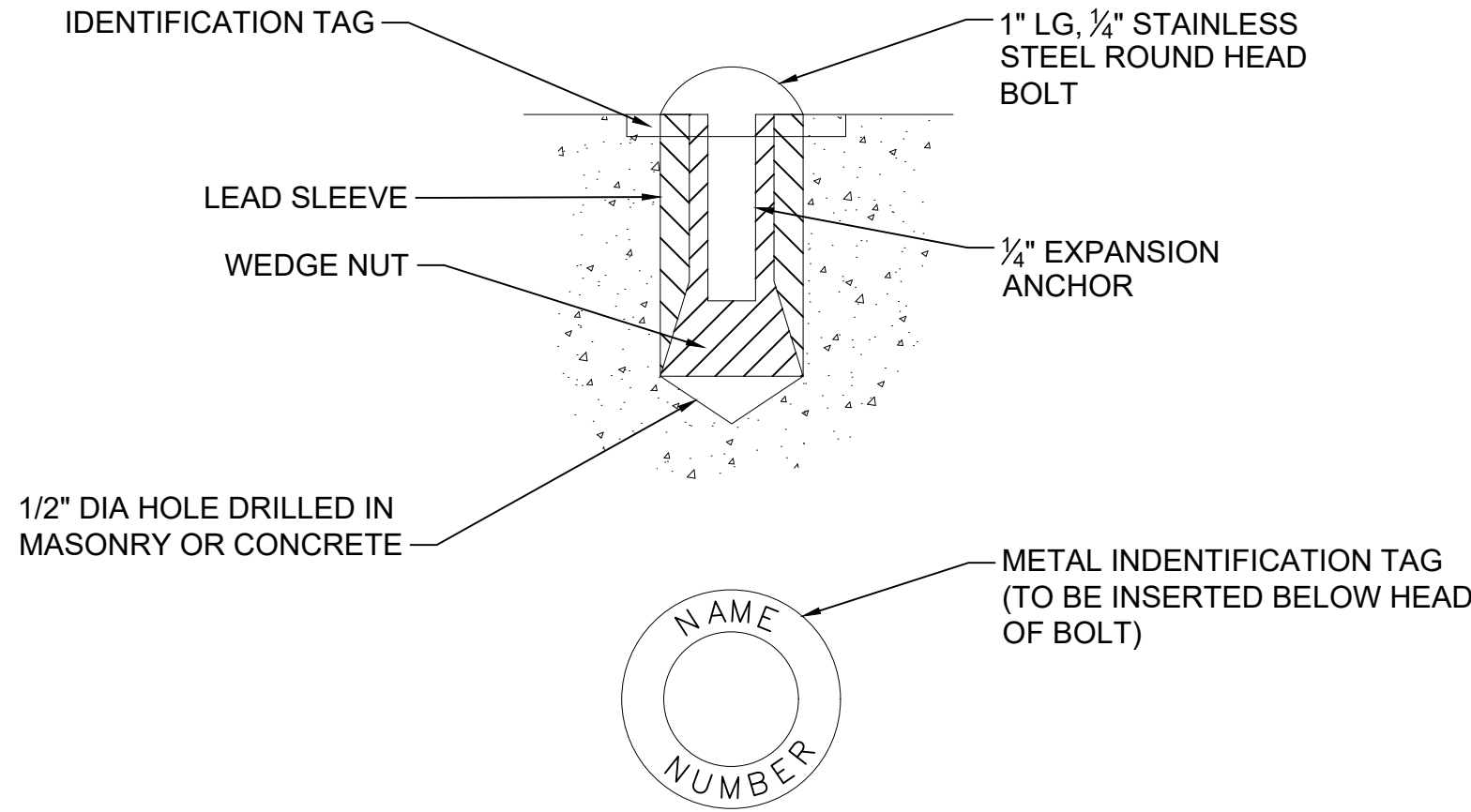


INSTRUMENTATION NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR MONITORING ALL EXISTING AND NEWLY CONSTRUCTED FACILITIES INCLUDING BUT NOT LIMITED TO BUILDINGS, STRUCTURES, UTILITIES, HIGHWAY RAMPS, SIDEWALKS, PAVEMENT, AND OTHER FACILITIES. THIS INCLUDES FACILITIES THAT ARE CONSTRUCTED PRIOR TO OR DURING THE PROJECT DURATION. REFER TO SPECIFICATION SECTION 02495-GEOTECHNICAL INSTRUMENTATION.
- UPON INSPECTION OF FACILITIES, HARDSCAPES, STRUCTURES AND UTILITIES TO BE MONITORED, THE CONTRACTOR SHALL FINALIZE THE INSTRUMENTATION LAYOUT AND QUANTITIES. THE REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS ARE MINIMUM REQUIREMENTS AND THE CONTRACTOR IS RESPONSIBLE TO DETERMINE ANY ADDITIONAL OR MORE STRINGENT MEASURES INCLUDING INSTRUMENT QUANTITIES, FREQUENCY OF MONITORING AND INSTRUMENTS RESPONSE LEVELS BASED ON RESULTS OF PRE-CONSTRUCTION CONDITION SURVEY, CONTRACTOR'S MEANS AND METHODS, AND EXISTING SITE AND SUBSURFACE CONDITIONS. THE FINAL MONITORING PLAN IS SUBJECT TO THE APPROVAL OF THE AUTHORITY.
