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SECTION 02100 - MOBILIZATION, SITE CLEARING & PREPARATION

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PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included

Work under this SECTION covers requirements for materials, tools, equipment, and services necessary to complete the site preparation and site cleanup work for this project. The work shall include, but is not necessarily limited to, completion of the following work:

1. Mobilization
2. Establishment of offices and project trailer
3. Installation of project sign
4. Acknowledge location of and help maintain electronic SWPPP documentation
5. Establishment of sanitary facilities
6. Removal and salvage of existing fencing
7. Installation and removal of temporary fencing
8. Protection of existing utilities, vegetation, and facilities to remain undisturbed
9. Site clearing and grubbing
10. Debris removal and disposal
11. Demobilization

1.2 QUALITY ASSURANCE

- A. Contractor shall use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this SECTION.
- B. In addition to complying with requirements of governmental agencies having jurisdiction, Contractor shall comply with the directives of Engineer or Construction Observer and Division.
- C. Trees to remain shall be protected as described by Iowa State University (ISU) Extension Service at https://naturalresources.extension.iastate.edu/forestry/care_maintenance/construction.html.
- D. Contractor shall comply with most current guidelines to protect the Indiana Bat or any other species as provided by the Division or in the Appendix.

1.3 JOB CONDITIONS

- A. The Plans do not purport to show all objects existing on the site.
- B. The locations of utility mains, structures, and service connections shown on the plans are approximate only and were obtained from records made available to Engineer and Division. There may be other existing utilities not known to Engineer and Division and not shown on the Plans. The verification of existence and the exact location determination of utility mains, structures, and service connections shall be the responsibility of Contractor.
- C. Contractor shall not perform any work on or cause any damage to existing CRP land, wetlands, or any other jurisdictional lands that are indicated on the Plans as not to be disturbed. Division has no permit to disturb these areas. These areas are under the jurisdiction of other authorities and any penalties or damages will become the responsibility of the Contractor. In addition, Contractor will complete all work necessary to restore the damage to these areas to an acceptable condition at no cost to Division.

- D. Contractor shall not perform work under the drip line of trees that are to remain. Contractor may request that certain trees within the Project Limits shown on the Plans remain in place. If permission is granted, Contractor shall protect these tree(s) from damage.
- E. Materials to be handled under this Contract include spoil, gob and coal refuse which may be toxic and/or acidic in nature. Miscellaneous debris, including potentially hazardous materials, are sometimes found on the surface or buried on these sites.
- F. Contractor shall not use explosives without written approval of Engineer.
- G. Unless indicated otherwise in the Contract Documents, removed, salvaged or demolished materials shall be considered to be the property of Contractor. Contractor-salvaged materials and demolished materials shall be completely removed from the job site or buried on site as approved by Engineer or Construction Observer. Any items indicated in the Contract Documents to be salvaged to the landowner, such as existing fencing, shall be stored on site at a location approved by Engineer or Construction Observer.
- H. Contractor shall conduct all work in a manner which shall minimize, to the greatest practical extent, inconvenience to the public, and which shall result in a final product which leaves the site in an equal or better condition than prior to construction.
- I. No trees shall be cleared between the dates of April 1 to September 30 to comply with the requirements of the Indiana bat habitat without the express permission of the Division.

1.4 SUBMITTALS

- A. Contractor shall provide to Engineer a description and the location of any alternative off-site disposal area to be used other than a licensed landfill.
- B. Contractor shall submit a Construction Progress Schedule as specified in SECTION 3-23 CONSTRUCTION SCHEDULE of the General Conditions (*Document N*).
- C. Contractor shall submit weight tickets or billings for all off-site waste disposal, including trash, metal, appliances, tires, hazardous chemicals, etc. to Engineer or Construction Observer.
- D. Contractor shall provide Engineer or Construction Observer with record survey notes of all existing fence locations within the projects limits and any adjacent fencing to be temporarily removed prior to removing any existing fence. Contractor shall supply Engineer with record survey notes of any other feature to be documented as noted on the Plans or in the Supplemental Specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide materials, not specifically described but required for proper completion of the work of this SECTION, as selected by Contractor subject to the approval of Engineer.

PART 3 - EXECUTION

3.1 SITE ACCESS

- A. Contractor shall access the site as designated on the Plans and/or as discussed at the pre-bid and pre-construction meetings. Any damage that occurs outside of the designated access will be repaired and restored at no cost to Division.
- B. Site access may require improvements, which include, but are not necessarily limited to, clearing, excavation, installation of tiling or pipe, and placement of macadam stone, erosion stone, or riprap. Unless noted otherwise in the Supplemental Specifications, work needed to facilitate and maintain access to the site during construction shall be considered incidental to the cost of mobilization. The cost for placement of stabilized construction entrance is included in SECTION 02120 – SEDIMENT AND EROSION CONTROL.
- C. Contractor shall remove the site access improvements that can be removed after the project is completed unless permission has been granted to leave them in place by Engineer and Division.
- D. Prior to project acceptance by Division, Contractor shall restore access routes as discussed in Paragraph 3.10.C. Restoration of access routes may include seed bed preparation and seeding that meet requirements of SECTION 02700 -- SEEDING.

