Republic Steel considering using titration method moving forward. Currently using colorimetric method. I requested a copy of the TRC study.

Greg Bosiljcic added that they only use river water now. No chlorinated water used for process anywhere.

pH: effluent limit exceedances continuing through January 2022 at outfall 002. Greg Bosiljcic sees improvement with additional flow, but not enough. Republic Steel looking into other ways to get additional water to the outfall. Hope to know within 30 days if they can find additional water flow. If that doesn't work out they will look into pH adjustment.

Hg: in compliance since 8/31/2019.

Outfall 005:
TRC: last violation in 9/2021, but this was during Microbac study showing it was false positive, according to Greg Bosiljcic. They submitted results to Ohio EPA, but did not amend DMR.

pH: in compliance since 4/30/2021.

Hg: in compliance since 5/31/2019.

Record: Record Review - Process Description/Flow Diagram **AOC:** No

Ref #: RR-03 **Reviewed By:** Dean Maraldo **Reviewed Date:** 04/20/2022

We reviewed treatment process diagrams from a recent Permit application. Greg Bosiljcic confirmed that Figure 3-2 is accurate and only the bar mill wastewater treatment system (605 WWTP) is in operation, with flow through outfall 605 then to outfall 005 to the Black River. He added that rolling mill blow down water

goes to outfall 005, along with basement water (based on basement levels) which goes through an oil water seperator. Also, the bloom caster goes through a sand filter occasionally, based on basement/scale pit levels, via outfall 612 to outfall 002. Outfall 003 currently only receives occasional stormwater and any groundwater infiltrating. Figure 3-2 is included in Appendix 3 – Reference Documents.

Document(s)

1. Wastewater Flow Diagram 3-2_PermitApp_201712.pdf

Record: Record Review - Mercury Pollutant Minimization Program **AOC:** No

Ref #: RR-04 **Reviewed By:** Dean Maraldo **Reviewed Date:** 04/20/2022

I asked for an update on the Mercury Pollutant Minimization Program. Greg Bosiljcic said Amendola Engineering is currently preparing a revised mercury variance for facility.

Greg Bosiljcic said water from the legacy blast furnace operation is contributing to mercury effluent limit exceedances at outfall 003.

I asked for a copy of the last Mercury Pollutant Minimization Program annual report (due March 1, 2022; Permit Part II.N.4)).

Record: Record Review - Stormwater SWPPP **AOC:** No

Ref #: RR-05 **Reviewed By:** Dean Maraldo **Reviewed Date:** 04/20/2022

<u>SWPPP</u>

I asked for the dates of the last:

- Routine Facility Inspections Quarterly
- Visual Assessments Quarterly
- Comprehensive Site Inspection Annual

Greg Bosiljcic said that Test America does the routine quarterly and visual sampling, and Republic Steel does the annual report. He added that Test America is here three days per week and can handle wet weather and snow melt observations.

I asked Greg Bosiljcic to provide copies of the most recent reports for the above SWPPP inspections and assessments, and to check the SWPPP to make sure all consultants, including Test America, are included on the SWPPP Pollution Prevention Team list (Permit Part IV.D.1.).

SECTION III – PHYSICAL INSPECTION

Unit: Field Inspection/Internal Outfall 605	**Contains CBI:** No
Observation #: OB-04	**Date:** 04/20/2022
I observed the manhole for internal outfall 605 and the 605 WWTP sand filter unit (see Photo Log). Greg Bosiljcic mentioned that the sand filter unit does have a sound alarm.	
Photo(s) 1. REPL0001.JPG 2. REPL0002.JPG	

Unit: Field Inspection/Scale Pit	**Contains CBI:** No
Observation #: OB-05	**Date:** 04/20/2022
We walked into a building in the bar mill area and observed the scale pit (see Photo Log). We were joined by Zoran Zoric (Maintenance Manager) and Thiago Ribeiro (Director of Operations). Greg Bosiljcic said that current flows to the scale pit consist only of basement water. Zoran Zoric added that flows also enter the scale pit from cooling tower recirculation water (north side discharge) and mill cooling water (east side) when in operation. See the site map in Appendix 4 for the location of the scale pit.	
Photo(s) 1. REPL0003.JPG 2. REPL0004.JPG	

Unit: Field Inspection/Internal Outfall 605	**Contains CBI:** No
Observation #: OB-06	**Date:** 04/20/2022
We returned to the internal outfall 605 area with Greg Bosiljcic, Ed Pollock, Zoran Zoric and Thiago Ribeiro. Zoran Zoric corrected the earlier description of the 605 WWTP system, which includes a bag filter (<100 micron filter) in addition to the sand filter. He said the filter has an average influent flow of 300 gpm. Thiago Ribeiro further described the current 605 WWTP process, adding that scale pit water flows to the bag filter then the sand filter. The effluent from the sand filter is split between outfall 605 (100 gpm) and the cooling tower equalization ("EQ") tank (200 gpm) to be used for mill cooling water. A photo of the EQ tank is included in the Photo Log. See the site map in Appendix 4 for the location of internal outfall 605.	
Photo(s) 1. REPL0005.JPG	

Unit: Field Inspection/Outfall 005	**Contains CBI:** No
Observation #: OB-07	**Date:** 04/20/2022

Outfall 005: Sample collected by Dean Maraldo at 1:38 pm ET with sample pole through a hatch in the top of the outfall. Sample from outfall 005 was cloudy with visible settleable solids (see Photo Log).

Outfall 005 sample results:
Total residual chlorine ("TRC"): 0.64 mg/l
pH: 8.71 S.U.
Temp: 10.0 C

Note, the Extech Model Oyster 10 Probe was used to measure water samples for pH and Temperature in the field. The calibration record is included in Appendix 3 – Reference Log. The Hach Pocket Colorimeter 2 was used to measure water samples for TRC in the field. At 7:45 a.m. on April 20, 2022, I tested the Hach Pocket Colorimeter 2 against TRC standards (expiration date July 1, 2022). All tests were within Hach's recommended margin of error. See the site map in Appendix 4 for the location of outfall 005.

Document(s) 1. Extech Oyster 10 pH meter_calibration and QC_ 20220420.pdf

Photo(s) **1.** REPL0006.JPG 2. REPL0007.JPG

Unit: Field Inspection/Outfall 002	**Contains CBI:** No
Observation #: OB-08	**Date:** 04/20/2022

Outfall 002. Sample collected directly from outfall by Matthew Schulte at 2:05 pm ET. See the site map in Appendix 4 for the location of outfall 002. I observed debris in bottom of outfall 002 (see Photo Log).

Outfall 002 sample results:
pH: 9.16 S.U.
TRC: 0.05 mg/l
Temp: 10.0 C

Photo(s)

1. REPL0009.JPG
2. REPL0008.JPG

Unit: Field Inspection/Outfall 003	**Contains CBI:** No
Observation #: OB-09	**Date:** 04/20/2022

Outfall 003: no flow observed. Photo of access holes in the top of outfall 003 included in the Photo Log. See the site map in Appendix 4 for the location of outfall 003.

Photo(s)

1. REPL0010.JPG

Unit: Field Inspection/Unidentified Outfall	**Contains CBI:** No
Observation #: OB-10	**Date:** 04/20/2022

Unidentified outfall just east of Outfall 003. See the site map in Appendix 4 for the location of the unidentified outfall. The outfall was flowing at the time of inspection (approximately 8.5 gpm*) and I observed a continuous discharge from the outfall flowing down a slope and into the Black River (see Photo Log). The discharge results in light colored deposits and staining right up to the Black River (see Photo Log). Greg Bosiljcic said the observed flow was the heaviest he's seen and sometimes the outfall does not discharge. He added that the discharge may be associated with the Blast Furnace Basement.

