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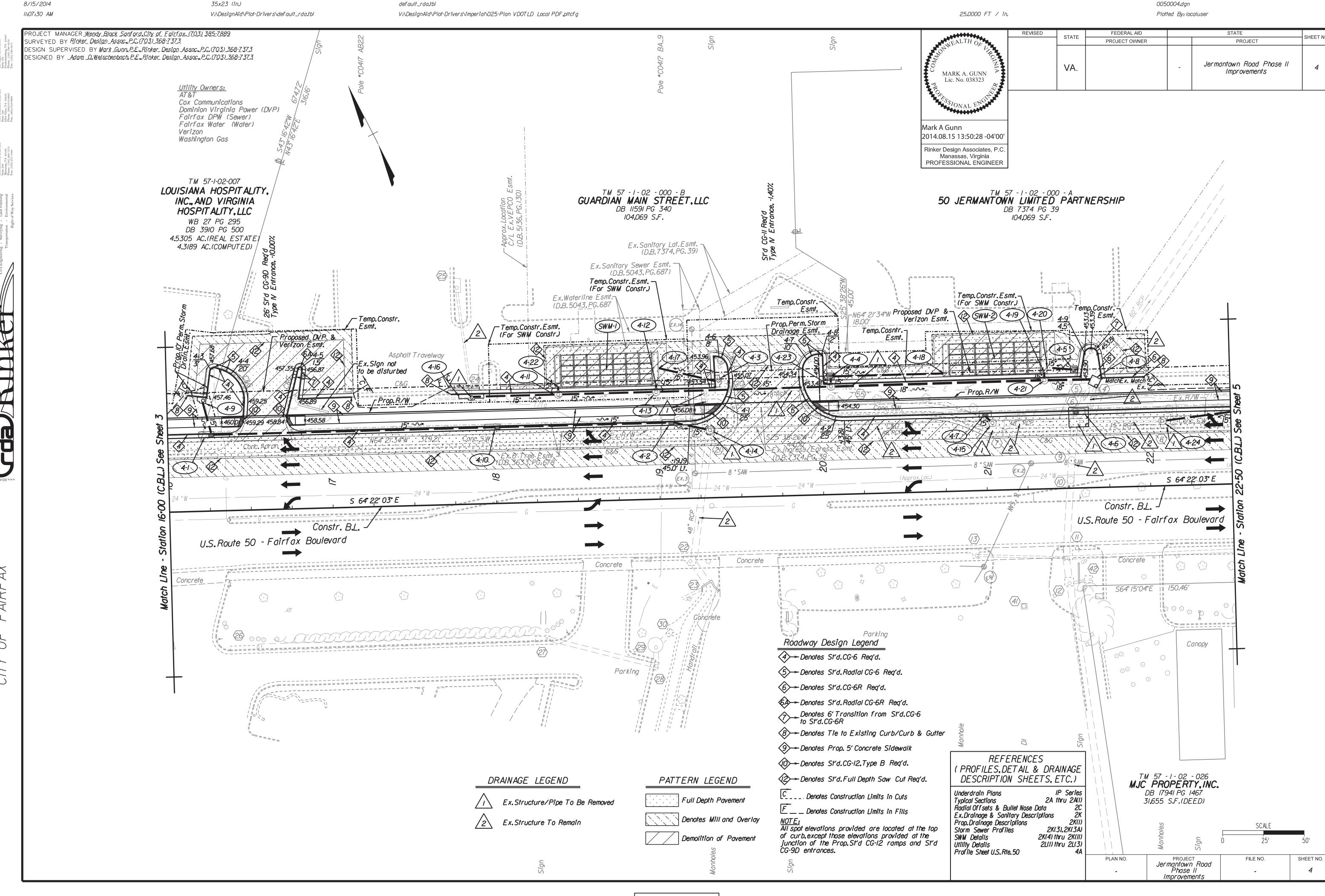
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8/15/2014

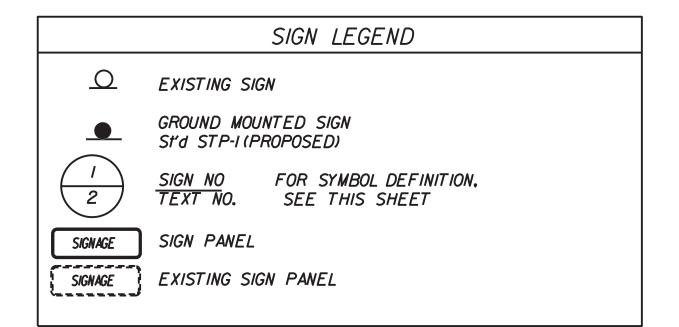
PROJECT MANAGER <u>Wendy Block Sanford, City of Fairfax, (703) 385-7889</u> SURVEYED BY Rinker Design Assoc., P.C. (703) 368-7373 DESIGN SUPERVISED BY <u>Mark Gunn.P.E.,Rinker Design Assoc.,P.C.(703)_368-7373</u>. DESIGNED BY _Adam_D.Welschenbach.P.E..Rinker_Design_Assoc..P.C.(703)_368-7373

SIGNAGE PLAN SCHEDULE SHEET

	REVISED	STATE	FEDERAL AID		SHEET NO	
WEALTH OF		SIAIE	PROJECT OWNER		PROJECT	SHEET INC
ADAM D. WELSCHENBACH Lic. No. 044359		VA.		-	Jermantown Road Phase II Improvements	6C
ENGIT						

PERMANENT SIGNAGE SCHEDULE

TEXT		SIGN	SIGN	PANEL	SIZE	LETTER	COLOR	STD.	SIGN	
NO.	TEXT	NO.	STRUCT. STD.	W(inch)	H(inch)	TYPE	COMB.	NO.	AREA SQ.FT. EA.	REMARKS
1	STOP	001	STP-1, 2'' - 12 GA. Single Post	30	30	L-1	C-10	R1-1	6.25	
2	ONLY ONLY ONLY	002	STP-1, 2 3/16" & 2 1/2" - 10 GA. Two Posts	78	36	L-1	C-1	Mod. R3-8b	19.5	See Sheet 6D for Sign Details Inner Post(s) shall not be less than 6' in length
3	BEGIN RIGHT TURN LANE	003	STP-1, 2 1/2" - 10 GA. Single Post	24	36	L-1	C-1	R3-20(R)	6	
4	DO NOT Block Intersection	004	STP-1, 2 1/2'' - 10 GA. Single Post	24	30	L-1	C-1	R10-7	5	
5	RIGHT LANE MUST TURN RIGHT	005	STP-1, 2 1/2" - 10 GA. Single Post	30	30	L-1	C-1	R3-7(R)	6.25	
6	SPEED LIMIT 30	006, 007	STP-1, 2 1/2'' - 10 GA. Single Post	30	36	L-1	C-1	R2-1	7.5	
7	ONLY ONLY ONLY DO NOT BLOCK MICESCHOOL	008	STP-1, 2 3/16" & 2 1/2" - 10 GA. Two Posts	78 24	36 30	L-1 L-1	C-1	Mod. R3-8b R10-7	19.5 5	See Sheet 6D for Sign Details Inner Post(s) shall not be less than 6' in length
8	RIGHT LANE MUST TURN RIGHT AHE AD	009	STP-1, 2 1/2" - 10 GA. Single Post	30 24	30 12	L-1 L-1	C-1	R3-7(R) W16-9P	6.25	
9		010	STP-1, 2 3/16" & 2 1/2" - 10 GA. Single Post	30	30	L-1	C-8	W11-2 W16-7P	6.25	Inner Post shall not be less than 6' in length
10	AHE AD	O11	STP-1, 2 1/2" - 10 GA. Single Post	24	24	L-1 L-1	C-8	W11-2 W16-9P	2	



Adam D Welschenbach

2014.08.15 17:20:06 -04'00

Rinker Design Associates, P.C. Manassas, Virginia PROFESSIONAL ENGINEER





TEXT - THE TOP SECTION INDICATES THE SIGN NUMBER AS REFERENCED ON THIS SHEET

TEXT NO. THE BOTTOM SECTION INDICATES THE TEXT NUMBER AS REFERENCED ON THIS SHEET

SIGNAGE GENERAL NOTES:

- I. Unless otherwise specified, the Contractor shall NOT have the option of refurbishing framing members on existing sign panels or furnishing new sign panels with corresponding sign message for mounting on new breakaway post.
- 2. Unless otherwise approved by the City Engineer, existing traffic signs, which are to be removed, shall remain in place until the new sign structure and critical message are in place.
- 3. Unless otherwise indicated on the plans, all breakaway sign structures shall be located within 5' of the sign's proposed and/or current field location or as directed by the Engineer.
- 4. Proposed signs and sign structures shall not impact underground existing utilities. Contractor is responsible for any disruption in ANY utility Service due to digging for signage structure. Utilities as shown on plans are not guaranteed to be complete or accurate. The Contractor shall be responsible for ensuring that all utilities within the project are identified and located prior to installation of signs. If proposed signage location will cause impact to any utility service, sign location shall be relocated at the approval of the City Traffic Engineer at no additional cost.
- 5. All signs, as necessary or directed by the Engineer (except as noted on the plans) shall be installed in accordance with St'd STP-I, with breakaway post. All signs, as necessary or directed by the Engineer, designated to be relocated/reset shall re-installed in such manner the relocated sign complies with St'd STP-I. The cost to re-install signage from a wood-post to a St'd STP-I and St'd STP-I Conc. Foundation shall be incidental to the relocation cost.
- 6. All St'd STP-I posts shall be installed with a St'd STP-I Conc. Foundation. All St'd. STP-I posts shall be be black powdered painted prior to installation at no additional cost to the project.
- 7. All signs designated to be removed shall include removing signs & posts and disposing signs & post(s), and finally restoring existing ground.

