

Application Type Renewal  
Facility Type Industrial  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL INDUSTRIAL WASTE (IW)  
AND IW STORMWATER**

Application No. PA0043672  
APS ID 343285  
Authorization ID 1225057

**Applicant and Facility Information**

Applicant Name	<u>General Dynamics Ordnance &amp; Tactical System (OTS) PA Inc.</u>	Facility Name	<u>General Dynamics OTS PA Inc</u>
Applicant Address	<u>200 E High Street</u> <u>Red Lion, PA 17356-1426</u>	Facility Address	<u>200 E High Street</u> <u>Red Lion, PA 17356-1426</u>
Applicant Contact	<u>Harry Smith</u>	Facility Contact	<u></u>
Applicant Phone	<u>(717) 246-8208</u>	Facility Phone	<u>(717) 246-8208</u>
Client ID	<u>148815</u>	Site ID	<u>456525</u>
SIC Code	<u>3489</u>	Municipality	<u>Red Lion Borough</u>
SIC Description	<u>Manufacturing - Ordnance And Accessories, Nec</u>	County	<u>York</u>
Date Application Received	<u>April 16, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>April 20, 2018</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES renewal for discharge of stormwater and treated groundwater.</u>		

**Summary of Review**

This fact sheet is for the renewal of the existing industrial wastewater NPDES permit No PA0043672 for General Dynamics – OTS (PA) Inc which includes discharges of non-contact cooling water (NCCW); treated groundwater from a groundwater remediation system (GRS); and discharges of stormwater associated with industrial activity. This is a manufacturing facility producing large caliber ammunition. The site has two (2) air stripper towers for treating historical VOC contaminated groundwater. The facility consists of the following 4 outfalls:

Outfall	Type of Discharge	Comment
001	NCCW	No discharge since 1993 upon installation of a closed loop recirculating system.
002	Discharge from Air Stripper 1 (AST1) + Stormwater	No discharge from AST1 since GRS shut down in September 2018. AST1 receives contaminated GW from Well P-1.
003	Discharge from Air Stripper 2 (AST2)	No discharge from AST2 since GRS shut down in September 2018. AST2 receives contaminated GW from Well P-4.
005	Stormwater	

**Figure 1** shows the site location.

**Figure 2** shows the site layout including the drainage area for industrial stormwater.

This facility falls under SIC Code 3489 (Ordnance and Accessories, Not Elsewhere Classified), which requires NPDES coverage for discharges of stormwater associated with industrial activity, as defined at 40 CFR § 122.26 (b) (14).

Approve	Deny	Signatures	Date
x		<i>Brenda J Fruchtl</i> Brenda J. Fruchtl, P.G. / Licensed Professional Geologist	September 27, 2022
x		<i>Scott M Arwood</i> Scott M. Arwood, P.E. / Environmental Engineer Manager	10/6/2022

### Summary of Review

#### **Background:**

This facility was formerly known as Olin Corporation – Flinchbaugh Operations. In 1997, the name of the company changed to Primex Technologies – Ordnance & Tactical Systems. On August 10, 2001, the permit was transferred to General Dynamics.

Soils and shallow groundwater on-site have concentrations of volatile organic compounds (VOCs) due to the historical storage and leakage of drums of degreaser product (primarily Trichloroethene (TCE) and 1,1,1-Trichloroethane (TCA)). Consent Order and Agreements were entered into between the Department and Olin Corporation – Flinchbaugh Operations on July 29, 1988 (Waste Management) and October 30, 1990 (Water Management) for the treatment of contaminated groundwater and soils on-site. General Dynamics installed a groundwater remediation system consisting of three recovery (pumping) wells (P-1, P-2A, and P-4) and two air stripping towers (AST1 and AST2), and two soil vapor extraction systems.

The GRS operated from the early 1990s until September 2018. Based on data collected during a period of intermittent pumping from 2013 to 2018, the pumping wells (P-1 and P-4) were shut down at the end of September 2018 to evaluate the effects of cessation on the groundwater system. And the corresponding ASTs (AST1 for P-1 and AST2 for P-4) were taken out of operation.

General Dynamics submits an annual progress report to the Environmental Cleanup Program for review.

General Dynamics has requested that Outfalls 002 (receiving discharge from AST1) and 003 (receiving discharge from AST2) remain in their NPDES Permit.

#### **Timeline of Permit Review:**

**2/3/2021** – Review Started, email sent to permittee to check if any changes since renewal application was received in April 2018.

**2/3/2021** – DEP received a response with an updated contact people. [Attachment A – saved as a PDF]

**2/13/2022** – Email sent to permittee to confirm that they still are seeking coverage for Outfalls 001, 002, and 003 since there has been no discharge from Outfall 001 since 1993; and AST1 (Outfall 002) and AST2 (Outfall 003) were shut down in September 2018.

**2/14/2022** – DEP received a response that they would like to continue to have Outfalls 001, 002, and 003 covered for this permit cycle. [Attachment B – saved as a PDF]

**4/3/2022** – Email sent requesting a site visit along with additional technical questions including: a request for water balance diagram and a design diagram for the existing groundwater treatment system; additional information about Outfalls 001, 002 and 003; clarification on the sampling data provided for Outfalls 002 and 003; clarification on whether Outfall 002 receives both effluent from AST1 AND Stormwater; additional information on Outfall 005; request to sample all the stormwater parameters for Outfall 005 and 002 and submit an updated Module 1; and requested unique latitudes/longitudes for each of the 4 outfalls.

**4/13/2022** – DEP received responses to some of the technical questions emailed on 4/3/2022. They submitted a revised Outfall table with unique latitudes/longitudes for each outfall (Figure 3); a drainage diagram indicating the flow of stormwater for the site (Figure 2); provided information about Outfalls 001, 002, and 003; a Revised Module 1 including both Outfalls 002 and 005 (Figure 4); statement that they will sample Outfalls 002 and 005 for the additional stormwater parameters as requested; and will submit a line drawing / process flow diagram by June 7, 2022. [Attachment C – saved as a PDF]

**4/26/2022** – Site visit with Harry Smith. He notes that the ASTs have not been operational since he has been employed at General Dynamics. When I asked where Outfall 002 and Outfall 003 were located, he noted that both Outfall 002 and Outfall 003 were more of internal monitoring points for the effluent and there was no actual discharge when AST1 and AST2 were operational. He indicated that the effluent from the ASTs were each directed to a storage tank next to the AST, and the tank was later pumped and hauled for disposal. I asked about the stormwater discharge at Outfall 002, and he indicated that it was more sheetflow and not a clearly defined outfall. I said I would send an email to follow up with some of my questions that he had to look into, mainly where was the water from AST1 and AST2 taken.

### Summary of Review

**5/2/2022** – Follow up email to the site visit was sent asking for him to research what happened to the effluent from both AST1 (Outfall 002) and AST2 (Outfall 003). And if the effluent from the ASTs was discharged at the site as indicated in the previous NPDES Permit No PA0043672, I asked for a map showing the locations of Outfall 002 and Outfall 003 and the likely flow path to the nearest surface water. I also asked for an update on the line drawing/process flow diagram for the facility, which was estimated to be available by June 7, 2022; and the additional stormwater sample results for Outfalls 002 and 005.

**5/3/2022** – DEP received acknowledgement to the 5/2/2022 email and an update on the additional stormwater sampling I had requested. [Attachment D – saved as a PDF]

**5/4/2022** – An email was sent in response to their sampling questions received 5/3/2022 which also included some historical insight, and a plan to locate Outfalls 002 and 003. [Attachment E – saved as a PDF]

**6/4/2022** – Follow up email was sent asking for an update on the information I had initially requested on 5/2/2022 including details for Outfalls 002 and 003, a line drawing/process flow diagram, and additional stormwater sample results for Outfalls 002 and 005.

**6/6/2022** – DEP received 3 separate email from Mr. Smith providing me with the additional information I had requested on 5/2/2022 including written descriptions and details regarding Outfalls 002 and 003; a site plan showing the locations of Outfalls 002 and 003 including “path” to the nearest surface waters (Figure 5); and a water and waste water process flow diagram (Figure 6). And an update that he’s still awaiting stormwater sampling results and will transmit upon receipt. [Attachment F – saved as a PDF]

**6/30/2022** – DEP received additional stormwater sampling results for Outfall 002 and 005 collected on 3/31/2022.

**7/13/2022** – An email was sent in response to sample results received on 6/30/202 asking why they did not include stormwater sample results for Chemical Oxygen Demand, Total Nitrogen, or Total Phosphorus as initially requested via email on 4/3/2022.

**7/14/2022** – DEP received an email response stating they had added the additional parameters to future samples. However, this request was made after the samples were taken for 2022. The lab indicated they would analyze for the additional parameters during the qualifying storm event for them when they are scheduled for their next round of sampling. Therefore, DEP has not yet received results for Chemical Oxygen Demand, Total Nitrogen, or Total Phosphorus for either of the stormwater outfalls. [Attachment G – saved as a PDF]

### Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001 (emergency only)	Design Flow (MGD)	NA
Latitude	39° 54' 11.77"	Longitude	-76° 36' 9.18"
Wastewater Description: Noncontact Cooling Water (NCCW) (Emergency – only when recirculation system is offline)			
Receiving Waters	Fishing Creek (TSF, MF)	Stream Code	7836
NHD Com ID	57469387	RMI	11.67
Drainage Area	0.18 mi <sup>2</sup> (StreamStats)	Yield (cfs/mi <sup>2</sup> )	0.5
Q <sub>7-10</sub> Flow (cfs) <sup>1</sup>	0.1	Q <sub>7-10</sub> Basis	See Footnote 1
Elevation (ft)	780	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	CHANNELIZATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Red Lion Boro Municipal Authority. Beaver Creek Pump Station – PWS.		
PWS Waters	Fishing Creek	Location	Lower Windsor Twp, York Co
PWS RMI	5.2	Distance from Outfall (mi)	6.5

<sup>1</sup> Q<sub>7-10</sub> Flow (cfs) was copied from the 2013 Protection Report

**Changes Since Last Permit Issuance:**

A revised outfall information table was received via email on 4/13/2022 which included updated latitude and longitude for Outfall 001 (in comparison to the application received April 16, 2018). The revised outfall information was used in place of the latitude/longitude provided in the previous 2013 Draft Fact Sheet, since the latitude and longitude provided is more precise.

**Comments:**

Outfall 001 (emergency only). Non-contact cooling water. There hasn't been any discharge from this outfall since 1993 due to the use of a closed-loop, recirculating cooling tower. The permittee would like to keep this outfall open so that when the equipment is down, they will use a city water source for the non-contact cooling water purpose.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD) <sup>1</sup>	0.005 (GRS discharge only)
Latitude <sup>2</sup>	39° 54' 16.78"	Longitude <sup>2</sup>	-76° 36' 6.45"
Wastewater Description: Groundwater Remediation System (GRS) Discharge and Industrial Stormwater			
Receiving Waters	Fishing Creek (TSF, MF)	Stream Code	7836
NHD Com ID	57469387	RMI	11.65
Drainage Area	0.22 mi <sup>2</sup> (StreamStats)	Yield (cfs/mi <sup>2</sup> )	0.5
Q <sub>7-10</sub> Flow (cfs) <sup>3</sup>	0.1	Q <sub>7-10</sub> Basis	see Footnote 3
Elevation (ft)	780	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	CHANNELIZATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Name		
	Red Lion Boro Municipal Authority. Beaver Creek Pump Station – PWS.		
Nearest Downstream Public Water Supply Intake			
PWS Waters	Fishing Creek	Location	Lower Windsor Twp, York Co
PWS RMI	5.2	Distance from Outfall (mi)	6.4

<sup>1</sup> 0.005 MGD = Maximum Flow during Production/Operation per the 4/16/2018 application.

<sup>2</sup> See Comment 1 below

<sup>3</sup> Q<sub>7-10</sub> Flow (cfs) was copied from the 2013 Protection Report

#### Changes Since Last Permit Issuance:

- Updated the wastewater description to indicate that Outfall 002 includes both GRS discharge and industrial stormwater.
- A revised outfall information table was received via email on 4/13/2022 which included updated latitude and longitude for Outfall 002 (in comparison to the application received April 16, 2018). The revised outfall information was used in place of the latitude/longitude provided in the previous 2013 Draft Fact Sheet.
- Information regarding the stormwater portion of the discharge from Outfall 002 is included.

#### Comments:

##### **1. Latitude / Longitude:**

- On June 4, 2022, I requested (via email) the latitude / longitude for the historical discharge location for the effluent from AST1 / NPDES Permit Outfall 002. On June 6, 2022, I received the following response (via email):  
***Outfall 002/AST1 & Outfall 003/AST2 from the Air Stripper Towers are both located along Latitude 39.005" & Longitude -76.599" approximately 4-50 yards apart along an unimproved roadway behind a secure fenced-in area. Both Outfalls are plumbed into a concrete drainage culvert which drains along a 45-50 degree slope to Fishing Creek. The drainage culvert is not a solid run; after going under the roadway mentioned above it flows through the woods, more of a swale. The vegetation is very high at the moment and is difficult to see the precise path however it is with high certainty based on the topography of the area this is the result.***
- Since Outfalls 002 and 003 cannot be at the same location and the Latitude and Longitude provided are not valid, the latitude and longitude listed above is the location of AST1, and not the location of the discharge from AST1.
- On 6/6/2022, a revised Site plan (Figure 5) was received showing the discharge location for Outfall 002 and subsequent outfall flow to Fishing Creek.
- Using the revised Site Plan (Figure 5) and eMapPA, the approximate location for Outfall 002 is 39.905 N / -76.602 W.

##### **2. Stormwater Information.**

- Drainage Area = 427,000 sq ft, 65% impervious.
- Description of Materials / Activities in Drainage Area Exposed to Precipitation: Material loading/unloading, parking lots, storage tanks, trash compactor, building roof
- Description of BMPs in Drainage Area to Control Pollutants in Stormwater: Material loading/unloading occurs indoors whenever possible, tanks are equipped with secondary containment and/or high level alarms

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	003	Design Flow (MGD) <sup>1</sup>	0.080
Latitude <sup>2</sup>	39° 54' 19.00"	Longitude <sup>2</sup>	-76° 35' 58.90"
Wastewater Description: Groundwater Remediation System (GRS) Discharge			
Receiving Waters	Fishing Creek (TSF, MF)	Stream Code	7836
NHD Com ID	57469387	RMI	11.57
Drainage Area	0.25 mi <sup>2</sup> (StreamStats)	Yield (cfs/mi <sup>2</sup> )	0.5
Q <sub>7-10</sub> Flow (cfs) <sup>3</sup>	0.1	Q <sub>7-10</sub> Basis	see Footnote 3
Elevation (ft)	775	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	CHANNELIZATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Red Lion Boro Municipal Authority. Beaver Creek Pump Station – PWS.		
PWS Waters	Fishing Creek	Location	Lower Windsor Twp, York Co
PWS RMI	5.2	Distance from Outfall (mi)	6.4

<sup>1</sup> 0.080 MGD = Maximum Flow during Production/Operation per the 4/16/2018 application.

<sup>2</sup> See Comment 1 below

<sup>3</sup> Q<sub>7-10</sub> Flow (cfs) was copied from the 2013 Protection Report

#### Changes Since Last Permit Issuance:

1. A revised outfall information table was received via email on 4/13/2022 which included updated latitude and longitude for Outfall 003 (in comparison to the application received April 16, 2018). The revised outfall information was used in place of the latitude/longitude provided in the previous 2013 Draft Fact Sheet.
2. The Maximum Flow during Production/Operation per the 4/16/2018 application was 0.080 MGD (it was reported as 0.098 MGD in the 2009 application)

#### Comments:

##### 1. Latitude / Longitude:

- a. On June 4, 2022, I requested (via email) the latitude / longitude for the historical discharge location for the effluent from AST2 / NPDES Permit Outfall 003. On June 6, 2022, I received the following response (via email):

**Outfall 002/AST1 & Outfall 003/AST2 from the Air Stripper Towers are both located along Latitude 39.005" & Longitude -76.599" approximately 4-50 yards apart along an unimproved roadway behind a secure fenced-in area. Both Outfalls are plumbed into a concrete drainage culvert which drains along a 45-50 degree slope to Fishing Creek. The drainage culvert is not a solid run; after going under the roadway mentioned above it flows through the woods, more of a swale. The vegetation is very high at the moment and is difficult to see the precise path however it is with high certainty based on the topography of the area this is the result.**

- b. Since Outfalls 002 and 003 cannot be at the same location and the Latitude and Longitude provided are not valid, the latitude and longitude listed above is the location of AST2, and not the location of the discharge from AST2.
- c. On 6/6/2022, a revised Site plan (Figure 5) was received showing the discharge location for Outfall 003 and subsequent outfall flow to Fishing Creek.
- d. Using the revised Site Plan (Figure 5) and eMapPA, the approximate location for Outfall 003 is 39.905 N / -76.600 W.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	005	Design Flow (MGD)	NA (Stormwater only)
Latitude	39° 54' 14.91"	Longitude	-76° 36' 13.00"
Wastewater Description: Stormwater			
Receiving Waters	Fishing Creek (TSF, MF)	Stream Code	7836
NHD Com ID	57469387	RMI	11.67
Drainage Area	0.18 mi <sup>2</sup> (StreamStats)	Yield (cfs/mi <sup>2</sup> )	0.5
Q <sub>7-10</sub> Flow (cfs) <sup>1</sup>	0.1	Q <sub>7-10</sub> Basis	See Footnote 1
Elevation (ft)	790	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	CHANNELIZATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Red Lion Boro Municipal Authority. Beaver Creek Pump Station – PWS.		
PWS Waters	Fishing Creek	Location	Lower Windsor Twp, York Co
PWS RMI	5.2	Distance from Outfall (mi)	6.4

<sup>1</sup> Q<sub>7-10</sub> Flow (cfs) was copied from the 2013 Protection Report

#### **Changes Since Last Permit Issuance:**

A revised outfall information table was received via email on 4/13/2022 which included updated latitude and longitude for Outfall 005 (in comparison to the application received April 16, 2018). The revised outfall information was used in place of the latitude/longitude provided in the previous 2013 Draft Fact Sheet, since the latitude and longitude provided is more precise.

#### **Comments:**

1. **Stormwater Information** (per revised Module 1 received via email on 4/13/2022, which replaced Module 1 received with the 4/16/2018 application)
  - a. Drainage Area = 442,000 sq ft, 72% impervious.
  - b. Description of Materials / Activities in Drainage Area Exposed to Precipitation: Material loading/unloading, parking lots, storage tanks, dumpsters/rolloffs, building roof, steel and aluminum bar stock, wood pallets, steel tubs
  - c. Description of BMPs in Drainage Area to Control Pollutants in Stormwater: Material loading/unloading occurs indoors whenever possible, tanks are equipped with secondary containment and/or high level alarms, oil containing wastes are stored under cover in a diked area that provides containment.

### Treatment Facility Summary

**Treatment Facility Name:** General Dynamics OTS (Pa) Inc. See Figure 7

WQM Permit No.	Issuance Date
n/a	n/a

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial		Air Stripping	No Disinfection	

**Pumping well P-1** is situated within the western plume and adjacent to MW-8 and the MW-19 cluster (began operating in 1991) and fed **Air Stripper Tower 1 (AST1)**.

**Pumping well P-4** is located at the terminus of a cross-strike fracture system in the eastern part of the study site (began operating in 1992/1993) and pumped to **Air Stripper Tower (AST2)**.

The Air Stripping Towers (AST) were designed to pump groundwater up into the Towers (which contain balls that break out the VOCs in the groundwater). When these Towers were in operation carbon absorption units were in place to capture the VOCs. The treated water was then returned to the stream via the outfall. (per 5/4/2022 email from General Dynamics)

The snapshot below summarizes the types of sampling points and sampling frequency (taken from the **2020-2021 Progress Report – Cleanup Plan dated February 8, 2022**).

See Figure 7 for a map showing the monitoring well and pumping well locations along with the distribution of Total Volatile Organic Compounds (VOCs) in groundwater overlaid on the site topography.

