Part 3 – Project Program

Building 3202

D/B RFP Preparation
Final Submittal

National Data Buoy Center
Renovation and Expansion

John C. Stennis Space Center, Mississippi

prepared for

Naval Facilities Engineering Command
Southeast
Charleston, South Carolina

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Project Program

NDBC Renovation & Expansion
Building 3202

Stennis Space Center
Mississippi

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1. PROJECT DESCRIPTION

The purpose of this project is to provide an addition for the National Data Buoy Center (NDBC) to the north side of Building 3202 at Stennis Space Center, Mississippi. This project will allow a 11,700 SF pre-engineered metal building addition to Building 3202. The addition will contain a new welding area, a new machine shop, a new break room, and a new tool room

2. PROJECT OBJECTIVES

2.1 Mission Statement

The National Data Buoy Center (NDBC) provides comprehensive, reliable systems and marine observations to support the missions of the National Weather Service (NWS) and National Oceanic and Atmospheric Administration (NOAA), promotes public safety, and satisfies the future needs of our customers. NDBC designs, develops, operates and maintains a network of data collecting buoys and coastal stations.

2.2 Facility Function

The pre-engineered building addition to Building 3202 shall provide a machine shop, a welding shop, tool storage and a break room. These new functions are to be designed to flow from the shops to the work bay so that buoy repairs can be as efficient as possible. All existing space within Building 3202 is currently being contracted and will be in place by the time this project is awarded.

2.3 Project Specific Priorities

2.3.1 Sustainable Design

In accordance with Executive Order 13123 and other pertinent directives, integrate sustainable principles into the design, development and construction of the project. Reduce the total cost of ownership of the facility using a whole building, life-cycle approach.

Provide integrated sustainable design strategies and features to minimize the energy consumption of the facilities; conserve resources; minimize adverse effects to the environment; and improve occupant productivity, health, and comfort. In accordance with NAVFAC Instruction 9830.1 the facility and all site features shall be designed and constructed to the minimum requirement for building additions as certifiable for the US Green Building Councils (USGBC) “Leadership in Energy and Environmental Design (LEED) Rating System version 2.2”. The constructed facility shall be certifiable by the USGBC as having met all LEED-EB (Existing Building) requirements. The constructed facility shall be Self-Certified by USGBC as having met as many prerequisites and as many credits practical in the LEED-EB (Existing Building) rating system.

2.3.2 Energy Conservation

All new facilities and major renovation projects shall conform to the latest edition of ASHRAE/IESNA Standard 90.1-2004 “Energy Standard for Buildings Except Low-Rise Residential Buildings”, International Energy Conservation Code (IECC) 2006. The Designer of Record (DOR) shall perform and submit an energy analysis in accordance with Appendix G of ASHRAE Standard 90.1 showing the calculated baseline building performance and the proposed building performance on an energy consumption basis to document compliance with the Act. For the ASHRAE analysis, energy for receptacle and process loads should not be included the calculations for compliance. For the IECC analysis, energy consumption shall include space heating, space cooling, and domestic water heating. If the 30% reduction level is not life-cycle cost-effective based on the analysis, the Designer of Record (DOR) shall use an iterative procedure to find the lowest level of energy consumption that is life-cycle cost-effective. To determine if a feature is “life-cycle cost-effective”, a life cycle cost analysis shall be performed in accordance with 10 CFR 436 Subpart A. Any of four methods are acceptable to determine LCC: (Lower LCC, Positive net savings, Investment Ratio (SIR) greater than 1, or an adjusted rate of return greater than discount rate).

2.4 Appropriate Design

The existing building is a 75' tall multi-bay building with various areas for administration, a work bay, a logistics bay, it is currently occupied by NOAA/NDBC and the only work required under this scope for the existing area of Building 3202 will be to install a pre-manufactured in-plant office and shop equipment as defined elsewhere in this RFP. A 10,714SF addition will be constructed along the north side of this building to accommodate a new welding shop, machine shop, break room, and a tool storage room. The addition is to be constructed to match the existing structure and arranged to maximize the space for these new rooms.

The welding shop must have adequate ventilation for proper operation. The roofing and siding on the addition shall match the existing building. Provide natural light to the shop spaces and the break room.

2.5 Workflow Process

The main purpose for the Building 3202 addition is to repair or build buoys. This requires flow from media blasting, to painting, to assembly. This flow is critical so that work on multiple buoys can be done simultaneously. For this to occur, the welding shop, machine shop, and tool room need to be adjacent to the work bay.

2.5.1 Hours of Operation

Normally the building will operate on a 0700 to 1700 schedule five days a week. Access to this building is for authorized personnel only. The security access of the building will remain as is.

2.5.2 Staffing/Occupancy

Type of Occupancy	No. of Persons	Description of Activity
Welding Shop	4	Buoy Part Manufacturing
Machine Shop	23	Buoy Part Manufacturing
Office	4	
Maximum Occupancy	**31**	

2.6 Special Design Challenges

The greatest challenge to this project is the re-routing of site drainage, removal of the existing metal siding, purlins, door frames and doors, and connecting the new pre-engineered building addition to the existing Building 3202 .

2.7 Adaptability and Flexibility

Adaptability and flexibility must be a major consideration for this design due to the wide variety of users and potential change in priorities for this facility.

3. SITE ANALYSIS

3.1 Existing Site Conditions

3.1.1 Natural Constraints

The site lies within Stennis Space Center (SSC) located in the southwest corner of Mississippi in Hancock County. It is about 50 miles northeast of New Orleans, Louisiana, and 30 miles from the Mississippi Gulf Coast. Stennis Space Center is NASA's largest rocket engine test facility. Within Stennis Space Center, the site is located to the east of Old MS Highway 43 or Road "H". Entrance into Stennis Space Center is located on MS-607. Security clearance is required to enter the area.

Topography:
The topography of the area is rural, very flat, and predominately covered with coniferous trees. A canal is located to the East and South of the site. The canal to the East is for the deployment of data buoys to be taken to and from sea.

Vegetation / Landscaping
The site has limited landscaping. There are approximately 12 Crape Myrtle trees along the north elevation of Building 3202. There is also a grass lot to the north and a densely wooded area with mature timber to the West and South.

Wetlands:
A wetlands area is located to the west of the site in the wooded area between Trent Lott Parkway and Old Highway 43.

Climate:
The climate is typical of southwest Mississippi with an average monthly high temperature of 91F in August, and an average monthly low temperature of 40F in January. The rainfall is plentiful; the driest month being December with an average of 3.1", the wettest month is September with an average of 6.7".

3.1.2 Man Made

Existing Vehicular Access & Circulation
The main arterial road into Stennis Space Center is State Road MS 607 or Trent Lott Parkway. It runs north / south through the eastern half of SSC. The southern entrance into SSC is closest to the project site. Once through the security gate follow Trent Lott Parkway and turn right on Road "H" approximately 1.1 miles ahead at the first stop light. Building B3202 is approximately 1.0 miles on the left. Parking for Building 3202 is located along the east, south, and west side of the building.

Site Utilities
The existing site utilities include: water, sewer, natural gas, electric (above and below ground), underground communications, high temperate hot water (HTHW), high pressure air (HPA), and Nitrogen. See the NDBC Site Existing Utilities Plan and NDBC Existing Critical Systems Plan in Part 6 of this RFP for a more detailed layout of the site utilities.

Site Drainage & Storm Runoff
Drainage off the site is collected into open channel ditches and then is discharged into the canal to the east of the site. The main drainage ditch for B3202 lies directly to the north of the facility. The ditch is approximately 4-foot deep, roughly has a 5-foot flat bottom, and 3:1 (x:y) side slopes. See the NDBC Site Existing Drainage Plan in Part 6 of this RFP for a more detailed layout of the existing drainage.

Existing Buildings

All building on the project site are of similar construction with a metal façade. See the Site Plan for a more detailed layout of the existing buildings.

Building 3202 is constructed of metal and partially surrounded by high security fencing topped with razor wire and completely surrounded by concrete filled steel bollards.

Building 3202 – North and East side

Building B3205 is a one story metal building that contains offices and an electrical assembly area. It is located directly south of Building B3203 and north of B3202 across the grass field.

Building B3205 – North and West side

Building B3203 is located north of B3205 and is the northern most building on the project site. It is constructed of metal and houses both offices and heavy machinery shop.

Building B3203 – West side

Building B3209 is a paint and blast area for the NDBC buoys. It is located east of Building B3203.

Building B3209 – West side

Existing Waterfront Facilities

A waterfront facility is located at the ramp of the canal east of Building 3202. The facility serves the canal area where the larger buoys are stored and the smaller buoys are transported to and from the water.

Fencing

Building 3202 is partially surrounded by high security fencing with razor wire. It is also completely surrounded by steel bollards filled with concrete at approximately 4-foot intervals.

3.2 Site Development Requirements

Building Footprint
Building 3202 is to be expanded approximately 75 feet along the north face into the adjacent grass lot, and that expansion shall extend approximately 150-feet to the west toward Highway 43. The expansion shall be constructed on Portland Cement Concrete slab only. The existing building footprint shall remain as is.

Anti-Terrorism / Force Protection
All Anti-Terrorism / Force Protection design criteria and standards shall be followed in the design of the NDBC Renovation and Expansion Project.

Parking
Parking for Building 3202 expansion will not be affected and shall remain at the same location.

Service Access
Service access for Building 3202 will not be affected by the expansion and renovation and shall remain at the same location at the south

Pedestrian Access and Circulation
Pedestrian entrances into the new Building 3202 Expansion shall be served by sidewalks from all parking areas. The sidewalk system shall provide an efficient, direct, easy to follow and functional path for pedestrian circulation to all facilities.

Landscaping
The existing 12 Crape Myrtle trees along the north elevation of Building 3202 shall be relocated to area as directed by the Contracting Officer or ROICC. All disturbed areas shall be seeded and/or mulched.

Utilities
For a more detailed layout of the utilities, refer to the NDBC Site Existing Utilities Plan, the NDBC Critical System Plan, and the NDBC Site Existing Utilities Connection Plan in Part 6 of this RFP. All utilities shall be in-place and operational prior to any equipment being relocated.

All non-metallic utilities shall include a metallic locator tracer wire. No utilities shall be placed beneath the concrete slab. Any utilities shall be installed prior to construction and within five (5) feet of the new facility. The installation and location of any utility connections shall be coordinated with the location of the new Building 3202 Expansion. The Designer of Record shall confirm all existing utilities will have the capacity to accommodate the additional service.

Signage
Traffic and pedestrian signage shall meet Mississippi Department of Transportation (MDOT) standards, The Manual on Uniform Traffic Control Devices (MUTCD), and the Stennis Space Center Signage Implementation and Control Plan.

Site Drainage & Storm Water Runoff
The existing open channel ditch to the north of Building 3202 shall be relocated around the new expansion. The relocated drainage ditch shall have the same cross sectional dimensions as the existing drainage ditch. Refer to the NDBC Site Existing Drainage Plan in Part 6 of this RFP for a more detailed layout. The Contractor is responsible for providing the final storm water plan that meets all NPDES, state, and local requirements.

Site Demolition
Existing steel bollards filled with concrete and fencing that interferes with new operations around the north, south, and east side of Building 3202 shall be completely removed and all rubbish removed from the site.

Site Clearing
The topsoil will be stripped and stockpiled on the site before grade work begins. The topsoil will be redistributed during finish grading operations.

Construction Access / Lay Down Area
The Contractor shall coordinate material and equipment laydown areas on-site with the ROICC Office.

Permits

The Contractor shall be responsible for obtaining all applicable permits and paying associated fees (storm drainage, erosion control, grading, etc.). All utilities are owned and operated by NASA.

