

**SECTION 01400  
CLEARING AND DEMOLITION**

**PART 1 GENERAL**

**1.01 – Section Includes**

- A. Clearing and grubbing.
- B. Removal of existing facilities and improvements.

**1.02 – Description of Work**

- A. Clearing and Grubbing – This Work includes the removal and disposal offsite of all woody and herbaceous vegetation, rubbish, fences, culverts, broken concrete, existing foundations, miscellaneous machinery and other objectionable material within the Project limits except for items which are to be preserved, or paid separately, as indicated in the Contract Documents.
- B. Removal of Existing Facilities and Improvements – This Work includes, but is not limited to, the removal of pavements, including integral curb; removal of utility structures, including intakes, manholes, service boxes, and building structures; and the removal of other obstructions within the Project limits.

**1.03 – Delivery, Storage and Handling**

- A. Store cleared, grubbed, and excavated material in locations which will minimize the interference with operations, minimize environmental damage, and protect adjacent areas from flooding, runoff and sediment disposition.

**1.04 – Scheduling and Conflicts**

- A. Schedule work to minimize disruption of public streets and facilities.

**1.05 – Special Requirements**

- A. The use of explosives is not permitted unless provided for in the special provisions of the Contract Documents.
- B. Disposition of rubble, salvaged and waste materials, debris, and trash from within the site shall be strictly in accordance with the Contract Documents. Public streets, alleys, or other thoroughfares used by the Contractor in carrying out the Contract, shall at all times be kept free of litter attributable to the Contractor. Trucks or other vehicles shall be so loaded and equipped as to prevent leakage, blowing off, or other escape of any portion of whatever is being hauled. Any cost incurred by the local jurisdiction in cleaning up such litter will be charged to the Contractor.
- C. The Contractor shall arrange for the suppliers of electrical, gas, phone, and other services to disconnect services and to remove associated equipment.
- D. Prior to demolition of a building or similar structure, the Contractor shall arrange for inspection for asbestos and hazardous chemicals by the Linn County Health Department.
- E. The Contractor shall notify the Linn County Health Department prior to removing septic tanks.
- F. The removal and reinstallation of permanent traffic control devices shall be completed by the Jurisdiction. Contractor shall notify the Jurisdiction at least 72 hours in advance for removals.

**PART 2 PRODUCTS**

**2.01 – Fill**

- A. Compacted fill shall meet the requirements of Section 02000 – Grading, Excavation and Embankment.

**PART 3 EXECUTION**

**3.01 – Clearing and Grubbing**

- A. Clearing and grubbing shall not commence until suitable erosion and sediment control measures are in place as set forth in Section 01300.
- B. The area within the Project limits as indicated in the Contract Documents, including borrow areas, shall be cleared and grubbed. All materials cleared and grubbed shall be disposed of in accordance with the Contract Documents.

- C. The Work shall include the following:
  - 1. Clearing shall consist of cutting including trimming, removal, and disposal of brush, shrubs, trees, logs, down timber, vegetation, rubbish, field fences, culverts and other objectionable material.
  - 2. Grubbing shall consist of removal and disposal of stumps, including roots to a minimum of 24 inches below subgrade or finish grade.
  - 3. A stump chipper shall be used to remove a tree stump if utility cables or piping are within the root system.
  - 4. The Contractor shall be responsible to pay all fees associated with the disposal of the materials as a part of this paragraph, 3.01C.
- D. Trees not indicated for removal shall be protected as follows to the drip line:
  - 1. Trees within 25' of a building site and associated grading, parking and utility extensions shall be cordoned to maintain existing elevations around trees and to prevent mechanical injury.
  - 2. Boards will not be nailed to trees during building operations.
  - 3. Heavy equipment operators will be cautioned to avoid damage to existing tree trunks and roots during grading operations. When there is no other alternative, tunnel under roof system when installing utility lines.
  - 4. Spread wood chips to a 4" depth in wooded sites to help prevent soil compaction and damage to trees.
  - 5. The use of heavy equipment on root systems of desirable trees must be avoided to prevent soil compaction. All construction should be kept out of the drip line of protected trees. Protective fencing shall be utilized for trees being retained and shall be located at the drip line.
- E. Protected trees damaged during clearing and demolition operations shall be:
  - 1. Treated by Contractor at Contractor's expense, or
  - 2. If, in the Engineer's opinion, the trees are damaged beyond salvation, they shall be removed and replaced by Contractor at Contractor's expense.