This outfall is not identified in the facility's NPDES Permit.

I collected a sample directly from the outfall at 2:40 pm ET.
Unidentified outfall sample results:
pH: 12.20
TRC: 0.13 mg/l
Temperature: 8.1 C

* I collected the flow from the outfall in a one quart glass jar to estimate the outfall discharge rate. I repeated the collection three times and recorded the time it took to fill the jar each time (1.74, 1.66, and 1.87 seconds). Averaging the three fill times results in an estimated outfall discharge rate of 8.5 gpm.
We drove up to the bluff above the unidentified outfall and I took a photo of the area receiving the discharge from the unidentified outfall and the Black River (see Photo Log).

We concluded the field inspection at 3:30 pm ET and returned to the administration building to conduct the closing conference.

Photo(s)

1. REPL0012.JPG
2. REPL0011.JPG
3. REPL0013.JPG
4. REPL0016.JPG

SECTION IV – SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

Measurement Data Summary Table						
Measurement Date	***Reference#***	***Location***	***Measurement Sample Collector****	***Equipment***	***Parameter /Result (unit)***	***Collection Method***
04/20/2022 1:47 PM (ET)	ME-003	Outfall 005	Dean Maraldo	Extech	Temperature 10.0 °C	GRAB
04/20/2022 1:47 PM (ET)	ME-002			Hach Pocket Colorimeter 2	Total Residual Chlorine 0.64 mg/L	GRAB
04/20/2022 1:47 PM (ET)	ME-001			Extech	pH 8.71 S.U.	GRAB
04/20/2022 2:11 PM (ET)	ME-006	Outfall 002	Matthew Schulte	Hach Pocket Colorimeter 2	Total Residual Chlorine 0.05 mg/L	GRAB
04/20/2022 2:11 PM (ET)	ME-005			Extech	Temperature 10.0 °C	GRAB
04/2/2022 2:11 PM (ET)	ME-004			Extech	pH 9.16 S.U.	GRAB
04/20/2022 2:52 PM (ET)	ME-009	Unidentified outfall just east of outfall 003	Dean Maraldo	Hach Pocket Colorimeter 2	Total Residual Chlorine 0.13 mg/L	GRAB
04/20/2022 2:28 PM (ET)	ME-008			Extech	Temperature 8.1 °C	GRAB
04/20/2022 2:48 PM (ET)	ME-007			Extech	pH 12.20 S.U.	GRAB

* All measurement samples analyzed by Mark Conti

SECTION V - AREAS OF CONCERN

Areas of Concern may not be in sequential order.

The presentation of areas of concern does not constitute a formal compliance determination or violation.

Unit: Records Review	**Area:** DMR Reports
RR-01	
Greg Bosiljcic provided copies of DMRs for January and February 2022. I reviewed DMRs and noted the following effluent limit exceedances: Mercury effluent limit exceedance on February 2, 2022 at outfall 002 (4.8 ng/l); Mercury effluent limit exceedances on January 19, 2022 at outfall 002 (8.6) ng/l and outfall 005 (3.6 ng/l). Other Permit effluent limit exceedances for the period January 1, 2021 to January 31, 2022 are included in the document "ECHO_ELEs_20220413.pdf" included in Appendix 3 – Reference Documents.	**Citations:** Permit Part I.A.
Greg Bosiljcic provided field sheets for August 2021 through April 13, 2022: a pH effluent limit exceedance was recorded on March 17, 2022 at outfall 002 (9.48).	**Citations:** Permit Part I.A.

Unit: Field Inspection	**Area:** Outfall 005
OB-07	
Sample from outfall 005 was cloudy with visible settleable solids (see Photo Log). Outfall 005 sample results: TRC: 0.64 mg/l	**Citations:** Permit Effluent Limit Exceedance - Permit Part I.A.; Cloudy discharge with settleable solids - Permit Part III.2

Unit: Field Inspection	**Area:** Outfall 002
OB-08	
Observed debris in bottom of outfall 002 (see Photo Log). Outfall 002 sample results: pH: 9.16 S.U.	**Citations:** Permit Effluent Limit Exceedance - Permit Part I.A.; Debris in outfall - Permit Part III.3.A. (Facility Operation And Quality Control)

Unit: Field Inspection	**Area:** Unidentified Outfall Just East ofOutfall 003
OB-10	
Unidentified outfall just east of Outfall 003. The outfall was flowing at the time of inspection (approximately 8.5 gpm) and I observed a continuous discharge from the outfall flowing down a slope and into the Black River (see Photo Log). The discharge results in light colored deposits and staining right up to the Black River (see Photo Log). Greg Bosiljcic said the observed flow was the heaviest he's seen and sometimes the outfall does not discharge. He added that the discharge may be associated with the Blast Furnace Basement. This outfall is not identified in the facility's NPDES Permit. Unidentified Outfall sample results: pH: 12.20 S.U. TRC: 0.13 mg/l	**Citations:** Section 301 (a) of the Clean Water Act, 33 U.S.C. § 1311(a)

Unit: Self Monitoring	
OB-03	
Composite samplers are not refrigerated, according to Greg Bosiljcic. The Permit requires composite sampling for parameters with cooling preservation criteria < 6°C, including total suspended solids, and nitrogen, Ammonia (NH3).	**Citations:** Composite sampling requirements - Permit Part I.A.; preservation of samples – 40 CFR 136.
Composite samples are time proportioned, not flow proportioned as required by the Permit Part II.G., since Republic Steel does not have operable flow metering at any outfalls where composite samples are required by the Permit.	**Citations:** Permit Part II.G.
Internal outfall 605 is a manhole with direct access for sampling. According to the Permit Part I.A., 24-hour composite samples are required for total suspended solids, zinc, lead, and copper. Greg Bosiljcic said that pursuant to a 2019 Ohio EPA order, they now take grab samples twice per week at outfall 605 for all parameters listed in the Permit, include parameters with 24-hour composite sampling requirements. Ohio EPA's September 4, 2019 Order (page 4) provides "Limits and Monitoring Requirements for Temporary Discharge", including a requirement to collect grab samples, at outfall 605. However, the Order	**Citations:** Permit Part I.A.

only allows the temporary discharge from outfall 605 if the water has been treated pursuant to the alternative treatment system described in Attachment A of the Order, which included two-stage pH adjustment, clarification, and use of chemical additives. During the inspection, Greg Bosiljcic said that treatment at the 605 WWTP was limited to sand filters and a bag filter. He did not mention two-stage pH adjustment, clarification, or the use of chemical additives. Ohio EPA's September 4, 2019 Director's Final Findings & Orders included in Appendix 3 – Reference Documents.	

Unit: Flow Monitoring	
OB-01	
Mark Conti asked about flow monitoring. Greg Bosiljcic said that for effluent flow monitoring they are currently estimating flow based on the bucket test method at outfalls 005 and 003. For outfall 002, they report no flows because they have no flow meter and can't estimate flow. They are hoping to correct this within two or three weeks. A consultant is looking into laser sensors for outfalls 002 and 005. They will continue with the bucket method at Outfall 003 given low flows. Greg Bosiljcic acknowledged it is difficult to bucket test outfalls at high flow rates of 100 gpm. Republic Steel relies on system control of 100 gpm as the estimated flow for outfall 605. This estimate was based on an initial vendor test. However, flow at outfall 605 has not been measured since. The Permit Part 1.A. requires 24-hour total flow monitoring for outfalls 002, 003, 005, and 605.	**Citations:** The Permit Part 1.A

SECTION VI – CLOSING CONFERENCE AND FOLLOW UP

Closing Conference

I held a closing conference with Facility personnel at 04:19 PM (ET) on 04/20/2022 for the inspection. During the closing conference, I discussed the observations and Areas of Concern identified during the inspection. Observations and Areas of Concern have not yet been evaluated for a formal compliance determination. We went over AOCs and followup items, and reviewed documents received (DMRs for Jan-Feb 2022, and field sheets from August 2021 to March 2022).