3.2 SURFACE CONDITIONS

- A. In company with Engineer, visit the site and verify the extent and location of clearing and site preparation required. Completely remove items scheduled to be removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
- B. All trees outside the Project Limits shown on the Plans shall remain undisturbed. All trees within the Project Limits, except as noted hereafter, shall be removed. In areas of the site where minimal grading is required, the grading plan should be adjusted slightly in favor of saving well established trees. Cooperate with Engineer to achieve this intent.

3.3 PROTECTION

- A. Contractor shall be responsible for locating and protecting all utilities prior to initiating work. If damage does occur to any existing utilities, Contractor shall restore them in a manner acceptable to the utility provider and Engineer or Construction Observer at no cost to the Division.
- B. Contractor shall protect existing vegetation as discussed below.
 - 1. Protect tops, trunks, and roots of existing trees and/or shrubs, indicated or implied to remain, from damage during all operations. Box, fence around, or otherwise protect trees before adjacent work is started. Do not permit heavy equipment or stockpiles within branch spread. Trim or prune to obtain working space in lieu of complete removal whenever possible. Conform to good horticultural practices. Preserve natural shape and character. Refer to ISU Publication as referenced in 1.2.C above.
 - 2. Damaged trees shall be repaired or replaced to the satisfaction of Engineer. Repair may include, but not be limited to, trimming, pruning, and application of pruning paint. Repair shall be completed within seventy two (72) hours of occurrence of damage. Remove existing vegetation when damage occurs and survival is doubtful.

3. Adjacent areas to the site with established vegetation shall be protected. If access through established vegetation is required, Contractor shall coordinate his access with Engineer or Construction Observer and restore the damaged areas as directed by Engineer.
- C. Contractor shall provide protection for persons and property as discussed below.
 1. Barricade open depressions and holes occurring as part of this work.
 2. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, burning of landscape waste, equipment vibration, and other hazards created by operations under this SECTION.
- D. Contractor shall use means necessary to prevent dust from becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Contractor shall maintain access to the site at all times.
- F. When requested by Division or Engineer, Contractor shall provide access through the site on an as needed basis to the landowner when access to adjacent lands is restricted.

3.4 OFFICE AND LAY-DOWN AREA

- A. Contractor shall establish, provide, and initiate use of temporary facilities described herein within thirty (30) days of the initiation of construction activities and prior to the first Progress and Pay Request Meeting. The offices and lay-down area should be located in the designated location shown on plans. If no location is provided, then they can be located anywhere within the Project Limits. Locations outside the Project Limits can only be used if documented permission from landowner on whose property these facilities are to be located is provided.
- B. Contractor's Field Office
 1. Provide adequate space for field office personnel, suitably furnished, lighted, heated and air conditioned.
- C. Unless specifically indicated elsewhere in the Contract Documents, Contractor shall provide all heat, power, sanitary, and any other utilities or facilities required to perform the work.
- D. Contractor shall terminate use and remove facilities at earliest reasonable time when they are no longer needed. Removal of all temporary facilities is required for final acceptance of the completed project.

3.5 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DOCUMENT STORAGE

- A. Division shall establish an electronic designated location to store the SWPPP, all associated reports, and records of data used to complete the Notice of Intent.
 1. Contractor shall have a mobile device readily available while working on the site that can access the electronic designated location.

3.6 EXISTING FENCES

- A. Any existing fences within the project limits that are indicated to remain shall be protected. If these fences are damaged, the Contractor shall repair them at no cost to Division. Fences outside of the Project Limits which interfere with construction operations shall not be relocated or dismantled until approval is obtained from Engineer or Construction Observer. In areas where existing fences outside of the Project Limits cannot be maintained due to construction operations, Contractor will be required to provide temporary fences or other means to prevent unauthorized vehicular, pedestrian or livestock access, as applicable. After work is completed in this area, a replacement fence of equal or better material type shall be installed at the same location at no additional cost to Division.
- B. Existing fences within the project limits shall be removed. If the plans indicate the fence is to be salvaged to landowner(s), fencing material shall be rolled in neat bundles and secured with salvaged posts stacked neatly and stored at a location on site to be approved by Engineer. If the landowner(s) do not want the fence salvaged to them, the fencing material becomes the property of Contractor and shall be disposed of as discussed in 3.8 below.
- C. Where existing fences are removed and subsequently replaced as a part of the work, field establish such reference points and ties as are necessary to ensure replacement fencing will follow the same alignment as the existing fencing.

