

CONTINUATION SHEET

PART 3- PROJECT PROGRAM

SECTION 1 PROJECT DESCRIPTION

Delete the first paragraph in its entirety and replace with the following:

The purpose of this project is to construct a new multi-story Marine Corps Bachelor Enlisted Quarters (BEQ) at Naval Weapons Station (NWS) Yorktown in Yorktown, Virginia. The project is part of a multi-phase consolidation of the Marine Corps Security Force Regiment (MCSFR). The new facility will provide berthing facilities for Marines of MCSFR Headquarters Company currently located at Camp Allen, Naval Station Norfolk, and NSA Norfolk. In addition, the facility will fill deficit BEQ housing for MCSFR "B" FAST Company at NWS Yorktown. The consolidation plan will locate the new BEQ south of the MCSFR Parade Ground and east of P-985 BEQ. The multi-story BEQ facility north (parade field side) elevation shall be a maximum height of three stories.

SECTION 2 PROJECT OBJECTIVES

SUB-SECTION 2.1 MISSION STATEMENT

Delete the first paragraph in its entirety and replace with the following:

The mission of this project is to construct a multi-story Marine Corps Bachelor Enlisted Quarters (BEQ) at Naval Weapons Station (NWS) Yorktown in Yorktown, Virginia. The project is part of a multi-phase consolidation of the Marine Corps Security Force Regiment (MCSFR). The new facility will provide berthing facilities for Marines of MCSFR Headquarters Company currently located at Camp Allen, Naval Station Norfolk, and NSA Norfolk. In addition, the facility will fill deficit BEQ housing for MCSFR "B" FAST Company at NWS Yorktown. The consolidation plan will locate the new BEQ south of the MCSFR Parade Ground and east of P-985 BEQ.

SUB-SECTION 2.2 FACILITY FUNCTION

Delete the second paragraph in its entirety and replace with the following:

Bachelor Enlisted Quarters (BEQ) (Phase I): Provide one multi story building totaling not more than 55,758 SF. The facility shall include a total of 107 configured room modules accommodating up to 214 E1-E5 Marines (2 E-1 – E4 Marines per module). At the First Floor, provide reception area with duty desk, laundry and multi-purpose area. Building egress and circulation shall be achieved through three stairwells and one elevator. Provide space for required mechanical, electrical and telecommunication support as indicated.

Provide an option to include an additional ten (10) configured room modules accommodating up to twenty (20) E1-E5 Marines. The option shall not exceed 4,692 SF.

The entire program (base and option) must not exceed 60,450 SF.

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SUB-SECTION 2.5.2 STAFFING/OCCUPANCY

Delete the table in its entirety and replace with the following table:

<u>Type of Occupancy</u>	<u>No. of Persons</u>	<u>Description of Activity</u>
Administration	3	Office Administration
Custodial	2	
Maintenance – indoor	1	
Quarters	107	Dormitory Living Areas
Optional Quarters	10	Dormitory Living Areas
Maximum Occupancy	240	

SECTION 4 BUILDING REQUIREMENTS

SUB-SECTION 4.1 SPACE TABULATIONS

Delete the table in its entirety and replace with the following tables:

BASE BID

Space Name	# of spaces	Unit SF (Net)	Total SF (Net)	Total SQM (Net)	Remarks
Vestibule	1	116	116	10.78	occupancy varies
Lobby	1	150	150	13.94	occupancy varies
main corridor	1	2000	2000	185.81	first floor
main corridor	1	2140	2140	198.81	second floor
main corridor	1	2080	2080	193.24	third floor
Stairs	3	260	780	72.46	calculated at 1/2 square footage
Public Toilet (male & female)	2	120	240	22.30	1 occupant at a time
Quarter Deck & Admin. Office	1	190	190	17.65	3 personnel
Toilet room (unisex)	1	80	80	7.43	For office personnel
Mechanical Room	1	740	740	68.75	First Floor
Mechanical Room	1	350	350	32.52	Third Floor
Electrical Room	1	290	290	26.94	one on first floor
Electrical Room	2	120	240	22.30	one per upper floor
Fire Riser & Sprinkler Space	1	0	0	0.00	first floor, part of mechanical room, per code
Telecommunications	1	150	150	13.94	one per floor
Telecommunications	2	110	220	20.44	one per floor

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Custodial space	1	127	127	11.80	first floor
Custodial space	2	20	40	3.72	second and third floor
Trash/Recycling Room	1	120	120	11.15	first floor
Trash/Recycling Room	1	80	80	7.43	second floor
Laundry Room	1	926	926	86.03	First floor, adjacent to Multi-Purpose
Multi-Purpose Space	1	826	826	76.74	first floor, adjacent to laundry
Multi-Purpose Kitchenette	1	0	0	0.00	part of Multi - Purpose area design per FC4-721-10N
Vending	1	0	0	0.00	part of Multi - Purpose area design per FC4-721-10N
Telephone alcove	1	60	60	5.57	Entry Lobby
USMC 2+0 Bedroom Unit	107	408	43656	4055.78	distributed on all floors
Elevator	1	86	86	7.99	one per floor
Elevator Equipment Room	1	60	60	5.57	First Floor
Subtotal Net Area			55747	5179.07	
Net to Gross Factor			1.00	1.00	
TOTAL GROSS AREA			55747	5179.07	
The design build contractor shall provide actual area in both square feet and square meters in proposals.					

OPTION

Space Name	# of spaces	Unit SF (Net)	Total SF (Net)	Total SQM (Net)	Remarks
Laundry Room additional square footage	1	90	90	8.36	design per FC4-721-10N minimum requirement
Multi-Purpose Room additional square footage	1	125	125	11.61	design per FC4-721-10N minimum requirement
Main Corridor Additional square footage	1	408	408	37.90	design per FC4-721-10N minimum requirement
USMC 2+0 Bedroom Unit	10	408	4080	379.04	optional rooms / distributed on all floors
Subtotal Net Area			4703	436.92	
Net to Gross Factor			1.00	1.00	
TOTAL GROSS AREA			4703	436.92	
The design build contractor shall provide actual area in both square feet and square meters in proposals.					

CHAPTER 3 SITE ANALYSIS

Delete Chapter 3 Site Analysis in its entirety and replace it with Chapter 3X Site Analysis.

CHAPTER 6 / ESR A10 FOUNDATIONS

Delete Chapter 6 / ESR A10 Foundations in its entirety and replace it with Chapter 6 / ESR A10X Foundations.

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CHAPTER 6 / ESR A20 BASEMENT CONSTRUCTION

Delete Chapter 6 / ESR A20 Basement Construction in its entirety and replace it with Chapter 6 / ESR A20X Basement Construction.

CHAPTER 6 / ESR G10 SITE PREPARATION

Delete Chapter 6 / ESR G10 Site Preparation in its entirety and replace it with Chapter 6 / ESR G10X Site Preparation.

CHAPTER 6 / ESR G20 SITE IMPROVEMENTS

Delete Chapter 6 / ESR G20 Site Improvements in its entirety and replace it with Chapter 6 / ESR G20X Site Improvements.

PART 6 – ATTACHMENTS

PART 6.3 PART 6b – DRAWINGS

Remove drawing listed in table of contents as “P-991 Overall Site” and entitled “MCSFR Consolidation Overall Site Layout, NWS Yorktown” and insert drawing entitled “MCSFR Consolidation Overall Site Layout, NWS Yorktown-X”.

PART 6.4 PART 6c – REPORTS

Remove reports entitled “Thermal_Conductivity_Report_984_989_MCSFRC_PhaseI_2012-08-07” and “N62470-12-D-2003-WE44_Geotech_Report_P-991_MCSFR_BEQ_NWSY” and insert report entitled “Report YNWS - P984 HQ & P985 BEQ WM13-174G R-1”.

