PROJECT MANAGER SHARON WHITE (VDOT)
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)

INDEX OF SHEETS:

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" "	8B	SIGNAL PLAN - TOPOGRAPHICAL SURVEY
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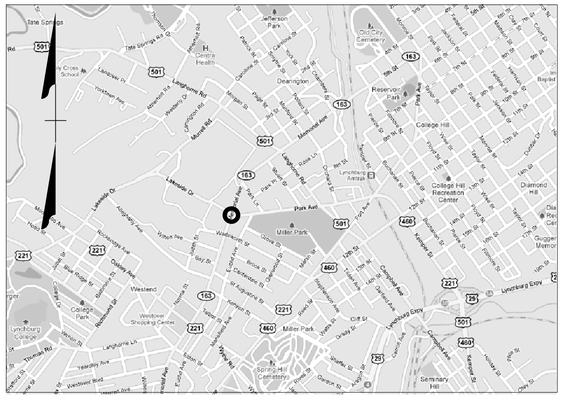

VICINITY MAP
N.T.S.

TRAFFIC SIGNALIZATION PLAN

CITY OF LYNCHBURG

SIGNAL DESIGN FOR INTERSECTION OF MEMORIAL AVENUE (ROUTE 163), LAKESIDE DRIVE, & PARK AVENUE

APPROVED	
DATE	CITY TRANSPORTATION ENGINEER
APPROVED	
DATE	DIRECTOR OF ENGINEERING
DESIGNED	
DATE	DESIGN ENGINEER

McCORMICK TAYLOR

PREPARED BY:
McCORMICK TAYLOR
NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
GLEN ALLEN, VA 23060

PREPARED FOR:
CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

COMMONWEALTH OF VIRGINIA
ANDREW JOHN PARKER
Lic. No. 048506
02/06/15
PROFESSIONAL ENGINEER

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE
INTERSECTION IMPROVEMENTS
VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

SCALE
0 25' 50'

TRAFFIC SIGNAL CONSTRUCTION PLAN
TITLE SHEET

DATE: FEB. 06, 2015

SHEET NO. 8(A) OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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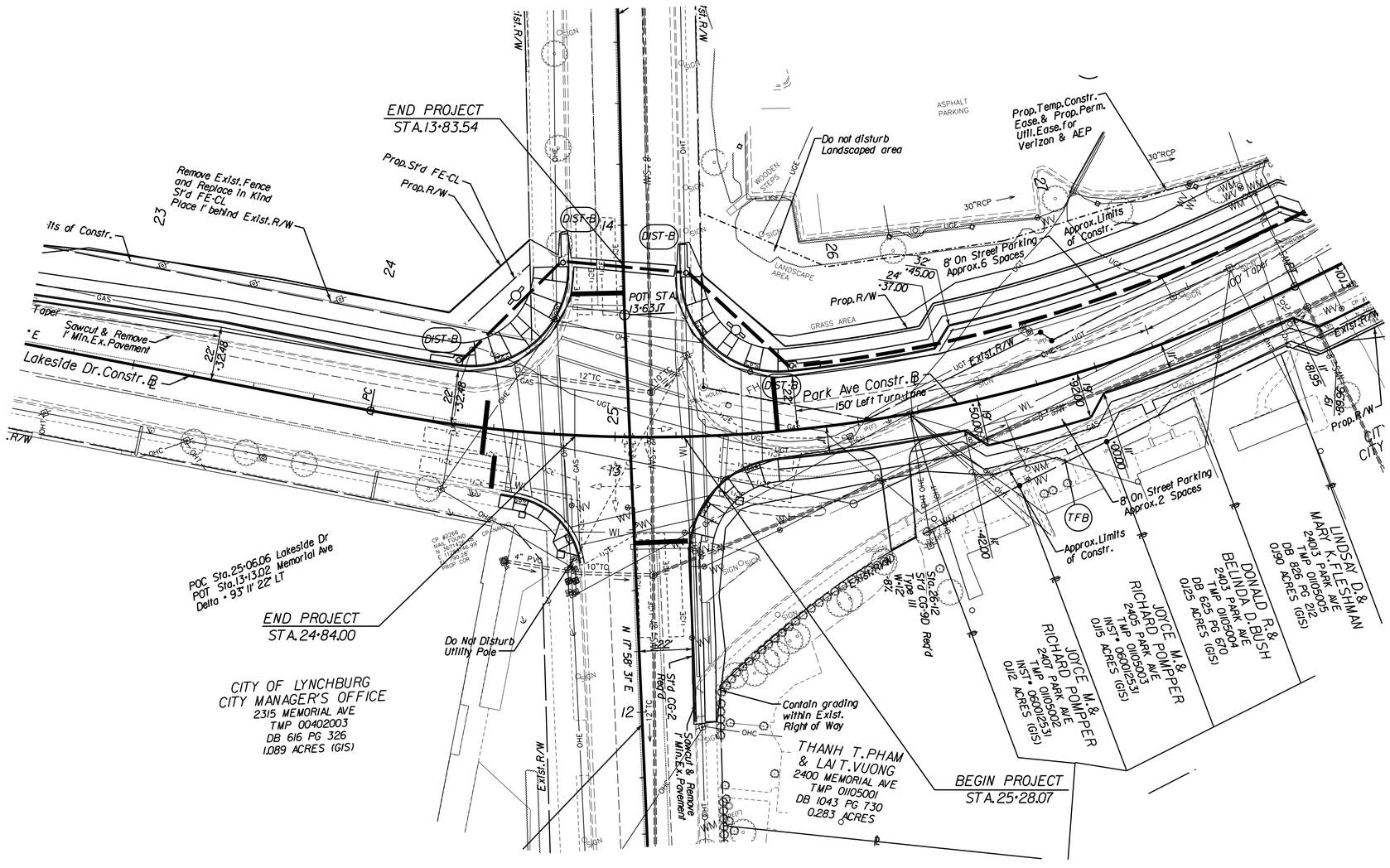

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McCORMICK TAYLOR
NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
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PROFESSIONAL ENGINEER

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MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

SCALE
0 25' 50'

TRAFFIC SIGNAL CONSTRUCTION PLAN EXISTING SURVEY & PROPOSED DESIGN

DATE: FEB. 06, 2015

SHEET NO. 8(B) OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)

SHEET NO.	Temp.Slit Fence	Sign Panel	Furnish and Install Signal Controller (TS-2,Type II) With TS-I Cabinet (Naztec)	Traffic Signal Head Section 12" LED (Green Ball)	Traffic Signal Head Section 12" LED (Yellow Ball)	Traffic Signal Head Section 12" LED (Red Ball)	Traffic Signal Head Section 12" LED (Green Arrow)	Traffic Signal Head Section 12" LED (Yellow Arrow)	Traffic Signal Head Section 12" LED (Red Arrow)	Accessible Pedestrian Pushbutton	Pedestal Pole PF-2 10'	Concrete Foundation PF-2	Concrete Foundation Signal Pole PF-1	Concrete Foundation Signal Pole PF-8	Concrete Foundation CF-1	Mast Arm Signal Pole,Type I	Mast Arm Signal Pole,Type III	Mast Arm 30'	Mast Arm 40'	Mast Arm 50'	Mast Arm 60'	14/2 Conductor Cable	14/3 Conductor Cable	14/5 Conductor Cable	14/7 Conductor Cable	Accessible Push Button Cable	Emergency Preemption Detector Cable	Power/Video Cable for Insync Cameras	Hanger Assembly SM-3,One Way (In-Line)	Hanger Assembly SMD-2 (Signs)	Hanger Assembly SMB-3 (Ped) One-Way	Temp.Signalization	Emergency Preemption,4-Way	Uninterruptible Power Supply	Uninterruptible Power Supply Batteries	Uninterruptible Power Supply Cabinet	Refime Existing Controller (Memorial/Wadsworth)
NOTES			24	4,7	4,7	4,7	4,7	4,7	4,7	14	25		2,9,11	2,9,11	9,11	9,11,23	9,11,23	11,23	11,23	11,23	11,23											5	10				
	LF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY	CY	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	LS	EA	EA	EA	EA	EA
8(D)	80	119	1	8	8	8	5	5		8	1	1	14	20	1	2	2	1	1	1	1	725	766	2274	701	1003	725	766	8	15	8		1	1	4	1	1
8(F)							2	2	2																							1					
TOTALS	80	119	1	9	9	10	5	5		8	1	1	14	20	1	2	2	1	1	1	1	725	766	2274	701	1003	725	766	10	15	8	1	1	1	4	1	1

SHEET NO.	Remove Existing Controller Cabinet	Remove Existing Signal Head	Remove Existing Span Wire	Furnish & Install InSync Video Detector System & Components	Luminaire Arm 18'	Pedestrian Signal Head SP-8	Electrical Service SE-3 Type A	Junction Box JB-S1	Junction Box JB-S2	Junction Box JB-S3	Electrical Service Grounding Electrode (10')	1" PVC Conduit	1 1/4" Metal Conduit	1" Conduit	2" Conduit	3" Conduit	Bored Conduit 2"	Bored Conduit 3"	Trench Excavation ECI-1	Trench Excavation ECI-2	Test Bore
NOTES	25	25	25	**				16	16	16							13	13			
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA
8(D)				1	2	8	1	2	4	1	8	18	19	50	171	37	255	510	109	21	4
8(F)	1	4	1																		
TOTALS	1	4	1	1	2	8	1	2	4	1	8	18	19	50	171	37	255	510	109	21	4

**See notes on sheet 8(E)

GENERAL NOTES

1. All traffic signal heads, backplates, loop detectors, mast arm poles and mast arm pole foundations shall conform to VDOT Road and Bridge Standards Volume II dated 2008, Section 703 of VDOT Road and Bridge Specifications dated 2007, and City of Lynchburg Specifications (latest edition).

