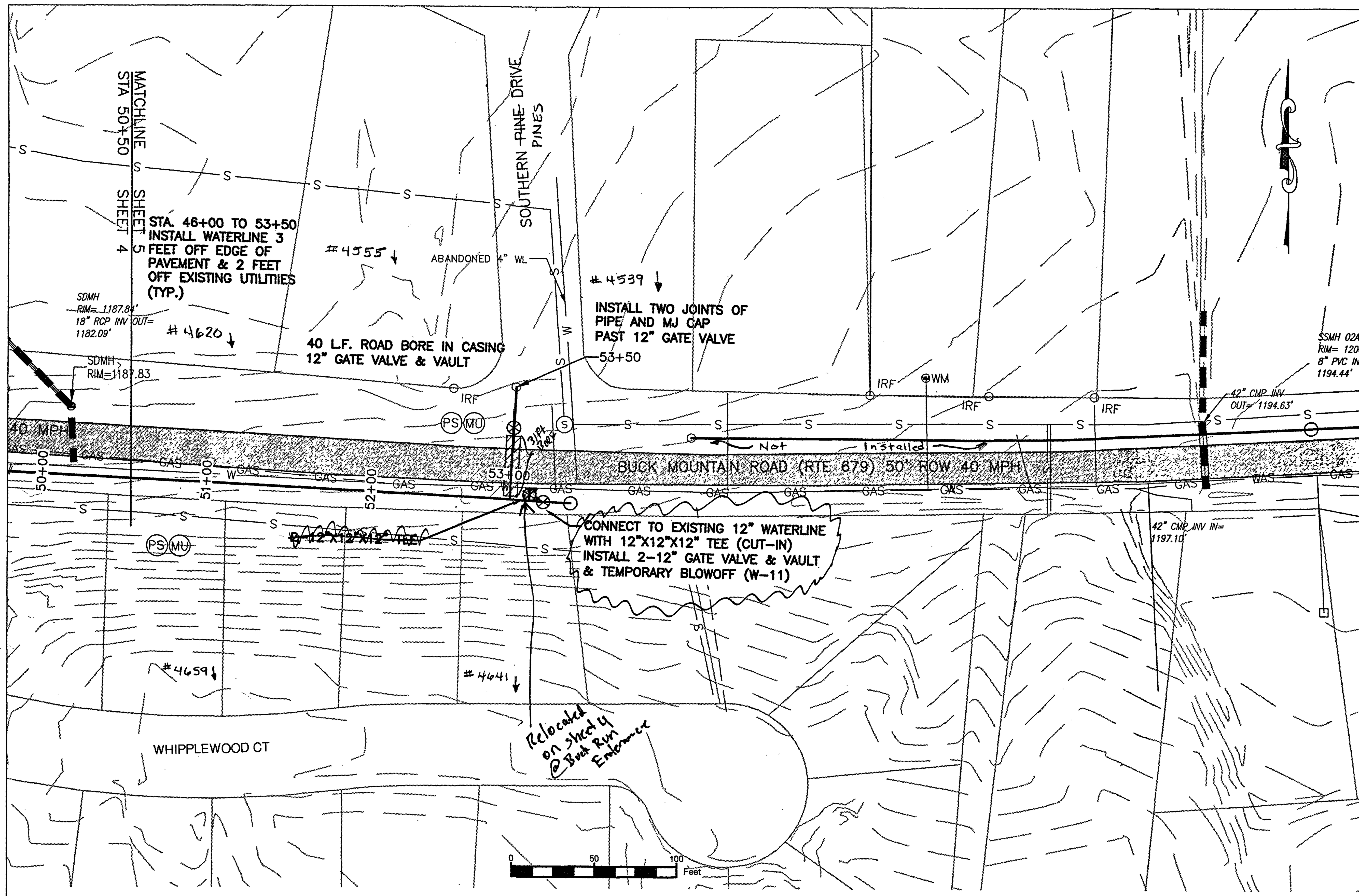
