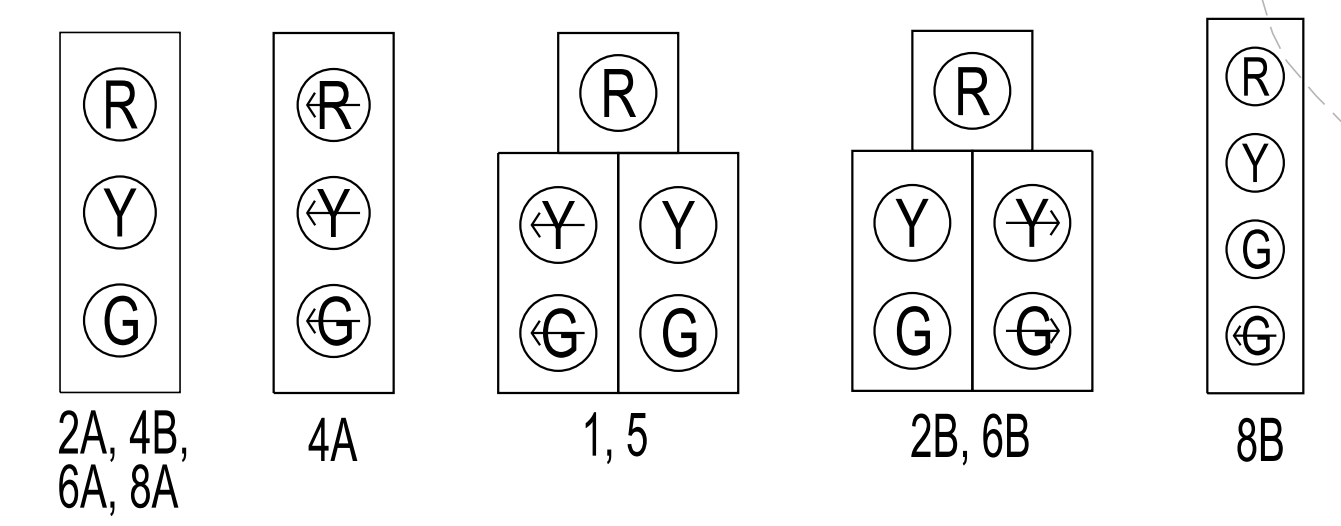


TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2024	NH-34(86)	SIG-1

S.R. 34

HAMBLEN CO.

SIGNAL HEADS



SIGNAL SUPPORT POLE DATA AND SPAN DETAILS

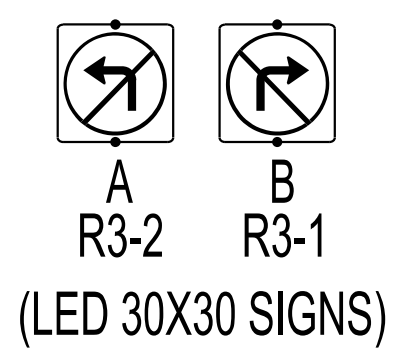
POLE NO.	STATION	OFFSET	NORTHING	EASTING	SPAN (LT TO RT.)	SPAN LENGTH	SNS	S	S	SH-1	SH-2	SH-3	S	SNS	SH-4
1	158+04.08	81.06'	703904.8795	2782455.6443	P1 TO P2	77.53'	13.54			26.9	38.55	46.55			54.55
2	158+85.93	80.56'	703954.0989	2782515.5475	P2 TO P3	137.58'		80.07		86.57	98.57	110.57	116.81	124.64	
3	158+84.10	57.01'	703847.2014	2782602.1566	P3 TO P4	97.31'	37.47			48.41	60.88				
4	157+86.94	62.52'	703780.8043	2782531.0174	P4 TO P1	145.17'		46.29	54.26	63.44	81.44	93.54		108.83	

