Hazen and Sawyer
4035 Ridge Top Road, Suite 500
Fairfax, VA 22030 • 703.218.2034

Urban Water System
Joint Permit Application

Rivanna Water and Sewer Authority
31430-005
May 14, 2021

STANDARD JOINT PERMIT APPLICATION

United States Army Corps of Engineers (USACE) - Norfolk District
803 Front Street, ATTN: CENAO-WR-R
Norfolk, Virginia 23510-1011
Phone: (757) 201-7652, Fax: (757) 201-7678
Website: http://www.nao.usace.army.mil/Missions/Regulatory.aspx

Virginia Marine Resources Commission (VMRC)
Habitat Management Division
380 Fenwick Road, Building 96
Fort Monroe, VA 23651
Phone: (757) 247-2200, Fax: (757) 247-8062
Website: http://www.mrc.virginia.gov/hmac/hmoverview.shtm

Virginia Department of Environmental Quality (DEQ)
Virginia Water Protection Permit Program
Post Office Box 1105
Richmond, Virginia 23218
Phone: (804) 698-4000
Websites: http://www.deq.virginia.gov/
http://www.deq.virginia.gov/Locations.aspx

The following instructions and information are designed to assist you in applying for permits from federal, state, and local regulatory agencies for work in waters and/or wetlands within the Commonwealth of Virginia. The intent is to provide general information on the permit process, not to act as a complete legal and technical reference. Refer to the applicable laws, regulations, and/or guidance materials of each agency for a complete understanding of each agency's application requirements.

JOINT PERMIT APPLICATION PROCESS

The Joint Permit Application (JPA) process and Standard JPA form are used by the United States Army Corps of Engineers (USACE), the Virginia Marine Resources Commission (VMRC), the Virginia Department of Environmental Quality (DEQ), and the Local Wetlands Boards (LWB) for permitting purposes involving water, wetlands, and dune/beach resources, including water supply and water withdrawals projects (as defined in DEQ Regulation 9 VAC 25-210).

The Tidewater Joint Permit Application form is used for proposed private or commercial aquaculture projects and most commercial and noncommercial projects in **tidal waters, tidal wetlands, and coastal primary sand dunes and beaches in Virginia** that require the review and/or authorization by the LWB, the VMRC, the DEQ, and/or the USACE. The Tidewater JPA may be downloaded from the same web page on which the Standard JPA is located: http://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx. *If using the Tidewater JPA, follow the instructions provided with that form.*

Please note that some health departments and local agencies, such as local building officials and erosion and sediment control authorities, do not use the Joint Permit Application process or forms and may have different informational requirements. The applicant is responsible for contacting these agencies for information regarding those permitting requirements.

REGULATORY AUTHORITIES OF PARTICIPATING AGENCIES: The USACE regulates activities in waters of the United States, including wetlands, under Section 404 of the Clean Water Act (33 U.S.C. §1344), Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403), and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 (33 U.S.C. §1413).

The VMRC regulates activities on state-owned submerged lands, tidal wetlands, and dunes/beaches under Code of Virginia Title 28.2, Chapters 12, 13, and 14.

The DEQ regulates activities in state surface waters and wetlands under Section 401 of the Clean Water Act (33 U.S.C. §1341), under State Water Control Law (Code of Virginia Title 62.1), and Virginia Administrative Code Regulations 9VAC25-210 et seq., 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq., and 9VAC25-690 et seq.

The LWBs regulate activities in tidal wetlands and dunes/beaches under Code of Virginia Title 28.2, Chapters 13 and 14.

LOCAL WETLANDS BOARD CONTACT INFORMATION: Links to LWB information on the Web can be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

USACE FIELD OFFICE INFORMATION AND DEQ REGIONAL OFFICE INFORMATION: Answers to technical questions and detailed information about specific aspects of the various permit programs may be obtained from the USACE field office in your project area (please refer to the Contact Information on the Regulatory web page at: http://www.nao.usace.army.mil/Missions/Regulatory.aspx or call 757-201-7652), or from the DEQ regional office in your project area (please refer to http://www.deq.virginia.gov/Locations.aspx or call 804-698-4000). Applicants may also seek assistance with completing the informational requirements and/or submittals from private consulting and/or engineering firms for hire.

CHESAPEAKE BAY PRESERVATION ACT INFORMATION: Development within the 84 Counties, Cities, and Towns of "Tidewater Virginia" (as defined in §62.1-44.15:68 of the Code of Virginia) is subject to the requirements of the Chesapeake Bay Preservation

Act. If your project is located in a Bay Act locality and will involve activities, including land disturbance or removal of vegetation, within a designated Resource Protection Area (RPA), these actions will require approval from your local government and completion of Appendix C. The individual localities, not the DEQ, USACE, or Local Wetlands Boards, are responsible for enforcing Bay Act requirements and, therefore, local approval for any activity in an RPA is not granted through this JPA process. Each Tidewater locality has adopted a program based on the Chesapeake Bay Preservation Act and the *Chesapeake Bay Preservation Area Designation & Management Regulations*.

The Act and regulations require Bay Act local governments to administer specific criteria for the use, development and redevelopment of land within locally designated Chesapeake Bay Preservation Areas. Since the requirements of the Bay Act may affect the ultimate design and construction of projects, applicants should contact their local government as early in the process as possible, in order to ensure that these requirements are considered early in the permitting process, and to avoid unnecessary and costly delays. Individual localities will request information regarding existing vegetation within the RPA as well as a description and site drawings of any proposed activity within the RPA. This information will be used by local staff charged with ensuring compliance with the Bay Act during the local approval process. Any use, development and redevelopment or land disturbance within the RPA must receive local approval PRIOR to the initiation of any land disturbance.

To determine if your project is located in a Bay Act locality (see map on page 31 or http://www.deq.virginia.gov/Programs/Water/ChesapeakeBay/ChesapeakeBayPreservationAct/LocalGovernmentOrdinances.aspx), learn more about Bay Act requirements, or find local government contacts, please visit the Virginia Department of Environmental Quality at http://www.deq.virginia.gov/Programs/Water/ChesapeakeBay/ChesapeakeBayPreservationAct.aspx.

HOW TO APPLY

Sections A through D below provide a general list of information and drawings that are required, depending on the type of project being proposed. Prepare all required drawings or sketches as detailed in the lists provided in Appendix D (Drawings) and according to the sample drawings provided in Appendix D.

Application materials should be submitted to VMRC:

1. ***If by mail or courier, use the address on page 1.***
2. ***If by electronic mail, address the package to: JPA.permits@mrc.virginia.gov. The application must be provided in the .pdf format.***

When completing this form, use the legal name of the applicant, agent, and/or property owner. For DEQ application purposes, *legal name* means the full legal name of an individual, business, or other organization. For an individual, the legal name is the first name, middle initial, last name, and suffix. For an entity authorized to do business in Virginia, the legal name is the exact name set forth in the entity's articles of incorporation, organization or trust, or formation agreement, as applicable. Also provide the name registered with the State Corporation Commission, if required to register. DEQ issues a permit or grants coverage to the so-named individual or business, who becomes the 'permittee'. Correspondence from some agencies, including permits, authorizations, and/or coverage, may be provided via electronic mail. If the applicant and/or agent wish(es) to receive their permit via electronic mail, please remember to include an e-mail address at the requested place in the application.

A. APPLICATIONS FOR PROJECTS INVOLVING IMPACTS TO *TIDAL* WATERS, WETLANDS, AND DUNES/BEACHES (INCLUDING SHORELINE STABILIZATION, PIERS, MARINAS, BEACH NOURISHMENT, BOATHOUSES, BOAT LIFTS, BREAKWATERS, AQUACULTURE ACTIVITIES, DREDGING, ETC.) SHOULD INCLUDE THE FOLLOWING:

- ❖ All *applicable* portions of Sections 1 through 26 of the JPA, including necessary attachments, information required for projects located in CBPA localities as required in Appendix C (a map of CBPA localities can be found on page 31).
- ❖ Adjacent Property Owner's Acknowledgement Forms(1), as detailed in Appendix A or the name and address of the adjacent landowners.
- ❖ An analysis of the functions of wetlands proposed to be impacted may be required by DEQ. (3).
- ❖ A set of 8 ½ x 11 inch drawings. If you cannot include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200'. If oversized drawings are used, attach **five** copies of the oversized drawings to your application.
- ❖ In order for projects requiring LWB authorization to be considered complete, applications must include the following information (per Virginia Code 28.2-1302): *"The permit application shall include the following: the name and address of the applicant; a detailed description of the proposed activities; a map, drawn to an appropriate and uniform scale, showing the area of wetlands directly affected, the location of the proposed work thereon, the area of existing and proposed fill and excavation, the location, width, depth and length of any proposed channel and disposal area, and the location of all existing and proposed structures, sewage collection and treatment facilities, utility installations, roadways, and other related appurtenances of facilities, including those on the adjacent uplands; a description of the type of equipment to be used and the means of access to the activity site; the names and addresses of record of adjacent land and known claimants of water rights in or adjacent to the wetland of whom the applicant has notice; an estimate of cost; the primary purpose of the project; and secondary purpose of the proposed project; a complete description of measures to be taken during and after alteration to reduce detrimental offsite effects; the completion date of the proposed work, project, or structure; and such additional materials and documentation as the wetlands board may require."*

B. APPLICATIONS FOR PROJECTS INVOLVING IMPACTS TO *NONTIDAL* WATERS AND/OR WETLANDS *AND*:

1) **WHERE AUTHORIZATION UNDER *STATE PROGRAM GENERAL PERMIT (SPGP)* IS REQUESTED:**

Programmatic general permits may be issued by the USACE in situations where a state, regional, or local authority has a regulatory program in place that provides similar review and regulation of activities in waters as does the USACE. In such cases, the programmatic general permit allows the state, region, or locality to provide the federal authorization, thus avoiding unnecessary duplication of effort by multiple regulatory authorities. In Virginia, DEQ provides authorization for certain activities regulated by the USACE through the State Program General Permit (SPGP). DEQ's authorization under the SPGP is a separate action from that providing coverage under any Virginia Water Protection permit. Certain Residential/Commercial/Institutional Development activities and Linear Transportation activities will be considered for coverage under the current SPGP. Details about the current SPGP can be found at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional.aspx.

- ❖ Mark the "SPGP" checkbox on page 7 of this application.
- ❖ All *applicable* portions of Sections 1 through 26 of the JPA, including necessary attachments.
- ❖ A conceptual compensatory mitigation plan(2).
- ❖ A copy of the confirmed jurisdictional determination or confirmed delineation, including a waters and wetlands boundary map and data sheets(3).
- ❖ All information required for projects located in CBPA localities as required in Appendix C (a map of CBPA localities can be found on page 31).
- ❖ A copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site (not applicable to <0.1 acre and < 300 linear feet projects by either USACE or DEQ).
- ❖ A set of 8 ½ x 11 inch drawings. If you cannot include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200'. If oversized drawings are used, attach **five** copies of the oversized drawings to your application.

2) **WHERE NO SPGP IS REQUESTED:**

- ❖ All *applicable* portions of Sections 1 through 26 of the JPA, including necessary attachments.
- ❖ A conceptual compensatory mitigation plan(2).
- ❖ A copy of the confirmed jurisdictional determination or confirmed delineation, including a waters and wetlands boundary map and data sheets(3).
- ❖ All information required for projects located in CBPA localities as required in Appendix C (a map of CBPA localities can be found on page 31), and a copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site.
- ❖ An analysis of the functions of wetlands proposed to be impacted may be required by DEQ (4).
- ❖ A set of 8 ½ x 11 inch drawings. If you cannot include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200'. If oversized drawings are used, attach **five** copies of the oversized drawings to your application.

C. APPLICATIONS FOR PROJECTS INVOLVING SURFACE WATER WITHDRAWALS or FERC LICENSE OR RELICENSE ASSOCIATED WITH A SURFACE WATER WITHDRAWAL:

- ❖ Mark the "DEQ Reapplication" checkbox on page 7 of this application and provide the current/existing permit number.
- ❖ All *applicable* portions of Sections 1 through 26 of the JPA, including necessary attachments.
- ❖ All *applicable* portions of Part A and B above if the project involves wetland and/or stream impacts.
- ❖ Copy of any pre-application review panel documentation and summary of the issues raised
- ❖ For new or expanded surface water withdrawals proposing to withdraw 90 million gallons a month or greater, a summary of the steps taken to seek public input as required by 9VAC25-210-320 and an identification of the issues raised during the course of the public information meeting process.

D. ANY APPLICATIONS USING THE JPA FORM AS A PRE-CONSTRUCTION NOTIFICATION (PCN) FOR A USACE NATIONWIDE PERMIT:

- ❖ Mark the "PCN" checkbox on page 7 of this application and insert the number of the intended Nationwide permit. If you fail to mark this box, the PCN will be deemed incomplete and the USACE 45-day time clock will not start.
- ❖ All *applicable* portions of Sections 1 through 26 of the JPA, including necessary attachments and all information required for projects located in CBPA localities as required in Appendix C (a map of CBPA localities can be found on page 31).
- ❖ A set of 8 ½ x 11 inch drawings. If you cannot include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200'. If oversized drawings are used, attach **five** copies of the oversized drawings to your application.

WHAT HAPPENS NEXT

Upon receipt of an application, VMRC will assign a permit application number to the JPA and will then distribute a copy of the application and any plan copies submitted to the other regulatory agencies that are involved in the JPA process. All agencies will conduct separate but concurrent reviews of your project. Please be aware that each agency must issue a separate permit (or a notification that no permit is required). Note that in some cases, DEQ may be taking an action on behalf of the USACE, such as when the State Program General Permit (SPGP) applies. Make sure that you have received all necessary authorizations, or documentation that no permit is required, from each agency prior to beginning the proposed work.

During the JPA review process, site inspections may be necessary to evaluate a proposed project. Failure to allow an authorized representative of a regulatory agency to enter the property, or to take photographs of conditions at the project site, may result in either the withdrawal or denial of your permit application.

For certain federal and state permit applications, a public notice is published in a newspaper having circulation in the project area, is mailed to adjacent and/or riparian property owners, and/or is posted on the agency's web page. The public may comment on the project during a designated comment period, if applicable, which varies depending upon the type of permit being applied for and the issuing agency. In certain circumstances, the project may be heard by a governing board, such as a Local Wetlands Board, the State Water Control Board, or VMRC in cases where a locality does not have a wetlands board. You may be responsible for bearing the costs for advertisement of public notices.

Public hearings that are held by VMRC occur at their regularly scheduled monthly commission meetings under the following situations: Protested applications for VMRC permits which cannot be resolved; projects costing over $500,000 involving encroachment over state-owned subaqueous land; and all projects affecting tidal wetlands and dunes/beaches in localities without a LWB. All interested parties will be officially notified regarding the date and time of the hearing and Commission meeting procedures. The Commission will usually make a decision on the project at the meeting unless a decision for continuance is made. If a proposed project is approved, a permit or similar agency correspondence is sent to the applicant. In some cases, notarized signatures, as well as processing fees and royalties, are required before the permit is validated. If the project is denied, the applicant will be notified in writing.

PERMIT APPLICATION OR OTHER FEES

DO NOT send any fees with the JPA. *VMRC is not responsible for accounting for fees required by other agencies.* Please consult agency websites or contact agencies directly for current fee information and submittal instructions.

- USACE: Permit application fees are required for USACE Individual (Standard) permits. A USACE project manager will contact you regarding the proper fee and submittal requirements.
- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their locality website for fee information and submittal requirements. Contact information for LWB may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

INFORMATION REGARDING THREATENED OR ENDANGERED SPECIES

In order to find preliminary information regarding federal or state threatened or endangered species on your project site, you may contact the following four agencies:

United States Fish and Wildlife Service 6669 Short Lane Gloucester, Virginia 23061 Voice: (804) 693-6694 Fax: (804) 693-9032 http://virginiafieldoffice.fws.gov/	NOAA Fisheries Greater Atlantic Region Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930 Voice: (978) 281-9300 https://www.greateratlantic.fisheries.noaa.gov/contact_us/index.html
Project Review Coordinator Virginia Department of Conservation and Recreation Natural Heritage Division 217 Governor Street Richmond, Virginia 23219 Voice: (804) 786-7951 Fax: (804) 371-2674 http://www.dcr.virginia.gov/natural_heritage/index.shtml	Virginia Department of Game and Inland Fisheries Environmental Services Section 4010 West Broad Street Richmond, Virginia 23230-1104 (804) 367-1000 http://www.dgif.virginia.gov/wildlife/

INFORMATION REGARDING FEMA-MAPPED FLOODPLAINS

You may obtain "Online Hazard Maps" for FEMA-mapped floodplains by visiting https://hazards.fema.gov/femaportal/wps/portal. Local governments also keep paper copies of FEMA maps on hand.

FOOTNOTES

(1) Adjacent Property Owner Notification: When determining whether to grant or deny any permit for the use of state-owned submerged lands, the VMRC must consider, among other things, effects of a proposed project on adjacent or nearby properties. Discussing the proposed project with these property owners can be done on your own using the forms in Appendix A of this package. Local Wetlands Boards (LWB) must also consider the effects on adjacent properties and notify adjoining property owners of the required public hearings for all applications. The completed forms will assist VMRC and LWB in processing the application. The forms in Appendix A may be photocopied if more copies are needed. This information will not be used by DEQ to meet the requirements of notifying riparian land owners.

(2) Compensatory mitigation plans. Conceptual compensatory mitigation plans, when required, should include all information stipulated in Sections 80 B and 116 F of DEQ Regulation 9VAC25-210 for Virginia Water Protection individual permit applicants, or in Sections 60 B and/or 70 of DEQ Regulations 9VAC25-660, 9VAC25-670, 9VAC25-680, or 9VAC25-690 for Virginia Water Protection general permit coverage applicants. Regulations may be obtained from DEQ's web site at http://www.deq.virginia.gov/Programs/Water/WetlandsStreams.aspx. Information on wetland and stream compensatory mitigation is available at http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/Mitigation.aspx. The SPGP applicant is required to provide a conceptual mitigation plan in accordance with the current SPGP (http://www.nao.usace.army.mil/Missions/Regulatory/RBregional.aspx). ***Final*** compensatory mitigation plans will be required *prior to commencement of impacts to waters and/or wetlands* on your project site. If no mitigation is planned, submit a detailed statement as to why no mitigation is planned. For projects requiring a LWB or VMRC tidal wetlands permit, please consult the VMRC Wetlands Mitigation-Compensation Policy and Supplemental Guidelines: 4 VAC 20-390 at http://www.mrc.virginia.gov/regulations/regindex.shtm.

(3) Wetland and waters boundary delineation map: Wetlands/waters delineations must be performed using the USACE "Wetland Delineation Manual, Technical Report Y-87-1, January 1987, Final Report" (Federal Manual) and if applicable, the current version of the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual (Atlantic and Gulf Coastal Plain Region or Eastern Mountains and Piedmont Region. The SPGP applicant is required to provide a Corps-confirmed jurisdictional determination or Corps-confirmed delineation approved for use with a permit application, in accordance with the current SPGP (http://www.nao.usace.army.mil/Missions/Regulatory/RBregional.aspx). Contact the appropriate USACE District office or field office to obtain a delineation confirmation by referencing the Contact Information on the Regulatory web page at: http://www.nao.usace.army.mil/Missions/Regulatory.aspx or call the Regulator of the Day (ROD) at 757-201-7652. If a USACE confirmation is not available at the time of application, it must be submitted as soon as it becomes available during the DEQ permit review. For DEQ application purposes, the requirements for delineations apply to all applications, regardless of the amount of impacts. The information to be submitted is detailed in 9VAC25-210-80 B 1 h and is the same regardless of the type of VWP permit being sought.

(4) An analysis of the functions of wetlands, when required for DEQ permitting purposes, shall assess water quality or habitat metrics and shall be coordinated with DEQ in advance of conducting the analysis. For DEQ permitting purposes, please refer to the requirements in 9VAC25-210-80 C, which are the same regardless of the type of VWP permit being sought.

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FOR AGENCY USE ONLY	
	Notes:
JPA#	

APPLICANTS

PLEASE PRINT OR TYPE ALL ANSWERS. If a question does not apply to your project, please print N/A (not applicable) in the space provided. ***If additional space is needed, attach extra 8 ½ x 11 inch sheets of paper.***

Check all that apply			
☐ Pre-Construction Notification (PCN) ☐ NWP # _____ ☐ RP # 05 (*For NWPs & RP 05 ONLY - No DEQ-VWP permit writer will be assigned*)	☐ SPGP	☑ DEQ Reapplication Existing permit number: PN06-1574	☐ Receiving federal funds Agency providing funding: _____
☐ Regional Permit 17 Checklist (RP-17)			

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial
	Refer to Permit Support Document Appendix K			

1. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION
The applicant(s) is/are the legal entity to which the permit may be issued (see How to Apply at beginning of form). The applicant(s) can either be the property owner(s) or the person/people/company(ies) that intend(s) to undertake the activity. The agent is the person or company that is representing the applicant(s). If a company, please also provide the company name that is registered with the State Corporation Commission (SCC), or indicate no registration with the SCC.

Legal Name(s) of Applicant(s)			Agent (if applicable)		
Rivanna Water and Sewer Authority			Hazen and Sawyer		
Mailing address			Mailing address		
695 Moores Creek Lane			4035 Ridge Top Road, Suite 500		
City	State	ZIP Code	City	State	ZIP Code
Charlottesville	VA	22902	Fairfax	VA	22030
Phone number w/area code	Fax		Phone number w/area code	Fax	
(434) 977-2970			(703) 218-2034	(703) 218-2040	
Mobile	E-mail		Mobile	E-mail	
	bmawyer@rivanna.org		(703) 344-6059	aduke@hazenandsawyer.com	
State Corporation Commission Name and ID number (if applicable)			State Corporation Commission Name and ID number (if applicable) Hazen and Sawyer, D.P.C. F0551855		

Certain permits or permit authorizations may be provided via electronic mail. If the applicant wishes to receive their permit via electronic mail, please provide an e-mail address here: _____

1. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION (Continued)

Property owner(s) legal name, if different from applicant			Contractor, if known		
Refer to Attachment F for a list of property owners.			N/A		
Mailing address			Mailing address		
City	State	ZIP code	City	State	ZIP code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile	E-mail		Mobile	E-mail	
State Corporation Commission Name and ID number (if applicable)			State Corporation Commission Name ID number (if applicable)		

2. PROJECT LOCATION INFORMATION

(Attach a copy of a detailed map, such as a USGS topographic map or street map showing the site location and project boundary, so that it may be located for inspection. Include an arrow indicating the north direction. Include the drainage area if the SPGP box is checked on Page 7.)

