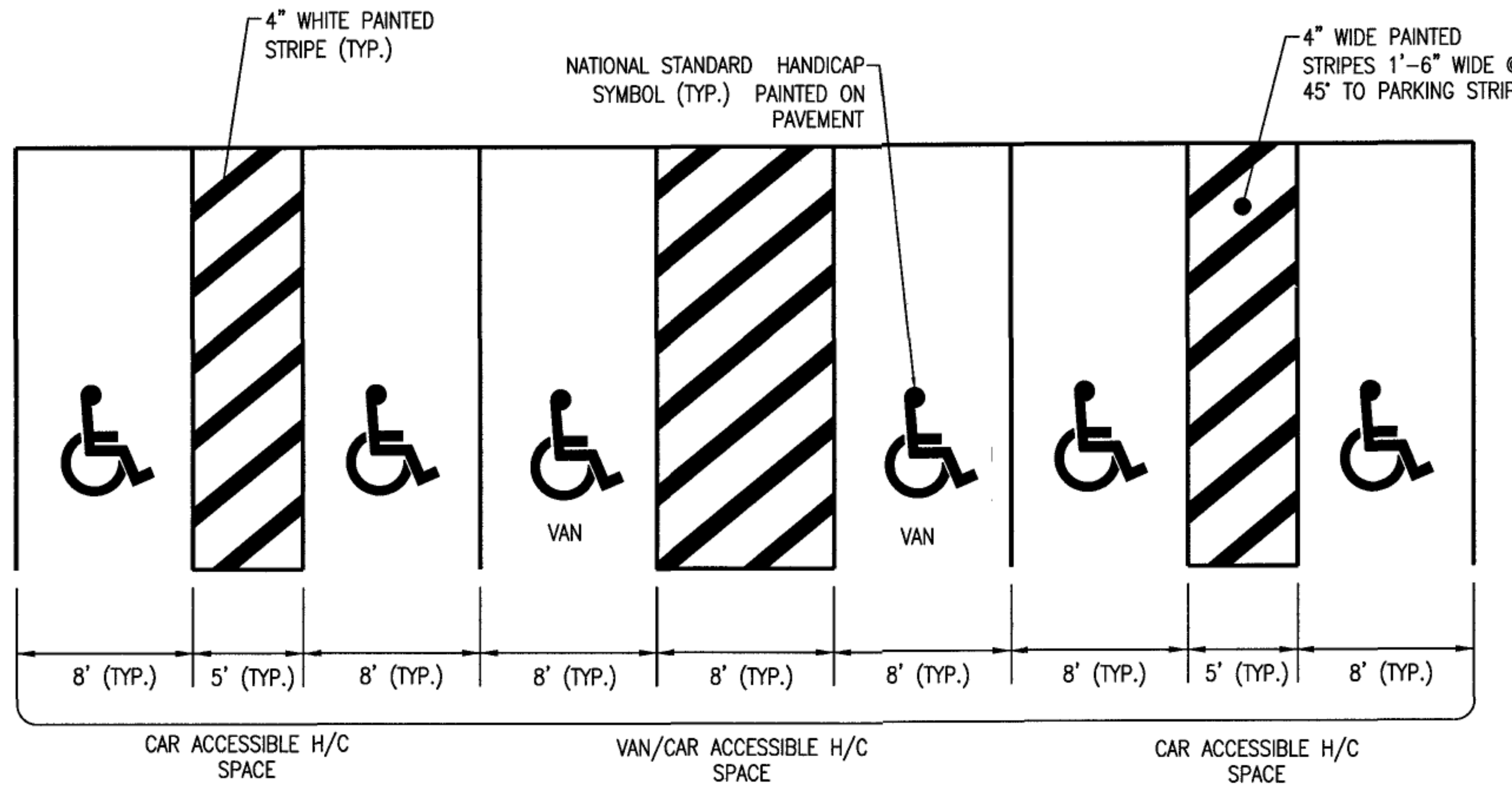
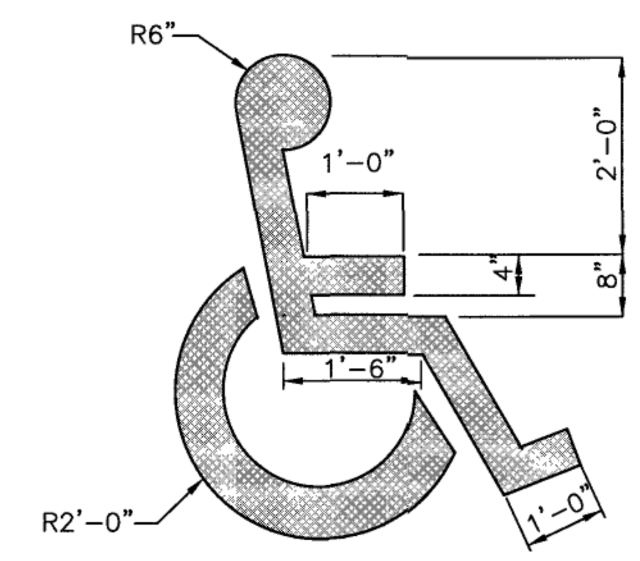


NOTES:

1. EACH ACCESSIBLE PARKING SPACE SHALL HAVE AN EXCLUSIVE ACCESSIBLE ROUTE AISLE.
2. FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES AT LEAST ONE SHALL BE VAN ACCESSIBLE.

