UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION
MARINE CORPS BASE QUANTICO
3250 CATLIN AVENUE
QUANTICO VIRGINIA 22134 5001

IN REPLY REFER TO:
5090
B 046
JUL 5 2018

Ms. Susan Mackert
Department of Environmental Quality
13901 Crown Ct.
Woodbridge, VA 22193

Dear Ms. Mackert:

SUBJECT: QUANTICO MAINSIDE STP PERMIT RENEWAL APPLICATION, VA0028363

The permit application to renew permit coverage for the Quantico Mainside Sewage Treatment Plant, under the Virginia Pollutant Discharge Elimination System (VPDES) Permit, No. VA0028363, is enclosed for your review and approval.

If you have any questions please contact Mr. Jonmark Sullivan at (703) 432-0539.

Sincerely,

J. M. MURRAY
Colonel, U.S. Marine Corps
Commander

Enclosure: 1. Permit No. VA0028363 application package

Quantico Mainside Sewage Treatment Plant

VA0028363

Virginia Pollutant Discharge Elimination System (VPDES) and Sewage Sludge Permit Renewal Application

July 2018

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EPA Form 1
General Information

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	VA0028363		D
1	2 — 13	14	15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)	X (16)	(17)	X (18)
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)	(19)	X (20)	(21)
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	(22)	X (23)	(24)
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	(25)	X (26)	(27)
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	(28)	X (29)	(30)
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	(31)	X (32)	(33)
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	(34)	X (35)	(36)
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	(37)	X (38)	(39)
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	(40)	X (41)	(42)
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)	(43)	X (44)	(45)

III. NAME OF FACILITY

1 SKIP: Quantico Mainside Sewage Treatment Plant (15 | 16 – 29 | 30 — 69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 Jonmark Sullivan (15 | 16 — 45)	(703) 432-0539 (46 — 48 | 49 — 51 | 52 — 55)

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX

3 3049 Bordelon Street (15 | 16 — 45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Quantico (15 | 16 — 40)	VA (41 — 42)	22134 (47 — 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 658 Epperson Avenue (15 | 16 — 45)

B. COUNTY NAME

Prince William (70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 Quantico (15 | 16 — 40)	VA (41 — 42)	22134 (47 — 51)	(52 — 54)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4952 *(specify)*	*(specify)*

C. THIRD	D. FOURTH
(specify)	*(specify)*

VIII. OPERATOR INFORMATION

A. NAME

Paul Redden

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☑ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

F *(specify)*

D. PHONE *(area code & no.)*

(703) 784-0157

E. STREET OR P.O. BOX

Bldg. 658, P.O. Box 1057

F. CITY OR TOWN

Quantico

G. STATE

VA

H. ZIP CODE

22134

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
N VA0028363	P 70267

B. UIC *(Underground Injection of Fluids)*	E. OTHER *(specify)*
U	VAN010043 *(specify)* General Permit for nutrient waste load allocations

C. RCRA *(Hazardous Wastes)*	E. OTHER *(specify)*
R VA1170024722	*(specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

The Mainside Sewage Treatment Plant (MSTP) is a municipal wastewater facility with a design treatment capacity of 2.2 MGD. The MSTP treats wastewater from Marine Corps Base Quantico and the town of Quantico. The wastewater undergoes primary, secondary, and tertiary treatment prior to discharge into an unnamed tributary to Quantico Bight. The sludge generated at the MSTP is dewatered and it is transported to King George County Landfill for disposal.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
J. M. Murray, Colonel, USMC Commander, MCB Quantico	J. M. Murray	7/5/18

COMMENTS FOR OFFICIAL USE ONLY

C

NPDES Form 2A
Application Overview

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: Quantico Mainside Sewage Treatment Plant

Mailing Address: P.O. Box 1057
Quantico, VA 22134

Contact person: Paul Redden

Title: Wastewater Plant Supervisor

Telephone number: (703) 784-0157

Facility Address (not P.O. Box): 658 Epperson Avenue
Quantico, VA 22134

A.2. **Applicant Information.** If the applicant is different from the above, provide the following:

Applicant name: J. M. Murray, Colonel, U.S. Marine Corps, Marine Corps Base Quantico, Commander

Mailing Address: 3049 Bordelon St.
Quantico, VA 22134

Contact person: Jonmark Sullivan.

Title: Water Program Manager

Telephone number: (703) 432-0539

Is the applicant the owner or operator (or both) of the treatment works?

✓ owner ✓ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✓ applicant

A.3. **Existing Environmental Permits.** Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES	VA0028363	PSD	70267
UIC		Other	VAN010043
RCRA	VA1170024722	Other	

A.4. **Collection System Information.** Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
MCB Quantico	15,000	Separate	Federal
Town of Quantico	600	Separate	Municipal
Total population served	15,600		

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✓ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✓ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 2.2 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	0.762	0.743	0.854	mgd
c. Maximum daily flow rate	2.073	1.663	2.435	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✓ Separate sanitary sewer	100 %
_____ Combined storm and sanitary sewer	_____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✓ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	1
ii. Discharges of untreated or partially treated effluent	0
iii. Combined sewer overflow points	0
iv. Constructed emergency overflows (prior to the headworks)	0
v. Other N/A	0

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✓ No

If yes, provide the following for each surface impoundment:

Location: N/A

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✓ No

If yes, provide the following for each land application site:

Location: N/A

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? _____ Yes ✓ No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

N/A

If transport is by a party other than the applicant, provide:

Transporter name: N/A

Mailing Address: N/A

Contact person: N/A

Title:

Telephone number:

For each treatment works that receives this discharge, provide the following:

Name: N/A

Mailing Address: N/A

Contact person: N/A

Title:

Telephone number:

If known, provide the NPDES permit number of the treatment works that receives this discharge.