LEGEND:
S: SIGN
SNS: STREET NAME SIGN
SH-X: SIGNAL HEAD

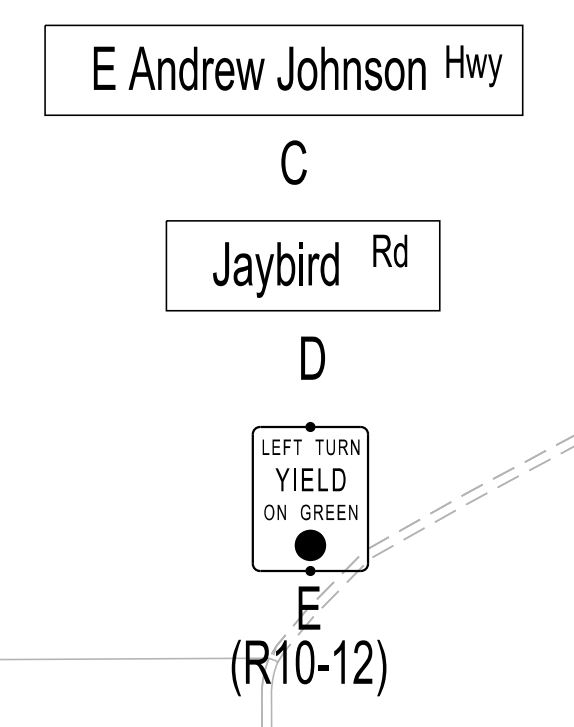
SEE PROPOSED LAYOUT SHEET NO. 8B FOR TRAFFIC DATA

SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT

RR PRE-EMPT SIGNING



PROPOSED SIGNS



OVERHEAD STREET NAME SIGN SHALL BE DESIGNED AND SIZED ACCORDING TO TOM 1502.
INSTALL 8-PHASE SIEMENS CABINET AND CONTROLLER WITH RR PREEMPTION

POLE NO. 1
STA. 158+08.40, 81.06' LT.

POLE NO. 2
STA. 158+85.93, 80.56' LT.

POLE NO. 3
STA. 158+84.10, 57.01' RT.

POLE NO. 4
STA. 157+86.94, 62.52' RT.

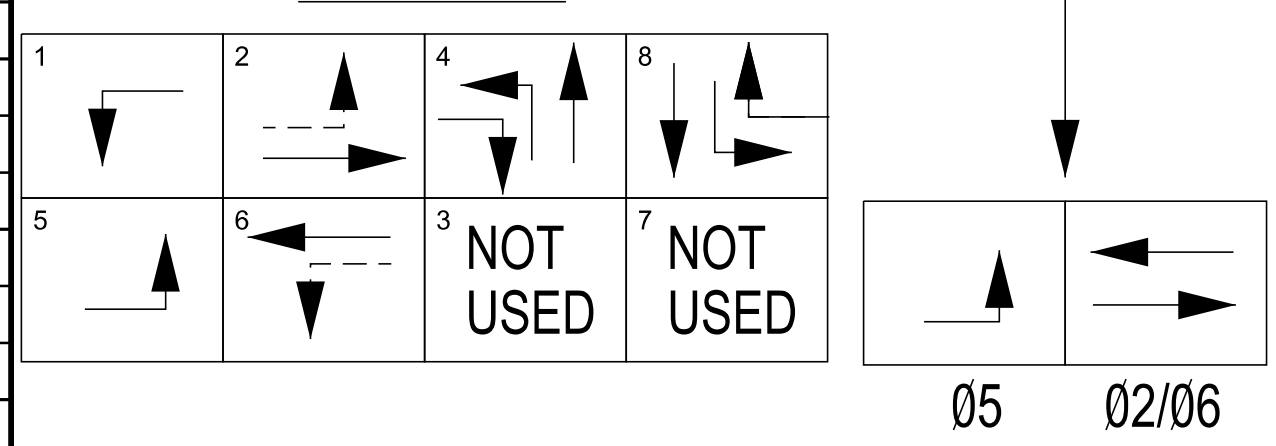
NORFOLK SOUTHERN CORP.

STA. 430+00.00 JAYBIRD =
STA. 158+37.98 S.R. 34
N 703861.5116
E 2782530.2396

RR PRE-EMPT

RR CLR 04

PHASING



E. ANDREW JOHNSON HWY (S.R. 34)

E. ANDREW JOHNSON HWY (S.R. 34)

NORFOLK SOUTHERN CORP.

