



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

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CERTIFIED MAIL: 7009 2250 0000 0886 5783
RETURN RECEIPT REQUESTED

June 18, 2014

Mr. Scott Hitchcock, P.E., City Engineer
City of Wentzville
200 Fourth Street
Wentzville, MO 63385

RE: City of Wentzville, MO – Construction Specifications and Standard Details Sanitary Sewers, Standard Sewer Specifications and Details Comments

Dear Mr. Hitchcock:

The Missouri Department of Natural Resources' Water Protection Program has finalized the review of the Construction Specifications and Standard Details Sanitary Sewers amended on March 16, 2010. We expect a response to the following requirements and recommendations below within 30 days receipt of this letter:

REQUIREMENTS:

The following items are required to be in compliance with 10 CSR 20-8. The Construction Specifications and Standard Details Sanitary Sewers must be updated to incorporate the following requirements.

1. Provide steep slope protection in accordance with 10 CSR 20-8.120(5)(D)6.
2. "Sewers twenty-four inches (24") (61 cm) or less shall be laid with straight alignment between manholes. Straight alignment shall be checked by either using a laser beam or lamping", per 10 CSR 20-8.120(5)(E)1. Include this requirement for straight alignment.
3. Incorporate curvilinear alignment of sewers consistent with 10 CSR 20-8.120(5)(E)2.
4. "Ledge rock, boulders, and large stones shall be removed to provide a minimum clearance of four inches (4") (10 cm) below and on each side of all pipe(s)", per 10 CSR 20-8.120(5)(H)2.C.

5. Address the bedding, haunching, and initial backfill of plastic pipe and composite pipe according to 10 CSR 20-8.120(5)(H)3.C and 10 CSR 20-8.120(5)(H)3.D respectively.
6. “No pipe shall extend a deflection of five percent (5%). If the deflection exceeds five percent (5%), the pipe shall be excavated”, per 10 CSR 20-8.120(5)(H)5.B. Include these requirements in the deflection testing specifications.
7. Update the deflection test requirements to specify that the mandrel must have nine (9) or more odd number of flutes or points in accordance with 10 CSR 20-8.120(5)(H)5.C.
8. Incorporate the bench requirements of manholes according to 10 CSR 20-8.120(6)(E).
9. Provide corrosion protection for manholes consistent with 10 CSR 20-8.120(6)(H).
10. On Page 300-7 and Detail 302.03 of the provided specifications, states an inaccurate citation of waterproofing manholes “10CSR20-8.120(7)(E)”. The regulations were updated on February 29, 2012 and some of the citations have changed. 10 CSR 20-8.120(6)(F)1 states, “[m]anholes shall be watertight.” Update this citation.
11. Per 10 CSR 20-8.120(8)(A)3, manholes shall be located so they do not interfere with the free discharge of flood flows of a stream. Specify this requirement with stream crossings.
12. Address the siltation and erosion with stream crossings according to 10 CSR 20-8.120(8)(B)2.
13. “If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to one hundred fifty pounds per square inch (150 psi) (1,034 kPa) to assure watertightness”, per 10 CSR-8.120(10)(C)1.B. Incorporate this requirement for the protection of water supplies.

RECOMMENDATIONS:

The Department is providing the following recommendations to improve the provided standard specifications and details. These recommendations are not required actions, but will allow for a more well-rounded standard specifications and details.

1. Recommend the addition of high velocity protection of pipes in accordance with 10 CSR 20-8.120(5)(D)5.

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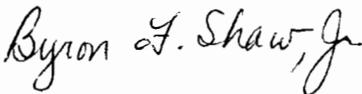
2. “The bottom of the pipe should be placed no lower than the elevation of the fifty (50)-year flood”, per 10 CSR 20-8.120(9)(C). Detail 304.04 states “bottom of casing pipe to be at a minimum of 1’ above the 25 year flood elevation.” Consider revising this detail note.
3. “Manholes should be located at least ten feet (10’) (3.0 m) horizontally from any existing or proposed water main”, per 10 CSR 20-8.120(10)(C)1.C. This is a recommended addition to protect drinking water supplies.
4. Details can clearly demonstrate what the expectation is in certain instances often better than words. The following details are a suggested addition:
 - a. Shallow manhole; and
 - b. Thrust blocks.

Construction, installation, expansion or modification of any collection system or wastewater treatment facility is prohibited until a construction permit is issued by the Department, per 10 CSR 20-6.010(4)(A).

If you have any questions concerning this matter, please contact Mrs. Emily Carpenter, of the Water Protection Program, at 573-751-6569, emily.carpenter@dnr.mo.gov, or Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176. Thank you.

Sincerely,

WATER PROTECTION PROGRAM



Byron F. Shaw, Jr., P.E., SRF Engineering Unit Chief
Financial Assistance Center

BFS:ecc

- c: St. Louis Regional Office
Mr. Refaat Mefrakis, P.E., Water Protection Program, Engineering Section
Mrs. Emily Carpenter, Water Protection Program, Financial Assistance Center

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