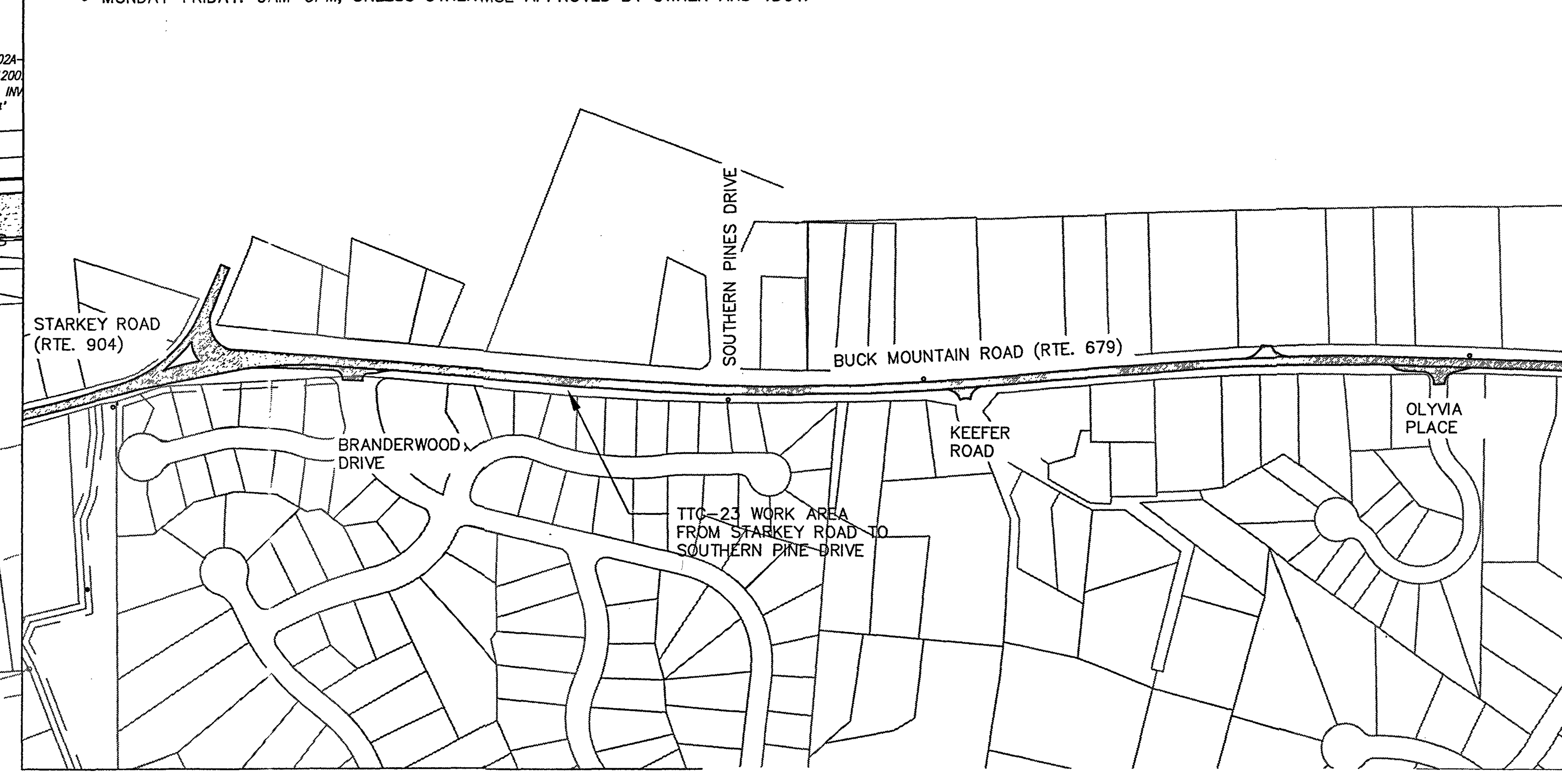