2. Mast arm pole foundation shall conform to VDOT PF-1 for poles D and E, and PF-8 for poles A and B.

3. The location of all existing underground utilities should be considered approximate. The Contractor shall be responsible for the definite location of each utility involved within the area of his excavation for work under this contract. The Contractor shall call MISS UTILITY (1-800-552-1007) 48 hours before beginning work.

4. All signal heads shall be mounted in accordance with VDOT SM-3 and all signal heads and backplates shall be polycarbonate. All traffic signal heads shall be 12" and include visors. Traffic signal heads, visors, housing, backplates, and insides of visors shall be black.

5. It shall be the sole responsibility of the Contractor to furnish and maintain, until the work has been accepted by the City, any and all signs, lights, barricades, flagmen, etc., necessary for the safety of the general public, including both vehicular and pedestrian traffic. All costs for the maintenance of traffic shall be included in the lump sum bid item. Maintenance of traffic shall be done according to the VA Work Area Protection Manual (latest edition).

6. All damages to existing structures, facilities, pavement, grassed areas, etc., shall be restored to existing condition by the Contractor at his expense.

7. Vehicular and pedestrian signal heads shall have LED indications. The LED display of LED balls shall present the appearance of incandescent type bulbs rather than discrete points of light. L.E.D. arrows shall be three-row type (as opposed to two-row type). Preferred signal lenses are those manufactured by Dialight or approved equal.

8. The Contractor shall contact the City (Adam Fick @ 434-455-4466) at least 72 hours prior to beginning work.

9. Pole locations shall be installed within 24" of the point as shown on the plan. Contractor shall stake and field verify with "MISS UTILITY OF VIRGINIA" the pole location before ordering poles and arms. THE CITY TRAFFIC ENGINEER OR HIS DESIGNEE SHALL APPROVE STAKED POLE LOCATIONS.

10. Emergency preemption equipment shall be compatible with the City's Opticom system. Confirmation lights to be included with this bid item.

11. The pole supplier shall furnish to the City shop drawings and calculations for all poles and foundations.

12. This plan does not guarantee the existence or nonexistence of underground utilities. Prior to any construction, the Contractor shall verify the existence and location of, or the nonexistence of, underground and overhead utilities. Where conflicts occur, the Contractor shall contact the Engineer prior to beginning work.

13. The contractor shall verify the elevation of all underground utilities to be crossed prior to jacking and boring conduits. The contractor shall hand dig when crossing water lines, gas lines and sewer force mains.

14. Pedestrian push buttons shall conform to all ADA standards.

15. All U-bolts, nuts, and washers shall be stainless steel. All plate material and U-bolts shall be galvanized.

16. Conduits entering junction boxes shall not extend over 3" maximum or under 2" minimum and shall be fitted with bell ends or bushings.

17. Conductor(s). The proposed pole foundation shall be permanently marked to indicate the locations of all conduits cast in the foundation. The markings shall consist of an arrow, 4 to 6 inches long, and a letter designation as follows:
    (S) - spare conduit
    (T) - conduit with signal or detector cables
    (E) - conduit with electrical service conductors for traffic signal
    (G) - conduit for grounding

18. System bond wire is required only if the conduit is non-metallic. Payment shall be incidental to conduit cost.

19. Lane closures shall not be permitted between 7:00-9:00 AM and 4:00-6:00 PM on weekdays.

20. The Contractor shall stub and cap two each 2" PVC conduits for future use from each mast arm pole.

21. All conduits stubbed from junction boxes and foundations must extend a minimum of 6" beyond the box or foundation and must be capped.

22. Conduit and Junction Boxes shown in the plan may be shifted in location to accommodate field conditions. All equipment shall be placed within the right-of-way.

23. Signal poles, mast arms, and attachment hardware shall be semi-gloss black. Finish shall be per VDOT specifications and shall be applied by the pole manufacturer.

24. Controller shall be NAZTEC TS-2, Type 2 with NAZTEC TSI cabinet and shall be compatible with the City's existing NAZTEC control equipment.

25. All existing equipment that is in usable condition shall be returned to the City. Removal of existing controllers shall include removing the existing foundations to a minimum of one foot below final grade.

26. All conductors shall be braided copper not solid.

McCORMICK TAYLOR

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NORTH SHORE COMMONS A
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GLEN ALLEN, VA 23060

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COMMONWEALTH OF VIRGINIA
ANDREW JOHN PARKER
Lic. No. 048506
02/06/15
PROFESSIONAL ENGINEER

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS
VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

NOT TO SCALE

TRAFFIC SIGNAL CONSTRUCTION PLAN
GENERAL NOTES

DATE: FEB. 06, 2015

SHEET NO. 8(C) OF 14

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CONSTRUCTION NOTES

1. Multiple conflicts between proposed conduits and existing utilities may exist. Contact "Miss Utility" prior to excavation.

2. Top of pole foundation elevation shall be flush with the adjacent sidewalk.

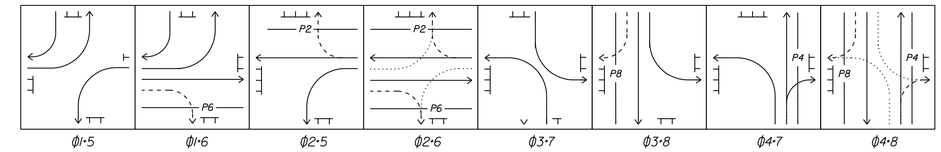
3. R10-3E signs shall be pole mounted adjacent to the pedestrian push button. Ensure that sign and arrow are oriented such that arrow points pedestrians in direction of crosswalk. Signs are incidental to the Accessible Pedestrian Pushbutton pay item.

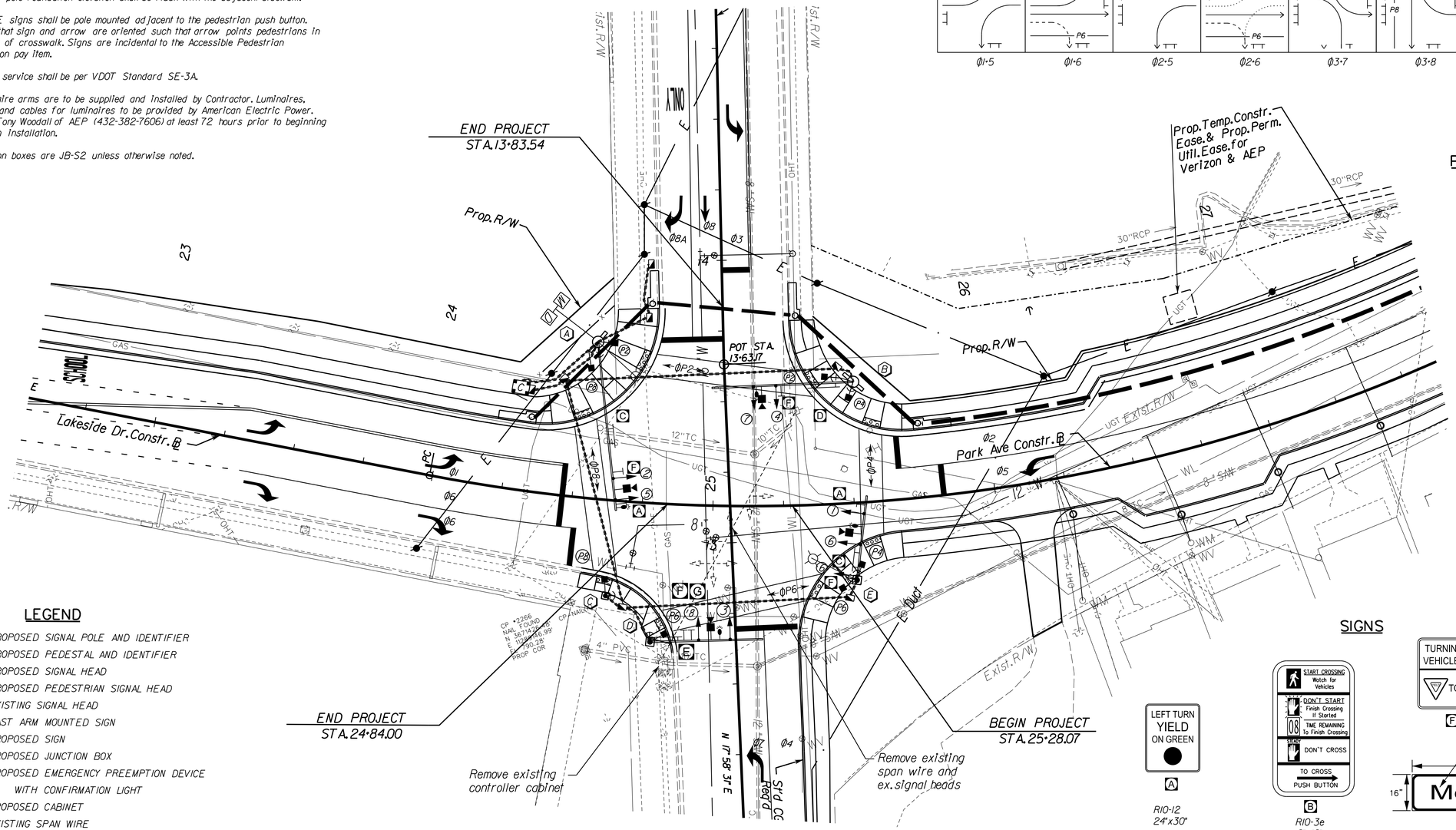
4. Power service shall be per VDOT Standard SE-3A.

