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USACE / NAVFAC / AFCEA / NASA                      UFGS-02 41 00.00 40 (April 2006)  
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Preparing Activity:    NASA                      Superseding  
    NASA-02220S (December 2005)

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are NOT in agreement with UMRL dated 01 April 2006

Revised throughout - changes not indicated by CHG tags

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##### SECTION 02 41 00.00 40

##### DEMOLITION

04/06

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### SECTION 02 41 00.00 40

#### DEMOLITION 04/06

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NOTE: This guide specification covers the requirements for demolition, dismantling, reconditioning, recycling and disposal of existing building materials, equipment and utilities as a part of new construction or renovation work.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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## PART 1 GENERAL

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NOTE: Where premises are occupied, certain spaces may exist where activities cannot be interrupted or disturbed during normal working hours. To prevent disputes or possible contract claims resulting from restriction of demolition or removal work in such spaces, provisions for scheduling of the work must be specified in the contract documents. Restrictions for scheduling of demolition or removal work in areas adjacent to or in occupied spaces should reflect the requirements resulting from the consultation with occupants of the affected spaces. These provisions are necessary to alert prospective bidders about the spaces where business is not to be interrupted or disturbed during construction.

Delete requirements if inapplicable.

Where suspect deck conditions are encountered during design investigation, identify and include appropriate repair and safety provisions in the design documents to draw attention to the suspect areas and the need for additional safety precautions.

Include "Notification of Demolition and Renovation" form for Hawaii only.

Recycled materials are listed in the EPA's Comprehensive Procurement Guidelines (CPG) (<http://www.epa.gov/cpg/>). Guidelines are stated for the recommended recycling of Building Materials, Paint, and other miscellaneous materials.

If the Architect/Engineer/Contracting Officer determines that the salvage value of certain materials meeting the CPG guidelines is insufficient in quantity to merit recycling, or if due to geographical considerations impractical to implement, a waiver may be initiated for the project. [ Written justification may be submitted on a Request for Waiver Form to the [NASA] [\_\_\_\_\_] Environmental Program Manager for approval.]

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## 1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)

ARI Guideline K

(1997) Containers for Recovered

Fluorocarbon Refrigerants

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS  
(AASHTO)

AASHTO M 145 (1991; R 2004) Standard Specification  
for Classification of Soils and  
Soil-Aggregate Mixtures for Highway  
Construction Purposes

AASHTO T 180 (2001; R 2004) Standard Method of Test for  
Moisture-Density Relations of Soils Using  
a 4.54-kg (10-lb) Rammer and a 457-mm  
(18-in.) Drop

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6 (1990; R 1998) Safety Requirements for  
Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety -- Safety and Health  
Requirements

U.S. DEFENSE LOGISTICS AGENCY (DLA)

DLA 4145.25 (2000) Storage and Handling of Liquefied  
and Gaseous Compressed Gases and Their  
Full and Empty Cylinders

U.S. DEPARTMENT OF DEFENSE (DOD)

DOD 4000.25-1-M (2000) Requisitioning and Issue Procedures

MIL-STD-129 (Rev P) Military Marking for Shipment and  
Storage

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1 (Rev K; Change 1) Obstruction Marking and  
Lighting

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61-SUBPART M National Emission Standard for Asbestos

40 CFR 82 (1996) Protection of Stratospheric Ozone

49 CFR 173.301 Shipment of Compressed Gases in Cylinders  
and Spherical Pressure Vessels

1.2 GENERAL REQUIREMENTS

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NOTE: Make a determination as to whether any  
material of a hazardous nature, as classified in the  
National Emissions Standards, OSHA, or EPA  
regulations, will result from the work described.

If such material is determined likely, specify precautions and standards to be complied with. Since the Contractor performs the work, he is responsible for complying with all necessary regulations.

Protect personnel from possible airborne contaminants, such as asbestos fibers ,dried fecal matter (bird droppings), and metal dusts.

For Navy projects: Contact an industrial hygienist at (1) a Navy Regional Medical Center, (2) A Navy Environmental and Preventive Medicine Unit, or (3) the Navy Environmental Health Center for assistance. Disposal of materials must not endanger or pollute the environment. Obtain assistance from the environmental branch of the Engineering Field Division of the Naval Facilities Engineering Command or from the Naval Facilities Engineering Service Center, Norfolk, Virginia.