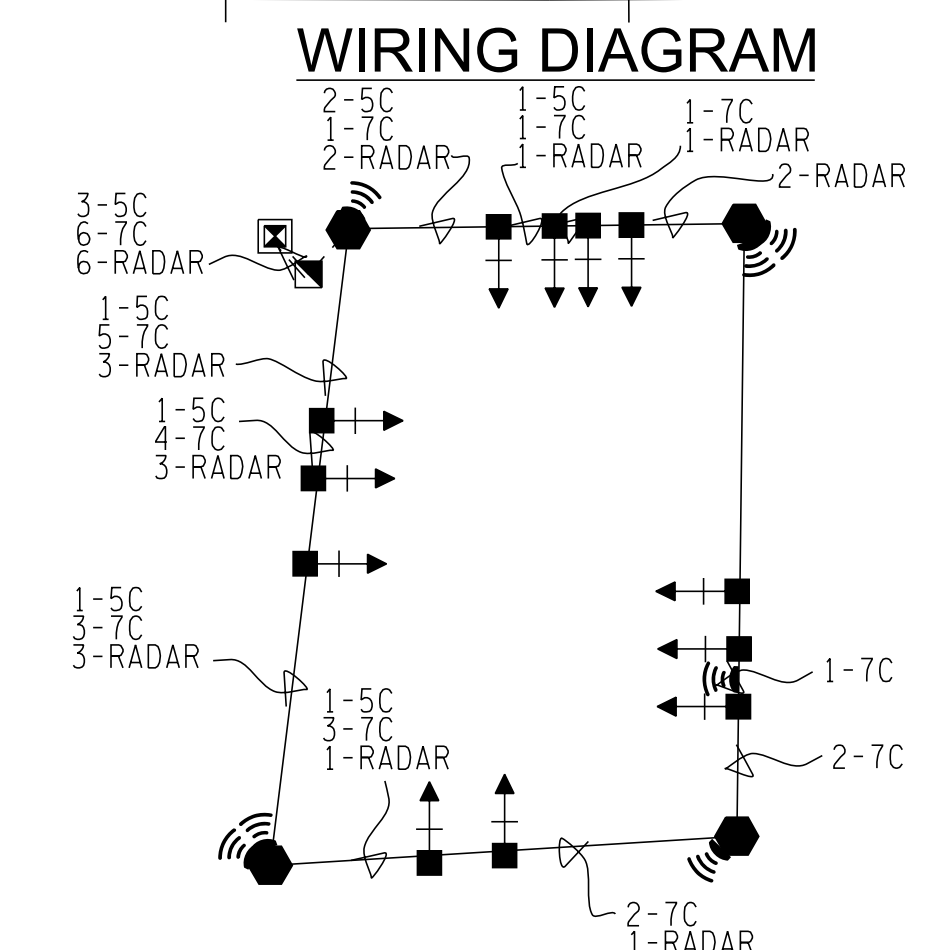
JAYBIRD RD.

SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT

CONSTRUCTION FIELD REVIEW

DETECTION SCHEDULE

DETECTION	RADAR	DIMENSION	MODE	MEMORY	SETBACK FROM STOP BAR
1-1	R6	6'X50'	DELAY	NL	0'
2-1	R2	6'X20'	PRES.	L	0'
2-2	R2	6'X20'	PRES.	L	0'
2-3	R2ADV	6'X6'	PULSE	NL	325'
2-4	R2ADV	6'X6'	PULSE	NL	325'
4-1	R4	6'X30'	PRES.	L	0'
4-2	R4	6'X30'	PRES.	L	0'
4-3	R4	6'X30'	DELAY	NL	0'
5-1	R2	6'X50'	DELAY	NL	0'
6-1	R6	6'X20'	PRES.	L	0'
6-2	R6	6'X20'	PRES.	L	0'
6-3	R6ADV	6'X6'	PULSE	NL	325'
6-4	R6ADV	6'X6'	PULSE	NL	325'
8-1	R8	6'X50'	PRES.	L	0'
8-2	R8	6'X50'	DELAY	NL	0'