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes ✓ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

N/A

Annual daily volume disposed of by this method:

Is disposal through this method _____ continuous or _____ intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: Point Source 001

b. Location:
Marine Corps Base Quantico (City or town, if applicable) — 22134 (Zip Code)
Prince William (County) — VA (State)
38 degrees 30' 53.7" N (Latitude) — 77 degrees 17' 55.2" W (Longitude)

c. Distance from shore (if applicable): N/A ft.

d. Depth below surface (if applicable): N/A ft.

e. Average daily flow rate: 1.0 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✓ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes ✓ No

A.10. Description of Receiving Waters.

a. Name of receiving water: Unnamed Tributary to Quantio Bight

b. Name of watershed (if known): Potomac River

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): Potomac River

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): ____

d. Critical low flow of receiving stream (if applicable):
acute ____ cfs chronic ____ cfs

e. Total hardness of receiving stream at critical low flow (if applicable): ____ mg/l of $CaCO_3$

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

✓ Primary ✓ Secondary
✓ Advanced ____ Other. Describe: ____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	96	%
Design SS removal	96	%
Design P removal	96	%
Design N removal	90	%
Other ____	____	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet Disinfection

If disinfection is by chlorination, is dechlorination used for this outfall? ____ Yes ____ No

d. Does the treatment plant have post aeration? ✓ Yes ____ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: Outfall 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.6	s.u.			
pH (Maximum)	8.1	s.u.			
Flow Rate	2.435	MGD	0.786	MGD	Continuous
Temperature (Winter)	63.0	Degrees - F	54.8	Degrees - F	331
Temperature (Summer)	82.4	Degrees - F	78.1	Degrees - F	122

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5							
	CBOD-5	23	mg/l	0.37	mg/l	1155	SM5210B	0.1 mg/l
FECAL COLIFORM		649	col/100 ml	1.07	col/100 ml	1153	Enterolet	1 col/100 ml
TOTAL SUSPENDED SOLIDS (TSS)		17.4	mg/l	0.75	mg/l	1055	SM2540D	0.1 mg/l

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

114831 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

High flows generally seen during large storm events. I&I will be addressed during future utility upgrades.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram. SEE ATTACHMENT 2

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ✓ Yes ___ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: EML/LLC

Mailing Address: National Museum of the Marine Corps
18900 Jefferson Davis Hwy Triangle, VA. 22172

Telephone Number: 703-856-9067

Responsibilities of Contractor: SEE ATTACHMENT 3

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.) SEE ATTACHMENT 4

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

001

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

___ Yes ✓ No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

_____

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

	Schedule	Actual Completion
Implementation Stage	MM / DD / YYYY	MM / DD / YYYY
– Begin construction	___/___/_____	___/___/_____
– End construction	___/___/_____	___/___/_____
– Begin discharge	___/___/_____	___/___/_____
– Attain operational level	___/___/_____	___/___/_____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes ____No

Describe briefly: _____

_____

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	4.00	mg/l	0.06	mg/l	645	SM4500 NH3 F	0.1 mg/l
CHLORINE (TOTAL RESIDUAL, TRC)	0.10	mg/l	0.02	mg/l	698	SM4500 CL	0.1 mg/l
DISSOLVED OXYGEN	14.9	mg/l	9.7	mg/l	698	SM4500-0 G	0.1 mg/l
TOTAL KJELDAHL NITROGEN (TKN)	20.0	mg/l	1.39	mg/l	1157	EPA 351.2	0.1 mg/l
NITRATE PLUS NITRITE NITROGEN	23.70	mg/l	1.07	mg/l	1157	EPA 353.2	0.1 mg/l
OIL and GREASE	<5	mh/l	<5	mg/l	3	EPA 1664	5 mg/l
PHOSPHORUS (Total)	0.60	mg/l	0.05	mg/l	1157	EPA 365.1	0.1 mg/l
TOTAL DISSOLVED SOLIDS (TDS)	447	mg/l	407	mg/l	3	SM2540 C	10 mg/l
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✓ Basic Application Information packet

Supplemental Application Information packet:

✓ Part D (Expanded Effluent Testing Data)

✓ Part E (Toxicity Testing: Biomonitoring Data)

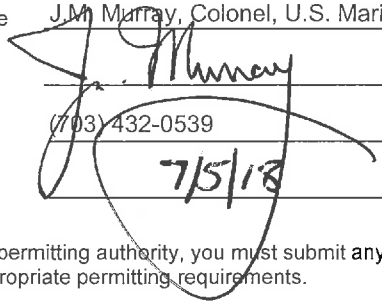
✓ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

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 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 and official title: J.M. Murray, Colonel, U.S. Marine Corps, Commander, Marine Corps Base Quantico

Signature: 

Telephone number: (703) 432-0539

Date signed: 7/5/18

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	ND	mg/l			ND	mg/l			3	EPA 200.7	0.02
ARSENIC	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
BERYLLIUM	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
ADMIUM	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
CHROMIUM	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
COPPER	0.007	mg/l			0.007	mg/l			3	EPA 200.7	0.005
LEAD	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
MERCURY	ND	mg/l			ND	mg/l			3	EPA 245.1	0.0001
NICKEL	ND	mg/l			ND	mg/l			3	EPA 200.7	0.005
SELENIUM	0.009	mg/l			0.008	mg/l			3	EPA 200.7	0.005
SILVER	ND	mg/l			ND	mg/l			3	EPA 200.7	0.05
THALLIUM	0.043	mg/l			0.043	mg/l			3	EPA 200.7	0.005
ZINC	0.013	mg/l			0.011	mg/l			3	EPA 200.7	0.005
CYANIDE	ND	mg/l			ND	mg/l			3	EPA 335.4	0.005
TOTAL PHENOLIC COMPOUNDS	ND	mg/l			ND	mg/l			3	EPA 420.4	0.025
HARDNESS (AS $CaCO_3$)	34	mg/l			34	mg/l			3	SM2340C	2
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:
Quantico Mainside STP VA0028363

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	ND	ug/l			ND	ug/l			3	EPA 624	5
ACRYLONITRILE	ND	ug/l			ND	ug/l			3	EPA 624	5
BENZENE	ND	ug/l			ND	ug/l			3	EPA 624	5
BROMOFORM	ND	ug/l			ND	ug/l			3	EPA 624	5
CARBON TETRACHLORIDE	ND	ug/l			ND	ug/l			3	EPA 624	5
CLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 624	5
CHLORODIBROMO-METHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
CHLOROETHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
2-CHLORO-ETHYLVINYL ETHER	ND	ug/l			ND	ug/l			3	EPA 624	5
CHLOROFORM	2.46	ug/l			2.3	ug/l			3	EPA 624	5
DICHLOROBROMO-METHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,1-DICHLOROETHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,2-DICHLOROETHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
TRANS-1,2-DICHLORO-ETHYLENE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,1-DICHLOROETHYLENE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,2-DICHLOROPROPANE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,3-DICHLORO-PROPYLENE	ND	ug/l			ND	ug/l			3	EPA 624	5
ETHYLBENZENE	ND	ug/l			ND	ug/l			3	EPA 624	5
METHYL BROMIDE	ND	ug/l			ND	ug/l			3	EPA 624	5
METHYL CHLORIDE	ND	ug/l			ND	ug/l			3	EPA 624	5
METHYLENE CHLORIDE	ND	ug/l			ND	ug/l			3	EPA 624	5
1,1,2,2-TETRACHLORO-ETHANE	ND	ug/l			ND	ug/l			3	EPA 624	5
TETRACHLORO-ETHYLENE	ND	ug/l			ND	ug/l			3	EPA 624	5
TOLUENE	ND	ug/l			ND	ug/l			3	EPA 624	5

