

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

- A. Provide all labor, materials, equipment, and incidentals as shown, specified and required for all demolition, removal, and disposal of Work.
- B. Scope:
 - 1. Demolition and removal of existing materials and equipment as shown or indicated in the Contract Documents. The Work includes demolition of foundations, piping, manholes, paving, curbs, sidewalks, gutters, fencing and similar existing facilities to a minimum of 5 ft below grade.
 - 2. Demolition and removal of all Underground Facilities underneath, and above-grade piping and utilities, in the building(s) and structures shown or indicated for demolition, unless the Underground Facilities or above-grade facilities are shown or are indicated to remain.
 - 3. Remove from slabs and foundations that are to be demolished all utilities embedded in such construction.
 - 4. Demolitions and removals specified under other Sections shall comply with requirements of this Section.
 - 5. Perform demolition Work within areas shown or indicated.
 - 6. Pay all costs associated with transporting and, as applicable, disposing of materials and equipment resulting from demolition.

1.2 RELATED REQUIREMENTS

- A. Section 01 70 00 – Execution and Closeout Requirements.
- B. Section 32 92 01 – Seeding and Sodding.
- C. Section 31 23 34 – Excavation, Trenching, Dewatering and Backfilling.

1.3 ITEMS TO REMAIN IN PLACE

- A. Take necessary precautions to avoid damage to existing items that remain in-place.
- B. Trees are to be protected.

1.4 COORDINATION

- A. Prior to start of Work, Contractor shall confirm with Owner and Engineer that all utilities and services are inactive. Contractor is responsible for disconnecting all services as indicated.

1.5 SUBMITTALS

- A. Informational Submittals: Submit the following:
 - 1. Demolition and Removal Plan: Not less than ten days prior to starting demolition Work, submit acceptable plan for demolition and removal Work, including:
 - a. Plan for coordinating shut offs, capping, temporary services, and continuing utility services.
 - b. Equipment proposed for use in demolition operations.
 - c. Recycling/disposal facility(ies) proposed, including facility owner, facility name, location, and processes. Include copy of appropriate permits and licenses, and compliance status.
 - d. Planned demolition operating sequences.
 - e. Detailed schedule of demolition Work in accordance with the accepted Process Schedule.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Electrical Removals: Entity and personnel performing electrical removals shall be electrician legally qualified to perform electrical construction and electrical work in the jurisdiction where the Site is located.
 - 2. Plumbing Removals: Entity and personnel performing plumbing removals shall be plumber legally qualified to perform plumbing construction and plumbing work in the jurisdiction where the Site is located.
- B. Regulatory Requirements:
 - 1. Demolition, removal, and disposal Work shall be in accordance with 29 CFR 1926.850 through 29 CFR 1926.860 (Subpart T - Demolition), and all other Laws and Regulations.
 - 2. Comply with requirements of authorities having jurisdiction.

PART 2 PRODUCTS

- A. Backfill Materials: Refer to Section 31 23 34 - Excavation, Dewatering, Trenching, and Backfilling and Section 32 92 01 - Seeding and Sodding.

PART 3 EXECUTION

3.1 NOTIFICATION

- A. At least 48 hours prior to commencing demolition or removal, notify Engineer and Owner in writing of planned start of demolition Work. Do not start removals without permission of Engineer and Owner of infrastructure to be demolished.
- B. Protection of Surrounding Areas and Facilities:
 - 1. Perform demolition and removal Work in manner that prevents damage and injury to property, structures, occupants, the public, and facilities. Do not interfere with use of, and free and safe access to and from, structures and properties.
 - 2. Closing or obstructing of roads, drives, sidewalks, and passageways adjacent to the Work is not allowed unless indicated otherwise in the Contract Documents. Conduct the Work with minimum interference to vehicular and pedestrian traffic.

3. No area, section, or component of floors, roofs, walls, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure.
 4. Provide temporary barriers, lighting, sidewalk sheds, and other necessary protection.
 5. Repair damage to facilities that are to remain.
- C. Existing Utilities: In addition to requirements of the General Conditions, Supplementary Conditions, and Division 01 Specifications, do the following:
1. Should uncharted or incorrectly charted Underground Facilities be encountered, Contractor responsibilities shall be in accordance with the General Conditions as may be modified by the Supplementary Conditions. Cooperate with utility owners in keeping adjacent services and facilities in operation.
 2. Sanitary Sewer: Before proceeding with demolition, locate and cap all sewer lines and service laterals discharging from the building or structure being demolished.
 3. Water Piping: Before proceeding with demolition, locate and cap all potable and non-potable waterlines and service laterals serving the building or structure being demolished.
 4. Shutdown of all other utility services shall be coordinated by Contractor.