4. BUILDING REQUIREMENTS

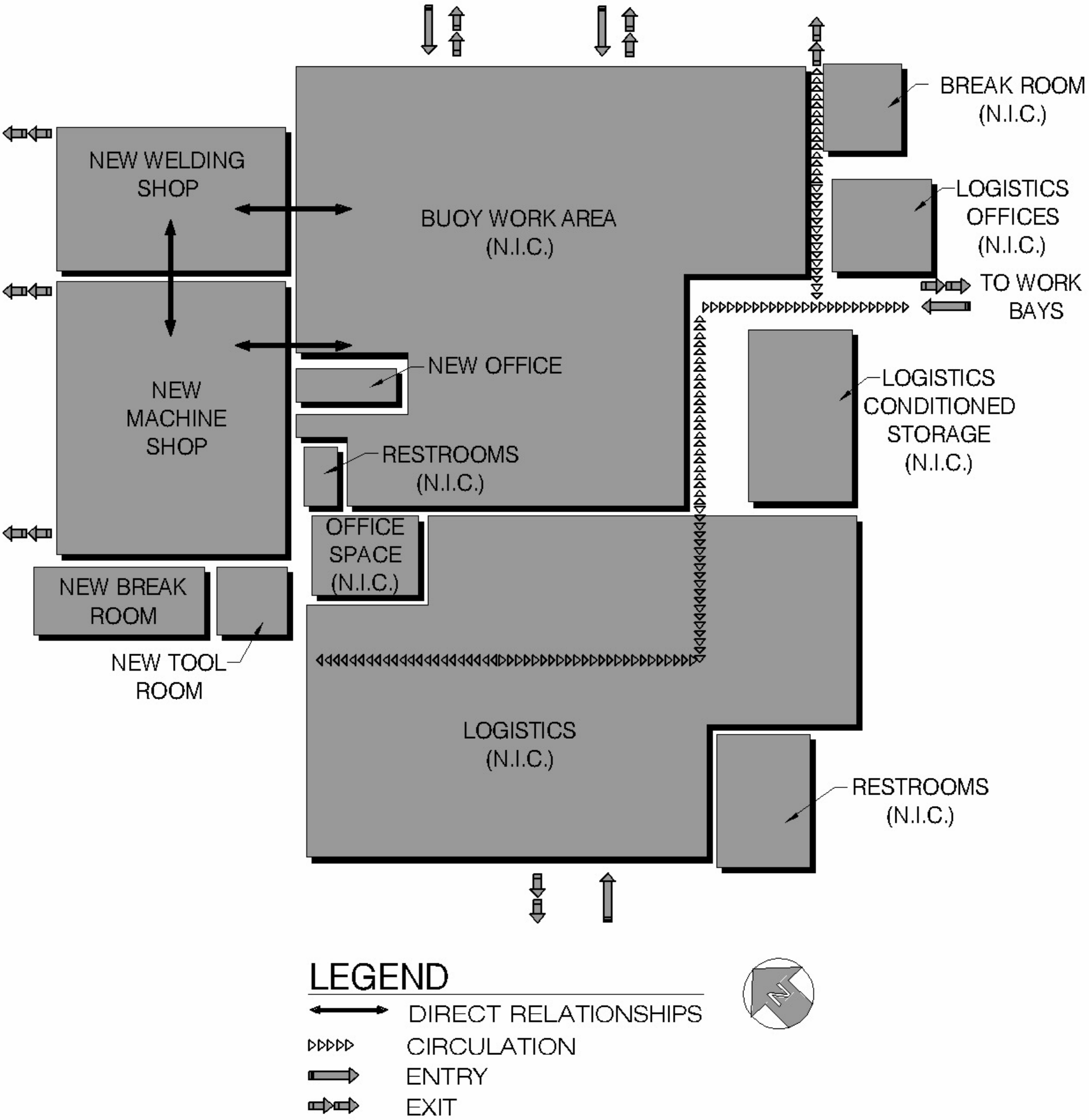
4.1 Space Tabulation

Space Name	# of spaces	Unit SF (Net)	Total SF (Net)	Total SQM (Net)	Ideal Dimensions	Ceiling Height (ft)	Ceiling Height (cm)	# of Occupants	Remarks
Break Room	1	1027	1027	95.41		10	304.8		
Tool Room	1	430	430	39.95		10	304.8		
Machine Shop	1	5877	5877	545.99		Exposed		23	Techs
Welding Shop	1	3080	3080	286.14		Exposed		4	
Office	1	----	----	----		9	274.32	4	Located in existing building
		Subtotal Net Area	10414	967.49					
		Net to Gross Factor	1.12	1.12					
		TOTAL GROSS AREA	**11700**	**1086.98**		Total Occupancy		31	
The design build contractor shall provide actual area in both square feet and square meters in proposals.									

Existing racks along West Wall

Existing racks along North/West Wall

4.2 Space Relationships – Building 3202



4.3 Exterior Character

This building is part of a cluster of buildings that have general similarities. The only portion of this facility that will have exterior work will be the addition. It is the design intent to match this building. All metal wall panels will be insulated wall panels and the roof will be standing seam. The colors and profile for these materials will match the existing building (white).

The north/west elevation of Building 3202 where the 10,714 square feet addition will be added.

The north/east elevation of Building 3202 which shows the bay doors to the buoy maintenance area. This entrance will be adjacent to the blast and paint booth. See Part 6 - Attachments for booth data.

5. ROOM REQUIREMENTS

100 Break Room

Space Characteristics

Function: Hard walled area for break room for the technicians in the building.

Special Dimensions: N/A

Acoustics: N/A

Occupancy: 20 maximum

Access: ADA accessible. Lockset to secure space from unauthorized access after business hours

Other: Will contain refrigerator (N.I.C.), microwave (N.I.C.) and sink.

CMU for the walls will be 10' high. Above the CMU wall, extend a metal frame wall with metal wall panel to the roof deck. Optionally, gypsum board may be used in lieu of metal panel.

Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
B202001	Exterior Windows	Aluminum			Per Designer of Record
C101001	Fixed Partitions	CMU	As Required	10' High	
C101001	Fixed Partitions	Metal Frame	As Required	As Required	Install metal studs and metal wall panels above CMU wall (gypsum optional).
C102001	Interior Doors	Hollow Metal	1	3'-0" x 7'-0"	Painted
C102001	Interior Door Frames	Metal, Welded	1	As Required	Painted, silencers
C102007	Interior Door Hardware	BHMA 626/630	1 Set		Closer, hinges, lockset, kick plate and stop.
C103004	Identifying Devices	Architectural Signage	1 per door		Wall mounted; Include room name and number, name of occupant or function.
C301003	Wall Finishes	GWB	As Required	5/8" Thick	Impact Resistant GWB on metal studs - Painted
C301005	Painting to Walls	High Performance Architectural Latex	As Required		3 Coats
C103008	Fixed Countertop	Plastic Laminate	12		Provide 12 workstations with fixed countertops for technicians.
C302008	Wall Base Finishes	Rubber wall base	As Required	4" high	
C302099	Hardener and Sealant for Concrete Floors	Hardener and Sealant for Concrete Floors	As Required		2 Coats
C303004	Acoustical Ceiling Tiles and Panels	Acoustical Ceiling Tiles	As Required	2'-0" x 4'-0" x 5/8"	Type III ACT
C303007	Suspension System	Exposed Suspended Acoustical Ceiling Grid	As Required	2'-0" x 4'-0" Grid	White Baked Enamel Finish,
D201004	Fixtures	Sink	1	Double bowl	
D503001	Telecommunications Systems	Data Outlets	12		Coordinate data/power with plan layout.

100 Break Room (Cont.)

Space Characteristics	Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
	D503001	Telecommunications System	Voice Outlets	1		Wall Mounted Telephone Outlet
	E201002	Window Treatments	1” horizontal Blinds			One per window
	E202003	Freestanding Furniture	Adjustable Task Chair	12 As Required		

101 Tool Room

Space Characteristics
Function: Hard wall space for tool storage; shall be adjacent to the Shop area. **Special Dimensions:** N/A **Acoustics:** N/A **Occupancy:** N/A **Access:** ADA accessible. Provide lockset to secure property from unauthorized access after business hours. **Other:** CMU for the walls will be 10' high. Above the CMU wall, extend a metal frame wall with metal wall panel to the roof deck. Optionally, gypsum board may be used in lieu of metal panel. Fire separation wall shall be required between the Tool Room and the existing building.

Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
C101001	Fixed Partitions	CMU	As Required		
C101001	Fixed Partitions	Metal Frame	As Required	As Required	Install metal studs and metal wall panels above CMU wall (gypsum optional).
C102001	Interior Doors	Hollow Metal Door	1	3'-0" x 7'-0"	Painted
C102001	Interior Door Frames	Metal, Welded	1	3'-0" x 7'-0"	Painted, Silencers
C102007	Interior Door Hardware	BHMA 626/630	1 Set		Closer, hinges, lockset, kick plat and stop
C103004	Identifying Devices	Architectural Signage	1 Per Door		Wall Mounted; Include room name and number, name of occupant or function
C103006	Specialties	Shelving	Minimum 50LF		Provide shelving for storing tools
C103009	Specialties	Metal Cabinets	As Required		Provide cabinets for storing tools
C301003	Gypsum Wallboard Finished	GWB	As Required	5/8" Thick	Impact Resistant GWB on metal studs – Painted
C301005	Painting to Walls	High Performance Architectural Latex	As Required		3 coats
C302099	Hardener and Sealant for Concrete Floors	Hardener and Sealant for Concrete Floors	As Required		2 Coats
C303003	Ceiling Finish	GWB	As Required	5/8" Thick	Painted, Water Resistant

102 Machine Shop

Space Characteristics

Function: Adjacent to the Tool Room and the Welding Shop and the Hot Works Bay in B3202

Special Dimensions: N/A

Acoustics: N/A

Occupancy: 8

Access: ADA accessible. Lockset to secure space from unauthorized access after business hours

Other: Install new government purchased equipment and relocate existing equipment as required by other parts of this RFP.

The interior skin of the exterior wall shall be 10' high CMU. Above CMU the metal frame wall with metal wall liner panel shall extend to roof deck. Optionally, gypsum board may be used in lieu of metal panel.

Fire separation wall shall be required between the Machine Shop and the existing building.

Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
B201001	Exterior Walls	Metal Siding	As Required		Insulated Metal wall with liner panel
B202001	Exterior Windows	Translucent Panel			Per Designer of Record
B203001	Exterior Door	Hollow Metal Insulated	1	3'-0" x 7'-0"	Painted
B203001	Exterior Door Frame	Metal, Welded	1	3'-4" x 7'-4"	Painted, Silencers
B203008	Exterior Door hardware	BHMA 626/630	1 Set	As Required	Closer, hinge, lock set, exit device and kick plate
C102001	Interior Doors	Hollow Metal	1	3'-0" x 7'-0"	Painted
C102001	Interior Door Frames	Metal, Welded	1	3'-4" x 7'-4"	Painted, silencers.
C102005	Interior Doors	Overhead Roll-up Door	1	12'-0" x 12'-0"	Painted, 3 hour rated fire doors, electric
C102005	Interior Door Frames	Metal, Welded	1	12'-0" x 12'-0"	Painted
C102007	Interior Door Hardware	BHMA 626/630	1 Set	As Required	Closer, hinges, lockset, kick plate and stop
C103004	Identifying Devices	Architectural Signage	1 Per Door		Wall Mounted; Include room name and number, name of occupant or function
C101001	Fixed Partitions	CMU	As Required	10' High	Interior skin of the exterior wall.
C301005	Painting to Walls	High Performance Architectural Latex	As Required		3 Coats
C301090	Wall Finish	Liner Panel	As Required		From top of 10'-0" high CMU to roof deck.
C302099	Hardener and Sealant for Concrete Floor	Hardener and Sealant for Concrete Floor	As Required		2 Coats
C303090	Ceiling Finish	Liner Panel	As Required		
D503001	Telecommunications Systems	Data Outlets	5		Coordinate data/power with plan layout.
E109090	Fixed Furnishings	Wall Mounted Fans	8		

Note: See Part 6 – Attachments for Machine Shop layout.

103 Welding Shop

Space Characteristics	Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
Function: Adjacent to the Tool Room and the Machine Shop and the Hot Bay in B3202 **Special Dimensions:** N/A **Acoustics:** N/A **Occupancy:** 4 **Access:** ADA accessible. Lockset to secure area from unauthorized access after business hours **Other:** The interior skin of the exterior wall shall be 10' high CMU. Above CMU the metal frame wall with metal wall liner panel shall extend to roof deck. Optionally, gypsum board may be used in lieu of metal panel. The CMU divider wall will be 8'-0" high and will separate the welding shop from the machine shop. Fire separation wall shall be required between the Welding Shop and the existing building.	B201001	Exterior Wall	Metal Siding	As Required		Insulated Metal wall with liner panel
	B202001	Exterior Windows	Translucent Panel	1	32'-0" x 3'-0"	Coordinate materials and finished with existing building.
	B203001	Exterior Door	Hollow Metal Insulated	1	3'-0" x 7'-0"	Painted
	B203001	Exterior Door Frames	Metal, Welded	1	3'-4" x 7'-4"	Painted, Silencers
	B203008	Exterior Door hardware	BHMA 626/630	1 Set		Closer, hinges, lock set, exit device and kick plate
	C101001	Fixed Partitions	CMU	As Required	8' High	Divider wall between the welding shop and the machine shop.
	C102005	Interior Doors	Overhead Roll-up Door	1	12'-0" x 12'-0"	Painted, 3 hour rated fire doors, electric
	C102005	Interior Door Frames	Metal, Welded	1	12'-0" x 12'-0"	Painted "C" Channels
	C103004	Identifying Devices	Architectural Signage	1 Per Door		Wall Mounted; Include room name and number, name of occupant or function
	C101001	Fixed Partitions	CMU	As Required	10' High	Interior skin of the exterior wall.
	C301005	Painting to Walls	High Performance Architectural Latex	As Required		3 Coats
	C301090	Wall Finish	Liner Panel	As Required		
	C302099	Hardener and Sealant for Concrete Floor	Hardener and Sealant for Concrete Floor	As Required		2 Coats
	C303090	Ceiling Finish	Liner Panel	As Required		
	D503001	Telecommunications Systems	Data Outlets	5		Coordinate data/power with plan layout.