FACILITY NAME AND PERMIT NUMBER:
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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	ND	ug/L			ND	ug/L			3	EPA 624	1
1,1,2-TRICHLOROETHANE	ND	ug/L			ND	ug/L			3	EPA 624	1
TRICHLORETHYLENE	ND	ug/L			ND	ug/L			3	EPA 624	
VINYL CHLORIDE	ND	ug/L			ND	ug/L			3	EPA 624	5
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
2-CHLOROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
2,4-DICHLOROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
2,4-DIMETHYLPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
-DINITRO-O-CRESOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
2,4-DINITROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
2-NITROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
4-NITROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	10
PENTACHLOROPHENOL	ND	ug/L			ND	ug/L			3	EPA 625a	5
PHENOL	ND	ug/l			ND	ug/l			3	EPA 625a	5
2,4,6-TRICHLOROPHENOL	ND	ug/l			ND	ug/l			3	EPA 625a	5
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE	ND	ug/l			ND	ug/l			3	EPA 625	5
ACENAPHTHYLENE	ND	ug/l			ND	ug/l			3	EPA 625	5
ANTHRACENE	ND	ug/l			ND	ug/l			3	EPA 625	5
NZIDINE	ND	ug/l			ND	ug/l			3	EPA 625	10
BENZO(A)ANTHRACENE	ND	ug/l			ND	ug/l			3	EPA 625	5
BENZO(A)PYRENE	ND	ug/l			ND	ug/l			3	EPA 625	5

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	ND	ug/l			ND	ug/l			3	EPA 625	5
BENZO(GHI)PERYLENE	ND	ug/l			ND	ug/l			3	EPA 625	5
BENZO(K)FLUORANTHENE	ND	ug/l			ND	ug/l			3	EPA 625	10
BIS (2-CHLOROETHOXY) METHANE	ND	ug/l			ND	ug/l			3	EPA 625	5
BIS (2-CHLOROETHYL)-ETHER	ND	ug/l			ND	ug/l			3	EPA 625	5
BIS (2-CHLOROISO-PROPYL) ETHER	ND	ug/l			ND	ug/l			3	EPA 625	5
BIS (2-ETHYLHEXYL) PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
4-BROMOPHENYL PHENYL ETHER	ND	ug/l			ND	ug/l			3	EPA 625	5
BUTYL BENZYL PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
CHLORONAPHTHALENE	ND	ug/L			ND	ug/L			3	EPA 625	5
4-CHLORPHENYL PHENYL ETHER	ND	ug/l			ND	ug/l			3	EPA 625	5
CHRYSENE	ND	ug/l			ND	ug/l			3	EPA 625	5
DI-N-BUTYL PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
DI-N-OCTYL PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
DIBENZO(A,H) ANTHRACENE	ND	ug/l			ND	ug/l			3	EPA 625	5
1,2-DICHLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5
1,3-DICHLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5
1,4-DICHLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5
3,3-DICHLOROBENZIDINE	ND	ug/l			ND	ug/l			3	EPA 625	5
DIETHYL PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
DIMETHYL PHTHALATE	ND	ug/l			ND	ug/l			3	EPA 625	5
2,4-DINITROTOLUENE	ND	ug/l			ND	ug/l			3	EPA 625	5
2,6-DINITROTOLUENE	ND	ug/l			ND	ug/l			3	EPA 625	5
1,2-DIPHENYLHYDRAZINE	ND	ug/l			ND	ug/l			3	EPA 625	10

FACILITY NAME AND PERMIT NUMBER:
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Form Approved 1/14/99
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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	ND	ug/l			ND	ug/l			3	EPA 625	5
FLUORENE	ND	ug/l			ND	ug/l			3	EPA 625	5
HEXACHLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5
HEXACHLOROBUTADIENE	ND	ug/l			ND	ug/l			3	EPA 625	5
HEXACHLOROCYCLO-PENTADIENE	ND	ug/l			ND	ug/l			3	EPA 625	5
HEXACHLOROETHANE	ND	ug/l			ND	ug/l			3	EPA 625	5
INDENO(1,2,3-CD)PYRENE	ND	ug/l			ND	ug/l			3	EPA 625	5
ISOPHORONE	ND	ug/l			ND	ug/l			3	EPA 625	5
NAPHTHALENE	ND	ug/l			ND	ug/l			3	EPA 625	5
NITROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5
NITROSODI-N-PROPYLAMINE	ND	ug/l			ND	ug/l			3	EPA 625	5
N-NITROSODI- METHYLAMINE	ND	ug/l			ND	ug/l			3	EPA 625	5
N-NITROSODI-PHENYLAMINE	ND	ug/l			ND	ug/l			3	EPA 625	5
PHENANTHRENE	ND	ug/l			ND	ug/l			3	EPA 625	5
PYRENE	ND	ug/l			ND	ug/l			3	EPA 625	5
1,2,4-TRICHLOROBENZENE	ND	ug/l			ND	ug/l			3	EPA 625	5

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:
Quantico Mainside STP VA0028363

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. **Required Tests.**

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

✓ chronic ____ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: 1 Test number: 2 Test number: ____

a. Test information.

Test species & test method number	C. dubia EPA 1002.0	P. promelas EPA 1000.0	
Age at initiation of test	24 hours	24 hrs	
Outfall number	001	001	
Dates sample collected	12/12/17	12/12/17	
Date test started	12/13/17	12/13/17	
Duration	7-days	7-days	

b. Give toxicity test methods followed.

Manual title	Whole Effluent Toxicity (WET)	Whole Effluent Toxicity (WET)	
Edition number and year of publication	4th edition, 2002	4th edition, 2002	
Page number(s)	141-195	112-140	

c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.

24-Hour composite	X	X	
Grab			

d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)

Before disinfection			
After disinfection	X	X	
After dechlorination			

	Test number: 1	Test number: 2	Test number:
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	After UV Disinfection at outfall	After UV Disinfection at outfall	
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	X	X	
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	X	X	
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Mod. Hard Synthet. Freshwate	Mod. Hard Synthet. Freshwater	
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	X	X	
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	
Salinity			
Temperature	Yes	Yes	
Ammonia			
Dissolved oxygen	Yes	Yes	
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic:

NOEC	100 %	48 %	%
IC_{25}	>100 %	>100 %	%
Control percent survival	97 %	97 %	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?	No	No	
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. **Toxicity Reduction Evaluation.** Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes ✓ No If yes, describe: _____

_____

_____

E.4. **Summary of Submitted Biomonitoring Test Information.** If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. **Pretreatment Program.** Does the treatment works have, or is it subject to, an approved pretreatment program?