PLAN NO.	PROJECT _	FILE NO.	SHEET NO
	Jermantown Road Phase II		60
-		-	6C
	Improvements		

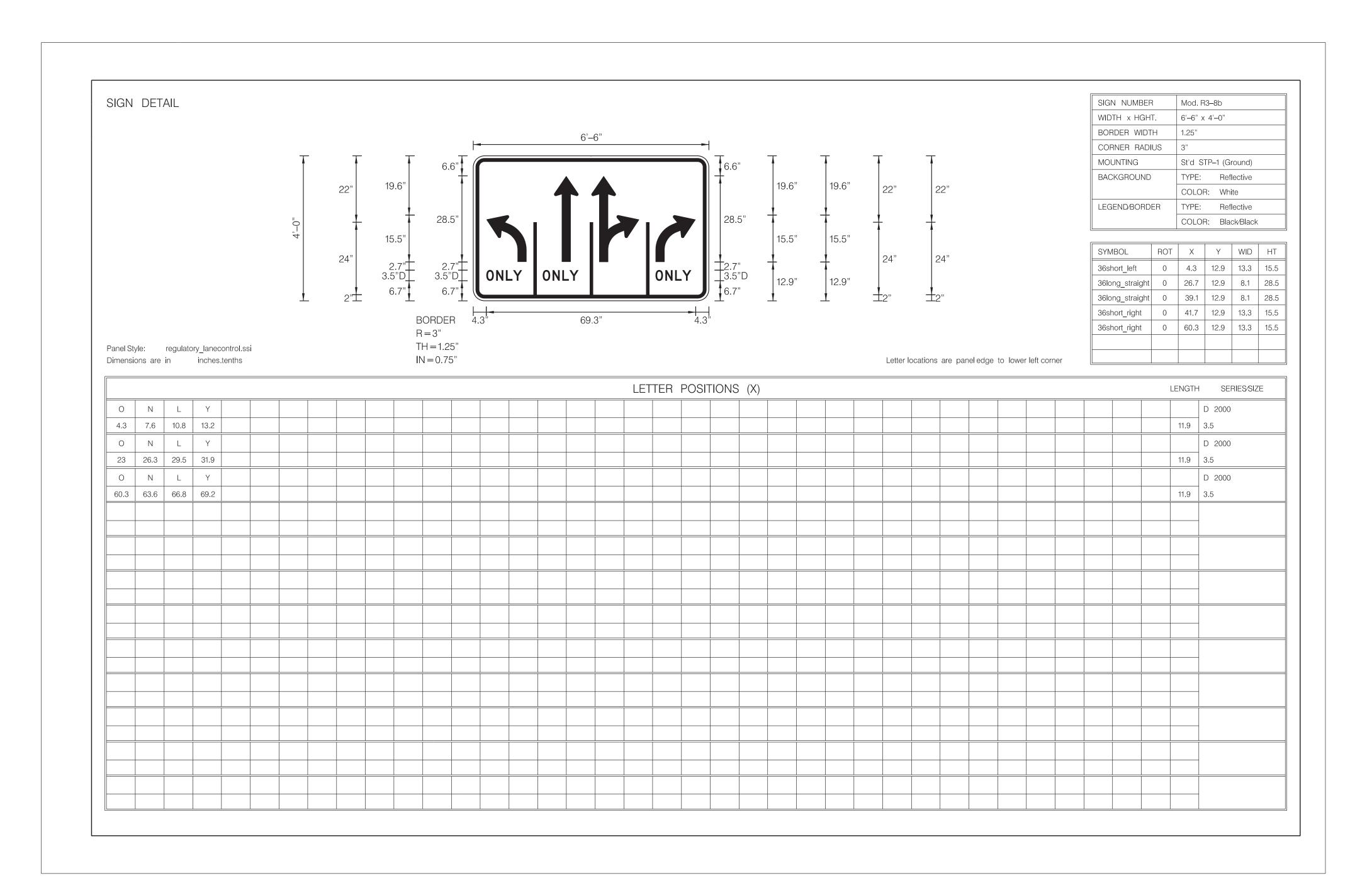
SIGNAGE PLAN - SIGN DETAIL

REVISED
STATE
FEDERAL AID
PROJECT OWNER

PROJECT
SHEET N

ADAM D.
WELSCHENBACH
Lic. No. 044359

Adam D Welschenbach 2014.08.15 17:20:42 -04'00' Rinker Design Associates, P.C. Manassas, Virginia PROFESSIONAL ENGINEER



PLAN NO.	PROJECT	FILE NO.	SHEET NO.
	Jermantown Road		
-	Phase II	-	6D
	Improvements		

Design Associates, P.C.

PROJECT MANAGER<u>Wendy Block Sanford.Ci</u>ty of Fairfax

DESIGN SUPERVISED BY Mark Gunn. P.E., Rinker Design Assoc., P.C. (703) 368-7373 DESIGNED BY _Adam_D.Welschenbach,P.E.,Rinker Design Assoc.,P.C.(703) 368-7373

I All work shall be in accordance with the current edition of the Manual of

Uniform Traffic Control Devices (MUTCD), the current edition of the VDOT

Road and Bridge Specifications, the current edition of the VDOT Road and

Bridge Standards, and all special provisions in effect at the time the signal plan

is approved. The Contractor is to also perform all work in accordance with the

April 2009 and June 2009 Revisions to the Road and Bridge Standards, as applicable. All work shall also conform to the current edition of the City of Fairfax

Public Facilities Manual standards regarding Traffic Signal Installation.

any location within the City of Fairfax, the Contractor must notify the

City of Fairfax permits section in writing with the name, daytime

phone numbers, and emergency phone numbers for the Contractor,

giving the location of the work site including street names.route

3 The City of Fairfax engineer, prior to construction, shall verify location

numbers, permit number, type, and details of construction and

4 The traffic signal shall not be placed into flashing or full-color

personnel providing a minimum of 48 hours advance notice.

5 The Contractor shall provide, install, and adjust controller timings

to provide orderly flow of traffic, or as directed by the City

6 The Contractor shall have his qualified representative present to

minimum of two consecutive mornings and evening rush hour

operation on Mondays. Fridays or days preceding or following

periods, or as directed by the City of Fairfax Engineer.

7 New traffic signals installations shall not be placed into color

holidays, unless directed by the City of Fairfax Engineer.

9 For installation of conduits, no open cut will be allowed in the

10 The Contractor shall perform test pits and exercise care in

II All existing unused junction boxes that are not to be reused

12 Utilities shown on the plans are not guaranteed to be complet

placement of signal pole foundations to preclude utility conflicts.

notify the City of Fairfax Engineer prior to commencing work.

or accurate. The Contractor shall be responsible for ensuring that

If adjustments in pole locations are required, the Contractor shall

8 All right turn overlaps shall be wired to the overlap switch

monitor traffic flow and adjust timings as necessary through a

of Fairfax Engineer. Arrangements shall be made by the

permit manager to schedule the City of Fairfax field

operation without the prior notification and approval from a City

2 Five (5) working days prior to commencing traffic signal work at

SURVEYED BY Rinker Design Assoc., P.C. (703) 368-7373

work schedule.

of controller cabinet.

of Fairfax Engineer.

roadway surface.

