SCDHEC NPDES Permit #SC0002038
Permit Renewal Application

Wateree Station

Dominion Energy South Carolina (DESC)
142 Wateree Station Road
Eastover, South Carolina 29044

Submitted to:
Sourth Carolina Department of
Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

Submitted by:
Dominion Energy South Carolina, Inc.
Southeast Energy Group (SEG)
220 Operation Way, MC-C221
Cayce, South Carolina 29033

SCDHEC NPDES Permit #SC0002038
Renewal Application

Wateree Station
Dominion Energy South Carolina, Inc.

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EPA Form 1

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110015337198 (FRS #)	SC0002038	Wateree Station	

Form 1 NPDES

EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

GENERAL INFORMATION

SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))

Activities Requiring an NPDES Permit

1.1 Applicants *Not Required* to Submit Form 1

1.1.1	Is the facility a new or existing **publicly owned treatment works**? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. ☑ No	1.1.2	Is the facility a new or existing **treatment works treating domestic sewage**? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. ☑ No

1.2 Applicants *Required* to Submit Form 1

1.2.1	Is the facility a **concentrated animal feeding operation** or a **concentrated aquatic animal production facility?** ☐ Yes → Complete Form 1 ***and*** Form 2B. ☑ No	1.2.2	Is the facility an **existing** manufacturing, commercial, mining, or silvicultural **facility** that **is currently discharging process wastewater?** ☑ Yes → Complete Form 1 ***and*** Form 2C. ☐ No
1.2.3	Is the facility a **new** manufacturing, commercial, mining, or silvicultural **facility** that has **not yet commenced to discharge?** ☐ Yes → Complete Form 1 ***and*** Form 2D. ☑ No	1.2.4	Is the facility a **new or existing** manufacturing, commercial, mining, or silvicultural **facility** that **discharges only nonprocess wastewater?** ☐ Yes → Complete Form 1 ***and*** Form 2E. ☑ No
1.2.5	Is the facility a **new or existing facility** whose discharge is composed entirely of **stormwater associated with industrial activity** or whose discharge is composed of **both stormwater and non-stormwater**? ☐ Yes → Complete Form 1 ***and*** Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). ☐ No ☑ NA - See Attachment A		

SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))

Name, Mailing Address, and Location

2.1 Facility Name

Dominion Energy South Carolina - Wateree Station

2.2 EPA Identification Number

110015337198 (FRS #)

2.3 Facility Contact

Name (first and last)	Title	Phone number
Mark Ferguson	Generation Support	(803) 217-8103

Email address
mark.ferguson@dominionenergy.com

2.4 Facility Mailing Address

Street or P.O. box
220 Operation Way, MC-C221

City or town	State	ZIP code
Cayce	South Carolina	29033

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Name, Mailing Address, and Location Continued

2.5 **Facility Location**

Street, route number, or other specific identifier
142 Wateree Station Road

County name	County code (if known)	
Richland	079	
City or town	**State**	**ZIP code**
Eastover	South Carolina	29044

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))

SIC and NAICS Codes

3.1

SIC Code(s)	Description (optional)
4911	Steam Electric Generation

3.2

NAICS Code(s)	Description (optional)
221112	Fossil Fuel Electric Power Generation

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))

Operator Information

4.1 **Name of Operator**

Dominion Energy South Carolina - Wateree Station

4.2 Is the name you listed in Item 4.1 also the owner?

☑ Yes ☐ No

4.3 **Operator Status**

☐ Public—federal ☐ Public—state ☐ Other public (specify)_____

☑ Private ☐ Other (specify) _____

4.4 **Phone Number of Operator**

(803) 217-8103

Operator Information Continued

4.5 **Operator Address**

Street or P.O. Box
400 Otarre Parkway

City or town	State	ZIP code
Cayce	South Carolina	29033

Email address of operator
mark.ferguson@dominionenergy.com

SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))

Indian Land

5.1 Is the facility located on Indian Land?

☐ Yes ☑ No

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SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(f)(6))

Existing Environmental Permits

6.1 **Existing Environmental Permits** (check all that apply and print or type the corresponding permit number for each)

☑ NPDES (discharges to surface water) SC0002038	☑ RCRA (hazardous wastes) SCD00825786	☐ UIC (underground injection of fluids) NA
☑ PSD (air emissions) TV-1900-0013	☐ Nonattainment program (CAA) NA	☐ NESHAPs (CAA) NA
☐ Ocean dumping (MPRSA) NA	☐ Dredge or fill (CWA Section 404) NA	☑ Other (specify) See Attachment A

SECTION 7. MAP (40 CFR 122.21(f)(7))

Map

7.1 Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No ☐ CAFO—Not Applicable (See requirements in Form 2B.)

SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))

Nature of Business

8.1 Describe the nature of your business.

Wateree Power Station generates electricity with steam produced by the combustion of fossil fuels.

SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

Cooling Water Intake Structures

9.1 Does your facility use cooling water?

☑ Yes ☐ No → SKIP to Item 10.1.

9.2 Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.)

See Attachment E for information requested by SCDHEC.

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))

Variance Requests

10.1 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

- ☐ Fundamentally different factors (CWA Section 301(n))
- ☐ Water quality related effluent limitations (CWA Section 302(b)(2))
- ☐ Non-conventional pollutants (CWA Section 301(c) and (g))
- ☐ Thermal discharges (CWA Section 316(a))
- ☑ Not applicable

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SECTION 11. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

11.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Activities Requiring an NPDES Permit	☑ w/ attachments
☑ Section 2: Name, Mailing Address, and Location	☐ w/ attachments
☑ Section 3: SIC Codes	☐ w/ attachments
☑ Section 4: Operator Information	☐ w/ attachments
☑ Section 5: Indian Land	☐ w/ attachments
☑ Section 6: Existing Environmental Permits	☑ w/ attachments
☑ Section 7: Map	☑ w/ topographic map ☑ w/ additional attachments
☑ Section 8: Nature of Business	☐ w/ attachments
☑ Section 9: Cooling Water Intake Structures	☑ w/ attachments
☑ Section 10: Variance Requests	☐ w/ attachments
☑ Section 11: Checklist and Certification Statement	☐ w/ attachments

11.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
James M. Landreth	V.P., Fossil Hydro Operations
Signature	Date signed
James M. Landreth	10/25/2020

EPA Form 2E for Outfall 01A

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FORM 2E NPDES

EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(h)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
01A	Internal Outfall to	33° 49′ 46″ N	80° 37′ 20″ W
	03A (Wateree River)	° ′ ″	° ′ ″
		° ′ ″	° ′ ″

SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2))

Discharge Date

2.1 Are you a new or existing discharger? (Check only one response.)

☐ New discharger ☑ Existing discharger → SKIP to Section 3.

2.2 Specify your anticipated discharge date: Existing discharge

SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3))

Waste Types

3.1 What types of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a new discharger? (Check all that apply.)

☐ Sanitary wastes
☐ Restaurant or cafeteria waste
☐ Non-contact cooling water
☐ Other nonprocess wastewater (describe/explain directly below)
See Attachment A for details.

3.2 Does the facility use cooling water additives?

☑ Yes ☐ No → SKIP to Section 4.

3.3 List the cooling water additives used and describe their composition.

Cooling Water Additives (list)	Composition of Additives (if available to you)
See Attachment A.	

SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4))

Effluent Characteristics

4.1 Have you completed monitoring for all parameters in the table below at each of your outfalls and attached the results to this application package?

☑ Yes ☐ No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5.

4.2 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Biochemical oxygen demand (BOD_5)	1	<28.4 lbs/d	<2.0 mg/l	NA	NA	NA
Total suspended solids (TSS)	1	80.7 lbs/d	5.69 mg/l	NA	NA	NA
Oil and grease	1	<70.9 lbs/d	<5.0 mg/l	NA	NA	NA
Ammonia (as N)	1	1.98 lbs/d	0.140 mg/l	NA	NA	NA
Discharge flow	52	1.70 MGD				NA
pH (report as range)	1	8.2 s.u.				NA
Temperature (winter)	NA	NA				NA
Temperature (summer)	1	30.1 C				NA

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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Effluent Characteristics Continued

4.3 Is fecal coliform believed present, or is sanitary waste discharged (or will it be discharged)?

☑ Yes ☐ No ➔ SKIP to Item 4.5.

4.4 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (Use codes per Instructions.)
		Mass	Conc.	Mass	Conc.	
Fecal coliform	1	NA	1553 mpn	NA	NA	NA
E. coli	1	NA	1414 mpn	NA	NA	NA
Enterococci	1	NA	2 mpn	NA	NA	NA

4.5 Is chlorine used (or will it be used)?

☑ Yes ☐ No ➔ SKIP to Item 4.7.

4.6 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Total Residual Chlorine	4	<0.71 lbs/d	<0.050	<0.17	<0.050	NA

4.7 Is non-contact cooling water discharged (or will it be discharged)?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.8 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Chemical oxygen demand (COD)	1	894.6 lbs/d	63.1 mg/l	NA	NA	NA
Total organic carbon (TOC)	1	185.7 lbs/d	13.1 mg/l	NA	NA	NA

SECTION 5. FLOW (40 CFR 122.21(h)(5))

Flow

5.1 Except for stormwater water runoff, leaks, or spills, are any of the discharges you described in Sections 1 and 3 of this application intermittent or seasonal?

☐ Yes ➔ Complete this section. ☑ No ➔ SKIP to Section 6.

5.2 Briefly describe the frequency and duration of flow.

See Attachment A for clarification.

SECTION 6. TREATMENT SYSTEM (40 CFR 122.21(h)(6))

Treatment System

6.1 Briefly describe any treatment system(s) used (or to be used).

Sodium Bisulfite is added to the cooling tower blowdown for de-chlorination purposes.

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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SECTION 7. OTHER INFORMATION (40 CFR 122.21(h)(7))

Other Information

7.1 Use the space below to expand upon any of the above items. Use this space to provide any information you believe the reviewer should consider in establishing permit limitations. Attach additional sheets as needed.

See Attachment A for more clarification related to this outfall.

SECTION 8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

8.1 In Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Outfall Location	☑ w/ attachments (e.g., responses for additional outfalls)
☑ Section 2: Discharge Date	☐ w/ attachments
☑ Section 3: Waste Types	☑ w/ attachments
☑ Section 4: Effluent Characteristics	☑ w/ attachments
☑ Section 5: Flow	☑ w/ attachments
☑ Section 6: Treatment System	☐ w/ attachments
☑ Section 7: Other Information	☑ w/ attachments
☑ Section 8: Checklist and Certification Statement	☐ w/ attachments

8.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
James M. Landreth	V.P., Fossil Hydro Operations
Signature: James M. Landreth	Date signed: 10/15/2020

EPA Form 2C for Outfall 03A

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19
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Form 2C NPDES

EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
03A	Wateree River	33° 48′ 50″ N	80° 36′ 58″ W
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing

2.1 Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C–1 at end of instructions for example.)

☑ Yes ☐ No

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

Outfall Number 03A

Operations Contributing to Flow

Operation	Average Flow
Refer to Attachment A	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Refer to Attachment A		

Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** _____

Operations Contributing to Flow

Operation	Average Flow
Refer to Attachment A	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Refer to Attachment A		

****Outfall Number**** _____

Operations Contributing to Flow

Operation	Average Flow
Refer to Attachment A	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Refer to Attachment A		

System Users

3.2 Are you applying for an NPDES permit to operate a privately owned treatment works?

☐ Yes ☑ No ➔ SKIP to Section 4.

3.3 Have you attached a list that identifies each user of the treatment works?

☐ Yes ☐ No

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows

4.1 Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.2 Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
	Refer to Attachment A	days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs

5.1 Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation
Steam Electric Power Gen.	NA	40 CFR 423

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☐ Yes ☑ No ➔ SKIP to Section 6.

5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs.

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements

6.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Item 6.3.

6.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

6.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? *(optional item)*

☑ Yes ☐ No ☐ Not applicable

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

Table A. Conventional and Non-Conventional Pollutants

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☐ Yes ☑ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number _____ Outfall Number _____ Outfall Number _____

7.3 Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?

☑ Yes ☐ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)

☑ Yes ☐ No ➔ SKIP to Item 7.8.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☑ Yes ☐ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
Steam Electric Power Plants	☑ Volatile	☑ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☑ Yes ☐ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
Table C. Certain Conventional and Non-Conventional Pollutants	
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☑ Yes ☐ No
Table D. Certain Hazardous Substances and Asbestos	
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☑ Yes ☐ No
Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☑ No

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☐ Yes ☑ No ➔ SKIP to Section 9.
8.2	List the pollutants below.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests

9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge?

☑ Yes ☐ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
ceriodaphnia dubia (chronic)	whole effluent toxicity	☑ Yes ☐ No	1/mon. per DMR
ceriodaphnia dubia (acute)	whole effluent toxicity	☑ Yes ☐ No	1/qtr. per DMR
		☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses

10.1 Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 11.

10.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	General Engineering Laboratories, Inc.	DESC Central Laboratory	DESC Watetee St. Laboratory
Laboratory address	2040 Savage Road Charleston, South Carolina 29407	2102 North Lake Drive Columbia, South Carolina 29212	142 Wateree Station Road Eastover, SC 29044
Phone number	(843) 556-8171	(803) 217-9384	(803) 217-4002
Pollutant(s) analyzed	The majority of analyses reported of the Form 2C (those not listed elsewhere)	TSS, O&G, As, Ni, Se, Zn, Fecal Coliform, E.coli, Phosphorus	pH, TRC, Temperature

SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☑ Yes ☐ No ➔ SKIP to Section 12.

11.2 List the information requested and attach it to this application.

1. SCDHEC Sludge Supplement
2. SCDHEC Location Supplement
3. SCDHEC Mixing Zone Request for Toxicity
4. 316(b) Cooling Water Intake Structure Information
5.
6.

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2			
☑ Section 1: Outfall Location	☑ w/ attachments			
☑ Section 2: Line Drawing	☑ w/ line drawing	☐ w/ additional attachments		
☑ Section 3: Average Flows and Treatment	☑ w/ attachments	☐ w/ list of each user of privately owned treatment works		
☑ Section 4: Intermittent Flows	☑ w/ attachments			
☑ Section 5: Production	☐ w/ attachments			
☑ Section 6: Improvements	☑ w/ attachments	☐ w/ optional additional sheets describing any additional pollution control plans		
☑ Section 7: Effluent and Intake Characteristics	☐ w/ request for a waiver and supporting information	☐ w/ explanation for identical outfalls		
	☐ w/ small business exemption request	☐ w/ other attachments		
	☑ w/ Table A	☑ w/ Table B		
	☑ w/ Table C	☑ w/ Table D		
	☑ w/ Table E	☐ w/ analytical results as an attachment		
☑ Section 8: Used or Manufactured Toxics	☐ w/ attachments			
☑ Section 9: Biological Toxicity Tests	☐ w/ attachments			
☑ Section 10: Contract Analyses	☑ w/ attachments			
☑ Section 11: Additional Information	☑ w/ attachments			
☑ Section 12: Checklist and Certification Statement	☐ w/ attachments			

12.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
James M. Landreth	V.P., F/H Ops.
Signature	**Date signed**
James M. Landreth	10/15/2020

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015337198 (FRS #)	SC0002038	Wateree Station	03A

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))[1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent: Maximum Daily Discharge (required)	Effluent: Maximum Monthly Discharge (if available)	Effluent: Long-Term Average Daily Discharge (if available)	Effluent: Number of Analyses	Intake (Optional): Long-Term Average Value	Intake (Optional): Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration	mg/l	<2.00	NA	NA	1	NA	NA
			Mass	lbs/d	<133	NA	NA	1	NA	NA
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/l	63.1	NA	NA	1	NA	NA
			Mass	lbs/d	4,210	NA	NA	1	NA	NA
3.	Total organic carbon (TOC)	☐	Concentration	mg/l	3.78	NA	NA	1	NA	NA
			Mass	lbs/d	251	NA	NA	1	NA	NA
4.	Total suspended solids (TSS)	☐	Concentration	mg/l	19.2	19.2	8.93	54	NA	NA
			Mass	lbs/d	1,280	993	165	54	NA	NA
5.	Ammonia (as N)	☐	Concentration	mg/l	1.2	1.2	0.35	19	NA	NA
			Mass	lbs/d	80	62.0	6.5	19	NA	NA
6.	Flow	☐	Rate	MGD	8.0	6.2	2.22	52	NA	NA
7.	Temperature (winter) *	☐	°C	°C	13.3	13.3	12.0	6	NA	NA
	Temperature (summer) *	☐	°C	°C	31.1	31.1	30.7	7	NA	NA
8.	pH (minimum)	☐	Standard units	s.u.	6.1	6.1	6.1	1,024	NA	NA
	pH (maximum)	☐	Standard units	s.u.	8.4	8.4	8.4	1,024	NA	NA

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

* Winter = Dec. - Mar.
Summer = June - Sept.

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
1.2	Arsenic, total (7440-38-2)	☑	☑	☐	Concentration	ug/l	0.040	0.040	0.017	54	<5.0	18
					Mass	lbs/d	2.67	2.07	0.305	54	NA	NA
1.3	Beryllium, total (7440-41-7)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
1.4	Cadmium, total (7440-43-9)	☑	☐	☑	Concentration	ug/l	<0.100	NA	NA	1	NA	NA
					Mass	lbs/d	<0.007	NA	NA	1	NA	NA
1.5	Chromium, total (7440-47-3)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
1.6	Copper, total (7440-50-8)	☑	☐	☑	Concentration	ug/l	<10.0	NA	NA	1	NA	NA
					Mass	lbs/d	<0.67	NA	NA	1	NA	NA
1.7	Lead, total (7439-92-1)	☑	☐	☑	Concentration	ug/l	<2.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.13	NA	NA	1	NA	NA
1.8	Mercury, total (7439-97-6)	☑	☑	☐	Concentration	ng/l	23.5	23.3	9.2	28	NA	NA
					Mass	lbs/d	0.0016	0.0012	0.0002	28	NA	NA
1.9	Nickel, total (7440-02-0)	☑	☐	☑	Concentration	ug/l	<10.0	NA	NA	1	<10.0	18
					Mass	lbs/d	<0.67	NA	NA	1	NA	NA
1.10	Selenium, total (7782-49-2)	☑	☐	☑	Concentration	lbs/d	<5.00	NA	NA	1	NA	NA
					Mass	ug/l	<0.33	NA	NA	1	NA	NA
1.11	Silver, total (7440-22-4)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☑	☐	☑	Concentration	ug/l	<0.500	NA	NA	1	NA	NA
					Mass	lbs/d	<0.033	NA	NA	1	NA	NA
1.13	Zinc, total (7440-66-6)	☑	☐	☑	Concentration	ug/l	<10.0	NA	NA	1	NA	NA
					Mass	lbs/d	<0.67	NA	NA	1	NA	NA
1.14	Cyanide, total (57-12-5)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
1.15	Phenols, total	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
2.2	Acrylonitrile (107-13-1)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
2.3	Benzene (71-43-2)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.4	Bromoform (75-25-2)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.5	Carbon tetrachloride (56-23-5)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.6	Chlorobenzene (108-90-7)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.7	Chlorodibromomethane (124-48-1)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.8	Chloroethane (75-00-3)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☑	☐	☑	Concentration	ug/l	<5.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.33	NA	NA	1	NA	NA
2.10	Chloroform (67-66-3)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.11	Dichlorobromomethane (75-27-4)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.12	1,1-dichloroethane (75-34-3)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.13	1,2-dichloroethane (107-06-2)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.14	1,1-dichloroethylene (75-35-4)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.15	1,2-dichloropropane (78-87-5)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.16	1,3-dichloropropylene (542-75-6)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.17	Ethylbenzene (100-41-4)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.18	Methyl bromide (74-83-9)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	llbs/d	<0.07	NA	NA	1	NA	NA
2.19	Methyl chloride (74-87-3)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.20	Methylene chloride (75-09-2)	☑	☐	☑	Concentration	ug/l	<2.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.13	NA	NA	1	NA	NA
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.23	Toluene (108-88-3)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.24	1,2-trans-dichloroethylene (156-60-5)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.25	1,1,1-trichloroethane (71-55-6)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.26	1,1,2-trichloroethane (79-00-5)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.27	Trichloroethylene (79-01-6)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
2.28	Vinyl chloride (75-01-4)	☑	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration	ug/l	<0.019	NA	NA	1	NA	NA
					Mass	lbs/d	<1.27	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	ug/l	<0.06	NA	NA	1	NA	NA
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration	lbs/d	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☐	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbsd/	<0.63	NA	NA	1	NA	NA
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration	ug/l	<9.42	NA	NA	1	NA	NA
					Mass	lbs/d	<0.63	NA	NA	1	NA	NA
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration	ug/l	<0.94	NA	NA	1	NA	NA
					Mass	lbs/d	<0.06	NA	NA	1	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☐	☐	☑	Concentration	ug/l	<1.00	NA	NA	1	NA	NA
					Mass	lbs/d	<0.07	NA	NA	1	NA	NA
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☑	Concentration	NA	NA	NA	NA	NA	NA	NA
					Mass	NA	NA	NA	NA	NA	NA	NA

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
1.	Bromide (24959-67-9)	☐	☑	Concentration	mg/l	<2.0	NA	NA	1	NA	NA
				Mass	lbs/d	<133	NA	NA	1	NA	NA
2.	Chlorine, total residual	☐	☑	Concentration	mg/l	<0.05	<0.05	<0.05	2	NA	NA
				Mass	lbs/d	<3.33	<2.59	<0.93	2	NA	NA
3.	Color	☑	☐	Concentration	PCU	15.0	NA	NA	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA
4.	Fecal coliform	☑	☐	Concentration	MPN	1	1	1	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA
5.	Fluoride (16984-48-8)	☑	☐	Concentration	mg/l	0.277	NA	NA	1	NA	NA
				Mass	lbs/d	18.5	NA	NA	1	NA	NA
6	Nitrate-nitrite	☑	☐	Concentration	ug/l	69.2	NA	NA	1	NA	NA
				Mass	lbs/d	4.62	NA	NA	1	NA	NA
7.	Nitrogen, total organic (as N)	☑	☐	Concentration	ug/l	303	NA	NA	1	NA	NA
				Mass	lbs/d	20.2	NA	NA	1	NA	NA
8.	Oil and grease	☐	☑	Concentration	mg/l	<5.0	<5.0	<2.6	54	NA	NA
				Mass	lbs/d	<330	<260	<48.0	54	NA	NA
9.	Phosphorus (as P), total (7723-14-0)	☑	☐	Concentration	mg/l	1.8	1.8	0.29	19	NA	NA
				Mass	lbs/d	120	93.1	5.39	19	NA	NA
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration	mg/l	107	NA	NA	1	NA	NA
				Mass	lbs/d	7.14	NA	NA	1	NA	NA
11.	Sulfide (as S)	☐	☑	Concentration	ug/l	<100	NA	NA	1	NA	NA
				Mass	lbs/d	<6.67	NA	NA	1	NA	NA

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☑	Concentration	mg/l	NA	NA	NA	NA	NA	NA
				Mass	lbs/d	NA	NA	NA	NA	NA	NA
13.	Surfactants	☐	☑	Concentration	ug/l	<50.0	NA	NA	1	NA	NA
				Mass	lbs/d	<3.34	NA	NA	1	NA	NA
14.	Aluminum, total (7429-90-5)	☑	☐	Concentration	ug/l	50.8	NA	NA	1	NA	NA
				Mass	lbs/d	3.39	NA	NA	1	NA	NA
15.	Barium, total (7440-39-3)	☐	☑	Concentration	ug/l	<50.0	NA	NA	1	NA	NA
				Mass	lbs/d	<3.34	NA	NA	1	NA	NA
16.	Boron, total (7440-42-8)	☑	☐	Concentration	ug/l	1,500	NA	NA	1	NA	NA
				Mass	lbs/d	100	NA	NA	1	NA	NA
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration	ug/l	<20.0	NA	NA	1	NA	NA
				Mass	lbs/d	<1.33	NA	NA	1	NA	NA
18.	Iron, total (7439-89-6)	☑	☐	Concentration	ug/l	54.2	NA	NA	1	NA	NA
				Mass	lbs/d	3.61	NA	NA	1	NA	NA
19.	Magnesium, total (7439-95-4)	☑	☐	Concentration	mg/l	18.7	NA	NA	1	NA	NA
				Mass	lbs/d	1.20	NA	NA	1	NA	NA
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration	ug/l	<20.0	NA	NA	1	NA	NA
				Mass	lbs/d	<1.33	NA	NA	1	NA	NA
21.	Manganese, total (7439-96-5)	☑	☐	Concentration	ug/l	484	NA	NA	1	NA	NA
				Mass	lbs/d	32.3	NA	NA	1	NA	NA
22.	Tin, total (7440-31-5)	☐	☑	Concentration	ug/l	<10.0	NA	NA	1	NA	NA
				Mass	lbs/d	<0.67	NA	NA	1	NA	NA
23.	Titanium, total (7440-32-6)	☐	☑	Concentration	ug/l	<50.0	NA	NA	1	NA	NA
				Mass	lbs/d	<3.34	NA	NA	1	NA	NA

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☐	☑	Concentration	pCi/L	3.01	NA	NA	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA
	Beta, total	☐	☑	Concentration	pCi/L	3.80	NA	NA	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA
	Radium, total	☐	☑	Concentration	pCi/L	3.47	NA	NA	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA
	Radium 226, total	☐	☑	Concentration	pCi/L	0.408	NA	NA	1	NA	NA
				Mass	NA	NA	NA	NA	NA	NA	NA

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015337198 (FRS #)	SC0002038	Wateree Station	03A

Form Approved 03/05/19
OMB No. 2040-0004

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		NA
2.	Acetaldehyde	☐	☑		NA
3.	Allyl alcohol	☐	☑		NA
4.	Allyl chloride	☐	☑		NA
5.	Amyl acetate	☐	☑		NA
6.	Aniline	☐	☑		NA
7.	Benzonitrile	☐	☑		NA
8.	Benzyl chloride	☐	☑		NA
9.	Butyl acetate	☐	☑		NA
10.	Butylamine	☐	☑		NA
11.	Captan	☐	☑		NA
12.	Carbaryl	☐	☑		NA
13.	Carbofuran	☐	☑		NA
14.	Carbon disulfide	☐	☑		NA
15.	Chlorpyrifos	☐	☑		NA
16.	Coumaphos	☐	☑		NA
17.	Cresol	☐	☑		NA
18.	Crotonaldehyde	☐	☑		NA
19.	Cyclohexane	☐	☑		NA

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		NA
21.	Diazinon	☐	☑		NA
22.	Dicamba	☐	☑		NA
23.	Dichlobenil	☐	☑		NA
24.	Dichlone	☐	☑		NA
25.	2,2-dichloropropionic acid	☐	☑		NA
26.	Dichlorvos	☐	☑		NA
27.	Diethyl amine	☐	☑		NA
28.	Dimethyl amine	☐	☑		NA
29.	Dintrobenzene	☐	☑		NA
30.	Diquat	☐	☑		NA
31.	Disulfoton	☐	☑		NA
32.	Diuron	☐	☑		NA
33.	Epichlorohydrin	☐	☑		NA
34.	Ethion	☐	☑		NA
35.	Ethylene diamine	☐	☑		NA
36.	Ethylene dibromide	☐	☑		NA
37.	Formaldehyde	☐	☑		NA
38.	Furfural	☐	☑		NA

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		NA
40.	Isoprene	☐	☑		NA
41.	Isopropanolamine	☐	☑		NA
42.	Kelthane	☐	☑		NA
43.	Kepone	☐	☑		NA
44.	Malathion	☐	☑		NA
45.	Mercaptodimethur	☐	☑		NA
46.	Methoxychlor	☐	☑		NA
47.	Methyl mercaptan	☐	☑		NA
48.	Methyl methacrylate	☐	☑		NA
49.	Methyl parathion	☐	☑		NA
50.	Mevinphos	☐	☑		NA
51.	Mexacarbate	☐	☑		NA
52.	Monoethyl amine	☐	☑		NA
53.	Monomethyl amine	☐	☑		NA
54.	Naled	☐	☑		NA
55.	Naphthenic acid	☐	☑		NA
56.	Nitrotoluene	☐	☑		NA
57.	Parathion	☐	☑		NA

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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Form Approved 03/05/19
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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		NA
59.	Phosgene	☐	☑		NA
60.	Propargite	☐	☑		NA
61.	Propylene oxide	☐	☑		NA
62.	Pyrethrins	☐	☑		NA
63.	Quinoline	☐	☑		NA
64.	Resorcinol	☐	☑		NA
65.	Strontium	☐	☑		NA
66.	Strychnine	☐	☑		NA
67.	Styrene	☐	☑		NA
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		NA
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		NA
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		NA
71.	Trichlorofon	☐	☑		NA
72.	Triethanolamine	☐	☑		NA
73.	Triethylamine	☐	☑		NA
74.	Trimethylamine	☐	☑		NA
75.	Uranium	☐	☑		NA
76.	Vanadium	☐	☑		NA

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		NA
78.	Xylene	☐	☑		NA
79.	Xylenol	☐	☑		NA
80.	Zirconium	☐	☑		NA

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015337198 (FRS #)	SC0002038	Wateree Station	03A

TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

Attachment A

NPDES Renewal Supplement Information

NPDES Attachment A
Dominion Energy South Carolina
Wateree Station NPDES Permit (SC0002038) Renewal Supplement

General Information/Facility Background

Wateree Station (Wateree) is owned and operated by Dominion Energy South Carolina, Inc. (DESC), a wholly- owned subsidiary of Dominion Energy. The station is located at 142 Wateree Station Road, Eastover, South Carolina. Wateree operates two identical coal-fired generating units. Units 1 and 2, which began operation in 1970 and 1971 respectively. Each unit has a gross generating capacity of 372 megawatts (MW). Both generating units are categorized as base load units. Table 1 below contains some general information for the two generating units.

Table 1. Plant Summary

SE Unit	Installation Date	Gross Capacity (MW)	Particulate Control	NOx Control
1	1970	372	Reverse Gas Baghouse	SCR, Low NOx burner
2	1971	372	Reverse Gas Baghouse	SCR, Low NOx burner

The Wateree River is the source of intake water at the plant. Three groundwater wells provide either production water for operations or provide potable water for the facility. The potable water system is considered a non-transient, non-community potable water system. The sanitary wastewater produced by this system is sent to on-site septic tank and tile field system. However, a separate well is used for the Guard House and Landfill trailer for domestic purposes which is consider a small water system by SCDHEC. The Guard House discharges to a on-site septic tank/field drain while the trailer domestic wastewater is collected that pumped/hauled by a biosolids transporter.

The station discharges to the Wateree River in accordance with South Carolina Department of Health and Environmental Control (SCDHEC) National Pollutant Discharge Elimination System (NPDES) Permit No. SC0002038 (administratively continued since December 31, 2012).

Form 1

The EPA Identification Number listed is based on the site's EPA Facility Response Service (FRS) Number (110015337198).

Section 1.2.5 – Storm Water Form 2F

The facility has stormwater coverage under the SCDHEC Permit No. SCR100000.

Section 6 – Existing Environmental Permits

The Wateree Station occasionally generates hazardous waste under EPA ID No. SCD00825786 and is classified as a small quantity generator (SQG). Under 40 CFR 262, Wateree Station is not a Treatment, Storage, or Disposal Facility (TSDF). Other site permits include: SCDHEC Industrial Solid Waste Landfill Permit No. 403320-1601, SCDHEC Industrial Stormwater Permit No. SCR100000, SCDHEC Water Supply No. SC4030001, SCDHEC Surface Water Withdrawal Permit No. 40PT001, SCDHEC Groundwater Withdrawal Permit/Registration No. 40WS012, and SCDHEC Construction Stormwater Permit No. SCR000000 (as applicable).

