

## **SECTION 024119 - GENERAL AND SELECTIVE DEMOLITION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes:
  - 1. Demolition and removal of selected portions of building or structure not covered under other Sections
  - 2. Demolition and removal of selected site elements not covered under other Sections.
  - 3. Shoring and bracing to protect existing structures.
  - 4. Elements not covered under other Sections including but not limited to:
    - a. Abandoned Items Above Ceiling: Remove abandoned wiring, cabling, conduit and similar items back to the panels of origin, not to the closest pull box.
    - b. Disconnecting, capping or sealing, and abandoning in-place or removing certain site utilities.
    - c. Disconnecting, capping, or sealing building utilities adjacent to demolished structure.
    - d. Abandoning in place below-grade construction.
  - 5. Salvaging of existing items including but not limited to:
    - a. Salvage of existing items to be removed, stored, cleaned, and reinstalled by Design-Builder unless otherwise indicated on Drawings.
    - b. Salvage of existing items to be removed, stored, refurbished, cleaned, and reinstalled by Design-Builder unless otherwise indicated on Drawings. Refer to Drawings for specific requirements related to refurbishing.
    - c. Salvage of existing items to be removed and handed over to TSA, American-Airlines, DFW/ OAR. Design-Builder shall remove items and hand over to TSA, American-Airlines, DFW/ OAR. Design-Builder shall confirm salvaged items which need to be delivered to locations off-site.
    - d. Items to be salvaged by TSA, American-Airlines, DFW/ OAR prior to Design-Builder commencing demolition work.
- B. Related Requirements:
  - 1. Division 01, Section 01 11 00 "Summary of the Work" for hours of work.
  - 2. Division 01, Section 01 73 29 "Cutting and Patching" for cutting and patching procedures.
  - 3. Division 01, Section 01 78 39 "Project Record Documents" for construction and record documentation.
  - 4. Division 01, Section 01 50 00 "Temporary Facilities and Controls" for temporary construction, protection facilities, and environmental-protection measures for building demolition operations.
  - 5. Refer to Divisions 21, 22, 23, 26, 27 and 28 for additional demolition requirements.
  - 6. Division 02, Section 02 41 19.23 "Fuel System Abandonment and Demolition" for demolition related to structures, utilizes, pavement, underground storage tank and associated equipment.

7. Division 07, Section 07 81 00 "Applied Fireproofing" for patching and repairing of applied fireproofing.
8. Refer to Division 07 for floor preparation to receive floor coatings, water repellents and sealers.
9. Division 09, Section 09 66 23 "Resinous Matrix Terrazzo Flooring" for patching and repairing of resinous terrazzo flooring and base
10. Refer to Division 09 for preparation of flooring to receive new flooring finishes.
11. Division 09, Section 09 21 00 "Gypsum Board Assemblies" for patching and repairing of gypsum board assemblies.
12. Refer to Division 09 for patching and repairing of various tile, panel, and specialty ceilings

### **1.3 DEFINITIONS**

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner's Representative ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled. Components removed or damaged during demolition work must be reinstalled or replaced at the end of the demolition work unless other noted on Drawings.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- F. Refurbish: Includes either refinishing, refacing, replacing of components, or repair of components as indicated on Drawings.

### **1.4 MATERIALS OWNERSHIP**

- A. Refer to Drawings for items to be salvaged.
- B. Salvage in a manner to prevent damage.
- C. Unless otherwise directed by the Owner's Representative, demolition waste becomes property of Contractor.
- D. Storage or sale of removed items or materials on-site is not permitted.

### **1.5 FIELD CONDITIONS**

- A. Selective Demolition shall require extensive coordination with all existing facilities and infrastructures including, but not limited to, the following:
  1. Security, information technology, tenant operations, AATC, building systems, utilities and existing air carrier leasehold facilities.

