



American Testing Materials Engineering, LLC

TESTING LABORATORIES-ENGINEERING-INSPECTION SERVICES -DRILLING ENVIRONMENTAL SERVICES.

June 14, 2018

Miami VA Health Care System
1201 NW16th Street
Miami, FL 33125

RE: Subsurface investigation for Miami VA Healthcare System
Located at: 1201 NW 16st, Miami FL 33125

Dear Sir.:

Pursuant to your authorization, **AMERICAN TESTING MATERIALS ENGINEERING, LLC. (ATM)** conducted a subsurface investigation at the above referenced project. The investigation was performed on June 11, 2018.

The purpose of the investigation was to develop preliminary information about the site and the subsurface conditions existing in the vicinity of the proposed construction.

To achieve the desired objective (4) standard penetration test borings were performed and the logs are enclosed in this report.

TEST METHOD:

The borings were conducted in accordance with the procedures outlined for the standard penetration test and split spoon sampling of soils by ASTM Method D-1586.

A two (2) foot long two (2) inches O.D. Split Spoon Sampler was driven into the ground by successive blows with 140 lbs. The hammer drops thirty (30) inches. The soil sampler was driven two (2) feet at a time, then extracted for visual examination and classification of the retained soil samples.

The number of blows required for a one (1) foot penetration of the sampler is designated as "N" (known as the standard penetration resistance value). The "N" value provides an indication of the relative density of non-cohesive soils and the consistency of cohesive soils.

Suitable corrections are applied to this number in order to include the effects of soil overburden pressure and other factors. A general evaluation of soils is made from the established correlation between "N" and the relative density or consistency of soils.

This dynamic method of soil testing has been widely accepted by foundation engineers and architects to conservatively evaluate the bearing capacity of soils. A continuous drilling and sampling procedure was used therefore, the samples were taken at intervals of two (2) feet or at every change in soil characteristics.

The types of foundation material encountered have been visually classified and are described in detail in the boring logs. The results of the field penetration tests are presented in the boring logs in numerical forms. The average ground water level at the site was found at **five (5) feet four (4) inches** below the existing surface (see logs). Fluctuation in the observed ground water level should be expected due to seasonal climatic changes, rainfall variation, surface water run-off and other specific factors related to the site in question.



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OPTION I: FOUNDATION RECOMMENDATIONS:

Our recommendations are based on the information provided from the client as to the type of structure planned and on our subsurface investigation performed on the proposed site. Our recommendations are as follows:

1. Clear entire building area plus 5'-0" outside the perimeter of construction and remove all top soil, and unsuitable subsurface material to the necessary depth. We anticipate an average clearance depth of approximately six (6) inches.
2. Compact cleared area to a minimum compaction of 98% of the optimum dry density as per AASHTO T-180. Verify densification procedures by taking an adequate number of field density compaction tests. The cleared area should be inspected prior to the commencement of the backfilling operation to ensure that all the unsuitable material has been removed.
3. Backfill building area, plus 5'-0" outside the perimeter of the structure to the required elevation with a clean mixture of sand, lime rock and lime sand fill (or approved fill material) in compacted layers not to exceed 12" in thickness. Compact each layer to a minimum of 98% of the optimum dry density as per AASHTO T180. Verify densification procedures by taking an adequate number of field density tests, especially in the footing area.
4. Excavate footing trenches to the required depth from the ground elevation.
5. Compact the bottom of the footing trench to a minimum compaction of 98% of the optimum dry density as per AASHTO T-180. Verify densification procedures by taking an adequate number of field density compaction tests.

DESIGN RECOMMENDATIONS:

The above foundation recommendation having been achieved and verified, we anticipate that the foundation and footings may be appropriately proportioned for a safe soil bearing capacity not to exceed **2500 pounds per square foot**. The use of spread footings and single column pads is suggested. A monolithic slab foundation may also be adopted.

OPTION II: AUGERCAST (Pressure grouted) PILES:

Augercast (pressure grouted) piles are a feasible foundation alternative. The capacity of these piles is essentially developed in tip bearing and side friction. When these piles are installed or socketed into place, they will "lock into" the rock and sand strata thereby providing adequate bearing capacity.

The relationship obtained is as follows:

<u>Size (Dia)</u>	<u>Proposed Length (ft)</u>	<u>Lateral Load</u>	<u>Tension Capacity</u>	<u>Compressive Bearing Capacity</u>
14"Ø	15'	2.0 tons	15.0 tons	35 tons



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Large volumes, possibly up to twice (or more) of the theoretical pile volume, may be required for proper auger cast pile installation.

A minimum of three (3) piles should initially be driven (installed) at strategic locations in order to verify the suggested pile length. The entire pile driving (installation) operation should be monitored and performed in accordance with the relevant local and state requirements.

OPTION III: PRECAST PRESTRESSED CONVENTIONAL PILES:

Precast Prestressed conventional piles are another feasible solution. The capacity of these piles is essentially developed in tip bearing. When these piles are properly driven, they will provide substantial data which will provide reliable verification of the piles, lateral, tensile and bearing capacity. Given the close nature of structure in area pre-augering and/or vibration monitoring may be required.

The analysis for this foundation alternative consisted of determining a pile capacity for specific pile size and depth of installation. The relationship obtained is as follows:

<u>Size (Dia)</u>	<u>Proposed Length</u>	<u>Allowable Lateral Load</u>	<u>Allowable Tensile Capacity</u>	<u>Allowable Compressive Bearing Capacity</u>	<u>Remarks</u>
14"x14"	15'	2.0 tons	8.0 tons	35 Tons	No pile load test required

A minimum of five (5) piles should initially be driven (installed) at strategic locations in order to verify the suggested pile length. The entire pile driving (installation) operation should be monitored and performed in accordance with the relevant local and state requirements. The proposed length is based on the existing surface at the time of drilling.

CONCLUSION:

Regardless of the thoroughness of our Geotechnical exploration there is always a possibility that conditions on the subject property (site) may be different from those at the test locations. Therefore, should any subsoil condition different from those reported in our boring logs be encountered during construction, **AMERICAN TESTING MATERIALS ENGINEERING, LLC**, should be notified immediately.

This report was prepared exclusively for the use of Miami VA. The conclusions provided by **AMERICAN TESTING MATERIALS ENGINEERING, LLC** are based solely on the information presented in this report. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



American Testing Materials Engineering, LLC

TESTING LABORATORIES-ENGINEERING-INSPECTION SERVICES-DRILLING ENVIRONMENTAL SERVICES.

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We appreciate the opportunity to have been of service to your company. Please feel free to contact us if there are any questions or comments pertaining to this report.

Sincerely yours,


Waseem Quadri, P.E. & S.I. #51481
Special Inspector - Threshold Buildings
President
32 years of experience in Geo-Technical,
Civil, Structural and Environmental Engineering
American Testing Materials Engineering, LLC





AMERICAN TESTING MATERIALS ENGINEERING, LLC.

Testing Laboratories - Engineering Inspection Services - Chemist - Drilling - Environmental Services
1950 West 84th Street, Hialeah FL 33014 - Phone: 954-587-2479 Fax: 954-791-6998

SOIL BORING LOG

CLIENT	Miami VA Health Care System	Order No	16-1123
ADDRESS	1201 NW 16th Street, Miami FL 33125	Report No.	1
PROJECT	Proposed Parking Structure Project	Boring No.	B-1
ADDRESS	1201 NW 16th Street, Miami FL 33125	Date	6/11/2018
LOCATION	See Sketch	Driller	MA

Depth (feet)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler	"N"	"N" Curve
	Soil Boring from 0' to 30'				10 20 30 40 50
1	0' to 2" Asphalt	0' - 2'	20 21	43	
2	2" to 2' Light brown fine medium sand with rock		22 23		
3		4' - 4'	18 16	33	
4			17 19		
5	2' to 6' Dark brown fine medium sand with limerock	4' - 6'	12 10	18	
6			8 9		
7	6' to 8' Light brown fine medium sand with limerock	6' - 8'	6 7	21	
8			14 16		
9		8' - 10'	9 14	31	
10			17 10		
11		10' - 12'	10 15	32	
12	8' to 15' Light brown fine medium sand with limerock		17 19		
13		12' - 14'	11 14	32	
14			18 19		
15		14' - 16'	10 12	22	
16	End of Boring @ 15'		10 14		
17		16' - 18'			
18					
19		18' - 20'			
20					
21		20' - 22'			
22					
23		22' - 24'			
24					
25		24' - 26'			
26					
27		26' - 28'			
28					
29		28' - 30'			
30					

Water Level: (▼) 6'-8"

Sample Type: Split Spoon (SS)

At Date: 6/11/2018

Respectfully submitted

Waseem Quadri, P.E. & S.L. #51481
Threshold Building - Special Inspector
STATE OF FLORIDA
PROFESSIONAL ENGINEER

As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publications of statements, conclusions or extract from or regarding our reports is reserved pending our written approval.



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SOIL BORING LOG

CLIENT	Miami VA Health Care System	Order No	16-1123
ADDRESS	1201 NW 16th Street, Miami FL 33125	Report No.	1
PROJECT	Proposed Parking Structure Project	Boring No.	B-2
ADDRESS	1201 NW 16th Street, Miami FL 33125	Date	6/11/2018
LOCATION	See Sketch	Driller	MA

Depth (feet)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler	"N"	"N" Curve
	Soil Boring from 0' to 30'				10 20 30 40 50+
1	0' to 4" Asphalt	0' - 2'	24 18	40	
2	4" to 2' Light brown fine medium sand with rock		22 25		
3	2' to 4' Dark brown fine medium sand with limerock	4' - 4'	12 19	33	
4			14 16		
5	4' to 8' Dark brown silty sand ▼	4' - 6'	10 9	13	
6			4 6		
7		6' - 8'	2 1	1	
8			0 1		
9	8' to 15' Light brown fine medium sand with limerock	8' - 10'	6 4	7	
10			3 2		
11		10' - 12'	5 7	15	
12			8 10		
13		12' - 14'	12 13	29	
14			16 19		
15	End of Boring @ 15'	14' - 16'	10 17	35	
16			18 19		
17		16' - 18'			
18					
19		18' - 20'			
20					
21		20' - 22'			
22					
23		22' - 24'			
24					
25		24' - 26'			
26					
27		26' - 28'			
28					
29		28' - 30'			
30					

Water Level: (▼) 6'-1"

Sample Type: Split Spoon (SS)

At Date: 6/11/2018

Respectfully submitted,



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SOIL BORING LOG

CLIENT	Miami VA Health Care System	Order No	16-1123
ADDRESS	1201 NW 16th Street, Miami FL 33125	Report No.	1
PROJECT	Proposed Parking Structure Project	Boring No.	B-3
ADDRESS	1201 NW 16th Street, Miami FL 33125	Date	6/11/2018
LOCATION	See Sketch	Driller	MA

Depth (feet)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler	"N"	"N" Curve
	Soil Boring from 0' to 30'				10 20 30 40 50
1	0' to 4" Asphalt	0' - 2'	24 26	38	
2			12 18		
3	4" to 3' Light brown fine medium sand with rock	4' - 4'	10 14	30	
4			16 17		
5	3' to 5' Dark brown fine medium sand	4' - 6'	10 12	25	
6			13 10		
7	5' to 9' Dark brown silty sand	6' - 8'	8 0	1	
8			1 2		
9		8' - 10'	2 3	7	
10			4 6		
11		10' - 12'	9 8	18	
12	9' to 15' Light brown fine medium sand with limerock		10 13		
13		12' - 14'	14 17	35	
14			18 19		
15		14' - 16'	11 12	31	
16	End of Boring @ 15'		19 13		
17		16' - 18'			
18					
19		18' - 20'			
20					
21		20' - 22'			
22					
23		22' - 24'			
24					
25		24' - 26'			
26					
27		26' - 28'			
28					
29		28' - 30'			
30					

Water Level: (▼) 5'-9"

Sample Type: Split Spoon (SS)

At Date: 6/11/2018

Respectfully submitted,



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Testing Laboratories - Engineering Inspection Services - Chemist - Drilling - Environmental Services
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SOIL BORING LOG

CLIENT	Miami VA Health Care System	Order No	16-1123
ADDRESS	1201 NW 16th Street, Miami FL 33125	Report No.	1
PROJECT	Proposed Parking Structure Project	Boring No.	B-4
ADDRESS	1201 NW 16th Street, Miami FL 33125	Date	6/11/2018
LOCATION	See Sketch	Driller	MA

Depth (feet)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler	"N"	"N" Curve
	Soil Boring from 0' to 30'				
1	0' to 6" Asphalt	0' - 2'	24 26	38	
2	6" to 1' Light brown fine medium sand with rock		12 18		
3	1' to 3' Dark brown fine medium sand with rock	4' - 4'	10 14	30	
4	3' to 4' Light brown fine medium sand with rock		16 17		
5		4' - 6'	10 12	25	
6	4' to 8' Light brown silty sand		13 10		
7		6' - 8'	8 0	1	
8			1 2		
9		8' - 10'	2 3	7	
10	8' to 12' Dark brown silty sand with trace of limerock		4 6		
11		10' - 12'	9 8	18	
12			10 13		
13		12' - 14'	14 17	35	
14	12' to 15' Light brown sand with limerock		18 19		
15		14' - 16'	11 12	31	
16			19 13		
17		16' - 18'			
18	15' to 20' Limerock with light tan fine medium sand				
19		18' - 20'			
20					
21		20' - 22'			
22					
23	20' to 25' Limerock	22' - 24'			
24					
25		24' - 26'			
26	End of Boring @ 25'				
27		26' - 28'			
28					
29		28' - 30'			
30					

Water Level: (▼) 5'-3"

Sample Type: Split Spoon (SS)

At Date: 6/11/2018

Respectfully submitted,

Waseem Quadri, P.E. & S.I. #51481
Threshold Building, Special Inspector
Professional Engineer
Florida

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MIAMI VA HEALTHCARE SYSTEM
MIAMI, FLORIDA

HEALTHCARE SYSTEM POLICY MEMORANDUM

NO.....001SEM-50-13

August 11, 2013

CONSTRUCTION POLICY

I. PURPOSE:

To establish policy and procedures for safeguarding patients, visitors, staff, private contractors/vendors, and property during construction and/or renovation project activities.

