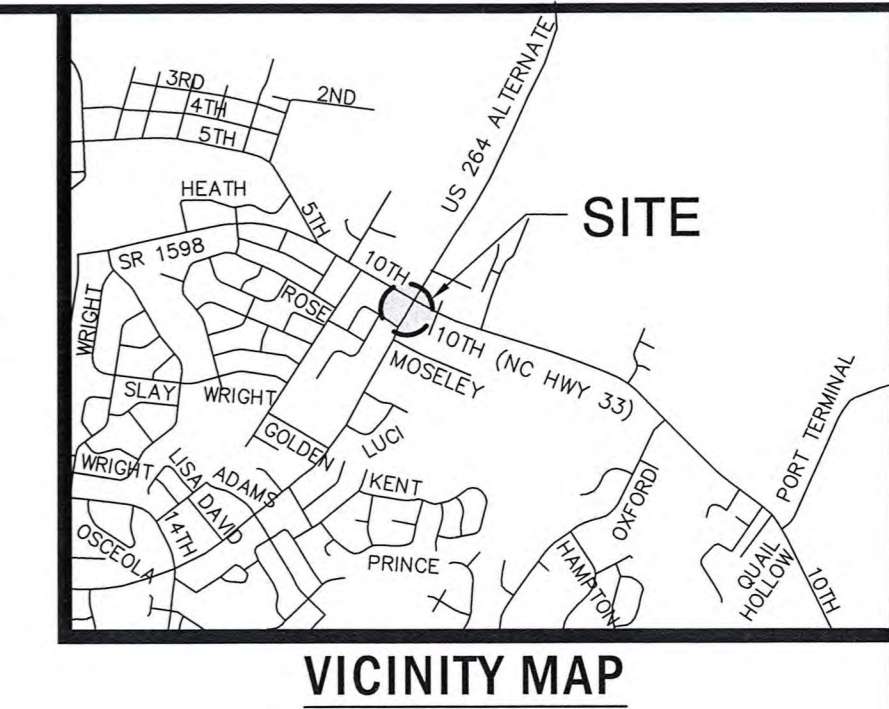




GREENVILLE UTILITIES COMMISSION

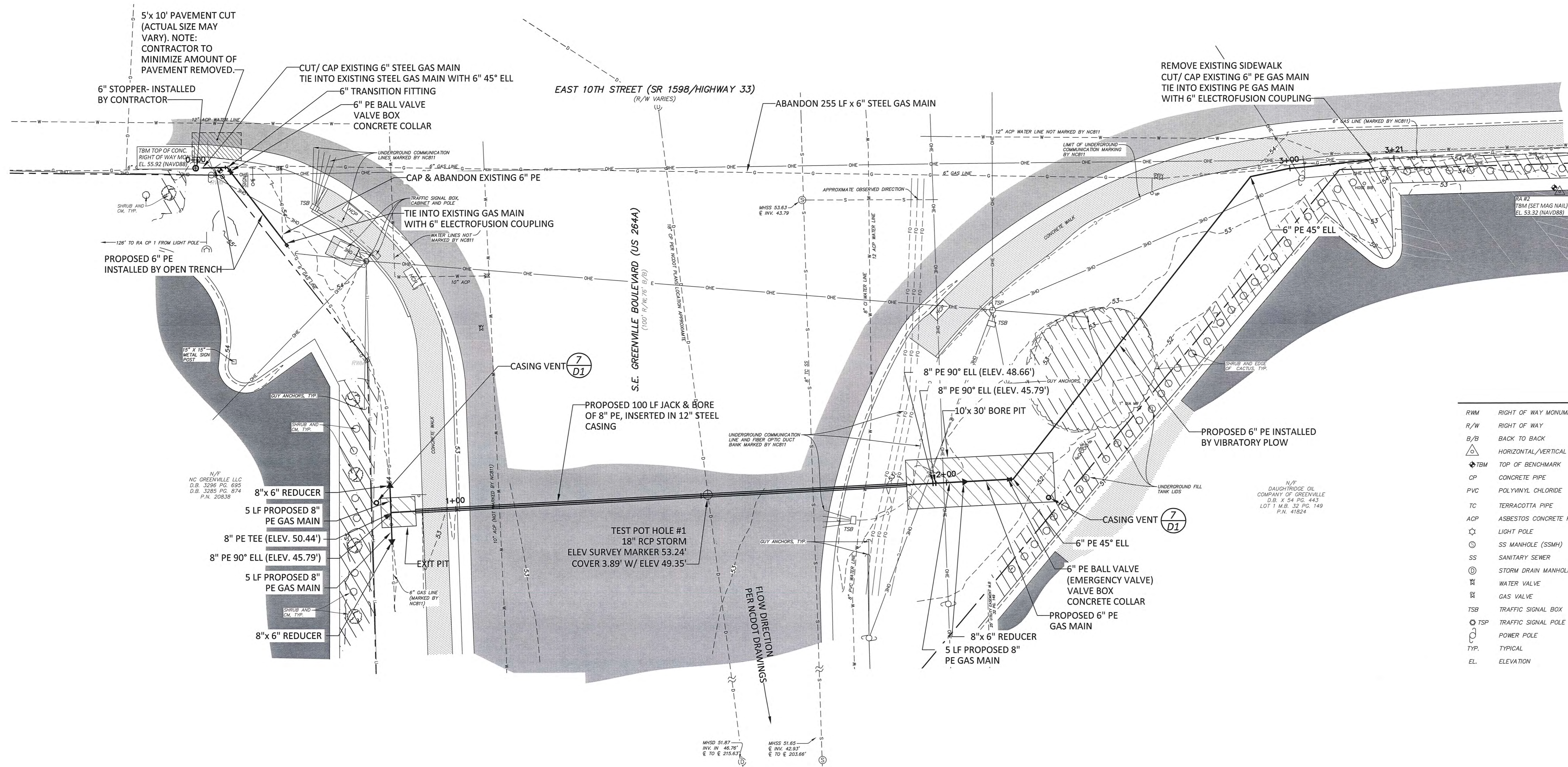
10TH STREET AND GREENVILLE BOULEVARD

NATURAL GAS MAIN REPLACEMENT



REVISIONS:

NO.	DATE	DESCRIPTION
1		
2		
3		

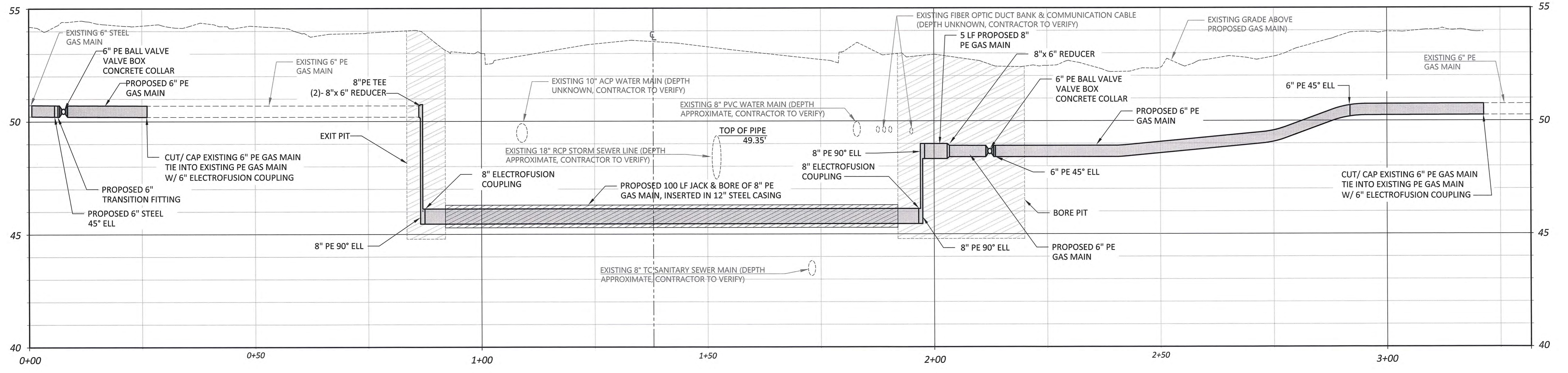
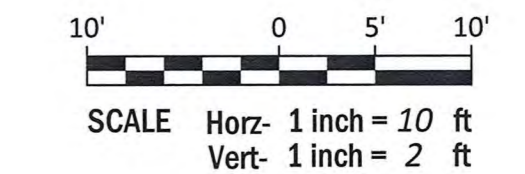


INDEX TO SHEETS

C1 Plan-Profile - Sta. 0+00 to Sta. 3+21
D1 Erosion Control and Miscellaneous Details
D2 Traffic Control Details and General Notes

LEGEND

R/W	RIGHT OF WAY MOVEMENT	—	SIGN
R/W	RIGHT OF WAY	—	FUEL LID
B/B	BACK TO BACK	—	VENT PIPE
H/V	HORIZONTAL/VERTICAL CONTROL	—	CREPE MYRTLE TREE (CM)
TBM	TOP OF BENCHMARK	—	SHRUB
CP	CONCRETE PIPE	—	CONCRETE
PVC	POLYVINYL CHLORIDE	—	HCP
TC	TERRACOTTA PIPE	—	HANDICAP PAD
ACP	ASBESTOS CONCRETE PIPE	—	MP
*	LIGHT POLE	—	CONTOURS
SS	SS MANHOLE (SSMH)	—	RIGHT OF WAY
SS	SANITARY SEWER	—	GAS LINES (AS NOTED)
SD	STORM DRAIN MANHOLE	—	OVERHEAD ELECTRIC
WV	WATER VALVE	—	ANCHOR
EV	EMERGENCY VALVE	—	EASEMENT
TSB	TRAFFIC SIGNAL BOX	—	SANITARY SEWER (PER GUC INFO)
TSP	TRAFFIC SIGNAL POLE	—	WATER MAIN (AS NOTED)
PP	POWER POLE	—	STORM DRAINAGE (APPROXIMATE)
TD	TRAFFIC SIGNAL POLE	—	COMMUNICATION LINES
FD	FIBER OPTIC DUCT BANK	—	FIBER OPTIC DUCT BANK
EL	ELEVATION	—	OVERHEAD UTILITY LINES
		—	GROUND COVER CACTUS



PLAN - PROFILE - STA. 0+00 TO STA. 3+21

GREENVILLE UTILITIES COMMISSION

10TH STREET AND GREENVILLE BOULEVARD

NATURAL GAS MAIN REPLACEMENT

NORTH CAROLINA
PITT COUNTY

Rivers

LANDSCAPE ARCHITECTS & ASSOCIATES, P.C.

101 EAST SQUARE STREET
GREENVILLE, NC 27608
(252) 752-4135

LANDSCAPE ARCHITECTS



8/7/17

SURVEY	DRAFT	JML
DESIGN	##	CHECK
PROJECT No.	2017002	
DRAWING No.	W-3707	
SCALE:	1"=10'	
SHEET No.	OF 3	

C1

CONSTRUCTION SPECIFICATIONS

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
FILTERING EFFICIENCY	ASTM 5141	85% (MIN.)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION	VTM-52	EXTRA STRENGTH-50 LBS./LIN. IN. (MIN.)
FLOW RATE	ASTM 5141	0.3 GAL./SQ.FT./MIN. (MIN.)
ULTRAVIOLET RADIATION STABILITY %	ASTM G-26	90% (MIN.)

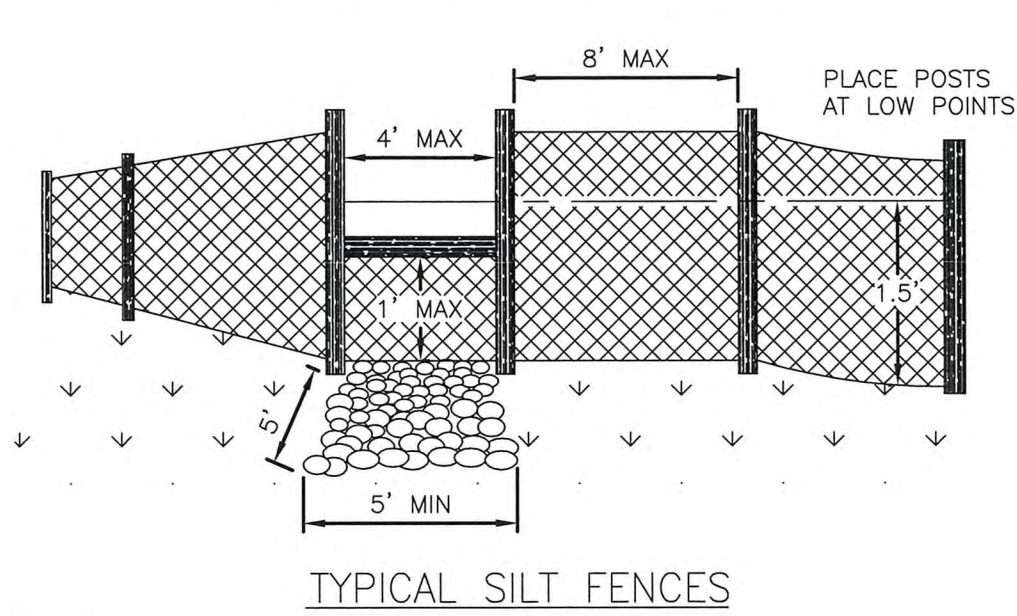
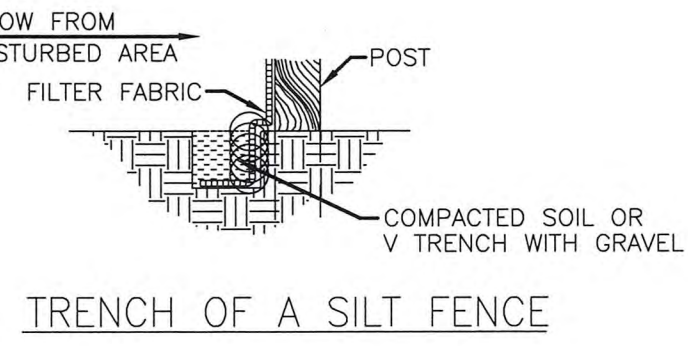
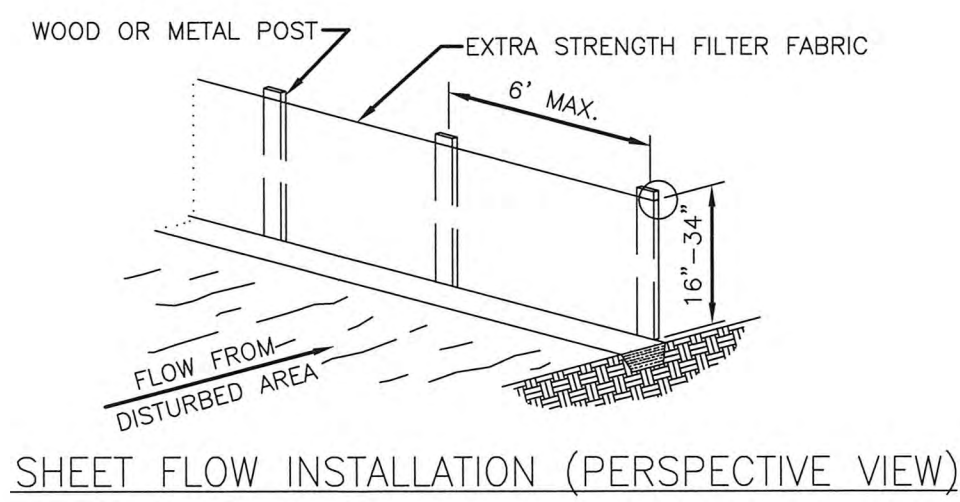
SEE DEHNR TABLE 6.62b
2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0° TO 120°F.
3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2 INCHES WHEN OAK IS USED AND 4 INCHES WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM LENGTH OF 5 FEET.
4. IF STEEL POSTS (STANDARD "U" OR "T" SECTION) ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 5 FEET AND SHALL HAVE PROJECTIONS FOR FASTENING FABRIC.
5. WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD-STRENGTH FILTER CLOTH SHALL BE A MINIMUM 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6 INCHES.