Greg Bosiljcic said he would get all the requested followup documents to me by the end of the following week. I asked if there were any questions. There were no questions from Ed Pollock or Gregory Bosiljcic.

Follow Up

The following items were requested by the inspector at the time of the inspection.

Unit: Records Review
RR-02
Copy of the TRC study.
RR-04
Copy of the last Mercury Pollutant Minimization Program annual report (due March 1, 2022; Permit Part II.N.4)).
RR-05
Copies of the most recent reports for the above SWPPP inspections and assessments.
I asked Greg Bosiljcic to check the SWPPP to make sure all consultants, including Test America, are included on the SWPPP Pollution Prevention Team list (Permit Part IV.D.1.).
Unit: Operations and Maintenance
OB-02
Since restarting last year, the plant experienced one treatment bypass. An exposed line from a closed loop system broke and wastewater entered an old pipe leading to the Black River. Greg Bosiljcic estimated less than a gallon or two of discharge and thought the bypass occurred in September or October of 2021. Greg Bosiljcic said the bypass was reported to Ohio EPA. I asked for a copy.

Communication Log

No additional information received by REGION 5 after exiting the Facility on 04/20/2022.

SECTION VII – LIST OF APPENDICES

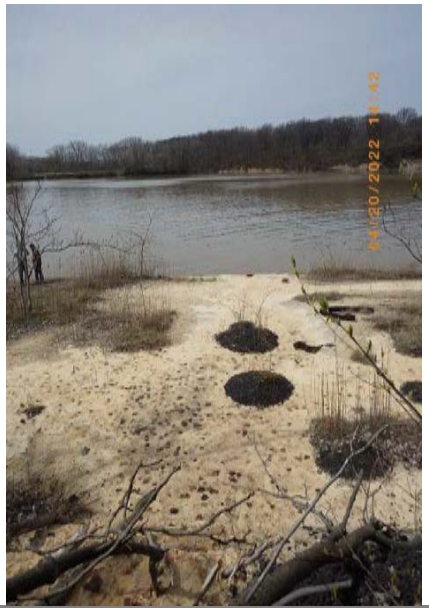
1. Photo Log
2. Document Log
3. Reference Documents
4. Site Map

APPENDIX 1: PHOTOLOG (Camera Model: RICOH WG-4)

Manhole for internal outfall 605 REPL0001.JPG 04/20/2022 12:46 PM (ET) Dean Maraldo Field Inspection/Internal Outfall 605 No CBI No PII	
605 WWTP Sand Filter REPL0002.JPG 04/20/2022 12:50 PM (ET) Dean Maraldo Field Inspection/Internal Outfall 605 No CBI No PII	
Scale Pit REPL0003.JPG 04/20/2022 01:05 PM (ET) Dean Maraldo Field Inspection/Scale Pit No CBI No PII view from the south side of scale pit.	

Scale Pit REPL0004.JPG 04/20/2022 01:09 PM (ET) Dean Maraldo Field Inspection/Scale Pit No CBI No PII view of flows into north and east side of scale pit.	
EQ Tank REPL0005.JPG 04/20/2022 01:24 PM (ET) Dean Maraldo Field Inspection/Internal Outfall 605 No CBI No PII 605 WWTP EQ Tank	
Outfall 005 Sample Location REPL0006.JPG 04/20/2022 01:37 PM (ET) Dean Maraldo Field Inspection/Outfall 005 No CBI No PII Hatch in outfall 005 used to collect sample.	

Outfall 005 Sample Bottle REPL0007.JPG 04/20/2022 01:39 PM (ET) Dean Maraldo Field Inspection/Outfall 005 No CBI No PII Sample used to measure pH, total residual chlorine, and temperature at outfall 005. Note cloudy water in sample bottle	
Outfall 002 REPL0008.JPG 04/20/2022 01:59 PM (ET) Dean Maraldo Field Inspection/Outfall 002 No CBI No PII Note debris in outfall and support structure for inoperable flow meter.	
Sample Bottle Outfall 002 REPL0009.JPG 04/20/2022 02:06 PM (ET) Dean Maraldo Field Inspection/Outfall 002 No CBI No PII Photo of bottle filled with sample from outfall002	

Access holes to top of outfall 003 REPL0010.JPG 04/20/2022 02:36 PM (ET) Dean Maraldo Field Inspection/Outfall 003 No CBI No PII No flow was observed from outfall 003 at time of inspection.	
Filled Sample Bottle - Unidentified Outfall REPL0011.JPG 04/20/2022 02:42 PM (ET) Dean Maraldo Field Inspection/Unidentified Outfall Just East of Outfall 003 No CBI No PII Photo of sample collected from Unidentified Outfall (in background of photo) just east of outfall 003.	
Unidentified Outfall Discharge Area REPL0012.JPG 04/20/2022 02:42 PM (ET) Dean Maraldo Field Inspection/Unidentified Outfall Just East of Outfall 003 No CBI No PII The discharge from the Unidentified Outfall just east of outfall 003 results in light colored deposits leading right up to the Black River. The discharge from the Unidentified Outfall was observed flowing into the Black River.	

Discharge into the Black River REPL0013.JPG 04/20/2022 02:47 PM (ET) Dean Maraldo Field Inspection/Unidentified Outfall Just East of Outfall 003 No CBI No PII Photo of the discharge from the Unidentified Outfall just east to outfall 003 cascading into the Black River.	
View of Black River and discharge from Unidentified Outfall REPL0016.JPG 04/20/2022 03:21 PM (ET) Dean Maraldo Field Inspection/Unidentified Outfall Just East of Outfall 003 No CBI No PII View from the bluff directly above the Unidentified Outfall just east of outfall 003. Note the light color of the area impacted by outfall discharge.	

Note: Image REPL0014 is a video of the discharge from the unidentified outfall just east to outfall 003 cascading into the Black River. Image REPL0015.JPG was taken in error and not included in the Photolog.

APPENDIX 2: DOCUMENT LOG

Document Type	Document Name	Contains CBI	Contains PII	Pages	Date Received
Discharge Monitoring Report (January and February 2022)	Republic Lorain DMRs_JanFeb2022.pdf	No	No	30	04/20/2022
Field sheets (August 2021 - April 13, 2022)	Republic Lorain FieldSheets_Aug2021Apr2022.pdf	No	No	31	04/20/2022