Note: See Part 6 – Attachments for Welding Shop layout.

105 Shop Office

Space Characteristics	Uniformat Level 4#	Uniformat Title	Description	Quantity	Size	Remarks
Function: 10' x 30' Pre-Fabricated in-plant office with 3-4 managers adjacent to work bays and shop. **Special Dimensions:** N/A **Acoustics:** N/A **Occupancy:** 4 **Access:** ADA accessible. Lockset to secure space from unauthorized access after business hours **Other:** This office will be located in the existing unconditioned work bay space and shall be air conditioned.	C101005	Interior Windows	Sliding Glass Windows			Per Designer of Record
	C102001	Interior Doors	Hollow Metal Door	1	3'-0" x 7'-0"	Painted
	C102001	Interior Door Frames	Metal, Welded	1	3'-0" x 7'-0"	Painted, Silencers
	C102007	Interior Door Hardware	BHMA 626/630	1 Set		Closer, hinges, lockset, kick plate and stop
	D503001	Telecommunications Systems	Voice/Data Outlets	As Required		2 per wall equally spaces
	C302099	Hardener and Sealant for Concrete Floors	Hardener and Sealant for Concrete Floors	As Required		2 Coats

Note: All information on the In-plant office can be found in Part 6 – Attachments.

6. ENGINEERING SYSTEMS REQUIREMENTS

A10 FOUNDATIONS

SYSTEM DESCRIPTION

Provide the building foundation system in accordance with UFC 3-300-10N, *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.

In addition, design the structure in accordance with the following loading criteria:

Importance Factors

Use Occupancy Category II in Table 1 of UFC 3-310-01 for determining Importance Factors for seismic, snow, and wind design. The corresponding Seismic Use Group is I.

Wind Exposure

Wind design shall be based on Exposure C.

A10 GENERAL

The Contractor shall commission the services of a geotechnical engineer registered as a Professional Engineer.

Subsurface soil information, including a geotechnical report is included in other portions of this RFP.

The successful bidder's Geotechnical Engineer shall perform borings and supplementary laboratory classification of soils encountered, on the building site to support the foundation design.

A site-specific seismic ground motion study is not required.

Engage a registered Professional Engineer to provide inspection of excavations and soil/groundwater conditions throughout construction.

A1010 STANDARD FOUNDATIONS

See "System Description" above. The foundation construction may include any foundation system meeting the requirements of this section. Do not use timber footings or wood foundations.

A1020 NOT USED

A1030 SLAB ON GRADE

Provide standard concrete slab on grade. Provide finish grade for new addition to be 12" below finish floor and slope to drainage swell adjacent to the north wall.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B10 SUPERSTRUCTURE

SYSTEM DESCRIPTION

Provide the building framing system in accordance with UFC 3-300-10N, *Structural Engineering*.

In addition, design the structure in accordance with the following loading criteria:

Importance Factors

Use Occupancy Category II in Table 1 of UFC 3-310-01 for determining Importance Factors for seismic, snow, and wind design. The corresponding Seismic Use Group is I.

Wind Exposure

Wind design shall be based on Exposure C.

B1010 NOT USED

B1020 ROOF CONSTRUCTION

The roof construction may include any structural framing system meeting the requirements of this section.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B20 EXTERIOR ENCLOSURE

SYSTEM DESCRIPTION

Exterior enclosure shall include all exterior walls, windows, translucent panels, and exterior doors.

GENERAL SYSTEMS REQUIREMENTS

B2010 EXTERIOR WALLS

The primary exterior material of the building shall be pre-finished insulated metal panels with panel profiles to match the existing structure and adjacent structures on the base. The color shall match the existing Building 3202.

Back-up wall system for metal panel construction shall be metal purlins.

B201001 EXTERIOR CLOSURE

Provide metal prefabricated panel exterior wall closure. Metal shall have concealed fasteners.

B201002 EXTERIOR WALL BACKUP CONSTRUCTION

Provide Exterior Wall Construction System (back-up systems for wall veneer) including CMU at 10'-0" high and metal wall panel systems with insulation from top of CMU to bottom of roof deck.

Exterior bearing walls consisting of metal studs as the primary floor or roof supporting structural element are not permitted.

B201003 INSULATION AND VAPOR RETARDER

Insulation and vapor barriers will be combined into metal wall panels.

B201007 EXTERIOR SOFFITS

The building will include a metal exterior soffit system.

B201009 EXTERIOR COATINGS

All exterior metal shall be pre-finished and the color will be white to match the existing and adjacent buildings.

B201010 JOINT SEALANTS

Provide exterior application of joint sealants to seal joints and prepare for finish material installation.

B2020 EXTERIOR WINDOWS

As much as practical, windows shall be provided in each area of the building that is regularly occupied, to enhance the working environment, without compromising visual acuity, comfort and compromising the usable space of the room. Exterior windows shall be pre-finished aluminum coordinating color with windows on the existing building. Windows shall meet Antiterrorism/Force Protection requirements.

B202001 WINDOWS

Determine the construction of security windows by evaluating the project program security requirements, using the MIL HDBK 1013/1A, *Design Guidance for Physical Security of Facilities*, to define window requirements.

Windows shall be aluminum operable.

B202004 EXTERIOR GLAZING

Glazing color shall match existing windows glazing.

Glazing shall be tinted glass, insulating glass units, laminated glass, tempered glass, and/or fragment retention film.

B2030 EXTERIOR DOORS

Provide solid door assemblies.

Doors shall be Heavy Duty Doors - ANSI/SDI A250.8, Level 2, physical performance Level B, Model 1.

Door hardware finish shall match the existing building.

B203001 SOLID DOORS

For all new doors provide steel door assemblies. Openings in exterior flush doors shall be flashed with aluminum flashings at the bottom of the openings. Also provide wall opening elements such as flashings.

B203004 OVERHEAD AND ROLL-UP DOORS

Not Used.

B203008 EXTERIOR DOOR HARDWARE

Provide the services of a certified door hardware consultant to prepare the door hardware schedule.

Provide hardware keying compatible with the existing keying system. Replacement interchangeable cores shall be compatible with the NASA/Stennis Space Center preferred hardware.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B30 ROOFING

B30 GENERAL SYSTEM DESCRIPTION

The roof system shall be watertight and compatible with facility function, construction, and service conditions. Provide complete roof system design and construction services for the entire new facility roof system, including all ancillary and incidental work necessary for a complete, new, watertight roof system installation.

Submittal Requirements: Components of a minimum roof submittal shall include the roof plan, method of drainage, standard details and details unique to the project, wind load calculations and requirements.

Refer to UFC 3-310-01, UFC 3-100-10N, *Architecture*, IBC 2006 for 130 mph design wind loads, and UFC 3-110-06, *Roofing*, for additional roofing requirements.

The project is an addition to an existing building and the new roof system shall be standing seam metal to be installed as part of the pre-engineered metal building package. The color shall be white to match the existing buildings.

The gutters will be continuous at the base of the roof with downspouts into leaders to underground drains as required by local rainfall volumes. The existing downspouts shall be redirected to accommodate the new addition and shall maintain design for local rainfall volumes.

B3010 ROOF COVERINGS

The roof shall consist of a structural standing seam metal roof with a metal roof deck with rigid insulation (to maintain an R value of 30) and a standing seam metal roof. Color to match existing building.

B301001 STEEP SLOPE ROOFING SYSTEMS

Steep slope roofing systems are preferred over low slope roofing systems, where practical. Steep slope roofing systems that are acceptable include metal.

Metal roofing systems shall be designed to obtain a UL 90 or applicable rating for wind uplift, and resist the negative pressure and uplift loads calculated in accordance with ASCE-7. Wind uplift resistance shall be validated by ASTM E 1592 testing.

Sub-purlins for the Structural Metal Roof System shall be galvanized and shop painted.

SSSMRS Warranty Certificate. At the completion of the project the Contractor shall furnish signed copies of the 5-year Warranty for Structural Standing Seam Metal Roof (SSSMR) System, a sample copy of which is attached to the PTS section [, and the 20-year Manufacturer's Material Warranties, and the manufacturer's 20-year system weather-tightness warranty.

B301002 LOW SLOPE ROOFING SYSTEMS

Not used.

B301003 ROOF INSULATION AND FILL

For fastening roof insulation on low-slope membrane roofs, fasteners shall be placed to withstand an uplift pressure as determined in accordance with UFC 3-310-01 and IBC 2006 for 130 mph design wind load requirements.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

C10 INTERIOR CONSTRUCTION

SYSTEM DESCRIPTION

Interior construction includes interior partitions, interior doors, fittings and a fire separation wall. Refer to the drawings in Part 6: Attachments for locations.

Provide durable construction appropriate to the building additions use as a Data Buoy Repair Building. Acoustic properties of materials, as well as durability, shall be considered during material selection.

GENERAL SYSTEMS REQUIREMENTS

See “Room Requirements” for specific requirements on “Partitions”, “Interior Doors”, and “Fittings”.

C1010 PARTITIONS

All interior partitions shall be constructed of CMU 10’-0” high and metal studs with metal liner panels (above the CMU walls) with gypsum board as an option to the metal liner panels. The wall between the existing building and the new addition shall be constructed to be a fire separation wall.

C101001 FIXED PARTITIONS

Provide fixed interior partitions as required by the “Room Requirements.” Sound-rated partition assemblies shall have a minimum Sound Transmission Coefficient (STC) of 45 only where indicated in accordance with ASTM E 90 or ASTM E 413 for frequency data.

C1020 INTERIOR DOORS

C102001 STANDARD INTERIOR DOORS

All interior doors shall be heavy duty hollow metal in heavy duty hollow metal frames.

C102002 GLAZED INTERIOR DOORS

Provide vision glazing in doors where it is required by the “Room Requirements” portion of this RFP, or it is deemed advantageous to be able to see through the door, either for safety of pedestrian traffic, or other functional reason.

C102003 FIRE DOORS

Provide interior fire doors as required.

C102005 INTERIOR OVERHEAD DOORS

Doors for forklift entrances shall be rolling service type. Doors shall have automatic operation with manual override. Doors shall be three-button electric power conforming to NEMA MG 1, NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6 with auxiliary hand chain operation. Color to match existing. Refer to drawings in Part 6 – Attachments for door locations.

C102007 INTERIOR DOOR HARDWARE

Provide special door hardware, such as combination locks card key system as required by the “Room Requirements” portion of this RFP.

Provide card key type access units for specialized entries. Provide lithium battery powered, magnetic stripe keycard locksets that are ANSI/BHMA A156.13, Series 1000, Grade 1, mortise ANSI/BHMA A156.2, Series 4000, Grade 1, cylindrical locks, tamper resistant, UL listed with 1 inch throw deadbolt, 3/4-inch throw latch bolt, auxiliary dead-locking latch, and 2 3/4 inch backset.

C1030 SPECIALTIES

C103004 IDENTIFYING DEVICES

All interior doors shall have an identifying device.

C103006 SHELVING

Provide shelving as indicated by user.

C103007 FIRE EXTINGUISHER CABINETS

Provide fire extinguisher cabinets per code requirements.

C103008 COUNTERS

Provide solid surface counter tops and back splashes.

C103009 CABINETS

Provide cabinetry and millwork items with associated accessories.
Cabinetry shall be AWI premium grade.

Provide specific cabinetry as shown on the Room Requirements Sheets.

C103010 CASEWORK

Not Used

C103012 FIRESTOPPING PENETRATIONS

Provide all sleeves, caulking and flashing for firestopping penetrations.

C103013 SPRAYED FIRE-RESISTIVE MATERIALS

Provide sprayed fire-resistive materials where required by code.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

C30 INTERIOR FINISHES

SYSTEM DESCRIPTION

Interior finishes include wall finishes, floor finishes, wall base finishes and ceiling finishes.

Provide aesthetically pleasing, functional, durable finishes appropriate to the buildings use as a Data Buoy Repair Building. Acoustic properties of materials, as well as durability and ease of maintenance, shall be considered during material selection. Maximize the use of sustainable materials.