5. Luminaire arms are to be supplied and installed by Contractor. Luminaires, ballasts, and cables for luminaires to be provided by American Electric Power. Contact Tony Woodall of AEP (432-382-7606) at least 72 hours prior to beginning mast arm installation.

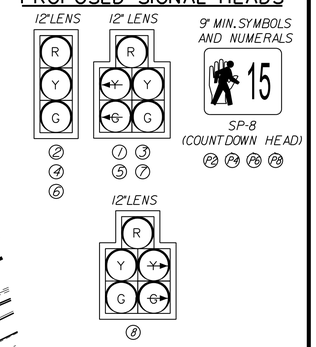
6. Junction boxes are JB-S2 unless otherwise noted.

PHASING DIAGRAM





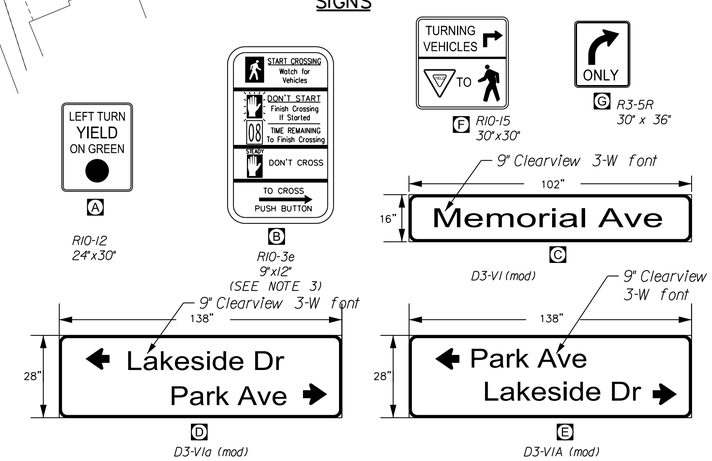
PROPOSED SIGNAL HEADS



LEGEND

- PROPOSED SIGNAL POLE AND IDENTIFIER
- PROPOSED PEDESTAL AND IDENTIFIER
- PROPOSED SIGNAL HEAD
- PROPOSED PEDESTRIAN SIGNAL HEAD
- EXISTING SIGNAL HEAD
- MAST ARM MOUNTED SIGN
- PROPOSED SIGN
- PROPOSED JUNCTION BOX
- PROPOSED EMERGENCY PREEMPTION DEVICE WITH CONFIRMATION LIGHT
- PROPOSED CABINET
- EXISTING SPAN WIRE
- CONDUIT RUN NUMBER
- PROPOSED CONDUIT
- PROPOSED ACCESSIBLE PEDESTRIAN PUSHBUTTON
- PROPOSED VIDEO DETECTOR
- PROPOSED LUMINAIRE
- METER
- DISCONNECT

SIGNS



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NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
GLEN ALLEN, VA 23060

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02/06/15
PROFESSIONAL ENGINEER

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

SCALE 0 20' 40'

TRAFFIC SIGNAL CONSTRUCTION PLAN

DATE: FEB. 06, 2015

SHEET NO. 8(D) OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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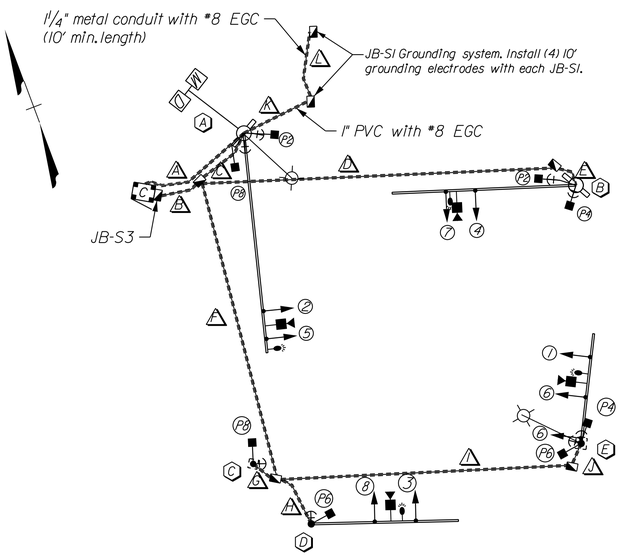
CONDUIT SCHEMATIC



CONDUIT SCHEDULE

		RUN NO.											
CONDUIT		A*	B	C	D	E	F	G	H	I	J	K	L
SIZE		(1) 2"	(2) 3" & (2) 2"	(1) 3", (1) 2" & (1) 1"	(2) 3" & (1) 2"	(2) 2"	(2) 3", (1) 2", & (1) 1"	(1) 2"	(2) 2"	(2) 3" & (2) 2"	(2) 2" & (1) 1"	(1) 1"	(1) 1¼"
TYPE		P	P	P	HDPE	P	HDPE	P	P	HDPE	P	P	P
INSTALLATION		ECI-1	ECI-1	ECI-1	BORED	ECI-1	BORED	ECI-2	ECI-2	BORED	ECI-1	ECI-1	ECI-1
AWG	2C	-	4	1	1	1	2	-	1	1	1	-	-
	#14 2C(S)	-	-	-	-	-	-	-	-	-	-	-	-
	3C	-	4	1	1	1	2	-	1	1	1	-	-
	5C	-	12	3	3	3	6	1	1	4	4	-	-
	7C	-	5	1	1	1	3	-	2	1	1	-	-
POWER/VIDEO CABLE**		-	4	1	1	1	2	-	1	1	1	-	-
EVP CABLE		-	4	1	1	1	2	-	1	1	1	-	-
PUSHBUTTON CABLE ***		-	8	2	2	2	4	1	1	2	2	-	-

(E) = EXISTING
(HDPE) = HIGH DENSITY POLYETHYLENE
(P) = PVC (SCHEDULE 80)
(RGS) = RIGID STEEL CONDUIT
EVP = EMERGENCY PRE-EMPTION CABLE
** AS REQUIRED FOR SAMSUNG CAMERA MODEL SNZ-5200 PER THE INSYNC SYSTEM
*** AS PER MANUFACTURER'S RECOMMENDATIONS FOR ACCESSIBLE PUSH BUTTON

* FOR POWER COMPANY'S USE

NOTE: For conduit runs B, C, F, I, & J, keep one conduit completely empty for future use by AEP for luminaire cable installation.

SIGNAL POLE LEGEND

NO.	STANDARD				SIGNAL MOUNTING				CAMERA DIST. FROM POLE		EVP DIST. FROM POLE	TRAFFIC SIGN MOUNTING				LUMINAIRE		POLE LOCATION			
	TYPE	FOUNDATION	POLE HEIGHT*	ARM LENGTH	DISTANCE FROM POLE							DISTANCE FROM POLE				ARM HEIGHT	ARM LENGTH	ROADWAY	STA	OFFSET	ANGLE**
A	MP-1 Type III	PF-8	26'	60'	48'	56'	-	-	53'	-	35'	13'	40'	-	-	23'	18'	LAKESIDE DR	24+54	55.4	11.7° ccw
B	MP-1 Type I	PF-8	20'	50'	27'	35'	-	-	33'	-	34'	11'	26'	-	-	-	-	MEMORIAL AVE	13+55	45.4	0°
C	PF-2	PF-2	10'	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	MEMORIAL AVE	12+83	45.5	-
D	MP-1 Type I	PF-1	20'	40'	17'	29'	-	-	22'	-	25'	5'	12'	15'	-	-	-	MEMORIAL AVE	12+66	30.4	1° cw
E	MP-1 Type III	PF-1	26'	30'	1'	13'	24'	-	16'	-	19'	7'	27'	-	-	23'	18'	PARK AVE	25+49	27.3	9.9° cw

*CONTRACTOR SHALL VERIFY POLE BASE ELEVATIONS AND REQUIRED POLE HEIGHTS AND PROVIDE THAT INFORMATION IN THE SHOP DRAWINGS.

**AN ANGLE OF ZERO DEGREES MEANS THE POLE IS PERPENDICULAR TO THE CENTERLINE

INSYNC ADAPTIVE SIGNAL CONTROL NOTES

Special Notes for InSync System Responsibilities and Coordination for Installation

This project will utilize the InSync system for detection and traffic control. This system works with the standard Nema equipment and functions as an add-on to the typical system.

Close coordination will need to occur between the signal contractor and Rhythm Engineering (InSync system provider) for this contract.