____Yes ✓ No

F.2. **Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs).** Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1

b. Number of CIUs. 0

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. **Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Quantico Mainside Water Treatment Plant

Mailing Address: PO Box 1057
Quantico, VA 22134

F.4. **Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Backwash water from filters at Water Treatment Plant

F.5. **Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Potable Water

Raw material(s): water, alum, lime

F.6. **Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

69,000 gpd (____continuous or ✓ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (____continuous or _____intermittent)

F.7. **Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local limits ____Yes ✓ No

b. Categorical pretreatment standards ____Yes ✓ No

If subject to categorical pretreatment standards, which category and subcategory?

F.8. **Problems at the Treatment Works Attributed to Waste Discharged by the SIU.** Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ✓ No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. **RCRA Waste.** Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe? ____Yes ✓ No (go to F.12.)

F.10. **Waste Transport.** Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. **Waste Description.** Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. **Remediation Waste.** Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ✓ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. **Waste Origin.** Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. **Pollutants.** List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. **Waste Treatment.**

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location

_____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ ft.

d. Depth below surface (if applicable) _____ ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

c. Give the average volume per CSO event.

_____ million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

VPDES Sewage Sludge Permit Application Form

FACILITY NAME: Quantico Mainside STP VPDES PERMIT NUMBER: VA0028363

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? X Yes __No

   Will this facility derive a material from sewage sludge? __Yes X No

   If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? __Yes X No

   Will sewage sludge from this facility be applied to the land? __Yes X No

   If you answered No to both questions above, skip Section C.

   If you answered Yes to either, answer the following three questions:

   a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
   __Yes __No

   b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? __Yes __No

   c. Will sewage sludge from this facility be sent to another facility for treatment or blending? __Yes __No

   If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? __Yes X No

   If Yes, complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
   a. Facility name: Quantico Mainside Sewage Treatment Plant

   b. Contact person: Paul Redden
   Title: Wastewater Treatment Plant Supervisor
   Phone: (703) 784-0157
   c. Mailing address:
   Street or P.O. Box: P.O. Box 1057
   City or Town: Quantico State: VA Zip: 22134
   d. Facility location:
   Street or Route #: 658 Epperson Ave
   County: Prince William
   City or Town: Quantico State: VA Zip: 22134
   e. Is this facility a Class I sludge management facility? __Yes _X_No
   f. Facility design flow rate: 2.2 mgd
   g. Total population served: 15,600
   h. Indicate the type of facility:
   ___ Publicly owned treatment works (POTW)
   ___ Privately owned treatment works
   _X_ Federally owned treatment works
   ___ Blending or treatment operation
   ___ Surface disposal site
   ___ Other (describe):

   Applicant Information. If the applicant is different from the above, provide the following:
   a. Applicant name: J. M. Murray, Colonel, U.S. Marine Corps, Commander, MCB Quantico

   b. Mailing address:
   Street or P.O. Box: 3094 Bordelon Street
   City or Town: Quantico State: VA Zip: 22134
   c. Contact person: Jonmark Sullivan
   Title: Water Program Manager
   Phone: (703) 432-0539
   d. Is the applicant the owner or operator (or both) of this facility?
   _X_ owner _X_ operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
   _____ facility _X_ applicant

3. Permit Information.
   a. Facility's VPDES permit number (if applicable): VA0028363
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
   Permit Number: Type of Permit:
   _____
   _____

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? __Yes _X_No If yes, describe:

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? _X_Yes ___No
If yes, provide the following for each contractor (attach additional pages if necessary).
Name: F & L Incorporated
Mailing address: 1512 Good Hope Road, SE
Street or P.O. Box:
City or Town: Washington State: DC Zip: 20020
Phone: (202) 678-5788
Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).
- Sludge is hauled by the contractor to the King George County Landfill for use as alternative daily cover. Material hauled in poly lined roll offs and is covered.

Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old. **SEE ATTACHMENT 5**

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic				
Cadmium				
Chromium				
Copper				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Zinc				

9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

__X__Section A (General Information)
__X__Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
____Section C (Land Application of Bulk Sewage Sludge)
____Section D (Surface Disposal)

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 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 and official title J. M. Murray, Colonel, U.S. Marine Corps, Commander, Marine Corps Base Quantico

Signature J. M. Murray Date Signed 7/5/18

Telephone number 703-432-0539

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

mplete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
   Total dry metric tons per 365-day period generated at your facility:_____ dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.
   a. Facility name: Camp Upshur STP (intermittent Flow)

   b. Contact Person: Paul Redden
      Title: Wastewater Treatment Plant Supervisor
      Phone (703) 784-0157
   c. Mailing address:
      Street or P.O. Box: P.O. Box 1057
      City or Town: Quantico State: VA Zip: 22134
   d. Facility Address:
      (not P.O. Box)
   e. Total dry metric tons per 365-day period received from this facility: 0 dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

3. Treatment Provided at Your Facility.
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      ___Class A ___Class B _X_Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: Aerobic digestion

   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      ___ Option 1 (Minimum 38 percent reduction in volatile solids)
      ___ Option 2 (Anaerobic process, with bench-scale demonstration)
      ___ Option 3 (Aerobic process, with bench-scale demonstration)
      ___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      ___ Option 5 (Aerobic processes plus raised temperature)
      ___ Option 6 (Raise pH to 12 and retain at 11.5)
      ___ Option 7 (75 percent solids with no unstabilized solids)
      ___ Option 8 (90 percent solids with unstabilized solids)
      _X_ None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: None

   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: centrifuge dewatering

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).
   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:
      _____ dry metric tons
   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
      __Yes __No

5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:_____ dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending.

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name:

b. Facility contact:
Title:
Phone: ( )

c. Mailing address:
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: _____ dry metric tons

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
_____	
_____	

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? ___Yes ___No
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
___Class A ___Class B ___Neither or unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? ___Yes ___No
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
___ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge:

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
___Yes ___No
If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ___Yes ___No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? ___ Yes ___ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported.