REVISED

STATE

PROJECT

Jermantown Road Phase II Improvements

Signal Modifications

SHEET N

7(1)

FEDERAL AID

PROJECT OWNER

all utilities within the project limits are identified and located before beginning work. The Contractor shall contact Miss Utility of Virginia at I-800-522-7001 48 hours prior to any construction activities. Contractor shall coordinate with utility companies as to the location of existing and approved plans of future utility lines. For water/sewer service interruption call the City of Fairfax Public Utilities Department at 703-385-7920, or 703-385-7924 after hours. Any disruption of any utility service is the responsibility of the Specifications. Electrical service shall be metered. 13 Contractor shall not impact existing utilities when installing any component of the proposed signal. Any disruption to utility service shall be at the expense of the Contractor. 14 New LED traffic signal heads and overhead traffic signal signage shall be covered with a durable non-transparent cover upon installation The Contractor shall maintain covers until the new traffic signal system is operational. TRAFFIC SIGNAL & UTILITIES LEGEND EXISTING PROPOSED **ELECTRIC** ——— E ——— ONE WAY SIGNAL HEAD TELEPHONE ____ T/Tg ____ BASE MOUNTED LOCAL CONTROL CABINET PEDESTAL POLE-METAL SEWER JUNCTION BOX WATER————W——— LOOP DETECTOR CABLE TV -----CATVQUADRUPLE LOOP DETECTOR 6' X 40' (\bullet) GAS VALVE SERVICE DISCONNECT SWITCH BOX WATER VALVE METER BOX CONDUIT W/CABLE +PEDESTRIAN PUSH BUTTON

METAL POLE

15 No traffic signal shall be placed into operation until the location is 100% complete. This includes any necessary pavement marking and signage adjustment shown on the plans. The Contractor shall notify the permit inspector, who shall notify the City of Fairfax Engineer a minimum of 48 hours prior to placing the signal into

- 16 Maintenance and repair of the traffic signal and any necessary future modifications during construction is the sole responsibility of the Contractor.
- 17 All unused wires in the signal heads shall be capped individually with crimp type caps.
- 18 The Contractor shall label all spare wires in the controller cabinet in accordance with section 700.04(g) of the VDOT Road and Bridge
- 19 (S) denotes cable to be shielded, (M) denotes metal conduit.
- 20 Site preparation and grading shall be incidental to signal installation.
- 21 All junction boxes shall be in accordance with Standard JB-S2 unless ndicated on the plans.
- 22 Trench excavation shall be in accordance with Standard ECI-I.
- 23 Meter pole and foundations shall conform to Standard PF-2
- 24 Contractor shall install all vehicle detection devices prior to the installation of final surface course.
- 25 All traffic signal head sections shall be LED.
- 26 Included in the cost of all conduits shall be the cost of equipment grounding conductor (*6 AWG EGC)
- 27 All furnished mast arm poles, mast arms, controllers, PF-2 shall be powder-coated in the color of black at no additional cost to the project and in accordance with the City of Fairfax's requirements. All signal heads and pedestrian heads shall be black in color and the back side of all signal signs shall be black, at no additional cost to the project.
- 28 A ceritified Level II IMSA Technician shall be on-site at all times at no cost to project. 29 NOTE REMOVED
- 30 For the interconnect installation, St'd JB-S2 shall be installed min, every 200' to 250' as field conditions allow.
- 31 All existing controller cabinet and controller equipment to be removed shall be returned to the proper facilities at the City of Fairfax or disposed with written permission from the City of Fairfax.
- 32 The Project and Contractor shall be soley responsible for providing and maintaining electrical service to the controller at all times. The Contractor shall be responsible for all costs associated with providing electrical service to the traffic signal. The Contractor shall be responsible for coordinating the location and the installation of the electrical service for the traffic signal with the local utility company. Electrical Service shall be installed in accordance with Standard SE-5 as shown on the plan and section 238,02(h) of the current edition of the VDOT Road and Bridges

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

NECESSARY BY THE DEPARTMENT

- 33 Traffic signal heads shall be cast aluminum.
- 34 Hanger assembly brackets for angled traffic signal heads shall be such that back plates can be installed without alternation or

Proposed Signal Modification General Notes:

- 35 The Contractor shall be responsible for maintaining detection on all approaches of the intersection at all times and throughout all phases of construction.
- 36 No junction boxes shall be installed in paved shoulder, sidewalk, or multi-purpose trail.
- 37 Junction box covers shall have the letters "TRAF" cast in the top surface depression for all traffic signal related junction boxes containing cable with less than 50 volts. All other junction box covers shall have "ELEC" cast in the top surface depression.
- 38 All mast arms are to be field drilled only.
- 39 All breakaway poles shall have breakaway fuses.
- 40 Dimensions used for locating equipment (such as signal head assemblies, signs, pre-emptor, cameras, etc.) on mast arms are measured to the center of the symbols used to indicate the equipment.
- 41 Upon receipt of the controller and cabinet, the Contractor's qualified representative shall wire the cabinet and program and test the phasing of the intersection as shown on the plan. The Contractor shall provide a certification letter to the City of Fairfax indicating that the work is in compliance with City standards and is consistent with the phasing as per the signal plan. As part of the installation, the Contractor is responsible for providing the concrete foundation specified as St'd.CF-2 and the phone company access compartment shown as CC-2. The Contractor shall furnish and install an approved battery back-up system (Uninterruptible Power Supply/UPS). The UPS assembly (cabinet) shall be Type B and shall mount directly to the controller cabinet.
- 42 The Contractor is responsible for providing the City of Fairfax a standard traffic controller and cabinet, complete with a TS-2 Base Mount P-44 Cabinet (EL712VA Painted Black with 16 Position terminal facility, MMU, Flashers Load Switches, Flash Transfer, Anchor Bolts and 2 channel vehicle detection) and Eagle/Siemens M52 Controller (EPAC3608M52)
- 43 Prior to construction and before purchase of any equipment required for signals, the Contractor is to provide the City of Fairfax with shop drawings of all required equipment.Contractor will also provide a list of product data for these items to the City of Fairfax Engineer to ensure that these items meet all current City of Fairfax signal standards.

- 44 Include the following notes pertaining to pre-emption devices: A All new traffic signals and modifications shall include OPTICOM Emergency Vehicle Preemption (EVP) equipment.
- B The Contractor shall install the OPTICOM EVP system as shown on the plans. The OPTICOM EVP system shall include all optical detectors, detector cables, phase selectors, and discriminators for a functional system.
- C The Contractor shall be responsible for the purchase and installation of the EVP equipment per current adopted City of Fairfax specifications.
- or proposed signal equipment. E The Contractor shall install the OPTICOM EVP equipment in accordance with

D All installed OPTICOM EVP equipment shall be compatible with existing

- the Manufacturers Specifications.EVP wiring shall be GTT 138,4 conductor 16 gauge cable(s). F The proposed OPTICOM EVP sequence diagram and timings shall be submitted
- G The Contractor shall secure approval from the Department of Fire and Rescue that specifies the approaches to be preempted.
- H City of Fairfax shall be responsible for the installation, operation, and

to City of Fairfax Traffic Engineer for approval prior to installation.

45 All parts of the signal to be installed shall be Ift.inside the right of

maintenance associated with the OPTICOM EVP system.

- way line or signal easement, unless directed by the Engineer.
- 46 Signal pole arm and foundation shall be designed to accommodate an additional 5-section head four feet from the tip (free end) of the arm and an additional MUTCD RIO-12 (30" x 36") sign one foot from the tip
- 47 Pedestal Pole (PF-2) shall be 12 ft.in height for pedestrian SP-8.
- 48 Pedestal pole heads shall be mounted in accordance with St'd SMB-2.
- 49 Dimensions used for locating equipment (such as signal head assemblies, signs, pre-emptor, cameras, etc.) on mast arms are measured to the center of the symbols used to indicate the equipment.
- 50 Contractor is to verify the location of the Ex. Conduits and make field adjustments as necessary and approved by the City of Fairfax Engineer.
- 51 Pedestrian signal head sections shall be cast aluminum.
- 52 Mast arm pole foundations shall conform to VDOT Standard PF-I as directed by the City of Fairfax Engineer. Final foundation depth to be furnished by Contractor and submitted to City Engineer for approval.
- 53 Pedestrian signal heads, to be mounted on signal pole, shall be installed in accordance with St'd SMB-3. The pedestrian signal head shall be mounted such that the lowest point on the SMB-3 mounting bracket is not less than 7' or greater than 9' above finished sidewalk/trail elevation.
- 54 Pedestrian pole and foundations shall conform to Standard PF-2.
- 55 All Ped. Push buttons shall be mounted in accordance with Standard PA-2. Pedestrian St'd PA-2 shall be oriented to face the crosswalk to which it applies and be visible to a pedestrian standing at the beginning of the crosswalk on each corner. All push buttons shall be ADA type and meet City of Fairfax requirements.