- B. Provision shall be made for maintaining existing airport curbside systems including lights, speakers and other systems during selective demolition.
- C. Maintain access to existing walkways, exits, and other facilities used by occupants.
- D. Owner will occupy portions of building adjacent to selective demolition area.
- E. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Design Professional and Owner's representative. Hazardous materials will be removed by Owner under a separate contract.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Storage or sale of removed items or materials on site is not permitted
- H. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

## 1.6 SUBMITTALS

- A. Schedule of Building Demolition Activities: Indicate the following:
  - 1. Detailed sequence of demolition work, with starting and ending dates for each activity.
  - 2. Coordination for shutoff, capping, and continuation of utility services.
  - 3. Interruption of utility services. Indicate how long utility services will be interrupted.
  - 4. Use of elevator and stairs.
  - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- B. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner's Representative prior to start of demolition.
- C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.
- D. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- F. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.
- G. Survey:
  - 1. Engineering See requirements of section 3.1-D

2. Existing Conditions: Contractor is responsible for field survey of the site to verify existing conditions illustrated on the Drawings were developed based on as-built information provided by DFW Airport.

## **1.7 QUALITY ASSURANCE**

- A. Regulatory Requirements: Comply with any governing EPA or DOA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction. All work is to be done in accordance with all applicable laws, codes, and ordinances which may have authority over this project.
- B. Selective Demolition Firm Qualifications: Engage an experienced firm that has specialized in demolition work and has successfully completed selective demolition similar in material and extent to that indicated for this Project for a period of not less than 5 years.
- C. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services for selective demolition similar to those indicated for this Project.

## **1.8 PRE-DEMOLITION MEETINGS**

- A. Contractor shall schedule pre-demolition conferences at each demolition phase and/or construction scheduled milestone.
- B. Conduct conference at Project site.
  1. Inspect and discuss condition of construction to be selectively demolished, and existing conditions not accurately reflected on Drawings.
  2. Review structural load limitations of existing structure.
  3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  5. Review areas where existing construction is to remain and requires protection.
    - a. Review and finalize protection requirements.
    - b. Review procedures for noise control and dust control.
    - c. Review procedures for protection of adjacent buildings.
    - d. Review items to be salvaged.
  6. Review items to be demolished and remove with DFW or OAR. No item may be removed or demolished until approval from DFW or OAR has been provided in writing.

## **1.9 COORDINATION**

- A. Arrange selective demolition schedule so as not to interfere with Owner's on-site operations and operations of adjacent occupied buildings.
- B. Before selective demolition, Owner, American-Airlines, and TSA will remove items as indicated on the Drawings.

## **1.10 WARRANTY**

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Coordinate with Owner's Representative before proceeding with Demolition Work.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review documents of existing construction provided in the Bid Package. Design Consultant does not guarantee that actual, on site conditions are same as those indicated.
- C. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
- D. Perform an engineering survey of condition and connectivity to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations. Provide a copy of Engineering Survey signed by Professional Engineer performing the survey.
  - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

### **3.2 PREPARATION**

- A. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.
  - 1. Arrange to shut off indicated utilities with any affected utility companies.
  - 2. If removal, relocation, or abandonment of utility services will affect adjacent occupied building, then provide temporary utilities that bypass building and structure to be demolished and that maintain continuity of service to other buildings and structures.
  - 3. Cut off pipe or conduit a minimum of 24 inches (610 mm) below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
- B. Existing Utilities: Verify OAR those utilities that are to be shut off, disconnected, removed, and sealed or capped. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

C. Removed and Salvaged Items:

1. Clean salvaged items of dirt and demolition debris.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to DFW, American-Airlines, and TSA as indicated on Drawings.
4. Transport items to on-site storage area designated by DFW, American-Airlines, and TSA as indicated on Drawings.
5. Where items are to be delivered off site, arrange with DFW, American-Airlines, and TSA for delivery addresses.
6. Protect items from damage during transport and storage.
7. All other demolished materials to be removed off Airport property.

D. Remove and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate item after cleaning and repairing. Identify contents of containers.
3. Protect items in locations indicated on Drawings.
4. Comply with installation requirements for new materials and equipment. Provide connection, support and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selection demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.3 TEMPORARY SHORING

- A. Design, Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished during selective demolition.
1. Strengthen or add new supports when required during progress of selective demolition
  2. Notify the OAR and Design Consultant to strengthen or add new supports (when required) during progress of demolition.