HANDICAP PARKING DETAIL

NTS

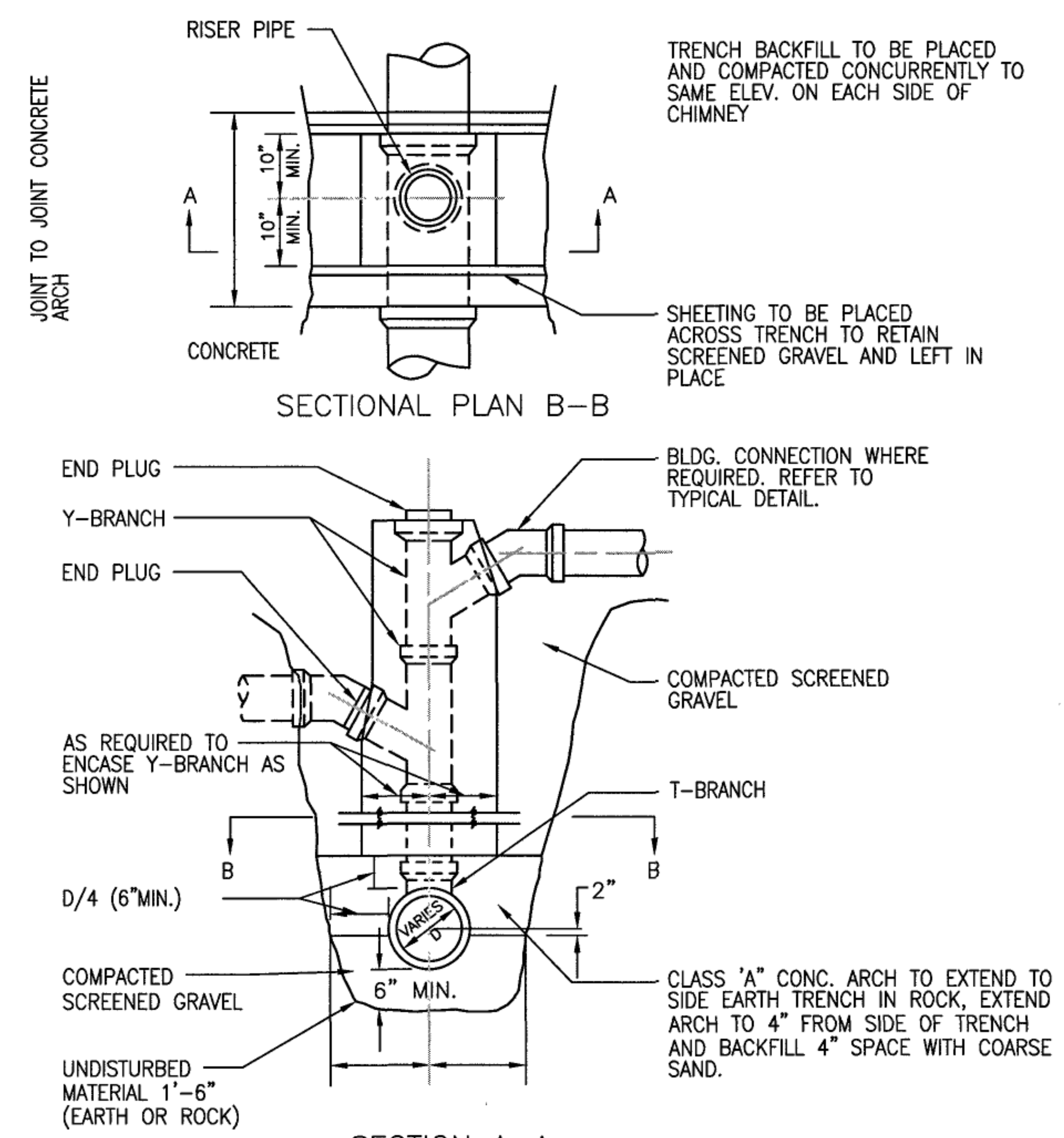


NOTE:

1. AT CURVED PARKING AREAS AT NARROWEST ARC OF SPACE.
2. PAINT TO BE CHLORINATED RUBBER ALKYD FS TT, TYPE III QUICK DRYING, NONBLEEDING, COLOR PER LOCAL CODE.