Non-friable materials containing asbestos, such as cement-asbestos siding and roofing and vinyl-asbestos flooring materials, normally do not require special handling and disposal procedures unless such materials are sawn, ground, sanded, drilled, pulverized, or handled in such a manner that will cause dust and airborne asbestos fiber to be released. Thus the removal of non-friable asbestos will not normally require the use of Section 02 82 16.00 20 ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS or 02 82 14.00 10 ASBESTOS HAZARD CONTROL ACTIVITIES. If the project contains non-friable asbestos that is considered to be hazardous due to material condition (broken down or excessively old and decayed) or demolition procedures to be used, then specify the non-friable asbestos to be removed in accordance with Section 02 82 16.00 20 ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS or 02 82 14.00 10 ASBESTOS HAZARD CONTROL ACTIVITIES.

For "LANTNAVFACENGCOM" projects use "project site" in Guantanamo Bay, Cuba; for all other projects use "station daily."

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Do not begin demolition until authorization is received from the Contracting Officer. [Remove rubbish and debris from the [station daily] [project site]; do not allow accumulations [inside or outside the building[s]] [on airfield pavements].] [The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from Government property daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the Contracting Officer.] In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

### 1.3 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Contractor must record [Existing Conditions](#) prior to starting work in accordance with the paragraph entitled, "Existing Conditions," of this section.

#### SD-07 Certificates

[Demolition plan](#)[; [G](#)][; [G](#), [[\\_\\_\\_\\_\\_](#)]]  
[Notifications](#)[; [G](#)][; [G](#), [[\\_\\_\\_\\_\\_](#)]]  
[\[Notification of Demolition and Renovation forms](#)[; [G](#)][; [G](#), [[\\_\\_\\_\\_\\_](#)]]

Proposed [salvage,] demolition and removal procedures for approval before work is started.

## SD-11 Closeout Submittals

### Receipts

Receipts or bills of lading, as specified.

#### 1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ANSI A10.6.

##### 1.4.1 Notifications

###### 1.4.1.1 General Requirements

Furnish timely notification of [demolition] [and] [renovation] projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61-SUBPART M. Notify the [Regional Office of the United States Environmental Protection Agency (USEPA)] [State's environmental protection agency] [local air pollution control district/agency] and the Contracting Officer in writing 10 working days prior to the commencement of work in accordance with 40 CFR 61-SUBPART M.

###### 1.4.1.2 Hawaii Requirements

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NOTE: Use the following for Hawaii projects only.  
"Notification of Demolition and Renovation" form is required for all demolition involving "load-supporting" structures and/or asbestos work. Use the first bracket for "demolition" work that does not involve asbestos, or "demolition" work where the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is less than 80 linear meters (260 linear feet) on pipes or less than 15 square meters (160 square feet) on other facility components. Use the second bracket for "demolition" and/or "renovation" work when the amount of RACM is greater than those stated above.

"Demolition" means the wrecking or taking out of any "load-supporting structural member" of a facility together with any related handling operations or the intentional burning of any facility. "Renovation" means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. "Regulated asbestos-containing material" (RACM) means:

1. Friable asbestos material;
2. Category I nonfriable ACM that has become friable;
3. Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or



abrading, or;

4. Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

The designer will complete paragraphs III.A, V, VI, VII, and ensure the quantity of asbestos indicated reflects what is shown on the drawings.

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Complete and submit [Notification of Demolition and Renovation forms](#) to Federal and State authorities and Contracting Officer, postmarked or delivered at least ten working days prior to commencement of work, in accordance with [40 CFR 61-SUBPART M](#). [Complete paragraphs I, II, III.B, III.C (if applicable), IX, and XVI of form.] [Complete paragraphs I, II, III.B, III.C (if applicable), VIII, and IX thru XIX of form.] Copy of form is attached at end of this section.

#### 1.4.2 Receipts

Submit a shipping receipt or bill of lading for all containers of ozone depleting substance (ODS) shipped to the Defense Depot, Richmond, Virginia.

#### 1.5 DUST [AND DEBRIS] CONTROL

Prevent the spread of dust [and debris] [to occupied portions of the building] [on airfield pavements] and avoid the creation of a nuisance [or hazard] in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. [Vacuum and dust the work area [daily] [\_\_\_\_].] [Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to aircraft.]

#### 1.6 PROTECTION

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**NOTE: Delete requirements if inapplicable.**

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##### 1.6.1 Traffic Control Signs

Where [pedestrian and driver] [aircraft] safety is endangered in the area of removal work, use traffic barricades with flashing lights. [Anchor barricades in a manner to prevent displacement by wind, jet or prop blast.] Notify the Contracting Officer prior to beginning such work.