II. POLICY:

It is the policy of the Miami VA Healthcare System (MVAHS) that all construction related activities will be monitored to ensure the safety of patients, staff, contractors, and visitors from construction projects and that MVAHS procedures will be followed. The procedures and requirements outlined in this memorandum are further emphasized by Environment of Care Standards 2.6, Life Safety Management Plan, OSHA (29 CFR parts 1926 and 1910), and National Fire Protection Association (NFPA) Standards. The procedures and requirements shall cover all areas of the MVAHS and apply to all patients, visitors, staff, and contractor/vendors directly involved in construction activities.

III. DEFINITIONS:

- A. Contracting Officer Technical Representative (COTR) - individual responsible for managing the technical portion of the project from commencement to completion without authority to make contractual decisions.
- B. Contracting Officer (CO) - individual responsible for managing the contractual portion of the project from commencement to completion with full authority to make contractual decisions.
- C. Safety Officer – individual designed by the Director of the Medical Center & MVAHS to intervene with any MVAHS activity when conditions pose an immediate threat to life or health or threats to damage equipment or infrastructure.
- D. Competent Person - person trained and designated by the employer as responsible for identifying all hazards and take prompt corrective actions. For contractor personnel, the competent person is a contractor employee.

IV. RESPONSIBILITY:

- A. The Chief, Engineering Service has the overall responsibility for ensuring compliance with this program. The Chief of Engineering is responsible for ensuring all shop supervisors and their respective employees are aware of the required safety procedures. It is his/her additional responsibility to effectively enforce this policy.

- B. The COTR shall ensure that the “Safeguarding Construction Operations” specifications is incorporated in all applicable construction contract specifications and brought to the attention of the Contracting Officer and General Contractor. Prior to the start of construction, the COTR shall review, with the Fire Inspector and Safety Officer (or designee), the project scope and its impact on the MVAHS. Specific Interim Life Safety Measures will be identified and implemented so as not to diminish the safety and health of patients, visitors, and staff in affected areas. These measures will be annotated on the construction contract drawings. The COTR shall determine, on a project-by-project basis, the type of separation required between a project/construction areas and adjacent areas. The COTR shall ensure compliance with the specific measures through regular general inspections on the job site. Specific safety concerns shall be referred to the Safety Officer for technical assistance and evaluation. Any deviations or violations will be communicated promptly to the contractor for correction. If immediate corrective action is not taken by the contractor for correction. If immediate corrective action is not taken by the contractor upon notification, the Contracting Officer shall be notified and advised to stop work until the violation has been resolved.
- C. Fire Inspector and Safety Officer or designee is responsible for conducting a Pre-construction Risk Assessment (PCRA) prior to the start of any construction or renovation project and ensuring compliance with relevant regulatory codes and standards. Fire Inspector /Safety Manager or designee along with the COTR shall also perform Interim Life Safety Measure Assessments for all projects and implement selected measures as needed. IH or designee will issue Construction Permits, Above the Ceiling Work Permits, Hot/Dust Work Permits, and will maintain copies of each and of daily inspections submitted by the COTR. The Safety Officer and Fire Inspector or designee will review inspections as submitted and take follow-up actions as necessary for any identified safety concern. The Fire Inspector/Safety Officer will conduct weekly inspections of each site and document any findings. The Safety Officer/Fire Inspector or designee will provide guidance to COTRS on safety related issues and technical support where necessary.

V. PROCEDURES:

- A. Construction areas are strictly off-limits to all patients, visitors, and members of the public.
- B. Construction areas are off-limits to all other personnel including consultants, residents, students, and other personnel without prior approval and coordination through Engineering Service.
- C. Vendors, installation technicians, etc., are authorized access only as arranged and coordinated through Engineering Service.
- D. When access to a construction area is unavoidable because major corridors that patients, visitors, and employee must utilize within a construction area, Engineering Service will coordinate with all contractors to keep these areas and egress access clear and unobstructed. Warning signs will be posted in appropriate locations for patients, visitors, and employees. Prior to the start of the project, the COTR will coordinate with other services for the removal of nonessential equipment and cover-up for dust protection. During the project, the contractor is responsible for maintaining the area with daily cleaning, or more often as necessary.
- E. The COTR shall ensure that all smoke and fire barriers are maintained for the duration of the project. If necessary, temporary barriers shall be constructed to assure compliance as per the National Fire Code.

- F. The COTR shall ensure that fire protection systems, (e.g., fire alarm, sprinkler, standpipe risers, etc.), are not impaired. A temporary but equivalent system of notification of fire emergencies shall be provided when any system is provided. Any temporary systems will be inspected/tested monthly, if applicable.
- G. The COTR will ensure that the prime contractor and their subcontractors are aware of and comply with this policy (001SEM-50-13) and VA Master Specification Section 01010, General Requirements, Paragraph 1.4, and Section 01001, General Conditions, paragraphs 1.53, 1.54, and 1.55. The COTR will perform daily inspections of the worksite to ensure that all temporary measures are in place and operational while documenting in the daily progress notes.
- H. Smoking is prohibited inside the MVAHS. Smoking near the exterior areas shall be a minimum of 50 feet from flammable liquids and a safe distance from other combustible materials.
- I. The contractor/vendor shall assure that storage, debris removal, and proper housekeeping practices are in place and enforce to reduce the flammable and combustible fire load to the lowest extent possible with oversight by the COTR.
- J. Contractor/vendor shall maintain materials in an orderly manner.
- K. Contractor/vendor shall follow Lockout/Tag out procedures per National Electric Code.
- L. A “No Smoking” sign shall be posted in all construction sites and areas.
- M. Utility shutdowns request will require two (2) weeks advanced noticed to the MVAHS.
- N. The contractor/vendor shall submit a “Schedule” indicating the type of demolition and other noise or vibration inducing construction operations showing dates, times, and duration of such work.
- O. All employees of the contractor, sub-contractors, and vendors are required to wear VA Police issued identification badges while on the MVAHS premises. Badges shall be fixed to outer garments above the elbow level.
- P. Contractors, subcontractors, and vendors are prohibited from parking their vehicles on the MVAHS grounds.
- Q. Contractors, subcontractors, and vendors are prohibited from disconnecting or interfering with existing operational systems without prior approval of the COTR.
- R. Contractors, subcontractors, and vendors are prohibited from playing radios inside the MVAHS.
- S. Neither welding nor arc welding will be permitting without appropriate authorization from the MVAHS Environmental Health and Safety Service Fire Inspector or Safety Officer.
- T. Contractors, subcontractors, and vendors must keep construction premises free from accumulation of waste materials or rubbish. Trash removal shall be daily in covered containers.

U. Existing toilet rooms that have been designated for contractor, subcontractor, and vendor use shall be left in clean and sanitary conditions daily.

V. Above the Ceiling Work Permits will be required when contractors or in-house personnel engage in work that will require penetrations of smoke or fire walls or any work to be conducted above the ceiling. This permit must be completed and signed by the Fire Inspector and Safety Officer or designee prior to initiation of the work, (see attached form). Routing of wiring, piping, or conduit may require drilling through smoke or fire walls above the ceiling. When this occurs, all wires or conduits that penetrate the rated assembly must be marked with identification. All penetrations must be resealed with the proper smoke or fire materials prior to final inspection. When the work has been completed and all smoke and fire penetrations have been resealed, an inspection of the work area will be performed and the permit will be signed by the MVAHS Fire Protection Inspector indicating final approval.

VI. OTHER:

None

VII. REFERENCES:

VHA Manual MP-3, Part III, National Fire Codes.

The Joint Commission, Comprehensive Accreditation Manual for Hospitals, Current Edition, Oakbrook Terrace, IL.

Public Law 100-678, "Public Buildings Amendments Act of 1988."

Office of Facility Management PG-18-3, Topic 1, "Codes and Standards."

NFPA 101, Life Safety Code 2009 Edition, Chapter 8.

Information on VA's design and construction requirements can be found at:<http://vaww.va.gov/facmgt>.

HSPM No. 132-04, "Healthcare System Smoking Policy"

VIII. RESCISSION:

HSPM Construction Policy, No. 138-81-10, dated: June 24, 2010.

IX. FOLLOW-UP RESPONSIBILITY:

Chief, Environmental Health and Safety Service (147)

X. This Healthcare System Policy Memorandum will expire on August 11, 2016. Paul M. Russo, MHSA, FACHE, RD

Medical Center Director Attachments: 5 Distribution: A (Electronic) The following are stakeholders to this Healthcare System Policy Memorandum: Anesthesiology Service

Audiology and Speech Pathology

Biomedical Engineering Service

Canteen Service

Chief of Staff

Communications

Dental Service

Dermatology Service

Education

Engineering Service

Environmental Management Service

Environmental Health & Safety

Facility Logistics Service

Fiscal Service

Geriatrics/Extended Care

Human Resources Management Service

Imaging Service

Information Resources Management Service

Medical Administration Service

Medical Service

Mental Health and Behavioral Sciences Service

Neurology Service

Nursing Service

Nutrition and Food Services

Pathology and Laboratory Service

Pharmacy Service

Physical Medicine and Rehabilitation Service

Police Service

Prosthetic Treatment Center

Quality Management and Performance Improvement

Radiation Therapy, Research Service,

Recreation Therapy Service, Social Work Service, Spinal Cord Injury Service, Voluntary Service

ATTACHMENT A



Department of Veterans Affairs

VA Healthcare System
Miami, FL 33125

Construction Permit

PROJECT TITLE AND NUMBER		
PROJECT LOCATION		
TYPE OF WORK		
GENERAL CONTRACTOR		PHONE:
Estimated Start Date:	Estimated Completion Date:	Hours of Work:

Contact Information

Position/Title	Name	Phone	Direct Connect#	Email address
COTR				
Contractor Site Supervisor				
Infection Control Rep				
Safety Officer				
Operations Contact				

Infection Control Measures (Check Activity and Risk Group)				Interim Life Safety Measures (Check (Check All Assessed ILSM Action Items)					
<input type="checkbox"/> No Infection Control Measures Apply				<input type="checkbox"/> No ILSM Measures Apply					
✓	Construction Activity	✓	Infection Control Risk Group	✓	Action Item	✓	Action Item	✓	Action Item
	TYPE A		Group 1		ILSM # 1		ILSM # 5		ILSM # 9
	TYPE B		Group 2		ILSM # 2		ILSM # 6		ILSM # 10
	TYPE C		Group 3		ILSM # 3		ILSM # 7		ILSM # 11
	TYPE D				ILSM # 4		ILSM # 8		



Department of Veterans Affairs

VA Healthcare System
Miami, FL 33125

Hot Work & Dust Permit For Cutting/Welding With Portable Gas, Arc Equipment or Dust *Note: This permit expires at 1600 hours same day of issue*

Date _____ Time _____

Building # _____ Fire/Smoke Compartment _____

Name of Contractor (Print) _____ Phone # _____

COTR (Print) _____ Phone # _____

Project Name & # _____

Type of work: _____

Health & Safety Use Only

This is to certify that the work area was examined, all precautions taken, and permission granted to perform the work.

Panel Silenced _____ yes _____ no Time _____

Graphic Notified _____ yes _____ no Ext. 3321 Time _____

National Guardian Notified _____ yes _____ no Time _____

Is a fire watch required? _____ yes _____ no Name of fire watch _____

Signature _____ Date _____

Individual responsible for authorizing permit.

Final Check-up

This is to certify that the work area and all adjacent areas to which sparks and heat might have spread (including floors, above and below work space, and on opposite sides of walls) were inspected thirty minutes after completion of work.

Name _____ Signature _____ Date _____

Comments



Department of Veterans Affairs

VA Healthcare System
Miami, FL 33125

Above the Ceiling Work Permit Request

COTR _____ Contractor _____

Work start date: _____ Completion date: _____

Work area: _____

Scope of work: _____

Will penetrations in the existing structure be made?

