Design File = c:\documents\cf ms_local\r\e\0116698\signals\0116698CD04.dgn Ref File = c:\documents\cf ms_local\r\e\0116698test1find.dgn Ref File = c:\documents\cf ms_local\r\e\0116698base.dgn Ref File = c:\documents\cf ms_local\r\e\0116698.dgn Ref File = c:\documents\cf ms_local\r\e\0116698notes.dgn Ref File = c:\documents\cf ms_local\r\e\0116698signal-pedgn Ref File = c:\documents\cf ms_local\r\e\0116698.dgn
Design levels on = 1-49,52-57,59-63 Levels On = 1-57,59-63 Levels On = 1-63 Levels On = 1-63 Levels On = 1-63 Levels On = 1-63

REVISED	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO
	VA.		11	0011-080-108,C-501	20(4)

PLAN NOTES

1. Video Detection Zones (VDZ) are approximately 6' x 50', except on the Daugherty Rd. right turn lane and the Pvt. Drwy. The VDZ for the Daugherty Rd. right turn lane shall be modified to provide detection for the flared lane near the stop bar. VDZ for Pvt. Drwy. shall be 6' x 20'. VDZs shall begin 5' in front of the stop bar. Exact locations of all VDZs shall be approved by the Engineer.

2. Future pedestrian signals and pushbuttons are located on CADD Level 58 in master design file. These pedestrian signals and pushbuttons are not shown in project plans. No pedestrian signals or pushbuttons are included in this project. Cables for future pedestrian signals shall be installed as shown. A 20' length of these cables shall be coiled in the junction box nearest to each mast arm pole base. These cables shall also be coiled (min. 10' of wire in coil) in the base of the signal controller cabinet. These cables shall be labelled "Pedestrian push-button cable 14/2-Phase X" and "Pedestrian signal cable 14/3-Phase X" (where X is the applicable pedestrian phase) in both the junction box and in the controller cabinet.

PLAN NOTES (Cont.)

The pedestrian phase numbers are:

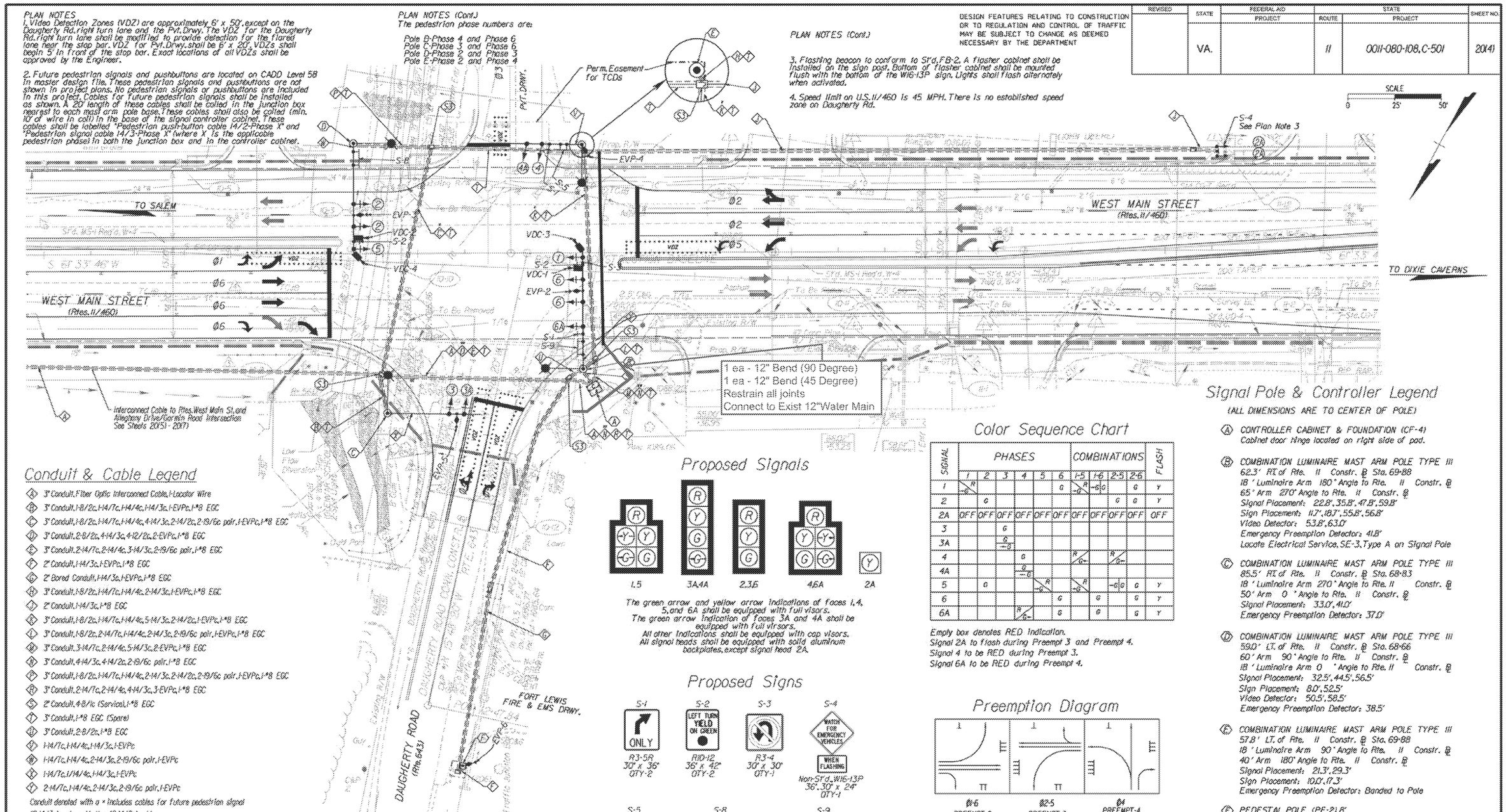
Pole B-Phase 4 and Phase 6
Pole C-Phase 3 and Phase 6
Pole D-Phase 2 and Phase 4
Pole E-Phase 2 and Phase 4

