2024 Nutrient Reduction Wetland
CHI941410B - 241731.01

Construction Monitoring Plan

The sequence of construction will be determined with the contractor after the contract is awarded, the start date planned and whether crops have been harvested. This will be discussed at the pre-construction meeting. The easement boundary stakes and at least 2 benchmarks to be used for construction will be placed by the Engineer.

Quality Control (QC) is the responsibility of the contractor, but any work deemed to not be in accordance with the plans and specifications based on inspections completed shall be reworked.

Quality Assurance (QA) is the responsibility of the Design Engineer of Record. The Contractor is responsible for providing materials that meet or exceed the requirements provided on the plans and specification. The Design Engineer will review material certifications provided for all pipe/tile, geotextile, granular material, and riprap. Shop drawings shall also be submitted for approval for the weir, drawdown structure, and outlet pipe. The seed mix designs shall also be submitted and approved by the Design Engineer prior to placement.

Below is a list of anticipated tasks to be completed along with the amount of inspection required and the experience level of the inspector needed. Engineer refers to either the Design Engineer of Record or an Engineer designated by such. Qualified Technician refers to an individual with sufficient technical background and experience to properly assess the individual work items described below that will be completed by the Contractor. Contractor shall provide minimum 48 hours' notice to the Engineer or Qualified Technician prior to commencement of work requiring inspection.

- Tile Investigation – Full time by Engineer or Qualified Technician
  The site has one main tile on site based on a map provided by the landowner. A tile investigation was completed during design to determine the location of tiles shown on the plans. The Contractor shall complete the exploration to confirm depth and location in the presence of the Engineer or Technician with survey equipment. This information will be used by Engineer to adjust the tile outlets as needed to provide suitable outlet based on this acquired information.

- Site Clearing & Removals – No observation required
  The site removals include existing vegetation. Contractor to remove existing vegetation as noted in the plans or as necessary to construct the work.. The site removals can occur without any site inspection being required.

- Soil Confirmation – Full time by Engineer or Qualified Technician
  The Contractor shall excavate test pits as needed to confirm suitable soils are available before beginning stripping operations.

- Site Stripping – No observation required
  Site stripping can occur without any site inspection being required. The contractor will need to implement storm water, sedimentation, and erosion control measures.

- Embankment Construction – Intermittent to Full Time by Engineer or Qualified Technician
  The dam shall be constructed to the design height consisting of suitable cohesive material. This critical item of work shall be inspected to assure proper material, moisture, and placement method. Full time inspection shall be implemented if the problems arise, or the rate of placement necessitates this level. If work is progressing well and the rate of placement allows, this work shall be inspected intermittently, but at regular intervals. The location and elevations of the dam shall be checked by Engineer or Qualified Technician with survey equipment when Contractor is nearing final construction grade and before topsoil placement. As-built survey shall be completed after topsoil placement has been completed.

- Sand Diaphragm and Drain -- Full Time by Engineer or Qualified Technician
  The sand diaphragm and drain **must** be inspected by the Engineer or Qualified technician during construction to ensure adequate size and placement. Contractor must give 72 hours notice with an estimated timeframe. Any drainfill material installed without supervision by the Engineer or Qualified Technician may be rejected and will need to be excavated and reinstalled.

- General Grading – Intermittent by Engineer or Qualified Technician
  The site includes grading deeper pockets within the pool, wetland pool shaping, a swale upstream of the pool, berms, and the borrow location. The primary borrow area is shown on the plans southwest of the wetland pool. The Engineer or Qualified Technician will verify the location and dimensions of the berms, swale, and deeper graded areas within the pool using survey equipment. The borrow area shall also be checked to make sure final grading allows for drainage and has adequate topsoil placement.

- Drawdown Structure Installation – Full time and Intermittent by Engineer or Qualified Technician
  The location and elevation of the installation of the water control structure, inlet riser, outlet pipes, and end sections shall be verified by technician or surveyor prior to backfilling.

- Steel Sheet Pile Installation – Full time and Intermittent by Engineer or Qualified Technician
  The location and elevation of the installation of the steel sheet pile shall be verified by a technician or surveyor prior to backfilling.

- Downstream Stilling Basin – Full time and Intermittent by Engineer or Qualified Technician
  The downstream stilling basin and outlet channel shall be checked for location, dimensions, and elevations prior to placement of the geotextile fabric, riprap, and grout. Prior to grout, the Engineer or Qualified Technician shall ensure that the geotextile fabric is in place beneath the riprap and verify the thickness of the riprap.

- Seeding – Intermittent by Engineer or Qualified Technician
  Seed bed preparation shall be checked prior to seeding, along with the thickness of the topsoil over fill and borrow areas. Seed tags shall be provided to the Engineer or Qualified Technician to be verified.

The record as-built drawings shall include the following information:

- Location and elevation along top of embankments.
- Location and elevation of drawdown system pipes and structures.
- Location and elevation of embankment spillway.
- Location and elevation of tiles and outlets, along with pipe sizes.
- Spot checks near the center of the wetlands to verify elevations.
- Location and elevation of top and toes of the embankment.

END