-- End of Amendment --

3.0X SITE ANALYSIS

General Project Information

This project is located at Naval Weapons Station (NWS) Yorktown and includes the construction of a Bachelor Enlisted Quarters (BEQ), and a remote parking lot and all associated utility, grading, drainage, stormwater management, landscaping, lighting, and various other site improvements for the Marine Corps Security Force Regiment (MCSFR). The project includes multiple construction sites.

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The site is on the north side of Shupper Drive, approximately 300-feet west of the Shupper Drive/ Longfellow Road intersection and adjacent to the south side of the P-984 Parade Ground (under construction).

The remote parking area is located at the west end of Shupper Drive, adjacent (between) to the remote parking areas for the aforementioned P-984 and P-985 projects.

3.1X Existing Site Conditions

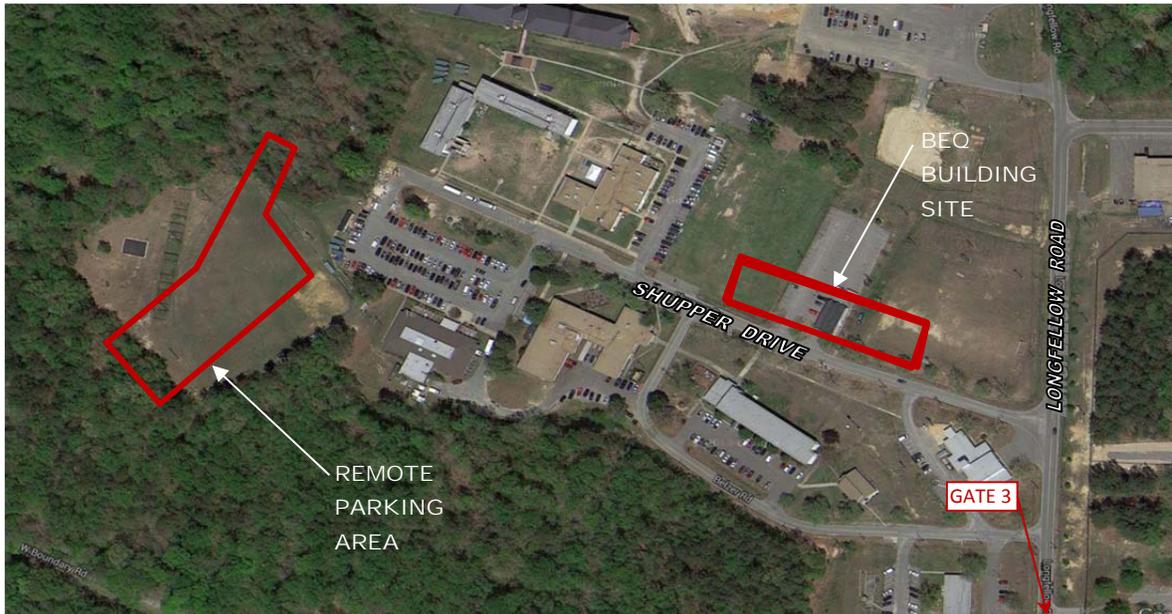
3.1.1X Natural Constraints

Topography

Prior to construction of the P-984 Parade Ground, the BEQ building site was mostly a flat grassy area that generally sloped southwest towards a roadside swale along Shupper Drive and included part of an asphalt parking lot that crossed the site and extended into the area of the Parade Ground. Upon completion of the P-984 Parade Ground and the P-985 BEQ, construction operations will have demolished the existing parking lot and leave the BEQ site partially graded to accommodate the required Parade Ground grading. The Parade Ground will be graded so that runoff flows towards the roadside ditch along Longfellow to the west and to a storm sewer collection system to the east. The Parade Ground area has an extensive underdrain piping system to aid in site and subsurface drainage.

The remote parking areas are partially wooded, with areas sloping to both the north and south. The cleared area includes an existing baseball field and obstacle course.

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The construction drawings for the P-984 and P-985 sites have been included in Part 6, Attachments. A topographic survey of the project area is also included in Part 6, Attachments. The survey was performed in March 2012, **prior to any construction of the MCSFR projects**. The survey is provided only for general information.

Geotechnical Information

Subsurface soil and groundwater information, and geotechnical data reports for adjacent projects are included in Part 6 Attachments of this RFP.

Soils information provided in this RFP is for reference only, and reflects soil conditions encountered only at the locations indicated. The Contractor shall perform soils investigation at the site for use in the design and construction of the new facilities. A report including laboratory analysis of samples and recommendations for foundation and pavement design shall be prepared by a professional engineer in accordance with UFC 3-220-01N, Geotechnical Engineering.

3.1.2X Man Made

Utilities

An existing eight-inch water main is located along the north side of Shupper Drive, between the BEQ site and the Shupper Drive edge of pavement. This existing main connects to an existing 10-inch water main to the east that runs along the west side of Longfellow Road.

There is an existing 8-inch sanitary sewer line approximately 85-feet south of the Shupper Drive edge of pavement that extends west and serves the existing buildings along Shupper Drive. An existing 10-inch sanitary sewer line west of the BEQ site extends north from Shupper Drive and adjacent to the west side of the P-985 BEQ.

A 2-inch gas service line has been recently installed along the south side of Shupper Drive. Refer to the Natural Gas Service Layout Map provided in Part 6 of this RFP.

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An extensive underdrain piping system is present beneath the Parade Ground area.

3.2X Site Development Requirements

3.2.1X Facility Footprint

Site design and layout for this project shall be coordinated with other adjoining concurrent and future projects at NWS Yorktown with regard to utilities, parking, roadway, grading, telecommunications, power and AT/FP requirements to meet the overall base functional and operational requirements. See the Overall Site Layout drawing in Part 6 Attachments of this RFP for a presentation of the current and future projects in this area.

The location and orientation of the BEQ building and remote parking area shown on the Overall Site Layout drawing is conceptual and is intended for reference only. The drawing is provided to confirm that the requested facility and associated site appurtenances can be developed within the project limits and adjacent to all existing and future facilities.

The Overall Site Layout drawing does not show the location of a dumpster pad, fire department access, sidewalks, stormwater management features, or other site appurtenances. The Designer of Record shall fully develop the site to meet all of the requirements in this RFP.

Finished Floor Elevation

The finished ground floor elevation for the new BEQ building shall match the finished ground floor elevation of the P-985 BEQ building which is set at 69.00 feet (NAVD88).

Building Location

Locate the north face of the new BEQ building a minimum horizontal (plan) distance to allow for construction activities to occur without damage to the finished grading and installed underdrain system for the adjacent P-984 Parade Ground. The building location shall also meet the minimum AT/FP setback requirements from Shupper Drive and any driveways/drive aisles.

The area between the north face of the new BEQ building and the existing Parade Ground shall be graded to provide similar ground surface elevations as the Parade Ground deck and to provide positive drainage away from the building and Parade Ground deck. Grading in this area shall not impact the existing drainage of the Parade Ground.

3.2.2X Vehicular Access and Circulation

See PART 3 - CHAPTER 6 / ESR G20 paragraph G2010 for minimum pavement sections. See Part 4, paragraph G2010 and UFC 3-200-10N, "Civil Engineering," for other requirements and guidance.

At the BEQ building site, provide convenient and safe vehicular access and circulation for essential services including trash and garbage collection and fire protection. Provide fire and emergency vehicle access for the BEQ building in accordance with UFC-3-600-01, "Fire Protection Engineering for Facilities". Provide one dumpster pad. Locate the pad for easy accessibility and minimum disruption of traffic flow and in accordance with any AT/FP setback requirements.

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Parking

At the remote parking area, provide a paved parking area for a minimum 190 spaces. Handicap accessible spaces must be provided in accordance with the latest Americans with Disabilities Act (ADA) and the Architectural Barriers Act Accessibility Standard (ABAAS).