PLAN NOTES (Cont.)

3. Flashing beacon to conform to Std. FB-2. A flasher cabinet shall be installed on the sign post. Bottom of flasher cabinet shall be mounted flush with the bottom of the W16-13P sign. Lights shall flash alternately when activated.

4. Speed limit on U.S. 11/460 is 45 MPH. There is no established speed zone on Daugherty Rd.

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



Signal Pole & Controller Legend

(ALL DIMENSIONS ARE TO CENTER OF POLE)

Ⓐ CONTROLLER CABINET & FOUNDATION (CF-4)
Cabinet door hinge located on right side of pad.

Ⓑ COMBINATION LUMINAIRE MAST ARM POLE TYPE III
62.3' RT. of Rte. 11 Constr. @ Sta. 69+88
18' Luminaire Arm 180° Angle to Rte. 11 Constr. @
65' Arm 270° Angle to Rte. 11 Constr. @
Signal Placement: 22.8', 35.8', 47.8', 59.8'
Sign Placement: 11.7', 16.7', 55.8', 56.8'
Video Detector: 53.8', 63.0'
Emergency Preemption Detector: 41.8'
Locate Electrical Service, SE-3, Type A on Signal Pole

Ⓒ COMBINATION LUMINAIRE MAST ARM POLE TYPE III
85.5' RT. of Rte. 11 Constr. @ Sta. 68+83
18' Luminaire Arm 270° Angle to Rte. 11 Constr. @
50' Arm 0° Angle to Rte. 11 Constr. @
Signal Placement: 33.0', 41.0'
Emergency Preemption Detector: 37.0'

Ⓓ COMBINATION LUMINAIRE MAST ARM POLE TYPE III
59.0' LT. of Rte. 11 Constr. @ Sta. 68+66
60' Arm 90° Angle to Rte. 11 Constr. @
18' Luminaire Arm 0° Angle to Rte. 11 Constr. @
Signal Placement: 32.5', 44.5', 56.5'
Sign Placement: 8.0', 52.5'
Video Detector: 50.5', 58.5'
Emergency Preemption Detector: 38.5'

Ⓔ COMBINATION LUMINAIRE MAST ARM POLE TYPE III
57.8' LT. of Rte. 11 Constr. @ Sta. 69+88
18' Luminaire Arm 90° Angle to Rte. 11 Constr. @
40' Arm 180° Angle to Rte. 11 Constr. @
Signal Placement: 21.3', 29.3'
Sign Placement: 10.0', 17.3'
Emergency Preemption Detector: Banded to Pole

Ⓕ PEDESTAL POLE (PF-2) 8'
25.2' LT. of Rte. 643 Constr. @ Sta. 12+75
Emergency Preemption Detector: Top of Pedestal

NOTE: Combination Luminaire Mast Arm Poles shall be designed to accommodate Lighting Luminaire mounted 28.5' above finished roadway surface.

Color Sequence Chart

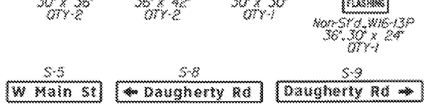
SIGNAL	PHASES 1	2	3	4	5	6	COMBINATIONS 1-5	1-6	2-5	2-6	FLASH
1	G/R					G	G/R	G/G	G	G	Y
2		G							G	G	Y
2A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3			G								
3A			G/G								
4				G			R/R		R/R		
4A				G/G							
5		G			R/R		G/R	R/R	G/G	G	Y
6						G		G		G	Y
6A				R/R		G		G		G	Y

Empty box denotes RED indication.
Signal 2A to flash during Preempt 3 and Preempt 4.
Signal 4 to be RED during Preempt 3.
Signal 6A to be RED during Preempt 4.

Proposed Signals

The green arrow and yellow arrow indications of faces 1,4, 5, and 6A shall be equipped with full visors.
The green arrow indication of faces 3A and 4A shall be equipped with full visors.
All other indications shall be equipped with cap visors.
All signal heads shall be equipped with solid aluminum backplates, except signal head 2A.