- 56 All pedestrian signals shall be in accordance with Standard SP-8 Mast arms signal heads mountings shall be in accordance with
- 57 Signals mounted on mast arms line shall have separate detector units. All other sets shall be
- 58 The cost of I" metal conduit to JB-SI for system arounding is included in the cost of electric service SE-5.
- 59 All signal heads shall have polycarbonate backplates. Backplate hardware shall be stainless steel.
- 60 A 72 hour notice is required prior to disconnecting the existing controller communication
- 61 The cost of providing communication to the traffic signal is included in the cost of installing the controller. Contact City of Fairfax for any related communication
- 62 Contractor is responsible for purchasing preemption sensors and all necessary equipment, materials, and tools to install on mast arms as shown on the plans. Coordination with City of Fairfax is required. Pre-Emption equipment shall be GIT Opticom Emergency Pre-Emption. (700 Series with green-sense and 2 confirmation lights for each approach,721 Detectors, Detection Locations shall be installed as per direction of City of Fairfax Traffic Engineer.
- 63 Controller cabinet foundations shall be St'd CF-2 (6/15/2009 revision) to include two 4" conduits and one spare 3" conduit tied into the JB-S3. The controller cabinet foundation shall have a separate I/4" conduit tied into the service meter equipment. Controller foundation shall also have two seperate 2" conduits tied into the signal interconnect split box. The Controller shall also have an additional 3" conduit (capped) for future Microwaver traffic counter connection.
- 64 The Contractor shall be responsible for providing and maintaining communication to the controller at all times. The Contractor is responsible for any costs associated with providing communication to the traffic signal. A 2-inch communication road bore shall be installed by the Contractor (as indicated on the plan). The Contractor shall contact City of Fairfax sixty (60) days prior to the start traffic signal construction to coordinate all communication activities.
- 65 All conduit shall be Schedule 40 PVC, and all couplings, elbows, and bushings shall be Schedule 40 PVC or approved equal.

ADDITIONAL NOTES:

I.The Contractor shall provided a certification letter to the City of Fairfax indicating that the work completed is in accordance with City of Fairfax and VDOT standards and the phasing/timing is consistent of that directed by the City of Fairfax Traffic Engineer. The signal shall remain the responsibility of the the Contractor until the City of Fairfax accepts the signal into their system.

2. Signal Foundation and Mast arm design shall be preformed by a structural engineer pursuant to VDOT Road and Bridge Standards. Foundation design shall be apported by the City of Fairfax prior to installation.

Revisions				TF	RAFFIC SIGNAL M	ODIFICATION				
Date	Initial				General Not	e <i>s</i>				
			Note: These are City of Fairfax signal(s) maintained by the City of	City of Fairfax,Virginia						
			Fairfax Department of Public Works.		SCALE	DATE: June 2014				
		-		DRAWN: ADW	DESIGNED: ADW	CHECKED: ADW				
				PLAN NO.	PROJECT Jermantown Road	FILE NO.	SHEET NO.			
				-	Phase II Improvements	-	7(1)			

DESIGNED: ADW

Jermantown Road Phase II

Improvements

DRAWN: ADW

CHECKED: ADW

SHEET NO.

Ex.Controller and Foundation Location

removed/disposed and ground restored.