Section 7 – Map

A topographic map showing the location of the Wateree Station and a one-mile radius beyond the plant boundaries is included with this application as Attachment B. The plant intake, water body, outfalls, production/potable wells, plant longitude/latitude, and hazardous waste storage area are located on the site map. There are no underground injection control (UIC) wells for this facility. Also refer to the SCDHEC Location Supplement provided within Attachment B.

Section 9 – Cooling Water Intake Structures

Information related to Wateree's cooling water intake as described in 40 CFR 125 is provided as Attachment E.

SC0002038 Outfall Descriptions

The facility currently discharges effluent through the following outfalls and corresponding locations. Further discussion of the discharges through each outfall is provided. Note that the outfall naming convention follows a preliminary draft permit rationale provided by SCDHEC.

- 01A internal outfall (cooling tower blowdown) to 03A
- 01B internal outfall (combustion residual leachate) to 03A
- 01C internal outfall (flue gas desulfurization wastewater, legacy) to 03A
- 01D internal outfall (future bottom ash transport wastewater, legacy) to Outfall 03A
- 03A (Polishing Pond-final external outfall) to Wateree River

New Steam and Electric - Effluent Limit Guidelines (ELG)

Wateree Station is subject to EPA Effluent Limitation Guidelines (ELGs) found at 40 CFR 423-Standards for the Steam Electric Power Generating Point Source Category. New ELG guidelines were published in November 2015 and became effective January 4, 2016. The 2015 rule addressed discharges from flue gas desulfurization (FGD) wastewater, fly ash transport water (FATW), bottom ash transport water (BATW), flue gas mercury control wastewater, gasification wastewater, combustion residual leachate, and non-chemical metal cleaning wastes. Wateree Station will have to modify the BATW and FGD wastewater treatment systems on-or-before the applicability dates outlined in the ELG.

On August 14, 2017, the EPA Administrator announced the decision to conduct new rulemaking activities for the BATW and FGD wastewater portions of the ELG rule. During the reconsideration process, EPA collected additional information to support development of new limits and discharge requirements for BATW and FGD waste streams.

On April 12, 2019, the U.S. Court of Appeals for the Fifth Circuit vacated the portions of the ELG regulating combustion residual leachate and legacy wastewater. EPA has stated they plan "to address this vacatur in a subsequent action," (November 22, 2019 Federal Register, p. 64625) but have not yet done so.

New ELGs were signed by the EPA Administrator on August 31, 2020 and published in the Federal Register on October 13, 2020. The 2020 ELG revisions supersede the 2015 requirements. The 2020 rule includes new requirements and new applicability dates for BATW and FGD wastewater. The 2020 ELG establishes a new “earliest” applicability date for meeting BATW and FGD wastewater requirements. The new date is to be set one year from the date the new ELG rule is published in the Federal Register. The 2020 ELG establishes new “no-later-than” applicability date for meeting BATW and FGD wastewater requirements which is set at December 31, 2025. There is a Voluntary Incentive Program (VIP) for FGD wastewater included in the 2020 ELG rule. Stations that opt into the VIP program are assured the applicability date for FGD wastewater will be set at December 31, 2028.

The Department has asked the station to provide “as-soon-as possible” applicability dates, justifications and schedules to meet the ELG discharge requirements for BATW and FGD wastewater. This information was submitted on 9/30/20.

Internal Outfall 01A (EPA Form 2E, internal to Outfall 03A)

Section 1 – Outfall Location

Outfall 01A was established through an NPDES permit modification that became effective May 1, 2005. This outfall is a discharge line at the wastewater sump of the cooling towers. Outfall 01A is an internal outfall that is sampled for categorical limitations for cooling tower blowdown prior to the cooling tower blowdown mixing with other waste streams. The wastewater sump also receives smaller volumes of strainer and filter backwash as well as cooling tower mist, and some storm water from the apron discharge system. The sump is pumped to the Polishing Pond then discharges through Outfall 03A. Per DMR data, Outfall 01A began discharging December 2006. Thus the discharge, when originally permitted, represented a new source as defined by SCDHEC R.61-9.122.2.

The cooling towers for Units 1 and 2 consist of two 10-cell counter-flow-design cooling towers that could be expanded to fourteen cells in the future. Cooling water in a closed-cycle mechanical draft system cools the condensers to condense turbine exhaust-gas steam. The blowdown and flow rates of 612 gpm average and 805 gpm maximum are designed based on

five cycles of concentration. Additives to the cooling towers are included in Section 3, while chromium and /or zinc-containing cooling tower chemicals are not used.

Section 3.1 & 3.3 – Waste Types

SCDHEC requested a Form 2E be completed for the cooling tower blowdown (process wastewater) internal outfall to 01A.

Cooling water additives to cooling towers are as follows:

Cooling Water Additives (list)	**Composition of Additives (if available to you)**
Sodium Hypochlorite	~10.5-15% Sodium Hypochlorite (aqueous product)
Sodium Bisulfite	40-60% Sodium Bisulfite (aqueous product)
Corrosion Inhibitor	60-80% Phosphoric Acid (aqueous product)
Deposit Control Agent	2.5-10% Phosphonic Acid (aqueous product)

Section 4: Effluent Characteristics

Samples used to generate the data included on the EPA Form 2E were collected during periods representative of facility operations by persons experienced in the sampling of industrial effluents. Sample analyses was performed in accordance with methods promulgated in 40 CFR Part 136 (sufficiently sensitive methods), alternative approved methods, and NPDES permit regulations. Samples were collected via grab rather than composite methods, as discussed with SCDHEC.

DMR Parameters: The results for parameters that are routinely monitored for permit compliance for this Form 2E (flow) is based on data from September 1, 2019, to August 31, 2020. Winter temperatures would be based on the average of measurements taken during the months of December through March, and the summer temperature was based on the measurement taken in August. There was no winter temperature value reported as this is not monitored per the permit as discussed with the SCDHEC.

Due to the limited spacing on the Form 2E, the fecal coliform and E. coli values are mpn/100 ml. While the box is checked for presence of fecal coliform based on these results, these values are attributed to background sources from the intake water as no sanitary wastewater is discharged through this outfall. This outfall flows through the external Outfall 03A to the Wateree River, which had a fecal coliform value of 2 mpn/100 ml on the Form 2C.

Section 5: Flow

The discharge is continuous except during maintenance periods but expected to be minimal during periods when the cooling water pumps are not operational. The flows provided in the application are based on weekly DMR values (52 weeks as reported on the DMRs).

Section 7 – Other Information
As previously noted, the EPA Form 2E is provided at the request of SCDHEC for this process wastewater.

Internal Outfall 01B (internal to 03A)

Landfill runoff and leachate is treated in the landfill runoff and leachate pond prior to entering the Polishing Pond discharging through Outfall 03A. This outfall includes stormwater runoff and combustion residual leachate from the onsite industrial solid waste landfill that accepts FGD sludge, fly ash, bottom ash, boiler slag, and calcium sulfate (gypsum). Gypsum may be sold to companies that beneficially reuse the product (such as for drywall), though the landfill is the primary disposal alternative. Fly ash is also either landfilled or sent off-site for beneficial use as well. The landfill leachate and stormwater runoff from the landfill flow to a sedimentation basin in order to settle solids prior to discharge to the Polishing Pond. The pond consists of a 35 million gallon (MG) sedimentation pond and a 2.4 MG fabric-formed forebay. Since the pond was designed to meet a 25-year/24-hr. detention, and will typically have a detention greater than 24 hrs., we request that any sample type be specified as grab. Note that the outfall location is proposed as the landfill pond effluent lift station to ensure representative samples can be collected safely during adverse weather conditions.

Internal Outfall 01C (internal to 03A)

Wateree Station operates one wet FGD system that services both generating units. This system is a limestone, forced-oxidation system that achieves approximately 90% sulfur dioxide (SO_2) removal efficiency. The plant uses intake water from the Wateree River as FGD reagent preparation water, absorber make-up water, and mist eliminator wash water. The FGD make-up water is also the source of make-up water to the remote submerged flight conveyor (RSFC).

The FGD scrubbers have a blowdown waste stream an also a physical/chemical solids reduction system (includes flocculation/filtration treatment) that was installed in 2011 that discharge to the FGD settling ponds. The FGD ponds consist of two (1.7 MG & 1.6 MG) concrete forebays operated in parallel, a 1.6 MG primary sedimentation pond, and a 0.68 MG secondary settling pond that flow to an effluent pumping station (the currently proposed FGD wastewater sampling location). Based on an estimated 80,000 GPD of process wastewater flow, and using a 10-yr./24-hr. storm event, the detention time is approximately 8.5 days. FGD scrubber purge is discharged into one forebay at a time. While one forebay is in service, the other can be dredged, and the solids are sent to the onsite landfill. The FGD wastewater is ultimately discharged to the Wateree River though Outfall 03A.

Internal Outfall 01D (internal to 03A)

Wateree Station currently wet-sluices bottom ash (also known as ash transport water) to a remote mechanical drag system. This system has parallel submerged flight conveyors (SFCs) equipped with lamella plates that can operate in either parallel or in series to dewater bottom

ash. The dewatered ash is deposited in dewatering bays before being transported to the on-site landfill or otherwise offsite for beneficial reuse. Runoff from the ash piles at the SFC is returned to the SFC units via an area sump. The overflow from the SFCs is recirculated for transport water in the bottom ash collection system. Excess overflow from the SFCs is discharged to the Wastewater Treatment Pond. The SFC system was installed in 2012 to comply with CCR requirements, but it does not fully comply with the 2015 ELG rule for closed-loop wet handling systems caused by heavy rainfall that exceeds the pumping capacity of the area sump (or during SFC maintenance).

Preliminary engineering is underway, and will continue, in order to address the challenges with complying with the BATW requirements contained in the ELG. This work requires a thorough understanding of the water balances and plant operations to develop the necessary system and operational practice modifications. Wateree Station is preparing to install a flow meter (estimated spring 2021) to measure the amount of water currently discharged during heavy storm events and maintenance activities. The study will consider options that comply with the limited purge requirements allowed by the 2020 ELG revisions. EPA's 2020 ELG revisions allow for a case-by-case purge allowance from high recycle rate systems up to 10 percent of the primary active wetted bottom ash system volume on a 30-day rolling average for maintenance activities and storm events. The maximum purge allowance is to be determined by SCDHEC using an "Initial Certification" document which is to be supplied by Wateree Station. Wateree Station will complete and submit the Initial Certification documentation by March 31, 2021.

In accordance with the information detailed above, DESC has submitted an Applicability Study has been provided to the Department to address the bottom ash transport wastewater in accordance with ELG requirements. DESC has prepared a preliminary schedule for planning, designing, procuring, constructing, and optimizing the technology to the Department. Based on our analysis, we request an applicability date for Wateree Station's BATW system of December 31, 2024.

Note that this outfall is included per discussion with the permit writer to include flow measurement of bottom ash transport water for the 2020 Rule, and thus, the monitoring location may differ as further reviewed with SCDHEC.

Also note that the baghouses remove fly ash, and most of the fly ash is recycled for beneficial reuse or landfilled on-site as applicable.

Outfall 03A (EPA Form 2C)

Outfall Description/Overview

This outfall receives the internal outfalls previously mentioned above and is primarily comprised of low-volume wastewater, misc. wastewater, and coal pile runoff. Some changes that have occurred from the previous permit include:

- The Carbon Burn Out (CBO) System that was used for processing flyash is no longer used but still exists (significant upgrades would be required in order to make it operational).

- As previously noted, the SFC system was installed to eliminate the need for sluicing bottom ash. The last sluicing occurred in early 2016, and thus, the first quarter2016 DMR results were not used as we do not consider that to be representative of current conditions).

- The closure of former Ash Pond #1 involved removal of the coal ash and at least two feet of additional soil. SCDHEC approved the final closure of Ash Pond #1 in November 2019. This pond was replaced by a new fabric-formed concrete 6.5 MG wastewater treatment pond, which also eliminated the old Coal Pile Runoff Pond and a general yard stormwater runoff pond. This project received operational approval by SCDHEC in December 2016. Effluent from the new wastewater pond is pumped to the Polishing Pond.

Form 2C

Section 1 - Outfall Location

Additional internal outfalls not included on the EPA Form 2C include:

Outfall Number	Receiving Water Name	Latitude	Longitude
01A	Internal Outfall to 03A	33° 49’ 46” N	80° 37’ 20” W
01B	Internal Outfall to 03A	33° 49’ 16.6” N	80° 37’ 40.4” W
01C	Internal Outfall to 03A	33° 49’ 21.8” N	80° 37’ 34.5” W
01D	Internal Outfall to 03A	33° 49’ 34.2” N	80° 37’ 13.”7 W
03A	Flow to Wateree River	33° 48’ 50” N	80° 36’ 58” W

Section 2 - Line Drawing

The water flow line drawing, with an approximate water flow balance, is provided as Attachment C. Note that the flow rates shown for Outfalls 01A and 03A are long-term daily average DMR values that can vary based on operational conditions. For the flows:

- The flows at the Landfill and the FGD Wastewater Pond will vary based on operational conditions. This is a long-term average estimate value provided.

- The BATW flow to the pond was not included as this is a future outfall that would vary with operational conditions and stormwater contributions.

- The flow rate shown for the new wastewater treatment pond were estimates based on March 1, 2020, through August 31, 2020 pump rating/run times, which could also vary with operational conditions. There was no way to distinguish the flows for the respective pumps. This should be considered as an estimate which would vary with operational conditions.

- The flow estimate for the common line to the Polishing Pond that includes Cooling Tower sump, Cooling Tower blowdown, and Yard Sump was up to 1. 05 MG. The Cooling Tower blowdown (0.46 MGD) is based on DMR values from Sept. 1, 2019 to August 31, 2020. This should be considered as an estimate which would vary with operational conditions.

- The intake flows were based on April 2016 to December 2019 as reported on the Surface Water Use Report. The well flows provided are based on data from April 2016 thru August 2020 Groundwater Water Use Reports.

Section 3 – Average Flows and Treatment

With respect to Section 3, the following internal outfalls and external Outfall 03A are provided below:

****Outfall Number** 01A**		
Operations Contributing to Flow		
Operation		**Average Flow**
Cooling Tower Blowdown (internal outfall to 03A)		0.046 MGD
Treatment Units		
Description (size, flow rate through each treatment unit, detention time, etc.)	**Codes from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
No treatment provided	NA	Landfill

Outfall Number 01B		
Operations Contributing to Flow		
Operation		**Average Flow**
Landfill Runoff/Leachate Pond (74,000 GPD, LTA, will vary)		0.074 MGD
Treatment Units		
Description (size, flow rate through each treatment unit, detention time, etc.)	**Codes from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
ISWLF runoff and leachate sedimentation pond, 35 MG. 4 MG forebay, detention for 24 hr./25 yr. storm event.	1-U, 5-Q	Landfill

Outfall Number 01C		
Operations Contributing to Flow		
Operation		**Average Flow**
FGD Purge and FGD Legacy Wastewater Discharge; FGD solids reduction discharge to FGD Ponds		0.080 MGD
Treatment Units		
Description (size, flow rate through each treatment unit, detention time, etc.)	**Codes from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
FGD Solids Reduction System, ~64 GPM flow, Flocculation and Pressure Filtration, flows to FGD Ponds	1-G, 1-U, 2-D, 5-R, 5-Q	Landfill
FGD Ponds, 4.05 acres, 5.68 MGD, ~80,000 GPD flow (will vary), consists of #1 and #2 forebays (1.7 MG & 1.6 MG respectively), 1.6 MG primary settling pond, and 0.68 MG secondary settling pond	1-U, 5-Q	

Outfall Number 01D		
Operations Contributing to Flow		
Operation		**Average Flow**
Bottom Ash Transport Water (BATW) and Legacy BATW (maintenance & stormwater discharges)		Future/TBD MGD
Treatment Units		
Description (size, flow rate through each treatment unit, detention time, etc.)	**Codes from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
Future flow to New Treatment Wastewater Pond, 3.2-acre, 6.5 MG, detention for 10 yr./24 hr. event	1-U	Landfill

Outfall Number 03A	
Operations Contributing to Flow	
Operation	**Average Flow**
Wastewater Sump Cooling Tower Blowdown (*Outfall 01A, 0.46 MGD*), Unit #1 C.T. Sump drain, Unit #1 C.T. Apron drain, Unit #1 C.T. Blowdown, Unit #1 side stream filter drain, Unit #2 C.T. Sump drain, Unit #2 C.T. apron, Unit #2 C.T. sump drain, Unit #2 apron drain, Unit #2 C.T. Blowdown, Unit #2 side stream filter drain, Make-up filter backwash, Make-up filter backwash, Transformer drains, Chemical Bldg. sump drain	(Varies) MGD
Yard Runoff Sump Silo truck rinse, Baghouse floor drains, HSCT (bearing cooling) blowdown, Bearing seal water (Maintenance Bldg.), Boiler sump overflow, Lift station overflow	(Varies) MGD
Ammonia Unloading Station & Containment, Shower/Eyewash	(Varies) MGD
LF Runoff/Leachate Pond (*Outfall 01B*)	0.074 MGD
FGD & Legacy Wastewater Pond (*Outfall 01C*)	0.080 MGD
BATW Transport Water (maintenance and stormwater) (*Future Outfall 01D*)	Future/TBD
New Wastewater Treatment Pond Coal pile runoff, BATW legacy wastewater, Low-volume wastewater, Lab wastes, Water treatment processes, Demineralizer regeneration wastes, Air heater/SCR Units sump wastewater, Boiler blowdown & leakage, Boiler sumps #1 & 2, Water treatment sump, Misc. wastewaters, Transformer containment, NH3, Acid/Caustic Containments & Unloading St., Eyewash/Showers, Hydrant flushing	~ 1.7 MGD (will vary)
Polishing Pond (*Outfall 03A*) All wastewaters listed above	2.22 MGD

Treatment Units		
Description (size, flow rate through each treatment unit, detention time, etc.)	**Codes from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
Polishing Pond (77-acre, > 55 days detention), Solids Reduction System, Sedimentation, Coagulation, Flocculation, Pressure Filtration, New Wastewater Treatment Pond (3.2-acre, 6.5 MG, designed for a 10 yr./24 hr. flow), Neutralization	1-U, 2-K, 4-A	Landfill (as needed, rare)

Section 4 – Intermittent Flows

With respect to the internal outfalls that may be intermittent or seasonal flow, information for the outfalls is provided below:

Outfall 01B: This outfall consists of leachate flow, a continuous discharge, and landfill runoff that is automatically pumped to Outfall 03A by a level-controlled lift station. Currently, there is no flow measurement equipment in place as the flow will vary with rainfall conditions. Therefore, no frequencies or flow rates are provided.

Outfall 01C: This outfall consists of the FGD purge wastewater and solids reduction system wastewater. Currently, there is no flow measurement equipment available. The flow will vary with operational conditions or rainfall conditions, and the lift station will discharge based on pump levels to the Outfall 03A accordingly. Therefore, no frequencies or flow rates are provided.

Outfall 01D: This is a future outfall associated with the Bottom Ash Transport Wastewater (BATW). Since there is no flow measurement equipment is currently installed, no flow values or frequencies are provided.

Section 6 - Future Improvements

The facility has submitted an Applicability Study to the Department for both FGD wastewater and BATW requirements per the 2015 and 2020 (August 31, 2020, pre-publication) ELGs.

Section 7 - Effluent and Intake Characteristics

Samples used to generate the data included in Form 2C were collected during periods representative of facility operations by persons experienced in the sampling of industrial effluents. Sample analyses were performed in accordance with methods promulgated in 40 CFR Part 136 (sufficiently sensitive methods), alternative approved methods, and NPDES permit regulations. Samples were collected via grab rather than by 24-hour composite methods based on the pond detention time being greater than 24 hours. Items noted as “Believed Absent” were based on non-detected parameters.

DMR Parameters: The results for parameters that are routinely monitored are representative of Outfall 03A. The existing discharge monitoring data used for this outfall is from April 1, 2016, through August 31, 2020 (four years and four months). Note that process changes occurred in early 2016 as ash sluicing was terminated. Note that quarterly samples are taken on the first month of the quarter for the DMRs. Thus, for the Form 2C data was initiated in April 2016

Based on discussions with the permit writer, winter temperatures were based on measurements taken during the months of December through March. Summer temperatures were based on the measurements from June through August.

- Sampling was performed in accordance with the Form 2C instructions for the Steam and Electric Power Plants Industrial category. Consistent with the Form 2C, instructions, no sampling performed for PCBs, pesticide, or other toxics. Dioxin was not performed as the facility does not use or manufacture dioxin. Although not required, base/neutral acids were performed for Sections 3 and 4 of the Form 2C.

- Sulfite was marked "believed absent" as it has not been detectable on previous Form 2Cs and would be an intermediate product in the sulfur cycle. This has also been reviewed with the SCDHEC permit writer.

- Although not listed on the Form 2C, E. coli at Outfall 03A was less than 1 mpn/100 mL.

- The low-level mercury samples were collected per EPA 1669 for sampling, and the analysis was performed per 1631E. The analysis was performed by an outside contract lab (General Engineering or Pace).

- Radiological samples were also performed, though any results reported are believed to be from naturally occurring background levels.

- As required by the Groundwater Mixing Zone Consent Agreement (CA# 01-053-W), semi-annual surface sampling in the Wateree River for total arsenic and total nickel is performed at three locations - adjacent to the Polishing Pond and former Ash Pond 1, upstream and downstream. This is done in conjunction of routine NPDES groundwater monitoring events. However, the downstream values were not reported since this would contain 03A discharges.

Section 10 - Contract Analyses

The following additional labs were used for the Form 2C data:

	Laboratory 4
Name of laboratory/firm	Pace Environmental
Laboratory address	106 Vantage Point Drive Cayce, SC 29172
Phone number	(803) 791-9700
Pollutant(s) analyzed	NH3, LL-Hg

Section 11 – Other Information

Metal Cleaning Wastewater

Approximately 320,000 (Unit #1) and 121,000 (Unit #2) gallons (amounts will vary) of chemical cleaning wastewater was generated from the most recent boiler tube cleanings in September 2012 and September 2014 and was hauled off-site for treatment/disposal. Additional rinse flows (non-chemical wastewater) for Unit #1 (90,000 gals) and for Unit #2 (~404,000 gals) was sent to the on-site, no-discharge wastewater pond, but this pond has since been removed from service. In the past, the expected cleaning frequency of boiler tubes was typically every eight to ten years; however, cleaning is now determined by boiler deposits, which may vary. Note that a majority of the non-chemical wastewater produced from this activity includes copper and iron concentrations of less than 1 mg/l.

As noted in the various ELG development documents, many metal cleaning activities may be deemed low-volume wastewater or non-chemical wastewater. From the 2015 ELGs, EPA has allowed the permitting authority the evaluate non-chemical cleaning wastewaters and their application as low-volume wastes. This approach is consistent with previous determinations by SCDHEC.

Facility Plans

- Maintenance projects may generate hazardous waste (e.g., lead paint), aerosol cans, cleaning agents, lab reagents, and excess paint supplies as part of non-routine activities. Hazardous waste that is generated on site will be managed in accordance with local, state, and federal requirements. At the time of the application, the facility holds a small quantity generator status (EPA ID #SCD00825786). The facility is designed, equipped and operated to minimize accidents and prevent the occurrence of emergency situations and potential releases to the environment.

- Industrial stormwater discharges are authorized by Coverage #SCR005027 for the SCDHEC Stormwater Industrial General Permit SCR100000. The associated Storm Water Pollution Prevention Plan (SWPPP) contains the control measures used to minimize pollutants from industrial stormwater runoff.

- Pursuant to the NPDES permit, the facility maintains a Best Management Practices (BMP) Plan to identify and control the discharge of hazardous and toxic substances per 40 CFR 117, Tables II and III of Appendix D to 40 CFR Part 122.

- Pursuant to 40 CFR 112, Wateree Station implements a Spill Prevention Control and Countermeasures Plan (SPCC) for oil and petroleum products. The purpose of the SPCC Plan is to prevent oil spills from entering a waterway and must address the following three areas: 1) operating procedures that prevent and detect oil spills, 2) control measures installed to prevent a spill from reaching the environment, and 3) countermeasures to contain, clean up, and mitigate the effects of an oil spill that reaches the environment. The plan provides guidelines and procedures to assist in managing an emergency.

- Pursuant to Section 112(r) of the Clean Air Act Amendment the station implements a Risk Management Plan (RMP). EPA requires facilities that use certain hazardous substances to develop a RMP. The Risk Management Plan: 1) identifies the potential effects of a chemical accident, 2) identifies steps the facility is taking to prevent an accident, and 3) spells out emergency response procedures should an accident occur.

- The facility also has Process Safety Management Plan (PSM) due to the anhydrous ammonia storage at the facility.

Attachment B

SCDHEC Location Supplement and and USGS Quadrant Map

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF WATER

LOCATION SUPPLEMENT FOR ND AND NPDES PERMIT APPLICATIONS

FACILITY: DESC-Wateree Station DATE: 9/12/2020

ITEM 1: Please give a short description of the plant location, if the address is not a specific location. Example: Plant is located at the interchange of Interstate 26 and U.S. Highway #1.

The Wateree Station is located off of US Highway 601 in Eastover, South Carolina. The address for the facility is 142 Wateree Station Road. See the attached map.

ITEM 2: Please give a description of the location of the discharge point into the receiving stream using some landmark as a reference point, i.e., bridge, stream, road junction, the plant itself, etc. Give the direction and the distance in feet from the reference point. Example: Discharge #001 is into Johnny Creek approximately 300 feet directly behind the plant. Discharge #002 is into Doris Creek 150 feet downstream from U.S. Highway #30 bridge.

Outfall 01A is located above the wastewater sump next to the Closed Cooling Tower at the entrance to the facility which is also labelled.

Outfall 01B is at the second entrance/exit to the fenced area of the Landfill, the lift station is located across from the pond exit which is observable by a control panel above it.

Outfall 01C is located at the end of the FGD Pond across from the Landfill, the lift station which has a observable control panel.

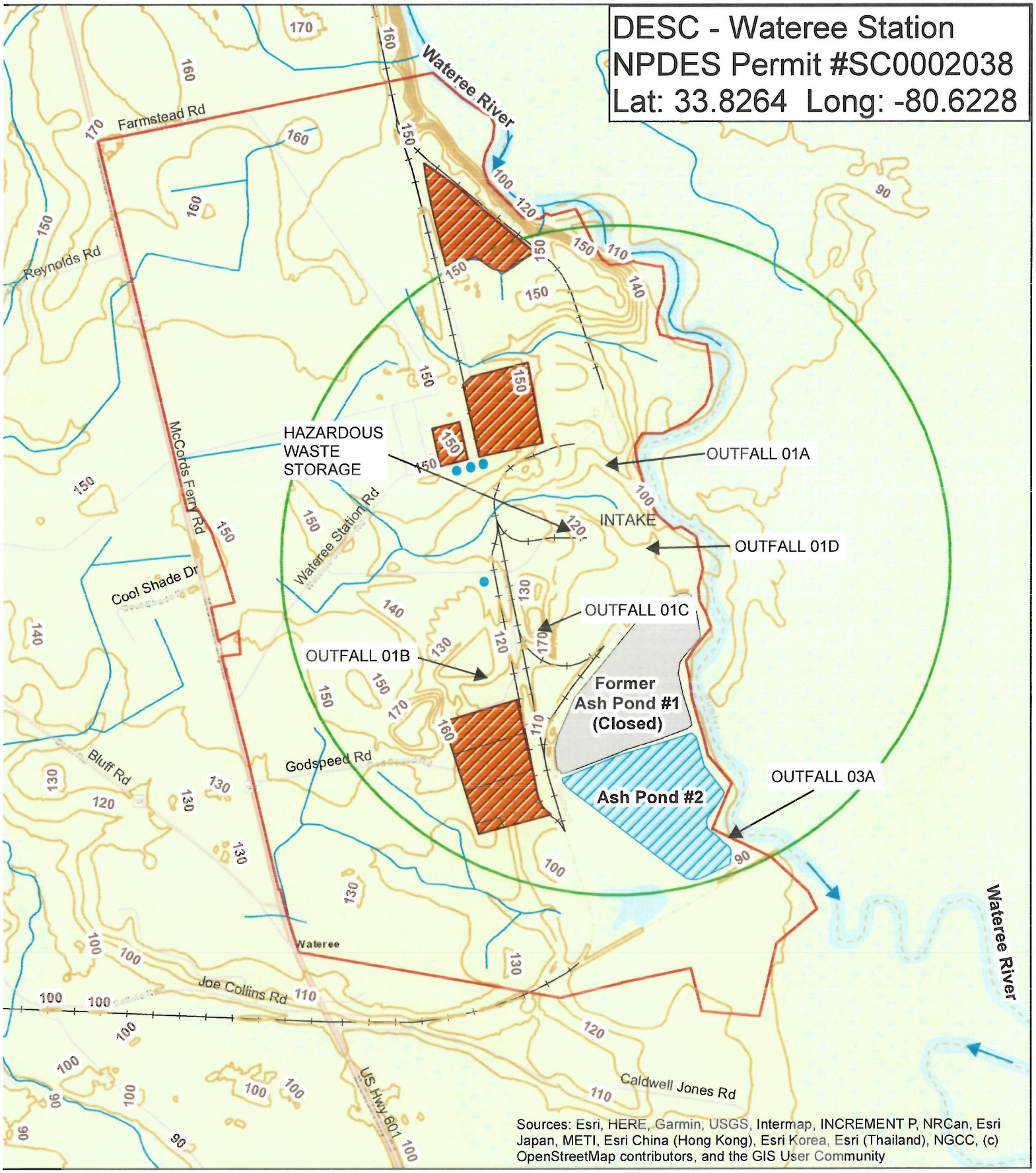
Outfall 01D is a future outfall associated with the Bottom Ash Submerged Flight Conveyor (SFC) adjacent to the new wastewater pond.

Outfall 03A is located at the end of the Polishing Pond approx. 100 ft. from the Wateree River. It is noted by a parshall flume which is labelled as well.

The Outfalls are located on the attached USGS Topographic Map.

ITEM 3: Please locate the discharge on a U.S. Geological Survey 7 1/2 minute quad sheet (or a 15 minute quad if a 7 1/2 quad is not available for the area). The entire quad sheet need not be submitted. An 8 1/2 by 11 inch photocopy of the applicable portion of the map is sufficient. The quad sheet name must be provided on the copy submitted to the Department. USGS Maps are available at the SC Dept. Of Natural Resources/Map Division, 2221 Devine Street, Suite 222, Columbia, SC 29205. Phone number is 734-9108.