*Yes _____ No _____ Smoke _____ Fire _____

*If the answer is Yes to Smoke or Fire Penetrations, Safety must be notified before and after any penetrations are made. Contractor / Vendor is responsible for repairs to any penetrations in smoke / fire barriers

Penetration Repairs (If Applicable)

Type of sealant used: _____

UL approved for use? Yes _____ No _____ MSDS Yes _____ No _____

Requested by: _____

Company/Dept.: _____

Telephone No: _____ Date: _____

Approved/Disapproved: _____ Date: _____
(Safety Manager or designee)

Final Inspection by: _____ Date: _____
(Safety Officer or designee)



Department of Veterans Affairs

VA Healthcare System
Miami, FL 33125

Utility System Impairment Permit

Name of Worker _____ Contractor/Shop _____ Phone # _____

Date _____ Impairment Time Start: _____ End _____ Building # _____

Fire/Smoke Compartment _____ Departments affected by impairment notified? ☐ Yes ☐ No

Supervisor _____ Project # _____

Type of work _____

Devices To Be Impaired _____

Health and Safety Use Only

Shut Down Approved By _____ Time/Date _____

Miami Fire Department Dispatch Notified ☐ Yes ☐ No (305-579-6245)

Product Line Manager, Facilities Management Notified ☐ Yes ☐ No (3035)

VISN SFPE Notified ☐ Yes ☐ No (813-398-5717)

Graphic Control Notified ☐ Yes ☐ No (3321)

Engineering Use Only

System Restored By _____ Time/Date _____

Health and Safety Notified ☐ Yes ☐ No

Miami Fire Department Dispatch Notified ☐ Yes ☐ No (305-579-6245)

Product Line Manager, Facilities Management Notified ☐ Yes ☐ No (3035)

VISN SFPE Notified ☐ Yes ☐ No (727-398-6661, ex 5717)

Graphic Control Notified ☐ Yes ☐ No (3321)

Graphics Control Use Only

Shut-Down Notify the following / System Restored Notify the following

FM&O Facility Manager ☐ Yes ☐ No Time _____

Miami Fire Department Yes ____ No Time _____



Department of Veterans Affairs

Miami VA Healthcare System
Miami, FL 33125

ATTACHMENT B

COTR Construction Safety Daily Checklist

COTR _____ Contractor / Project _____

SAFETY & PERSONAL PROTECTIVE EQUIPMENT (PPE)	YES	NO	N/A
Is a site safety plan available on site or accessible to all employees?			
Is there a person on site designated as the safety official?			
Are individual hard hats available on site?			
Is eye / face protection worn?			
Is suitable clothing /footwear worn?			
Are gloves worn when operating equipment?			
LIST MINIMUM REQUIRED PPE IN COMMENT SECTION.			
ELECTRICAL	YES	NO	N/A
Is all electrical equipment equipped with ground pin?			
Extension cords free of improper splices?			
Are GFCI or assured grounding program in use?			
LADDERS	YES	NO	N/A
Are ladders used properly and only for purpose they were designed for?			
Are ladders properly secured during use and after?			
Defective ladder marked and removed from service?			
HAZARDOUS CHEMICAL USED ON WORKSITE	YES	NO	N/A
Is there a Chemical Inventory for chemicals on-site?			
Is there an MSDS for each hazardous product?			
Are hazardous materials properly stored and handled?			
HOUSEKEEPING & SANITATION	YES	NO	N/A
Is proper housekeeping maintained at the jobsite?			
Are tools and equipment kept in an orderly manner so as not to cause injury?			
POWERED INDUSTRIAL TRUCKS/ELEVATED PLATFORMS	YES	NO	N/A
Are powered industrial trucks or elevated platforms of any kinds in use?			
SCAFFOLD	YES	NO	N/A
Is scaffolding of any kind in use?			
Comments:			

Signed _____

Date _____

ATTACHMENT C



Department of Veterans Affairs

Miami VA Healthcare System
Miami, FL 33125

INFECTION CONTROL CONSTRUCTION PERMIT

Date:	Permit No.:
Location of Construction:	Project Start Date:
CORT: Phone	Estimated Duration:
Contractor Performing Work: Phone	
CONSTRUCTION ACTIVITY	INFECTION CONTROL RISK GROUP
_____ TYPE A: Inspection, non-invasive activity.	Low Risk
_____ TYPE B: Small scale, short duration, moderate to high levels.	Medium Risk
_____ TYPE C: Activity generates moderate to high levels of dust, requires greater work shift for completion.	Medium
	High Risk
_____ TYPE D: Major duration and construction activities requiring consecutive work shifts.	Highest Risk

DESCRIPTION OF REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS

During Construction Project		Upon Completion of Project
CLASS I	<ol style="list-style-type: none"> 1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection. 	<ol style="list-style-type: none"> 1. Vacuum and wet mop the area.
CLASS II	<ol style="list-style-type: none"> 1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area. 6. Remove or isolate HVAC system in areas where work is being performed. 	<ol style="list-style-type: none"> 1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 4. Remove isolation of HVAC system in areas where work is being performed.
CLASS III	<ol style="list-style-type: none"> 1. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers, e.g., sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed projects is inspected by owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation HVAC system in areas where work is being performed.
CLASS	<ol style="list-style-type: none"> 1. Isolate HVAC system in area where work is 	<ol style="list-style-type: none"> 1. Remove barrier material carefully to minimize spreading

IV	<p>being done to prevent contamination of duct system.</p> <ol style="list-style-type: none"> 2. Complete all critical barriers, e.g., sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the worksite. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exists the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 	<p>of dirt and debris associated with construction.</p> <ol style="list-style-type: none"> 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid. 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.
Surrounding areas:		
Additional Requirements:		
Permit Authorized by:		
Date:		



Department of Veterans Affairs

Miami VA Healthcare System
Miami, FL 33125

ATTACHMENT D

CONSTRUCTION/RENOVATION PROJECT SURVEILLANCE REPORT

Project Name: _____ Inspectors name: _____
Areas of Work: _____ Date of Surveillance: _____ to _____

ISSUE	MON	TUE	WED	THU	FRI
Infection Control Measures in effect					
CLASS I					
1. Methods to minimize rising dust in place.					
2. Tiles displaced for visual inspection replaced.					
CLASS II					
1. Active means to prevent airborne dust from dispersing into atmosphere implemented.					
2. Work surface misted with water while cutting.					
3. Unused doors sealed.					
4. Air vents blocked off and sealed.					
5. Dust mat present at the entrance and exit of work area.					
6. HVAC system in areas where work is being performed is removed or isolated.					
CLASS III					
In addition to Class II Precautions					
1. All critical barriers, e.g., sheetrock, plywood, plastic, to seal area from non-work area or control cube method implemented.					
2. Negative air pressure within work site maintained.					
3. Construction waste contained before transporting in covered containers.					
CLASS IV					
In addition to Class III Precautions					
1. Holes, pipes, conduits, and punctures are sealed.					
2. A personnel passes through the anteroom to get Vacuumed or wear coveralls that are removed when leaving worksite.					
3. Shoe covers are worn and removed at work site or shoes are cleaned and sanitized upon exit from work site.					



Department of Veterans Affairs

Miami VA Healthcare System
Miami, FL 33125

ATTACHMENT E

Health & Safety Construction / Project Inspection Report

Health & Safety Name and Title: _____

COTR _____ Contractor / Project _____

FINDING (Health & Safety)	CORRECTIVE ACTION TAKEN (COTR)	VERIFIED (Health & Safety)
Comments:		

Signed _____

Date _____

SUMMARY SHEET FOR HEALTHCARE SYSTEM POLICY MEMORANDUM

A. Is this a new HSPM? No

If so, HSPM Title:

(Identification Number for new HSPM will be provided by HSPM Coordinator.)

B. Is this a revision to current HSPM? Yes; 001SEM-50-13, Construction Policy

C. Does this HSPM affect any changes in the working conditions or fair and equitable treatment of employees? _____ Yes No X

(A proposed change affecting the conditions of employment of any bargaining unit member, e.g., changes in personnel practices, past practice, procedures or other matters affecting working conditions)

Please explain:

D. To facilitate the review of HSPM changes, identify the section(s) of the HSPM that were revised by placing an X next to the numbers that correspond to change(s):

1. Policy

5. Other

2. Definitions X

6. References X

3. Responsibilities X

7. None of the above

4. Procedures X

E. Provide a brief summary of changes, or if new HSPM provide justification for HSPM:

Minor changes: Addition of fire inspector in responsibilities. Addition of fire inspector title in the procedures section. Addition of the smoking policy in the references section

F. List stakeholders: All services

G. List originator: Selma Rapoport-Zolotas, Chief, Environmental Health & Safety

H. Has this policy been reviewed by a committee? No

SAFETY AND HEALTH DURING CONSTRUCTION

1. REASON FOR ISSUE: This Veterans Health Administration (VHA) directive establishes policy for maintaining a safe and healthy worksite for staff, patients, volunteers, visitors, contractors, and the general public during construction and renovation-related activities.

2. SUMMARY OF MAJOR CHANGES: Major changes are as follows:

a. Removes responsibilities previously assigned to the Director, Office of Construction and Facilities Management.

b. Revises responsibilities for:

(1) Office of Capital Asset Management, Engineering and Support (10NA5).

(2) Office of Occupational Safety, Health and Green Environmental Management System (GEMS) Programs (10NA8).

(3) Occupational Health, Office of Patient Care Services (10P4Z).

(4) Contracting Officer, Contracting Officer's Representative or Project Engineer.

3. RELATED ISSUES: VHA Directive 7701, Occupational Safety and Health (OSH).

4. RESPONSIBLE OFFICE: The Deputy Under Secretary for Health for Operations and Management (10N) is responsible for VHA programs related to this directive. The point of contact for technical and program issues related to this directive is the Director, Office of Occupational Safety, Health and GEMS Programs (10NA8) at 202-632-7889.

5. RESCISSION: VHA Directive 2011-036, dated September 22, 2011, is rescinded.

6. RECERTIFICATION: This VHA directive is scheduled for recertification on or before the last working day of April 2022. This VHA directive will continue to serve as national VHA policy until it is recertified or rescinded.

Poonam Alaigh, M.D.
Acting Under Secretary for Health

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SAFETY AND HEALTH DURING CONSTRUCTION

1. PURPOSE

This Veterans Health Administration (VHA) directive establishes policy for maintaining a safe and healthy worksite for staff, patients, volunteers, visitors, contractors, and the general public during construction and renovation-related activities. This policy applies to all construction activities as defined by Occupational Safety and Health Administration (OSHA) that are performed at VHA owned or leased properties regardless of whether performed by VHA or contractor staff. **AUTHORITY:** Title 29 Code of Federal Regulations (CFR) Part 1926, 29 CFR Part 1960; Federal Acquisition Regulation (FAR) 52.236-13; Veterans Affairs Acquisition Regulation (VAAR) 852.236-87.

2. BACKGROUND

a. OSHA amended 29 CFR Part 1960 to implement its “Multi-Employer Worksite Policy” in the federal sector, as stated in 60 Federal Register (FR) 35040. As a result, controlling employers are required to provide “reasonable care” in accordance with the “Multi-Employer Worksite Policy” (OSHA Directive CPL 2-0.124, Multi-Employer Citation Policy). OSHA explains “reasonable care” as having the following components:

- (1) Periodic inspections of appropriate frequency,
- (2) Implementation of an effective system for promptly correcting hazards, and
- (3) Enforcement of the other employer's compliance with safety and health requirements, with an effective, graduated system of enforcement and follow-up inspections.

b. Federal Acquisition Regulation (FAR) 52.236-13, Accident Prevention, requires compliance with OSHA regulations and any additional safety measures the Contracting Officer (CO) determines to be necessary and has provisions for enforcement up to stopping the work. The Veterans Affairs Acquisition Regulation (VAAR) 852.236-87, Accident Prevention, requires that the Resident Engineer (RE) or other VA employee designated in writing by the CO shall serve as the “Safety Officer” to monitor and enforce compliance with the FAR 52.236-13.

c. OSHA 29 CFR Part 1926, The Joint Commission, National Fire Protection Association (NFPA) standards, and VHA Directive 7712, Fire Protection Code Reviews of Delegated Construction Projects, identify requirements for safe construction practices. Environmental Protection Agency (EPA) regulations address safety requirements related to specific environmental issues (e.g., asbestos, lead, etc.). The FAR and VAAR address contractor safety and VA oversight requirements.

d. The implementation of a proactive and comprehensive construction safety program reduces the potential for injury and illness from unsafe and unhealthy

construction activities. Construction safety programs reduce the potential for VHA liability that could result from construction-related accidents, injuries or exposures.