### **3.02 – Removal of Existing Facilities and Improvements**

- A. The Contractor is responsible to report any damaged utility casting within the Project limits to the Engineer, prior to commencing removal activities.
- B. Prior to removal of pavements and sidewalks, the area to be removed shall be marked by the Contractor or Engineer and measured for payment by the Engineer.
- C. Pavement, Curb, Gutter, Sidewalk, Driveways, Crosswalk, and Similar Structures:
  - 1. Where portions of the existing structure are to be left in the surface of the finished Work, Contractor shall remove the structure to an existing joint, or saw and chip the structure to a true line.
  - 2. Sufficient removal shall be made to provide for proper grades and connections in the Work.
- D. All steel reinforcing shall be cut flush with PCC pavements and sidewalks prior to disposal. The steel reinforcing shall become the property of the Contractor.
- E. Pavement Removal:
  - 1. Limits shown on plans for removal are approximate and may be changed by the Contractor with Engineer approval or by the Engineer.
  - 2. ACC and PCC materials removed shall be transported to the landfill or to a legal fill site, unless required to be recycled.
- F. Pipe Culverts:
  - 1. Remove entirely all culverts that are to be removed, except as hereinafter provided for closing culverts.
  - 2. In lake and streambeds:

- a. Remove sidewalls or substructure units in water to an elevation no higher than the elevation of the natural stream or lake bed.
  - b. Where grading of the channel is required, remove such units to the proposed finished grade of the stream or lake bed.
  3. Remove all other endwalls or substructure units outside of lakes and streambeds down to at least two feet below natural or finished ground line, as the case may be.
  4. Where existing culverts are to be extended or otherwise incorporated into the new Work, remove only such part or parts of the existing culvert as necessary to provide a proper connection to the Work.
  5. Remove pipe culverts designated for salvage in a manner that will preclude damage to the culverts.
- G. Abandonment of sewers and sewer structures:
1. Sewers
    - a. Place bulkheads at ends of sewers designated to be abandoned
    - b. Excepting for potions under pavements or in areas identified as not to be disturbed, expose sewer and cut opening in pipe at 50-foot intervals.
    - c. Place bulkheads in sewers inside structure as indicated in Contract Documents.
    - d. Cut or break holes through bottom of structure.
    - e. Fill structure with flowable mortar. Shape top of mortar to shed water. Allow mortar to cure before backfilling.
- H. **Water main and appurtenances**
1. **Hydrants and Valves**
    - a. **Where indicated in contract documents, remove fixtures and store securely onsite.**
    - b. **Jurisdiction Water Division personnel will evaluate fixtures to determine if they are in serviceable condition or can be salvaged for parts.**
    - c. **Deliver serviceable or salvageable fixtures to Jurisdictional Water Division storage facility.**
    - d. **Dispose of fixtures determined not serviceable or salvageable.**
  2. **Water Main Pipe**
    - a. **Water main shown in drawings to be removed and reinstalled**
      - 1). **Jurisdictional Water Division personnel shall inspect pipe after removal to determine pipe is suitable for salvage.**
      - 2). **Remove dirt and other unsuitable material from pipe barrel, bell and spigot.**
      - 3). **Store approved, cleaned pipe onsite**
    - b. **Water main shown in drawings to be salvaged**
      - 1). **Jurisdictional Water Division personnel shall inspect pipe after removal to determine pipe is suitable for salvage.**
      - 2). **Remove dirt and other unsuitable material from pipe barrel, bell and spigot.**
      - 3). **Load, transport and unload salvaged pipe at Jurisdiction Water Division storage facility.**
      - 4). **Dispose of unsuitable pipe per applicable requirements.**
    - c. **Water main designated for disposal**
      - 1). **Dispose of pipe per applicable requirements**