#### 4.0 CONCENTRATION RESPONSE

The ASTs were turned off from the end of September 2018 through the present. For the current reporting period, GD-OTS collected quarterly and semiannual groundwater samples from the following monitoring wells and surface water sampling points listed in Table 9 on the schedule shown in Table 10.

Table 9: Sampling Points		
Type of Points	Frequency	Points
Point of Compliance Wells	Quarterly	MW-21A, MW-22, MW-23, MW-24
Surface Water Monitoring Points	Quarterly	ST-7, ST-10
Vertical Definition at Area 1	Quarterly	MW-25A, MW-25B, MW-25C, MW-28 (On-site deep well)
Plume Definition*	Semiannual	MW-5, MW-8, MW-10, MW-12, MW-14, MW-15

\*ALS did not collect samples from MW-11 because the stick-up for MW-11 has been compromised, and from the Stream Well because of an obstruction within the well.

#### Changes Since Last Permit Issuance:

Pumping well P-2A was abandoned in 2017 due to technical issues that arose in November 2015. (2020-2021 Progress Report – Cleanup Plan dated February 8, 2022)

Pumping wells (P-1 and P-4) and ASTs (AST1 and AST2) were shut down at the end of September 2018 to evaluate the effects of cessation on the groundwater system. Therefore, since September 2018 there has been no discharge to Outfall 002 from AST1 and no discharges to Outfall 003 from AST2.

**The 2020-2021 Progress Report – Cleanup Plan dated February 8, 2022** submitted by Buchart Horn, Inc (BHI) to DEP – Environmental Cleanup and Brownfields Program (ECB Program) states that concentrations in the monitoring wells are stable and are either decreasing or have no trend since the pumps were shut down in 2018. *We are proposing that the pumping cessation be made permanent as intended in the 2012 Cleanup Plan. We request your review and concurrence with this permanent cessation such that General Dynamics can begin dismantling the air stripping towers. We are also*

*proposing to continue the monitoring well sampling at its current frequency through 2022 before reducing the frequency in 2023 if trends remain favorable.*

Per the 4/13/2022 email received from General Dynamics, until such time as PADEP issues agreement with BHI's conclusion (in the 2020-2021 Progress Report), **General Dynamics requests that Outfalls 002 and 003 remain in the NPDES permit with condition monitoring requirements** in the event that the ASTs are again determined to be necessary. Once the ASTs have been dismantled, a permit amendment will be submitted to remove them from the NPDES permit.

**Chemical Additives:** None

Compliance History	
<p><b>Summary of DMRs:</b></p> <p>Jan 2015 through June 2022</p>	<p><b>Outfall 001.</b> No discharge since 1993.</p> <p><b>Outfall 002.</b></p> <ul style="list-style-type: none"> <li>There is no influent or effluent data (or discharge) from AST1 since September 2018 when it was shut down.</li> <li><b>Monthly effluent</b> data from AST1 for Trichloroethylene (TCE) between January 2015 and September 2018 showed some detections (<i>maximum = 0.01 mg/l September 2018</i>); however, they were all below the daily maximum limit of 0.06 mg/L.</li> <li><b>Quarterly effluent</b> data from AST1 between January 2015 and September 2018: <ul style="list-style-type: none"> <li><b>The following parameters were detected:</b> 1,1,1-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethylene; 1,2-Dichloroethane; Carbon Tetrachloride; Chloroethane; Chloroform; cis-1,2-Dichloroethene; and trans-1,2-Dichloroethene</li> <li><b>The following organic compounds were not detected:</b> 1,1,2-Trichloroethane, 4-Chlorobenzotrifluoride, Carbon Disulfide, Chlorobenzene, Methylene Chloride, Methyl tert-Butyl Ether (MTBE), Naphthalene, Tetrachloroethene, Vinyl Chloride, and Total Xylenes.</li> <li>Quarterly effluent parameters are monitor and report (with no limits).</li> </ul> </li> <li><b>Quarterly influent</b> data to AST1 between January 2015 and September 2018: <ul style="list-style-type: none"> <li><b>The following parameters were detected:</b> 1,1,1-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; cis-1,2-Dichloroethene; Chloroethane; and Tetrachloroethene,</li> <li><b>The following parameters were not detected:</b> 1,1,2-Trichloroethane; 1,2-Dichloroethane; 4-Chlorobenzotrifluoride; Carbon Disulfide; Carbon Tetrachloride; Chlorobenzene; Chloroform; Methylene Chloride; Methyl tert-Butyl Ether (MTBE); Naphthalene; trans-1,2-Dichloroethene; Vinyl Chloride; and Total Xylenes .</li> <li>Quarterly influent parameters are monitor and report (with no limits).</li> </ul> </li> <li><b>Annual stormwater</b> data between January 2015 and June 2022: <ul style="list-style-type: none"> <li><b>The following parameters were detected:</b> Total Suspended Solids, Oil and Grease, BOD<sub>5</sub>, pH, Total Lead, Total Copper, Total Zinc, Total Iron, Hexavalent Chromium, and Total Silver.</li> <li><b>The following parameters were not detected:</b> Total Antimony, Total Arsenic, Total Cadmium, Total Nickel, Total Selenium, and Total Thallium</li> <li>Annual stormwater parameters are monitor and report (with no limits).</li> </ul> </li> </ul> <p><b>Outfall 003.</b></p> <ul style="list-style-type: none"> <li>There is no influent or effluent data (or discharge) from AST2 since September 2018 when it was shut down.</li> <li><b>Monthly effluent</b> data from AST2 for Trichloroethylene (TCE) between January 2015 and September 2018 were all below the detection limit (&lt;0.001 mg/L).</li> <li><b>Quarterly effluent</b> data from AST2 between January 2015 and September 2018: <ul style="list-style-type: none"> <li><b>All the parameters were below detection.</b></li> <li>Quarterly effluent parameters are monitor and report (with no limits).</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Quarterly influent</b> data to AST2 between January 2015 and September 2018: <ul style="list-style-type: none"> <li>○ <b>The following parameters were detected:</b> 1,1,1-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; cis-1,2-Dichloroethene; Chloroethane; Chloroform; and Tetrachloroethene.</li> <li>○ <b>The following parameters were not detected:</b> 1,1,2-Trichloroethane; 1,2-Dichloroethane; 4-Chlorobenzotrifluoride; Carbon Disulfide; Carbon Tetrachloride; Chlorobenzene; Methylene Chloride; Methyl tert-Butyl Ether (MTBE); Naphthalene; trans-1,2-Dichloroethene; Vinyl Chloride; and Total Xylenes.</li> <li>○ Quarterly influent parameters are monitor and report (with no limits).</li> </ul> </li> <li>• <b>Outfall 005.</b></li> <li>• <b>Annual stormwater</b> data between January 2015 and June 2022: <ul style="list-style-type: none"> <li>○ <b>The following parameters were detected:</b> BOD<sub>5</sub>, Total Cadmium, Total Copper, Total Iron, Total Lead, Oil and Grease, pH, Total Suspended Solids, and Total Zinc,</li> <li>○ <b>The following parameters were not detected:</b> Total Antimony, Total Arsenic, Hexavalent Chromium, Total Nickel, Total Selenium, Total Silver, Total Thallium</li> <li>○ Annual stormwater parameters are monitor and report (with no limits).</li> </ul> </li> </ul>
<b>Summary of Inspections:</b>	<p>Since the last NPDES permit renewal (October 2013), the facility has been inspected once. The notes from those inspections are as follows:</p> <p><b>April 5, 2018:</b> The Department's inspector, Sheena Ripple, stated that Outfall 001 does not discharge, closed loop system. Outfalls 002 and 003 discharge treated groundwater from air strippers. Outfall 004 is no longer used, vacuum extraction for groundwater was removed. Outfall 005 discharges stormwater runoff. No issues observed walking around site or reviewing paperwork. There were no violations noted.</p>
<b>Summary of Violations:</b>	<ul style="list-style-type: none"> <li>• There are no open violations for the facility.</li> <li>• Since the last permit renewal in October 2013, there have been no violations.</li> </ul>

**Other Comments:**

- Since the last permit renewal in October 2013, no limit exceedances exist for TCE (the only parameter with a limit) in the DMR data.

Influent Data:

- Sample results for the untreated groundwater (influent) for both to AST1 (Outfall 002) and AST2 (Outfall 003) were not summarized on Module 2 of the 2018 renewal application as required.
  - They did include copies of the analytical results from the lab from their routine testing (quarterly) samples collected on March 7, 2017, June 6, 2017, and September 5, 2017 for the following Sample IDs: AST1, AST2, 002, and 003.
- The last time there was any influent to either AST1 or AST2 was in September 2018 when they were shut down.
- The 2020-2021 Progress Report – Cleanup Plan for General Dynamics Ordnance and Tactical Systems Inc. submitted to DEP on February 8, 2022 by Bucht Horn, Inc. (**2020-2021 Progress Report**) included the tables below listing the average annual concentrations (of the quarterly sampling events) of the main parameters of concern in the influent to AST1 and AST2. (*Note: additional influent data that includes results for all the parameters sampled for each quarter can be found in Appendix A of the 2020-2021 Progress Report*).

As represented by the yearly influent of the stripping towers, the average groundwater quality of each plume from 2010 through 2018 is shown below in Tables 4 and 5. The increase in concentrations from 2013 through 2014 and into 2015/2016 is an indication that the residual chlorinated solvents were being remediated through flushing of the upper aquifer, as shown below in both tabular and graphical form.

SAMPLE YEAR: PARAMETER <sup>1</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019- 2021
1,1,1-TCA	6859	6100	5875	4790	6790	7140	5193	3242	4230	*
1,1-DCA	471	506	542	624	753	871	741	468	676	*
1,1-DCE	401	303	362	356	445	476	298	332	192	*
CEA	81.4	94.7	101	148	157	279	294	288	153	*
PCE	12.5	10.4	10.3	11.5	10.4	16.0	<50	<50	<50	*
TCE	342	210	276	187	231	258	105	110	63	*
VC	<10	<10	<10	<10	<10	<10	<50	<50	<50	*
cis-1,2-DCE	615	403	640	410	547	769	250	244	103	*
Total VOCs	8790	7630	7810	6520	8930	9800	6881	4442	5417	*

SAMPLE YEAR:	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019-2021
PARAMETER <sup>1</sup>										
1,1,1-TCA	81.2	74.9	50.1	50.6	56.4	90.2	111.2	59.7	91.9	*
1,1-DCA	14.2	14.1	10.7	11.6	13.3	21.4	28.9	18.0	29.0	*
1,1-DCE	16.8	17.8	12.3	14.6	16.1	24.5	28.5	18.3	21.7	*
CEA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*
PCE	3.0	3.3	2.4	2.5	3.2	3.7	2.3	1.9	1.8	*
TCE	36.9	36.5	28.0	28.9	29.1	37.0	36.3	20.9	25.8	*
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	*
cis-1,2-DCE	53.2	52.6	40.7	44.5	41.9	53.2	92.9	49.9	78.4	*
Total VOCs	205.3	199.1	144.2	152.7	160	229.8	300.1	112.4	249.8	*

<sup>1</sup> Parameter	111-TCA:	1,1,1-Trichloroethane	11-DCA	1,1-Dichloroethane	11-DCE	1,1-Dichloroethene
	CEA:	Chloroethane	PCE:	Tetrachloroethene	TCE:	Trichloroethene
	VC:	Vinyl Chloride	cis-12-DCE:	cis-1,2-Dichloroethene		

\*ASTs have been turned off since September 2018

12

**Development of Effluent Limitations – ALL OUTFALLS**

**Antidegradation (93.4):** The effluent limits for these discharges have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by these discharges. No Exceptional Value Waters are impacted by these discharges.

**303d LISTED STREAMS:** eMapPA lists Fishing Creek as impaired at the discharge points for URBAN RUNOFF/STORM SEWERS - SILTATION ; HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION - SILTATION ; CHANNELIZATION - SILTATION ; HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION – HABITAT ALTERATIONS.

A TMDL has not yet been developed for this impairment.

**Class A Wild Trout Fisheries:** No Class A Wild Trout Fisheries are impacted by these discharges

**Public Water Supply:** The nearest downstream public water supply intake is owned by Red Lion Municipal Authority on Fishing Creek in York County, approximately 6 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

This distance was determined as follows:

RMI of Fishing Creek at Outfall 003 (as an example)	11.6 mi
- RMI of Red Lion Municipal Authority intake on Fishing Creek	<u>5.2 mi</u>
	6.4 mi

**Development of Effluent Limitations - 001**

<b>Outfall No.</b>	<u>001</u>	<b>Design Flow (MGD)</b>	<u>0 (emergency use only)</u>
<b>Latitude</b>	<u>39° 54' 11.70"</u>	<b>Longitude</b>	<u>-76° 36' 9.18"</u>
<b>Wastewater Description:</b>	<u>Noncontact Cooling Water (NCCW)</u>		

Although this emergency NCCW discharge may never occur, it will be specified in Part A of the permit. It is recommended that the permit specify daily flow and temperature monitoring when a discharge does occur, and pH minimum and maximum limits of 6.0 and 9.0 S.U., respectively, in accordance with 25 Pa Code § 95.2(1) with daily monitoring when a discharge occurs. (from December 2004 Protection Report).

No changes recommended to current permit.

**Development of Effluent Limitations – Outfall 002 (AST1)**

<b>Outfall No.</b>	<u>002</u>
<b>Wastewater Description:</b>	<u>Groundwater Cleanup Discharge - Air Stripper Tower 1 (AST1) effluent*</u>
* see <b>Development of Effluent Limitations: STORMWATER – Outfall 002 (Stormwater) and Outfall 005 (Stormwater)</b> section for additional effluent limits for Outfall 002.	

The air stripping tower (AST1) that discharges to Outfall 002 has not been in use since September 2018. However, General Dynamics requests that Outfall 002 remain in the NPDES permit with monitoring requirements in the event that AST1 is again determined to be necessary. Once AST1 has been dismantled, a permit amendment will be submitted to remove it from the NPDES permit. Note: This will not affect the stormwater effluent parameters and limitations established for Outfall 002.

**Technology-Based Limitations**

**pH:** The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa Code § 95.2(1).

**Water Quality-Based Limitations****Toxics Management Spreadsheet (TMS) Version 1.3 was used in developing the limits (see Attachment H).**

**Discharge Information Inputs:** Module 2 of the application only listed the results for pH. See the April 3, 2022 email and subsequent response received April 13, 2022 (Attachment C).

The maximum quarterly influent concentration that was reported via DMR for the period between the 1<sup>st</sup> quarter 2015 (1Q2015) and the 3<sup>rd</sup> quarter 2018 (3Q2018) when the system was taken offline was used in the Discharge Information page of the Toxics Management Spreadsheet (TMS) for the organic compounds listed in Footnote 4 in Part A of the 2013 NPDES Permit which included the following parameters: 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 4-Chlorobenzotrifluoride, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, Dichloromethane (Methylene Chloride), Methyl tert-Butyl Ether (MTBE), Naphthalene, Tetrachloroethene, Chloroethene (Vinyl Chloride), and Total Xylenes.

For Trichloroethylene (TCE), the maximum result of the AST1 Raw Data (taken from the 2020-2021 Progress Report) was used in the TMS, since the 2013 NPDES Permit did not require the influent for TCE be reported.

**Stream Inputs:** The previous protection report stated that there are reportedly underground springs at the confluence of Fishing Creek and the swale to which General Dynamics discharges, which provide the base flow to Fishing Creek. According to a memo prepared by a Department biologist in 1986, a low flow of 48 gpm or approximately 0.1 cfs is recommended (see Attachment I). StreamStats was used on June 12, 2022 and its results were in general agreement with this recommendation. According to StreamStats, the discharge point into the stream has a Q<sub>7-10</sub> of 0.132 cfs and a drainage area of 0.22 mi<sup>2</sup>, which results in a Q<sub>7-10</sub> low flow yield of 0.6 cfs/mi<sup>2</sup>. This fact sheet will continue to use the Q<sub>7-10</sub> value of 0.1 cfs

**Design Flow Input:** 0.005 MGD. Used the Maximum Flow During Production / Operation (MGD) provided on the April 16, 2018 application.

**Model Results:**

- The Recommended WQBELs & Monitoring Requirements included limits for were suggested for 1,1-Dichloroethylene, 1,1,1-Trichloroethane, Trichloroethane, Vinyl Chloride, and cis-1,2-Dichloroethene (see screenshot below).

Toxics Management Spreadsheet  
Version 1.3, March 2021**Model Results**

General Dynamics, NPDES Permit No. PA0043672, Outfall 002

**Instructions** **Results** [RETURN TO INPUTS](#) [SAVE AS PDF](#) [PRINT](#) ☒ All ☐ Inputs ☐ Results ☐ Limits

☒ **Recommended WQBELs & Monitoring Requirements**

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
1,1-Dichloroethylene	0.021	0.033	502	784	1,256	µg/L	502	THH	Discharge Conc ≥ 50% WQBEL (RP)
1,1,1-Trichloroethane	0.39	0.6	9,285	14,486	23,212	µg/L	9,285	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Trichloroethylene	0.004	0.005	84.3	132	211	µg/L	84.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	Report	Report	Report	Report	Report	µg/L	2.81	CRL	Discharge Conc > 25% WQBEL (no RP)
1,2-cis-Dichloroethylene	0.008	0.012	183	285	457	µg/L	183	THH	Discharge Conc ≥ 50% WQBEL (RP)

- The following parameters do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical methods was used: Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane,

Dichloromethane (Methylene Chloride), Tetrachloroethene, trans-1,2-Dichloroethene, 1,1,2-Trichloroethane; Naphthalene; Total Xylenes; and MTBE (see screenshot below).



Toxics Management Spreadsheet  
Version 1.3, March 2021

## Model Results

General Dynamics, NPDES Permit No. PA0043672, Outfall 002

**Instructions** **Results** **RETURN TO INPUTS** **SAVE AS PDF** **PRINT** ☒ All ☐ Inputs ☐ Results ☐ Limits

### ☒ Other Pollutants without Limits or Monitoring

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Carbon Tetrachloride	56.2	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,522	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
Chloroform	86.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	1,391	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	2,811	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	1,405	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	1,522	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	77.3	µg/L	Discharge Conc < TQL
Naphthalene	655	µg/L	Discharge Conc ≤ 25% WQBEL
Total Xylenes	3,196	µg/L	Discharge Conc < TQL
MTBE	N/A	N/A	No WQS

- 4-Chlorobenzotrifluoride and Carbon Disulfide were not in the TMS list of pollutants.

## Toxics – Proposed Limits and Monitoring Requirements:

- The TMS model recommended less stringent limits for TCE than listed in the 2013 NPDES Permit. It is recommended to maintain the existing limits for TCE in the proposed permit in order to avoid backsliding. The frequency will remain 2/month for the effluent. And influent monitoring will be added at a frequency of 1/quarter.
- According to the TMS model, in addition to the existing limits for TCE, limits should also be included for the following pollutants: 1,1-Dichloroethylene, 1,1,1-Trichloroethane, Vinyl Chloride, and cis-1,2-Dichloroethene. However, since there is no expectation for the AST1 to be put back online, it is recommended to maintain these additional pollutants as monitor and report.
- It is recommended to maintain the following pollutants as monitoring and report since they had detections in either or both the influent or effluent during the reporting period between January 2015 and September 2018: Carbon Tetrachloride, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, Tetrachloroethene, and trans-1,2-Dichloroethene.
- It is recommended to remove the following pollutants since they have not been detected above the Target QL between the reporting period between January 2015 and September 2018: Chlorobenzene, Dichloromethane (Methylene Chloride), 1,1,2-Trichloroethane; Naphthalene; Total Xylenes; and MTBE. (See Appendix H for Target QLs)
- It is recommended to remove 4-Chlorobenzotrifluoride and Carbon Disulfide as pollutants since they have not been detected in the influent and there is not a Target QL (therefore, they are not in the TMS list of pollutants).

