
USACE / NAVFAC / AFCEC / NASA UFGS-02 41 00 (May 2010)

Preparing Activity: USACE Superseding
UFGS-02 41 00 (October 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2014

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SECTION 02 41 00

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05/10

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SECTION 02 41 00

[DEMOLITION] [AND] [DECONSTRUCTION]
05/10

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

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

TO DOWNLOAD UFGS GRAPHICS

Go to <http://wbdg.org/ccb/NAVGRAPH/graphtoc.pdf>.

PART 1 GENERAL

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.

1.1 REFERENCES

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.

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, HEATING AND REFRIGERATION INSTITUTE (AHRI)

AHRI Guideline K (2009) Guideline for Containers for Recovered Non-Flammable Fluorocarbon Refrigerants

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 145 (1991; R 2008) Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes

AASHTO T 180 (2010) 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 SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

ASSE/SAFE A10.6 (2006) Safety Requirements for Demolition
Operations

CARPET AND RUG INSTITUTE (CRI)

CRI CIS (2011) Carpet Installation Standard

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008; Errata 1-2010; Changes 1-3 2010;
Changes 4-6 2011; Change 7 2012) Safety
and Health Requirements Manual

U.S. DEFENSE LOGISTICS AGENCY (DLA)

DLA 4145.25 (June 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 (2006) MILSTRIP - Military Standard
Requisitioning and Issue Procedures

MIL-STD-129 (2007; Rev P; Change 4 2007) Military
Marking for Shipment and Storage

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1 (2007; Rev K) Obstruction Marking and
Lighting

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

40 CFR 61 National Emission Standards for Hazardous
Air Pollutants

40 CFR 82 Protection of Stratospheric Ozone

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

1.2 PROJECT DESCRIPTION

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, the
Contractor will be the one 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 Section 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 or deconstruction procedures to be used, then specify the non-friable asbestos to be removed in accordance with Section 02 82 16.00 20 or 02 82 14.00 10.

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

Deconstruction is the process of taking apart a facility with the primary goal of preserving the value of all useful building materials, so that they may be reused or recycled. It should be considered when adaptive reuse of a building is not an option, and may be used in conjunction with demolition. Deconstruction minimizes demolition landfill materials and reduces material costs for the converted facility. Diverting demolition waste from the landfill contributes to the following LEED credit: MR2. Coordinate with Section 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT.

1.2.1 Demolition/Deconstruction Plan

NOTE: Either a Demolition Plan or a Deconstruction Plan is required. A project requiring both

demolition and deconstruction work will name the plan according to the majority of the work being performed, and the plan will include requirements for both types of work.

Prepare a [Demolition Plan] [Deconstruction Plan] and submit proposed [salvage,] [demolition,] [deconstruction,] and removal procedures for approval before work is started. Include in the 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]. Identify components and materials to be salvaged for reuse or recycling with reference to paragraph Existing Facilities to be Removed. Append tracking forms for all removed materials indicating type, quantities, condition, destination, and end use. Coordinate with Waste Management Plan. [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. Plan shall be approved by [Structural PE] [Contracting Officer] prior to work beginning.

1.2.2 General Requirements

Do not begin demolition or deconstruction until authorization is received from the Contracting Officer. The work of this section is to be performed in a manner that maximizes the value derived from the salvage and recycling of materials. [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,] [deconstruction], 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 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, deconstruction, 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, deconstruction, or removal work. Repairs, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such work.

1.3.1 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 [snow,]dust, dirt, and debris from work areas daily.

1.3.2 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.

1.3.3 Trees

Protect trees within the project site which might be damaged during demolition or deconstruction, 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.

1.3.4 Utility Service

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

Maintain existing utilities indicated to stay in service and protect against damage during demolition and deconstruction 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].

1.3.5 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 or deconstructed, 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, deconstruction, or demolition work performed under this contract.

1.4 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.