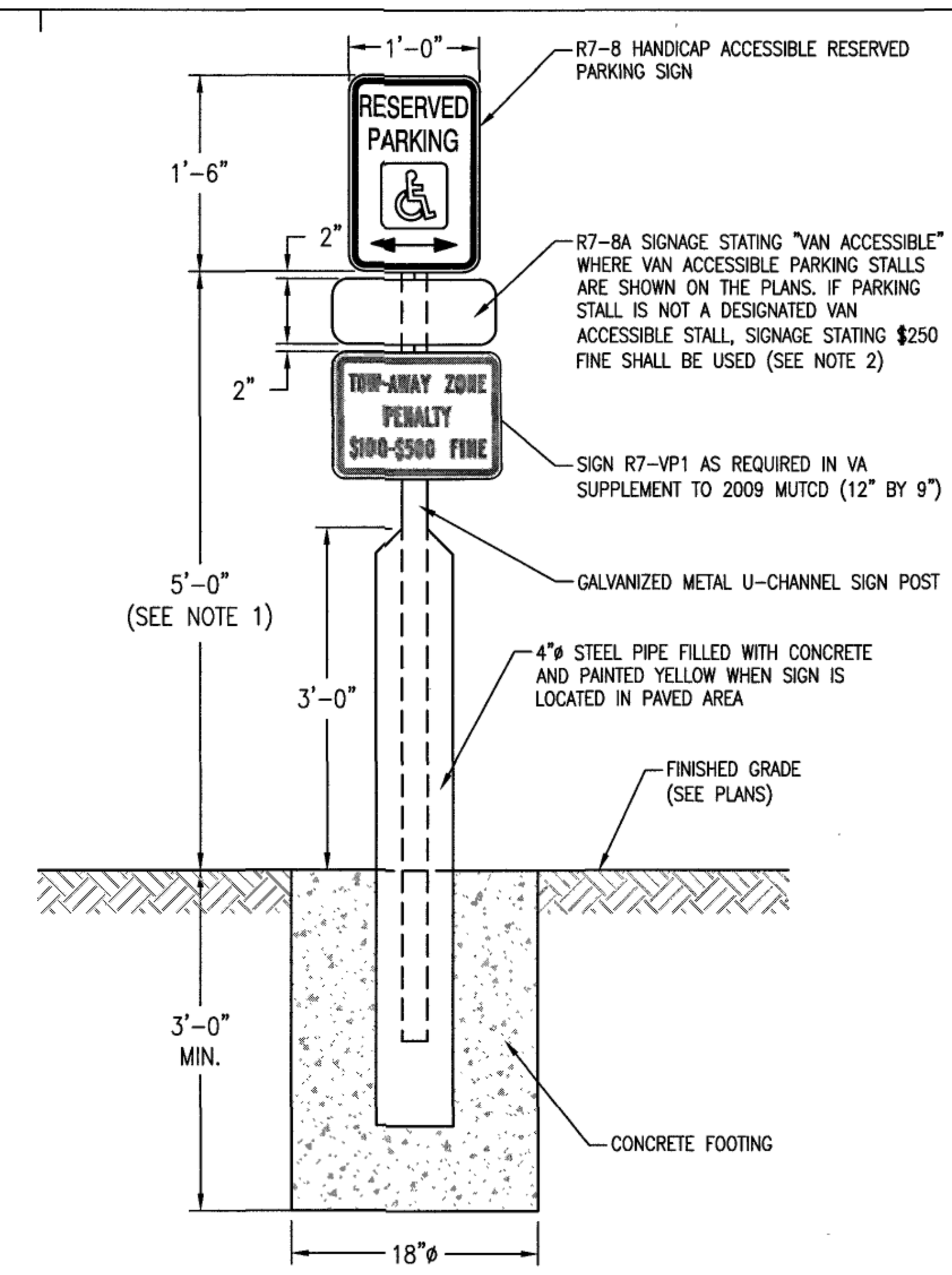
HANDICAPPED PAINTED SYMBOL

NTS



P.V.C. SEWER CHIMNEY

NTS



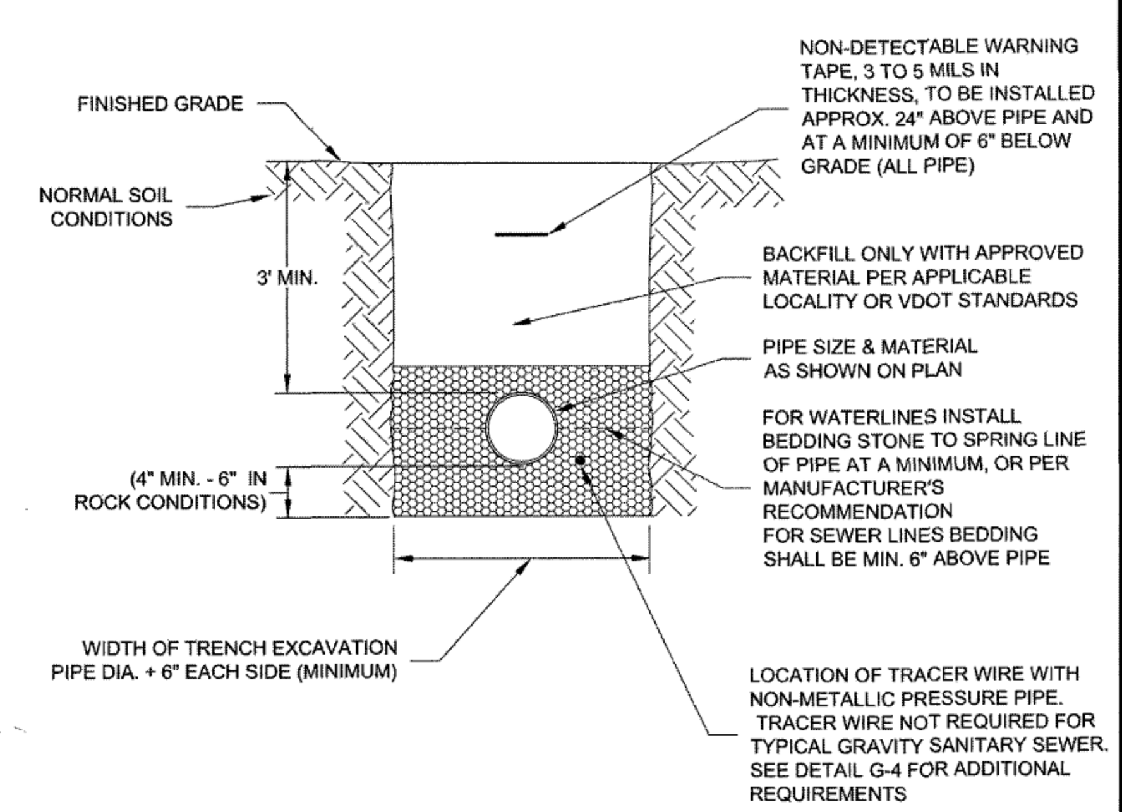
NOTES:

1. ACCESSIBLE PARKING SIGNS SHALL BE CENTERED AT THE FRONT OF EACH PARKING STALL AND INSTALLED WITH A MINIMUM HEIGHT OF FIVE (5) FEET ABOVE FINISHED PAVEMENT OR GRADE ELEVATION UNLESS OTHERWISE DIRECTED BY LOCAL BUILDING CODES.
2. CONTRACTOR SHALL VERIFY FINE AMOUNT WITH LOCAL BUILDING CODES PRIOR TO INSTALLATION.

ACCESSIBLE PARKING SIGN DETAIL

NTS

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #58 STONE, OR CRUSHER RUN.
3. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 1' ABOVE THE PIPE AND THE REMAINING SHALL BE PLACED IN 10" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
4. BEDDING REQUIREMENTS FOR DUCTILE IRON WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
5. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
6. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.

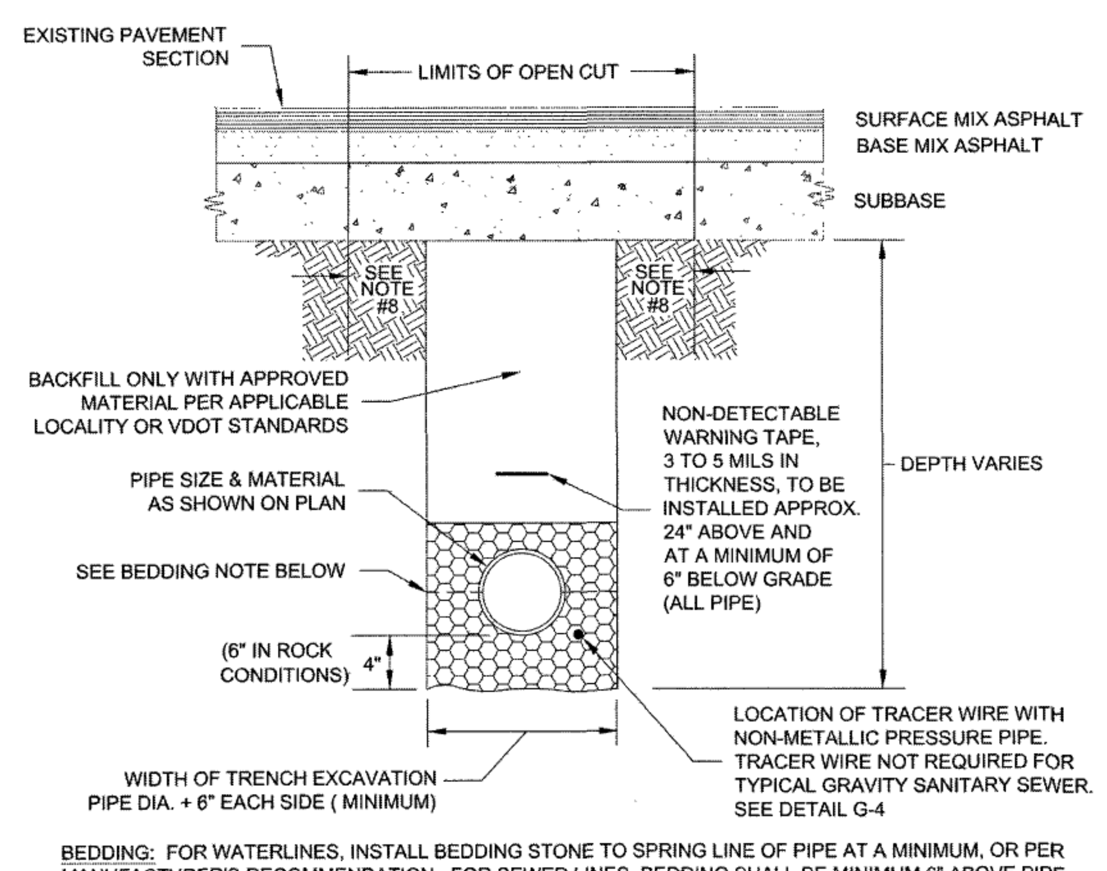


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

BEDDING AND BACKFILL
OUTSIDE OF PAVED AREAS

01/01/14 G-11

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #58 STONE.
3. IN VDOT ROW, THE CONTRACTOR SHALL REPLACE THE PAVEMENT AS REQUIRED AND SPECIFIED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS, LATEST EDITION.
4. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.
5. PRIOR TO CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM VDOT AND/OR APPLICABLE LOCALITY.
6. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
7. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE SEWER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
8. BENCH CUT ON EACH SIDE OF PAVEMENT SHALL BE IN ACCORDANCE WITH VDOT OR APPLICABLE LOCALITY'S SPECIFICATIONS.
9. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
10. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.