INSTALLATION

1. THE HEIGHT OF A SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE UNAVOIDABLE, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-FOOT OVERLAP, AND SECURELY SEALED.
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE MEASURE.
4. POSTS SHALL BE PLACED A MAXIMUM OF 6 FEET APART. THE FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING ONE INCH LONG (MINIMUM) HEAVY-DUTY WIRE STAPLES OR TIE WIRES AND TWELVE INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
5. THE 8 INCH BY 4 INCH TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
6. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

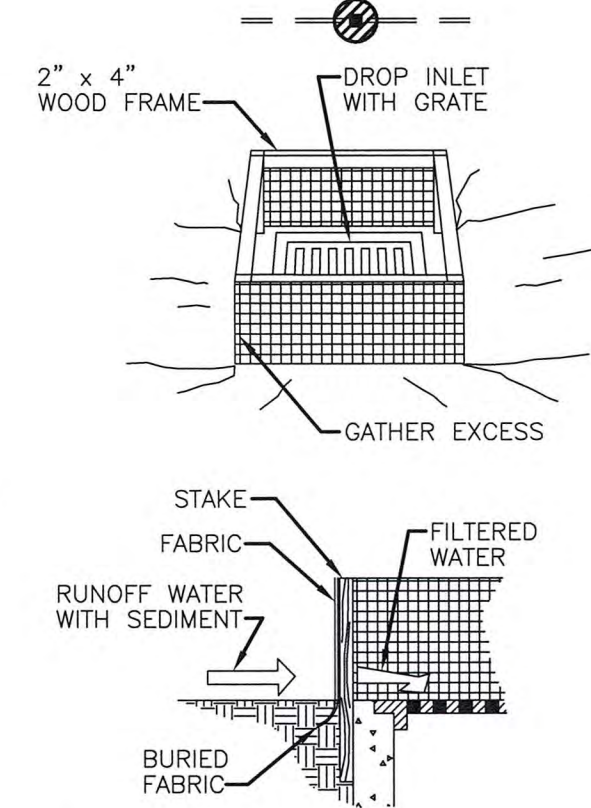


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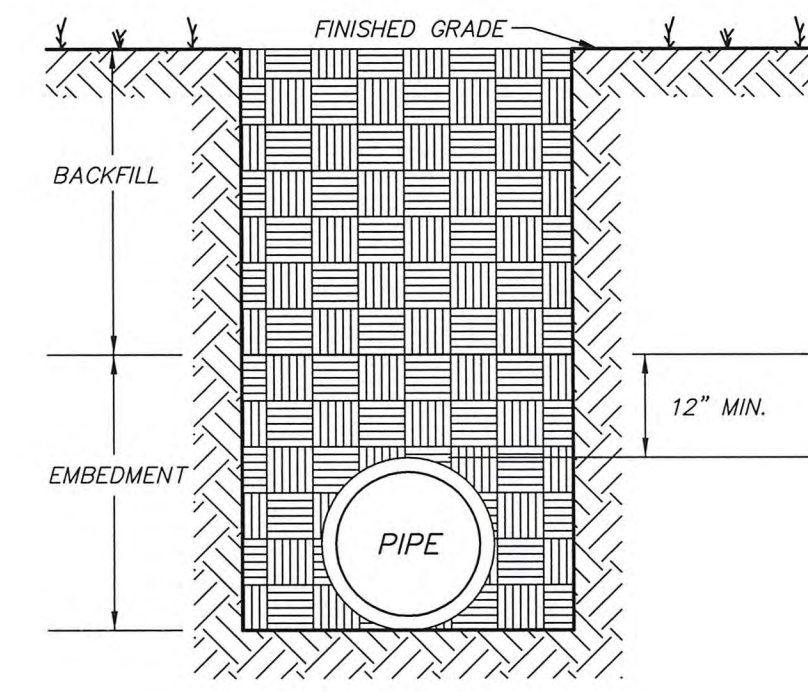
CONSTRUCTION SPECIFICATIONS

SILT FENCE DROP INLET PROTECTION

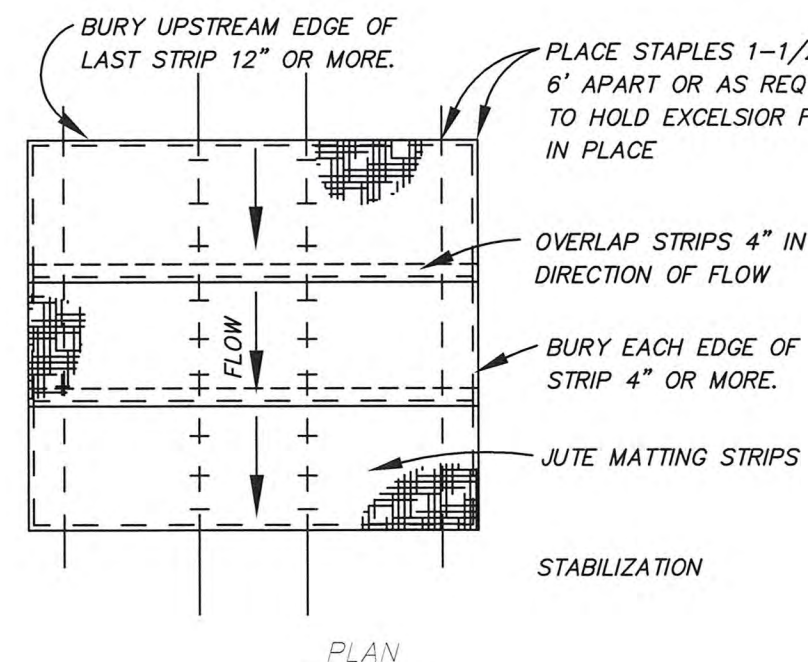
- A. SILT FENCE SHALL CONFORM TO THE CONSTRUCTION SPECIFICATIONS FOR "EXTRA STRENGTH" DEHNR 6.51 AND SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID JOINTS.
- B. STAKES SHALL BE 2 x 4-INCH WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
- C. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3-FEET APART, AND SECURELY DRIVE THEM INTO THE GROUND, APPROXIMATELY 18-INCHES DEEP.
- D. TO PROVIDE NEEDED STABILITY TO THE INSTALLATION, FRAME WITH 2 x 4-INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1 1/2 FEET ABOVE THE DROP INLET CREST.
- E. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL THE TRENCH WITH 12 INCHES OF COMPACTED SOIL.
- F. FASTEN FABRIC SECURELY BY STAPLES OR WIRE TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
- G. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWNSLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.



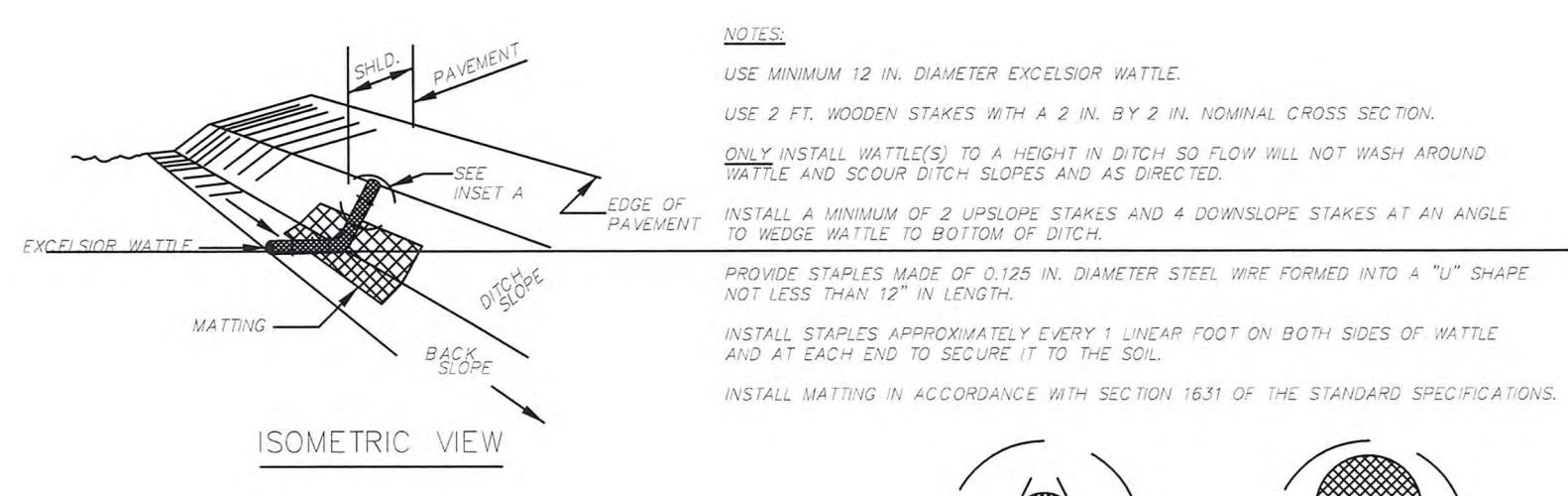
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4
D1 CLASS "F" BEDDING NOT TO SCALE

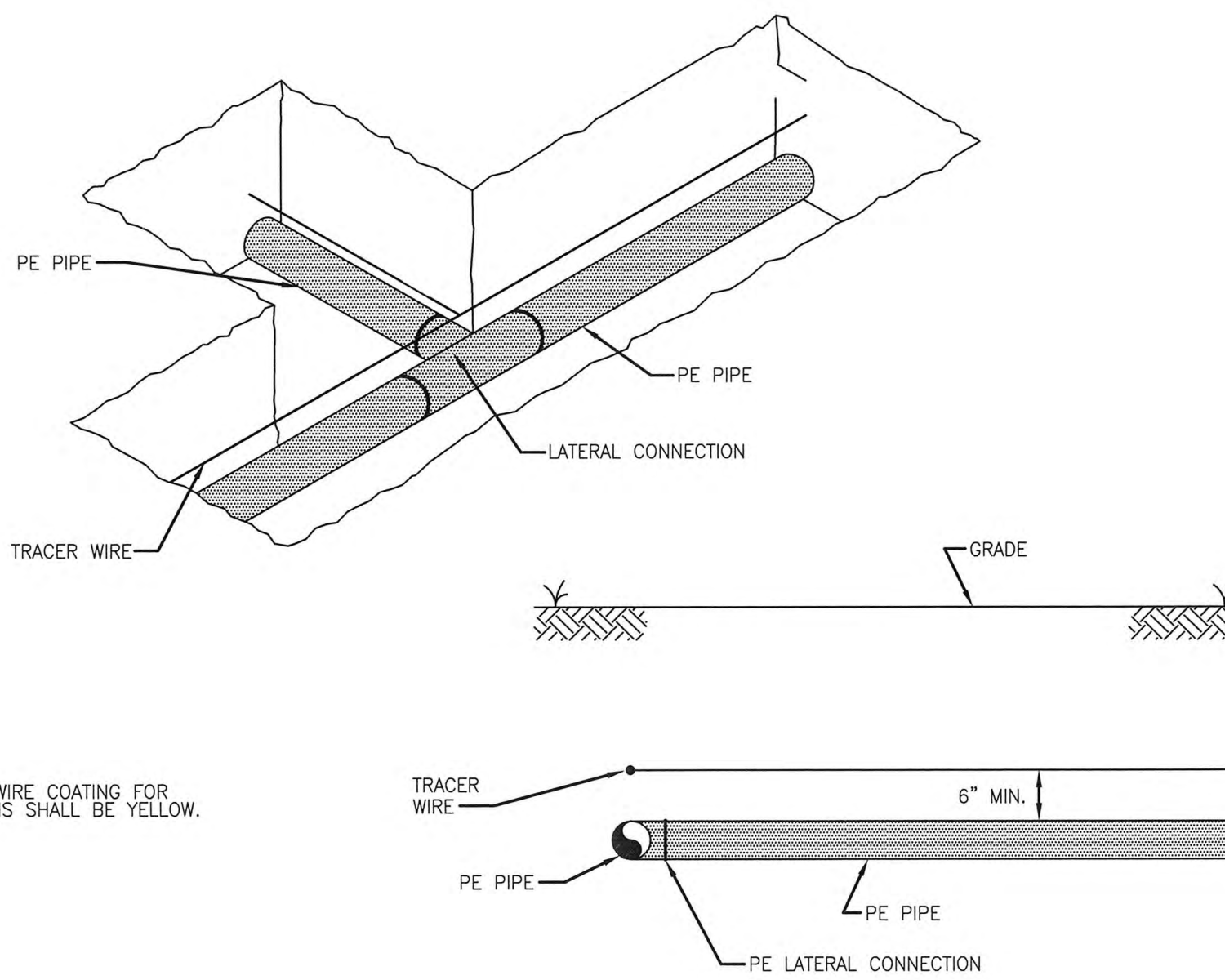
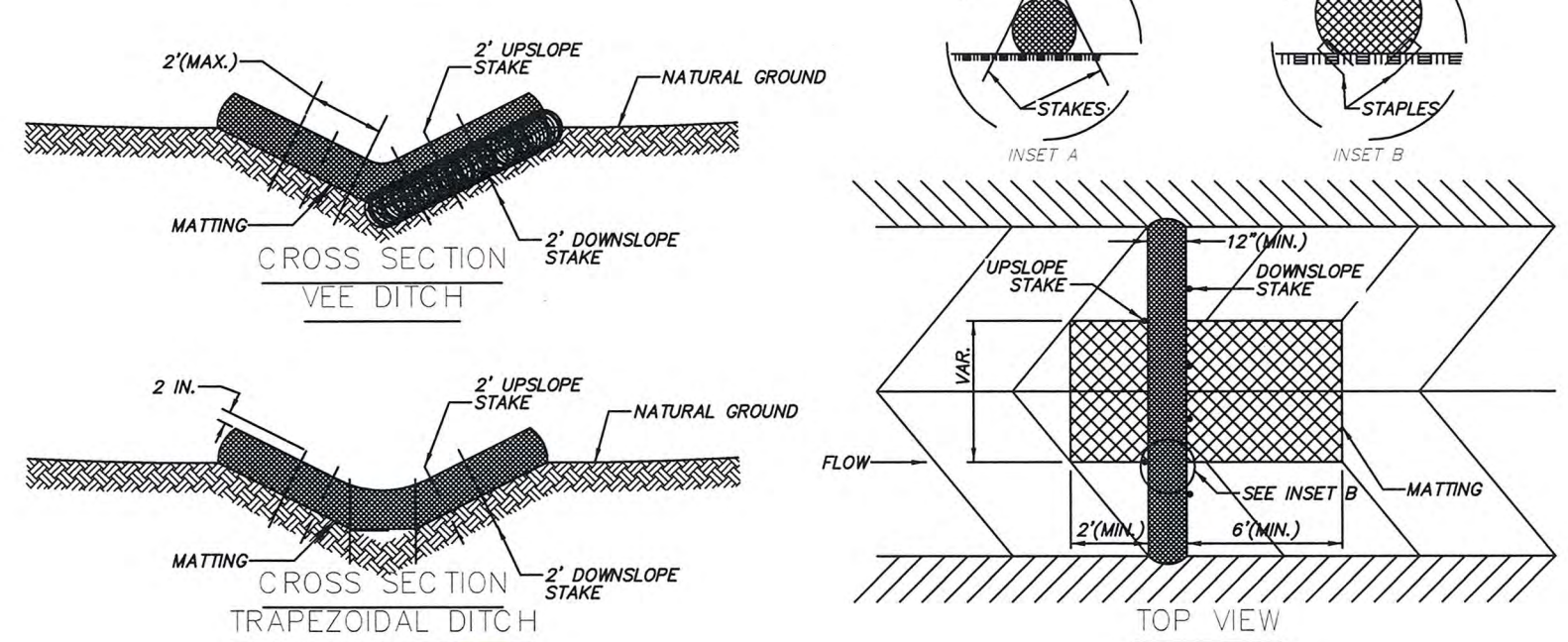


