APPENDIX C: FEDERAL COASTAL CONSISTENCY DETERMINATION

Coastal Zone Management Act Federal Consistency Determination

This document provides the Commonwealth of Virginia with the United States (U.S.) Army Garrison Fort Belvoir's (Fort Belvoir's) Federal Consistency Determination under Coastal Zone Management Act section 307 (c)(1) and 15 Code of Federal Regulations (CFR) Part 930 sub-part C for the Proposed Action, *Water and Wastewater Utility Upgrade at Fort Belvoir*. The information in this Consistency Determination is provided pursuant to 15 CFR Part 930.39.

This document represents an analysis of project activities in light of established Virginia Coastal Resources Management Program (CRMP) Enforceable Policies and Programs. Furthermore, submission of this consistency determination reflects the commitment of the U.S. Department of the Army (Army) to comply with those Enforceable Policies and Programs. The proposed action would be undertaken in a manner that is consistent with the Virginia CRMP. The Army has determined that upgrades to the water and wastewater utility system as part of privatization of these infrastructure systems would have a minimal impact on any land and water uses or natural resources of the Commonwealth of Virginia's coastal zone.

1. Description of the Proposed Action:

Fort Belvoir proposes to implement a number of projects to upgrade its water and wastewater system infrastructure, including replacement of water storage tanks, replacement of force mains, maintenance of gravity sewer mains, reinstallation of aerial stream crossings with stream bank repair, replacement of water mains, improvements to water and sewer system, rediversion of force main discharge, and construction of new access to a lift station.

Water Storage Tanks

Fort Belvoir would demolish four existing water storage tanks—WSTs 188, 591, 2428, and 2429—with a total capacity of 2.3 million gallons and construct three replacement water tanks with supporting waterlines and equipment. The new water storage tanks would have a total capacity of 3 million gallons and provide adequate water storage for the installation's Main Post.

Force Main Replacement

Six sections of aging sanitary sewer force mains would be replaced to prevent possible rupture and subsequent discharges to the environment. All six sites are located on Main Post, south of U.S. Route 1. The new pipes would be installed adjacent to the route of the existing force main. The exception is LS 584 where the replacement force replacement would be re-routed to avoid and archaeological site. The existing force main sections will then be abandoned in place. Replacing the force mains would utilize a conventional open trench method in upland areas and horizontal directional drilling (HDD) technology under sensitive areas such as streams, wetlands, and archaeological sites.

Gravity Sewer Main Maintenance

As part of general maintenance of the installation's wastewater infrastructure, annual inspections and maintenance are conducted of the installation's sewer lines via manholes that are accessible by right-of-way (ROW) corridors. ROW corridors that are currently located in forested areas would be maintained at a 20-foot width (15-foot width in wetlands areas) for vehicles to pass. All woody vegetation would be removed within the ROW corridors, but all vegetation would not be stripped. The exception would be of areas of vegetated wetlands or Waters of the United States, where no vegetation clearing would take place. Additionally, there are seven locations where access would require vehicles to cross streams and/or

wetlands. A culvert would be installed at six sites and a temporary erosion mat would be installed at one site to enable vehicle access over streams and wetlands, respectively.

Aerial Stream Crossing

Nine sections of water and gravity sewer lines that cross above intermittent and perennial streams require repair or reinstallation below the streambed and may require streambank repair and stabilization in order to prevent erosion of soil around the concrete piers that support the water and sewer lines. All designs for pipe reinstallation or repair and any associated streambank repair would be reviewed by the U.S. Army Corps of Engineers and will require obtaining all necessary permits through the Joint Permit Application process in order to conduct work in the waters of the United States (including wetlands) within Virginia.

2012 Annual System Deficiency Corrections, Upgrades and Renewal & Replacement Plan Projects

Fort Belvoir prepares an Annual System Deficiency Corrections, Upgrades and Renewal & Replacement (ASDC) report that details its proposed capital upgrades and major renewals and replacements of the water and wastewater utility system for the next five years. Four projects, currently in the conceptual stages and planned to occur between fiscal year (FY) 13 and FY17, are considered part of this project.

Meade Road Water Main Replacement

Fort Belvoir would replace approximately 3,138 linear feet of 6-inch, pre-1960 water main along with approximately 750 linear feet of pre-1960 water service lines. Replacing the water mains would employ a conventional open trench method.