3. DEFINITIONS

a. **Competent Person.** OSHA defines a competent person (CP) as one who is capable of identifying existing and predictable hazards in the surroundings and working conditions which are unsanitary, hazardous or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them (see 29 CFR 1926.32(f)).

b. **Construction.** OSHA defines construction as alteration or repair, including painting and decorating of a large scale or high-complexity. For further clarification of the definition of construction, please refer to OSHA's letters of interpretation.

c. **Construction Lead Person.** The construction lead person is typically the contractor's foreman/person, or for internal construction operations, the VHA foreman/person. However, it could be any other individual assigned to lead and direct a work crew operation. This person acts as the OSHA CP responsible for monitoring the construction site for hazards and implementing corrective actions.

d. **Construction Safety Officer.** The Construction Safety Officer (CSO) identifies worksite risk and coordinates risk reduction activities through the CO or the Contracting Officer's Representative (COR), collects deficiency information, and disseminates summaries of action and results (The Joint Commission standards, construction risks in physical environment). This individual satisfies the VAAR 852.236-87 requirement for a Safety Officer to monitor and enforce contractor compliance with FAR 52.236-13.

e. **Interim Life Safety Measures.** Interim Life Safety Measures (ILSM) are a series of eleven administrative actions to temporarily mitigate NFPA 101 Life Safety Code deficiencies or construction activities.

f. **Maintenance.** The term "maintenance" refers to applied trades work on a structure, fixture, foundation or other building systems to ensure a safe and functional condition.

g. **Types of OSHA Violations.** OSHA enforces workplace safety in the United States. Businesses and work sites are subject to periodic OSHA inspections. Inspections may detect violations of OSHA codes that range from minor to extremely hazardous. There are four major types of violations, as determined by OSHA:

(1) **Willful.** A willful violation is defined as a violation in which the employer either knowingly failed to comply with a legal requirement (purposeful disregard) or acted with plain indifference to employee safety.

(2) **Serious.** A serious violation exists when the workplace hazard could cause an accident or illness that would most likely result in death or serious physical harm, unless the employer did not know or could not have known of the violation.

(3) **Repeated.** A Federal agency may be cited for a repeated violation if the agency has been cited previously for the same or a substantially similar condition and, for a serious violation, OSHA's region-wide inspection history for the agency lists a previous OSHA Notice issued within the past 5 years; or, for an other-than-serious violation, the establishment being inspected received a previous OSHA Notice issued within the past 5 years.

(4) **Other-than-Serious.** A violation that has a direct relationship to job safety and health, but is not serious in nature, is classified as "other-than-serious."

h. **Experience Modification Rate (EMR).** An EMR is a number used by insurance companies to gauge both past cost of injuries and future chances of risk.

4. POLICY

It is VHA policy that construction and renovation activities on VHA-owned property and VHA-leased property, whether conducted by contractors or VHA staff, be conducted in such a way as to protect the health and safety of VHA and contractor staff, patients, and the public.

5. RESPONSIBILITIES

a. **Under Secretary for Health.** The Under Secretary for Health ensures that a national policy covering construction safety at VHA facilities is issued.

b. **Deputy Under Secretary for Health for Operations and Management.** The Deputy Under Secretary for Health for Operations and Management (10N) is responsible for issuing program guidance and policy related to construction safety at VHA facilities.

c. **Director, VHA Office of Occupational Safety, Health and Green Environmental Management System Programs.** The Director, VHA Office of Occupational Safety, Health, and Green Environmental Management Systems (GEMS) (10NA8) Programs is responsible for:

(1) Providing professional construction safety guidance in the recognition, evaluation, and control of construction hazards that comply with OSHA regulations, The Joint Commission accreditation requirements, and VA policy.

(2) Providing guidance on the effective implementation of a Construction Safety and Health program in compliance with OSHA regulations, The Joint Commission accreditation requirements, and VA policy.

(3) Developing and implementing construction safety goals and initiatives for the protection of staff, patients, visitors, contractors, and the public while on VHA-owned and VHA-leased properties.

(4) Monitoring and evaluating VHA's construction safety program to ensure the reduction of construction work-related injuries and illnesses.

(5) Providing construction safety expertise to the Employee Education System (EES) in the development of construction safety training materials for VHA staff.

(6) Conducting, at VHA senior management's request, incident-related site investigations and report analysis.

d. **Director, VHA Office of Capital Asset Management, Engineering and Support.** The Director, VHA Office of Capital Asset Management, Engineering and Support (OCAMES/10NA5) is responsible for:

(1) Ensuring implementation of the national construction safety program at VA medical centers and facilities through periodic site visits and other compliance-related activities.

(2) Communicating hazard alerts to health care engineers at VHA-owned and VHA-leased facilities.

(3) Conducting, at VHA senior management's request, incident-related site investigations and report analysis.

e. **Director, VHA National Infectious Disease Service.** The Director, VHA National Infectious Disease Service (NIDS) is responsible for:

(1) Advising and providing recommendations on exposure mitigation and prevention of facility-associated infections for patients, staff, and visitors.

(2) Providing information and advice to VHA on infectious diseases associated with construction.

(3) Advising or providing recommendations on protective practices to be employed during construction that reduce the risk of infection.

f. **Director, VHA National Center for Patient Safety.** The Director, VHA National Center for Patient Safety (NCPS) is responsible for:

(1) Advising and providing recommendations on mitigation and prevention of construction-associated risks to/for patients.

(2) Providing information and advice to VHA on patient safety risks associated with construction.

(3) Advising or providing recommendations on protective practices that reduce patient safety risks related to construction projects.

g. **Chief Consultant, Occupational Health, Office of Patient Care Services.** The Chief Consultant, Occupational Health, Office of Patient Care Services (10P4Z) is responsible for providing consulting services to VHA, OALC, and the Office of Asset and Enterprise Management (OAEM) staff on occupational health issues related to construction activities.

h. **Chief Officer, VHA Procurement and Logistics Office.** The Chief Officer, VHA Procurement and Logistics Office (10NA2) is responsible for:

(1) Ensuring that construction and enhanced-use leased project contracts and related documents mandate that the work performed adheres to the requirements of this directive, or subsequent policy.

(2) Ensuring that the VHA Procurement Manual (VHAMP), Volume 6: Procurement Processes, Chapter XVIII: Contractor Responsibility Determination, is updated to reflect construction contractor "Responsibility Determination" requirements as provided within this directive.

i. **Director, Office of Office of Information and Technology (OI&T) Service Delivery and Engineering.** The Director, Office of OI&T Service Delivery and Engineering, is responsible for ensuring that contracts and related documents for construction and enhanced-use leased projects include language that mandates adherence to the requirements of this Directive.

j. **Veterans Integrated Service Network Director.** Each Veterans Integrated Service Network (VISN) Director is responsible for ensuring that:

(1) VHA policies for construction safety and health programs at VHA facilities are implemented.

(2) The effectiveness of facility construction safety and health management program is monitored as a part of the Annual Workplace Evaluations (AWE) using the Safety Automated Facility Evaluation (SAFE) program.

(3) All VISN Safety and Health Program Managers and staff that have responsibilities related to construction complete either the VHA or OSHA 30-hour Construction Safety training course and, as a refresher, subsequently complete at least 10 hours of construction safety-related training every 2 years. The construction safety training must be documented in their training record.

k. **VA Facility Director.** The VA facility director is responsible for:

(1) Establishing and monitoring an effective facility construction safety program using a construction safety committee chaired by a member of management, or designee, composed of a Multi-disciplinary Team with representatives from the following program areas: Infection Prevention and Control, Patient Safety, Occupational Safety and Health, VA Police, Engineering (Facilities Management), Engineering (Project Management), GEMS, Local Union Representatives, CSO, and Contracting.

Emergency Planning and Employee Occupational Health will participate on an ad hoc basis as deemed appropriate by the chair of the Construction Safety Committee.

(2) Ensuring that the Multi-disciplinary Team oversees:

(a) Protection of patients, visitors, and employees from injury and illness, as well as occupational and nosocomial infections related to construction activities.

(b) Compliance with Federal and state EPA and OSHA regulations.

(c) Compliance with FAR and VAAR in addressing a contractor's construction safety program.

(3) Developing and implementing a written policy addressing the responsibilities of the Multi-disciplinary Team and establishment of a Construction Safety Committee or subcommittee.

(4) Ensuring that VHA Chief Engineers, COR's, CSO's Project Engineers, Project Lead Persons and Facility Safety Program Managers complete either the VHA or OSHA 30-hour Construction Safety training and, as a refresher, subsequently complete at least 10 hours of construction safety related training every 2 years.

(5) Ensuring that the following VA staff complete either the VHA or OSHA 10-hour Construction Safety training and, as a refresher, subsequently complete at least 10 hours of construction safety related training every 2 years:

(a) Infection Prevention and Control, Patient Safety, VA Police, GEMS staff, Local Union Representatives and Contracting (does not include the ad hoc members mentioned above) and

(b) All other regular members of the Multi-disciplinary Team (excluding ad hoc members).

I. **Multi-disciplinary Team.** The Multi-disciplinary Team is responsible for:

(1) Determining the scope and depth of safety, infection control, emergency management, and security responsibilities as appropriate for all construction work.

(2) Familiarizing themselves with the contract requirements for project safety and confirming compliance with applicable regulations, standards, and policies during the construction phase of the work.

(3) Conducting a pre-construction risk assessment to assess all hazards that affect health care, treatment, and services. This includes:

(a) Conducting pre-construction risk assessments during the design or planning stage of the construction and/or renovation project and preparing written documentation

of identified risks. Pre-construction risk assessments need to be conducted prior to bidding, award, and starting work.

(b) Pre-construction risk assessments must focus on eliminating, or minimizing, the aforementioned risks during construction and renovation activities.

(4) Conducting a pre-construction risk assessment for the transmission of Tuberculosis (TB) to the contracted construction workers based upon the construction site location, patient population, hospital layout, and the defined risk as outlined in the “CDC Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Setting, 2005.”

(5) Ensuring ILSMs are assessed and implemented on all construction work according to The Joint Commission standards. ILSMs are required when Life Safety Code deficiencies or construction activities pose significant hazards as determined by the assessment.

(6) Participating in all phases of construction work from planning through completion. This includes review and approval of construction plans, contract specifications, contract submittals related to construction safety and health, and any other documents that may assist in the implementation of an effective construction safety program. The Multi-disciplinary Team must be involved early in the process and continue oversight on a regular basis.

(7) Ensuring the Construction Safety Program includes periodic construction site hazard surveillance activities with appropriate membership, scope, and frequency for each project as determined by the CSO and the pre-construction risk assessment. Weekly surveillance activities are required with reports or checklists submitted to the CSO. In some cases, daily inspections may be required by the Construction Safety Activities (CSA) (e.g., construction activities capable of causing fatalities or permanently disabling injuries or illnesses, such as amputations, crushing with loss of use of a body part, third-degree (or worse) burns or scalds, loss of sight and respiratory illnesses, as well as near-misses that could result in the same). **NOTE:** *Hazard surveillance reports document non-compliant activities by daily inspection (minimum) until corrected as determined by the CSO. Reports include date, time, and members of the inspection team, deficiencies, type of corrective action, and time and date of correction. Hazard surveillance activities must be documented and tracked to completion.*

(8) Acting as members of the Construction Safety Committee or subcommittee and meeting at least monthly.

(9) Ensuring that documentation of the Team’s inspections is provided to the CO or COR, RE, and the VISN Safety and Health Staff, as requested.

m. **Facility VHA Chief Engineer.** The facility VHA Chief Engineer is responsible for:

(1) Working with contractor and VHA facility staff to coordinate and monitor an effective construction safety program for projects under their direction.

(2) Ensuring contractors comply with VA safety and health policies and procedures, and contract requirements.

(3) Serving on the facility Construction Safety Committee, or subcommittee, to ensure contracts meet the committee's requirements.

(4) Supporting the CSO, Facility Safety Manager, CO, and engineering staff in implementing the construction safety program.

n. **Contracting Officer and Contracting Officer's Representative or Project Engineer.** The CO and COR or Project Engineer are responsible for:

(1) Ensuring that all solicitations and construction contracts include the following:

(a) FAR clause 52.236-13, *Accident Prevention*, including subparagraph (f)

(b) VAAR clause 852.236-87, *Accident prevention*.

(c) VA Master Specifications, Division 1 - General Requirements, Section 01 35 26 - Safety Requirements made specific for the associated construction work.

(2) Designating, through a letter of delegation, a COR and CSO for each VHA contract. Assignment of the COR and CSO must give due consideration of qualifications and experience on the project and the identified or potential hazards.

(3) Ensuring there is a formal process for communication between the CO, COR and CSO for severe or repetitive safety incidents and their subsequent notification and resolution to the contractor (i.e. letter of concern).

(4) Adding subparagraph (f) of FAR 52.236-13, to the contract language, if the contract involves:

(a) Work of a long duration or hazardous nature; or

(b) Performance of a construction or renovation project on a Government facility that, on the advice of CO, COR, or CSO involves hazardous materials or operations that might endanger the safety of the general public or Government personnel or property.

(5) Ensuring that all contracts and associated documents specify that all onsite contracted construction workers have completed the OSHA 10-hour Construction Safety training or the 30-hour Construction Safety training, and other relevant competency training.

(6) Ensuring that all projects require contractor verification of the completion of required and other relevant training, as determined by the COR or CSO in coordination

with the Multi-disciplinary Team. The determination for other relevant competency training is based on the project hazards and complexity, Federal and state regulations, and VA requirements.

(7) Ensuring submittals for contract construction or renovation work to include the names, qualifications, and training dates for the contractor CP designated to administer the site-specific safety program, as well as the CP for other activities as required by OSHA regulation.