Rhythm Engineering will be responsible for the following tasks:

1. Provide materials consisting of InSync®processors, video cameras and enclosures, Insync equipment panel and power supply, RG cable, Ethernet patch cables.

2. Provide specifications for materials to be supplied by the Contractor including wires, connectors, and specialized installation tools as well as camera mounting hardware.

3. Perform the on-site integration of the InSync®adaptive system, including verification of camera views, working with the installer to make any adjustments needed and loading of the predefined software image into the processor, the Rhythm Engineering team will work both on-site and remotely to bring online each InSync®system. The adaptive system will work "out of the box", but Rhythm Engineering will take time to monitor and modify the adaptive parameters remotely over a period of approximately one to two weeks after the activation of the arterial in order to maximize the performance of InSync®.

The City's Contractor for the signal installation will be responsible for the following tasks:
1. Order and provide shielded/outdoor-rated Category 5 Ethernet cable and outdoor rated 3-strand 14 AWG power wire (IMSA 20-1 Traffic Control Cable 14-3 stranded copper) per Rhythm Engineering specifications. Cut-sheets to be provided by Rhythm Engineering at the appropriate time upon request.

2. Perform installation work consisting of: pulling & terminating the required power and Ethernet Cat 5E cables (Comscope 2003 shielded/outdoor rated) from the controller cabinet to the pre-approved mounting location, installation of camera mounting hardware to mast arm mounting of the video cameras, connecting wires to cameras per Rhythm Engineering specifications and training, camera aiming, zooming and focusing.

3. Perform traffic cabinet installation work consisting of: installing the site equipment panel, mounting and connecting the InSynce processor to the Ethernet switch and installing InSync's detector input connection type. Wiring of the RG return cable and connection of the InSync®system to the Ethernet network provided via the communications system provided by the Client or communications installer.

4. Return to site as needed during system integration to adjust cameras or troubleshoot any cabling or other issues arising from faulty installation. (Contractor to bid two trips and provide rates for time and materials for additional trips)

City of Lynchburg, VA Responsibilities:

Provide an Ethernet network with TCP/IP connectivity between signals. (i.e. internet service with eight (8) Internet Protocol (IP) Addresses for each intersection's equipment (cameras and processor), establish Simple Mail Transfer Protocol (SMTP) and Network Time Protocol (NTP) server connection, as well as remote access to the intersections via a Virtual Private Network (VPN) connection for support and monitoring purposes during the warranty/support period.

IP Wired Router shall support enabled Firewall and Virtual Private Network (VPN) configurations

VPN Requirements:

- Install and configure to enable VPN capabilities
- Multiple user access for at least four accounts
- Provide remote connectivity to Rhythm Engineering
- Requires minimum 2 Mbps download and 1 Mbps upload speed
- HTTP access (port 80) to each InSync camera and processor

Remote Desktop Protocol (RDP) access (port 3389) to each processor

WIRING NOTES

four- and five-section signal heads	#14/7C cable
three-section signal heads	#14/5C cable
pedestrian signal heads	#14/5C cable
accessible pedestrian push buttons	provide as per manufacturer's specifications
luminaires	cables to be provided & installed by AEP
electrical service	(3) #8/1C cables
emergency vehicle preemptors (EVP)	EVP detector cable and #14/2C cable
InSync video detectors	Category 5 Ethernet cable and #14/3C cable

All signal heads shall be wired separately.
Cables for InSync video detectors are to be provided as per Rhythm Engineering specifications.

Wire left-most Phase 4 and Phase 8 signal heads with #14/7C cable to support future left turn phasing.

LEGEND

- PROPOSED SIGNAL POLE AND IDENTIFIER
- PROPOSED PEDESTAL AND IDENTIFIER
- PROPOSED SIGNAL HEAD
- PROPOSED PEDESTRIAN SIGNAL HEAD
- EXISTING SIGNAL HEAD
- MAST ARM MOUNTED SIGN
- PROPOSED SIGN
- PROPOSED JUNCTION BOX
- PROPOSED EMERGENCY PREEMPTION DEVICE WITH CONFIRMATION LIGHT
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- METER
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TRAFFIC SIGNAL CONSTRUCTION PLAN

DATE: FEB. 06, 2015

SHEET NO. 8(E) OF 14

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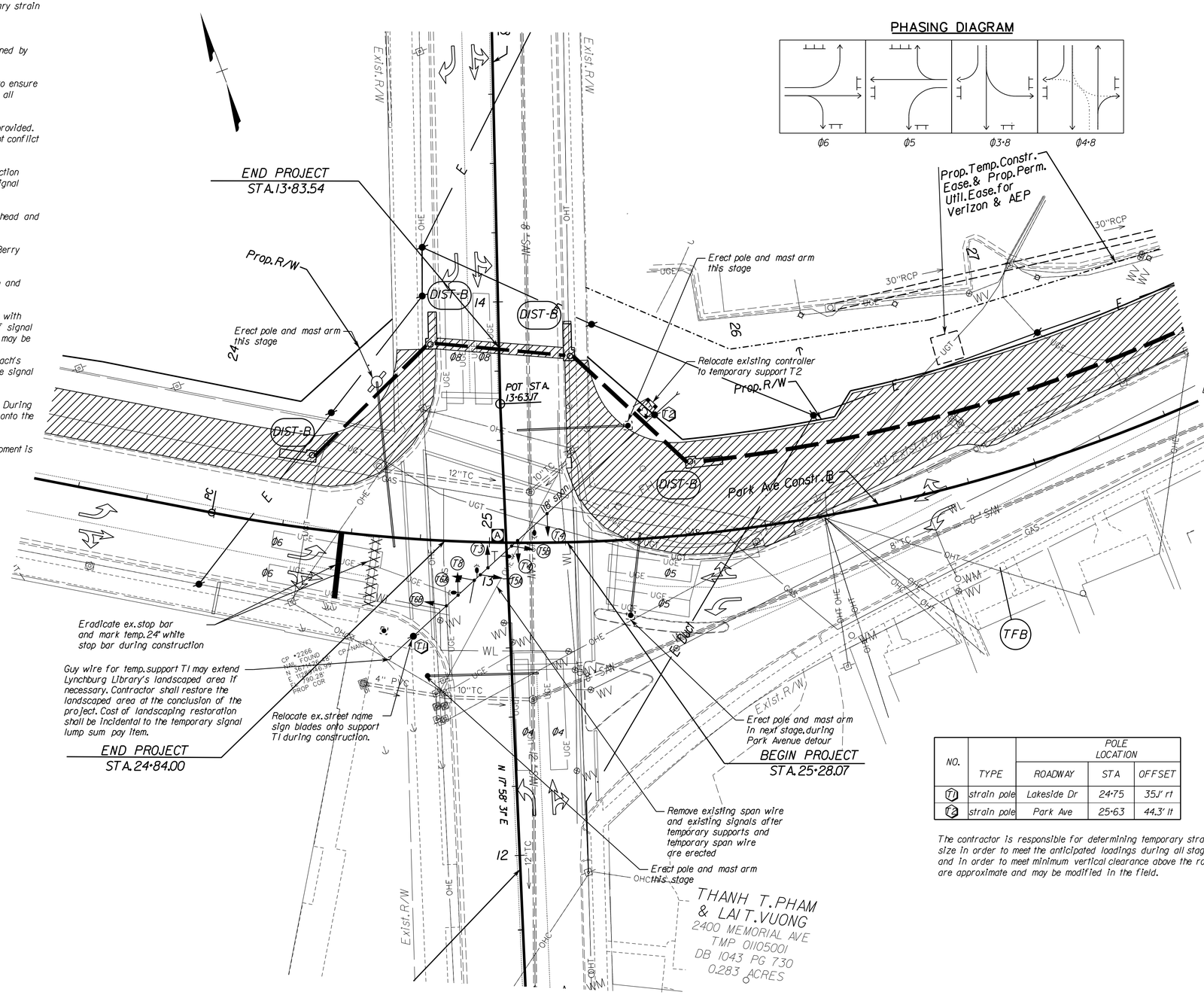
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)

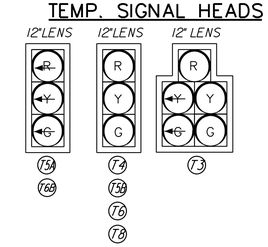
PLAN NOTES

1. Temporary signalization shall be provided through the use of two temporary strain poles,with guy wires,as shown on the plans. the existing cabinet is to be temporarily mounted to temporary pole T1 during construction.
2. The exact location fo the temporary poles and guy wires shall be determined by the contractor in the field.
3. Temporary strain poles shall be of sufficient size and height necessary to ensure 16' minimum signal head clarances and accommodate the loadings during all stages of construction.
4. Temporary span wires (3/8 inch) and tether wires (0.25 inch) shall be provided. Contractor is responsible for ensuring that temporary strain wires do not conflict with existing strain wire or proposed mast arms.
5. Existing detection is provided be Aldis camera system.maintain the detection throughout the project and return the system to the City when the new signal detection is activated.
6. Temporary signalization allows for the splicing of wire,including signal head and detection wire.
7. Temporary signal shall use existing phasing and timings. Contact Don DeBerry with the City of Lynchburg with any questions regarding signal timings.
8. The contractor is responsible for maintaining the temporary signalization and vehicle detection during the project.
9. The contractor is responsible for all shifting of signal heads to coincide with thee sequence of construction/maintenance of traffic plan. All shifting of signal heads are included in the temporary signalization pay item. Signal heads may be located on the existing span wire,on the temporary strain wire,or on the permanent mast arms,as long as they are properly aligned with the approach's travel lanes. Ensure that there is at least 40' between the stop bar and the signal heads for that approach during all stages.
10. Emergency vehicle preemption capabilities shall be maintained at all times. During construction,the contractor shall relocate the existing preemption devices onto the temporary strain wire or install temporary preemption devices.
11. All existing and temporary equipment shall be removed once the new equipment is operational,unless noted otherwise.