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

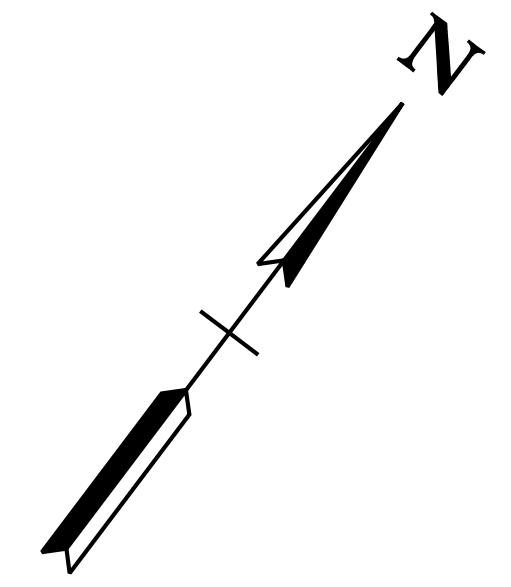
SIGNAL PLANS
S.R. 34 AT
JAYBIRD

SCALE: 1"=20'

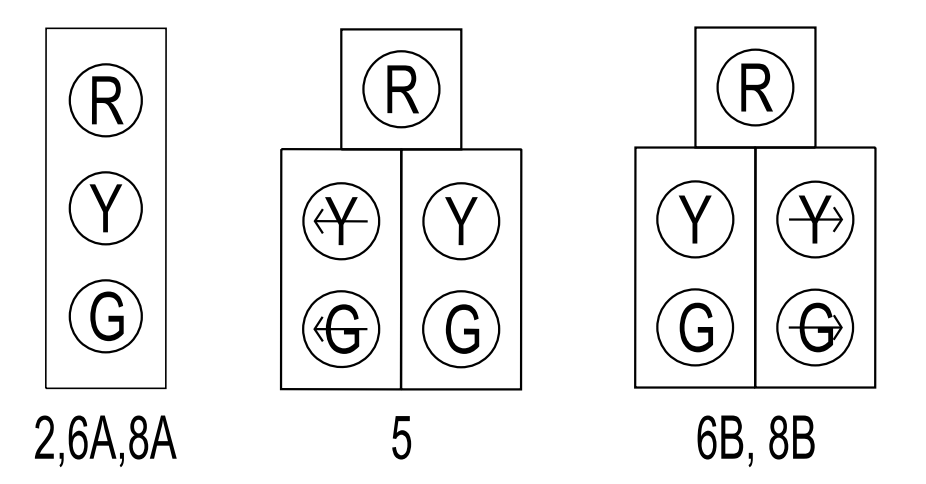
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2024	NH-34(86)	SIG-2

S.R. 34

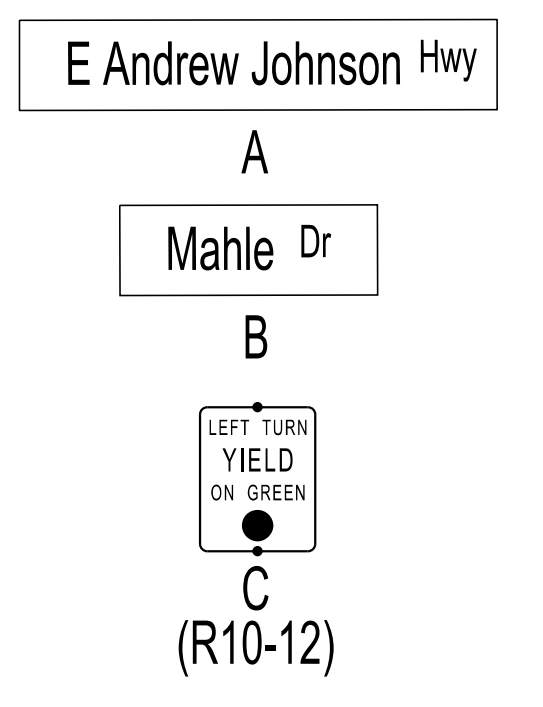
HAMBLEN CO.