Street Address (911 address if available)	City/County/ZIP Code
N/A	City of Charlottesville/Albemarle County
Subdivision	Lot/Block/Parcel #
N/A	(see attached list of affected property owners)

Name of water body(ies) within project boundaries and drainage area (acres or square miles).
South Rivanna Reservoir (259 sq.mi), Ragged Mountain Reservoir (1.7 sq.mi), and Sugar Hollow Reservoir (17.5 sq.mi)

Tributary(ies) to: Rivanna River
Basin: James River Sub-basin: Rivanna
(*Example: Basin: James River Sub-basin: Middle James River*)

Special Standards (based on DEQ Water Quality Standards 9VAC25-260 et seq.): _____

Project type (check one)
_____ Single user (private, non-commercial, residential)
_____ Multi-user (community, commercial, industrial, government)
X Surface water withdrawal

Latitude and longitude at center of project site (decimal degrees): 38.071 / -78.521
(Example: 37.33164/-77.68200)

USGS topographic map name: Charlottesville West

8-digit USGS Hydrologic Unit Code (HUC) for your project site (See http://cfpub.epa.gov/surf/locate/index.cfm): 02080204
If known, indicate the 10-digit and 12-digit USGS HUCs (see http://consapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm) :
_____ _____

Name of your project (*Example: Water Creek driveway crossing*) Rivanna Water and Sewer Authority - Community Water Supply

Is there an access road to the project? ☑ Yes ☐ No. If yes, check all that apply: ☑ public ☐ private ☐ improved ☐ unimproved

Total size of the project area (in acres): N/A

2. PROJECT LOCATION INFORMATION (Continued)

Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections:

The pipeline project is between the South Rivanna WTP to the Ragged Mountain Reservoir which supplies water to the Observatory WTP.

Directions to South Rivanna WTP: From US-29N, turn left on VA-631/Rio Rd for 3.3 miles. Take a right on VA-659/Woodburn Rd for 2 miles.

Directions to Ragged Mountain Reservoir: From US-64E, turn onto the US-29N. Keep left and take the exit for US-29 BUS S/Fontaine Ave for 1 mile. Turn right onto Reservoir Rd for 1.7 miles.

Directions to Observatory WTP: From US-64E, turn onto US-29N. Merge onto US-29 BUS N/Mimosa Rd for 0.7 miles.

Does your project site cross boundaries of two or more localities (i.e., cities/counties/towns)? ☑ Yes ☐ No

If so, name those localities: Albemarle County, City of Charlottesville

3. DESCRIPTION OF THE PROJECT, PROJECT PRIMARY AND SECONDARY *PURPOSES*, PROJECT *NEED*, INTENDED USE(S), AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose and need must include any new development or expansion of an existing land use and/or proposed future use of residual land.
- Describe the physical alteration of surface waters, including the use of pilings (#, materials), vibratory hammers, explosives, and hydraulic dredging, when applicable, and *whether or not tree clearing will occur* (include the area in square feet and time of year).
- Include a description of alternatives considered and measures taken to avoid or minimize impacts to surface waters, including wetlands, to the maximum extent practicable. Include factors such as, but not limited to, alternative construction technologies, alternative project layout and design, alternative locations, local land use regulations, and existing infrastructure
- For utility crossings, include both alternative routes and alternative construction methodologies considered
- For surface water withdrawals, public surface water supply withdrawals, or projects that will alter in stream flows, include the water supply issues that form the basis of the proposed project.

The project being permitted consists of several individual projects comprising the Community Water Supply Plan, and builds off of the plan and list of projects included in the prior, related permits for the work (VWP Permit No. 06-1574, COE Section 404 Permit No. 06-V1574). Project elements include raising the normal pool elevation in the RMR, process and capacity improvements at the Observatory and South Rivanna Water Treatment Plants, and a raw water pipeline connecting the SRR and the RMR, among other projects. The projects will not only ensure adequate water supply and treatment capacity to meet forecasted demands, they also significantly improve the overall reliability and resiliency of the water system. Additional detail is available in Section 2.1 and 3.1 of the Permit Support Document.

Date of proposed commencement of work (MM/DD/YYYY)	Date of proposed completion of work (MM/DD/YYYY)
Varies by project component and approved funding	Dates vary based on project component/phase, but generally will be complete within the permit term.
Are you submitting this application at the direction of any state, local, or federal agency? X Yes ____ No	Has any work commenced or has any portion of the project for which you are seeking a permit been completed? X Yes ____ No

If you answered "yes" to either question above, give details stating when the work was completed and/or when it commenced, who performed the work, and which agency (if any) directed you to submit this application. In addition, you will need to clearly differentiate between completed work and proposed work on your project drawings.

The prior work was authorized by the Virginia Department of Environmental Quality (VDEQ) and the U.S. Army Corps of Engineers under the permit numbers referenced above. The Ragged Mountain Dam was completed in 2014 and the reservoir achieved its current normal pool elevation in 2016. The section of the pipeline between the SRR and RMR that crosses the Birdwood Golf Course was also completed under the prior permit. Refer to Section 3.2 of the Permit Support Document for additional detail.

Are you aware of any unresolved violations of environmental law or litigation involving the property? ____ Yes X No

(If yes, please explain)

4. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: $ $182 million
Approximate cost of only the portion of the project affecting state waters (channelward of mean low water in tidal areas and below ordinary high water mark in nontidal areas): $ TBD after resolution of design approaches for pipeline crossings

5. PUBLIC NOTIFICATION (Attach additional sheets if necessary)
Complete information for all property owners adjacent to the project site and across the waterway, if the waterway is less than 500 feet in width. If your project is located within a cove, you will need to provide names and mailing addresses for all property owners within the cove. If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line. Per Army Regulation (AR 25-51) outgoing correspondence must be addressed to a person or business.
Failure to provide this information may result in a delay in the processing of your application by VMRC.

Property owner's name	Mailing address	City	State	ZIP code
Refer to Appendix F of the Permit Support Document.				

Name of newspaper having general circulation in the area of the project: The Daily Progress
Address and phone number (including area code) of newspaper 685 West Rio Road, Charlottesville, VA, 22901. Phone: (434) 978-7200

Have adjacent property owners been notified with forms in Appendix A? _____Yes X No (attach copies of distributed forms)

6. THREATENED AND ENDANGERED SPECIES INFORMATION

Please provide any information concerning the potential for your project to impact state and/or federally threatened and endangered species (listed or proposed). Attach correspondence from agencies and/or reference materials that address potential impacts, such as database search results or confirmed waters and wetlands delineation/jurisdictional determination. Include information when applicable regarding the location of the project in Endangered Species Act-designated or -critical habitats. Contact information for the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Virginia Dept. of Game and Inland Fisheries, and the Virginia Dept. of Conservation and Recreation-Division of Natural Heritage can be found on page 4 of this package.

7. HISTORIC RESOURCES INFORMATION

Note: Historic properties include but are not limited to archeological sites, battlefields, Civil War earthworks, graveyards, buildings, bridges, canals, etc. Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the USACE from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the USACE, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

Are any historic properties located within or adjacent to the project site? ____ Yes ____ No X Uncertain
If Yes, please provide a map showing the location of the historic property within or adjacent to the project site.

Are there any buildings or structures 50 years old or older located on the project site? ____ Yes ____ No X Uncertain
If Yes, please provide a map showing the location of these buildings or structures on the project site.

Is your project located within a historic district? ____ Yes ____ No X Uncertain

If Yes, please indicate which district: _____

7. HISTORIC RESOURCES INFORMATION (Continued)

Has a survey to locate archeological sites and/or historic structures been carried out on the property?
___ Yes _X_ No ___ Uncertain For the portion of the work not yet constructed

If Yes, please provide the following information: Date of Survey: _____

Name of firm: _____

Is there a report on file with the Virginia Department of Historic Resources? ____ Yes ____ No X Uncertain

Title of Cultural Resources Management (CRM) report: _____

Was any historic property located? ____ Yes ____ No __ Uncertain

8. WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION

Report each impact site in a separate column. If needed, attach additional sheets using a similar table format. Please ensure that the associated project drawings clearly depict the location and footprint of each numbered impact site. For dredging, mining, and excavating projects, use Section 17.

	Impact site number 1	Impact site number 2	Impact site number 3	Impact site number 4	Impact site number 5
Impact description (use all that apply): F=fill EX=excavation S=Structure T=tidal NT=non-tidal TE=temporary PE=permanent PR=perennial IN=intermittent SB=subaqueous bottom DB=dune/beach IS=hydrologically isolated V=vegetated NV=non-vegetated MC=Mechanized Clearing of PFO (*Example: F, NT, PE, V)*	Stream and Wetland inundation from raising the RMR pool elevation; Refer to Permit Support Document Appendix L	Proposed SRR Intake Facility; Refer to Permit Support Document Section 3.2.3.			
Latitude / Longitude (in decimal degrees)					
Wetland/waters impact area (square feet / acres)					
Dune/beach impact area (square feet)					
Stream dimensions at impact site (length and average width in linear feet, and area in square feet)					
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)					

8. WETLANDS/WATERS IMPACT INFORMATION (Continued)					
Cowardin classification of impacted wetland/water or geomorphological classification of stream *Example wetland: PFO; Example stream: 'C' channel and if tidal, whether vegetated or non-vegetated wetlands per Section 28.2-1300 of the Code of Virginia*					
Average stream flow at site (flow rate under normal rainfall conditions in cubic feet per second) and method of deriving it (gage, estimate, etc.)					
Contributing drainage area in acres or square miles (*VMRC cannot complete review without this information*)					
DEQ classification of impacted resource(s): Estuarine Class II Non-tidal waters Class III Mountainous zone waters Class IV Stockable trout waters Class V Natural trout waters Class VI Wetlands Class VII https://law.lis.virginia.gov					
For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map – see (3) in the Footnotes section in the form instructions.					
For DEQ permitting purposes, also submit as part of this section a written disclosure of all wetlands, open water, or streams that are located within the proposed project or compensation areas that are also under a deed restriction, conservation easement, restrictive covenant, or other land-use protective instrument.					

9. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR CERTIFICATIONS

READ ALL OF THE FOLLOWING CAREFULLY BEFORE SIGNING

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

CERTIFICATION: I am hereby applying for permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit.

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

9. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR CERTIFICATIONS (Continued)

Is/Are the Applicant(s) and Owner(s) the same? ☑ *Yes* ☐ *No*

Legal name & title of Applicant	Second applicant's legal name & title, if applicable
William I. Mawyer, Jr., PE, Executive Director, Rivanna Water and Sewer Authority	
Applicant's signature: W. I. Mawyer, Jr.	Second applicant's signature
Date 5/19/2021	Date
Property owner's legal name, if different from Applicant	Second property owner's legal name, if applicable
Property owner's signature, if different from Applicant	Second property owner's signature
Date	Date

CERTIFICATION OF AUTHORIZATION TO ALLOW AGENT(S) TO ACT ON APPLICANT'S(S') BEHALF (IF APPLICABLE)

I (we), William I. Mawyer, Jr., PE (and) _____,
APPLICANT'S LEGAL NAME(S) – *complete the second blank if more than one Applicant*

hereby certify that I (we) have authorized Hazen and Sawyer - Aaron Duke (and) _____
AGENT'S NAME(S) – *complete the second blank if more than one Agent*

to act on my (our) behalf and take all actions necessary to the processing, issuance, and acceptance of this permit and any and all standard and special conditions attached. I (we) hereby certify that the information submitted in this application is true and accurate to the best of my (our) knowledge.

Applicant's signature: W. I. Mawyer, Jr.	Second applicant's signature, if applicable
Date 5/19/2021	Date
Agent's signature and title: Associate Vice President	Second agent's signature and title, if applicable
Date 5/20/2021	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I (we), _____ (and) _____,
APPLICANT'S LEGAL NAME(S) – *complete the second blank if more than one Applicant*

have contracted _____ (and) _____
CONTRACTOR'S NAME(S) – *complete the second blank if more than one Contractor*

to perform the work described in this Joint Permit Application, signed and dated _____.

I (we) will read and abide by all conditions as set forth in all federal, state, and local permits as required for this project. I (we) understand that failure to follow the conditions of the permits may constitute a violation of applicable federal, state, and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes.
In addition, I (we) agree to make available a copy of any permit to any regulatory representative visiting the project site to ensure permit compliance. If I (we) fail to provide the applicable permit upon request, I (we) understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all of the terms and conditions.

Contractor's name or name of firm (printed/typed)	Contractor's or firm's mailing address	
Contractor's signature and title	Contractor's license number	Date
Applicant's signature	Second applicant's signature, if applicable	
Date	Date	

END OF GENERAL INFORMATION

The following sections are activity-specific. Fill out only the sections that apply to your particular project.

10. PRIVATE PIERS, MARGINAL WHARVES, AND UNCOVERED BOAT LIFTS

Regional Permit 17 (RP-17), authorizes the installation and/or construction of open-pile piers, mooring structures/devices, fender piles, covered boathouses/boatslips, boatlifts, osprey pilings/platforms, accessory pier structures, and certain devices associated with shellfish gardening, for private use, subject to strict compliance with all conditions and limitations further set out in the RP-17 enclosure located at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/. In addition to the information required in this JPA, prospective permittees seeking authorization under RP-17 must complete and submit the 'Regional Permit 17 Checklist' with their JPA. A copy of the 'Regional Permit 17 Checklist' is found in Appendix B of this application package. If the prospective permittee answers "yes" (or "N/A", where applicable) to all of the questions on the 'Regional Permit 17 Checklist', the permittee is in compliance with RP-17 and will not receive any other written authorization from the Corps but may not proceed with construction until they have obtained all necessary state and local permits. ***Note: If the prospective permittee answers "no" to any of the questions on the 'Regional Permit 17 Checklist' then their proposed structure(s) does not meet the terms and conditions of RP-17 and written authorization from the Corps is required before commencement of any work.***

If the prospective permittee answers "no" to any of the questions on the 'Regional Permit 17 Checklist' then their proposed structure(s) does not meet the terms and conditions of RP-17 and written authorization from the Corps is required before commencement of any work. In those circumstances, the following information must be included in the application and/or on the drawings in order for the application to be considered complete:

1. The applicant **MUST** provide written justification/need for the encroachment if the proposed structure(s) will extend greater than one- fourth of the distance across the waterway measured from either mean high water to mean high water (including all channelward wetlands) or ordinary high water to ordinary high water (including all channelward wetlands). The measurement should be based on the narrowest distance across the waterway regardless of the orientation of the proposed structure(s).
2. The applicant **MUST** provide written justification/need if the proposed structure(s) is greater than five (5) feet wide or there will be less than four (4) feet elevation between the decking and the vegetated wetlands substrate.
3. The Corps **MAY** require depth soundings across the waterway at increments designated by the Corps project manager. Inclusion of depth sounding data in the original JPA submittal is highly recommended in order to expedite permit evaluation. Depth soundings are typically taken at 10-foot increments for waterways less than 200 feet wide and 20-foot increments for waterways greater than 200 feet wide. Please include the date and time the measurements were taken, whether the data was collected at mean low water (MLW) or MHW, and how the soundings were taken (e.g., tape, range finder, etc.).

Number of vessels to be moored at the pier or wharf: _____	Do you have an existing pier on your property? ____Yes____ No If yes, will it be removed? ____Yes ____No Is your lot platted to the mean low water shoreline? ____Yes ____No

In the spaces provided below, give the type (e.g., sail, power, skiff, etc.), size, and registration number of the vessel(s) to be moored

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

11. BOATHOUSES, GAZEBOS, COVERED BOAT LIFTS, AND OTHER ROOFED STRUCTURES OVER WATERWAYS

Number of vessels to be moored at the proposed structure: _____	Will the sides of the structure be enclosed? _____Yes _____No Area covered by the roof structure _____ square feet

In the spaces provided below, give the type (e.g., sail, power, skiff, etc.), size, and registration number of the vessel(s) to be moored

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

12. MARINAS AND COMMERCIAL, GOVERNMENTAL, AND COMMUNITY PIERS

Have you obtained the Virginia Department of Health's approval for sanitary facilities? _____Yes _____No
You will need to obtain this authorization or a variance before a VMRC permit will be issued.

Will petroleum products or other hazardous materials be stored or handled at the facility? _____Yes _____No
If your answer is yes, please attach your spill contingency plan.

Will the facility be equipped to off-load sewage from boats? _____Yes _____No

EXISTING: wet slips: _____ dry storage: _____	*PROPOSED:* wet slips: _____ dry storage: _____

13. FREE STANDING MOORING PILES, OSPREY NESTING POLES, MOORING BUOYS, AND DOLPHINS (not associated with piers)

Number of vessels to be moored: _____	Type and number of mooring(s) proposed: _____

In the spaces provided below, give the type (e.g., sail, power, skiff, etc.), size, and registration number of the vessel(s) to be moored

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

Give the name and complete mailing address(es) of the owner(s) of the vessel(s) if not owned by applicant (attach extra sheets if needed):

Do you plan to reach the mooring from your own upland property? _____Yes _____No
If "no," explain how you intend to access the mooring.

14. BOAT RAMPS

Will excavation be required to construct the boat ramp? _____Yes _____No. If "yes," will any of the excavation occur below the plane of the ordinary high water mark/mean high water line or in wetlands? _____Yes _____No. If "yes," you will need to fill out Section 17 for this excavation.
Where will you dispose of the excavated material?

_____

What type of design and materials will be used to construct the ramp (open pile design with salt treated lumber, concrete slab on gravel bedding, etc.)?

Location of nearest public boat ramp	Driving distance to that public ramp _____miles

Will other structures be constructed concurrent with the boat ramp installation? _____Yes _____No
If "yes," please fill out the appropriate sections of this application associated with those other activities.

15. TIDAL/NONTIDAL SHORELINE STABILIZATION STRUCTURES (INCLUDING BULKHEADS AND ASSOCIATED BACKFILL, RIPRAP REVETMENTS AND ASSOCIATED BACKFILL, MARSH TOE STABILIZATION, GROINS, JETTIES, AND BREAKWATERS, ETC.) Information on non structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.

Is any portion of the project maintenance or replacement of an existing and currently serviceable structure? _____Yes _____No
If yes, give length of existing structure: _____ linear feet

If your maintenance project entails replacement of a bulkhead, is it possible to construct the replacement bulkhead within 2 feet channelward of the existing bulkhead? _____Yes _____No If not, please explain below:

Length of proposed structure, including returns: _____linear feet

Average channelward encroachment of the structure from Mean high water/ordinary high water mark: _____ feet Mean low water: _____feet	*Maximum* channelward encroachment of the structure from Mean high water/ordinary high water mark: _____ feet Mean low water: _____feet
Maximum channelward encroachment form the back edge of the Dune _____feet	*Maximum* channelward encroachment from the back edge of the Beach _____feet

Describe the type of construction including all materials to be used (including all fittings). Will filter cloth be used? ____Yes ____No

What is the source of the backfill material? _____

What is the composition of the backfill material? _____

If rock is to be used, give the average volume of material to be used for every linear foot of construction: _____cubic yards
What is the volume of material to be placed below the plane of ordinary high water mark/mean high water? _____cubic yards

For projects involving stone:
Average weight of core material (bottom layers): _____pounds per stone (Class_____)
Average weight of armor material (top layers): _____pounds per stone (Class_____)

Are there similar shoreline stabilization structures in the vicinity of your project site? _____Yes _____No
If so, describe the type(s) and location(s) of the structure(s):

If you are building a groin or jetty, will the channelward end of the structure be marked to show a hazard to navigation? _____Yes _____No	Has your project been reviewed by the Shoreline Erosion Advisory Service (SEAS)? _____Yes _____No If yes, please attach a copy of their comments.

16. BEACH NOURISHMENT

Source of material and composition (percentage sand, silt, clay): _____	Volume of material: _____cubic yards

Area to be covered _____ square feet channelward of mean low water _____square feet channelward of mean high water

_____ square feet landward of mean low water _____square feet channelward of mean high water

Mode of transportation of material to the project site (truck, pipeline, etc.):

16. BEACH NOURISHMENT (Continued)

Describe the type(s) of vegetation proposed for stabilization and the proposed planting plan, including schedule, spacing, monitoring, etc. Attach additional sheets if necessary.

17. DREDGING, MINING, AND EXCAVATING

FILL OUT THE FOLLOWING TABLE FOR DREDGING PROJECTS

	NEW dredging				**MAINTENANCE dredging**			
	Hydraulic		Mechanical (clamshell, dragline, etc.)		Hydraulic		Mechanical (clamshell, dragline, etc.)	
	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet
Vegetated wetlands								
Non-vegetated wetlands								
Subaqueous land								
Totals								

Is this a one-time dredging event? ☐ Yes _____ No If "no", how many dredging cycles are anticipated: _____
(____ initial cycle in cu. yds.) (_____ subsequent cycles in cu. yds.)

Composition of material (percentage sand, silt, clay, rock):
Provide documentation (i.e., laboratory results or analytical reports) that *dredged* material from on-site areas is free of toxics. If not free of toxics, provide documentation of proper disposal (i.e., bill of lading from commercial supplier or disposal site).

Please include a dredged material management plan that includes specifics on how the dredged material will be handled and retained to prevent its entry into surface waters or wetlands. If on-site dewatering is proposed, please include plan view and cross-sectional drawings of the dewatering area and associated outfall.

Will the dredged material be used for any commercial purpose or beneficial use? _____Yes _____No
If yes, please explain:

If this is a maintenance dredging project, what was the date that the dredging was last performed? _____
Permit number of original permit: _____ *(It is important that you attach a copy of the original permit.)*

17. DREDGING, MINING, AND EXCAVATING (Continued)

For mining projects: On separate sheets of paper, explain the operation plans, including: 1) the frequency (e.g., every six weeks), duration (i.e., April through September), and volume (in cubic yards) to be removed per operation; 2) the temporary storage and handling methods of mined material, including the dimensions of the containment berm used for upland disposal of dredged material and the need (or no need) for a liner or impermeable material to prevent the leaching of any identified contaminants into ground water; 3) how equipment will access the mine site; and 4) verification that dredging: a) will not occur in water body segments that are currently on the effective Section 303(d) Total Maximum Daily Load (TMDL) priority list (available at http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/TMDLProgramPriorities.aspx) or that have an approved TMDL; b) will not exacerbate any impairment; and c) will be consistent with any waste load allocation/limit/conditions imposed by an approved TMDL (see, "What's in my backyard" or subsequent spatial files at http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx to determine the extent of TMDL watersheds and impairment segments).