GENERAL SYSTEMS REQUIREMENTS

See “Room Requirements” for specific requirements on “Interior Finishes.”

C3010 WALL FINISHES

All interior wall finish materials shall be liner panel and/or painted gypsum and/or CMU. The Tool Room and Break Room shall have metal frame walls with gypsum board that extends to the roof deck above the 10 foot high CMU walls.

All interior wall finishes shall be as indicated in the “Room Requirements” portion of this RFP.

C3020 FLOOR FINISHES

Exposed concrete floors shall be coated with a sealer appropriate to the function of the space.

Floor finishes shall be as indicated in the “Room Requirements” portion of this RFP.

C3030 CEILING FINISHES

Ceiling finish shall be 24 inch by 48 inch by 5/8 inch minimum thickness suspended acoustical panel ceiling system in the Break Room. Acoustical panels shall have a tegular edge.

The shop area will have pre-finished liner panel and exposed main structural systems, painted in accordance with Section C3040 INTERIOR PAINTING AND SPECIAL FINISHES.

Ceiling finish material shall be gypsum board in the Tool Room Only.

Ceiling finishes shall be as indicated in the “Room Requirements” portion of this RFP.

C3040 INTERIOR COATINGS AND SPECIAL FINISHES

Paint all interior exposed metal items, to include interior grilles, registers, diffusers, access panels, and panel boxes.

All finish coatings shall be as indicated in the “Room Requirements” portion of this RFP.

6. ENGINEERING SYSTEM REQUIREMENTS

D20 PLUMBING

Refer to Part 4 Section D20 for performance requirements of the building elements included in the plumbing system.

Refer to the Project Program, Paragraph 2.3.2 for Energy Conservation. Each system, component or feature selected that impacts the energy or water use of the facility shall be in compliance with UFC 3-400-01 ENERGY CONSERVATION and include the 30% energy reduction as compared to ASHARE Standard 90.1 as described in EPACT – 2005, Public Law 109-59.

SYSTEM DESCRIPTION

Building 3202 Expansion:

The existing plumbing system for Building 3202 will require minor changes to provide hose bibs, emergency shower and eye wash units and compressed air drops for the Machine Shop and Welding Shop along with a sink in the Break Room of the new building expansion. Provide a minimum of one emergency shower and eyewash unit and one hose bibb in each shop. Provide a tempered water mixing valve at each emergency shower and eyewash unit to provide tempered water to unit. Connect to existing hot and cold domestic water line and extend as required. Provide sanitary waste and vent from Break Room sink and connect to existing. The existing compressed air system is feed from a central underground compressed air system. The existing underground system will be abandoned and a new packaged air compressor with dryer will be provided. Air compressor shall be connected to existing compressed air main in a location that will serve all existing compressed air outlets. Connect to existing building compressed air system and extend as required to provide compressed air drops along the perimeter of the Machine Shop and Weld Shop areas of the new expansion. Each compressed air drop shall consist of isolation valve, regulator, quick disconnect and drip leg with capped drain valve. Provide isolation valve at connection point to the existing domestic hot water, domestic cold water and compressed air system. Refer to Building Requirements, Space Tabulations Section of the Project Program for building occupancy levels.

Building 3203

The existing underground compressed air system for Building 3203 will be abandoned and a new packaged air compressor with dryer will be provided. Air compressor shall be connected to existing compressed air main in a location that will serve all existing compressed air outlets.

GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide concrete pads under all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of RFP section D20 and the manufacturer's recommendations. Design and installation shall be in accordance with IPC and UFC 3-420-01, *Plumbing Systems*. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

D2010 PLUMBING FIXTURES

Provide quantity and type of plumbing fixtures required for the occupancy, use, and functions described for this facility. Refer to Room Requirements Section for additional specific requirements for spaces with plumbing fixtures.

D201001 WATER CLOSETS

Not Used.

D201002 URINALS

Not Used.

D201003 LAVATORIES

Not Used.

D201004 SINKS

Refer to Room Requirement Section for the number and type of sinks required.

Provide countertop stainless steel sink with two compartments in the Break Room.

D201005 SHOWERS/TUBS

Not Used.

D201006 DRINKING FOUNTAINS AND COOLERS

Not Used.

D201090 EMERGENCY FIXTURES

Provide emergency shower and eyewash with tempered water in the Machine Shop and Welding Shop.

Provide alarms and appurtenances for service within NEMA type 3 or 4 enclosures.

D2020 DOMESTIC WATER DISTRIBUTION

D202001 PIPES AND FITTINGS

Provide Copper tubing piping and fittings for above ground and buried piping.

D202002 VALVES & HYDRANTS

Provide isolation valves at compressed air and water takeoffs and at supplies into each shop.

Provide one hose bibs with vacuum breaker in each shop.

D202003 DOMESTIC WATER EQUIPMENT

Provide approved tempered water mixing valve at emergency fixtures.

Provide gas fired water heater to serve Break Room sink and emergency fixtures were domestic hot water is not available.

D202004 INSULATION & IDENTIFICATION

Provide mineral fiber insulation with vapor barrier on domestic water (hot and cold) supply and recirculation piping. Provide identification for piping and equipment.

D202005 SPECIALTIES

Not Used.

D202090 OTHER DOMESTIC WATER SUPPLY

Provide cold water drops with isolation valves where required for equipment. Refer to Part 6 Equipment and Utility list for utility requirements information.

Provide piping supports in accordance with the IPC. Provide inspections, disinfection, and testing in accordance with the IPC.

D2030 SANITARY WASTE

D203001 WASTE PIPE & FITTINGS

Provide cast iron hub and spigot pipe and fittings, ‘rubber compression gasket joints for above and below ground installation.

D203002 VENT PIPE & FITTINGS

Provide cast iron hub and spigot pipe and fittings, rubber compression gasket joints.

D203003 FLOOR DRAINS

Provide in mechanical rooms, at emergency fixtures, and areas to receive condensate from air handling equipment. Provide trap primers on all floor drains.

Provide floor drains where required for equipment. Refer to Part 6 Equipment and Utility list for utility requirements information.

D203004 SANITARY & VENT EQUIPMENT

Not Used.

D2040 RAIN WATER DRAINAGE

D204001 PIPE & FITTINGS

Not Used.

D204002 ROOF DRAINS

Not Used.

D204004 INSULATION & IDENTIFICATION

Not Used.

D204090 OTHER RAINWATER DRAINAGE SYSTEM

Not Used.

D2090 OTHER PLUMBING SYSTEMS

D209001 SPECIAL PIPING SYSTEMS

Natural Gas Distribution System:

Obtain natural gas pressures from the local gas company. Contractor is responsible for extending existing natural gas system to gas fired equipment with in the facility.

D209002 ACID WASTE SYSTEMS

Not Used.

D209003 INTERCEPTORS

Not Used.

D209005 COMPRESSED AIR SYSTEM (NON-BREATHING)

Building 3202

Provide a packaged air compressor and dryer of adequate size (82 CFM minimum) to meet the needs of the existing facility in addition to the new expansion,. Connect new air compressor and dryer to the existing compressed air system header. Refer to Part 6 NDBC Machine & Welding Shop Data for sizing information.

Extend existing compressed air system to provide compressed air drops approximately every 20 feet along the perimeter of the Machine Shop and Weld Shop area. Provide piping and compressed air drops with regulators and quick disconnects throughout the work areas to allow connection of pneumatic tools, air guns, etc. Refer to Part 6 Equipment and Utility list for compressed air drops.

Building 3203

Provide a packaged air compressor and dryer of adequate size (82 CFM minimum) to meet the needs of the existing facility, 120 psi is required at the source. Connect new air compressor and dryer to the existing compressed air system header.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

D30 HVAC

Refer to Part 4 Section D30 for performance requirements of the building elements included in the HVAC system.

Refer to the Project Program, Paragraph 2.3.2 for Energy Conservation. Each system, component or feature selected that impacts the energy or water use of the facility shall be in compliance with UFC 3-400-01 ENERGY CONSERVATION and include the 30% energy reduction as compared to ASHARE Standard 90.1 as described in EPACT – 2005, Public Law 109-59.

The existing HVAC systems for Building 3202 consist of chilled water and hot water systems, air handling units, unit heaters, and heating and ventilating units controlled by direct digital control (DDC) systems. Chilled water is provided by an air cooled chiller and is distributed through out the facility with chilled water circulating pumps. Hot water is provided by hot water boilers and distributed through the facility by hot water circulating pumps.

Direct expansion multizone systems, direct expansion variable air volume systems, and thru-the-wall units are not acceptable. Economizer cycles shall not be used.

SYSTEM DESCRIPTION

Building 3202 Expansion:

Machine Shop and Welding Shop areas shall be provided with heating and ventilating systems. Extend existing hot water system piping to serve this area.

Break Room shall be provided with ductless split heat pump type systems.

All systems shall attain the following objectives: Occupant comfort, Indoor air quality, Acceptable noise levels, Energy efficiency, Reliable operation, and Ease of maintenance. Design and installation shall be in accordance with IMC and UFC 3-400-10N, (Mechanical Engineering). Refer to Building Requirements, Space Tabulations Section of the Project Program for building occupancy levels.

Any combination of equipment that attains these goals, and meets the requirements outlined below, will be acceptable.

GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria in RFP Section D30 and the manufacturer's recommendations. Where the word "should" is used in manufacturer's instructions, substitute the word "shall".

Provide air conditioning and heating for spaces as indicated and for the following Design conditions:

Outside Conditions					
Summer	33.3	Degrees C dry bulb	Winter	+0.6	Degrees C
	92	Degrees F dry bulb		33	Degrees F
	27.2	Degrees C wet bulb			
	81	Degrees F wet bulb			

Break Room Inside Conditions					
Summer	23.8	Degrees C dry bulb	Winter	20	Degrees C
	75	Degrees F dry bulb		68	Degrees F
	50	%RH			

Heating & Ventilating Inside Conditions					
Summer	5.6	Degrees C dry bulb above ambient	Winter	18.3	Degrees C
	10	Degrees F dry bulb above ambient		65	Degrees F

Provide Ventilation rates and systems per the latest edition of ASHRAE Standard 62, *Ventilation for Acceptable Indoor Air Quality*.

Mechanical ventilation for Machine Shop and Welding Shop areas shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain fumes and smoke within safe limits in accordance with UFC 4-229-01N.

The HVAC systems shall provide each zone with the choice of heating or cooling year round unless otherwise indicated. Each zone shall have its own limited range of control, as allowed by the control system central workstation.

Zone the HVAC system as follows:

Break Room shall be a separate zone.
Machine Shop and Welding Shop shall be a separate zone, heated and ventilated only.
Tool Storage shall be a separate zone, ventilated only.

Material and Equipment Qualifications: All materials and equipment shall have been in satisfactory commercial or industrial use for 2 years prior to the bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturer's catalogs, or brochures during the 2-year period.

Motors: Single-phase fractional-horsepower alternating-current motors shall be high efficiency types corresponding to the applications listed in NEMA MG 11. Select polyphase motors based on high efficiency characteristics relative to the applications as listed in NEMA MG 10. Additionally, all polyphase squirrel-cage medium induction motors with continuous ratings shall meet or exceed energy efficient ratings per Table 12-10 of NEMA MG 1. Provide controllers for 3-phase motors rated 0.75 kW (1 hp) and above with phase voltage monitors designed to protect motors from phase loss and over/under-voltage. Provide means to prevent automatic restart by a time adjustable restart relay. For packaged equipment, the manufacturer shall provide controllers including the required monitors and timed restart. Provide reduced voltage starters for all motors 25 hp and larger.

Provide housekeeping pads and vibration isolators under all floor-mounted equipment.

D3010 ENERGY SUPPLY

D301001 OIL SUPPLY SYSTEM

Not Used.

D301002 GAS SUPPLY SYSTEM

Not Used.

D301003 STEAM SUPPLY SYSTEM (FROM CENTRAL PLANT)

Not Used.

D301004 HOT WATER SUPPLY SYSTEM (FROM CENTRAL PLANT)

Not Used.

D3020 HEAT GENERATING SYSTEMS

Not Used.

D302001 BOILERS
Not Used.

D302002 FURNACES
Not Used.

D302003 FUEL-FIRED UNIT HEATERS
Not Used.

D302004 AUXILIARY EQUIPMENT
Not Used.

D302005 EQUIPMENT THERMAL INSULATION
Provide Insulation for hot and chilled water pumps and equipment. Provide vapor barrier for chilled water applications.

D302090 OTHER HEAT GENERATING SYSTEMS
Not Used.

D3030 COOLING GENERATING SYSTEMS

D303001 CHILLED WATER SYSTEMS
Not Used.