SIGNAL HEADS



PROPOSED SIGNS



SIGNAL SUPPORT POLE DATA AND SPAN DETAILS

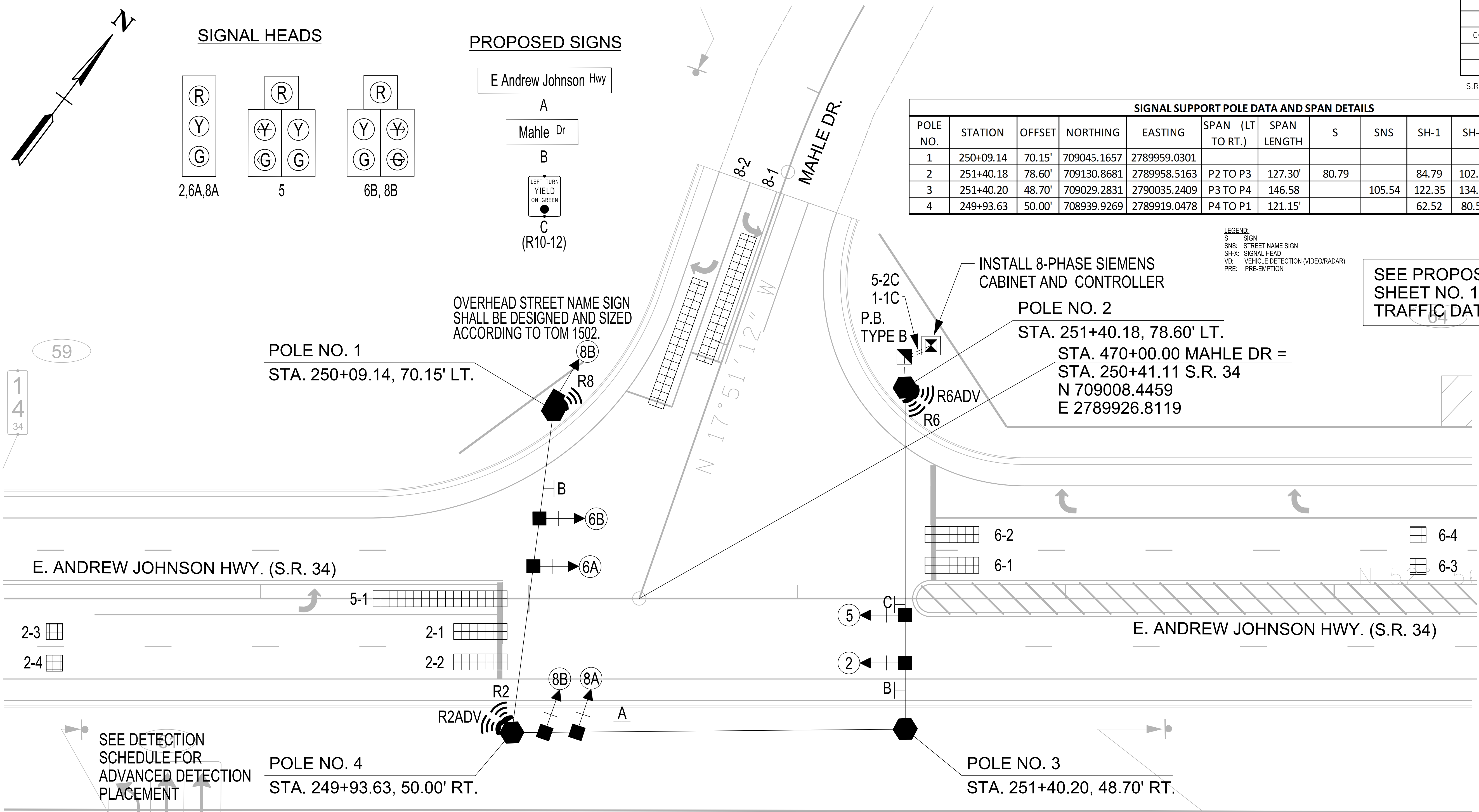
POLE NO.	STATION	OFFSET	NORTHING	EASTING	SPAN (LT TO RT.)	SPAN LENGTH	S	SNS	SH-1	SH-2	SH-3	SNS
1	250+09.14	70.15'	709045.1657	2789959.0301								
2	251+40.18	78.60'	709130.8681	2789958.5163	P2 TO P3	127.30'	80.79		84.79	102.60	102.6	112.78
3	251+40.20	48.70'	709029.2831	2790035.2409	P3 TO P4	146.58		105.54	122.35	134.35		
4	249+93.63	50.00'	708939.9269	2789919.0478	P4 TO P1	121.15'			62.52	80.51		91.86