## Comparison of Effluent Limitations and Parameters from 2013 NPDES Permit and Draft NPDES Permit:

Parameter	2013 NPDES Permit Limits Renewal			Recommended NPDES Permit Limits Renewal		
	Ave Monthly	Max Daily	Inst. Maximum	Ave Monthly	Max Daily	Inst. Maximum
pH (SU)	6.0 (min)		9.0	6.0 (min)		9.0
Flow (MGD)	Report	Report	xxx	Report	Report	xxx
Trichloroethylene (TCE) (µg/L) <sup>1,3</sup>	0.03	0.06	0.075	0.03	0.06	0.075
1,1-Dichloroethylene <sup>2,3</sup>		Report			Report	

Parameter	2013 NPDES Permit Limits Renewal			Recommended NPDES Permit Limits Renewal		
	Ave Monthly	Max Daily	Inst. Maximum	Ave Monthly	Max Daily	Inst. Maximum
1,1,1-Trichloroethane <sup>2,3</sup>		Report			Report	
Vinyl Chloride <sup>2,3</sup>		Report			Report	
cis-1,2-Dichloroethene <sup>2,3</sup>		Report			Report	
Carbon Tetrachloride <sup>2,3</sup>		Report			Report	
Chloroethane <sup>2,3</sup>		Report			Report	
Chloroform <sup>2,3</sup>		Report			Report	
1,1-Dichloroethane <sup>2,3</sup>		Report			Report	
1,2-Dichloroethane <sup>2,3</sup>		Report			Report	
Tetrachloroethene <sup>2,3</sup>		Report			Report	
trans-1,2-Dichloroethene <sup>2,3</sup>		Report			Report	
Chlorobenzene		Report			(removed)	
Dichloromethane (Methylene Chloride),		Report			(removed)	
1,1,2-Trichloroethane		Report			(removed)	
Naphthalene		Report			(removed)	
Total Xylenes		Report			(removed)	
MTBE		Report			(removed)	
4-Chlorobenzotrifluoride		Report			(removed)	
Carbon Disulfide		Report			(removed)	

<sup>1</sup> Minimum Measurement Frequency for effluent = 2/month

<sup>2</sup> Minimum Measurement Frequency for effluent = 1/quarter

<sup>3</sup> Minimum Measurement Frequency for influent = 1/quarter

### Development of Effluent Limitations – Outfall 003 (AST2)

**Outfall No.** 003

**Wastewater Description:** Groundwater Cleanup Discharge - Air Stripper Tower 2 (AST2) effluent

The air stripping tower (AST2) that discharges to Outfall 003 has not been in use since September 2018.

However, General Dynamics requests that Outfall 003 remain in the NPDES permit with monitoring requirements in the event that AST2 is again determined to be necessary. Once AST2 has been dismantled, a permit amendment will be submitted to remove it from the NPDES permit.

### Technology-Based Limitations

**pH:** The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa Code § 95.2(1).

### Water Quality-Based Limitations

**Toxics Management Spreadsheet (TMS) Version 1.3 was used in developing the limits (see Attachment J).**

**Discharge Information Inputs:** Module 2 of the application only listed the results for pH. See the April 3, 2022 email and subsequent response received April 13, 2022 (Attachment C).

The maximum quarterly influent concentration that was reported via DMR for the period between the 1<sup>st</sup> quarter 2015 (1Q2015) and the 3<sup>rd</sup> quarter 2018 (3Q2018) when the system was taken offline was used in the Discharge Information page of the Toxics Management Spreadsheet (TMS) for the organic compounds listed in Footnote 4 in Part A of the 2013 NPDES Permit which included the following parameters: 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 4-Chlorobenzotrifluoride, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform,

Dichloromethane (Methylene Chloride), Methyl tert-Butyl Ether (MTBE), Naphthalene, Tetrachloroethene, Chloroethene (Vinyl Chloride), and Total Xylenes.

For Trichloroethylene (TCE), the maximum result of the AST2 Raw Data (taken from the 2020-2021 Progress Report) was used in the TMS, since the 2013 NPDES Permit did not require the influent for TCE be reported.

**Stream Inputs:** The previous protection report stated that there are reportedly underground springs at the confluence of Fishing Creek and the swale to which General Dynamics discharges, which provide the base flow to Fishing Creek. According to a memo prepared by a Department biologist in 1986, a low flow of 48 gpm or approximately 0.1 cfs is recommended (see Attachment I). StreamStats was used on June 12, 2022 and its results were in general agreement with this recommendation. According to StreamStats, the discharge point into the stream has a  $Q_{7-10}$  of 0.132 cfs and a drainage area of 0.22 mi<sup>2</sup>, which results in a  $Q_{7-10}$  low flow yield of 0.6 cfs/mi<sup>2</sup>. This fact sheet will continue to use the  $Q_{7-10}$  value of 0.1 cfs

**Design Flow Input:** 0.080 MGD (this was 0.098 in 2013). Used Maximum Flow During Production / Operation (MGD) provided on the April 16, 2018 application.

#### Model Results:

- The Recommended WQBELs & Monitoring Requirements included limits for were suggested for Carbon Tetrachloride; 1,1-Dichloroethylene; Trichloroethane; Vinyl Chloride; and cis-1,2-Dichloroethene (see screenshot below).



Toxics Management Spreadsheet  
Version 1.3, March 2021

#### Model Results

General Dynamics, NPDES Permit No. PA0043672, Outfall 003

Instructions
Results
RETURN TO INPUTS
SAVE AS PDF
PRINT
All
Inputs
Results
Limits

☒ Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Carbon Tetrachloride	Report	Report	Report	Report	Report	µg/L	3.61	CRL	Discharge Conc > 25% WQBEL (no RP)
1,1-Dichloroethylene	0.04	0.062	59.7	93.1	149	µg/L	59.7	THH	Discharge Conc ≥ 50% WQBEL (RP)
Trichloroethylene	0.004	0.006	5.41	8.45	13.5	µg/L	5.41	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	0.0001	0.0002	0.18	0.28	0.45	µg/L	0.18	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2-cis-Dichloroethylene	0.014	0.023	21.7	33.8	54.2	µg/L	21.7	THH	Discharge Conc ≥ 50% WQBEL (RP)

- The following parameters do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical methods was used: 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, trans-1,2-Dichloroethene, Chlorobenzene, Chloroethane, Chloroform, Dichloromethane (Methylene Chloride), Methyl tert-Butyl Ether (MTBE), Naphthalene, Tetrachloroethene, and Total Xylenes. (see screenshot below).



## Model Results

General Dynamics, NPDES Permit No. PA0043672, Outfall 003

[Instructions](#) [Results](#) [RETURN TO INPUTS](#) [SAVE AS PDF](#) [PRINT](#) ☒ All ☐ Inputs ☐ Results ☐ Limits☒ Other Pollutants without Limits or Monitoring

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Chlorobenzene	181	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
Chloroform	10.3	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	89.3	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	180	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	90.2	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	181	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	1,103	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	4.96	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	77.7	µg/L	Discharge Conc ≤ 25% WQBEL
Total Xylenes	380	µg/L	Discharge Conc < TQL
MTBE	N/A	N/A	No WQS

- 4-Chlorobenzotrifluoride and Carbon Disulfide were not in the TMS list of pollutants.

## Toxics – Proposed Limits and Monitoring Requirements:

- The TMS model recommended more stringent limits for TCE than listed in the 2013 NPDES Permit. It is recommended to maintain the existing limits for TCE in the proposed permit. The frequency will remain 2/month for the effluent. And influent monitoring will be added at a frequency of 1/quarter.
- According to the TMS model, in addition to the existing limits for TCE, limits should also be included for the following pollutants: Carbon Tetrachloride; 1,1-Dichloroethylene; Vinyl Chloride; and cis-1,2-Dichloroethene. However, since there is no expectation for the AST2 to be put back online, it is recommended to maintain these pollutants as monitor and report.
- It is recommended to maintain the following pollutants as monitoring and report since they had detections in either or both the influent or effluent during the reporting period between January 2015 and September 2018: 1,1,1-Trichloroethane; 1,1-Dichloroethane; Chloroethane, Chloroform; and Tetrachloroethene.
- It is recommended to remove the following pollutants since they have not been detected above the Target QL between the reporting period between January 2015 and September 2018: 1,1,2-Trichloroethane; 1,2-Dichloroethane, trans-1,2-Dichloroethene, Chlorobenzene; Dichloromethane (Methylene Chloride), Methyl tert-Butyl Ether (MTBE), Naphthalene; and Total Xylenes.
- It is recommended to remove 4-Chlorobenzotrifluoride and Carbon Disulfide as pollutants since they have not been detected in the influent and there is not a Target QL (therefore, they are not in the TMS list of pollutants).

## Comparison of Effluent Limitations and Parameters from 2013 NPDES Permit and Draft NPDES Permit:

Parameter	2013 NPDES Permit Limits Renewal			Recommended NPDES Permit Limits Renewal		
	Ave Monthly	Max Daily	Inst. Maximum	Ave Monthly	Max Daily	Inst. Maximum
pH (SU)	6.0 (min)		9.0	6.0 (min)		9.0
Flow (MGD)	Report	Report	xxx	Report	Report	xxx
Trichloroethylene (TCE) (ug/L) <sup>1, 3</sup>	0.02	0.04	0.05	0.02	0.04	0.05
1,1-Dichloroethylene <sup>2,3</sup>		Report			Report	
1,1,1-Trichloroethane <sup>2,3</sup>		Report			Report	

Parameter	2013 NPDES Permit Limits Renewal			Recommended NPDES Permit Limits Renewal		
	Ave Monthly	Max Daily	Inst. Maximum	Ave Monthly	Max Daily	Inst. Maximum
<b>Vinyl Chloride</b> <sup>2,3</sup>		Report			Report	
<b>cis-1,2-Dichloroethene</b> <sup>2,3</sup>		Report			Report	
<b>Carbon Tetrachloride</b> <sup>2,3</sup>		Report			Report	
<b>Chloroethane</b> <sup>2,3</sup>		Report			Report	
<b>Chloroform</b> <sup>2,3</sup>		Report			Report	
<b>1,1-Dichloroethane</b> <sup>2,3</sup>		Report			Report	
<b>Tetrachloroethene</b> <sup>2,3</sup>		Report			Report	
<i>1,2-Dichloroethane</i>		Report			(removed)	
<i>trans-1,2-Dichloroethene</i>		Report			(removed)	
<i>Chlorobenzene</i>		Report			(removed)	
<i>Dichloromethane (Methylene Chloride),</i>		Report			(removed)	
<i>1,1,2-Trichloroethane</i>		Report			(removed)	
<i>Naphthalene</i>		Report			(removed)	
<i>Total Xylenes</i>		Report			(removed)	
<i>MTBE</i>		Report			(removed)	
<i>4-Chlorobenzotrifluoride</i>		Report			(removed)	
<i>Carbon Disulfide</i>		Report			(removed)	

<sup>1</sup> Minimum Measurement Frequency for effluent = 2/month

<sup>2</sup> Minimum Measurement Frequency for effluent = 1/quarter

<sup>3</sup> Minimum Measurement Frequency for influent = 1/quarter

**Development of Effluent Limitations: STORMWATER – Outfall 002 (Stormwater) and Outfall 005 (Stormwater)**
**Outfall No.** 002 and 005

**Wastewater Description:** Stormwater

**Best Professional Judgment (BPJ) Limitations**
**Previous Permit Monitoring Requirements, Outfalls 002 and 005, Stormwater only** (effective November 1, 2013 through October 31, 2018)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Storm Water Pollutants <sup>(5)</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

(5) Analysis required for the following Storm Water Pollutants: Total Suspended Solids, Oil and Grease, BOD<sub>5</sub>, pH, Total Lead, Total Copper, Total Zinc, Total Iron, Hexavalent Chromium, Total Antimony, Total Arsenic, Total Cadmium, Total Silver, Total Nickel, Total Selenium, and Total Thallium.

**Proposed Monitoring Requirements, Outfalls 002 and 005, Stormwater only**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency <sup>2</sup>	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Biochemical Oxygen Demand (BOD <sub>5</sub> ) <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate + Nitrite-Nitrogen <sup>1</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
pH (S.U.) <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids (TSS) <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Aluminum, Total <sup>1</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Antimony, Total <sup>4</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Arsenic, Total <sup>4</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Cadmium, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chromium, Hexavalent <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nickel, Total <sup>4</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Selenium, Total <sup>4</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency <sup>2</sup>	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Silver, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Thallium, Total <sup>4</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Zinc, Total <sup>3</sup>	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

**Footnotes and Explanation for proposed stormwater monitoring requirements.**

- <sup>1</sup> **Nitrate + Nitrite-Nitrogen and Total Aluminum are proposed to be added to the parameter list** for the following reason: If the facility were to qualify for a PAG-03, the facility's stormwater associated with industrial activity would fall under Appendix U – Fabricated Metal Products based on their SIC Code 3489, which includes monitoring requirements for **Nitrate + Nitrite-Nitrogen and Total Aluminum (along with pH, TSS, Total Iron, and Total Zinc** which were already included the current permit).
  - a. All of the other stormwater parameters, which are not part of Appendix U, will be retained from the previous permit due to their potential to be in the stormwater including: BOD<sub>5</sub>, Oil and Grease, Total Lead, Total Copper, Hexavalent Chromium, Total Antimony, Total Arsenic, Total Cadmium, Total Silver, Total Nickel, Total Selenium, and Total Thallium.
- <sup>2</sup> The minimum measurement frequency for all stormwater parameters is proposed to be increased from 1/year to 1/6 months so as not to be less stringent than the minimum measurement frequency of 1/6 months found in the PAG-03 General Permit.
- <sup>3</sup> It is recommended to maintain this stormwater pollutant since it has been detected in the past 5 years in the annual stormwater results from either (or both) Outfall 002 and 005.
- <sup>4</sup> It is recommended to maintain this stormwater pollutant since the Target QL is greater than one or more of the Reporting Detection Limits (RDLs) listed by the laboratory in the past 5 years. (see Attachment H for list of Target QLs)

**RECOMMENDED PART C LANGUAGE**

**I. OTHER REQUIREMENTS.** Standard language.

**II. REQUIREMENTS APPLICABLE TO STORMWATER OUTFALLS** (*see comment 1 below*)

- A. The permittee is authorized to discharge non-polluting stormwater from its site, alone or in combination with other wastewaters, through the following outfalls:

Outfall No.	Area Drained (ft <sup>2</sup> )	Latitude	Longitude	Description
002	427,000	39° 54' 16.78"	-76° 36' 6.45"	Material loading/unloading, parking lots, storage tanks, trash compactor, building roof
005	442,000	39° 54' 14.91"	-76° 36' 13.00"	Material loading/unloading, parking lots, storage tanks, dumpsters/rolloffs, building roof, steel and aluminum barstock, wood pallets, steel tubs

Monitoring requirements and effluent limitations for these outfalls are specified in Part A of this permit, if applicable.

- B. Stormwater Annual Report (*see comment 2 below*)

The permittee shall submit a complete Annual Report to the DEP office that issued the permit by May 1 each year using DEP's Annual Report template, attached to this permit. The Annual Report shall address activities under the permit for the previous calendar year. The permittee shall submit the Annual Report electronically if notified by DEP in writing. If the permittee discharges to a municipal separate storm sewer system (MS4), a copy of the Annual Report shall be submitted to the operator of the MS4.

- C. Best Management Practices (BMPs) (*see comment 3 below*)

The permittee shall implement and, as necessary, maintain the following BMPs to remain in compliance with this permit.

1. Pollution Prevention and Exposure Minimization.

The permittee shall minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff in order to minimize pollutant discharges by either locating industrial materials and activities inside or protecting them with storm resistant coverings wherever feasible. The permittee shall implement and maintain the following measures, at a minimum:

- Use grading, berming or curbing to prevent runoff of polluted stormwater and divert run-on away from areas that contain polluted stormwater
- Locate materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge to surface waters
- Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants to surface waters
- Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents to prevent the release of pollutants to the environment.
- Use spill/overflow protection equipment.
- Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray.
- Drain fluids from equipment and vehicles that will be decommissioned, and, for any equipment and

vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks.

- h. Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids, ensure that discharges have a control (e.g., secondary containment, treatment). This General Permit does not authorize dry weather discharges from dumpsters or roll off boxes.
- i. Minimize contamination of stormwater runoff from fueling areas by implementing the following BMPs where determined to be feasible: cover fueling areas; install oil/water separators or oil and grease traps in fueling area storm drains; use berms to prevent run-on to and runoff from fueling areas; use spill/overflow protection and cleanup equipment; use dry cleanup methods; and/or treat and/or recycle collected stormwater runoff.
- j. Train employees routinely (no less than annually) on pollution prevention practices as contained in the PPC Plan.

2. Good Housekeeping.

The permittee shall perform good housekeeping measures in order to minimize pollutant discharges including the routine implementation of the following measures, at a minimum:

- a. Implement a routine cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust or debris may accumulate to minimize the discharge of pollutants in stormwater. The cleaning and maintenance program must encompass, as appropriate, areas where material loading and unloading, storage, handling and processing occur.
- b. Store materials in appropriate containers.
- c. Minimize the potential for waste, garbage and floatable debris to be discharged by keeping exposed areas free of such materials, or by intercepting them before they are discharged.
- d. Eliminate floor drain connections to storm sewers.
- e. Use drip pans, drain boards, and drying racks to direct drips back into a fluid holding tank for reuse. Drain fluids from all equipment and parts prior to disposal. Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
- f. Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).
- g. Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a municipal or other storm water collection system that conveys pollutants off-site without proper treatment.

3. Erosion and Sediment Controls.

- a. The permittee shall minimize erosion and pollutant discharges by stabilizing exposed soils and placing flow velocity dissipation devices at discharge locations to minimize channel and stream bank erosion and scour in the immediate vicinity of stormwater outfalls.
- b. The permittee shall conduct all earth disturbance activities and, when applicable, shall maintain all post-construction stormwater management (PCSM) BMPs in accordance with 25 Pa. Code Chapter 102.
- c. The permittee may not utilize polymers or other chemicals to treat stormwater unless written permission is obtained from DEP.

4. Spill Prevention and Responses.

The permittee shall minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop a PPC Plan for effective responses to such releases. The permittee shall conduct the following spill prevention and response measures, at a minimum:

- a. Maintain an organized inventory of materials on-site. Plainly label containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides") that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur.
- b. Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the discharge of pollutants from these areas.
- c. Develop and implement employee and contractor training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. The permittee shall conduct periodic training, no less than annually, and document the training on the Annual Report specified in paragraph B of this section.
- d. Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made.
- e. Notify appropriate facility personnel when a leak, spill, or other release occurs.
- f. To the extent possible, eliminate or reduce the number and amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials of equal function, as determined by the permittee.
- g. Clean up leaks, drips, and other spills without using large amounts of water or liquid cleaners. Use absorbents for dry cleanup whenever possible.

When a leak, spill or other release occurs during a 24-hour period that contains a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR Parts 110, 117 or 302, the permittee shall, in addition to the notification requirements contained in Part A III.C.4 of this permit, notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Parts 110, 117, and 302 as soon as the permittee becomes aware of the discharge.

5. Sector- Specific BMPs. SIC 3489: Ordnance and Accessories, Not Elsewhere Classified.  
*(currently Appendix U: Fabricated Metal Products in PAG-03 General Permit, issued September 22, 2016)*
  - a. The permittee shall implement the BMPs in the applicable Appendix to the NPDES PAG-03 General Permit for Discharges of Stormwater Associated with Industrial Activities that is currently in effect.

D. Routine Inspections. *(see comment 4 below)*

1. The permittee shall visually inspect the following areas and BMPs on a semiannual basis (calendar periods), at a minimum:
  - a. Areas where industrial materials or activities are exposed to stormwater.
  - b. Areas identified in the PPC Plan as potential pollutant sources.
  - c. Areas where spills or leaks have occurred in the past three years.
  - d. Stormwater outfalls and locations where authorized non-stormwater discharges may commingle.
  - e. Physical BMPs used to comply with this permit.

At least once each calendar year, the routine inspection must be conducted during a period when a stormwater discharge is occurring.

