

PART 402 – RESTORATION

402.1 GENERAL

- 402.1.1 Restore the project site to conditions not less than that existing prior to starting construction unless otherwise required by these specifications, Permits and/or Licenses, or shown on the Drawings.
- 402.1.2 Coordinate surface restoration work with the affected private property owners and the Engineer.
- 402.1.3 Private property over which the City has prior rights (i.e. utility easement, sewer easement) and/or has obtained Rights-of-Way, agreements, licenses and/or agreements from the property owner to allow construction of a sanitary sewer pipeline and appurtenances, shall be restored in conformance with these Contract Documents.
- 402.1.4 Restore Public property with strict adherence to the requirements of the public body having jurisdiction therein.

- A) No restoration shall occur until testing is complete and accepted by the Engineer.
- B) Complete final surface restoration within three weeks of the repair or as directed by the Engineer.

402.1.5 Reference Standards

- A) Surface restoration including but not limited to pavement, driveways, sidewalks, curb and gutters, and sodding shall be in accordance with contract documents and the current edition of City of Tulsa Standard Specifications.

402.2 MATERIALS

402.2.1 Topsoil

- A) Topsoil shall be free from large roots, sticks, weeds, brush, stones or other litter and waste products. A minimum of 5-inch plate-compacted depth of topsoil shall be used.
- B) The soil texture shall be classified as loam or sandy loam according to the following criteria:

Loam	Sand Loam
Sand (2.0 to 0.05 mm diameter) (No. 10 sieve)	25-50% 45-85%
Silt (0.05 to 0.002 mm diameter) (No. 270 sieve)	30-50% Less than 50%
Clay (smaller than 0.002 mm diameter)	5-25% Less than 20%

- C) Soil texture shall be determined by utilizing processes as prescribed in ASTM D422 using the No. 20 and No. 270 sieves and a hydrometer analysis.

402.2.2 Fertilizer

- A) Fertilizer shall be a standard commercial 16-8-8, uniform in composition, free flowing and suitable for application with approved equipment, delivered to the site in bags or other convenient containers each fully labeled, conforming to applicable State laws.

402.2.3 Sod

- A) Sod shall be approved nursery or field grown grass that is native to the locality of the work and shall match existing in the area of excavation. Sod shall be well rooted in soil of such consistency that it will not break, crumble, or tear during handling and placing. Sod shall be free of noxious weeds and other objectionable plants and shall not contain substances injurious to growth.
- B) Grass shall be between 1-1/2" and 4" in length when the sod is cut. The sod shall be cut within 48 hours of placement in rectangular pieces not less than 12" in width and not less than 1" in soil thickness. Keep sod in a moist condition between the initiation of cutting and the completing of placing and protect against exposure to the sun, wind, freezing during transportation to the site, and during storage prior to placing.

402.2.4 Portland Cement Concrete

- A) Portland Cement concrete shall have minimum compression strength of 5000 psi at 28 days and meet the requirements of Part 329 of the City of Tulsa Construction Specifications.

402.2.5 Curing Compound Commercial grade conforming to ASTM C309, Type I.

402.2.6 Reinforcing Steel: Conform to ASTM A615, Grade 40.

402.2.7 Asphalt Cement, Prime Coat and Tack Coat.

402.2.8 Asphalt Concrete

- A) Asphalt for paving shall be Type B top lift and Type A base lift as per Oklahoma Department of Transportation Section 708, and Part 329 of the City of Tulsa Standard Specifications.

402.2.9 Gravel Resurfacing

402.2.10 Wearing surface on gravel surfaced streets or drives shall be replaced with 9" of compacted gravel backfill with a minimum P.I. of 4. The material shall be required to meet the sieve test of the current ASTM E11 for conformity to ASTM D448 for a Standard Aggregate Size Number 67 and a percent of wear test not to exceed 35 when tested in accordance with ASTM C131.

402.3 EXECUTION

402.4 CLEANUP

402.4.1 Upon completion of installation and backfill operations, clean and dress up the work area as follows.

- A) Remove construction debris and litter from the site.
- B) Remove excess excavation material from the site including material that has washed into streambeds, storm water facilities, streets, culverts, etc.
- C) Remove tools, equipment, and construction materials except for designated storage areas along the pipeline route. Maintain designated storage areas in a neat appearing manner.
- D) Restore surface and subsurface drainage and provide drainage wash checks necessary to prevent soils from being washed downstream.
- E) Machine-grade the area in preparation of final grading, seeding, sodding, pavement replacement, etc.
- F) Restore all street signs and mailboxes.
- G) Maintain adequate safety signs, barricades, and lights until final restoration of work area is completed.

402.4.2 Finish Grading

- A) Finish grade the area to lines and grades which existed prior to the area being disturbed, with special attention directed to proper surface drainage, and the refilling of settled excavations with earth compacted to densities required. The area shall be smoothed by raking or dragging. Flower and vegetable gardens in existence prior to this project shall have the separately stored topsoil restored unless otherwise required. Areas to be sodded or seeded shall have a minimum 5-inch depth of topsoil.

402.4.3 Sod

- A) Restore grassed areas disturbed by construction with sod to match existing. Sod may be placed between the average date of the last freeze in the Spring and six weeks prior to the average date for the first freeze in the Fall according to the