TRAFFIC CONTROL GENERAL NOTES:

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH VDOT'S CURRENT EDITION OF THE WORK AREA PROTECTION MANUAL. THE CONTRACTOR SHALL CONTACT THE RESIDENCY OFFICE 2 WEEKS BEFORE LANE(S) ARE TO BE CLOSED.

2. A "RIDE THROUGH" ALONG THE ENTIRE LANE CLOSURE SHALL BE PERFORMED BEFORE AND AFTER EACH CONSTRUCTION DAY (WITH ADJUSTMENTS MADE TO THE TRAFFIC CONTROL DEVICES IF NEEDED) TO ENSURE THAT THE LANE CLOSURE AND ASSOCIATED DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY.

3. ALL AREAS EXCAVATED BELOW EXISTING PAVEMENT SURFACE AND WITHIN THE CLEAR ZONE, AT THE CONCLUSION OF EACH WORKDAY, SHALL BE BACK FILLED TO FORM AN APPROXIMATE 6:1 WEDGE, AGAINST THE PAVEMENT SURFACE FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC. ALL COSTS FOR PLACING, MAINTAINING AND REMOVING THE 6:1 WEDGE SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS IN THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

4. ANY CONTRACT ITEM(S) NOT SPECIFICALLY NOTED IN THE SEQUENCE OF CONSTRUCTION MAY BE SCHEDULED FOR CONSTRUCTION AT THE CONTRACTOR'S OPTION, AS APPROVED BY THE RESIDENT ENGINEER. HOWEVER, UNDER NO CIRCUMSTANCES WILL CONCURRENT CONSTRUCTION LEFT AND RIGHT OF ANY LANE OF TRAFFIC BE ALLOWED.

VEHICULAR REQUIREMENTS FOR TRAFFIC CONTROL

1. VEHICLE WARNING LIGHTS:
   WARNING LIGHTS ON VEHICLES SHALL BE MOUNTED AS TO BE VIEWED 360 DEGREES ON VEHICLES WITHOUT ARROW PANELS, AND 180 DEGREES ON VEHICLES WITH ARROW PANELS, AND SHALL MEET THE FOLLOWING CRITERIA:

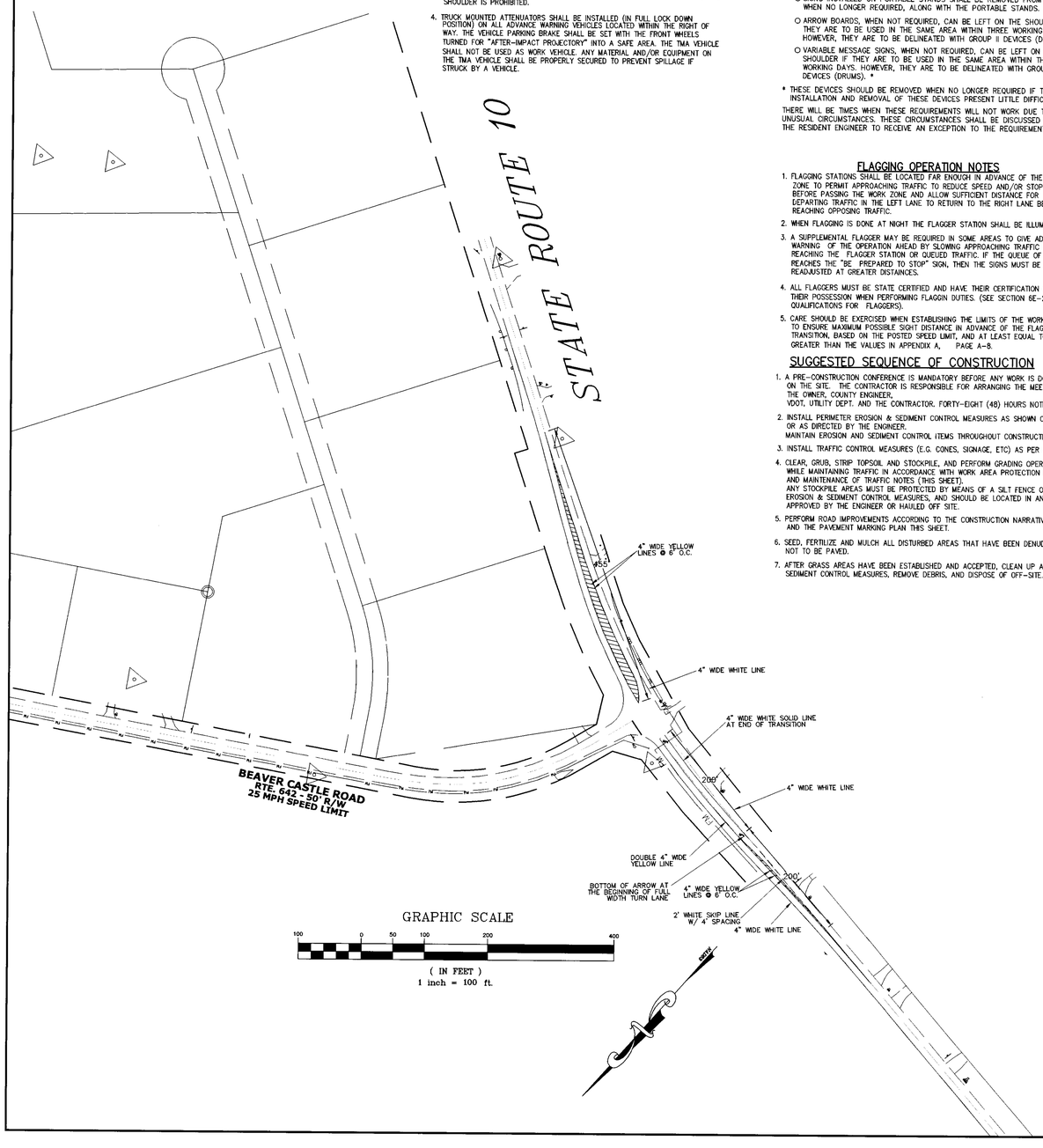
   ROTATING AMBER LIGHTS:
   ROTATING AMBER LIGHTS SHALL CONSIST OF A MIMIMUM OF TWO HALOGEN SEALED BEAMS ENCLOSED WITHIN AN AMBER COLORED DOME. SEALED BEAMS SHALL BE AT LEAST 60,000 CANDLEPOWER AND SHALL HAVE A FLASH RATE OF 80 TO 100 FLASHES PER MINUTE. ROTATING LIGHTS SHALL BE APPROXIMATELY 8-1/2 INCHES OR GREATER IN DIAMETER AND HEIGHT (6 INCHES IN HEIGHT FOR MULTI-LIGHT BARS).

   HIGH INTENSITY AMBER STROBE LIGHTS:
   HIGH INTENSITY AMBER STROBE LIGHTS SHALL CONSIST OF A DOUBLE FLASH UNIT ENCLOSED WITHIN AN AMBER COLORED LENS. FLASH RATE SHALL BE 80 ±10 FLASHES PER MINUTE. STROBE LIGHTS SHALL BE APPROXIMATELY 6-5/8 INCHES IN DIAMETER AND 7-1/2 INCHES IN HEIGHT OR GREATER.

2. NIGHT WORK LIGHTING:
   OPERATIONS CONDUCTED AT NIGHT OFTEN REQUIRE ADDITIONAL LIGHTING TO SUFFICIENTLY ILLUMINATE THE WORK AREA IN THE TEMPORARY TRAFFIC CONTROL ZONE. LIGHTING SHALL BE ARRANGED SO AS NOT TO INTERFERE WITH OR IMPEDE TRAFFIC APPROACHING THE WORK AREA IN EITHER DIRECTION. DURING NIGHT OPERATIONS, ALL VEHICLES ENTERING AND EXITING THE WORK AREA SHOULD BE EQUIPPED WITH AND HAVE OPERATING AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT.