2. The permittee shall evaluate and document the following conditions, at a minimum, in the Annual Report required by paragraph B of this section through required inspections:
  - k. Raw materials, products or wastes that may have or could come into contact with stormwater.
  - l. Leaks or spills from equipment, drums, tanks and other containers.

- m. Off-site tracking of industrial or waste materials, or sediment where vehicles enter or exit the site.
- n. Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas.
- o. Control measures or BMPs needing replacement, maintenance or repair.
- p. The presence of authorized non-stormwater discharges that were not identified in the permit application and non-stormwater discharges not authorized by this permit.

E. Preparedness, Prevention and Contingency (PPC) Plan

1. The permittee shall develop and implement a PPC Plan in accordance with 25 Pa. Code § 91.34 following the guidance contained in DEP's "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" (DEP ID 400-2200-001), its NPDES-specific addendum and the minimum requirements below.
  - a. The PPC Plan must identify all potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the facility.
  - b. The PPC Plan must describe preventative measures and BMPs that will be implemented to reduce or eliminate pollutants from coming into contact with stormwater resulting from routine site activities and spills.
  - c. The PPC Plan must address actions that will be taken in response to on-site spills or other pollution incidents.
  - d. The PPC Plan must identify areas which, due to topography or other factors, have a high potential for soil erosion, and identify measures to limit erosion. Where necessary, erosion and sediment control measures must be developed and implemented in accordance with 25 Pa. Code Chapter 102 and DEP's "Erosion and Sediment Pollution Control Manual" (DEP ID 363-2134-008).
  - e. The PPC Plan must address security measures to prevent accidental or intentional entry which could result in an unintentional discharge of pollutants.
  - f. The PPC Plan must include a plan for training employees and contractors on pollution prevention, BMPs, and emergency response measures. This training must be conducted in accordance with paragraph C.4.c of this section.
  - g. If the facility is subject to SARA Title III, Section 313, the PPC Plan must identify releases of "Water Priority Chemicals" within the previous three years. Water Priority Chemicals are those identified in EPA's "Guidance for the Determination of Appropriate Methods for the Detection of Section 313 Water Priority Chemicals" (EPA 833-B-94-001, April 1994). The Plan must include an evaluation of all activities that may result in the stormwater discharge of Water Priority Chemicals.
  - h. Spill Prevention Control and Countermeasure (SPCC) plans may be used to meet the requirements of this section if the minimum requirements are addressed.
2. The permittee shall review and if necessary update the PPC Plan on an annual basis, at a minimum, and when one or more of the following occur:
  - a. Applicable DEP or federal regulations are revised, or this permit is revised.
  - b. The PPC Plan fails in an emergency.
  - c. The facility's design, industrial process, operation, maintenance, or other circumstances change in a manner that materially increases the potential for fires, explosions or releases of toxic or hazardous constituents; or which changes the response necessary in an emergency.
  - d. The list of emergency coordinators or equipment changes.

- e. When notified in writing by DEP.

The permittee shall maintain all PPC Plan updates on-site, make the updates available to DEP upon request, and document the updates in Annual Reports.

F. Stormwater Monitoring Requirements.

1. The permittee shall conduct monitoring of its stormwater discharges at the representative outfalls identified in Part A of this permit, if applicable. The permittee shall document stormwater sampling event information and no exposure conditions for each calendar year on the Annual Report required by paragraph B of this section.
2. The permittee shall, upon written notice from DEP, install inlets, pipes, and/or other structures or devices that are considered necessary in order to conduct representative stormwater sampling, in accordance with a schedule provided by DEP.
3. The permittee shall collect all samples from discharges resulting from a storm event that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm interval is waived when the preceding storm did not yield a measurable discharge, or if the permittee is able to document that a less than 72-hour interval is representative for local storm events during the sample period.
4. The permittee shall collect all grab samples within the first 30 minutes of a discharge, unless the permittee determines that this is not possible, in which case grab samples must be collected as soon as possible after the first 30 minutes of a discharge. The permittee shall explain why samples could not be collected within the first 30 minutes of any discharge on the Annual Report required by paragraph B of this section.
5. The permittee shall collect stormwater samples at times when commingling with non-stormwater discharges is not occurring or at locations prior to the commingling of non-stormwater discharges, unless Part A of this permit recognizes commingling of stormwater and non-stormwater discharges.
6. In the event that stormwater discharge concentrations for a parameter exceeds the benchmark values identified below at the same outfall for two or more consecutive monitoring periods, the permittee shall develop a corrective action plan to reduce the concentrations of the parameters in stormwater discharges. The permittee shall submit the corrective action plan to DEP within 90 days of the end of the monitoring period triggering the need for the plan, and shall implement the plan immediately upon submission or at a later time if authorized by DEP in writing. The permittee shall, in developing the plan, evaluate alternatives to reduce stormwater concentrations and select one or more BMPs or control measures for implementation, unless the permittee can demonstrate in the plan that (1) the exceedances are solely attributable to natural background sources; (2) no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice; or (3) further pollutant reductions are not necessary to prevent stormwater discharges from causing or contributing to an exceedance of applicable water quality standards. **(see comment 5 below)**

Parameter	Benchmark Value (mg/L)
Total Suspended Solids (TSS) (mg/L)	100
Oil and Grease (mg/L)	30
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> )	30

**Comments regarding major additions and changes to the above recommended Part C REQUIREMENTS APPLICABLE TO STORMWATER OUTFALLS:**

1. **Relating to entire section.** There are significant changes proposed to this section.
2. **Relating to B.** The "Annual Inspection" form and the "Additional Information for the Reporting of Stormwater Monitoring" form has been replaced with the more comprehensive Annual Report. Note: previously the "Annual Inspection" form was required to be available upon request and retained as part of the PPC plan. The Annual Report is now required to be submitted annually to the DEP office that issued the permit.
3. **Relating to C.** BMPs have been expanded since the last permit issued.

4. **Relating to D.** Routine inspections are now required on a semiannual basis (previously this was only required once per year).
5. **Relating to F.6.** The following Benchmark Values are proposed to be added to Part C: REQUIREMENTS APPLICABLE TO STORMWATER OUTFALLS based on recommendations from the 2016 NPDES PAG-03 General Permit for Discharges of Stormwater Associated with Industrial Activity:
  - a. A Benchmark Value for TSS of 100 mg/L, since this benchmark value is found in PAG-03 Appendix U.
  - b. Benchmark Values for Oil and Grease of 30 mg/L and 5-Day Biochemical Oxygen Demand (BOD<sub>5</sub>) of 30 mg/L since they are standard benchmark values found in the PAG-03 General Permit.

### III. GROUNDWATER CLEANUP - VOLATILE ORGANIC COMPOUNDS (VOCs)

- A. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology Economically Achievable (BAT) or to Best Conventional Technology (BCT) is developed by the Department, or by EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding conditions of this permit (or if it controls pollutants not covered by this permit), then the Department reserves the right to modify, or to revoke and reissue the permit to conform with that standard or limitation.
- B. Sludges and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.
- C. Sampling shall be in accordance with monitoring requirements in Part A of this permit. All monitoring results shall be submitted with the monthly DMR.
- D. The Groundwater Monitoring Data Report form (3800-FM-BCW0443) shall be submitted to DEP's Clean Water Program on a quarterly basis, as an attachment to the appropriate DMR.

If the permittee monitors any pollutant and/or performs any measurements more frequently than the permit requires, the results of this monitoring shall be included on the quarterly report.

- E. Summary reports providing groundwater quality data from quarterly events, semiannual water table elevation maps, and a narrative discussion including tables and maps shall be submitted annually to the Environmental Cleanup Program, on the anniversary date of this permit. The narrative report shall evaluate the overall operation of the system demonstrating its effectiveness in containing and remediating the contaminant plume. If modification to the operation is proposed, details must be submitted in the report.
- F. A GRS Annual Report shall be submitted annually to the Clean Water Program on January 28 (for the previous calendar year). The Groundwater Remediation System (GRS) Annual Report shall address activities under the permit for the previous calendar year including groundwater quality data. If modification to the operation is proposed, details must be submitted along with the GRS Annual Report. (**see comment 1 below**)
- G. There shall be no discharge of stripper tower cleaning wastewaters to waters of the Commonwealth. Cleaning wastewaters shall be discharged to the sanitary sewer or hauled off site for proper disposal.
- H. The cleanup operation shall continue until a minimum of one year's data of the untreated groundwater and all monitoring wells (samples taken at least quarterly) have documented a concentration that is protective of the environment. The cleanup operation shall not be considered terminated until the permittee further documents for a minimum of one year after pumping has ceased (samples taken quarterly) that a concentration of pollutants protective of the environment has been maintained in the untreated groundwater and all monitoring wells. Written approval to terminate must be received from DEP's Clean Water Program prior to shut-down.
- I. The permittee shall operate the treatment facilities approved herein on a continual basis. If accidental breakdown or normal periodic maintenance should cause cessation of operation, the permittee shall take satisfactory measures to ensure the treatment works are placed back in operation at the earliest possible time. The permittee

shall orally report to the Department within 24 hours of an unanticipated temporary shutdown of the treatment facility that is longer than 24 hours in duration or at least 24 hours prior to an anticipated maintenance shutdown.

***Comments regarding the above recommended Part C language relating to Groundwater Cleanup:***

1. ***Relating to C:*** *A Groundwater Remediation System (GRS) annual report (adapted from the Annual Report required by the PAG-05 NPDES General Permit for Discharges from Petroleum Product Contaminated Groundwater Remediation Systems (PPCGRS)) has been included in order to better track the effectiveness of the GRS.*

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily when Discharging	Grab
Temperature (°F)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	Daily when Discharging	I-S

Compliance Sampling Location: 001

Other Comments: Emergency - only when recirculation system is offline.

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.) (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

**Outfall 002, Continued (from Permit Effective Date through Permit Expiration Date)**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
BOD5 (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate + Nitrite-Nitrogen (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Aluminum (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Antimony (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Arsenic (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Cadmium (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Hexavalent Chromium (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Copper (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Lead (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nickel (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Selenium (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Silver (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Thallium (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Zinc (Stormwater)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Flow (MGD) AST1 Effluent	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.) AST1 Effluent	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab

Outfall 002, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Trichloroethylene AST1 Effluent	XXX	XXX	XXX	0.03	0.06	0.075	2/month	Grab
Trichloroethylene AST1 Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Carbon Tetrachloride AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroethane AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1,1-Trichloroethane AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1-Dichloroethane AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,2-Dichloroethane AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroform AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1-Dichloroethylene AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
cis-1,2-Dichloroethylene AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
trans-1,2-Dichloroethylene AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Tetrachloroethylene AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Vinyl Chloride AST1 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: Influent and Effluent to Air Stripper Tower 1 (AST1); Stormwater Outfall 002 (see Figure 5)

Other Comments: Stormwater Sampling location is at a different location than the AST1 Effluent location. Stormwater sampling is independent of the operation status of AST1

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 003, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
Trichloroethylene AST2 Effluent	XXX	XXX	XXX	0.02	0.04	0.05	2/month	Grab
Trichloroethylene AST2 Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Carbon Tetrachloride AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroethane AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1,1-Trichloroethane AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1-Dichloroethane AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroform AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
1,1-Dichloroethylene AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
cis-1,2-Dichloroethylene AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Tetrachloroethylene AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Vinyl Chloride AST2 Influent and Effluent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: Influent and Effluent to Air Stripper Tower 2 (AST2)

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 005, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
BOD5	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate + Nitrite-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Antimony	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Arsenic	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Cadmium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Hexavalent Chromium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nickel	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Selenium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Outfall 005, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Silver	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Thallium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Zinc	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfall 005

Other Comments: Stormwater only

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachments H and J)
<input type="checkbox"/>	TRC Model Spreadsheet
<input type="checkbox"/>	Temperature Model Spreadsheet
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP:
<input type="checkbox"/>	Other:

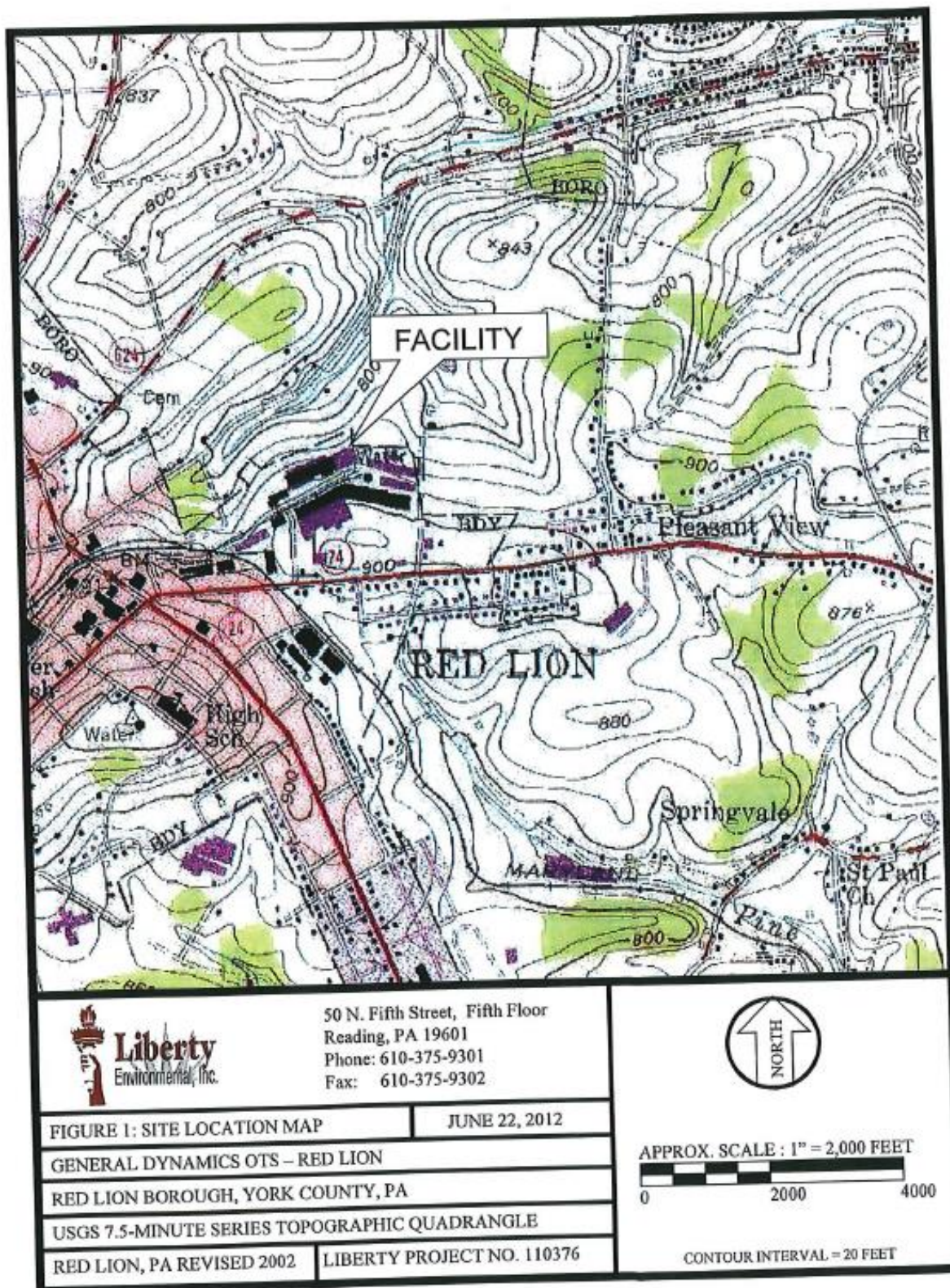
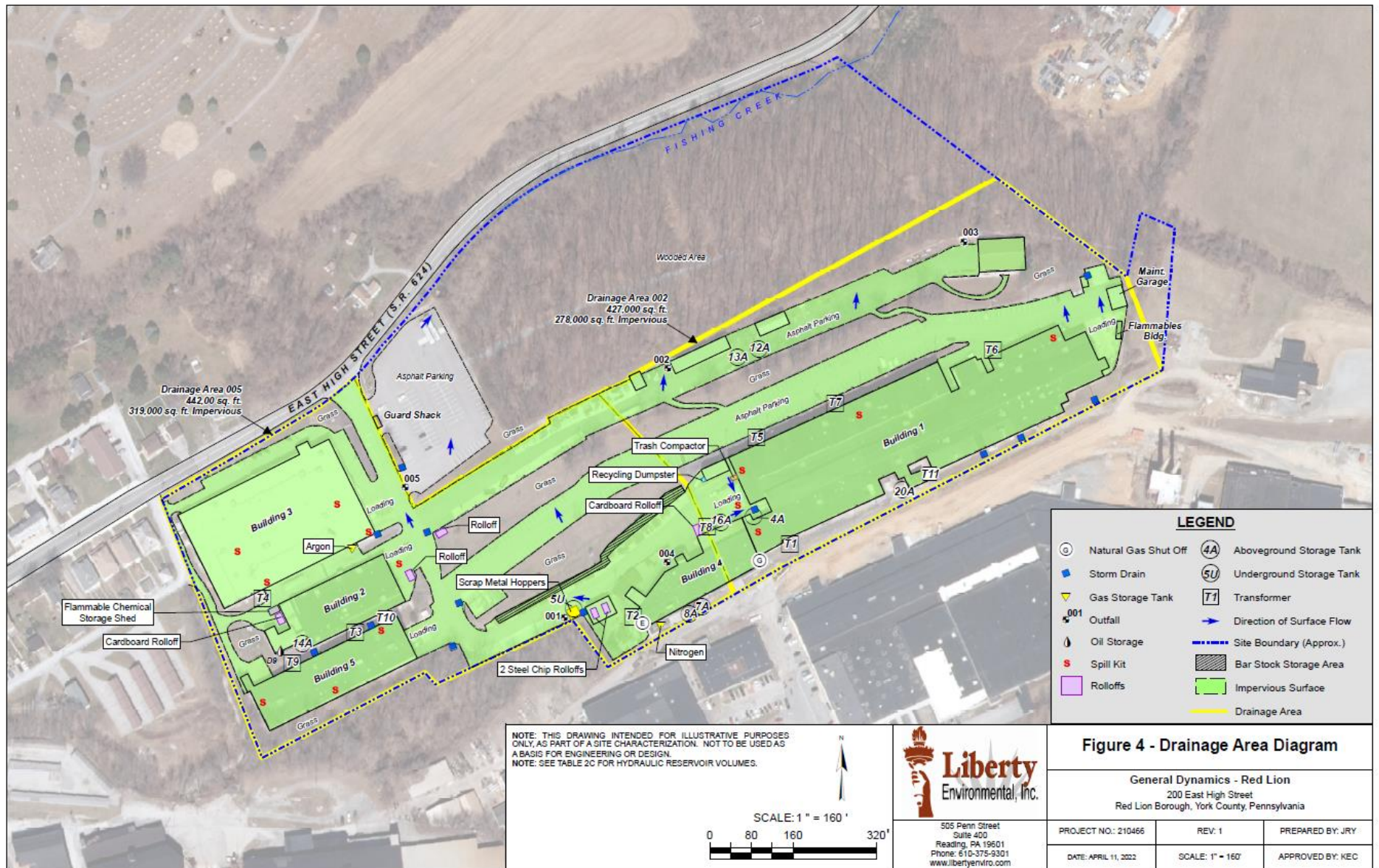


Figure 1. Site Location Map (submitted with the April 16, 2018 renewal package)



NPDES Permit Fact Sheet  
General Dynamics OTS PA

NPDES Permit No. PA0043672

3800-PM-BCW0008b Rev. 6/2019  
Permit Application

**Applicant Name:**

3. List all discharge points (outfalls) and internal monitoring points (IMPs). If numbers were previously assigned in a permit, use those numbers. Order sequentially and use additional pages as necessary.