RETURN TO: SCDHEC
Bureau of Water
NPDES Administration
2600 Bull Street
Columbia, SC 29201



Wateree & Poinsett State Park Quadrangle

USGS South Carolina 7.5-Minutes Series

Site Topo Map

Legend

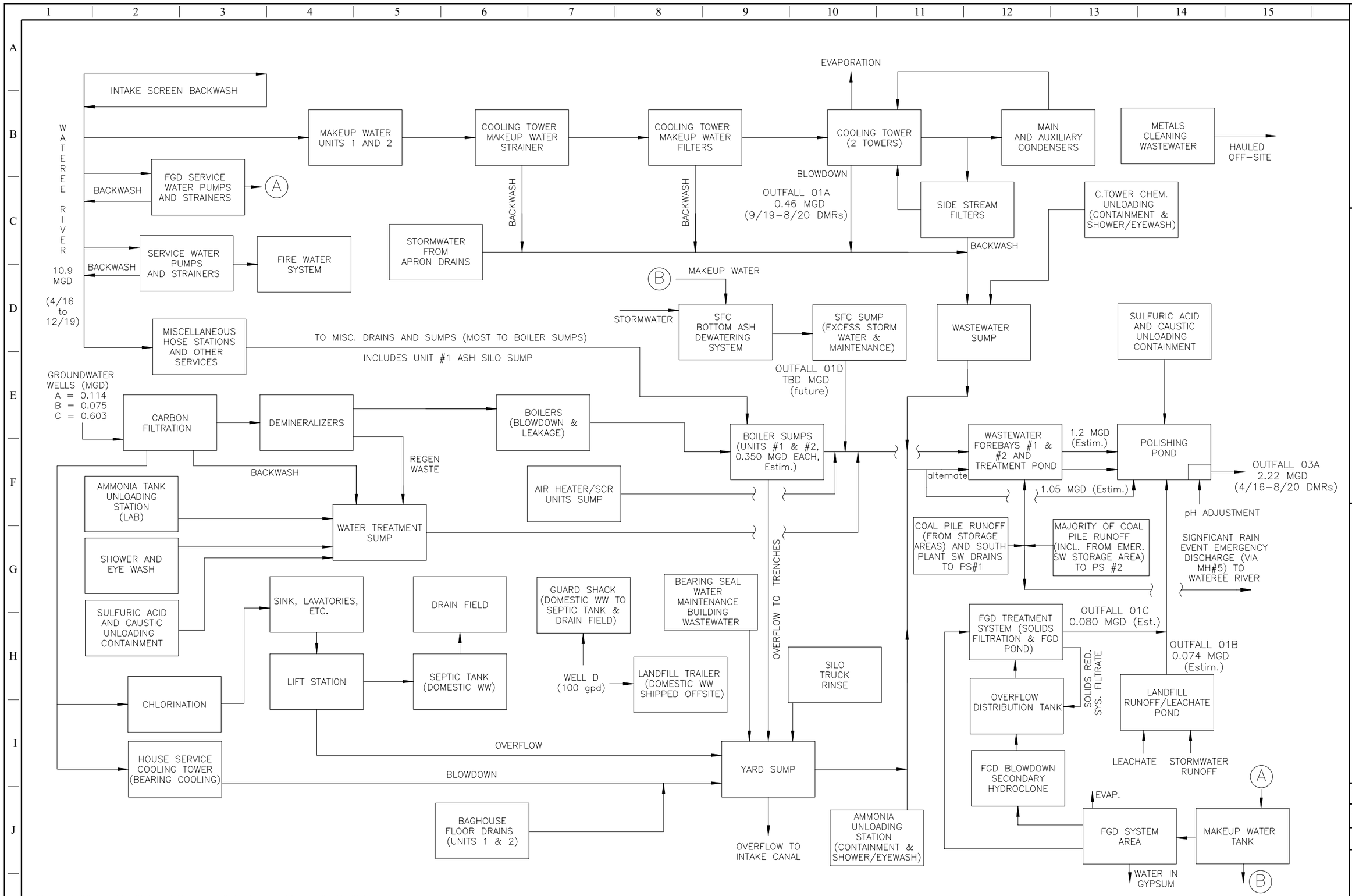
- 1 Mile Radius
- Dominion Energy Property
- Non-Dominion Property
- Potable and/or Production Water Wells

N

1 inch = 2,000 feet

Attachment C

Process Line Flow Diagram



NOTE: FLOWS SHOWN ARE LONG-TERM DAILY AVERAGES THAT WILL VARY WITH OPERATIONS

REVISIONS

No.	By:	Date:	Description:

WATEREE STATION NPDES #SC0002038 BLOCK FLOW DIAGRAM

Dominion Energy℠

DATE
OCTOBER 2020

DRAWN/APPROVED
JKD/MF

APPROXIMATE SCALE
NONE

FIGURE NUMBER
1

Attachment D

Sludge Disposal Supplement and ISWLF Permit

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF WATER
SLUDGE DISPOSAL SUPPLEMENT FOR NPDES AND ND PERMIT APPLICATIONS

Facility Name: DESC-Wateree Station

Permit Number: SC00 02038 (leave blank for a new facility)

or ND00_____

Please check your proposed or current sludge disposal procedure:

I. Existing Facilities:

___ Lagoon or other facility with no routine sludge disposal. Please attach a letter that addresses the approximate schedule for sludge removal and address the anticipated disposal method (note that the proposed sludge disposal method must be approved by the Department prior to initiation).

___ Sludge disposal at another wastewater treatment facility. Attached is a recent letter of acceptance dated_____. This letter must include the NPDES or ND number of the treatment facility accepting the sludge for disposal. If no previous SCDHEC approval has been granted on the disposal method, then please include a detailed report on the existing sludge disposal method. See the attached requirements for Sludge Disposal Report A. If a previous SCDHEC approval has been granted, then include a recent analysis that shows the non-hazardous nature of the sludge or a signed statement that the sludge characteristics have not changes since the last analysis.

_X_ Sludge disposal at a landfill. If the landfill is SWAIP (special waste) approved, an recent acceptance letter from the landfill is acceptable. If the landfill is not SWAIP approved, attached is SCDHEC Solid and Hazardous Waste approval dated NA, or other SCDHEC approval dated NA. If no previous approval has been granted on the disposal method, then please include a detailed report on the existing sludge disposal method. See the attached requirements for Sludge Disposal Report B.

See attached ISWLF permit for the facility.

___ Sludge disposal by Beneficial Use of Sludge. Attached is SCDHEC approval letter or program approval dated _____. If no previous approval has been granted on the disposal method, then please include a detailed report on the existing sludge disposal method. See the attached requirements for Sludge Disposal Report C.

II. Proposed Facilities:

___ Lagoon or other facility with no routine sludge disposal. Please attach a letter that addresses the approximate schedule for sludge removal and address the anticipated disposal method (note that the proposed sludge disposal method must be approved by the Department prior to initiation).

___ Sludge disposal at another wastewater treatment facility. Please include a detailed report on the proposed sludge disposal method. See the attached requirements for Sludge Disposal Report A.

___ Sludge disposal at a landfill. Please include a detailed report on the proposed sludge disposal method. See the attached requirements for Sludge Disposal Report B.

___ Sludge disposal by Beneficial Use. Please include a detailed report on the proposed sludge disposal method. See the attached requirements for Sludge Disposal Report C.

Send this form and the appropriate disposal report (if applicable) with your NPDES or ND permit application.

ALSO SEE ATTACHED INSTRUCTIONS

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
INDUSTRIAL SOLID WASTE LANDFILL PERMIT
Facility I D # 403320-1601

Date of Original Issuance: February 11, 2008

Effective Date: February 26, 2008

Permission is hereby granted to:

Name of Facility:	SCE&G Wateree Station Industrial Solid Waste Landfill
Permittee:	South Carolina Electric & Gas Company
Address:	Mail Code 175
	Columbia, South Carolina 29218
Supervisor:	Mr. Jean Claude Younan
Phone:	(803) 217-9617

for the operation of a class 2 industrial solid waste landfill located on the same property as the SCE&G Wateree Station. More specifically, the site is located at 142 Wateree Station Road off of Hwy. 601 near the intersection of Bluff Road (SC-48) in Eastover, SC.

This permit is issued pursuant to S.C. Code Ann. Sections 44-96-10 et seq. (Supp. 2006) and 25A S.C. Code Regs. 61-107.16 (Supp. 2006). The authority granted below is subject to the requirements of the previously mentioned law and regulations and the attached conditions.

Kent M. Coleman, PG, Director

R. Craig Kennedy, PG, Assistant Director

Division of Mining and Solid Waste Management
Bureau of Land & Waste Management

SCE&G WATEREE STATION INDUSTRIAL SOLID WASTE LANDFILL PERMIT
Facility ID# 403320-1601

A. SPECIAL CONDITIONS

1. The Permittee shall adhere to the following approved plans:

   Location Restrictions study- Dated December 2006
   Hydrogeological Characterization Report-Dated December 2006
   Permit to Construct Application –Dated May 2007 and revised September 2007
   Engineering Plans and Drawings- Dated May 2007

2. The SCE&G Wateree Station Class 2 Industrial Solid Waste Landfill is limited to the disposal of the following waste:

   Ash generated at the Wateree Station Power Plant
   On-site waste as listed as Appendix I of the SC Regulation 61-107.11

3. Prior to receipt of waste, all applicable stormwater, wastewater and wetland permits must be obtained.

B. GENERAL PERMIT CONDITIONS

1. If a change occurs in the chemical makeup of the waste stream, a revised disposal request and waste characterization report must be submitted to the Department prior to disposal.

2. A site inspection must be made by the Department and written approval received by the Permittee prior to disposal of any waste.

3. It is the Permittee's responsibility to ensure that no other waste is disposed at this site. If the Permittee determines the need to dispose of any waste other than that listed in permit condition A (2), prior written approval must be obtained from the Bureau of Land and Waste Management. Each request shall be made in writing to the attention:

   Director of Mining and Solid Waste Management
   Bureau of Land and Waste Management
   SC Department of Health and Environmental Control
   2600 Bull Street
   Columbia, South Carolina 29201

4. No material may be disposed into an area of standing water. If a disposal area becomes inundated with water, steps must be taken to remove this water before continuing disposal of waste.

C. ENVIRONMENTAL MONITORING CONDITIONS

1. SAMPLING AND ANALYSIS PLAN REVISION

Within thirty (30) days of the effectiveness date of this permit, SCE&G will submit to the Department for approval, a revised Groundwater Sampling and Analysis Plan to change the groundwater monitoring frequency from semi-annually to quarterly. The revised plan should also include the following changes:

-MW-1 - (WRB-7) location should remain the same.
-MW-2 - should be relocated to a position adjacent to WRB-13 but outside the landfill footprint.
-MW-3 - location should remain the same.
-MW-4 - location should remain the same.
-MW-5 - should be relocated to a position between WRB-4 and WRB-8 but outside the landfill footprint.
-MW-6 -- (additional well) should be located to a position adjacent to WRB-2 but outside the landfill footprint.

Mercury should be added to the list of parameters to be analyzed.

2. GROUNDWATER DETECTION MONITORING SYSTEM

a) The Permittee shall maintain a groundwater detection monitoring system consistent with the requirements of R.61-107.16.54. The groundwater Environmental Monitoring Permit Conditions detection monitoring system shall consist of monitoring wells as designated in the most recently approved Groundwater Sampling and Analysis Plan and any other monitoring wells specified by the Department. Modifications to the current groundwater detection monitoring system shall be in accordance with the requirements of R.61-107.16.52.

b) The Permittee shall perform all groundwater activities in accordance with the most recently approved Groundwater Sampling and Analysis Plan and collect groundwater samples in accordance with the requirements of R.61-107.16.53 along with any subsequent modifications deemed necessary by the Department to uphold the intent of this permit.

c) The Permittee shall evaluate analytical results in accordance with the most recently approved Statistical Analysis Plan and any subsequent modifications required by the Department.

d) The Permittee must determine during each sampling event the elevation of the groundwater surface in each well relative to mean sea level (MSL) to the nearest hundredth of a foot. All elevations should be determined on the same day. The Permittee shall determine the total depth of each well on an annual basis.

e) Groundwater samples shall be analyzed by a laboratory certified by the State of South Carolina.

3. ASSESSMENT OF GROUNDWATER IMPACT

If the Permittee determines that a groundwater protection standard has potentially been exceeded for one or more constituents for routine monitoring at any monitoring well at the relevant point of compliance, then the Permittee shall perform any necessary groundwater assessment actions consistent with the requirements of R.61-107.16.54.d.

4. REPORTING

a) The Permittee shall submit to the Department the results of the groundwater monitoring program as specified in the most recently approved Groundwater Sampling and Analysis Plan and submit the results of the statistical analysis program as specified in the most recently approved Statistical Analysis Plan, in accordance with the following sampling and reporting schedule:

Sampling Period	Results Due
July-September	October 31
October-December	January 31 (semi-annual report)
January-March	April 30
April-June	July 31 (annual report)

b) The Permittee shall submit an annual report signed by a South Carolina certified groundwater scientist summarizing the quarterly determinations of groundwater flow direction and rate. The annual report shall also include an annual statistical analysis that has been performed on the monitoring well data in accordance with R.61-107.16.54.g. In addition, the annual report shall also make a determination as to whether the monitoring well network continues to meet requirements of permit condition B.1.a.

c) The established groundwater data collected by the implementation of the groundwater monitoring program as specified by this Permit shall be submitted to the SCDHEC, Bureau of Land and Waste Management, Division of Hydrogeology, Solid Waste Groundwater Section, and to the Solid Waste Consultant in the Region 3 EQC, (Columbia office).

Attachment E

316(b) Supplemental Information

EPA's Final Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities (40 CFR Parts 122 and 125) establish a process for a site-specific determination of entrainment and impingement control requirements at existing facilities with cooling water intake structures. The selection of any site-specific entrainment controls must be based on a determination of the permitting agency of the maximum reduction in entrainment warranted after consideration of the information provided by the applicant's §122.21(r) submissions and with consideration of the factors relevant to a Best Technology Available (BTA) determination pursuant to 40 CFR §125.94 and §125.98, including but not limited to air emission impacts, energy impacts, and whether the cost of additional entrainment controls are justified or not by their benefits.

Wateree Station operates a closed-cycle, recirculating system for cooling water. An intake channel approximately 290 meters in length and 45 meters in width carries surface water from the west bank of the Wateree River to the Cooling Water Intake Structure (CWIS). The CWIS is located at 33.8276° N, 80.6198° W. Before conversion to a closed-cycle recirculating system, the actual intake flow (AIF) averaged 438.89 million gallons per day (MGD) over the five-year period of 2001-2005. The design intake flow (DIF) of the existing CWIS is 63.749 MGD. The AIF over the five most recent years (2015-2019) averaged 10.933 MGD. This represents a reduction of 97.51% of AIF which meets the definition of *closed-cycle recirculating system* established at 40 CFR §125.92 (c). At 12 MGD of AIF, the manufacturer of the CWIS traveling water screens calculates a through-screen velocity of approximately 0.25 feet per second. Cooling tower blowdown water is discharged to the Wateree River in accordance with South Carolina NPDES Permit SC0002038.

DESC concludes that continued operation of the closed-cycle, recirculating system with reduced AIF (40 CFR §125.94 (c)(1)) and a low through-screen actual velocity (40 CFR §125.94 (c)(3)) represent the Best Technology Available (BTA) for minimizing adverse environmental impact at Wateree Station. In accordance with 2014 316(b) Existing Facility Rule, if the AIF is less than 125 MGD, the information referenced at §122.21 (r)(9), (10), (11), (12) and (13) is not required. In making its entrainment BTA determination, the Department must consider the numbers and types of organisms entrained. At Wateree Station, establishing the exact number of organisms entrained should not be necessary because the number of organisms entrained is proportional to intake flow, which has already been reduced by 97.51%. Information on the possible types of organisms entrained would be included in a §122.21 (r)(4) source water baseline biological characterization data report. Closed-cycle recirculating systems are recognized as the most effective technology for reducing entrainment. Since the most effective technology is already in place and being used efficiently, further investigation of entrainment is not necessary or warranted.

Wateree Station

Description of Cooling Water Intake Structure

An intake channel approximately 290 m in length and 45 m in width carries surface water from the Wateree River to the Cooling Water Intake Structure (CWIS). The CWIS is located at 33.8276° N, 80.6198° W. The CWIS is equipped with four traveling water screens made by Screening Systems International, Inc. equipped with 14 gauge wire mesh having 3/8" square openings. Behind the screens are two Makeup Water Pumps, two Scrubber Service Water Pumps, two Service Water Pumps, one Diesel Fire Pump, and one Vertical Ash Sluice Pump. Rated capacities for the pumps are listed in the table below, previously submitted as part of the Station's Surface Water Withdrawal Permit Application.

SCE&G-Wateree Station-Supplemental Withdrawal Documentation

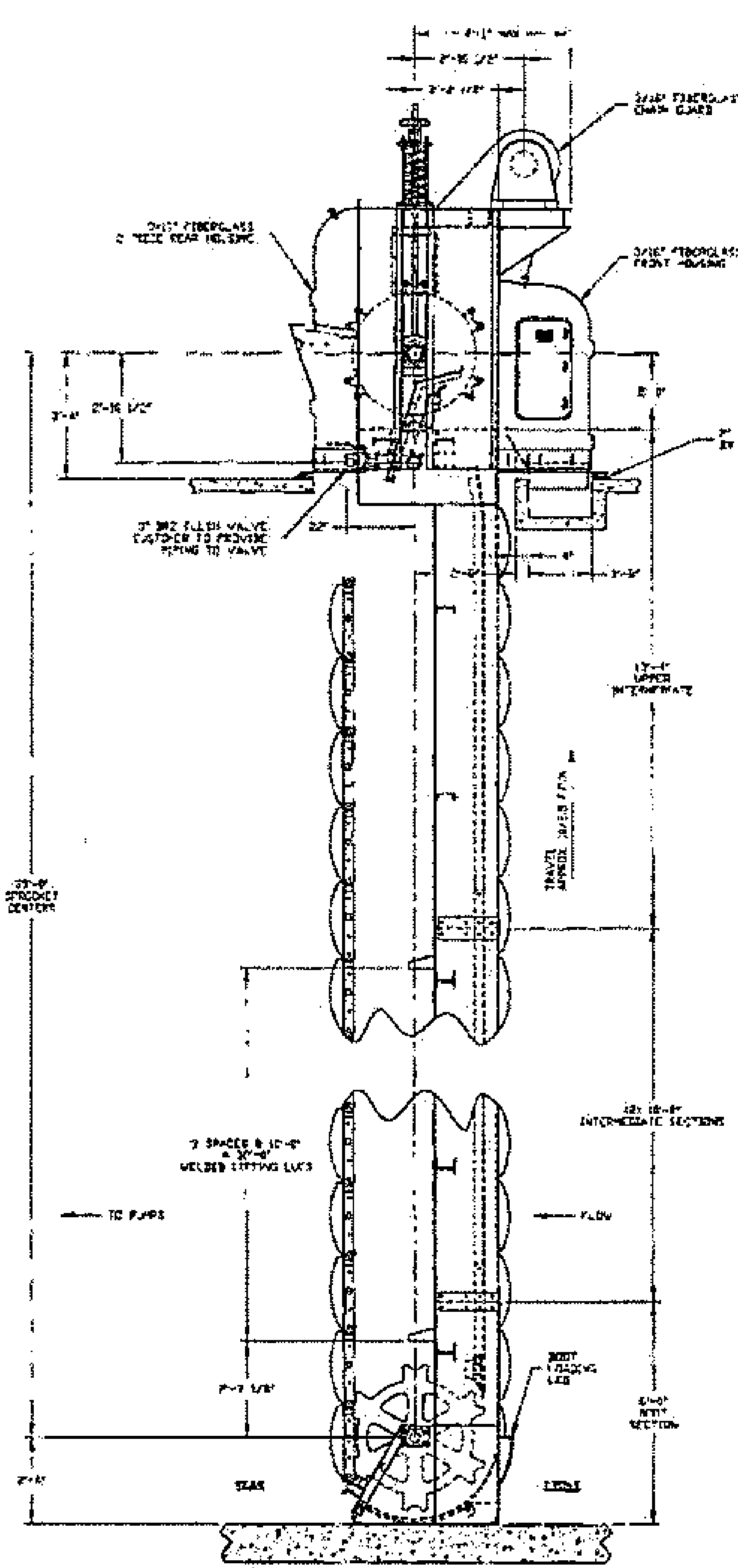
Days per month 31

Pump Name	Location	Pump Type	Rated Capacity (gpm)	Monthly Capacity (MGM)	Note
WFGD (Scrubber) Service Water Pump 1	Intake		2125	95	1
WFGD (Scrubber) Service Water Pump 2	Intake		2125	95	1
CCCT Makeup Water Pump 1	Intake	Johnston 30CC	11500	513	2
CCCT Makeup Water Pump 2	Intake	Johnston 30CC	11500	513	2
CCCT Service Water Pump 1	Intake	Johnston	6000	268	3
CCCT Service Water Pump 2	Intake	Johnston	6000	268	3
Diesel Fire Pump	Intake	Peerless 16 in. HxB	2500	112	4
Vertical Ash Sluice Pump 1	Intake	Layne and Bowler 6-16 EHH	2520	112	5
Total	1,976	Intake Design Capacity in Million Gallons Per Month (MGM)			

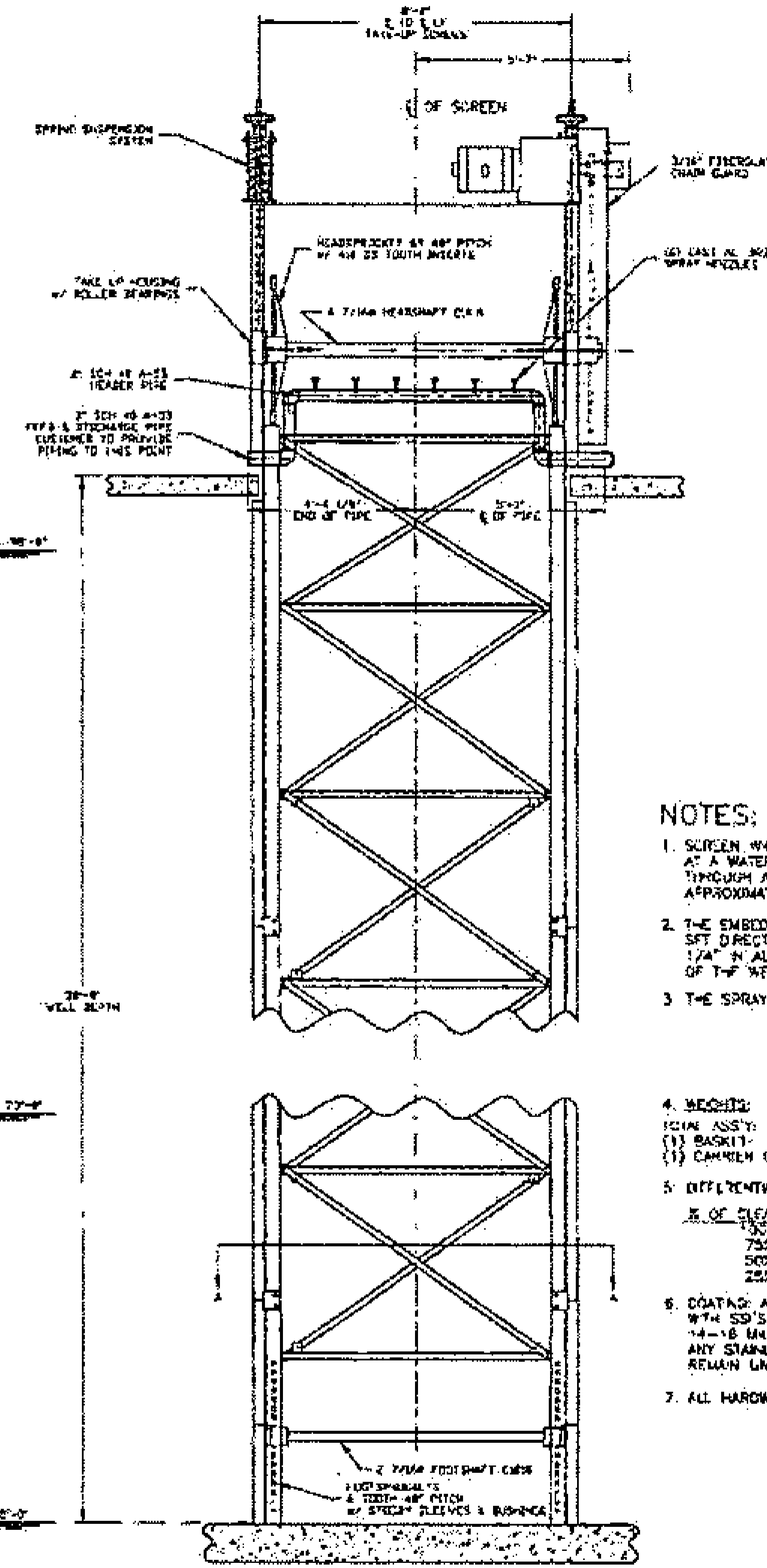
Operational Notes

1. Rated capacity provided; however, one pump runs 100%, one standby
2. Rated capacity provided; however, one pump runs 100%, one standby
3. Rated capacity provided; however, one pump runs 100%, one standby
4. The rated capacity is provided (the diesel fire pump is a backup and is test run for 30 minutes per week)
5. The rated capacity is provided (typically in standby and not used)

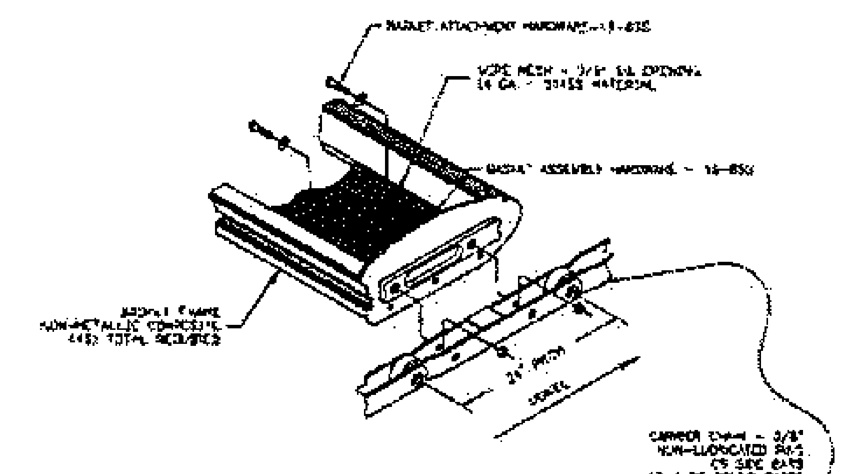
Actual intake flow over the last five years (2015-2019) has averaged 10.933 MGD. At 12 MGD flow, the manufacturer of the traveling water screens calculates a through-screen velocity of approximately 0.25 feet per second. The traveling water screens are rotated for 30 minutes every 24 hours in addition to a twice-daily manual function check.



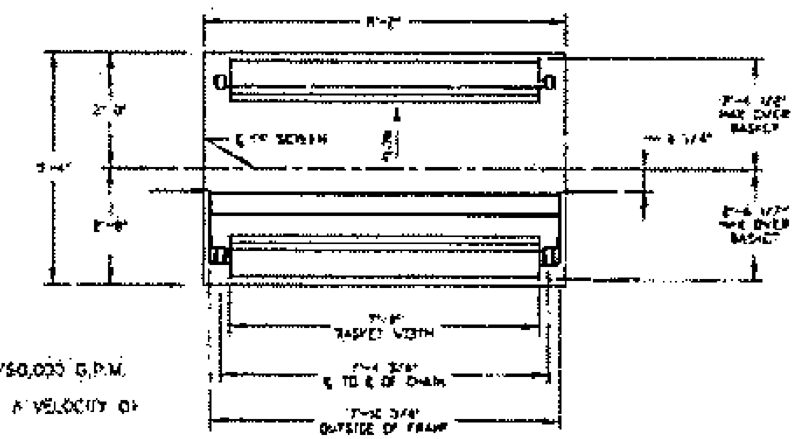
LEFT HAND ELEVATION



FRONT ELEVATION



BASKET DETAIL



SECTION "A-A" (PLAN VIEW OF WELL)

NOTES:

1. SCREEN WILL PASS APPROX. 45,000/90,000 G.P.M. AT A WATER DEPTH OF 11.0 FT. THROUGH A 100% CLEAN SCREEN AT A VELOCITY OF APPROXIMATELY 2.861/5.722 F.P.S.

2. THE EMBEDDED GUIDES MUST BE PLUMB AND SET DIRECTLY OPPOSITE EACH OTHER WITHIN 1/4" IN ALL DIRECTIONS FOR THE FULL DEPTH OF THE WELL.

3. THE SPRAY WASH (AT THE HEADER) REQUIREMENTS ARE AS FOLLOWS:

G.P.M.	P.S.I.
195	100
187	90
174	80
154	70

4. WEIGHTS:

TOTAL ASS'Y:	APPROX. 24,000 LBS
(1) BASKET:	105 LBS
(1) CARRIER CHAIN LINK:	24.6 LBS

5. DIFFERENTIAL WATER LEVEL: AT 11 FT

% OF CLEANLINESS	HEADLOSS IN FT.
100%	0.2164
75%	0.4226
50%	1.0350
25%	4.3017

6. COATING: ALL FERROUS PARTS SHALL BE CLEANED IN ACCORDANCE WITH SSI'S STANDARD SHOP PRACTICE AND SHALL BE COATED WITH 14-16 MILS OF INTERSEAL 670HS IMMERSION SERVICE RATED EPOXY; ANY STAINLESS STEEL OR NON-FERROUS MATERIAL SHALL REMAIN UNCOATED.

7. ALL HARDWARE TO BE 18-8SS.

DRIVE COMPONENTS:

REDUCER:	NORD GEAR CORP. SK 62/42 6.0 R.P.M. OUTPUT RATIO 275SR:1
MOTOR:	1.5/0.375 HP @ 1725/420 R.P.M. 460 V., 3 PH. 60 HZ. 254T FRAME NORD GEAR CORP.
DRIVE SPROCKET:	8T-8.04 P.D. w/ SHEAR PIN DEVICE
DRIVEN SPROCKET:	55T-53.86 P.D.
DRIVE CHAIN:	3.075" PITCH, R1033

MW 18 189
WMD075

SOUTH CAROLINA GAS & ELECTRIC
111 RESEARCH DRIVE
COLUMBIA, SC 29203

APPROVAL STAMP

APPROVED ________ DATE ________

APP. AS NOTED ________ DATE ________

MANUFACTURING WILL BEGIN WHEN SIGNED APPROVAL DRAWING IS RETURNED TO S.S.I.

NOTE: ALL DIMENSIONS ARE IN INCHES, UNLESS OTHER WISE NOTED.

Screening Systems International, INC.