BEDDING: FOR WATERLINES, INSTALL BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION. FOR SEWER LINES, BEDDING SHALL BE MINIMUM 6" ABOVE PIPE.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

BEDDING AND BACKFILL
UNDER PAVEMENT AND IN RIGHT-OF-WAY

01/01/14 G-12

PB-1

GENERAL

1. METHOD "A" PIPE BEDDING SHALL BE USED FOR ALL TYPES OF PIPE CULVERTS WITHIN THE APPLICABLE HEIGHT OF COVER RANGE NOTED IN THE STANDARD PC-1 TABLES UNLESS OTHERWISE NOTED ON THE PLANS.
2. H = HEIGHT OF COVER MEASURED FROM TOP OF CULVERT TO FINISHED GRADE.
3. b = EXCAVATION DEPTH AS SHOWN ON PLANS OR TO FIRM BEARING SOIL.

CIRCULAR PIPE

1. D = OUTSIDE DIAMETER OF PIPE.
2. d = INSIDE DIAMETER OF PIPE.
3. X = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.
   X = 12" WHERE d IS LESS THAN 36".
   X = 18" WHERE d IS 36" AND GREATER.
4. WHERE DIRECTED BY THE ENGINEER. BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE (EXCEPT PLASTIC PIPE) 30" AND LESS IN DIAMETER WITH HEIGHT OF COVER 15' OR LESS.
5. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE (EXCEPT PLASTIC PIPE) 30" AND LESS IN DIAMETER WITH HEIGHT OF COVER 15' OR LESS.
6. BEDDING MATERIAL AND CLASS I BACKFILL MATERIAL MAY BE ELIMINATED FOR SHOULDER SLOT INLET (DI-13) OUTLET PIPES INSTALLATIONS.