[illegible]

Figure 3. Revised Outfall Table (received via email on 4/13/2022)



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
APPLICATION FOR INDIVIDUAL PERMIT TO DISCHARGE  
INDUSTRIAL WASTEWATER**

[illegible]

Figure 4. Revised Module 1 (received via email on 4/13/2022)

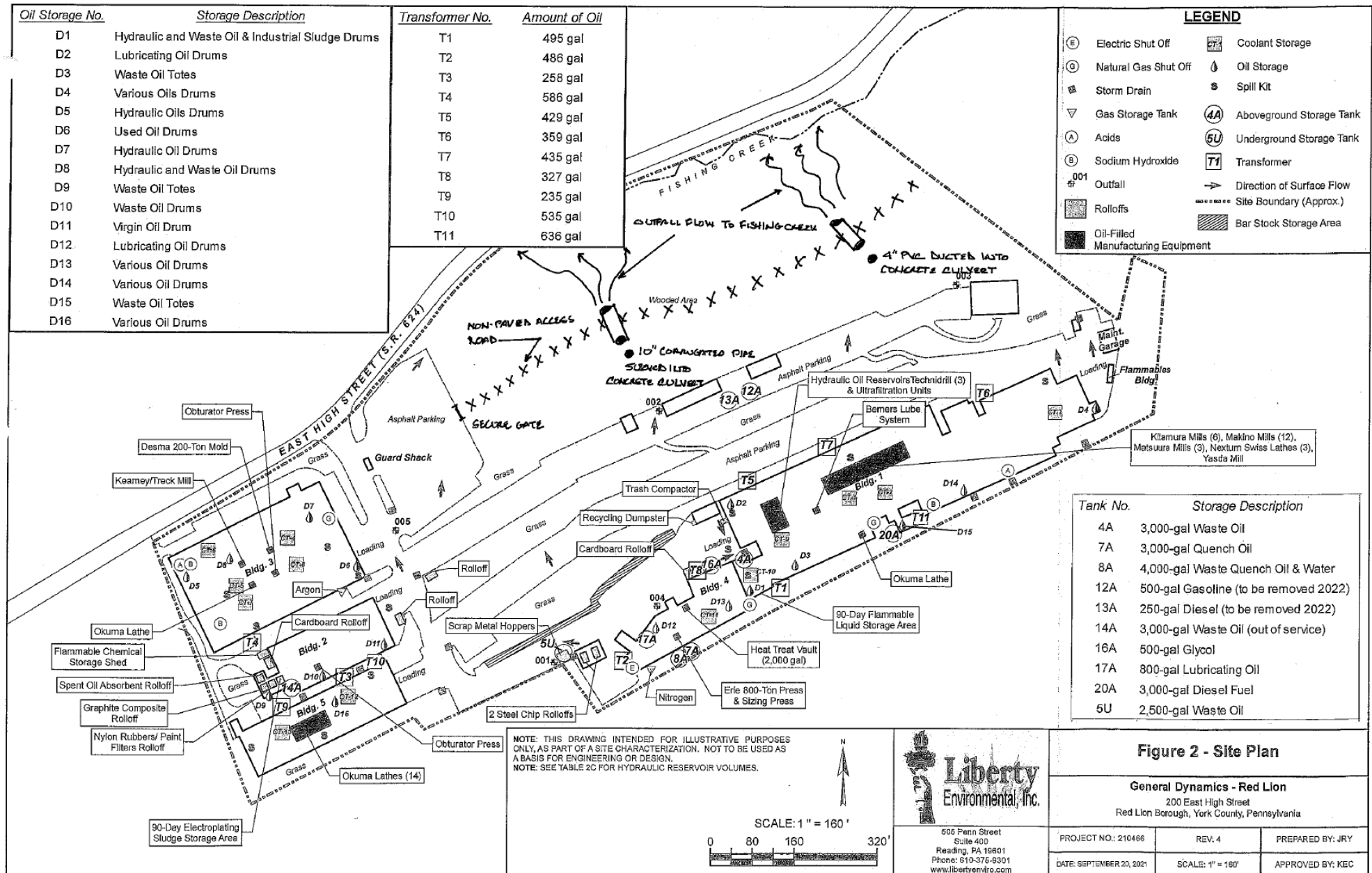


Figure 5. Revised Site Plan showing locations of Outfalls 002 and 003 (received via email on 06/06/2022)

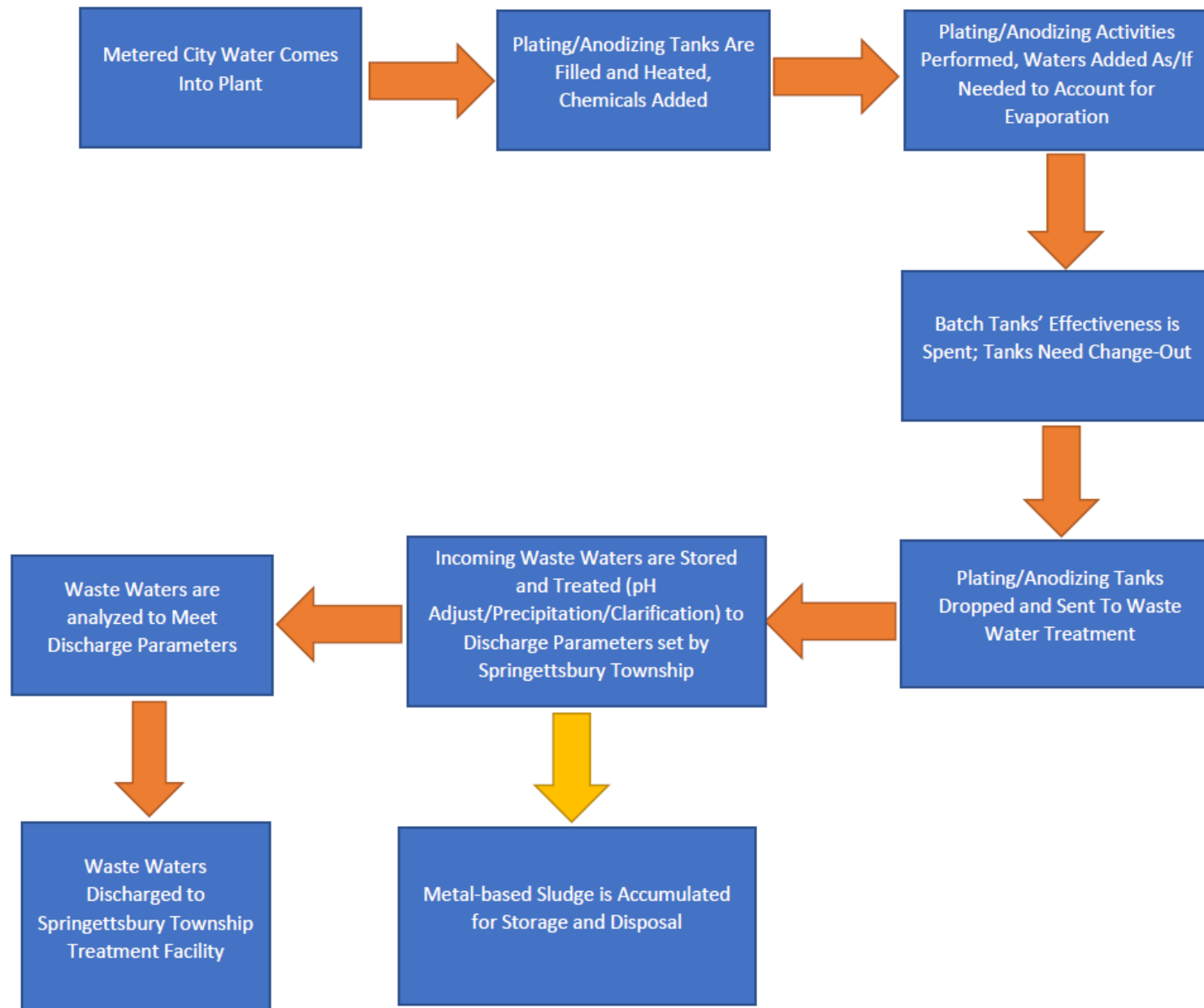


Figure 6. Water and waste water process flow diagram (received via email on 06/06/2022)

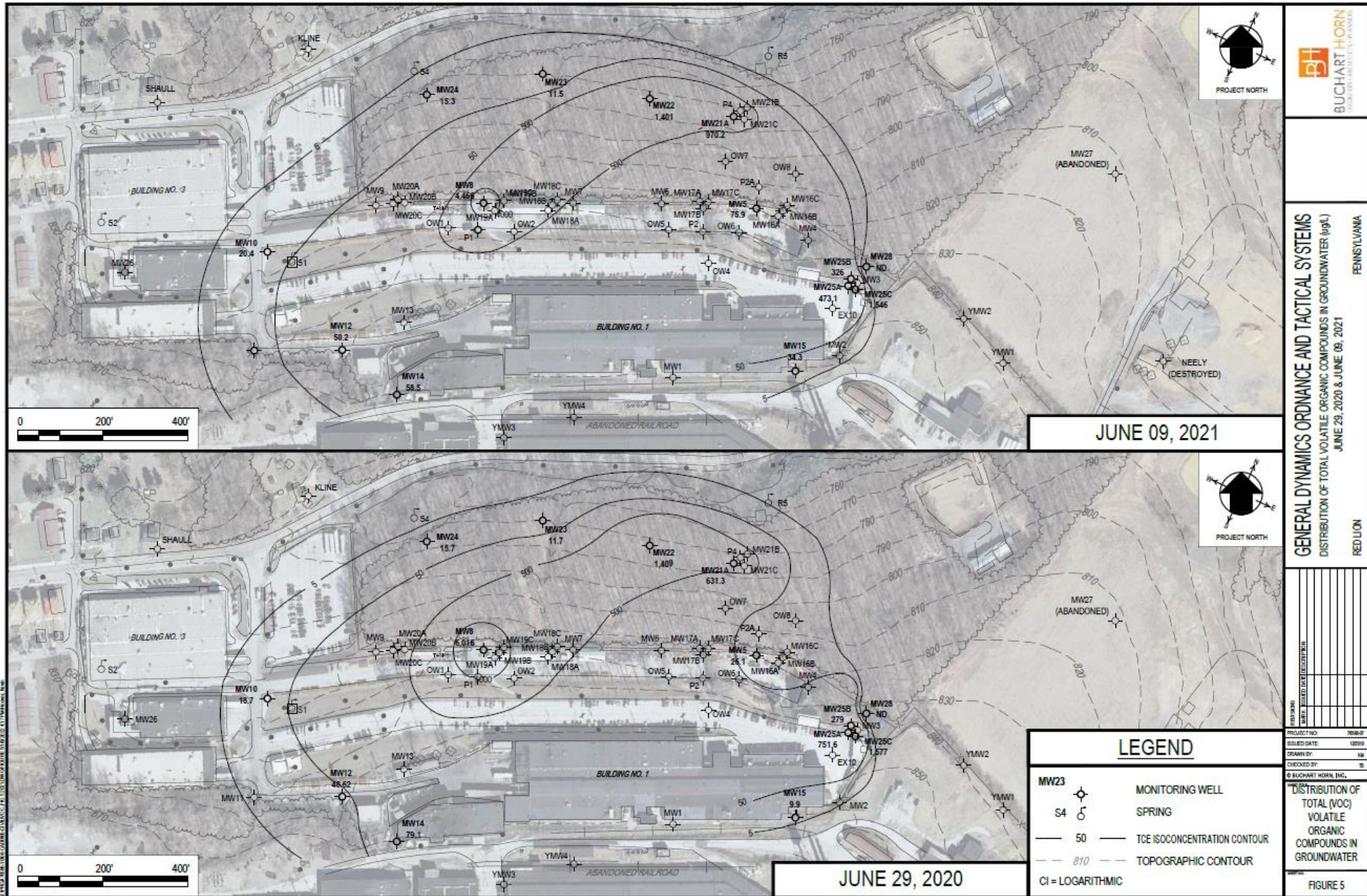


Figure 7. Location of the monitoring wells and pumping wells along with the distribution of VOC concentrations overlaid on the site topography (Figure 5 in the 2021-2021 Progress Report – Cleanup Plan).

## Attachment A.

### Fruchtl, Brenda

**From:** Troy.Brosious@gd-ots.com  
**Sent:** Wednesday, February 3, 2021 4:33 PM  
**To:** Fruchtl, Brenda  
**Cc:** robert.costill@gd-ots.com  
**Subject:** [External] FW: Renewal Application questions. NPDES Permit No PA0043672, General Dynamics – OTS (PA) Inc.

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Hi Brenda,

To catch you up, Tu Dam and John Brownlee are no longer with the company.

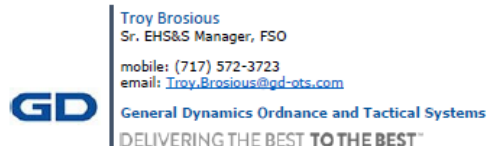
I am currently the Sr. EHS Manager for the site and Rob Costill is our EHS Specialist. Going forward, please send all correspondence to Rob and myself.

As far as the remediation system:

- We utilize Buehler Horn as a 3<sup>rd</sup> party consultant.
- We are working with Pam Trowbridge, PADEP Southcentral Regional Office
- Currently the remediation system is shut down.
- Earlier this month, we send in our semi-annual progress report to Pam, where we proposed that the pumps remain off line, and that monitoring continue to document post-pumping trends through 2021.

Please feel free to contact me with any further questions.

Thanks



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**From:** Costill, Robert (Red Lion)  
**Sent:** Wednesday, February 3, 2021 1:53 PM

**To:** Brosious, Troy (Red Lion) <Troy.Brosious@gd-ots.com>  
**Subject:** FW: Renewal Application questions. NPDES Permit No PA0043672, General Dynamics – OTS (PA) Inc.



**Robert Costill**  
EHS Specialist

P: (717) 246-8274 M: (717) 205-5497  
E: [Robert.Costill@gd-ots.com](mailto:Robert.Costill@gd-ots.com)

**General Dynamics Ordnance and Tactical Systems**  
200 East High St. Red Lion, PA 17356

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**From:** Fruchtl, Brenda [<mailto:bfruchtl@pa.gov>]  
**Sent:** Wednesday, February 3, 2021 10:44 AM  
**To:** [tu.dam@gd-ots.com](mailto:tu.dam@gd-ots.com)  
**Cc:** Franks, Troy (Red Lion) <[Troy.Franks@gd-ots.com](mailto:Troy.Franks@gd-ots.com)>; [john.brownlee@gd-ots.com](mailto:john.brownlee@gd-ots.com); Costill, Robert (Red Lion) <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
**Subject:** Renewal Application questions. NPDES Permit No PA0043672, General Dynamics – OTS (PA) Inc.

**GD-OTS Security Warning:** This email originated from outside of our organization. Please proceed with caution when clicking links or opening attachments.

Good Morning

I have been assigned to review the renewal application received on April 16, 2018 for NPDES Permit No PA0043672, General Dynamics – OTS (PA) Inc. located at 200 East High Street, Red Lion PA.

Since the renewal application is almost 3 years old, I wanted to touch base and confirm who the contact person is for any of my technical questions. And I wanted to check to see if there have been any changes since the application was submitted in 2018.

The one thing that stood out was that on Module 2 – Groundwater Remediation Systems, it was noted that the treatment system was expected to conclude by the end of 2020. Do you have any more information on this projection? Who are you working with in the PADEP Environmental Cleanup and Brownfields Program regarding this site?

Thank you for any information you could provide.

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050**

## Attachment B.

**Fruchtl, Brenda**

**From:** Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
**Sent:** Monday, February 14, 2022 6:27 AM  
**To:** Fruchtl, Brenda  
**Cc:** Arwood, Scott  
**Subject:** [External] RE: Questions. Update on the NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

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Good morning Brenda,

Thank you for reaching out to me, as well as the detailed message. In response to your questions I offer the following (see below in **bold RED**):

No problem with the DRAFT permit documents received via email. Please give me a heads-up when to expect them.  
Thanks!

Courteously,  
Harry

**From:** Fruchtl, Brenda <bfruchtl@pa.gov>  
**Sent:** Sunday, February 13, 2022 1:43 PM  
**To:** Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
**Cc:** Arwood, Scott <sarwood@pa.gov>; Brosious, Troy (Wilkes-Barre) <Troy.Brosious@gd-ots.com>; Costill, Robert (Red Lion) <robert.costill@gd-ots.com>  
**Subject:** Questions. Update on the NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

**GD-OTS Security Warning:** This email originated from outside of our organization. Please proceed with caution when clicking links or opening attachments.

Good Afternoon.

I am beginning the technical review of the application received on April 16, 2018 for the renewal of NPDES Permit No PA0043672 for General Dynamics.

I recognize I was in contact in early 2021 and I wanted to check to see there have been any major changes before proceeding too far on my technical review.

My main questions include the following:

1. Are you still seeking to permit Outfall 001 (NCCW), Outfall 002 (Air stripper tower 1 effluent), Outfall 003 (air stripper tower 2 effluent) and Outfall 005 (stormwater)? **YES**
2. Is the design flow for Outfall 002 still 0.026 MGD (0.004 Ave Flow; 0.005 Max flow)? **YES**
3. Is the design flow for Outfall 003 still 0.1 MGD (0.070 Ave Flow; 0.080 Max flow)? **YES**
4. Are there any changes to the contact information? **YES; please remove Mr. Troy Brosious and Mr. Robert Costill as contacts for this site.**  
**Mr. Brosious is now at our Wilkes-Barre, PA facility and Mr. Costill no longer works for General Dynamics.**

I plan to have a draft permit ready for comments within the next month. When I have the draft permit documents ready, are you willing to accept the draft permit documents via email (vs mailing hard copies)?

I look forward to your response. Feel free to contact me with any questions.

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050**

**From:** [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
**Sent:** Friday, March 5, 2021 2:35 PM  
**To:** Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
**Cc:** Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Troy Brosious <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Robert Costill <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
**Subject:** RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics


Good afternoon Brenda,

For the interim, please continue to list Troy and Rob, adding myself to any message threads. My contact information is provided below. Thanks.

Courteously,  
Harry

**GD**

**Harry Smith**  
EHS&S Manager  
office: (717) 246-8208  
mobile: (717) 368-9414  
email: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)  
**General Dynamics Ordnance and Tactical Systems**  
200 East High St.  
Red Lion, PA 17356



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**From:** Fruchtl, Brenda [<mailto:bfruchtl@pa.gov>]  
**Sent:** Friday, March 5, 2021 2:13 PM  
**To:** Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
**Cc:** Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Brosious, Troy (Red Lion) <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Costill, Robert (Red Lion) <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
**Subject:** RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

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Good Afternoon,

I plan to have a draft permit ready for comments within the next month. When I have the draft permit documents ready, are you willing to accept the draft permit documents via email (vs mailing hard copies)?

I look forward to your response. Feel free to contact me with any questions.

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050**

---





From: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Sent: Friday, March 5, 2021 2:35 PM  
To: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; [Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com); [robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)  
Subject: RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

Good afternoon Brenda,

For the interim, please continue to list Troy and Rob, adding myself to any message threads. My contact information is provided below. Thanks.

Courteously,  
Harry



**Harry Smith**  
EHS&S Manager  
office: (717) 246-8208  
mobile: (717) 368-9414  
email: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)  
**General Dynamics Ordnance and Tactical Systems**  
200 East High St.  
Red Lion, PA 17356  
   

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From: Fruchtl, Brenda [<mailto:bfruchtl@pa.gov>]  
Sent: Friday, March 5, 2021 2:13 PM  
To: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Brosious, Troy (Red Lion) <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Costill, Robert (Red Lion) <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
Subject: RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

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Good Afternoon,

## Attachment C

Fruchtl, Brenda

**From:** Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
**Sent:** Wednesday, April 13, 2022 8:42 AM  
**To:** Fruchtl, Brenda  
**Cc:** Katie Cirone  
**Subject:** [External] RE: Additional technical questions. Re: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS. RESPONSE NEEDED  
**Attachments:** DrainageDiagram\_110376.pdf; Revised Module 1.pdf; Revised Outfall Information Table.pdf

**Importance:** High

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Hi Brenda, please find our responses to your questions below.