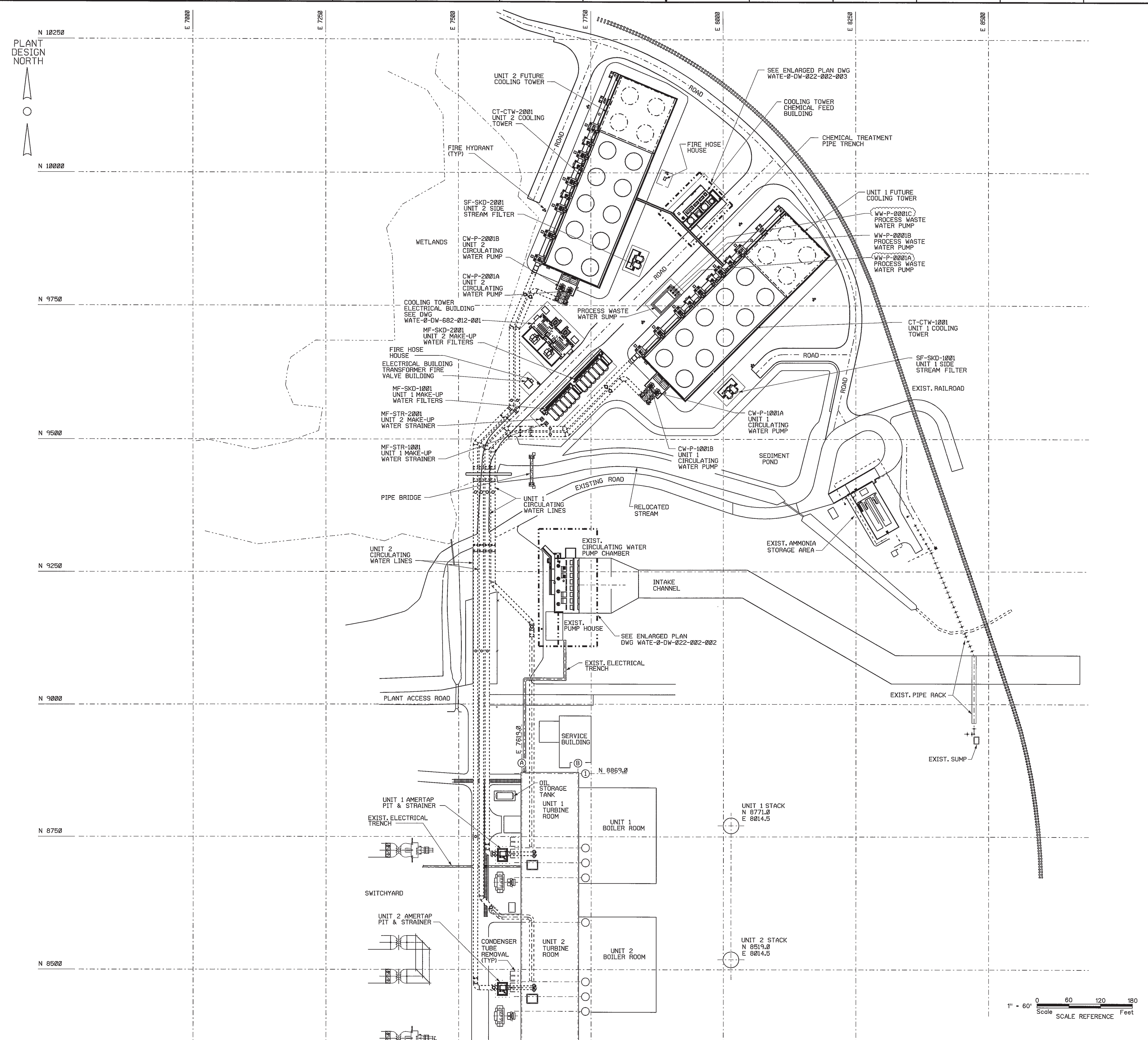
GENERAL ARRANGEMENT DRAWING

7'-0" B.W. x 39'-0" - TWO POST

SSI TRAVELING WATER SCREEN

DRAWN BY	SLT	DATE 1-24-2000	DRAWING NO. A004-0068	REV. C

DRAWING STANDARD-ASME Y14.5M-1994



NOTES:

LEGEND:

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/ TECH. SPEC	LEAD DISC ENGINEER	PROJ ENGR MANAGER	PROJECT MANAGER
1	08 24 06	ISSUED FOR OPERATING PERMIT	MJS	MFP	MFP		LEH		MAG
0	03 30 06	ISSUED FOR CONSTRUCTION	DWP	KJT	DWP		LEH		MAG

PRELIMINARY STATUS DATE — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE

APPROVED STATUS DATE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED 'HOLD' RETAINS PRELIMINARY STATUS.
LDE L.E. HARVEY

ORIGINATING PERSONNEL

DRAWN BY: DWP
CHECKED BY: K.J. TIREY
LEAD DESIGNER: D.W. PEIFFER
ENGINEER/TECH SPECIALIST: L.E. HARVEY
PROJECT ENGINEERING MANAGER:
PROJECT MANAGER: M.A. GENCER

PROFESSIONAL ENGINEER'S SEAL
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 21489 FRANK P. DRZAL 10/12/06

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

SCE&G A SCANA COMPANY
ZACHRY
PARSONS E&C

CLIENT/PROJECT TITLE
SCE&G
WATEREE STATION
CLOSED CYCLE COOLING SYSTEM

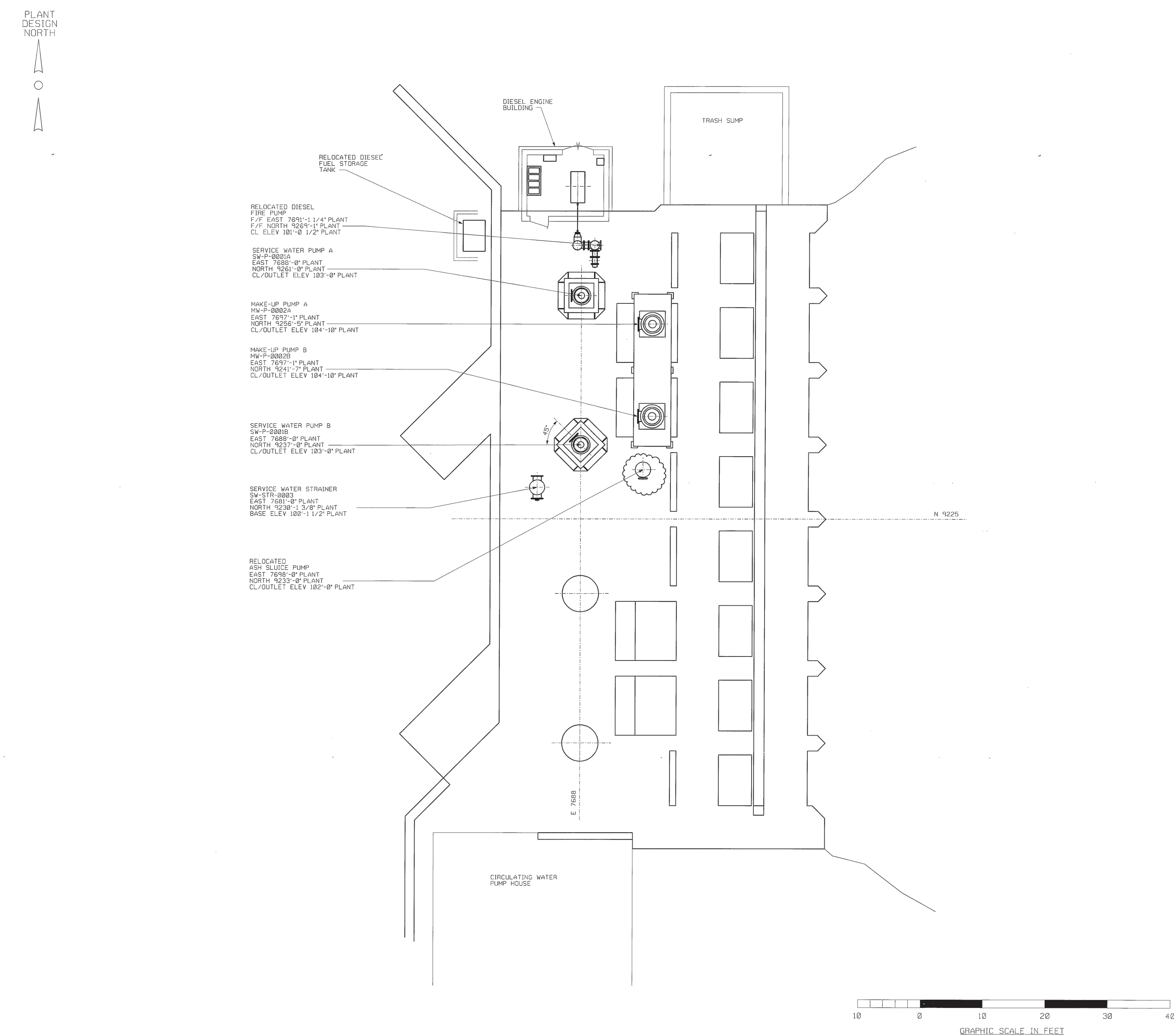
GENERAL ARRANGEMENT
SITE PLAN

SCALE 1" = 60'-0"

PARSONS E&C DWG. NO. WATE-0-DW-022-002-001
SCE&G DWG. NO.
REV 1

DWG-FILE: 02202001.dgn
DWG-DATE: 11-Oct-06 12:15

FAC PIPING I & C ELECT MECH CIVIL STRUC



NOTES:

LEGEND:

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/TECH. SPEC	LEAD DISC ENGINEER	PROJ ENGR MANAGER	PROJECT MANAGER
1	03/29/06	REVISED AS NOTED	DWP	KJT	DWP		LEH		MAG
0	12/21/05	ISSUED FOR CONSTRUCTION	RRS	DWP	DWP		LEH		MAG

PRELIMINARY STATUS DATE — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE L.E. HARVEY 12/21/05

APPROVED STATUS DATE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE

ORIGINATING PERSONNEL

DRAWN BY: RRS
CHECKED BY: D.W. PEIFFER
LEAD DESIGNER: D.W. PEIFFER
ENGINEER/TECH SPECIALIST: L.E. HARVEY
PROJECT ENGINEERING MANAGER:
PROJECT MANAGER: M.A. GENCER

PROFESSIONAL ENGINEER'S SEAL

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 21489 FRANK P. DRZAL

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: ________ STATE: ________
LIC. NO.: ________ DATE: ________

SCE&G A SCANA COMPANY

ZACHRY

PARSONS E&C

CLIENT/PROJECT TITLE
SCE&G
WATEREE STATION
CLOSED CYCLE COOLING SYSTEM

EQUIPMENT SETTING PLAN
INTAKE STRUCTURE
MECHANICAL EQUIPMENT

SCALE 3/16" = 1'-0"

PARSONS E&C DWG. NO. WATE-0-DW-022-012-002 | SCE&G DWG. NO. | REV 1

PE&C-FILE:
PE&C-DATE:

FAC PIPING I & C ELECT MECH CIVIL STRUC

Attachment F

Mixing Zone Request for Surface Water Discharges, Outfall 03A

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

NPDES APPLICATION SUPPLEMENT

Mixing Zone Request for Surface Water Discharges

NPDES #: SC0002038

Facility Name: DESC - Wateree Station (2020 Update, Outfall 03A, 2.22 MGD)

County: Richland

Are you requesting a mixing zone for whole effluent toxicity (WET) in accordance with the back of this form?

☐ **No.** No further information is needed. Submit this form. If WET testing is required, a chronic test at 100% will be required, unless the IWC is at least 80%. Proposed IWC _____ %

☒ **Yes.** Check one of the boxes below and submit this form with the appropriate information.

☐ Check this block if you are proposing to perform or have performed a mixing zone demonstration to determine the appropriate zone of initial dilution (ZID) and/or mixing zone size. Complete the remainder of this form and submit a mixing zone demonstration plan as described on the back of this form. The Department recommends the demonstration plan be approved prior to implementation of any demonstration work.

☒ Check this block if you are requesting a mixing zone by providing limited information such as a mixing model like CORMIX to determine mixing in accordance with suggested zone of initial dilution (ZID) and/or mixing zone sizes. Complete the remainder of this form, as applicable, and submit the CORMIX Supplement and modeling results (or other model assumptions, inputs and results).

What is the proposed ZID size (in meters)? Length: 0.56 m Width: 5.85 m

What is the proposed acute WET test concentration? 18.8 %

What is the proposed mixing zone size (in meters)? Length: 117 m Width: 20.1 m

What is the proposed chronic WET test concentration? 3.3 %

Printed Name: James M. Landreth, Vice President, Fossil/Hydro-Operations **Firm:** Dominion Energy South Carolina

Signature: _____ **Date:** 10/15/2020

CORMIX Checklist for Data Preparation – Version v5.0

PROJECT LEGEND

Project File Name: Flow 2.22 MGD & 962 cfs.cmx **Design Case:** 2.22 MGD & 7Q10 - 962 cfs (27.24 m3s)
Site Name: SCE&G - Wateree Station **Prepared By:** John Durkee, P.E. **Date:** Sept. 29, 2020

EFFLUENT DATA

☐ Non-Fresh Water Effluent Density
Density ρ_0: .....kg/m³

☒ Fresh Water Effluent Density
☐ Temperature T_0: .....°C ☒ Density ρ_0: 996.60 kg/m³

Discharge Excess Concentration: 100% ☒ Effluent Flowrate Q_0: 0.0973 m³/s ☐ Effluent Velocity U_0: .....m/s

Pollutant Types

☒ Conservative ☐ Non Conservative: ...../day ☐ Heated – Heat Loss Coefficient: .....W/m²/°C

☐ Brine ☐ Sediment: Chunks: ..... % Sand: ..... % Coarse Silt: ..... % Fine Silt: ..... % Clay: ..... %
Total Sediment Concentration: ..... kg/m³

AMBIENT GEOMETRY / FLOW FIELD DATA

Average Depth H_a: 3.05 m ☐ Unbounded ☒ Bounded: Width BS: 58.52 m
Depth at Discharge H_d: 3.05 m Appearance: ☐ Uniform ☒ Slight Meander ☐ Highly Irregular

☒ Steady
☒ Ambient Flowrate Q_a: 27.24 m³/s
☐ Ambient Velocity U_a ..... m/s

☐ Unsteady
Period .....hr Max Velocity U_m ..... m/s Tidal Velocity at this Time U_a: ..... m/s
☐ At Time: ....hr Before Slack ☐ At Slack – Δ Time: .....hr ☐ At Time: ....hr After Slack

☐ Single Slope
Slope S: ..... %
Near Shore Velocity: ..... m/s
Near Shore Darcy-Weisbach f: .....

☐ Near & Far Slope
☐ Near Shore Slope S_1 ..... %
☐ Near Shore Velocity U_{a1} ..... m/s
☐ Near Shore Darcy-Weisbach f_1: .....
☐ Breakpoint: ..... m
☐ Far Slope S_2: ..... %
☐ Far Shore Velocity U_{a2}: ..... m/s
☐ Far Shore Darcy-Weisbach f_2: .....

☐ Manning's n: Darcy-Weis: 0.108 Wind Speed: 2 m/s

AMBIENT DENSITY DATA

Water Body: ☒ Fresh Water ☐ Non-Fresh Water

☒ Uniform — Fresh: ☐ Temperature: .....°C ☒ Density ρ_a: 996.604 kg/ m³ — Non-Fresh: Density ρ_a: ..... kg/ m³

☐ Stratified — ☐ Type A ☐ Type B: Pycnocline Height: .....m ☐ Type C: Pycnocline Height: .....m Jump: .....kg/ m³ / °C
Density ρ: At Surface ρ_{as} ..... kg/m³/ °C At Bottom ρ_{ab}: ..... kg/ m³ / °C

☐ Brine & Sediment Only Level 1 Density ρ_1: .. kg/ m³ Sub 1: .....m; Level 2 Density ρ_2: .....kg/ m³ Sub 2: ..... m

DISCHARGE GEOMETRY DATA

CORMIX 1 – Single Port	CORMIX 2 – Multiport	CORMIX 3 – Surface Discharge
Nearest Bank: ☐ Left ☐ Right	Nearest Bank: ☐ Left ☐ Right	Discharge Located: ☐ Left ☒ Right
Dist. to Nearest Bank: ..... m	☐ Unidirectional ☐ Staged ☐ Altern./ Vert.	Horiz. Angle σ: 90 °
Vert. Angle θ_0: .....°; Horiz. Angle σ_0: .....°	N° of openings: .....; Diffuser Length: ..... m	Local Depth at Discharge Outlet: 3.048 m
☐ Port Diameter D_0: .....m	Dist. to 1st end-point YB_1: .....m	☒ Flush ☐ Co-flowing
☐ Port Area A_0: .....m²	Dist. to 2st far end-point YB_2: .....m	☐ Protruding: Distance from Bank: ..... m
Submerged	Port Height h_0: .....m; Port Diameter D_0: .... m	**Discharge Outlet**
Port Height above Bottom h_0: ..... m	Contraction Ratio:	☒ Channel: Width: 1.35 m; Depth b_0: 0.03 m
Above Surface	**Angles (degrees)**	☐ Pipe: Diameter D_0: ..... m
Port Height above Surface ..... m	Vert. Angle θ: .....°; Horiz. Angle σ: .....°	Bottom Invert Depth: ..... m
☐ Jet-like ☐ Spray ☐ Area	Align. Angle γ: .....°; Relat.Orient. Angle β: .....°	Local Bottom Slope at Chanel Entry: 20 °
Deflector Plate: ☐ With or ☐ Without	Nozzle Direction: ☐ Same or ☐ Fanned Out	

MIXING ZONE DATA

☒ Non-Toxic Effluent ☐ Toxic Effluent
☐ WQ Standard: ..... ☒ No WQ Standard CMC: ..... CCC: .....

☒ Mixing Zone Specified Chronic/Acute MZ Sizes (SCDHEC) ☐ No Mixing Zone Specified
☐ Trajectory: .....m ☒ Downstream Distance: 117/19.5 m ☒ Width: 29.3/5.85 m ☐ Area: ..... %
Region of Interest: 586 m Grid Intervals for Display: 400

```
CORMIX SESSION REPORT:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                      CORMIX MIXING ZONE EXPERT SYSTEM
                          CORMIX Version 11.0GT
                       HYDRO3:Version-11.0.1.0  August,2019
SITE NAME/LABEL:                SCE&G - Wateree Station
  DESIGN CASE:                  2.22 MGD & 7Q10 - 962 cfs (27.24 m3s)
  FILE NAME:                    V:\Shared\1 Projects\Dominion Energy (DOMI or
SCAN)\Wateree\Wateree Compliance Assistance (SCAN0009)\NPDES\CORMIX\Flow 2.22
MGD & 962 cfs.prd
  Using subsystem CORMIX3:     Buoyant Surface Discharges
  Start of session:             09/29/2020--14:28:11
*****************************************************************************
SUMMARY OF INPUT DATA:
-----------------------------------------------------------------------------
AMBIENT PARAMETERS:
  Cross-section                            = bounded
  Width                             BS     = 58.52 m
  Channel regularity                ICHREG = 2
  Ambient flowrate                  QA     = 27.24 m^3/s
  Average depth                     HA     = 3.05 m
  Depth at discharge                HD     = 3.05 m
  Ambient velocity                  UA     = 0.1526 m/s
  Darcy-Weisbach friction factor    F      = 0.108
  Wind velocity                     UW     = 2 m/s
  Stratification Type               STRCND = U
  Surface density                   RHOAS  = 996.6040 kg/m^3
  Bottom density                    RHOAB  = 996.6040 kg/m^3
-----------------------------------------------------------------------------
DISCHARGE PARAMETERS:               Surface Discharge
  Discharge located on                     = right bank/shoreline
  Discharge configuration                  = flush discharge
  Distance from bank to outlet      DISTB  = 0 m
  Discharge angle                   SIGMA  = 90 deg
  Depth near discharge outlet       HD0    = 3.05 m
  Bottom slope at discharge         SLOPE  = 20 deg
  Rectangular discharge:
    Discharge cross-section area    A0     = 0.072 m^2
    Discharge channel width         B0     = 1.2 m
    Discharge channel depth         H0     = 0.06 m
    Discharge aspect ratio          AR     = 0.05
  Discharge flowrate                Q0     = 0.097264 m^3/s
  Discharge velocity                U0     = 1.35 m/s
  Discharge density                 RHO0   = 996.6000 kg/m^3
  Density difference                DRHO   = 0.0040 kg/m^3
  Buoyant acceleration              GP0    = 0 m/s^2
  Discharge concentration           C0     = 100 %
  Surface heat exchange coeff.      KS     = 0 m/s
  Coefficient of decay              KD     = 0 /s
-----------------------------------------------------------------------------
DISCHARGE/ENVIRONMENT LENGTH SCALES:
  LQ  = 0.27 m        Lm  = 2.38 m         Lbb = 0.00 m
  LM  = 111.54 m
-----------------------------------------------------------------------------
```

```
NON-DIMENSIONAL PARAMETERS:
  Densimetric Froude number        FRO    = 415.68 (based on LQ)
  Channel densimetric Froude no.   FRCH   = 879.05 (based on H0)
  Velocity ratio                   R      = 8.85
-------------------------------------------------------------------------------
MIXING ZONE / TOXIC DILUTION ZONE / AREA OF INTEREST PARAMETERS:
  Toxic discharge                          = no
  Water quality standard specified         = no
  Regulatory mixing zone                   = yes
  Regulatory mixing zone specification     = distance
  Regulatory mixing zone value             = 117 m (m^2 if area)
  Region of interest                       = 586 m
*******************************************************************************
HYDRODYNAMIC CLASSIFICATION:
  *-------------------------*
  | FLOW CLASS    = SA1 |
  *-------------------------*

  Limiting Dilution S = (QA/Q0)+ 1.0 = 281.1

*******************************************************************************
MIXING ZONE EVALUATION (hydrodynamic and regulatory summary):

-------------------------------------------------------------------------------
X-Y-Z Coordinate system:
Origin is located at WATER SURFACE and at centerline of discharge channel:
    0 m from the right bank/shore.
  Number of display steps NSTEP = 400 per module.
-------------------------------------------------------------------------------
NEAR-FIELD REGION (NFR) CONDITIONS :
Note: The NFR is the zone of strong initial mixing.  It has no regulatory
  implication.  However, this information may be useful for the discharge
  designer because the mixing in the NFR is usually sensitive to the
  discharge design conditions.
  Pollutant concentration at NFR edge  c = 3.2692 %
  Dilution at edge of NFR              s = 30.6
  NFR Location:                        x = 118.84 m
    (centerline coordinates)           y = 12.93 m
                                       z = 0 m
  NFR plume dimensions:  half-width (bh) = 6.98 m
                         thickness (bv) = 1.23 m
  Cumulative travel time:       765.9838 sec.
-------------------------------------------------------------------------------
Buoyancy assessment:
  The effluent density is less than the surrounding ambient water
  density at the discharge level.
  Therefore, the effluent is POSITIVELY BUOYANT and will tend to rise towards
  the surface.
-------------------------------------------------------------------------------
FAR-FIELD MIXING SUMMARY:
  Plume becomes vertically fully mixed at 162.25 m downstream.
-------------------------------------------------------------------------------
PLUME BANK CONTACT SUMMARY:
  Plume in bounded section contacts one bank only at 320.71 m downstream.
```

********** TOXIC DILUTION ZONE SUMMARY **********
No TDZ was specified for this simulation.
********** REGULATORY MIXING ZONE SUMMARY **********
The plume conditions at the boundary of the specified RMZ are as follows:

Pollutant concentration		c = 3.284775 %
Corresponding dilution		s = 30.4
Plume location:		x = 117 m
(centerline coordinates)		y = 13.07 m
		z = 0 m
Plume dimensions:	half-width (bh)	= 6.97 m
	thickness (bv)	= 1.23 m
Cumulative travel time:	754.0274 sec.	(RMZ is within NFR)

Note:
Plume concentration c and dilution s values are reported based on prediction file values - assuming linear interpolation between predicted points just before and just after the RMZ boundary has been detected.

Please ensure a small step size is used in the prediction file to account for this linear interpolation. Step size can be controlled by increasing (reduces the prediction step size) or decreasing (increases the prediction step size) the - Output Steps per Module - in CORMIX input.

Regulatory Mixing Zone Analysis:
The specified RMZ occurs within the near-field region (NFR). This RMZ specification may be highly restrictive.

********** FINAL DESIGN ADVICE AND COMMENTS **********
REMINDER: The user must take note that HYDRODYNAMIC MODELING by any known technique is NOT AN EXACT SCIENCE.
Extensive comparison with field and laboratory data has shown that the CORMIX predictions on dilutions and concentrations (with associated plume geometries) are reliable for the majority of cases and are accurate to within about +-50% (standard deviation).
As a further safeguard, CORMIX will not give predictions whenever it judges the design configuration as highly complex and uncertain for prediction.

```
CORMIX3 PREDICTION FILE:
3333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333
                        CORMIX MIXING ZONE EXPERT SYSTEM
                   Subsystem CORMIX3: Buoyant Surface Discharges
                                CORMIX Version 11.0GT
                             HYDRO3 Version 11.0.1.0 August 2019
------------------------------------------------------------------------------
------------------------------------------------------------------------------
CASE DESCRIPTION
 Site name/label:   SCE&G - Wateree Station
 Design case:       2.22 MGD & 7Q10 - 962 cfs (27.24 m3s)
 FILE NAME:         V:\...CAN0009)\NPDES\CORMIX\Flow 2.22 MGD & 962 cfs.prd
 Time stamp:        09/29/2020--14:28:11

ENVIRONMENT PARAMETERS (metric units)
 Bounded section
 BS    =     58.52  AS     =    178.49  QA     =     27.24  ICHREG= 2
 HA    =      3.05  HD     =      3.05
 UA    =     0.153  F      =     0.108  USTAR =0.1773E-01
 UW    =     2.000  UWSTAR=0.2198E-02
 Uniform density environment
 STRCND=  U         RHOAM =  996.6040

DISCHARGE PARAMETERS (metric units)
 BANK  =  RIGHT     DISTB =      0.00  Configuration: flush_discharge
 SIGMA =     90.00  HDO   =      3.05  SLOPE =   20.00 deg.
 Rectangular channel geometry:
 B0    =     1.200  H0     =     0.060  A0     =0.7200E-01  AR    =      0.050
 U0    =     1.351  Q0     =     0.097         =0.9726E-01
 RHO0  =  996.6000  DRHO0  =0.4028E-02  GP0    =0.3964E-04
 C0    =0.1000E+03  CUNITS=  %
 IPOLL =  1         KS     =0.0000E+00  KD     =0.0000E+00

FLUX VARIABLES (metric units)
 Q0    =0.9726E-01  M0     =0.1314E+00  J0     =0.3855E-05
 Associated length scales (meters)
 LQ    =     0.27  LM     =    111.54  Lm     =      2.38  Lb    =      0.00

NON-DIMENSIONAL PARAMETERS
 FR0   =    415.68  FRCH   =    879.05  R      =      8.85

FLOW CLASSIFICATION
 3333333333333333333333333333333333333333333333333
 3  Flow class (CORMIX3)      =    SA1           3
 3  Applicable layer depth HS =     3.05         3
 3  Limiting Dilution S =QA/Q0=   281.06         3
 3333333333333333333333333333333333333333333333333

MIXING ZONE / TOXIC DILUTION / REGION OF INTEREST PARAMETERS
 C0    =0.1000E+03  CUNITS=  %
 NTOX  =  0
 NSTD  =  0
 REGMZ =  1
 REGSPC=  1         XREG   =    117.00  WREG   =      0.00  AREG  =      0.00
 XINT  =    586.00  XMAX   =    586.00

X-Y-Z COORDINATE SYSTEM:
    ORIGIN is located at the WATER SURFACE and at center of discharge
```

channel/outlet: 0.00 m from the RIGHT bank/shore.
X-axis points downstream
Y-axis points to left as seen by an observer looking downstream
Z-axis points vertically upward (in CORMIX3, all values Z = 0.00)
NSTEP = 400 display intervals per module

BEGIN MOD301: DISCHARGE MODULE

Efflux conditions:

X	Y	Z	S	C	BV	BH	UC	TT
0.00	0.00	0.00	1.0	0.100E+03	0.06	0.60	1.351	.00000E+00

END OF MOD301: DISCHARGE MODULE

BEGIN MOD302: ZONE OF FLOW ESTABLISHMENT

Control volume inflow:

X	Y	Z	S	C	BV	BH	UC	TT
0.00	0.00	0.00	1.0	0.100E+03	0.06	0.60	1.351	.00000E+00

Profile definitions:
BV = Gaussian 1/e (37%) vertical thickness
BH = Gaussian 1/e (37%) horizontal half-width, normal to trajectory
S = hydrodynamic centerline dilution
C = centerline concentration (includes reaction efects, if any)
Uc = Local centerline excess velocity (above ambient)
TT = Cumulative travel time

Control volume outflow: SIGMAE= 89.22

X	Y	Z	S	C	BV	BH	UC	TT
0.02	1.73	0.00	1.0	0.100E+03	0.10	0.62	1.351	.12800E+01

Cumulative travel time = 1.2800 sec (0.00 hrs)

END OF MOD302: ZONE OF FLOW ESTABLISHMENT

BEGIN CORSURF (MOD310): BUOYANT SURFACE JET - NEAR-FIELD REGION

Surface jet in deep crossflow with shoreline-attachment.