PHASING DIAGRAM

TEMP. SIGNAL HEADS



Backplates and tunnel visors required on all heads

LEGEND

- Permanent signal pole and identifier
- Permanent pedestal and identifer
- Temporary signal head
- Existing signal head
- Mast arm/strain wire mounted sign
- Sign identifier
- Emergency Preempt.Device w/Conf.Light
- Existing Controller
- Existing Span Wire
- Proposed Span Wire

NO.	TYPE	POLE LOCATION		
		ROADWAY	STA	OFFSET
T1	strain pole	Lakeside Dr	24+75	35.1' rt
T2	strain pole	Park Ave	25+63	44.3' lt

The contractor is responsible for determining temporary strain pole type and size in order to meet the anticipated loadings during all stages of construction and in order to meet minimum vertical clearance above the road. These locations are approximate and may be modified in the field.

SIGNS

LEFT TURN
YIELD
ON GREEN

R10-12
24"x30"

McCORMICK TAYLOR

PREPARED BY:
McCORMICK TAYLOR
NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
GLEN ALLEN, VA 23060

PREPARED FOR:
CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

COMMONWEALTH OF VIRGINIA
ANDREW JOHN PARKER
Lic. No. 048506
02/06/15
PROFESSIONAL ENGINEER

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

SCALE 0 20' 40'

TEMPORARY SIGNAL CONSTRUCTION PLAN

DATE: FEB. 06, 2015

SHEET NO. 8(F) OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
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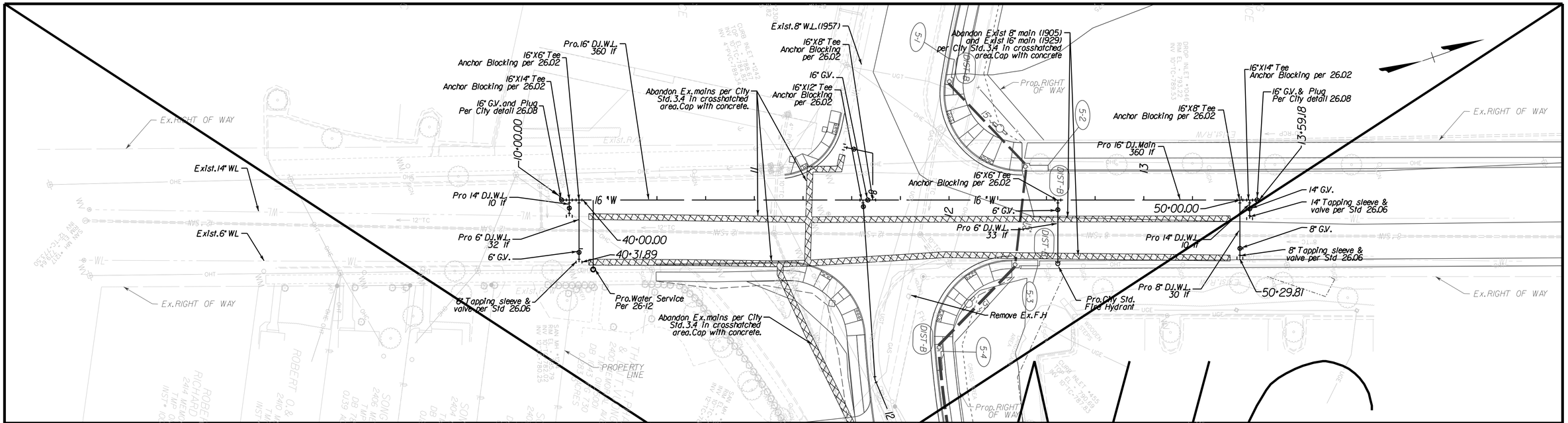


PROP.6" WATER MAIN CONNECTION (STA.40+00 - STA.40+13.89)

NOTES:

1) LOCATION & DEPTHS OF EXISTING WATER,GAS,AND OTHER UTILITY MAINS AS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY LOCATION & DEPTHS PRIOR TO CONSTRUCTION & CONTACT THE CITY ABOUT ANY CONFLICTS.

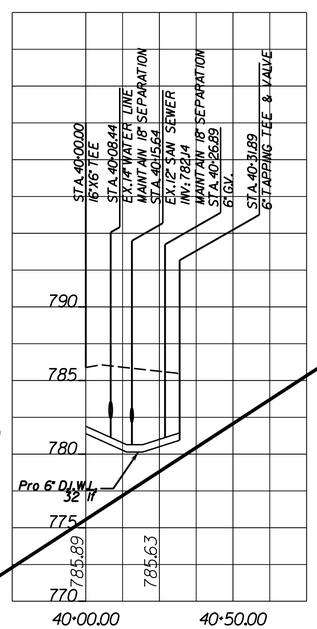
2) MAINTAIN 18" MIN.VERTICAL SEPARATION AT UTILITY CROSSINGS.

3) MAINTAIN 48" MINIMUM COVER ON PROPOSED WATER MAINS.

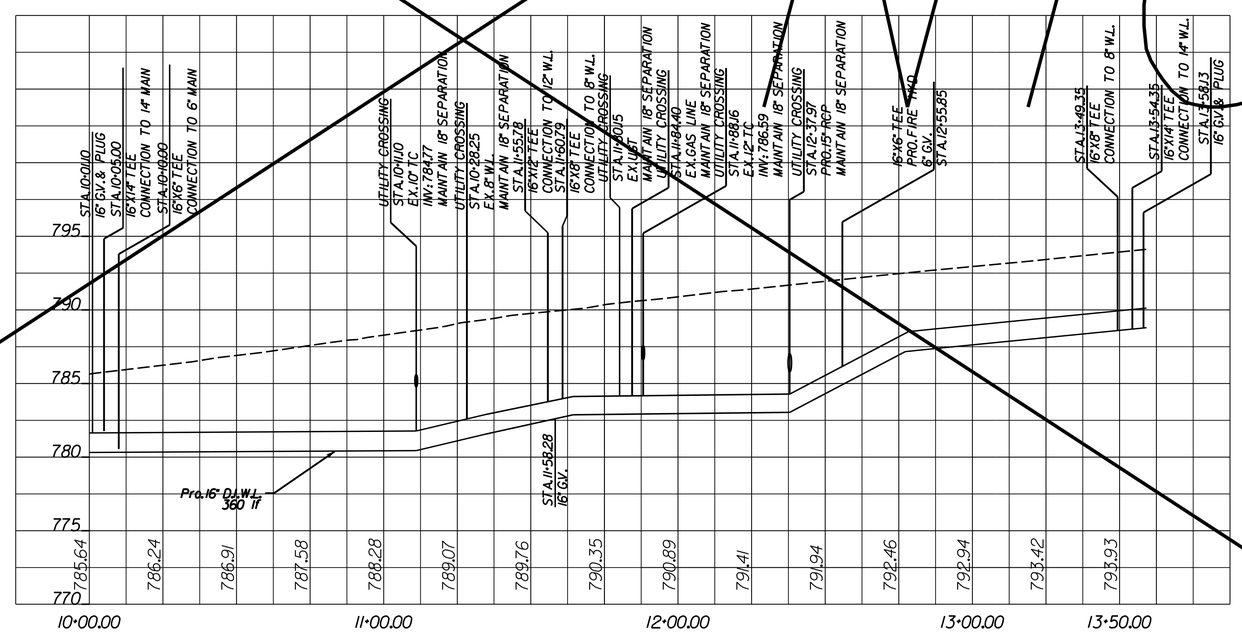
4) FOR ABANDONMENT OF THE PIPE, AFTER THE PIPE IS PHYSICALLY CUT AND SEPARATED,PUT 1 FOOT OF CONCRETE IN THE ABANDONED PIPE TO CAP IT.PROVIDE CAP ON PIPE REMAINING IN SERVICE AND PROVIDE THRUST BLOCK RESTRAINT.

5) ALL EXCAVATION FOR WATER LINES SHALL BE UNCLASSIFIED.UNCLASSIFIED SHALL INCLUDE ALL NATURAL OBSTRUCTIONS.

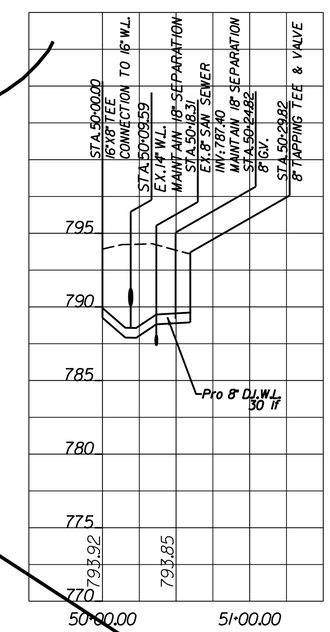
6) AT CLOSE OF PROJECT CONTRACTOR IS TO PROVIDE AS-BUILT SURVEY INCLUDING N/E COORDINATES ON ALL VALVES,HYDRANTS,METER BOXES. CITY DESIGN MANUAL HAS SPECIFICATION OF AS-BUILT DRAWING AND SURVEY REQUIREMENTS.