- I. Abandonment of sewers and sewer structures:
  - 1. As determined by the Contractor, salvageable materials shall be kept in orderly segregation as the Work progresses, and all waste materials shall be promptly removed. All lumber containing nails shall be kept in compact piles. Littering of the Site will not be permitted. Any lumber showing evidence of termite tunnels will not be permitted to be sold for salvage.
- J. Structural Parts of Buildings
  - 1. Structural parts of buildings, such as columns, beams and joists, supporting the floor of any story shall be left in place until the walls, flooring and partitions of that story are completely removed, beginning at the top and working downward. Exception to this requirement will be made in the case of wood frame buildings or non-rigid frame masonry or concrete buildings. If the Contractor elects to use an approved alternate procedure for progressive or simultaneous wrecking of all parts of the building, the Contractor shall provide to the Engineer for approval the type and location of the building, and the Contractor's proposed method are all such that danger to the Contractor's personnel, the public, or to adjacent property will not be increased thereby.
  - 2. No wall or part thereof shall be permitted to fall outwardly from any building except through chutes or by other controlled means or methods which will insure safety and minimize dust, noise and other nuisance.
  - 3. Outside chimneys or outside portions of chimneys shall be raised in advance of general demolition of each building. Any portion of a chimney inside a building shall be razed as soon as it becomes unsupported by reason or removal of other parts of the building.
  - 4. Any part of a building, whether structural, collateral, or accessory, which has become unstable through removal of other parts, shall be removed as soon as practicable, and no such unstable part shall be left free-standing or inadequately braced against all reasonably possible causes of collapse at the end of any day's Work.
  - 5. Outdoor toilets shall be pumped out by a licensed company, and the pit completely filled with trash-free earth, thoroughly compacted. The toilet building shall be demolished and removed from the Site.
  - 6. Septic tanks, shall be pumped out as above, the tank broken up and removed from the Site, and the excavation filled in accordance with the requirements of the Linn County Health Department.
  - 7. Cisterns, shall be pumped out, broken up and removed from the Site, and the excavation filled and compacted as above.
- K. All Fuel Tanks
  - 1. Fuel tanks, above or below ground, or tanks which have been used for storage of gasoline, kerosene, benzene, oils or similar volatile materials shall be carefully removed and disposed of in a safe manner. The time, place and manner of disposal will be as set forth in the Contract Documents.
  - 2. Small fuel oil tanks, if in good condition, may be removed after being emptied and having all openings tightly plugged or capped.
  - 3. All other tanks or receptacles shall be pumped out or emptied in a safe manner, and then shall be flushed out immediately with water, carbon dioxide or nitrogen gas until they are gas-free when checked with "Explosimeter" (as manufactured by Mine Safety Appliance Company), or another equally efficient instrument, before the Work of removal is begun. Checking the "Explosimeter" shall be done in the presence of the Engineer by competent personnel.
- L. Site Grading
  - 1. The Contractor shall backfill all excavations with sand, sandy clay or similar trash-free material. Backfill shall be compacted to 95 percent of maximum dry

density as set forth in ASTM Test Method D 698, latest revision. Backfill and compaction shall be incidental to the Work.

2. The Contractor shall assist the Engineer in obtaining a representative material sample for testing examination prior to placement. Upon approval, the Contractor shall then use this material. If the Contract decides to substitute a different material, he shall reimburse the Engineer for all costs of collecting a new sample and testing the material.

### 3.03 – Water Service and Sewer Disconnects

- A. Water service shall be disconnected by the Contractor at the main prior to demolition. The location of mains, where known, will be provided by the local jurisdiction. The Contractor may be required to schedule excavations in certain streets in accordance with the requirements of the local jurisdiction. Methods of Work on mains and services will be subject to prior approval and inspection by the Engineer. The disconnect shall be subject to approval by the Engineer prior to backfilling.
- B. Those water services controlled by a corporation cock valve on the main shall be disconnected at the main by closing the cock valve and disconnecting the service lines. A cap or corporation nut shall be put on the corporation cock valve. Upon completion of a minor water service disconnect and inspection of the same, the Contractor shall backfill the excavation. The backfill shall be compacted to 95 percent of the maximum dry density as set forth in ASTM Test Method D698.
- C. Those water services controlled by gate valves shall be disconnected as near as practical to the main by closing the valve, replacing the stem packing, disconnecting the first joint away from the valve and installing a cast iron plug designed to fit the type of joint found. A concrete thrust block shall be poured against the plug in such a manner that it will bear against undisturbed earth. Care shall be taken in forming this thrust block so that the plug could be removed if desired for a future connection.
- D. Upon completion of the Work, the Contractor shall backfill the excavation. The backfill shall be compacted to 95 percent of the maximum dry density as set forth in ASTM Test Method D698.
- E. Prior to or during demolition of any building or structures, the branch sanitary sewer or sewers serving it shall be cut off at the sanitary main and shall be tightly and permanently sealed with a plug of mortar. The plug shall be subject to approval by the Engineer prior to backfilling. The Contractor shall keep a temporary plug, either friction-type or a cap in the sewer line, to prevent storm water and debris from washing into the line prior to constructing the final plug.
- F. Prior to demolition of any building or structure, roof drains or area drains connected to the storm sewer system shall be cut off at the back of curb and that portion of the branch sewer shall be permanently sealed with a plug of mortar not less than one foot thick. The plug shall be subject to approval by the Engineer prior to backfilling.