3. A TRUCK WITH AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT SHALL BE PARKED 50' TO 100' IN ADVANCE OF THE FIRST WORK CREW. THE ROTATING AMBER LIGHT CAN BE EITHER TRUCK OR TRAILER MOUNTED BUT MUST BE RELOCATED OUT OF THE ROAD (PREFERABLY WITHIN THE PROPOSED SUBDIVISION PROJECT) AT THE END OF EACH WORK PERIOD. RELOCATION TO THE SHOULDER IS PROHIBITED.

4. TRUCK MOUNTED ATTENUATORS SHALL BE INSTALLED (IN FULL LOCK DOWN POSITION) ON ALL ADVANCE WARNING VEHICLES LOCATED WITHIN THE RIGHT OF WAY. THE VEHICLE PARKING BRAKE SHALL BE SET WITH THE FRONT WHEELS TURNED FOR "AFTER-IMPACT PROJECTORY" INTO A SAFE AREA. THE TMA VEHICLE SHALL NOT BE USED AS WORK VEHICLE. ANY MATERIAL AND/OR EQUIPMENT ON THE TMA VEHICLE SHALL BE PROPERLY SECURED TO PREVENT SPILLAGE IF STRUCK BY A VEHICLE.



TRAFFIC CONTROL SIGNAGE:

1. SIGN SPACING DISTANCE 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.
2. WHERE R/W OR GEOMETRIC CONDITIONS PREVENT THE USE OF 48"x48" SIGNS, 36"x36" SIGNS MAY BE USED.
3. ALL TRAFFIC CONTROL SIGNAGE SHALL BE MOUNTED ON A SINGLE BREAKAWAY POST SUPPORT.
4. ALL WARNING SIGNS SHALL BE FABRICATED OF FLOURESCENT ORANGE PRISMATIC LENS SHEETING.
5. ANY SIGN COVERINGS SHALL BE BLACK AND WEATHER RESISTANT FIRMLY SECURED TO ENSURE COVERAGE DURING HIGH WINDS.

TRAFFIC CONTROL DEVICES REMOVAL POLICY

ALL TRAFFIC CONTROL METHODS AND INSTALLATIONS SHALL BE ACCORDING TO THE CURRENT EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL AND AS FOLLOWS:

ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED WHEN NO LONGER NEEDED OR WHEN WORK IS TEMPORARILY SUSPENDED, ADVANCE WARNING SIGNS THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED FROM THE ROADWAY OR COVERED. OTHER INAPPROPRIATE DEVICES SHALL BE REMOVED FROM THE WORK AREA SO THEY ARE NOT VISIBLE TO THE DRIVERS AS FOLLOWS:

- ○ CONES, WHEN NOT REQUIRED, ARE TO BE REMOVED FROM THE R/W.
- ○ GROUP II DEVICES (DRUMS), WHEN NOT REQUIRED, CAN BE MOVED TO THE SHOULDER IF THEY ARE TO BE USED IN THE SAME AREA WITHIN THREE WORKING DAYS. THIS IS BASED ON THE DIFFICULTY OF THEIR REMOVAL AND REINSTALLATION.
- ○ SIGNS INSTALLED ON PORTABLE STANDS SHALL BE REMOVED FROM THE R/W WHEN NO LONGER REQUIRED, ALONG WITH THE PORTABLE STANDS.
- ○ ARROW BOARDS, WHEN NOT REQUIRED, CAN BE LEFT ON THE SHOULDER IF THEY ARE TO BE USED IN THE SAME AREA WITHIN THREE WORKING DAYS. HOWEVER, THEY ARE TO BE DELINEATED WITH GROUP II DEVICES (DRUMS). *
- ○ VARIABLE MESSAGE SIGNS, WHEN NOT REQUIRED, CAN BE LEFT ON THE SHOULDER IF THEY ARE TO BE USED IN THE SAME AREA WITHIN THREE WORKING DAYS. HOWEVER, THEY ARE TO BE DELINEATED WITH GROUP II DEVICES (DRUMS). *

* THESE DEVICES SHOULD BE REMOVED WHEN NO LONGER REQUIRED IF THE INSTALLATION AND REMOVAL OF THESE DEVICES PRESENT LITTLE DIFFICULTY.