D303002 DIRECT EXPANSION SYSTEMS
Provide air-cooled, ductless split heat pump system. Provide with supplemental electric heater.

D3040 DISTRIBUTION SYSTEMS

D304001 AIR DISTRIBUTION, HEATING & COOLING
Provide insulated, galvanized steel ductwork constructed, braced, reinforced, installed, supported, and sealed per the IMC and SMACNA standards.

Use only external duct insulation, duct board or internal duct liner is not allowed.

At a minimum seal all ductwork to SMACNA Seal Class B, and leak test in accordance with specifications. Ducts shall also be sealed at all room enclosure penetrations and at all connections to equipment, louvers, grilles and diffusers. Seal all ductwork in accordance with ITG FY05-2 (NAVFAC Humid Area HVAC Design Criteria).

Provide aluminum grilles, registers, and diffusers.

D304002 STEAM DISTRIBUTION SYSTEMS
Not Used.

D304003 HOT WATER DISTRIBUTION SYSTEMS
Provide insulated, steel or copper hot water supply and return piping matching existing to serve the HVAC equipment throughout the facility.

D304004 CHANGEOVER DISTRIBUTION SYSTEMS
Not Used.

D304005 GLYCOL DISTRIBUTION SYSTEMS
Not Used.

D304006 CHILLED WATER DISTRIBUTION SYSTEMS
Not Used.

D304007 EXHAUST SYSTEMS
Provide ducted exhaust ventilation systems and exhaust fans to serve all ventilated zones of the facility. Provide in-line centrifugal exhaust fans ducted to the outside.

D304008 AIR HANDLING UNITS
Not Used.

D304090 OTHER DISTRIBUTION SYSTEMS

Provide 8 wall mounted industrial air circulation fans in each of the two bays. Fans shall be 3-speed, 115V, 1 phase, with pull chain type switch. Fan head shall be adjustable form left to right and tilt up and down for adjustability. Fan shall meets OSHA standards and be UL listed.

D3050 TERMINAL & PACKAGE UNITS

D305001 UNIT VENTILATORS

Not Used.

D305002 UNIT HEATERS

Provide hot water unit heaters to serve the heating requirements of the shop areas of the facility.

D305003 FAN COIL UNITS

Not Used.

D305004 [FIN TUBE RADIATORS] [CONVECTORS]

Not Used.

D305005 ELECTRIC HEATING

Not Used.

D305006 PACKAGE UNITS

Not Used.

D3060 CONTROLS AND INSTRUMENTATION

D306001 HVAC CONTROLS

D306001-1.1 DIRECT DIGITAL CONTROLS (DDC)

Provide electronic controls for the HVAC systems and equipment.

An emergency shutoff switch shall be located in an easy accessible location to shutdown all HVAC systems per AT/FP requirement.

D3070 SYSTEMS TESTING AND BALANCING

Provide complete Testing and Balancing (TAB) of all air and water distribution systems and HVAC equipment.

D307001 WATER SIDE TESTING & BALANCING – HEATING & COOLING

Refer to paragraph D3070.

D307002 AIR SIDE TESTING & BALANCING – HEATING, COOLING & EXHAUST

Refer to paragraph D3070.

D307003 HVAC COMMISSIONING

Provide commissioning for all mechanical systems prior to building occupancy.

Commissioning procedures shall be in accordance with ASHRAE Standards.

D3090 OTHER HVAC SYSTEMS AND EQUIPMENT

D309001 GENERAL CONSTRUCTION ITEMS

Provide seismic restraints and Comply with the Force Protection Criteria.

D309090 OTHER SPECIAL MECHANICAL SYSTEMS

Provide a ducted welding fume exhaust system for each welding station or table. Each station shall have its own means of control of its exhaust system. The means of capturing welding fumes shall be arranged so not to interfere with or hamper welding operations.

-- End of Section --

6. ENGINEERING SYSTEMS REQUIREMENTS

D40 FIRE PROTECTION

Refer to Part 4 Section D40 for performance requirements of the building elements included in the fire protection systems.

The new addition is required to be separated from the existing building with a 3 hour fire rated wall.

SYSTEM DESCRIPTION

Provide an integrated fire alarm, public address, mass notification and suppression system capable of notifying building occupants and controlling any fire that may start inside the facility. Fire suppression system shall be designed for seismic requirements per NFPA 13 and UFC 3-600-10N.

ANTI- TERRORISM.FORCE PROTECTION: To meet anti-terrorism and force protection requirements provide seismic restraints and supports on all sprinkler system components.

Provide portable fire extinguishers in a secured manner

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GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide concrete pads under all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of RFP section D40 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

All Design Documents, (i.e. Building Code/Life Safety Analysis, plans, specifications, calculations, etc.) developed for Section D40 shall be prepared by, or under the supervision of the design/build contractor's Registered Fire Protection Engineer, the Design Build Fire Protection Engineer (FPDOR).

The FPDOR shall have a firm contractual agreement with

1. The Design-Build Contractor and shall not be working for any of the subcontractors on the project he is reviewing.

2. The FPDOR shall have obtained professional registration in the field of fire protection and shall be working exclusively in this field.

ALL construction submittals, (i.e. shop drawings, calculations, catalog cuts, etc.) shall be reviewed and approved by the FPDOR.

The FPDOR and the NAVFAC Southeast FPE shall witness final acceptance tests for all systems installed for Section D40 and D5030.

The FPDOR is responsible for developing the hydraulic analysis, and developing a code analysis demonstrating compliance with all NFPA codes and the model building code utilized prior to initial design submittals.

The FPDOR is expected to verify provision and construction compliance of all passive fire protection systems in the facility (proper wall, floor, and ceiling rating, proper use of fireproofing and fire-stopping systems, protection of openings (coordination of door ratings, hardware, etc).

The FPDOR shall identify any special hazards in the facility (i.e. chemical use/storage, HAZMAT, flammable use/storage, etc.) and verify adequate protection (i.e. fire rated construction, explosion venting, alternate suppression, etc.) is provided.

Provide training for the active systems consisting of two (2) eight (8)-hour sessions to accommodate both shifts of the base fire department and allow for rescheduling for unforeseen fire department responses.

D4010 FIRE ALARM/MASS NOTIFICATION SYSTEMS

Provide a complete, electrically supervised, addressable, intelligent, manual and automatic, annunciated combination fire alarm/mass notification system throughout the facility.

Provide an Individual Inhabited Facility/Building Subsystem type Mass Notification System (MNS) combined with the Fire Alarm System to meet mass notification requirements of UFC 4-021-01 Design and O&M: Mass Notification Systems. If required, the Mass Notification system shall be provided with amplifiers, speakers, microphone, zone paging adapter to interface with the telephone system. The MNS shall be a single zone; all call system that annunciates in all occupied spaces. The system shall be accessed via the telephone system by dialing a designated telephone extension. The System shall also be capable of being used as a public address system with head end equipment and back up microphone shall be located in a rack, coordinate location with Stennis Space Center Fire Department.

Combine the fire alarm and mass notification System (MNS) Control systems notification appliances. Fire alarm system shall include voice evacuation system. Provide a voice evacuation microphone equipped announcement point for the facility.

Combination fire alarm/mass notification system shall include manual stations, system smoke detectors, duct smoke detectors, heat detectors, audio speakers, alarm strobes, textual devices, fire alarm radio transmitter, electrical supervision of all sprinkler system alarm and supervisory devices. In the event of a fire, activation of duct smoke detectors shall automatically shut down exhaust fans.

The system shall have the capability to take an external input from a remote microphone station and base wide mass notification message to provide real-time information to all building occupants or personnel in the immediate vicinity of a building during emergency situations

The system shall be capable of providing pre-recorded and live voice emergency messages to alert occupants and give specific instructions based on the emergency. At a minimum, there shall be a pre-recorded message for a fire emergency with instructions to evacuate the building, and a hazardous chemical release message with instructions to close all windows and doors, turn off all heating, air conditioning, and exhaust fans and to wait for further instructions. Coordinate with fire department during design.

Existing fire alarm reporting system uses a Monaco radio alarm system. Building radio transceivers shall be compatible with the existing system. Stennis is currently installing the ‘Siemens Firefinder (XLS) Fire Alarm Panel.’ All new fire alarm panels must be the XLS or UL listed to be compatible with the ‘Siemens Insight Life Safety System. Coordinate with fire department during design.

D4020 FIRE SUPPRESSION WATER SUPPLY AND EQUIPMENT

Base hydraulic calculations on a static pressure of (63psig) with (1256 gpm) available at a residual pressure of (59 psig) at the junction with the water distribution piping system. The FPDOR shall conduct a flow test after award prior to any design submissions. The FPDOR shall determine the need for a fire pump based on building design and the available flow and pressure at the site.

The incoming sprinkler service shall be provided with a double check backflow preventer.

Depending on results of flow test, contractor may have to provide a horizontal split-case centrifugal shaft turbine-type, diesel and electric driven fire pumps with the minimum rated capacity based on results of the flow test

D4030 STANDPIPE SYSTEMS

None Required.

D4040 SPRINKLER SYSTEMS

Provide wet pipe automatic sprinkler protection to provide complete coverage throughout.

For ordinary hazard areas including welding shop, machine shop and tool room, the sprinkler rate of application shall be (0.20 gpm/ft^2), over an area of (3000 ft^2) with hose stream allowance of (500 gpm).

Provide quick-response sprinklers with ordinary temperature rating in areas with finished ceilings. Provide chrome sprinklers and escutcheon plates. Provide steel piping. Piping in finished areas shall be concealed. Provide valve tamper and flow switches monitored by the building FACP.

A dedicated floor control valve assembly consisting of a supervised control valve, check valve and water flow switch shall supply each floor.

Provide corrosion resistant sprinklers.

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D4090 OTHER FIRE PROTECTION SYSTEMS

Provide multiple purpose portable fire extinguishers having a rating of 2A:10BC installed and located per NFPA 10 2007 edition.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

D50 ELECTRICAL

SYSTEM DESCRIPTION

The electrical system shall be designed after a thorough site investigation and meeting with public works and the end users, and shall be in accordance with the most recent edition of the following applicable UFC design guides and design criteria: UFC 3-500-10N Design: Interior Electrical Requirements, UFC 3-530-01 Design: Interior and Exterior Lighting and Controls, UFC 3-550-03N Design: Power Distribution Systems, UFC 3-600-01 Design: Fire Protection Engineering for Facilities, UFC 4-010-01 Design: DoD Minimum Antiterrorism Standards for Buildings, UFC 4-021-01 Design: Mass Notification Systems, UFC 4-610-01N Design: Administration Facilities, and UFC 4-229-01N Design: General Maintenance Facilities. The Stennis Space Center Electrical Standards shall be followed.

Provide an interior electrical system including all accessories and devices as necessary and required for a complete and usable system. Also provide 480Y/277v electrical service, fed from this building, to serve the Blast & Paint Facility, which is located in a structure that is not attached to Building B3202 (See site plan for location). There is also a requirement to provide electrical service and required electrical accessories for a new air compressor in Building B3203 from an existing panel in that building (see site plan for building location). The interior electrical shall consist of, but not be limited to, lighting and branch circuit systems, fire alarm/mass notification systems, lightning protection and grounding systems, and communications systems. Arrange the systems logically for easy testing and maintenance. Specify extremely durable components for a quality, low-maintenance installation. Electrical systems shall comply with program requirements, performance specification G40 and D50 and all applicable UFCs. This section covers installations out to the building 1.5 meter (5 foot) line.

GENERAL SYSTEM REQUIREMENTS

Provide an Electrical System complete in place, tested and approved, as specified throughout this RFP, as needed for a complete, usable and proper installation. All equipment shall be installed per the criteria of Section D50 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

D5010 ELECTRICAL SERVICE AND DISTRIBUTION

D501001 MAIN TRANSFORMERS

Main transformer(s) are defined in Section G40, *Site Electrical Utilities*.

D501002 SERVICE ENTRANCE EQUIPMENT

All existing service into the facility is served from the unit substation located in the existing building B3202. If required, new secondary service shall be terminated in the main service disconnecting means as soon as it enters the facility. Provide an interior distribution system consisting of insulated conductors in conduit for all equipment, plumbing systems, air conditioning and ventilation systems, fire alarm system, etc.

A detailed analysis of the electrical design shall be conducted. The electrical studies to be performed shall include, but not be limited to. Voltage drop, load flow, short circuit protection, and coordination. The method for performing these calculations shall be by computer programs designed for such purpose. Hand calculations for these complex computations shall not be used since hand calculations tend to require simplifying assumptions that limit accuracy and usefulness of the results.