- PERFORM PRE- AND POST-CONSTRUCTION CONDITION SURVEYS OF ALL HARDSCAPES, ROADWAYS, BUILDINGS, STRUCTURES AND UTILITIES IN ACCORDANCE WITH SPECIFICATION SECTION 01390-CONDITION SURVEY.
- REMOVE ALL INSTRUMENTATION WHEN CONSTRUCTION ACTIVITIES ARE COMPLETE, UNLESS ABANDONMENT IN PLACE IS APPROVED BY THE AUTHORITY.
 - INSTRUMENTATION SHALL NOT BE REMOVED OR ABANDONED WITHOUT PRIOR AUTHORIZATION OF THE AUTHORITY.
 - ALL INSTRUMENTS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- FOR UTILITY POLES THAT ARE AT LEAST 10 FEET HIGH ABOVE GROUND LEVEL AND LOCATED WITHIN 30 FEET OF THE EXCAVATION, INSTALL DEFORMATION MONITORING POINTS (DMPs) AT 6 FEET ABOVE GRADE TO MONITOR ANY MOVEMENT
- INSTALL EXCAVATION SUPPORT MONITORING POINTS (ESMPs) ON THE SUPPORT OF EXCAVATION (SOE) AND BEGIN PERFORMING READINGS DURING DEWATERING, EXCAVATION, AND SOE INSTALLATION UNTIL THE EXCAVATION IS BACKFILLED AND SOE IS REMOVED OR CUT AND LEFT IN PLACE. REFER TO THE SPECIFICATION SECTION 02495 - GEOTECHNICAL INSTRUMENTATION FOR THE MONITORING REQUIREMENTS.