### 3.4 PROTECTION

- A. Erect temporary protection where indicated on Drawings and conduct demolition in a manner to ensure minimum interference with adjacent occupied area.
- B. Lighting, graphics, communication, signals, fiber optic systems must be maintained during the removal operations either by using the original, temporary or new systems as required.
- C. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing building.
- D. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.
1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner's Representative and authorities having jurisdiction.

2. Provide temporary services during interruptions to existing utilities.
  3. Refer to Section 01 11 00 "Summary of Work" for utility outage request form requirements.
- E. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide sound and dustproof temporary partitions.
  2. Provide secure and weather tight walls for protection of building from unauthorized entry, and weather protection.
  3. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  4. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  5. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  6. Cover and protect furniture, furnishings, and equipment that have not been removed.
  7. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 50 00 "Temporary Facilities and Controls."
  8. .
- F. Remove temporary barricades and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

### 3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
  2. Maintain adequate ventilation when using cutting torches.
  3. Locate demolition equipment, and remove debris and materials, so as not to impose excessive loads on supporting walls, floors, or framing.
  4. Provide all follow-up finishing and protection of items to remain per contract documents, including concrete sealing and protection of newly exposed concrete surfaces.
- B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities. Provide copies of the survey report to the Owner's Representative and Design Consultant.
1. Do not alter, remove, cut into or tamper with existing structural elements unless otherwise indicated. Refer to structural demolition notes on Drawings.
- C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Do not close or obstruct entrance roads, walkways, or other adjacent occupied or used facilities without permission from Owner's Representative and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

- D. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- E. Remove all existing plumbing and electrical not utilized in the new construction. Remove these utilities to the source, cap as required by local codes.
- F. Explosives: Use of explosives is not permitted.

### **3.6 SELECTIVE DEMOLITION FOR SPECIFIC MATERIALS**

- A. Concrete: Deconstruct in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Masonry: Deconstruct in small sections. Cut masonry at junctures with construction to remain using power-driven saw, and then remove masonry between saw cuts.
  - 1. Masonry Openings: Where existing masonry walls are altered to provide for door and window openings, shore walls above openings, furnish and install masonry lintels specified in Division 04, Section 04 20 00 "Unit Masonry" or steel angle lintels specified in Division 05, Section 05 50 00 "Miscellaneous Metal Fabrication", with sufficient bearing to adequately redistribute imposed loads.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.
- D. Resilient Floor Coverings: Remove existing floor coverings and adhesive including bases and other finishes down to original sound structure in areas designated to receive new floor finishes, in accordance with recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.
  - 1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.
- E. Ceilings: Where ceilings are indicated to be removed and replaced, remove ceiling board and suspension system. Retain existing inserts and anchors.
  - 1. Where walls supporting ceilings are removed, provide temporary bracing and replace edge angles with mechanical suspension grid required to support ceilings.
- F. Roofing: Coordinate with original manufacturer of roofing and obtain original manufacturer's written recommendations regarding cutting and patching existing roofing at areas to be cut to items indicated to penetrate the roof. Comply with roofing manufacturer's strict instructions so as not to undermine or void existing roofing warranty and to maintain watertightness at all penetrations. Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.
  - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
  - 2. Remove existing roofing system down to substrate.



### **3.7 DEMOLITION BY MECHANICAL MEANS**

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  - 1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Existing Utilities: Abandon only existing utilities and below-grade utility structures identified by Owner's Representative. Cut utilities flush with grade as determined by Owner's Representative.

### **3.8 SITE RESTORATION**

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials.
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

### **3.9 REPAIRS**

- A. Repair or replace existing items not indicated or specified for demolition or removal that are damaged from demolition activities. Damage items shall be immediately repaired to meet or exceed quality of original item at Design-Builder's expense.

### **3.10 DISPOSAL OF DEMOLISHED MATERIALS**

- A. Building demolition materials shall be disposed of off the airport property, at a landfill or disposal site of the Contractor's choosing.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  - 4. Comply with requirements specified in Division 01, Section 01 74 19 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

### **3.11 CLEANING**

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

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**END OF SECTION**