7. Land Application of Bulk Sewage Sludge.
(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:_____dry metric tons

b. Do you identify all land application sites in Section C of this application? ___Yes ___No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? ___Yes ___No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

.. Surface Disposal.
(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
___Yes ___No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: ___Site Owner ___Site operator

e. Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	
_____	

Incineration.
(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge

incinerator: _____ dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
___Yes ___No
If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: ___Incinerator Owner ___Incinerator Operator

e. Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:	Type of Permit:

10. Disposal in a Municipal Solid Waste Landfill.
(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: King George County Landfill

b. Contact person: Brandon Lamp
Title: Techincal Service Representative VA/MD
Phone: (412) 604-2293
Contact is: ___Landfill Owner _X_Landfill Operator

c. Mailing address. Waste Management
Street or P.O. Box:___724 Pheasant Road
City or Town:__Forest Hills_____ State:___MD____ Zip:__21050

d. Landfill location.
Street or Route #:__10376 Bulluck Drive
County: King George
City or Town: ____King George_____ State:___VA____ Zip: 22485

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
_____1223 (2017 total)_____ dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:	Type of Permit:
___SWP586	King George Sanitary Landfill Permit_

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
_X_Yes ___No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? _X__Yes ___No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? _X_ Yes ___ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. __Route: 95 south to Route 3 to landfill. Days of Week: Monday, Wednesday, Friday

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

mplete this section for sewage sludge that is land applied unless any of the following conditions apply:
The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or
The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or
You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).
Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site.
   a. Site name or number:
   b. Site location (Complete i and ii)
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude:_____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.
   a. Are you the owner of this land application site? __Yes __No
   b. If no, provide the following information about the owner:
      Name:
      Street or P.O. Box:
      City or Town: _____ State:_____ Zip:
      Phone: ( )

   Applier Information:
   a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? __Yes __No
   b. If no, provide the following information for the person who applies the sewage sludge:
      Name:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
      Phone: ( )
   c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:
      Permit Number: Type of Permit:
      _____
      _____

4. Site Type. Identify the type of land application site from among the following:
   __Agricultural land __Reclamation site __Forest
   __Public contact site __Other. Describe

5. Vector Attraction Reduction.
   Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
   ___Yes ___No If yes, answer a and b.
   a. Indicate which vector attraction reduction option is met:
      ___ Option 9 (Injection below land surface)
      ___ Option 10 (Incorporation into soil within 6 hours)
   b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? __Yes __No
If no, sewage sludge subject to the CPLRs may not be applied to this site.
If yes, provide the following information:
Permitting authority:
Contact person:
Phone:( )

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? __Yes __No If no, skip the rest of Question 6. If yes, answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.
Facility name:
Facility contact:
Title:
Phone: ( )
Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic		
Cadmium		
Copper		
Lead		
Mercury		
Nickel		
Selenium		
Zinc		

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)
pH (S. U.)
Percent Solids (%)
Ammonium Nitrogen (mg/kg)
Nitrate Nitrogen (mg/kg)
Total Kjeldahl Nitrogen (mg/kg)
Total Phosphorus (mg/kg)
Total Potassium (mg/kg)
Alkalinity as $CaCO_3$* (mg/kg)

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

8. Storage Requirements.

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
   1) Water wells, abandoned or operating
   2) Surface waters
   3) Springs
   4) Public water supply(s)
   5) Sinkholes
   6) Underground and/or surface mines
   7) Mine pool (or other) surface water discharge points
   8) Mining spoil piles and mine dumps
   9) Quarry(s)
   10) Sand and gravel pits
   11) Gas and oil wells
   12) Diversion ditch(s)
   13) Agricultural drainage ditch(s)
   14) Occupied dwellings, including industrial and commercial establishments
   15) Landfills or dumps
   16) Other unlined impoundments
   17) Septic tanks and drainfields
   18) Injection wells
   19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:
   1) Maximum and minimum percent slopes
   2) Depressions on the site that may collect water
   3) Drainageways that may attribute to rainfall run-on to or runoff from this site
   4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. Landowner Agreement Forms. Provide a properly completed **Land Application Agreement – Biosolids** Form and necessary attachments (attached at end of VPDES Sewage Sludge Permit Application Form) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? __Yes __No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1). Soil symbol
2). Soil series, textural phase and slope range
3). Depth to seasonal high water table
4). Depth to bedrock
5). Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)
Soil pH (std. units)
Cation Exchange Capacity (meq/100g)
Total Nitrogen (ppm)
Organic Nitrogen (ppm)
Ammonia Nitrogen (ppm)
Nitrate Nitrogen (ppm)
Available Phosphorus (ppm)
Exchangeable Potassium (mg/100g)
Exchangeable Sodium (mg/100g)
Exchangeable Calcium (mg/100g)
Exchangeable Magnesium (mg/100g)
Arsenic (ppm)
Cadmium (ppm)
Copper (ppm)
Lead (ppm)
Mercury (ppm)
Molybdenum (ppm)
Nickel (ppm)
Selenium (ppm)
Zinc (ppm)
Manganese (ppm)
Particle Size Analysis or
USDA Textural Estimate (%)

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

SECTION D. SURFACE DISPOSAL

mplete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units.
   a. Unit name or number:
   b. Unit location
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude:_____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
   d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: _____dry metric tons.
   e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: _____ dry metric tons.
   f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7}cm/sec? ___Yes ___No If yes, describe the liner or attach a description.

   g. Does the active sewage sludge unit have a leachate collection system? ___Yes ___No
   If yes, describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:

   h. If you answered no to either f or g, answer the following:
   Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? ___Yes ___No If yes, provide the actual distance in meters:
   i. Remaining capacity of active sewage sludge unit, in dry metric tons:_____ dry metric tons
   Anticipated closure date for active sewage sludge unit, if known:_____ (MM/DD/YYYY)
   Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.
   Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? ___Yes ___No
   If yes, provide the following information for each such facility, attach additional sheets as necessary.
   a. Facility name:
   b. Facility contact:
      Title:
      Phone: ( )
   c. Mailing address.
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
   d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:
      Permit Number: Type of Permit:
      _____
      _____
   e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
      ___Class A ___Class B ___Neither or unknown
   f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
___ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge:

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above:

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
___ Option 9 (Injection below land surface)
___ Option 10 (Incorporation into soil within 6 hours)
___ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ___Yes ___No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
___Yes ___No If yes, submit a copy of the ground water monitoring program with this application.

c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ___Yes ___No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
___Yes ___No If yes, submit information to support the request for site-specific pollutant limits with this application.