5
D1 SLOPE STABILIZATION W/ EXCELSIOR MATTING NOT TO SCALE

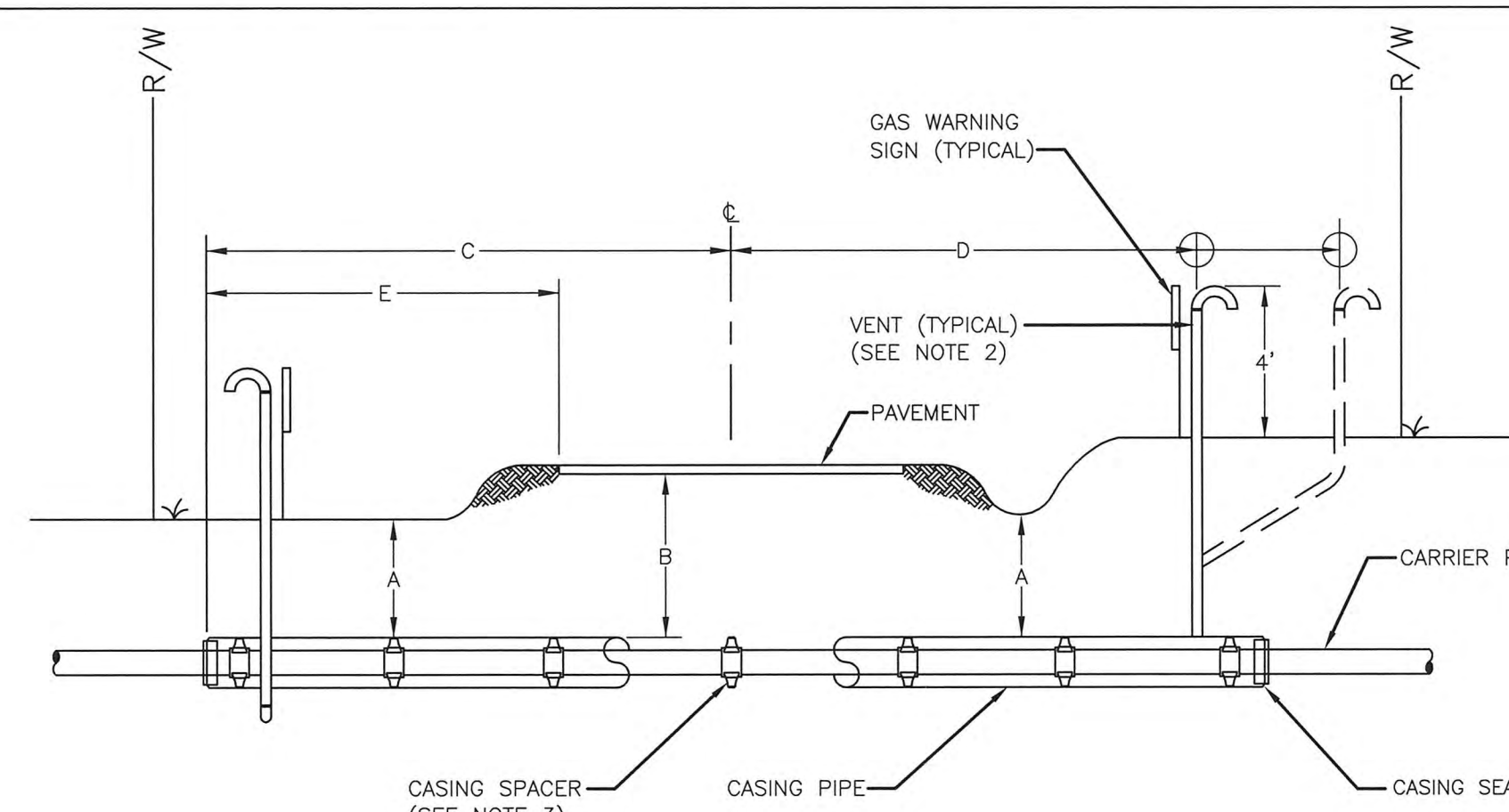


NOTES:
 USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 ONLY INSTALL WATTLES TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WOOD WATTLE TO BOTTOM OF DITCH.
 PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A "U" SHAPE NOT LESS THAN 1/2" IN LENGTH.
 INSTALL STAPLES APPROXIMATELY EVERY 1' LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
 INSTALL MATTING IN ACCORDANCE WITH SECTION 1607 OF THE STANDARD SPECIFICATIONS.

3
D1 EXCELSIOR WATTLE DETAIL NOT TO SCALE



6
D1 TYPICAL LOCATING DEVICE INSTALLATION FOR SINGLE TRENCH INSTALLATION NOT TO SCALE

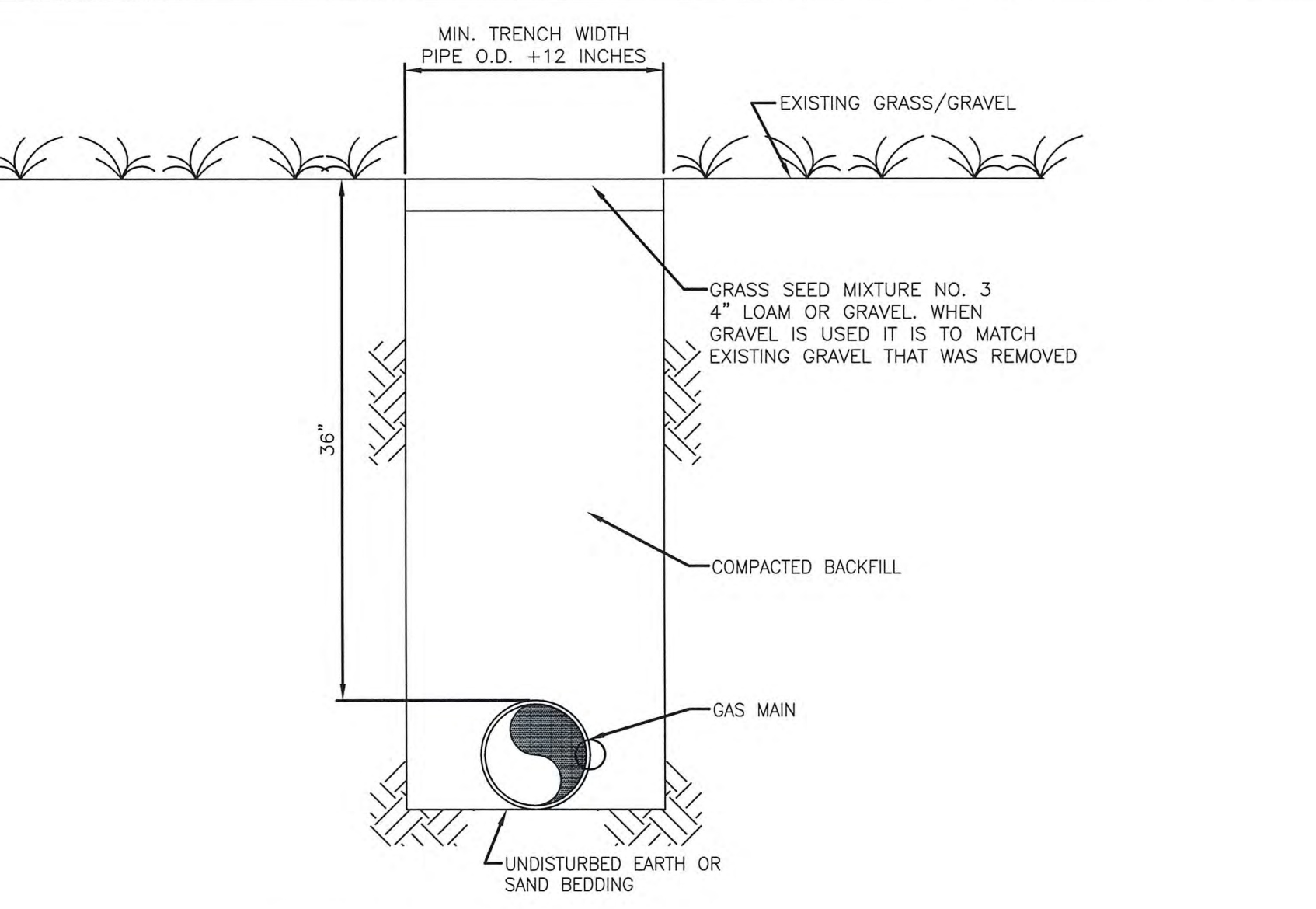


10
D1 TYPICAL POLYETHYLENE GAS VALVE INSTALLATION NOT TO SCALE

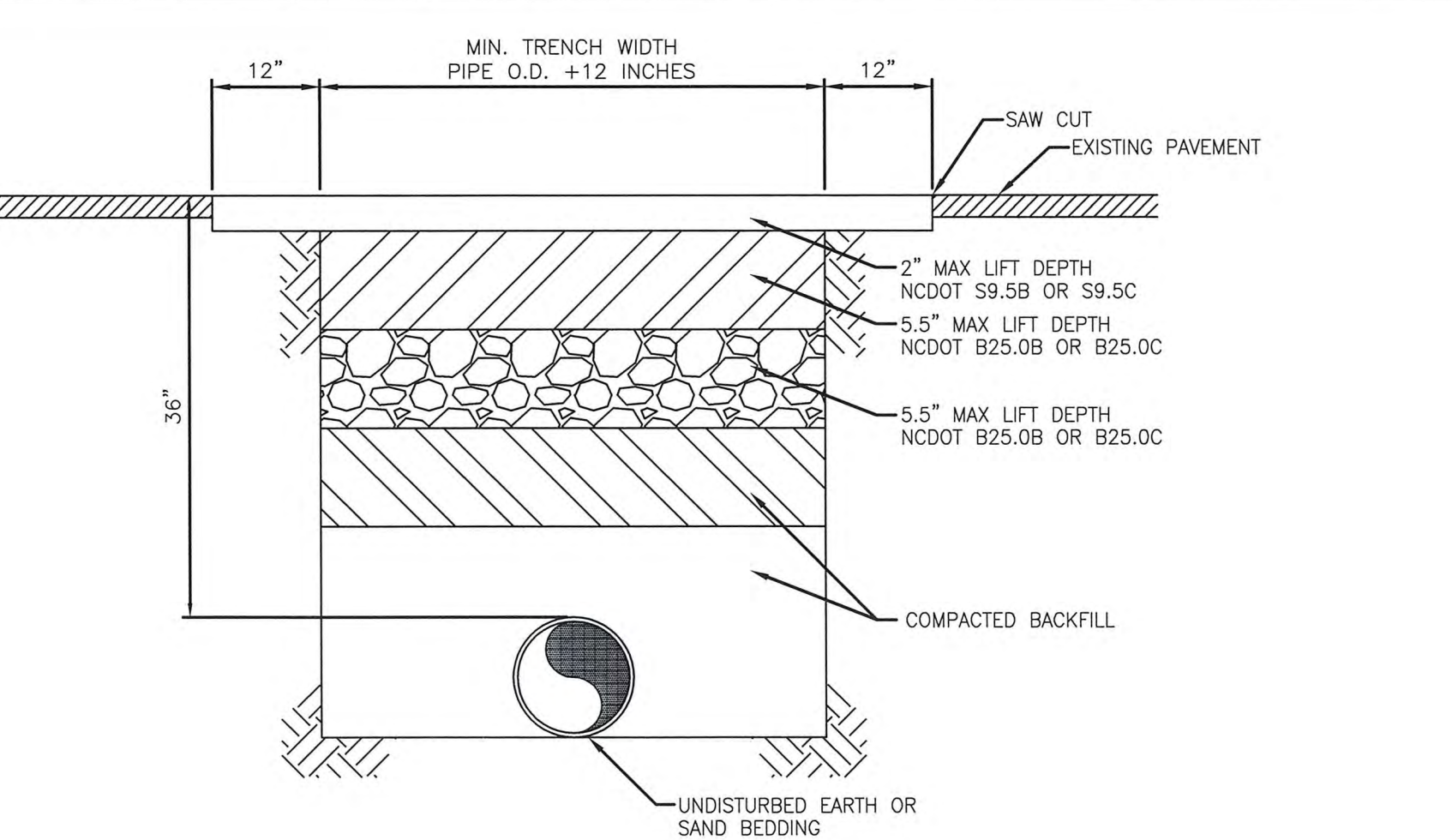
- GENERAL NOTES:**
1. CASING FOR EACH CROSSING SHALL BE WELDED INTO ONE CONTINUOUS LENGTH.
 2. ALL VENT CONNECTIONS SHALL BE WELDED. COUPLINGS SHALL NOT BE ALLOWED.
 3. CASING SPACERS ARE TO BE PLACED A MAXIMUM OF 0'-6" FROM EACH END OF THE CASING AND A MAXIMUM OF 10'-0" ON CENTER FOR THE REMAINING LENGTH OF THE CASING.