[ Contractor must provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 100 feet 30 meter above ground level. Light construction and installation must comply with [FAA AC 70/7460-1](#). Lights must be operational during periods of reduced visibility, darkness, and as directed by the Contracting Officer. Maintain the temporary services during the period of construction and remove only after permanent services have been installed and tested and are in operation.]

#### 1.6.2 Existing Conditions Documentation

Before beginning any demolition work, survey the site, examine the drawings, specifications, and all existing conditions in the project area to determine the extent of the work. Record existing conditions in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 100 mm 4 inch will be acceptable as a record of existing conditions. Include in the record the elevation of the top of foundation walls, finish floor elevations, possible conflicting electrical conduits, plumbing lines, alarm systems, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting work. It is the responsibility of the Contractor to verify and document all required outages which will be required during the course of work, and to note these outages on the record document.

#### 1.6.3 Items to Remain in Place

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contracting Officer. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload [structural elements] [pavements to remain]. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such work.

#### 1.6.4 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of building components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

#### 1.6.5 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas.

#### 1.6.6 Trees

Protect trees within the project site which might be damaged during demolition, and which are indicated to be left in place, by a 1.8 m 6 foot high fence. Erect and secure fence a minimum of 1.5 m 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the Contracting Officer.

#### 1.6.7 Utility Service

\*\*\*\*\*  
NOTE: Delete the first bracketed sentence when the  
Contractor will disconnect and seal utilities.  
Delete the second bracketed sentence when the  
Government will disconnect and seal utilities.  
\*\*\*\*\*

Maintain existing utilities indicated to stay in service and protect against damage during demolition operations. Prior to start of work, [utilities serving each area of alteration or removal will be shut off by the Government and disconnected and sealed by the Contractor] [the Government will disconnect and seal utilities serving each area of alteration or removal upon written request from the Contractor].

#### 1.6.8 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, must remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

#### 1.6.9 Protection of Personnel

Before, during and after the demolition work the Contractor must continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

#### 1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris [will not be permitted] [will be permitted in the area located [\_\_\_\_\_] and between the hours of [\_\_\_\_\_] and [\_\_\_\_\_]]. Where burning is permitted, adhere to federal, state, and local regulations.

#### 1.8 FOREIGN OBJECT DAMAGE (FOD)

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NOTE: Delete requirements if inapplicable.  
  
Some large scale apron, hangar, or other type projects to be constructed adjacent to areas with operational aircraft may require temporary barricades or debris fences installed in place prior to the start of work. The station's air operations

and public works departments must be contacted by the designer to determine project requirements. If fences or other type barricades are required, they must be designed and located to suit the project

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Aircraft and aircraft engines are subject to FOD from debris and waste material lying on airfield pavements. Remove all such materials that may appear on operational aircraft pavements due to the Contractor's operations. If necessary, the Contracting Officer may require the Contractor to install a temporary barricade at the Contractor's expense to control the spread of FOD potential debris. The barricade must include a fence covered with a fabric designed to stop the spread of debris. Anchor the fence and fabric to prevent displacement by winds or jet/prop blasts. Remove barricade when no longer required.

#### 1.9 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Items to be relocated which are damaged by the Contractor must be repaired or replaced with new undamaged items as approved by the Contracting Officer.

#### 1.10 REQUIRED DATA

Include in the [Demolition plan](#) procedures for [careful removal and disposition of materials specified to be salvaged,] coordination with other work in progress[, a disconnection schedule of [utility services,] [and] [airfield lighting,] a detailed description of methods and equipment to be used for each operation and of the sequence of operations]. [Include statements affirming Contractor inspection of the existing roof deck and its suitability to perform as a safe working platform or if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work.] Provide procedures for safe conduct of the work in accordance with [EM 385-1-1](#).

#### 1.11 ENVIRONMENTAL PROTECTION

Comply with the Environmental Protection Agency requirements specified.

#### 1.12 USE OF EXPLOSIVES

Use of explosives [will] [will not] be permitted.

#### 1.13 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with the following schedule:

Area	Date
[_____]	[_____]
[_____]	[_____]

### PART 2 PRODUCTS

#### 2.1 FILL MATERIAL

Comply with excavating, backfilling, and compacting procedures for soils

used as backfill material to fill basements, voids, depressions or excavations resulting from demolition of structures.