3.7 CLEARING AND GRUBBING

- A. Contractor shall perform clearing and grubbing only to the extent necessary to perform excavation, grading, and other required work.
- B. Clearing includes felling and disposal of trees, brush, and other vegetation. In cutting of timber growth, cuts shall be made such that all trees are felled into the area to be cleared. Exercise care when clearing near the Project Limits so as not to damage existing trees or vegetation to remain.
- C. Clearing also includes removal of all existing fencing materials as discussed in 3.6 above.
- D. Grubbing includes removal and disposal of tree stumps and roots larger than three (3) inches in diameter. Stumps and roots within three (3) feet of final (proposed) grades shall be grubbed. Backfill all excavated depressions with nearby soil or spoil material, compact to approximate density of adjacent undisturbed areas, and grade entire area to drain.
- E. In areas where the fill depth is greater than three (3) feet, undisturbed stumps and roots extending not more than six (6) inches above the ground line and surface vegetation do not need not be removed unless they are located within the vicinity of a dam, terrace, or other structural element.

3.8 DEBRIS REMOVAL AND DISPOSAL

- A. Contractor shall remove and dispose of debris, rubbish, landscape waste and all other materials resulting from the site clearing and preparation operations by either recycling, burning, burying, off-site disposal, chipping, creating brush piles, or a combination thereof. Specific requirements for various disposal techniques are discussed below.
- B. Burning of Landscape Waste
 - 1. State law requires that burning of landscape waste be limited to areas located at least one-quarter (1/4) mile from any inhabited building, unless a variance is obtained from

the Iowa Department of Natural Resources, or permission is obtained from all impacted residences located within one-quarter (1/4) mile of the proposed burn area.

2. Contractor shall obtain all necessary permits and comply with all regulatory agencies, including the local Fire Department, governing this work. The local Fire Department must be notified prior to any on site burning.
3. Only vegetative matter may be burned on site. Oil base materials are not allowed to be burned on site. Rubber tires cannot be used to start or maintain burning of brush.
4. No burning will be allowed on any area of the site containing coal refuse.
5. Large trees and stumps may require two (2) or more burning sequences. Tree trunks and limbs greater than three (3) inches in diameter may be sawn or cut in lengths not greater than forty-eight (48) inches and buried in lieu of burning.
6. Protection of property, trees and vegetation that are to remain, both inside and outside the Project Limits, shall be maintained at all times.

C. Burying

1. Trees, stumps, brush, and the ashes from the burning of landscape waste may be buried within the project limits provided the requirements below are followed.
 - a. No burying of debris shall be completed within areas of the site that contains dams, terraces, any other structures, or where future settlement would be detrimental to the successful reclamation of the site.
 - b. Uncut trees may be placed in dewatered ponds containing muck to provide support. The trees shall be placed uniformly over the muck and shall not exceed a total thickness of five (5) feet.
 - c. All products to be buried not providing support over muck shall be broken or cut to a maximum dimension of forty-eight (48) inches and shall be spaced so normal fill material can be properly placed and compacted thereon. Mass dumping, without spreading and spacing of debris, will not be allowed. Buried debris shall not be allowed to accumulate greater than five (5) feet in depth and shall be covered with a minimum of five (5) feet of cover per foot of debris. The top of the uppermost buried debris shall be at least five (5) feet below final grade. Burial operations shall be permitted only in the presence of Engineer or Construction Observer.
2. Farm buildings may be buried provided they are emptied of any contents not authorized for burial and laid flat. Burial operations shall be permitted only in the presence of Engineer or Construction Observer.

D. Habitat Brush Piles

1. Brush piles for habitat may be used in some areas if permission is received from the landowner.
2. The location and number of brush piles shall be approved by Engineer or Construction Observer.

3. Brush piles shall not exceed fifty (50) feet in diameter and ten (10) feet in height.
- E. Off-site Waste Disposal
1. Any household trash, tires, hazardous materials, etc. present at the site, whether shown on the plans or encountered during construction, shall be removed off-site to a licensed landfill or other location approved by Engineer. Weight tickets or billings are required for payment purposes.
 2. Small debris and trash shall be removed by hand or with small equipment to avoid inclusion of excessive amounts of soil with the trash. If Division or Engineer or Construction Observer determines that excessive amounts of soil are included with the trash, additional hand sorting will be required.
 3. Metal objects present at the site shall be salvaged where possible or taken to a licensed landfill or other approved location.
 4. Special waste disposal items, such as tires, batteries, appliances or other hazardous materials, are handled separately. Contractor shall account for and dispose of these special waste disposal items as discussed in the Supplemental Specifications and/or on Plans, or as negotiated in an approved change order.