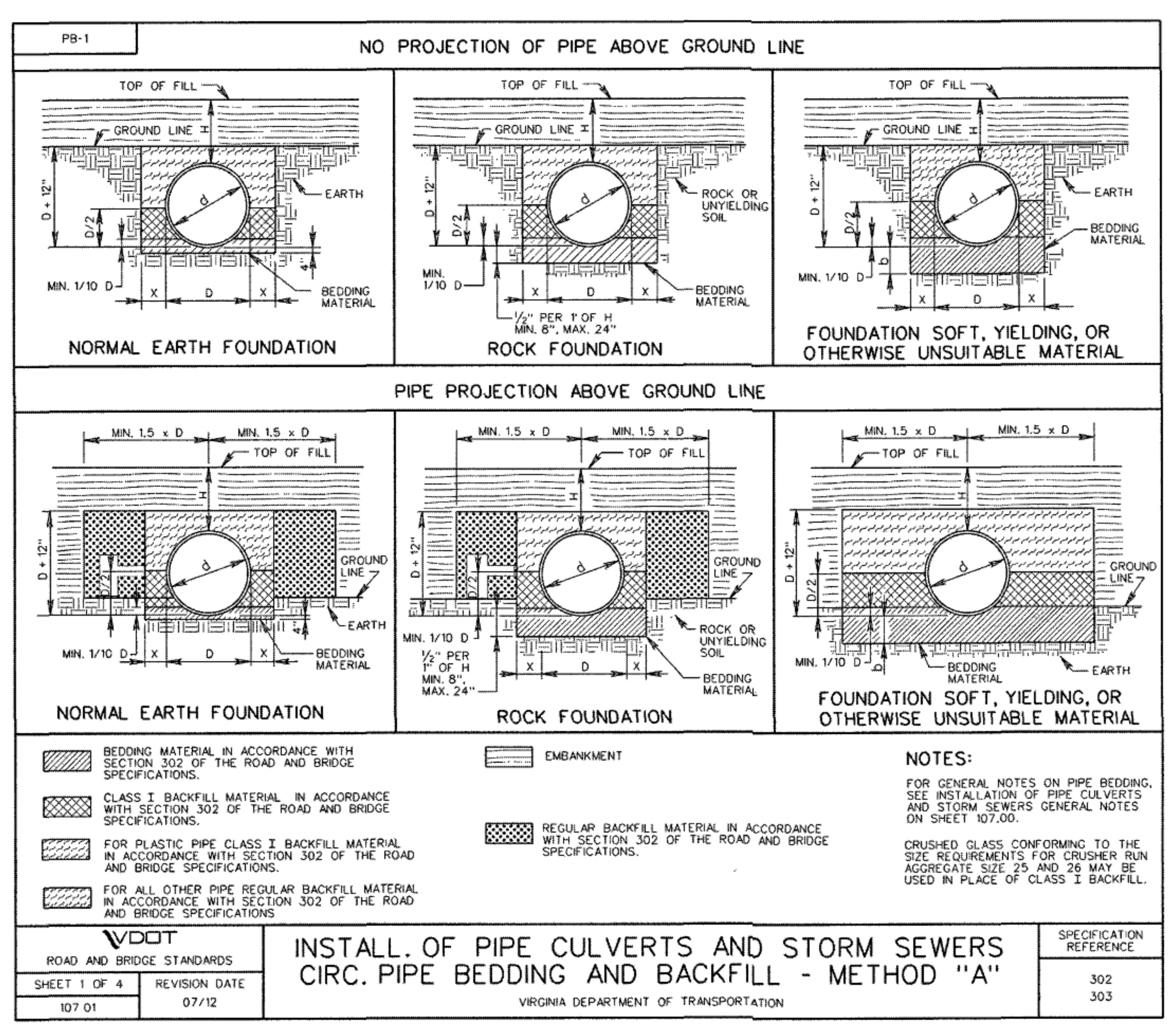
ELLIPTICAL PIPE

1. S_1 = OUTSIDE SPAN DIMENSION OF PIPE.
2. S_2 = INSIDE SPAN DIMENSION OF PIPE.
3. R = OUTSIDE RISE DIMENSION OF PIPE.
4. X = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.
   X = 12" WHERE S_2 IS LESS THAN 36".
   X = 18" WHERE S_2 IS 36" AND GREATER
5. WHERE DIRECTED BY THE ENGINEER. BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE WHERE S_2 IS 38" OR LESS AND HEIGHT OF COVER 15' OR LESS.
6. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE WHERE S_2 IS 38" OR LESS AND HEIGHT OF COVER 15' OR LESS.

PIPE ARCH

1. S = SPAN DIMENSION OF PIPE.
2. R = RISE DIMENSION OF PIPE.
3. B = SEE PC-1 TABLE FOR APPLICABLE PIPE MATERIAL
4. x = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.
   x = 12" WHERE S_2 IS LESS THAN 36".
   x = 18" WHERE S_2 IS 36" AND GREATER
5. WHERE DIRECTED BY THE ENGINEER. BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE WHERE S_2 IS 35" OR LESS AND HEIGHT OF COVER 15' OR LESS.
6. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE WHERE S IS 35" OR LESS AND HEIGHT OF COVER 15' OR LESS.

SPECIFICATION REFERENCE	INSTALLATION OF PIPE CULVERTS & STORM SEWERS GENERAL NOTES VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS	
302 303		REVISION DATE	SHEET 1 OF 1 107.00



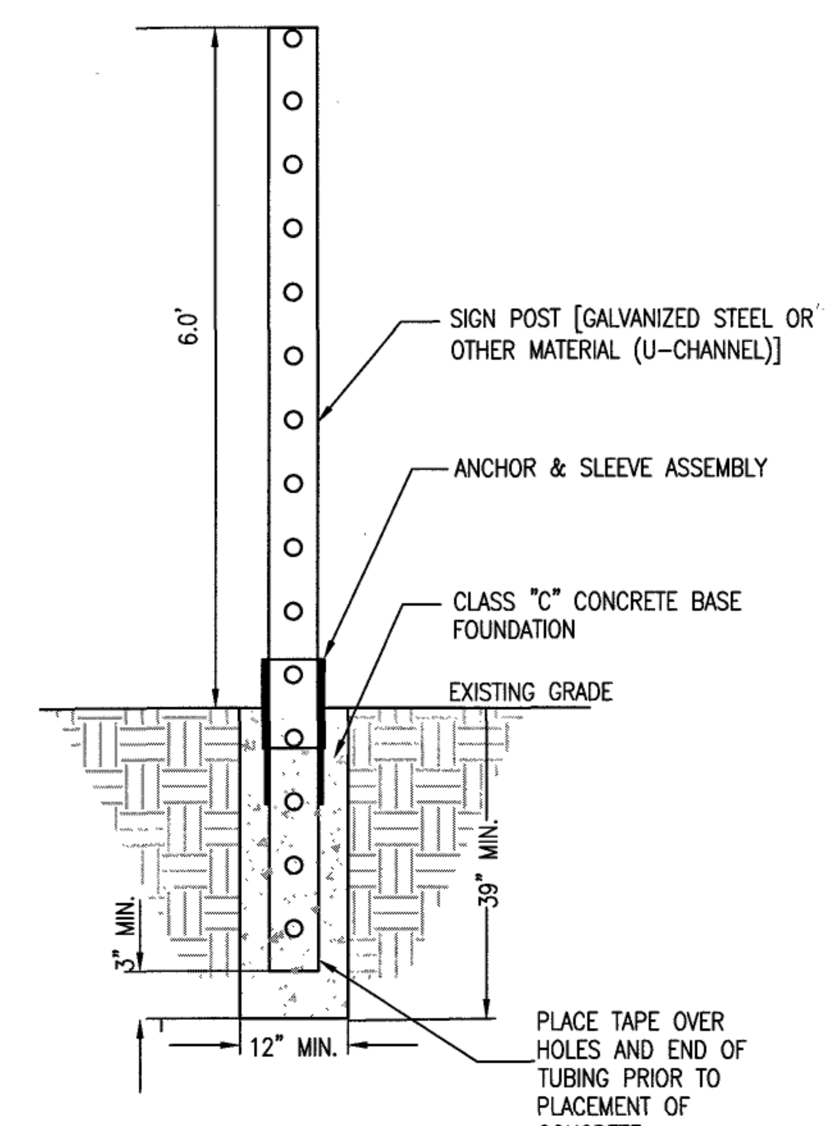
R8-31
12"x 18"