Pedestrian Access and Circulation

Pedestrian access and circulation shall be provided in accordance with Section G2030.

Landscaping

Landscaping shall be provided in accordance with Section G2040. Provide turf on all disturbed areas not covered by impervious surfaces, plantings or other groundcover.

Utilities

Provide water supply, and sanitary sewer connections to the BEQ building. Also, provide other utilities as specified in other parts of this RFP including, but not limited to gas, electric and communication. Provide electrical utility service to the remote parking area.

Relocate existing water and telecommunication as needed to make way for new construction.

The Contractor shall provide a complete utility site design. No active piping or utility structures shall remain under new building footprint or within 10-feet of the building perimeter. Existing piping and utility structures that will not be required in the new design shall be removed from within the project limits. Existing utility structures that remain active within the project limits shall have the rims adjusted to be suitable for finished grade and elevations required for final design.

Unless otherwise specified, all utility services shall be run underground. Utilities shall not be run under or within 10 feet of buildings except as required to make building connections. Locate underground utilities in a manner to minimize the cost and effort of performing maintenance. Locate all underground utility lines, mains, and conduits at the minimum depth required in accordance with local code, frost line and water table requirements, and when possible, in common corridors to allow for ready access and maintenance.

Water Distribution

Verify the possible conflict with a portion of the existing 8-inch water main. Relocate as necessary to provide water service to the BEQ.

Sanitary Sewer

Provide sanitary sewer service to the BEQ building from the existing sanitary sewer line on the south side of Shupper Drive. Provide watertight frames and covers to all existing sanitary sewer structures that need to be modified to accommodate the design.

Storm Sewer

Site work required for the construction of the BEQ may impact the storm sewer and

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underdrain system that will be installed as part of the P-984 parade ground project. The contractor shall minimize any disturbance to this system. If construction operations impact the system or its performance, the contractor shall replace any damaged items and restore the system to its pre-construction condition.

Telecommunications

See section G4030 "SITE COMMUNICATION AND SECURITY".

Cable TV

See section G403002 "CABLE TV SYSTEM (CATV)".

Electrical

Site work required for the construction of the BEQ may impact the site lighting and associated underground electric lines installed as part of the P-984 parade ground project. If construction operations impact the system or its performance, the contractor shall replace any damaged items and restore the system to its pre-construction condition.

See section G40 "SITE ELECTRICAL UTILITIES" for additional information.

Gas

All connections to the existing natural gas system shall be coordinated with Virginia Natural Gas through the use of the NAVFAC Request for Gas Service. See Part 6 of this RFP for a copy of the request.

Stormwater Management

Grade the sites to provide positive drainage away from the buildings, roadways and parking areas. Ensure that the grading and associated stormwater runoff does not adversely affect the surrounding areas. Grade the site to match the finish grades shown on the latest P-984 parade ground and P-985 BEQ design drawings.

Provide a complete stormwater management design that meets or exceeds UFC 3-210-10 Low Impact Development, UFC 3-201-01 Civil Engineering, and Virginia Stormwater Management requirements. Provide calculations to demonstrate compliance with all three criteria. Use the Virginia Runoff Reduction Method to demonstrate compliance with Virginia criteria. Complete and provide the appropriate Runoff Reduction Spreadsheet as part of your calculations. Note that redevelopment requires a 20% reduction in phosphorous load. Provide overland relief for large storm events. Demonstrate that the 100 year storm routed through proposed stormwater management features will not reach higher than 1 foot below the Finish Floor Elevation of adjacent buildings.

Where infiltration features are proposed by the Designer of Record, infiltration tests shall be performed, as required by UFC 3-210-10 and the Virginia Stormwater Management criteria for BMPs, to confirm that infiltration into in-situ soil is possible. All infiltration features must include underdrains that discharge to the storm system or to daylight. The purpose of the required underdrains is to provide a backup outlet in the event that the infiltration feature fails to infiltrate as intended.

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The Designer of Record shall submit the Stormwater Management design and calculations to Virginia DEQ for approval. The Designer of Record shall obtain approval of the Stormwater Management design and calculations from Virginia DEQ. Contact the NAVFAC Civil Engineer assigned to this project for further instructions.

Site Demolition

Demolish (relocate if necessary) existing utilities that conflict with the building location and remote parking lot area.

Other demolition will include storm sewers, fencing, lighting, dugouts and bleachers associated with the existing baseball field and the portion of the obstacle course that was not demolished by the P-985 BEQ project.

Clear trees from the remote parking areas as required for construction.

Permits

Utilities

Identify and obtain all permits to comply with all federal, state and local regulatory requirements associated with this work. The contractor shall submit a complete "Permits Records of Decision (PROD)" form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link

http://www.wbdg.org/ndbm/Download/Down_Additional.html?Section=AdditionalInfo .

Contractor shall determine correct permit fees and pay said fees. Copy of all permits, permit applications, and the completed PROD form shall be forwarded to the Contracting Officer. In addition, the Contractor's Designer of Record shall complete the NAVFAC Mid-Atlantic Utility Connection Permit Application, attached to Part 6 of this RFP, with the first design submittal package.

Stormwater Management

This project will disturb more than one acre, therefore coverage under the Virginia Stormwater Management Plan (VSMP) construction general permit will be required. The contractor shall submit an application for coverage to Virginia Department of Environmental Quality (VDEQ) at least 60 days prior to start of construction. In addition, a Storm Water Pollution Prevention Permit (SWPPP) shall be developed to include an integrated erosion and sediment control plan. The SWPPP must be prepared prior to submitting a registration statement for permit coverage to DCR. The SWPPP is to be retained at the construction site along with a copy of the permit and permit coverage letter.

Erosion & Sediment Control

The Designer of Record shall submit the erosion and sediment control plan and calculations to Virginia DEQ for approval. Refer to the Erosion and Sediment Control checklist in the Virginia Erosion and Sediment Control Handbook for requirements. The Designer of Record shall obtain approval of the Erosion and Sediment Control Plans and calculations from Virginia DEQ. Contact the NAVFAC Civil Engineer assigned to this project for further instructions.

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Wetlands

A wetland delineation for the project area has been completed and confirmed by the US Army Corps of Engineers (USACE). There are no wetland areas within the project limits. The Navy point of contact for all wetlands issues is Mr. Thad McDonald, NAVFAC MIDLANT, 757-341-0494.

Anti-Terrorism / Force Protection Requirements (ATFP)

The BEQ shall be designed to comply with UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. The facility is located within a controlled perimeter, and will have an occupancy designation as "Billeting".