Have you applied for a permit from the Virginia Department of Mines, Minerals and Energy? _____Yes _____No If Yes:
Existing permit number:_____ Date permit issued: _____

Contributing drainage area: _____square miles	Average stream flow at site (flow rate under normal rainfall conditions): _____cfs

18. FILL (not associated with backfilled shoreline structures) AND OTHER STRUCTURES (other than piers and boathouses) IN WETLANDS OR WATERS, OR ON DUNES/BEACHES

Source and composition of fill material (percentage sand, silt, clay, rock):

_____

Provide documentation (i.e., laboratory results or analytical reports) that *fill* material from *off-site* locations is free of toxics. If not free of toxics, provide documentation of proper disposal (i.e., bill of lading from commercial supplier or disposal site). Documentation is not necessary for fill material obtained from on-site areas.

Explain the purpose of the filling activity and the type of structure to be constructed over the filled area (if any):

Describe any structure that will be placed in wetlands/waters or on a beach dune and its purpose:

Will the structure be placed on pilings? ____ Yes ____ No	Total area occupied by any structure. _____ Square Feet
How far will the structure be placed channelward from the back edge of the dune? _____feet	How far will the structure be placed channelward from the back edge of the beach? _____feet

19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS

If proposed activities are being conducted for the purposes of compensatory mitigation, please attach separate sheets of paper providing all information required by the most recent version of the stream assessment methodology approved by the Norfolk District of the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality, in lieu of completing the questions below. Required information outlined by the methodology can be found at:
http://www.nao.usace.army.mil/Missions/Regulatory/UnifiedStreamMethodology.aspx *or*
http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/Mitigation.aspx.

For all projects proposing stream restoration provide a completed Natural Channel Design Review Checklist and Selected Morphological Characteristics form. These forms and the associated manual can be located at:
https://www.fws.gov/chesapeakebay/StreamReports/NCD%20Review%20Checklist/Natural%20Channel%20Design%20Checklist%20Doc%20V2%20Final%2011-4-11.pdf

Has the stream restoration project been designed by a local, state, or federal agency? ____ Yes ____ No. If yes, please include the name of the agency here: _____.

Is the agency also providing funding for this project? _____ Yes _____ No

Stream dimensions at impact site (length and average width in linear feet, and area in square feet):
L: _____(feet) AW:_____ (feet) Area:_____ (square feet)

Contributing drainage area: _____acres *or* _____square miles

19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued) 19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued)19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued)

Existing average stream flow at site (flow rate under normal rainfall conditions): _____cfs	Proposed average stream flow at site after modifications (flow rate under normal rainfall conditions): _____cfs

Explain, in detail, the method to be used to stabilize the banks:

Explain the composition of the existing stream bed (percent cobble, rock, sand, etc.):

Will low-flow channels be maintained in the modified stream channel? _____Yes _____No.
Describe how:

Will any structure(s) be placed in the stream to create riffles, pools, meanders, etc.? _____Yes _____No
If yes, please explain:

20. UTILITY CROSSINGS

Type of crossing: _____overhead X____trenched X____directionally-drilled

Method of clearing corridor of vegetation (check all that apply): ☐ mechanized land clearing that disturbs the soil surface
☐ cutting vegetation above the soil surface

Describe the materials to be used in the installation of the utility line (including gravel bedding for trenched installations, bentonite slurries used during direction-drilling, etc.) and a sequence of events to detail how the installation will be accomplished (including methods used for in-stream and dry crossings).

Details of construction practices and materials to be used for utility crossings will be defined as the design of the pipeline is progressed.

Will the proposed utility provide empty conduits for any additional utilities that may propose to co-locate at a later date? ____Yes
X___ No.

For overhead crossings over navigable waterways (including all tidal waterways), please indicate the height of other overhead crossings or bridges over the waterway relative to mean high water, mean low water, or ordinary high water mark:

N/A

Nominal system voltage, if project involves power lines: N/A

Total number of electrical circuits: N/A

20. UTILITY CROSSINGS (Continued)

Will there be an excess of excavated material? _____Yes _X___No
If so, describe the method that will be undertaken to dispose of, and transport, the material to its permanent disposal location and give that location:

Will any excess material be stockpiled in wetlands? _____Yes _X___No
If so, will the stockpiled material be placed on filter fabric or some other type of impervious surface? _____Yes _____No

Will permanent access roads be placed through wetlands/streams? ____Yes _X___No
If yes, will the roads be (check one) ☐ at grade ☐ above grade?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? ____Yes _X___No
If maintained, what is the maximum width? _____feet Lines will be maintained up to the wetlands/waters

21. ROAD CROSSINGS

Have you conducted hydraulic studies to verify the adequacy of the culverts? _____Yes _____No
If so, please attach a copy of the hydraulic study/report.
Virginia Department of Transportation (VDOT) standards require that the backwater for a 100 year storm not exceed 1 foot for all road, culvert, and bridge projects within FEMA-designated floodplains. Virginia Department of Environmental Quality (DEQ) requires pipes and culverts 24 inches or less in diameter to be countersunk three inches below the natural stream bed elevations, and pipes and culverts greater than 24 inches to be countersunk at least six inches below the natural stream bed elevations. Hydraulic capacity is determined based on the reduced capacity due to the countersunk position.

Will the culverts be countersunk below the stream bottom? _____Yes _____No. If no, explain:

If the project entails a bridged crossing and there are similar crossings in the area, what is the vertical distance above mean high water, mean low water, or ordinary high water mark of those similar structures? _____feet above _____
For all bridges proposed over navigable waterways (including all tidal water bodies), you will be required to contact the U.S. Coast Guard to determine if a permit is required of their agency.

On separate sheets of paper, describe the materials to be used, the method of construction (including the use of cofferdams), the sequence of construction events, and if bedrock conditions may be encountered. Include cross-sections and profile plans of the culvert crossings including wing walls or rip rap.

22. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES
If the impoundment or dam is a component of a water withdrawal project, also complete Sections 24 through 26.

Will the proposed impoundment, dam, or stormwater management facility be used for agricultural purposes (e.g., in the operation of a farm)? For DEQ permitting purposes, a farm is considered to be a property or operation that produces goods for market.
___ Yes ___ No

What type of materials will be used in the construction (earth, concrete, rock, etc.)? _____

What is the source of these materials? _____

Provide the dimensions of proposed impoundment, dam, or stormwater management facility, including the height and width of all structures.

Storage capacity* of impoundment: _____acre-feet *should be given for the normal pool of recreational or farm ponds, or design pool for stormwater management ponds or reservoirs (the elevation the pond will be at for the design storm, e.g., 10-year, 24-hour storm)	Surface area** of impoundment: _____acres **should be given for the normal pool of recreational or farm ponds, or design pool for stormwater management ponds or reservoirs (the elevation the pond will be at for the design storm, e.g., 10-year, 24-hour storm)

** No new impoundments are being proposed as part of this JPA

22. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES (Continued)

Is the proposed project excluded from the Virginia Dam Safety Regulations? ___ Yes ___ No ___ Uncertain

If not excluded, does your proposed project comply with the Virginia Dam Safety Regulations? ___ Yes ___ No ___ Uncertain

Does the proposed design include a vegetation management area per §10.1-609.2? ___ Yes ___ No ___ Uncertain
If your answer to these questions is no or uncertain, you should contact the Virginia Department of Conservation and Recreation's Dam Safety Program at (804) 371-6095, or reference the regulations on the Web at http://www.dcr.virginia.gov/dam_safety_and_floodplains/index.shtml

For stormwater management and flood control facilities:

Design storm event: _____year storm Retention time: _____hours

Current average flow (flow rate under normal rainfall conditions): _____cfs

Method used to derive average flow: _____

Proposed peak outflow for the design storm provided above: _____cfs

Has the facility been designed as an Enhanced Extended Detention Basin or an Extended Detention Basin in accordance with the Minimum Standard 3.07 of the Virginia Stormwater Management Handbook, Volume I (published by the Virginia Department of Conservation and Recreation, 1999), or in accordance with the latest version of this handbook? _____Yes _____No

Will the impoundment structure be designed to pass a minimum flow at all times? _____Yes _____No

If so, please give the minimum rate of flow: _____cfs

What is the drainage area upstream of the proposed impoundment? _____square miles

How much of your proposed impoundment structure will be located on the stream bed? _____square feet

What is the area of vegetated wetlands that will be excavated and/or back-flooded by the impoundment? _____ square feet

What is the *area and length* of streambed that will be excavated and/or back-flooded by the impoundment? _____ square feet
_____ linear feet

Are fish ladders being proposed to accommodate the passage of fish? _____Yes _____No

23. OUTFALLS NOT ASSOCIATED WITH PROPOSED WATER WITHDRAWAL ACTIVITIES

Type and size of pipe(s): _____

Daily rate of discharge: _____mgd

If the discharge will be thermally-altered, provide the maximum temperature: _____

Contributing drainage area: _____square miles Average daily stream flow at site:_____cfs

Have you received a Virginia Discharge Elimination System (VPDES) permit for the proposed project? ___ Yes ___ No.

If yes, please provide the VPDES permit number: _____.

If no, is there a permit action pending? ___ Yes ___ No. If pending, what is the facility name? _____.

The following sections are typically related to surface water withdrawal activities; Federal Energy Regulatory Commission license projects; or impacts likely to require instream flow limits. Examples of such projects include, but are not limited to, reservoirs, irrigation projects, power generation facilities, and public water supply facilities that may or may not have associated features, such as dams, intake pipes, outfall structures, berms, etc.

If completing these sections, enter "N/A" in any section that does not apply to the project.

24. INTAKES, OUTFALLS, AND WATER CONTROL STRUCTURES (INCLUDING ALL PROPOSED WATER WITHDRAWAL ACTIVITIES)

For intakes: South Rivanna Reservoir

Type and size of pipe(s): TBD / concept being developed

Type and size of pump(s): TBD / concept being developed

Average and Maximum daily rate of withdrawal: 16 - 30 (est.) and 48 mgd

Velocity of withdrawal: TBD / concept being developed fps

Screen mesh size: TBD inches / _____ mm

If other sizing units, please specify:

_____

Contributing drainage area at withdrawal point(s): 259 square miles

Average daily stream flow at withdrawal point(s) (flow rate under normal rainfall conditions): 195 cfs

Method(s) used to derive average daily stream flow

See Section 5 of the Permit Support Document

Average annual stream flow at withdrawal point(s): 195 cfs

Latitude and longitude of withdrawal point(s) (degrees, minutes, seconds): 38°06'15"N ; 78°28'09" W

For outfalls: N/A

Type, size, and hydraulic capacity (under normal conditions) of pipe(s): _____, _____, and _____

Daily rate of discharge: _____ mgd

If the discharge will be thermally-altered, provide the maximum temperature: _____

Contributing drainage area at discharge point(s): _____ square miles

Average daily stream flow at discharge point(s) (flow rate under normal rainfall conditions): _____cfs

Method(s) used to derive average daily stream flow

_____

Latitude and longitude of discharge point(s) (degrees, minutes, seconds): _____

For intakes and dams, use the table below to provide the median monthly stream flows in cubic feet per second (cfs) at the water intake or dam site (not at the stream gage; if there is not a gage at the intake or dam site, you will need to interpolate flows to the intake or dam site based upon the most closely related watershed in which there is an operational stream gage monitored by the United States Geologic Survey (USGS)). Median flow is the value at which half of the measurements are above and half of the measurements are below. Median is also sometimes referred to as the '50% exceedence flow'. The median flow generally must be calculated from USGS historical data. Please do not provide *mean (average)* flow.

Month	Median flow (cfs)	Month	Median flow (cfs)
January	158	July	63
February	168	August	46
March	212	September	38
April	184	October	55
May	144	November	91
June	96	December	129

24. INTAKES, OUTFALLS, AND WATER CONTROL STRUCTURES (Continued)

Describe the stream flow gages used, USGS stream flow gage site number and site name (e.g., USGS 01671100 Little River near Doswell, VA), the type of calculations used (such as drainage area correction factors), and the period of record that was used to calculate the median flows provided in the table above. Generally, the period of record should span a minimum of 30 years.

The community water supply system includes multiple reservoir supplies and multiple points of water withdrawal and treatment. Stream flow gages used within the Urban Water System include gages on the Mechums River and Moormans River. For additional details regarding gage flows, correction factors and related matters, refer to Section 5 of the Permit Support Document.

For interbasin transfer of water resources proposed from either the Chowan River, New River, Potomac River, Roanoke River, Big Sandy River, or Tennessee River basins to another river basin, provide the following information:

Destination location (discharge point) of the transfer:
8-digit USGS Hydrologic Unit Code (HUC) (See http://cfpub.epa.gov/surf/locate/index.cfm): _____ If known, indicate the 10-digit and 12-digit USGS HUCs (see http://consapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm):

_____ _____

Latitude and Longitude: _____- _____- _____/ _____- _____- _____

Provide any available historical low-flows at the intake or dam site.

0.1 cfs on daily basis in worst drought; 10th percentile low daily flow = 25.8 cfs (unregulated flow to intake) [values provided for the SRR]

Describe how the proposed withdrawal at the intake or dam site will impact stream flows in terms of rates, volumes, frequency, etc. (e.g., percent of the flow to be withdrawn, percent of withdrawal returned to the original source, etc.).

Refer to the Permit Support Document for details of stream flow impacts and minimum in-stream flow (MIF) considerations.

Describe how the withdrawal of water will vary over time. For example, will the withdrawal vary by the time of year, by the time of day, or by the time of week? Examples of projects that should describe variable withdrawals include, but are not limited to: power plant cooling withdrawals that increase and decrease seasonally; golf course irrigation; municipal water supply; nurseries; ski resorts that use water for snowmaking; and resorts with weekend or seasonal variations.

Water withdrawals will vary over time in response to customer demand for finished drinking water, which in turn can be impacted by time of year (e.g., seasonal variations) and/or in response to system operational needs. Refer to the Permit Support Document for additional information related to water withdrawals.

24. INTAKES, OUTFALLS, AND WATER CONTROL STRUCTURES (Continued)

Provide the amount of water that will be lost due to consumptive use. For the purpose of this application, consumptive use means the withdrawal of surface waters without recycling of said waters to their source or basin of origin. Examples of consumptive uses are water that is evaporated in cooling towers or by other means in power plants; irrigation water (all types); residential water use that takes place outside of the home; and residential water use both inside and outside of homes for residences served by septic systems. Projects that propose a transfer of water from one river basin to another and/or localities that sell water to other jurisdictions, should document the portion of the withdrawal that is not returned to the originating watershed.

Proposed monthly consumptive volume (million gallons): 66 MG per month

Attach a map showing the *location* of the withdrawal and of the return of flow, and provide the *amount* of the return flow (million gallons).

For withdrawals proposed on an impoundment, provide a description of flow or release control structures. Include type of structure, rate of flow, size, capacity, invert elevation of outfall pipes referenced to the normal pool elevation, and the mechanism used to control release. Provide a description of available water storage facilities. Include the volume, depth, normal pool elevation, unusable storage volume and dimensions. If applicable, stage-storage relationship at the impounding structure (the volume of water in the impoundment at varying stages of water depth) and volume or rate of withdrawals from the storage facility.

This is a permit renewal for existing withdrawals on existing impoundments / water sources.

25. WATER WITHDRAWAL USE(S), NEED, AND ALTERNATIVES *(Attach additional sheets if needed.)*

Describe the proposed use(s) and need for the surface water and information on how demand for surface water was determined. *Golf courses* must provide documentation to justify the amount of water withdrawal, such as the amount of acreage under irrigation, the acreage of fairways versus greens, type of turf grass, evapotranspiration, and irrigation efficiency. *Agricultural* users must supply documentation justifying their requested withdrawal amount, such as type of crop, livestock, or other agriculture animal, number of animals, watering needs, acres irrigated, inches of water applied, and frequency of application. *Other users* of withdrawals for purposes other than those described above must provide sufficient documentation to justify the requested withdrawal amounts.

Refer to Sections 2 and 3 of the Permit Support Document for a discussion of the purpose and need and alternatives, respectively.

25. WATER WITHDRAWAL USE(S), NEED, AND ALTERNATIVES (Continued)

Provide the following information at the water intake or dam site. Specify the units of measurement (e.g., million gallons per day, gallons per minute, cubic feet per second, etc.).

Proposed maximum instantaneous withdrawal: 48 mgd

Proposed average daily withdrawal: 10.0 mgd in 2021, 11.4 mgd in 2038

Proposed maximum daily withdrawal: 15.5 mgd in 2021, 18.5 mgd in 2038

Proposed maximum monthly withdrawal: 390 MG in 2021, 440 MG in 2038

Proposed maximum annual withdrawal: 3.9 BG in 2021, 4.4BG in 2038

Describe how the above withdrawals were calculated, including the relevant assumptions made in that calculation and the documentation or resources used to support the calculations, such as population projections, population growth rates, per-capita use, new uses, changes to service areas, and if applicable, evapotranspiration data and irrigation data.

Values indicated above were developed in conjunction with historical data review, hydrologic model development and demand forecasting efforts that used population and employment projections, zoning for properties within the limits of the Urban Water System, and calculations of unit demand by usage area (residential, employment and other major users (i.e., UVA facilities). Other than maximum instantaneous withdrawal, values above do not include transfer from SRR to RMR.

For surface water withdrawals, public water supply withdrawals, and projects that will alter instream flows, provide information to establish the local water supply need. Attach additional sheets if needed.

EXISTING	PROJECTED
Existing supply sources, yields, and demands: The Urban System has multiple sources; refer to the Permit Support Document.	Projected demands over a minimum 30-year planning period: 12.5 mgd average day in 2050
Peak day withdrawal: 12.8 mgd Average daily withdrawal: 9.4 mgd Safe yield: 12.8 mgd Lowest daily flow of record: 5.3 mgd	Projected demands in local or regional water supply plan (9VAC25-780 et seq.) or demand for the project service area, if that is smaller in area: N/A
	Statistical population (growth) trends: 2.2% per year
Types of water uses (residential, public water supply, commercial, industrial, agricultural): public water supply	Projected demands by type of water use: See Section 4 of Permit Support Document
Existing values above are for the SRR only.	
Existing water conservation measures and drought response plan, including what conditions trigger implementation: Refer to 2015 Drought Management Plan attached to this JPA	Projected demands without water conservation measures: 15.4 mgd
Plan will be updated during this permit term based on overall operating and planning decisions.	Projected demands with long-term water conservation measures: 12.5 mgd average day in 2050

For surface water withdrawals other than public water supply, provide inf
sources of water are available for the proposed project during times of re

N/A

The RWSA has amongst the lowest per capita unit demands anywhere in the mid-Atlantic. Much of the potential savings with today's technology has already been achieved. In 2011 their demand was projected to be 15.4 mgd in 2050 with nearly all of the 2.9 mgd difference (15.4 - 12.5) due to improved conservation and device efficiency - not change in forecast population.

25. WATER WITHDRAWAL USE(S), NEED, AND ALTERNATIVES (Continued)

Provide information from the State Water Resources Plan (http://www.deq.virginia.gov/Programs/Water/WaterSupplyWaterQuantity/WaterSupplyPlanning/StateWaterResourcesPlan.aspx) and the local or regional water supply plan that covers the area in which the proposed water withdrawal project is located (http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterSupplyPlanning/SWRP%20Final/App%20A%20Water%20Supply%20Plans%20and%20Participating%20Localities.pdf). Include information from the plan that pertains to projected demand, analysis of alternatives, and water conservation measures. Discuss any discrepancies between the water supply plan and the proposed project. For projects that propose a transfer of water resources from the Chowan River, New River, Potomac River, Roanoke River, Big Sandy River, or Tennessee River basins to another river basin, information should be provided from the water supply plans for both the source and receiving basins. Attach additional sheets if needed.

Refer to Permit Support Document Section 4.

Provide an alternatives analysis for the proposed water withdrawal project, including the required range of alternatives to be analyzed; a narrative outlining the opportunities and status of regional efforts undertaken; and the criteria used to evaluate each alternative. The analysis must address all of the criteria contained in 9VAC25-360.

This project is for a permit renewal for the continued implementation of the Community Water Supply Plan. Section 3.1 and Appendix A of the Permit Support Document describe the prior alternatives analysis.

Describe any existing, flow-dependent beneficial uses along the affected stream reach. Include both instream and offstream uses. Describe the stream flow necessary to protect existing beneficial uses, how the proposed withdrawal will impact existing beneficial uses, and any measures proposed to mitigate any adverse impacts that may arise. For projects that propose a transfer of water resources from the Chowan River, New River, Potomac River, Roanoke River, Big Sandy River, or Tennessee River basins to another river basin, this analysis should include both the source and receiving basins. For the purposes of this application, beneficial instream uses include, but are not limited to, the protection of fish and wildlife habitat; maintenance of waste assimilation; recreation; navigation; and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic uses (including public water supply); agricultural uses; electric power generation; commercial uses; and industrial uses.

Refer to Permit Support Document Section 6.

Describe the aquatic life known to be present along the affected stream reach. Describe aquatic life that may be impacted by the proposed water withdrawal. Include the species' habitat requirements. For projects that propose a transfer of water resources from either the Chowan River, New River, Potomac River, Roanoke River, Big Sandy River, or Tennessee River basins to another river basin, this analysis should include both the source and receiving basins.

Refer to Permit Support Document Section 6.

26. PUBLIC COMMENTS/ISSUES FOR MAJOR WATER WITHDRAWALS OR INTERBASIN TRANSFERS

For new or expanded surface water supply projects, use separate sheets of paper to summarize the steps taken to seek public input per 9VAC25-210-320, and identify the issues raised during the public information process.

For transfer of water resources proposed from either the Chowan River, New River, Potomac River, Roanoke River, Big Sandy River, or Tennessee River basins to another river basin, if public input was not required per 9VAC25-210-320, summarize on separate sheets of paper any coordination and/or notice provided to the public, local/state government, and interested parties in the affected river basins and identify any issues raised.

Refer to Section 8.2 in the Permit Support Document.

Attachment 1 – 2015 Drought Response and Contingency Plan

DROUGHT RESPONSE AND CONTINGENCY PLAN

1. Background and Purpose

In 2004, a Rivanna Regional Drought Response Committee was formed to work cooperatively to provide a coordinated response to drought in this community. Members of the Committee include staff representing: Rivanna Water & Sewer Authority (RWSA), Albemarle County Service Authority (ACSA), City of Charlottesville (City), and Albemarle County (County). The two local governments and two authorities all have overlapping responsibilities for public service that are critical to responsive drought management planning for Albemarle County and the City of Charlottesville, and the Committee serves a role in assuring that these efforts are coordinated and synergistic.