1.5 AVAILABILITY OF WORK AREAS

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

Schedule	
Area	Date
[_____]	[_____]

1.6 SUBMITTALS

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.

The Guide Specification technical editors have designated those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, 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.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [Contractor Quality Control approval.] [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

Existing Conditions[; G][; G, [_____]]

SD-07 Certificates

```
[ Demolition Plan[; G][; G, [_____] ] ]
[ Deconstruction Plan[; G][; G, [_____] ] ]
  Notification[; G][; G, [_____] ]
    [Notification of Demolition and Renovation form[; G][; G, [_____] ] ] ]
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SD-11 Closeout Submittals

Receipts

1.7 QUALITY ASSURANCE

Submit timely **notification** of [demolition] [deconstruction] [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. 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 **ASSE/SAFE A10.6**. Comply with the Environmental Protection Agency requirements specified. Use of explosives [will] [will not] be permitted.

1.7.1 Hawaii Requirements

NOTE: Use the following for Hawaii projects only.
"Notification of Demolition and Renovation" form is required for all demolition and deconstruction involving "load-supporting" structures and/or asbestos work. Use the first bracket for "demolition" and/or "deconstruction" work that does not involve asbestos, or "demolition" and/or "deconstruction" 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 "deconstruction" 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.

"Deconstruction" means the disassembly of buildings to recover materials. "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, deconstruction, 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.

Complete and submit Notification of Demolition and Renovation form 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.

1.7.2 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.]

1.8 PROTECTION

NOTE: Delete requirements if inapplicable.

1.8.1 Traffic Control Signs

a. 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.

[Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 30 m 100 feet above ground level. Light construction and installation shall comply with FAA AC 70/7460-1. Lights shall 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.]

1.8.2 Protection of Personnel

Before, during and after the [demolition][and][deconstruction] work continuously evaluate the condition of the structure being [demolished] [and] [deconstructed] and take immediate action to protect all personnel working in and around the project 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.

1.9 FOREIGN OBJECT DAMAGE (FOD)

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

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 shall 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.

1.10 RELOCATIONS

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

1.11 EXISTING CONDITIONS

Before beginning any demolition or deconstruction work, survey the site and examine the drawings and specifications 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, alarms 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 Contractor's responsibility 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. Submit survey results.

PART 2 PRODUCTS

2.1 FILL MATERIAL

- a. Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill basements, voids, depressions or excavations resulting from demolition or deconstruction of structures. *Fill material shall be waste products from demolition or deconstruction until all waste appropriate for this purpose is consumed.*
- [b. Fill material shall 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 shall be free from roots and other organic matter, trash, debris, frozen materials, and stones larger than *50 mm 2 inches* in any dimension.
- c. Proposed fill material must be sampled and tested by an approved soil testing laboratory, as follows:

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

]

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

NOTE: Thoughtful and considered disassembly as opposed to standard demolition will produce more usable "reusables" and will help prevent damage to items scheduled to remain.

Suggested uses for salvaged materials are as follows.

1. Whole buildings can be sold, leased, or donated and either moved or dismantled.
2. Separate asphalt roofing materials for milling and recycling.
3. Salvage whole bricks for reuse, keeping exterior bricks separate. Salvage remaining masonry to be crushed and used as landscape cover, sub-base material, or fill.
4. Salvage precast concrete panels as whole units for use as erosion control or landscape features. Salvage whole concrete blocks for reuse. Salvage concrete block pieces to be crushed and used as sub-base material or fill. Crush and grade remaining concrete for use as riprap, aggregate, sub-base material, or fill.
5. Chipped or shredded wood can be used onsite as ground cover, mulch, compost, pulp, or process fuel.
6. Crushed porcelain may be used for fill.
7. Wood cleared from the site can be chipped or shredded for use as ground cover, mulch, compost,

pulp, or process fuel.

8. Salvage clean, unpainted, non-biocide-treated gypsum board to be ground up and used as soil amendment or recycled.

Inspect and evaluate existing structures onsite for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, remanufacture, recycling, or other disposal, as specified. Materials shall be designated for reuse onsite whenever possible.

3.1.1 Structures