THERE WILL BE TIMES WHEN THESE REQUIREMENTS WILL NOT WORK DUE TO UNUSUAL CIRCUMSTANCES. THESE CIRCUMSTANCES SHALL BE DISCUSSED WITH THE RESIDENT ENGINEER TO RECEIVE AN EXCEPTION TO THE REQUIREMENTS.

FLAGGING OPERATION NOTES

1. FLAGGING STATIONS SHALL BE LOCATED FAR ENOUGH IN ADVANCE OF THE WORK ZONE TO PERMIT APPROACHING TRAFFIC TO REDUCE SPEED AND/OR STOP BEFORE PASSING THE WORK ZONE AND ALLOW SUFFICIENT DISTANCE FOR DEPARTING TRAFFIC IN THE LEFT LANE TO RETURN TO THE RIGHT LANE BEFORE REACHING OPPOSING TRAFFIC.
2. WHEN FLAGGING IS DONE AT NIGHT THE FLAGGER STATION SHALL BE ILLUMINATED.
3. A SUPPLEMENTAL FLAGGER MAY BE REQUIRED IN SOME AREAS TO GIVE ADVANCE WARNING OF THE OPERATION AHEAD BY SLOWING APPROACHING TRAFFIC PRIOR TO REACHING THE FLAGGER STATION OR QUEUED TRAFFIC. IF THE QUEUE OF TRAFFIC REACHES THE "BE PREPARED TO STOP" SIGN, THEN THE SIGNS MUST BE READJUSTED AT GREATER DISTANCES.
4. ALL FLAGGERS MUST BE STATE CERTIFIED AND HAVE THEIR CERTIFICATION CARD IN THEIR POSSESSION WHEN PERFORMING FLAGGIN DUTIES. (SEE SECTION 6E-2, QUALIFICATIONS FOR FLAGGERS).
5. CARE SHOULD BE EXERCISED WHEN ESTABLISHING THE LIMITS OF THE WORK ZONE TO ENSURE MAXIMUM POSSIBLE SIGHT DISTANCE IN ADVANCE OF THE FLAGGER AND TRANSITION, BASED ON THE POSTED SPEED LIMIT, AND AT LEAST EQUAL TO OR GREATER THAN THE VALUES IN APPENDIX A, PAGE A-8.

SUGGESTED SEQUENCE OF CONSTRUCTION

1. A PRE-CONSTRUCTION CONFERENCE IS MANDATORY BEFORE ANY WORK IS DONE ON THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING THE MEETING AMONG THE OWNER, COUNTY ENGINEER, VDOT, UTILITY DEPT. AND THE CONTRACTOR. FORTY-EIGHT (48) HOURS NOTICE IS REQUIRED.
2. INSTALL PERIMETER EROSION & SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
   MAINTAIN EROSION AND SEDIMENT CONTROL ITEMS THROUGHOUT CONSTRUCTION.
3. INSTALL TRAFFIC CONTROL MEASURES (E.G. CONES, SIGNAGE, ETC) AS PER PLAN.
4. CLEAR, GRUB, STRIP TOPSOIL AND STOCKPILE, AND PERFORM GRADING OPERATIONS WHILE MAINTAINING TRAFFIC IN ACCORDANCE WITH WORK AREA PROTECTION MANUAL AND MAINTENANCE OF TRAFFIC NOTES (THIS SHEET).
   ANY STOCKPILE AREAS MUST BE PROTECTED BY MEANS OF A SILT FENCE OR APPROVED EROSION & SEDIMENT CONTROL MEASURES, AND SHOULD BE LOCATED IN AN AREA APPROVED BY THE ENGINEER OR HAULED OFF SITE.
5. PERFORM ROAD IMPROVEMENTS ACCORDING TO THE CONSTRUCTION NARRATIVE (THIS SHEET) AND THE PAVEMENT MARKING PLAN THIS SHEET.
6. SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS THAT HAVE BEEN DENUDED AND ARE NOT TO BE PAVED.
7. AFTER GRASS AREAS HAVE BEEN ESTABLISHED AND ACCEPTED, CLEAN UP ALL EROSION AND SEDIMENT CONTROL MEASURES, REMOVE DEBRIS, AND DISPOSE OF OFF-SITE.