(8) Evaluating and considering past safety records of prospective contractors in awarding contracts. At a minimum, ensuring that all solicitations and contracts require documentation, to be supplied by potential contractors, that specifies the contractor in question has no more than three serious, or one repeat, or one willful OSHA or EPA violation(s) in the past 3 years and has an Experience Modification Rate (EMR) of equal to or less than 1.0.

(9) Serving on the facility Construction Safety Committee, or subcommittee, to ensure contracts meet the Committee's requirements.

(10) If contracted construction worker(s) are determined to be at risk for transmission of TB (based upon the TB pre-construction risk assessment), the following actions are required:

(a) The contractor must provide written certification that all contract employees assigned to the work site have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found to have negative TB screening reactions. Contractors will be required to show documentation of negative TB screening reactions for any additional workers who are added after the 90-day requirement before they will be allowed to work on the work site. **NOTE:** *This can be the Center for Disease Control (CDC) two-step skin testing, or a Food and Drug Administration (FDA)-approved blood test.*

(b) Contract employees manifesting positive screening reactions to the tuberculin must be examined by a physician and certified in writing that the contractor does not have active infectious tuberculosis as described by the current CDC guidelines prior to working on VHA property.

1. If the contract employee with a positive screen is determined, through examination by a physician, to not show evidence of active (infectious) pulmonary TB, a statement documenting this condition must be on file with the employer (construction contractor).

2. If the contract employee with positive screen is determined, through examination by a physician, to have active (infectious) pulmonary TB, the employee must complete a course of treatment to resolve the condition. A subsequent statement from a physician documenting a non-infectious condition must be on file before the contract employee may return to work on VHA property.

o. **Construction Safety Officer.** The CSO is responsible for:

(1) Reviewing project submittals for all assigned construction projects, specifically including the contractor project safety plan.

(2) Identifying and facilitating mitigation of work site risks.

(3) Collecting deficiency information.

(4) Regular reporting of risks, deficiencies, trends and improvements for each project.

(5) Providing oversight of contract construction safety. The CSO must be knowledgeable in the general inspection of typical work sites during construction and renovation activities performed by contract staff, and in the review of contractor safety program submittals. **NOTE:** *The CSO(s) do not take the place of the contractor's CP or act on their behalf.*

(6) Determining if the contractor is meeting VA standards and contractual requirements for safety and OSHA compliance, as required by (VAAR) 836.236-87. When these standards and contract requirements are not being met, the VA COR or CO, in coordination with the CSO, must take immediate action to prevent injury, exposure, noncompliance, or property damage.

(7) Requiring the contractor to implement and maintain an effective safety program that identifies and controls hazards that may cause injury or illness to VA patients, staff, visitors, and contractor employees. This includes:

(a) Ensuring the specific safety requirements for construction operations are implemented during facility projects.

(b) Participating in the Multi-disciplinary Team established for the Construction Safety Committee.

(c) Conducting periodic inspections of construction sites to ensure compliance with safety elements of the established program(s). At a minimum, weekly inspections are required.

p. **GEMS Coordinator.** The GEMS Coordinator is responsible for providing guidance on environmental regulations that directly and immediately relate to impacts the project may have on the environment during the design or construction stage of the project.

q. **Emergency Planning Coordinator.** The Emergency Planning Coordinator is responsible for providing guidance on OSHA regulations as they apply to emergency planning, response, and operations in construction (e.g., 29 CFR 1926.35 and 29 CFR 1926.65).

r. **Construction Lead Person.** The construction lead person (VHA Engineering Supervisors, VHA Forepersons, Contractor's Superintendent, Contractor's Forepersons, and other assigned lead persons) is responsible for:

(1) Administering the site-specific construction safety program as the OSHA defined CP. **NOTE:** *Inspections by CPs are required in accordance with 29 CFR Part 1926.*

(2) Acting as the CP for other activities as required by OSHA regulations; including, but not limited to, scaffolds, cranes, and excavations.

s. **Police and Security Officers.** The police and security officers are responsible for:

(1) Ensuring all contractors entering VHA properties comply with the Security Management Program. As a minimum, contractors must notify and obtain permission from the VA Police, be identified by project and employer, and be restricted from unauthorized areas.

(2) Providing consultation to the CSO, COR, or other responsible staff in periodic surveillance of site security and the integrity of barriers to the construction site.

(3) Reviewing the contractor site security plan.

t. **Intervention Authority and Compliance.** The CSO and authorized COs (or other responsible personnel, when delegated by the authority by the CO) with defined actions in this directive are responsible for:

(1) Intervening and immediately suspending all or part of construction activities whenever such activities are known or are reasonably anticipated to create conditions which:

(a) Immediately threaten life or health,

(b) May cause property damage (including equipment, buildings or any other tangible asset), or

(c) May cause a regulated material to be released into the environment.

(2) Intervention authority and compliance with this directive and the associated regulatory requirements are as follows:

(a) **Staff.** All staff are responsible for identifying hazardous conditions in need of intervention and for developing a culture of safety. Identified hazardous conditions must be communicated either orally or in a written format to authorized COs.

(b) **Contracting Officer (or other personnel responsible through delegation of authority by the CO).** Authorized COs must notify the contractor both orally and in writing to request immediate initiation of corrective action of any hazards identified.

(c) Construction Safety Officer. The CSO, with assistance from the COR and the Multi-disciplinary Team, is responsible for making the Contractor and CO formally aware of any hazard in need of correction.

(3) After receiving the notification, the contractor must immediately take corrective action to mitigate the hazard. This may include work stoppage, hazard awareness training, administrative controls, or other activities.

(4) If the contractor fails or refuses to promptly take corrective action, the CO may issue an order stopping all, or part, of the work until satisfactory corrective action has been taken (FAR 52.236-13).

(5) Upon a repeat offense of the same or substantially similar hazard, the CO, in coordination with the COR or CSO, needs to follow the processes for the termination of the contract, if the situation is not resolved using the process outlined in FAR 36.513. The CO, exclusively or in collaboration with other personnel responsible through delegation of authority by the CO, is responsible for enforcement of the contract.

6. REFERENCES

a. Federal Acquisition Regulations, available at:
<https://www.acquisition.gov/?q=browsefar>

b. Title 29 Code of Federal Regulations (CFR) Part 1926, Occupational Safety and Health Administration (OSHA), available at:
https://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=Construction

c. Veterans Affairs Acquisition Regulations, available at:
<http://www.va.gov/oal/library/vaar/>

d. VHA Procurement Manual (VHAPM), Volume 6: Procurement Processes, Chapter XVIII: Contractor Responsibility Determination, available at:
<http://vaww.pclo.infoshare.va.gov/PCLO/PMWeb/Vol6Chapter18.aspx>

e. The American Society of Safety Engineers Standards, available at:
http://vaww.ceosh.med.va.gov/01CS/Pages/ASSE_Membership_Warning.shtml.
NOTE: *This is an internal VA Web site and is not available to the public.*

f. The American Society of Healthcare Engineers “ICRA Matrix of Precautions for Construction & Renovation”, available at: <http://www.ashe.org/resources/tools.shtml>.
NOTE: *This linked document is outside VA control and may or may not conform to Section 508 of the Rehabilitation Act.*

g. The National Fire Protection Associations Codes and Standards, available at:
<http://vaww.ceosh.med.va.gov/01FS/Pages/NFPAWarning.shtml>. **NOTE:** *This is an internal VA Web site and is not available to the public.*

h. CDC Guidelines for preventing the transmission of Mycobacterium Tuberculosis in Health-Care Setting, 2005, available at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm>

i. Environmental Protection Agency (EPA) Regulations, available at:

http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl

j. OSHA Directive CPL 2-0.124, Multi-Employer Citation Policy, available at:

https://www.osha.gov/OshDoc/Directive_pdf/CPL_2-0_124.pdf. **NOTE:** *This linked document is outside VA control and may or may not conform to Section 508 of the Rehabilitation Act.*

k. OSHA Letters of Interpretation concerning “construction” vs. “maintenance”, available at:

[https://www.osha.gov/pls/oshaweb/owaquery.query_docs?src_doc_type=INTERPRETATIONS&src_anchor_name=1926.32\(g\)&src_ex_doc_type=STANDARDS&src_unique_file=1926_0032](https://www.osha.gov/pls/oshaweb/owaquery.query_docs?src_doc_type=INTERPRETATIONS&src_anchor_name=1926.32(g)&src_ex_doc_type=STANDARDS&src_unique_file=1926_0032). **NOTE:** *This linked document is outside VA control and may or may not conform to Section 508 of the Rehabilitation Act.*

l. The Joint Commission Comprehensive Accreditation and Certification Manual, available at: <http://e-dition.jcrinc.com/ProxyLogin.aspx?lnk=2293FDDF5458>. **NOTE:**

This linked document is outside VA control and may or may not conform to Section 508 of the Rehabilitation Act.

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for the 500-space expandable parking garage as required by drawings and specifications.
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- C. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- D. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- E. Training:
 - 1. All employees of general contractor or subcontractors shall have the 10-hour OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team.
 - 2. Submit training records of all such employees for approval before the start of work.

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, 500 Spaces Expandable parking garage: Work includes: Work includes general construction, alterations, roads, walks, grading, drainage, mechanical and electrical work, elevators and elevator shafts, utility systems, water storage facilities, landscaping, necessary removal of existing structures and construction and certain other items.

B. 10% bid deduct alternates shall be included in this project.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, 5 sets of specifications and drawings will be furnished. These drawings and specifications will consist of those returned by prospective bidders.
- B. Additional sets of drawings may be made by the Contractor, at Contractor's expense, from reproducible sepia prints furnished by Issuing Office. Such sepia prints shall be returned to the Issuing Office immediately after printing is completed.

1.4 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan:

1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

B. Security Procedures:

1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
2. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 days' notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
3. No photography of VA premises is allowed without written permission of the Contracting Officer.
4. VA reserves the right to close or shut down the project site and order General Contractor's employees off the premises in the

event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the Contracting Officer Representative for security inspections of every area of project including tool boxes and parked machines and take any emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See DOOR HARDWARE and coordinate.

D. Document Control:

1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
3. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.

6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
7. All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).
 - a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
 - b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

E. Motor Vehicle Restrictions

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
2. Separate permits shall be issued for General Contractor and its employees for parking in designated areas only.

1.5 FIRE SAFETY

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.

1. American Society for Testing and Materials (ASTM):

E84-2009.....Surface Burning Characteristics of Building
Materials

2. National Fire Protection Association (NFPA):

10-2010.....Standard for Portable Fire Extinguishers

30-2008.....Flammable and Combustible Liquids Code

51B-2009.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work

70-2011.....National Electrical Code

241-2009.....Standard for Safeguarding Construction,
Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1926.....Safety and Health Regulations for Construction

- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to Engineer and Facility Safety Officer for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the Contracting Officer Representative that individuals have undergone contractor's safety briefing.
- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- E. Temporary Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84)

on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices.

2. Install one-hour fire-rated temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.

3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration fire stop materials in accordance with Section 07 84 00, FIRESTOPPING.

- F. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- G. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Engineer and facility Safety Officer.
- H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Engineer and facility Safety Officer.
- I. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- J. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- K. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- L. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour

- period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Engineer and facility Safety Officer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Contracting Officer Representative.
- M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Engineer and facility Safety Officer.
 - N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Engineer. Obtain permits from facility Safety Officer at least 8 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.
 - O. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Engineer and facility Safety Officer.
 - P. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
 - Q. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.
 - R. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
 - S. If required, submit documentation to the Contracting Officer Representative that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

1.6 OPERATIONS AND STORAGE AREAS

- A. The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.
- D. Working space and space available for storing materials shall be as determined by the Contracting Officer Representative.
- E. Execute work in such a manner as to interfere as little as possible with work being done by others. Keep roads clear of construction materials, debris, standing construction equipment and vehicles always.
- F. Execute work to interfere as little as possible with normal functioning of Medical Center, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that

transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Contracting Officer Representative where required by limited working space.

1. Do not store materials and equipment in other than assigned areas.
 2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
 3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.
- G. Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Contracting Officer Representative. All such actions shall be coordinated with the Utility Company involved:
1. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- H. Phasing: To insure such executions, Contractor shall furnish the Contracting Officer Representative with a schedule of approximate phasing dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the Contracting Officer

Representative two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such phasing dates to insure accomplishment of this work in successive phases mutually agreeable to Medical Center Director, Contracting Officer Representative and Contractor, as follows:

- I. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.
 - 1. Immediate areas of alterations not mentioned in preceding Subparagraph 1 will be temporarily vacated while alterations are performed.
- J. When a building is turned over to Contractor, Contractor shall accept entire responsibility therefore.
 - 1. Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) always, except as otherwise specified.
 - 2. Contractor shall maintain in operating condition existing fire protection and alarm equipment. Regarding fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
- K. Utilities Services: Maintain existing utility services for Medical Center always. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer

or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Contracting Officer Representative.

