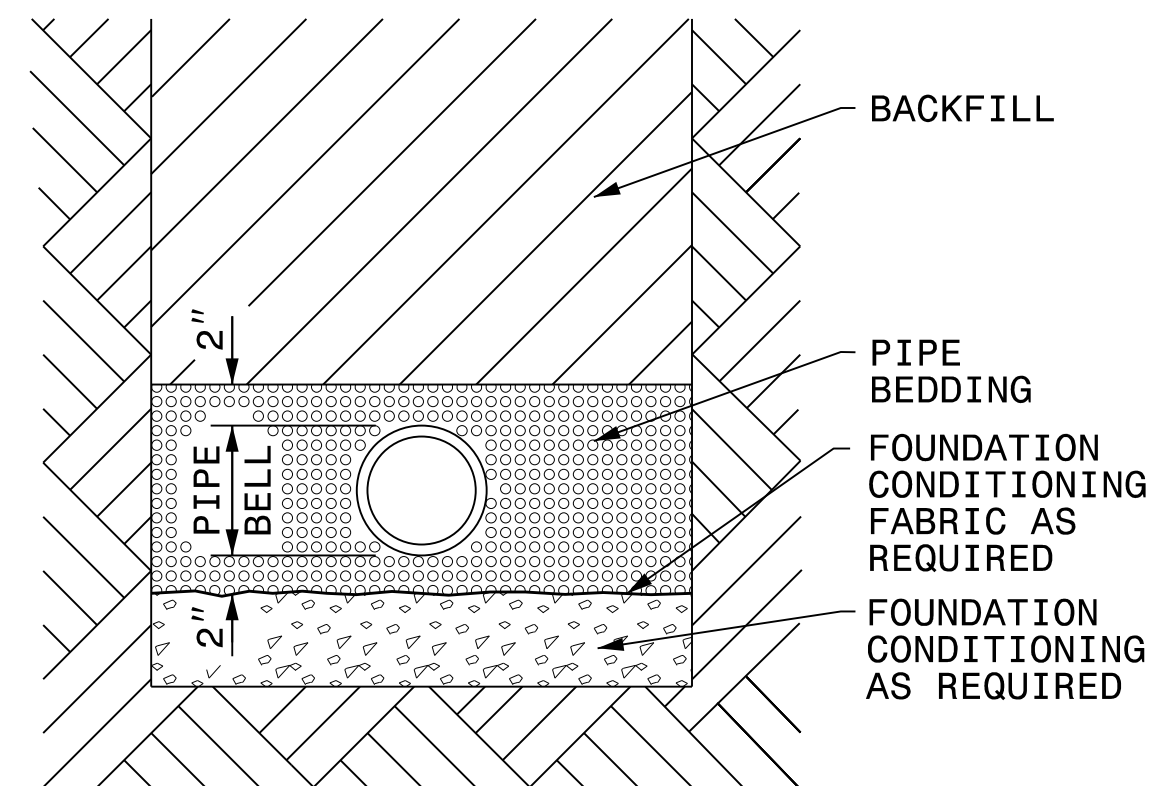


5/14/99

### BEDDING DETAIL FOR DUCTILE IRON PIPE

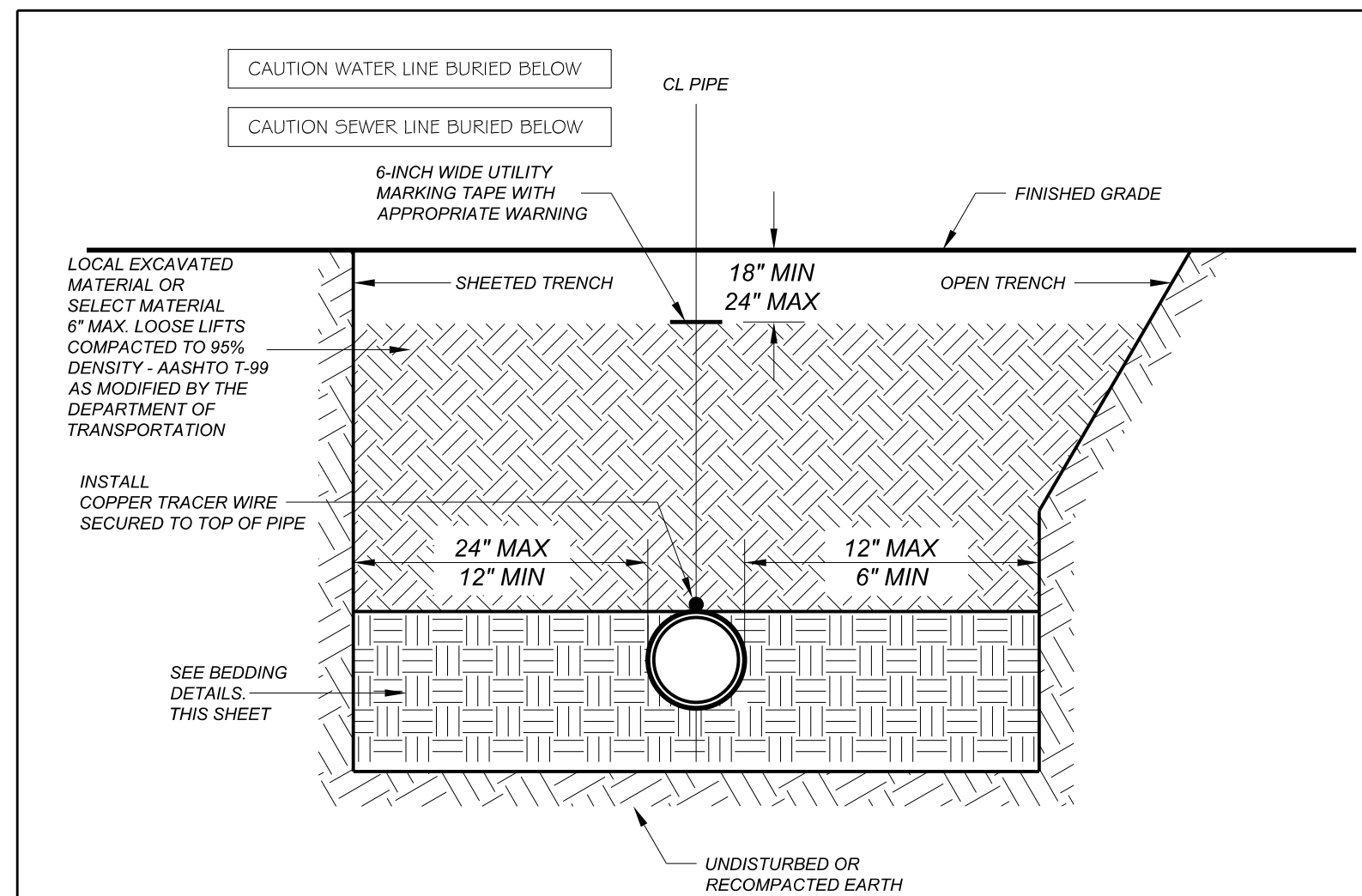


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.

PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III.

TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



**NOTES:**

1. ALL SHORING & TRENCHING SHALL COMPLY WITH OSHA SAFETY STANDARDS FOR THE CONSTRUCTION INDUSTRY.
2. BELL HOLES NOT SHOWN.
3. ALL BACKFILL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