Typical Traffic Control
Stationary Operation on Shoulder
(Figure TTC-4.0)

NOTES

Guidance:

1. *A ROAD WORK AHEAD sign or SHOULDER WORK AHEAD sign should be placed on the left side at the roadway for a divided or one-way street only if the left shoulder is affected.*
2. *Signs or a line should be [300'-1500'] for limited access highways and on all other roadways: 500'-1000' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or greater.*

Standard:

3. **Channelizing device spacing shall be at the following:**

	Posted Speed (mph)	
Location	0-35	36+
Transition Spacing	20'	40'
Tangent Spacing	40'	80'

4. **The buffer space length shall be as shown in Table 6H-4 for the posted speed limit.**
5. **Cone Taper Length (L):**

Speed Limit MPH	Taper Length Lane Width in Feet 10	11	12	
25	105	115	125	
30	150	165	180	
35	205	225	245	
40	270	295	320	
45	450	495	540	(Shoulder Taper = 1/3L Minimum)
50	500	550	600	
55	550	605	660	
60	600	660	770	
65	650	715	780	

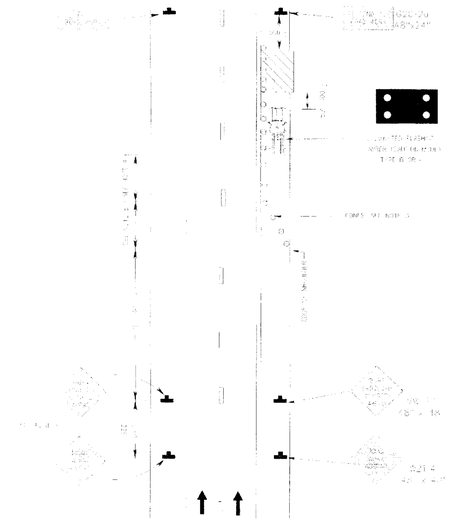
6. **A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, oscillating, or strobe light shall be parked 50'-100' in advance of the first work crew.**

Option:

7. 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, oscillating, or strobe lights is used.
8. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

9. **When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.**



Stationary Operation on Shoulder
(Figure TTC-4.0)

MAINTENANCE OF TRAFFIC

1. LANE CLOSURES WILL NOT BE PERMITTED ON WEEKENDS BETWEEN 12:00 NOON, FRIDAY AND 12:01 AM., MONDAY, OR BETWEEN THE HOURS OF 6:30 AM TO 9:00 AM AND 3:30 PM AND 6:00 PM ON MONDAYS THROUGH FRIDAYS (EXCLUDING HOLIDAYS), UNLESS DIRECTED BY THE RESIDENT ENGINEER.

   BOTH LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED EACH DAY WHEN CONSTRUCTION ACTIVITIES HAVE CEASED.