Fill material must conform to the definition of satisfactory soil material as defined in AASHTO M 145, Soil Classification Groups A-1, A-2-4, A-2-5 and A-3. In addition, fill material must be free from roots and other organic matter, trash, debris, frozen materials, and stones larger than 50 millimeter 2 inches in any dimension.

Proposed fill material must be sampled and tested by an approved soil testing laboratory, as follows:

Soil classification	AASHTO M 145
Moisture-density relations	AASHTO T 180, Method B or D

### PART 3 EXECUTION

#### 3.1 EXISTING FACILITIES TO BE REMOVED

##### 3.1.1 Structures

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NOTE: Where necessary, add additional requirements relating to specific types of existing construction such as masonry, concrete, and other special requirements for removal work. It is very difficult to specify particular removal criteria in a guide specification or even a project specification. It may be more advantageous to show the work on the drawings.  
\*\*\*\*\*

- a. Remove existing structures indicated to be removed to [grade] [top of foundation walls] [[\_\_\_\_\_] meters feet below grade]. Interior walls, other than retaining walls and partitions, must be removed to [\_\_\_\_\_] meters feet below grade or to top of concrete slab on ground. Break up basement slabs to permit drainage. Remove sidewalks , curbs, gutters and street light bases as indicated.
- b. Demolish structures in a systematic manner from the top of the structure to the ground. Complete demolition work above each tier or floor before the supporting members on the lower level are disturbed. Demolish concrete and masonry walls in small sections. Remove structural framing members and lower to ground by means of derricks, platforms hoists, or other suitable methods as approved by the Contracting Officer.
- c. Locate demolition equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.
- d. Building, or the remaining portions thereof, not exceeding 25 m 80 feet in height may be demolished by the mechanical method of demolition.

### 3.1.2 Utilities and Related Equipment

#### 3.1.2.1 General Requirements

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by the Contracting Officer. Do not interrupt existing utilities serving facilities occupied and used by the Government except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated.

#### 3.1.2.2 Disconnecting Existing Utilities

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**NOTE: Where the materials, meters, or related equipment to be affected in the area of demolition are the property of the local utility companies and not of the Government, the specifier must contact them, determine the disposition of the existing utilities, and modify the requirements herein as needed.**  
\*\*\*\*\*

Remove existing utilities [, as indicated] [uncovered by work] and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area. Remove meters and related equipment and deliver to a location [on the station] in accordance with instructions of the Contracting Officer.

#### 3.1.3 Chain Link Fencing

Remove chain link fencing, gates and other related salvaged items scheduled for removal and transport to designated areas. Remove gates as whole units. Cut chain link fabric to [\_\_\_\_\_] 7 m 25 foot lengths and store in rolls off the ground.

#### 3.1.4 Paving and Slabs

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**NOTE: Delete requirements if inapplicable.**  
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[Remove [ground] [scarified] [sawcut] concrete and asphaltic concrete paving and slabs [including aggregate base] [as indicated] to a depth of [\_\_\_\_\_] mm inches below [existing adjacent] [new finish] grade. [Provide neat saw cuts at limits of pavement removal as indicated.]]

#### 3.1.5 Roofing

\*\*\*\*\*  
**NOTE: Delete requirements if inapplicable.**

Where suspect deck conditions are encountered during design investigation, identify and include appropriate repair and safety provisions in the design documents to draw attention to the suspect

areas and the need for additional safety precautions.

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[Remove existing roof system and associated components in their entirety down to existing roof deck.] [Remove [built-up] [single-ply] roofing to effect the connections with new flashing or roofing.] [Remove gravel surfacing from existing roofing felts for a minimum distance of 450 mm 18 inches back from the cut. Remove gravel without damaging felts.] [Cut existing [felts] [membrane] [and insulation] along straight lines.] [Remove roofing system [and insulation] without damaging the roof deck.] Sequence work to minimize building exposure between demolition and new roof materials installation.

#### 3.1.5.1 Temporary Roofing

Install temporary roofing and flashing as necessary to maintain a watertight condition throughout the course of the work. Remove temporary work prior to installation of permanent roof system materials unless approved otherwise by the Contracting Officer. [The existing [deck] [and support structure] is deteriorated where indicated, such that ability to support foot traffic and construction loads is unknown. Make provisions for worker safety during demolition and installation of new materials as described in paragraphs entitled "Statements" and "Regulatory and Safety Requirements."]

#### 3.1.5.2 Re-roofing

When removing the existing roofing system from the roof deck, remove only as much roofing as can be recovered by the end of the work day, unless approved otherwise by the Contracting Officer. Do not attempt to open the roof covering system in threatening weather. Reseal all openings prior to suspension of work the same day.