Profile definitions:
BV = Gaussian 1/e (37%) vertical thickness
BH = Gaussian 1/e (37%) horizontal half-width, normal to trajectory
S = hydrodynamic centerline dilution
C = centerline concentration (includes reaction efects, if any)
Uc = Local centerline excess velocity (above ambient)
TT = Cumulative travel time

X	Y	Z	S	C	BV	BH	UC	TT
0.02	1.73	0.00	1.0	0.100E+03	0.10	0.62	1.602	.12800E+01
0.16	2.39	0.00	2.6	0.386E+02	0.26	1.54	0.574	.22006E+01
0.24	2.61	0.00	3.3	0.303E+02	0.32	1.89	0.429	.26864E+01
0.34	2.83	0.00	4.1	0.245E+02	0.38	2.23	0.326	.32785E+01
0.62	3.21	0.00	5.7	0.176E+02	0.48	2.83	0.202	.47654E+01
0.78	3.39	0.00	6.4	0.156E+02	0.52	3.07	0.165	.56400E+01
0.95	3.55	0.00	7.1	0.140E+02	0.55	3.28	0.138	.65863E+01

1.13	3.71	0.00	7.8	0.128E+02	0.58	3.46	0.118	.75935E+01
1.51	3.99	0.00	9.0	0.112E+02	0.63	3.76	0.090	.97544E+01
1.71	4.13	0.00	9.5	0.105E+02	0.65	3.88	0.080	.10894E+02
1.91	4.25	0.00	10.0	0.100E+02	0.67	3.99	0.073	.12066E+02
2.32	4.49	0.00	10.8	0.922E+01	0.70	4.18	0.061	.14489E+02
2.53	4.60	0.00	11.2	0.889E+01	0.72	4.27	0.056	.15734E+02
2.74	4.71	0.00	11.6	0.861E+01	0.73	4.34	0.052	.16997E+02
2.95	4.82	0.00	12.0	0.835E+01	0.74	4.42	0.048	.18278E+02
3.38	5.02	0.00	12.6	0.791E+01	0.76	4.54	0.043	.20882E+02
3.60	5.12	0.00	12.9	0.773E+01	0.77	4.60	0.040	.22202E+02
3.81	5.21	0.00	13.2	0.755E+01	0.78	4.66	0.038	.23534E+02
4.03	5.31	0.00	13.5	0.740E+01	0.79	4.71	0.036	.24876E+02
4.47	5.49	0.00	14.0	0.712E+01	0.81	4.81	0.033	.27587E+02
4.69	5.57	0.00	14.3	0.700E+01	0.82	4.85	0.031	.28954E+02
4.91	5.66	0.00	14.5	0.688E+01	0.82	4.89	0.030	.30328E+02
5.36	5.83	0.00	15.0	0.667E+01	0.84	4.97	0.028	.33097E+02
5.58	5.91	0.00	15.2	0.658E+01	0.84	5.01	0.027	.34490E+02
5.81	5.99	0.00	15.4	0.649E+01	0.85	5.04	0.026	.35888E+02
6.03	6.06	0.00	15.6	0.640E+01	0.86	5.08	0.025	.37291E+02
6.48	6.22	0.00	16.0	0.625E+01	0.87	5.14	0.023	.40112E+02
6.71	6.29	0.00	16.2	0.618E+01	0.87	5.17	0.023	.41528E+02
6.93	6.36	0.00	16.4	0.611E+01	0.88	5.20	0.022	.42949E+02
7.16	6.44	0.00	16.5	0.604E+01	0.88	5.23	0.021	.44373E+02
7.61	6.58	0.00	16.9	0.592E+01	0.89	5.29	0.020	.47232E+02
7.84	6.65	0.00	17.0	0.587E+01	0.90	5.31	0.020	.48666E+02
8.07	6.71	0.00	17.2	0.581E+01	0.90	5.34	0.019	.50104E+02
8.52	6.85	0.00	17.5	0.571E+01	0.91	5.39	0.018	.52987E+02
8.75	6.91	0.00	17.7	0.566E+01	0.91	5.41	0.018	.54432E+02
8.98	6.98	0.00	17.8	0.562E+01	0.92	5.43	0.017	.55880E+02
9.21	7.04	0.00	17.9	0.557E+01	0.92	5.46	0.017	.57331E+02
9.67	7.17	0.00	18.2	0.549E+01	0.93	5.50	0.016	.60238E+02
9.89	7.23	0.00	18.3	0.545E+01	0.93	5.52	0.016	.61695E+02
10.12	7.29	0.00	18.5	0.541E+01	0.93	5.54	0.015	.63154E+02
10.58	7.41	0.00	18.7	0.534E+01	0.94	5.58	0.015	.66077E+02
10.81	7.47	0.00	18.9	0.530E+01	0.94	5.60	0.014	.67541E+02
11.04	7.53	0.00	19.0	0.527E+01	0.95	5.61	0.014	.69007E+02
11.27	7.59	0.00	19.1	0.524E+01	0.95	5.63	0.014	.70475E+02
11.73	7.71	0.00	19.3	0.518E+01	0.95	5.67	0.013	.73415E+02
11.97	7.76	0.00	19.4	0.515E+01	0.96	5.68	0.013	.74888E+02
12.20	7.82	0.00	19.5	0.512E+01	0.96	5.70	0.013	.76361E+02
12.43	7.87	0.00	19.6	0.509E+01	0.96	5.71	0.013	.77836E+02
12.89	7.98	0.00	19.9	0.504E+01	0.97	5.75	0.012	.80790E+02
13.12	8.04	0.00	20.0	0.501E+01	0.97	5.76	0.012	.82269E+02
13.35	8.09	0.00	20.1	0.499E+01	0.97	5.78	0.012	.83749E+02
13.82	8.20	0.00	20.3	0.494E+01	0.98	5.80	0.011	.86713E+02
14.05	8.25	0.00	20.4	0.491E+01	0.98	5.82	0.011	.88196E+02
14.28	8.30	0.00	20.4	0.489E+01	0.98	5.83	0.011	.89681E+02
14.51	8.35	0.00	20.5	0.487E+01	0.98	5.84	0.011	.91166E+02
14.97	8.45	0.00	20.7	0.483E+01	0.99	5.87	0.010	.94140E+02
15.21	8.50	0.00	20.8	0.481E+01	0.99	5.88	0.010	.95629E+02
15.44	8.55	0.00	20.9	0.479E+01	0.99	5.90	0.010	.97118E+02
15.67	8.60	0.00	21.0	0.477E+01	1.00	5.91	0.010	.98608E+02
16.14	8.70	0.00	21.2	0.473E+01	1.00	5.93	0.010	.10159E+03
16.37	8.75	0.00	21.2	0.471E+01	1.00	5.94	0.010	.10308E+03
16.60	8.79	0.00	21.3	0.469E+01	1.00	5.96	0.009	.10458E+03
17.07	8.89	0.00	21.5	0.466E+01	1.01	5.98	0.009	.10757E+03
17.30	8.93	0.00	21.6	0.464E+01	1.01	5.99	0.009	.10906E+03
17.53	8.98	0.00	21.6	0.462E+01	1.01	6.00	0.009	.11056E+03

17.77	9.03	0.00	21.7	0.461E+01	1.01	6.01	0.009	.11206E+03
18.23	9.12	0.00	21.9	0.458E+01	1.02	6.03	0.009	.11505E+03
18.47	9.16	0.00	21.9	0.456E+01	1.02	6.04	0.009	.11655E+03
18.70	9.21	0.00	22.0	0.455E+01	1.02	6.05	0.008	.11805E+03
18.93	9.25	0.00	22.1	0.453E+01	1.02	6.06	0.008	.11955E+03
19.40	9.34	0.00	22.2	0.450E+01	1.02	6.08	0.008	.12256E+03
19.63	9.38	0.00	22.3	0.449E+01	1.03	6.09	0.008	.12406E+03
19.87	9.42	0.00	22.3	0.448E+01	1.03	6.10	0.008	.12556E+03
20.33	9.51	0.00	22.5	0.445E+01	1.03	6.12	0.008	.12857E+03
20.57	9.55	0.00	22.5	0.444E+01	1.03	6.13	0.008	.13007E+03
20.80	9.59	0.00	22.6	0.442E+01	1.03	6.13	0.008	.13158E+03
21.04	9.63	0.00	22.7	0.441E+01	1.03	6.14	0.007	.13309E+03
21.50	9.71	0.00	22.8	0.439E+01	1.04	6.16	0.007	.13610E+03
21.74	9.75	0.00	22.9	0.438E+01	1.04	6.17	0.007	.13761E+03
21.97	9.79	0.00	22.9	0.436E+01	1.04	6.18	0.007	.13911E+03
22.21	9.83	0.00	23.0	0.435E+01	1.04	6.18	0.007	.14062E+03
22.67	9.91	0.00	23.1	0.433E+01	1.04	6.20	0.007	.14364E+03
22.91	9.95	0.00	23.1	0.432E+01	1.05	6.21	0.007	.14515E+03
23.14	9.99	0.00	23.2	0.431E+01	1.05	6.22	0.007	.14666E+03
23.61	10.07	0.00	23.3	0.429E+01	1.05	6.23	0.007	.14968E+03
23.85	10.11	0.00	23.4	0.428E+01	1.05	6.24	0.007	.15119E+03
24.08	10.14	0.00	23.4	0.427E+01	1.05	6.25	0.006	.15270E+03
24.32	10.18	0.00	23.5	0.426E+01	1.05	6.25	0.006	.15421E+03
24.78	10.25	0.00	23.6	0.424E+01	1.06	6.27	0.006	.15724E+03
25.02	10.29	0.00	23.6	0.423E+01	1.06	6.27	0.006	.15875E+03
25.25	10.33	0.00	23.7	0.422E+01	1.06	6.28	0.006	.16026E+03
25.72	10.40	0.00	23.8	0.420E+01	1.06	6.29	0.006	.16329E+03
25.96	10.44	0.00	23.8	0.420E+01	1.06	6.30	0.006	.16481E+03
26.19	10.47	0.00	23.9	0.419E+01	1.06	6.31	0.006	.16632E+03
26.43	10.51	0.00	23.9	0.418E+01	1.06	6.31	0.006	.16783E+03
26.90	10.58	0.00	24.0	0.416E+01	1.07	6.33	0.006	.17087E+03
27.13	10.61	0.00	24.1	0.415E+01	1.07	6.33	0.006	.17238E+03
27.37	10.65	0.00	24.1	0.415E+01	1.07	6.34	0.006	.17390E+03
27.60	10.68	0.00	24.2	0.414E+01	1.07	6.34	0.006	.17541E+03
28.07	10.75	0.00	24.2	0.412E+01	1.07	6.36	0.005	.17845E+03
28.31	10.78	0.00	24.3	0.412E+01	1.07	6.36	0.005	.17997E+03
28.54	10.81	0.00	24.3	0.411E+01	1.07	6.37	0.005	.18148E+03
29.01	10.88	0.00	24.4	0.409E+01	1.07	6.38	0.005	.18452E+03
29.25	10.91	0.00	24.5	0.409E+01	1.07	6.38	0.005	.18604E+03
29.48	10.95	0.00	24.5	0.408E+01	1.08	6.39	0.005	.18756E+03
29.72	10.98	0.00	24.5	0.407E+01	1.08	6.40	0.005	.18908E+03
30.19	11.04	0.00	24.6	0.406E+01	1.08	6.41	0.005	.19212E+03
30.43	11.07	0.00	24.7	0.405E+01	1.08	6.41	0.005	.19364E+03
30.66	11.11	0.00	24.7	0.405E+01	1.08	6.42	0.005	.19516E+03
30.90	11.14	0.00	24.7	0.404E+01	1.08	6.42	0.005	.19668E+03
31.37	11.20	0.00	24.8	0.403E+01	1.08	6.43	0.005	.19972E+03
31.60	11.23	0.00	24.9	0.402E+01	1.08	6.44	0.005	.20124E+03
31.84	11.26	0.00	24.9	0.402E+01	1.08	6.44	0.005	.20276E+03
32.31	11.32	0.00	25.0	0.400E+01	1.09	6.45	0.005	.20580E+03
32.55	11.35	0.00	25.0	0.400E+01	1.09	6.46	0.005	.20732E+03
32.78	11.38	0.00	25.0	0.399E+01	1.09	6.46	0.005	.20885E+03
33.02	11.41	0.00	25.1	0.399E+01	1.09	6.46	0.005	.21037E+03
33.49	11.47	0.00	25.1	0.398E+01	1.09	6.47	0.004	.21341E+03
33.72	11.50	0.00	25.2	0.397E+01	1.09	6.48	0.004	.21494E+03
33.96	11.53	0.00	25.2	0.397E+01	1.09	6.48	0.004	.21646E+03
34.43	11.58	0.00	25.3	0.396E+01	1.09	6.49	0.004	.21951E+03
34.67	11.61	0.00	25.3	0.395E+01	1.09	6.50	0.004	.22103E+03
34.90	11.64	0.00	25.3	0.394E+01	1.09	6.50	0.004	.22255E+03

35.14	11.67	0.00	25.4	0.394E+01	1.09	6.50	0.004	.22408E+03
35.61	11.72	0.00	25.4	0.393E+01	1.10	6.51	0.004	.22713E+03
35.85	11.75	0.00	25.5	0.393E+01	1.10	6.52	0.004	.22865E+03
36.08	11.78	0.00	25.5	0.392E+01	1.10	6.52	0.004	.23018E+03
36.32	11.80	0.00	25.5	0.392E+01	1.10	6.52	0.004	.23170E+03
36.79	11.86	0.00	25.6	0.391E+01	1.10	6.53	0.004	.23475E+03
37.03	11.88	0.00	25.6	0.390E+01	1.10	6.54	0.004	.23628E+03
37.26	11.91	0.00	25.7	0.390E+01	1.10	6.54	0.004	.23780E+03
37.73	11.96	0.00	25.7	0.389E+01	1.10	6.55	0.004	.24085E+03
37.97	11.99	0.00	25.7	0.388E+01	1.10	6.55	0.004	.24238E+03
38.21	12.01	0.00	25.8	0.388E+01	1.10	6.55	0.004	.24391E+03
38.44	12.04	0.00	25.8	0.388E+01	1.10	6.56	0.004	.24543E+03
38.92	12.09	0.00	25.9	0.387E+01	1.10	6.57	0.004	.24849E+03
39.15	12.11	0.00	25.9	0.386E+01	1.11	6.57	0.004	.25001E+03
39.39	12.14	0.00	25.9	0.386E+01	1.11	6.57	0.004	.25154E+03
39.62	12.16	0.00	25.9	0.385E+01	1.11	6.58	0.004	.25307E+03
40.10	12.21	0.00	26.0	0.385E+01	1.11	6.58	0.004	.25612E+03
40.33	12.24	0.00	26.0	0.384E+01	1.11	6.59	0.004	.25765E+03
40.57	12.26	0.00	26.0	0.384E+01	1.11	6.59	0.004	.25918E+03
41.04	12.31	0.00	26.1	0.383E+01	1.11	6.60	0.004	.26223E+03
41.28	12.33	0.00	26.1	0.383E+01	1.11	6.60	0.004	.26376E+03
41.51	12.36	0.00	26.1	0.382E+01	1.11	6.60	0.004	.26529E+03
41.75	12.38	0.00	26.2	0.382E+01	1.11	6.61	0.003	.26682E+03
42.22	12.42	0.00	26.2	0.381E+01	1.11	6.61	0.003	.26988E+03
42.46	12.45	0.00	26.2	0.381E+01	1.11	6.62	0.003	.27141E+03
42.70	12.47	0.00	26.3	0.381E+01	1.11	6.62	0.003	.27294E+03
42.93	12.49	0.00	26.3	0.380E+01	1.11	6.62	0.003	.27446E+03
43.41	12.54	0.00	26.3	0.380E+01	1.11	6.63	0.003	.27752E+03
43.64	12.56	0.00	26.4	0.379E+01	1.12	6.63	0.003	.27905E+03
43.88	12.58	0.00	26.4	0.379E+01	1.12	6.63	0.003	.28058E+03
44.35	12.62	0.00	26.4	0.378E+01	1.12	6.64	0.003	.28364E+03
44.59	12.64	0.00	26.5	0.378E+01	1.12	6.64	0.003	.28517E+03
44.82	12.67	0.00	26.5	0.378E+01	1.12	6.64	0.003	.28670E+03
45.06	12.69	0.00	26.5	0.377E+01	1.12	6.65	0.003	.28823E+03
45.53	12.73	0.00	26.5	0.377E+01	1.12	6.65	0.003	.29129E+03
45.77	12.75	0.00	26.6	0.376E+01	1.12	6.66	0.003	.29282E+03
46.01	12.77	0.00	26.6	0.376E+01	1.12	6.66	0.003	.29435E+03
46.48	12.81	0.00	26.6	0.376E+01	1.12	6.66	0.003	.29741E+03
46.72	12.83	0.00	26.7	0.375E+01	1.12	6.67	0.003	.29894E+03
46.95	12.85	0.00	26.7	0.375E+01	1.12	6.67	0.003	.30048E+03
47.19	12.87	0.00	26.7	0.375E+01	1.12	6.67	0.003	.30201E+03
47.66	12.91	0.00	26.7	0.374E+01	1.12	6.68	0.003	.30507E+03
47.90	12.93	0.00	26.8	0.374E+01	1.12	6.68	0.003	.30660E+03
48.14	12.95	0.00	26.8	0.374E+01	1.12	6.68	0.003	.30813E+03
48.37	12.97	0.00	26.8	0.373E+01	1.12	6.68	0.003	.30966E+03
48.85	13.00	0.00	26.8	0.373E+01	1.12	6.69	0.003	.31273E+03
49.09	13.02	0.00	26.9	0.372E+01	1.13	6.69	0.003	.31426E+03
49.32	13.04	0.00	26.9	0.372E+01	1.13	6.69	0.003	.31579E+03
49.80	13.08	0.00	26.9	0.372E+01	1.13	6.70	0.003	.31885E+03
50.03	13.09	0.00	26.9	0.371E+01	1.13	6.70	0.003	.32039E+03
50.27	13.11	0.00	26.9	0.371E+01	1.13	6.71	0.003	.32192E+03
50.51	13.13	0.00	27.0	0.371E+01	1.13	6.71	0.003	.32345E+03
50.98	13.17	0.00	27.0	0.370E+01	1.13	6.71	0.003	.32652E+03
51.22	13.18	0.00	27.0	0.370E+01	1.13	6.71	0.003	.32805E+03
51.45	13.20	0.00	27.0	0.370E+01	1.13	6.71	0.003	.32958E+03
51.69	13.22	0.00	27.1	0.370E+01	1.13	6.71	0.003	.33111E+03
52.16	13.25	0.00	27.1	0.369E+01	1.13	6.72	0.003	.33418E+03
52.40	13.27	0.00	27.1	0.369E+01	1.13	6.72	0.003	.33571E+03

52.64	13.28	0.00	27.1	0.369E+01	1.13	6.72	0.003	.33725E+03
53.11	13.32	0.00	27.2	0.368E+01	1.13	6.72	0.003	.34031E+03
53.35	13.33	0.00	27.2	0.368E+01	1.13	6.72	0.003	.34185E+03
53.59	13.35	0.00	27.2	0.368E+01	1.13	6.73	0.003	.34338E+03
53.82	13.36	0.00	27.2	0.367E+01	1.13	6.73	0.003	.34491E+03
54.30	13.39	0.00	27.2	0.367E+01	1.14	6.73	0.003	.34798E+03
54.53	13.41	0.00	27.3	0.367E+01	1.14	6.73	0.003	.34951E+03
54.77	13.42	0.00	27.3	0.367E+01	1.14	6.73	0.003	.35105E+03
55.01	13.44	0.00	27.3	0.366E+01	1.14	6.73	0.003	.35258E+03
55.48	13.47	0.00	27.3	0.366E+01	1.14	6.74	0.003	.35565E+03
55.72	13.48	0.00	27.3	0.366E+01	1.14	6.74	0.002	.35718E+03
55.96	13.50	0.00	27.4	0.365E+01	1.14	6.74	0.002	.35872E+03
56.43	13.53	0.00	27.4	0.365E+01	1.14	6.74	0.002	.36179E+03
56.67	13.54	0.00	27.4	0.365E+01	1.14	6.74	0.002	.36332E+03
56.90	13.56	0.00	27.4	0.365E+01	1.14	6.74	0.002	.36486E+03
57.14	13.57	0.00	27.4	0.364E+01	1.14	6.74	0.002	.36639E+03
57.62	13.60	0.00	27.5	0.364E+01	1.14	6.74	0.002	.36946E+03
57.85	13.61	0.00	27.5	0.364E+01	1.14	6.75	0.002	.37099E+03
58.09	13.62	0.00	27.5	0.364E+01	1.14	6.75	0.002	.37253E+03
58.33	13.64	0.00	27.5	0.363E+01	1.14	6.75	0.002	.37406E+03
58.80	13.66	0.00	27.5	0.363E+01	1.14	6.75	0.002	.37713E+03
59.04	13.68	0.00	27.6	0.363E+01	1.14	6.75	0.002	.37867E+03
59.28	13.69	0.00	27.6	0.363E+01	1.15	6.75	0.002	.38020E+03
59.75	13.71	0.00	27.6	0.362E+01	1.15	6.75	0.002	.38327E+03
59.99	13.73	0.00	27.6	0.362E+01	1.15	6.75	0.002	.38481E+03
60.22	13.74	0.00	27.6	0.362E+01	1.15	6.75	0.002	.38634E+03
60.46	13.75	0.00	27.6	0.362E+01	1.15	6.76	0.002	.38788E+03
60.94	13.77	0.00	27.7	0.361E+01	1.15	6.76	0.002	.39095E+03
61.17	13.79	0.00	27.7	0.361E+01	1.15	6.76	0.002	.39249E+03
61.41	13.80	0.00	27.7	0.361E+01	1.15	6.76	0.002	.39402E+03
61.89	13.82	0.00	27.7	0.361E+01	1.15	6.76	0.002	.39709E+03
62.12	13.83	0.00	27.7	0.361E+01	1.15	6.76	0.002	.39863E+03
62.36	13.84	0.00	27.8	0.360E+01	1.15	6.76	0.002	.40016E+03
62.60	13.85	0.00	27.8	0.360E+01	1.15	6.76	0.002	.40170E+03
63.07	13.87	0.00	27.8	0.360E+01	1.15	6.76	0.002	.40477E+03
63.31	13.88	0.00	27.8	0.360E+01	1.15	6.77	0.002	.40631E+03
63.55	13.89	0.00	27.8	0.359E+01	1.15	6.77	0.002	.40784E+03
63.78	13.90	0.00	27.8	0.359E+01	1.15	6.77	0.002	.40938E+03
64.26	13.92	0.00	27.9	0.359E+01	1.15	6.77	0.002	.41245E+03
64.50	13.93	0.00	27.9	0.359E+01	1.15	6.77	0.002	.41399E+03
64.73	13.94	0.00	27.9	0.359E+01	1.15	6.77	0.002	.41552E+03
65.21	13.96	0.00	27.9	0.358E+01	1.16	6.77	0.002	.41860E+03
65.44	13.97	0.00	27.9	0.358E+01	1.16	6.77	0.002	.42013E+03
65.68	13.98	0.00	27.9	0.358E+01	1.16	6.77	0.002	.42167E+03
65.92	13.99	0.00	27.9	0.358E+01	1.16	6.78	0.002	.42320E+03
66.39	14.01	0.00	28.0	0.358E+01	1.16	6.78	0.002	.42628E+03
66.63	14.02	0.00	28.0	0.357E+01	1.16	6.78	0.002	.42781E+03
66.87	14.03	0.00	28.0	0.357E+01	1.16	6.78	0.002	.42935E+03
67.11	14.03	0.00	28.0	0.357E+01	1.16	6.78	0.002	.43089E+03
67.58	14.05	0.00	28.0	0.357E+01	1.16	6.78	0.002	.43396E+03
67.82	14.06	0.00	28.0	0.357E+01	1.16	6.78	0.002	.43550E+03
68.06	14.07	0.00	28.1	0.356E+01	1.16	6.78	0.002	.43703E+03
68.53	14.08	0.00	28.1	0.356E+01	1.16	6.79	0.002	.44011E+03
68.77	14.09	0.00	28.1	0.356E+01	1.16	6.79	0.002	.44164E+03
69.01	14.10	0.00	28.1	0.356E+01	1.16	6.79	0.002	.44318E+03
69.24	14.10	0.00	28.1	0.356E+01	1.16	6.79	0.002	.44472E+03
69.72	14.12	0.00	28.1	0.355E+01	1.16	6.79	0.002	.44779E+03
69.96	14.13	0.00	28.1	0.355E+01	1.16	6.79	0.002	.44933E+03

70.19	14.13	0.00	28.2	0.355E+01	1.16	6.79	0.002	.45087E+03
70.67	14.15	0.00	28.2	0.355E+01	1.16	6.79	0.002	.45394E+03
70.90	14.15	0.00	28.2	0.355E+01	1.16	6.79	0.002	.45548E+03
71.14	14.16	0.00	28.2	0.355E+01	1.16	6.79	0.002	.45701E+03
71.38	14.16	0.00	28.2	0.355E+01	1.16	6.80	0.002	.45855E+03
71.85	14.18	0.00	28.2	0.354E+01	1.16	6.80	0.002	.46163E+03
72.09	14.18	0.00	28.2	0.354E+01	1.16	6.80	0.002	.46316E+03
72.33	14.19	0.00	28.3	0.354E+01	1.16	6.80	0.002	.46470E+03
72.57	14.19	0.00	28.3	0.354E+01	1.17	6.80	0.002	.46624E+03
73.04	14.20	0.00	28.3	0.354E+01	1.17	6.80	0.002	.46931E+03
73.28	14.21	0.00	28.3	0.353E+01	1.17	6.80	0.002	.47085E+03
73.52	14.21	0.00	28.3	0.353E+01	1.17	6.80	0.002	.47239E+03
73.99	14.22	0.00	28.3	0.353E+01	1.17	6.81	0.002	.47546E+03
74.23	14.23	0.00	28.3	0.353E+01	1.17	6.81	0.002	.47700E+03
74.47	14.23	0.00	28.3	0.353E+01	1.17	6.81	0.002	.47854E+03
74.70	14.24	0.00	28.4	0.353E+01	1.17	6.81	0.002	.48007E+03
75.18	14.25	0.00	28.4	0.352E+01	1.17	6.81	0.002	.48315E+03
75.42	14.25	0.00	28.4	0.352E+01	1.17	6.81	0.002	.48469E+03
75.65	14.25	0.00	28.4	0.352E+01	1.17	6.81	0.002	.48622E+03
75.89	14.26	0.00	28.4	0.352E+01	1.17	6.81	0.002	.48776E+03
76.37	14.26	0.00	28.4	0.352E+01	1.17	6.81	0.002	.49084E+03
76.60	14.27	0.00	28.4	0.352E+01	1.17	6.81	0.002	.49237E+03
76.84	14.27	0.00	28.4	0.352E+01	1.17	6.82	0.002	.49391E+03
77.32	14.28	0.00	28.5	0.351E+01	1.17	6.82	0.002	.49699E+03
77.55	14.28	0.00	28.5	0.351E+01	1.17	6.82	0.002	.49852E+03
77.79	14.28	0.00	28.5	0.351E+01	1.17	6.82	0.002	.50006E+03
78.03	14.29	0.00	28.5	0.351E+01	1.17	6.82	0.002	.50160E+03
78.50	14.29	0.00	28.5	0.351E+01	1.17	6.82	0.002	.50468E+03
78.74	14.29	0.00	28.5	0.351E+01	1.17	6.82	0.002	.50621E+03
78.98	14.30	0.00	28.5	0.351E+01	1.17	6.82	0.002	.50775E+03
79.22	14.30	0.00	28.5	0.350E+01	1.17	6.82	0.002	.50929E+03
79.69	14.30	0.00	28.6	0.350E+01	1.17	6.83	0.002	.51236E+03
79.93	14.30	0.00	28.6	0.350E+01	1.17	6.83	0.002	.51390E+03
80.17	14.30	0.00	28.6	0.350E+01	1.17	6.83	0.002	.51544E+03
80.64	14.31	0.00	28.6	0.350E+01	1.17	6.83	0.002	.51852E+03
80.88	14.31	0.00	28.6	0.350E+01	1.17	6.83	0.002	.52005E+03
81.12	14.31	0.00	28.6	0.350E+01	1.17	6.83	0.002	.52159E+03
81.35	14.31	0.00	28.6	0.349E+01	1.17	6.83	0.002	.52313E+03
81.83	14.31	0.00	28.6	0.349E+01	1.17	6.83	0.002	.52621E+03
82.07	14.31	0.00	28.6	0.349E+01	1.17	6.83	0.002	.52774E+03
82.30	14.31	0.00	28.6	0.349E+01	1.18	6.84	0.002	.52928E+03
82.78	14.31	0.00	28.7	0.349E+01	1.18	6.84	0.002	.53236E+03
83.02	14.31	0.00	28.7	0.349E+01	1.18	6.84	0.002	.53390E+03
Maximum lateral extent of recirculation bubble.								
83.25	14.31	0.00	28.7	0.349E+01	1.18	6.84	0.002	.53543E+03
83.49	14.31	0.00	28.7	0.349E+01	1.18	6.84	0.002	.53697E+03
83.97	14.31	0.00	28.7	0.348E+01	1.18	6.84	0.002	.54005E+03
84.20	14.31	0.00	28.7	0.348E+01	1.18	6.84	0.002	.54159E+03
84.44	14.31	0.00	28.7	0.348E+01	1.18	6.84	0.002	.54312E+03
84.68	14.31	0.00	28.7	0.348E+01	1.18	6.84	0.002	.54466E+03
85.15	14.31	0.00	28.8	0.348E+01	1.18	6.85	0.002	.54774E+03
85.39	14.31	0.00	28.8	0.348E+01	1.18	6.85	0.002	.54928E+03
85.63	14.31	0.00	28.8	0.348E+01	1.18	6.85	0.002	.55081E+03
86.10	14.30	0.00	28.8	0.347E+01	1.18	6.85	0.002	.55389E+03
86.34	14.30	0.00	28.8	0.347E+01	1.18	6.85	0.002	.55543E+03
86.58	14.30	0.00	28.8	0.347E+01	1.18	6.85	0.002	.55697E+03
86.82	14.30	0.00	28.8	0.347E+01	1.18	6.85	0.002	.55850E+03
87.29	14.29	0.00	28.8	0.347E+01	1.18	6.85	0.002	.56158E+03

87.53	14.29	0.00	28.8	0.347E+01	1.18	6.85	0.002	.56312E+03
87.77	14.29	0.00	28.8	0.347E+01	1.18	6.85	0.002	.56466E+03
88.00	14.29	0.00	28.9	0.347E+01	1.18	6.86	0.002	.56619E+03
88.48	14.28	0.00	28.9	0.346E+01	1.18	6.86	0.002	.56927E+03
88.72	14.28	0.00	28.9	0.346E+01	1.18	6.86	0.002	.57081E+03
88.95	14.28	0.00	28.9	0.346E+01	1.18	6.86	0.002	.57235E+03
89.43	14.27	0.00	28.9	0.346E+01	1.18	6.86	0.002	.57542E+03
89.67	14.27	0.00	28.9	0.346E+01	1.18	6.86	0.002	.57696E+03
89.90	14.26	0.00	28.9	0.346E+01	1.18	6.86	0.002	.57850E+03
90.14	14.26	0.00	28.9	0.345E+01	1.18	6.86	0.002	.58004E+03
90.62	14.25	0.00	29.0	0.345E+01	1.18	6.86	0.002	.58311E+03
90.85	14.25	0.00	29.0	0.345E+01	1.18	6.87	0.002	.58465E+03
91.09	14.24	0.00	29.0	0.345E+01	1.18	6.87	0.002	.58619E+03
91.33	14.24	0.00	29.0	0.345E+01	1.18	6.87	0.002	.58772E+03
91.80	14.23	0.00	29.0	0.345E+01	1.18	6.87	0.002	.59080E+03
92.04	14.23	0.00	29.0	0.345E+01	1.18	6.87	0.002	.59234E+03
92.28	14.22	0.00	29.0	0.344E+01	1.18	6.87	0.002	.59388E+03
92.75	14.21	0.00	29.1	0.344E+01	1.19	6.87	0.002	.59695E+03
92.99	14.21	0.00	29.1	0.344E+01	1.19	6.87	0.002	.59849E+03
93.23	14.20	0.00	29.1	0.344E+01	1.19	6.87	0.002	.60003E+03
93.47	14.20	0.00	29.1	0.344E+01	1.19	6.87	0.002	.60157E+03
93.94	14.19	0.00	29.1	0.344E+01	1.19	6.88	0.002	.60464E+03
94.18	14.18	0.00	29.1	0.343E+01	1.19	6.88	0.002	.60618E+03
94.42	14.17	0.00	29.1	0.343E+01	1.19	6.88	0.002	.60772E+03
94.89	14.16	0.00	29.1	0.343E+01	1.19	6.88	0.002	.61079E+03
95.13	14.16	0.00	29.2	0.343E+01	1.19	6.88	0.002	.61233E+03
95.37	14.15	0.00	29.2	0.343E+01	1.19	6.88	0.002	.61387E+03
95.60	14.14	0.00	29.2	0.343E+01	1.19	6.88	0.002	.61541E+03
96.08	14.13	0.00	29.2	0.342E+01	1.19	6.88	0.002	.61848E+03
96.32	14.12	0.00	29.2	0.342E+01	1.19	6.89	0.002	.62002E+03
96.55	14.12	0.00	29.2	0.342E+01	1.19	6.89	0.002	.62156E+03
96.79	14.11	0.00	29.2	0.342E+01	1.19	6.89	0.002	.62309E+03
97.26	14.10	0.00	29.3	0.342E+01	1.19	6.89	0.002	.62617E+03
97.50	14.09	0.00	29.3	0.342E+01	1.19	6.89	0.002	.62771E+03
97.74	14.08	0.00	29.3	0.342E+01	1.19	6.89	0.002	.62924E+03
98.21	14.06	0.00	29.3	0.341E+01	1.19	6.89	0.002	.63232E+03
98.45	14.06	0.00	29.3	0.341E+01	1.19	6.89	0.002	.63386E+03
98.69	14.05	0.00	29.3	0.341E+01	1.19	6.89	0.002	.63539E+03
98.93	14.04	0.00	29.3	0.341E+01	1.19	6.89	0.002	.63693E+03
99.40	14.02	0.00	29.4	0.341E+01	1.19	6.90	0.002	.64001E+03
99.64	14.02	0.00	29.4	0.340E+01	1.19	6.90	0.002	.64154E+03
99.88	14.01	0.00	29.4	0.340E+01	1.19	6.90	0.002	.64308E+03
100.11	14.00	0.00	29.4	0.340E+01	1.19	6.90	0.002	.64462E+03
100.59	13.98	0.00	29.4	0.340E+01	1.20	6.90	0.002	.64769E+03
100.83	13.97	0.00	29.4	0.340E+01	1.20	6.90	0.002	.64923E+03
101.06	13.96	0.00	29.4	0.340E+01	1.20	6.90	0.002	.65077E+03
101.54	13.94	0.00	29.5	0.339E+01	1.20	6.90	0.002	.65384E+03
101.77	13.93	0.00	29.5	0.339E+01	1.20	6.91	0.002	.65538E+03
102.01	13.92	0.00	29.5	0.339E+01	1.20	6.91	0.002	.65692E+03
102.25	13.91	0.00	29.5	0.339E+01	1.20	6.91	0.002	.65845E+03
102.72	13.89	0.00	29.5	0.339E+01	1.20	6.91	0.002	.66153E+03
102.96	13.88	0.00	29.5	0.338E+01	1.20	6.91	0.002	.66307E+03
103.20	13.87	0.00	29.6	0.338E+01	1.20	6.91	0.002	.66460E+03
103.44	13.86	0.00	29.6	0.338E+01	1.20	6.91	0.002	.66614E+03
103.91	13.84	0.00	29.6	0.338E+01	1.20	6.91	0.002	.66921E+03
104.15	13.83	0.00	29.6	0.338E+01	1.20	6.91	0.002	.67075E+03
104.38	13.82	0.00	29.6	0.338E+01	1.20	6.91	0.002	.67229E+03
104.86	13.80	0.00	29.6	0.337E+01	1.20	6.92	0.002	.67536E+03