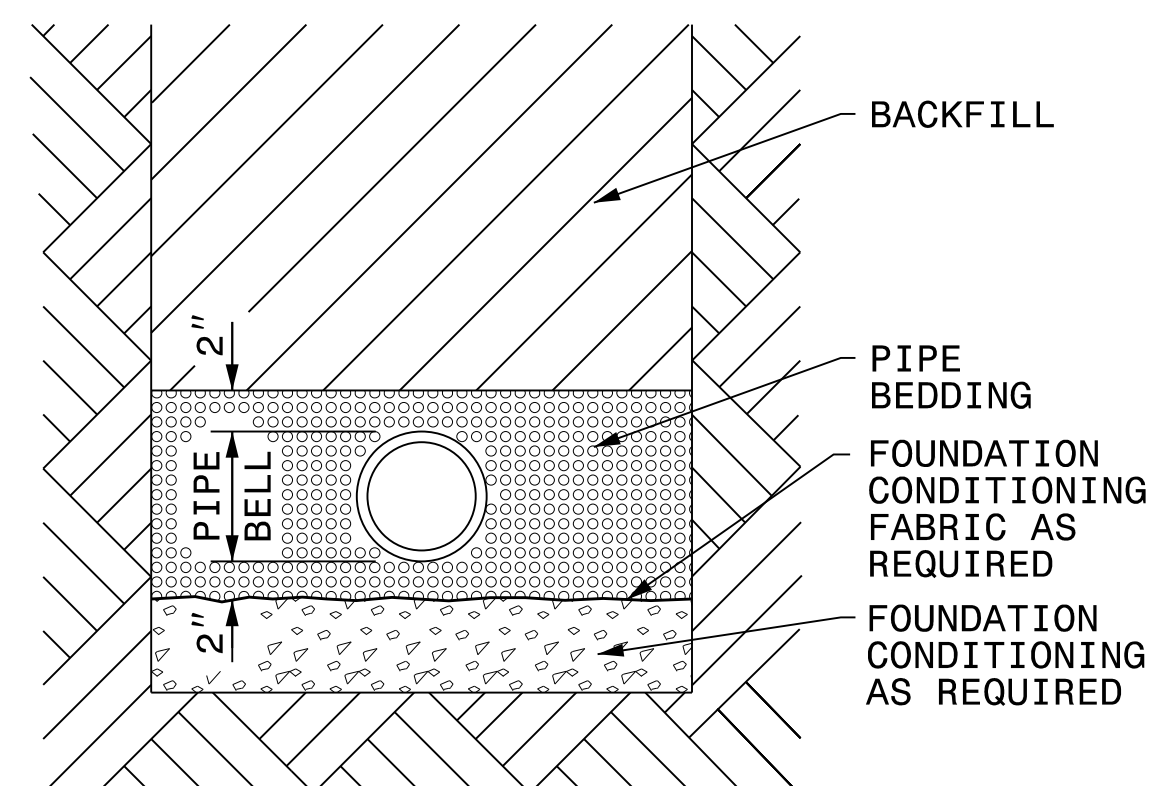
### GENERAL TRENCH DETAIL

### MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
2	26	18	42
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78

PROJECT REFERENCE NO. <b>U-3621A</b>	SHEET NO. <b>UC-3B</b>
DESIGNED BY: <b>GJB</b>	
DRAWN BY: <b>GJB</b>	
CHECKED BY: <b>KCZ</b>	
APPROVED BY: <b>KCZ</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	
<b>UTILITY CONSTRUCTION</b>	
DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED	
M A Engineering Consultants, Inc. 698 East Chatham Street - Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221 NC License: F-0160	

### BEDDING DETAIL FOR POLYVINYL CHLORIDE (PVC) PIPE

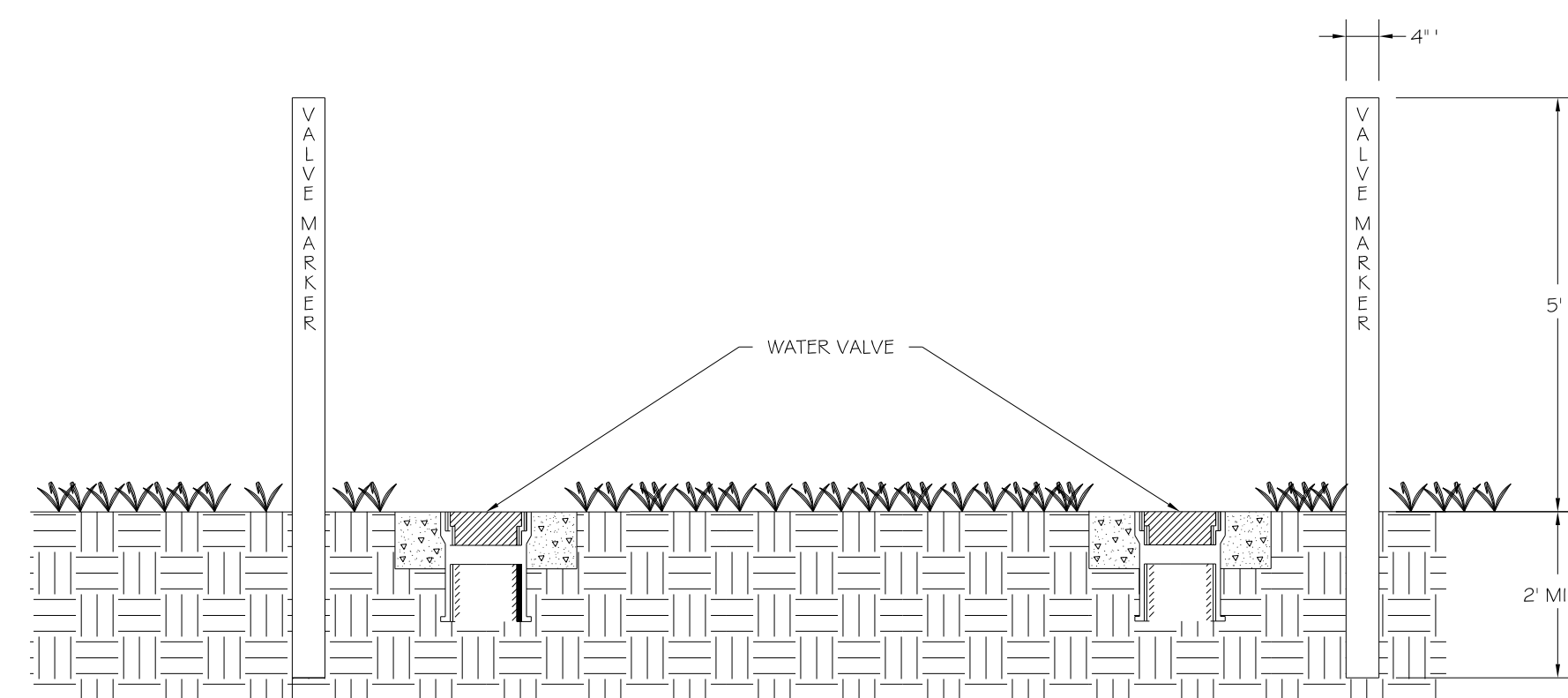


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.