1. As stated in the cover letter submitted with the permit application dated April 13, 2018, Outfall 001 has not discharged non-contact cooling water since 1993, however General Dynamics wishes to keep this outfall in the permit to be able to use in case of emergency.
2. The air stripping towers (ASTs) that discharge to Outfalls 002 and 003 have not been in use since September 2018, in accordance with the 2012 Cleanup Plan for the site prepared by Buchart Horn, Inc. (BHI). A Progress Report prepared by BHI was submitted to Richard Kaiser at the PADEP on February 11, 2022. The report requests that PADEP agree with BHI's conclusion that the ASTs can be dismantled as the sampling completed has shown concentrations in the monitoring wells are stable or decreasing since the ASTs were shut down in 2018.

Until such time as PADEP issues agreement with BHI's conclusion, General Dynamics requests that Outfalls 002 and 003 remain in the NPDES permit with condition monitoring requirements in the event that the ASTs are again determined to be necessary. Once the ASTs have been dismantled, a permit amendment will be submitted to remove them from the NPDES permit.

3. Outfalls 002 and 005 discharge industrial stormwater from the property, as the site is still an active manufacturing facility. Module 1 has been revised per your request and is attached. Please note that a sample from both outfalls must be collected and analyzed for COD, total nitrogen, and total phosphorus. General Dynamics contracts with an analytical laboratory for stormwater sampling, and has requested that they sample the site as soon as is practicable during the next qualifying storm. The results of the sampling and updated Module 1 with the results will be submitted to your attention once they are received.
4. The outfall information table has been revised, and is attached, as is a revised drainage area diagram. A line drawing/process flow diagram will be developed for the facility. The estimated timeline is June 7, 2022

If additional information is required, or you have any further questions based on the information provided please let me know. Thank you!

Courteously,  
Harry

**From:** Fruchtl, Brenda <bfruchtl@pa.gov>  
**Sent:** Monday, April 4, 2022 9:18 AM  
**To:** Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
**Subject:** FW: Additional technical questions. Re: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS. RESPONSE NEEDED

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Good Morning Harry,

Thank you for acknowledging receipt of the 4/3/2022 mail via your voicemail message this morning at 7:04 am

I fully recognize that you may not be able to get me all the information gathered and submitted to me by April 15. Like I said at the end of the 4/3/2022 email, I am asking for some type of response by April 15 whether it be the requested information OR a timeline for when you could provide the information. I was assuming 2 weeks was ample time to at least provide a timeline. Feel free to let me know if you need additional time to speak with your consultant to formulate a timeline.

Once you have the information gathered, it can be sent to my attention via email (preferred) or hardcopy. If the file is too large to send via email, the information can be submitted via OnBase. You can find the Onbase Public Upload User Guide as well as the link to the OnBase DEP Upload Form at this link: [OnBase Electronic Forms Upload \(pa.gov\)](#). FYI...Some Helpful Information for OnBase uploads: Choose Form Name / No: NPDES PERMIT STORMWATER INDUSTRIAL WASTEWATER DISCHARGE MINOR; Application Type: Renewal; Permit#: PA0043672; Comments: Additional information requested by Brenda Fruchtl, Clean Water Program for the April 16, 2018 renewal application.

Please contact me if you have any other concerns.

**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

**From:** Fruchtl, Brenda  
**Sent:** Sunday, April 3, 2022 5:15 PM  
**To:** Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
**Subject:** Additional technical questions. Re: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS. RESPONSE NEEDED

Good Afternoon,

I am continuing to work on the technical review of the renewal application for NPDES Permit No PA0043672 for General Dynamics OTS received on April 16, 2018. Since I have not seen this site previously, I think it would be advantageous for me to schedule a site visit to see the facility and the location of the 4 outfalls so I can have a better understanding for my technical review.

In the meantime, I have the following questions / concerns regarding the renewal application received April 16, 2018 which need to be addressed before I continue my technical review:

1. Outfall 001. NCCW.
  - a. When was the last time there was a discharge of Non-contact cooling water (NCCW) to Outfall 001?
2. Outfalls 002 and 003. GWCW / Air Strippers.

- a. In order to help me better understand the groundwater remediation system, please provide a water balance diagram (from extraction wells to outfall) and a design diagram for the existing groundwater treatment system.
- b. What is the status of the groundwater remediation at the site?
  - i. Air stripper 1, Outfall 002.
    1. What was the date that air stripper 1 was last utilized?
    2. What was the date that there was a discharge from Outfall 002?
  - ii. Air stripper 2, Outfall 003.
    1. What was the date that air stripper 2 was last utilized?
    2. What was the date that there was a discharge from Outfall 003?
- c. Module 2, Outfall 002 and Outfall 003, Sample Results tables are incomplete. Module 2 needs updated and resubmitted – see comments below:
  - i. Module 2 did not include a sample results table completed for untreated groundwater for either Outfall 002 or Outfall 003. There were lab results attached for AST1 and AST2 from samples collected on 3/7/2017.
    1. All these results should be summarized on the Sample Results table / untreated groundwater found in Module 2 for ease of review.
  - ii. Module 2 Sample Results table for treated groundwater are incomplete with only pH being reported on the table. There were lab results attached for 002 and 003 from samples collected on 3/7/2017.
    1. All these results should be summarized on the Sample Results table / Treated Groundwater found in Module 2 for ease of review.(not just pH)
  - iii. Do you have any more recent influent data for the 2 air strippers (Outfall 002 and Outfall 003)? If so, please send the information to my attention.
  - iv. Please review the instructions for Module 2 regarding the monitoring requirements. MODULE 2 AND MODULE 2 INSTRUCTIONS.PDF
    1. For groundwater contamination types of Gasoline and Chlorinated Organics: Report a minimum of three sample results in both treated and untreated groundwater for the following parameters: Benzene, Toluene, Ethylbenzene, Total Xylenes, MTBE, Total Suspended Solids, pH (S.U.), Oil and Grease, Dissolved Iron, Dissolved Lead, Dissolved Mercury, Trichloroethylene, Tetrachloroethylene, Vinyl Chloride, and Naphthalene.
    2. In addition, for all groundwater contamination types, where the applicant knows or suspects that additional parameters not identified above are present (i.e., may be detected at or above the Target Q/Ls in Attachment C of 3850-PM-BCW0008a) in the untreated or treated groundwater, the applicant must enter the names of all such parameters and report the results of at least three samples. If only three samples are used for results in Module 2, samples should be collected at least one week apart. Enter the names of additional parameters next to the "Other:" indicator in the Parameter column.
    3. Where a parameter is listed in the table but is not required and the applicant believes that the parameter is absent from the discharge (i.e., less than the Target Q/Ls), the applicant may check the box for "Believed Absent" in the table
    4. Report all sample results for treated and untreated groundwater for the applicable parameters over the past three (3) years (i.e., a minimum of three results, but if there are more than three results in the past three years, report all results).
- d. Outfall 002. Does Outfall 002 include BOTH Stormwater AND Groundwater?
  - i. Upon review of the last permit issued October 16, 2013, Outfall 002 includes effluent from an air stripper tower AND stormwater. And the effluent limits table includes Storm Water Pollutants.

- ii. If Outfall 002 continues to include stormwater, then Module 1 Stormwater needs completed for Outfall 002 in addition to Outfall 005.
3. Outfall 005, Industrial Stormwater.
  - a. Please confirm that Outfall 005 would continue to be utilized for discharges of stormwater associated with industrial activity regardless of the status of the NCCW or Air strippers?
  - b. Does this continue to be an active manufacturing facility?
  - c. Module 1. Incomplete. Outfall 005 (and possibly Outfall 002). Module 1 needs updated and resubmitted – see comments below:
    - i. COD, Total Nitrogen, and Total Phosphorus were not collected or reported as required.
    - ii. Storm Water Pollutants (listed in the 2013 permit) were not reported on an of the Stormwater Results tables in Module 1 as required. *Note: Per the attached lab results, it appears that the storm water pollutants were sampled on 5/13/2016 and 11/13/2017 for both Outfalls 002 and 005. However, for ease of review, this information must be reported on the appropriate table in Module 1.*
    - iii. The average concentration, maximum concentration and number of stormwater events were not included in any of the Stormwater Sampling Results table in Module 1. This information is a requirement for the renewal application.
    - iv. The storm event information that resulted in the maximum values in the Question 1,2, and 3 was not provided. This information is also a requirement for the renewal application.
    - v. Please review the instructions for Module 1 regarding the monitoring requirements. MODULE 1 AND MODULE 1 INSTRUCTIONS.PDF
4. Discharge information.
  - a. Outfall Latitude / Longitude. Inaccurate. The outfall information Table needs updated and resubmitted per comment below:
    - i. The latitude and Longitudes reported for Outfalls 001, 002, 003, and 005 are all the same. Each outfall must have a unique latitude / longitude.
  - b. Site Drawing and water balance. Not included. Submit a Line drawing / process flow diagram illustrating the flow of water and wastewater through the facility, with a water balance diagram listed as Item 10 on the checklist and required by the application

By April 15, 2022, provide responses to my questions and requests above and/or a timeline for submission of this information. And provide some potential dates that would suit for me to visit the site, which may also help with some of my questions as I have not reviewed this site before this renewal cycle.

Thank you for your help as I continue the technical review of the renewal application.

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

From: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Sent: Monday, February 14, 2022 6:27 AM  
To: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>  
Subject: [External] RE: Questions. Update on the NPDES Permit Renewal Application; NPDES Permit No. PA0043672.  
General Dynamics

## NPDES Permit Fact Sheet General Dynamics OTS PA

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Good morning Brenda,

Thank you for reaching out to me, as well as the detailed message. In response to your questions I offer the following (see below in **bold RED**):

No problem with the DRAFT permit documents received via email. Please give me a heads-up when to expect them.  
Thanks!

Courteously,  
Harry

---

From: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Sent: Sunday, February 13, 2022 1:43 PM  
To: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Brosious, Troy (Wilkes-Barre) <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Costill, Robert (Red Lion) <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
Subject: Questions. Update on the NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

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Good Afternoon.

I am beginning the technical review of the application received on April 16, 2018 for the renewal of NPDES Permit No PA0043672 for General Dynamics.

I recognize I was in contact in early 2021 and I wanted to check to see there have been any major changes before proceeding too far on my technical review.

My main questions include the following:

1. Are you still seeking to permit Outfall 001 (NCCW), Outfall 002 (Air stripper tower 1 effluent), Outfall 003 (air stripper tower 2 effluent) and Outfall 005 (stormwater)? **YES**
2. Is the design flow for Outfall 002 still 0.026 MGD (0.004 Ave Flow; 0.005 Max flow)? **YES**
3. Is the design flow for Outfall 003 still 0.1 MGD (0.070 Ave Flow; 0.080 Max flow)? **YES**
4. Are there any changes to the contact information? **YES; please remove Mr. Troy Brosious and Mr. Robert Costill as contacts for this site.**  
**Mr. Brosious is now at our Wilkes-Barre, PA facility and Mr. Costill no longer works for General Dynamics.**

I plan to have a draft permit ready for comments within the next month. When I have the draft permit documents ready, are you willing to accept the draft permit documents via email (vs mailing hard copies)?

I look forward to your response. Feel free to contact me with any questions.

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050**

## NPDES Permit No. PA0043672


---

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Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Troy Brosious <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Robert Costill <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
Subject: RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics





Good afternoon Brenda,

For the interim, please continue to list Troy and Rob, adding myself to any message threads. My contact information is provided below. Thanks.

Courteously,  
Harry



**Harry Smith**  
EHS&S Manager  
office: (717) 246-8208  
mobile: (717) 368-9414  
email: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)  
General Dynamics Ordnance and Tactical Systems  
200 East High St.  
Red Lion, PA 17356

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Sent: Friday, March 5, 2021 2:13 PM  
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Cc: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>; Brosious, Troy (Red Lion) <[Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com)>; Costill, Robert (Red Lion) <[robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)>  
Subject: RE: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics

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Good Afternoon,

Scott Arwood forwarded your email to my attention to respond. The renewal application for NPDES Permit No PA0043672 has been assigned to me for review.

I had last communicated with Troy Brosious via email on February 2, 2021 regarding the permit renewal and some questions I had (see attached correspondence).

Please let me know who I should have listed as the contact person for the renewal for any additional questions I may have during my review.

**NPDES Permit Fact Sheet  
General Dynamics OTS PA**

**NPDES Permit No. PA0043672**

**Brenda Fruchtl, P.G.** | Licensed Professional Geologist  
Department of Environmental Protection | Clean Water Program  
Southcentral Regional Office Building  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4812 | Fax: 717.705.4760  
[www.dep.pa.gov](http://www.dep.pa.gov)

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050**

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From: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Sent: Friday, March 5, 2021 1:09 PM  
To: Arwood, Scott <[sarwood@pa.gov](mailto:sarwood@pa.gov)>  
Cc: [Troy.Brosious@gd-ots.com](mailto:Troy.Brosious@gd-ots.com); [robert.costill@gd-ots.com](mailto:robert.costill@gd-ots.com)  
Subject: [External] Status of NPDES Permit Renewal Application; NPDES Permit No. PA0043672

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Good afternoon Scott,

My name is Harry Smith. I am the new EHS&S Manager at General Dynamics-OTS in Red Lion, Pennsylvania replacing Mr. Troy Brosius.

I am contacting you today as a follow up to prior communications dated April 8, 2019 in regard to the status of renewal/re-issuance of our facility's NPDES Permit. The last communication states our permit renewal was received well before the 180 Day timeframe for submittal took effect and as such the permit coverage was administratively extended until such time the DEP can review the renewal application.

Any new or additional information regarding our permit renewal would be greatly appreciated. Thank you in advance for your consideration.

Courteously,  
Harry



**Harry Smith**  
EHS&S Manager  
office: (717) 246-8208  
mobile: (717) 368-9414  
email: [harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)

## Attachment D

Fruchtl, Brenda

From: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Sent: Tuesday, May 3, 2022 11:53 AM  
To: Fruchtl, Brenda  
Cc: 'Katie Cirone'  
Subject: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

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Good morning Brenda,

I'm acknowledging receipt of your correspondence and am working on getting you the additional information you are requesting.

I have my Predecessor's Predecessor do some data mining for the requested details for the AST1/Outfall 002 and AST2/Outfall 005.

Our analytical laboratory is working on a quotation to provide the additional sampling and analytical services for the COD, Total Nitrogen, and Total Phosphorus parameters. Upon execution of the quote the sampling will take place (Question: Will this sampling of outfall/discharges have to also coincide with a stormwater event? Please advise. Thanks.).

We're working toward the May 6, 2022 deadline you set for us. Will keep you informed as things progress. Thanks.

Courteously,  
Harry

From: Fruchtl, Brenda <bfruchtl@pa.gov>  
Sent: Monday, May 2, 2022 8:09 AM  
To: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Cc: 'Katie Cirone' <kcirone@libertyenviro.com>  
Subject: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

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Good Morning Harry

Thank you for taking the time to meet with me on April 26, 2022 and show me around the site. As discussed, I am following up with some questions I had during my site visit.

1. Discharge from Air Stripper Towers (ASTs). I recognize there is a good chance that the ASTs will not be restarted at this site as General Dynamics has proposed to the PADEP EC&B Program in the 2020-2021 Progress Report that the pumping cessation be made permanent. However, since General Dynamics would like to maintain the ability to discharge from the Air Stripper Towers if required in the future, I need some clarification

regarding the method of disposal / discharge of the effluent from the ASTs (if they would be restarted) in order to proceed with my review.

- a. AST1 Effluent / Outfall 002. During the site visit, you had mentioned that the effluent from AST1 had been captured in the tank next to the AST1 building when the AST1 was in operation. And the effluent in the tank was pumped periodically and hauled offsite for proper disposal and not discharged to the surface. However, according to the 2018 application, AST1 discharges at an average flow of 0.004 MGD to Outfall 002 to an unnamed tributary of Fishing Creek. In addition, previous applications and permits give no indication that the effluent was containerized and hauled off site; instead, they indicate the treated effluent was discharged at Outfall 002 to a swale that meets Fishing Creek at a RMI (river mile index) of approximately 10.9. A January 2005 letter from Sean Lichty, General Dynamics in response to the December 2004 Water Quality Protection Report states "the outlet for Outfall 002 has been repaired and modified to include erosion protection from the discharge pipe down to the service road, and an additional 20 feet further down the hill. The total distance is approximately 100 feet. Pictures\* of the work can also be found in the set, which was sent to you." (\*I have not been able to locate these pictures)
  - i. Verify where the effluent from AST1 would be (and has been) disposed / discharged in the unlikely scenario that AST1 would need to be restarted for additional treatment of the groundwater.
    1. Would the discharge be to a swale or via a pipe to the UNT to Fishing Creek?
    2. If it is discharged, submit a map (aerial) showing the location of the outfall and likely path of the effluent from the outfall to the UNT to Fishing Creek. Include the location of the outfall and discharge pipe (referenced in the 2005 letter from General Dynamics)
- b. AST2 Effluent / Outfall 003. During the site visit, you had mentioned that the effluent from AST2 would be captured in the tank inside the ASTs building. And the effluent in the tank was pumped periodically and hauled offsite for proper disposal and not discharged to the surface. However, according to the 2018 application, AST2 discharges at an average flow of 0.070 MGD to Outfall 003 to an unnamed tributary of Fishing Creek. In addition, previous applications and permits give no indication that the effluent was containerized and hauled off site; instead, they indicate the treated effluent was discharged at Outfall 003 to a swale that meets Fishing Creek at a RMI (river mile index) of approximately 10.7. A January 2005 letter from Sean Lichty, General Dynamics in response to the December 2004 Water Quality Protection Report states "For Outfall 003, we are currently using PVC piping from AST down to the access road for erosion control. The length of the pipe spans approximately 75 feet. Again, pictures\* can be found in the previously mentioned set. We still need to add an additional 25 feet of riprap down past the service road" (\*I have not been able to locate these pictures)
  - i. Verify where the effluent from AST2 would be (and has been) disposed / discharged in the unlikely scenario that AST2 would need to be restarted for additional treatment of the groundwater.
    1. Would the discharge be to a swale or via a pipe to the UNT to Fishing Creek?
    2. Submit a map (aerial) showing the location of the outfall and likely path of the effluent from the outfall to the UNT to Fishing Creek. Include the location of the outfall and PVC pipe (referenced in the 2005 letter from General Dynamics).

As discussed previously, I am also waiting for the following items:

2. A line drawing/process flow diagram for the facility, which you estimated to be available by June 7, 2022.
3. Stormwater samples from Outfalls 002 and 005 that include results for COD, total nitrogen, and total phosphorus.

Please respond by Friday, May 6, 2022 with a timeline for addressing the above questions.

Thank you

**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

---

From: Fruchtl, Brenda  
Sent: Wednesday, April 13, 2022 1:54 PM  
To: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Cc: Katie Cirone <[kcirone@libertyenviro.com](mailto:kcirone@libertyenviro.com)>  
Subject: Schedule a site visit. RE: [External] RE: Additional technical questions. Re: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

Thank you for the information. And I will look for the line drawing/process flow diagram after June 7, 2022.

In the meantime, I would like to schedule a visit to the site. Please let me know if you have any availability during the week of April 25.

Thank you  
**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

---

From: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Sent: Wednesday, April 13, 2022 8:42 AM  
To: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Cc: Katie Cirone <[kcirone@libertyenviro.com](mailto:kcirone@libertyenviro.com)>  
Subject: [External] RE: Additional technical questions. Re: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS. RESPONSE NEEDED  
Importance: High

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Hi Brenda, please find our responses to your questions below.

1. As stated in the cover letter submitted with the permit application dated April 13, 2018, Outfall 001 has not discharged non-contact cooling water since 1993, however General Dynamics wishes to keep this outfall in the permit to be able to use in case of emergency.
2. The air stripping towers (ASTs) that discharge to Outfalls 002 and 003 have not been in use since September 2018, in accordance with the 2012 Cleanup Plan for the site prepared by Buchart Horn, Inc. (BHI). A Progress Report prepared by BHI was submitted to Richard Kaiser at the PADEP on February 11, 2022. The report requests that PADEP agree with BHI's conclusion that the ASTs can be dismantled as the sampling completed has shown concentrations in the monitoring wells are stable or decreasing since the ASTs were shut down in 2018.