Existing Controller and Foundation to be completely

8:52:19 AM V:\DesignAid\Plot-Drivers\default_rda.tbl V:\DesignAid\Plot-Drivers\imperial\025-Plan VD0TLD Local PDF.pltcfg Plotted By: localuser FEDERAL AID ROJECT MANAGER<u>Wendy_Block_Sanford,Ci</u>ty of Fairfax REVISED STATE <u>Pavement Marking Note:</u> See Pavement Marking Plans for details.(Sheet 8 Series) SURVEYED BY *R<u>inker Design Assoc.,</u>P.C.(7<u>0</u>3) 368-7373* PROJECT OWNER PROJECT ESIGN SUPERVISED BY <u>Mark Gunn.P.E..Rin</u>ker Design Assoc.,P.C.(703) 368-7373 **PROPOSED** CABLE AND CONDUIT RUNS ESIGNED BY <u>Adam D.Welschenbach, P.E., Ri</u>nker Design Assoc., P.C.(703) 368-7373 Jermantown Road Phase II PREEMPTION SENSORS Ped. Heads shall be installed and oriented so that Improvements VA. 7(2) Police & Fire Dept. A I - 3" Conduit
2 - 4/7C for Ped. Head P6.P8 pedestrians in the crosswalk or ramp area do not have Proposed Traffic Signal Modifications Emergency an obstructed view of the Ped. Head. Preemption Sensors PDCOLOR SEQUENCE CHART - I4/2C for Ped.Push Button PB-6,PB-8 - *6 AWG (EGC) 7 | 8 | 1.6 | 2.5 | 2.6 | 3.8 | 4.7 | 4.8 Emergency Vehicle Pre-emption (EVP) Notes: B I - 3" Conduit |SIGNAL| R/W | FLASH SIGNAL SIGNS - 14/7C for Heads 3.8 See General Notes on Sheet 7(1) for Details - Emer.Pre-Emption Cable and Contact Information about EVP System. I - *6AWG (EGC) City of Fairfax will maintain the EVP system. C 1 - 3" Conduit Temp.Constr.Ease. DO NOT - 14/7C for Heads 3,8 G R - 14/7C for Ped.Head P6.P8 4A R Temp.Constr.Ease.~ - I4/2C for Ped.Push Button PB-6,PB-8 **BLOCK** Emer.Pre-Emption Cable 4B $G \rightarrow \mid G \rightarrow$ G→ *6 AWG (EGC) INTERSECTIO (D) I - 4" Conduit (BORED) - 14/7C for Heads 3,8 - 14/7C for Ped. Head P6,P8 **≪**6 **≪**6 R R3-6(R) R3-5(R) R10-7 - I4/2C for Ped.Push Button PB-6,PB-8 R S-5 S-12 S-2 Emer.Pre-Emption Cable ·WALK | *WALK BLANK P2 1 - *6 AWG (EGC) 30"X36" 30"X36" 24"X30" BLANK *WALK |#WALK| * WALK E I - 3" Conduit
I - 14/7C for Ped. Head P8 *WALK | BLANK |*∗WALK*| |*∗WALK* | I - I4/2C for Ped.Push Button PB-8 NOTE: BLANK SPACES REPRESENT A RED DISPLAY. SIARI CROSSING Bolch For Vehicles 1 - *6 AWG (EGC) * WALK INDICATION DISPLAYED AFTER PEDESTRIAN CALL IS SERVICED; Ex.O/H Signal FROMOTHERWISE "DON'T WALK" INDICATION IS DISPLAYED. 00m*1 START Finish Crossing 11 Started TIME REMAINING To Finish Crossin $\langle F \rangle$ 1 - 3" Conduit Interconnect - 14/7C for Heads 2.5 Prop.Perm. Cables/Copper 24/8C for CAT5 for Sensys RPT DON'T CROSS Signalization Esm't between - Emer.Pre-Emption Cable ermantown TO CROSS
PRESS BUTTON I. Contractor shall re-establish power service from existing power Road and Bevan Drive shall be 1 - *6 AWG (EGC) service connection. Power service connection shall be upgraded to meet current VDOT St'd SE-5 and Dominion Power Service requirements. G I - 3" Conduit
I - I4/7C for Ped. Head P2 removed. RIO-IID RIO-3e(L) RIO-3e(R. Contractor is solely responsible (including any costs thereof) for coordinating with Dominion Power to ensure adequate power service for the proposed I - I4/2C for Ped.Push Button PB-2 S-6 S-II signal modifications. 1 - *6 AWG (EGC) 9"XI5" *30"X42"* 9"XI5" (H) I - 4" Conduit (BORED) 2. No aerial utilities are be permitted in front of the mast arms. Sensys Wireless Access Point - 14/7C for Heads 2,5 - 14/7C for Ped. Head P2,P8 unless they are I' higher than the proposed mast arm. Utilities are to be relocated if they conflict within I' of the mast arms. Fairfax Blvd - 14/2C for Ped.Push Button PB-2.PB-8 - 24/8C for CAT5 for Sensys RPT Prop. Bracket & CCTV Contractor is to coordinate this with any utility company and is responsible for any costs associated with this relocation, and shall Emer.Pre-Emption Cable be incidental to the cost of the project, not to be paid for separately. •__Ø6_ <u>*</u>-I- *6 AWG (EGC) Ex.0/H' Elec./Tele, Jermantown Rd 3. The contractor shall be responsible for providing and maintaining (I) NOT USED Fairfax Blvd (U.S.Rte. 50) -Sensys Wireless communication to the controller at all times. The contractor is Detector (Typ.) Posted 35 MPH responsible for any costs associated with providing J 1 - 3" Conduit communication to the traffic signal. See Sheet General Notes on 4 - 14/7C for Heads 4,4A,4B,7 Sheet 7(1) for contact information and details. S-14 | Fairfax BLVD I - Emer.Pre-Emption Cable Ex.O/H Elec./Tele. 1 - *6 AWG (EGC) 12 4. All existing loop detectors shall be abandoned or removed. Ex.Crosswalk (K) I - 4" Conduit (BORED) All proposed Sensys Wireless Detectors shall be installed so they are to be Eradicated For Signs S-8, S-13, S-14, see - I4/7C for Heads 2,4,4A,4B,5,7 flush mounted after final surface course. Coordination with City 3 - I4/7C for Ped.Head P2.P8 3 - I4/2C for Ped.Push Button PB-2.PB-8 - 24/8C for CAT5 for Sensys RPT Sheet 7(4) for details/sizes. Constr.B.L.of Fairfax Engineer is required for final location of detectors. City approval of locations is required prior to installation. Constr.B.L. - Emer.Pre-Emption Cable - *6 AWG (EGC) 5. Existing Controller/Cabinet is to be removed and returned to City of Fairfax Signal shop following installation and acceptance by the City of the new Controller and operation of the newly reconstructed signal. Coordination with City required. L I - 3" Conduit
I - 14/7C for Ped. Head P6 2 Fairfax Blvd (U.S.Rte.50) Sensys Detector Placement Detail Ex.Crosswalk 6. Contractor shall be responsible for any damage done I - I4/2C for Ped. Push Button PB-6 Sensys Wireless / Detector (Typ.) / S-5 Posted 35 MPH to be Eradicated to the traffic signal during construction. The project 1 - *6 AWG (EGC) (N.T.S.) 2 shall have a qualified signal crew on-call at all times for any issue that may arise and need to be fixed immediately. I - 4" Conduit - 14/7C for Heads 3,8 -Sensys Wireless - 14/7C for Ped.Head P6.P8 7. The Contractor is responsible for any cost associated for police officer use $(4)^{\circ}_{0}(7)$: P(4A) - I4/2C for Ped.Push Button PB-6,PB-8 during construction. Fourteen (14) days notice is required to request police Ex.0/H Tele. - Emer.Pre-Emption Cable officer use for intersection control. This cost is not to be paid for seperately and 1 - *6 AWG (EGC) shall be incidental to the cost of the project. _____ Ex.R/WZ N I - 4" Conduit 2 - I4/7C for Heads I,6 8. The Contractor shall dis-connect signal interconnect cable(s) from this pole and re-route/intercept SIC to underground conduits as proposed.Coordination with City I - 24/8C for CAT5 for Sensys ACP I - CCTV Cable [CAT6] I - Emer.Pre-Emption Cable I - *6 AWG (EGC) Traffic Engineer is required prior to start of any work. Signal interconnect cable shall -Sensys Wireless remain aerial across Jermantown Road. Elec./Tele. (Prop. 55' Arm)' Detector (Typ.) 9.CCTV Candy Cane Bracket shall be per City of Fairfax specifications and CCTV Camera shall be per City of Fairfax specifications. Contact City of Fairfx Traffic Engineer for specifications $\langle 0 \rangle$ NOT USED -Typ.Centerline of Lane prior to ordering of equipment. I - 4" Conduit IO - I4/7C for Heads I,2,3,4,4A,4B,5,6,7,8 6 - I4/7C for Ped. Heads 2,6,8 Ø3 \ Ø8 Prop. Perm. Signalization Esm't Signal Pole & Controller Legend (AII DIMENSIONS ARE TO CENTER OF POLE) - I4/2C for Ped.Push Button PB-2,PB-6,PB-8 *6 AWG (EGC) 4" Conduit SIGNAL HEADS 4 - Emer.Pre-Emption Cable 1 - 24/8C for CAT5 for Sensys RPT 1 - 24/8C for CAT5 for Sensys ACP The MP-I (and Mast Arms) shall be designed to meet ALL TRAFFIC SIGNAL HEAD \odot any NESC utility clearance requirements SECTIONS SHALL BE LED St'd Mast Arm Pole (MP-I) with St'd PF-I Foundation 64.80' Left of Rte.50 Constr.Baseline Sta.12-18.54 *6 AWG (EGC) CLEARANCE CHART 75' Mast Arm 90' Angle to Rte.50 Constr.Baseline 2 - 19/12C Copper for SIC 2 - 12 Single Mode Fiber ODUG - CCTV Cable [CAT 6] CLEARANCE NEXT ST'D SP-8 Signal Head Placement: 25.8',37.8',49.8',61.8',71.8' PHASE Sign Placement: 12.6',43.8' Req'd. Pre-emption Placement: 56.3" Α *6 AWG (EGC) Camera Candy Cane Bracket Length: 48" Min. G G G Camera Placement: 22' (City has final approval on Loc.) 3" Conduit (SPARE) Lateral Offset Requirement's Met:YES G/G> G/G> *G*⁄G> *6 AWG (EGC) PHASING DIAGRAM (a) 1-11/4" Conduit (Metal) Α St'd Mast Arm Pole (MP-I) with St'd PF-I - *6 AWG (EGC) for Electrical Service <€ Foundation 75.62' Left of Rte.50 Constr. Baseline Sta.13-71.76 \prec A 75' Mast Arm 178.42' Angle to Rte.50 Constr. Baseline 崖 **HEADS** *HEADS* HEADS **HEADS** *HEADS* √6 √6 I - *6 AWG (EGC) for Elec. Grounding Signal Head Placement: 38.6',49.6',60.6',71.6' 1,3,5,7 *P2,P6,P8* A >Sian Placement: 16.5' $\langle T \rangle$ 1 - 2" Conduit for Power Service \equiv Pre-emption Placement: 54.7' G> G> G> ALL SIGNALS SHALL BE EQUIPPED WIT Electrical Service Connection Lateral Offset Requirements Met:YES POLYCARBONATE BACKPLATES WALKFDWDW DW From Existing Tap on Power Pole $\begin{array}{c|c} & & & \\ & & \\ \hline \end{array}$ WALK WALK | WALK | WALK Z 2 - 2" Conduit 2 - 12 Single Mode Fiber ODUG St'd Mast Arm Pole (MP-I) with St'd PF-I ALL PED.HEADS SHALL BE Foundation 55.31' Right of Rte.50 Constr. Baseline Sta. 13.60.73 SP-8 WITH COUNTDOWN *Ø2+Ø5* Ø2·Ø6 Ø3•Ø8 Ø4+Ø7 Ø4+Ø8 *ØI+0*6 60' Mast Arm 270' Angle to Rte.50 Constr. Baseline Signal Head Placement: 20.3', 32.2', 41.5', 53.5' (Loop to Controller and back to intercept on Power Pole on east side of Jermantown Road) Sign Placement: 10', 26.3' Y 2 - 2" Conduit (BORED) 2 - I2 Single Mode Fiber ODUG Pre-emption Placement: 36.7' TRAFFIC SIGNAL MODIFICATION Revisions Lateral Offset Requirements Met:YES (Loop to Controller and back to intercept on Power Pole on east side of Jermantown Road) Intersection of: St'd Mast Arm Pole (MP-I) with St'd PF-I Initial Date Foundation 71.93' Right of Rte.50 Constr.Baseline Sta.12.36.18
75' Mast Arm 358.42' Angle to Rte.50 Constr.Baseline
Signal Head Placement: 141', 26.7', 36.7', 48.7'
Sign Placement: 10.4', 19.3', 22.4' Fairfax Boulevard (U.S. Route 50) @ YI) 2 - 2" Conduit (BORED) I - 12 Single Mode Fiber ODUG I - Spare Conduit for Future Use (Cap and Label) Jermantown Road (City Route 6634) ADAM D. WELSCHENBACH Lic. No. 044359 City of Fairfax, Virginia NOTE(S): EGC = Equipment Grounding Conductor ACP = Access Point (SENSYS) Pre-emption Placement: 42.5' These are City of Fairfax signal(s) maintained by the City of Lateral Offset Requirements Met:YES SCALE Fairfax Department of Public Works. RPT = Repeater (SENSYS) June 2014 Prop.Controller and Foundation Location All Conduits are trenched unless directed to be bored St'd CF-2 Foundation Required

DESIGN FEATURES RELATING TO CONSTRUCTION

OR TO REGULATION AND CONTROL OF TRAFFIC

MAY BE SUBJECT TO CHANGE AS DEEMED

NECESSARY BY THE DEPARTMENT

Adam D Welschenbach

2014.08.15 17:21:14 -04'00'

Rinker Design Assoc. P.C. Manassas, Virginia

PROFESSIONAL FNGINFER

Ex. O/H Signal Interconnect

-Continue to Pole *DP42 (Intercept on Pole) St'd JB-S2 Req'd at Pole

shall be removed.