DIMENSIONS:
 FOR ROADWAY CROSSINGS
 "A" = FOUR (4) FEET MINIMUM
 "B" = FOUR (4) FEET MINIMUM
 "C" = AS SHOWN ON PLANS
 "D" = TO THE RIGHT-OF-WAY LINE
 "E" = MINIMUM 5' FROM END OF CASING TO EDGE OF PAVEMENT

7
D1 CASING DETAIL NOT TO SCALE



8
D1 TYPICAL TRENCH SECTION IN GRASS/GRAVEL AREA NOT TO SCALE



9
D1 TYPICAL PAVEMENT REPAIR ON NCDOT MAINTAINED ROADS NOT TO SCALE

10th Street and Greenville Boulevard Natural Gas Main Replacement

GUC Stock #	Item	Plan Qty	Unit	Specification
505640	6" PE	160	LF	ASTM D2513, 0.784" min. wall thickness, 8.625" o.d., SDR 11, PE 2708, 40 ft sticks, MARKED DOT SECT. 192.63, ENDS CAPPED
505950	8" 90 deg ELL	3	EA	ASTM D2513 & ASTM D2683, Butt Fuse, Injection Moulded, SDR 11, PE2406, ASTM MARKED DOT SECT. 192.63
505970	8" x 6" Reducer	3	EA	ASTM D2513 & ASTM D2683, Butt Fuse, Injection Moulded, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63
NS	8" PE Tee	1	EA	ASTM D2513 & ASTM D2683, Butt Fuse, Injection Moulded, SDR 11, PE2406, ASTM MARKED DOT SECT. 192.63
505201	8" Electrofusion Coupling	2	EA	ASTM D2513 & ASTM D2683, Injection Moulded, SDR 11, PE 2406
505440	6" Steel Cap	1	EA	nominal pipe size, 0.280 wall, steel, standard weight, seamless, conforming to asa b16.9 and astm a234 specs.
504470	6" Steel 45 deg ELL	1	EA	standard weight, steel, .280 wall, long radius, seamless, conforming to asa b16.9 and astm a234 specs.
NS	6" Stopper	1	EA	Muesler 6" H-12725 thin wall line stopper fitting
504760	6" PE	160	LF	ASTM D2513, .576" min. wall thickness, 6.625" o.d., SDR 11, pe 2406, 40 ft sticks, MARKED DOT SECT. 192.63, ENDS CAPPED
504770	6" Transition Fitting	1	EA	SDR 11, .280 min. wall
504852	6" PE 45 deg ELL	2	EA	ASTM D2513 & ASTM D2683, Butt fuse, Injection Moulded, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63
505200	6" Electrofusion Coupling	2	EA	ASTM D2513 & ASTM D2683, Injection Moulded, SDR 11, PE 2406
504800	6" PE Cap	2	EA	ASTM D2513 & ASTM D2683, Butt fuse, Injection Moulded, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63
505240	6" PE Ball Valve	2	EA	Polyethylene ball valve body must be PE2406, min. pressure rating 80 PSIG, valve stub ends prepared to butt fusion with SDR11.5 PE pipe, must meet or exceed requirements of USDOT 49CFR-part 192 for natural gas distribution.
504940	6" Valve Box	2	EA	Flush Mounted Valve Box W/ "GAS" Lid
305190	Concrete Collar	2	EA	Pre-Cast Concrete Collar
NS	12" Steel Coated Casing Pipe	100	LF	ASME B16.9 & ASTM A334 WPB, 0.250" wall thickness, 12 mil FBE
NS	Casing Spacers (Centralizer)	12	EA	To fit PE Carrier Pipe, OD: 8.625" & Steel Casing Pipe OD: 12.750", W/T: 0.250", Runner Height: 1"
NS	End Seal for Casing	2	EA	Link-seal, Model LS-410 or equivalent
503070	2" Steel Vent Pipe	42	LF	Pipe, 2" nominal, .154" wall thickness, coated with fusion bonded epoxy coat - 12 mil minimum, 21" sticks, weld ends
504610	2" Steel 180 deg. Return Bend	2	EA	standard weight, steel, .154 wall, long radius, seamless, conforming to asa b16.9 and astm a234 specs Domestic
504430	2" Steel 90 deg ELL	4	EA	standard weight, steel, .154 wall, long radius, seamless, conforming to asa b16.9 and astm a234 specs Domestic
NS	Pipe Wrap	1	ROLL	Anti-Corrosion Pipe Wrap, Heat Applied
506060	#8 Tracer Wire	500	LF	#8 YELLOW THHN, STRANDED COPPER, 500' HAND SPOOLS
NS	Pipeline Marker	2	EA	Fiberglass Pipeline marker

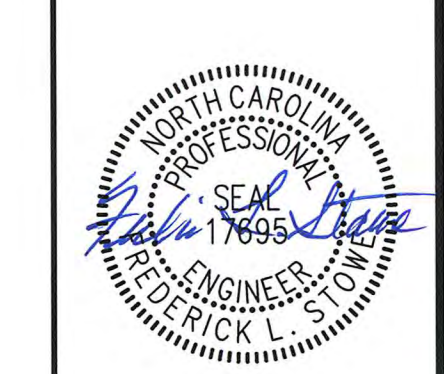
REVISIONS:

NO.	DATE	DESCRIPTION
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EROSION CONTROL AND MISCELLANEOUS DETAILS
GREENVILLE UTILITIES COMMISSION
10TH STREET AND GREENVILLE BOULEVARD
NATURAL GAS MAIN REPLACEMENT
 NORTH CAROLINA
 PITT COUNTY

Rivers & Associates, Inc.
 107 East Second Street
 Greenville, NC 27838
 (252) 759-4135
 Landscape Architects



8/7/17

SURVEY	FLS	DRAFT	JML

PROJECT No. **2017002**
 DRAWING No. **W-3707**
 SCALE: **AS SHOWN**
 SHEET No. **D1** OF **3**

REVISIONS:	
NO.	DESCRIPTION
1	ADD
2	REV
3	ADD



TRAFFIC CONTROL DETAILS AND GENERAL NOTES
GREENVILLE UTILITIES COMMISSION
10TH STREET AND GREENVILLE BOULEVARD
NATURAL GAS MAIN REPLACEMENT
 NORTH CAROLINA
 PITT COUNTY

Rivers & Associates, Inc.
 ENGINEERS
 107 East Second Street
 Greenville, NC 27838
 (252) 755-4135
 LEADSCAPE ARCHITECTS



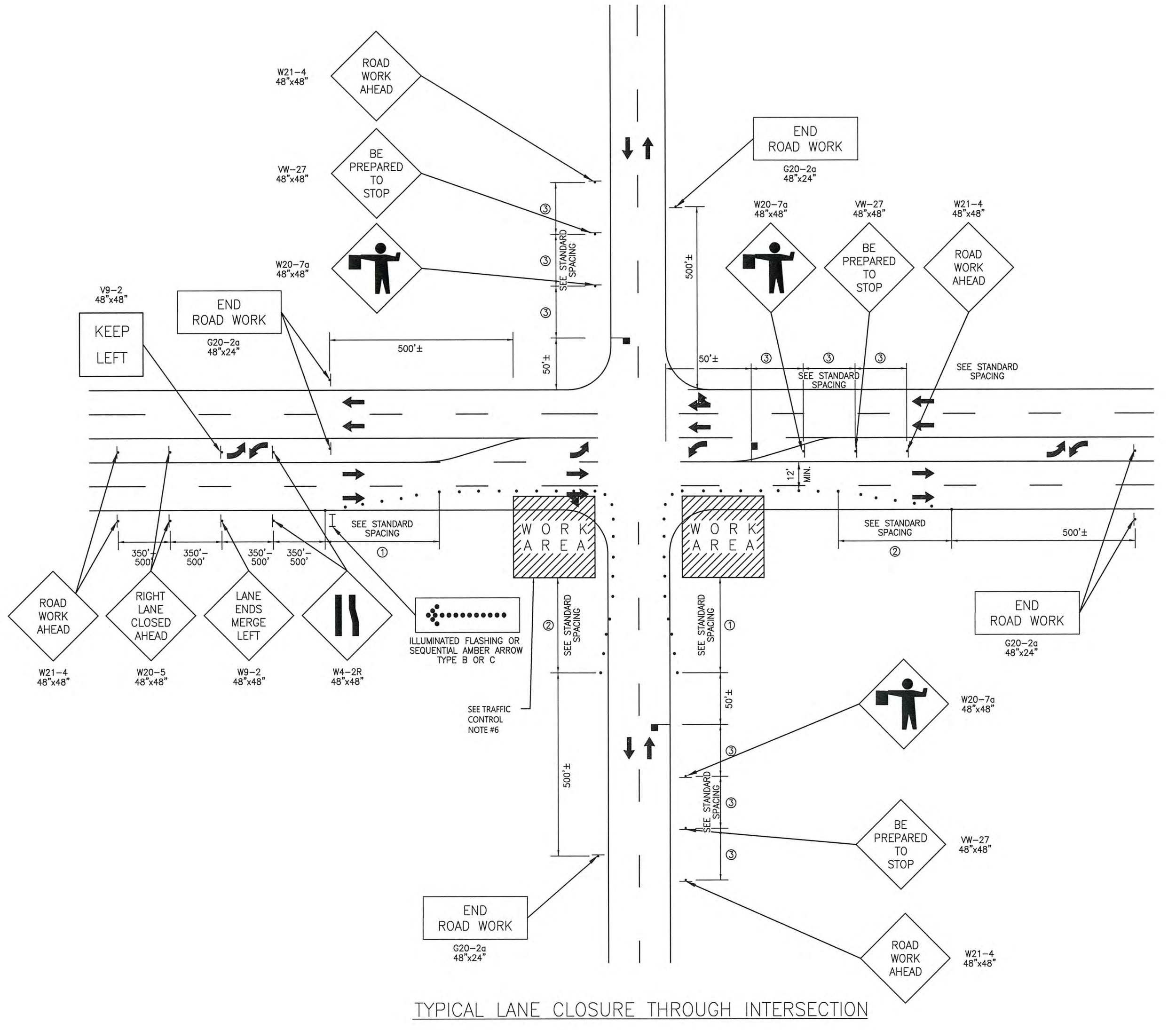
8/7/17

SURVEY	DRAFT	JML
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PROJECT NO.	2017002	
DRAWING NO.	W-3707	
SCALE:	NOT TO SCALE	
SHEET NO.	OF 3	

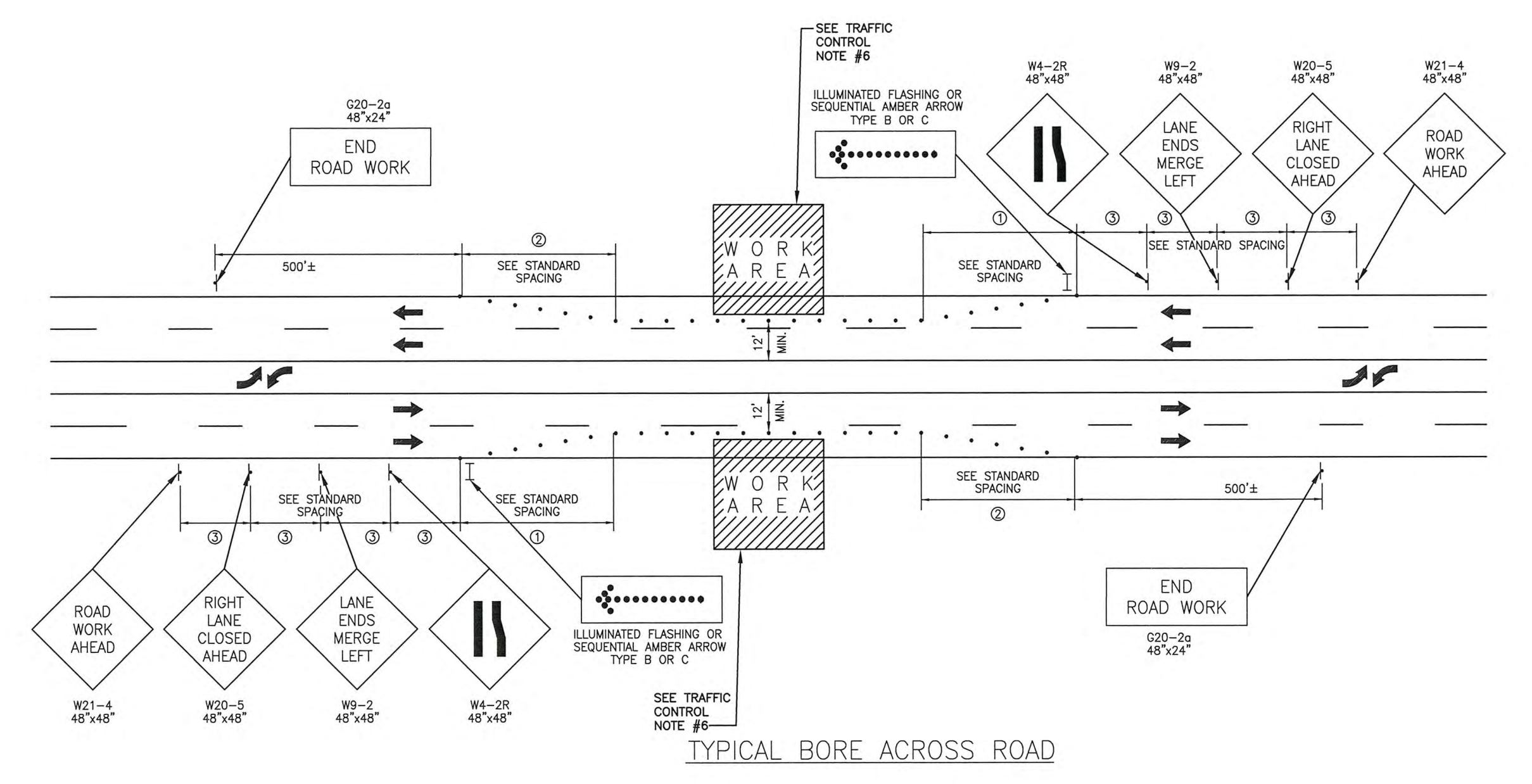
D2

GENERAL

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CURRENT SPECIFICATIONS AND STANDARDS OF GREENVILLE UTILITIES AND BE IN CONFORMANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) REQUIREMENTS.
- TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO THE ROADWAYS OR IMPEDE TRAFFIC AS DIRECTED BY THE NCDOT WITHIN THE PROJECT LIMITS.
- PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF LOCATING ANY UNDERGROUND UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY EXIST IN THE AREA OF CONSTRUCTION. UTILITY OWNERS SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THE UTILITIES. THE CONTRACTOR, AT HIS OWN EXPENSE SHALL BE RESPONSIBLE FOR THE REPAIR OF EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT THE NC 811 CENTER AT 1-800-632-4949 72 HOURS IN ADVANCE OF ANY CONSTRUCTION.
- ALL DRAINAGE PIPES AND STRUCTURES SHALL BE CLEANED OF DEBRIS AND ERODED MATERIALS RESULTING FROM CONSTRUCTION. THESE PIPES AND STRUCTURES SHALL BE MAINTAINED CLEAN DURING THE PERIOD OF CONSTRUCTION.
- ALL DISTURBED SLOPES SHALL BE RESTORED TO EXISTING GRADES AND STABILIZED WITH SEED & MULCH AND TACKED IF APPROPRIATE.
- THE GAS MAIN SHALL BE INSTALLED SO AS TO PROVIDE A MINIMUM OF TWELVE (12") INCHES OF CLEARANCE TO ALL OTHER UNDERGROUND UTILITIES AND STRUCTURES. WHERE THIS IS NOT POSSIBLE APPROPRIATE PROTECTION SHALL BE PROVIDED. GAS MAINS INSTALLED BY HDD MUST MAINTAIN, AT A MINIMUM, 24" OF CLEARANCE FROM THE BOTTOM OF RCPs 36" AND LARGER.
- ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR ACCORDING TO THE DETAILS PROVIDED IN THE PLANS.
- REFERENCE TO DEMLR REFERS TO THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE NORTH CAROLINA DIVISION OF ENERGY, MINERAL AND LAND RESOURCES, EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
- CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES AS DESCRIBED ON THE PROJECT PLANS AND DETAILS DURING CONSTRUCTION AND SURFACE RESTORATION UNTIL SUCH MEASURES ARE NOT NECESSARY. WHERE ADDITIONAL MEASURES ARE NECESSARY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE APPROPRIATE MEASURES ACCORDING TO THE NORTH CAROLINA DIVISION OF ENERGY, MINERAL AND LAND RESOURCES DESIGN MANUAL.
- REFER TO NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES AND/OR PENALTIES RESULTING FROM ALL NON-COMPLIANCE WITH FEDERAL, STATE, AND LOCAL PERMITS AND ENCROACHMENT AGREEMENTS.
- REPLACE ALL DAMAGED DRAIN CULVERTS WITH NEW CULVERTS OF THE SAME SIZE AND MATERIAL.