Until such time as PADEP issues agreement with BHI's conclusion, General Dynamics requests that Outfalls 002 and 003 remain in the NPDES permit with condition monitoring requirements in the event that the ASTs are again determined to be necessary. Once the ASTs have been dismantled, a permit amendment will be submitted to remove them from the NPDES permit.

## Attachment E

### Fruchtl, Brenda

From: Fruchtl, Brenda  
Sent: Wednesday, May 4, 2022 7:35 AM  
To: Smith, Harry (Red Lion)  
Cc: 'Katie Cirone'  
Subject: RE: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

Good Morning Harry.

Thank you for the update and additional insight.

And, yes, the sampling for the additional parameters falls under the same criteria for stormwater sampling which includes: grab samples should be taken during the first 30 minutes (or as soon thereafter as practicable) of the discharge; and all samples must be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

From: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Sent: Tuesday, May 3, 2022 3:34 PM  
To: Fruchtl, Brenda <bfruchtl@pa.gov>  
Cc: 'Katie Cirone' <kcirone@libertyenviro.com>  
Subject: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

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Good afternoon Brenda,

I was able to get some historical information from a former EHS Manager that was employed here. He provided me the following information regarding the Effluent from Outfalls 002 & 005:

"The Air Stripping Towers were designed to pump groundwater up into the Towers (which contain balls that break out the VOCs in the groundwater). When these Towers were in operation carbon absorption units were in place to capture the VOCs. The treated water was then returned to the stream via the outfall. As a point of correction: none of this water was ever sent offsite (except as routine sampling that was sent to a Lab – ALS)."

I will be working with one of the maintenance men that was here at the time the SVE's were constructed to locate the position of the outfalls, as they are in the woods and likely heavily overgrown. I will be doing this on Thursday and am anticipating a report back to you on the same day.

I have contacted our Sampling/Analytical provider (ALS) to schedule a member of their Field Services group to come out and obtain the sample you asked for—Again, does the sampling for the additional parameters fall under the same criteria for stormwater sampling—72 hours following a significant rainfall event? Please advise. Thanks.

1

Courteously,  
Harry

From: Fruchtl, Brenda <bfruchtl@pa.gov>  
Sent: Monday, May 2, 2022 8:09 AM  
To: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Cc: 'Katie Cirone' <kcirone@libertyenviro.com>  
Subject: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

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Good Morning Harry

Thank you for taking the time to meet with me on April 26, 2022 and show me around the site. As discussed, I am following up with some questions I had during my site visit.

1. **Discharge from Air Stripper Towers (ASTs).** I recognize there is a good chance that the ASTs will not be restarted at this site as General Dynamics has proposed to the PADEP EC&B Program in the 2020-2021 Progress Report that the pumping cessation be made permanent. However, since General Dynamics would like to maintain the ability to discharge from the Air Stripper Towers if required in the future, I need some clarification regarding the method of disposal / discharge of the effluent from the ASTs (if they would be restarted) in order to proceed with my review.
  - a. **AST1 Effluent / Outfall 002.** During the site visit, you had mentioned that the effluent from AST1 had been captured in the tank next to the AST1 building when the AST1 was in operation. And the effluent in the tank was pumped periodically and hauled offsite for proper disposal and not discharged to the surface. However, according to the 2018 application, AST1 discharges at an average flow of 0.004 MGD to Outfall 002 to an unnamed tributary of Fishing Creek. In addition, previous applications and permits give no indication that the effluent was containerized and hauled off site; instead, they indicate the treated effluent was discharged at Outfall 002 to a swale that meets Fishing Creek at a RMI (river mile index) of approximately 10.9. A January 2005 letter from Sean Lichty, General Dynamics in response to the December 2004 Water Quality Protection Report states "the outlet for Outfall 002 has been repaired and modified to include erosion protection from the discharge pipe down to the service road, and an additional 20 feet further down the hill. The total distance is approximately 100 feet. Pictures\* of the work can also be found in the set, which was sent to you." ("I have not been able to locate these pictures")
    - i. Verify where the effluent from AST1 would be (and has been) disposed / discharged in the unlikely scenario that AST1 would need to be restarted for additional treatment of the groundwater.
      1. Would the discharge be to a swale or via a pipe to the UNT to Fishing Creek?
      2. If it is discharged, submit a map (aerial) showing the location of the outfall and likely path of the effluent from the outfall to the UNT to Fishing Creek. Include the location of the outfall and discharge pipe (referenced in the 2005 letter from General Dynamics)
  - b. **AST2 Effluent / Outfall 003.** During the site visit, you had mentioned that the effluent from AST2 would be captured in the tank inside the ASTs building. And the effluent in the tank was pumped periodically and hauled offsite for proper disposal and not discharged to the surface. However, according to the 2018 application, AST2 discharges at an average flow of 0.070 MGD to Outfall 003 to an unnamed tributary of Fishing Creek. In addition, previous applications and permits give no indication that the

2

## Attachment F

**Fruchtl, Brenda**

From: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Sent: Monday, June 6, 2022 8:45 AM  
To: Fruchtl, Brenda  
Cc: 'Katie Cirone'; Kile, David (Red Lion)  
Subject: RE: UPDATE REQUESTED BY JUNE 8, 2022. RE: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

Good morning Brenda,

In response to your message I offer the following:

1. Outfall 002/AST1 & Outfall 003/AST2 from the Air Stripper Towers are both located along Latitude 39.005" & Longitude -76.599" approximately 4-50 yards apart along an unimproved roadway behind a secure fenced-in area. Both Outfalls are plumbed into a concrete drainage culvert which drains along a 45-50 degree slope to Fishing Creek. The drainage culvert is not a solid run; after going under the roadway mentioned above it flows through the woods, more of a swale. The vegetation is very high at the moment and is difficult to see the precise path however it is with high certainty based on the topography of the area this is the result.

A site drawing showing the locations of Outfalls 002 & 003 will be provided and submitted to you before the end of today (Monday June 6, 2022)

2. Process Flow Diagram for the facility will be completed today (Monday June 6, 2022).
3. Awaiting stormwater sampling results and will transmit to you upon receipt.

Courteously,  
Harry

From: Fruchtl, Brenda <bfruchtl@pa.gov>  
Sent: Saturday, June 4, 2022 3:50 PM  
To: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Cc: 'Katie Cirone' <kcirone@libertyenviro.com>  
Subject: UPDATE REQUESTED BY JUNE 8, 2022. RE: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

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Good Afternoon Harry,

I am following up regarding the additional items we spoke about on my site visit on April 26, 2022 and subsequently requested via email on May 2, 2022.  
You stated in your May 4, 2022 email that you would be working with one of the maintenance men that was there at the time the SVE's were constructed to locate the position of the outfalls, as they are in the woods and likely heavily overgrown. And you would be doing this on Thursday [May 5, 2022] and anticipated a report back to me on the same day [May 5, 2022]. To date, I do not have a record of having received this information.

I am still waiting for the following items.

1. Additional information regarding discharge from Air Stripper Towers (ASTs).
  - a. Outfall 002 / AST1. See 5/2/2022 email for specific information previously requested.

1

- i. Provide a latitude / longitude for the historical discharge Location the effluent from AST1 / NPDES Permitted Outfall 002.
  - ii. Would the discharge be to a swale or via a pipe to the UNT to Fishing Creek?
  - iii. Submit a site plan and a map (aerial) showing the location of Outfall 002 and likely path of the effluent from the outfall to the UNT to Fishing Creek. Include the location of the outfall and discharge pipe (referenced in the 2005 letter from General Dynamics)
- b. Outfall 003 / AST2. See 5/2/2022 email for specific information previously requested.
- i. Provide a latitude / longitude for the historical discharge Location the effluent from AST2 / NPDES Permitted Outfall 003.
  - ii. Would the discharge be to a swale or via a pipe to the UNT to Fishing Creek?
  - iii. Submit a site plan and a map (aerial) showing the location of Outfall 003 and likely path of the effluent from the outfall to the UNT to Fishing Creek. Include the location of the outfall and discharge pipe (referenced in the 2005 letter from General Dynamics)
2. A line drawing/process flow diagram for the facility, which you estimated to be available by June 7, 2022.
  3. Stormwater samples from Outfalls 002 and 005 that include results for COD, total nitrogen, and total phosphorus. (Note. On 5/4/2022 I responded to the questions you had asked about sampling via email on 5/3/2022)

Respond via email by June 8, 2022 with a status update / timeline for submitting the remaining outstanding items I had requested via email on April 3, 2022.

Thank you  
**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

From: Fruchtl, Brenda  
Sent: Wednesday, May 4, 2022 7:35 AM  
To: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Cc: 'Katie Cirone' <kcirone@libertyenviro.com>  
Subject: RE: [External] RE: Follow up Questions to 4/26/2022 Site Visit. RE: NPDES Permit Renewal Application; NPDES Permit No. PA0043672. General Dynamics OTS.

Good Morning Harry.

Thank you for the update and additional insight.

And, yes, the sampling for the additional parameters falls under the same criteria for stormwater sampling which includes: grab samples should be taken during the first 30 minutes (or as soon thereafter as practicable) of the discharge; and all samples must be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

From: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Sent: Tuesday, May 3, 2022 3:34 PM  
To: Fruchtl, Brenda <bfruchtl@pa.gov>

2

Fruchtl, Brenda

**From:** Sarah Leung <Sarah.Leung@alsglobal.com>  
**Sent:** Thursday, July 14, 2022 9:16 AM  
**To:** Smith, Harry (Red Lion); Fruchtl, Brenda  
**Cc:** Kile, David (Red Lion)  
**Subject:** RE: [EXTERNAL] - RE: Questions regarding sample results received on June 30, 2022. PA0043672

Hi Brenda,

The request to analyze for additional parameters was submitted 2 months after the stormwater event was collected by ALS already. We communicated to General Dynamics that we would add it to the next qualifying storm event for them when they are on the schedule for sampling again. We go by a rotating list of stormwater clients in scheduling events so I do not have a specific date on when it will be collected, but as Harry said, it will be included in the next event. Thank you.

right colostomy,  
right parietal.[illegible]

From: Smith, Harry (Red Lion) <harry.smith@gd-ots.com>  
Sent: Thursday, July 14, 2022 7:35 AM  
To: Fruchtl, Brenda <bfruchtl@pa.gov>  
Cc: Kile, David (Red Lion) <David.Kile@gd-ots.com>; Sarah Leung <Sarah.Leung@alsglobal.com>  
Subject: [EXTERNAL] - RE: Questions regarding sample results received on June 30, 2022. PA0043672

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Good morning,

Apologies for not responding sooner, as we are completing a compliance assessment by a third-party.

I've copied the Customer Service representative for the analytical laboratory we utilize. We did request the additional parameters outlined in your previous messages (COD, Total Nitrogen, Total Phosphorus) be run on all future samples however the laboratory did not complete as requested. They are and have been advised of the need for the additional

1

parameters and will perform such on the next samples obtained. Once the results are received, I will in turn forward to you for review.

Thank you for your continued patience and understanding in this matter.

Courteously,  
Harry

From: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Sent: Wednesday, July 13, 2022 1:41 PM  
To: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Subject: Questions regarding sample results received on June 30, 2022. PA0043672

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Good Afternoon,

I have had a chance to look at the attached sample results that you sent on 6/30/2022 and I have a few questions / concerns.

1. The attached sample results do not include results for the following parameters (for either Outfall 002 or Outfall 005): COD, Total Nitrogen, or Total Phosphorus.
  - a. These parameters were initially requested via email on 4/3/2022.
2. The timeline doesn't seem to align either.
  - a. The attached samples were collected on 3/31/2022.
  - b. However, it wasn't until your 5/4/2022 email that you had said you had contacted your sampling lab to come out and obtain the samples I had requested. And you asked if the sampling for the additional parameters fall under the same criteria for stormwater sampling. And I responded to your questions on 5/4/2022 (see attached email)
3. Are you still awaiting another set of sample results from samples taken at Outfalls 002 and 005 after 5/4/2022 that include results for COD, Total Nitrogen, and Total Phosphorus? If not, when do you plan to sample for these remaining parameters (as requested initially in my email on 4/4/2022).
4. Or did you accidentally submit the wrong sample results? If so, please submit the sample results that included the requested parameters.

Thank you  
**Brenda Fruchtl, P.G.**  
DEP - SCRO | Clean Water Program - Permitting  
Ph: 717.705.4812

From: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Sent: Thursday, June 30, 2022 9:32 AM  
To: Fruchtl, Brenda <[bfruchtl@pa.gov](mailto:bfruchtl@pa.gov)>  
Subject: [External] FW: Stormwater SMR[3235311]

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2

**NPDES Permit Fact Sheet  
General Dynamics OTS PA**

**NPDES Permit No. PA0043672**

Good morning Brenda,

My apologies for the delay in getting this final piece of information to you. The laboratory we utilize had held on to the release of this information thinking we had not paid our bill. In the end their Accounts Receivable Department mis-filed our payment, resulting in the delay of data being released.

Needless to say I'm looking at transferring our analytical work elsewhere.

Please review the attached and if you have any questions or require additional information please contact me at your earliest convenience. Thanks.

Courteously,  
Harry

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From: [ALMDT.LIMSAutoEmail@alsglobal.com](mailto:ALMDT.LIMSAutoEmail@alsglobal.com) <[ALMDT.LIMSAutoEmail@alsglobal.com](mailto:ALMDT.LIMSAutoEmail@alsglobal.com)>  
Sent: Tuesday, June 28, 2022 9:28 AM  
To: Smith, Harry (Red Lion) <[harry.smith@gd-ots.com](mailto:harry.smith@gd-ots.com)>  
Subject: Stormwater SMR[3235311]

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Kind Regards,

Reporting  
Environmental  
USA



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1+1 717 944 5541  
[almdt.customerservice@alsglobal.com](mailto:almdt.customerservice@alsglobal.com)  
301 Fulling Mill Road  
Middletown, PA 17057

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Right Solutions - Right Partner  
[www.alsglobal.com](http://www.alsglobal.com)

## Attachment H



Toxics Management Spreadsheet  
Version 1.3, March 2021

### Discharge Information

Instructions Discharge Stream

Facility: General Dynamics NPDES Permit No.: PA0043672 Outfall No.: 002

Evaluation Type Major Sewage / Industrial Waste Wastewater Description: Discharge from AST1

Discharge Characteristics							
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)
			AFC	CFC	THH	CRL	Q <sub>7-10</sub> Q <sub>h</sub>
0.005	1	7					

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod
Group 1	Total Dissolved Solids (PWS)	mg/L								
	Chloride (PWS)	mg/L								
	Bromide	mg/L								
	Sulfate (PWS)	mg/L								
	Fluoride (PWS)	mg/L								
Group 2	Total Aluminum	µg/L								
	Total Antimony	µg/L								
	Total Arsenic	µg/L								
	Total Barium	µg/L								
	Total Beryllium	µg/L								
	Total Boron	µg/L								
	Total Cadmium	µg/L								
	Total Chromium (III)	µg/L								
	Hexavalent Chromium	µg/L								
	Total Cobalt	µg/L								
	Total Copper	µg/L								
	Free Cyanide	µg/L								
	Total Cyanide	µg/L								
	Dissolved Iron	µg/L								
	Total Iron	µg/L								
	Total Lead	µg/L								
	Total Manganese	µg/L								
	Total Mercury	µg/L								
	Total Nickel	µg/L								
	Total Phenols (Phenolics) (PWS)	µg/L								
	Total Selenium	µg/L								
	Total Silver	µg/L								
	Total Thallium	µg/L								
	Total Zinc	µg/L								
	Total Molybdenum	µg/L								
	Acrolein	µg/L	<							
	Acrylamide	µg/L	<							
	Acrylonitrile	µg/L	<							
	Benzene	µg/L	<							
	Bromoform	µg/L	<							
	Carbon Tetrachloride	µg/L	<	1						
	Chlorobenzene	µg/L	<	1						
	Chlorodibromomethane	µg/L	<							
	Chloroethane	µg/L	528							
	2-Chloroethyl Vinyl Ether	µg/L	<							

Page 3

Page 4



## Stream / Surface Water Information

General Dynamics, NPDES Permit No. PA0043672, Outfall 002

Instructions Discharge **Stream**

Receiving Surface Water Name:

No. Reaches to Model: 1

- ☒ Statewide Criteria  
☐ Great Lakes Criteria  
☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	007836	11.6	780	0.22			Yes
End of Reach 1	007836	11.07	720	0.95			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	11.6	0.5										100	7		
End of Reach 1	11.07	0.5													

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	11.6														
End of Reach 1	11.07														

Pollutant Name	Most Stringent Criterion (µg/L)	AFC WQC (µg/L)	CFC WQC (µg/L)	THH WQC (µg/L)	CRL WQC (µg/L)	Chem Trans - AFC Default	Chem Trans - CFC Default	Chem Trans - Site-Specific	Target QL (µg/L)	Conservative	PWS
1,1,1-Trichloroethane	610	3000	610	10000					0.5		
1,1,2,2-Tetrachloroethane	0.2	1000	210		0.2				0.5		
1,1,2-Trichloroethane	0.55	3400	680		0.55				0.5		
1,1-Dichloroethane									0.5		
1,1-Dichloroethylene	33	7500	1500	33					0.5		
1,2,3-Trichloropropane	210			210					0.5		
1,2,4-Trichlorobenzene	0.07	130	26	0.07					0.5		
1,2,4-Trimethylbenzene	72			72					0.5		
1,2,4,5-Tetrachlorobenzene	0.03			0.03					2.5		
1,2-Dichlorobenzene	160	820	160	1000					0.5		
1,2-Dichloroethane	9.9	15000	3100		9.9				0.5		
1,2-Dichloropropane	0.9	11000	2200		0.9				0.5		
1,2-Diphenylhydrazine	0.03	15	3		0.03				10		
1,2-cis-Dichloroethylene	12			12					0.5		
1,2-trans-Dichloroethylene	100	6800	1400	100					0.5		
1,3,5-Trimethylbenzene	72			72					0.5		
1,3-Dichlorobenzene	7	350	69	7					0.5		
1,3-Dichloropropylene	0.27	310	61		0.27				0.5		
1,4-Dichlorobenzene	150	730	150	300					0.5		
1,4-Dioxane									10		
1-Propanol	46000	230000	46000						100		
2,3,7,8-TCDD	0.000000005				0.000000005				0.000005		
2,4,5-Trichlorophenol	300			300					10		
2,4,6-Trichlorophenol	1.5	460	91		1.5				10		
2,4-Dichlorophenol	10	1700	340	10					10		
2,4-Dimethylphenol	100	660	130	100					10		
2,4-Dinitrophenol	10	660	130	10					10		
2,4-Dinitrotoluene	0.05	1600	320		0.05				5		
2,6-Dinitrotoluene	0.05	990	200		0.05				5		
2-Butoxyethanol	700			700					2		
2-Chloroethyl Vinyl Ether	3500	18000	3500						5		
2-Chloronaphthalene	800			800					5		
2-Chlorophenol	30	560	110	30					10		
2-Hexanone	4300	21000	4300						2.5		
2-Nitrophenol	1600	8000	1600						10		
2-Propanol	89000	440000	89000						0.5		
3,3-Dichlorobenzidine	0.05				0.05				5		
3,4-Benzofluoranthene	0.001				0.001				2.5		
4,4-DDD	0.0001	1.1	0.001		0.0001				0.05		
4,4-DDE	0.00002	1.1	0.001		0.00002				0.05		
4,4-DDT	0.00003	1.1	0.001		0.00003				0.05		
4,6-Dinitro-o-Cresol	2	80	16	2					10		
4-Bromophenyl Phenyl Ether	54	270	54						5		
4-Chlorophenyl Phenyl Ether									5		
4-Nitrophenol	470	2300	470						10		
Acenaphthene	17	83	17	70					2.5		
Acenaphthylene									2.5		
Acetone	3500	450000	88000	3500					2.5		
Acrolein	3	3	3	3					2		
Acrylamide	0.07				0.07				0.1		