3.9 PROJECT SIGN

- A. The Division and any partners will provide the Contractor with the appropriate signage to be installed at the site.
- B. Contractor will provide the posts and necessary hardware to install the sign as shown on the Plans. The location shall be approved by Engineer or Construction Observer prior to installation.
- C. The Division reserves the right to delay payment of the second application for payment until the project sign is in place.
- D. Upon completion of all the work and final acceptance by Division, Contractor shall be responsible to remove the "Hard Hat Area" portion of the sign. This portion of the sign will be returned to the Division.

3.10 CLEAN-UP AND REPAIRS

- A. Contractor shall remove equipment, project materials, and wastes such as oil drippings, stones, gravel, packaging containers, etc., from the site and dispose of wastes at an approved off-site location.
- B. Contractor shall repair all areas of rill erosion with a depth greater than three (3) inches and width greater than four (4) inches, or as directed by Engineer or Construction Observer.
- C. All disturbed areas outside the Project Limits, such as access routes and lay down areas, shall be returned to their original condition by Contractor. Restoration of these area are subject to the approval the Engineer and/or Division.
- D. The materials, equipment, and labor for clean up and repairs are at no cost to Division.

3.11 MEASUREMENT AND PAYMENT

The construction cost of all work included in this SECTION of the Construction Specifications shall be included in Contractor's unit prices set forth in the Proposal and Schedule of Prices (*Document C*) for the work items described below. The unit price for each of these items shall include its pro rata share of overhead so that the sum of the products obtained by multiplying the unit prices so set forth by the amount of the work actually constructed, measured as described herein, shall constitute full payment to Contractor for performance of the work included in this SECTION.

Measurement and payment for each work item in this SECTION shall be in accordance with the following:

- A. *Mobilization*: Payment for the cost of mobilization and demobilization and other work incidental thereto shall be included in the lump sum price set forth for "Mobilization." The lump sum price set forth in Contractor's Proposal and Schedule of Prices (*Document C*) shall include full compensation for mobilization; for work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to and through the site; for establishment of offices, trailers, and other facilities necessary for work on the project; for installing the project sign and removing a portion thereof; for having device on site to access electronic location of SWPPP while working, for demobilization, and cleanup and repairs; for all other work or operations which must be performed or costs incurred when beginning or performing work on the project including bonding, insurance, obtaining permits, filing affidavits, paying fees, etc. See General Conditions (*Document N*) Item 6-01 and any permits included in an appendix to the specifications. This bid item also includes any additional work or materials needed to maintain the access route during construction.

The amount which Contractor will receive payment for, in accordance with the following schedule, will be limited to five percent (5%) of the total Contract bid. Should the Contractor's bid for this item exceed five percent (5%), the amount over five percent (5%) will not be paid until the Contract is finalized.

Basis of Payment: Partial payment of the lump sum amount bid for Mobilization, not exceeding five percent (5%), will be made in accordance with the following schedule:

1. Upon Contract execution, ten percent (10%) of the pay item will be paid.
2. When five percent (5%) or more of the original Contract amount is earned, an additional twenty percent (20%) of the pay item will be paid.
3. When ten percent (10%) or more of the original Contract amount is earned, an additional twenty percent (20%) of the pay item will be paid.
4. When fifty percent (50%) or more of the original Contract amount is earned, the remaining balance of the pay item will be paid up to a maximum of five percent (5%) of the total bid.

Nothing herein shall be construed to limit or preclude partial payments for other items as provided for by the Contract.

- B. *Site Clearing & Preparation*: The unit price for this work item, as shown in Contractor's Proposal, shall include full payment to Contractor for all clearing, site preparation, debris removal and disposal, fence removal, collecting and sorting special items like tires, and other work incidental thereto as required to complete the Project in accordance with requirements of the Contract Documents. This work shall be completed within all areas disturbed by construction operations and limited to the total area enclosed by the "Project Limit" lines shown on the Plans. Partial

payments will be made based upon the estimated number of acres cleared or the percentage of clearing that is completed at the time of the pay request.

- C. *Off-site Waste Disposal:* The unit price for this work item as shown in Contractor's Proposal, shall include full payment to Contractor for all work necessary to collect, load, transport, landfill fees and other work incidental thereto as required to complete the project in accordance with the requirements of the Contract Documents. The waste materials will be measured on the loaded ton as determined from weight tickets. The total estimated quantity for this work item includes only the household trash from the locations noted.

Special waste disposal items such as tires, batteries, appliances, or hazardous waste, will be paid for separately as discussed in the Supplemental Specifications and/or on Plans. If unanticipated special waste disposal items are discovered during construction, they will be addressed with a change order.

- D. *Summary:* Proposal Bid Items applicable to work covered by this SECTION are as follows:

<u>Description</u>	<u>Unit</u>
Mobilization	Lump Sum
Site Clearing and Preparation	Acre
Off-site Waste Disposal	Ton
Special Waste Disposal	Per Ticket

END OF SECTION 02100