2. TRAFFIC SHALL NOT BE STOPPED ON THE ROADWAYS AND/OR CONNECTOR ROADS FOR LONGER THAN FIVE MINUTES AT ANY TIME, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
3. TWO-WAY ONE-LANE TRAFFIC WILL BE PERMITTED TO FACILITATE SPECIFIC ISOLATED CONSTRUCTION ACTIVITIES THAT REQUIRE A LANE CLOSURE OR AS DIRECTED BY THE RESIDENT ENGINEER.
4. ACCESS TO ADJACENT PROPERTIES AND CONNECTING STREETS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
5. WHEN CONSTRUCTION ACTIVITIES HAVE CEASED FOR THE DAY THE FOLLOWING OPERATIONS WILL BE PERFORMED TO ALLOW FOR TWO-WAY TRAFFIC TO RESUME TRAVEL:
   A. ALL TRAFFIC CONES SHALL BE RELOCATED TO THE EXISTING EDGE OF PAVEMENT.
   B. ALL SIGNAGE WITH THE EXCEPTION OF THE "ROAD WORK AHEAD" SIGN SHALL BE COVERED (SEE TRAFFIC CONTROL SIGNAGE NOTE 5)
6. BEFORE CONSTRUCTIN ACTIVITIES COMMENCE FOR THE DAY ALL OPERATONS IN NOTE 5 SHALL RESUME NORMAL TRAFFIC CONTROL STATUS.

TRAFFIC CONTROL CHANNELING DEVICES:

1. CONE SPACING SHALL BE AS FOLLOWS:

LOCATION	SPEED (MPH) 0-35	36 +
TRANSITION SPACING	20'	40'
TRANSITION SPACING	40'	80'

2. CONES MAY BE USED IN AREAS WHERE PERSONNEL WILL BE PRESENT TO ENSURE THEIR PROPER ALIGNMENT, WHEN PERSONNEL ARE NOT PRESENT GROUP II DRUMS SHALL BE REQUIRED.
3. GROUP II CHANNELING DEVICES WITH FLASHING WARNING LIGHTS ARE NO LONGER ALLOWED.
4. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE RIGHT OF WAY WHEN NOT SERVING A SPECIFIC PURPOSE RELATING TO TRAFFIC CONTROL. (SEE REMOVAL POLICY)

PAVEMENT MARKING NOTES:

1. ANY EXISTING WHITE EDGE LINE SHALL BE REPLACED IF THE EXISTING LINE IS DAMAGED OR REMOVED IN AREAS OTHER THAN THE DRIVE ENTRANCE. THIS LINE SHOULD LOCATED 1' OFF OF THE EDGE OF PAVEMENT.
2. PAVEMENT MARKINGS WITHIN RIGHT OF WAY ARE TO BE THERMOPLASTIC TYPE B, CLASS I AND SHALL BE APPLIED BY A CONTRACTOR THAT IS ON THE VDOT PRE-APPROVED LIST OF QUALIFIED CONTRACTORS. MODIFICATIONS TO THE PAVEMENT-MARKING PLAN MAY BE MADE IN THE FIELD BY THE VDOT ENGINEER TO BEST-FIT EXISTING CONDITIONS.
3. PAVEMENT MARKING STRIPES AND ARROWS ARE TO BE WHITE UNLESS OTHERWISE INDICATED.

COMMONWEALTH OF VIRGINIA
DERRICK A JOHNSON
Lic. No. 24791
9-30-09
PROFESSIONAL ENGINEER

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DATE	REVISION DESCRIPTION
06-21-08	COUNTY COMMENTS
09-30-09	COUNTY COMMENTS

DATE	REVISION DESCRIPTION

DATE: 12/12/05
DRAWN BY: K. HALPAUS
DESIGNED BY: K. HALPAUS
CHECKED BY: D. JOHNSON
SCALE: 1"=100'

TIMMONS GROUP

CHAPPELL CREEK ON THE JAMES

BLAND DISTRICT * PRINCE GEORGE COUNTY, VIRGINIA

TRAFFIC CONTROL PLAN

JOB NO. 22595

SHEET NO. C5.0

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