PROP.16" WATER MAIN (STA.10+00 - STA.13+59.18)



PROP.8" WATER MAIN CONNECTION (STA.50+00 - STA.50+29.81)



McCORMICK TAYLOR

PREPARED BY:
McCORMICK TAYLOR
NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
GLEN ALLEN, VA 23060

PREPARED FOR:
CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS
VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

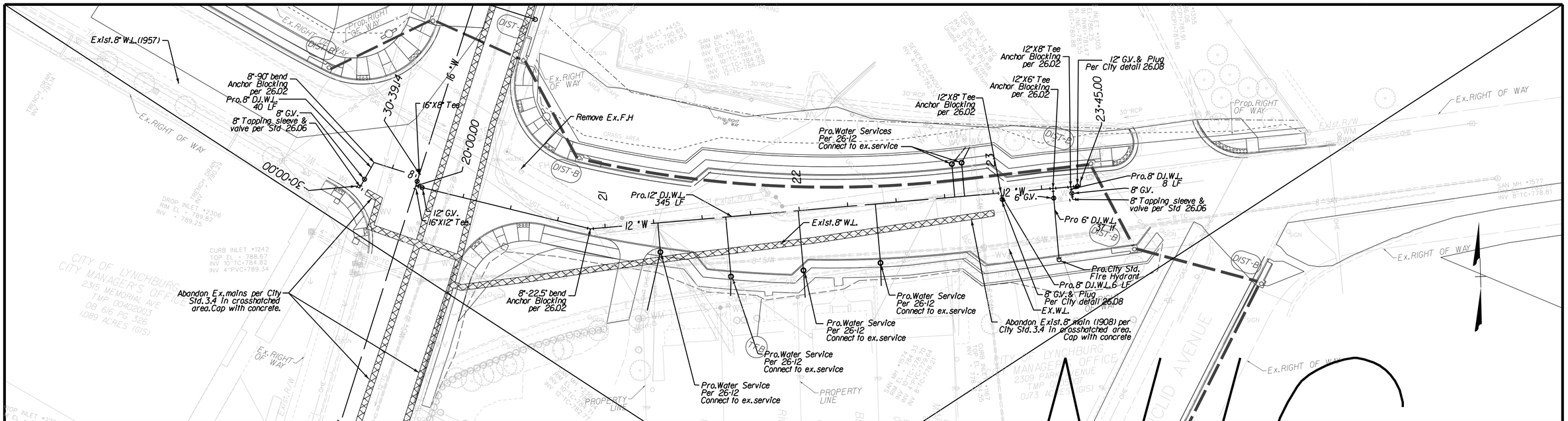
SCALE 0 25' 50'

WATER LINE RELOCATION PLAN

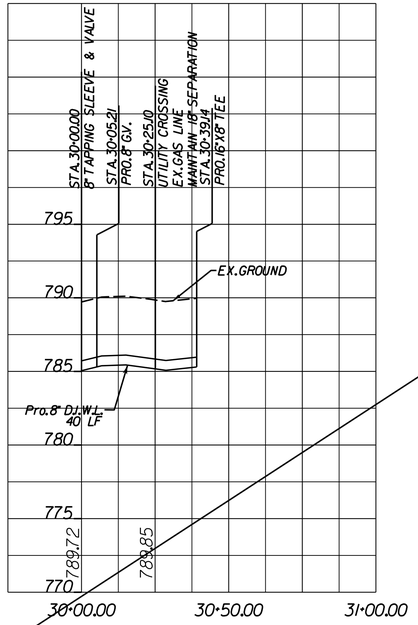
DATE: FEB. 06, 2015

SHEET NO. 9(A) of 14

PROJECT MANAGER SHARON WHITE (VDOT)
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)



PROP.8" WATER MAIN RELOCATION (STA.30+00 - STA.30+39.14)



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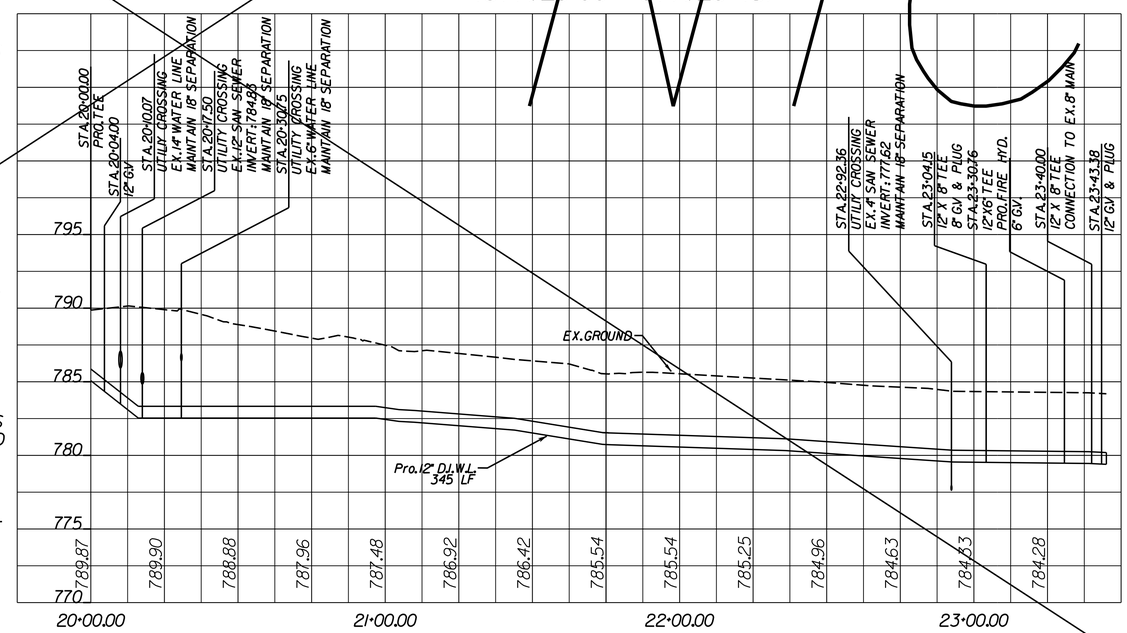
PROP.12" WATER MAIN RELOCATION (STA.20+00 - STA.23+45)



McCORMICK TAYLOR

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McCORMICK TAYLOR
NORTH SHORE COMMONS A
4951 LAKE BROOK DRIVE, SUITE 275
GLEN ALLEN, VA 23060

PREPARED FOR:
CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS
VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

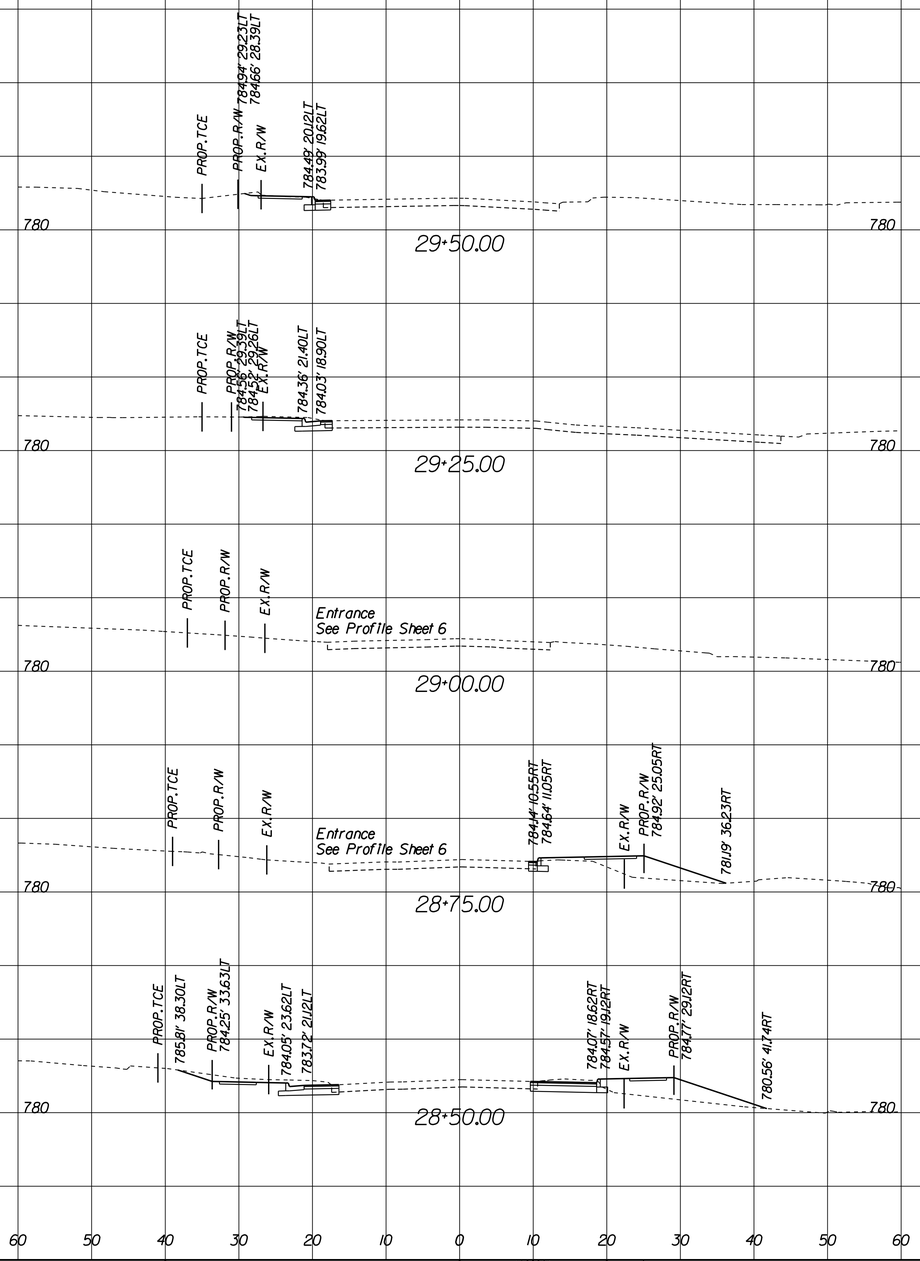
SCALE 0 25' 50'