The Commonwealth of Virginia, in its Local and Regional Water Supply Planning regulations (9VAC 25-780), has established a planning process and criteria for local governments to use in the development of local or regional water supply plans. These regulations include a component regarding drought response and contingency plans. Communities that withdraw more than 300,000 gallons per month of surface water and groundwater must develop a drought contingency and response plan. This Plan was designed to fulfill these regulatory requirements on behalf of Albemarle County and the City of Charlottesville. A letter of compliance from the VA Department of Water Quality was issued to RWSA in late 2013, which confirmed that the 2008 draft of this Plan complied with the provisions of the Local and Regional Water Supply Planning regulations.

The Commonwealth provides guidance to local governments on appropriate drought responses in the Virginia Drought Assessment and Response Plan (March 28, 2003). This plan identifies the Virginia Drought Monitoring Task Force as having the responsibility for monitoring drought conditions for the Commonwealth and issuing status reports on drought conditions. These reports provide insight to local governments on statewide conditions. It is stated in the Plan that, "While actions on the State level are important for the purpose of alerting localities and citizens of the advance of drought impacts, actions by local governments, individual water suppliers, and individual citizens are much more important and effective in actually addressing the impacts of drought." It is the intent of this Plan to monitor drought conditions and provide for a call to action that reflects local drought conditions and is specific to the limitations of the local water supply.

This Plan discusses water conservation to be achieved during drought periods, through both the voluntary efforts of the community and mandatory restrictions on water use. While it is desirable that water conservation habits be practiced under all conditions, this plan recognizes that until such time as all citizens are consistently maximizing opportunities to conserve water on a regular basis, higher levels of conservation can be achieved during times of "crisis", and it is extremely important to communicate both the condition and the opportunities when weather conditions threaten the short-term sustainability of the water supply. As a result, this Plan makes a distinction

between long-term water conservation programs that permanently reduce overall demand at all times, and short-term drought management programs which at least temporarily reduce water use during drought emergencies. Long-term conservation programs include measures implemented continually, regardless of the status of the water supply. Examples of long-term conservation measures include: public education, conservation-oriented rate structures, conservation water use habits by individuals, low-flow plumbing rebate programs, and leak detection/repair. The long-term conservation programs implemented by the Committee members are expected to result in sustained reduction in future water demands per capita over long periods of time.

Short-term drought management programs include voluntary and mandatory water use restrictions and/or rationing which are implemented in response to the threatened status of the water supply and can result in significant water use reductions during a drought period. Drought management measures include curtailing demand by limiting non-essential uses of water , an example of which is irrigation, and can be as restrictive as water rationing. Drought management programs involving water use restrictions are reserved for periods when indications are present that the area is entering into a drought and as a result, the water supply may become threatened in the near future.

The Rivanna Regional Drought Response Committee takes its role in preparing the community for drought very seriously. The purpose of this drought contingency and response plan is to define a method for predicting and identifying drought conditions, specify drought stages, identify appropriate use restrictions for each drought stage, and clearly define the process of public notification and information dissemination.

This Plan will be reviewed and modified as needed, as the water supply system is modified, water supply operating rules are changed, or additional information and feedback is received which would help to more efficiently operate the system in the event of a drought.

With the recent completion of the expanded Ragged Mountain Dam (September 2014), it is necessary to update the Plan given the new storage and operating rules associated with it.

2. Existing Water Sources

A. General

RWSA provides wholesale drinking water supply and treatment for the ACSA and City as three separate and distinct systems: the Urban Water System, which serves all of the City of Charlottesville and the urban area of Albemarle County that generally surrounds the City; the Crozet Water System, which serves the ACSA water distribution system in and around the Crozet community; and the Scottsville Water System, which serves the ACSA water distribution system for the Town of Scottsville.

In addition to the citizens served by public drinking water systems, Albemarle County encompasses a significant area that is rural in character with residences that receive water through individual on-site wells or privately operated community systems using groundwater. Albemarle County, in its Comprehensive Plan, estimates that there are about 18,500 dwelling units dependent on individual groundwater wells within the County.

During drought conditions, the extent of a threat to the sufficiency of a water supply will depend on the extent to which the demands on a given system are approaching the safe yield of the supply. The condition of the Urban Water System serves as an appropriate assessment for the impact of drought conditions for all systems, because it is the system that is currently closest to approaching its safe yield. It can be extremely difficult to assess the threat to individual on-site wells because their supply during a drought can vary widely depending on well depth and location.

The Rivanna Regional Drought Response Committee agreed that when drought conditions are present it is very important that all governing units (Albemarle County, ACSA, City of Charlottesville, and RWSA) are sending a consistent message to all of the public regarding the critical need for conservation of water. Given the diverse conditions of multiple water sources and the presence of both public water systems and on-site well systems, providing a consistent message requires that monitoring for drought conditions be diverse and prioritized. It also requires that conservation and use restrictions be tailored to the most stressed of the diverse systems that are present.

Since the Urban Water System is being used as the reference system for identifying drought conditions, much of the hydrologic monitoring by RWSA under this Drought Management Plan will be focused on the Urban Water System. However, hydrologic modeling of the Urban Water System will include assessment of open channel stream flows as well as reservoir levels. Stream flows are not only a good indicator of emerging stress on reservoir levels, they are also a good indicator of stress on groundwater recharge that could also impact on-site well conditions.

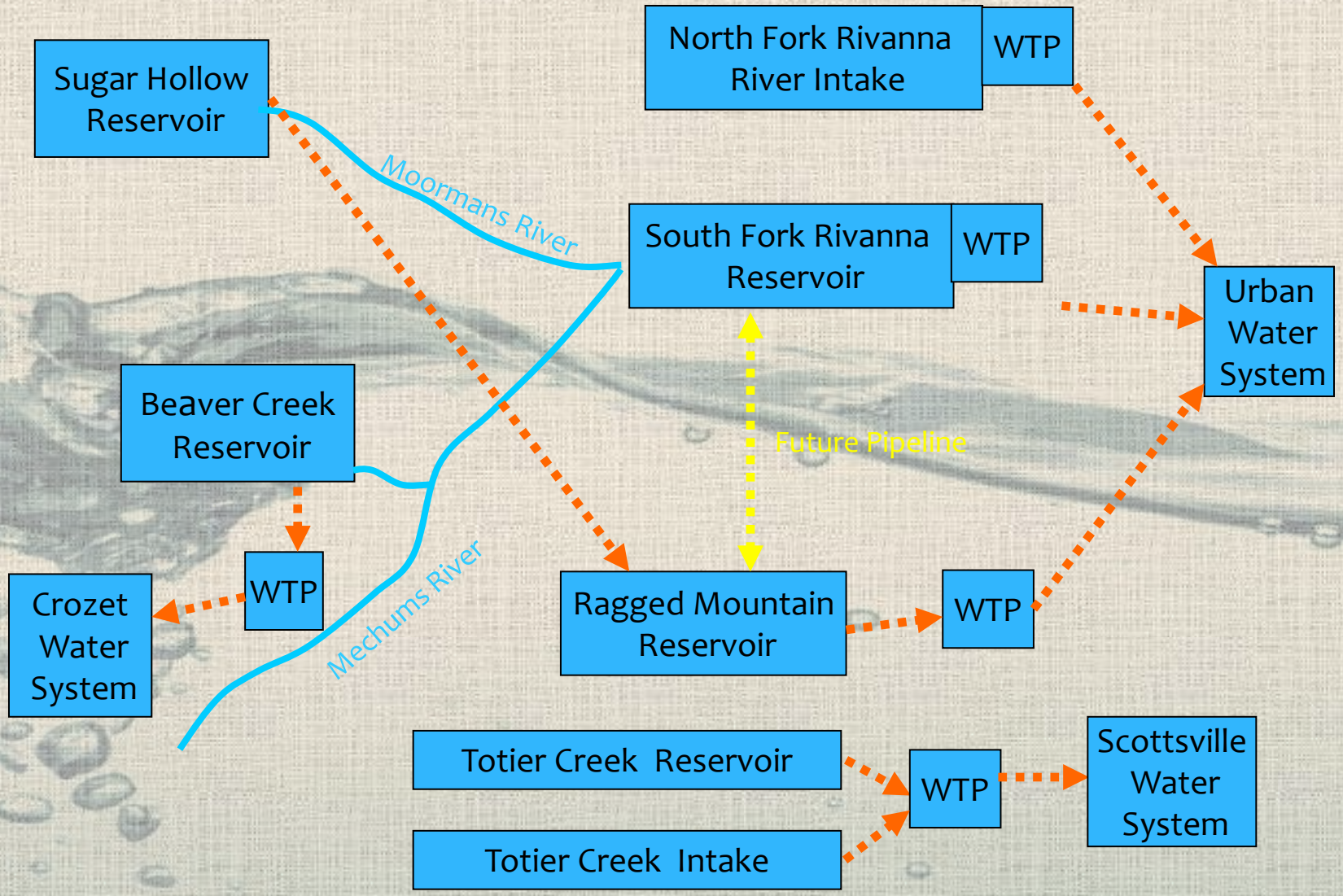
B. Description of Urban Water System

A schematic diagram of the RWSA Urban Water System is presented in Figure 1.

Raw water for the RWSA Urban Service Area is normally supplied from three water supply reservoirs and one river intake. The reservoirs which supply the system include: the South Fork Rivanna Reservoir (SFRR), Sugar Hollow Reservoir (SHR), and the Ragged Mountain Reservoir (RMR). The river intake is located on the North Fork Rivanna River. Summary information on the existing system is presented below.

Finished water for the Urban Water System is supplied from three water treatment plants (WTPs): 1) South Rivanna WTP, 2) Observatory WTP, and 3) North Fork Rivanna WTP. The South Rivanna WTP is served by the South Fork Rivanna Reservoir. Water from Sugar Hollow Reservoir overflows the Sugar Hollow dam and flows into the South Fork

Figure 1 - RWSA Water System Schematic



Rivanna Reservoir via the Moormans River. The Observatory WTP is supplied by water from the Ragged Mountain Reservoir through two parallel 18-inch diameter pipelines. Water from Sugar Hollow Reservoir can also be transferred to Ragged Mountain Reservoir. The North Fork Rivanna WTP treats water pumped from an intake on the North Fork Rivanna River.

South Fork Rivanna Reservoir has the largest drainage area in the system: 259.1 square miles. As part of the permit issued for the development of the Expanded Ragged Mountain Reservoir, regulatory release requirements were developed for the South Fork dam to maintain minimum instream flows for aquatic life, which mimic the natural environment. The minimum instream flow requirement varies based on total useable storage in the reservoir as well as the sum total of all Urban System reservoirs, and natural inflow to the reservoir; when useable storage is available in the South Fork reservoir the minimum release ranges from 70 % of natural inflow or 1.3 mgd, whichever is greater, to 30% of natural inflow or 1.3 mgd, whichever is greater. At no time is total downstream flow in excess of 20 mgd required. If useable storage in the reservoir is exhausted, the lowest intake must be open to pass all flow through the reservoir to the river downstream.

With the expanded Ragged Mountain Reservoir, there is now one dam downstream of where there once were two dams in a series on an unnamed tributary to Moores Creek. The old dams have been breached, so that the new dam acts as the impounding structure for the entire reservoir. The drainage area of the Ragged Mountain Reservoir is 1.8 square miles. The minimum release required from Ragged Mounatin Reservoir is 23,800 gallons per day.

Sugar Hollow Reservoir is located on the Moormans River and drains an area 17.5 square miles in size. As is the case with South Fork dam, regulatory release requirements at Sugar Hollow dam also vary based on total system storage, and natural inflow to the reservoir. Releases range from 100% of natural inflow or 10 mgd, whichever is less, when Ragged Mountain useable storage is equal to or greater than 1.08 billion gallons, to 100% of natural inflow, or 2 mgd, whichever is less, when Ragged Mountain useable storage is less than 1.08 billion gallons.

An intake and pump station with a permitted withdrawal capacity of 2.0 million gallons per day (mgd) are also located on the North Fork Rivanna River, which serves the northern section of the Urban Service Area.

C. RWSA Water Supply System Operating Procedures

Operating procedures for the RWSA Urban Service Area are in place to most efficiently utilize the existing raw water resources. Under normal operating conditions, the system is operated to maximize the quality of the water produced at each water treatment plant and to efficiently transport water to the water distribution systems of the Albemarle County Service Authority and the City of Charlottesville.

As drought conditions begin, total system storage decreases. The Sugar Hollow Reservoir will normally stop spilling, followed by the South Fork Rivanna Reservoir. As these conditions occur, RWSA will maximize production at the South Fork Rivanna Water Treatment Plant over the Observatory Water Treatment Plant, while maintaining operating pressures at all delivery points to the City of Charlottesville that do not exceed the reasonable operating limits of the City's system. As a drought becomes more persistent, production at the South Fork Water Treatment Plant will continue to be emphasized, and the drawdown of the Sugar Hollow Reservoir will take priority over the Ragged Mountain Reservoir since the larger watershed area upstream of Sugar Hollow will permit the water supply to recover more quickly when rainfall does occur. Storage in the Ragged Mountain Reservoir will be held as long as possible, except to the extent that the Ragged Mountain Reservoir will be drawn down enough to prevent transfers from Sugar Hollow to cause spillage from the dam.

Further optimization of the Water Supply System Operating Procedures would be possible if the North Rivanna and South Rivanna distribution systems were interconnected and a new pump station were built.and if the South Fork and Observatory water distribution systems were further reinforced by the completion of a transmission main between Pantops and Avon Street (referred to as the "Southern Loop"). The Route 29 Pump Station Site Acquisition is in the currently proposed RWSA Capital Improvement Program for 2015-2019 A location is established for emergency transfer of water between the Norht Rivanna and South Rivanna systems using portable equipment that will help provide needed service during a drought event.

Supplemental stream flows to the South Fork Rivanna Reservoir will be instituted during drought conditions as defined under Section 3 of this Plan.

3. Emergency Water Sources

A. Beaver Creek Reservoir

Beaver Creek Reservoir is not normally part of the Urban Water System. It is owned by Albemarle County, and RWSA manages it as a source of supply for the Crozet Water System. A safe yield study was completed for Beaver Creek Reservoir in June 2007, which calculated the safe yield of the reservoir as 1.8 mgd. Priority is always placed on meeting the demands of the Crozet Water System. Excess capacity from Beaver Creek Reservoir can then be used to augment the Urban Water System during a drought through in-stream releases from the dam to Beaver Creek, which flow through the Mechums River to the South Fork Rivanna Reservoir.

Releases will occur only when SFRR is not spilling and available water supply storage in SFRR is less than 97% of full pool. In most cases, the drought will have reached a declared "Warning" stage by this time (drought stages are further defined in Section 4 of this Plan). At all times, releases from the Beaver Creek Reservoir to SFRR will be shut off to preserve a water supply equal to 20% of the total water supply storage in Beaver

Creek Reservoir, plus the calculated storage needed to meet the water demands of the Crozet system as hydrologically modeled based on the drought of record.

It is anticipated that a portion of the water released from the dam would be lost as it travels through the streambed to the SFRR. In modeling the system, bed loss of 10% is assumed.

B. Chris Greene Lake

Chris Greene Lake is located on Jacob's Run, which flows to the North Fork Rivanna River upstream of the North Fork Rivanna WTP. Any releases from this lake would flow to the North Fork intake. It is currently used as a recreational facility.

Use of Chris Greene Lake as a water supply alternative was evaluated as part of the *Water Supply Alternatives Supplemental Evaluation* (Gannett Fleming, July 2004). In this study, it was estimated that drawing down the lake by 5 feet would result in an increase in safe yield of the system of 0.5 mgd. Because of the small yield of the alternative, it was not carried further for analysis as a water supply alternative. However, it has been considered for use in an emergency situation. During the 2002 drought, use of Chris Greene Lake as a supplemental source was considered, but never implemented. During the drought, improvements were made to the outlet structures should the need arise to use this lake as a source of supply. Because it is used recreationally, all swimming and contact use of the reservoir would have to be prohibited while it is used for water supply. Notice would be given to the Albemarle County Department of Parks and Recreation prior to any use of the lake for water supply.

B. Lake Albemarle

Lake Albemarle is a recreational lake located on Spring Creek, which flows to the Mechums River. The reservoir is managed by the Virginia Department of Game and Inland Fisheries. Use of Lake Albemarle as a water supply alternative to supplement flows to the SFRR via the Mechums River was evaluated as part of the *Water Supply Alternatives Supplemental Evaluation* (Gannett Fleming, July 2004). Based on this analysis, it was estimated that the system safe yield could be increased by 0.7 mgd. During the 2002 drought, an agreement was reached with the Virginia Department of Game and Inland Fisheries regarding use of Lake Albemarle as an emergency water source. This agreement allowed RWSA to withdraw water from the lake down to 15 vertical feet, when the combined reservoir level of the Urban Service area drops to 30% or less. The Agreement remained in effect until January 1, 2005. While RWSA was poised to use this source if the need arose, the 2002 drought never reached the 30% threshold.

There are several concerns regarding use of Lake Albemarle as an emergency source. There is no outlet structure on the dam to allow release of water downstream. A method of delivering the water to the stream would be required. In addition, it is necessary to

balance recreational uses with water supply needs. There are also water quality concerns and the amount of water delivered to SFRR would be impacted by bed loss. Additional study of these issues and coordination with the Virginia Department of Game and Inland Fisheries will be required in order to determine the practicality of using this source of emergency water supply. This would only be considered under the most extreme conditions.

4. Identifying Drought Conditions

A. OASIS® Hydrologic Computer Model

RWSA has contracted with Hydrologics, Inc., a water resources management consulting firm, to provide real-time probability-based analysis of drought potential specific to the RWSA Urban Water System. Hydrologics uses OASIS® software to analyze statistical probabilities as to the rate at which the water supply levels would diminish, using the historical period of record, current operating procedures, and existing water demand projections. Further, by evaluating the historical period of record for stream flow against the current demand for drinking water, the model can simulate the positive effects of water conservation on preserving water supply during droughts, and through an iterative process, determine at what time intervals it is most appropriate to call on the public for increasingly restrictive water conservation measures. These drought intervals are defined in three components: reservoir elevation, risk factor, and forecast horizon. When one or more of these intervals is reached during an actual drought, a formal declaration to the public is needed in order to activate both the public education measures and the water use restrictions that are necessary to achieve water conservation. This Drought Management Plan defines these time intervals as "Stages" of the drought.

The OASIS model is used to evaluate how well these stages would have worked in past droughts, and this increases the understanding of how well they will work in the future. The stages also provide a margin of safety for the uncertainty of climate change and the potential for more severe droughts in the future as compared to those in the historical record. The model uses a long inflow record to capture as many historic droughts as possible.

Formal public declaration of a change in drought stage for this Plan will be guided by the following:

- Determination by the Commonwealth of Virginia's Drought Monitoring Task Force that a Watch, Warning, or Emergency condition exists for the Middle James region of Virginia. This is the region that includes Albemarle County and the City of Charlottesville in the Commonwealth's drought management plan.

- A drought emergency declaration by the Governor of Virginia or the Virginia Drought Coordinator affecting the region of the Commonwealth which includes Albemarle County and the City of Charlottesville.

- Review of data maintained by the National Oceanic and Atmospheric Administration (NOAA), the National Weather Service (NWS), and the Virginia State Climatology Office.

- Modeled hydrologic conditions (using OASIS®) predict a probability of a shortage of local water supply as follows:

  Drought Watch Stage: 20% or greater probability that total useable reservoir storage will be less than 75% within 12 weeks. 75% total useable reservoir storage is equivalent to 78% of total reservoir storage.

  Drought Warning Stage: 10% or greater probability that total useable reservoir storage will be less than 60% of full within 10 weeks. 60% total useable reservoir storage is equivalent to 74% of total reservoir storage.

  Drought Emergency Stage: 5% or greater probability that total useable reservoir water storage will be less than 50% of full within 8 weeks. 50% total useable reservoir storage is equivalent to 70% of total reservoir storage.

- Review of streamflow data monitored by the U. S. Geological Survey for the Mechums River gage and the North Fork Rivanna gage.

- Water supply storage stages can also be declared due to unusual events that threaten the available supply of water, such as acute contamination of the water in a reservoir, loss due to a failure causing significant loss of stored water from a dam, or related types of circumstances.

These three stages of drought correspond to the Commonwealth of Virginia Local and Regional Water Supply Planning Regulations. A Drought Watch is issued as a means to increase public awareness that climatic conditions and stream flows are such that there is concern of an impending drought. A Drought Warning is issued when all indications show that the onset of a drought is imminent. A Drought Emergency is issued during a drought as a means of curtailing demand and extending supplies through the duration of the drought.

The OASIS® model is used based on the assumption that the community would be able to achieve a minimum of 5 % demand reduction during the Drought Warning Stage and a minimum of 20% reduction during the Drought Emergency stage. The specific use restrictions that will be implemented to meet the demand reductions are the responsibility of the retail service providers, ACSA and the City, and are discussed in Section 6.

5. Notification of Drought Conditions

When one or more of the conditions specified in Section 4 are met indicating that the local community has reached a Drought Watch stage, the Executive Director will recommend to the RWSA Board of Directors that a Drought Watch be officially declared

for the local water supply. At the time a Drought Watch is declared, the Board of Directors will authorize the Chair of the RWSA Board of Directors in consultation with the RWSA Executive Director, to declare a Drought Warning or a Drought Emergency should drought conditions later reach the levels defined by the guidance in Section 4. RWSA's Executive Director will provide appropriate immediate notification to the City, ACSA, Albemarle County and the news media at any time a new drought stage has been declared by RWSA. At that time, retail providers will activate water use restrictions and other conservation measures as defined under Section 6 of this Plan.

Because the Rivanna Regional Drought Response Committee is composed of two political entities and two authorities, specific actions must take place once a drought stage has been declared by RWSA. The ACSA and City will jointly exercise vigorous measures to encourage voluntary water conservation and encourage decreases in outdoor water use during a Drought Watch. The City of Charlottesville will require action by City Council to activate mandatory water use restrictions associated with a Drought Warning stage, and separate action to authorize additional restrictions during a Drought Emergency stage. The ACSA has policies in place to initiate mandatory water use restrictions as soon as RWSA declares a Drought Warning or Drought Emergency, provided that the Albemarle County Board of Supervisors has also declared that conditions exist whereby the ACSA is authorized to enforce mandatory restrictions. The Board of Supervisors' declaration is required only once, at the onset of the Drought Warning stage, and the form of this declaration will be as determined by the County Attorney in accordance with the requirements of the statutes of the Commonwealth of Virginia. Every effort will be made by each governing board to expedite the process and authorize the appropriate drought stage and associated restrictions as quickly as possible.