Woodlawn Village Water and Sewer System Improvements Phases 1, 2, and 3

The Woodlawn Village water and sewer improvement project would consist of raising and increasing the slope of the sanitary sewer system to reduce sewer backups and the replacement of the existing substandard water main material to reduce the frequency of water main breaks. Phase 1 would consist of approximately 4,460 linear feet of 8-inch ductile iron pipe (DIP) water main and 4,270 linear feet of 8-inch SDR 26 sewer main. This project would also include the replacement of the individual building water and sewer service connections up to 5 feet from the building. Phase 2 would consist of approximately 3,200 linear feet of 8-inch DIP water main and 2,300 linear feet of 8-inch, 10-inch, and 12-inch standard dimension ratio (SDR) 26 sewer main. Phase 3 would consist of approximately 5,100 linear feet of 8-inch and 10-inch DIP water main and 5,700 linear feet of 8-inch and 10-inch SDR 26 sewer main. Replacing the water and sewer mains would employ a conventional open trench method.

Rediversion of Force Main Discharge

Fort Belvoir would install an additional 2,675 linear feet of 6-inch water force main to divert flow from Lift Station 1575 away from Lift Station 97 to new hospital lift station. Installing the water mains would employ a conventional open trench method and HDD technology where feasible.

New Access to Lift Station 584

Fort Belvoir would construct a new access road and bridge over a stream to Lift Station 584.

2. Assessment of Potential Environmental Effects

There are potential for minor, short-term (temporary) impacts associated with construction activities that would include soil disturbance; increased sedimentation; disturbance to vegetation, wildlife and wildlife habitat; and increased air emissions. There is no occurrence of, nor high quality habitat for, federal or state listed species at the project sites. The Proposed Action would not alter access to, or use of, coastal resources.

Construction of the replacement water tanks would permanently impact approximately 3,000 square feet of soil (1,000 square feet at three sites); however, construction of the new storage tanks would not result in an increase in stormwater runoff because any new impervious surface from the replacement tanks would be offset by the reduction in impervious surface of the existing water tanks that would be demolished.

Implementation of the Proposed Action would also result in 800 square feet of permanent impacts to perennial, intermittent, and ephemeral streams and 120 square feet of temporary impacts to an intermittent stream from gravity sewer main maintenance. The impacts would result from permanently placing culverts and/or riprap or temporarily placing protective erosion matting on the interior of streambanks located within a delineated RPA; however, since the activity would occur entirely in the stream, there are no anticipated impacts to RPAs. Aerial stream crossing projects and associated streambank repairs could permanently impact up to 3,600 linear feet of perennial and intermittent streams. There also could be temporary and permanent impacts to wetlands and RPAs from aerial stream crossing projects and associated streambank repairs and to forested wetlands in the area of the new access to Lift Station (LS) 584, the Meade Road water main replacement, and the Woodlawn Village water and sewer system improvements. However, the impacts to wetlands and RPAs are likely below the thresholds for which mitigations is required. Potential impacts to wetlands and the RPAs will be reviewed through the Joint Permit Application process in order to conduct work in wetlands and RPAs.

Construction of permanent future access for gravity sewer main maintenance would permanently impact forested areas. All woody vegetation within these areas would be removed and the areas mowed annually. Construction of new force mains and some of the ASDC projects, such as the rediversion of force main discharge project, would also result in the removal of forest and wildlife habitat. It is expected that a relatively small size of forested areas would be disturbed, compared to approximately 5,550 forested acres of Fort Belvoir as a whole, and best management practices (BMPs), such as seeding cleared areas with wildlife seed mixes and minimizing the width of clearing of right-of-way (ROW) corridors and implementing tree protection methods during construction activities, would be employed where appropriate to reduce or minimize impacts. Additionally, adherence to an Erosion and Sediment Control (ESC) Plan would further ensure that impacts to vegetation and wildlife habitat would be localized.