VPDES Permit Application Addendum

VPDES PERMIT APPLICATION ADDENDUM

1. **Entity to whom the permit is to be issued:** Quantico Marine Corps Base
   Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Yes No X

3. **Please provide the tax map parcel number for the land where the discharge is located:** 7890-15-0951

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** N/A

5. **What is the design average flow of this facility in million gallons per day (MGD)?** 2.2 **(MGD) For industrial facilities, provide the maximum 30-day average production level, include units:** _____

6. **In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels?** Yes No X
   If yes, please identify the other flow tiers in MGD: _____
   Please consider the following as you answer the questions in #5 above for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

7. **Nature of operations generating wastewater:** The STP receives and treats domestic wastewater from housing and office buildings from the base and Town of Quantico. Industrial wastewater comes from the Mainside Water Treatment Plant

   60 % of flow from domestic connections/sources

   Number of private residences to be served by the treatment works: _____

   40 % of flow from non-domestic connections/sources

8. **Mode of discharge:** X Continuous _____ Intermittent _____ Seasonal

   Describe frequency and duration of intermittent and seasonal discharges: _____

9. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point(s):**

Stream Characteristic	Outfall Number						
Permanent stream, never dry							
Intermittent stream, usually flowing, sometimes dry							
Ephemeral stream, wet-weather flow, often dry							
Effluent-dependent stream, usually or always dry							
Lake or pond at or below discharge point							
Other: Tidal Stream, Embayment, never dry	001						

10. **Approval date(s), if applicable:**

O & M Manual July 2015 **Sludge/Solids Management Plan** _____

Have there been changes in your operation or procedures since the above approval dates? Yes **X** No

11. **Privately Owned Treatment Works:** If this application is for a privately owned treatment works serving, or designed to serve, 50 or more residences, you must include with your application notification from the State Corporation Commission that you are incorporated in the Commonwealth and verification from the SCC that you are in compliance with all regulations and relevant orders of the State Corporation Commission. Incorporated also includes Limited Liability Companies (LLCs), Limited Partnerships (LPs) and certificates of authority.

12. **Please provide a list of Materials stored at the facility. Please complete the table below or attach another page if more room is necessary.**

Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Aluminum Sulfate 50% Solution	5,000 gallons	Secondary Containment
Sodium Hydroxide 25% Solution	10,000 gallons	Secondary Containment
Acetic Acid 70% Solution	5,000 gallons	Secondary Containment
Cationic Polymer	250 gallons	Dry Sweep
Anionic Polymer	250 gallons	Dry Sweep

13. **Please provide the name and email addresses for personnel who will be involved with the reissuance of the VPDES permit:**

Name	Title	E-mail Address
Jonmark Sullivan	Water Program Manager	johnmark.sullivan@usmc.mil
Kasey Steinbacher	Water Program Asst. Manager	kasey.steinbacher@usmc.mil

14. **Consent to receive Electronic Mail**

The Department of Environmental Quality (DEQ) may deliver permits and certifications (this includes permit issuances, reissuances, modifications, revocation and reissuances, terminations and denials) to recipients, including applicants or permittees, by electronically certified mail where the recipients notify DEQ of their consent to receive mail electronically (§ 10.1-1183). Check *only one* of the following to consent to or decline receipt of electronic mail from DEQ as follows:

☒ Applicant or permittee agrees to receive by electronic mail the permit that may be issued for the proposed pollutant management activity, and to certify receipt of such electronic mail when requested by the DEQ.

If yes, provide email: johnmark.sullivan@usmc.mil, kasey.steinbacher@usmc.mil

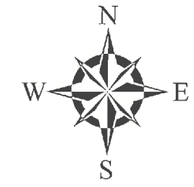
☐ Applicant or permittee declines to receive by electronic mail the permit that may be issued for the proposed pollutant management activity.

Attachment 1
Topographic Map

Marine Corps Base Quantico

Wastewater Outfall
One Mile Buffer

VA0028363



0 750 1,500 2,250 3,000
Feet

Outfall Point — Wastewater Line

Wastewater Treatment Plant

Elevation Contours in 10ft Intervals

Outfall
38° 30' 59" N
77° 17' 59" W

POTOMAC RIVER

CHOPAWAMSIC CREEK

POND 5

WGS 1984 UTM Zone 18N

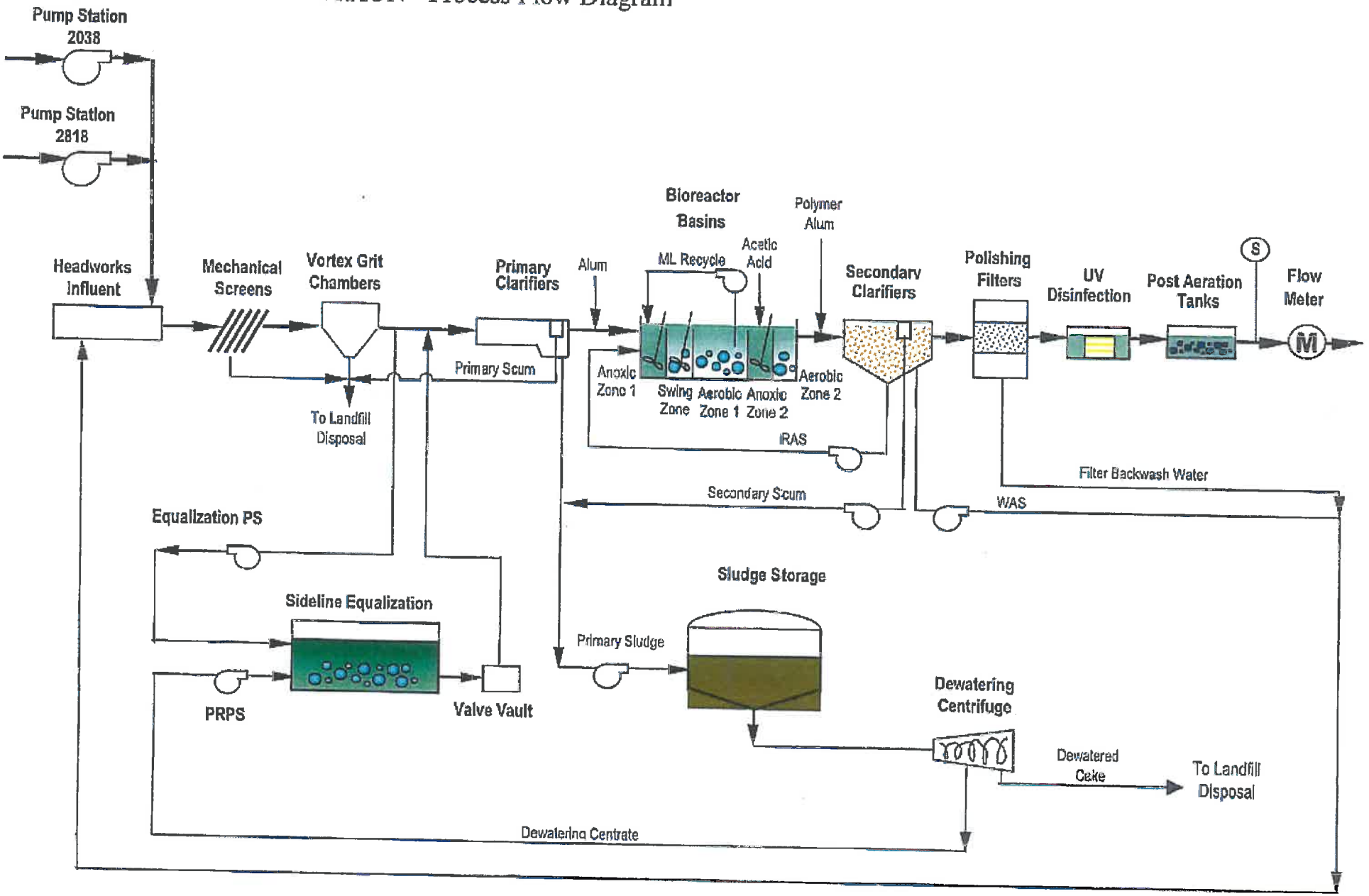
Prepared by IGI&S Office
PWB Branch USMC Quantico
IGI&S Manager: 703-784-5371