Over-current protective devices in the system must be designed to isolate faults instantly with minimal equipment damage and minimal disruption to facility operations. If new service to the building is required, provide a main distribution panel as service equipment.

Feeders shall have over-current protection in accordance with NEC article 240.4 (latest edition), and service conductors shall be protected in accordance with NEC article 230.90 (latest edition).

D501003 INTERIOR DISTRIBUTION TRANSFORMERS

Provide energy efficient 80 degree rise, dry type transformers to step down secondary voltages for general-purpose outlets and other low voltage equipment.

A harmonic mitigating or K-rated transformers shall be utilized for stepping down voltages to supply non-linear loads associated with computer and IT type equipment. The neutral on the secondary side of harmonic mitigating or K-rated transformers feeding dedicated computer/IT equipment panel(s) shall be sized at 200%.

The design shall provide a minimum of 20% allowance for growth.

D501004 PANELBOARDS

Provide distribution and branch circuit panelboards with bolt on type circuit breakers throughout the facility to serve loads as required. 480Y/277 volt, 3-phase, 4-wire panelboards shall be provided for distribution of large mechanical equipment and lighting loads. 208Y/120 volt, 3-phase, 4-wire panelboards shall be provided for distribution of small mechanical equipment and general receptacle loads. Panelboards shall be located throughout the facility to reduce voltage drop on branch circuit loads, efficiently serve equipment, and provide system flexibility. Panelboards shall be provided with a minimum of 20% space and 20% spare. Electrical equipment dedicated space and working clearance shall be in compliance with NEC (NFPA 70). Coordinate with other disciplines to avoid conflicts with other equipment.

208Y/120 volt , 3-phase, 4-wire panelboards serving computer and IT equipment loads shall be equipped with 200% rated neutral buses.

D501005 ENCLOSED CIRCUIT BREAKERS

Provide enclosed circuit breakers for loads as required.

D501006 MOTOR CONTROL CENTERS

Provide motor control centers, individual motor starters with disconnect switches, combination motor starters, variable speed drives, reduced voltage controllers, manual motor starters, and combination motor starters for motor controls as required by mechanical equipment in accordance with NEC. Provide all circuits and connections for all motors and mechanical equipment.

120-volt motors shall be specified to have integral thermal overload protection when available. If integral thermal overload protection is not available, provide manual thermal overload starters. Provide combination motor starter-disconnect controllers for poly-phase motors. Provide reduced voltage starters for motors over 25 HP. Coordinate type with motor design and starting torque requirements.

Provide horsepower-rated manual starters for 120-volt motors with integral thermal overload protection. The manual starter may serve as the disconnect means for 120-volt motors without integral thermal overload protection when properly located. Combination motor starter-disconnect controllers may serve as the disconnecting means for poly-phase motors when properly located. Provide additional non-fused disconnect switches within sight of the motor when the starter disconnect cannot be placed within sight of the motor.

D501090 OTHER SERVICE AND DISTRIBUTION

Provide transient voltage surge suppressors (TVSS) at the service entrance.

Provide power as necessary for the new and relocated equipment being used in the different shop areas. Refer to part 6 for the new and relocated equipment list.

Provide necessary power for the Paint and Blast booths that will be located away from the main structure of Building B3202. This power should be fed from Building B3202, preferably the Main Distribution Panel.

Provide necessary power and equipment to serve the new air compressor that is to be installed in Building B3203. This power shall be served from an existing panel within B3203. Refer to Part 6 of this document for further information in regards to size requirement.

D5020 LIGHTING AND BRANCH WIRING

Provide lighting and general-purpose receptacles throughout all spaces as required. All general-purpose receptacles shall be 20 amp, NEMA WD 1. Receptacles for general purpose shall be circuited such that no more than six duplex (or three quad-duplex) receptacles are placed on one 20 amp, single-pole breaker. Receptacles dedicated for computer loads shall be circuited such that no more than two quad-duplex receptacles are placed on one 20 amp, single-pole breaker (two computers per circuit). Quad-duplex receptacles in communications rooms shall be circuited such that one quad-duplex receptacle is placed on one 20 amp, single-pole breaker. If applicable, provide dedicated receptacles for all auxiliary office equipment such as fax machines, printers, plotters, shredders, or copiers. This equipment shall be circuited such that no more than one duplex receptacle is placed on one 20 amp, single-pole breaker. A dedicated circuit shall also be required for refrigerators, water coolers, microwaves, and vending machines. Each new receptacle homerun shall have a dedicated neutral, multi-wire branch circuits (shared neutrals) shall not be used. Contractor shall provide ground fault circuit interrupting receptacles as required by the NEC (latest edition).

Provide a minimum of one general-purpose receptacle on each wall of individual offices and conference rooms. In offices where walls exceed 10 feet, provide an additional duplex receptacle for each additional 10 feet of wall or fraction thereof. General-purpose receptacle spacing shall not exceed 10 feet.

Provide receptacles and/or hard-wired power connections as required for any special equipment or furnishings included in sections E-10 and E-20 and Part 6 of this document.

D502001 BRANCH WIRING

All branch wiring shall be per UFC 3-500-10N. At a minimum, provide conductors with type THHN/THWN insulation for conductor sizes #12 through #1/0, and type XHHW insulation for conductor sizes #2/0 and larger. All conductors shall be copper and shall be routed in EMT conduit, except that RGS conduit shall be used in shop and work bay areas. All conductor sizes shall be #12 minimum.

D502002 LIGHTING EQUIPMENT

Provide a complete lighting system including emergency lighting, LED exit lights, and emergency egress lighting (either integral to the fixture or through stand-alone emergency packs). Building lighting shall consist of fluorescent and HID lighting including switches. All lighting control design, fixture layout, luminaire wattage requirements, lighting power allowance, etc. shall be in compliance with ASHRAE 90.1, 2004 Version

Lighting design at a minimum shall consist of a combination of static fluorescent troffers, fluorescent high bays, fluorescent industrials, HID, and fluorescent down lights to meet the required foot-candles levels needed for the desired areas.

Lighting methods and foot-candle levels shall be in accordance with the Illuminating Engineering Society of North America (IESNA) or applicable UFC. Design to highest recommended foot-candle level. Illumination shall meet the requirements of the visual tasks being performed. General illumination requirements shall be determined in a plane of 30 inches above the floor.

Fluorescent fixtures shall utilize T5 or T8 lamps and electronic energy efficient, high frequency ballasts. Design shall employ multi-lamp standard ballasts with total harmonic distortion less than 10 percent.

Automatic shut-off systems, dimming ballast, and multi-level switching shall be used along with occupancy and daylight sensors to help reduce energy cost. Contractor shall coordinate all possible light fixture types and layout designs along with any control design requirements with the user and applicable design guides.

Exterior fixtures shall be dark sky cutoff type.

D5030 COMMUNICATIONS AND SECURITY

The Room Requirements Section identifies locations for communications and security systems and equipment, unless noted otherwise in the following sub-elements.

D503001 TELECOMMUNICATIONS SYSTEMS

Provide a complete building entrance facility, serviced from the existing hub located in building B3202. In the event that the runs of category 6 cable exceed 295 feet to serve the new outlets, a new hub will need to be provided. Provide a backbone distribution system, and horizontal distribution system including, but not necessarily limited to, all wiring, pathway systems, grounding, backboards, connector blocks, protectors for all copper service entrance pairs, patch panels, outlet boxes, telephone jacks, data jacks and cover plates.

6 pairs of copper shall be extended from B3202 to the new Blast & Paint Facility.

D503002 PUBLIC ADDRESS SYSTEM

The new spaces in B3202 shall be integrated in the NDBC and SSC mass notification/public address system and comply with applicable UFCs and SSC Standards.

D503090 OTHER COMMUNICATIONS AND ALARM SYSTEMS

See section D40 of this RFP for Fire Alarm/Mass Notification Systems

D5090 OTHER ELECTRICAL SERVICES

D509001 GENERAL CONSTRUCTION ITEMS (ELECTRICAL)

Provide General Construction Items (Electrical) including, but not necessarily limited to, all connections, fittings, boxes and associated equipment needed by this and other sections of this RFP as required for a complete and usable system.

Conduits, cable trays and busways that penetrate fire-rated walls, fire-rated partitions, or fire-rated floors shall be firestopped in accordance with Section C10, *Interior Construction*.

D509002 EMERGENCY LIGHTING AND POWER

Provide power and wiring for emergency lights and exit lights throughout the addition to the facility. Emergency light fixtures and all exit lights must be self-contained utilizing internal and external battery packs. Luminaires that provide normal and emergency lighting within the same enclosure are permitted, however emergency lights shall be on independent circuits to allow for testing. Fixtures with wall-mounted battery packs are prohibited.

Emergency lighting and exit lights shall be installed in accordance with NFPA 70, NFPA 101 and all applicable local and state codes. The system must ebe maintained and tested in accordance with

NFPA 111, Stored Electrical Emergency and Standby Power Systems.

Batteries for emergency lighting fixtures, exit lights and battery fluorescent ballasts shall have a minimum warranty of five years and minimum expected battery life of 10 years. Battery fluorescent ballasts shall provide a minimum of 1100 lumens (or as required to meet emergency egress illumination criteria per NFPA 70 and 101) continuously for 90 minutes.

Exit signs shall utilize LED with illuminated letters displayed on an opaque background.

D509003 GROUNDING SYSTEMS

Provide a complete grounding system for the facility electrical and telecommunications systems.

D509004 LIGHTNING PROTECTION

Provide a complete lightning protection system (utilizing air terminals) including, but not necessarily limited to, strike termination devices, conductors, ground terminals, interconnecting conductors, surge suppression devices, and other connectors and fittings required for a complete and usable system. System shall be designed and provided per NFPA 780 and UL 96. The system shall bear a UL Master Label when complete. All criteria for obtaining the Master Label, such as surge protection on the electrical and communications service, shall be met. The Lightning protection system shall bond to the building structural steel for a completely, electrically continuous, structure. The systems mounting procedures and techniques shall be such that the warranty for the roof is not voided. The addition's lightning protection system shall be tied into the lightning protection system of the existing building B3202.

D509005 ELECTRIC HEATING

Provide power wiring and connections as required for all electric heating systems and equipment.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

E10 EQUIPMENT

GENERAL SYSTEMS REQUIREMENTS

E1010 COMMERCIAL EQUIPMENT

The contractor shall obtain the services of equipment specialists to specify equipment. Equipment specialists shall not have any affiliation with the product specified. All equipment will be identified by the user.

All specialty equipment will be installed by qualified installers regularly engaged in installing the specialty equipment.

E1020 NOT USED

E1030 NOT USED

E1040 GOVERNMENT FURNISHED EQUIPMENT

Refer to list in Part 6: Attachments. NASA shall procure machine shop equipment and the contractor shall install the equipment. The equipment will be delivered to B3202 and stored in the staging area.

All utilities required for the equipment shall be in-place in Building 3202 and ready for connection prior to the start of the relocation of any single piece of equipment.

Provide all electrical, network, water and drainage service for all new and relocated equipment as required. See Part 6 – Attachments for service requirements.

Uncrate/unpack all new equipment. Install level and secure all new and relocated equipment. Make all service connections to the equipment with exception of the CNC equipment.

Test the operation of all equipment with the exception of the CNC equipment.

E1090 OTHER EQUIPMENT

E109002 NOT USED

E109002 EXISTING MACHINE SHOP EQUIPMENT

Refer to Part 6: Attachments for a list of existing machine shop equipment to be relocated from Building 3203.

Equipment shall be checked by the contractor in the presence of the ROICC and the owner to insure the equipment is in working order. Following installation the relocated equipment shall be tested in the presence of the ROICC and the owner to insure it is operating properly.

The time period from start of relocation to installation and testing shall not exceed 3 working days for each individual piece of equipment.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

E20 FURNISHINGS

SYSTEM DESCRIPTION

Furnishings shall include fixed furnishings and movable furnishings.

The movable furniture and furnishings for this facility include, but are not limited to modular prefabricated furniture, freestanding furniture, accessories, and other miscellaneous items to support facility functions.

GENERAL SYSTEMS REQUIREMENTS

Design and provide fixed furnishings for all areas as indicated in the Room Requirements matrix and as required and appropriate for other areas.

All fixed and movable furnishings selections shall be closely coordinated with Sections C10, *Interior Construction*, and C30, *Interior Finishes*.

Both Fixed and movable furniture and furnishings shall be fully integrated with the building systems.

E2010 FIXED FURNISHINGS

As indicated by the user.

E201002 WINDOW TREATMENTS

All windows and other glazed openings to the exterior of the building shall be provided with horizontal blinds.

E2020 MOVABLE FURNISHINGS

As indicated by the user.