Notwithstanding the provisions of this Plan, should the Governor of Virginia declare a drought emergency for the region including Albemarle County and the City of Charlottesville, the City and ACSA must enforce restrictions listed in Attachment A of Virginia Water Protection Individual Permit No. 06-1574, Major Modification No. 1, issued to the Rivanna Water and Sewer Authority, dated December 20, 2011.

With respect to well users, the County cannot impose restrictions on well users until the Governor of Virginia declares a drought emergency. At that point, the County must enforce the restrictions that the Governor has imposed. The County may also adopt an ordinance that restricts the nonessential use of ground water if it determines that the restriction is necessary to protect the public health, safety, or welfare. Such a restriction would apply only during a Drought Emergency that has been declared by the Governor. The County adopted restriction can not apply to agriculture. It is quite possible that the RWSA Executive Director may make a local Drought declaration prior to the Governor declaring a Drought Emergency. Without such a declaration by the Governor, however, the County may take measures such as disseminating conservation information, but it would have no authority to restrict the use of ground water.

In the event that the Committee feels there is an emergency need to enact a drought stage, and regularly scheduled meetings of the various Boards in the approval process do not

allow for actions without undue delay, the Committee can recommend that one or more Boards call a special meeting in order that all agencies take appropriate and coordinated actions without unreasonable delay.

Continued coordination by the Drought Response Committee is instrumental in ensuring that these processes are effective in meeting the conservation goals of this Plan.

Drought stages may be discontinued or reduced in severity after the water supply has sufficiently recovered such that water use restrictions are no longer necessary. It is recommended that drought declarations remain in force until recovery of useable storage is such that modeled water conditions result in a probability of recurrence less than the modeled hydrologic conditions defined for entering each stage in Section 4 of this Plan.

6. Implementation of Water Restrictions

During periods of time in which drought stages are declared, water use restrictions will be in effect and enforced within the following jurisdictional areas as defined below:

A. ***Albemarle County Service Authority***. As defined by Section 16 of the Rules and Regulations of the Albemarle County Service Authority, as amended.

B. ***City of Charlottesville.*** As defined by Section 31-125 of the Code of Ordinances of the City of Charlottesville, as amended.

C. ***Albemarle County.*** As defined by Section 16-500 of the Albemarle County Code.

7. Public Awareness and Education

An active public involvement campaign shall be maintained at all times during which a drought stage has been declared by the RWSA. This campaign shall provide education of the public regarding the conditions of the drought, tips on how to conserve water, water use restrictions that are in effect, and the extent to which measured levels of water conservation have been achieved. The Rivanna Regional Drought Response Committee that includes representation from ACSA, City of Charlottesville, County of Albemarle, and RWSA will coordinate with each other as needed to ensure that campaign information is thoroughly integrated and is responsive to the need to achieve specific water conservation goals. Public education shall use all available forms of mass communication to include regular press releases, radio and television programming, cable local government channels, public meetings, and the internet (e.g., websites, social media.

The ACSA and the City of Charlottesville both have active water conservation programs during non-drought periods and drought periods. These programs are identified clearly in their respective websites which can be found at www.serviceauthority.org and http://www.charlottesville.org/Index.aspx?page=632.

8. Formal Review of Drought Response

The Rivanna Regional Drought Response Committee meets as necessary to coordinate and share information. When conditions are emerging that may develop into drought stages, or during a drought stage, the Committee will meet as frequently as needed, and will include in its activities a review of each drought stage and the response of the community to these stages. This will serve as important feedback regarding how efficient the plan is working, and what improvements would be warranted for the future.

APPENDIX A

Adjacent Property Owner's Acknowledgement Form

I, _____, own land next to/ across the water from/ in the same cove
(print adjacent property owner's name)

as the land of _____.
(print applicant's name)

I have reviewed the applicant's project drawings dated _____ to be submitted for all
(date of drawings)

necessary federal, state, and local permits.

_____ I have no comment regarding the proposal

_____ I do not object to the proposal

_____ I object to the proposal

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, please be sure that you have checked the appropriate option above)

_____
Adjacent property owner's signature

_____
Date

NOTE: IF YOU OBJECT TO THE PROPOSAL, THE REASON(S) YOU OPPOSE THE PROJECT MUST BE SUBMITTED TO VMRC IN WRITING. AN OBJECTION WILL NOT NECESSARILY RESULT IN A DENIAL OF A PERMIT FOR THE PROPOSED WORK. HOWEVER, VALID COMPLAINTS WILL BE GIVEN FULL CONSIDERATION DURING THE PERMIT REVIEW PROCESS.

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APPENDIX B N/A

U.S. Army Corps Of Engineers
Norfolk District

REGIONAL PERMIT 17 CHECKLIST
Expires: September 5, 2023

Please review the 18-RP-17 enclosure before completing this form and note 18-RP-17 can only be used for proposed PRIVATE USE structure(s) that comply with the terms and conditions of 18-RP-17. Copies can be obtained online at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/.

YES☐ NO☐ **(1)** Has the permittee reviewed the 18-RP-17 enclosure and verified that the proposed structure(s) is in compliance with all the terms, conditions, and limitations of 18-RP-17?

YES☐ NO☐ **(2)** Does the proposed structure(s) extend no more than one-fourth of the distance across the waterway measured from either mean high water (MHW) to MHW (including all channelward wetlands) or ordinary high water (OHW) to OHW (including all channelward wetlands)?

YES☐ NO☐ **(3)** Does the proposed structure(s) extend no more than 300 feet from MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(4)** Does the proposed structure(s) attach to the upland at a point landward of MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(5)** If the proposed structure(s) crosses wetland vegetation, is it an open-pile design that has a maximum width of five (5) feet and a minimum height of four (4) feet between the decking and the wetland substrate?

YES☐ NO☐ N/A☐ **(6)** Does the proposed structure(s) include no more than two (2) boatlifts and no more than two (2) boat slips?

YES☐ NO☐ N/A☐ **(7)** Is the open-sided roof structure designed to shelter a boat ≤ 700 square feet and/or is the open sided roof structure or gazebo structure designed to shelter a pier ≤ 400 square feet?

YES☐ NO☐ N/A☐ **(8)** Are all piles associated with the proposed structure(s) non-steel, less than or equal to 12” in diameter, and will less than or equal to 25 piles be installed channelward of MHW?

YES☐ NO☐ N/A☐ **(9)** Is all work occurring behind cofferdams, turbidity curtains, or other methods to control turbidity being utilized when operationally feasible and federally listed threatened or endangered species may be present?

YES☐ NO☐ N/A☐ **(10)** If the proposed structure(s) is to be located within an anadromous fish use area, the prospective permittee will adhere to the anadromous fish use area time of year restriction (TOYR) prohibiting in-water work from occurring between February 15 through June 30 of any given year if (1) piles are to be installed with a cushioned impact hammer and there is less than 492 feet between the most channelward pile and mean low water (MLW) on the opposite shoreline or (2) piles are to be installed with a vibratory hammer and there is less than 384 feet between the most channelward pile and MLW on the opposite shoreline.

YES☐ NO☐ **(11)** Is all work occurring outside of submerged aquatic vegetation (SAV) mapped by the Virginia Institute of Marine Sciences’ (VIMS) most recent survey year and 5 year composite?

YES☐ NO☐ **(12)** Has the permittee ensured the construction and/or installation of the proposed structure(s) will not affect federally listed threatened or endangered species or designated critical habitat?

YES☐ NO☐ **(13)** Will the proposed structure be located outside of Broad Creek in Middlesex County, Fisherman’s Cove in Norfolk, or the Salt Ponds in Hampton?

YES☐ NO☐ **(14)** Will the proposed structure(s) be located outside of the waterways containing a Federal Navigation Project listed in Permit Specific Condition 12 of 18-RP-17 and/or will all portions of the proposed structure(s) be located more than 85 feet from the Federal Navigation Project?

YES☐ NO☐ **(15)** Will the proposed structure(s) be located outside a USACE Navigation and Flood Risk Management project area?

YES☐ NO☐ **(16)** Will the proposed structure(s) be located outside of any Designated Trout Waters?

YES☐ NO☐ N/A☐ **(17)** If the proposed structure(s) includes flotation units, will the units be made of materials that will not become waterlogged or sink if punctured?

YES☐ NO☐ N/A☐ **(18)** If the proposed structure(s) includes flotation units, will the floating sections be braced so they will not rest on the bottom during periods of low water?

YES☐ NO☐ **(19)** Is the proposed structure(s) made of suitable materials and practical design so as to reasonably ensure a safe and sound structure?

YES☐ NO☐ **(20)** Will the proposed structure(s) be located on the property in accordance with the local zoning requirements?

YES☐ NO☐ N/A☐ **(21)** If the proposed structure(s) includes a device used for shellfish gardening, will the device be attached directly to a pier and limited to a total of 160 square feet?

YES☐ NO☐ N/A☐ **(22)** If the proposed structure(s) includes a device used for shellfish gardening, does the permittee recognize this RP does not negate their responsibility to obtain an oyster gardening permit (General Permit #3) from Virginia Marina Resources Commission's Habitat Management Division?

YES☐ NO☐ **(23)** Does the permittee recognize this RP does not authorize any dredging or filling of waters of the United States (including wetlands) and does not imply that future dredging proposals will be approved by the Corps?

YES☐ NO☐ **(24)** Does the permittee understand that by accepting 18-RP-17, the permittee accepts all of the terms and conditions of the permit, including the limits of Federal liability contained in the 18-RP-17 enclosure? Does the permittee acknowledge that the structures permitted under 18-RP-17 may be exposed to waves caused by passing vessels and that the permittee is solely responsible for the integrity of the structures permitted under 18-RP-17 and the exposure of such structures and vessels moored to such structures to damage from waves? Does the permittee accept that the United States is not liable in any way for such damage and that it shall not seek to involve the United States in any actions or claims regarding such damage?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, REGIONAL PERMIT 17 (18-RP-17) DOES NOT APPLY AND YOU ARE REQUIRED TO OBTAIN WRITTEN AUTHORIZATION FROM THE CORPS PRIOR TO PERFORMING THE WORK.

IF YOU HAVE ANSWERED "YES" (OR "N/A", WHERE APPLICABLE) TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH REGIONAL PERMIT 17 (18-RP-17). PLEASE SIGN BELOW, ATTACH, AND SUBMIT THIS CHECKLIST WITH YOUR COMPLETED JOINT PERMIT APPLICATION (JPA). THIS SIGNED CERTIFICATE SERVES AS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS; HOWEVER, YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT 17 (18-RP-17), DATED SEPTEMBER 2018, ISSUED BY THE US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT REGULATORY BRANCH (CENAO-WRR), NORFOLK, VIRGINIA.

Proposed work to be located at:

_____ _____

Signature of Property Owner(s) or Agent

_____

Date_____ **VMRC Number:** _____

APPENDIX C

Chesapeake Bay Preservation Act Information

Please answer the following questions to determine if your project is subject to the requirements of the Bay Act Regulations:

1. Is your project located within Tidewater Virginia? ____Yes X____No (See map on page 31) - If the answer is "no", the Bay Act requirements do not apply; if "yes", then please continue to question #2.

2. Please indicate if the project proposes to impact any of the following Resource Protection Area (RPA) features:

   ____ Tidal wetlands,

   ____ Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow,

   ____ Tidal shores,

   ____ Other lands considered by the local government to meet the provisions of subsection A of 9VAC25-830-80 and to be necessary to protect the quality of state waters (contact the local government for specific information),

   ____ A buffer area not less than 100 feet in width located adjacent to and landward of the components listed above, and along both sides of any water body with perennial flow.

If the answer to question #1 was "yes" and any of the features listed under question #2 will be impacted, compliance with the Chesapeake Bay Preservation Area Designation and Management Regulations is required. **The Chesapeake Bay Preservation Area Designation and Management Regulations** are enforced through locally adopted ordinances based on the Chesapeake Bay Preservation Act (CBPA) program. Compliance with state and local CBPA requirements mandates the submission of a ***Water Quality Impact Assessment (WQIA)*** for the review and approval of the local government. Contact the appropriate local government office to determine if a WQIA is required for the proposed activity(ies).

The individual localities, not the DEQ, USACE, or the Local Wetlands Boards, are responsible for enforcing the CBPA requirements and, therefore, local permits for land disturbance are not issued through this JPA process. **Approval of this wetlands permit does not constitute compliance with the CBPA regulations nor does it guarantee that the local government will grant approval for encroachments into the RPA that may result from this project.**

Notes for all projects in RPAs

Development, redevelopment, construction, land disturbance, or placement of fill within the RPA features listed above requires the approval of the locality and may require an exception or variance from the local Bay Act ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.

Pursuant to 9VAC25-830-110, *on-site delineation of the RPA is required for all projects in CBPAs*. Because USGS maps are not always indicative of actual "in-field" conditions, they may not be used to determine the site-specific boundaries of the RPA.

Notes for shoreline erosion control projects in RPAs

Re-establishment of woody vegetation in the buffer will be required by the locality to mitigate for the removal or disturbance of buffer vegetation associated with your proposed project. Please contact the local government to determine the mitigation requirements for impacts to the 100-foot RPA buffer.

Pursuant to 9VAC25-830-140 5 a (4) of the Virginia Administrative Code, shoreline erosion projects are a permitted modification to RPAs provided that the project is based on the "best technical advice" and complies with applicable permit conditions. In accordance with 9VAC25-830-140 1 of the Virginia Administrative Code, the locality will use the information provided in this Appendix, in the project drawings, in this permit application, and as required by the locality, to make a determination that:

1. Any proposed shoreline erosion control measure is necessary and consistent with the nature of the erosion occurring on the site, and the measures have employed the "best available technical advice"
2. Indigenous vegetation will be preserved to the maximum extent practicable
3. Proposed land disturbance has been minimized
4. Appropriate mitigation plantings will provide the required water quality functions of the buffer (9VAC25-830-140 3)
5. The project is consistent with the locality's comprehensive plan
6. Access to the project will be provided with the minimum disturbance necessary.

TIDEWATER VIRGINIA

APPENDIX D

Sample Drawings

On the following pages, you will find lists of information required on drawings, as well as sample drawings in plan and cross-sectional views. While the lists attempt to capture all required information for drawings, please verify your submittal with the applicable agency regulations. For DEQ drawing definitions and requirements, see Sections 10 and 80 of 9VAC25-210; and in Section 60 of the general permit regulations 9VAC25-660, 9VAC25-670, 9VAC25-680, and 9VAC25-690. Please be advised that some Local Wetlands Boards (LWB) require you to have a licensed engineer certify the drawings. You should contact your LWB to determine their specific requirements. Failure to include all necessary information on your drawings may mean that your application is not considered complete by one or more agencies.

All projects will require the submittal of plan view and cross-sectional view drawings. Drawings should be drawn to a scale no smaller than 1 inch = 200 feet. The number of sets of drawings to be submitted is detailed in the HOW TO APPLY section starting on page 2 of this package. Drawings can be computer-generated or hand-drawn. The sample drawings demonstrate the **general** format necessary, *but for ease of viewing, not all of the required information is shown in the sample drawings***.**

***Plan view** drawings should contain the following general informational items:*

- Name of project
- North arrow
- Scale
- Waterway name, if designated
- Existing topographic or bathymetric contours
- Proposed topographic or bathymetric contours
- Width of waterway from the mean high water level to the mean high water level (tidal areas), or the ordinary high water mark to the ordinary high water mark (nontidal areas)
- Direction of flood and ebb (tidal areas), and/or direction of flow in nontidal areas (if applicable)
- Mean low water level and mean high water level (tidal areas), or ordinary high water mark (nontidal areas)
- Landward limit of the dune or beach at the site
- Limits of proposed impacts to surface waters, such as fill areas, riprap scour protection placement, and dredged areas; the amount of such impacts in square feet and acres; and the latitude/longitude (decimal degrees) at each impact site
- All delineated wetlands and all surface waters on the site, including the Cowardin classification (i.e., emergent, scrub-shrub, or forested) for those surface waters and waterway name, if designated

***AND Plan view** drawings should also contain the following specific informational items **if they apply to the project**:*

Resource Impact/Protection-Specific Items:

- Limits of: existing*, non-delineated* wetlands, open water, or streams, including submerged aquatic vegetation (SAV), riffle/pool complexes, or bars; Chesapeake Bay Preservation Act Resource Protection Area(s) (RPA), including the 100-foot buffer; proposed clearing within the RPA buffer; and any areas that are under a deed restriction, conservation easement, restrictive covenant, or other land use protective instrument (i.e., protected areas)
- Location and type of existing vegetation within the 100-foot RPA buffer and location of proposed wetland planting areas (as restoration for temporary impacts or mitigation for permanent impacts)
- Historic/cultural resources
- Threatened/Endangered resources

Structure/Project-Specific Items:

- Existing and proposed structures, labeled as 'existing' and 'proposed', and their dimensions. These items may include pier(s), including L-heads, T-heads, platforms, and/or decks; roof(s) on roofed structures located over waterways, including boathouses; gasoline storage tanks and/or structures for collecting and handling hazardous material, including settling tanks for travel lift washdown water, paint chips, etc.; return walls; tie-ins to existing bulkhead(s) or riprap; utility line easement(s); utility line/road right(s)-of-way; aerial transmission line structure(s), including towers, poles, platforms, etc.; onsite or offsite dredged material disposal areas, including location of all berms, spillways, erosion and sediment control measures, outfall pipes, and aprons; temporary stockpiles of excavated material; temporary construction access facilities; risers and/or emergency spillways, labeled with their proposed invert elevations; design pool/normal pool for stormwater management ponds/impoundments/reservoirs; intakes and/or outfalls, including splash aprons, relative to mean high water, mean low water, or ordinary high water mark(s); anchoring devices and weights (mooring buoys), including the total swing radius
- Channelward encroachment of proposed structure(s) from mean high water and mean low water, or from ordinary high water mark
- For piers that cover ¼ or more of the waterway width: depth soundings, taken at the mean low water level (tidal areas) or the ordinary high water mark (nontidal areas)
- Distance(s) between structure(s) (piers, boathouses, catwalks, etc.) and mooring pile(s)
- Minimum distance between dredge cut and vegetated wetlands
- Latitude and longitude of all mooring structures, in degrees, minutes, and seconds
- End points and turning points along proposed bulkhead(s), labeled as such

- For bulkheads, measurements from each end point and each turning point along proposed bulkhead(s) to two fixed points of reference (labeled as such)
- Structure or method used to contain fill (hay bales, silt fences, etc.)
- Dimensions of impoundment, dam, or stormwater management facility and area of any vegetative management areas

Cross-sectional view drawings, and when required profile view* drawings, *should contain the following General Informational items:*

- Name of project
- North arrow
- Scale
- Waterway name
- Mean low water and mean high water lines (tidal areas), and/or ordinary high water mark (nontidal areas)
- Direction of flood and ebb (tidal areas), and/or direction of flow in nontidal areas (if applicable)
- Existing contours of the bottom (depths relative to mean low water or ordinary high water mark) and the bank itself
- Existing contours of the dune or beach
- Existing and proposed elevations
- Location of all existing and proposed structures
- Limits of proposed impacts to surface waters, such as fill areas, riprap scour protection placement, and dredged areas; the amount of such impacts in square feet and acres; and the latitude/longitude (decimal degrees) at each impact site

AND Cross-sectional view drawings, and when required profile view* drawings, *should also contain the following specific informational items* ***if they apply to the project****:*

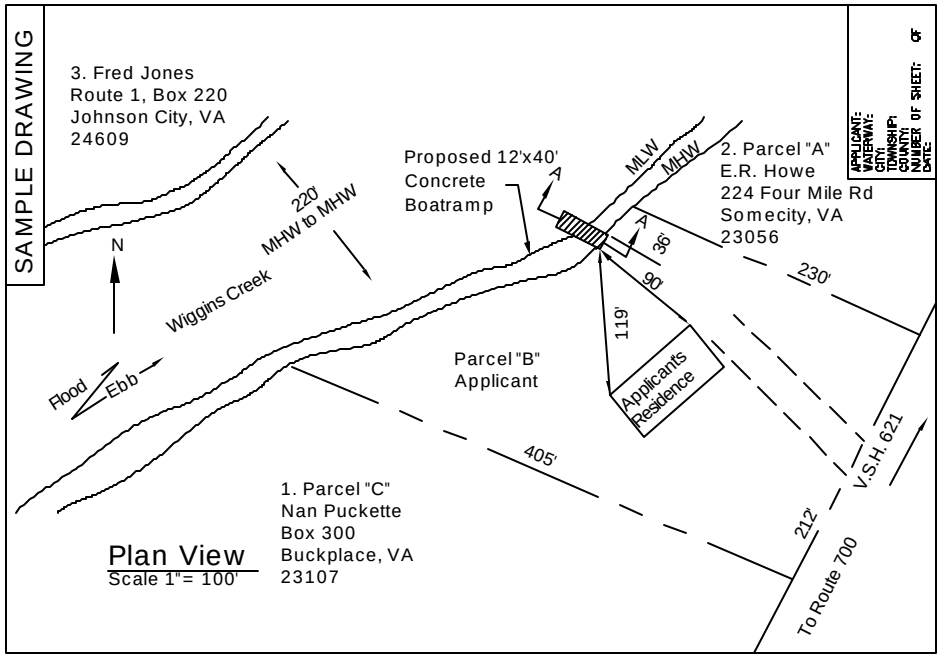
Resource impact/protection-specific Items:

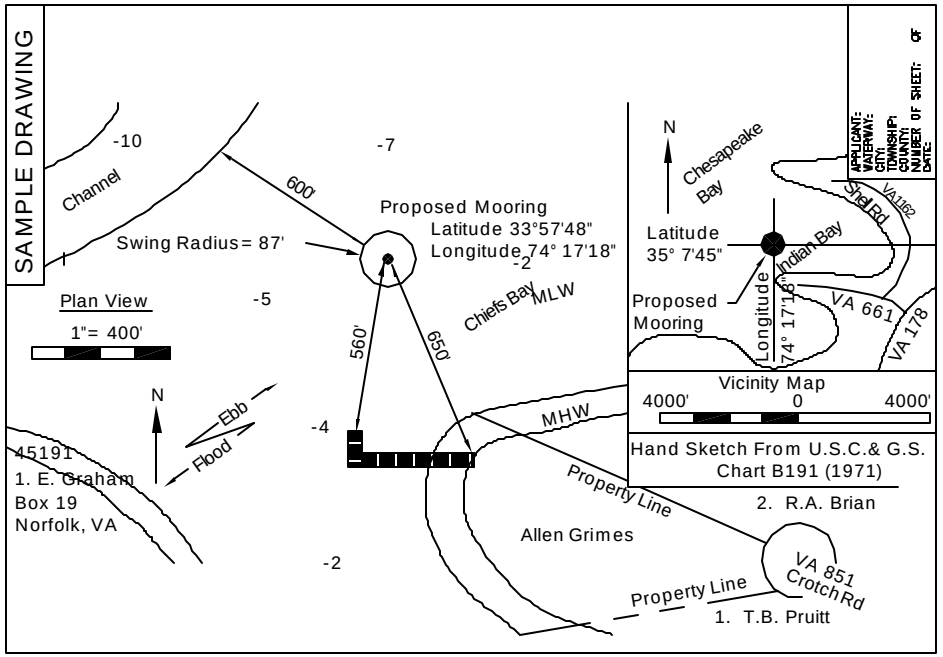
- Limits of: existing*, non-delineated* wetlands, open water, or streams, including submerged aquatic vegetation (SAV), riffle/pool complexes, or bars; Chesapeake Bay Preservation Act Resource Protection Area(s) (RPA), including the 100-foot buffer; and proposed clearing within the RPA buffer
- Riprap scour protection
- Proposed wetland planting areas, relative to mean high water and mean low water (tidal areas), or ordinary high water mark (nontidal areas)
- Depth of buried toe of riprap or marsh toe stabilization
- Base width, top width, and slope of stone/concrete stabilization structures

Structure/Project-Specific Items:

- Existing and proposed structures, labeled as ‘existing’ and ‘proposed’, and their dimensions. These items may include fill areas, labeled with square footage(s) or acreage(s) over vegetated wetlands and subaqueous bottom; berms, spillways, erosion and sediment control measures, outfall pipes, and aprons at onsite or offsite dredged material disposal area(s); bank grades; deadmen, sheeting, knee braces, etc., as used in the construction of bulkheads; filter cloth; weep holes; intakes and/or outfalls, including splash aprons, relative to mean high water, mean low water, or ordinary high water mark; risers and/or emergency spillways; low-flow channels; culverts, including their proposed invert elevations and diameters; anchoring systems for aquaculture structures; type of chain used to secure mooring buoys to subaqueous bottom
- For dredge projects, proposed contours of the bottom (depth relative to mean low water or ordinary water level)
- Bottom width of proposed dredge cut, projected side slope of cut, and estimated top width of cut
- Ponding depth of onsite or offsite dredged material disposal area
- Minimum distance between pier decking and vegetated wetland substrate (a.k.a. the “mud line”)
- Water depth below mean low water at the end of proposed boat ramps
- Depth of penetration of pilings and/or sheeting (bulkheads)
- Elevation of any proposed fill (including backfill)
- Structure or method used to contain fill (hay bales, silt fences, etc.)
- Design pool/normal pool elevation for stormwater management facilities/impoundments/reservoirs
- Vertical distance from the water surface (relative to mean high water or ordinary high water mark) for all aerial crossings (bridges or overhead utility lines) over navigable water bodies
- Depth below bottom of water body for submarine utility crossings
- Dimensions of impoundment, dam, or stormwater management facility through a cross-section of the structure(s); bottom elevation(s) of basin created; depth of pool; and depth(s) to structure(s) on the bottom.

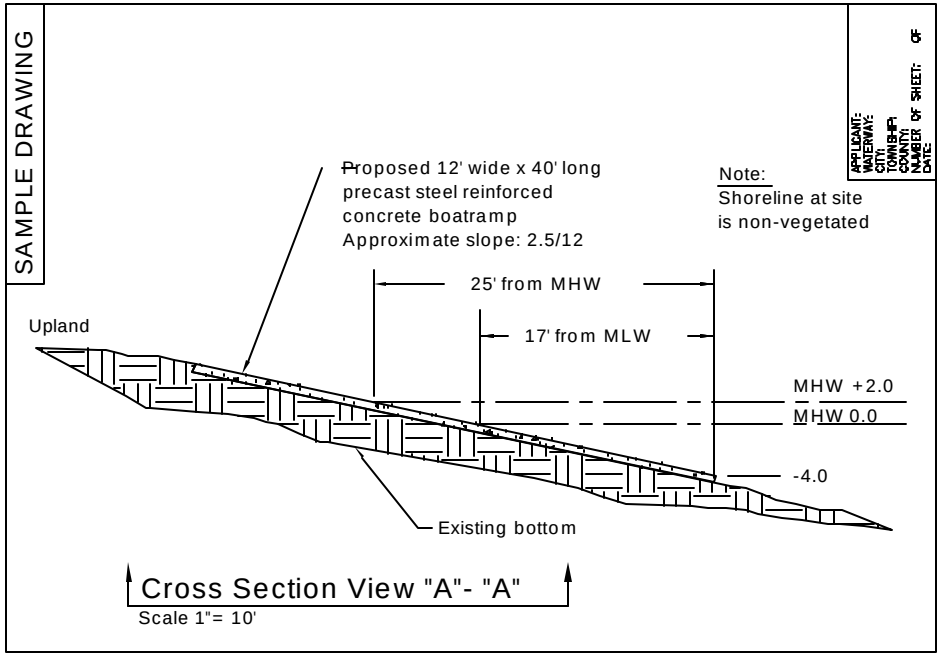
** Profile drawing or drawings with the information noted in Appendix D may be required by DEQ on a case-by-case basis to demonstrate minimization of impacts. When required, any application that proposes piping or culverting stream flows shall provide a longitudinal profile of the pipe or culvert position and stream bed thalweg, or shall provide spot elevations of the stream thalweg at the beginning and end of the pipe or culvert, extending to a minimum of 10 feet beyond the limits of proposed impact.*

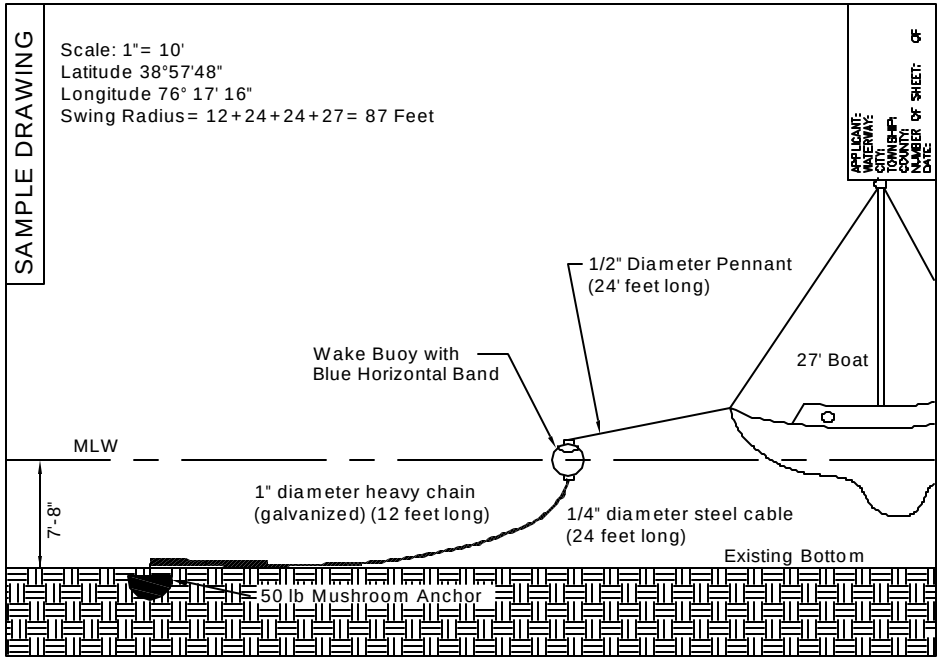




Boat Ramps

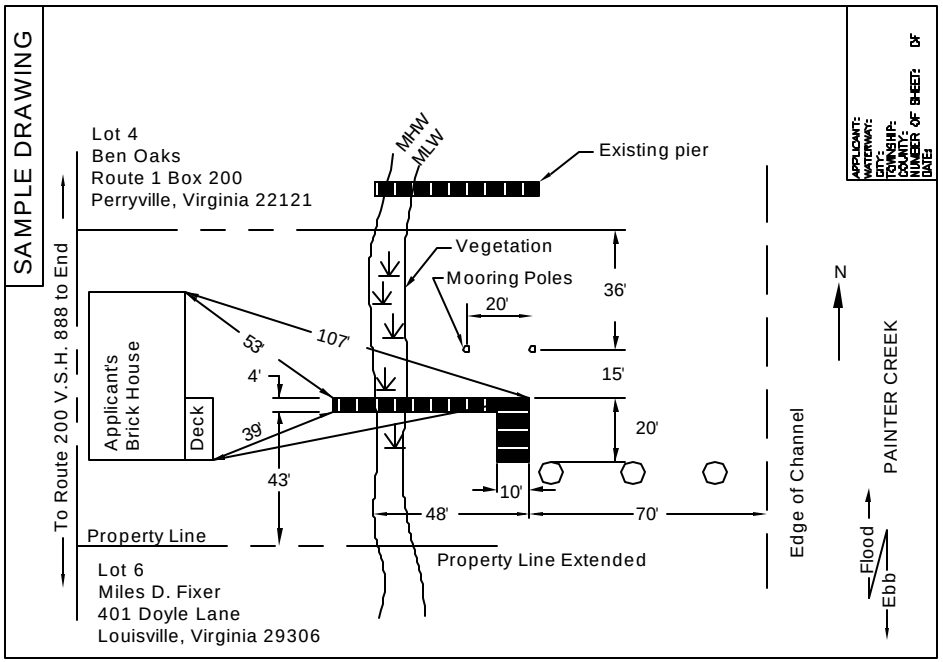
Dolphins or Moorings





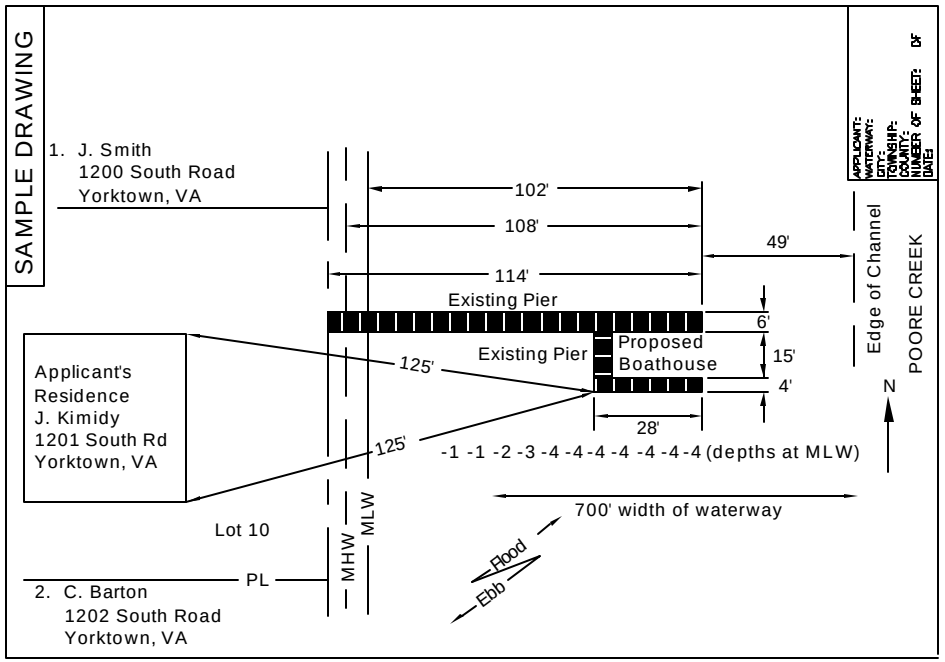
SAMPLE DRAWING

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:



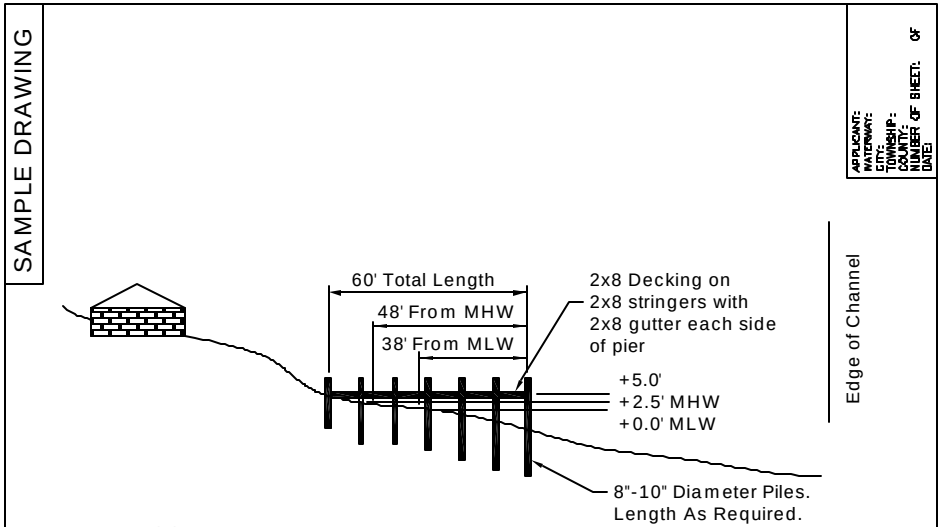
SAMPLE DRAWING

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:



SAMPLE DRAWING

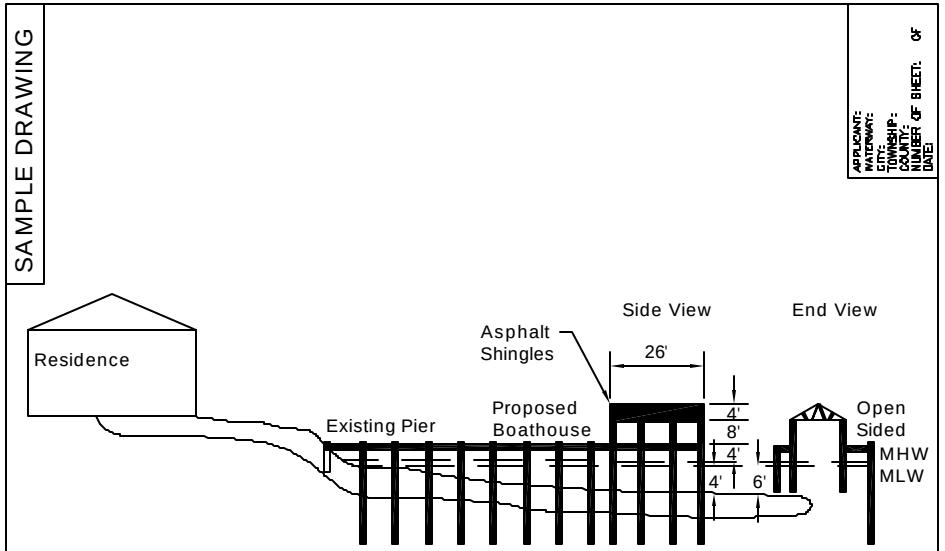
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:



Materials:
1. All piers and lumber to be salt treated
2. All nails, bolts and hardware to be galvanized

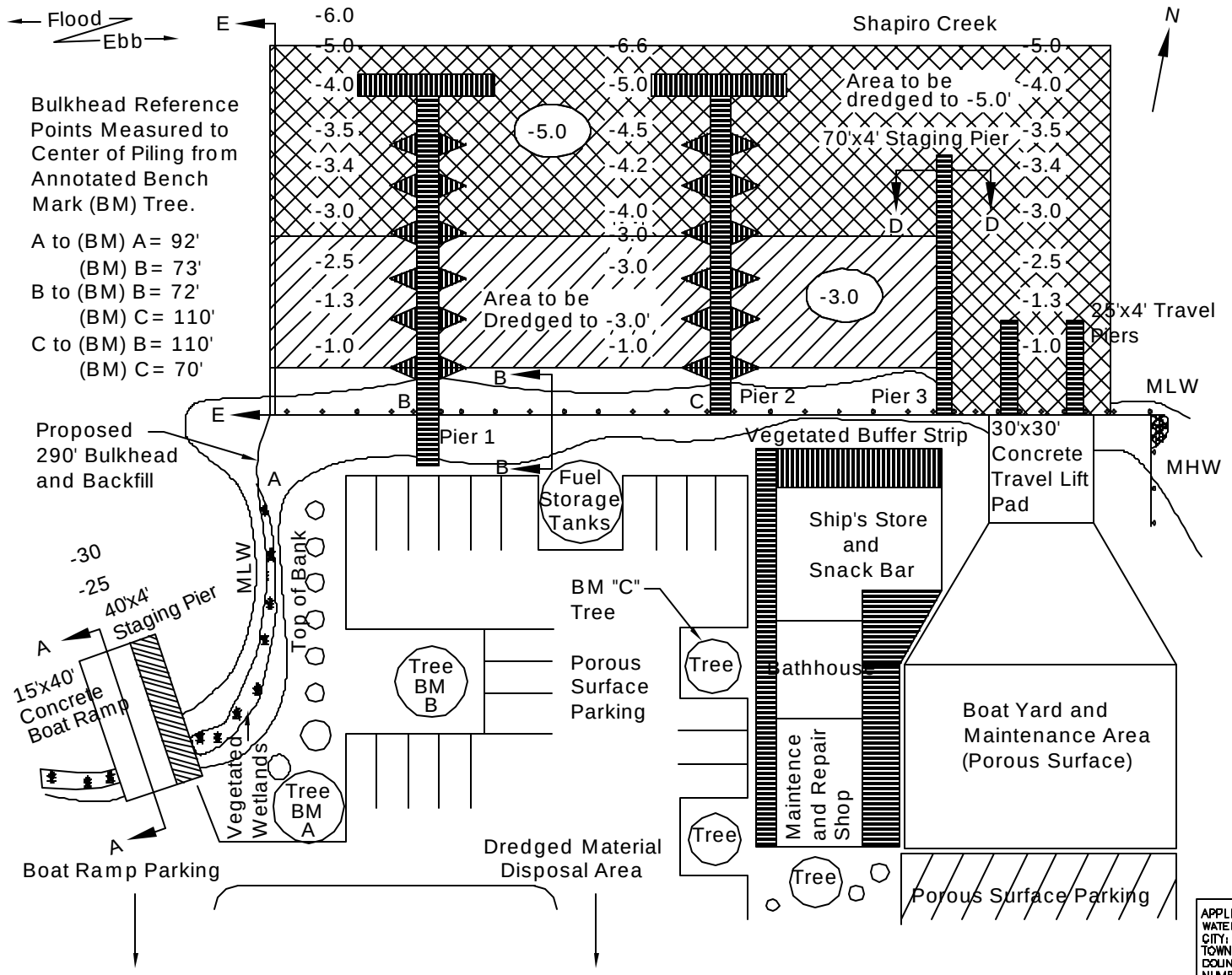
SAMPLE DRAWING

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

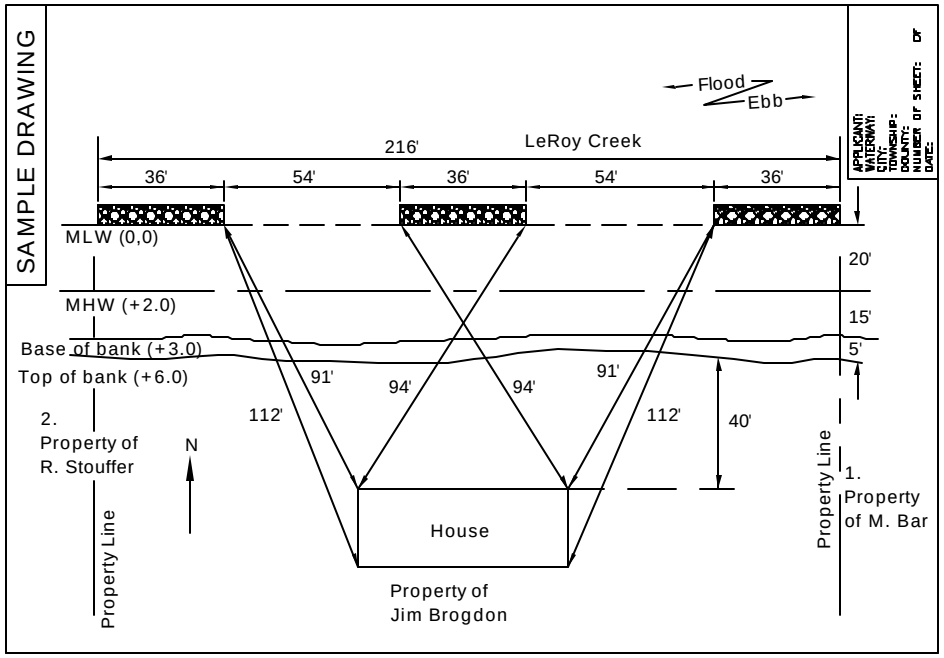


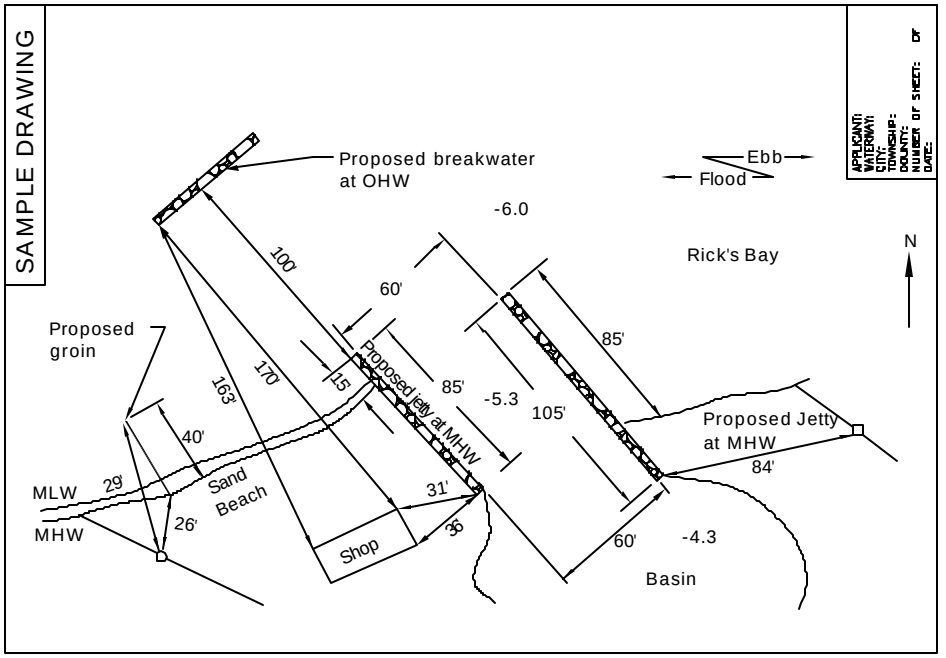
SAMPLE DRAWING

Overall width of waterway is 1800' at Pier 2 and 600' from pier "T" to the channel.