#### 3.1.6 Masonry

Sawcut and remove masonry so as to prevent damage to surfaces to remain [and to facilitate the installation of new work]. Where new masonry adjoins existing, the new work must abut or tie into the existing construction as [indicated] [specified for the new work]. Provide square, straight edges and corners where existing masonry adjoins new work and other locations.

#### 3.1.7 Concrete

Saw concrete along straight lines to a depth of a minimum 50 mm 2 inch. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

#### 3.1.8 Structural Steel

\*\*\*\*\*

**NOTE: Delete structural steel and miscellaneous metals only if it is determined that there are no existing metals or structural steel to be recycled or salvaged.**

\*\*\*\*\*

Dismantle structural steel at field connections and in a manner that will prevent bending or damage. Salvage and recycle structural steel, steel joists, girders, angles, plates, columns and shapes. [Do not use flame-cutting torches] [Flame-cutting torches are permitted when other methods of dismantling are not practical]. Transport steel joists and girders as whole units and not dismantled. Transport structural steel shapes to a designated [storage area] [recycling facility] [area as directed by the Contracting Officer], stacked according to size, type of member and length, and stored off the ground, protected from the weather.

#### 3.1.9 Miscellaneous Metal

Salvage shop-fabricated items such as access doors and frames, steel gratings, metal ladders, wire mesh partitions, metal railings, metal windows and similar items as whole units. Salvage light-gage and cold-formed metal framing, such as steel studs, steel trusses, metal gutters, roofing and siding, metal toilet partitions, toilet accessories and similar items. [Scrap metal must become the Contractor's property. Recycle scrap metal to the greatest extent possible as part of demolition operations. Provide separate containers to collect scrap metal and transport to a scrap metal collection or recycle facility.]

#### 3.1.10 Carpentry

Salvage and recycle lumber, millwork items, and finished boards except those that are unfit for reuse. Remove windows, doors and frames and similar items as whole units, complete with trim and accessories. Do not remove hardware attached to units, except for door closers. Brace the open end of door frames to prevent damage.

#### 3.1.11 Airfield Lighting

Remove existing airfield lighting as indicated and terminate in a manner satisfactory to the Contracting Officer. Remove [edge lights], [associated transformers] [and] [\_\_\_\_\_] as indicated and [deliver to a location on the station in accordance with instructions of the Contracting Officer], [dispose of off station] [\_\_\_\_\_].

#### 3.1.12 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area must be flush with the adjacent existing surface and match the existing adjacent surface as closely as possible as to texture and finish. Patching must be as specified and indicated, and include:

- a. Concrete and Masonry: Completely fill holes and depressions, [caused by previous physical damage or] left as a result of removals in existing masonry walls to remain, with an approved masonry patching material, applied in accordance with the manufacturer's printed instructions.
- b. Where existing partitions have been removed leaving damaged or missing resilient tile flooring, patch to match the existing floor tile.



- c. Patch acoustic lay-in ceiling where partitions have been removed. The transition between the different ceiling heights must be effected by continuing the higher ceiling level over to the first runner on the lower ceiling and closing the vertical opening with a painted sheet metal strip.

#### 3.1.13 Air Conditioning Equipment

\*\*\*\*\*

NOTE: Delete requirements if inapplicable.

NOTE: Quantify by weight the amount and type of refrigerant to be recovered and indicate on plans.

NOTE: Directives from the Secretary of the Navy prohibit sale or transfer of Class I ODS materials outside of the Navy without prior approval from the Chief of Naval Operations or the Commandant of the Marine Corps.

\*\*\*\*\*

[Remove air conditioning equipment without releasing chlorofluorocarbon refrigerants to the atmosphere in accordance with the Clean Air Act Amendment of 1990.] [Recover all refrigerants prior to removing air conditioning equipment and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."] [Turn in salvaged Class I ODS refrigerants as specified in paragraph, "Salvaged Materials and Equipment."]

#### 3.1.14 Cylinders and Canisters

Remove all fire suppression system cylinders and canisters and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

#### 3.1.15 Locksets on Swinging Doors

\*\*\*\*\*

NOTE: Use this paragraph when demolition includes removal and disposal of hinged or pivoted swinging doors. (This is a security measure.)

\*\*\*\*\*

The Contractor must remove all locksets from all swinging doors indicated to be removed and disposed of. Deliver the locksets and related items to a designated location for receipt by the Contracting Officer after removal.