The loss of WST 188 as a contributing resource to the Fort Belvoir Historic District would be an adverse impact because the resource would lose its ability to convey its historic significance; however, the impact would be minimized and compensated as the result of mitigation measures as agreed upon in an Memorandum of Agreement between the Army and the Virginia Department of Historic Resources. Replacement of the force main section would be designed to avoid eligible and unevaluated sites whenever possible. The replacement force main running from LS 584 would be re-routed from its existing alignment to avoid crossing underneath the Belvoir Plantation Site, which is listed in the National Register of Historic Place (National Register). The force main running from LS 687 to LS 7350 crosses archaeological site 44FX1330, a small prehistoric camp that has not been formally evaluated. Impacts to these sites would be avoided by horizontal drilling underneath the site, rerouting the pipes, relining the existing pipe in situ, or by other means. If archeological resources are discovered during construction, all work in the immediate vicinity of the discovery would be halted until the resources can be identified and documented and an appropriate mitigation strategy can be developed. Measures to avoid or mitigate any impact would be developed through the Section 106 consultation with the Virginia Department of Historic Resources to protect archaeological resources.

There are no expected impacts that would require mitigation to avoid being considered significant. However, BMPs would be employed where appropriate to reduce or minimize impacts. The actions discussed below would be employed to minimize potential adverse impacts.

- Fugitive dust would be minimized during construction by control methods outlined in 9 Virginia Administrative Code 5–130 et seq. of the Regulations for the Control and Abatement of Air

Pollution. These precautions could include methods, such as using water for dust control, covering open equipment for conveying materials, and promptly removing spilled or tracked dirt or other materials from paved streets or dried sediments resulting from soil erosion.

- Approved ESC plans would be required for implementation of the proposed action. The ESC plans would be developed, approved, and permitted, and would involve BMPs, such as silt fencing, control matting, and storm drain outlet protection throughout the construction of the project and maintained and not removed until the sites have been stabilized.
- Seasonal restriction would be adhered to on construction activities in vicinity of active bald eagle nest.
- ROW corridors that located in forested areas would be cleared and maintained at a 20-foot width (15-foot width in wetlands areas) for vehicles to pass.
- Cleared forested areas would be seeded with wildlife seed mixes.
- Impacts to wetlands would be minimized by use of horizontal directional drill technology.
- Tree protection methods would be coordinated with Fort Belvoir's Urban Forester and implemented to protect trees during construction activities.
- Time-of-year restrictions on in-stream work would be adhered to.

In addition to these BMPs and mitigation measures, all activities would be in compliance with Occupational Safety and Health Administration regulations and standard operating procedures to ensure the safety of all installation and construction personnel.

3. Assessment of Reasonably Foreseeable Effects on the Enforceable Policies of Virginia's Coastal Zone Management Program

Fort Belvoir would ensure that all applicable permits are obtained and would monitor the project for compliance. The following discussion provides the Army's assessment of potential effects of the proposed demolition and construction of water storage tanks, force main replacements, gravity sewer main maintenance, reinstallation of aerial stream crossings with stream bank repair, and ASDC projects at the proposed sites, and an analysis of the consistency of project development at the proposed sites with each of the nine enforceable policies and mechanisms of the Virginia Coastal Resources Management Program. The proposed water and wastewater utility upgrade at Fort Belvoir may affect the land or water uses or natural resources of the Commonwealth of Virginia's coastal zone in the following manner:

Fisheries

The water and wastewater utility upgrade and related actions at Fort Belvoir would have no foreseeable impact on fish or shellfish resources and would not affect the promotion of, or access to, commercial or recreational fisheries. Compliance with the installation's Municipal Separate Storm Sewer System (MS4) Permit and the Virginia Erosion and Sediment Control regulations would minimize the risk of sediments being transported off the site to the Potomac River fishery.

Subaqueous Lands

The proposed water and wastewater utility upgrade at Fort Belvoir would not involve any encroachment in, on, or over state-owned submerged lands.

Wetlands

Water Storage Tanks

Neither the existing water storage tanks nor the proposed sites for the replacement tanks are proposed to be in either tidal or nontidal wetlands. Therefore, the Proposed Action would have no impact on wetlands.

Force Main Replacement

Four of the proposed force main replacement activities would occur beneath nontidal wetlands. However, construction of the force main replacements would use HDD technology, to the extent practicable rather than conventional trenching to prevent disturbance. As a result, there are minimal expected impacts to wetlands because most of the activity would occur beneath the soil surface.

Gravity Sewer Main Maintenance

Permanent access to manholes would be constructed for future maintenance activities. This would involve placement of matting or culverts in streams and wetlands to make access to the manholes possible. The majority of this work would be contained to stream channels; some of which contain small areas of vegetated nontidal wetlands. However, the only wetlands in the vicinity of the projects are those that are located on the stream banks and/or channels, so there would be no impacts to additional wetlands beyond the stream banks. Additionally, because the wetlands are part of the streams, there would be no impacts to wetlands, only streams.