Cables/Copper between Bevan Drive and Pole *DP42

REVISED

Signal Pole & Controller Legend

(All DIMENSIONS ARE TO CENTER OF POLE)

The MP-I (and Mast Arms) shall be designed to meet

68J3' Left of Rte.50 Constr. Baseline Sta. 24-76.68

65' Mast Arm 90' Angle to Rte.50 Constr. Baseline

NOTE: Contractor shall NOT impact nearby waterline.

St'd Dual Mast Arm Pole (MP-I) with St'd PF-I Foundation 51.37' Right of Rte.50 Constr.Baseline Sta.25.57.28 60' Mast Arm 180' Angle to Rte.50 Constr.Baseline 55' Mast Arm Placement

(City Traffic Engineer determined Ex.Controller to remain.)
Existing Power Connection to remain.

55' Mast Arm O' Angle to Rte.50 Constr. Baseline

St'd Dual Mast Arm Pole (MP-I) with St'd PF-I Foundation

any NESC utility clearance requirements

Signal Head Placement: 28.8',40.8',52.8',60.8' (65' Mast Arm)

36.7'.48.7' (55' Mast Arm)

13.6' (50' Mast Arm) Pre-emption Placement:

56.8' (65' Mast Arm)

42.7' (55' Mast Arm)

Signal Head Placement:

Pre-emption Placement:

36.6' (60' Mast Arm)

41.3' (55' Mast Arm)

Existing Controller to REMAIN.

new devices and new connections.

Lateral Offset Requirements Met:YES

Sign Placement:

14J',46.8',64J' (65' Mast Arm)

Lateral Offset Requirements Met:YES

45.8'.56.8' (60' Mast Arm)

24.3', 36.3', 48.3' (55' Mast Arm)

26.8',49.6',53.7',59.0' (60' Mast Arm) II.O',30.3',52.3' (55' Mast Arm)

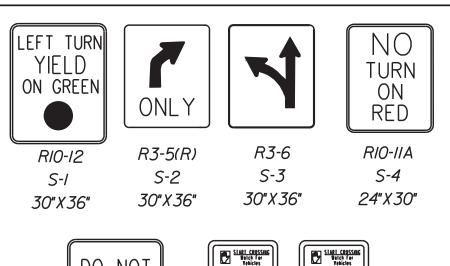
Contractor shall modify Controller to accomodate

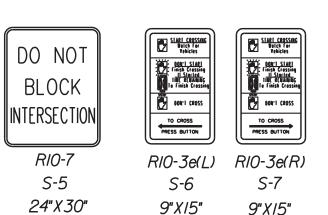
Sign Placement:

FEDERAL AID

SIGNAL SIGNS

SP-8 WITH COUNTDOWN

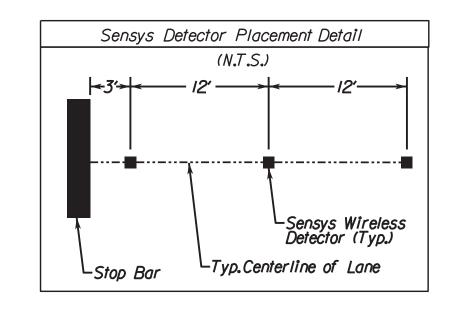


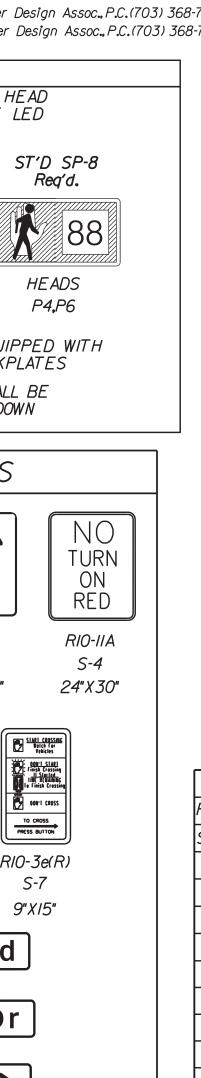


Fairfax Blvd

← Bevan Dr

Bevan Dr → For Signs S-8, S-9, S-10, see Sheet 7(4) for details/sizes.





There are 2 Sensys Wireless & Detectors under markings Ex.O/H Signal Inter Cables/Copper Jermantown Road and Drive shall be Continue to Jermantown See Shee CLEARANCE CH. CLEARANCE <A/A $\prec A/G$ <€/G <€/A <6/R **<**€/R $\prec A/R$ <6/R $\prec A/R$ **<**6/R <€/R **<**€/R FDW DW WALK WALK | WALK | WALK |PHASE| 1 | 2 | 5 |

DESIGN FEATURES RELATING TO CONSTRUCTION

OR TO REGULATION AND CONTROL OF TRAFFIC

MAY BE SUBJECT TO CHANGE AS DEEMED

NECESSARY BY THE DEPARTMENT

SIGNAL	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	FLASH
1	< €/R				< €/R	< 6/G		G		R
2		G					G	G		Α
4									G	R
5			< 6/R		< 6/R		<6 /G	G		R
6				G		G		G		Α
8									G	R
P4									*WALK	BLANK
P6				*WALK		*WALK		*WALK		BLANK
NOTE: BLANK SPACES REPRESENT A RED DISPLAY.										
* WALK INDICATION DISPLAYED AFTER PEDESTRIAN CALL IS SERVICED;										

PROPOSED PREEMPTION SENSORS Police & Fire Dept. Emergency Preemption Sensors Emergency Vehicle Pre-emption (EVP) Notes: See General Notes on Sheet 7(1) for Details and Contact Information about EVP System. City of Fairfax will maintain the EVP system.

OTHERWISE "DON'T WALK" INDICATION IS DISPLAYED.

		\							Derectors und	er markings	57 \$\$	I.	\angle Ex.	R/W	
iterco er bei	onnect tween Bevan noved.					Temp	P4 S d Constr. Ease,		PFOP. Perm. ation Esm't	Sensys Repeater	Sensys Wirele Betector (Typ.	Bevan Drive	(Prop. 55' Arm	PB-6 S-7 P6	
		\ -\ -\ =:		Approx.			Prop.R/V	B		A 5-10	6 "W			St'd JB-S3 - Req'd Ex.0/H Signal interconnect Cable	
heet I	77	" <i>'</i>]	x.Ø/H Inter	<u> </u>		x Blvc 3 <u>5</u> M	// (U.S. Rte. 50) MPH		Relocated DVP Pole	721	6 Ex. 0/H 6 Ex. 0/H 6-5 Interc	Signal- connect Cable	H F	Sensys Wirele \$\int \text{\$\phi\$} \$\p	
	NEXT PHASE R G	-	====	======	=====	===== ================================	=======================================		Constr. B.L.	2	(Approx.Li	oc.) - G -	S-1 5	• • ØI G	
	<6/R <6/G R G <6/R	-		5	Sensys V Detecto	Vireless or (Typ.)	<i>W</i> 5\			>	S-2 S-4	{F	PD 3 5-5 8-5	Fairfax Blvd (U.S. Rte. 50) Posted 35 MPH	
'	R G <6/G DW		*	=======================================	======================================	0	*				4	T/Tg	S-9 	Sensys Wireless Access Point	
	WALK	J 	\bigcirc				EX.R/W EX OHT	3 1	EX UH		Prop.60	100 H	ireless.	EX RAW	
0R	SEQ	UENC	E C	HART	_				1 7 (11)	" 1	7 7 7	Approach.)	Prop. Perm.	
6	<i>l</i> +5	<i>I</i> •6	2+5	<i>2</i> •6	<i>4</i> +8		(P4)	S-7 PB-4			Ent			Signalization Esm't	
?∕W	R/W	R/W	R/W	R/W	R/W	FLASH	(T _	P. S.			ite				
	≪ 6/R	< 6/G		G		R					ivate				
	1		G	G		1 <u>4</u> 1	\ _	」			7				

Notes:	
responsible (including	is to remain.Contractor is SOLELY any cost thereof for coordinating with Dominion nate power service can be maintained with proposed

2. No aerial utilities are be permitted in front of the mast arms, unless they are I' higher than the proposed mast arm. Utilities are to be relocated if they conflict within I' of the mast arms. Contractor is to coordinate this with any utility company and is responsible for any costs associated with this relocation and shall be incidental to the cost of the project not to be paid for separately.