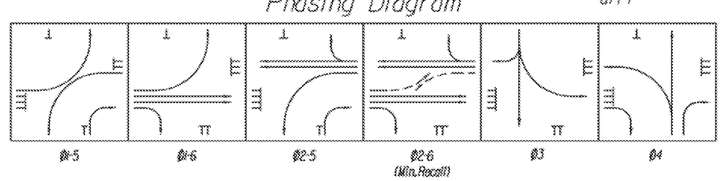
Proposed Signs



Street name signs (S-5, S-8, S-9) on mast arms shall be LED edge lit. See sheets 20(2A)1 and 20(2A)2 for non-standard signal sign details.

Preemption Diagram

Phasing Diagram



Conduit & Cable Legend

- Ⓐ 3" Conduit, Fiber Optic Interconnect Cable, 1-Locator Wire
- Ⓑ 3" Conduit, 1-8/2c, 1-14/7c, 1-14/4c, 1-14/3c, 1-EVPc, 1-#8 EGC
- Ⓒ 3" Conduit, 1-8/2c, 1-14/7c, 1-14/4c, 4-14/3c, 2-14/2c, 2-19/6c pair, 1-EVPc, 1-#8 EGC
- Ⓓ 3" Conduit, 2-8/2c, 4-14/3c, 4-12/2c, 2-EVPc, 1-#8 EGC
- Ⓔ 3" Conduit, 2-14/7c, 2-14/4c, 3-14/3c, 2-19/6c pair, 1-#8 EGC
- Ⓕ 2" Conduit, 1-14/3c, 1-EVPc, 1-#8 EGC
- Ⓖ 2" Bored Conduit, 1-14/3c, 1-EVPc, 1-#8 EGC
- Ⓗ 3" Conduit, 1-8/2c, 1-14/7c, 1-14/4c, 2-14/3c, 1-EVPc, 1-#8 EGC
- Ⓘ 2" Conduit, 1-14/3c, 1-#8 EGC
- Ⓙ 3" Conduit, 1-8/2c, 1-14/7c, 1-14/4c, 5-14/3c, 2-14/2c, 1-EVPc, 1-#8 EGC
- Ⓚ 3" Conduit, 1-8/2c, 2-14/7c, 1-14/4c, 2-14/3c, 2-19/6c pair, 1-EVPc, 1-#8 EGC
- Ⓛ 3" Conduit, 3-14/7c, 2-14/4c, 5-14/3c, 2-EVPc, 1-#8 EGC
- Ⓜ 3" Conduit, 4-14/3c, 4-14/2c, 2-19/6c pair, 1-#8 EGC
- Ⓝ 3" Conduit, 1-8/2c, 1-14/7c, 1-14/4c, 2-14/3c, 2-14/2c, 2-19/6c pair, 1-EVPc, 1-#8 EGC
- Ⓞ 3" Conduit, 2-14/7c, 2-14/4c, 4-14/3c, 3-EVPc, 1-#8 EGC
- Ⓟ 2" Conduit, 4-8/1c (Service), 1-#8 EGC
- Ⓠ 3" Conduit, 1-#8 EGC (Spare)
- Ⓡ 3" Conduit, 2-8/2c, 1-#8 EGC
- Ⓢ 1-14/7c, 1-14/4c, 1-14/3c, 1-EVPc
- Ⓣ 1-14/7c, 1-14/4c, 2-14/3c, 2-19/6c pair, 1-EVPc
- Ⓤ 1-14/7c, 1/14/4c, 1-14/3c, 1-EVPc
- Ⓥ 2-14/7c, 1-14/4c, 2-14/3c, 2-19/6c pair, 1-EVPc

Conduit denoted with a * includes cables for future pedestrian signal (2-14/3c) and pushbutton (2-14/2c) cables.
Conduit denoted with a ** includes cables for future pedestrian signals (4-14/3c) and pushbuttons (4-14/2c).

EVPc - Emergency Vehicle Preemption Cable shall be per manufacturer's recommendation.

JUNCTION BOX LEGEND

All Junction Boxes shall conform to Std. JB-52 unless otherwise noted on the plans.
(53) Denotes Std. JB-53

VDOT
LOCATION AND DESIGN DIVISON
TRAFFIC ENGINEERING
1401 E. BROAD STREET
RICHMOND, VA 23219

REFERENCES
(PLAN AND DETAIL SHEETS)
Roadway Plan Sheet: 10
Signing Plan Sheet: 19(9)
Pavement Marking Plan Sheet: 23(10)

TRAFFIC CONTROL DEVICE PLANS

TRAFFIC SIGNAL PLAN

WEST MAIN STREET &
DAUGHERTY ROAD
ROANOKE COUNTY

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
	0011-080-108		20(4)

PROJECT MANAGER: Brian Pruner, P.E. (540) 370-6069
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DESIGN SUPERVISED BY: Angie Harris, P.E. (804) 786-7967
DESIGNED BY:

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