MAINTENANCE OF TRAFFIC NOTES:

1. ONE MAIN WORK ZONE IS SHOWN ON THIS PLAN.
   - WORK ZONE #1: LANE CLOSURE ON A TWO-LANE ROADWAY ON BUCK MOUNTAIN ROAD AND STARKEY ROAD (BOTH 50' R/W) TO BE PERFORMED IN ACCORDANCE WITH TTC-23.0 OF THE VIRGINIA WORK AREA PROTECTION MANUAL (WAPM).
2. SIGN SPACING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
3. THE POSTED SPEED LIMIT OF BUCK MOUNTAIN ROAD IS 40 MPH, ALL TAPER LENGTHS, BUFFER LENGTHS AND CHANNELIZING SHALL BE BASED ON THESE SPEEDS.
4. SAFE ACCESS TO ALL PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES
5. ALL FLAGGERS SHALL BE STATE CERTIFIED.
6. CHANNELIZING DEVICES, SUCH AS CONES OR BARRELS, SHALL BE UTILIZED WHERE REQUIRED AND FOLLOW THE WAPM.
7. PUBLIC COMMUNICATION PLAN:
   - ROANOKE COUNTY POLICE: (540) 777-8601
   - ROANOKE COUNTY FIRE & RESCUE: (540) 777-8701
   - EMERGENCY COMMUNICATIONS CENTER: (540) 562-3265
   - VA STATE POLICE: (540) 375-9500
   - SALEM VDOT TRAFFIC OPERATIONS CENTER: (540) 378-5096
   - THE TRAFFIC OPERATIONS CENTER SHALL BE NOTIFIED OF PROPOSED LANE CLOSURES AT THE BEGINNING AND END OF EACH WORKDAY.

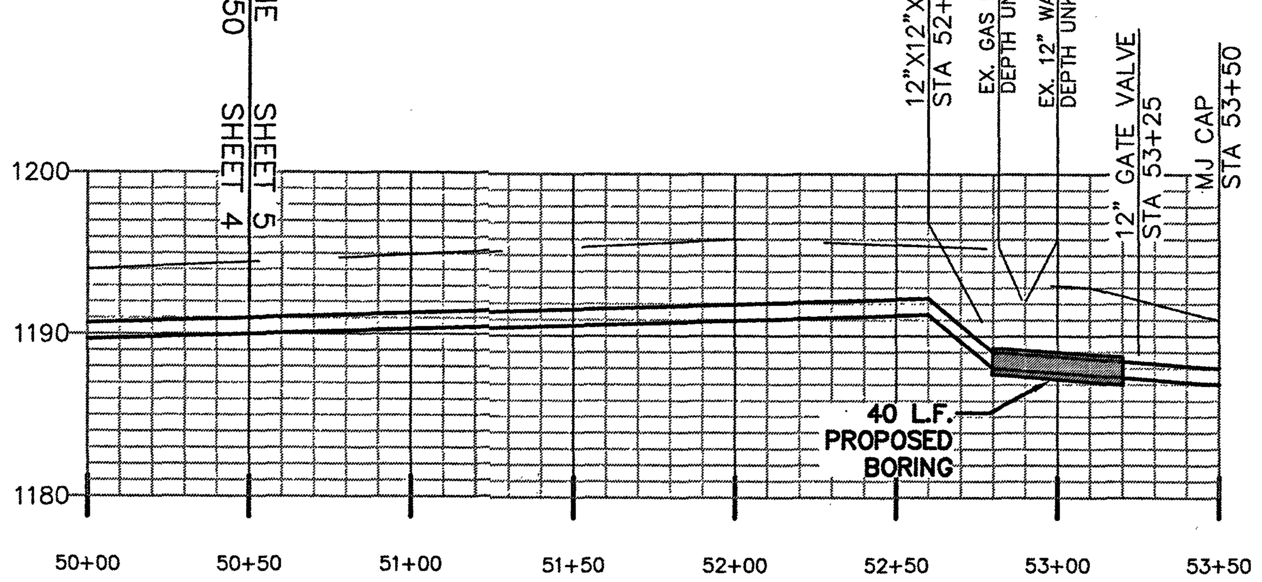
ALLOWABLE WORK HOURS FOR LANE AND/OR SHOULDER CLOSURE ON BUCK MOUNTAIN ROAD (RTE. 679) AND STARKEY ROAD (RTE. 904):

- MONDAY-FRIDAY: 9AM-3PM, UNLESS OTHERWISE APPROVED BY OWNER AND VDOT.