Aerial Stream Crossing

The proposed aerial stream crossing construction activities would be contained primarily to stream banks and channels; however, there are potential impacts to nontidal wetlands abutting the streams, but avoidance and minimization techniques would be employed. Two of the projects involve either relocating or widening the stream channel; this could have permanent impacts to wetlands (i.e., loss of wetlands) if they are removed to accommodate the new location of the streams.

ASDC Projects

The Meade Road water main replacement activity involves replacing approximately 3,800 linear feet of water mains. The boundary of the proposed activity intersects approximately 0.004 acres of forested/emergent wetlands. Potential impacts to forested/emergent wetlands could be permanent and the area could be converted to emergent wetlands. Conversion of forested wetlands to emergent wetlands would result in a loss of forested habitat which could impact species that require forests for breeding, foraging, or living. However, because the area that could be converted is small, it is expected that the impacts would be negligible and covered under a Joint Permit Application.

The rediversion of force main discharge activity involves installing approximately 2,675 linear feet of forced water main pipes between LS 1575 to the new hospital lift station. The project area contains approximately 0.18 acre of palustrine forested wetlands. The force mains would be installed beneath wetlands using HDD technology, discussed above. As such, impacts to wetlands would be minimal.

The new access to LS 584 activity involves constructing a new access road over a stream abutted by a palustrine forested wetland. If tree clearing is required to construct the access road, forested wetlands could be converted to emergent wetlands, which could be a permanent wetland impact. Impacts to forested wetlands could be permanent and the area of forested wetlands could be converted to emergent wetlands. Conversion of forested wetlands to emergent wetlands would result in a loss of forested habitat which could impact species that require forests for breeding, foraging, or living. However, because the area that would be converted is small, it is expected that the impacts would be negligible and covered under a Joint Permit Application.

The Woodlawn Village water and sewer improvement involves replacing the water and sewer system in Woodlawn Village. Approximately 4.4 acres of palustrine forested wetlands are located along the northern and western boundaries of Woodlawn Village. Additionally, approximately 1.8 acres of palustrine emergent wetlands are located in the southeastern portion of Woodlawn Village. During construction for this project, potential impacts to wetlands are likely; however, the magnitude and type of

impacts will not be known until design plans are finalized. Similar to the other projects on Fort Belvoir, design plans would minimize impacts to wetlands to the extent practicable.

Dunes and Beaches

The proposed water and wastewater utility upgrade at Fort Belvoir is not located on or near any coastal primary dunes and would, therefore, not affect coastal primary sand dunes.

Nonpoint Source Water Pollution

The project would be constructed in compliance with the installation's MS4 Permit and Virginia Erosion and Sediment Control law and regulations. The proposed water and wastewater utility upgrade and related actions are, therefore, consistent with Virginia's non-point source water pollution control program.

Point Source Pollution

The proposed water and wastewater utility upgrade and related activities would not entail point source water discharge.

Shoreline Sanitation

The proposed water and wastewater utility upgrade and related actions at Fort Belvoir do not involved the installation of septic tanks, and are not located on or near a shoreline, and would not impact shoreline sanitation.

Point Source Air Pollution

The proposed water and wastewater utility upgrade has been evaluated for General Conformity applicability under the Clean Air Act, Section 176 according to the requirements of 40 CFR 93, Subpart B. The requirements of Subpart B are not applicable to this project because the emissions are below the applicability thresholds.

Coastal Lands

There are designated Chesapeake Bay RPAs located within the proposed project area and are associated with unnamed tidal rivers or upper perennial streams and their abutting wetlands that flow into Dogue Creek, the Potomac River, Gunston Cove, and Accotink Bay.

Water Storage Tanks

Neither the existing water storage tanks, the proposed sites for the replacement tanks, nor the associated facilities are proposed to be in any RPAs. Therefore, the proposed action would have no impact on coastal lands.

Force Main Replacement

Four of the six proposed force main replacement activities would occur beneath wetlands and RPAs. However, construction of the force main replacements would use HDD technology to drill beneath sensitive features without disturbing the surface. Therefore, impacts to wetlands and RPAs would be minimized because there would be minimal disturbance to plants and trees, and reduced deposition of fill material.