APPENDIX 3: REFERENCE DOCUMENTS

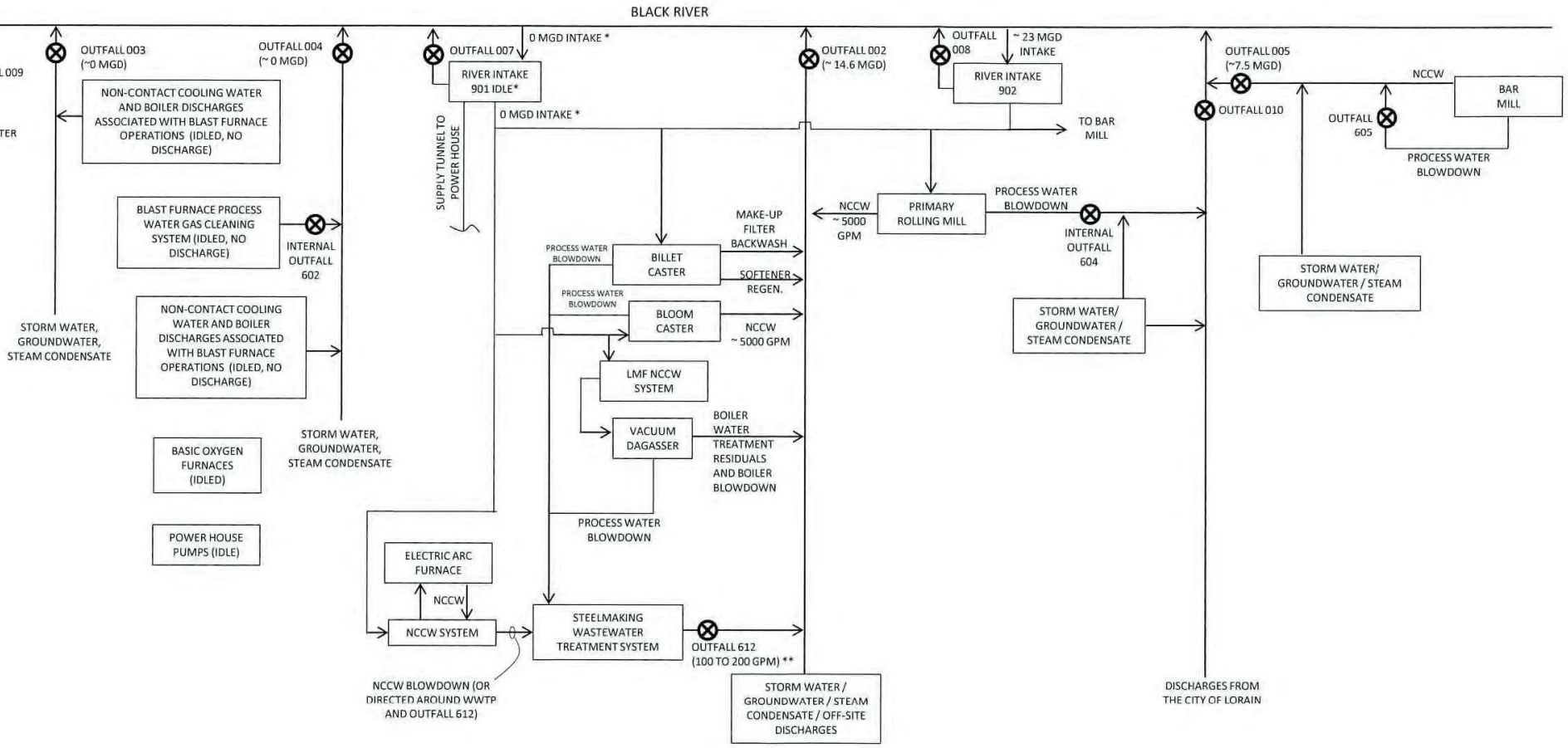
Document Type	Document Name	Contains CBI	Contains PII	Pages
DMR Summary Report	ECHO_ELEs_20220413.pdf	No	No	1
Process Description/Flow Diagram	Wastewater Flow Diagram 3-2_PermitApp_201712.pdf	No	No	1
Calibration Records	Extech Oyster 10 pH meter_calibration and QC_ 20220420.pdf	No	No	1
Ohio EPA's September 4, 2019 Director's Final Findings& Orders	OhioEPA_DFFO_20190904.pdf	No	No	16

Effluent Limit Exceedances Report
OH0001562: REPUBLIC STEEL LORAIN PLANT, LORAIN, OH 44055-1803
Monitoring Period Date Range: 01/01/2021 to 01/31/2022

Exceedance Details

Monitoring Period Date	Outfall	Parameter Description	Limit Type	DMR Value	DMR Value Unit	Limit Value	Limit Value Qualifier
1/31/2021	2	pH	DAILY MX	10.41	SU	9	<=
1/31/2021	5	pH	DAILY MX	9.06	SU	9	<=
2/28/2021	2	pH	DAILY MX	10.62	SU	9	<=
2/28/2021	3	Mercury, total low level	MO AVG	1.7E-05	mg/L	1.2E-05	<=
2/28/2021	5	pH	DAILY MX	9.08	SU	9	<=
3/31/2021	2	pH	DAILY MX	9.9	SU	9	<=
4/30/2021	2	pH	DAILY MX	9.02	SU	9	<=
4/30/2021	5	pH	DAILY MN	5.84	SU	6.5	>=
5/31/2021	2	pH	DAILY MX	9.88	SU	9	<=
5/31/2021	604	pH	DAILY MX	9.04	SU	9	<=
6/30/2021	2	pH	DAILY MX	9.92	SU	9	<=
6/30/2021	2	Chlorine, total residual	DAILY MX	0.14	mg/L	0.024	<=
6/30/2021	2	Chlorine, total residual	MO AVG	0.14	mg/L	0.014	<=
6/30/2021	5	Oil and grease (soxhlet extr.)	DAILY MX	14	mg/L	10	<=
6/30/2021	5	Chlorine, total residual	MO AVG	0.15	mg/L	0.016	<=
6/30/2021	5	Chlorine, total residual	DAILY MX	0.15	mg/L	0.027	<=
7/31/2021	2	pH	DAILY MX	9.25	SU	9	<=
7/31/2021	2	Chlorine, total residual	MO AVG	0.1	mg/L	0.014	<=
7/31/2021	2	Chlorine, total residual	DAILY MX	0.1	mg/L	0.024	<=
7/31/2021	3	Mercury, total low level	MO AVG	2.3E-05	mg/L	1.2E-05	<=
8/31/2021	2	pH	DAILY MX	9.73	SU	9	<=
8/31/2021	2	Chlorine, total residual	DAILY MX	0.09	mg/L	0.024	<=
8/31/2021	2	Chlorine, total residual	MO AVG	0.09	mg/L	0.014	<=
9/30/2021	2	pH	DAILY MX	9.42	SU	9	<=
9/30/2021	2	Oil and grease (soxhlet extr.)	DAILY MX	20	mg/L	10	<=
9/30/2021	5	Chlorine, total residual	DAILY MX	0.06	mg/L	0.027	<=
9/30/2021	5	Chlorine, total residual	MO AVG	0.06	mg/L	0.016	<=
10/31/2021	2	pH	DAILY MX	9.28	SU	9	<=
10/31/2021	3	Chlorine, total residual	MO AVG	0.18	mg/L	0.013	<=
10/31/2021	3	Chlorine, total residual	DAILY MX	0.18	mg/L	0.024	<=
11/30/2021	2	pH	DAILY MX	9.76	SU	9	<=
11/30/2021	3	Mercury, total low level	MO AVG	9.8E-05	mg/L	1.2E-05	<=
1/31/2022	2	pH	DAILY MX	9.11	SU	9	<=

FIGURE 3-2: REPUBLIC STEEL LORAIN PLANT WITH EAF HOT END OPERATIONS



* NOTE: THE NO. 10 PUMP AT INTAKE 901 COULD POSSSIBLY BE OPERATED IN LIEU OF INTAKE 902 TO SUPPLY OPERATIONS WHEN OPERATING THE EAF

** NOTE: PER THE NPDES PERMIT, IF THE BASIC OXYGEN FURNACES (AND BLAST FURNACE) ARE OPERATED, OUTFALL 612 BECOMES OUTFALL "603" AND THE EFFLUENT FROM THE STEELMAKING WWTP WOULD BE DISCHARGED TO OUTFALL 003

FIGURE 3-2

REPUBLIC STEEL LORAIN PLANT

AMENDOLA ENGINEERING INC. LAKEWOOD, OHIO

GENERAL WATER LINE DIAGRAM

DATE	REVISION	DRAWN BY
06/20/17	0	MAA

EXTECH pH/mV METER, MODEL OYSTER 10

CALIBRATION (auto temp. compensation on? ☒ YES, ☐ NO)

Meter S/N	**960529**	☒ Std. Electrode ☐ Mini Electrode
Date, Time	4/20/2022, 7:15 AM	
Inspector	M. Conti	
Buffer pH	7.00	10.01
Manufacturer	Hach	Hach
Lot No.	A1084	A1104
Exp. Date	3/3/2023	4/30/2022
Slope	98.1%	

CALIBRATION CHECK

Date, Time	4/20/22, 5:25PM →	
Inspector	M. Conti →	
Buffer pH	7.00	10.01
Measured pH at 25°C	6.93	9.92

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

9/4/2019

Mr. John Wilkinson, Executive V.P.
Republic Steel
2633 8th Street NE
Canton, OH 44704

RE: Director's Final Findings & Orders
NPDES
Lorain County
3ID00028

Ladies and Gentlemen:

Transmitted herewith is one copy of the modified Director's Final Findings & Orders in the referenced matter.