1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of Contracting Officer Representative. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS and 28 05 11, REQUIREMENTS FOR ELECTRONIC SAFETY AND SECURITY INSTALLATIONS for additional requirements.
2. Contractor shall submit a request to interrupt any such services to Contracting Officer Representative, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
4. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the Contracting Officer Representative.
5. In case of a contract construction emergency, service will be interrupted on approval of Contracting Officer Representative. Such approval will be confirmed in writing as soon as practical.

6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.

L. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.

M. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:

1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles².

N. Coordinate the work for this contract with other construction operations as directed by Contracting Officer Representative. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.7 ALTERATIONS

A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Contracting Officer Representative and a representative of VA Supply Service, of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:

1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.

2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
 3. Shall note any discrepancies between drawings and existing conditions at site.
 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and Contracting Officer Representative.
- A. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Contracting Officer Representative, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with latest items in accordance with specifications which will be furnished by Government. Provided the contract work is changed due to this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- B. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Contracting Officer Representative together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- C. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
3. Protection of interior of existing structures always, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

1.8 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust near the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to Engineer and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- C. Medical center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:

1. The Contracting Officer Representative and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.
 2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.
- D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.
1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Contracting Officer Representative. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
 2. Do not perform dust producing tasks within occupied areas without the approval of the Contracting Officer Representative. For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
 - a) Provide dust proof one-hour temporary drywall construction barriers to separate construction from the operational areas of the hospital to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air always. A fire-retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the Contracting Officer Representative and Medical Center.

- b) HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other pre-filter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
- c) Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to be occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
- d) Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
- e) The contractor shall not haul debris through patient-care areas without prior approval of the Contracting Officer Representative and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.

- E. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
- F. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.
- G. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.
- H. Final Cleanup:
 - 1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
 - 2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
 - 3. All new air ducts shall be cleaned prior to final inspection.

1.9 DISPOSAL AND RETENTION

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
 - 1. Reserved items which are to remain property of the Government are identified by attached tags as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by Contracting Officer Representative.
 - 2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.

3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which is not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(FAR 52.236-9)

- C. Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the

environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

1.11 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the Contracting Officer Representative. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Contracting Officer Representative before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed because of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.12 AS-BUILT DRAWINGS

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the

- project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the Contracting Officer Representative's review, as often as requested.
 - C. Contractor shall deliver two approved completed sets of as-built drawings to the Contracting Officer Representative within 15 calendar days after each completed phase and after the acceptance of the project by the Contracting Officer Representative.
 - D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.13 USE OF ROADWAYS

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the Contracting Officer Representative, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.

1.14 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to compliance with the following provisions:
 - 1. emission to use each unit or system must be given by Contracting Officer Representative. If the equipment is not installed and maintained in accordance with the following provisions, the Contracting Officer Representative will withdraw permission for use of the equipment.
 - 2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of

equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.

3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
 4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.
 5. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.
 6. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government.
- B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, shall be replaced with identical replacements, at no additional cost to the Government.
- C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

1.15 TEMPORARY USE OF EXISTING ELEVATORS

- A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:
1. Contractor makes all arrangements with the Contracting Officer Representative for use of elevators. The Contracting Officer Representative will ascertain that elevators are in proper

condition. Contractor may use elevators Nos. 7,8,9,10 in Building No. 1 for exclusive use and for special nonrecurring time intervals when permission is granted. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.

2. Contractor covers and provides maximum protection of following elevator components:

- a) Entrance jambs, heads soffits and threshold plates.
- b) Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
- c) Finish flooring.

1.16 TESTS

- A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.
- B. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.
- C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feed water, condensate and other related components.

- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

1.17 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the Contracting Officer Representative coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for extended periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such

training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the Contracting Officer Representative and shall be considered concluded only when the Contracting Officer Representative is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Contracting Officer Representative, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

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SECTION 01 32 16.16**NETWORK ANALYSIS SCHEDULES****CONSTRUCT 500 SPACE PARKING GARAGE****PART 1- GENERAL****1.1 DESCRIPTION:**

- A. The Contractor shall develop a Network Analysis System (NAS) plan and schedule demonstrating fulfillment of the contract requirements, shall keep the network up-to-date in accordance with the requirements of this section and shall utilize the plan for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers). Conventional Critical Path Method (CPM) Precedence Diagramming Method (PDM) technique will be utilized to satisfy both time and cost applications. All schedule data and reports required under this specification section shall be based upon regular total float, not relative total float schedules.

1.2 CONTRACTOR'S REPRESENTATIVE:

- A. The Contractor shall designate an authorized representative in the firm who will be responsible for the preparation of the network diagram, review and report progress of the project with and to the Contracting Officer's representative.
- B. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the requirements of this specification section and such authority shall not be interrupted throughout the duration of the project.

1.3 CONTRACTOR'S CONSULTANT:

- A. To prepare the network diagram, and compact disk(s), which reflects the Contractor's project plan, the Contractor shall engage an independent CPM consultant who is skilled in the time and cost application of scheduling using (PDM) network techniques for construction projects, the cost of which is included in the Contractor's bid. This consultant shall not have any financial or business ties to the Contractor, and shall not be an affiliate or subsidiary company of the Contractor, and shall not be employed by an affiliate or subsidiary company of the Contractor.
- B. Prior to engaging a consultant, and within 10 calendar days after award of the contract, the Contractor shall submit to the Contracting Officer:
1. The name and address of the proposed consultant.
 2. Sufficient information to show that the proposed consultant has the qualifications to meet the requirements specified in the preceding paragraph.
 3. A list of prior construction projects, along with selected PDM network diagram samples on current projects which the proposed consultant has performed complete project scheduling services. These network diagram samples must show complete project planning for a project of similar size and scope as covered under this contract.
- C. The Contracting Officer has the right to approve or disapprove employment of the proposed consultant, and will notify the Contractor of the VA decision within seven calendar days from receipt of information. In case of disapproval, the Contractor shall resubmit another consultant within 10 calendar days for renewed consideration. The Contractor must have their CPM Consultant approved prior to submission of their best and final offer.

1.4 COMPUTER PRODUCED SCHEDULES

- A. The contractor shall provide to the VA monthly computer processing of all computer-produced time/cost schedules and reports generated from monthly project updates. This monthly computer service will include: three copies of up to five different reports (inclusive of all pages) available within the user defined reports of Primavera (P6) to the contracting officer's representative; a hard copy listing of all project schedule changes, and associated data, made at the update and an electronic file of this data in Primavera (P6) batch format; and the resulting monthly updated schedule in a compressed electronic file in Primavera (P6), (PDM) format. These must be submitted with and substantively support the contractor's monthly payment request and the signed lookahead report. The resident engineer shall identify the five different report formats that the contractor shall provide based upon the monthly schedule updates.
- B. The contractor is responsible for the correctness and timeliness of the computer-produced reports. The Contractor is also responsible for the accurate and timely submittal of the updated project schedule and all CPM data necessary to produce the computer reports and payment request that is specified.
- C. The VA shall report errors in computer-produced reports to the Contractor's representative within ten calendar days from receipt of reports. The Contractor will reprocess the computer-produced reports and associated compact disk(s), when requested by the Contracting Officer's representative, to correct errors which affect the payment and schedule for the project.

1.5 THE INTERIM PROJECT NETWORK DIAGRAM SUBMITTAL

A. Interim Diagram Submittal: Within 21 calendar days after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the interim network diagram on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in a compressed Primavera (P6), (PDM) format. The submittal shall also include three copies of a computer-produced activity/event ID schedule showing project duration; phase completion dates; and other data, including event cost. Each activity/event on the computer-produced schedule shall contain as a minimum, but not limited to, activity/event ID, duration, predecessor and successor relationships, trade code, area code, description, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start and start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the network diagram. The Contracting Officer's separate approval of the interim network diagram shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have a zero duration. The complete working interim network diagram shall reflect the Contractor's approach to scheduling the complete project and shall include at a minimum, the following activities:

1. All phasing described in Section 01 00 00, GENERAL REQUIREMENTS- OPERATIONS AND STORAGE AREAS- Paragraph "Phasing"
 2. Procurement- Submittals, review and approvals, fabrication and delivery, of all key and long lead time procurement items.
 3. Design- All design submissions listed in the RFP solicitation, including the specified meeting and review activities.
 4. Detailed design and construction activities for the first 120 work days after Notice to Proceed.
 5. Summary activities which are necessary (and are not included above) to properly show:
 - a. The approach to scheduling the remaining work. The work for each major trade must be represented by at least one summary activity, so that the work cumulatively shows the entire project schedule.
 - b. Summary activities shall have the trade code of SUM
- B. The interim network diagram shall describe the activities to be accomplished and their interdependencies. All work activities (including design), other than procurement activities, shall be cost loaded as specified and will be the basis for progress payments during the period prior to acceptance of the final network diagram. The interim network diagram in its original form shall contain no contract changes or delays which may have been incurred during the interim network diagram development period and shall reflect the Contractors schedule as submitted with his RFP solicitation package, or as negotiated prior to Notice to Proceed. All CPM data supporting any time extension requests, in accordance with Article ADJUSTMENT OF CONTRACT COMPLETION, will be

derived from the approved final network diagram. Any changes/delays shall be entered at the first update after the final network diagram has been approved.

- C. Final Diagram Submittal: Within 45 calendar days prior to the start of construction, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the complete network diagram on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in a compressed Primavera (P6), (PDM) format. The submittal shall also include three copies of a computer-produced activity/event ID schedule showing project duration; phase completion dates; and other data, including event cost. Each activity/event on the computer-produced schedule shall contain as a minimum, but not limited to, activity/event ID, duration, predecessor and successor relationships, trade code, area code, description, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start or start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the network diagram. The Contracting Officer's separate approval of the network diagram shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have a zero duration. The complete working network diagram shall reflect the Contractor's approach to scheduling the complete project. **The final network diagram in its original form shall contain no contract changes or delays which may have been incurred during**

the final network diagram development period and shall reflect the entire contract duration as defined in the bid documents. These changes/delays shall be entered at the first update after the final network diagram has been approved. The Contractor should provide their requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, **ADJUSTMENT OF CONTRACT COMPLETION.**

- D. Within 30 calendar days after receipt of the complete project interim network diagram and the complete final network diagram, the Contracting Officer or his representative, will do one or both of the following:
1. Notify the Contractor concerning his actions, opinions, and objections.
 2. A meeting with the Contractor at or near the job site for joint review, correction or adjustment of the proposed plan will be scheduled if required. Within 14 calendar days after the joint review, the Contractor shall revise and shall submit three blue line copies of the revised network diagram, three copies of the revised computer-produced activity/event ID schedule and a revised electronic file as specified by the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved.
- E. The approved baseline network diagram schedule and the computer-produced schedule(s) generated there from shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.

1.6 WORK ACTIVITY/EVENT COST DATA

- A. The Contractor shall cost load all work activities/events (including design costs and as-built drawings) except procurement activities. The cumulative amount of all cost loaded

work activities/events (including alternates) shall equal the total contract price. Prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cash flow curves indicating graphically the total percentage of work activity/event dollar value scheduled to be in place on early finish, late finish. These cash flow curves will be used by the Contracting Officer to assist him in determining approval or disapproval of the cost loading. In the event of disapproval, the Contractor shall revise and resubmit in accordance with Article, THE COMPLETE PROJECT NETWORK DIAGRAM SUBMITTAL. Negative work activity/event cost data will not be acceptable, except on VA issued contract changes.

- B. The Contractor shall cost load work activities/events for guarantee period services, test, balance and adjust various systems in accordance with the provisions in FAR 52.232 - 5, (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS), Article, and VAAR 852.236 -83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS).
- C. In accordance with Article PERFORMANCE OF WORK BY THE CONTRACTOR in FAR 52.236 – 1 and VAAR 852 – 72, the Contractor shall submit, simultaneously with the cost per work activity/event of the construction schedule required by this Section, a responsibility code for all activities/events of the project for which the Contractor's forces will perform the work.
- E. The Contractor shall cost load work activities/events for all BID ITEMS. The sum of the cost loading for each bid item work activities/events shall equal the value of the item in the Contractors' bid.

- F. Work activities/events for Contractor bond shall have a trade code and area code of BOND.