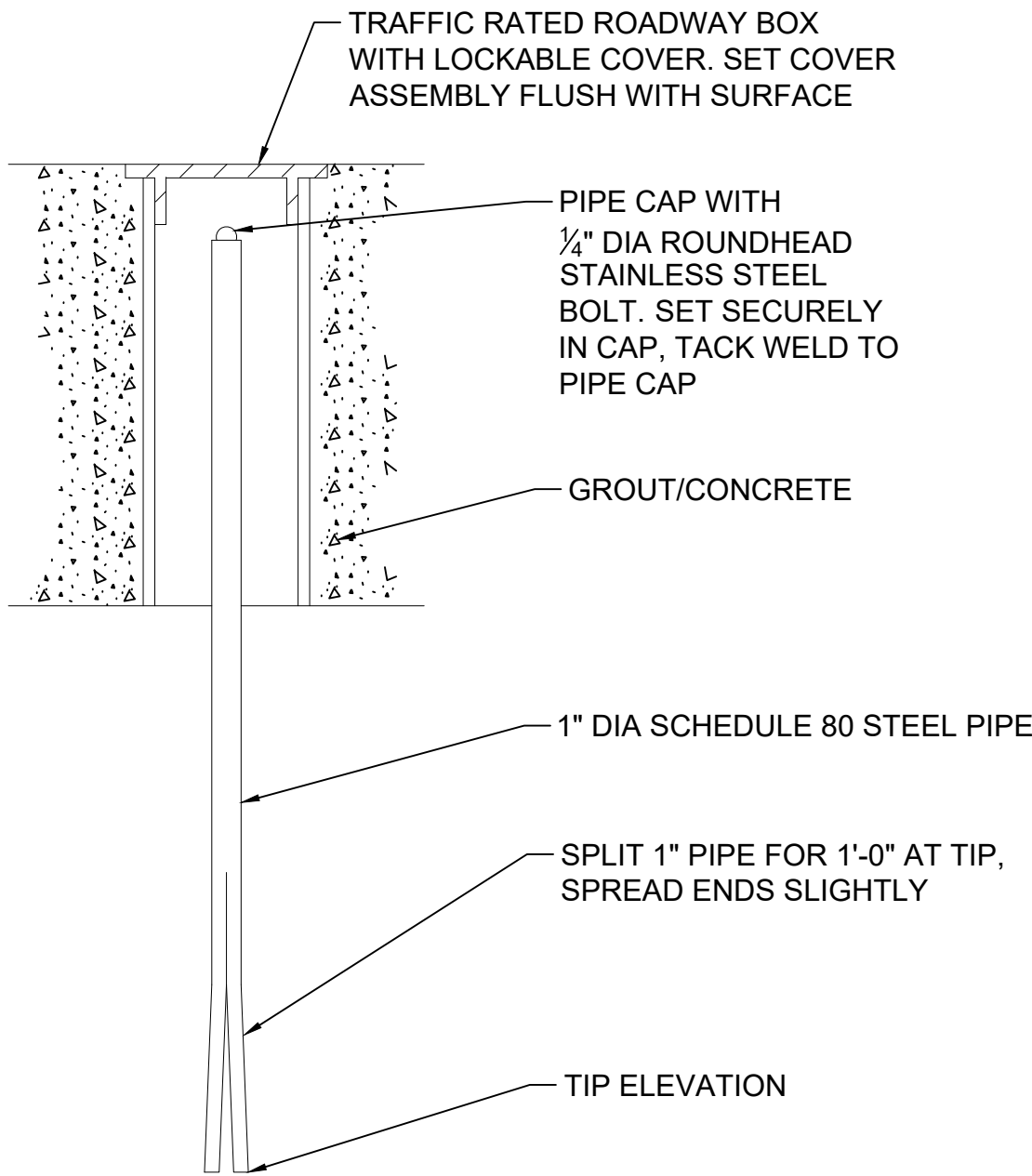


NOTES:

- PK NAILS MAY BE USED AS AN ALTERNATIVE TO SLEEVED ANCHORS.
- TO BE RECESSED ADEQUATELY TO PREVENT DAMAGE WHEN INSTALLED ON SURFACES SUBJECT TO SNOW PLOW.