Sincerely,

Kevin J. Fowler, Supervisor
Permit Processing Unit
Division of Surface Water

KJF/kep

Enclosure

CERTIFIED MAIL

cc: L. Reeder, DSW
R. Demuth, DSW
L. Kaldy, DSW
B. Palmer, DSW
D. Stoll, NEDO/DSW
M. McCarron, PIC
H. Griesmer, PIC
J. Lee, PIC
Pete Simcic, Legal
J. Dragovich, DEFA
Journal Room
File

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Republic Steel **2633 8th Street, NE** **Canton, Ohio 44704** **Respondent**	: : : : : :	**Director's Final Findings and Orders**

PREAMBLE

It is agreed by the Parties hereto as follows:

I. JURISDICTION

These Modified Director's Final Findings and Orders ("Orders") are issued to Republic Steel ("Respondent") pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") §§ 6111.03 and 3745.01, and supercede the Director's Final Findings and Orders issued to Respondent on August 16, 2019.

II. PARTIES BOUND

These Orders shall apply to and be binding upon Respondent and successors in interest liable under Ohio law. No change in the composition of Respondent shall in any way alter Respondent's obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as defined in ORC Chapters 6111 and 3745, and the rules promulgated thereunder.

IV. FINDINGS

The Director has made the following findings:

1. Respondent owns and operates a steel manufacturing facility located at 1807 E. 28th Street, Lorain, Ohio ("the Facility".) Currently, the Facility is idle and groundwater/stormwater has been accumulating in basements, cellars and pits throughout the Facility. Certain equipment is either under water or is in imminent threat of being submerged as water levels continue to rise at the Facility. Respondent has identified the following equipment at risk, with potentially more equipment still needing to be inventoried:

Bar Mill

- Water coming into basements in the Bar Mill threatens to destroy the following equipment:
- 4 2300-volt motors feeding process water pumps for the Bar Mill;
- 6 2300-volt breakers that feed power into the cellar;
- 4 480-volt 5 horsepower motors for the hydraulic pumps;
- 3 480-volt 10 horsepower motors for the precipitron room fans;
- 4 total 480-volt 5 horsepower motors for the two lube systems in the adjoining pile systems.

Rolling Mill

In the Rolling Mill, the oil clears are already underwater. The substation basement is now flooding and has about 2 feet of water in this location.

- 3 different rotating MG sets and regulator contractor boards are located in this cellar. This equipment is no longer manufactured and would be costly to replace;
- Approximately four 5-horsepower and three10-horsepower fans are located in this cellar;
- There are a number of buss connections located in this cellar that will have to be dried out before it can be determined if they are a total loss.

2. On February 5, 2019, Respondent reported to the Emergency Response Spill Hotline an oil sheen to Ohio EPA. Remedial measures were taken, and it was determined that the source of the oil was most likely the Rolling Mill area of the Facility. An NOV was issued on February 5, 2019 for the illegal discharge of oil to waters of the state.

3. Respondent has notified Ohio EPA that is was pumping groundwater and stormwater from basements, cellars and pits located in the Bar Mill and Rolling Mill. Respondent submitted analytical data to Ohio EPA via eDMRs during the time period Republic Steel was pumping water from the basements, cellars and pits at the Facility. Monitoring data from Outfall 005 did not show significant issues. Monitoring data form Outfall 005 did show an occasional

chlorine residual exceedance which Respondent was actively working with Ohio EPA to address. Ohio EPA raised concern that the monitoring at Outfall 005 where the discharge was being directed did not include a full suite of parameters, including metals, SVOCs or VOCs (although such sampling is not required under the current NDPES permit). Ohio EPA and Respondent are currently negotiating language in Respondent's renewal National Pollutant Discharge Elimination System ("NPDES") permit regarding discharges of groundwater and stormwater from basements, cellars and pits at the Facility.

4. On June 26, 2019, Respondent reported to the Emergency Response Spill Hotline that an oil sheen was being discharged from the Facility to the Black River. Ohio EPA discovered that a pump from the Bar Mill scale pit was causing the release of oil to a storm sewer and then to the Black River. Ohio EPA, Respondent, and Respondent's consultant took remedial measures to contain the oil spill. Ohio EPA issued a Notice of Violation letter on June 26, 2019 for the illegal discharge of oil to waters of the state.

5. Currently, Respondent has been pumping the water to four 21,000-gallon frac tanks in the Bar Mill. Respondent is currently hauling the water from the tanks to a facility in Youngstown for disposal at significant cost. Respondent continues to experience issues with day-to-day management of water levels that threatens to damage equipment.

6. Respondent had proposed to resume discharging the water onsite after additional treatment was to be provided through portable treatment units while Respondent gathered additional sampling to address Ohio EPA's concerns that sampling is needed to characterize the condition of water in the basements, cellars and pits, including sampling for VOCs, SVOCs and metals. Respondent was unable to procure the portable treatment units and has proposed an alternative treatment system as set forth in Attachment A to these Orders. The proposed treatment will discharge at a rate of 50 gpm.

7. The Director has given consideration to, and based her determination on, evidence relating to the technical feasibility and economic reasonableness of complying with these Orders and to evidence relating to conditions calculated to result from compliance with these Orders, and its relation to the benefits to the people of the State to be derived from such compliance in accomplishing the purpose of ORC Chapter 6111.

V. ORDERS

Order No. 1 of the August 16, 2019 Orders is hereby modified as follows:

1. Respondent may immediately recommence discharging the accumulated water from the Bar Mill (Outfall 605) and Primary Mill (Outfall 604) scale pits, provided that the water has been treated pursuant to the alternative treatment system described in Attachment A, which is hereby incorporated into and made a part of these Orders.

2. The treated water shall meet the following temporary discharge limits:

Table 1. Limits and Monitoring Requirements for Temporary Discharge

Parameter	Reporting Code	Concentration Limits		Monitoring Frequency
		30-day average	Daily maximum	
Flow estimate (MGD)	50050	24-Hr. Estimate		1/day
pH (S.U.)	00400	6.5-9.0		2/week
Total Suspended Solids (mg/L)	00300	--	65	2/week
Oil and Grease (mg/l)	00552	--	10	2/week
Zinc, Total Recoverable (ug/l)	01094	Monitor		1/week
Chlorine, Total Residual (mg/l)	50060	--	0.019	2/week

All sampling set forth in Table 1 shall be grab samples.

(Reports should be submitted after the end of each month during which you have coverage under these Orders, regardless of whether or not a discharge occurred during the month. Instructions for electronic submittal of data can be found on Ohio EPA's website at:

http://epa.ohio.gov/dsw/edmr/eDMR.aspx

The chlorine limit listed above is less than the Ohio EPA Quantification Level (OEPA QL) for the approved analytical procedure promulgated at 40 CFR 136.