2 October 2012

For Official Use Only

Attachment 2
Process Flow Diagram and Process Narrative

FACILITY NAME AND PERMIT NUMBER: Quantico Mainside STP, VA00228363
ADDITIONAL INFORMATION - Process Flow Diagram



FACILITY NAME AND PERMIT NUMBER: Quantico Mainside STP, VA00228363
ADDITIONAL INFORMATION – Process Narrative

The Mainside Sewage Treatment Plant (STP) is an advanced wastewater treatment facility designed to treat an average flow of 2.2. million gallons per day (mgd). Primary, secondary and tertiary treatments are provided at the Mainside STP.

Primary Treatment

Primary treatment consists of screening, grit removal, equalization and primary clarification. The screening system consists of both a mechanically cleaned bar screen and a manually cleaned bar screen. The screens remove large debris and trash from the influent to protect the downstream equipment. After the screening process, the flow enters the grit removal system. Grit and solids settle and collect in the center of one of two vortex grit chambers. The grit is pumped to grit cyclones and classifiers which dewater and wash the grit. The grit is discharged to the screenings and grit conveyor belt where it combines with the screening materials prior to disposal. After screening and grit removal the flow is directed to the primary clarifiers. During high flow periods, a portion of the flow is directed to the sideline equalization tank, which is used to mitigate the peak loads and plant recycle flows. Primary clarification is achieved in four primary clarifiers. Each set of clarifiers, north and south, is arranged as two independent treatment units with a common wall. Each clarifier is equipped with a chain and flight collector mechanism that pushes the settled sludge into the hoppers and skims the scum and floating solids along the surface towards the scum trough. The chain and flight collectors transfer sludge from the floor of the clarifiers to the sludge hoppers. In the primary cla rifiers a portion of the particulate organic solids are removed and pumped to the sludge storage tanks. Waste activated sludge from the biological system that has been returned to the headworks is co-settled and co-thickened in the primary clarifiers and sent to the sludge storage tanks.

Secondary Treatment

Secondary treatment consists of the four-stage Bardenpho biological nutrient removal system and secondary clarification. The biological system is designed for enhanced nutrient removal and consists of the following:

- Denitrification Tank: split into four equal sized zones, one anoxic zone dedicated to denitrification followed by three swing zones that can be operated with no air and with mechanical mixing to provide denitrification, or aerated by utilizing new aeration diffusers and turning off the mechanical mixer.

- Nitrification Tanks: split into three zones, the first zone is aerobic to provide nitrification. Two new baffles were added to create a denitrification zone in the last pass. This denitrification zone is then followed by a final aeration zone.

- Acetic acid is fed into the second denitrification zone to provide the carbon to reduce the nitrates leaving the second stage. Another baffle wall separates the second denitrification stage from a final aeration stage. The purpose of this last aerated stage is to provide aeration to aerobically degrade any residual acetic acid and strip nitrogen gas prior to secondary clarification.

- Recycle flow from the first nitrification stage is recycled to the first denitrification stage.

The mixed liquor of the Nitrification Tanks is collected and conveyed by gravity to the Secondary Clarifiers where the biomass is settled and the clarified effluent overflows to tertiary treatment. Liquid polymer may be added to aid settling in the Secondary Clarifiers.

- Return Activated Sludge (RAS) is pumped from the settled sludge in the Secondary Clarifiers to the beginning of the Secondary Treatment

Tertiary Treatment

Tertiary and final treatment consists of filtration, post aeration and UV disinfection. The secondary effluent is pumped up to a holding tank above the filters from where it flows by gravity through the polishing filters to post aeration, UV disinfection and the outfall. The purpose of the filtration process is to remove suspended solids from the secondary clarifier effluent. Filtration also improves the efficiency of downstream disinfection. The tertiary filtered process flows by gravity to the UV Disinfection process.

The goal of the disinfection system is to reduce the concentration of disease-causing organisms in the treated effluent to discharge permit limits. At Ma inside STP, the UV disinfection system consists of three banks of horizontal UV lamps in series submerged in the open channel that carries the effluent flow.

UV Disinfection Treatment

Ultra Violet (UV) Radiation is used to disinfect the filtered process flow from the tertiary treatment process. The goal of UV disinfection is to reduce the concentration of disease causing organisms in the treated effluent to discharge meet discharge limits. The UV Disinfection Treatment is followed by Post Aeration to increase effluent dissolved oxygen and a V-notched weir is used to measure flow at outfall 001

Solids Treatment and Handling

Centrifuge dewatering is used to reduce the volume of sludge that is hauled offsite. The sludge is withdrawn from the sludge storage tanks and fed to the centrifuge. The centrate is discharged to the plant recycle pump station. Polymer is added to condition the sludge and increase the solids concentration in the dewatered cake.

Chemical feed systems

Sodium hydroxide (caustic) is added to secondary treatment influent for pH and alkalinity adjustment.

Acetic Acid is added to the biological process as a carbon source for micro-organisms to denitrify nitrate-nitrogen in the anoxic zone.

Alum is added to aid coagulation and settling in the secondary clarifiers and for phosphorus removal.

Polymer is added to enhance clarification and to condition the sludge and increase solids capture in the dewatering process.

Attachment 3
Operation/Maintenance Performed by Contractors

Form 3510-2A

B.4 Operation/Maintenance performed by contractors

BOS Annual Service Contract actions:

Contract No. N40080-10-D-1003-Base Operations Support Marine Corps Base Quantico – Quantico Waste Water Treatment Plant Instrumentation.