Excavated Soil Management

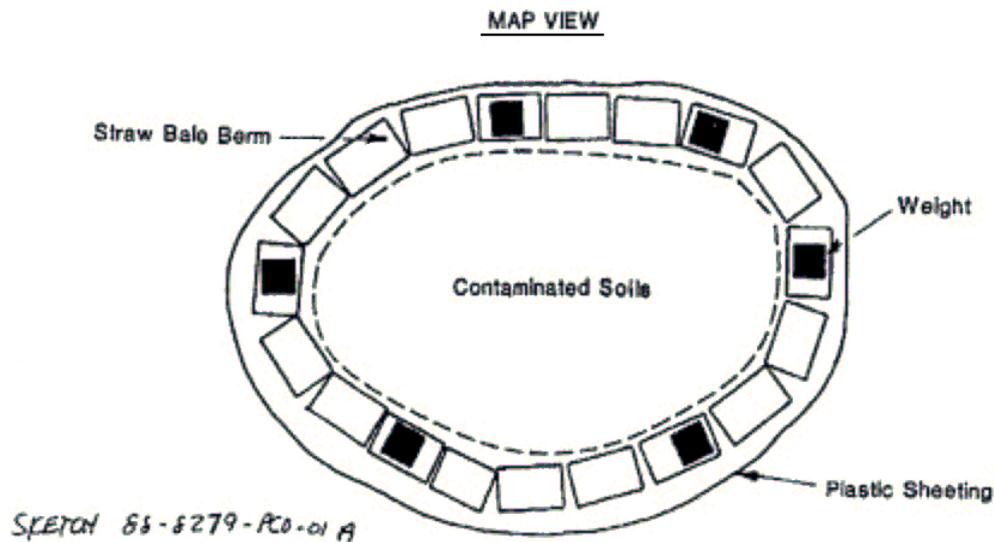
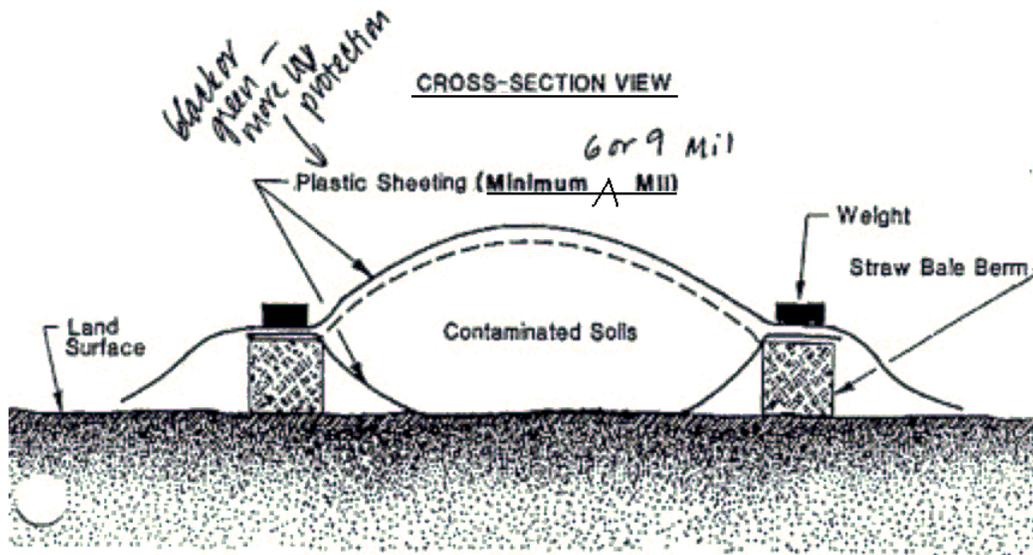
Soil removal from planned excavations shall be reused on-site to the greatest extent possible.

In the event some soil cannot be reused, the Contractor shall properly dispose of excess soil off-site at a licensed permitted disposal facility. Prior to removal from the site, excess soil shall be tested. Manner of disposal shall depend on test results. Soil on-site has the potential to be contaminated with petroleum and/or heavy metals. Any contaminated soil shall be disposed of properly. Any soil stockpiled on-site shall be stored in a manner that prevents rain from infiltrating the soil matrix and prevents any runoff into the surrounding soil or pavement. For any excess soil not reused on-site, the Contractor shall be responsible for all testing, containment, transportation, disposal, and complete environmental compliance at no additional cost to the Government.

If soil saturated with petroleum (e.g. when the soil is squeezed, oil/gas drips out) is encountered in the planned excavations, then the Contractor shall immediately stop excavation operations in that area and contact NAVFAC MIDLANT EV (POC: Carol Peterson, 757-341-0453 office or 757-285-2560 cell). MIDLANT EV personnel or their agents will monitor and direct the removal of soil saturated with petroleum. Petroleum contaminated soil will be disposed of through a treatment service such as Clearfield (formerly known as Soilex) [757-549-8448 <http://www.clearfieldmmg.com/>]. Soil testing for the following constituents will be required before treatment facilities will accept the soil: TPH, BTEX, EPTOX, Total Organic Halogen (TOX). Soils that are less than 50 ppm TPH (total petroleum hydrocarbons) can be used elsewhere within the confines of the project. Soils >50 ppm will be stored in a manner to prevent rain from reaching the soil and preventing any runoff into the surrounding soil or pavement (e.g. store the soil on top of plastic sheeting and covered with plastic sheeting or in lined, covered dumpsters). The following figure provides a sample configuration.

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Diagram for Temporary Containment
of Petroleum Contaminated Soil



Following approval from the Contracting Officer, remove excess contaminated soil that may be encountered during earthwork operations, foundation excavations, and utility excavations, where necessary to complete the contract work. Refer to the unit priced line item in the Price Proposal Form. This work refers to materials that are not identified on the contract drawings. Properly dispose of all excess contaminated soil off Government property at a permitted facility. Backfill the excavations made to remove the contaminated soil with compacted satisfactory fill materials. The

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volume of excess contaminated soil shall be determined based on field measurements (length x width x depth) of the excavation made to remove the contaminated soil.

3.2.3X Environmental Constraints

The Contractor is responsible for preparing an Erosion and Sediment Control Plan in accordance with the Virginia Erosion and Sediment Control Handbook (VESCH), latest edition. The plan shall utilize measures described in the VESCH to minimize soil loss during construction from stormwater runoff and prevent sediment-laden runoff from reaching downstream storm sewers and receiving streams.

--End of Section 3X Site Analysis--

6. ENGINEERING SYSTEMS REQUIREMENTS

A10X FOUNDATIONS

SYSTEM DESCRIPTION

Provide the building foundation system in accordance with UFC 3-301-01, *Structural Engineering*. Foundation shall be designed to suit subsurface conditions, and shall be capable of transmitting all building loads to the ground.

See Section B10, *Superstructure*, for additional loading criteria.

A10X GENERAL

GOVERNMENT PROVIDED GEOTECHNICAL INFORMATION

Subsurface soil and groundwater information, and geotechnical data reports for sites adjacent to the planned P991 BEQ building are included in Part 6 Attachments of this RFP.

Any included subsurface information is only for the Contractor's information and is not guaranteed to fully represent all subsurface conditions. The Government shall not be responsible for any interpretation or conclusion by the Contractor drawn from the data or information beyond the Industry standard of care.

Any geotechnical report accompanying the subsurface information is provided only to better convey data (boring logs, testing, etc.) or to document observed site conditions. The assumptions, analysis, and recommendations of any accompanying report were developed for preliminary planning purposes only and may not reflect present project requirements. The Contractor is required to retain a Geotechnical Engineer experienced in the geographic region of the project and licensed in the Commonwealth of Virginia to interpret the Government provided information as related to his design concept and develop geotechnical requirements to support design and construction.

Minor variations in subsurface conditions between borings should be anticipated. The Contractor shall bear all costs associated with the site preparation, ground improvement and foundations except as allowed by Contract Clause FAR 52.236-2, "Differing Site Conditions". The Contractor's Geotechnical Engineer shall perform additional subsurface investigation/testing as required to

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adequately determine all applicable geotechnical factors including the type and capacity of the project foundations. The Contractor's Geotechnical Engineer shall consider the provided information and any additional information obtained and prepare a report as described in other portions of this RFP. The minimum requirements for the subsurface investigation and report are as required by FC 1-300-09N with associated references.

Seasonal perched groundwater conditions at or near the existing ground surface are anticipated and measures to address these conditions should be incorporated in the design and construction procedures.

Personnel under the supervision of a registered Professional Engineer shall provide inspection of excavations and soil/groundwater conditions throughout construction. The Engineer shall be responsible for performing pre-construction and periodic site visits throughout construction to assess site conditions. The Engineer, with the concurrence of the Contractor and the Contracting Officer, shall update the excavation, sheeting, shoring and dewatering plans as construction progresses to reflect actual site conditions and shall submit the updated plan and a written report (with professional stamp) at least monthly informing the Contractor and Contracting Officer of the status of the plan and an accounting of Contractor adherence to the plan; specifically addressing any present or potential problems. The Engineer shall be available to meet with the Contracting Officer at any time throughout the contract duration. The Contractor shall bear all costs of the Engineer.

