PROJECT: GSS Apts. Public Water & Sewer - Rapid City, SD DEV12-1089

INSPECTOR: FMG, Inc. and City of Rapid City

Specifications	Testing Requirement	Method of Verification
Utility Excavation and Backfill (Section 11), Embankment (Section 14)	Compaction testing – to be taken a minimum of every 200' horizontally and 3' vertically. NOTE: If material changes in the field, contact testing agency to provide new proctor test for material being used.	A minimum number of tests shall be taken for this project. Testing reports shall be provided at the pre-paving meeting.
	Undercut or scarify roadway embankment per Geotechnical Report recommendations.	Discuss the proposed means and methods with City inspector prior to construction. City inspector shall verify.
	A pre-paving meeting shall be held prior to placement of base course	Call City inspector to schedule. Inspector shall verify sub-grade through proof rolling or other means.
Granular Material - Base Course (Section 20)	Base course shall be placed in maximum of 4" lifts	Perform minimum of one compaction test per 4" lift, or as directed
Portland Cement Concrete Pavement (Section 60)	For sidewalk and curb and gutter, a minimum of one test shall be performed per each day of pouring, or as directed.	Testing shall include slump, air content, 7 day strength (minimum 1 cylinder), 28 day strength (minimum 2 cylinders). Provide results to City inspector prior to project acceptance.
	For concrete pavement, a minimum of one test shall be performed per 250 LF of pavement or as directed.	Testing shall include slump, air content, 7 day strength (minimum 1 cylinder), 28 day strength (minimum 2 cylinders). Provide results to City inspector prior to project acceptance.
Asphalt Concrete (Section 31)	Submit a mix design from the batch plant with a standard density (Marshall)	Performed minimum of one (1) non destructive (nuclear gauge) test per 200 tons of asphalt or as directed.
Water Piping System (Section 8)	High end and low end chlorine - wait at least 24 hrs and no more than 48 hours to flush the line after the high end chlorine concentration is confirmed. The high end concentration is 25 ppm min. After flushing a minimum of 1 ppm or background chlorine concentration shall be observed.	Call city inspector to observe and confirm chlorine concentration. The Discuss the method and location of flushing. City inspector shall confirm the low end chlorine concentration.
	Pressure testing - test line at 150% of the normal working pressure or the maximum pressure for the class of pipe. For class of pipe for a minimum of 2 hours. The pressure shall not vary by more than 5 psi.	Call city inspector to verify beginning pressure and start time of the test. The City inspector sha witness the pressure at the end of the 2 hours.
	Coliform bacteria test (2 test) - performed after flushing	Provide test result to City inspector prior to project completion
	Cathodic test station reading	Call City inspector to schedule
	Inspection of valves	Call City inspector to schedule
	Test tracer wire	Call City inspector to schedule
Sanitary Sewer (Section 9)	Low pressure air test - per specifications	City inspector shall witness
	Manhole vacuum test - performed per specs and prior to placing casting	City inspector shall witness
	Pipe deflection testing - 30 days after installation, mandrel test shall be performed	City inspector shall witness
	TV or Camera pipe	Call City inspector to schedule
Storm Sewer (Section 54)	TV or Camera pipe	Call City inspector to schedule
General	Submit information for all materials including but not limited to: aggregate materials, pipe, fittings, appearances, etc.; manholes and barrels; signs and posts, erosion and sediment control items.	Submit all materials to the Engineer of Record. The engineer of record shall submit the material to the City after they have approved them.

THIS LIST IS INTEND FOR GENERAL GUIDANCE, AND IS BY NO MEANS COMPREHENSIVE - FOR DETAILS ON TESTING AND CONSTRUCTION SPECIFICATIONS REFER TO CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 2007 EDITION

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