SURFACE MONITORING POINT IN PAVED AREA (SMP) ●

NOT TO SCALE

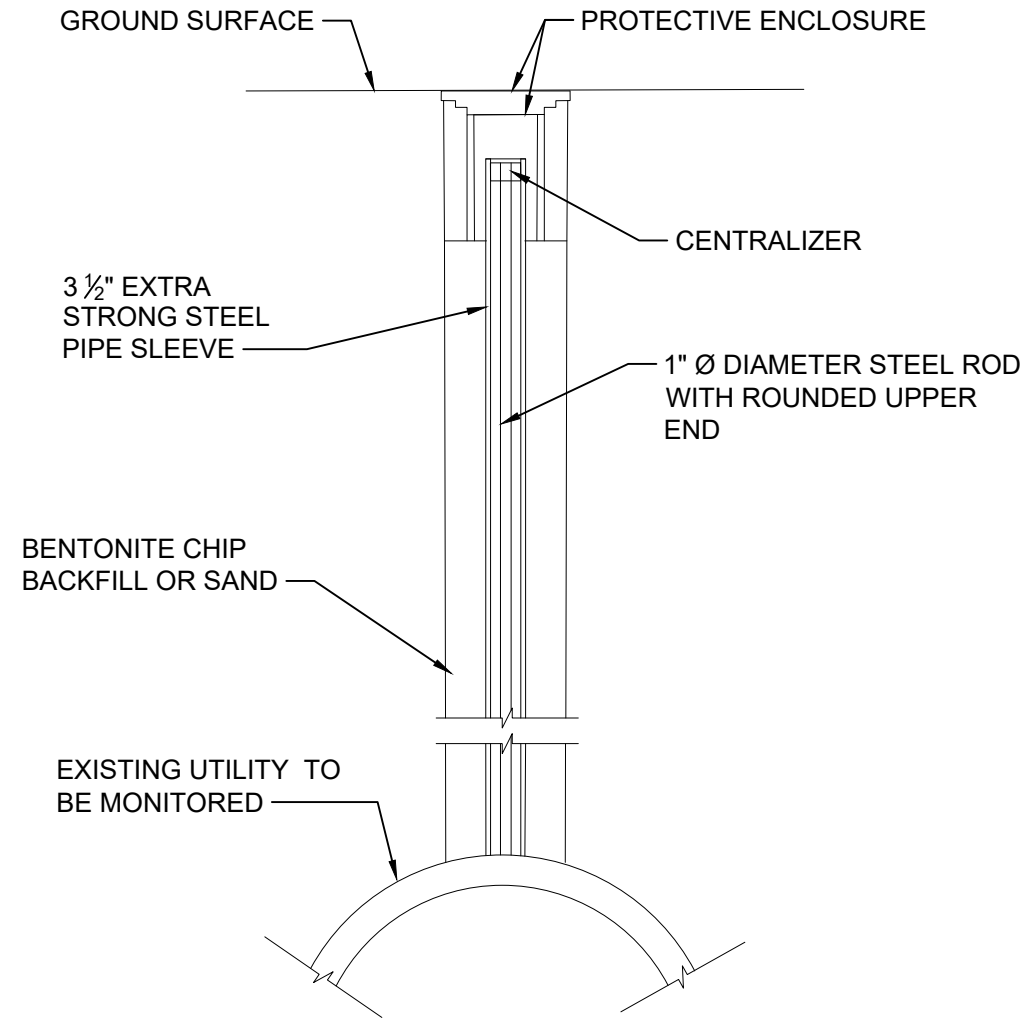


NOTES:

- ANNULUS BETWEEN ROADWAY BOX AND 1" DIA. PIPE SHALL BE FREE OF CONCRETE/GROUT. 1" PIPE SHALL NOT BE IN CONTACT WITH CONCRETE/GROUT.

GROUND MONITORING POINT (GMP) △

NOT TO SCALE



NOTES:

- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO INSTALLING UTILITY MONITORING POINTS (UMP).
- UTILITY MONITORING POINT INSTALLATION SHALL BE COMPLETED BY MEANS OF VACUUM EXCAVATION OR OTHER "SOFT-DIG" METHODS. CONTRACTOR SHALL PROTECT UTILITY DURING INSTALLATION, AND REPAIR ANY RELATED UTILITY DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
- THE MONITORING ROD SHALL BE LOCATED AT THE CROWN OF THE UTILITY TO BE MONITORED.
- NOTCH BOTTOM OF PVC CASING TO SNUGLY FIT TOP OF UTILITY.
- UTILITY MONITORING POINT SHALL BE PROTECTED BY FLUSH-MOUNTED PROTECTIVE ENCLOSURE WITH LOCKING COVER.
- CENTRALIZERS SHALL BE SPACED EVERY ONE THIRD OF THE PIPE SLEEVE LENGTH OR EVERY 5 FEET, WHICHEVER IS LESS.

UTILITY MONITORING POINT (UMP)

NOT TO SCALE

BID DOCUMENTS

REFERENCE:						CONTRACT NO. : 8086	CAD FILE NO. : 3-3_I-501			MASSACHUSETTS WATER RESOURCES AUTHORITY PREPARED BY : 100 SUMMER STREET BOSTON, MA 02110 617-426-7330 200 SUMMIT DRIVE, SUITE 340 BURLINGTON, MA 01803 781-656-5800	METROPOLITAN WATER TUNNEL PROGRAM CONTRACT PACKAGE 3.3 NEEDHAM DEWATERING DRAINAGE LINE	DRAWING NO. I-501
						ACCESSION NO. : NOT USED	SECTION NO. :					
						DATE: SEPTEMBER, 2026	DESIGNED BY: EG DRAWN BY: JWD CHECKED BY: EG AND SC					
						SCALE: AS NOTED	APPROVED BY: MD					
	NO.	DATE	BY	CHK'D	REVISION						GEOTECHNICAL	
											INSTRUMENTATION NOTES AND DETAILS	23 of 41