SEISMIC DESIGN

A site-specific seismic ground motion study is not required. Ground motion accelerations shall be determined in accordance with UFC 3-301-01, *Structural Engineering*, and the 2008 USGS Ground Acceleration Maps.

The design shall use a seismic site classification D.

A1010X STANDARD FOUNDATIONS

Not Used.

A1020X SPECIAL FOUNDATIONS

Due to the presence of existing uncontrolled fill materials encountered in test pit excavations to depths ranging from 2.5 to 6 feet below existing grades, the entire building superstructure will be supported on a shallow foundation system bearing on densified aggregate piers. The aggregate piers shall be installed to a depth of at least 10 feet below the existing ground surface. This is not a bid depth. The required densified aggregate pier diameter, final design bearing depth(s), layout, and spacing will be designed by a Professional Engineer (Designer of Record) registered in the Commonwealth of Virginia. All wall footing elements and integral column footing elements shall be designed with continuous top and bottom reinforcement.

As "Special Foundation" techniques or systems typically require the use of specialty contractors, the Designer of Record shall establish installation and acceptance criteria and supervise the installation. The Designer of Record shall submit acceptable evidence of previous successful installation in similar conditions, methods and equipment used in their installation, proposed testing and inspection to be used, supporting test data, calculations, complete specifications, and any other information related to the structural properties and load capacity of such system. The allowable stresses for aggregate piers shall not exceed those limitations specified in UFC 1-200-01. The submittals for Special Foundation systems shall be provided during design development and shall be signed and sealed by the Designer of Record. The information for Special Foundation systems shall be included on the

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project foundation plans and in the structural drawing notes.

A1030X SLAB ON GRADE

Following grubbing and stripping operations, the exposed subgrade over the entire planned building footprint shall be densified with 6 passes of a minimum 15 ton vibratory roller under the supervision of the Contractor's Geotechnical Engineer. Care should be taken to not destabilize the subgrade during the densification operations.

A properly jointed concrete slab on grade shall be provided for the ground floor. The ground floor slab shall be structurally isolated from the building foundations to permit potential differential settlement. Where slab on grade is below the existing adjacent exterior grade, provide water/dampproofing and a perimeter drainage system to remove ground water from the area immediately adjacent to the buildings. Provide perimeter insulation.

A1040X STRUCTURALLY SUPPORTED SLAB

Not Used.

--End of Section A10X Foundations--

6. ENGINEERING SYSTEMS REQUIREMENTS

A20X BASEMENT CONSTRUCTION

SYSTEM DESCRIPTION

Provide the basement construction in accordance with UFC 3-301-01, *Structural Engineering*.

A2010X BASEMENT EXCAVATION

Not Used.

A2020X BASEMENT WALLS

Basement walls include exterior walls below the first floor level of the building, including walls that are below grade, elevator pits and other pits. Provide basement walls constructed of cast-in-place concrete. Provide waterproofing and insulation of basement walls.

--End of Section A20X Basement Construction--

6. ENGINEERING SYSTEMS REQUIREMENTS

G10X SITE PREPARATION

SYSTEM DESCRIPTION

The site preparation system consists of site clearing, demolition, salvage, relocation, earthwork, and

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hazardous waste remediation necessary to ready the site for other work associated with the project.

GENERAL SYSTEM REQUIREMENTS

Develop the project site and perform all off-site work necessary to meet the requirements of the project, antiterrorism criteria, local codes, reference standards, technical specifications and performance criteria.

A topographic survey of the existing site has been performed and is included in Part 6. The topographic survey has been provided to show the location of existing facilities, areas of new work required by this RFP and the character of the sites. Prior to starting work, physically verify the location of all existing utilities and obtain all additional survey data required to provide a quality final design. The existence, size and/or location of the utilities are not guaranteed by the survey provided. The Contractor shall verify the location of all utilities prior to construction. Electronic files of the topographic surveys will be provided to the Contractor only after award of the contract.

Unless otherwise noted, provide new facilities at the locations indicated on the drawings in another part of this RFP.

Minimize the impact of construction activity on operations and neighboring facilities.

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall submit a complete "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link http://www.wbdg.org/ndbm/Download/Down_Additional.html?Section=AdditionalInfo . Contractor shall determine correct permit fees and pay said fees. Copies of all permits, permit applications, and the completed PROD form shall be forwarded to the Government's Civil Reviewer and Environmental Reviewer.

Coordinate and obtain the Resident Officer In Charge of Construction's (ROICC) approval for proposed haul route(s), work site access point(s), employee parking location(s) and material laydown and storage area(s).

Refer to Site Analysis and Building Requirements Sections for additional site preparation functional program information.

GOVERNMENT PROVIDED GEOTECHNICAL INFORMATION

Subsurface soil and groundwater information, and geotechnical data reports for sites adjacent to this project are included in Part 6 Attachments of this RFP.

Any geotechnical subsurface information is provided only to better convey data (boring logs, testing, etc.) or to document observed site conditions. The assumptions, analysis, and recommendations of any accompanying report were developed for preliminary planning purposes only and may not reflect present project requirements. The Contractor is required to retain a Geotechnical Engineer experienced in the geographic area of the project and licensed in the Commonwealth of Virginia to interpret the Government provided information as related to their design concept and develop geotechnical requirements to support design and construction.

The Contractor shall bear all costs associated with the site preparation, ground improvement and foundations except as allowed by Contract Clause FAR 52.236-2, "Differing Site Conditions". The Contractor's Geotechnical Engineer shall perform additional subsurface investigation/testing as required to adequately determine all applicable geotechnical factors for the proposed site

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improvements. The Contractor's Geotechnical Engineer shall consider the provided information and any additional information obtained and prepare a report as described in other portions of this RFP. The minimum requirements for the subsurface investigation and report are as required by FC 1-300-09N with associated references.

The successful bidder's Geotechnical Engineer shall perform additional borings, in-situ testing, supplementary laboratory testing and classification of soils that they deem necessary to support the design and construction of the proposed site improvements.

Seasonal perched groundwater conditions at or near the ground surface are anticipated and measures to address these conditions should be incorporated in the design and construction of the proposed site improvements.

Personnel under the supervision of a registered Professional Engineer shall provide inspection of excavations and soil/groundwater conditions throughout construction. The Engineer shall be responsible for performing pre-construction and periodic site visits throughout construction to assess site conditions. The Engineer, with the concurrence of the Contractor and the Contracting Officer, shall update the excavation, sheeting, shoring and dewatering plans as construction progresses to reflect actual site conditions and shall submit the updated plan and a written report (with professional stamp) at least monthly informing the Contractor and Contracting Officer of the status of the plan and an accounting of Contractor adherence to the plan; specifically addressing any present or potential problems. The Engineer shall be available to meet with the Contracting Officer at any time throughout the contract duration. The Contractor shall bear all costs of the Engineer.

G1010X SITE CLEARING

G101001X CLEARING

Preserve trees not directly impacted by the project construction.

The project site does not have saleable timber.

All timber on the project site noted for clearing shall become the property of the Contractor, and shall be removed from the project site and disposed of off station.

Burning will not be allowed.

G101002X TREE REMOVAL

Remove and dispose of all trees as required for project construction.

G101003X STUMP REMOVAL

Refer to Section G10 in Part 4 of this RFP for performance requirements associated with this work.

G101004X GRUBBING

Contractor shall be responsible for maintaining positive site drainage and using properly sized and type of equipment to prevent deterioration of soil support capacity.