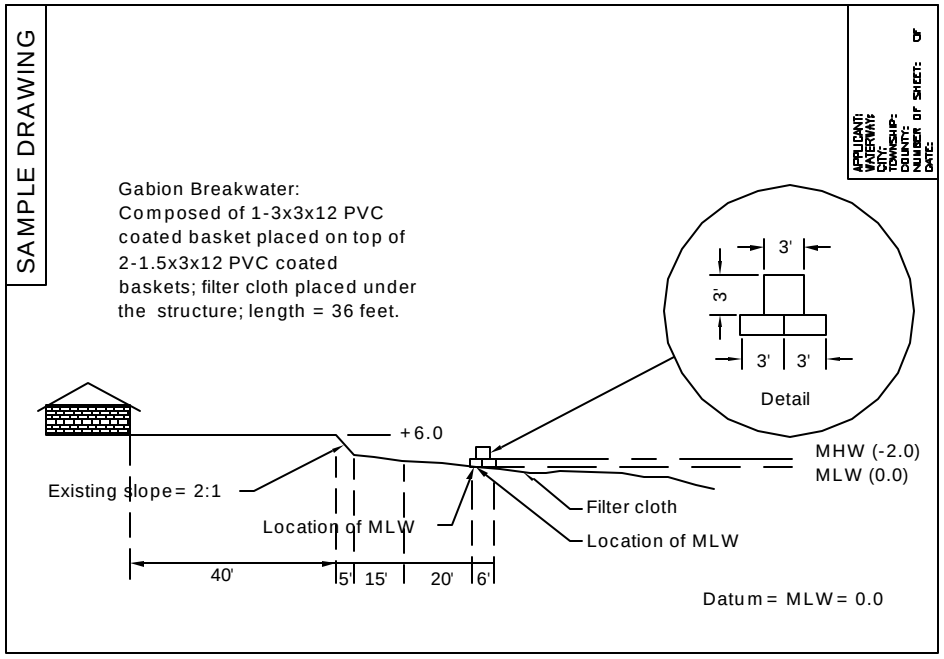


APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

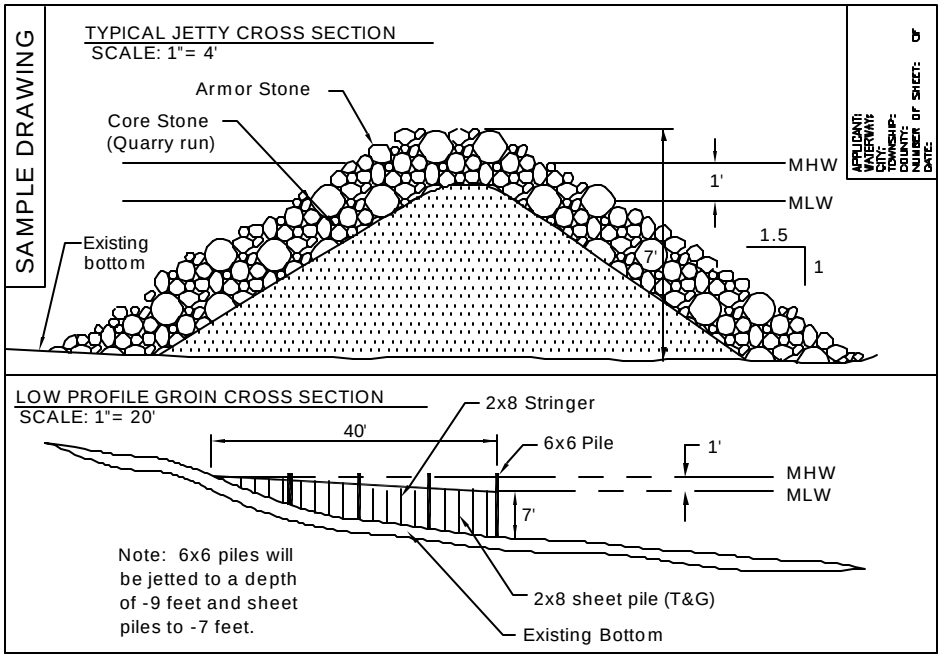




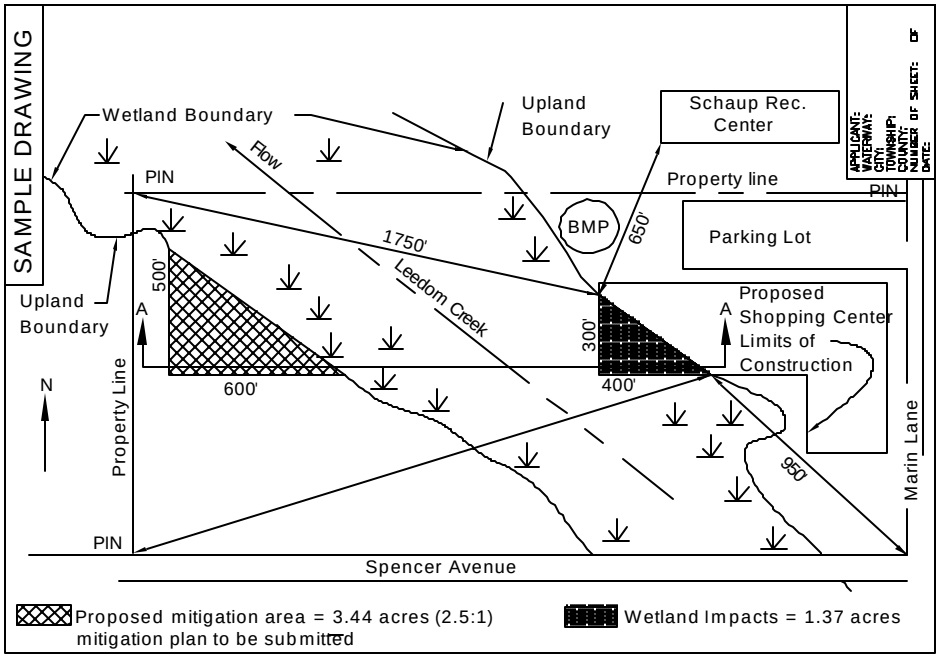
Breakwaters

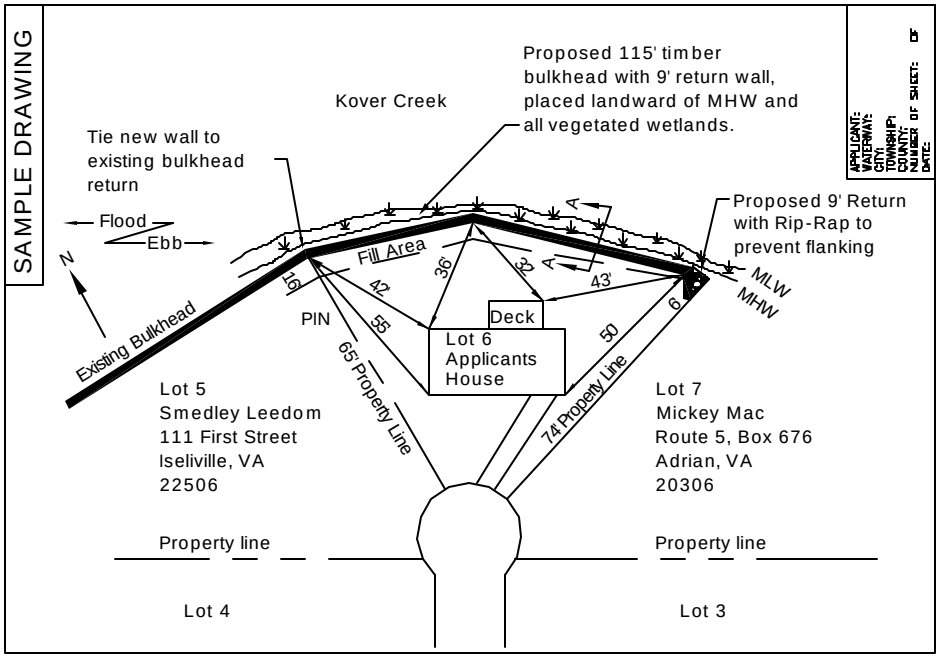


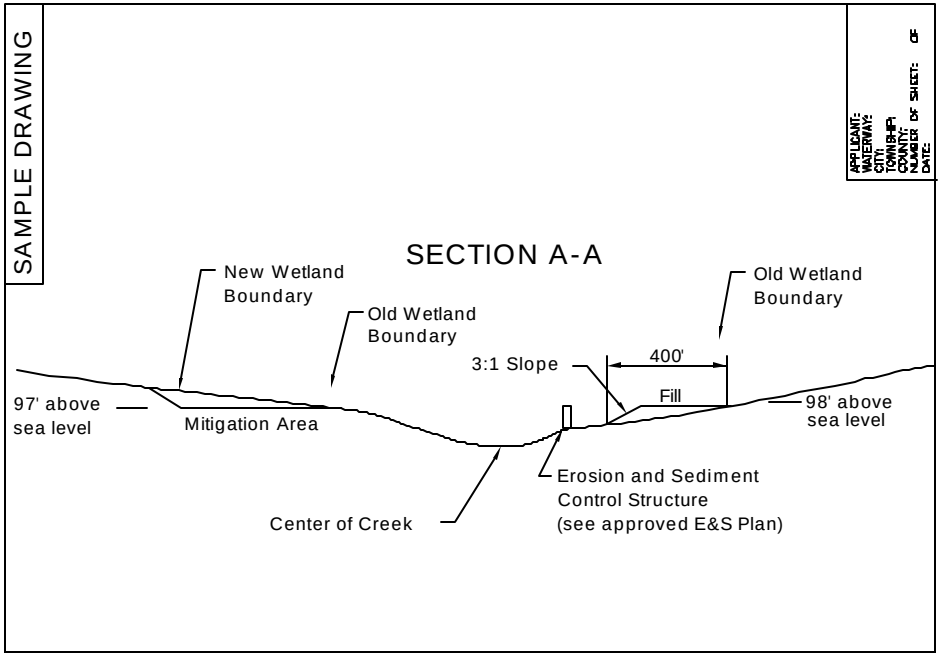
Groins & Jetties

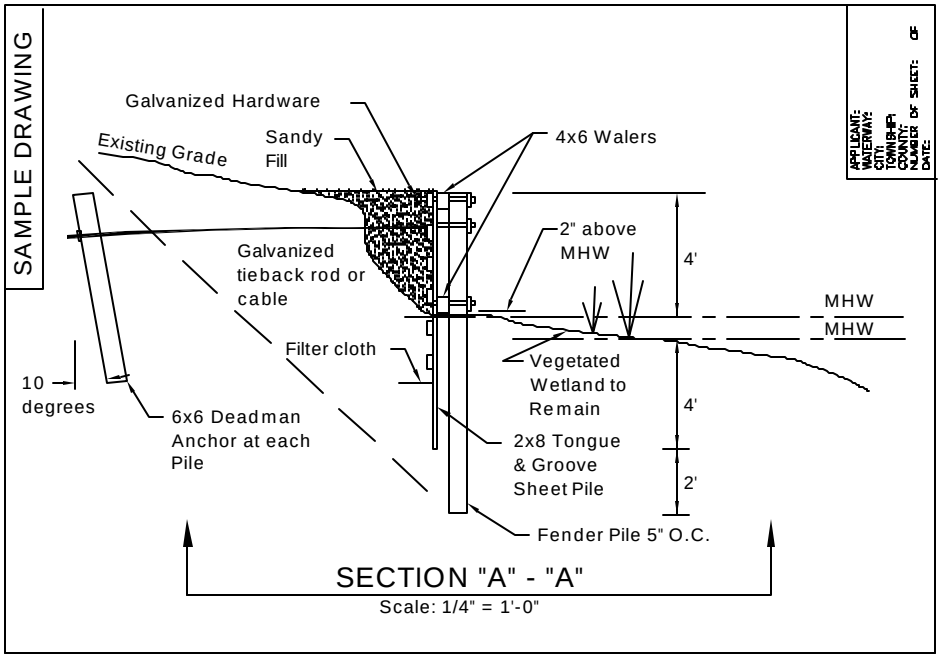


Filling Waters/Wetlands

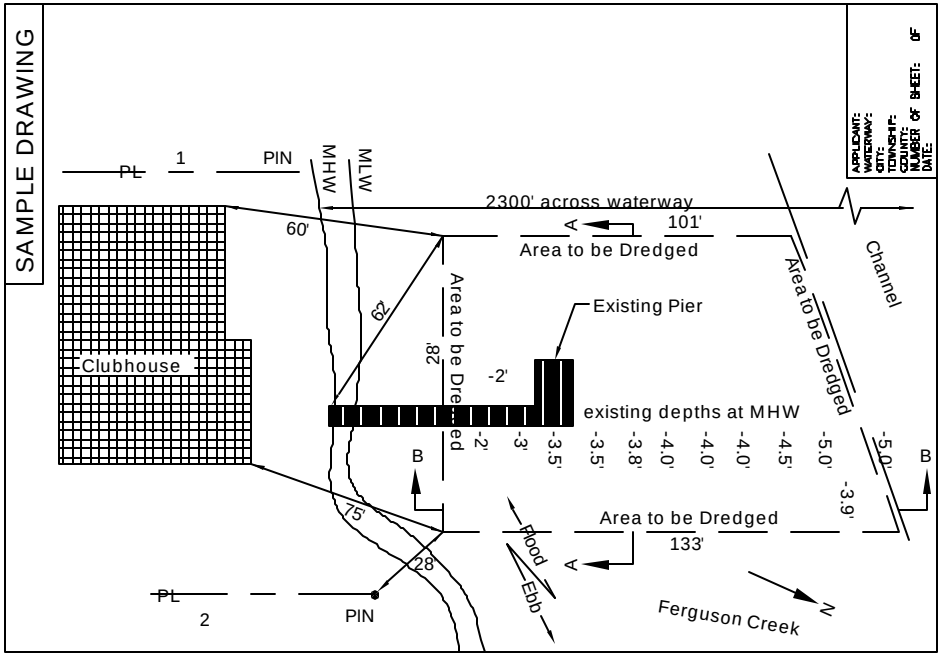


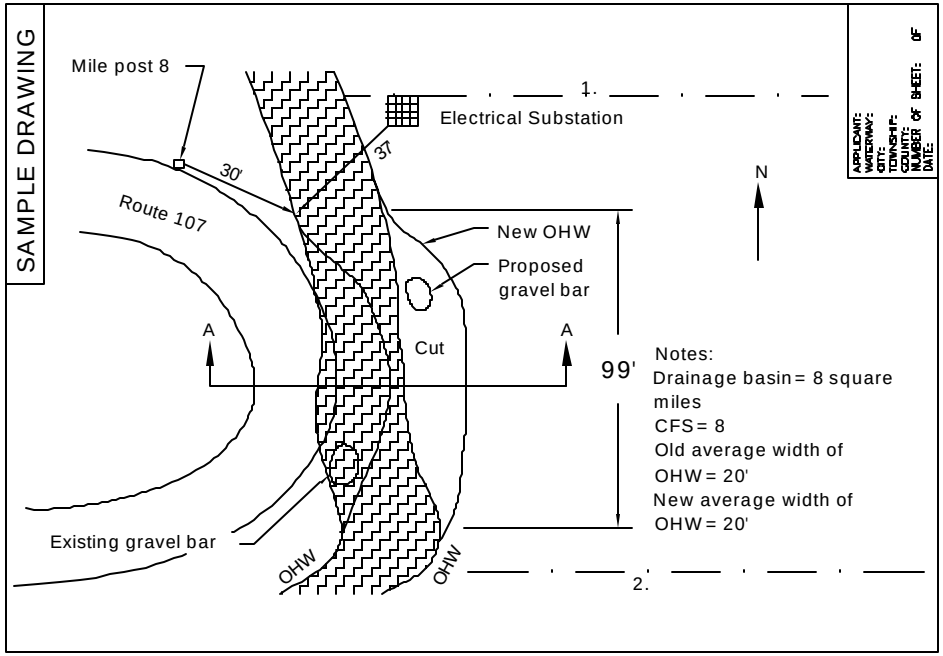


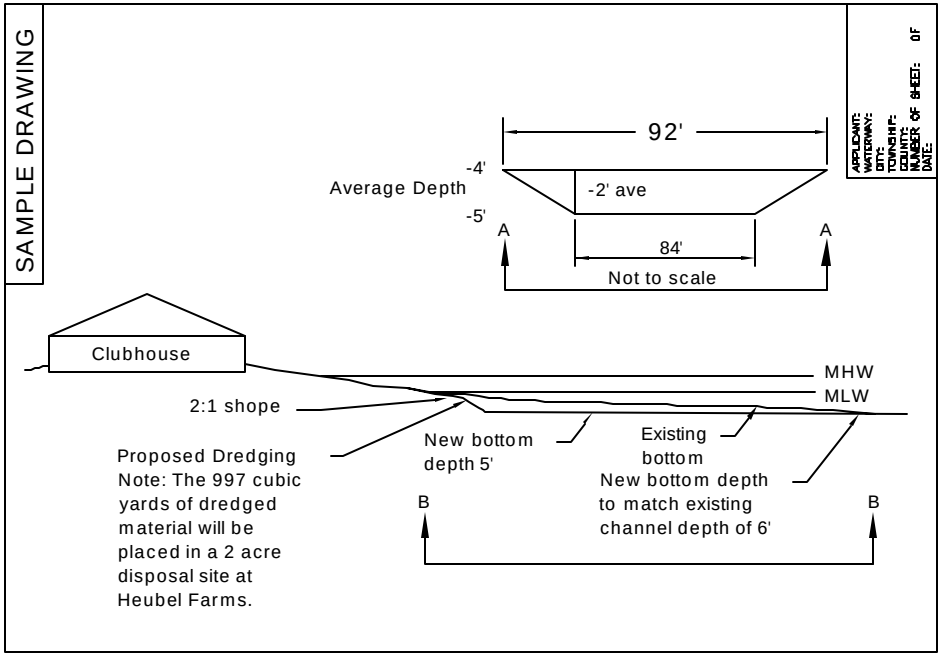


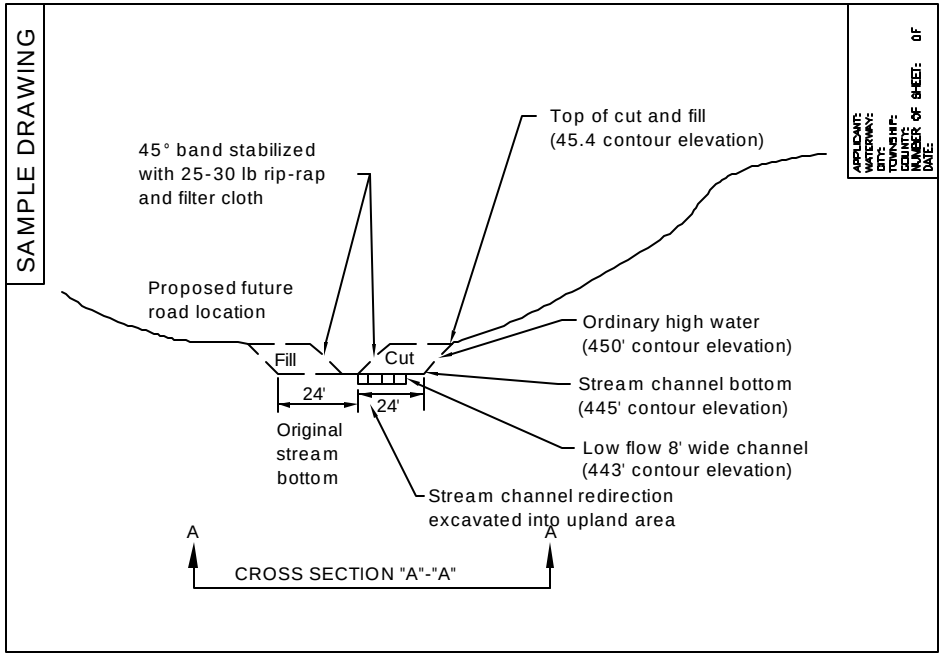


Bulkheads and Associated Backfill


SAMPLE DRAWING
APPLICANT:
WATERWAY:
DIT:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:
PL 1
PIN
MHW
MLW
2300' across waterway
60'
A
101'
Area to be Dredged
Channel
Area to be Dredged
Existing Pier
82'
28'
-2'
Clubhouse
existing depths at MHW
-2' -3' -3.5' -3.5' -3.8' -4.0' -4.0' -4.0' -4.5' -5.0' -5.0'
-3.9'
B
B
75'
Area to be Dredged
133'
Flood
Ebb
A
28
PL 2
PIN
Ferguson Creek
N


SAMPLE DRAWING
APPLICANT:
WATERWAY:
DIT:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:
Mile post 8
1.
Electrical Substation
30'
37'
N
Route 107
New OHW
Proposed gravel bar
A
A
Cut
99'
Notes:
Drainage basin = 8 square miles
CFS = 8
Old average width of OHW = 20'
New average width of OHW = 20'
Existing gravel bar
OHW
OHW
2.