### 3.04 – Protection of the Public by the Contractor

- A. Temporary fence shall be erected around all excavation, dangerous building(s) or structure(s) to prevent access to the public. Such fence shall be at least 4 feet high, consistently restrictive from top to grade, and without horizontal openings wider than 2 inches. The fence shall be erected before demolition and shall not be removed until the hazard is removed.
- B. Before removing any part of any buildings, remove all volatile or flammable materials, such as gasoline, kerosene, benzene, cleaning fluids, paints, or thinners in containers, and similar substances. Remove drapes, rags, rugs, or cloth of any nature and loose paper, combustible trash and all other materials which might serve as ready fuel for small fires.
- C. At least one stairway in each building shall be maintained in usable condition to the highest remaining floor, and such stairway shall be kept free of obstructions and debris until the building shall have been removed.
- D. Barrels of water, pails, portable hand pumps or soda-acid fire extinguishers in sufficient

number to check and extinguish small fires shall be kept filled and maintained in usable condition on the floor or floors on which Work is being performed. During freezing weather and when freezing weather is likely to occur, a fireproof non-freeze solution shall be added to the water in amounts necessary to prevent freezing.

- E. Wherever a cutting torch or other equipment which might cause a fire is being used, fire extinguishers shall be kept nearby and ready for instant use. Users of such equipment shall be instructed in the proper method of preventing fires and to extinguish a fire.
- F. Burning of waste lumber and other building materials or trash on the Site will not be permitted.
- G. No material, obstructions or debris shall be placed or allowed to accumulate within 15 feet of any fire hydrant. All fire hydrants shall be accessible at all times.
- H. Excess debris shall not be allowed to accumulate on roofs, floors, or in area outside of and around any building being removed. Excess debris and materials shall be removed from the Site as the Work progresses to permit access to all areas in case of fire.
- I. The Contractor shall arrange for access to and use of, during working hours, one or more telephones in the vicinity of the Work Site for the purposes of making calls in case of fire or other emergencies, and shall keep all personnel on the job, and the local jurisdiction informed of the location of such telephones. The Contractor's foreman, or at least one regular member of each shift, shall be charged with the responsibility of promptly calling emergency services when necessary. The same person shall be required to inspect the building and Site frequently for possible fires or fire-producing conditions and to apply appropriate corrective action, particularly at the close of Work each day.
- J. In structures over two stories in height or with more than 4,000 square feet of area per floor, the local jurisdiction may require the Contractor to provide instruments or equipment to permit signaling or voice communication to the outside in case of emergency.
- K. It shall be the Contractor's responsibility to prevent the public from entering the building prior to or during demolition of any structures located on the parcel. The Contractor shall keep doors and windows boarded up until demolition actually begins at which time suitable barricades and/or watchmen shall be used to prevent access by the public.
- L. The Contractor shall provide water as necessary to control dust from the demolition.
- M. Provide vehicular and pedestrian traffic control in accordance with Section 01200.

### **3.05 – Protection of Public Utilities**

- A. The Contractor shall not damage existing fire hydrants, street lights, traffic lights, power poles, telephone poles, fire alarm boxes, wire cables, pole guys, underground utilities or other appurtenances in the vicinity of the demolition sites. The Contractor shall pay for temporary relocation of utilities which are relocated at the Contractor's request for his convenience.

### **3.06 – Protection of Adjacent Property**

- A. The Contractor shall not damage or cause to be damaged any public right-of-way, structures, parking lots, drives, streets, sidewalks, utilities, lawns or any other property adjacent to parcels released for demolition whether or not the property is scheduled for future demolition. The Contractor shall provide such sheeting and shoring as required to protect adjacent property during demolition. Care must also be taken to prevent the spread of dust and flying particles.
- B. The Contractor shall restore existing agricultural drain tiles or roadway subdrains that are cut or removed, including drainable backfill, to original condition. Repairs shall be subject to approval by the property owner where applicable, and by the Engineer.

**END OF SECTION 01400**