3. The contractor shall be responsible for providing and maintaining communication to the controller at all times. The contractor is responsible for any costs associated with providing communication to the traffic signal. See Sheet General Notes on Sheet 7(1) for contact information and details.

4. All existing loop detectors shall be abandoned or removed.

All proposed Sensys Wireless Detectors shall be so they are flush mounted after final surface course Coordination with City of Fairfax Engineer is required for final location of detectors. City approval of locations is required prior to installation.

5.Existing Controller is to be modified to accommodate modification shown for the proposed improvements. The Contractor SHALL coordinate with the City of Fairfax.

6. Contractor shall be responsible for any damage done to the traffic signal during construction. The project shall have a qualified signal crew on-call at all times for any issue that may arise and need to be fixed immediately.

7. The Contractor is responsible for any cost associated for police officer use during construction. Fourteen (14) days notice is required to request police officer use for intersection control. This cost is not to be paid for seperately and shall be incidental to the cost of the project.

<u>Pavement Marking Note:</u> See Pavement Marking Plans for details.(Sheet 8 Series)

Note:
Ped. Heads shall be installed and oriented so that pedestrians in the crosswalk or ramp area do not have an obstructed view of the Ped. Head.

				SHEET NO.	
STATE	PROJECT OWNER		PROJECT	STILLT NO.	
VA.		-	Jermantown Road Phase II Improvements Proposed Traffic Signal Modifications	7(3)	

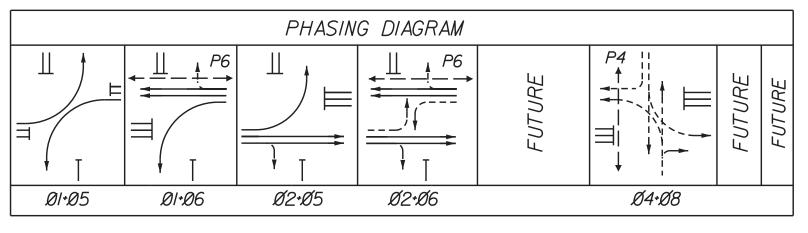
CABLE AND CONDUIT RUNS

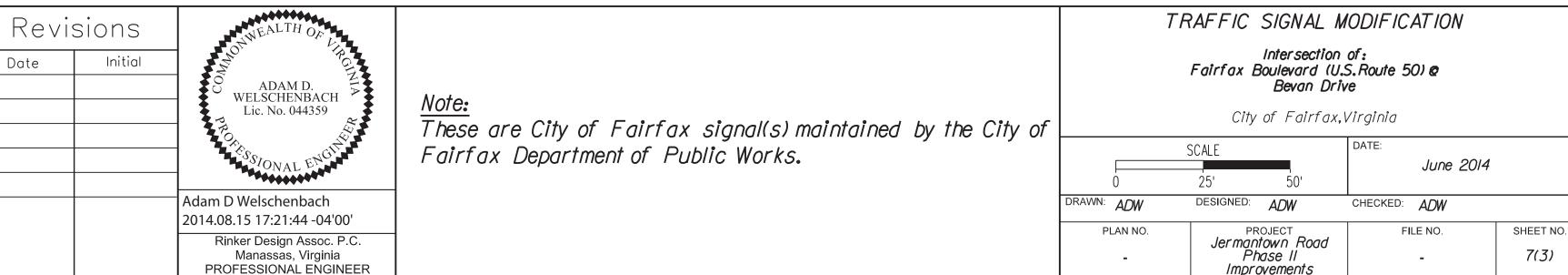
STATE

- I 3" Conduit 3 I4/7C for Heads I,6,8 I - 14/7C for Heads 1,5,8 I - 14/7C for Ped.Head P6 I - 14/2C for Ped.Push Button PB-6 I - 24/8C for CAT5 for Sensys RPT 2 - Emer.Pre-Emption Cable I - *6 AWG (EGC)
- I 3" Conduit I I4/7C for Ped.Head P4 I - I4/2C for Ped.Push Button PB-4 I - *6 AWG (EGC)
- I 4" Conduit (BORED) 1-4 Conduin (BORED) 3 - I4/7C for Heads I,6,8 2 - I4/7C for Ped.Heads P4,P6 2 - I4/2C for Ped.Push Button PB-4,PB-6 I - 24/8C for CAT5 for Sensys RPT 2 - Emer.Pre-Emption Cable I - *6 AWG (EGC)
- I 4" Conduit (BORED) 3 I4/7C for Heads I,6,8 - I4/7C for Ped.Heads P4,P6 3 - 14/2C for Ped.Push Button PB-4,PB-6 1 - 24/8C for CAT5 for Sensys RPT 2 - Emer.Pre-Emption Cable 1 - *6 AWG (EGC)
- 3 14/7C for Heads 2,4,5 I 24/8C for CAT5 for Sensys ACP 2 Emer.Pre-Emption Cable I *6 AWG (EGC
- I 4" Conduit (BORED) - 14/7C for Heads 1,2,4,5,6,8 - 14/7C for Ped. Heads P4,P6 3 - 14/7C For Ped. Hedds F4,F6
 3 - 14/2C for Ped.Push Button PB-4,PB-6
 1 - 24/8C for CAT5 for Sensys RPT
 1 - 24/8C for CAT5 for Sensys ACP
 4 - Emer.Pre-Emption Cable
 1 - *6 AWG (EGC)
- 2 2" Conduit 0 - Item Removed 2 - I2 Single Mode Fiber ODUG
- I 3" Conduit I I4/7C for Ped.Head P6 I - I4/2C for Ped.Push Button PB-6 1 - *6 AWG (EGC)
- 2 -2" Conduit (BORED) 12 Single Mode Fiber ODUG - Spare Conduit for Future Use (Cap and Label)
- 12 Single Mode Fiber ODUG - Spare Conduit for Future Use (Cap and Label)
- Match Ex.Conduit(s) into Ex.Controller Coordination with City of Fairfax Reg'd 6 - 14/7C for Heads 1,2,4,5,6,8 4 - 14/7C for Ped. Heads P4,P6 4 - 14/2C for Ped. Push Button PB-4,PB-6 1 - 24/8C for CAT5 for Sensys RPT 1 - 24/8C for CAT5 for Sensys ACP 4 - Emer.Pre-Emption Cable

? - 12 Single Mode Fiber ODUG 3 - *6 AWG (EGC) NOTE(S): EGC = Equipment Grounding Conductor ACP = Access Point (SENSYS)

RPT = Repeater (SENSYS) All Conduits are trenched unless directed to be BORED





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DESIGN SUPERVISED BY <u>Mark Gunn P.E. Ri</u>nker Design Assoc., P.C.(703) 368-7373

DESIGNED BY _Adam_D.Welschenbach, P.E., Rinker Design Assoc., P.C.(703) 368-7373

SIGN DETAIL

BORDER 10.4"

(I) ClearviewHwy-5-W-R

TH=1.5"