Gravity Sewer Main Maintenance

Permanent access to manholes would be constructed for future maintenance activities. This would require placement of matting or culverts in RPAs to make access to the manholes possible. The majority of this work would be contained to stream channels; some of which contain small areas of vegetated non-tidal wetlands. However, the only wetlands in the vicinity of the projects are those that are located on the stream banks and/or channels, so there would be no impacts to additional wetlands beyond the stream

banks. Additionally, because the wetlands are part of the streams, there would be no impacts to wetlands, only streams.

Overall, the Proposed Action to create permanent access to gravity sewer mains for maintenance activities would involve 800 square feet of permanent impacts and 120 square feet of temporary impacts to delineated waters of the U.S. The impacts include permanently placing culverts and/or riprap or temporarily placing protective erosion matting on the interior of streambanks located within a delineated RPA; however, since the activity would occur entirely in the stream, there are no anticipated impacts to RPAs. The proposed activities must comply with Fort Belvoir's MS4 Permit. The MS4 Permit was developed in part to require contactors to submit an ESC Plan prior to beginning construction. The ESC Plan would include BMPs, including silt fencing, control matting, and storm drain outlet protection, which minimize soil from entering wetlands and streams. Additionally, the contractor must submit a Stormwater Pollution Prevention Plan prior to beginning construction to maintain water quality.

Aerial Stream Crossing

Construction activities at Sites 1, 2, 4, 5, 6, and 8 involve replacing various damaged pipes with new pipes in streams that are abutted by wetlands and/or have an associated RPA. Although the proposed impacts are to streams, potential impacts to wetlands and RPAs could occur if avoidance and minimization techniques are not employed. Wetlands could be impacted by surface trenching, potentially displacing vegetation and soil; however, HDD technology would be employed, to the greatest extent practicable so that wetland surfaces would not be impacted by disturbing the surface. Additionally, construction equipment would enter the stream from an area not abutted by wetlands or use BMPs, such as timber matting laid over the wetlands to protect the wetlands. If bore holes are located in an RPA, temporary, minimal impacts from land disturbance to the RPA could occur; however, the potential impacts would be covered under the Joint Permit Application.

ASDC Projects

The Meade Road water main replacement project activities are not located in any RPAs; therefore there would be no impacts to RPAs from this project.

The reversion of force main discharge project is not in an RPA, but it is in an area that has approximately 0.18 acre of palustrine forested wetlands. The force mains would be installed beneath wetlands using HDD technology, and consequently, impacts to wetlands should be minimal. There would be no impacts to RPAs.

The new access to LS 584 project is also not located in an RPA and would, therefore, not impact any RPAs, but this project could have a permanent wetlands impact if tree clearing is required to construct the access road because forested wetlands could be converted to emergent wetlands.

The Woodlawn Village water and sewer improvements would impact approximately 4.4 acres of palustrine forested wetlands are located along the northern and western boundaries of Woodlawn Village. Additionally, approximately 1.8 acres of palustrine emergent wetlands are located in the southeastern portion of Woodlawn Village. The palustrine forested wetlands have an associated RPA buffer; however, there is no RPA associated with the palustrine emergent wetlands. During construction for this project, potential impacts to wetlands and RPAs are likely; however, the magnitude and type of impacts will not be known until design plans are finalized. Similar to the other projects, design plans would minimize impacts to wetlands and RPAs to the extent practicable.