1.	Mag Flow-meter 2"	Stored Sludge to Centrifuge
2.	Mag Flow-meter 3"	RAS/WAS & Scum to Centrifuge
3.	Cap. Level Probe	Thickened sludge hopper
4.	Liquid Level X Meter	Sludge storage tank 1
5.	Liquid Level X Meter	Sludge storage tank 2
6.	Mag Flow-meter 12"	P.S. 2818 discharge
7.	Level Transducer	P.S. 2818 Wet Well Bubbler
8.	Panel Meters	P.S. 2818 discharge
9.	Panel Meters	P.S. Wet Well Bubbler
10.	Level Controller	Mech. Bar Screen Level Differential
11.	Mag Flow-meter 6"	Side Line Eq. Tank North
12.	Mag Flow-meter 6"	Side Line Eq. Tank South
13.	Mag Flow-meter 10"	Side Line Eq. Pumps North
14.	Mag Flow-meter 10"	Side Line Eq. Pumps South
15.	Level Controller	Side Line Eq. P.S. WW Level
16.	Panel Meters	Sideline Eq. P.S. WW Level
17.	DO Analyzers & Probes	Nitrification Tank 1
18.	DO Analyzers & Probes	Nitrification Tank 2
19.	DO Analyzers & Probes	Nitrification Tank 3
20.	DO Analyzers & Probes	Nitrification Tank 4
21.	pH/Orp Controller & Probes	Nitrification Tank 1
22.	pH/Orp Controller & Probes	Nitrification Tank 2
23.	pH/Orp Controller & Probes	Nitrification Tank 3
24.	pH/Orp Controller & Probes	Nitrification Tank 4
25.	Panel Meters	Nitrification Tank 1 pH
26.	Panel Meters	Nitrification Tank 1 DO
27.	Panel Meters	Nitrification Tank 2 pH
28.	Panel Meters	Nitrification Tank 2 DO
29.	Panel Meters	Nitrification Tank 3 pH
30.	Panel Meters	Nitrification Tank 3 DO
31.	Panel Meters	Nitrification Tank 4 pH
32.	Panel Meters	Nitrification Tank 4 DO
33.	Mag Flow-meter 24"	From Nitrification Tanks to Final Clarifier
34.	Mag Flow-meter 8"	RAS Flow
35.	Mag Flow-meter 3"	WAS/Scum Flow
36.	Panel Meters	Nitrification Tanks Flow to Final Clarifier
37.	Panel Meters	RAS Flow
38.	Panel Meters	WAS/Scum Flow
39.	DO Analyzers & Probes	Final Effluent

40. Level Transmitter Final Effluent
41. Level Transmitter Final Effluent
42. Panel Meters UV Disinfection Tank DO
43. Panel Meters Final Effluent
44. RTD Temp Transmitter Heat Exchanger 1 Hot Sludge Temp.
45. RTD Temp Transmitter Heat Exchanger 2 Hot Sludge Temp.
46. Panel Meters Heat Exchanger 1 Hot Sludge Temp.
47. Panel Meters Heat Exchanger 2 Hot Sludge Temp.
48. pH/Orp Control & Probes Final Effluent
49. Chart Recorder Final Effluent Flow
50. Level Transmitter Caustic Tank Level
51. Level Transmitter Alum & caustic storage tanks
52. Panel Meters Flow to Primaries
53. Panel Meters Pump No. 1 (speed)
54. Panel Meters Pump No. 2 (speed)
55. Panel Meters Digester - 1 Floating Head Cover
56. Panel Meters Digester - 2 Floating Head Cover
57. Loop Controllers Primary Inf. So. #3&4 Flow Ctrl Valve
58. Loop Controllers Primary Inf. No. #1&2 Flow Ctrl

Attachment 4
Scheduled Improvements

Form 3510-2A

B.5.c. Scheduled Improvements

Future Planned Mainside Wastewater Treatment Plant M1R1 Repair Projects:

1. Repair/Replace Acetic Acid Secondary Containment Protective Coating Bldg. 660P; PWB # 2014183; MAXIMO # 1833107
2. Install Concrete Pad/Floor in New Utility Building 2089M at WWTP; PWB # 2015045; MAXIMO # 1867591
3. Install Overhead Garage Doors and Insulation New Utility Building 2089M at WWTP; PWB # 2015055; MAXIMO # 1871262
4. Install Effluent Sluice Gates on Grit Systems 1 & 2 Bldg. 659D; PWB # 2015122; MAXIMO # 1878386
5. Repair Roof, Replace Windows, Lintels, Remove Exterior Paint and Point-Up Bldg. 2089E; PWB # 2015124; MAXIMO # 1875452, 1932627, 1932612
6. Install Metal Canopy Over Roll-Off Area Solids Processing Bldg. 659J; PWB # 2015175; MAXIMO # 1879441
7. Remove Fixed Ship's Ladder & Install Fixed Industrial Stairs Bldg. 2089J; PWB # 2016148; MAXIMO # 1905906, 1916060, 1916056
8. Repair (3) Three Centrisys Centrifuge's Mainside WWTP Bldg. 659J; PWB # 2017104; MAXIMO # 1962488, 1972428
9. Replace Deteriorated Non-Potable Water Pipe in Grit Removal Bldg. 659D; PWB # 2017202; MAXIMO # 1916068
10. Replace 100 Amp Frank Adam Electric Panelboard Bldg. 2089I; PWB # 2017205; MAXIMO # 1916456
11. Repaint Nitrification Blower Room Bldg. 660; PWB # 2018119; MAXIMO # 1989640, 1990646

M2R2 Contract actions:

1. QU1702M REPAIR 4 PRIMARY SETTLING TANKS, MSTP (Bldgs. 2072, 2090, 660, 2037, & 2089I) in progress

2. QU1704R NEW CAUSTIC STORAGE FACILITY, Bldg. 667A, MSTP (Bldgs. 667, 667A, 3214) in progress

Attachment 5
Pollutant Concentrations

Facility Name: Quantico Mainside STP
VPDES Permit Number: VA0028363
VPDES Sewage Sludge Permit Application Form - Section A.8 - Pollutant Concentrations Data Table

Section A.8. Pollutant Concentrations

Pollutant	Concentration (mg/kg dry weight)			Avg. Concentration	Analytical Method	Detection Level for Analysis (mg/kg)
	Sample #1 - 3/27/18	Sample #2 - 4/27/18	sample #3 - 5/30/18			
Arsenic	2.37	1.66	0.958	1.66	EPA 6010 C	0.5
Cadmium	ND	ND	ND	ND	EPA 6010 C	0.5
Chromium	15	11.8	4.84	10.55	EPA 6010 C	0.5
Copper	150	116	50.5	105.50	EPA 6010 C	1
Lead	66.7	60.6	19	48.77	EPA 6010 C	0.5
Mercury	10.8	6	ND	8.40	EPA 6010 C	5
Molybdenum	3.28	2.85	1.1	2.41	EPA 6010 C	0.5
Nickel	2.4	4.96	1.32	2.89	EPA 6010 C	0.5
Selenium	0.661	3.49	0.651	1.60	EPA 6010 C	0.5
Zinc	372	253	108	244.33	EPA 6010 C	5