* Connection Moved to Sheet 4 3ft from Existing Valve at Buck Run Apt. Enterance

* Blow-off Installed Per Plan location



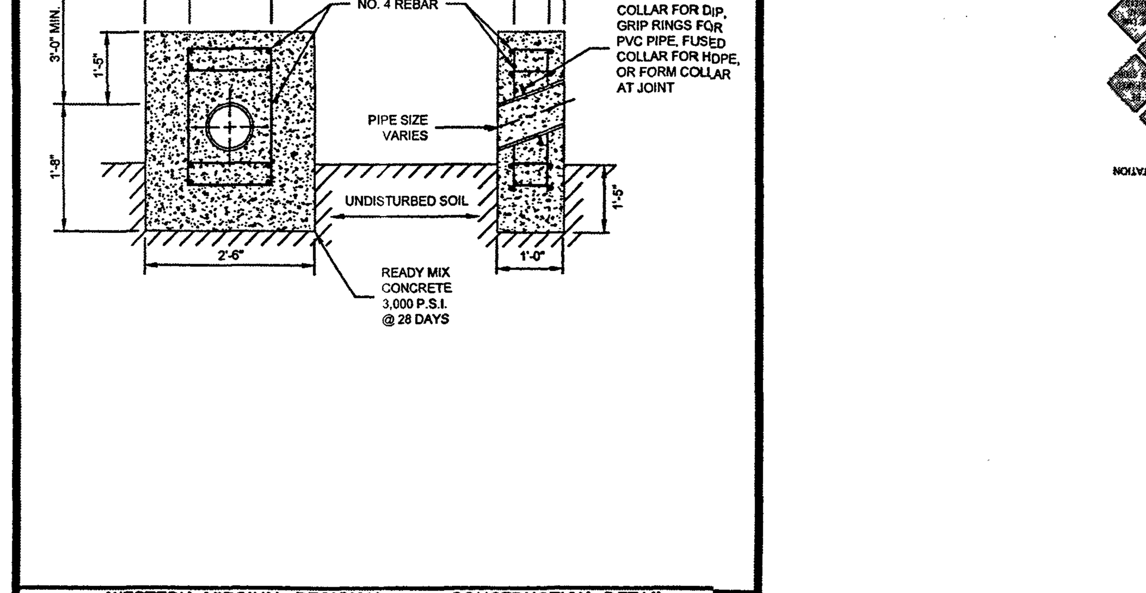
STA. 50+50 TO 53+50

SCALE
VERTICAL: 1"= 10'
HORIZONTAL: 1" = 50'

1. IN ADDITION TO ANCHOR BLOCKS, RESTRAINED JOINT PIPE WILL BE REQUIRED FOR ALL SLOPES EXCEEDING 20%
2. MINIMUM SPACING REQUIREMENTS SHALL BE AS FOLLOW:

SLOPES 20% TO 35% – NO MORE THAN 36 FT ON CENTER
* SLOPES 35% TO 50% – NO MORE THAN 24 FT ON CENTER
* SLOPES 50% TO 60% – NO MORE THAN 16 FT ON CENTER