E2020 1.1.2 The contractor shall be authorized by the Government Contracting Officer to procure all furniture/furnishings using predominately negotiated price schedules from GSA or other Federal contracts. The budget will be as named in the project program. Furniture shall be provided and paid from construction funds.

E202002 LOUNGE, RECEPTION AND GUEST SEATING

Lounge, reception and guest seating shall be easily reupholstered

E202003 CAFETERIA, DINING HALL FURNISHINGS

Not Used

E202004 RUGS & ACCESSORIES

Not Used

6. ENGINEERING SYSTEMS REQUIREMENTS

F10 SPECIAL CONSTRUCTION

SYSTEM DESCRIPTION

Special Construction shall include special structures such as pre-engineered buildings.

GENERAL SYSTEMS REQUIREMENTS

F1010 SPECIAL STRUCTURES

F101001 PRE-ENGINEERED METAL BUILDINGS

Provide the building foundation and other systems in accordance with UFC 3-300-10N, *Structural Engineering*.

Provide a pre-engineered metal building for B3205. Building shall have thermal resistance to comply with the ASHRAE 90.1 standards for its use.

The facility shall be a pre-engineered metal building. The metal building shall be 180 feet long by 81 feet wide, with an eave height of 14 feet high. A pre-engineered metal canopy shall be free standing between buildings B3205 and B3203 and flashed to each building accordingly. The metal canopy shall be 71 feet long by 31 feet wide, with an eave height of 14 feet high.

The framing system for the steel structure shall be in accordance with AISC M016, except that end frames may be of rigid frame or beam and column design.

In addition to the design loads determined in accordance with ASTM 7-05, design the structure in accordance with the following loading criteria:

Importance Factors

Use Occupancy Category II in Table 1 of UFC 3-310-01 for determining Importance Factors for seismic, snow, and wind design.

Wind Exposure

Wind design shall be based on Exposure C.

Provide framed openings for doors. The door openings shall integrate with the wind bracing system for the building.

F101002 PRE-FABRICATED MODULAR IN-PLANT OFFICE

Provide a pre-fabricated office for the shop in the existing building. This office shall have a hard ceiling (with an acoustical drop ceiling in the interior space at 9'-0" A.F.F.), air conditioning, and four sound insulated walls with paint and trim finishes. The entire module must be large enough to accommodate three work spaces (approximately gross 330 FS). There needs to be a door with half glass, windows to view the work bay, and all utilities required for an office space. The floor will be concrete sealer on the existing floor with 4" rubber base.

6. ENGINEERING SYSTEMS REQUIREMENTS

F20 SELECTIVE BUILDING DEMOLITION

GENERAL SYSTEMS REQUIREMENTS

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

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall submit complete the "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form is in the UFC 3-200-10N, *Civil Engineering*. 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 EFD Environmental Reviewer.

Coordinate and obtain approval from the Contracting Officer for proposed haul routes, work site access points, employee parking locations and material lay down and storage area).

F2010 BUILDING ELEMENTS DEMOLITION

This project includes general site demolition at the north side of Building 3202 for a new addition. A portion of the exterior metal skin will be removed as well as downspouts, catch basins concrete sidewalks, etc. All demolished items shall be the property of NASA and NASA will determine which items will be salvaged or discarded. The salvaged items delivered to Building 2204 and the remaining items will be removed from the premises.

F2010 1.1 GENERAL DEMOLITION

Building 3202 will be partially demolished and some items shall be salvaged. All demolished structural steel shall be salvaged and become the property of NASA and delivered to Building 2204. The demolition includes, but not limited to exterior metal wall panels, hollow metal doors and frames, downspouts, concrete, etc. Verify with NASA for additional items to be salvaged.

F2010 1.2 UTILITIES

Utilities must be coordinated with on-site personnel for planned outages.

F2010 1.3 DUST CONTROL

Prevent the spread of dust and debris to occupied portions of the building and avoid the creation of a nuisance or hazard in the surrounding area.

F2010 1.4 TRAFFIC CONTROL

Removal of debris will be via North on Road H.

F2010 1.5 WEATHER PROTECTION

Not Used.

F2010 1.6 BURNING

Burning will not be permitted.

F201001 SUBSTRUCTURE & SUPERSTRUCTURE

The steel for this building is to be dismantled and hauled to Building 2204 Stennis Space Center.

F201002 EXTERIOR CLOSURE

Remove all exterior metal panels, purlins, and door frames and doors where the addition will occur. The wall panels can be removed but there must be temporary water tight barrier installed to protect the existing space from the elements.

All steel siding for this building is to be dismantled and hauled to Building 2204 Stennis Space Center.

F201003 ROOFING

Not Used

F201004 INTERIOR CONSTRUCTION & FINISHES

Not Used.

F201005 CONVEYING SYSTEMS

Not Used.

F201006 MECHANICAL SYSTEMS

Refer to Part 3 Section D20 and D30 for the description of mechanical systems to be demolished.

F201007 ELECTRICAL SYSTEMS

Refer to Part 3 Section D50 for the description of electrical systems to be demolished

F201008 EQUIPMENT & FURNISHINGS

Not Used.

F201090 OTHER NON-HAZARDOUS SELECTIVE BUILDING DEMOLITION

Not used.

F2020 HAZARDOUS COMPONENT ABATEMENT

A report prepared by BAT Associates, Inc. for each of the following: asbestos and lead based paint is provided to support this project and is attached in Part 6 of this RFP.

F2020 1.1 PRIVATE QUALIFIED PERSON (PQP)

The General Contractor is required to hire as a first tier subcontractor a PQP to ensure compliance with the approved work plans and perform independent inspections, testing and verification of the hazardous components work including: asbestos, lead containing paint, cadmium containing paint, chromium containing paint, mercury & LLR components, PCBs ODS, animal droppings and molds and spores.

F2020 1.2 FURNISHINGS

Not Used.

F2020 1.3 ASBESTOS

The Asbestoses test report by BAT Associates, Inc. did not determine that there were less than 1% asbestoses CH detected. This would indicate that no special requirements are required for removal. See report in Part 6 Attachments.

F2020 1.4 LEAD BASED PAINT

The work includes removal of components that are painted with Lead base paint. The substrates and items that contain lead base paint can be found in the test report by BAT Associates, Inc. See report in Part 6 Attachments.

F2020 1.5 PAINT RELATED WORK

The work will require disturbance of paint containing lead. Paint related work includes: removal of components with lead base paint. For more detailed information regarding concentrations, locations, etc. of existing paints please refer to the test report by BAT Associates, Inc. See report in Part 6 Attachments.

F2020 1.6 MERCURY & LLR COMPONENTS

Not Used.

F2020 1.7 PCB'S

Remove all light ballasts, transformers, capacitors, and STC without markings regarding PCB content ("NO PCB", etc.) as PCB containing and deliver to NASA Building 2204.

F2020 1.8 OZONE DEPLETING SUNBSTANCES (ODS)

Not Used.

F2020 1.9 ANIMAL DROPPINGS

Not Used.

F2020 1.10 MOLDS AND SPORES

Not Used.

F2020 1.11 DISPOSAL

The structural steel salvage shall become the property of NASA and shall be transported to Building 2204 at Stennis Space Center. Verify with NASA what other materials are required for salvage prior to demolition.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G10 SITE PREPARATION

SYSTEM DESCRIPTION

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

A geotechnical survey of the existing site has been performed. Subsurface soil information, including the geotechnical report, is included in other portions of this RFP. This information is included for the Contractor's information only, and is not guaranteed to fully represent all subsurface conditions. The data included in this RFP are intended for proposal preparation and preliminary design only. Contractor shall perform, at his expense, such subsurface exploration, investigation, testing, and analysis as his Designer of Record deems necessary for the design and construction of the requirements of this RFP.

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 or ROICC 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 ROICC 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 ROICC Officer at any time throughout the contract duration. The Contractor shall bear all costs of the Engineer.

For illustrative purposes, a concept sketch has been prepared and included in Part 6 Attachments. These sketches are intended solely as an aid to the designer.

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/Download.html?Tab=Download. 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.

G1010 SITE CLEARING

G101001 CLEARING

The existing 12 Crape Myrtle trees along the north elevation of Building 3202 shall be relocated to area as directed by the Contracting Officer or ROICC.

Burning will not be allowed.

G101002 TREE REMOVAL

The existing 12 Crape Myrtle trees along the north elevation of Building 3202 shall be removed and relocated to area as directed by the Contracting Officer or ROICC.

G101003 STUMP REMOVAL

Remove and dispose of all tree stumps as required for project construction.

G101004 GRUBBING

Grub all tree stumps as required for project construction.

G101005 SELECTIVE THINNING

Not used.

G101006 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.

G1020 SITE DEMOLITION & RELOCATIONS

No items are to be reused, relocated or salvaged. Steel bollards filled with concrete and fencing that interferes with new operations at Building 3202 shall be removed and disposed of off-site.

G102001 BUILDING MASS DEMOLITION

Not used.

G102002 ABOVEGROUND SITE DEMOLITION

Not used.

G102002 1.1 ABOVEGROUND STORAGE TANKS

Not used.

G102003 UNDERGROUND SITE DEMOLITION

Abandonment of utility systems shall be done in a manner that conforms to applicable installation codes and regulations. Utilities shall not be abandoned in place underneath or within 10 feet of any new facilities.

All conduits to be abandoned shall have wiring removed.

All piping to be abandoned shall be filled with flowable fill. Piping shall be filled with flowable fill 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 1.1 UNDERGROUND STORAGE TANKS

Not used.

G102004 BUILDING RELOCATION

Not used.

G102005 UTILITY RELOCATION

Locate utilities and relocate in order to ensure that none are under the buildings footprints. The designer shall take safety and maintenance into consideration during the design of utilities and relocation of utilities.

G102006 FENCING RELOCATION

Not used.

G102007 SITE CLEANUP

At the conclusion of the project, ensure that all construction debris and rubbish is removed from the site and disposed of off station.

G102090 OTHER SITE DEMOLITION & RELOCATIONS

Not used.

G1030 SITE EARTHWORK

G103001 GRADING

Finish floor elevations for new facilities shall be a minimum of 4” above the 100 year flood elevation. Provide elevations for mechanical/electrical equipment pads above the 100 year flood elevation.

G103002 COMMON EXCAVATION

Minimize cut and fill whilst ensuring positive drainage and observing the recommendations of the geotechnical investigation.

G103003 ROCK EXCAVATION

Blasting will not be permitted.

G103004 FILL & BORROW

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

G103005 COMPACTION

All soil shall be compacted in accordance with the recommendations of the geotechnical investigation.

G103006 SOIL STABILIZATION

Provide soil stabilization using geosynthetics, such as geotextiles and geogrids designed to function as required by site conditions.

G103007 SLOPE STABILIZATION

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. Where necessary, use the following techniques for slope stabilization: geogrids, gabions, or riprap or concrete.

G103008 SOIL TREATMENT

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

G103009 SHORING

Provide shoring in accordance with federal state and local codes in order to ensure worker safety. Refer to G103002.

G103010 TEMPORARY DEWATERING

Ensure that all excavations are dewatered to the degree necessary to ensure worker safety and sound construction in accordance with both federal and state laws and regulations.

G103011 TEMPORARY EROSION & SEDIMENT CONTROL

Construct temporary measures including but not limited to filter barriers, silt fence, tree protection, inlet protection, culvert protection, construction entrance, dust suppressors, temporary seeding, and erosion control matting to reduce on-site erosion and off-site runoff and sedimentation. All temporary erosion control measures shall conform to the requirements of the authority having jurisdiction.

G1040 HAZARDOUS WASTE REMEDIATION

Not used.

G1040 1.1 EXCAVATION

Not used.

G1040 1.2 STOCKPILED SOILS

Not used.

G1040 1.3 CLEAN FILL

Not used

G1040 1.4 SPILLS

Not used.

G1040 1.5 DISPOSAL

Not used.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G20 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.

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.

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/Download.html?Tab=Download. 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.

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

Locate new 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.

G2010 ROADWAYS

Not used.

G201001 BASES & SUBBASES

Not used.

G201002 CURBS & GUTTERS

Not used.

G201003 PAVED SURFACES

Not used.

G201004 MARKING & SIGNAGE

Provide pavement markings to match existing.

Provide signage in accordance with the Stennis Space Center Signage Implementation and Control Plan.

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

G201005 GUARDRAILS & BARRIERS

Not used.

G201006 RESURFACING

Not used.

G201090 OTHER ROADWAYS
Not used.

G2020 PARKING LOTS

Not used.

G202001 BASES & SUBBASES
Not used.

G202002 CURBS & GUTTERS
Not used..

G202003 PAVED SURFACES
Not used.