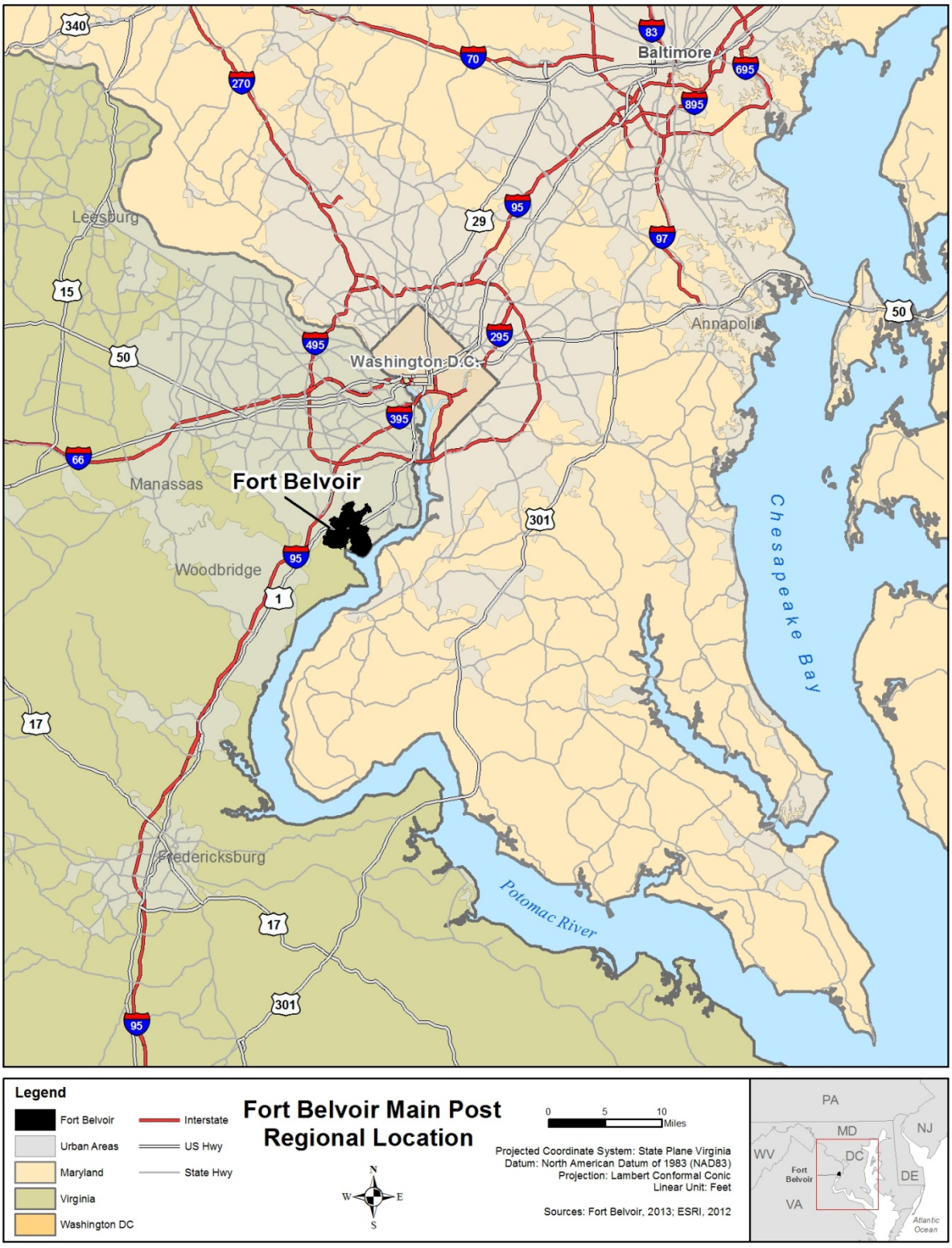
4. Summary of Findings

Based on the above information, data, and analysis, Fort Belvoir finds that the proposed Water and Wastewater Utility Upgrade at Fort Belvoir is fully consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resource Management Program.

Pursuant to 15 CFR Part 930.41, the Virginia Coastal Resources Management Program has 60 days from receipt of this letter in which to concur with or object to this Consistency Determination, or to request an extension, in writing, under 15 CFR Part 930.41(b). Virginia's concurrence will be presumed if its response is not received by Fort Belvoir on the 60th day from receipt of this determination. The state's response should be sent to U.S. Army Garrison Fort Belvoir, 9430 Jackson Loop, Suite 200, Fort Belvoir, VA 22060-5116.

Gregory D. Gadson
Colonel, US Army
Garrison Commander

Figure 1: Location of Fort Belvoir



*Note: Fort Belvoir North Area and Mark Center are not shown

Figure 2: Location of Water Storage Tanks on Fort Belvoir and Coastal Resources

Figure 3: Proposed Sites for Force Main Replacements and Coastal Resources

Figure 4: Proposed Sites of ROW Maintenance and Coastal Resources

Figure 5: Proposed Sites of Aerial Stream Crossings and Stream Bank Repair and Coastal Resources

Figure 6: Proposed Sites of ASDC Projects and Coastal Resources