Pollutant Name	Most Stringent Criterion (µg/L)	AFC WQC (µg/L)	CFC WQC (µg/L)	THH WQC (µg/L)	CRL WQC (µg/L)	Chem Trans - AFC Default	Chem Trans - CFC Default	Chem Trans - Site-Specific	Target QL (µg/L)	Conservative	PWS
Acrylonitrile	0.06	650	130		0.06				5		
Aldrin	0.0000008	3	0.1		0.0000008				0.05		
alpha-BHC	0.0004				0.0004				0.05		
alpha-Endosulfan	0.056	0.22	0.056	20					0.05		
Anthracene	300			300					2.5		
Benzene	0.58	640	130		0.58				0.5		
Benzene Metadisulfonic Acid	1600000	2600000	1600000								
Benzene Monosulfonic Acid	1200000	2000000	1200000								
Benzidine	0.0001	300	59		0.0001				50		
Benzo(a)Anthracene	0.001	0.5	0.1		0.001				2.5		
Benzo(a)Pyrene	0.0001				0.0001				2.5		
Benzo(ghi)Perylene									2.5		
Benzo(k)Fluoranthene	0.01				0.01				2.5		
Benzyl Chloride	0.2				0.2				0.5		
beta-BHC	0.008				0.008				0.05		
beta-Endosulfan	0.056	0.22	0.056	20					0.05		
Bis(2-Chloroethoxy)Methane									5		
Bis(2-Chloroethyl)Ether	0.03	30000	6000		0.03				5		
Bis(2-Chloroisopropyl)Ether	200			200					5		
Bis(2-Ethylhexyl)Phthalate	0.32	4500	910		0.32				5		
Bis(Chloromethyl)Ether	0.0002				0.0002						
Bromide									200	Y	
Bromoform	7	1800	370		7				0.5		
Butyl Benzyl Phthalate	0.1	140	35	0.1					5		
Carbon Tetrachloride	0.4	2800	560		0.4				0.5		
Chlordane	0.0003	2.4	0.0043		0.0003				1		
Chloride (PWS)	250000			250000					500	Y	Y
Chlorobenzene	100	1200	240	100					0.5		
Chlorodibromomethane	0.8				0.8				0.5		
Chloroethane									0.5		
Chloroform	5.7	1900	390	5.7					0.5		
Chlorophenoxy Herbicide (2,4,5-TP)				100					0.5		
Chrysene	0.12				0.12				2.5		
Color	75			75					5	Y	
Cyclohexylamine	1000			1000							
delta BHC									0.05		
Diazinon	0.17	0.17	0.17						0.0015		
Dibenzo(a,h)Anthracene	0.0001				0.0001				2.5		
Dibromochloromethane									0.5		
Dibromomethane									0.5		
Dichlorobromomethane	0.95				0.95				0.5		
Dichlorodifluoromethane									0.5		
Dieldrin	0.000001	0.24	0.056		0.000001				0.05		
Diethyl Phthalate	600	4000	800	600					5		
Dimethyl Phthalate	500	2500	500	2000					5		
Di-n-Butyl Phthalate	20	110	21	20					5		
Di-n-Octyl Phthalate									5		
Dinitrophenols	10			10							
Dissolved Iron	300			300					20	Y	
Endosulfan Sulfate	20			20					0.05		

Pollutant Name	Most Stringent Criterion (µg/L)	AFC WQC (µg/L)	CFC WQC (µg/L)	THH WQC (µg/L)	CRL WQC (µg/L)	Chem Trans - AFC Default	Chem Trans - CFC Default	Chem Trans - Site-Specific	Target QL (µg/L)	Conservative	PWS
Endrin	0.03	0.086	0.036	0.03					0.05		
Endrin Aldehyde	1			1					0.05		
Ethylbenzene	68	2900	580	68					0.5		
Ethylene Glycol									1000		
Fluoranthene	20	200	40	20					2.5		
Fluorene	50			50					2.5		
Fluoride (PWS)	2000			2000					200	Y	Y
Formaldehyde	440	2200	440	700					21.5		
Free Cyanide	4	22	5.2	4					1		
gamma-BHC	0.95	0.95		4.2					0.05		
Gross Alpha									3		
HCH-Technical	0.007				0.007						
Heptachlor	0.000006	0.52	0.0038		0.000006				0.05		
Heptachlor Epoxide	0.00003	0.5	0.0038		0.00003				0.05		
Hexachlorobenzene	0.00008				0.00008				5		
Hexachlorobutadiene	0.01	10	2		0.01				0.5		
Hexachlorocyclopentadiene	1	5	1	4					5		
Hexachloroethane	0.1	60	12		0.1				5		
Hexavalent Chromium	10.0	16.0	10.0			0.982	0.962		1	Y	
Indeno(1,2,3-cd)Pyrene	0.001				0.001				2.5		
Isophorone	34	10000	2100	34					5		
Methoxychlor	0.02			0.02							
Methyl Bromide	100	550	110	100					0.5		
Methyl Chloride	5500	28000	5500						0.5		
Methyl Ethyl Ketone	21000	230000	32000	21000					2.5		
Methyl Isobutyl Ketone	5000	26000	5000						2.5		
Methylene Chloride	20	12000	2400		20				0.5		
Metolachlor	69			69					0.05		
MTBE									0.5		
Naphthalene	43	140	43						0.5		
Nitrite plus Nitrate as N (PWS)	10000			10000					40	Y	Y
Nitrobenzene	10	4000	810	10					5		
n-Nitrosodimethylamine	0.0007	17000	3400		0.0007				5		
n-Nitrosodi-n-Propylamine	0.005				0.005				5		
n-Nitrosodiphenylamine	3.3	300	59		3.3				5		
Nonylphenol	6.6	28	6.6						5		
Osmotic Pressure	50	50							5	Y	
PCB-1016									0.25		
PCB-1221									0.25		
PCB-1232									0.25		
PCB-1242									0.25		
PCB-1248									0.25		
PCB-1254									0.25		
PCB-1260									0.25		
PCBs, Total	0.000064		0.014		0.000064				1.75		
p-Chloro-m-Cresol	160	160	500						10		
p-Cresol	160	800	160						20		
p-Phenol Sulfonic Acid	1400000	3500000	1400000								
Parathion											
Pentachlorobenzene	0.1			0.1					2.5		

**NPDES Permit Fact Sheet**  
**General Dynamics OTS PA**

**NPDES Permit No. PA0043672**

Pollutant Name	Most Stringent Criterion (µg/L)	AFC WQC (µg/L)	CFC WQC (µg/L)	THH WQC (µg/L)	CRL WQC (µg/L)	Chem Trans - AFC Default	Chem Trans - CFC Default	Chem Trans - Site-Specific	Target QL (µg/L)	Conservative	PWS
Pentachlorophenol	0.03	8.72	6.69		0.03				10		
Phenanthrene	1	5	1						2.5		
Phenol	4000			4000					10		
Pyrene	20			20					2.5		
Radium 226/228									1		
Resorcinol	2700	28000	7200	2700							
Sulfate (PWS)	250000			250000					1000	Y	Y
Tetrachloroethylene	10	700	140		10				0.5		
Toluene	57	1700	330	57					0.5		
Total Aluminum	750	750							10	Y	
Total Antimony	5.8	1100	220	5.8					2	Y	
Total Arsenic	10	340	150	10		1.000	1.000		3	Y	
Total Barium	2400	21000	4100	2400					2	Y	
Total Beryllium									1	Y	
Total Beta									4		
Total Boron	1800	8100	1800	3100					200	Y	
Total Cadmium	0.23	1.89	0.23			0.947	0.912		0.2	Y	
Total Chromium									4	Y	
Total Chromium (III)	70	539	70			0.316	0.860		4	Y	
Total Cobalt	19	95	19						1	Y	
Total Copper	8.5	12.61	8.46			0.960	0.960		4	Y	
Total Cyanide									10		
Total Dinitrotoluene					0.05						
Total Dissolved Solids (PWS)	500000			500000					2000	Y	Y
Total Iron	1500		1500						20	Y	
Total Lead	2.3	60	2.3			0.801	0.801		1	Y	
Total Manganese	1000			1000					2	Y	
Total Mercury	0.05	1.40	0.77	0.05		0.850	0.850		0.2	Y	
Total Molybdenum									4	Y	
Total Nickel	49	442.3	49.1	610		0.998	0.997		4	Y	
Total Phenols (Phenolics) (PWS)	5			5					5	Y	Y
Total Residual Chlorine	0.011	0.019	0.011						20		
Total Selenium	4.6		4.6			0.922	0.922		5	Y	
Total Silver	2.9	2.9				0.850			0.4	Y	
Total Strontium	4000.0			4000					10	Y	
Total Strontium (Gross) 90											
Total Thallium	0.24	65	13	0.24					2	Y	
Total Tungsten									1000	Y	
Total Uranium									2	Y	
Total Vanadium	100	510	100						13	Y	
Total Xylenes	210	1100	210	70000					1.5		
Total Zinc	111	111	112			0.978	0.986		5	Y	
Toxaphene	0.0002	0.73	0.0002		0.0007				0.5		
Trichloroethylene	0.6	2300	450		0.6				0.5		
Trichlorofluoromethane									0.5		
Vinyl Chloride	0.02				0.02				0.5		
Other (TYPE HERE)											
Other (TYPE HERE)											
Other (TYPE HERE)											
Other (TYPE HERE)											



Toxics Management Spreadsheet  
Version 1.3, March 2021

## Model Results

General Dynamics, NPDES Permit No. PA0043672, Outfall 002

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All

☐ Inputs

☐ Results

☐ Limits

☐ Hydrodynamics

☒ Wasteload Allocations

☒ AFC

CCT (min): 0.347

PMF: 1

Analysis Hardness (mg/l): 93.496

Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	2,800	2,800	42,619	
Chlorobenzene	0	0		0	1,200	1,200	18,265	
Chloroform	0	0		0	1,900	1,900	28,920	
1,2-Dichloroethane	0	0		0	15,000	15,000	228,316	
1,1-Dichloroethylene	0	0		0	7,500	7,500	114,158	
Methylene Chloride	0	0		0	12,000	12,000	182,653	
Tetrachloroethylene	0	0		0	700	700	10,655	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	103,503	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	45,663	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	51,752	
Trichloroethylene	0	0		0	2,300	2,300	35,008	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	140	140	2,131	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	1,100	1,100	16,743	

☒ CFC

CCT (min): 0.347

PMF: 1

Analysis Hardness (mg/l): 93.496

Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	560	560	8,524	
Chlorobenzene	0	0		0	240	240	3,653	
Chloroform	0	0		0	390	390	5,936	
1,2-Dichloroethane	0	0		0	3,100	3,100	47,185	
1,1-Dichloroethylene	0	0		0	1,500	1,500	22,832	
Methylene Chloride	0	0		0	2,400	2,400	36,531	
Tetrachloroethylene	0	0		0	140	140	2,131	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	21,310	

1,1,1-Trichloroethane	0	0		0	610	610	9,285	
1,1,2-Trichloroethane	0	0		0	680	680	10,350	
Trichloroethylene	0	0		0	450	450	6,849	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	43	43.0	655	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	210	210	3,196	

☒ **THH**

CCT (min): 0.347

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	1,522	
Chloroform	0	0		0	5.7	5.7	86.8	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	502	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,522	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	152,211	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
1,2-cis-Dichloroethylene	0	0		0	12	12.0	183	
Total Xylenes	0	0		0	70,000	70,000	1,065,475	

☒ **CRL**

CCT (min): 0.090

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	0.4	0.4	56.2	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	9.9	9.9	1,391	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	2,811	
Tetrachloroethylene	0	0		0	10	10.0	1,405	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	77.3	
Trichloroethylene	0	0		0	0.6	0.6	84.3	
Vinyl Chloride	0	0		0	0.02	0.02	2.81	
Naphthalene	0	0		0	N/A	N/A	N/A	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	N/A	N/A	N/A	

☒ Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
1,1-Dichloroethylene	0.021	0.033	502	784	1,256	µg/L	502	THH	Discharge Conc ≥ 50% WQBEL (RP)
1,1,1-Trichloroethane	0.39	0.6	9,285	14,486	23,212	µg/L	9,285	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Trichloroethylene	0.004	0.005	84.3	132	211	µg/L	84.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	Report	Report	Report	Report	Report	µg/L	2.81	CRL	Discharge Conc > 25% WQBEL (no RP)
1,2-cis-Dichloroethylene	0.008	0.012	183	285	457	µg/L	183	THH	Discharge Conc ≥ 50% WQBEL (RP)

☒ Other Pollutants without Limits or Monitoring

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., ≤ Target QL).

Pollutants	Governing WQBEL	Units	Comments
Carbon Tetrachloride	56.2	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,522	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
Chloroform	86.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	1,391	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	2,811	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	1,405	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	1,522	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	77.3	µg/L	Discharge Conc < TQL
Naphthalene	655	µg/L	Discharge Conc ≤ 25% WQBEL
Total Xylenes	3,196	µg/L	Discharge Conc < TQL
MTBE	N/A	N/A	No WQS

Attachment I

ATTACHMENT B

January 21, 1986

ATTACHMENT I

Subject: General Defense Corporation  
Flinchbaugh Division  
Red Lion Borough  
York County

To: Roger Musselman, Chief  
Planning Section  
Harrisburg Regional Office

From: Robert J. Schott RJS  
Water Pollution Biologist  
Harrisburg Regional Office

At the request of the Harrisburg Regional Office, Bureau of Water Quality Management, General Defense Corporation had a study done to determine the total flow from two springs at their Red Lion Facility. The purpose of the study was to determine how much dilution of their industrial waste discharge was being provided by the spring flows which lie upstream from the industrial discharge.

The total flow from the two springs was determined to be 95 gpm. (See attached letter).

Since the weather had been exceptionally wet a few weeks prior to this study one can conclude that the reported flows were higher than summertime flows. I therefore contacted Mr. Lonnie Knaub who is in charge of the water supply system in Windsor Borough. Windsor Borough gets its water from several springs located approximately 13 miles east of the General Defense Corporation Facility.

ATTACHMENT I (cont)

According to Mr. Knaub, spring flow in Windsor during August, 1985 was at least half of what was recorded in November, 1985. Based on this information I recommend that the Department base General Defense's NPDES permit limits on a dilution flow of 48 gpm.

## Attachment J

Toxics Management Spreadsheet  
Version 1.3, March 2021

## Discharge Information

Instructions Discharge Stream

Facility: General Dynamics

NPDES Permit No.: PA0043672

Outfall No.: 003

Evaluation Type Major Sewage / Industrial Waste

Wastewater Description: Discharge from AST2

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>b</sub>
0.08	1	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		Criteria Mod	Chem Transl
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS			
Group 1	Total Dissolved Solids (PWS)	mg/L										
	Chloride (PWS)	mg/L										
	Bromide	mg/L										
	Sulfate (PWS)	mg/L										
	Fluoride (PWS)	mg/L										
Group 2	Total Aluminum	µg/L										
	Total Antimony	µg/L										
	Total Arsenic	µg/L										
	Total Barium	µg/L										
	Total Beryllium	µg/L										
	Total Boron	µg/L										
	Total Cadmium	µg/L										
	Total Chromium (III)	µg/L										
	Hexavalent Chromium	µg/L										
	Total Cobalt	µg/L										
	Total Copper	µg/L										
	Free Cyanide	µg/L										
	Total Cyanide	µg/L										
	Dissolved Iron	µg/L										
	Total Iron	µg/L										
	Total Lead	µg/L										
	Total Manganese	µg/L										
	Total Mercury	µg/L										
	Total Nickel	µg/L										
	Total Phenols (Phenolics) (PWS)	µg/L										
	Total Selenium	µg/L										
	Total Silver	µg/L										
	Total Thallium	µg/L										
	Total Zinc	µg/L										
	Total Molybdenum	µg/L										
	Acrolein	µg/L	<									
	Acrylamide	µg/L	<									
	Acrylonitrile	µg/L	<									
	Benzene	µg/L	<									
	Bromoform	µg/L	<									
	Carbon Tetrachloride	µg/L	<	1								
	Chlorobenzene	µg/L	<	1								
	Chlorodibromomethane	µg/L	<									
	Chloroethane	µg/L	<	1								
	2-Chloroethyl Vinyl Ether	µg/L	<									

Page 2

Page 3



## Stream / Surface Water Information

General Dynamics, NPDES Permit No. PA0043672, Outfall 003

Instructions Discharge **Stream**

Receiving Surface Water Name:

No. Reaches to Model: 1

- ☒ Statewide Criteria  
☐ Great Lakes Criteria  
☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	007836	11.57	775	0.25			Yes
End of Reach 1	007836	11.07	720	0.95			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	11.57		0.1									100	7		
End of Reach 1	11.07		0.359												

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	11.57														
End of Reach 1	11.07														



Toxics Management Spreadsheet  
Version 1.3, March 2021

## Model Results

General Dynamics, NPDES Permit No. PA0043672, Outfall 003

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All

☐ Inputs

☐ Results

☐ Limits

☐ Hydrodynamics

☒ Wasteload Allocations

☒ AFC

CCT (min): 0.103

PMF: 1

Analysis Hardness (mg/l): 45.244

Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	2,800	2,800	5,062	
Chlorobenzene	0	0		0	1,200	1,200	2,170	
Chloroform	0	0		0	1,900	1,900	3,435	
1,2-Dichloroethane	0	0		0	15,000	15,000	27,120	
1,1-Dichloroethylene	0	0		0	7,500	7,500	13,560	
Methylene Chloride	0	0		0	12,000	12,000	21,696	
Tetrachloroethylene	0	0		0	700	700	1,266	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	12,295	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	5,424	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	6,147	
Trichloroethylene	0	0		0	2,300	2,300	4,158	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	140	140	253	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	1,100	1,100	1,989	

☒ CFC

CCT (min): 0.103

PMF: 1

Analysis Hardness (mg/l): 45.244

Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	560	560	1,012	
Chlorobenzene	0	0		0	240	240	434	
Chloroform	0	0		0	390	390	705	
1,2-Dichloroethane	0	0		0	3,100	3,100	5,605	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,712	
Methylene Chloride	0	0		0	2,400	2,400	4,339	
Tetrachloroethylene	0	0		0	140	140	253	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	2,531	

1,1,1-Trichloroethane	0	0		0	610	610	1,103	
1,1,2-Trichloroethane	0	0		0	680	680	1,229	
Trichloroethylene	0	0		0	450	450	814	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	43	43.0	77.7	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	210	210	380	

☒ **THH**

CCT (min): 0.103

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	181	
Chloroform	0	0		0	5.7	5.7	10.3	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	59.7	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	181	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	18,080	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
1,2-cis-Dichloroethylene	0	0		0	12	12.0	21.7	
Total Xylenes	0	0		0	70,000	70,000	126,561	

☒ **CRL**

CCT (min): 0.142

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Carbon Tetrachloride	0	0		0	0.4	0.4	3.61	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	9.9	9.9	89.3	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	180	
Tetrachloroethylene	0	0		0	10	10.0	90.2	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	4.96	
Trichloroethylene	0	0		0	0.6	0.6	5.41	
Vinyl Chloride	0	0		0	0.02	0.02	0.18	
Naphthalene	0	0		0	N/A	N/A	N/A	
1,2-cis-Dichloroethylene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	N/A	N/A	N/A	

☒ Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Carbon Tetrachloride	Report	Report	Report	Report	Report	µg/L	3.61	CRL	Discharge Conc > 25% WQBEL (no RP)
1,1-Dichloroethylene	0.04	0.062	59.7	93.1	149	µg/L	59.7	THH	Discharge Conc ≥ 50% WQBEL (RP)
Trichloroethylene	0.004	0.006	5.41	8.45	13.5	µg/L	5.41	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	0.0001	0.0002	0.18	0.28	0.45	µg/L	0.18	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2-cis-Dichloroethylene	0.014	0.023	21.7	33.8	54.2	µg/L	21.7	THH	Discharge Conc ≥ 50% WQBEL (RP)

☒ Other Pollutants without Limits or Monitoring

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Chlorobenzene	181	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
Chloroform	10.3	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	89.3	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	180	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	90.2	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	181	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	1,103	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	4.96	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	77.7	µg/L	Discharge Conc ≤ 25% WQBEL
Total Xylenes	380	µg/L	Discharge Conc < TQL
MTBE	N/A	N/A	No WQS