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, shall be removed to [_____] m 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] [Deconstruct] 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] [Deconstruct] 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 and deconstruction 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 or deconstruction 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

NOTE: Where the materials, meters, or related equipment to be affected in the area of demolition or deconstruction 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 but are not indicated on the drawings, notify the Contracting Officer 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

NOTE: Delete requirements if inapplicable.

[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 sawcuts at limits of pavement removal as indicated.]] Pavement and slabs designated to be recycled and utilized in this project shall be moved, ground and stored as directed by the Contracting Officer. Pavement and slabs not to be used in this project shall be removed from the Installation at Contractor's expense.

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.

[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.] [Salvage asphalt roofing materials.] [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 or deconstruction 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, deconstruction, and installation of new materials as described in paragraphs entitled "Statements" and "Regulatory and Safety Requirements."]

3.1.5.2 Reroofing

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[, to removed materials being salvaged] [and to facilitate the installation of new work]. Where new masonry adjoins existing, the new work shall 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.[Masonry removed in whole blocks shall be salvaged and stored for reuse.] [Masonry removed in pieces shall be crushed[for use as aggregate]].

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. [Salvage removed 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 for [reuse] [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 shall become the Contractor's property.] Recycle scrap metal as part of demolition and deconstruction operations. Provide separate containers to collect scrap metal and transport to a scrap metal collection or recycling facility, in accordance with the Waste Management Plan.

3.1.10 Carpentry

Salvage for [reuse] [recycle] lumber, millwork items, and finished boards, and sort by type and size. [[Chip or shred and]recycle salvaged wood unfit for reuse, except stained, painted, or treated wood.] [Salvage] [Remove] windows, doors, frames, and cabinets, and similar items as whole units, complete with trim and accessories. [Do not remove hardware attached to units, except for door closers.] [Salvage hardware attached to units for reuse.] Brace the open end of door frames to prevent damage.

3.1.11 Carpet

Remove existing carpet for reclamation in accordance with manufacturer recommendations and as follows. Remove used carpet in large pieces, roll tightly, and pack neatly in a container. Remove adhesive according to recommendations of the Carpet and Rug Institute (CRI). Adhesive removal solvents shall comply with CRI CIS. Recycle removed carpet cushion.

3.1.12 Acoustic Ceiling Tile

Remove, neatly stack, and recycle acoustic ceiling tiles. Recycling may be available with manufacturer. Otherwise, priority shall be given to a local recycling organization. Recycling is not required if the tiles contain or may have been exposed to asbestos material.

3.1.13 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] [_____].

3.1.14 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, using on-site materials when available. 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 shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated, and shall 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 shall 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.

3.1.15 Air Conditioning Equipment

NOTE: Delete requirements if inapplicable.

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

**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, refrigeration, and other equipment containing refrigerants 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, refrigeration, and other equipment containing refrigerants 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."]

3.1.16 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)."

3.1.17 Locksets on Swinging Doors

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

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.

3.1.18 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. Disconnect mechanical equipment and fixtures 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. Do not offer low-efficiency equipment for reuse[; provide to recycling service for disassembly and recycling of parts].

3.1.18.1 Preparation for Storage

Remove water, dirt, dust, and foreign matter from units; tanks, piping and fixtures shall be drained; interiors, if previously used to store flammable, explosive, or other dangerous liquids, shall 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.

3.1.18.2 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 shall 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.

3.1.18.3 Ducts

Classify removed duct work as scrap metal.

3.1.18.4 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 [non-porcelain]broken, damaged, or otherwise unserviceable units and not caused to be broken, damaged, or otherwise unserviceable as debris to be disposed of by the Contractor. [Salvage and crush porcelain plumbing fixtures unsuitable for reuse.]

3.1.19 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.

3.1.19.1 Fixtures