G101005X SELECTIVE THINNING

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Not Used.

G101006X DEBRIS DISPOSAL

All grubbing and clearing residue, demolished material, rubbish and debris generated by this project shall be hauled off-site and off station by the Contractor and disposed of in accordance with all Federal, State and local laws.

G1020X SITE DEMOLITION & RELOCATIONS

Not Used.

G102001X BUILDING MASS DEMOLITION

Not Used.

G102002X ABOVEGROUND SITE DEMOLITION

Not Used.

G102002 1.1X ABOVEGROUND STORAGE TANKS

Not used.

G102003X UNDERGROUND SITE DEMOLITION

Preserve the following underground site elements: including but not limited to water, sanitary sewer, telecommunication, gas and electrical.

Abandonment of utility systems shall be done in a manner that conforms to applicable codes and regulations, removes their presence from the ground surface and clearly indicates that they have been abandoned. Utilities shall not be abandoned in place underneath or within 10 feet (3.0 m) of any new facilities. All conduits to be abandoned shall have wiring removed.

All piping to be abandoned shall be removed if underneath or within 10 feet of any new facility. Piping shall be removed under pavements subject to potential vehicle loadings.

Remove existing utility structures to 3 feet below existing or new adjacent grade, whichever is greater. Break up bases to permit drainage. Fill with clean sand.

G102003 1.1X UNDERGROUND STORAGE TANKS

An underground storage tank report is not provided to support this project.

G102004X BUILDING RELOCATION

Not Used.

G102005X UTILITY RELOCATION

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Comply with the requirements of the utility provider concerning the utility relocation.

G102006X FENCING RELOCATION

Not Used.

G102007X SITE CLEANUP

Refer to Section G10 in Part 4 of this RFP for performance requirements associated with this work.

G102009X OTHER SITE DEMOLITION & RELOCATIONS

Not Used.

G1030X SITE EARTHWORK

G103001X GRADING

Finish floor elevations for new facilities shall be at least 12 inches above the 100 year storm elevation. Provide elevations for mechanical/electrical equipment pads at least 12 inches above the 100 year storm elevation.

G103002X COMMON EXCAVATION

G103003X ROCK EXCAVATION

Blasting will not be permitted.

G103004X FILL & BORROW

Borrow and select fill shall come from off-base sources.

Imported select sand with a maximum of 20 percent fines (silt & clay) and minimum CBR=20 shall be used to backfill foundation excavations, utility excavations in the building and pavement areas, and as building pad fill material.

G103005X COMPACTION

Contractor will be required to perform compaction in accordance with UFGS Specifications and the contractor's geotechnical engineer's recommendations.

G103006X SOIL STABILIZATION

Provide soil stabilization using geosynthetics such as geotextiles and geogrids designed to function as required by site conditions. The following methods of soil stabilization will not be allowed: asphalt and pressure grouting.

G103007X SLOPE STABILIZATION

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Provide slope stabilization through appropriate grading and site design for a minimum factor of safety of 1.5 or slope that does not exceed the maximum slope per local code requirements.

G103008X SOIL TREATMENT

Treat the area around the entire foundation of each building for termite control in accordance with manufacturer's instructions.

G103009X SHORING

Not Used

G103010X TEMPORARY DEWATERING

Depending on the time of construction, the presence of groundwater or perched water in the surface soil may present a detrimental effect on site preparation and/or grading operations. Provide pumps, ditching and grading during construction as necessary to prevent conditions that would promote deterioration of the soil, or cause interruptions to the construction progress. All dewatering effluent must be filtered prior to discharge to minimize sediment to surface water.

Refer to Section G10 in part 4 of this RFP for performance requirements associated with this work.

G103011X TEMPORARY EROSION & SEDIMENT CONTROL

Contractor is responsible for preparing Erosion and Sediment Control Plan, and obtaining final plan approval from the Virginia Department of Environmental Quality (VDEQ). The plan shall be prepared in accordance with the Virginia Erosion and Sediment Control Handbook (VESCH), latest edition.

G103090X OTHER SITE EARTHWORK

G1040X HAZARDOUS WASTE REMEDIATION

Not Used.

G1040 1.1X EXCAVATION

Non-contaminated water may be disposed of on-site.

G1040 1.2X STOCKPILED SOILS

Refer to Section G10 in Part 4 of this RFP for performance requirements associated with this work.

G1040 1.3X CLEAN FILL

Prior to hauling on site, imported backfill shall be determined Clean Fill via testing in accordance with UFGS 31 23 00.00 20, Part 1.6 Requirements for Off Site Fill. Clean Fill shall not contain concentrations above 50 ppm for any analyte listed in the specification.

Clean imported backfill shall be compacted in accordance with the requirements listed in this section,

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unless otherwise noted.

G1040 1.4X SPILLS

In the event of a spill or release of hazardous substances, pollutant, contaminant or oil, notify the Contracting Officer immediately. Containment/Control actions shall be taken immediately to minimize the effect of any spill or leak. Clean up shall be performed at the Contractor's expense in accordance with all applicable federal, state and local regulations.

G1040 1.5X DISPOSAL

All waste materials shall become the property of the Contractor and shall be transported, disposed of or recycled in accordance with applicable Federal, State and local regulations. All surplus excavation spoils shall be disposed of at permitted licensed RCRA Subtitle D disposal facility.

--End of Section G10X Site Preparation--

6. ENGINEERING SYSTEMS REQUIREMENTS

G20X SITE IMPROVEMENTS

SYSTEM DESCRIPTION

The site improvements system consists of pavements and pavement related features, landscaping and other exterior site development work related to this project. Pavement design shall be performed by a licensed Professional Engineer familiar with conditions local to the project site. Final site layout shall be approved by the Government Architect, Government Landscape Architect, and Government Civil Engineer prior to preparation of construction documents.

GENERAL SYSTEMS REQUIREMENTS

Provide site improvements as required to make a useable facility that meets functional and operational requirements, incorporates all applicable anti-terrorism, force protection and physical security requirements and blends into the existing environment. All site improvements for this facility shall be consistent and be compatible with the overall Yorktown "campus" indicated on the drawings within Part 6 including but not limited to: P-985 Bachelor's Enlisted Quarters (BEQ), P-984 Headquarters Building (HQ), and the P-989 Armory. These improvements include but are not limited to: hardscape, walls, stairs and handrails, guards (guardrails), site furnishings, site and parking lot lighting, reinforced turf systems, planting and other landscape features. Provide site improvements in conformance with applicable requirements of the Uniform Federal Accessibility Standards.

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall complete the "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link http://www.wbdg.org/ndbm/Download/Down_Additional.html?Section=AdditionalInfo . Contractor shall determine correct permit fees and pay said fees. Copies of all permits, permit applications, and the completed PROD form shall be forwarded to the Government's Civil Reviewer.

Provide improvements as required to conform to all applicable anti-terrorism and physical security requirements.

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Minimize the impact of construction activity on operations and neighboring facilities.

Locate site improvements at locations indicated on the drawings in another part of this RFP. If specific locations are not provided, site the improvements to develop appropriate and positive relationships with other facilities and to conform to existing development patterns.

Refer to Site Analysis and Building Requirements Sections for additional site improvement functional program information.

G2010X ROADWAYS

Not Used.

G201001X BASES & SUBBASES

Not Used.

G201002X CURBS & GUTTERS

Not Used.

G201003X PAVED SURFACES

Not Used.

G201004X MARKING & SIGNAGE

Not Used.

G201005X GUARDRAILS & BARRIERS

Bollards at building entries and areas of high visibility will be decorative and match the building design and materials.

G201006X RESURFACING

Not Used.