PIPE BEDDED IN NCDOT #57 STONE.

TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



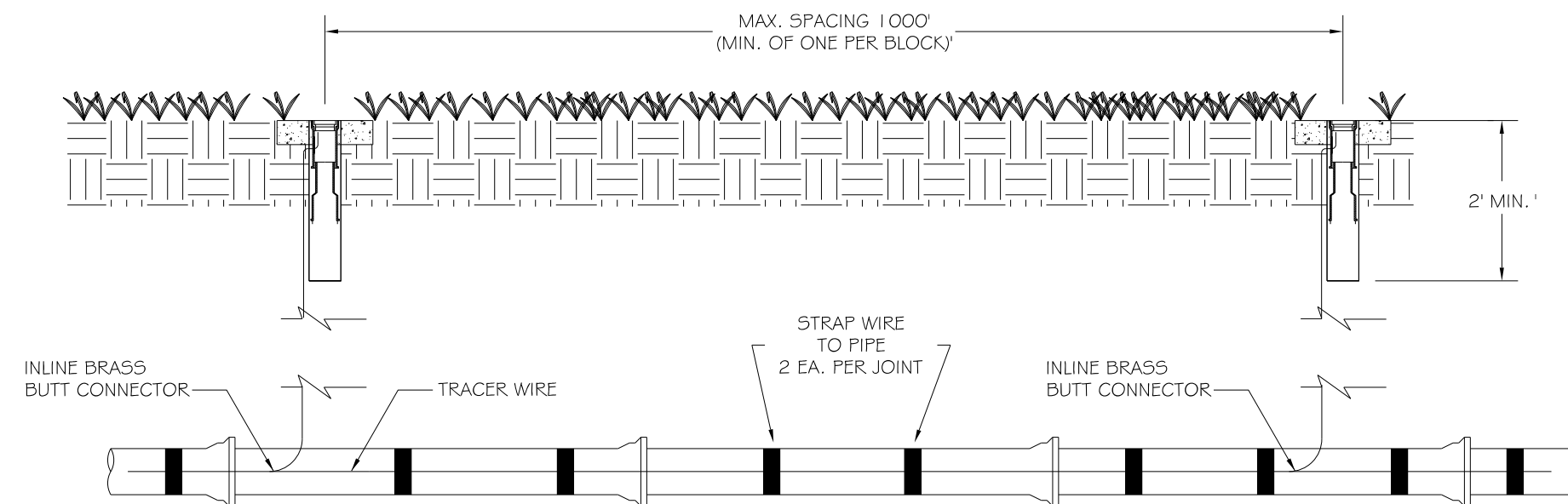
**NOTES:**

1. MARKER HAS HIGH IMPACT RESISTANCE DUE TO HIGH FLEXIBILITY.
2. TWO (2) FLAT SURFACES ARE PROVIDED FOR ANY DECAL APPLICATION NEEDED.
3. MAY REQUIRE A SMALL PILOT HOLE IN CERTAIN SOIL CONDITIONS BEFORE INSTALLATION.

### VALVE MARKER DETAIL

**NOTES:**

1. INSTALL DETECTABLE SOLID 10 GAUGE TRACER WIRE ABOVE ALL WATER PIPES INCLUDING SERVICE CONNECTIONS. SECURE ALL WIRE WITH TIE WRAPS.
2. MAKE TRACER WIRE ACCESSIBLE IN WATER METER BOXES, VALVE BOXES OR CASINGS.
3. STUB OUT A MINIMUM OF 1' OF TRACER WIRE IN EACH VALVE BOX AND METER BOX FOR LOCATING PURPOSE.
4. NO WIRE NUTS ALLOWED, USE ONLY INLINE BRASS BUTT CONNECTORS TO INSURE SOLID SPICES OF TRACER WIRES.
5. INSPECTORS MUST VERIFY ALL CONNECTIONS AND POSITIVE TRACING SIGNAL FOR ALL MAINS AND SERVICES, BEFORE FINAL ACCEPTANCE.
6. TRACER WIRE SHALL BE INSTALLED OUTSIDE VALVE BOX AND HOLE TO BE MADE IN VALVE BOX UNDER VALVE CAP. THEN INSERT TRACER INSIDE VALVE BOX WITH 1' MIN. EXTENDING ABOVE VALVE BOX.



### TEST STATION MARKERS WITH TRACER WIRE FOR UTILITY INSTALLATIONS