Compliance with an effluent limit that is below the OEPA QL is determined in accordance with ORC Section 6111.13 and OAC Rule 3745-33-07(C). For maximum effluent limits, any value reported below the OEPA QL shall be considered in compliance with the effluent limit.

Respondent must utilize the lowest available detection method currently approved under 40 CFR Part 136 for monitoring total residual chlorine.

All analytical results, even those below the OEPA QL (listed below), shall be reported. Analytical results are to be reported as follows:

- Results above the QL: Report the analytical result for the parameter of concern.
- Results above the MDL, but below the QL: Report the analytical result, even though it is below the QL.
- Results below the MDL: Analytical results below the method detection limit shall be

reported as "below detection" using the reporting code "AA".)

3. The following table of quantification levels will be used to determine compliance with total residual chlorine in these Orders:

Parameter	PQL
Chlorine, tot. res.	0.050 mg/l

Order No. 4 of the August 16, 2019 Orders is hereby modified as follows:

4. The discharge of the following treatment additives in the emergency discharge are approved at the following concentrations:

Table 2. Approved Treatment Additives

Additive	Concentration (ppm)
ChemTreat P8281L	100
Sodium Hydroxide caustic BL1301	100
ChemTreat P817E	15
ChemTreat RL 124	10

5. Respondent shall submit an after the fact Permit to Install ("PTI") for the installation of the alternate treatment unit and an NPDES permit modification for the discharge. Respondent shall operate the alternate treatment system pursuant to the requirements of these Orders until such time as the PTI is approved and a new or modified NPDES permit has been issued which includes the discharge or until a request pursuant to Order number 7 has been granted.

6. Within thirty (30) days, Respondent will also obtain two more rounds of sampling from the scale pits associated with the Bar Mill and Rolling Mill where water is pumped to, and will analyze for the full set of parameters (*i.e.* Form 2C sampling) as was previously done with the Bar Mill sampling.

7. Once sufficient data has been obtained demonstrating that the alternate treatment unit is consistently meeting the proposed discharge limits, Respondent may request to reduce monitoring. In addition, if sampling of the water prior to treatment shows the condition of the water does not warrant treatment with the portable treatment unit, Respondent may request that treatment with the alternate treatment unit or portions thereof may be discontinued.

VI. TERMINATION

These Orders shall terminate automatically when both the after-the-fact PTI has been approved by Ohio EPA and a new or modified NPDES permit has been issued which includes the discharge from the pits or a request pursuant to Order 7 has been granted. Otherwise, Respondent's obligation under these Orders shall terminate when Respondent certifies in writing and demonstrates to the satisfaction of Ohio EPA that Respondent has performed all obligations under these Orders and the Chief of Ohio EPA's Division of Surface Water acknowledges, in writing, the termination of these Orders. If Ohio EPA does not agree that all obligations have been performed, then Ohio EPA will notify Respondent of the obligations that have not been performed, in which case Respondent shall have an opportunity to address any such deficiencies and seek termination as described above.

The certification shall contain the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate and complete." This certification shall be submitted by Respondent to Ohio EPA.

VII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations. These Orders do not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to Respondent.

VIII. MODIFICATIONS

These Orders may be modified by agreement of the parties hereto. Modifications shall be in writing and shall be effective on the date entered in the journal of the Director of Ohio EPA.

IX. RESERVATION OF RIGHTS

Ohio EPA and Respondent each reserve all rights, privileges, defenses and causes of action, except as specifically waived in Section XI of these Orders. Without admission of law, fact, violation or liability, Respondent consents to the issuance of these Orders and agrees to comply with these Orders.

X. NOTICE

Unless otherwise specified, all documents required to be submitted by Respondent pursuant to these Orders shall be addressed to:

Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
Division of Surface Water

XI. WAIVER

Respondent hereby waives the right to appeal the issuance, terms and conditions, and service of these Orders, and Respondent hereby waives any and all rights Respondent may have to seek administrative or judicial review of these Orders either in law or equity.

Notwithstanding the preceding, Ohio EPA and Respondent agree that if these Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, Respondent retains the right to intervene and participate in such appeal. In such an event, Respondent shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated or modified.

XII. EFFECTIVE DATE

The effective date of these Orders is the date these Orders are entered into the Ohio EPA Director's journal.

XIII. SIGNATORY AUTHORITY

Each undersigned representative of a party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such party to these Orders.

IT IS SO ORDERED AND AGREED:
Ohio Environmental Protection Agency

Laurie A. Stevenson
Director

9/4/19
Date

IT IS SO AGREED:
Republic Steel

Signature

8-29-2019
Date

JOHN R. WILKINSON
Printed or Typed Name

Attachment A

Engineering Report

For

Republic Steel

By:

John Titus, PE
Cleveland, OH 44103

August 27, 2019

Project No. 1001697

Treatment System Overview

This application submittal is for a proposed temporary wastewater treatment system that will provide continuous treatment of water from the bar mill and rolling mill scale pits located at Republic Steel, 1807 E. 28th St., Lorain, OH 44055. Water from the scale pits has total suspended solids and O&G that will be treated with this system. The total continuous flow to treatment will approximate 50 gal./min. The proposed treatment system will employ conventional treatment strategies and be rated for up to 72,000 gal/day. Chemtreat has bench tested samples of the scale pit water, and it was determined that the proposed treatment scheme is the best approach for clarification of this waste stream. Dosages based on treatability are listed at the end of the report.

Process Narrative

The process begins with the transfer of water located in the scale pit to an oil/water separator, then will gravity flow to the first stage neutralizer, N-1. Pump P-1 is a submersible pump with a float switch that will operate as long as the water level is above the float level.

1st Stage pH Adjustment

Wastewater from the scale pit will be pumped to the 1st stage pH adjustment tank (N-1) at a projected flow rate of 50 gal./min. The 1,850 gallon tank capacity of N-1 will provide an initial reaction time of approximately 37 minutes based on this flow rate. An iron based coagulant (P8281L) will be added to N-1 via chemical metering pump CP-1 as long as P-1 is running. The tank is fitted with a 2 HP mixer, MX-1, to ensure proper solution blending. Flow from N-1 will flow via gravity to the 2nd stage pH adjustment tank (N-2).

2nd Stage pH Adjustment

The 2nd stage pH adjustment tank (N-2) will receive the flow from the 1st stage for final pH adjustment and chemical addition prior to the flocculation and clarification stage of treatment. The 1,850 gallon tank capacity of N-2 will provide an additional reaction time of approximately 37 minutes based on the flow rate of 50 gal/min. The pH will be adjusted to 8.5-9 via the automatic addition of sodium hydroxide with chemical metering pump CP-2. The pump utilizes a 4-20mA proportional signals. pH instrumentation (pH-2) located in the 2nd stage adjustment tank will control the chemical metering pump activity. The tank is fitted with a 2 HP mixer, MX-2, to ensure proper solution blending. Flow from N-2 will flow via gravity to the inclined plate clarifier.

Clarification and sludge holding

Flow from N-2 will flow into the flash mix chamber, located on the inclined plate clarifier, CL-1. Anionic polymer (P817E) is added via metering pump CP-3 into the flash mix chamber as long as P-1 is running. The flow exits the flash mix chamber into the flocculation chamber, prior to gravity flowing into the clarifier influent launder assembly.

CL-1 will have a projected settling area of 900 square feet. Based on the projected flow rate of 50 gal/min, the projected settling area will provide a hydraulic loading of 0.06 gpm/ft^2. Clarifier supernatant will overflow to the final pH sampling tank. Sodium metabisulfite will be added to the final pH sampling tank via chemical metering pump CP-4 as long as P-1 is running, in case of potential elevated total chlorine levels. Grab samples will be taken to periodically monitor for pH and oil & grease. Effluent from the final pH sampling tank will be discharged to the permitted outfall.