TYPICAL LANE CLOSURE THROUGH INTERSECTION



TYPICAL BORE ACROSS ROAD

LEGEND

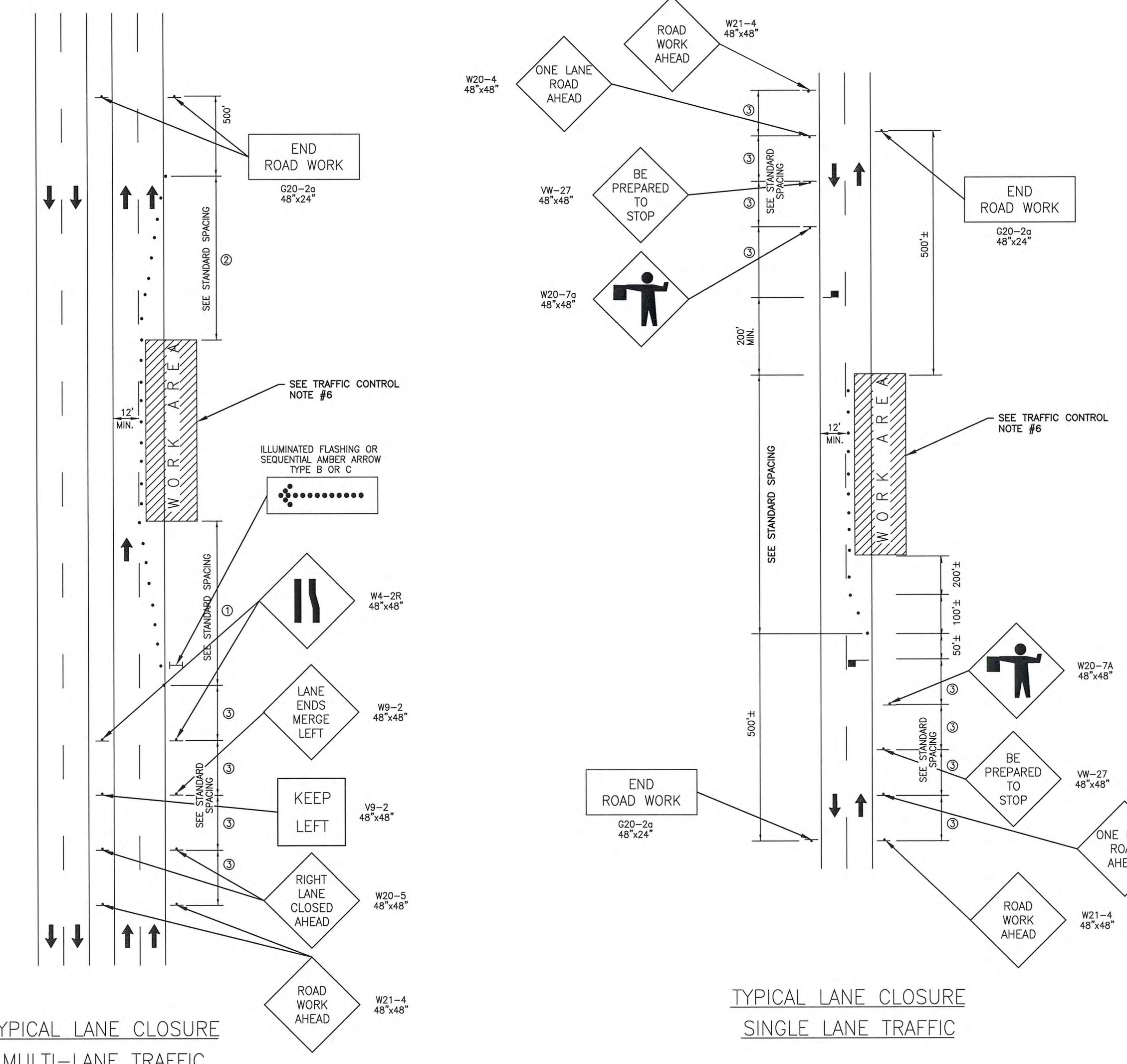
- WORK AREA
- DIRECTION OF TRAFFIC
- TEMPORARY WARNING SIGN
- CHANNELING DEVICE (BARREL OR CONE)
- FLAGGER STATION
- LT. & RT. SIGNS REQ'D. WHERE MEDIAN EXCEEDS 8 FT.

STANDARD SPACING

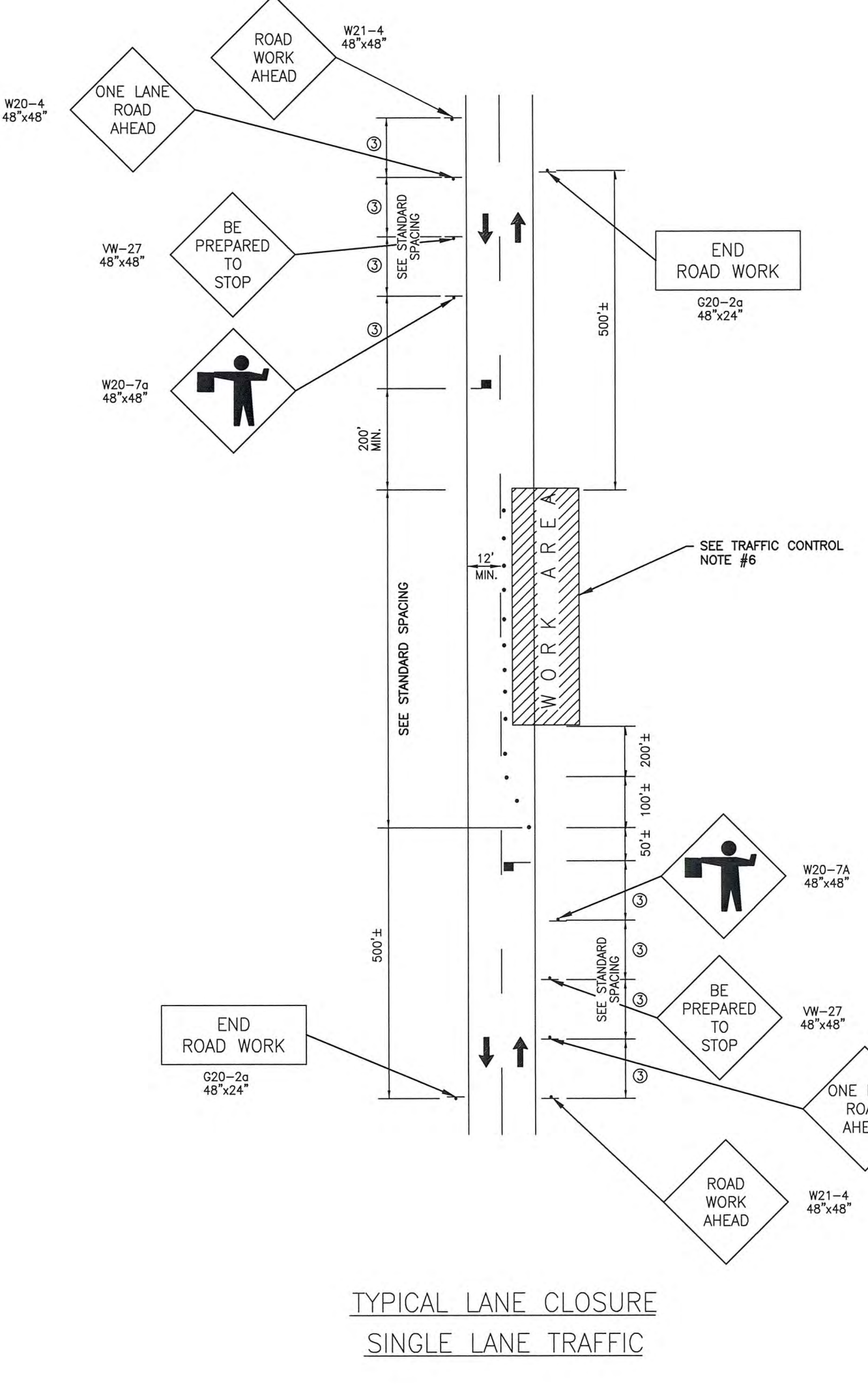
SPACE TYPE	35 MPH	45 MPH
BARRELS - TRAVELWAY SPACING	40'	80'
BARRELS - TRAVELWAY SPACING	20'	40'
① ENTRANCE TAPER	245'	540'
② EXIT TAPER	80'	80'
③ SIGN SPACING	350'-500'	350'-500'

TRAFFIC CONTROL NOTES

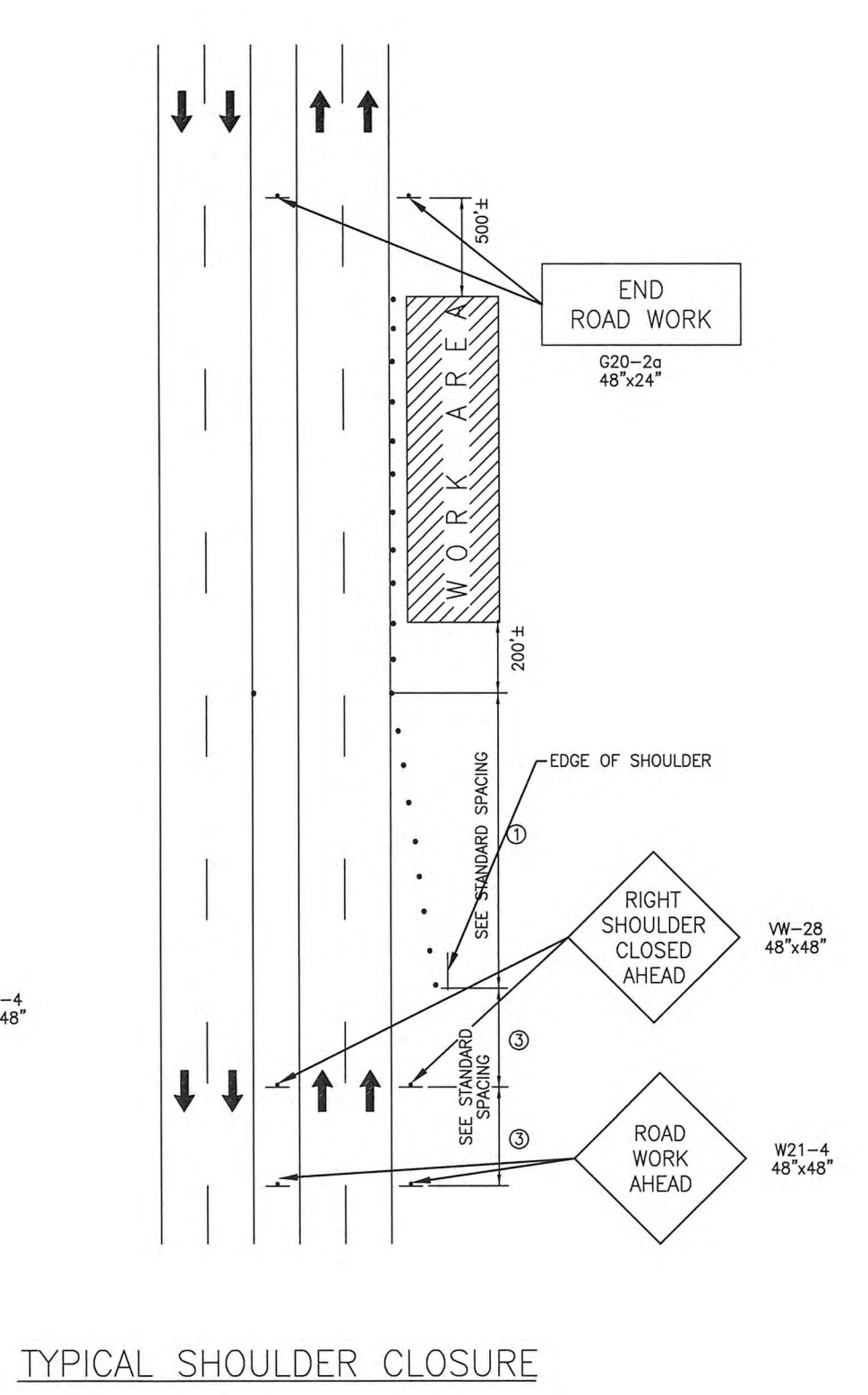
- NO WORK SHALL BE DONE WITHIN 300 FEET OF PRIMARY ROAD INTERSECTIONS BETWEEN THE HOURS OF 7:00 A.M. - 9:00 A.M. AND 4:00 P.M. - 6:00 P.M.
- UNLESS SPECIAL PERMISSION HAS BEEN GRANTED BY ANY AND ALL CONTROLLING AUTHORITIES, ALL LANES MUST BE RESTORED TO NORMAL WIDTHS AT THE CONCLUSION OF EACH CONSTRUCTION DAY.
- CHANNELIZING DEVICES MUST SEPARATE THE WORK AREA FROM THE TRAVELED WAY AND BE EXTENDED TO WHERE THEY ARE VISIBLE TO ONCOMING TRAFFIC.
- SHOULD SPECIAL PERMISSION BE GRANTED TO EXTEND WORKING HOURS SUCH THAT CONSTRUCTION IS CARRIED ON AFTER SUNSET OR BEFORE SUNRISE, THE CONTRACTOR SHALL PROVIDE:
 - FLOODLIGHTS TO MARK FLAGGER STATIONS.
 - STEADY-BURN WARNING LIGHTS ON CHANNELIZING DEVICES.
 - BLINKING LIGHTS ON WARNING SIGNS.
- ALL TRAFFIC CONTROL METHODS AND DEVICES SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS ISSUED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION AND THE MOST CURRENT NORTH CAROLINA WORK AREA PROTECTION MANUAL.
- A TRUCK WITH EITHER AN ARROW BOARD OPERATING IN THE CAUTION MODE, OR AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT SHALL BE PARKED 50'-100' IN ADVANCE OF THE FIRST WORK CREW. WHEN POSTED SPEED LIMIT IS 45 MPH OR GREATER, A TRUCK MOUNTED ATTENUATOR SHALL BE USED.
- THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION.
- ACCESS TO ALL PARCELS AFFECTED BY CONSTRUCTION SHALL BE MAINTAINED AT ALL TIMES.
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TYPICAL LANE CLOSURE MULTI-LANE TRAFFIC

