



NOTES:

1. FLOWABLE FILL SHOULD BE DESIGNED TO PROVIDE ADEQUATE STRENGTH TO CARRY ALL LIVE AND DEAD LOADING BUT ALLOW FOR ANY FUTURE EXCAVATION. TYPICAL 28 DAY COMPRESSIVE STRENGTHS RANGE BETWEEN 50 AND 100 PSI. MIX SHOULD BE OF A CONSISTENCY THAT COMPLETELY FILLS SPACE BETWEEN PIPE AND TRENCH WALLS.
2. IF TRENCH IS EXCAVATED IN ROCK OR HIGH-BEARING STRENGTH SOILS, TRENCH WIDTHS FOR 24" - 60" DIA. MAY BE REDUCED, FROM VALUES IN TABLE 1, TO THE PIPE OD PLUS 12".
3. FLOWABLE FILL SHOULD NOT BE PLACED WHEN TEMPERATURES ARE BELOW 40°F, AGAINST FROZEN TRENCH MATERIAL OR WHEN APPRECIABLE PRECIPITATION IS FORECASTED DURING PLACEMENT.
4. PRECAUTIONS SHALL BE TAKEN TO PREVENT FLOTATION. ANCHORING SYSTEM AND/OR INCREMENTAL LIFTS SHOULD BE UTILIZED TO ENSURE PIPE REMAINS ON GRADE. REFER TO TECHNICAL NOTE 5.02, FLOWABLE FILL FOR THERMOPLASTIC PIPE, FOR EXAMPLES OF ANCHOR TYPES AND INCREMENTAL LIFT RECOMMENDATIONS.
5. **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" DIAMETER PIPE (300mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
7. **FINAL BACKFILL:** FINAL BACKFILL SHALL NOT BE PLACED UNTIL A PENETROMETER READING OF AT LEAST 500 PSI PER ASTM C403 IS MEASURED, THE CRITERIA OF ASTM D 6024 ARE MET, OR OTHER MEANS APPROVED BY THE ENGINEER TO DETERMINE SUITABILITY FOR LOAD APPLICATION ARE SATISFIED.
8. **MINIMUM COVER:** MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. SHALLOWER COVER MAY BE POSSIBLE AND IS CONTINGENT UPON THE MIX BEING DESIGNED TO CARRY THE ANTICIPATED VEHICULAR LOADS, INCLUDING IMPACTING FORCES.

TABLE 1, RECOMMENDED TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	22" (559mm)
15" (375mm)	27" (686mm)
18" (450mm)	33" (838mm)
21" (525mm)	37" (940mm)
24" (600mm)	42" (1067mm)
30" (750mm)	51" (1295mm)
36" (900mm)	59" (1499mm)
42" (1050mm)	66" (1676mm)
48" (1200mm)	74" (1880mm)
54" (1350mm)	82" (2083mm)
60" (1500mm)	90" (2286mm)

1	REV. DRAWING NAME OR NUMBER	TJR	01/28/16	
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

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**TRENCH INSTALLATION
DETAIL (FLOWABLE FILL)**

DRAWING NUMBER: STD-101G



4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

DRAWN BY	SL
DATE	11/20/15
CHK'D BY	
SCALE	NTS
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