105.10	13.79	0.00	29.7	0.337E+01	1.20	6.92	0.002	.67690E+03
105.33	13.78	0.00	29.7	0.337E+01	1.20	6.92	0.002	.67844E+03
105.57	13.76	0.00	29.7	0.337E+01	1.20	6.92	0.002	.67997E+03
106.05	13.74	0.00	29.7	0.337E+01	1.20	6.92	0.002	.68305E+03
106.28	13.73	0.00	29.7	0.336E+01	1.20	6.92	0.002	.68458E+03
106.52	13.72	0.00	29.7	0.336E+01	1.21	6.92	0.002	.68612E+03
106.76	13.71	0.00	29.8	0.336E+01	1.21	6.92	0.002	.68766E+03
107.23	13.68	0.00	29.8	0.336E+01	1.21	6.93	0.002	.69073E+03
107.47	13.67	0.00	29.8	0.336E+01	1.21	6.93	0.002	.69227E+03
107.71	13.66	0.00	29.8	0.335E+01	1.21	6.93	0.002	.69380E+03
108.18	13.63	0.00	29.8	0.335E+01	1.21	6.93	0.002	.69688E+03
108.42	13.62	0.00	29.9	0.335E+01	1.21	6.93	0.002	.69841E+03
108.65	13.60	0.00	29.9	0.335E+01	1.21	6.93	0.002	.69995E+03
108.89	13.59	0.00	29.9	0.335E+01	1.21	6.93	0.002	.70149E+03
109.37	13.56	0.00	29.9	0.334E+01	1.21	6.93	0.002	.70456E+03
109.60	13.55	0.00	29.9	0.334E+01	1.21	6.93	0.002	.70609E+03
109.84	13.54	0.00	29.9	0.334E+01	1.21	6.93	0.002	.70763E+03
110.31	13.51	0.00	30.0	0.334E+01	1.21	6.94	0.002	.71070E+03
110.55	13.50	0.00	30.0	0.333E+01	1.21	6.94	0.002	.71224E+03
110.79	13.48	0.00	30.0	0.333E+01	1.21	6.94	0.002	.71378E+03
111.03	13.47	0.00	30.0	0.333E+01	1.21	6.94	0.002	.71531E+03
111.50	13.44	0.00	30.1	0.333E+01	1.21	6.94	0.002	.71838E+03
111.74	13.42	0.00	30.1	0.333E+01	1.22	6.94	0.002	.71992E+03
111.97	13.41	0.00	30.1	0.332E+01	1.22	6.94	0.002	.72146E+03
112.21	13.39	0.00	30.1	0.332E+01	1.22	6.94	0.002	.72299E+03
112.68	13.36	0.00	30.1	0.332E+01	1.22	6.95	0.002	.72606E+03
112.92	13.35	0.00	30.1	0.332E+01	1.22	6.95	0.002	.72760E+03
113.16	13.33	0.00	30.2	0.332E+01	1.22	6.95	0.002	.72914E+03
113.63	13.30	0.00	30.2	0.331E+01	1.22	6.95	0.002	.73221E+03
113.87	13.29	0.00	30.2	0.331E+01	1.22	6.95	0.002	.73374E+03
114.11	13.27	0.00	30.2	0.331E+01	1.22	6.95	0.002	.73528E+03
114.34	13.25	0.00	30.2	0.331E+01	1.22	6.95	0.002	.73681E+03
114.82	13.22	0.00	30.3	0.330E+01	1.22	6.95	0.002	.73989E+03
115.05	13.21	0.00	30.3	0.330E+01	1.22	6.95	0.002	.74142E+03
115.29	13.19	0.00	30.3	0.330E+01	1.22	6.96	0.002	.74296E+03
115.53	13.17	0.00	30.3	0.330E+01	1.22	6.96	0.002	.74449E+03
116.00	13.14	0.00	30.4	0.329E+01	1.22	6.96	0.002	.74756E+03
116.24	13.12	0.00	30.4	0.329E+01	1.22	6.96	0.002	.74910E+03
116.48	13.11	0.00	30.4	0.329E+01	1.23	6.96	0.002	.75063E+03
116.95	13.07	0.00	30.4	0.329E+01	1.23	6.97	0.002	.75370E+03

** REGULATORY MIXING ZONE BOUNDARY is within the Near-Field Region **
In this prediction interval the plume DOWNSTREAM distance meets or exceeds
the regulatory value = 117.00 m.
This is the extent of the REGULATORY MIXING ZONE.

117.19	13.05	0.00	30.5	0.328E+01	1.23	6.97	0.003	.75524E+03
117.42	13.04	0.00	30.5	0.328E+01	1.23	6.97	0.003	.75677E+03
117.66	13.02	0.00	30.5	0.328E+01	1.23	6.97	0.003	.75831E+03
118.13	12.98	0.00	30.5	0.328E+01	1.23	6.97	0.003	.76138E+03
118.37	12.97	0.00	30.6	0.327E+01	1.23	6.97	0.003	.76291E+03
118.61	12.95	0.00	30.6	0.327E+01	1.23	6.98	0.003	.76445E+03
118.84	12.93	0.00	30.6	0.327E+01	1.23	6.98	0.003	.76598E+03

Cumulative travel time = 765.9838 sec (0.21 hrs)

END OF CORSURF (MOD310): BUOYANT SURFACE JET - NEAR-FIELD REGION

** End of NEAR-FIELD REGION (NFR) **

The initial plume WIDTH/THICKNESS VALUE in the next far-field module will be CORRECTED by a factor 1.06 to conserve the mass flux in the far-field!

BEGIN MOD341: BUOYANT AMBIENT SPREADING

Plume condition is non-buoyant or weakly buoyant, or, at the end of the NFR it is governed by full vertical mixing over the ambient depth, or by complete lateral mixing over the channel width.
Thus, the BUOYANT SPREADING REGIME is ABSENT.

END OF MOD341: BUOYANT AMBIENT SPREADING

BEGIN MOD361: PASSIVE AMBIENT MIXING IN UNIFORM AMBIENT

Vertical diffusivity (initial value) = 0.108E-01 m^2/s
Horizontal diffusivity (initial value) = 0.271E-01 m^2/s

Profile definitions:
BV = Gaussian s.d.*sqrt(pi/2) (46%) thickness, measured vertically
= or equal to water depth, if fully mixed
BH = Gaussian s.d.*sqrt(pi/2) (46%) half-width, measured horizontally in Y-direction
S = hydrodynamic centerline dilution
C = centerline concentration (includes reaction efects, if any)
TT = Cumulative travel time

Plume Stage 1 (not bank attached):

X	Y	Z	S	C	BV	BH	TT
118.84	12.93	0.00	30.6	0.327E+01	1.31	7.42	.76598E+03
119.35	12.93	0.00	31.2	0.320E+01	1.33	7.44	.76928E+03
119.85	12.93	0.00	31.9	0.314E+01	1.36	7.46	.77257E+03
120.36	12.93	0.00	32.5	0.308E+01	1.38	7.48	.77587E+03
120.86	12.93	0.00	33.2	0.302E+01	1.40	7.50	.77916E+03
121.37	12.93	0.00	33.8	0.296E+01	1.43	7.52	.78246E+03
121.87	12.93	0.00	34.4	0.290E+01	1.45	7.54	.78575E+03
122.38	12.93	0.00	35.1	0.285E+01	1.48	7.55	.78905E+03
122.88	12.93	0.00	35.8	0.280E+01	1.50	7.57	.79234E+03
123.39	12.93	0.00	36.4	0.275E+01	1.52	7.59	.79564E+03
123.89	12.93	0.00	37.1	0.270E+01	1.55	7.61	.79893E+03
124.40	12.93	0.00	37.7	0.265E+01	1.57	7.63	.80223E+03
124.90	12.93	0.00	38.4	0.261E+01	1.59	7.65	.80552E+03
125.41	12.93	0.00	39.0	0.256E+01	1.62	7.67	.80882E+03
125.91	12.93	0.00	39.7	0.252E+01	1.64	7.68	.81211E+03
126.41	12.93	0.00	40.3	0.248E+01	1.66	7.70	.81541E+03
126.92	12.93	0.00	41.0	0.244E+01	1.69	7.72	.81870E+03
127.42	12.93	0.00	41.6	0.240E+01	1.71	7.74	.82200E+03
127.93	12.93	0.00	42.3	0.236E+01	1.73	7.76	.82529E+03
128.43	12.93	0.00	43.0	0.233E+01	1.75	7.77	.82859E+03
128.94	12.93	0.00	43.6	0.229E+01	1.78	7.79	.83188E+03
129.44	12.93	0.00	44.3	0.226E+01	1.80	7.81	.83518E+03
129.95	12.93	0.00	44.9	0.223E+01	1.82	7.83	.83847E+03
130.45	12.93	0.00	45.6	0.219E+01	1.85	7.85	.84177E+03
130.96	12.93	0.00	46.2	0.216E+01	1.87	7.86	.84506E+03
131.46	12.93	0.00	46.9	0.213E+01	1.89	7.88	.84836E+03
131.97	12.93	0.00	47.6	0.210E+01	1.91	7.90	.85165E+03
132.47	12.93	0.00	48.2	0.207E+01	1.93	7.92	.85495E+03

132.98	12.93	0.00	48.9	0.205E+01	1.96	7.93	.85824E+03
133.48	12.93	0.00	49.5	0.202E+01	1.98	7.95	.86154E+03
133.98	12.93	0.00	50.2	0.199E+01	2.00	7.97	.86483E+03
134.49	12.93	0.00	50.8	0.197E+01	2.02	7.99	.86813E+03
134.99	12.93	0.00	51.5	0.194E+01	2.04	8.00	.87142E+03
135.50	12.93	0.00	52.1	0.192E+01	2.06	8.02	.87472E+03
136.00	12.93	0.00	52.8	0.189E+01	2.08	8.04	.87801E+03
136.51	12.93	0.00	53.4	0.187E+01	2.11	8.06	.88131E+03
137.01	12.93	0.00	54.1	0.185E+01	2.13	8.07	.88460E+03
137.52	12.93	0.00	54.7	0.183E+01	2.15	8.09	.88790E+03
138.02	12.93	0.00	55.4	0.181E+01	2.17	8.11	.89119E+03
138.53	12.93	0.00	56.0	0.179E+01	2.19	8.13	.89449E+03
139.03	12.93	0.00	56.7	0.176E+01	2.21	8.14	.89778E+03
139.54	12.93	0.00	57.3	0.174E+01	2.23	8.16	.90108E+03
140.04	12.93	0.00	58.0	0.173E+01	2.25	8.18	.90437E+03
140.55	12.93	0.00	58.6	0.171E+01	2.27	8.20	.90767E+03
141.05	12.93	0.00	59.2	0.169E+01	2.29	8.21	.91096E+03
141.55	12.93	0.00	59.9	0.167E+01	2.31	8.23	.91426E+03
142.06	12.93	0.00	60.5	0.165E+01	2.33	8.25	.91755E+03
142.56	12.93	0.00	61.2	0.163E+01	2.35	8.26	.92085E+03
143.07	12.93	0.00	61.8	0.162E+01	2.37	8.28	.92414E+03
143.57	12.93	0.00	62.4	0.160E+01	2.39	8.30	.92744E+03
144.08	12.93	0.00	63.1	0.159E+01	2.41	8.31	.93073E+03
144.58	12.93	0.00	63.7	0.157E+01	2.43	8.33	.93403E+03
145.09	12.93	0.00	64.4	0.155E+01	2.45	8.35	.93732E+03
145.59	12.93	0.00	65.0	0.154E+01	2.47	8.36	.94062E+03
146.10	12.93	0.00	65.6	0.152E+01	2.49	8.38	.94391E+03
146.60	12.93	0.00	66.3	0.151E+01	2.51	8.40	.94721E+03
147.11	12.93	0.00	66.9	0.149E+01	2.52	8.41	.95050E+03
147.61	12.93	0.00	67.5	0.148E+01	2.54	8.43	.95380E+03
148.12	12.93	0.00	68.2	0.147E+01	2.56	8.45	.95709E+03
148.62	12.93	0.00	68.8	0.145E+01	2.58	8.46	.96039E+03
149.12	12.93	0.00	69.4	0.144E+01	2.60	8.48	.96368E+03
149.63	12.93	0.00	70.1	0.143E+01	2.62	8.50	.96698E+03
150.13	12.93	0.00	70.7	0.141E+01	2.64	8.51	.97027E+03
150.64	12.93	0.00	71.3	0.140E+01	2.65	8.53	.97357E+03
151.14	12.93	0.00	71.9	0.139E+01	2.67	8.55	.97686E+03
151.65	12.93	0.00	72.6	0.138E+01	2.69	8.56	.98016E+03
152.15	12.93	0.00	73.2	0.137E+01	2.71	8.58	.98345E+03
152.66	12.93	0.00	73.8	0.135E+01	2.73	8.60	.98675E+03
153.16	12.93	0.00	74.4	0.134E+01	2.74	8.61	.99004E+03
153.67	12.93	0.00	75.1	0.133E+01	2.76	8.63	.99334E+03
154.17	12.93	0.00	75.7	0.132E+01	2.78	8.64	.99663E+03
154.68	12.93	0.00	76.3	0.131E+01	2.80	8.66	.99993E+03
155.18	12.93	0.00	76.9	0.130E+01	2.82	8.68	.10032E+04
155.69	12.93	0.00	77.6	0.129E+01	2.83	8.69	.10065E+04
156.19	12.93	0.00	78.2	0.128E+01	2.85	8.71	.10098E+04
156.69	12.93	0.00	78.8	0.127E+01	2.87	8.73	.10131E+04
157.20	12.93	0.00	79.4	0.126E+01	2.89	8.74	.10164E+04
157.70	12.93	0.00	80.0	0.125E+01	2.90	8.76	.10197E+04
158.21	12.93	0.00	80.7	0.124E+01	2.92	8.77	.10230E+04
158.71	12.93	0.00	81.3	0.123E+01	2.94	8.79	.10263E+04
159.22	12.93	0.00	81.9	0.122E+01	2.95	8.81	.10296E+04
159.72	12.93	0.00	82.5	0.121E+01	2.97	8.82	.10329E+04
160.23	12.93	0.00	83.1	0.120E+01	2.99	8.84	.10362E+04
160.73	12.93	0.00	83.8	0.119E+01	3.00	8.85	.10395E+04
161.24	12.93	0.00	84.4	0.119E+01	3.02	8.87	.10428E+04
161.74	12.93	0.00	85.0	0.118E+01	3.04	8.88	.10461E+04

Plume interacts with BOTTOM.
The passive diffusion plume becomes VERTICALLY FULLY MIXED within this prediction interval.

162.25	12.93	0.00	85.5	0.117E+01	3.05	8.90	.10494E+04
162.75	12.93	0.00	85.6	0.117E+01	3.05	8.92	.10526E+04
163.26	12.93	0.00	85.8	0.117E+01	3.05	8.93	.10559E+04
163.76	12.93	0.00	85.9	0.116E+01	3.05	8.95	.10592E+04
164.26	12.93	0.00	86.1	0.116E+01	3.05	8.96	.10625E+04
164.77	12.93	0.00	86.2	0.116E+01	3.05	8.98	.10658E+04
165.27	12.93	0.00	86.4	0.116E+01	3.05	8.99	.10691E+04
165.78	12.93	0.00	86.5	0.116E+01	3.05	9.01	.10724E+04
166.28	12.93	0.00	86.7	0.115E+01	3.05	9.03	.10757E+04
166.79	12.93	0.00	86.8	0.115E+01	3.05	9.04	.10790E+04
167.29	12.93	0.00	87.0	0.115E+01	3.05	9.06	.10823E+04
167.80	12.93	0.00	87.1	0.115E+01	3.05	9.07	.10856E+04
168.30	12.93	0.00	87.3	0.115E+01	3.05	9.09	.10889E+04
168.81	12.93	0.00	87.4	0.114E+01	3.05	9.10	.10922E+04
169.31	12.93	0.00	87.6	0.114E+01	3.05	9.12	.10955E+04
169.82	12.93	0.00	87.7	0.114E+01	3.05	9.13	.10988E+04
170.32	12.93	0.00	87.9	0.114E+01	3.05	9.15	.11021E+04
170.83	12.93	0.00	88.0	0.114E+01	3.05	9.16	.11054E+04
171.33	12.93	0.00	88.2	0.113E+01	3.05	9.18	.11087E+04
171.83	12.93	0.00	88.3	0.113E+01	3.05	9.19	.11120E+04
172.34	12.93	0.00	88.5	0.113E+01	3.05	9.21	.11153E+04
172.84	12.93	0.00	88.6	0.113E+01	3.05	9.22	.11185E+04
173.35	12.93	0.00	88.8	0.113E+01	3.05	9.24	.11218E+04
173.85	12.93	0.00	88.9	0.112E+01	3.05	9.25	.11251E+04
174.36	12.93	0.00	89.0	0.112E+01	3.05	9.27	.11284E+04
174.86	12.93	0.00	89.2	0.112E+01	3.05	9.29	.11317E+04
175.37	12.93	0.00	89.3	0.112E+01	3.05	9.30	.11350E+04
175.87	12.93	0.00	89.5	0.112E+01	3.05	9.32	.11383E+04
176.38	12.93	0.00	89.6	0.112E+01	3.05	9.33	.11416E+04
176.88	12.93	0.00	89.8	0.111E+01	3.05	9.35	.11449E+04
177.39	12.93	0.00	89.9	0.111E+01	3.05	9.36	.11482E+04
177.89	12.93	0.00	90.1	0.111E+01	3.05	9.38	.11515E+04
178.40	12.93	0.00	90.2	0.111E+01	3.05	9.39	.11548E+04
178.90	12.93	0.00	90.3	0.111E+01	3.05	9.41	.11581E+04
179.41	12.93	0.00	90.5	0.111E+01	3.05	9.42	.11614E+04
179.91	12.93	0.00	90.6	0.110E+01	3.05	9.43	.11647E+04
180.41	12.93	0.00	90.8	0.110E+01	3.05	9.45	.11680E+04
180.92	12.93	0.00	90.9	0.110E+01	3.05	9.46	.11713E+04
181.42	12.93	0.00	91.1	0.110E+01	3.05	9.48	.11746E+04
181.93	12.93	0.00	91.2	0.110E+01	3.05	9.49	.11779E+04
182.43	12.93	0.00	91.3	0.109E+01	3.05	9.51	.11812E+04
182.94	12.93	0.00	91.5	0.109E+01	3.05	9.52	.11844E+04
183.44	12.93	0.00	91.6	0.109E+01	3.05	9.54	.11877E+04
183.95	12.93	0.00	91.8	0.109E+01	3.05	9.55	.11910E+04
184.45	12.93	0.00	91.9	0.109E+01	3.05	9.57	.11943E+04
184.96	12.93	0.00	92.0	0.109E+01	3.05	9.58	.11976E+04
185.46	12.93	0.00	92.2	0.108E+01	3.05	9.60	.12009E+04
185.97	12.93	0.00	92.3	0.108E+01	3.05	9.61	.12042E+04
186.47	12.93	0.00	92.5	0.108E+01	3.05	9.63	.12075E+04
186.98	12.93	0.00	92.6	0.108E+01	3.05	9.64	.12108E+04
187.48	12.93	0.00	92.7	0.108E+01	3.05	9.66	.12141E+04
187.98	12.93	0.00	92.9	0.108E+01	3.05	9.67	.12174E+04
188.49	12.93	0.00	93.0	0.108E+01	3.05	9.68	.12207E+04
188.99	12.93	0.00	93.2	0.107E+01	3.05	9.70	.12240E+04
189.50	12.93	0.00	93.3	0.107E+01	3.05	9.71	.12273E+04

190.00	12.93	0.00	93.4	0.107E+01	3.05	9.73	.12306E+04
190.51	12.93	0.00	93.6	0.107E+01	3.05	9.74	.12339E+04
191.01	12.93	0.00	93.7	0.107E+01	3.05	9.76	.12372E+04
191.52	12.93	0.00	93.9	0.107E+01	3.05	9.77	.12405E+04
192.02	12.93	0.00	94.0	0.106E+01	3.05	9.78	.12438E+04
192.53	12.93	0.00	94.1	0.106E+01	3.05	9.80	.12471E+04
193.03	12.93	0.00	94.3	0.106E+01	3.05	9.81	.12503E+04
193.54	12.93	0.00	94.4	0.106E+01	3.05	9.83	.12536E+04
194.04	12.93	0.00	94.5	0.106E+01	3.05	9.84	.12569E+04
194.55	12.93	0.00	94.7	0.106E+01	3.05	9.86	.12602E+04
195.05	12.93	0.00	94.8	0.105E+01	3.05	9.87	.12635E+04
195.55	12.93	0.00	94.9	0.105E+01	3.05	9.88	.12668E+04
196.06	12.93	0.00	95.1	0.105E+01	3.05	9.90	.12701E+04
196.56	12.93	0.00	95.2	0.105E+01	3.05	9.91	.12734E+04
197.07	12.93	0.00	95.4	0.105E+01	3.05	9.93	.12767E+04
197.57	12.93	0.00	95.5	0.105E+01	3.05	9.94	.12800E+04
198.08	12.93	0.00	95.6	0.105E+01	3.05	9.96	.12833E+04
198.58	12.93	0.00	95.8	0.104E+01	3.05	9.97	.12866E+04
199.09	12.93	0.00	95.9	0.104E+01	3.05	9.98	.12899E+04
199.59	12.93	0.00	96.0	0.104E+01	3.05	10.00	.12932E+04
200.10	12.93	0.00	96.2	0.104E+01	3.05	10.01	.12965E+04
200.60	12.93	0.00	96.3	0.104E+01	3.05	10.03	.12998E+04
201.11	12.93	0.00	96.4	0.104E+01	3.05	10.04	.13031E+04
201.61	12.93	0.00	96.6	0.104E+01	3.05	10.05	.13064E+04
202.12	12.93	0.00	96.7	0.103E+01	3.05	10.07	.13097E+04
202.62	12.93	0.00	96.8	0.103E+01	3.05	10.08	.13130E+04
203.12	12.93	0.00	97.0	0.103E+01	3.05	10.09	.13162E+04
203.63	12.93	0.00	97.1	0.103E+01	3.05	10.11	.13195E+04
204.13	12.93	0.00	97.2	0.103E+01	3.05	10.12	.13228E+04
204.64	12.93	0.00	97.4	0.103E+01	3.05	10.14	.13261E+04
205.14	12.93	0.00	97.5	0.103E+01	3.05	10.15	.13294E+04
205.65	12.93	0.00	97.6	0.102E+01	3.05	10.16	.13327E+04
206.15	12.93	0.00	97.8	0.102E+01	3.05	10.18	.13360E+04
206.66	12.93	0.00	97.9	0.102E+01	3.05	10.19	.13393E+04
207.16	12.93	0.00	98.0	0.102E+01	3.05	10.21	.13426E+04
207.67	12.93	0.00	98.2	0.102E+01	3.05	10.22	.13459E+04
208.17	12.93	0.00	98.3	0.102E+01	3.05	10.23	.13492E+04
208.68	12.93	0.00	98.4	0.102E+01	3.05	10.25	.13525E+04
209.18	12.93	0.00	98.6	0.101E+01	3.05	10.26	.13558E+04
209.69	12.93	0.00	98.7	0.101E+01	3.05	10.27	.13591E+04
210.19	12.93	0.00	98.8	0.101E+01	3.05	10.29	.13624E+04
210.69	12.93	0.00	98.9	0.101E+01	3.05	10.30	.13657E+04
211.20	12.93	0.00	99.1	0.101E+01	3.05	10.31	.13690E+04
211.70	12.93	0.00	99.2	0.101E+01	3.05	10.33	.13723E+04
212.21	12.93	0.00	99.3	0.101E+01	3.05	10.34	.13756E+04
212.71	12.93	0.00	99.5	0.101E+01	3.05	10.36	.13789E+04
213.22	12.93	0.00	99.6	0.100E+01	3.05	10.37	.13821E+04
213.72	12.93	0.00	99.7	0.100E+01	3.05	10.38	.13854E+04
214.23	12.93	0.00	99.9	0.100E+01	3.05	10.40	.13887E+04
214.73	12.93	0.00	100.0	0.100E+01	3.05	10.41	.13920E+04
215.24	12.93	0.00	100.1	0.999E+00	3.05	10.42	.13953E+04
215.74	12.93	0.00	100.2	0.998E+00	3.05	10.44	.13986E+04
216.25	12.93	0.00	100.4	0.996E+00	3.05	10.45	.14019E+04
216.75	12.93	0.00	100.5	0.995E+00	3.05	10.46	.14052E+04
217.26	12.93	0.00	100.6	0.994E+00	3.05	10.48	.14085E+04
217.76	12.93	0.00	100.8	0.992E+00	3.05	10.49	.14118E+04
218.26	12.93	0.00	100.9	0.991E+00	3.05	10.50	.14151E+04
218.77	12.93	0.00	101.0	0.990E+00	3.05	10.52	.14184E+04

219.27	12.93	0.00	101.1	0.989E+00	3.05	10.53	.14217E+04
219.78	12.93	0.00	101.3	0.987E+00	3.05	10.54	.14250E+04
220.28	12.93	0.00	101.4	0.986E+00	3.05	10.56	.14283E+04
220.79	12.93	0.00	101.5	0.985E+00	3.05	10.57	.14316E+04
221.29	12.93	0.00	101.7	0.984E+00	3.05	10.58	.14349E+04
221.80	12.93	0.00	101.8	0.982E+00	3.05	10.60	.14382E+04
222.30	12.93	0.00	101.9	0.981E+00	3.05	10.61	.14415E+04
222.81	12.93	0.00	102.0	0.980E+00	3.05	10.62	.14448E+04
223.31	12.93	0.00	102.2	0.979E+00	3.05	10.64	.14480E+04
223.82	12.93	0.00	102.3	0.978E+00	3.05	10.65	.14513E+04
224.32	12.93	0.00	102.4	0.976E+00	3.05	10.66	.14546E+04
224.83	12.93	0.00	102.5	0.975E+00	3.05	10.68	.14579E+04
225.33	12.93	0.00	102.7	0.974E+00	3.05	10.69	.14612E+04
225.83	12.93	0.00	102.8	0.973E+00	3.05	10.70	.14645E+04
226.34	12.93	0.00	102.9	0.972E+00	3.05	10.71	.14678E+04
226.84	12.93	0.00	103.0	0.970E+00	3.05	10.73	.14711E+04
227.35	12.93	0.00	103.2	0.969E+00	3.05	10.74	.14744E+04
227.85	12.93	0.00	103.3	0.968E+00	3.05	10.75	.14777E+04
228.36	12.93	0.00	103.4	0.967E+00	3.05	10.77	.14810E+04
228.86	12.93	0.00	103.5	0.966E+00	3.05	10.78	.14843E+04
229.37	12.93	0.00	103.7	0.965E+00	3.05	10.79	.14876E+04
229.87	12.93	0.00	103.8	0.963E+00	3.05	10.81	.14909E+04
230.38	12.93	0.00	103.9	0.962E+00	3.05	10.82	.14942E+04
230.88	12.93	0.00	104.0	0.961E+00	3.05	10.83	.14975E+04
231.39	12.93	0.00	104.2	0.960E+00	3.05	10.84	.15008E+04
231.89	12.93	0.00	104.3	0.959E+00	3.05	10.86	.15041E+04
232.40	12.93	0.00	104.4	0.958E+00	3.05	10.87	.15074E+04
232.90	12.93	0.00	104.5	0.957E+00	3.05	10.88	.15107E+04
233.40	12.93	0.00	104.7	0.955E+00	3.05	10.90	.15139E+04
233.91	12.93	0.00	104.8	0.954E+00	3.05	10.91	.15172E+04
234.41	12.93	0.00	104.9	0.953E+00	3.05	10.92	.15205E+04
234.92	12.93	0.00	105.0	0.952E+00	3.05	10.93	.15238E+04
235.42	12.93	0.00	105.2	0.951E+00	3.05	10.95	.15271E+04
235.93	12.93	0.00	105.3	0.950E+00	3.05	10.96	.15304E+04
236.43	12.93	0.00	105.4	0.949E+00	3.05	10.97	.15337E+04
236.94	12.93	0.00	105.5	0.948E+00	3.05	10.99	.15370E+04
237.44	12.93	0.00	105.6	0.947E+00	3.05	11.00	.15403E+04
237.95	12.93	0.00	105.8	0.945E+00	3.05	11.01	.15436E+04
238.45	12.93	0.00	105.9	0.944E+00	3.05	11.02	.15469E+04
238.96	12.93	0.00	106.0	0.943E+00	3.05	11.04	.15502E+04
239.46	12.93	0.00	106.1	0.942E+00	3.05	11.05	.15535E+04
239.97	12.93	0.00	106.3	0.941E+00	3.05	11.06	.15568E+04
240.47	12.93	0.00	106.4	0.940E+00	3.05	11.07	.15601E+04
240.97	12.93	0.00	106.5	0.939E+00	3.05	11.09	.15634E+04
241.48	12.93	0.00	106.6	0.938E+00	3.05	11.10	.15667E+04
241.98	12.93	0.00	106.7	0.937E+00	3.05	11.11	.15700E+04
242.49	12.93	0.00	106.9	0.936E+00	3.05	11.12	.15733E+04
242.99	12.93	0.00	107.0	0.935E+00	3.05	11.14	.15766E+04
243.50	12.93	0.00	107.1	0.934E+00	3.05	11.15	.15798E+04
244.00	12.93	0.00	107.2	0.933E+00	3.05	11.16	.15831E+04
244.51	12.93	0.00	107.3	0.932E+00	3.05	11.18	.15864E+04
245.01	12.93	0.00	107.5	0.931E+00	3.05	11.19	.15897E+04
245.52	12.93	0.00	107.6	0.929E+00	3.05	11.20	.15930E+04
246.02	12.93	0.00	107.7	0.928E+00	3.05	11.21	.15963E+04
246.53	12.93	0.00	107.8	0.927E+00	3.05	11.23	.15996E+04
247.03	12.93	0.00	107.9	0.926E+00	3.05	11.24	.16029E+04
247.54	12.93	0.00	108.1	0.925E+00	3.05	11.25	.16062E+04
248.04	12.93	0.00	108.2	0.924E+00	3.05	11.26	.16095E+04

