

K. BACKFILLING:

1. Under the Pipe: All backfill under the barrel of the pipe shall be free from debris, organic matter, and stones larger than one inch in greatest dimension, and shall be tamped into place. Sand or crushed stone aggregate (95% passing a 1/2" screen but not more than 10% passing a #200 sieve) are acceptable substitutes for soil.
2. Adjacent to Top of Pipe: The first one foot of backfill over the top of pipe shall be free from debris, organic material, and stones larger than three inches in greatest dimension, and shall be hand placed.

If excavated material is not suitable for backfill, the City's engineer may require imported material be used; including clean, finely divided soil or crushed stone aggregate (one inch and smaller). If the material in the banks of the trench is suitable, it may be used.

If the depth of the trench is over five feet, at least two feet of hand placed fill must be placed over the top of the pipe before a mechanical type fill may be used.

On completion of the specified hand fill, the balance of the trench shall be mechanically filled to at least three inches above the proposed finished grade of the surrounding terrain. Backfill shall be free of junk, debris, brush, roots thicker than two inches, and stones or rubble more than six inches in greatest dimension. Top six inches backfill shall be topsoil corresponding to that underlying original sod.

3. Improved Areas: Backfill of trenches through any improved area, such as streets, railroads, or improved drives shall be of one-inch clean gravel. Check dams of compacted clay soil or flowable fill shall be constructed to the full depth of the trench on 100 foot intervals for the entire length of trench being backfilled with granular material. The restoration of these surfaces shall be sufficient to return the area essentially to its previous condition and shall be to the satisfaction of the City's Engineer.

Any backfill in or resurfacing of any portion of an existing street shall be treated in the manner as prescribed in the City of Columbia, Missouri, Ordinances, Sections 24-58 and 24-59. Backfill of trenches through

developed areas such as grassed strips between streets and sidewalks or yards, shall be earth compacted to a minimum of 95% of standard proctor density (ASTM D698).

4. Maintenance of Backfilled Areas: The Owner or City's (whichever is applicable) contractor shall be responsible to maintain backfilled areas to the grade of the surrounding terrain for a period of one year after the main has passed final inspection by the City (for contract jobs) or for one year after the deed of dedication for the main has been accepted by the City Council (for developer extensions). Seeding and mulching or resodding shall be sufficient to restore the area essentially to its previous condition and shall be to the satisfaction of the City's engineer.
5. Cleaning Up: On completion of contract, contractor shall remove all excess materials or supplies and shall clean up the entire working area and dress the land so as to leave a neat, accessible work area. Any ditches, road, or street shoulders shall be restored to their original alignment and grade.

All cleared trees, brush, unearthed rock, excess dirt and trash shall be disposed of. Trees, brush and stumps that are cleared during construction may only be burned with a permit from the Columbia Fire Department. Waste from items that are allowed to be burned shall be free from embers prior to disposal by the contractor. The contractor shall exercise due care in his construction operations to prevent marring or scarring of trees that are to remain. Care should also be taken so as not to leave soil upon the surface of roads, walks, or other paved surfaces.