* ONLY ALLOWED WITH WRITTEN APPROVAL OF PARTICIPATING UTILITY



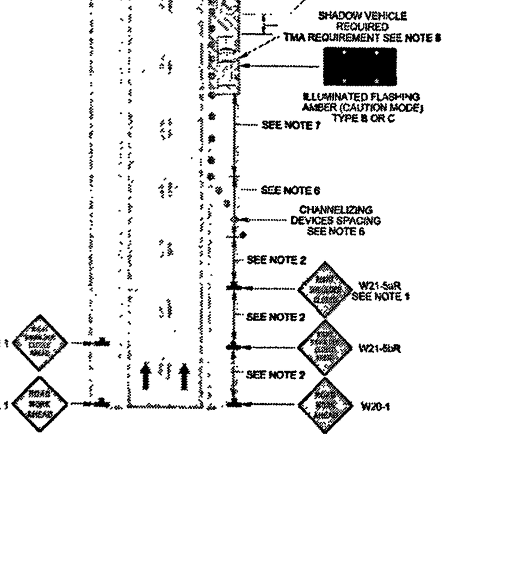
WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

ANCHOR BLOCK

01/01/14 G-10

April 2015 Page 6H-15

Stationary Operation on a Shoulder
(Figure TTC-4.1)



Page 6H-14 April 2015

Typical Traffic Control
Stationary Operation on a Shoulder
(Figure TTC-4.1)
NOTES

Standard

1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)¹, even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED (W21-5aR)¹ sign shall be added to that side.

Guidance

2. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less*

Option:

3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

Standard:

5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
6. Taper length (L) and channelizing device spacing shall be at the following:

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = ⅓ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per ¼ mile.		

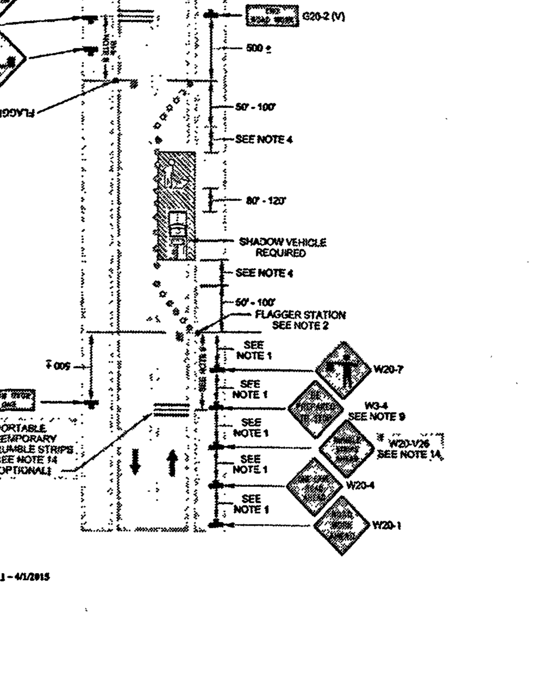
On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

7. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
8. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
9. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 – 4/1/2015

April 2015 Page 6H-53

Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)



1: Revision 1 – 4/1/2015

Page 6H-52 April 2015

Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)
NOTES

Guidance:

1. *Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.*
2. *Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger*

Option:

3. Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be used.

Standard:

4. Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).
5. All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).
6. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.¹
7. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:

8. A supplemental flagger may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance:

9. *If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the portable temporary rumble strips (PTRS), should be readjusted at greater distances.*
10. *When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).*

Standard:

11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

Option:

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

Standard:¹

14. When approved for use, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to insure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

Posted Speed	0 – 35 mph	36 – 55 mph
PTRS Spacing (Center to Center)	5 Feet	8 Feet

1: Revision 1 – 4/1/2015

WESTERN VIRGINIA WATER AUTHORITY
ENGINEERING SERVICES
601 S JEFFERSON ST, SUITE 300
ROANOKE, VA 24011
540-853-5641 or 540-853-5770

COMMONWEALTH OF VIRGINIA
TRENT EVANS COX
Lic. No. 0402050623
8/26/15
PROFESSIONAL ENGINEER

1550 ZONE CONNECTION PROJECT–PHASE 1

PLAN & PROFILE & TRAFFIC CONTROL PLAN

Rev	Description	Date	By
1	PER VDOT REVISIONS	8/26/15	

Designed: TEC
Drawn: AAS, DRJ
Checked: TEC
Approved:
Date: 7-24-15
Project:

5

Sheet 5 of 7