WATER LINE RELOCATION PLAN

DATE: FEB. 06, 2015

SHEET NO. 9(B) of 14

PROJECT MANAGER SHARON WHITE (VDOT)
SURVEYED BY GUFFEY WARNER & ASSOC. AND NXL, INC.
DESIGN SUPERVISED BY DONALD DeBERRY, P.E. (CITY OF LYNCHBURG) 434-455-3935
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)



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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

COMMONWEALTH OF VIRGINIA
RICK JAMES DeLONG
Lic. No. 031642
02-06-15
PROFESSIONAL ENGINEER

NO.	REVISIONS	DATE	APPR.

MEMORIAL AVE/LAKESIDE DR/PARK AVE
INTERSECTION IMPROVEMENTS
VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

LAKESIDE DRIVE
CROSS SECTIONS

DATE: FEB. 06, 2015

SHEET NO. 10 OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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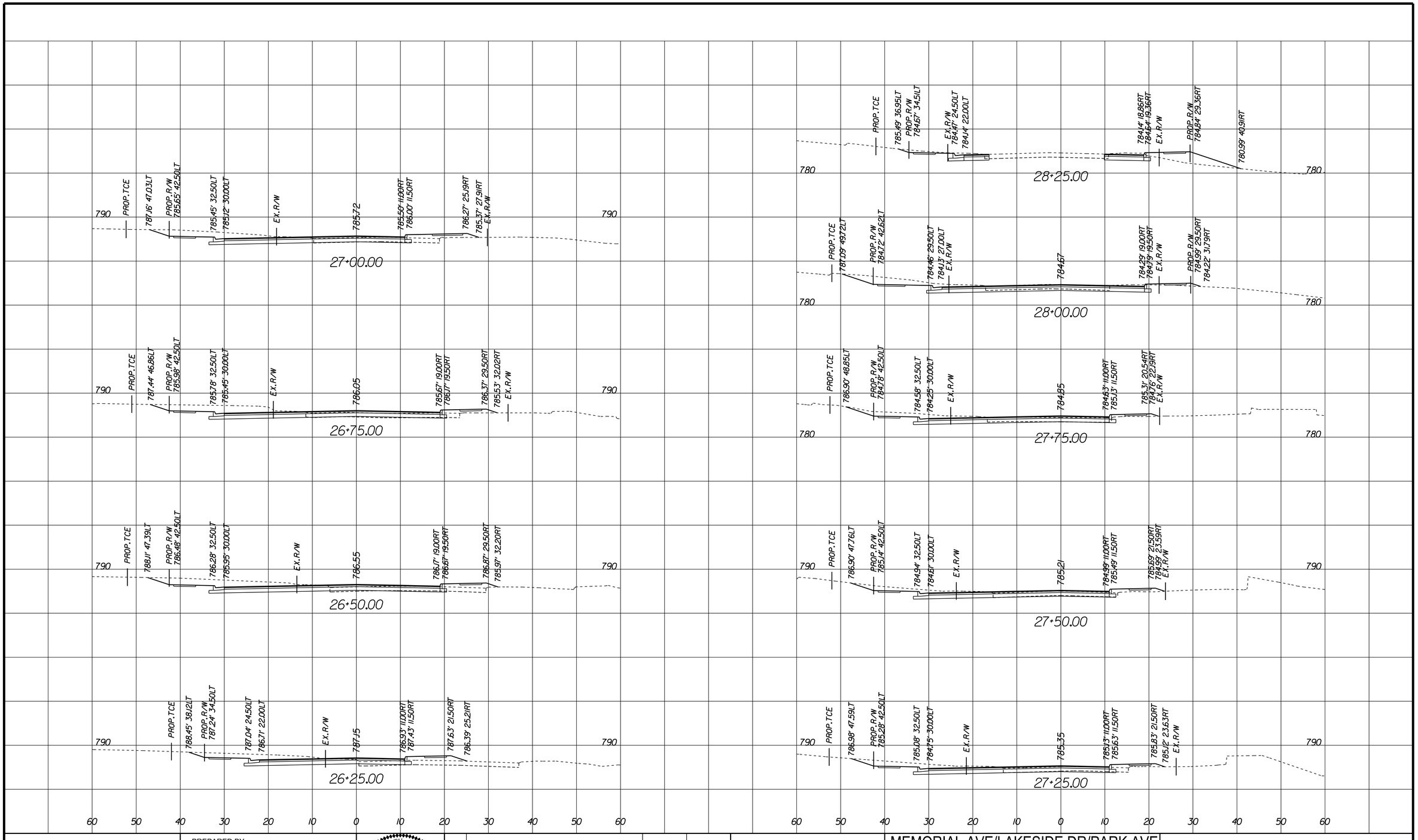

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MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

LAKESIDE DRIVE CROSS SECTIONS

DATE: FEB. 06, 2015

SHEET NO. 11 OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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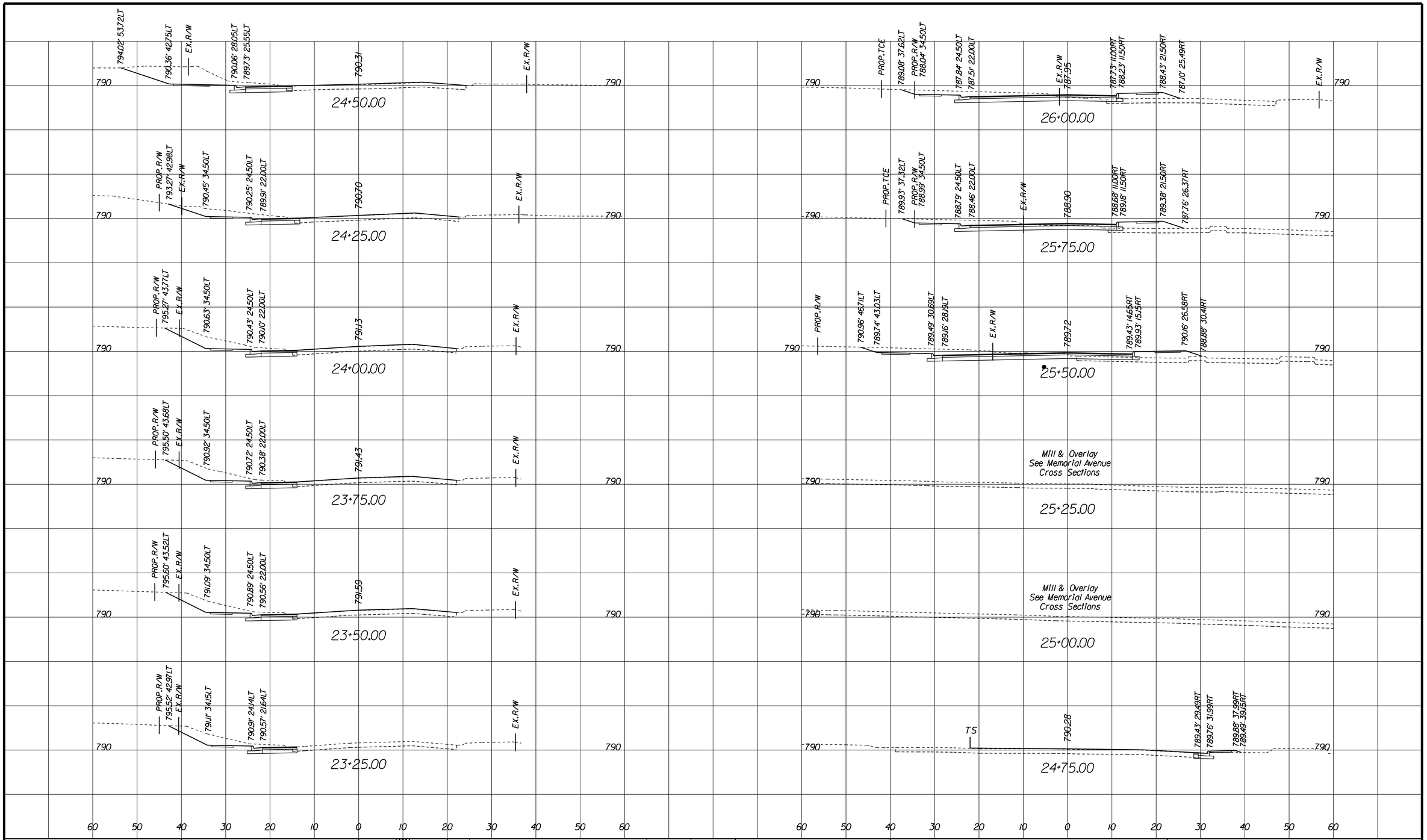