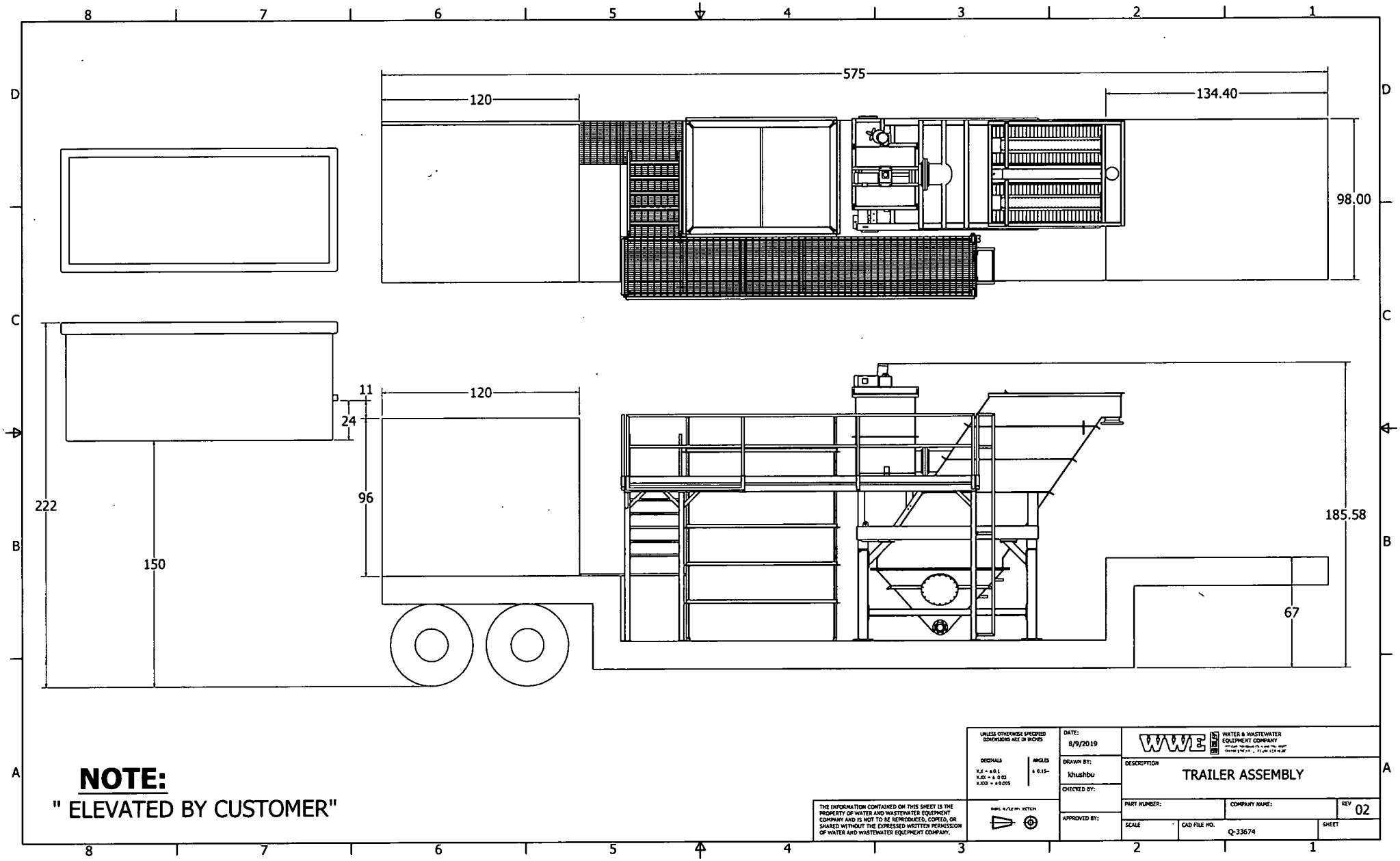
Clarifier underflow, expected to be 1%-2% solids will be transferred to a frac tank (or other customer supplied container) by air diaphragm pump, through the use of an adjustable frequency/duration timer for the automatic blowdown valve. The blowdown can also be manually operated as required. Sludge will be hauled away as required.

Treatment scheme

1.) Addition of 100 ppm of the ChemTreat P8281L coagulant
2.) Addition of 100 ppm of 50% Sodium Hydroxide caustic BL1301 to raise raw water pH level from 6.00 to 8.50-9.00
3.) Addition of 15 ppm of the ChemTreat P817E emulsion polymer
4.) Addition of 10 ppm of the ChemTreat RL124 dechlorination product as the water leaves the portable treatment system and heads to outfall

Based on a treatment rate of 50 gpm or 72,000 gallons per day, the associated amounts of chemicals are as follows:

1.) 7.2 gallons per day of the ChemTreat P8281L coagulant
2.) 7.2 gallons per day of the Sodium Hydroxide caustic - this is a commodity that Republic Steel should purchase directly from a commodity vendor
3.) 1 gallon per day of the ChemTreat P817E emulsion polymer
4.) 0.75 gallons per day of the ChemTreat RL124 dechlor product



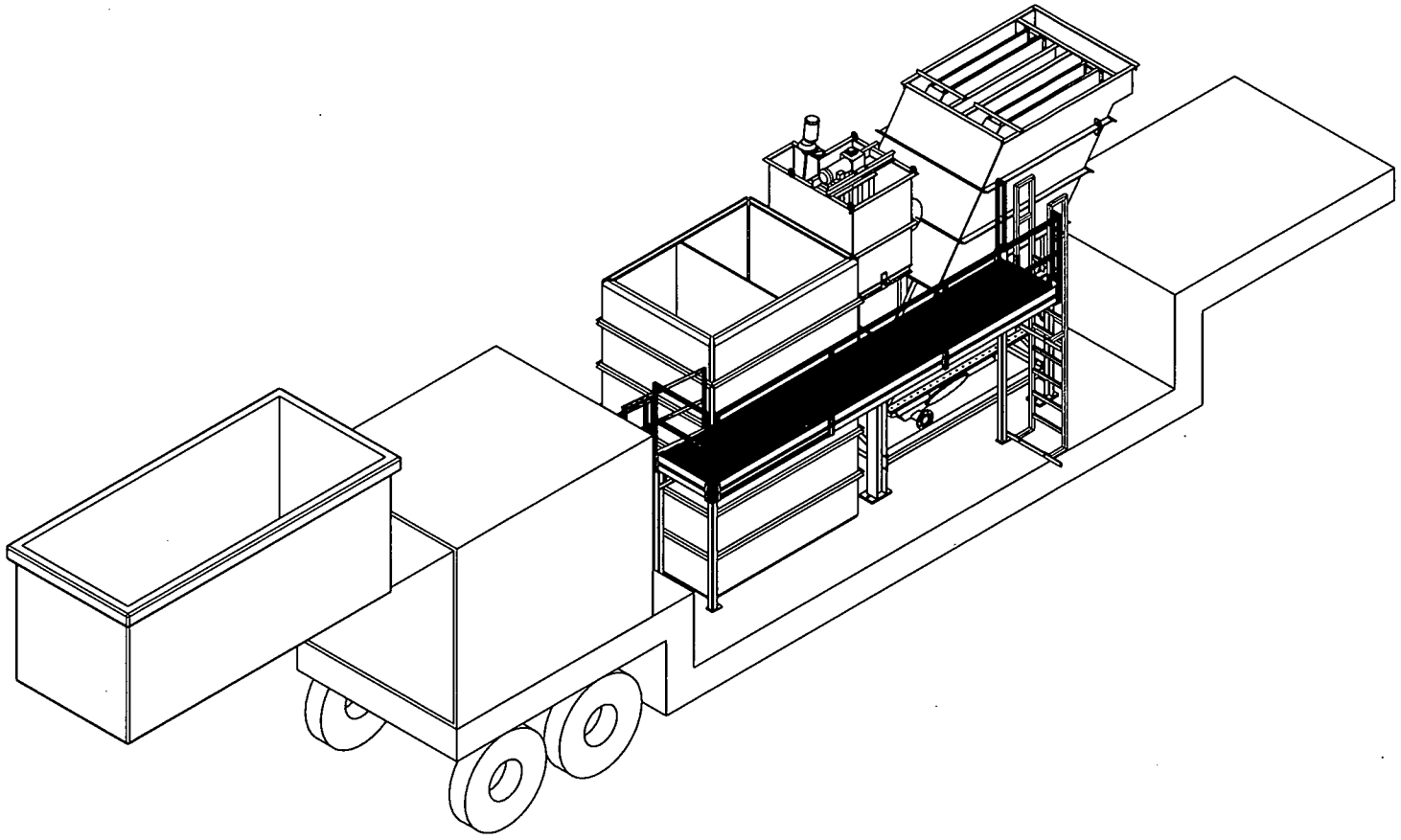
NOTE:
" ELEVATED BY CUSTOMER"