G201090X OTHER ROADWAYS

Provide Fire Department access roads, as required by UFC 3-600-01, 2-10. Fire Department access roads shall be a reinforced turf system. Gravel access roads are not acceptable. A minimum 12-inch thick sand subbase layer (min. CBR=20) underlain by a stabilization geotextile (AASHTO M288 CLASS 1 WOVEN GEOTEXTILE (ELONGATION < 50 PERCENT), SEAMS OVERLAPPED MIN. OF 24") shall be provided beneath all Fire Department access roads. All reinforced turf systems shall be a manufactured pre-engineered permeable reinforcement system. The fire department access road reinforced turf system shall:

1. be designed to accommodate AASHTO H-20 loading;

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2. be installed per manufacturer's recommendations;
3. be provided with 8" minimum Botts' dot style reflective boundary markers mounted on a minimum 8" deep concrete base flush with surface at 20' intervals;
4. be provided with manufacturer recommended transitions to adjoining/adjacent surfaces;
5. include a subsurface drainage system along the entire length of the access road to provide positive drainage for the base and subbase layers;
6. be an engineered system with calculations by geotechnical engineer to include CBR analysis;
7. include construction details specific to the project to meet the performance criteria;
8. not disturb and/or impact the functionality of the existing Parade ground underdrain system.

The Government will not accept a reinforced turf system less than indicated.

G2020X PARKING LOTS

Provide a minimum of 190 spaces in the remote parking area with general arrangement as shown on the "Overall Site Concept" drawing in Part 6 Attachments. The design of pavements shall take into consideration the anticipated daily traffic of 500 cars, and 4 single unit trucks over the life of the project (25 years) as well as the existing soil conditions at the site.

Provide parking lots of bituminous concrete pavement. Provide new parking and other pavement sections as required by soil conditions and determined by Designer of Record. The minimum bituminous pavement section consisting of 3" surface course over 8" aggregate base course and a 12-inch thick sand subbase layer (min. CBR=20) underlain by a stabilization geotextile (AASHTO M288 CLASS 1 WOVEN GEOTEXTILE (ELONGATION < 50 PERCENT), SEAMS OVERLAPPED MIN. OF 24") shall be provided beneath all pavements subjected to automobile traffic. The Government will not accept a pavement section less than indicated.

Provide handicapped parking in accordance with the Uniform Federal Accessibility Standards.

Also see landscape and planting requirements in G2050 of this RFP.

G202001X BASES & SUBBASES

Crushed concrete meeting specified gradation for aggregate base or subbase courses may be used as permitted by VDOT's Road and Bridge Specifications.

G202002X CURBS & GUTTERS

Not Used.

G202003X PAVED SURFACES

Portland cement concrete shall have a minimum design flexural strength of 650 to 700 psi (4.48 to 4.83 MPa) in not more than 28 days.

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Recycled asphalt pavement material may be used for bituminous concrete pavement as permitted by VDOT's Road and Bridge Specifications.

G202004X MARKING & SIGNAGE

Provide permanent and temporary markings (pavement, curb and object), signage (regulatory, warning and guidance) and other traffic control devices as required to facilitate proper utilization of the parking areas.

Provide pavement markings including crosswalks to match existing.

Provide signage to match existing.

Provide temporary pavement markings and signage to meet phasing requirements indicated in the project program. Provide temporary signage in accordance with the MUTCD.

G202005X GUARDRAILS & BARRIERS

Provide wheel stops and bollards in accordance with the UFC 3-200-10N, *Civil Engineering*. Bollards at building entries and areas of high visibility will be decorative and match the building design and materials.

G202006X RESURFACING

Not Used.

G202007X MISCELLANEOUS STRUCTURES AND EQUIPMENT

Not Used.

G202090X OTHER PARKING LOTS

Not Used.

G2030X PEDESTRIAN PAVING

Provide a complete network of sidewalks and walkways, separated from, but connected to vehicular circulation systems, to allow pedestrian circulation between all elements of the project.

Walkways shall encompass the building, extend to new and existing parking areas, and to any shared existing outdoor activity areas. Provide concrete paver plazas each a minimum 600 square feet at major building entrances including but not limited to the parade ground side of the building and at the Shupper Drive side of the building to accommodate outdoor seating and gathering/queuing. Provide a walkway (8-foot wide minimum and the length of the building) parallel the edge of the parade ground on the building side of the reinforced turf system fire lane. Proposed pedestrian circulation systems shall interface with existing pedestrian circulation systems at P-985 BEQ. Pedestrian circulation shall be designed to assist with pedestrian wayfinding. Provide connections to the major circulation walkways used for troop movement and training. Provide sidewalk connections (6-foot wide minimum) from any south building entrance to the Shupper Drive sidewalk being installed as part of the P-984 Parade Ground.

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The main building entry facing the Parade Ground shall incorporate monumental stairs with approximately 3 to 4 risers to accentuate the entry plaza. Low seat walls and other landscape elements may be incorporated into the design where appropriate. Main entry plaza shall be ADA accessible and will also incorporate AT/FP requirements.

Hardscape and other landscape architectural features shall be consistent with the materials, colors, and finishes of the architectural theme of the building, the P-985 BEQ, and Installation Appearance Plan.

Pedestrian pavement layout design will include input from the Architect and Landscape Architect.

Design pedestrian paving in accordance with UFC 3-210-10 Low Impact Development.

G203006X OTHER WALKS, STEPS & TERRACES

See G2030 PEDSTRIAN PAVING.

G2040X SITE DEVELOPMENT

G204001X FENCING & GATES

Not Used.

G204002X RETAINING AND FREESTANDING WALLS

Not Used.

G204003X EXTERIOR FURNISHINGS

All site furnishings shall conform to the Installation Appearance Plan and be consistent with those used at P-985 BEQ. Outdoor recreational areas and activities for this building will be shared with existing P-985 BEQ.

Entry plazas shall have a minimum of six benches. All site furnishings shall be anchored through the concrete pavers to concrete footings below.

Provide bicycle racks for 5% of the building occupants. Site furnishings shall match and be consistent with the design theme of the building architecture. All site furnishings shall be anchored through the concrete pavers to concrete footings below. Provide landscape and pedestrian lighting at plazas and along the pedestrian access to the designated smoking area.

G204004X SECURITY STRUCTURES

Not Used.

G204005X SIGNAGE

Provide building identification signage, building number signage, and wayfinding signage. All signage shall be consistent with the Installation Appearance Plan. See G2050 for additional information.

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G204006X FOUNTAINS & POOLS

Not used.

G204007X PLAYING FIELDS

Not used.

G204008X TERRACE AND PERIMETER WALLS

Not used.

G204009X FLAGPOLES

Not used.

G204090X OTHER SITE IMPROVEMENTS

Provide dumpster pad with wall enclosure sized to fit two dumpsters and to match the building design and materials. Provide double metal gates with metal slats or solid panels. Provide bollards or wide curb on inside of enclosure to protect walls from damage. Enclosures shall be located for easy accessibility in areas that provide minimal disruption of through traffic flow and is outside of high visibility areas, while also meeting requirements of UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings. Provide a non-reinforced Portland Cement Concrete slab. Extend the end of the slab to allow the front wheels of trucks to be supported. Enclosure shall comply with Standard 1 Standoff Distances and Standard 2 Unobstructed Space of UFC 4-010-01 DoD Minimum Standards for Buildings. A hardened enclosure or secured containers are required if sited within the conventional standoff distance. Full hardened enclosures including roofs are required if sited within the unobstructed space.

The Activity may have additional information and layout refinements during the design development phase of the project.