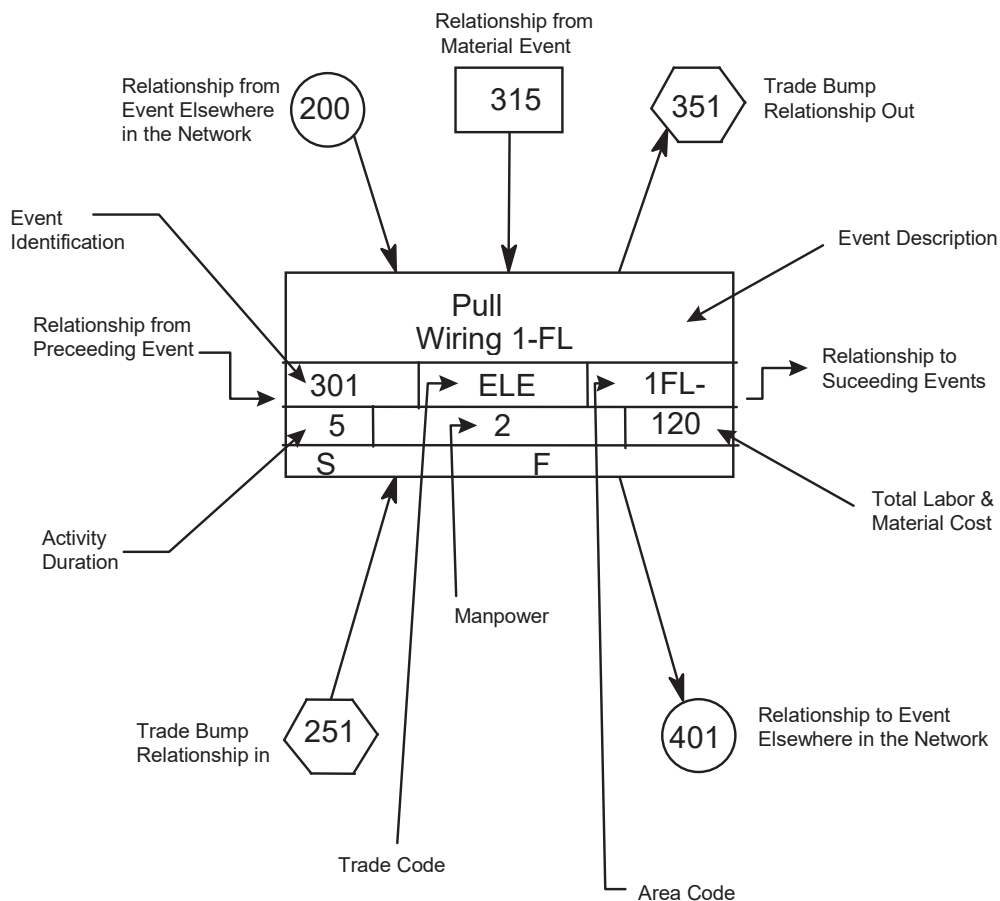
1.7 NETWORK DIAGRAM REQUIREMENTS

- A. Show on the network diagram the sequence and interdependence of work activities/events required for complete performance of all items of work. In preparing the network diagram, the Contractor shall:
1. Exercise sufficient care to produce a clear, legible and accurate network diagram, refer to the drawing, CPM-1 (Sample CPM Network). Computer plotted network diagrams shall legibly display and plot all information required by the VA CPM activity/event legend or the computer plotted network diagram will not be acceptable. If the computer plotted network diagram is not found acceptable by the contracting officer's representative, then the network diagram will need to be hand drafted and meet legibility requirements. Group activities related to specific physical areas of the project, on the network diagram for ease of understanding and simplification. Provide a key plan on each network diagram sheet showing the project area associated with the work activities/events shown on that sheet.
 2. Show the following on each work activity/event:
 - a. Activity/Event ID number.
 - b. Concise description of the work represented by the activity/event. (35 characters or less including spaces preferred).
 - c. Performance responsibility or trade code (five alpha characters or less): GEN, MECH, ELEC, CARP, PLAST, or other acceptable abbreviations.
 - d. Duration (in work days.)

- e. Cost (in accordance with Article, ACTIVITY/EVENT COST DATA of this section and less than \$9,999,999 per activity).
- f. Work location or area code (five characters or less), descriptive of the area involved.
- g. Manpower required (average number of men per day).
- h. The SYMBOL LEGEND format shown below and on the drawing, CPM-1 (Sample CPM Network) is mandatory and shall be followed in preparing final network diagrams.

SYMBOL LEGEND

Show Network Diagram page number location(s) for all incoming/outgoing node connector(s).



3. Show activities/events as:
 - a. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.
 - b. Contracting Officer's and Architect-Engineer's review and approval of shop drawings, equipment schedules, samples, template, or similar items.
 - c. Interruption of VA Medical Center utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
 - d. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
 - e. All design completion stages (including the appropriate design disciplines) specified in the REQUEST FOR PROPOSAL TO DESIGN-BUILD, Article CONSTRUCTION DOCUMENT PREPARATION. Activities shall also be included for the design review cycle specified under the same article.
4. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.
5. Break up the work into activities/events of a duration no longer than 20 work days each, except as to non-construction activities/events (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities/events for which the Contracting Officer may approve the showing of a longer duration. The duration for VA approval of any required submittal, shop drawing, or other submittals

shall not be less than 20 work days, except for design review submittals which shall be no less than 10 work days. Refer to drawing CPM-1 for VA approval activities/events which will require minimum duration longer than 20 workdays. The construction time as determined by the CPM schedule from early start to late finish for any sub-phase, phase or the entire project shall not exceed the contract time(s) specified or shown.

6. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.

7. Uniquely number each activity/event with numbers ranging from 1 to 99998 only.

The network diagram should be generally numbered in sequence; left to right; top to bottom, and omitting numbers ending in 3, 6, and 9.

- B. Submit the following supporting data in addition to the network diagram, activity/event ID schedule and electronic file (s). Failure of the Contractor to include this data will delay the review of the submittal until the Contracting Officer is in receipt of the missing data:

1. The proposed number of working days per week.
2. The holidays to be observed during the life of the contract (by day, month, and year).
3. The planned number of shifts per day.
4. The number of hours per shift.

5. List the major construction equipment to be used on the site, describing how each piece relates to and will be used in support of the submitted network diagram work activities/events.
 6. Provide a typed, doubled spaced, description, at least one page in length, of the plan and your approach to constructing the project.
- C. To the extent that the network diagram or any revised network diagram shows anything not jointly agreed upon, it shall not be deemed to have been approved by the Contracting Officer. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the Contracting Officer's approval of the network diagram.
- D. Compact Disk Requirements and CPM Activity/Event Record Specifications: Submit to the VA an electronic file(s) containing one file of the data required to produce a Primavera (P6), (PDM) produced schedule, reflecting all the activities/events of the complete project network diagram being submitted.

1.8 PAYMENT TO THE CONTRACTOR:

- A. Monthly, the contractor shall submit the AIA application and certificate for payment documents G702 & G703 reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made pursuant to Article, FAR 52.232 – 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION) and VAAR 852.236 – 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION). The Contractor is entitled to a monthly progress payment upon approval of estimates as

determined from the currently approved updated computer-produced calendar-dated schedule unless, in special situations, the Contracting Officer permits an exception to this requirement. Monthly payment requests shall include: three copies of up to five different reports (inclusive of all pages) available within the user defined reports of Primavera (P6), (PDM) to the contracting officer's representative; a listing of all project schedule changes, and associated data, made at the update; and an electronic file (s) of the resulting monthly updated schedule in a compressed Primavera (P6), (PDM) format. These must be submitted with and substantively support the contractor's monthly application and certificate for payment request documents.

- B. When the Contractor fails or refuses to furnish to the Contracting Officer the information and the associated updated Primavera (P6), (PDM) schedule in electronic format, which, in the sole judgment of the Contracting Officer, is necessary for processing the monthly progress payment, the Contractor shall not be deemed to have provided an estimate and supporting schedule data upon which progress payment may be made.

1.9 PAYMENT AND PROGRESS REPORTING

- A. Monthly job site progress meetings shall be held on dates mutually agreed to by the Contracting Officer (or Contracting Officer's representative) and the Contractor. Contractor and the CPM consultant will be required to attend all monthly progress meetings. Presence of Subcontractors during progress meeting is optional unless required by the Contracting Officer (or Contracting Officer's representative). The Contractor shall update the project schedule and all other data required by this section shall be accurately filled in and completed prior to the monthly progress meeting. The Contractor shall provide this information to the Contracting Officer or the VA representative in completed

form three work days in advance of the progress meeting. Job progress will be reviewed to verify:

1. Actual start and/or finish dates for updated/completed activities/events.
 2. Remaining duration, required to complete each activity/event started, or scheduled to start, but not completed.
 3. Logic, time and cost data for change orders, and supplemental agreements that are to be incorporated into the network diagram and computer-produced schedules. Changes in activity/event sequence and duration which have been made pursuant to the provisions of following Article, ADJUSTMENT OF CONTRACT COMPLETION.
 4. Percentage for completed and partially completed activities/events.
 5. Logic and duration revisions required by this section of the specifications.
 6. Activity/event duration and percent complete shall be updated independently.
- B. The Contractor shall submit a narrative report as a part of his monthly review and update, in a form agreed upon by the Contractor and the Contracting Officer. The narrative report shall include a description of problem areas; current and anticipated delaying factors and their estimated impact on performance of other activities/events and completion dates; and an explanation of corrective action taken or proposed. This report is in addition to the daily reports pursuant to the provisions of Article, DAILY REPORT OF WORKERS AND MATERIALS in the GENERAL CONDITIONS.
- C. After completion of the joint review and the Contracting Officer's approval of all entries, the contractor will generate an updated computer-produced calendar-dated schedule and supply the Contracting Officer's representative with reports in accordance with the Article, COMPUTER PRODUCED SCHEDULES, specified.

- D. After completing the monthly schedule update, the contractor's scheduling consultant shall rerun all current period contract change(s) against the prior approved monthly project schedule. The analysis shall only include original workday durations and schedule logic agreed upon by the contractor and resident engineer for the contract change(s). When there is a disagreement on logic and/or durations, the consultant shall use the schedule logic and/or durations provided and approved by the resident engineer. After each rerun update, the resulting electronic project schedule data file shall be appropriately identified and submitted to the VA in accordance to the requirements listed in articles 1.4 and 1.7. This electronic submission is separate from the regular monthly project schedule update requirements and shall be submitted to the resident engineer within fourteen (14) calendar days of completing the regular schedule update. Before inserting the contract changes durations, care must be taken to ensure that only the original durations will be used for the analysis, not the reported durations after progress. In addition, once the final network diagram is approved, the contractor must recreate all manual progress payment updates and interim diagram updates on this approved network diagram and associated reruns for contract changes in each of these update periods as outlined above for regular update periods. This will require detailed record keeping for each of the manual progress payment updates.
- E. After VA acceptance and approval of the final network diagram, and after each monthly update, the contractor shall submit to the Contracting Officer three blue line copies of a revised complete network diagram showing all completed and partially completed activities/events, contract changes and logic changes made on the intervening updates or at the first update on the final diagram. The Contracting Officer may elect to have the

contractor do this on a less frequent basis, but it shall be done on a quarterly basis as a minimum.

- F. Following approval of the CPM schedule, the VA, the General Contractor, its approved CPM Consultant, RE office representatives, and all subcontractors needed, as determined by the SRE, shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period. The Government representatives and the Contractor should conclude the meeting with a clear understanding of those work and administrative actions necessary to maintain project schedule status during the reporting period. This schedule coordination meeting will occur after each monthly project schedule update meeting utilizing the resulting schedule reports from that schedule update. If the project is behind schedule, discussions should include ways to prevent further slippage as well as ways to improve the project schedule status, when appropriate.

1.10 RESPONSIBILITY FOR COMPLETION

- A. Whenever it becomes apparent from the current monthly progress review meeting or the monthly computer-produced calendar-dated schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:
1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.

2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
 3. Reschedule the work in conformance with the specification requirements.
- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the Contracting Officer for the proposed schedule changes. If such actions are approved, the CPM revisions shall be incorporated by the Contractor into the network diagram before the next update, at no additional cost to the Government.

1.11 CHANGES TO NETWORK DIAGRAM AND SCHEDULE

- A. Within 30 calendar days after VA acceptance and approval of any updated computer-produced schedule, the Contractor will submit a revised network diagram, the associated compact disk(s), and a list of any activity/event changes including predecessors and successors for any of the following reasons:
1. Delay in completion of any activity/event or group of activities/events, indicate an extension of the project completion by 20 working days or 10 percent of the remaining project duration, whichever is less. Such delays which may be involved with contract changes, strikes, unusual weather, and other delays will not relieve the Contractor from the requirements specified unless the conditions are shown on the CPM as the direct cause for delaying the project beyond the acceptable limits.
 2. Delays in submittals, or deliveries, or work stoppage are encountered which make rescheduling of the work necessary.
 3. The schedule does not represent the actual prosecution and progress of the project.

4. When there is, or has been, a substantial revision to the activity/event costs of the network diagram regardless of the cause for these revisions.
- B. CPM revisions made under this paragraph which affect the previously approved computer-produced schedules for Government furnished equipment, vacating of areas by the VA Medical Center, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, must be furnished in writing to the Contracting Officer for approval.
 - C. Contracting Officer's approval for the revised network diagram and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the VA representative.
 - D. The cost of revisions to the network diagram resulting from contract changes will be included in the proposal for changes in work as specified in Article, FAR 52.243 -4 (CHANGES), VAAR 852.236 – 88 (CHANGES – SUPPLEMENTS), and will be based on the complexity of the revision or contract change, man hours expended in analyzing the change, and the total cost of the change.
 - E. The cost of revisions to the network diagram not resulting from contract changes is the responsibility of the Contractor.

1.12 ADJUSTMENT OF CONTRACT COMPLETION

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the Contracting Officer may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof

based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information.