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMALS
X.X = ±0.1
X.XX = ± 0.03
X.XXX = ±0.005
ANGLES
± 0.15°

DATE: 8/9/2019
DRAWN BY: khushbu
CHECKED BY:
APPROVED BY:

WWE WATER & WASTEWATER EQUIPMENT COMPANY

DESCRIPTION: TRAILER ASSEMBLY
PART NUMBER:
COMPANY NAME:
REV 02
SCALE
CAD FILE NO. Q-33674
SHEET



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMALS
X.X = ± 0.1
X.XX = ± 0.03
X.XXX = ± 0.005

ANGLES ± 0.15°

THIRD ANGLE PROJECTION

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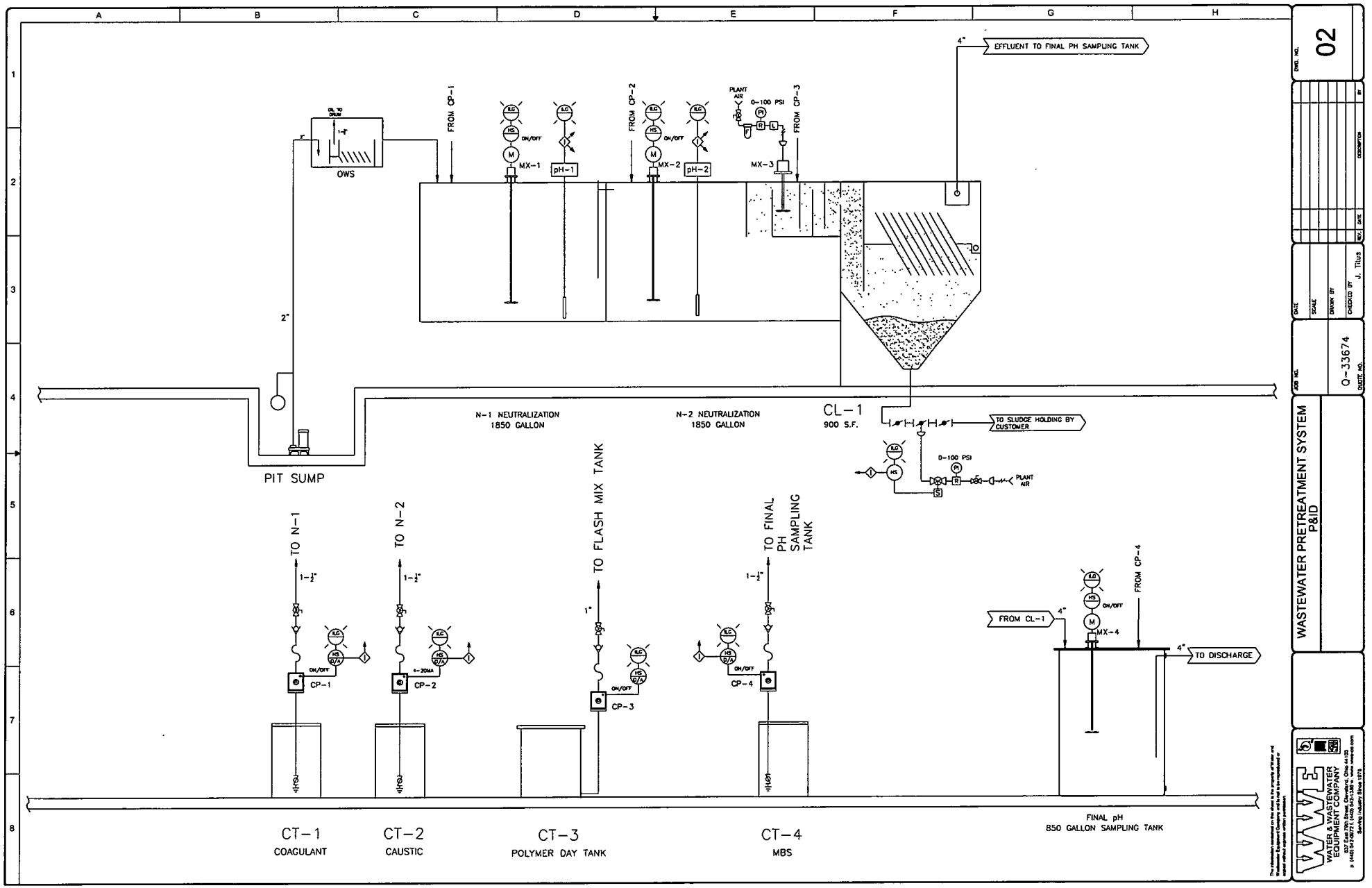
DATE: 8/9/2019
DRAWN BY: khushbu
CHECKED BY:
APPROVED BY:

WWE WATER & WASTEWATER EQUIPMENT COMPANY

DESCRIPTION: TRAILER ASSEMBLY

PART NUMBER:
COMPANY NAME:
REV 03
SCALE
CAD FILE NO. Q-33674
SHEET


EFFLUENT TO FINAL PH SAMPLING TANK
OWS
FROM CP-1
FROM CP-2
FROM CP-3
MX-1
MX-2
MX-3
pH-1
pH-2
ON/OFF
PLANT AIR
0-100 PSI
2"
PIT SUMP
N-1 NEUTRALIZATION
1850 GALLON
N-2 NEUTRALIZATION
1850 GALLON
CL-1
900 S.F.
TO SLUDGE HOLDING BY CUSTOMER
TO N-1
TO N-2
TO FLASH MIX TANK
TO FINAL PH SAMPLING TANK
CP-1
CP-2
CP-3
CP-4
4-20MA
FROM CL-1
MX-4
TO DISCHARGE
CT-1
COAGULANT
CT-2
CAUSTIC
CT-3
POLYMER DAY TANK
CT-4
MBS
FINAL pH
850 GALLON SAMPLING TANK
WASTEWATER PRETREATMENT SYSTEM
P&ID
Q-33674
02
J. Titus
WATER & WASTEWATER EQUIPMENT COMPANY

U.S. EPA Inspection Report
Republic Steel Lorain Plant
April 20, 2022

Appendix 4: Site Map

N

Outfalls
Scale pit

0 500 1,000
US Feet