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VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

LAKESIDE DRIVE CROSS SECTIONS

DATE: FEB. 06, 2015

SHEET NO. 12 OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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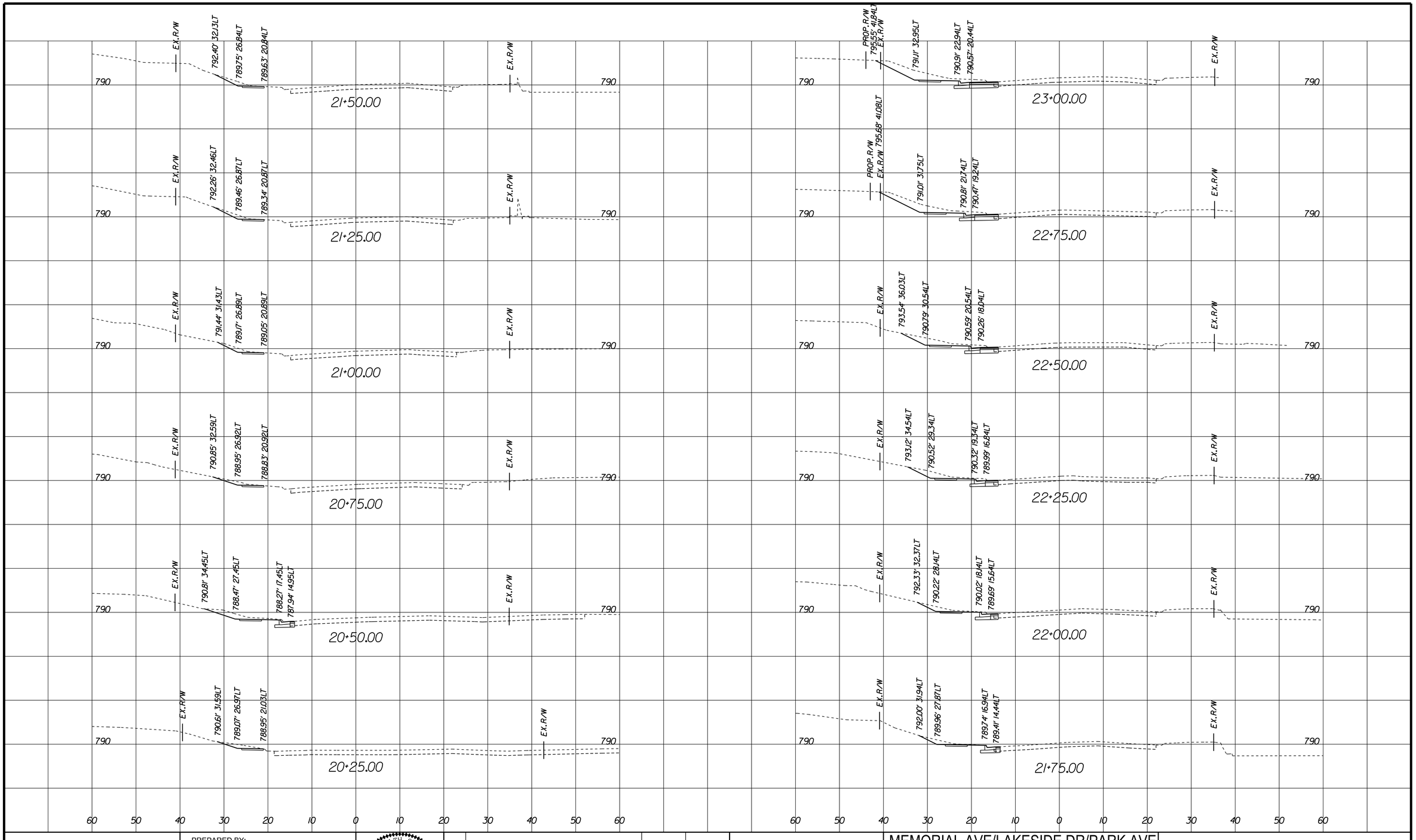
DESIGNED BY RICK J. DELONG (MCCORMICK TAYLOR, INC.)



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CITY OF LYNCHBURG
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MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-R WS

LAKESIDE DRIVE CROSS SECTIONS

DATE: FEB. 06, 2015

SHEET NO. 13 OF 14

PROJECT MANAGER SHARON WHITE (VDOT)
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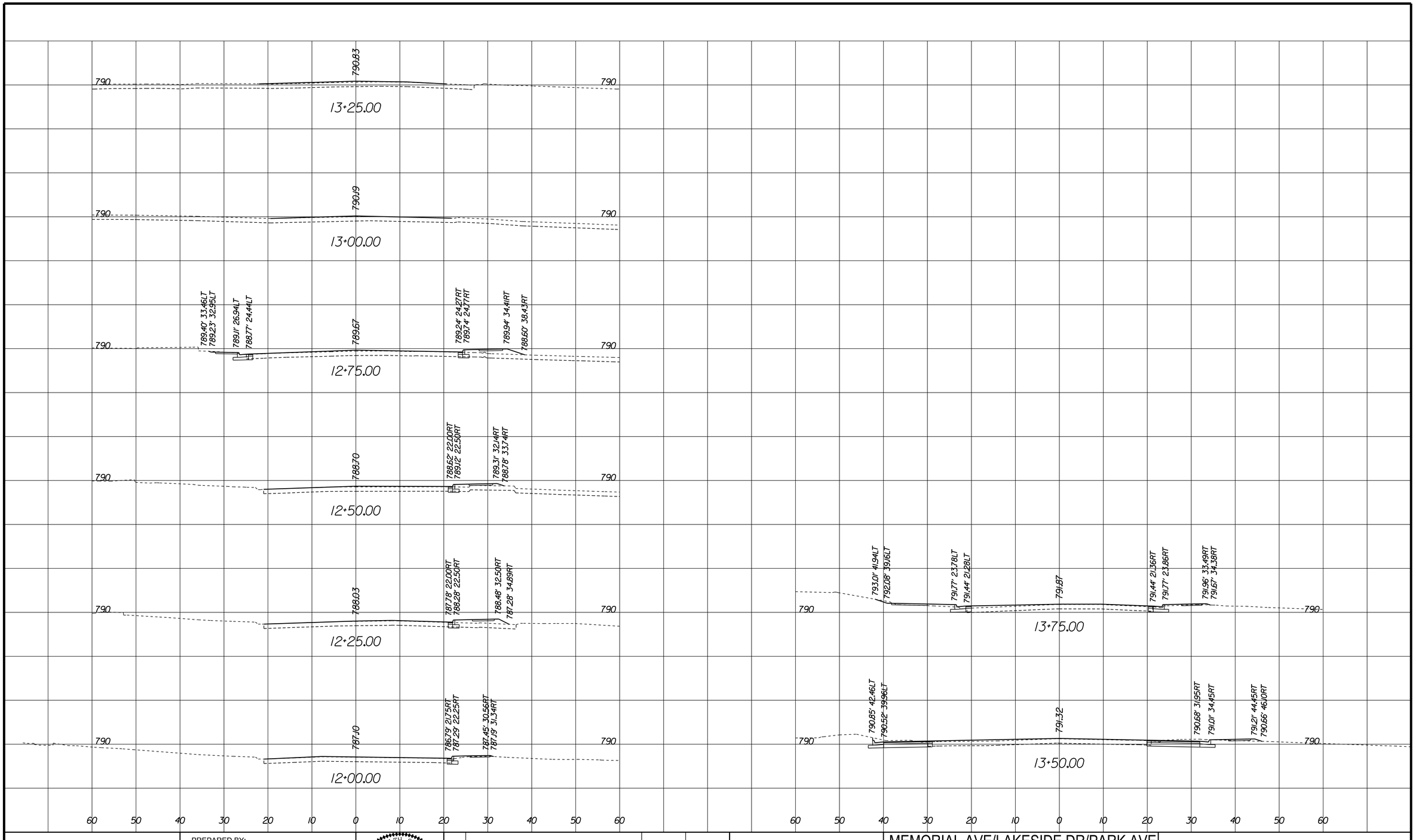

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MEMORIAL AVE/LAKESIDE DR/PARK AVE INTERSECTION IMPROVEMENTS

VDOT PROJECT NO. 0163-118-192
FEDERAL PROJECT NO. HSIP-5118
CITY PROJECT NUMBER. 11011-RWS

SCALE
0 10' 20'

MEMORIAL AVENUE CROSS SECTIONS

DATE: JAN. 2, 2013

SHEET NO. 14 OF 14