FIRE LANE SIGN DETAIL

NTS

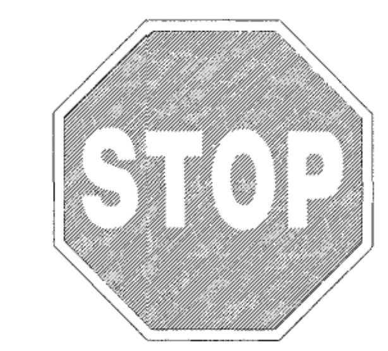
COMPACT PARKING SIGN

NTS



SIGN POST DETAIL

NTS



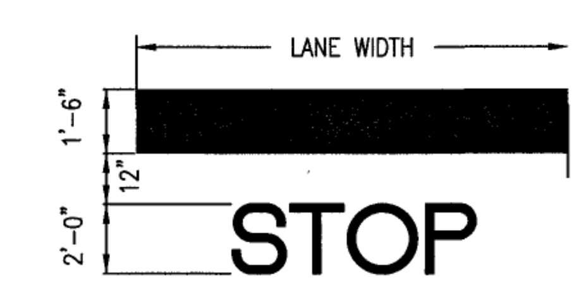
R1-1
30"x 30"

STOP SIGN DETAIL

NTS

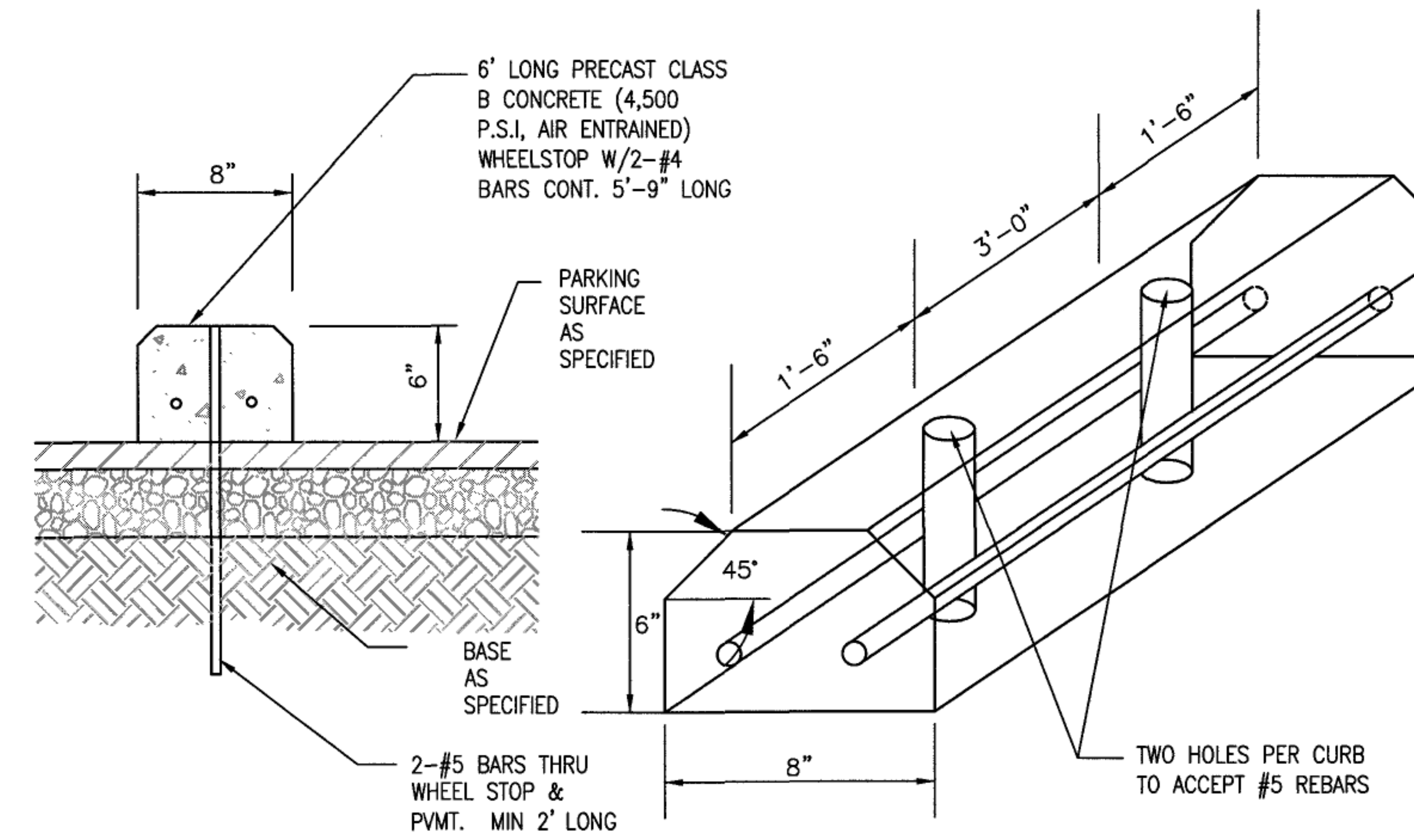
NOTES:

1. YELLOW PAINT FOR LINES AND LETTERS. LETTERS TO BE ELONGATED HELVETICA MEDIUM WITH 4" WIDE STROKES.
2. PAINT 2" BLACK OUTLINE FOR LINES AND LETTERS AT CONCRETE LOCATIONS.
3. PAINT SHALL BE THERMOPLASTIC OR 3 COATS LATEX OR 2 COATS EPOXY RESIN.