- B. Actual delays in activities/events which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Contracting Officer's decision.
- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under Article, FAR 52.243 -4 (CHANGES), VAAR 852.236 – 88 (CHANGES – SUPPLEMENTS). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.
- D. All delays due to non-work activities/events such as RFI's, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month by month basis.
 - 1. Delay attributed to unusually severe weather must be supported by climatological data covering the period in question, as well as the same period for the ten preceding years. When the weather condition in question exceeds the ten-year average in

intensity or frequency, the excess experienced is considered to be "unusually severe."

Comparison is normally on a monthly basis and because contract time is based upon calendar days, the days of the week are immaterial. Whether or not unusually severe weather delays the work would depend upon its effect on the work under way at the time and whether or not the effected work activities are on a critical path.

2. For RFI's, strikes and similar non-work activities/events, the contractor shall submit to the SRE a report for the time the contract as a whole was delayed. This report shall give the dates the delay began and ended, the cause of the delay, the particular part or parts of work affected, and the number of calendar days the delay affected the completion date of the contract as a whole.

1.13 Construction Schedule Risk Analysis / Mitigation Plan

- A. **Schedule Risk Analysis** – The contractor shall conduct the statistical schedule risk analysis based on the above detailed construction activities in the Day 1 approved diagram, identifying major schedule risk areas and recommended risk mitigation plans as outlined below.
- B. The risk analysis shall be conducted by a person or firm skilled in the statistical method of schedule risk analysis based on the (PDM) network techniques for major construction projects, preferably in the major health care related projects. The cost of this service shall be included in the Contractor's proposal.
- C. The Contracting Officer has the right to approve or disapprove the Person or firm designated to perform the risk analysis.

1.14 Risk Analysis Format / Requirements / Submittals

- A. **Risk Analysis Software / Format** - Within 45 calendar days (60 calendar days on projects over \$50,000,000) after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; a Risk Analysis software to be utilized, the method of performing the analysis, the format of presenting the data and the reports for VA approval.
- B. **Conduct Risk Analysis / Submittals - Based on the approved software / format, the consultant shall** perform statistical risk analysis on the detailed approved Day 1 diagram. The contractor shall review and utilize any previous Risk analysis performed by the A/E of record based on the "semi-detailed" (yet at an overall level) construction logic and schedule to ensure the continuity of previous schedule risk analysis. The contractor's project manager and Superintendent shall identify the major schedule risk areas and possible risk mitigation strategy/plan and record it in a narrative format, with **electronic file submission** to the VA. **The risk analysis exercise shall be performed or updated at least on a quarterly basis or as directed by the VA Contracting officer.**
- C. The submittal shall include three copies of a computer-produced risk analysis results, predicting the various meaningful probability curves of achieving the contract schedules. It shall also include a detailed narrative list of all major and minor potential and specific schedule and cost risk areas, and a contractor's recommendations of mitigating the identified risks which must be addressed by the VA Project and Resident engineer teams to maintain the contract schedule.

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SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES
546-132 CONSTRUCT 500 SPACE PARKING GARAGE

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples, test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.
- 1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:
 - A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
 - B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
 - C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.
- 1-4. Forward submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by Architect-Engineer, and action thereon will be taken by Resident Engineer on behalf of the Contracting Officer.

- 1-6. Upon receipt of submittals, Architect-Engineer will assign a file number thereto. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.
- 1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant to request therefore by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES (FAR 52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.
- 1-8. Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Architect-Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect-Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.
- 1-9. Submittals must be submitted by Contractor only and shipped prepaid. Contracting Officer assumes no responsibility for checking quantities or exact numbers included in such submittals.
 - A. Submit samples required by Section 09 06 00, SCHEDULE FOR FINISHES, in quadruplicate. Submit shop drawings, schedules, manufacturers' literature and data, and certificates in quadruplicate, except where a greater number is specified.
 - B. Submittals will receive consideration only when covered by a transmittal letter signed by Contractor. Letter shall be sent via first class mail and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.

1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
 2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
 3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
- C. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.
- D. Approved samples will be kept on file by the Resident Engineer at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.
- F. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.
1. For each drawing required, submit one legible photographic paper or vellum reproducible.
 2. Reproducible shall be full size.

3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
 4. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
 5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
 6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
 7. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect-Engineer under one cover.
- 1-10. Shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to

(Architect-Engineer)

(A/E P.O. Address)

(City, State and Zip Code)

- 1-11. At the time of transmittal to the Architect-Engineer, the Contractor shall also send a copy of the complete submittal directly to the Resident Engineer.
- 1-12. Samples (except laboratory samples) for approval shall be sent to Architect-Engineer, in care of Resident Engineer, VA Medical Center,

(P.O. Address)

(City, State and Zip Code)

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SECTION 01 42 19
REFERENCE STANDARDS

546-132 500 SPACE EXPANDABLE PARKING GARAGE

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the availability and source of references and standards specified in the project manual under paragraphs APPLICABLE PUBLICATIONS and/or shown on the drawings.

**1.2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF
FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM
DESCRIPTIONS FPMR PART 101-29 (FAR 52.211-1) (AUG 1998)**

- A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to – GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619-8978.
- B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

**1.3 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN
THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND
COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-4) (JUN 1988)**

The specifications and standards cited in this solicitation can be examined at the following location:

DEPARTMENT OF VETERANS AFFAIRS
Office of Construction & Facilities Management
Facilities Quality Service (00CFM1A)

425 Eye Street N.W, (sixth floor)

Washington, DC 20001

Telephone Numbers: (202) 632-5249 or (202) 632-5178

Between 9:00 AM - 3:00 PM

1.4 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-3) (JUN 1988)

The specifications cited in this solicitation may be obtained from the associations or organizations listed below.

AA Aluminum Association Inc.

<http://www.aluminum.org>

AABC Associated Air Balance Council

<http://www.aabchq.com>

AAMA American Architectural Manufacturer's Association

<http://www.aamanet.org>

AAN American Nursery and Landscape Association

<http://www.anla.org>

AASHTO American Association of State Highway and Transportation Officials

<http://www.aashto.org>

AATCC American Association of Textile Chemists and Colorists

<http://www.aatcc.org>

ACGIH American Conference of Governmental Industrial Hygienists

<http://www.acgih.org>

ACI American Concrete Institute

<http://www.aci-int.net>

ACPA American Concrete Pipe Association

<http://www.concrete-pipe.org>

ACPPA	American Concrete Pressure Pipe Association http://www.acppa.org
ADC	Air Diffusion Council http://flexibleduct.org
AGA	American Gas Association http://www.aga.org
AGC	Associated General Contractors of America http://www.agc.org
AGMA	American Gear Manufacturers Association, Inc. http://www.agma.org
AHAM	Association of Home Appliance Manufacturers http://www.aham.org
AIA	American Institute of Architects http://www.aia.org
AISC	American Institute of Steel Construction http://www.aisc.org
AISI	American Iron and Steel Institute http://www.steel.org
AITC	American Institute of Timber Construction http://www.aitc-glulam.org
AMCA	Air Movement and Control Association, Inc. http://www.amca.org
ANLA	American Nursery & Landscape Association http://www.anla.org

ANSI	American National Standards Institute, Inc. http://www.ansi.org
APA	The Engineered Wood Association http://www.apawood.org
ARI	Air-Conditioning and Refrigeration Institute http://www.ari.org
ASAE	American Society of Agricultural Engineers http://www.asae.org
ASCE	American Society of Civil Engineers http://www.asce.org
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers http://www.ashrae.org
ASME	American Society of Mechanical Engineers http://www.asme.org
ASSE	American Society of Sanitary Engineering http://www.asse-plumbing.org
ASTM	American Society for Testing and Materials http://www.astm.org
AWI	Architectural Woodwork Institute http://www.awinet.org
AWS	American Welding Society http://www.aws.org
AWWA	American Water Works Association http://www.awwa.org

BHMA	Builders Hardware Manufacturers Association http://www.buildershardware.com
BIA	Brick Institute of America http://www.bia.org
CAGI	Compressed Air and Gas Institute http://www.cagi.org
CGA	Compressed Gas Association, Inc. http://www.cganet.com
CI	The Chlorine Institute, Inc. http://www.chlorineinstitute.org
CISCA	Ceilings and Interior Systems Construction Association http://www.cisca.org
CISPI	Cast Iron Soil Pipe Institute http://www.cispi.org
CLFMI	Chain Link Fence Manufacturers Institute http://www.chainlinkinfo.org
CPMB	Concrete Plant Manufacturers Bureau http://www.cpmmb.org
CRA	California Redwood Association http://www.calredwood.org
CRSI	Concrete Reinforcing Steel Institute http://www.crsi.org
CTI	Cooling Technology Institute http://www.cti.org

DHI	Door and Hardware Institute http://www.dhi.org
EGSA	Electrical Generating Systems Association http://www.egsa.org
EEI	Edison Electric Institute http://www.eei.org
EPA	Environmental Protection Agency http://www.epa.gov
ETL	ETL Testing Laboratories, Inc. http://www.etl.com
FAA	Federal Aviation Administration http://www.faa.gov
FCC	Federal Communications Commission http://www.fcc.gov
FPS	The Forest Products Society http://www.forestprod.org
GANA	Glass Association of North America http://www.cssinfo.com/info/gana.html/
FM	Factory Mutual Insurance http://www.fmglobal.com
GA	Gypsum Association http://www.gypsum.org
GSA	General Services Administration http://www.gsa.gov

HI	Hydraulic Institute http://www.pumps.org
HPVA	Hardwood Plywood & Veneer Association http://www.hpva.org
ICBO	International Conference of Building Officials http://www.icbo.org
ICEA	Insulated Cable Engineers Association Inc. http://www.icea.net
\ICAC	Institute of Clean Air Companies http://www.icac.com
IEEE	Institute of Electrical and Electronics Engineers http://www.ieee.org
IMSA	International Municipal Signal Association http://www.imsasafety.org
IPCEA	Insulated Power Cable Engineers Association
NBMA	Metal Buildings Manufacturers Association http://www.mbma.com
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc. http://www.mss-hq.com
NAAMM	National Association of Architectural Metal Manufacturers http://www.naamm.org
NAPHCC	Plumbing-Heating-Cooling Contractors Association http://www.phccweb.org.org
NBS	National Bureau of Standards See - NIST

NBBPVI	National Board of Boiler and Pressure Vessel Inspectors http://www.nationboard.org
NEC	National Electric Code See - NFPA National Fire Protection Association
NEMA	National Electrical Manufacturers Association http://www.nema.org
NFPA	National Fire Protection Association http://www.nfpa.org
NHLA	National Hardwood Lumber Association http://www.natlhardwood.org
NIH	National Institute of Health http://www.nih.gov
NIST	National Institute of Standards and Technology http://www.nist.gov
NLMA	Northeastern Lumber Manufacturers Association, Inc. http://www.nelma.org
NPA	National Particleboard Association 18928 Premiere Court Gaithersburg, MD 20879 (301) 670-0604
NSF	National Sanitation Foundation http://www.nsf.org
NWWDA	Window and Door Manufacturers Association http://www.nwwda.org

OSHA	Occupational Safety and Health Administration Department of Labor http://www.osha.gov
PCA	Portland Cement Association http://www.portcement.org
PCI	Precast Prestressed Concrete Institute http://www.pci.org
PPI	The Plastic Pipe Institute http://www.plasticpipe.org
PEI	Porcelain Enamel Institute, Inc. http://www.porcelainenamel.com
PTI	Post-Tensioning Institute http://www.post-tensioning.org
RFCI	The Resilient Floor Covering Institute http://www.rfci.com
RIS	Redwood Inspection Service See - CRA
RMA	Rubber Manufacturers Association, Inc. http://www.rma.org
SCMA	Southern Cypress Manufacturers Association http://www.cypressinfo.org
SDI	Steel Door Institute http://www.steeldoor.org
SOI	Secretary of the Interior http://www.cr.nps.gov/local-law/arch_stnds_8_2.htm

- IGMA Insulating Glass Manufacturers Alliance
<http://www.igmaonline.org>
- SJI Steel Joist Institute
<http://www.steeljoist.org>
- SMACNA Sheet Metal and Air-Conditioning Contractors
 National Association, Inc.
<http://www.smacna.org>
- SSPC The Society for Protective Coatings
<http://www.sspc.org>
- STI Steel Tank Institute
<http://www.steeltank.com>
- SWI Steel Window Institute
<http://www.steelwindows.com>
- TCA Tile Council of America, Inc.
<http://www.tileusa.com>
- TEMA Tubular Exchange Manufacturers Association
<http://www.tema.org>
- TPI Truss Plate Institute, Inc.
 583 D'Onofrio Drive; Suite 200
 Madison, WI 53719
 (608) 833-5900
- UBC The Uniform Building Code
 See ICBO
- UL Underwriters' Laboratories Incorporated
<http://www.ul.com>

ULC Underwriters' Laboratories of Canada

<http://www.ulc.ca>

WCLIB West Coast Lumber Inspection Bureau

6980 SW Varns Road, P.O. Box 23145

Portland, OR 97223

(503) 639-0651

WRCLA Western Red Cedar Lumber Association

P.O. Box 120786

New Brighton, MN 55112

(612) 633-4334

WWPA Western Wood Products Association

<http://www.wwpa.org>

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