G2050X LANDSCAPING

Provide complete planting consisting of lawn, groundcover, trees, shrubs, and ornamental grasses as required to provide a quality, cost-effective, functional and visually appealing landscape program that will enhance the development, while complying with all applicable anti-terrorism, force protection and physical security requirements. The landscape shall be designed to reinforce the facility entries, provide wayfinding and shall compliment adjacent existing landscapes. Trees, shrubs, ground covers, and some site furnishings are acceptable within the ATPFP unobstructed space. Trees shall have a 3" minimum caliper and a branching structure that provides a 4-foot clear zone above finish grade. Shrubs and ground covers shall not exceed 6-inches in height within the unobstructed space.

Guarantee all landscaping for a period of one year after final acceptance of the project.

Provide a one year plant establishment period. Provide complete landscaping maintenance, including watering, routine mowing, fertilizing, weeding, and trash pick-up throughout the plant establishment period.

Provide mechanical, electrical, and other equipment screening wall and plant materials on three sides

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of equipment or existing equipment to remain that is located outside the AT/FP unobstructed space.. Provide mechanical equipment screening wall and plant materials on two sides of new equipment or existing equipment to remain that is located within the AT/FP unobstructed space. Screening walls and planting within the unobstructed space shall meet all AT/FP requirements.

Provide shrubs or small growing trees for screening of mechanical equipment/wall, dumpster enclosures, and other obstructions that do not present an aesthetic view from the street or buildings.

As part of the requirements within Part 4 of this RFP, the following landscaping shall also be provided:

- a. Shade trees shall be 3 inch caliper and 14 to 16 feet minimum in height (except for plaza areas). Flowering trees shall be 2 inch caliper for single trunk and 8 feet in height for multi-stem; Evergreen trees shall be 3 inch caliper and 10 to 12 feet minimum in height; Shrubs and grasses shall be a minimum of 3 gallon container and ground cover shall be a minimum of 1 gallon container. Provide shade trees (4 inch minimum caliper) to adequately shade plaza areas and enhance the entries to the building. Trees shall not exceed 30 feet on-center spacing in all directions. Install linear tree root barriers at the edge of improvements where trees are planted within 10 feet (3 m) of sidewalks, curbs, walls, columns, and other hard surface areas. Do not encircle tree root balls with root barriers. Trees within the ATRP setback shall be single trunk only.
- b. All planting beds (excluding bioretention areas which have a separate requirement) shall receive 3 inches of double shredded hardwood mulch over permeable weed control fabric.
- c. Provide planting beds at the perimeter of building. All planting beds shall be encompassed with green anodized steel or aluminum edging 3/16 inch thick and 5 inches in height to separate planting beds from turf.
- d. For all parking lots provide one shade tree for every 10 parking spaces and in each end island. A minimum of 10% of the parking lot shall be landscaped. Parking lots shall have no more than two tree species. Planting medians width shall have a minimum inside dimension of 9 feet. Trees in the parking lot are in addition to those required in Part 4.
- e. Provide small trees, shrubs and ground cover plantings at all building entrances. Provide foundation shrub and groundcover planting beds around building. Keep turf grass a minimum of 5 feet from building.
- f. If bioretention is used for stormwater management, provide trees, shrubs and ground cover in and around all bioretention basins. Provide 4 inches of triple-shredded mulch in all bioretention areas. Trees and shrubs shall be planted at the rate of 5 trees and 15 shrubs per 1000 square feet of bioretention area. If filter fabric is used it shall only be used along the sides of the bioretention.

The entire bioretention shall be surrounded by a 6 foot wide sod strip where possible. The soil filter mix shall be the State's Best Management Practices (BMP) Design Manual.

Provide a small berm around all bioretention filter overflow outlets composed of soil filter mix, topped with 5 to 8 inch diameter river stone such that the stone layer prevents floating mulch from reaching the overflow outlet but allows storm water to pass. Plant the berm with shrubs at 3 feet on center.

The contractor shall guarantee that the bioretention areas are not infiltrated by any site sediment during construction. Bioretention areas shall be installed after all upstream tributary areas to the bioretention filter have been fully stabilized with turf or landscaping.

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Bioretention basins shall be included as an integral part of the overall landscape design. Landscape Architect Designer-of-Record shall work with and coordinate configuration of bioretention basins with Civil Engineer. Trees in the bioretention and BMP basins are in addition to those required in Part 4.

- g. New parking lots that can be seen from the building and surrounding roadways shall be screened with a continuous evergreen or broadleaf evergreen shrub hedge. Shrub size at installation shall be a minimum of 30 inches in height X 24 inches in width, planted 3 feet on-center.
- h. The proposed mix of trees for the site shall be approximately 60% shade trees, 20% flowering trees and 20% evergreen trees. See Part 4 for tree quantities for total landscape area.
- i. Provide small shrubs and/or ground cover plantings around the building identification and Activity ID signs. Plantings shall extend a minimum of 4 feet in front and in back of the sign as well as a minimum of 3 feet beyond the sides of the sign. Mulch for the sign plantings shall be 5 to 8 inch diameter river stone over permeable weed fabric.
- j. All planting beds shall be covered with permeable weed control fabric under mulch. Mulch shall be a combination of 5 to 8 inch diameter tan river stone and double shredded hardwood mulch. Provide an aesthetic layout of stone mulch in combination with shredded hardwood using sweeping, curved lines for added interest. Individual tree plantings in turf areas shall be mulched with double shredded hardwood.
- k. Limit-of-work for landscape improvements shall be determined by existing boundaries, such as but not limited to curbs, pavement edges, and built structures where possible. Landscape limit-of-work shall be approved by the Government Landscape Architect. At a minimum, all areas of the site not covered by buildings or other structures and impervious paving or walkways shall be considered TOTAL LANDSCAPE AREA and therefore, receive landscape improvements.
- l. Provide a summary table for quantities of trees on the plans indicating:
 - “Total Landscape Area (Square Feet):”
 - “No. of Trees Required (in Total Landscape Area):”
 - “No. of Trees Provided (in Total Landscape Area):”
 - “No. of Trees Required in Parking Area:”
 - “No. of Trees Provided in Parking Area:”
 - “Total % of Landscape Area in Parking Area:”
- n. Landscape Architect Designer-of-Record shall submit sample boards (minimum 5 sets) of materials for all site improvements. Sample boards to include but not be limited to colors/finishes/textures of hardscape, paving, walls signs, monument piers, inorganic mulches, and other site improvements with appropriate labeling of material or product and description of locations of where it is used. Include cut sheets or quality photographs of all proposed plant material.

G205001X FINE GRADING AND SOIL PREPARATION

Provide a minimum 4" of topsoil for all turf areas and other pervious (non-paved) areas disturbed by Contractor operations. Provide topsoil for all planting beds to a depth of 4 inches below the root balls of all plants up to finished grades.

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G205002X EROSION CONTROL MEASURES

Prevent erosion from occurring by providing erosion control measures as required by city, state and federal requirements. Erosion control seeding shall not be considered as a permanent planting solution. Trees, shrubs and ground covers, as described in G2050, shall be used as a permanent solution in all bioretention and BMP areas.

G205003X TOPSOIL AND PLANTING BEDS

See G205005 Plantings.

G205004X SEEDING, SPRIGGING, AND SODDING

Areas indicated to be turf in another part of this RFP shall be sodded. Provide sod and fertilize existing grass areas disturbed by Contractor operations. All turf areas shall be sodded with Tifway 419 Bermuda Sod. All existing grass areas to remain shall be resodded with Tifway 419 Bermuda Sod.

G205005X PLANTINGS

Preserve existing trees to the greatest extent possible. Verify all existing trees to be removed with Government Landscape Architect. Plant material shall be per the Installation Appearance Plan (IAP) Master Plant Lists. Alternate plant material selections may be accepted if approved by the reviewing Government Landscape Architect.

See G2050 Landscaping.

G205006X PLANTERS

Not Used.

G205007X IRRIGATION SYSTEMS

Not Used.

G205090X OTHER LANDSCAPING

Not Used.

--End of Section G20X Site Improvements--