PAINTED TRAFFIC MARKINGS

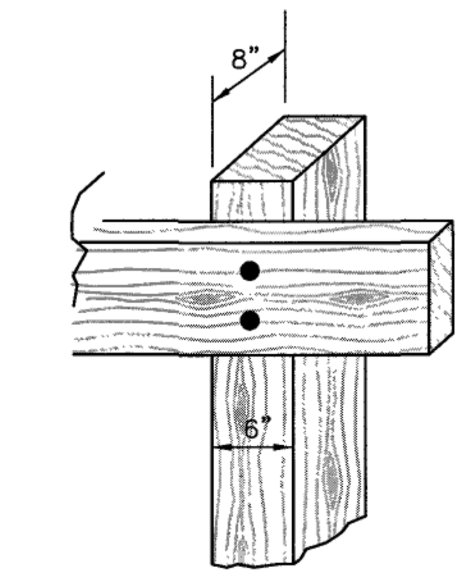
NTS



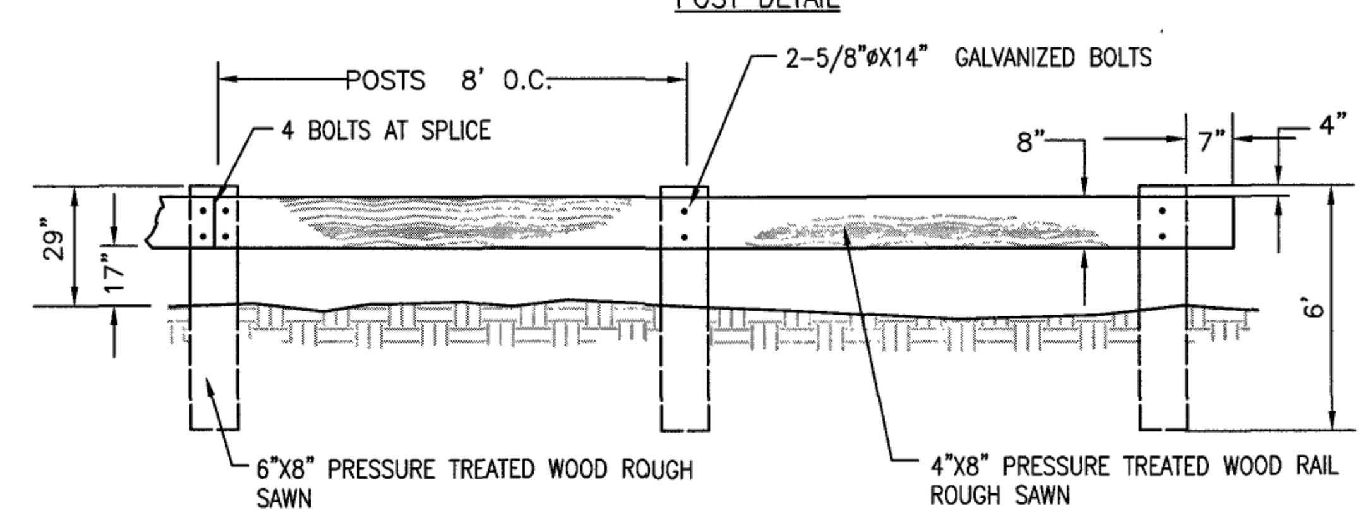
NOTE: CONCRETE WHEEL STOPS MAY BE REPLACED WITH APPROVED EQUAL RUBBER WHEEL STOPS IF APPROVED BY LOCAL APPROVING AUTHORITY AND THE ENGINEER. TO OBTAIN APPROVAL FROM THE ENGINEER, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND THE IMFORMTAION REQUIRED BY THE ENGINEER TO DEMONSTRATE EQUIVALENT PERFORMANCE.

CONCRETE WHEEL STOP

NTS



POST DETAIL



TYPICAL WOODEN GUARDRAIL

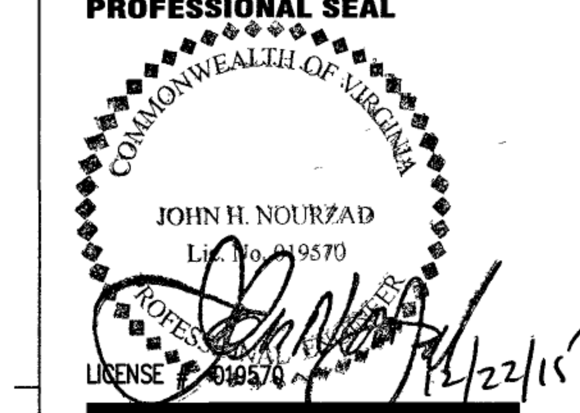
NTS

GreenbergFarrow
153 Cordaville Road, Suite 210
Southborough, MA 01772
t: 508 229 0032

ISSUE/REVISION RECORD

DATE	DESCRIPTION
06/05/15	CONCEPTUAL LAYOUT
07/01/15	CONCEPTUAL SUBMITTAL
07/14/15	COORDINATION SET
07/27/15	COUNTY RESPONSE #1
09/08/15	COUNTY RESPONSE #2
10/14/15	COUNTY RESPONSE #3
11/02/15	BID SET
12/03/15	COUNTY RESPONSE #4
12/23/15	CONSTRUCTION SET

PROFESSIONAL SEAL



PROFESSIONAL IN CHARGE
JOHN NOURZAD P.E.

PROJECT MANAGER
ANDRE PIMENTEL

QUALITY CONTROL
STEPHEN POWERS P.E.

DRAWN BY
R. SCHNEPPER E.I.T.

PROJECT NAME
TEXAS ROADHOUSE

ROANOKE VIRGINIA

SOUTH PEAK BOULEVARD

PROJECT NUMBER
20140788.0

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C7.1