248.54	12.93	0.00	108.3	0.923E+00	3.05	11.28	.16128E+04
249.05	12.93	0.00	108.4	0.922E+00	3.05	11.29	.16161E+04
249.55	12.93	0.00	108.5	0.921E+00	3.05	11.30	.16194E+04
250.06	12.93	0.00	108.7	0.920E+00	3.05	11.31	.16227E+04
250.56	12.93	0.00	108.8	0.919E+00	3.05	11.32	.16260E+04
251.07	12.93	0.00	108.9	0.918E+00	3.05	11.34	.16293E+04
251.57	12.93	0.00	109.0	0.917E+00	3.05	11.35	.16326E+04
252.08	12.93	0.00	109.1	0.916E+00	3.05	11.36	.16359E+04
252.58	12.93	0.00	109.3	0.915E+00	3.05	11.37	.16392E+04
253.09	12.93	0.00	109.4	0.914E+00	3.05	11.39	.16425E+04
253.59	12.93	0.00	109.5	0.913E+00	3.05	11.40	.16457E+04
254.10	12.93	0.00	109.6	0.912E+00	3.05	11.41	.16490E+04
254.60	12.93	0.00	109.7	0.911E+00	3.05	11.42	.16523E+04
255.11	12.93	0.00	109.8	0.910E+00	3.05	11.44	.16556E+04
255.61	12.93	0.00	110.0	0.909E+00	3.05	11.45	.16589E+04
256.11	12.93	0.00	110.1	0.908E+00	3.05	11.46	.16622E+04
256.62	12.93	0.00	110.2	0.907E+00	3.05	11.47	.16655E+04
257.12	12.93	0.00	110.3	0.906E+00	3.05	11.48	.16688E+04
257.63	12.93	0.00	110.4	0.906E+00	3.05	11.50	.16721E+04
258.13	12.93	0.00	110.5	0.905E+00	3.05	11.51	.16754E+04
258.64	12.93	0.00	110.7	0.904E+00	3.05	11.52	.16787E+04
259.14	12.93	0.00	110.8	0.903E+00	3.05	11.53	.16820E+04
259.65	12.93	0.00	110.9	0.902E+00	3.05	11.55	.16853E+04
260.15	12.93	0.00	111.0	0.901E+00	3.05	11.56	.16886E+04
260.66	12.93	0.00	111.1	0.900E+00	3.05	11.57	.16919E+04
261.16	12.93	0.00	111.2	0.899E+00	3.05	11.58	.16952E+04
261.67	12.93	0.00	111.4	0.898E+00	3.05	11.59	.16985E+04
262.17	12.93	0.00	111.5	0.897E+00	3.05	11.61	.17018E+04
262.68	12.93	0.00	111.6	0.896E+00	3.05	11.62	.17051E+04
263.18	12.93	0.00	111.7	0.895E+00	3.05	11.63	.17084E+04
263.68	12.93	0.00	111.8	0.894E+00	3.05	11.64	.17116E+04
264.19	12.93	0.00	111.9	0.893E+00	3.05	11.65	.17149E+04
264.69	12.93	0.00	112.1	0.892E+00	3.05	11.67	.17182E+04
265.20	12.93	0.00	112.2	0.891E+00	3.05	11.68	.17215E+04
265.70	12.93	0.00	112.3	0.891E+00	3.05	11.69	.17248E+04
266.21	12.93	0.00	112.4	0.890E+00	3.05	11.70	.17281E+04
266.71	12.93	0.00	112.5	0.889E+00	3.05	11.71	.17314E+04
267.22	12.93	0.00	112.6	0.888E+00	3.05	11.73	.17347E+04
267.72	12.93	0.00	112.7	0.887E+00	3.05	11.74	.17380E+04
268.23	12.93	0.00	112.9	0.886E+00	3.05	11.75	.17413E+04
268.73	12.93	0.00	113.0	0.885E+00	3.05	11.76	.17446E+04
269.24	12.93	0.00	113.1	0.884E+00	3.05	11.77	.17479E+04
269.74	12.93	0.00	113.2	0.883E+00	3.05	11.79	.17512E+04
270.25	12.93	0.00	113.3	0.882E+00	3.05	11.80	.17545E+04
270.75	12.93	0.00	113.4	0.882E+00	3.05	11.81	.17578E+04
271.25	12.93	0.00	113.5	0.881E+00	3.05	11.82	.17611E+04
271.76	12.93	0.00	113.7	0.880E+00	3.05	11.83	.17644E+04
272.26	12.93	0.00	113.8	0.879E+00	3.05	11.84	.17677E+04
272.77	12.93	0.00	113.9	0.878E+00	3.05	11.86	.17710E+04
273.27	12.93	0.00	114.0	0.877E+00	3.05	11.87	.17743E+04
273.78	12.93	0.00	114.1	0.876E+00	3.05	11.88	.17775E+04
274.28	12.93	0.00	114.2	0.875E+00	3.05	11.89	.17808E+04
274.79	12.93	0.00	114.3	0.875E+00	3.05	11.90	.17841E+04
275.29	12.93	0.00	114.5	0.874E+00	3.05	11.92	.17874E+04
275.80	12.93	0.00	114.6	0.873E+00	3.05	11.93	.17907E+04
276.30	12.93	0.00	114.7	0.872E+00	3.05	11.94	.17940E+04
276.81	12.93	0.00	114.8	0.871E+00	3.05	11.95	.17973E+04
277.31	12.93	0.00	114.9	0.870E+00	3.05	11.96	.18006E+04

277.82	12.93	0.00	115.0	0.869E+00	3.05	11.97	.18039E+04
278.32	12.93	0.00	115.1	0.869E+00	3.05	11.99	.18072E+04
278.82	12.93	0.00	115.2	0.868E+00	3.05	12.00	.18105E+04
279.33	12.93	0.00	115.4	0.867E+00	3.05	12.01	.18138E+04
279.83	12.93	0.00	115.5	0.866E+00	3.05	12.02	.18171E+04
280.34	12.93	0.00	115.6	0.865E+00	3.05	12.03	.18204E+04
280.84	12.93	0.00	115.7	0.864E+00	3.05	12.04	.18237E+04
281.35	12.93	0.00	115.8	0.864E+00	3.05	12.06	.18270E+04
281.85	12.93	0.00	115.9	0.863E+00	3.05	12.07	.18303E+04
282.36	12.93	0.00	116.0	0.862E+00	3.05	12.08	.18336E+04
282.86	12.93	0.00	116.1	0.861E+00	3.05	12.09	.18369E+04
283.37	12.93	0.00	116.2	0.860E+00	3.05	12.10	.18402E+04
283.87	12.93	0.00	116.4	0.859E+00	3.05	12.11	.18434E+04
284.38	12.93	0.00	116.5	0.859E+00	3.05	12.13	.18467E+04
284.88	12.93	0.00	116.6	0.858E+00	3.05	12.14	.18500E+04
285.39	12.93	0.00	116.7	0.857E+00	3.05	12.15	.18533E+04
285.89	12.93	0.00	116.8	0.856E+00	3.05	12.16	.18566E+04
286.39	12.93	0.00	116.9	0.855E+00	3.05	12.17	.18599E+04
286.90	12.93	0.00	117.0	0.855E+00	3.05	12.18	.18632E+04
287.40	12.93	0.00	117.1	0.854E+00	3.05	12.19	.18665E+04
287.91	12.93	0.00	117.2	0.853E+00	3.05	12.21	.18698E+04
288.41	12.93	0.00	117.4	0.852E+00	3.05	12.22	.18731E+04
288.92	12.93	0.00	117.5	0.851E+00	3.05	12.23	.18764E+04
289.42	12.93	0.00	117.6	0.851E+00	3.05	12.24	.18797E+04
289.93	12.93	0.00	117.7	0.850E+00	3.05	12.25	.18830E+04
290.43	12.93	0.00	117.8	0.849E+00	3.05	12.26	.18863E+04
290.94	12.93	0.00	117.9	0.848E+00	3.05	12.27	.18896E+04
291.44	12.93	0.00	118.0	0.847E+00	3.05	12.29	.18929E+04
291.95	12.93	0.00	118.1	0.847E+00	3.05	12.30	.18962E+04
292.45	12.93	0.00	118.2	0.846E+00	3.05	12.31	.18995E+04
292.96	12.93	0.00	118.3	0.845E+00	3.05	12.32	.19028E+04
293.46	12.93	0.00	118.5	0.844E+00	3.05	12.33	.19061E+04
293.96	12.93	0.00	118.6	0.843E+00	3.05	12.34	.19093E+04
294.47	12.93	0.00	118.7	0.843E+00	3.05	12.35	.19126E+04
294.97	12.93	0.00	118.8	0.842E+00	3.05	12.37	.19159E+04
295.48	12.93	0.00	118.9	0.841E+00	3.05	12.38	.19192E+04
295.98	12.93	0.00	119.0	0.840E+00	3.05	12.39	.19225E+04
296.49	12.93	0.00	119.1	0.840E+00	3.05	12.40	.19258E+04
296.99	12.93	0.00	119.2	0.839E+00	3.05	12.41	.19291E+04
297.50	12.93	0.00	119.3	0.838E+00	3.05	12.42	.19324E+04
298.00	12.93	0.00	119.4	0.837E+00	3.05	12.43	.19357E+04
298.51	12.93	0.00	119.5	0.837E+00	3.05	12.44	.19390E+04
299.01	12.93	0.00	119.6	0.836E+00	3.05	12.46	.19423E+04
299.52	12.93	0.00	119.8	0.835E+00	3.05	12.47	.19456E+04
300.02	12.93	0.00	119.9	0.834E+00	3.05	12.48	.19489E+04
300.53	12.93	0.00	120.0	0.834E+00	3.05	12.49	.19522E+04
301.03	12.93	0.00	120.1	0.833E+00	3.05	12.50	.19555E+04
301.53	12.93	0.00	120.2	0.832E+00	3.05	12.51	.19588E+04
302.04	12.93	0.00	120.3	0.831E+00	3.05	12.52	.19621E+04
302.54	12.93	0.00	120.4	0.831E+00	3.05	12.53	.19654E+04
303.05	12.93	0.00	120.5	0.830E+00	3.05	12.55	.19687E+04
303.55	12.93	0.00	120.6	0.829E+00	3.05	12.56	.19720E+04
304.06	12.93	0.00	120.7	0.828E+00	3.05	12.57	.19752E+04
304.56	12.93	0.00	120.8	0.828E+00	3.05	12.58	.19785E+04
305.07	12.93	0.00	120.9	0.827E+00	3.05	12.59	.19818E+04
305.57	12.93	0.00	121.0	0.826E+00	3.05	12.60	.19851E+04
306.08	12.93	0.00	121.2	0.825E+00	3.05	12.61	.19884E+04
306.58	12.93	0.00	121.3	0.825E+00	3.05	12.62	.19917E+04

307.09	12.93	0.00	121.4	0.824E+00	3.05	12.63	.19950E+04
307.59	12.93	0.00	121.5	0.823E+00	3.05	12.65	.19983E+04
308.10	12.93	0.00	121.6	0.823E+00	3.05	12.66	.20016E+04
308.60	12.93	0.00	121.7	0.822E+00	3.05	12.67	.20049E+04
309.10	12.93	0.00	121.8	0.821E+00	3.05	12.68	.20082E+04
309.61	12.93	0.00	121.9	0.820E+00	3.05	12.69	.20115E+04
310.11	12.93	0.00	122.0	0.820E+00	3.05	12.70	.20148E+04
310.62	12.93	0.00	122.1	0.819E+00	3.05	12.71	.20181E+04
311.12	12.93	0.00	122.2	0.818E+00	3.05	12.72	.20214E+04
311.63	12.93	0.00	122.3	0.818E+00	3.05	12.73	.20247E+04
312.13	12.93	0.00	122.4	0.817E+00	3.05	12.74	.20280E+04
312.64	12.93	0.00	122.5	0.816E+00	3.05	12.76	.20313E+04
313.14	12.93	0.00	122.6	0.815E+00	3.05	12.77	.20346E+04
313.65	12.93	0.00	122.7	0.815E+00	3.05	12.78	.20379E+04
314.15	12.93	0.00	122.8	0.814E+00	3.05	12.79	.20411E+04
314.66	12.93	0.00	123.0	0.813E+00	3.05	12.80	.20444E+04
315.16	12.93	0.00	123.1	0.813E+00	3.05	12.81	.20477E+04
315.67	12.93	0.00	123.2	0.812E+00	3.05	12.82	.20510E+04
316.17	12.93	0.00	123.3	0.811E+00	3.05	12.83	.20543E+04
316.68	12.93	0.00	123.4	0.811E+00	3.05	12.84	.20576E+04
317.18	12.93	0.00	123.5	0.810E+00	3.05	12.85	.20609E+04
317.68	12.93	0.00	123.6	0.809E+00	3.05	12.87	.20642E+04
318.19	12.93	0.00	123.7	0.809E+00	3.05	12.88	.20675E+04
318.69	12.93	0.00	123.8	0.808E+00	3.05	12.89	.20708E+04
319.20	12.93	0.00	123.9	0.807E+00	3.05	12.90	.20741E+04
319.70	12.93	0.00	124.0	0.806E+00	3.05	12.91	.20774E+04
320.21	12.93	0.00	124.1	0.806E+00	3.05	12.92	.20807E+04
320.71	12.93	0.00	124.2	0.805E+00	3.05	12.93	.20840E+04

Cumulative travel time = 2083.9749 sec (0.58 hrs)

Plume Stage 2 (bank attached):

X	Y	Z	S	C	BV	BH	TT
320.71	0.00	0.00	124.2	0.805E+00	3.05	25.86	.20840E+04
321.38	-0.00	0.00	124.2	0.805E+00	3.05	25.87	.20883E+04
322.04	-0.00	0.00	124.3	0.805E+00	3.05	25.88	.20926E+04
322.70	-0.00	0.00	124.3	0.804E+00	3.05	25.88	.20970E+04
323.37	-0.00	0.00	124.3	0.804E+00	3.05	25.89	.21013E+04
324.03	-0.00	0.00	124.4	0.804E+00	3.05	25.90	.21056E+04
324.69	-0.00	0.00	124.4	0.804E+00	3.05	25.90	.21100E+04
325.35	-0.00	0.00	124.4	0.804E+00	3.05	25.91	.21143E+04
326.02	-0.00	0.00	124.5	0.803E+00	3.05	25.92	.21186E+04
326.68	-0.00	0.00	124.5	0.803E+00	3.05	25.93	.21230E+04
327.34	-0.00	0.00	124.5	0.803E+00	3.05	25.93	.21273E+04
328.01	-0.00	0.00	124.6	0.803E+00	3.05	25.94	.21316E+04
328.67	-0.00	0.00	124.6	0.802E+00	3.05	25.95	.21359E+04
329.33	-0.00	0.00	124.7	0.802E+00	3.05	25.95	.21403E+04
330.00	-0.00	0.00	124.7	0.802E+00	3.05	25.96	.21446E+04
330.66	-0.00	0.00	124.7	0.802E+00	3.05	25.97	.21489E+04
331.32	-0.00	0.00	124.8	0.802E+00	3.05	25.97	.21533E+04
331.99	-0.00	0.00	124.8	0.801E+00	3.05	25.98	.21576E+04
332.65	-0.00	0.00	124.8	0.801E+00	3.05	25.99	.21619E+04
333.31	-0.00	0.00	124.9	0.801E+00	3.05	26.00	.21663E+04
333.98	-0.00	0.00	124.9	0.801E+00	3.05	26.00	.21706E+04
334.64	-0.00	0.00	124.9	0.800E+00	3.05	26.01	.21749E+04
335.30	-0.00	0.00	125.0	0.800E+00	3.05	26.02	.21792E+04
335.97	-0.00	0.00	125.0	0.800E+00	3.05	26.02	.21836E+04
336.63	-0.00	0.00	125.0	0.800E+00	3.05	26.03	.21879E+04

337.29	-0.00	0.00	125.1	0.800E+00	3.05	26.04	.21922E+04
337.96	-0.00	0.00	125.1	0.799E+00	3.05	26.05	.21966E+04
338.62	-0.00	0.00	125.1	0.799E+00	3.05	26.05	.22009E+04
339.28	-0.00	0.00	125.2	0.799E+00	3.05	26.06	.22052E+04
339.95	-0.00	0.00	125.2	0.799E+00	3.05	26.07	.22096E+04
340.61	-0.00	0.00	125.2	0.799E+00	3.05	26.07	.22139E+04
341.27	-0.00	0.00	125.3	0.798E+00	3.05	26.08	.22182E+04
341.94	-0.00	0.00	125.3	0.798E+00	3.05	26.09	.22225E+04
342.60	-0.00	0.00	125.3	0.798E+00	3.05	26.09	.22269E+04
343.26	-0.00	0.00	125.4	0.798E+00	3.05	26.10	.22312E+04
343.92	-0.00	0.00	125.4	0.797E+00	3.05	26.11	.22355E+04
344.59	-0.00	0.00	125.4	0.797E+00	3.05	26.12	.22399E+04
345.25	-0.00	0.00	125.5	0.797E+00	3.05	26.12	.22442E+04
345.91	-0.00	0.00	125.5	0.797E+00	3.05	26.13	.22485E+04
346.58	-0.00	0.00	125.5	0.797E+00	3.05	26.14	.22529E+04
347.24	-0.00	0.00	125.6	0.796E+00	3.05	26.14	.22572E+04
347.90	-0.00	0.00	125.6	0.796E+00	3.05	26.15	.22615E+04
348.57	-0.00	0.00	125.6	0.796E+00	3.05	26.16	.22658E+04
349.23	-0.00	0.00	125.7	0.796E+00	3.05	26.17	.22702E+04
349.89	-0.00	0.00	125.7	0.796E+00	3.05	26.17	.22745E+04
350.56	-0.00	0.00	125.7	0.795E+00	3.05	26.18	.22788E+04
351.22	-0.00	0.00	125.8	0.795E+00	3.05	26.19	.22832E+04
351.88	-0.00	0.00	125.8	0.795E+00	3.05	26.19	.22875E+04
352.55	-0.00	0.00	125.8	0.795E+00	3.05	26.20	.22918E+04
353.21	-0.00	0.00	125.9	0.794E+00	3.05	26.21	.22962E+04
353.87	-0.00	0.00	125.9	0.794E+00	3.05	26.21	.23005E+04
354.54	-0.00	0.00	125.9	0.794E+00	3.05	26.22	.23048E+04
355.20	-0.00	0.00	126.0	0.794E+00	3.05	26.23	.23091E+04
355.86	-0.00	0.00	126.0	0.794E+00	3.05	26.24	.23135E+04
356.53	-0.00	0.00	126.0	0.793E+00	3.05	26.24	.23178E+04
357.19	-0.00	0.00	126.1	0.793E+00	3.05	26.25	.23221E+04
357.85	-0.00	0.00	126.1	0.793E+00	3.05	26.26	.23265E+04
358.52	-0.00	0.00	126.1	0.793E+00	3.05	26.26	.23308E+04
359.18	-0.00	0.00	126.2	0.793E+00	3.05	26.27	.23351E+04
359.84	-0.00	0.00	126.2	0.792E+00	3.05	26.28	.23395E+04
360.50	-0.00	0.00	126.2	0.792E+00	3.05	26.28	.23438E+04
361.17	-0.00	0.00	126.3	0.792E+00	3.05	26.29	.23481E+04
361.83	-0.00	0.00	126.3	0.792E+00	3.05	26.30	.23525E+04
362.49	-0.00	0.00	126.3	0.792E+00	3.05	26.31	.23568E+04
363.16	-0.00	0.00	126.4	0.791E+00	3.05	26.31	.23611E+04
363.82	-0.00	0.00	126.4	0.791E+00	3.05	26.32	.23654E+04
364.48	-0.00	0.00	126.4	0.791E+00	3.05	26.33	.23698E+04
365.15	-0.00	0.00	126.5	0.791E+00	3.05	26.33	.23741E+04
365.81	-0.00	0.00	126.5	0.790E+00	3.05	26.34	.23784E+04
366.47	-0.00	0.00	126.5	0.790E+00	3.05	26.35	.23828E+04
367.14	-0.00	0.00	126.6	0.790E+00	3.05	26.35	.23871E+04
367.80	-0.00	0.00	126.6	0.790E+00	3.05	26.36	.23914E+04
368.46	-0.00	0.00	126.6	0.790E+00	3.05	26.37	.23958E+04
369.13	-0.00	0.00	126.7	0.789E+00	3.05	26.38	.24001E+04
369.79	-0.00	0.00	126.7	0.789E+00	3.05	26.38	.24044E+04
370.45	-0.00	0.00	126.7	0.789E+00	3.05	26.39	.24087E+04
371.12	-0.00	0.00	126.8	0.789E+00	3.05	26.40	.24131E+04
371.78	-0.00	0.00	126.8	0.789E+00	3.05	26.40	.24174E+04
372.44	-0.00	0.00	126.8	0.788E+00	3.05	26.41	.24217E+04
373.11	-0.00	0.00	126.9	0.788E+00	3.05	26.42	.24261E+04
373.77	-0.00	0.00	126.9	0.788E+00	3.05	26.42	.24304E+04
374.43	-0.00	0.00	126.9	0.788E+00	3.05	26.43	.24347E+04
375.10	-0.00	0.00	127.0	0.788E+00	3.05	26.44	.24391E+04

375.76	-0.00	0.00	127.0	0.787E+00	3.05	26.45	.24434E+04
376.42	-0.00	0.00	127.0	0.787E+00	3.05	26.45	.24477E+04
377.09	-0.00	0.00	127.1	0.787E+00	3.05	26.46	.24520E+04
377.75	-0.00	0.00	127.1	0.787E+00	3.05	26.47	.24564E+04
378.41	-0.00	0.00	127.1	0.786E+00	3.05	26.47	.24607E+04
379.07	-0.00	0.00	127.2	0.786E+00	3.05	26.48	.24650E+04
379.74	-0.00	0.00	127.2	0.786E+00	3.05	26.49	.24694E+04
380.40	-0.00	0.00	127.2	0.786E+00	3.05	26.49	.24737E+04
381.06	-0.00	0.00	127.3	0.786E+00	3.05	26.50	.24780E+04
381.73	-0.00	0.00	127.3	0.785E+00	3.05	26.51	.24824E+04
382.39	-0.00	0.00	127.3	0.785E+00	3.05	26.51	.24867E+04
383.05	-0.00	0.00	127.4	0.785E+00	3.05	26.52	.24910E+04
383.72	-0.00	0.00	127.4	0.785E+00	3.05	26.53	.24953E+04
384.38	-0.00	0.00	127.4	0.785E+00	3.05	26.54	.24997E+04
385.04	-0.00	0.00	127.5	0.784E+00	3.05	26.54	.25040E+04
385.71	-0.00	0.00	127.5	0.784E+00	3.05	26.55	.25083E+04
386.37	-0.00	0.00	127.5	0.784E+00	3.05	26.56	.25127E+04
387.03	-0.00	0.00	127.6	0.784E+00	3.05	26.56	.25170E+04
387.70	-0.00	0.00	127.6	0.784E+00	3.05	26.57	.25213E+04
388.36	-0.00	0.00	127.6	0.783E+00	3.05	26.58	.25257E+04
389.02	-0.00	0.00	127.7	0.783E+00	3.05	26.58	.25300E+04
389.69	-0.00	0.00	127.7	0.783E+00	3.05	26.59	.25343E+04
390.35	-0.00	0.00	127.7	0.783E+00	3.05	26.60	.25386E+04
391.01	-0.00	0.00	127.8	0.783E+00	3.05	26.61	.25430E+04
391.68	-0.00	0.00	127.8	0.782E+00	3.05	26.61	.25473E+04
392.34	-0.00	0.00	127.8	0.782E+00	3.05	26.62	.25516E+04
393.00	-0.00	0.00	127.9	0.782E+00	3.05	26.63	.25560E+04
393.67	-0.00	0.00	127.9	0.782E+00	3.05	26.63	.25603E+04
394.33	-0.00	0.00	127.9	0.782E+00	3.05	26.64	.25646E+04
394.99	-0.00	0.00	128.0	0.781E+00	3.05	26.65	.25690E+04
395.65	-0.00	0.00	128.0	0.781E+00	3.05	26.65	.25733E+04
396.32	-0.00	0.00	128.0	0.781E+00	3.05	26.66	.25776E+04
396.98	-0.00	0.00	128.1	0.781E+00	3.05	26.67	.25819E+04
397.64	-0.00	0.00	128.1	0.781E+00	3.05	26.67	.25863E+04
398.31	-0.00	0.00	128.1	0.780E+00	3.05	26.68	.25906E+04
398.97	-0.00	0.00	128.2	0.780E+00	3.05	26.69	.25949E+04
399.63	-0.00	0.00	128.2	0.780E+00	3.05	26.69	.25993E+04
400.30	-0.00	0.00	128.2	0.780E+00	3.05	26.70	.26036E+04
400.96	-0.00	0.00	128.3	0.780E+00	3.05	26.71	.26079E+04
401.62	-0.00	0.00	128.3	0.779E+00	3.05	26.72	.26123E+04
402.29	-0.00	0.00	128.3	0.779E+00	3.05	26.72	.26166E+04
402.95	-0.00	0.00	128.4	0.779E+00	3.05	26.73	.26209E+04
403.61	-0.00	0.00	128.4	0.779E+00	3.05	26.74	.26252E+04
404.28	-0.00	0.00	128.4	0.779E+00	3.05	26.74	.26296E+04
404.94	-0.00	0.00	128.5	0.778E+00	3.05	26.75	.26339E+04
405.60	-0.00	0.00	128.5	0.778E+00	3.05	26.76	.26382E+04
406.27	-0.00	0.00	128.5	0.778E+00	3.05	26.76	.26426E+04
406.93	-0.00	0.00	128.6	0.778E+00	3.05	26.77	.26469E+04
407.59	-0.00	0.00	128.6	0.778E+00	3.05	26.78	.26512E+04
408.26	-0.00	0.00	128.6	0.777E+00	3.05	26.78	.26556E+04
408.92	-0.00	0.00	128.7	0.777E+00	3.05	26.79	.26599E+04
409.58	-0.00	0.00	128.7	0.777E+00	3.05	26.80	.26642E+04
410.25	-0.00	0.00	128.7	0.777E+00	3.05	26.80	.26685E+04
410.91	-0.00	0.00	128.8	0.777E+00	3.05	26.81	.26729E+04
411.57	-0.00	0.00	128.8	0.776E+00	3.05	26.82	.26772E+04
412.24	-0.00	0.00	128.8	0.776E+00	3.05	26.83	.26815E+04
412.90	-0.00	0.00	128.9	0.776E+00	3.05	26.83	.26859E+04
413.56	-0.00	0.00	128.9	0.776E+00	3.05	26.84	.26902E+04

414.22	-0.00	0.00	128.9	0.776E+00	3.05	26.85	.26945E+04
414.89	-0.00	0.00	129.0	0.775E+00	3.05	26.85	.26989E+04
415.55	-0.00	0.00	129.0	0.775E+00	3.05	26.86	.27032E+04
416.21	-0.00	0.00	129.0	0.775E+00	3.05	26.87	.27075E+04
416.88	-0.00	0.00	129.1	0.775E+00	3.05	26.87	.27119E+04
417.54	-0.00	0.00	129.1	0.775E+00	3.05	26.88	.27162E+04
418.20	-0.00	0.00	129.1	0.774E+00	3.05	26.89	.27205E+04
418.87	-0.00	0.00	129.2	0.774E+00	3.05	26.89	.27248E+04
419.53	-0.00	0.00	129.2	0.774E+00	3.05	26.90	.27292E+04
420.19	-0.00	0.00	129.2	0.774E+00	3.05	26.91	.27335E+04
420.86	-0.00	0.00	129.3	0.774E+00	3.05	26.91	.27378E+04
421.52	-0.00	0.00	129.3	0.773E+00	3.05	26.92	.27422E+04
422.18	-0.00	0.00	129.3	0.773E+00	3.05	26.93	.27465E+04
422.85	-0.00	0.00	129.4	0.773E+00	3.05	26.94	.27508E+04
423.51	-0.00	0.00	129.4	0.773E+00	3.05	26.94	.27552E+04
424.17	-0.00	0.00	129.4	0.773E+00	3.05	26.95	.27595E+04
424.84	-0.00	0.00	129.5	0.772E+00	3.05	26.96	.27638E+04
425.50	-0.00	0.00	129.5	0.772E+00	3.05	26.96	.27681E+04
426.16	-0.00	0.00	129.5	0.772E+00	3.05	26.97	.27725E+04
426.83	-0.00	0.00	129.6	0.772E+00	3.05	26.98	.27768E+04
427.49	-0.00	0.00	129.6	0.772E+00	3.05	26.98	.27811E+04
428.15	-0.00	0.00	129.6	0.771E+00	3.05	26.99	.27855E+04
428.82	-0.00	0.00	129.7	0.771E+00	3.05	27.00	.27898E+04
429.48	-0.00	0.00	129.7	0.771E+00	3.05	27.00	.27941E+04
430.14	-0.00	0.00	129.7	0.771E+00	3.05	27.01	.27985E+04
430.80	-0.00	0.00	129.8	0.771E+00	3.05	27.02	.28028E+04
431.47	-0.00	0.00	129.8	0.770E+00	3.05	27.02	.28071E+04
432.13	-0.00	0.00	129.8	0.770E+00	3.05	27.03	.28114E+04
432.79	-0.00	0.00	129.9	0.770E+00	3.05	27.04	.28158E+04
433.46	-0.00	0.00	129.9	0.770E+00	3.05	27.04	.28201E+04
434.12	-0.00	0.00	129.9	0.770E+00	3.05	27.05	.28244E+04
434.78	-0.00	0.00	130.0	0.769E+00	3.05	27.06	.28288E+04
435.45	-0.00	0.00	130.0	0.769E+00	3.05	27.06	.28331E+04
436.11	-0.00	0.00	130.0	0.769E+00	3.05	27.07	.28374E+04
436.77	-0.00	0.00	130.1	0.769E+00	3.05	27.08	.28418E+04
437.44	-0.00	0.00	130.1	0.769E+00	3.05	27.09	.28461E+04
438.10	-0.00	0.00	130.1	0.769E+00	3.05	27.09	.28504E+04
438.76	-0.00	0.00	130.2	0.768E+00	3.05	27.10	.28547E+04
439.43	-0.00	0.00	130.2	0.768E+00	3.05	27.11	.28591E+04
440.09	-0.00	0.00	130.2	0.768E+00	3.05	27.11	.28634E+04
440.75	-0.00	0.00	130.2	0.768E+00	3.05	27.12	.28677E+04
441.42	-0.00	0.00	130.3	0.768E+00	3.05	27.13	.28721E+04
442.08	-0.00	0.00	130.3	0.767E+00	3.05	27.13	.28764E+04
442.74	-0.00	0.00	130.3	0.767E+00	3.05	27.14	.28807E+04
443.41	-0.00	0.00	130.4	0.767E+00	3.05	27.15	.28851E+04
444.07	-0.00	0.00	130.4	0.767E+00	3.05	27.15	.28894E+04
444.73	-0.00	0.00	130.4	0.767E+00	3.05	27.16	.28937E+04
445.40	-0.00	0.00	130.5	0.766E+00	3.05	27.17	.28980E+04
446.06	-0.00	0.00	130.5	0.766E+00	3.05	27.17	.29024E+04
446.72	-0.00	0.00	130.5	0.766E+00	3.05	27.18	.29067E+04
447.39	-0.00	0.00	130.6	0.766E+00	3.05	27.19	.29110E+04
448.05	-0.00	0.00	130.6	0.766E+00	3.05	27.19	.29154E+04
448.71	-0.00	0.00	130.6	0.765E+00	3.05	27.20	.29197E+04
449.37	-0.00	0.00	130.7	0.765E+00	3.05	27.21	.29240E+04
450.04	-0.00	0.00	130.7	0.765E+00	3.05	27.21	.29284E+04
450.70	-0.00	0.00	130.7	0.765E+00	3.05	27.22	.29327E+04
451.36	-0.00	0.00	130.8	0.765E+00	3.05	27.23	.29370E+04
452.03	-0.00	0.00	130.8	0.765E+00	3.05	27.23	.29413E+04