G202004 MARKING & SIGNAGE
Provide signage in accordance with the Stennis Space Center Signage Implementation and Control Plan.

G202005 GUARDRAILS & BARRIERS
Not used.

G202006 RESURFACING
Not used.

G202007 MISCELLANEOUSE STRUCTURES AND EQUIPMENT
Not used.

G202090 OTHER PARKING LOTS
Not used.

G2030 PEDESTRIAN PAVING

Provide a network of Portland cement concrete sidewalks, separated from, but connected to vehicular circulation systems, to allow pedestrian circulation between various elements of the project.

G203001 BASES & SUBBASES
Crushed stone meeting specified gradation for aggregate base or subbase courses may be used.

G203002 CURBS & GUTTERS
Not used.

G203003 PAVED SURFACES
Use materials and place them in accordance with the Mississippi Department of Transportation (MDOT) design manual.

G203004 GUARDRAILS & BARRIERS
Not used.

G203005 RESURFACING
Not used.

G203006 OTHER WALKS, STEPS & TERRACES
Not used.

G2040 SITE DEVELOPMENT

G204001 FENCING & GATES
Not used.

G204002 RETAINING AND FREESTANDING WALLS
Not used.

G204003 EXTERIOR FURNISHINGS
Not used.

G204004 SECURITY STRUCTURES
Not used.

G204005 SIGNAGE

Provide signage in accordance with the Stennis Space Center Signage Implementation and Control Plan.

G204006 FOUNTAINS & POOLS

Not used.

G204007 PLAYING FIELDS

Not used.

G204008 TERRACE AND PERIMETER WALLS

Not used.

G204009 FLAGPOLES

Not used.

G204090 OTHER SITE IMPROVEMENTS

Not used.

G2050 LANDSCAPING

The existing 12 Crape Myrtle trees along the north elevation of Building 3202 shall be relocated to area as directed by the Contracting Officer or ROICC.

Provide landscaping consisting of seeding all disturbed areas and mulch required areas while complying with all applicable anti-terrorism, force protection and physical security 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.

G205001 FINE GRADING AND SOIL PREPARATION

Provide fine grading and soil preparation that will ensure positive storm drainage and support the establishment and growth of the landscaping.

G205002 EROSION CONTROL MEASURES

Prevent erosion from occurring by providing erosion control measures as required by city, state and federal requirements.

G205003 TOPSOIL AND PLANTING BEDS

See G205005 Plantings.

G205004 SEEDING SPRIGGING AND SODDING

Seed all disturbed areas.

G205005 PLANTINGS

Preserve existing trees to the greatest extent possible. The existing 12 Crape Myrtle trees along the north elevation of Building 3202 shall be relocated to area as directed by the Contracting Officer or ROICC.

G205006 PLANTERS

Not used.

G205007 IRRIGATION SYSTEMS

Not used.

G205090 OTHER LANDSCAPING

Not used.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G30 SITE CIVIL/MECHANICAL UTILITIES

SYSTEM DESCRIPTION

The site civil/mechanical utility systems include water supply systems, sanitary sewer systems, storm drainage systems, heating distribution systems, cooling distribution systems, fuel distribution systems and associated appurtenances which are more than 5 feet outside the building.

GENERAL SYSTEM REQUIREMENTS

Develop the site to provide water, fire protection, sanitary sewer, storm drainage, heating, cooling and fuel distribution services that meet the requirements of each applicable regulatory agency that governs and issues permits for the construction and operation of these systems.

Provide each system complete and ready for operation.

Physically verify the location of existing above and below ground utilities prior to starting work.

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/Download.html?Tab=Download. 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/Mechanical Reviewer.

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

Utility connection points are indicated on the drawings in another part of this RFP. These connection points are conceptual only. They are subject to change during design. Obtain final approvals from the Government's Civil/Mechanical Reviewer and the Contracting Officer or ROICC Officer for all utility connection points associated with this work.

Coordinate with the local utility providers and pay any fees or charges required to connect to their utility.

Refer to Site Analysis and Building Requirements Sections for additional site civil/mechanical utilities information.

Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of RFP Section G30 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall". Any non-metallic utility shall include metallic locator tracer wire. No utilities shall be located under any new concrete slabs. The designer shall confirm the existing utilities are able to handle the capacity of the new expansions, buildings, and renovations.

G3010 WATER SUPPLY

The existing water system serving the project site is owned, operated, and maintained by the installation. Provide the new water system and connections to the existing water system in accordance with UFC 3-200-10N, *Civil Engineering*; UFC 3-230-03A Water Supply, the American Water Works Association (AWWA) Standards and Manuals of Water Supply Practices, the utility provider's requirements; and the state waterworks' regulations; whichever is more stringent.

Notify the utility provider of the additional demand generated by the proposed facility. Provide a copy of all correspondence with the utility provider to the Government's Civil/Mechanical Reviewer.

Provide connection to the existing water distribution system at the point indicated on the drawings in another part of this RFP.

G301001 WELL SYSTEMS

Not used.

G301002 POTABLE WATER DISTRIBUTION

Connect the new potable water distribution system to the distribution system at the point indicated on the drawings in another part of this RFP.

A water meter on each proposed service line is not required.

Fire hydrants shall be painted per the installation standards.

Where backflow prevention is required, backflow preventers will not be allowed aboveground outside the building.

G301003 POTABLE WATER STORAGE

Not used.

G301004 FIRE PROTECTION WATER DISTRIBUTION

Provide a connection and sufficient supply to ensure a fully functioning fire protection system that meets all the fire fighting and code requirements both inside and outside the building. Provide hydrants, valves, and fire department connections.

G301005 FIRE PROTECTION WATER STORAGE

Not used.

G301006 NON-POTABLE WATER DISTRIBUTION

Not used

G301007 PUMPING STATIONS

A package booster pump station will not be required.

G301008 PACKAGED WATER TREATMENT PLANTS

Not used.

G301090 OTHER WATER SUPPLY

Not used.

G3020 SANITARY SEWER

The existing sanitary sewer collection system serving the project site is owned, operated, and maintained by the installation. Provide the new sanitary sewer system and connections to the existing sanitary sewer collection system in accordance with UFC 3-200-10N, *Civil Engineering*; the utility provider's requirements; the state sewerage regulations; and the Recommended Standards for Wastewater Facilities (known as the Ten State Standard), whichever is more stringent.

Notify the utility provider of the additional wastewater flow generated by the proposed facility. Provide a copy of all correspondence with the utility provider to the Government Civil Reviewer.

Provide connection to the existing sanitary sewer collection system at the point indicated on the drawings in another part of this RFP. In identifying a suitable point of connection, provide consideration of the capacity of the existing collection system

G302001 SANITARY SEWER PIPING

Construct the sanitary sewer piping using PVC piping with gasketed joints.

G302002 SANITARY SEWER MANHOLES & CLEANOUTS

Provide precast concrete manholes only.

G302003 LIFT STATIONS AND PUMPING STATIONS

A wastewater pump station will not be required.

G302004 PACKAGED SANITARY SEWER TREATMENT PLANTS

Not used.

G302005 SEPTIC TANKS

Not used.

G302006 DRAIN FIELDS

Not used.

G302090 OTHER SANITARY SEWER

Not used.

G3030 STORM SEWER

The new storm sewer ditch system is a relocation of a section of the existing storm sewer ditch system. The existing storm sewer system serving the project site is owned, operated, and maintained by the installation. Provide the new storm sewer system and connections to the existing storm sewer system in accordance with UFC 3-200-10N, *Civil Engineering*; the utility provider's requirements; and the state stormwater management laws and regulations; whichever is more stringent.

Provide relocation to the existing storm sewer ditch system at the point indicated on the drawings in another part of this RFP. Confirm that the existing outfall has adequate capacity to receive the additional stormwater flow generated by the project.

G303001 STORM SEWER PIPING

Not used.

G303002 STORM SEWER STRUCTURES

Not used.

G303003 LIFT STATIONS

Not used.

G303004 CULVERTS

Not used.

G303005 HEADWALLS

Not used.

G303006 EROSION & SEDIMENT CONTROL MEASURES

Construct measures including but not limited to filter barriers, silt fence, tree protection, inlet protection, culvert protection, construction entrance, dust suppressors, temporary seeding, and erosion control matting to reduce on-site erosion and off-site runoff and sedimentation. All erosion control measures shall conform to the requirements of the authority having jurisdiction.

G303007 STORMWATER MANAGEMENT

A stormwater management facility will not be required for this project.

G303090 OTHER STORM SEWER

Not used.

G3040 HEATING DISTRIBUTION

Not used.

G304001 OVERHEAD HOT WATER SYSTEMS

Not used.

G304002 OVERHEAD STEAM SYSTEMS

Not used.

G304003 UNDERGROUND HOT WATER SYSTEMS

Not used.

G304004 UNDERGROUND STEAM SYSTEMS

Not used.

G304005 CONCRETE MANHOLES & VALVE BOXES

Not used.

G304090 OTHER HEATING DISTRIBUTION

Not used.

G3050 COOLING DISTRIBUTION

G305001 OVERHEAD COOLING SYSTEMS

Not used.

G305002 UNDERGROUND COOLING SYSTEMS

Not used.

G305090 OTHER COOLING DISTRIBUTION

Not used.

G3060 FUEL DISTRIBUTION

G306001 LIQUID FUEL DISTRIBUTION PIPING

Not used.

G306003 LIQUID FUEL STORAGE TANKS

Not used.

G306004 LIQUID FUEL DISPENSING EQUIPMENT

Not used.

G306006 GAS DISTRIBUTION PIPING

Not used.

G306007 GAS STORAGE TANKS

Not used.

G306009 OTHER GAS DISTRIBUTION

Not used.

G306090 OTHER FUEL DISTRIBUTION

Not used.

-- End of Section --

6. ENGINEERING SYSTEMS REQUIREMENTS

G40 SITE ELECTRICAL UTILITIES

SYSTEM DESCRIPTION

The site electrical utility system consists of all power and telecommunications and fiber optic cabling from the existing distribution system point of connection including all connections, accessories and devices as necessary and required for a complete and usable system. This also covers providing electrical service to the Blast & Paint Facility and their requirement. This section covers installations up to within 1.5 meters (5 foot) of new (or existing) building location.

GENERAL SYSTEM REQUIREMENTS

Limited site investigation has determined the existing Electrical System appears to be in good condition and should handle the loads needed for the modifications required to expand Building B3202. Test and approve, as specified throughout this RFP, as needed for a complete, usable and proper installation. The Stennis Space Center Electrical Standards shall be followed. All equipment shall be installed per the criteria of RFP Section G40 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

G4010 ELECTRICAL DISTRIBUTION

If additional service is deemed necessary, connect to the existing 1000kVA, 480Y/277 volt three phase, four wire, 60 hertz unit substation in Building B3202, which appears to be in good condition.

The available fault current at the point of connection shall be assumed to be an infinite bus.

G401006 UNDERGROUND ELECTRIC CONDUCTORS

The existing medium voltage and 600 volt secondary underground electrical power distribution systems appear to meet the connection requirements as indicated in paragraph G4010 "Electrical Distribution". The conductors are assumed to be in good working condition. If found to be faulty or out of code compliance, contact the contracting officer.

G401008 GROUNDING SYSTEMS

If new service is required to the building, provide a complete grounding system for the electrical power distribution system. The grounding systems in the existing facility are assumed to be in good working condition. If found to be faulty or out of code compliance, contact contracting officer.

G401008 METERING

If there is no metering to building, provide a separate Kilowatt Demand Meter. Stennis currently uses Siemens Series 2000 Digital Energy Monitors. Provide this model or a model that is UL listed as compatible.

G4030 SITE COMMUNICATION AND SECURITY

The existing site communication and security system including, but not necessarily limited to, Voice and Data Telecommunications Systems, including all conduit and wiring, underground structures, termination equipment, poles and structures, and grounding systems appear to be in good working condition. If found to be faulty or out of code compliance, contact the contracting officer.

6 pairs of copper shall be extended from B3202 to the new Blast & Paint Facility.

G403003 CABLES AND WIRING

Cables and wiring for site telecommunications and security systems shall be as indicated in their respective categories.

G403009 GROUNDING SYSTEMS

If new service is required to the building, provide a complete grounding system for all site communications systems.

G4090 OTHER SITE ELECTRICAL UTILITIES

If using substation 104, located within building B3202, to power the Blast & Paint Facility, provide a direct buried underground duct system to carry the service from the existing Building B3202 to the Blast & Paint Facility (approximately 200 feet). Provide foil backed underground marking taped to allow for easy location of the ductbank in the future. Provide necessary grounding of the Blast & Paint Facility structure per NEC. Coordinate with Blast & Paint contractor for connection requirements and locations.

-- End of Section --