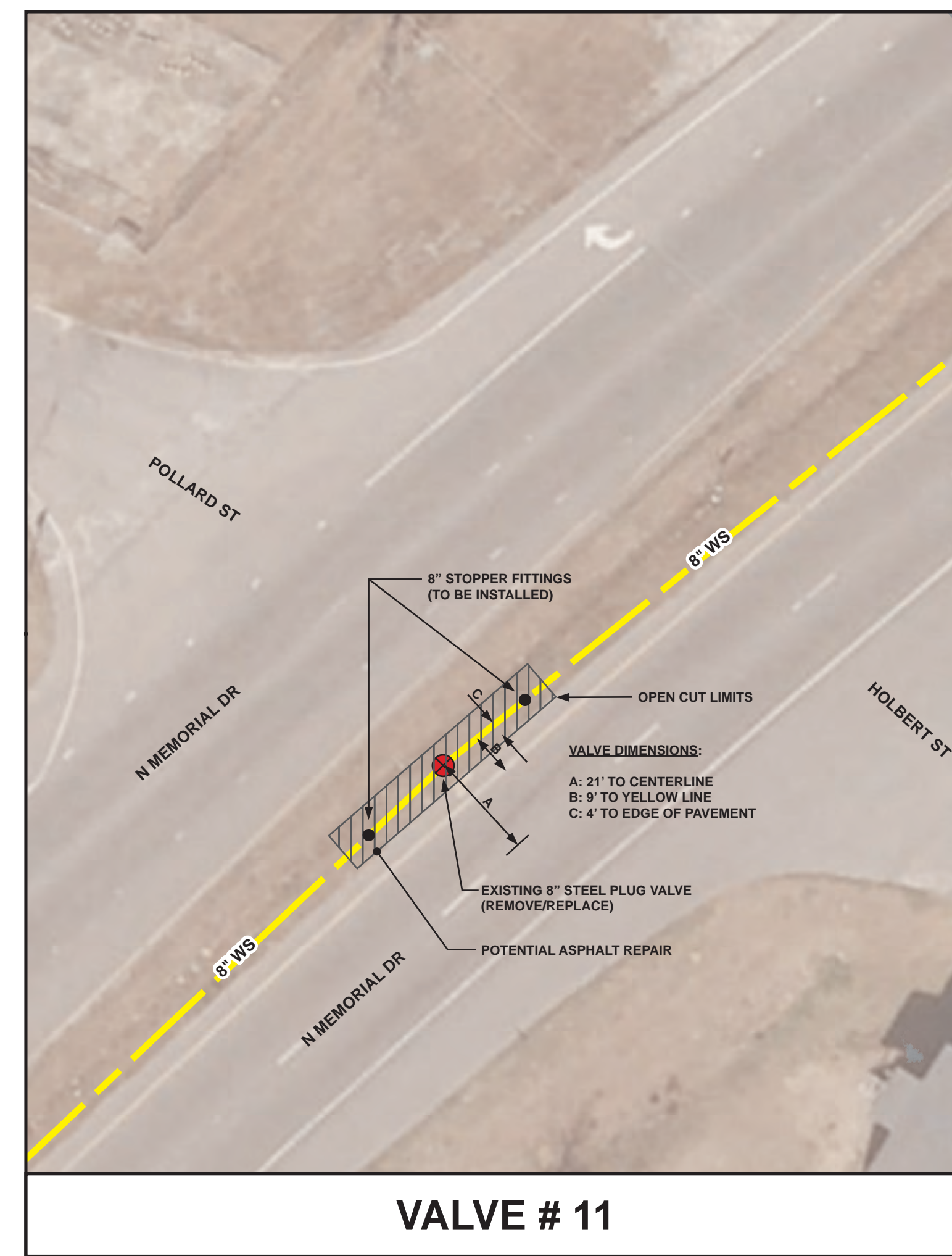
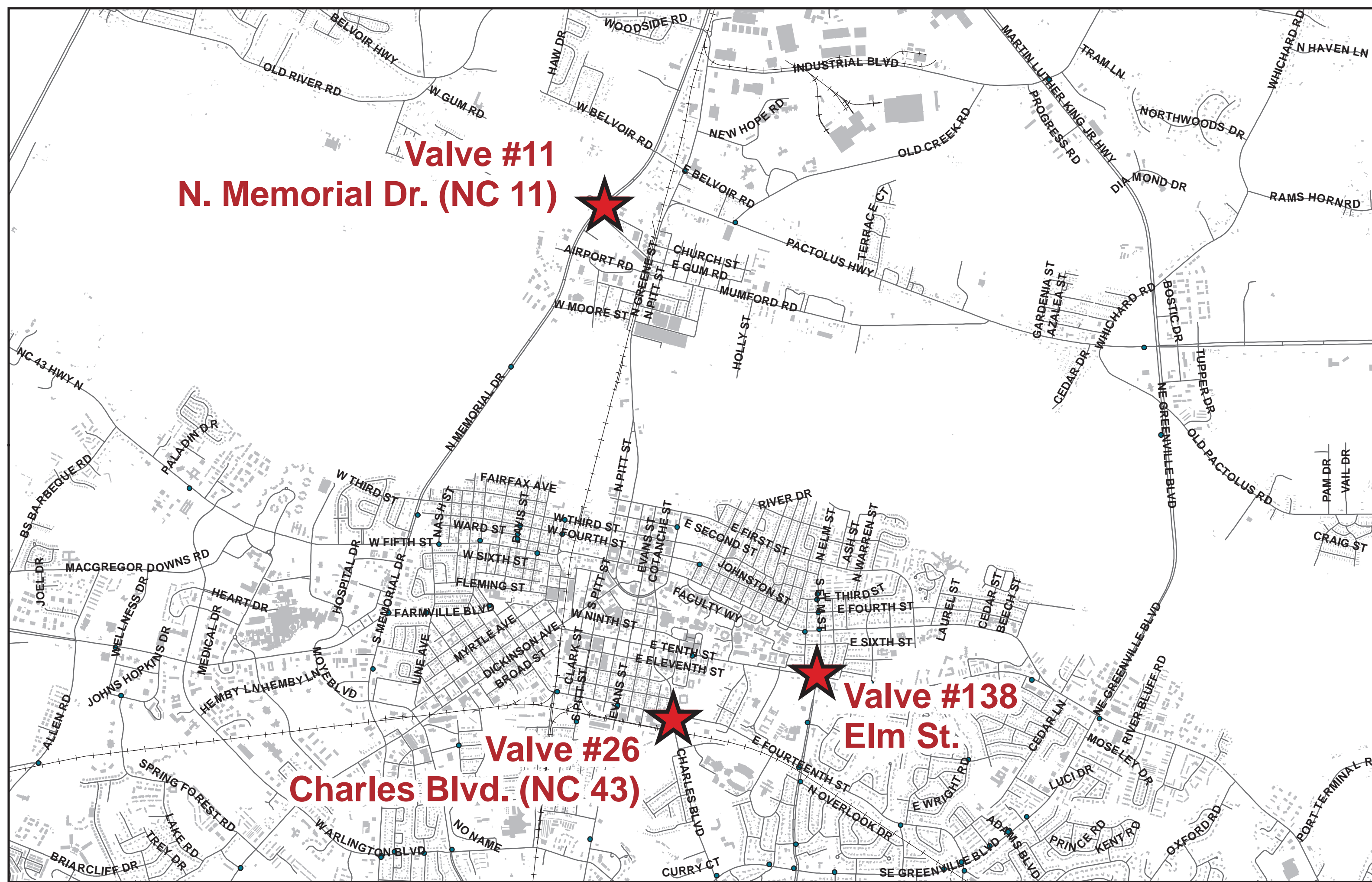


TYPICAL LANE CLOSURE SINGLE LANE TRAFFIC

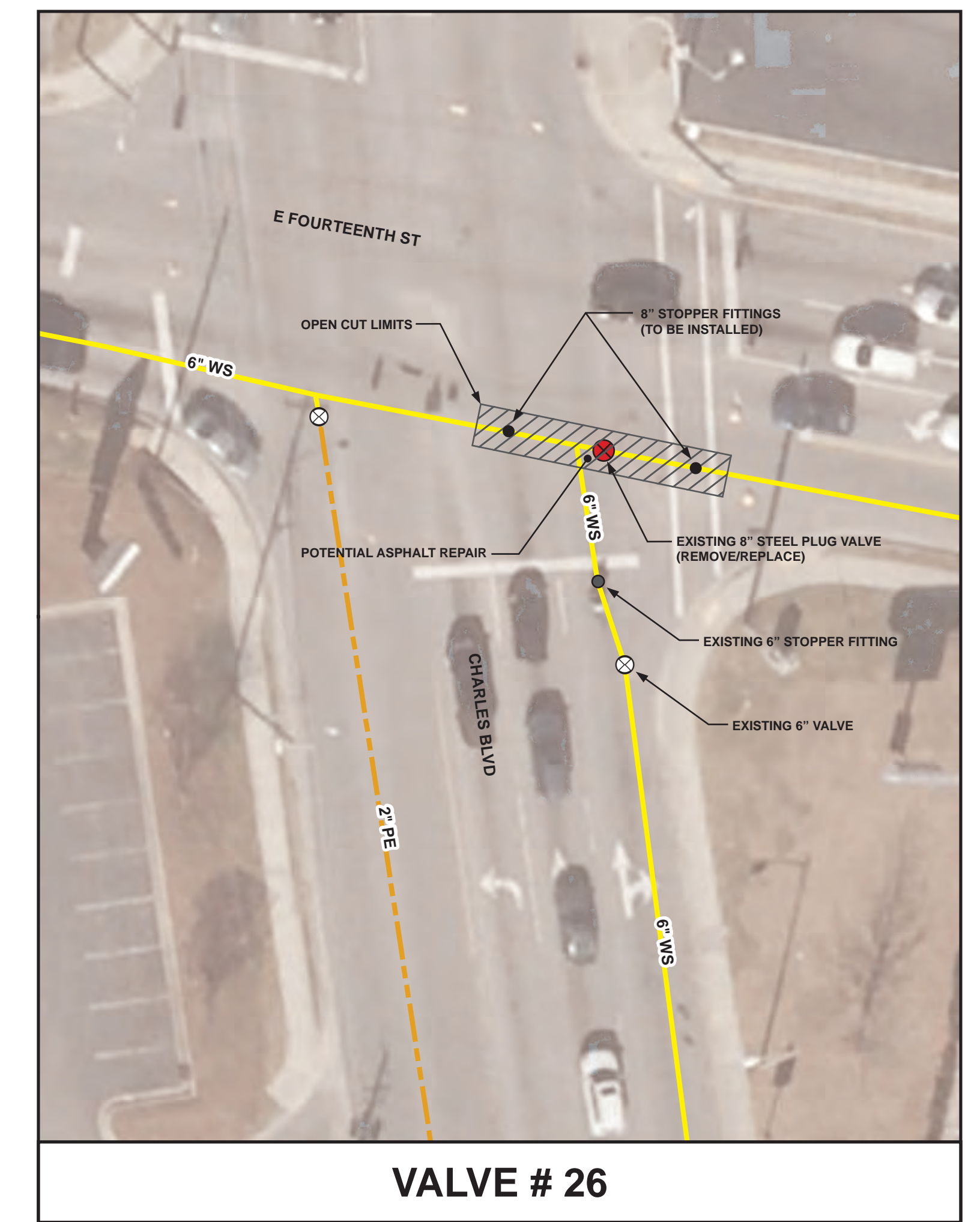


TYPICAL SHOULDER CLOSURE

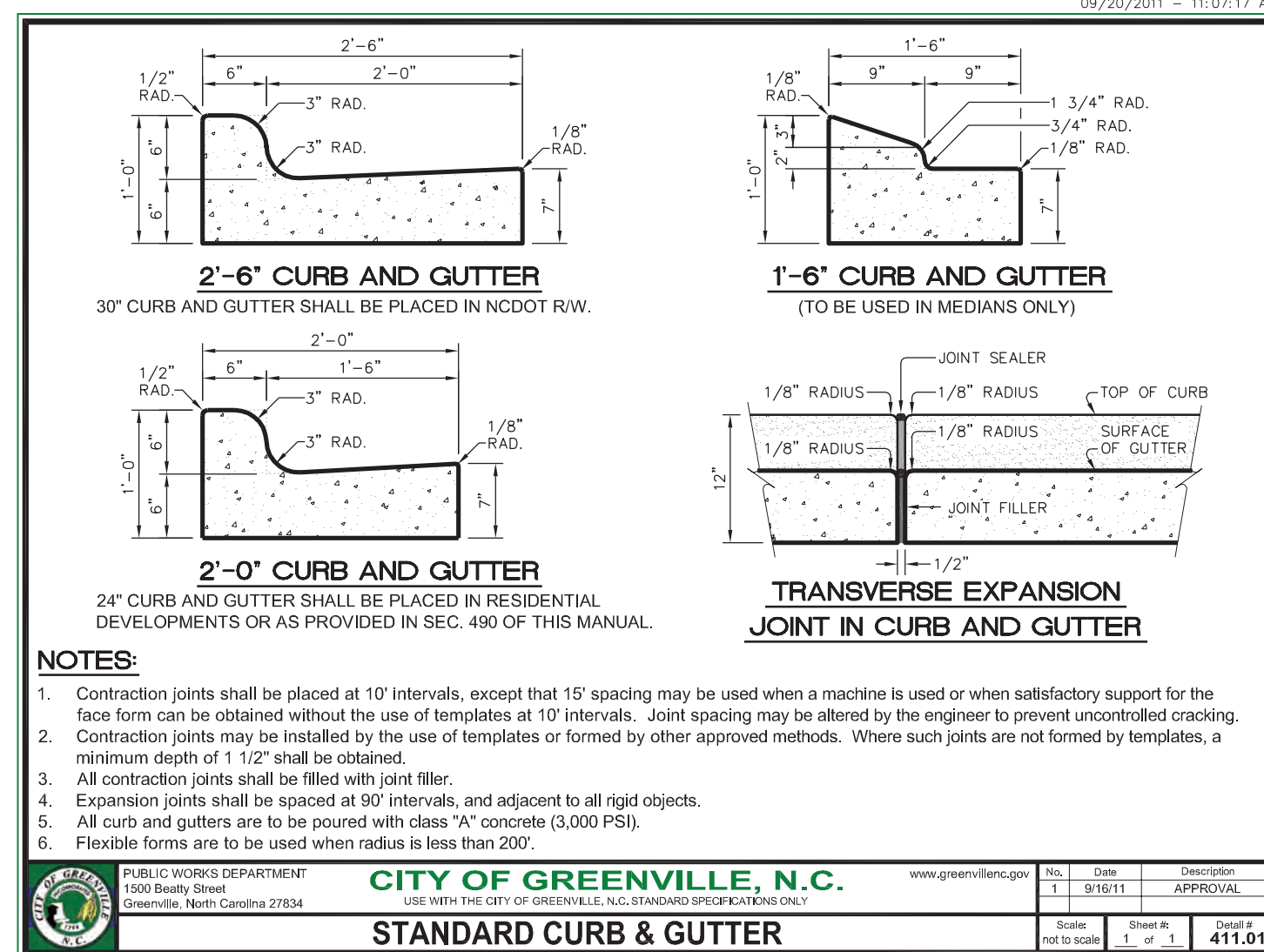
P:\2017\002 - 10th St-Greenville, Bldg Gas Main Replacement - 2017\TRAFFIC CONTROL Details\2017002 W-3707.dwg, 11/11/17, 11:11 AM, JML, 11/11/17, 11:11 AM, JML, 11/11/17, 11:11 AM, JML