452.69	-0.00	0.00	130.8	0.764E+00	3.05	27.24	.29457E+04
453.35	-0.00	0.00	130.9	0.764E+00	3.05	27.25	.29500E+04
454.02	-0.00	0.00	130.9	0.764E+00	3.05	27.25	.29543E+04
454.68	-0.00	0.00	130.9	0.764E+00	3.05	27.26	.29587E+04
455.34	-0.00	0.00	131.0	0.764E+00	3.05	27.27	.29630E+04
456.01	-0.00	0.00	131.0	0.763E+00	3.05	27.27	.29673E+04
456.67	-0.00	0.00	131.0	0.763E+00	3.05	27.28	.29717E+04
457.33	-0.00	0.00	131.1	0.763E+00	3.05	27.29	.29760E+04
458.00	-0.00	0.00	131.1	0.763E+00	3.05	27.30	.29803E+04
458.66	-0.00	0.00	131.1	0.763E+00	3.05	27.30	.29846E+04
459.32	-0.00	0.00	131.2	0.762E+00	3.05	27.31	.29890E+04
459.99	-0.00	0.00	131.2	0.762E+00	3.05	27.32	.29933E+04
460.65	-0.00	0.00	131.2	0.762E+00	3.05	27.32	.29976E+04
461.31	-0.00	0.00	131.3	0.762E+00	3.05	27.33	.30020E+04
461.98	-0.00	0.00	131.3	0.762E+00	3.05	27.34	.30063E+04
462.64	-0.00	0.00	131.3	0.761E+00	3.05	27.34	.30106E+04
463.30	-0.00	0.00	131.4	0.761E+00	3.05	27.35	.30150E+04
463.97	-0.00	0.00	131.4	0.761E+00	3.05	27.36	.30193E+04
464.63	-0.00	0.00	131.4	0.761E+00	3.05	27.36	.30236E+04
465.29	-0.00	0.00	131.4	0.761E+00	3.05	27.37	.30279E+04
465.95	-0.00	0.00	131.5	0.761E+00	3.05	27.38	.30323E+04
466.62	-0.00	0.00	131.5	0.760E+00	3.05	27.38	.30366E+04
467.28	-0.00	0.00	131.5	0.760E+00	3.05	27.39	.30409E+04
467.94	-0.00	0.00	131.6	0.760E+00	3.05	27.40	.30453E+04
468.61	-0.00	0.00	131.6	0.760E+00	3.05	27.40	.30496E+04
469.27	-0.00	0.00	131.6	0.760E+00	3.05	27.41	.30539E+04
469.93	-0.00	0.00	131.7	0.759E+00	3.05	27.42	.30583E+04
470.60	-0.00	0.00	131.7	0.759E+00	3.05	27.42	.30626E+04
471.26	-0.00	0.00	131.7	0.759E+00	3.05	27.43	.30669E+04
471.92	-0.00	0.00	131.8	0.759E+00	3.05	27.44	.30712E+04
472.59	-0.00	0.00	131.8	0.759E+00	3.05	27.44	.30756E+04
473.25	-0.00	0.00	131.8	0.759E+00	3.05	27.45	.30799E+04
473.91	-0.00	0.00	131.9	0.758E+00	3.05	27.46	.30842E+04
474.58	-0.00	0.00	131.9	0.758E+00	3.05	27.46	.30886E+04
475.24	-0.00	0.00	131.9	0.758E+00	3.05	27.47	.30929E+04
475.90	-0.00	0.00	132.0	0.758E+00	3.05	27.48	.30972E+04
476.57	-0.00	0.00	132.0	0.758E+00	3.05	27.48	.31016E+04
477.23	-0.00	0.00	132.0	0.757E+00	3.05	27.49	.31059E+04
477.89	-0.00	0.00	132.1	0.757E+00	3.05	27.50	.31102E+04
478.56	-0.00	0.00	132.1	0.757E+00	3.05	27.50	.31146E+04
479.22	-0.00	0.00	132.1	0.757E+00	3.05	27.51	.31189E+04
479.88	-0.00	0.00	132.2	0.757E+00	3.05	27.52	.31232E+04
480.55	-0.00	0.00	132.2	0.756E+00	3.05	27.52	.31275E+04
481.21	-0.00	0.00	132.2	0.756E+00	3.05	27.53	.31319E+04
481.87	-0.00	0.00	132.3	0.756E+00	3.05	27.54	.31362E+04
482.54	-0.00	0.00	132.3	0.756E+00	3.05	27.54	.31405E+04
483.20	-0.00	0.00	132.3	0.756E+00	3.05	27.55	.31449E+04
483.86	-0.00	0.00	132.4	0.756E+00	3.05	27.56	.31492E+04
484.52	-0.00	0.00	132.4	0.755E+00	3.05	27.56	.31535E+04
485.19	-0.00	0.00	132.4	0.755E+00	3.05	27.57	.31579E+04
485.85	-0.00	0.00	132.4	0.755E+00	3.05	27.58	.31622E+04
486.51	-0.00	0.00	132.5	0.755E+00	3.05	27.58	.31665E+04
487.18	-0.00	0.00	132.5	0.755E+00	3.05	27.59	.31708E+04
487.84	-0.00	0.00	132.5	0.754E+00	3.05	27.60	.31752E+04
488.50	-0.00	0.00	132.6	0.754E+00	3.05	27.60	.31795E+04
489.17	-0.00	0.00	132.6	0.754E+00	3.05	27.61	.31838E+04
489.83	-0.00	0.00	132.6	0.754E+00	3.05	27.62	.31882E+04
490.49	-0.00	0.00	132.7	0.754E+00	3.05	27.62	.31925E+04

491.16	-0.00	0.00	132.7	0.754E+00	3.05	27.63	.31968E+04
491.82	-0.00	0.00	132.7	0.753E+00	3.05	27.64	.32012E+04
492.48	-0.00	0.00	132.8	0.753E+00	3.05	27.64	.32055E+04
493.15	-0.00	0.00	132.8	0.753E+00	3.05	27.65	.32098E+04
493.81	-0.00	0.00	132.8	0.753E+00	3.05	27.66	.32141E+04
494.47	-0.00	0.00	132.9	0.753E+00	3.05	27.66	.32185E+04
495.14	-0.00	0.00	132.9	0.752E+00	3.05	27.67	.32228E+04
495.80	-0.00	0.00	132.9	0.752E+00	3.05	27.68	.32271E+04
496.46	-0.00	0.00	133.0	0.752E+00	3.05	27.68	.32315E+04
497.13	-0.00	0.00	133.0	0.752E+00	3.05	27.69	.32358E+04
497.79	-0.00	0.00	133.0	0.752E+00	3.05	27.70	.32401E+04
498.45	-0.00	0.00	133.1	0.752E+00	3.05	27.70	.32445E+04
499.12	-0.00	0.00	133.1	0.751E+00	3.05	27.71	.32488E+04
499.78	-0.00	0.00	133.1	0.751E+00	3.05	27.72	.32531E+04
500.44	-0.00	0.00	133.2	0.751E+00	3.05	27.72	.32574E+04
501.10	-0.00	0.00	133.2	0.751E+00	3.05	27.73	.32618E+04
501.77	-0.00	0.00	133.2	0.751E+00	3.05	27.74	.32661E+04
502.43	-0.00	0.00	133.2	0.750E+00	3.05	27.74	.32704E+04
503.09	-0.00	0.00	133.3	0.750E+00	3.05	27.75	.32748E+04
503.76	-0.00	0.00	133.3	0.750E+00	3.05	27.76	.32791E+04
504.42	-0.00	0.00	133.3	0.750E+00	3.05	27.76	.32834E+04
505.08	-0.00	0.00	133.4	0.750E+00	3.05	27.77	.32878E+04
505.75	-0.00	0.00	133.4	0.750E+00	3.05	27.78	.32921E+04
506.41	-0.00	0.00	133.4	0.749E+00	3.05	27.78	.32964E+04
507.07	-0.00	0.00	133.5	0.749E+00	3.05	27.79	.33007E+04
507.74	-0.00	0.00	133.5	0.749E+00	3.05	27.80	.33051E+04
508.40	-0.00	0.00	133.5	0.749E+00	3.05	27.80	.33094E+04
509.06	-0.00	0.00	133.6	0.749E+00	3.05	27.81	.33137E+04
509.73	-0.00	0.00	133.6	0.749E+00	3.05	27.82	.33181E+04
510.39	-0.00	0.00	133.6	0.748E+00	3.05	27.82	.33224E+04
511.05	-0.00	0.00	133.7	0.748E+00	3.05	27.83	.33267E+04
511.72	-0.00	0.00	133.7	0.748E+00	3.05	27.84	.33311E+04
512.38	-0.00	0.00	133.7	0.748E+00	3.05	27.84	.33354E+04
513.04	-0.00	0.00	133.8	0.748E+00	3.05	27.85	.33397E+04
513.71	-0.00	0.00	133.8	0.747E+00	3.05	27.86	.33440E+04
514.37	-0.00	0.00	133.8	0.747E+00	3.05	27.86	.33484E+04
515.03	-0.00	0.00	133.9	0.747E+00	3.05	27.87	.33527E+04
515.70	-0.00	0.00	133.9	0.747E+00	3.05	27.88	.33570E+04
516.36	-0.00	0.00	133.9	0.747E+00	3.05	27.88	.33614E+04
517.02	-0.00	0.00	133.9	0.747E+00	3.05	27.89	.33657E+04
517.69	-0.00	0.00	134.0	0.746E+00	3.05	27.90	.33700E+04
518.35	-0.00	0.00	134.0	0.746E+00	3.05	27.90	.33744E+04
519.01	-0.00	0.00	134.0	0.746E+00	3.05	27.91	.33787E+04
519.67	-0.00	0.00	134.1	0.746E+00	3.05	27.92	.33830E+04
520.34	-0.00	0.00	134.1	0.746E+00	3.05	27.92	.33873E+04
521.00	-0.00	0.00	134.1	0.746E+00	3.05	27.93	.33917E+04
521.66	-0.00	0.00	134.2	0.745E+00	3.05	27.94	.33960E+04
522.33	-0.00	0.00	134.2	0.745E+00	3.05	27.94	.34003E+04
522.99	-0.00	0.00	134.2	0.745E+00	3.05	27.95	.34047E+04
523.65	-0.00	0.00	134.3	0.745E+00	3.05	27.95	.34090E+04
524.32	-0.00	0.00	134.3	0.745E+00	3.05	27.96	.34133E+04
524.98	-0.00	0.00	134.3	0.744E+00	3.05	27.97	.34177E+04
525.64	-0.00	0.00	134.4	0.744E+00	3.05	27.97	.34220E+04
526.31	-0.00	0.00	134.4	0.744E+00	3.05	27.98	.34263E+04
526.97	-0.00	0.00	134.4	0.744E+00	3.05	27.99	.34306E+04
527.63	-0.00	0.00	134.5	0.744E+00	3.05	27.99	.34350E+04
528.30	-0.00	0.00	134.5	0.744E+00	3.05	28.00	.34393E+04
528.96	-0.00	0.00	134.5	0.743E+00	3.05	28.01	.34436E+04

529.62	-0.00	0.00	134.5	0.743E+00	3.05	28.01	.34480E+04
530.29	-0.00	0.00	134.6	0.743E+00	3.05	28.02	.34523E+04
530.95	-0.00	0.00	134.6	0.743E+00	3.05	28.03	.34566E+04
531.61	-0.00	0.00	134.6	0.743E+00	3.05	28.03	.34610E+04
532.28	-0.00	0.00	134.7	0.743E+00	3.05	28.04	.34653E+04
532.94	-0.00	0.00	134.7	0.742E+00	3.05	28.05	.34696E+04
533.60	-0.00	0.00	134.7	0.742E+00	3.05	28.05	.34739E+04
534.27	-0.00	0.00	134.8	0.742E+00	3.05	28.06	.34783E+04
534.93	-0.00	0.00	134.8	0.742E+00	3.05	28.07	.34826E+04
535.59	-0.00	0.00	134.8	0.742E+00	3.05	28.07	.34869E+04
536.26	-0.00	0.00	134.9	0.741E+00	3.05	28.08	.34913E+04
536.92	-0.00	0.00	134.9	0.741E+00	3.05	28.09	.34956E+04
537.58	-0.00	0.00	134.9	0.741E+00	3.05	28.09	.34999E+04
538.24	-0.00	0.00	135.0	0.741E+00	3.05	28.10	.35043E+04
538.91	-0.00	0.00	135.0	0.741E+00	3.05	28.11	.35086E+04
539.57	-0.00	0.00	135.0	0.741E+00	3.05	28.11	.35129E+04
540.23	-0.00	0.00	135.1	0.740E+00	3.05	28.12	.35173E+04
540.90	-0.00	0.00	135.1	0.740E+00	3.05	28.13	.35216E+04
541.56	-0.00	0.00	135.1	0.740E+00	3.05	28.13	.35259E+04
542.22	-0.00	0.00	135.1	0.740E+00	3.05	28.14	.35302E+04
542.89	-0.00	0.00	135.2	0.740E+00	3.05	28.15	.35346E+04
543.55	-0.00	0.00	135.2	0.740E+00	3.05	28.15	.35389E+04
544.21	-0.00	0.00	135.2	0.739E+00	3.05	28.16	.35432E+04
544.88	-0.00	0.00	135.3	0.739E+00	3.05	28.16	.35476E+04
545.54	-0.00	0.00	135.3	0.739E+00	3.05	28.17	.35519E+04
546.20	-0.00	0.00	135.3	0.739E+00	3.05	28.18	.35562E+04
546.87	-0.00	0.00	135.4	0.739E+00	3.05	28.18	.35606E+04
547.53	-0.00	0.00	135.4	0.739E+00	3.05	28.19	.35649E+04
548.19	-0.00	0.00	135.4	0.738E+00	3.05	28.20	.35692E+04
548.86	-0.00	0.00	135.5	0.738E+00	3.05	28.20	.35735E+04
549.52	-0.00	0.00	135.5	0.738E+00	3.05	28.21	.35779E+04
550.18	-0.00	0.00	135.5	0.738E+00	3.05	28.22	.35822E+04
550.85	-0.00	0.00	135.6	0.738E+00	3.05	28.22	.35865E+04
551.51	-0.00	0.00	135.6	0.738E+00	3.05	28.23	.35909E+04
552.17	-0.00	0.00	135.6	0.737E+00	3.05	28.24	.35952E+04
552.84	-0.00	0.00	135.6	0.737E+00	3.05	28.24	.35995E+04
553.50	-0.00	0.00	135.7	0.737E+00	3.05	28.25	.36039E+04
554.16	-0.00	0.00	135.7	0.737E+00	3.05	28.26	.36082E+04
554.82	-0.00	0.00	135.7	0.737E+00	3.05	28.26	.36125E+04
555.49	-0.00	0.00	135.8	0.737E+00	3.05	28.27	.36168E+04
556.15	-0.00	0.00	135.8	0.736E+00	3.05	28.28	.36212E+04
556.81	-0.00	0.00	135.8	0.736E+00	3.05	28.28	.36255E+04
557.48	-0.00	0.00	135.9	0.736E+00	3.05	28.29	.36298E+04
558.14	-0.00	0.00	135.9	0.736E+00	3.05	28.30	.36342E+04
558.80	-0.00	0.00	135.9	0.736E+00	3.05	28.30	.36385E+04
559.47	-0.00	0.00	136.0	0.736E+00	3.05	28.31	.36428E+04
560.13	-0.00	0.00	136.0	0.735E+00	3.05	28.31	.36472E+04
560.79	-0.00	0.00	136.0	0.735E+00	3.05	28.32	.36515E+04
561.46	-0.00	0.00	136.1	0.735E+00	3.05	28.33	.36558E+04
562.12	-0.00	0.00	136.1	0.735E+00	3.05	28.33	.36601E+04
562.78	-0.00	0.00	136.1	0.735E+00	3.05	28.34	.36645E+04
563.45	-0.00	0.00	136.1	0.734E+00	3.05	28.35	.36688E+04
564.11	-0.00	0.00	136.2	0.734E+00	3.05	28.35	.36731E+04
564.77	-0.00	0.00	136.2	0.734E+00	3.05	28.36	.36775E+04
565.44	-0.00	0.00	136.2	0.734E+00	3.05	28.37	.36818E+04
566.10	-0.00	0.00	136.3	0.734E+00	3.05	28.37	.36861E+04
566.76	-0.00	0.00	136.3	0.734E+00	3.05	28.38	.36905E+04
567.43	-0.00	0.00	136.3	0.733E+00	3.05	28.39	.36948E+04

568.09	-0.00	0.00	136.4	0.733E+00	3.05	28.39	.36991E+04
568.75	-0.00	0.00	136.4	0.733E+00	3.05	28.40	.37034E+04
569.42	-0.00	0.00	136.4	0.733E+00	3.05	28.41	.37078E+04
570.08	-0.00	0.00	136.5	0.733E+00	3.05	28.41	.37121E+04
570.74	-0.00	0.00	136.5	0.733E+00	3.05	28.42	.37164E+04
571.41	-0.00	0.00	136.5	0.732E+00	3.05	28.43	.37208E+04
572.07	-0.00	0.00	136.6	0.732E+00	3.05	28.43	.37251E+04
572.73	-0.00	0.00	136.6	0.732E+00	3.05	28.44	.37294E+04
573.39	-0.00	0.00	136.6	0.732E+00	3.05	28.44	.37338E+04
574.06	-0.00	0.00	136.6	0.732E+00	3.05	28.45	.37381E+04
574.72	-0.00	0.00	136.7	0.732E+00	3.05	28.46	.37424E+04
575.38	-0.00	0.00	136.7	0.731E+00	3.05	28.46	.37467E+04
576.05	-0.00	0.00	136.7	0.731E+00	3.05	28.47	.37511E+04
576.71	-0.00	0.00	136.8	0.731E+00	3.05	28.48	.37554E+04
577.37	-0.00	0.00	136.8	0.731E+00	3.05	28.48	.37597E+04
578.04	-0.00	0.00	136.8	0.731E+00	3.05	28.49	.37641E+04
578.70	-0.00	0.00	136.9	0.731E+00	3.05	28.50	.37684E+04
579.36	-0.00	0.00	136.9	0.730E+00	3.05	28.50	.37727E+04
580.03	-0.00	0.00	136.9	0.730E+00	3.05	28.51	.37771E+04
580.69	-0.00	0.00	137.0	0.730E+00	3.05	28.52	.37814E+04
581.35	-0.00	0.00	137.0	0.730E+00	3.05	28.52	.37857E+04
582.02	-0.00	0.00	137.0	0.730E+00	3.05	28.53	.37900E+04
582.68	-0.00	0.00	137.0	0.730E+00	3.05	28.54	.37944E+04
583.34	-0.00	0.00	137.1	0.729E+00	3.05	28.54	.37987E+04
584.01	-0.00	0.00	137.1	0.729E+00	3.05	28.55	.38030E+04
584.67	-0.00	0.00	137.1	0.729E+00	3.05	28.55	.38074E+04
585.33	-0.00	0.00	137.2	0.729E+00	3.05	28.56	.38117E+04
586.00	-0.00	0.00	137.2	0.729E+00	3.05	28.57	.38160E+04

Cumulative travel time = 3816.0566 sec (1.06 hrs)

Simulation limit based on maximum specified distance = 586.00 m.
This is the REGION OF INTEREST limitation.

END OF MOD361: PASSIVE AMBIENT MIXING IN UNIFORM AMBIENT

CORMIX3: Buoyant Surface Discharges End of Prediction File

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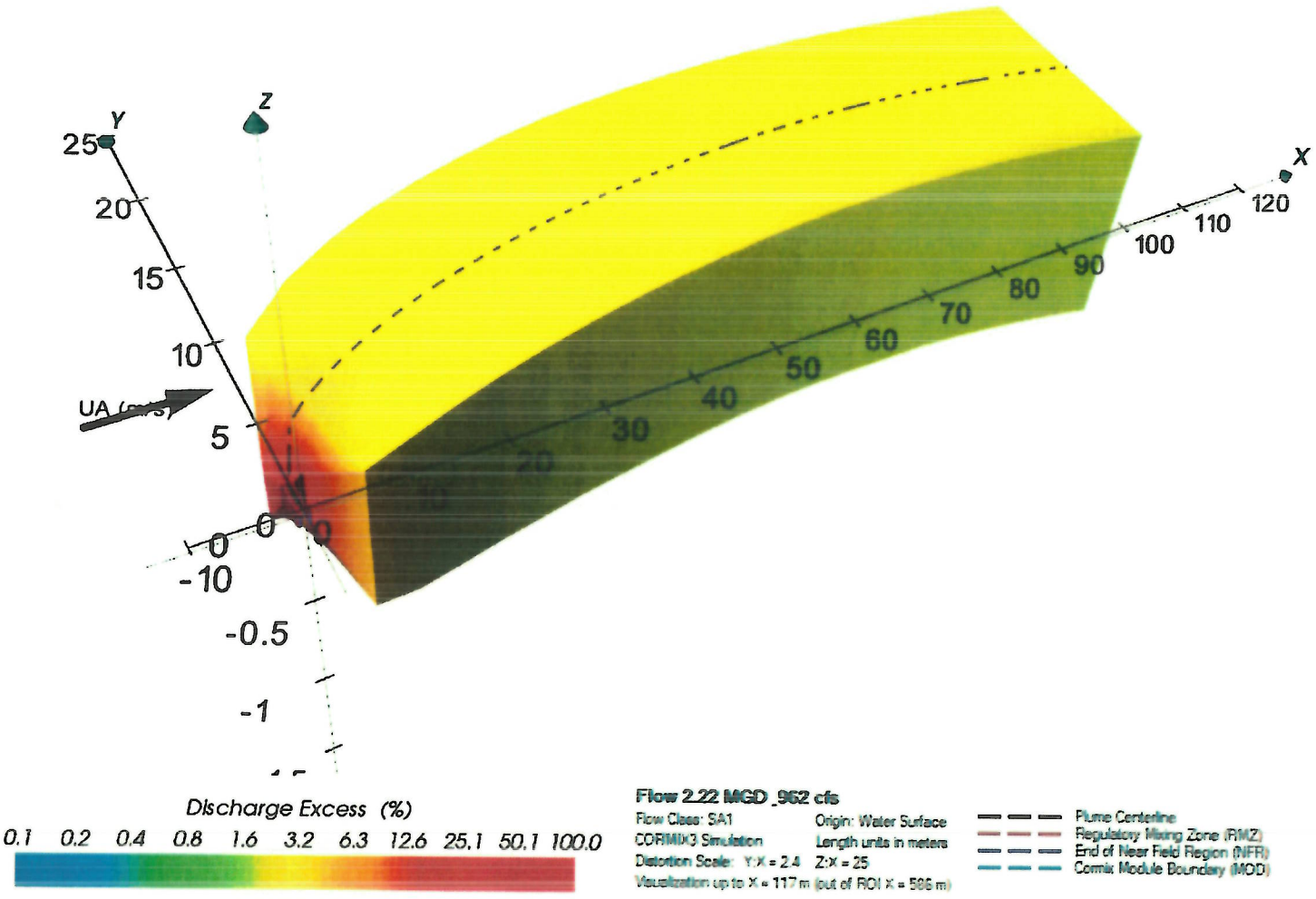
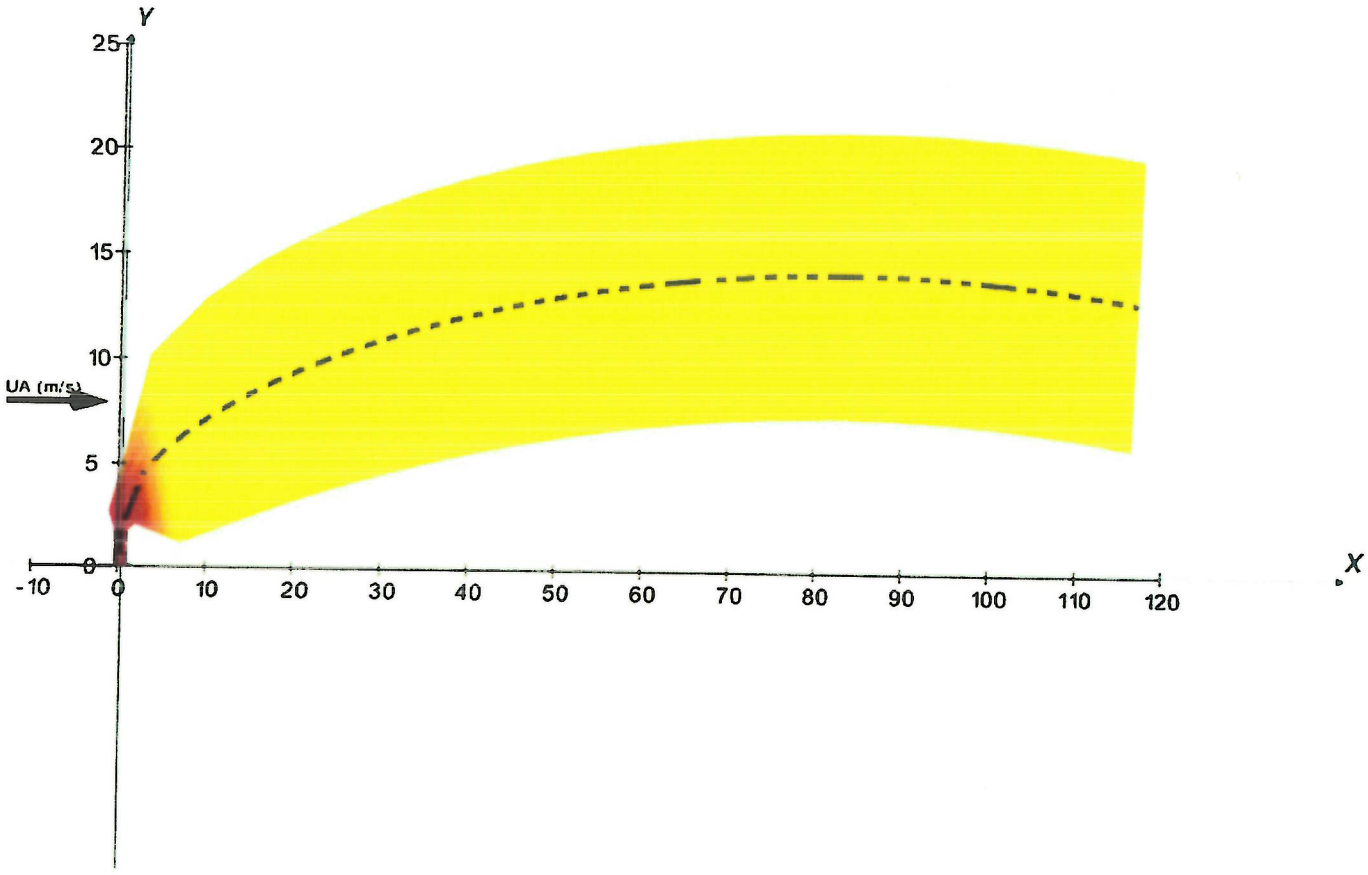

Y
Z
X
25
20
15
10
5
0
-10
-0.5
-1
120
110
100
90
80
70
60
50
40
30
20
10
0
UA (m/s)
Discharge Excess (%)
0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.6 25.1 50.1 100.0
Flow 2.22 MGD _962 cfs
Flow Class: SA1
Origin: Water Surface
CORMIX3 Simulation
Length units in meters
Distortion Scale: Y:X = 2.4
Z:X = 25
Visualization up to X = 117 m (out of ROI X = 566 m)
Plume Centerline
Regulatory Mixing Zone (RMZ)
End of Near Field Region (NFR)
Cormix Module Boundary (MOD)



Discharge Excess (%)

0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.6 25.1 50.1 100.0

Flow 2.22 MGD_962 cfs

Flow Class: SA1 | Origin: Water Surface

CORMIX3 Simulation | Length units in meters

Distortion Scale: Y:X = 2.4 | Z:X = 0.01

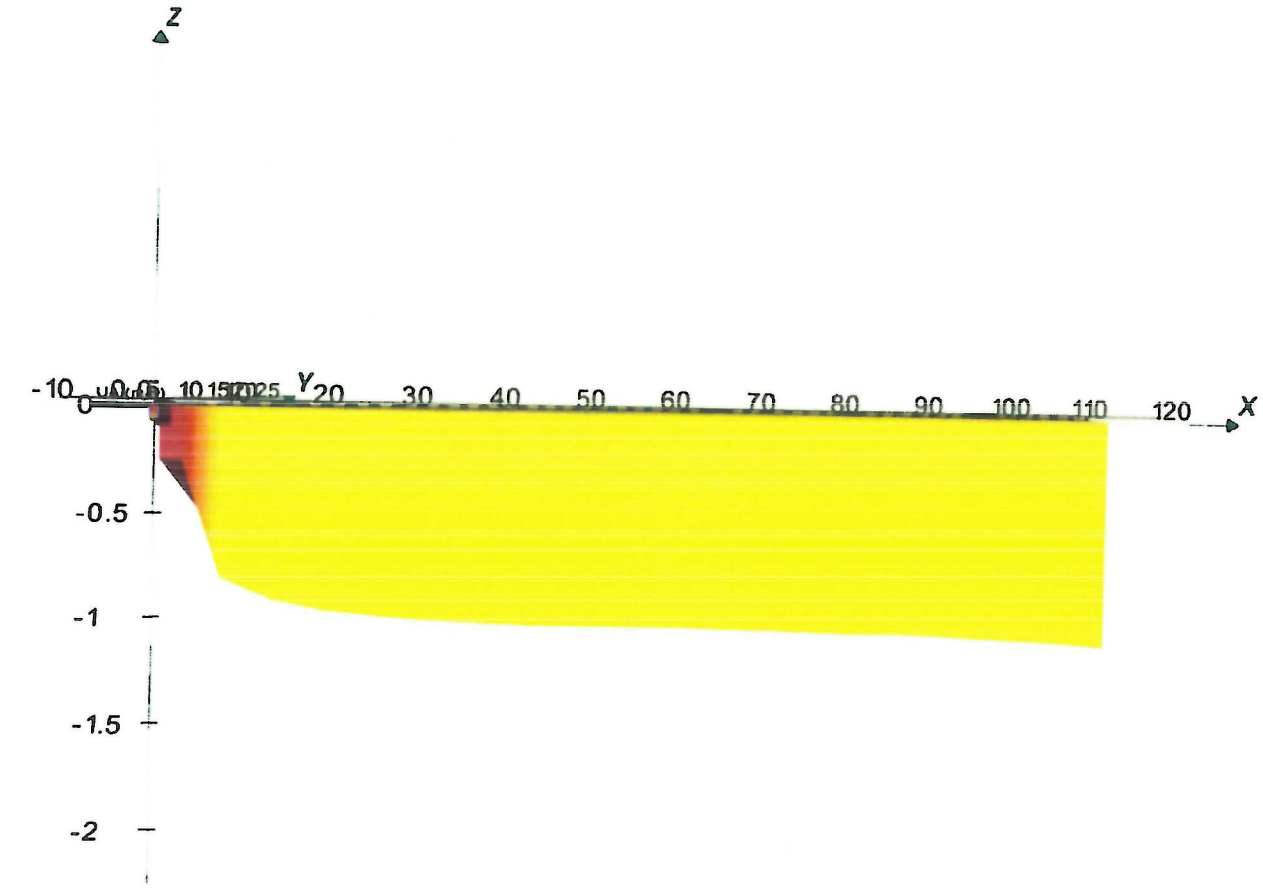
Visualization up to X = 117 m (out of ROI X = 595 m)

Plume Centerline

Regulatory Mixing Zone (RMZ)

End of Near Field Region (NFR)

Cormix Module Boundary (MOD)



Discharge Excess (%)

0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.6 25.1 50.1 100.0

Flow 2.22 MGD 962 cfs

Flow Class: SA1 Origin: Water Surface

CORMIX3 Simulation Length units in meters

Distortion Scale: Y:X = 2.4 Z:X = 25

Visualization up to X = 117 m (out of ROI X = 506 m)

Plume Centerline

Regulatory Mixing Zone (RMZ)

End of Near Field Region (NFR)

Cormix Module Boundary (MOD)