#### 3.1.16 Mechanical Equipment and Fixtures

\*\*\*\*\*

NOTE: Delete, revise, or add to the text to cover the project requirements. Materials and equipment scheduled for salvage should be noted on the drawings.

\*\*\*\*\*

Disconnect mechanical hardware at the nearest connection to existing services to remain, unless otherwise noted. Mechanical equipment and

fixtures must be disconnected at fittings. Remove service valves attached to the unit. Salvage each item of equipment and fixtures as a whole unit; listed, indexed, tagged, and stored. Salvage each unit with its normal operating auxiliary equipment. Transport salvaged equipment and fixtures, including motors and machines, to a designated [on station] storage area as directed by the Contracting Officer. Do not remove equipment until approved.

#### 3.1.16.1 Preparation for Storage

Remove water, dirt, dust, and foreign matter from units; tanks, piping and fixtures must be drained; interiors, if previously used to store flammable, explosive, or other dangerous liquids, must be steam cleaned. Seal openings with caps, plates, or plugs. Secure motors attached by flexible connections to the unit. Change lubricating systems with the proper oil or grease.

#### 3.1.16.2 Piping

Disconnect piping at unions, flanges and valves, and fittings as required to reduce the pipe into straight lengths for practical storage. Store salvaged piping according to size and type. If the piping that remains can become pressurized due to upstream valve failure, end caps, blind flanges, or other types of plugs or fittings with a pressure gage and bleed valve must be attached to the open end of the pipe to ensure positive leak control. Carefully dismantle piping that previously contained gas, gasoline, oil, or other dangerous fluids, with precautions taken to prevent injury to persons and property. Store piping outdoors until all fumes and residues are removed. Box prefabricated supports, hangers, plates, valves, and specialty items according to size and type. Wrap sprinkler heads individually in plastic bags before boxing. Classify piping not designated for salvage, or not reusable, as scrap metal.

#### 3.1.16.3 Ducts

Classify removed duct work as scrap metal.

#### 3.1.16.4 Fixtures, Motors and Machines

Remove and salvage fixtures, motors and machines associated with plumbing, heating, air conditioning, refrigeration, and other mechanical system installations. Salvage, box and store auxiliary units and accessories with the main motor and machines. Tag salvaged items for identification, storage, and protection from damage. Classify broken, damaged, or otherwise unserviceable units and not caused to be broken, damaged, or otherwise unserviceable as debris and disposed of by the Contractor.

#### 3.1.17 Electrical Equipment and Fixtures

Salvage motors, motor controllers, and operating and control equipment that are attached to the driven equipment. Salvage wiring systems and components. Box loose items and tag for identification. Disconnect primary, secondary, control, communication, and signal circuits at the point of attachment to their distribution system.

##### 3.1.17.1 Fixtures

Remove and salvage electrical fixtures. Salvage unprotected glassware from the fixture and salvage separately. Salvage incandescent, mercury-vapor,

and fluorescent lamps, boxed and tagged for identification, and protected from breakage.

#### 3.1.17.2 Electrical Devices

Remove and salvage switches, switchgear, transformers, conductors including wire and nonmetallic sheathed and flexible armored cable, regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items. Box and tag these items for identification according to type and size.

#### 3.1.17.3 Wiring Ducts or Troughs

Remove and salvage wiring ducts or troughs. Dismantle plug-in ducts and wiring troughs into unit lengths. Remove plug-in or disconnecting devices from the busway and store separately.

#### 3.1.17.4 Conduit and Miscellaneous Items

Salvage conduit except where embedded in concrete or masonry. Consider corroded, bent, or damaged conduit as scrap metal. Sort straight and undamaged lengths of conduit according to size and type. Classify supports, knobs, tubes, cleats, and straps as debris to be removed and disposed.

#### 3.1.18 Elevators and Hoists

Remove elevators, hoists, and similar conveying equipment and salvage as whole units, to the most practical extent. Remove and prepare items for salvage without damage to any of the various parts. Salvage and store rails for structural steel with the equipment as an integral part of the unit.

### 3.2 CONCURRENT EARTH-MOVING OPERATIONS

\*\*\*\*\*  
NOTE: Caution must be taken to prevent uncovered  
holes and other such hazards. If work is to be  
under a separate contract and subsequent filling is  
not required under the separate contract,  
arrangements must be made to have the filling done  
under this contract.  
\*\*\*\*\*

Do not begin excavation, filling, and other earth-moving operations that are sequential to demolition work in areas occupied by structures to be demolished until all demolition in the area has been completed and debris removed. Holes, open basements and other hazardous openings must be filled.