VALVE # 11



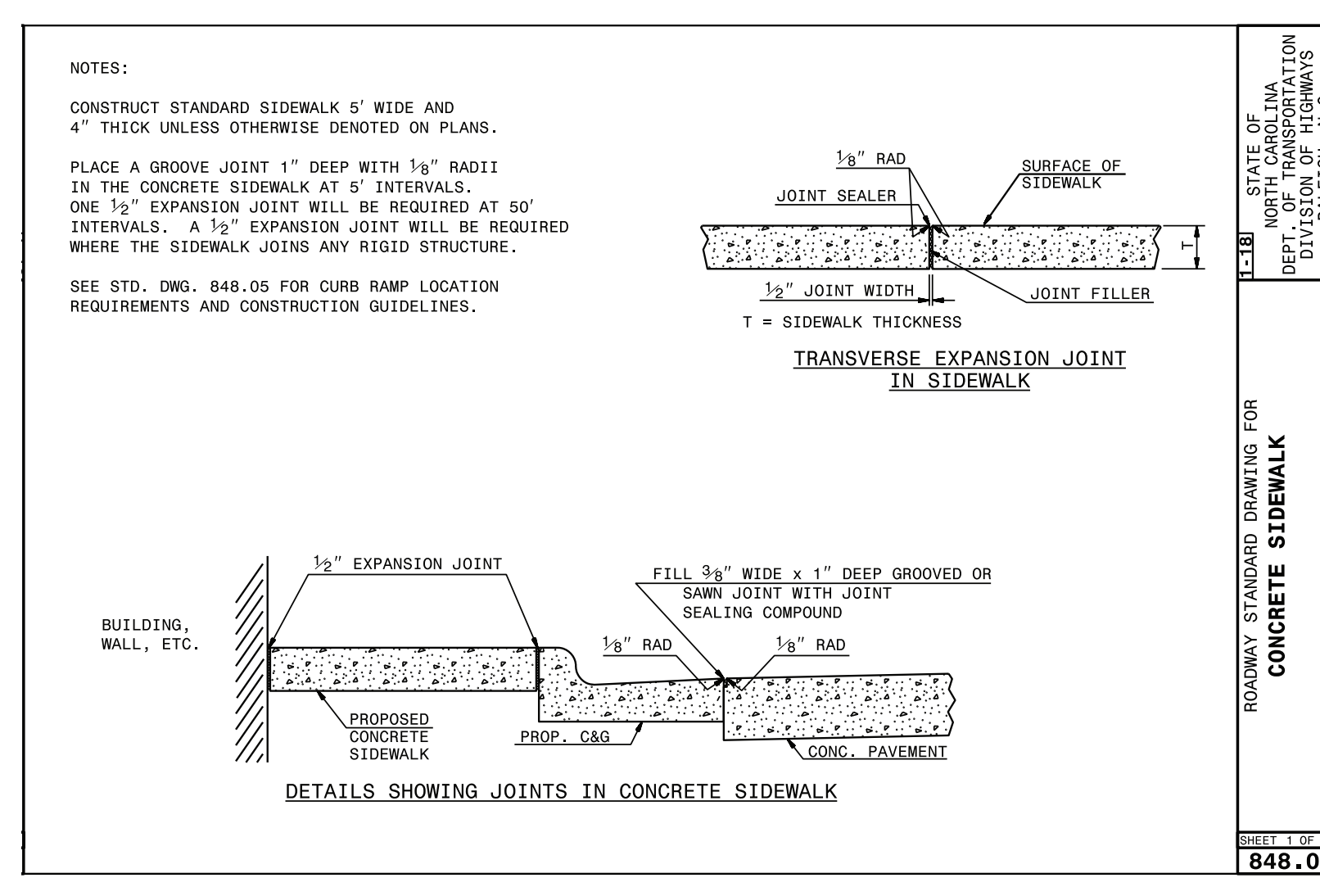
VALVE # 26



NOTES:

1. Contraction joints shall be placed at 10' intervals, except that 15' spacing may be used when a machine is used or when satisfactory support for the face form can be obtained without the use of templates at 10' intervals. Joint spacing may be altered by the engineer to prevent uncontrolled cracking.
2. Contraction joints may be installed by the use of templates or formed by other approved methods. Where such joints are not formed by templates, a minimum depth of 1 1/2\"
3. All contraction joints shall be filled with joint filler.
4. Expansion joints shall be spaced at 90' intervals, and adjacent to all rigid objects.
5. All curb and gutters are to be poured with class "A" concrete (3,000 PSI).
6. Flexible forms are to be used when radius is less than 200'.

CITY OF GREENVILLE, N.C.
 PUBLIC WORKS DEPARTMENT
 1400 Beatty Street
 Greenville, North Carolina 27634
 SHEET 1 OF 1
 848.01



NOTES:

CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

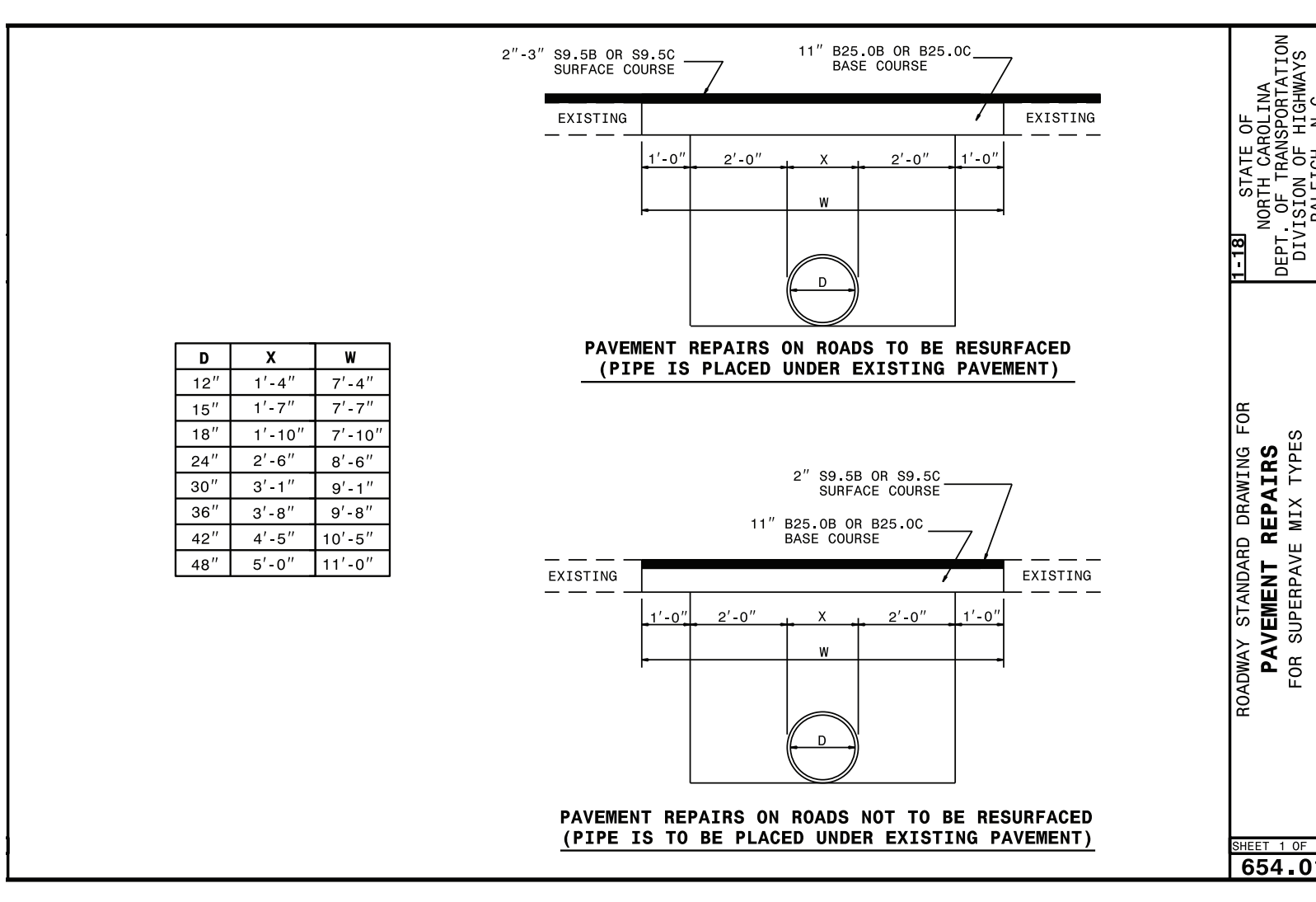
PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.05 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.

CONCRETE DIMENSION

Description	UOM	QTY
5' Wide by 4" Thick Concrete Sidewalk	LF	20
2'-0" Concrete Curb & Gutter	LF	20

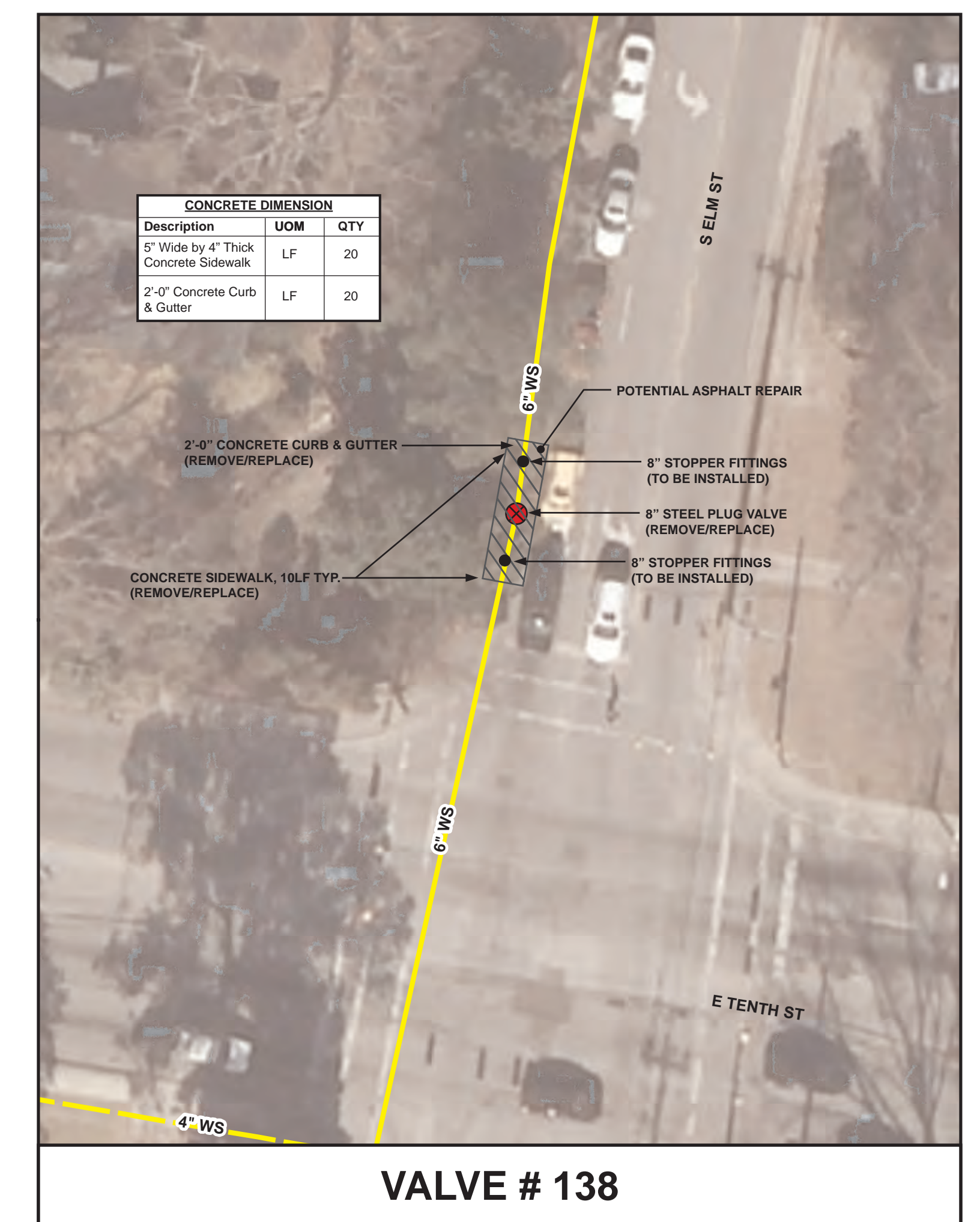
ROADWAY STANDARD DRAWING FOR PAVEMENT REPAIRS FOR SUPERPAVE MIX TYPES
 SHEET 1 OF 1
 654.01



CONCRETE DIMENSION

Description	UOM	QTY
5' Wide by 4" Thick Concrete Sidewalk	LF	20
2'-0" Concrete Curb & Gutter	LF	20