SAMPLE DRAWING
APPLICANT:
WATERWAY:
DIT:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:
92'
-4'
Average Depth
-2' ave
-5'
A
A
84'
Not to scale
Clubhouse
MHW
MLW
2:1 shope
Proposed Dredging
Note: The 997 cubic yards of dredged material will be placed in a 2 acre disposal site at Heubel Farms.
New bottom depth 5'
Existing bottom
New bottom depth to match existing channel depth of 6'
B
B


SAMPLE DRAWING
APPLICANT:
WATERWAY:
DIT:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:
45° band stabilized with 25-30 lb rip-rap and filter cloth
Top of cut and fill (45.4 contour elevation)
Proposed future road location
Ordinary high water (450' contour elevation)
Fill
Cut
Stream channel bottom (445' contour elevation)
24'
24'
Original stream bottom
Low flow 8' wide channel (443' contour elevation)
Stream channel redirection excavated into upland area
A
A
CROSS SECTION "A"-"A"

SAMPLE DRAWING

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

Intake/Outfall Structures

SAMPLE DRAWING

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

Note: Pump station and Pumphouse
to be installed above flood plain elevation.
Ordinary high water = 135'
Intake structure = 123'

SAMPLE DRAWING

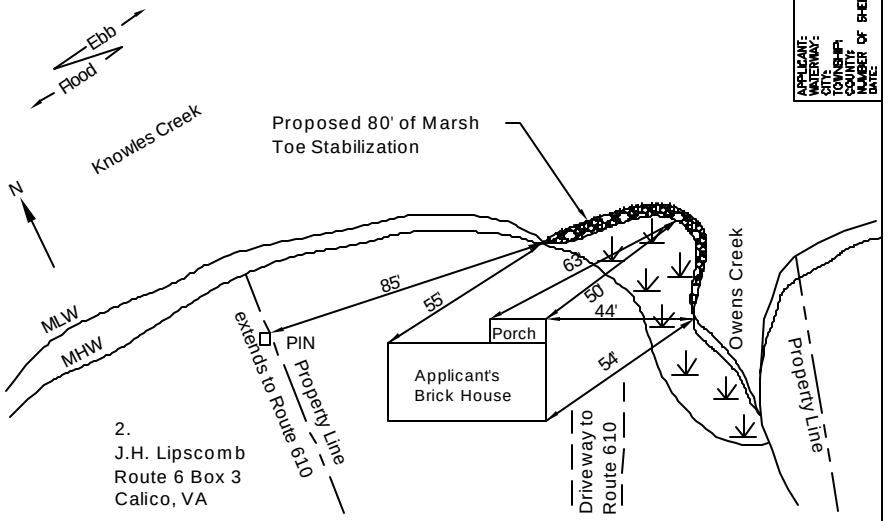
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

Beach Nourishment

SAMPLE DRAWING

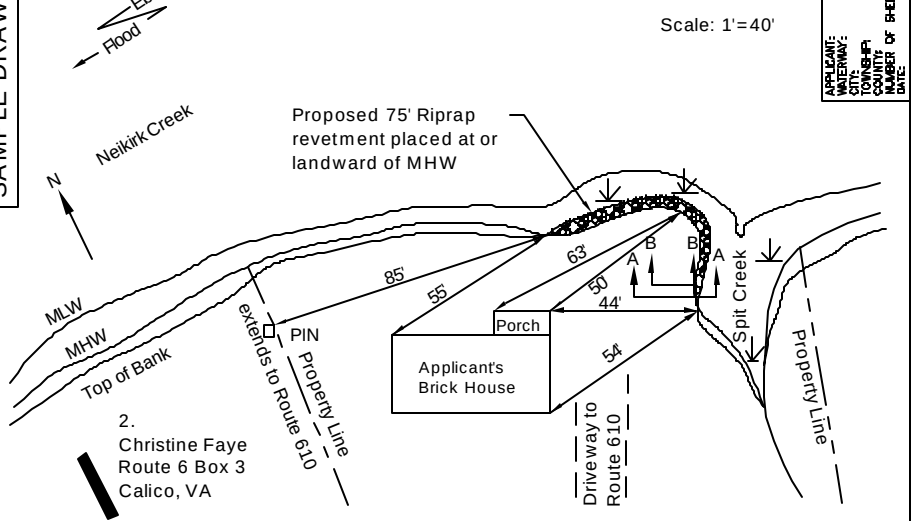
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

SAMPLE DRAWING



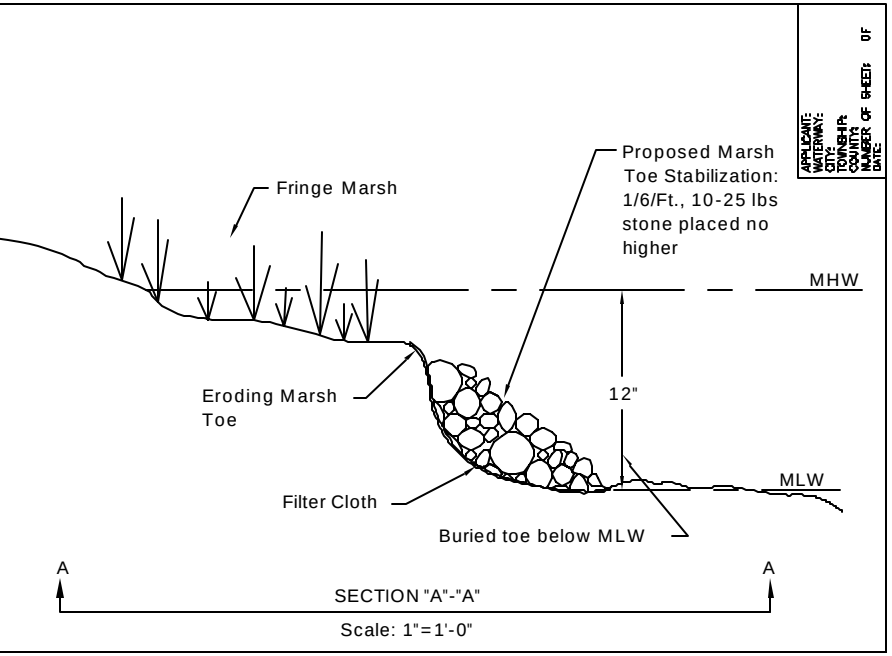
Marsh Toe Stabilization

SAMPLE DRAWING

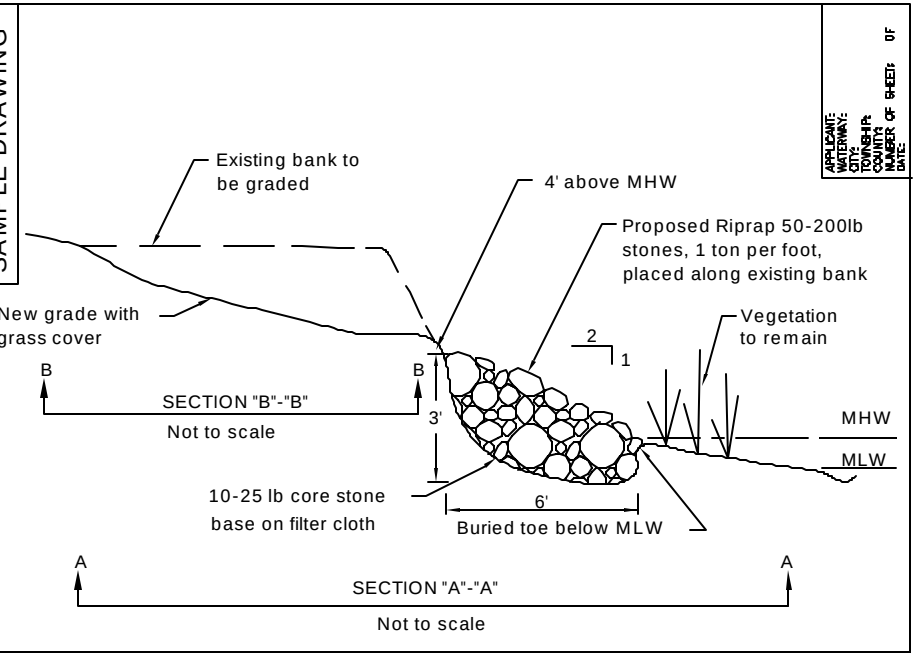


Riprap Revetment & Associated Backfill

SAMPLE DRAWING



SAMPLE DRAWING



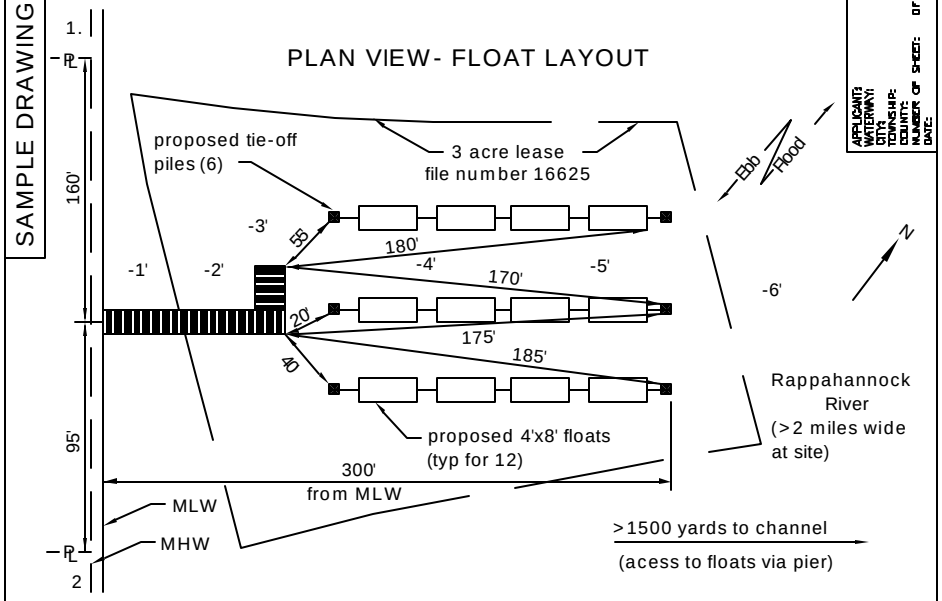
Private & Commercial Aquaculture Activities

Road Crossings

SAMPLE DRAWING

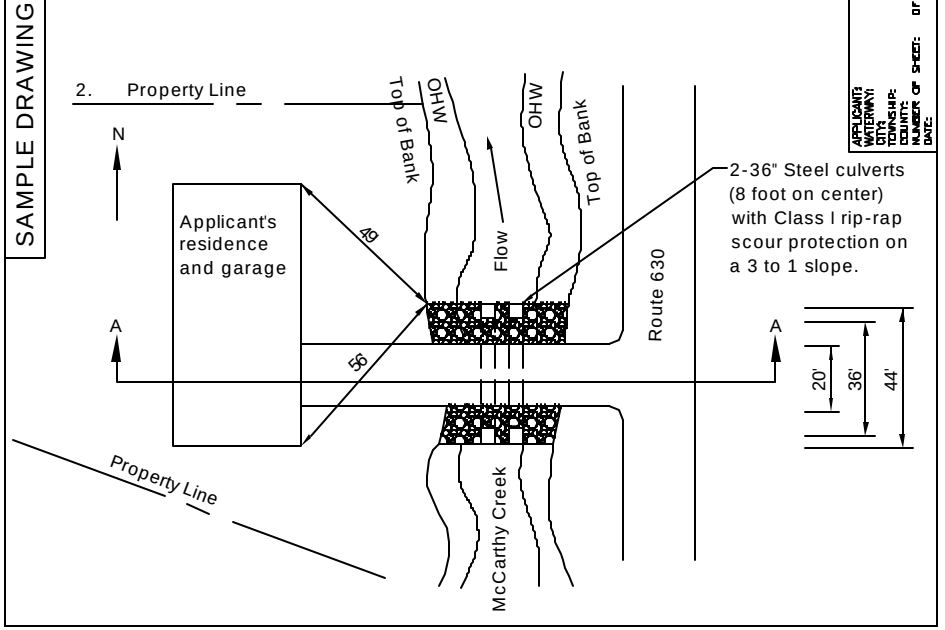
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

PLAN VIEW- FLOAT LAYOUT



SAMPLE DRAWING

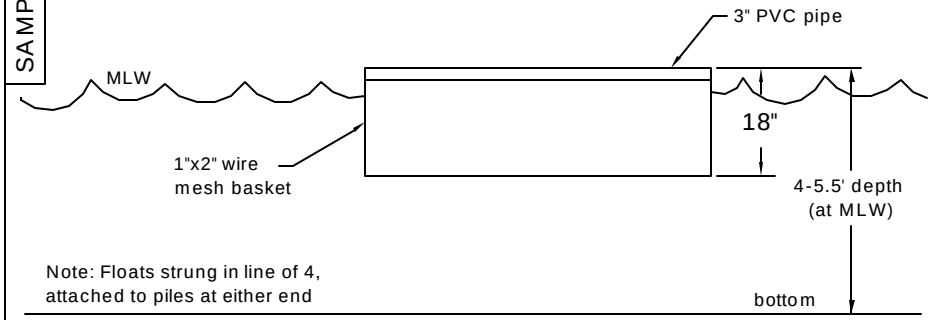
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:



SAMPLE DRAWING

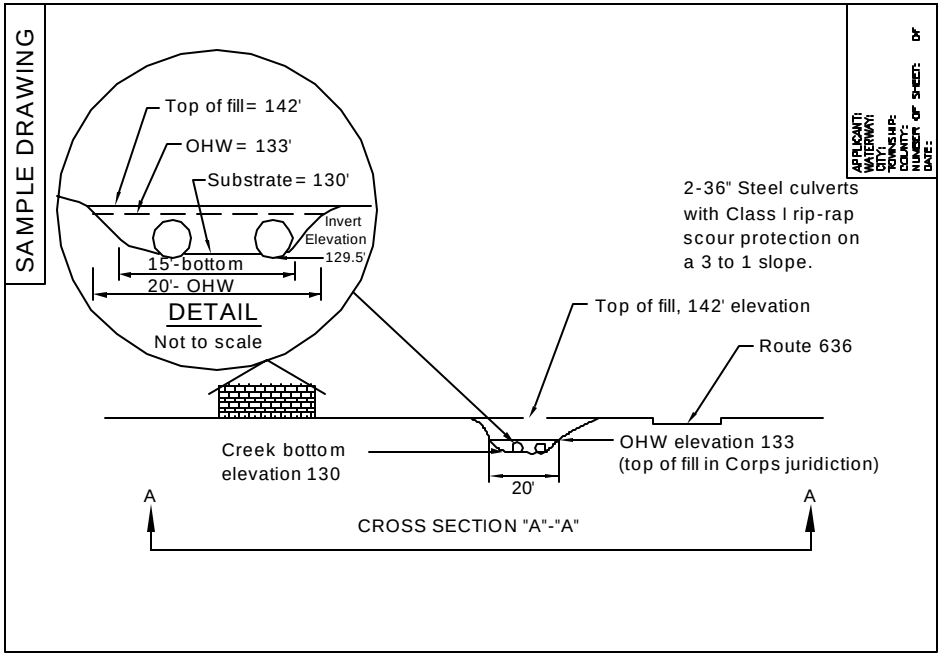
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

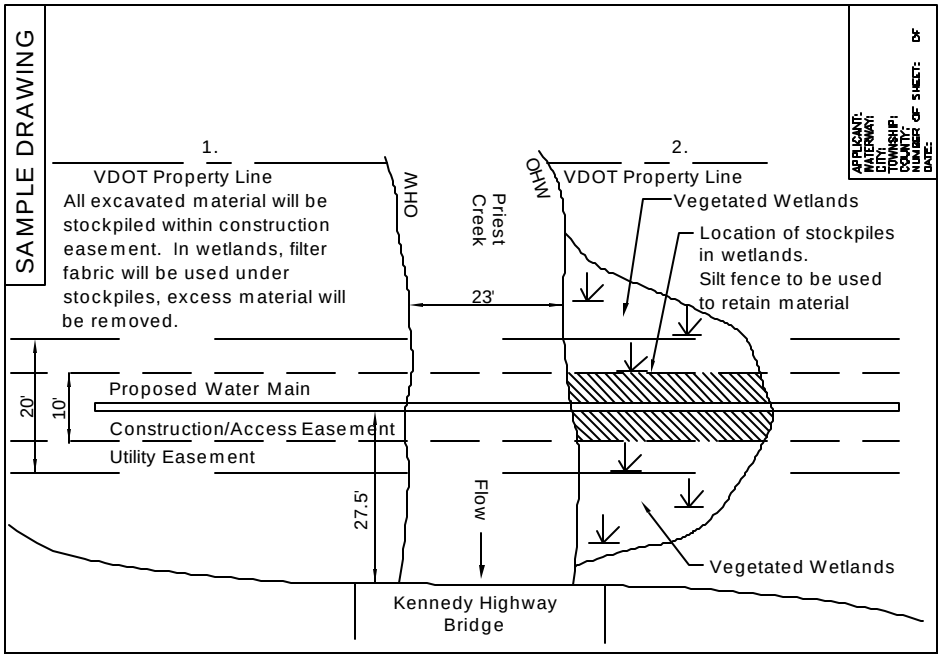
SECTION VIEW- FLOAT DETAILS

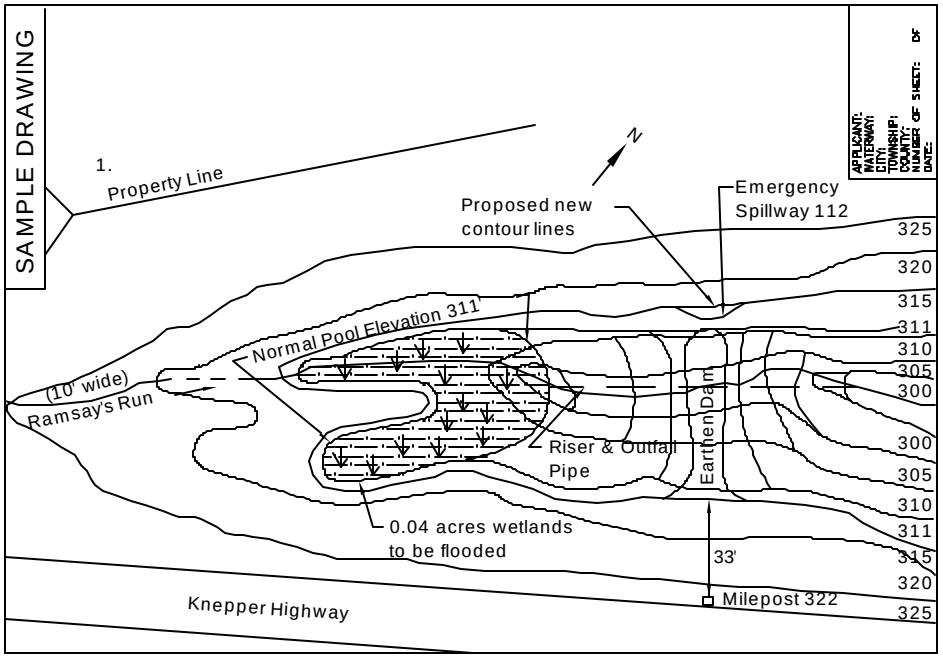


SAMPLE DRAWING

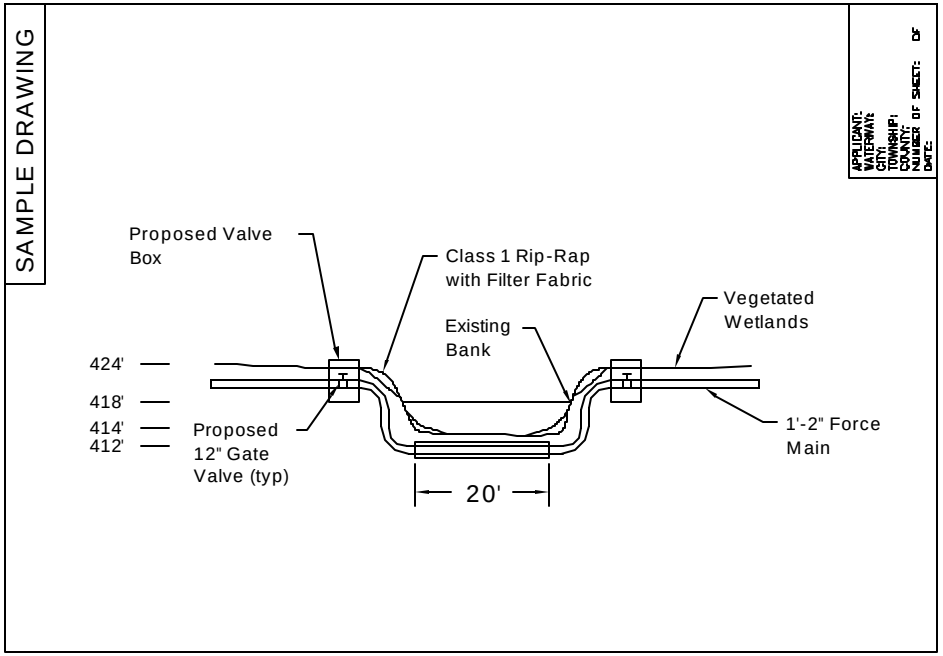
APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEET: OF
DATE:

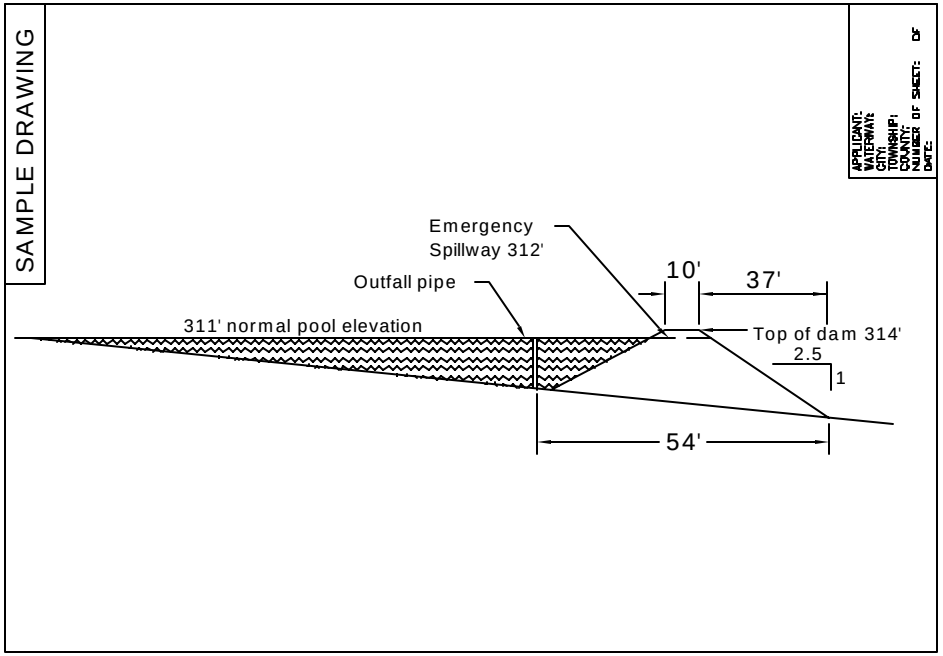






Utility Crossings





Impoundment/Dams