3.2 DEMOLITION – GENERAL

- A. Locate construction equipment used for demolition Work and remove demolished materials and equipment to avoid imposing excessive loading on supporting and adjacent walls, floors, framing, facilities, and Underground Facilities.
- B. Pollution Controls:
1. Use water sprinkling, temporary enclosures, and other suitable methods to limit emissions of dust and dirt to lowest practical level. Comply with Section 01 50 00 – Temporary Facilities and Controls.
 2. Do not use water when water may create hazardous or objectionable conditions such as icing, flooding, or pollution.
 3. Clean adjacent structures, facilities, properties, and improvements of dust, dirt, and debris caused by demolition Work, in accordance with the General Conditions.
- C. Explosives:
1. Do not bring explosives to the Site or use explosives.
- D. Building or Structure Demolition:
1. Unless otherwise approved by Engineer, proceed with demolition from top of building or structure to the ground. Complete demolition Work above each floor or tier before disturbing supporting members of lower levels.
 2. Demolish concrete and masonry in small sections.
 3. Remove structural framing members and lower to ground using hoists, cranes, or other suitable methods. Do not throw or drop to the ground.
 4. Break up and remove foundations and slabs-on-grade unless otherwise shown or indicated as remaining in place.
- E. Demolition of Site Improvements:

1. Pavement, Sidewalks, Curbs, and Gutters: Demolition of asphalt or concrete pavement, sidewalks, curbs, and gutters, as applicable, shall terminate at cut edges. Edges shall be linear and have a vertical cut face.
 2. Fencing, Guardrails, and Bollards: Remove to the limits shown or indicated on the Drawings. Completely remove below-grade posts and concrete.
 3. Manholes, Vaults, Chambers, and Handholes: Remove to the limits shown or indicated on the Drawings.
 4. Underground Facilities Other than Manholes, Vaults, Chambers, and Handholes: Remove to the extent shown or indicated on the Drawings. Unless otherwise shown or indicated, cap ends of piping to remain in place in accordance with the "Mechanical Removals" Article in this Section.
 5. Landscaping: Comply with Section 32 92 01 – Seeding and Sodding.
- F. Salvage and Ownership:
1. Refer to Section 01 70 00 – Execution and Closeout Requirements, for requirements on salvage, ownership, and handling of equipment and materials removed during demolition and removal Work.
 2. Materials and equipment to remain Owner's property shall be carefully removed and appropriately handled by Contractor to avoid damage and invalidation of warranties in effect and shall be cleaned and stored at the Site (or other site specified in the Contract Documents) at place designated by Engineer or Owner.
- G. Finishing of Surfaces Exposed by Removals: Unless otherwise shown or indicated in the Contract Documents, surfaces of walls, floors, ceilings, and other areas exposed by removals, and that will remain as finished surfaces, shall be repaired and re finished with materials that match existing adjacent surface, or as otherwise approved by Engineer.

3.3 WATER / SEWER UTILITY STRUCTURE ABANDONMENT

- A. Manholes, vaults, wet wells and other underground utility structures to be abandoned (TBA), as noted on the Drawings, shall be demolished to 5 feet below grade. All pipes entering or exiting the structure shall be capped as noted on Design Drawings. The structure shall be filled with granular material, topped with suitable backfill material compacted to 90% standard proctor, or better, and prepared for seeding. Access must be along established utility easements and only allowed during dry conditions. Any disturbed areas at the structure or enroute to the structure will be seeded and mulched.
- B. Where a gravity sewer main is to be abandoned, the Contractor shall furnish and install the necessary materials to cap both the upstream and downstream manhole inverts, or, as directed by the Engineer to properly abandon the sewer main. The sewer main shall be capped on each end and abandoned in place.
- C. Where a sewer force main or water main is to be abandoned, the Contractor shall furnish and install the necessary materials to cap the terminal end of the main, or where shown on the drawing or directed by the Engineer to properly abandon the main.
- D. Mains abandoned within existing road or street rights-of-way shall comply with the permit requirement of the Owner (NC DOT or City of Wilmington).

- E. Mains to be abandoned shall be filled with flowable fill unless otherwise directed by Owner and Engineer.
- F. Pressurized mains shall be abandoned and capped with appropriate fittings and restraints as indicated on the drawings.

3.4 DISPOSAL OF DEMOLITION DEBRIS

- A. Remove from the Site all debris, waste, rubbish, and material resulting from demolition operations and equipment used in demolition Work. Comply with the General Conditions, Supplementary Conditions.
- B. Transportation and Disposal:
 - 1. Non-hazardous Material: Properly transport and dispose of non-hazardous demolition debris to a permitted landfill or other suitable location permitted by the Division of Solid Waste Management, in accordance with Laws and Regulations. Non-hazardous material does not contain Asbestos, PCBs, Petroleum, Hazardous Waste, Radioactive Material, or other material designated as hazardous in Laws and Regulations.
 - 2. Hazardous Material: When handling and disposal of hazardous materials is included in the Work, properly transport and dispose of hazardous materials in accordance with the Contract Documents and Laws and Regulations.
- C. Submit to Engineer information required in this Section on proposed facility(ies) where demolition material will be recycled. Upon request, Engineer or Owner, shall be allowed to visit recycling facility(ies) to verify adequacy and compliance status. During such visits, recycling facility operator shall cooperate and assist Engineer and Owner.

END OF SECTION