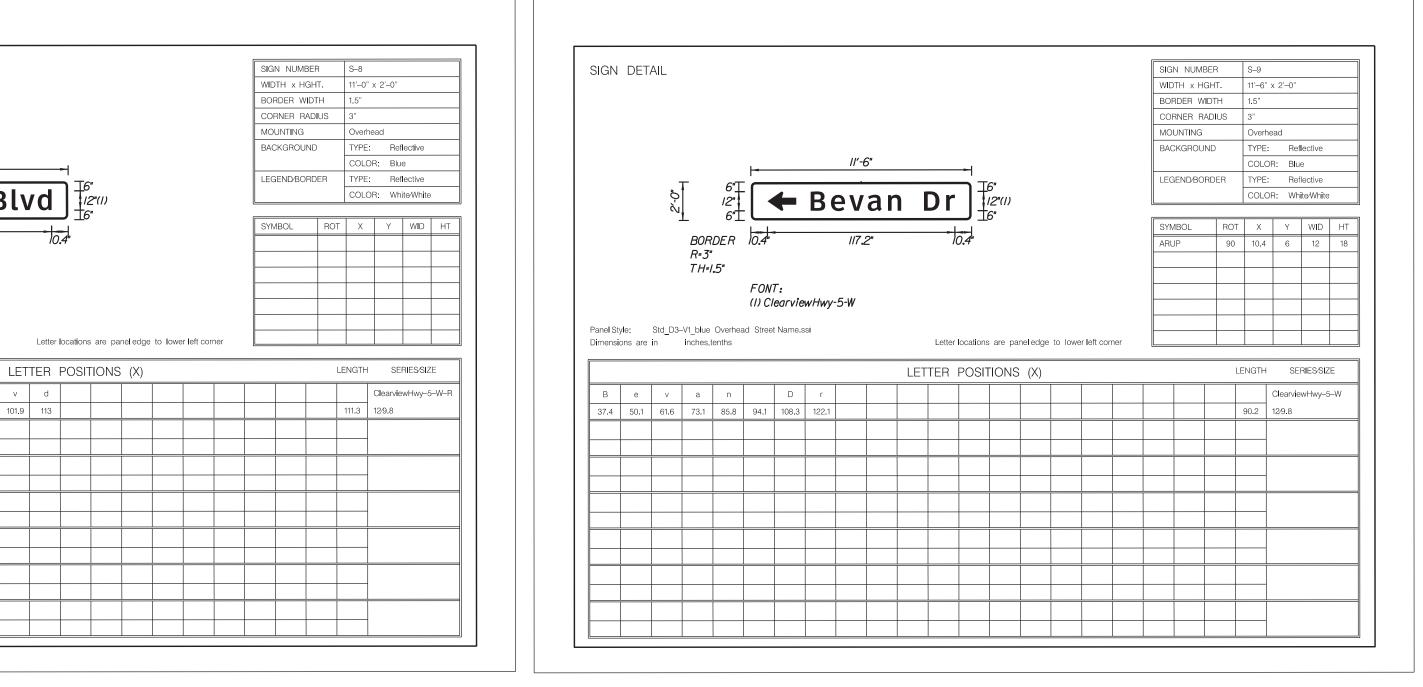
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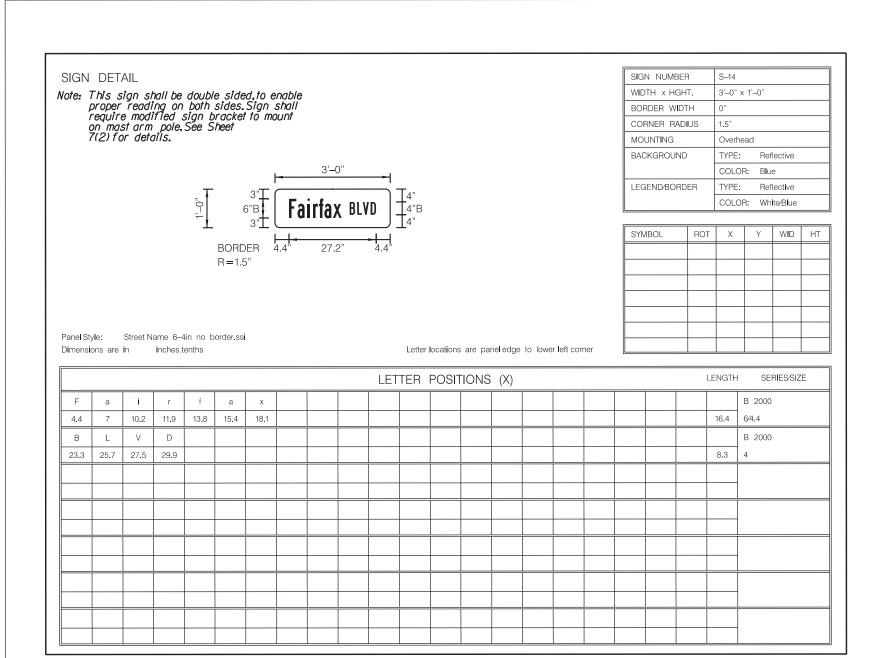
Dimensions are in inches.tenths

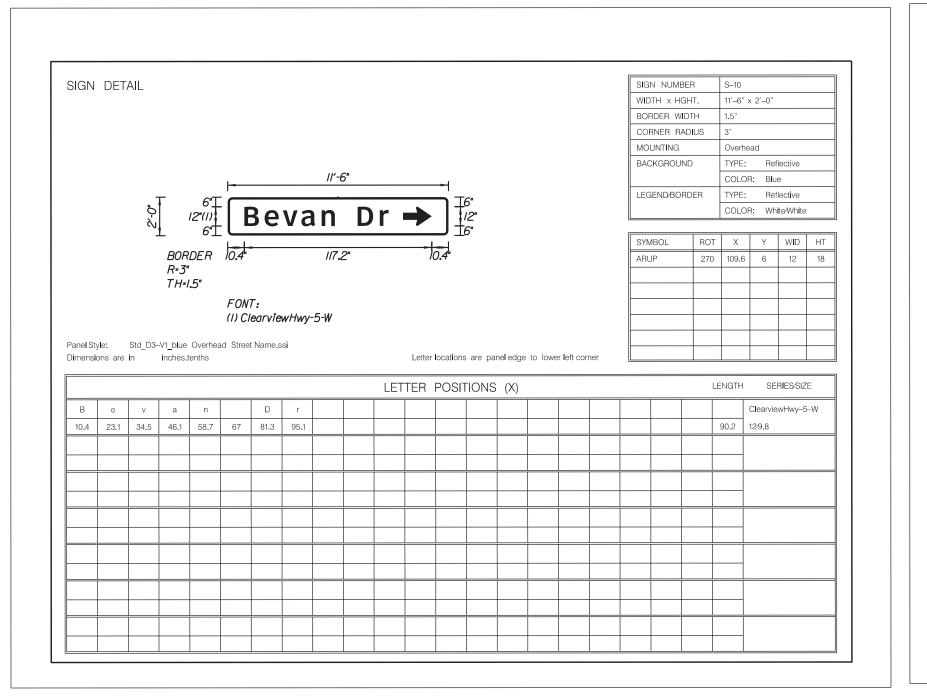
PROJECT MANAGER_<u>Wendy_Block_Sanford,Ci</u>ty of Fairfax

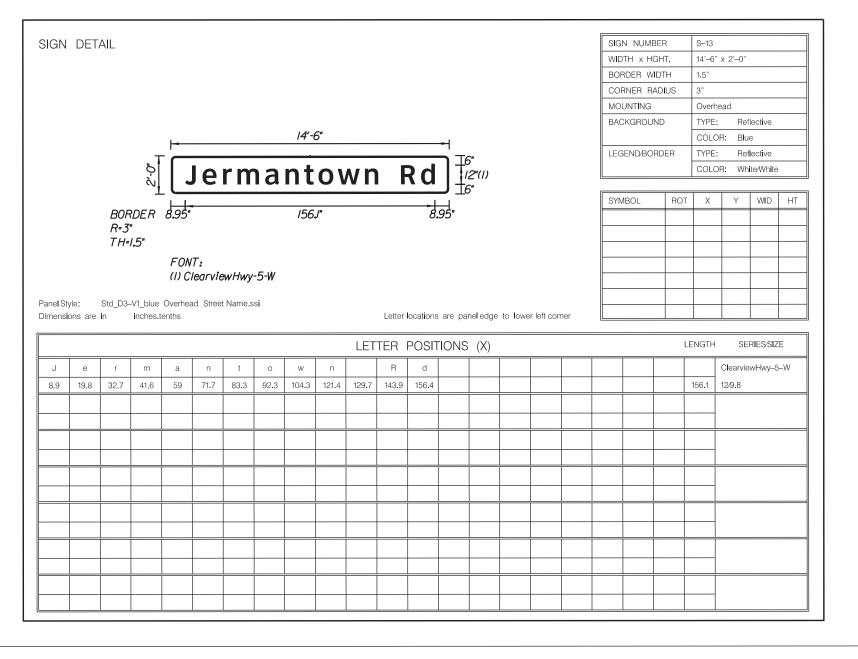
SURVEYED BY <u>Rinker Design Assoc., P.C.(703</u>) 368-7373

DESIGN FEA	TURES RELATING TO CONSTRUCTION
	JLATION AND CONTROL OF TRAFFIC
MAY BE SUE	BJECT TO CHANGE AS DEEMED
NECESSARY	BY THE DEPARTMENT









Revi	sions	WEALTH OF			TRAFFIC SIGNAL MODIFICATION								
Date	Initial	ADAM D. WELSCHENBACH				Sig	gnal Signage	Details					
		WELSCHENBACH Lic. No. 044359	Note: These are City of Fairfax signal(s) maintained by the City	of	City of Fairfax,Virginia								
			Fairfax Department of Public Works.			SCALE		DATE:	June 2014				
		******			0	25'	50'						
		Adam D Welschenbach		DRA	WN: ADW	DESIGNED:	ADW	CHECKED:	ADW				
		2014.08.15 17:22:13 -04'00'			PLAN NO.	PF	ROJECT	FIL	LE NO.	SHEET NO.			
		Rinker Design Assoc. P.C. Manassas, Virginia PROFESSIONAL ENGINEER			-	<i>Pl</i>	ntown Road hase II ovements		-	7(4)			

0050008a.dgn

8/15/2014

35x23 (in.)

def ault_rda**.**tbl