Remove and salvage electrical fixtures. Salvage unprotected glassware from the fixture and salvage separately. Salvage incandescent, mercury-vapor, and fluorescent lamps and fluorescent ballasts manufactured prior to 1978, boxed and tagged for identification, and protected from breakage.

3.1.19.2 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.

3.1.19.3 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.

3.1.19.4 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.

3.1.20 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.

3.1.21 Items With Unique/Regulated Disposal Requirements

NOTE: Batteries and materials with lead based
finishes are examples of items with unique or
regulated disposal requirements.

Remove and dispose of items with unique or regulated disposal requirements in the manner dictated by law or in the most environmentally responsible manner.

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 or deconstruction work in areas occupied by structures to be demolished or deconstructed until all demolition and deconstruction in the area has been completed and debris removed. Fill holes, open basements and other hazardous openings.

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 or deconstructed, 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 shall 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] [and] [Deconstruction] 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] [and] [deconstructed]. 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 or deconstruction 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 or deconstructed 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.

5. 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, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the Contracting Officer to begin demolition and deconstruction. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale 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 [in the [Demolition] [Deconstruction] Plan] [____]] [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 shall 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 [listed [in the [Demolition] [Deconstruction] Plan] [____]] [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 [____] km miles of the work site].

- a. Salvage items and material to the maximum extent possible.
- b. Store all materials salvaged for the Contractor as approved by the Contracting Officer and remove from Government property before completion of the contract. On site sales of salvaged material is prohibited.
- c. Remove salvaged items to remain the property of the Government in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Items damaged during removal or storage must be repaired or replaced to match existing items. Properly identify the contents of containers. Deliver the following items reserved as property of the Government to the areas designated: [____].
- d. Remove the following items reserved as property of the using service 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 (DDRV)
SW0400
Cylinder Operations
8000 Jefferson Davis Highway
Richmond, VA 23297-5900]]

[The Government will remove and capture Class I ODS refrigerants. To view the web site for ODS, link to:
<https://www.osd.mil/denix/Public/News/DLA/ODS/sect1.html>]

3.3.4 Debris Disposal in the San Diego Area

NOTE: This paragraph is for appropriate NAVFAC SW 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 shall 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 **AHRI Guideline K** suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be [put back into the existing equipment] [turned over to the Contracting Officer] [removed from Government property and disposed 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) shall be disposed of in accordance with **40 CFR 82**. Submit **Receipts** or bills of lading, as specified. Submit a shipping receipt or bill of lading for all containers of ozone depleting substance (ODS) shipped to the Defense Depot, Richmond, Virginia.

3.3.5.1 Special Instructions

No more than one type of ODS is permitted in each container. A

warning/hazardous label shall be applied 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 shall have a tag 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

Deactivate fire suppression system cylinders and canisters with electrical charges or initiators 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

Ship all ODS containers 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 and Non-Recyclable Material

Dispose of unsalvageable and non-recyclable noncombustible material in the disposal area located [____]. The fill in the disposal area shall remain below elevation [____] and after disposal is completed, the disposal area shall be uniformly graded to drain. Dispose of unsalvageable and non-recyclable combustible material [in the sanitary fill area located [____]] [off the site] [by burning].

3.4 CLEANUP

Remove debris and rubbish from basement and similar excavations. Remove and transport the debris 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 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified [off the [____] center] [in the Waste Management Plan] [____]. [Storage of removed materials on the project site is prohibited.]

3.5.2 Burning on Government Property

[Burning of materials removed from demolished and deconstructed structures will not be permitted on Government property] [Transport combustible materials removed from demolished and deconstructed 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 and deconstruction structures to designated spoil areas on Government property.

3.5.4 Removal from Government Property

Transport waste materials removed from demolished and deconstructed 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 --