### 3.3 DISPOSITION OF MATERIAL

\*\*\*\*\*  
NOTE: This article entitled "Disposition of  
Material" and the paragraphs that follow are for all  
projects except as noted.  
\*\*\*\*\*

### 3.3.1 Title to Materials

\*\*\*\*\*

NOTE: To minimize the possibility of contested ownership of materials or equipment in structures to be demolished, the following letter should be sent to the station sufficiently in advance of the date on which action is required, and the response thereto incorporated in either the project specifications or bidding documents. The Government will prepare this letter. For project prepared by an A/E, the A/E must notify the Government the need for this correspondence.

From: (Appropriate EDF Activity)

To: Commanding Officer, (Station)

Subj: Contract (Number) - [\_\_\_\_]:  
(Including Demolition of [(\_\_\_\_)])

1. This activity is preparing the documents preliminary to advertising the subject contract for bids. A portion of this contract will be concerned with the ownership of the materials in the structure(s) and the contents of the building(s) to be demolished. It is normal practice to specify that the structures, and all equipment or other material inside the structures at the time the contract is advertised for bids, become the property of the Contractor.

2. Accordingly, it is requested that this activity be advised of the existence of any material or equipment within the limits of the contract which is to remain the property of the Government. A negative reply is requested. If there is any material or equipment in this category, it is requested that action be initiated to remove it from the limits of the contract. If prompt removal is impractical, it will be necessary for the station to make a complete inventory of, and tag or mark, each item which is to remain the property of the Government. A copy of the inventory, a description of the tag or mark used, and the desired disposition of the item must be forwarded to this activity for inclusion in the specification or bidding documents.

3. In the past, this activity has experienced considerable difficulty where a building evacuated prior to demolition is then used to store other material or equipment temporarily and the items were in storage during the bid advertising period. Upon award of the contract, the Contractor claimed the material and either removed it or claimed and was awarded compensation for it. Therefore, it is requested that the structure(s) to be demolished which are included in this contract not be used for temporary storage during the bid advertising period.

4. It is requested that the reply to this letter be sent to this activity not later than [60] [\_\_\_\_\_] days after the date of this letter. Failure to do so may result in unnecessary cost to the Government in claims.

a. Insert name of contract and identify buildings(s) to be included under contract. Further revise as necessary to suit conditions.

\*\*\*\*\*

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, is the property of the Contractor and must be removed from Government property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Viewing or selling materials and equipment on site is prohibited.

### 3.3.2 Reuse of Materials and Equipment

\*\*\*\*\*

NOTE: Delete if inapplicable, or edit to suit individual requirements. Items to be salvaged must be described in adequate detail to establish the limits of the items involved. Requirements for preparation and disposition will be as required to meet job conditions.

\*\*\*\*\*

Remove and store materials and equipment [listed [\_\_\_\_]] [indicated [\_\_\_\_]] to be reused or relocated to prevent damage, and reinstall as the work progresses.

### 3.3.3 Salvaged Materials and Equipment

\*\*\*\*\*

NOTE: Delete if inapplicable, or edit to suit individual requirements. Items to be salvaged must be described in adequate detail to establish the limits of the items involved. Requirements for preparation and disposition will be as required to meet job conditions.

\*\*\*\*\*

Remove materials and equipment that are [indicated [\_\_\_\_]] [and] [specified [\_\_\_\_]] to be removed by the Contractor and that are to remain the property of the Government, and deliver to a storage site [, as directed within [\_\_\_\_] kilometers miles of the work site].

- a. Salvage items and material to the maximum extent possible.
- b. Store all material salvaged for the Contractor as approved by the Contracting Officer. Remove from Government property before completion of the contract.

- c. Salvaged items to remain the property of the Government must be removed in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Repair or replace items damaged during removal or storage to match original existing items. Identify all containers as to contents. The following items reserved as property of the Government must be delivered to the areas designated: [\_\_\_\_].
- d. The following items reserved as property of the using service must be removed prior to commencement of work under this contract: [\_\_\_\_].
- e. Remove historical items in a manner to prevent damage. Deliver the following historical items to the Government for disposition: Corner stones, contents of corner stones, and document boxes wherever located on the site.

