SECTION 221353 – FACILITY SEPTIC SYSTEM

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. This section includes the furnishing and installation of the major items listed below:
 - 1. A sanitary septic system.
 - 2. Includes permits, piping, [mounded] drain field, pump chamber, submersible pump, and appurtenances.
- B. Related sections include the following:
 - 1. Division 31 Section "Site Clearing."
 - 2. Division 31 Section "Earthwork."

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this section shall comply with the following:
 - 1. ASTM Standards:
 - a. C1227 Precast Concrete Septic Tanks.
 - b. D449 Asphalt Used in Dampproofing and Waterproofing.
 - 2. MDOT:
 - a. 2003 Standard Specifications for Construction.
 - b. Standard Plans.

1.4 DEFINITIONS

- A. Terms:
 - 1. Local Health Department: [] Health Department.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's test data demonstrating that tank, pump, pump chamber and other related equipment and materials are acceptable to be used on this Project, and meeting the general requirements of the State Health Department.

- B. Sanitary Line Witness: Report locations of cleanouts, lines and access hatches to Engineer upon completion and before the work is covered up.
- C. Health Department Inspection: Provide copies of the local Health Department inspection report.

1.6 QUALITY ASSURANCE

- A. Acceptability of materials and performance shall be determined by both Engineer and the representative of the local Health Department.
- B. Pipe, tank, pump chamber, pump and other system materials shall be certified by the manufacturer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Wastewater Piping and Fittings: Shall meet the requirements of the State Health Department.
- B. Concrete Tank:
 - 1. A 2,000-gallon (minimum capacity) septic tank in accordance with ASTM C1227.
 - 2. Manufactured by a company regularly engaged in the manufacture of septic tanks.
 - 3. Include access hatch with a 24-inch diameter opening and heavy duty frame and cover.
 - 4. Tank shall meet local Health Department requirements.

C. Pump Chamber:

- 1. Provide chamber of suitable size for the size and type of pump proposed.
- 2. Chamber may be within septic tank, subject to approval of the local Health Department.
- 3. Chamber shall be manufactured by a company regularly engaged in the manufacture of septic tanks.
- 4. Chamber shall meet local Health Department requirements.
- 5. Waterproofing:
 - a. Chamber shall be water proofed.
 - b. If chamber is within septic tank, entire tank shall be waterproofed.
 - c. Waterproofing shall meet ASTM D449.

D. Mounded Tile Field:

- 1. Pipe shall meet the requirements of the State Health Department.
- 2. Stone gradation shall meet MDOT 902, Course Aggregate 6A.
- 3. Sand shall be clean, and shall meet the requirements of the local Health Department.

E. Pump:

- 1. Provide submersible pump in accordance with the requirements of the local Health Department.
- 2. Provide both audible and visual alarms as required by the local Health Department.
- 3. Wiring shall meet the requirements of the local and State electrical code.

PART 3 - EXECUTION

3.1 SITE PREPARATION

A. Site preparation shall be done in accordance with Division 31 Section "Site Clearing."

3.2 EARTHWORK

A. All earthwork required shall be done in accordance with Division 31 Section "Earthwork."

3.3 LINE AND GRADE

- A. Lines and grades shall be established in the field in accordance with the Drawings.
- B. Location:
 - 1. Septic Tank: Minimum of 75 feet from any water well.
 - 2. Seepage System:
 - a. Minimum of 75 feet from any water well.
 - b. Backfill depth shall be approximately 12 inches and in no case greater than 24 inches.

3.4 INSTALLATION

A. General:

- 1. Protect materials before, during, and after installation.
- 2. Install pipe, fittings, and appurtenances in strict accordance with manufacturer's recommendations.
- 3. Prevent entrance of foreign materials.

B. Placement of Pipe:

- 1. Bearing: Support entire length of pipe evenly.
- 2. Place according to manufacturer's literature and Division 31 Section "Earthwork."

C. Septic Tank and Pump Chamber:

1. Bearing: Full and even base support.

2. Top of Tank: Approximately 12 inches below finished ground level.

D. Seepage System:

- 1. Bearing: Full and even support.
- 2. Depth of Bury: Approximately 12 inches, but no more than 24 inches below finished ground level.
- 3. Keep construction traffic away from the seepage area to avoid compaction of the natural soils.
- 4. Removal of the upper layer of the soil profile shall not occur except with the specific approval of the local Health Department.

3.5 CLEANING

A. General: Clean all parts of the system before final acceptance.

END OF SECTION 221353