ROADWAY STANDARD DRAWING FOR PAVEMENT REPAIRS FOR SUPERPAVE MIX TYPES
 SHEET 1 OF 1
 654.01

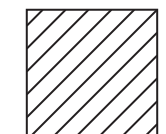


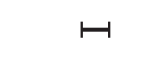




VALVE # 138



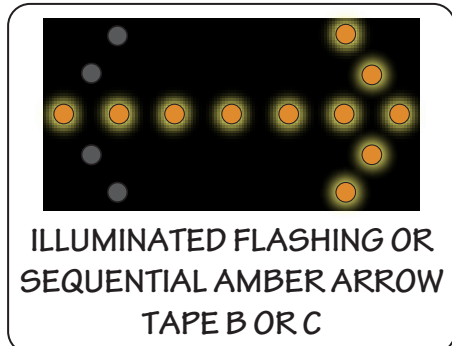
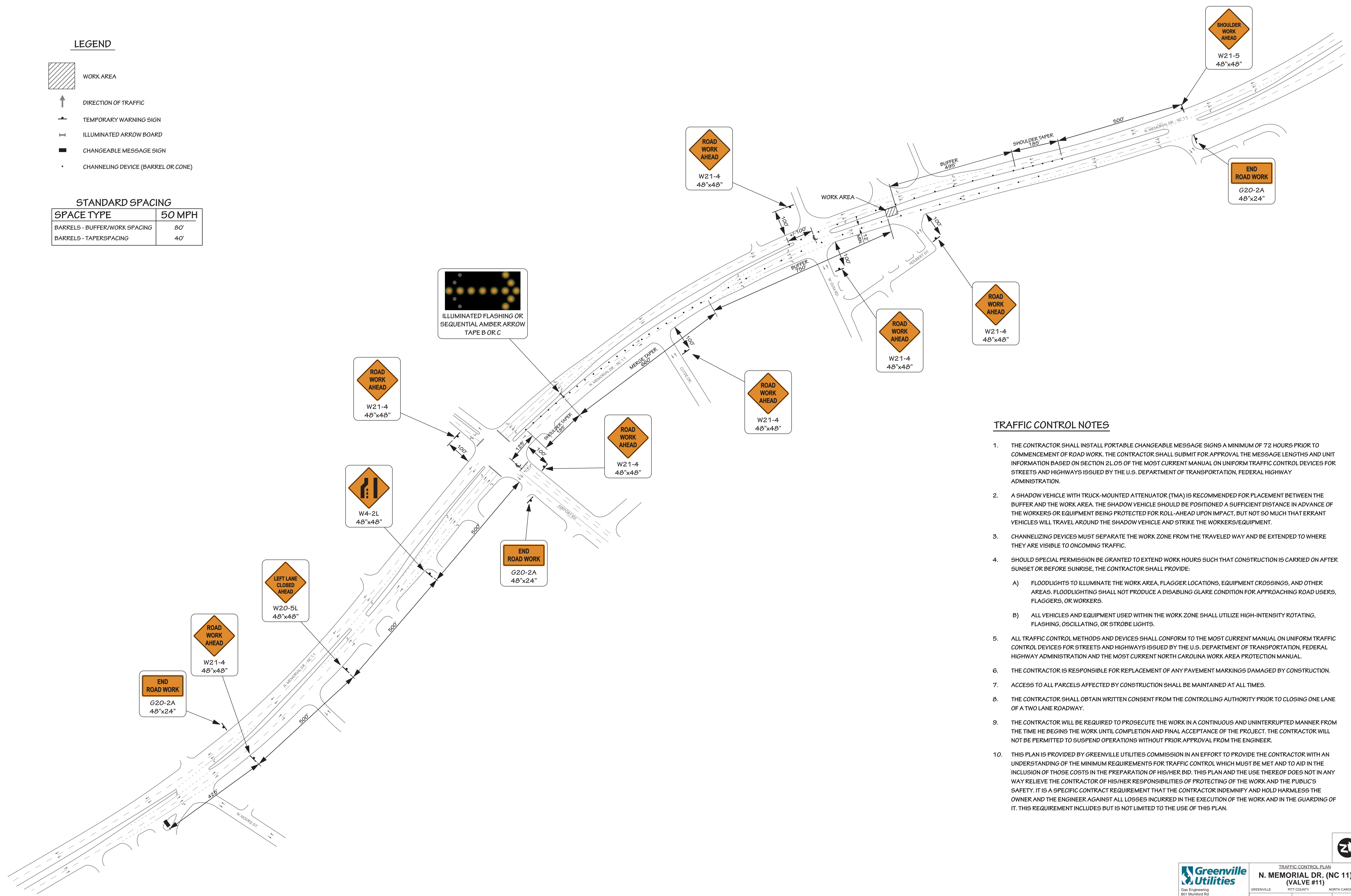
**GREENVILLE UTILITIES
 EMERGENCY GAS VALVE REPLACEMENTS**

LEGEND

-  WORK AREA
-  DIRECTION OF TRAFFIC
-  TEMPORARY WARNING SIGN
-  ILLUMINATED ARROW BOARD
-  CHANGEABLE MESSAGE SIGN
-  CHANNELING DEVICE (BARREL OR CONE)

STANDARD SPACING

SPACE TYPE	50 MPH
BARRELS - BUFFER/WORK SPACING	80'
BARRELS - TAPERSPACING	40'



ILLUMINATED FLASHING OR SEQUENTIAL AMBER ARROW TAPE B OR C

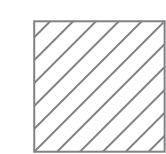


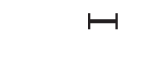


TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL PORTABLE CHANGEABLE MESSAGE SIGNS A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF ROAD WORK. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE MESSAGE LENGTHS AND UNIT INFORMATION BASED ON SECTION 2L.05 OF THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS ISSUED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
2. A SHADOW VEHICLE WITH TRUCK-MOUNTED ATTENUATOR (TMA) IS RECOMMENDED FOR PLACEMENT BETWEEN THE BUFFER AND THE WORK AREA. THE SHADOW VEHICLE SHOULD BE POSITIONED A SUFFICIENT DISTANCE IN ADVANCE OF THE WORKERS OR EQUIPMENT BEING PROTECTED FOR ROLL-AHEAD UPON IMPACT, BUT NOT SO MUCH THAT ERRANT VEHICLES WILL TRAVEL AROUND THE SHADOW VEHICLE AND STRIKE THE WORKERS/EQUIPMENT.
3. CHANNELIZING DEVICES MUST SEPARATE THE WORK ZONE FROM THE TRAVELED WAY AND BE EXTENDED TO WHERE THEY ARE VISIBLE TO ONCOMING TRAFFIC.
4. SHOULD SPECIAL PERMISSION BE GRANTED TO EXTEND WORK HOURS SUCH THAT CONSTRUCTION IS CARRIED ON AFTER SUNSET OR BEFORE SUNRISE, THE CONTRACTOR SHALL PROVIDE:
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 - B) ALL VEHICLES AND EQUIPMENT USED WITHIN THE WORK ZONE SHALL UTILIZE HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.
5. ALL TRAFFIC CONTROL METHODS AND DEVICES SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS ISSUED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION AND THE MOST CURRENT NORTH CAROLINA WORK AREA PROTECTION MANUAL.
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10. THIS PLAN IS PROVIDED BY GREENVILLE UTILITIES COMMISSION IN AN EFFORT TO PROVIDE THE CONTRACTOR WITH AN UNDERSTANDING OF THE MINIMUM REQUIREMENTS FOR TRAFFIC CONTROL WHICH MUST BE MET AND TO AID IN THE INCLUSION OF THOSE COSTS IN THE PREPARATION OF HIS/HER BID. THIS PLAN AND THE USE THEREOF DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITIES OF PROTECTING OF THE WORK AND THE PUBLIC'S SAFETY. IT IS A SPECIFIC CONTRACT REQUIREMENT THAT THE CONTRACTOR INDEMNIFY AND HOLD HARMLESS THE OWNER AND THE ENGINEER AGAINST ALL LOSSES INCURRED IN THE EXECUTION OF THE WORK AND IN THE GUARDING OF IT. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO THE USE OF THIS PLAN.

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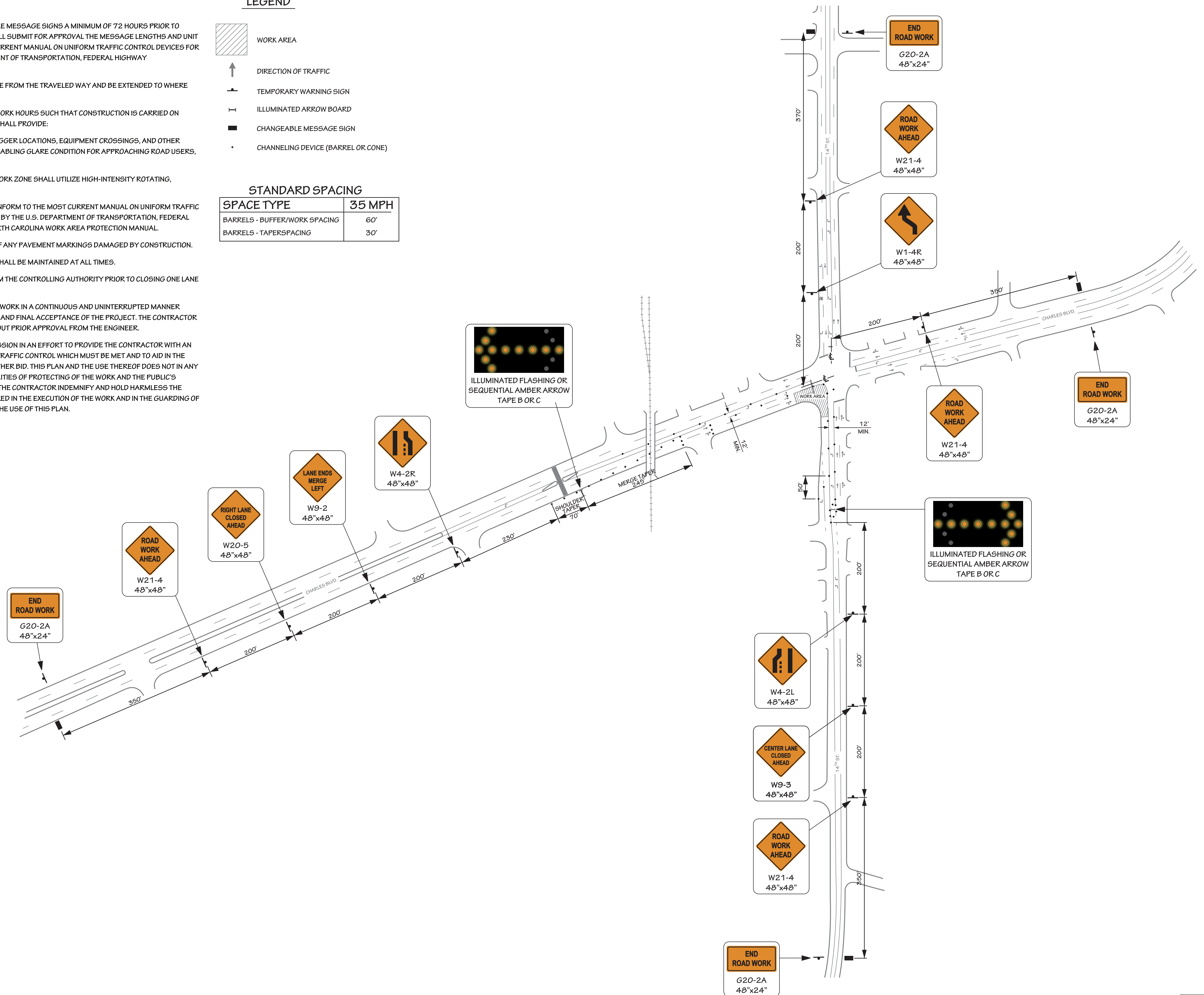
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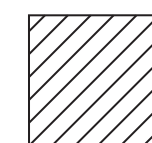



-  WORK AREA
-  DIRECTION OF TRAFFIC
-  TEMPORARY WARNING SIGN
-  ILLUMINATED ARROW BOARD
-  CHANGEABLE MESSAGE SIGN
-  CHANNELING DEVICE (BARREL OR CONE)

STANDARD SPACING

SPACE TYPE	35 MPH
BARRELS - BUFFER/WORK SPACING	60'
BARRELS - TAPER SPACING	30'

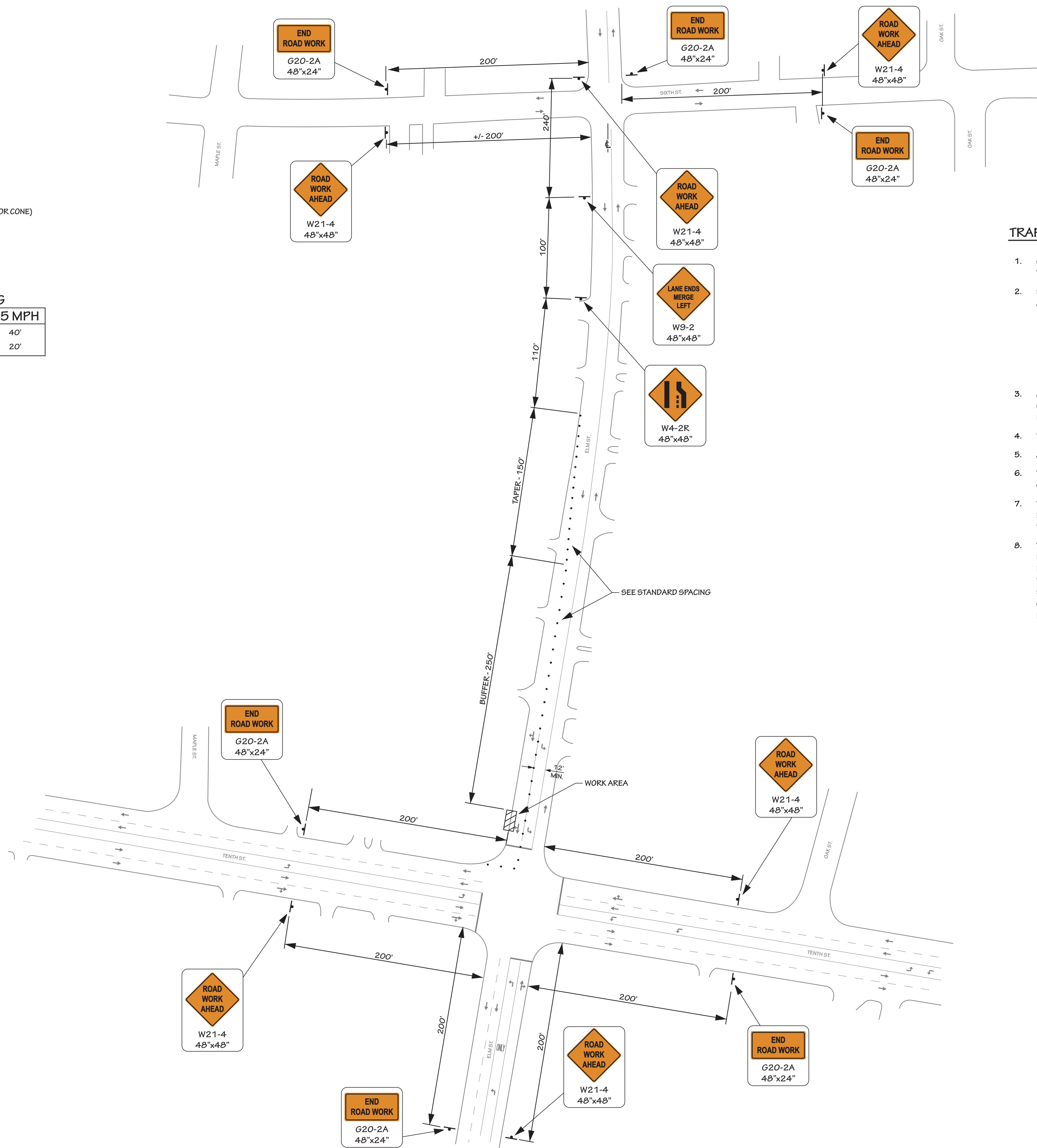


LEGEND

-  WORK AREA
-  DIRECTION OF TRAFFIC
-  TEMPORARY WARNING SIGN
-  CHANNELING DEVICE (BARREL OR CONE)

STANDARD SPACING

SPACE TYPE	25 MPH
BARRELS - BUFFER/WORK SPACING	40'
BARRELS - TAPER SPACING	20'



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