\*\*\*\*\*  
**NOTE: For Class I ODS materials, use the first bracketed statement if the Contractor is to remove the material. Use the second bracketed statement if a Public Works Center or other Navy activity is to remove the Class I ODS materials. Edit statements for the project as necessary.**  
\*\*\*\*\*

- f. [Remove and capture all Class I ODS refrigerants in accordance with the Clean Air Act Amendment of 1990, and turn in to the Navy [as directed by the Commanding Officer.] [by shipping the refrigerant container to the Defense Logistics Agency at the following address:

Defense Depot Richmond VA (DDVA)  
SW0400  
Cylinder Operations  
800 Jefferson Davis Highway  
Richmond, VA 23297-5000]]

[The Government will remove and capture Class I ODS refrigerants.]

#### 3.3.4 Debris Disposal in the San Diego Area

\*\*\*\*\*  
**NOTE: This paragraph is for appropriate SOUTHWESTNAVFACENGCOM projects only.**  
\*\*\*\*\*

Landfill coupons, that permit waste disposal at the Miramar Landfill free of charge, are available from the Contracting Officer. The coupons will be issued only upon the submission of a written request, by the prime contractor to the ROICC, which must identify the nature of the waste and the number of coupons requested. The landfill coupons issued under this contract are to be used only for the disposal of waste generated by this contract. If the prime contractor, one of its subcontractors, or one of its waste haulers is found to be misusing the landfill coupons by disposing of waste not generated under this contract, all rights under the contract to use landfill coupons must be forfeited, from the date of misuse forward. All unused coupons will be returned to the Contracting Officer and no

additional coupons will be issued for the duration of the contract. The Contracting Officer's refusal to issue landfill coupons, because of prior misuse, is not a change to the contract and no adjustment of the contract price will be made.

### 3.3.5 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting [ARI Guideline K](#) suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS must be [put back into the existing equipment] [turned over to the Contracting Officer] [remove from Government property and dispose of in accordance with [40 CFR 82](#)]. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) must be disposed of in accordance with [40 CFR 82](#).

#### 3.3.5.1 Special Instructions

No more than one type of ODS is permitted in each container. Apply a warning/hazardous label to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS must be tagged with the following information:

- a. Activity name and unit identification code
- b. Activity point of contact and phone number
- c. Type of ODS and pounds of ODS contained
- d. Date of shipment
- e. Naval stock number (for information, call (804) 279-4525).

#### 3.3.5.2 Fire Suppression Containers

Fire suppression system cylinders and canisters with electrical charges or initiators must be deactivated prior to shipment. Also, safety caps must be used to cover exposed actuation mechanisms and discharge ports on these special cylinders.

### 3.3.6 Transportation Guidance

Shipment of all ODS containers must be in accordance with [MIL-STD-129](#), [DLA 4145.25](#) (also referenced one of the following: Army Regulation 700-68, Naval Supply Instruction 4440.128C, Marine Corps Order 10330.2C, and Air Force Regulation 67-12), [49 CFR 173.301](#), and [DOD 4000.25-1-M](#).

### 3.3.7 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, must be disposed of in the disposal area located [\_\_\_\_]. The fill in the disposal area must remain below elevation [\_\_\_\_] and after disposal is completed, the disposal area must be uniformly graded to drain. Dispose of combustible material [in the sanitary fill area located [\_\_\_\_]] [off the site] [by burning].

### 3.4 CLEANUP

Debris and rubbish must be removed from basement and similar excavations. Debris must be removed and transported in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

### 3.5 DISPOSAL OF REMOVED MATERIALS

#### 3.5.1 Special Conditions

Dispose of debris, rubbish, scrap, and other unsalvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified [off the [\_\_\_\_\_] center] [\_\_\_\_\_]. Removed materials must not be stored on the project site.

#### 3.5.2 Burning on Government Property

[Burning of materials removed from demolished structures will not be permitted on Government property] [Transport combustible materials removed from demolished structures to the areas designated for burning. Control fires for protection of persons and property. Monitor fires continuously until the fires have burned out or have been extinguished. Comply with Federal, State and local laws regulating the building and maintaining of brush and trash fires].

#### 3.5.3 Removal to Spoil Areas on Government Property

Transport noncombustible materials removed from demolition structures to designated spoil areas on Government property.

#### 3.5.4 Removal from Government Property

Transport waste materials removed from demolished structures, except waste soil, from Government property for legal disposal. Dispose of waste soil as directed.

### 3.6 REUSE OF SALVAGED ITEMS

Recondition salvaged materials and equipment designated for reuse before installation. Replace items damaged during removal and salvage operations or restore them as necessary to usable condition.

-- End of Section --