LEGEND:
S: SIGN
SNS: STREET NAME SIGN
SH-X: SIGNAL HEAD
VD: VEHICLE DETECTION (VIDEO/RADAR)
PRE: PRE-EMPTION

SEE PROPOSED LAYOUT SHEET NO. 16B FOR TRAFFIC DATA

SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT

CONSTRUCTION FIELD REVIEW

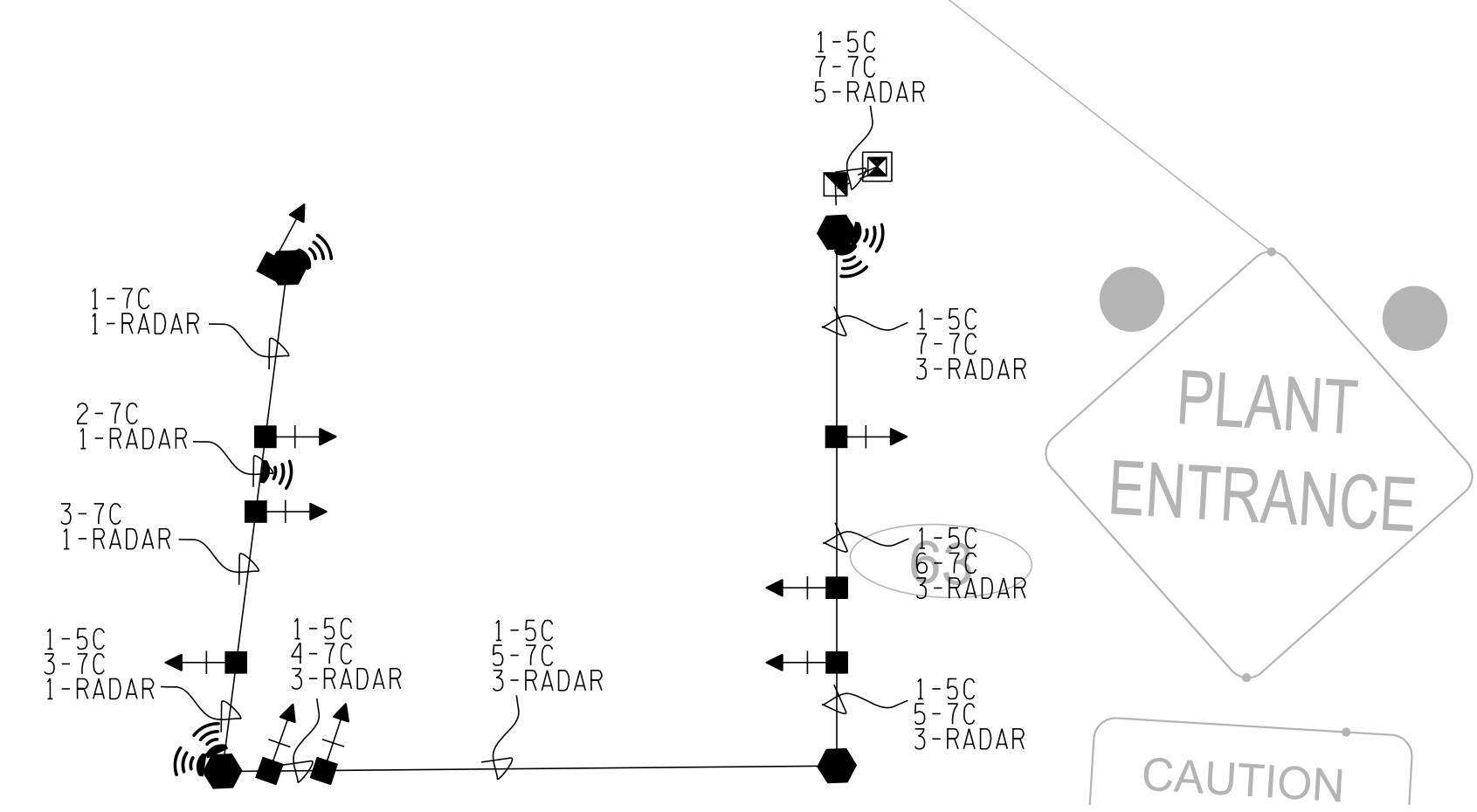


SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT

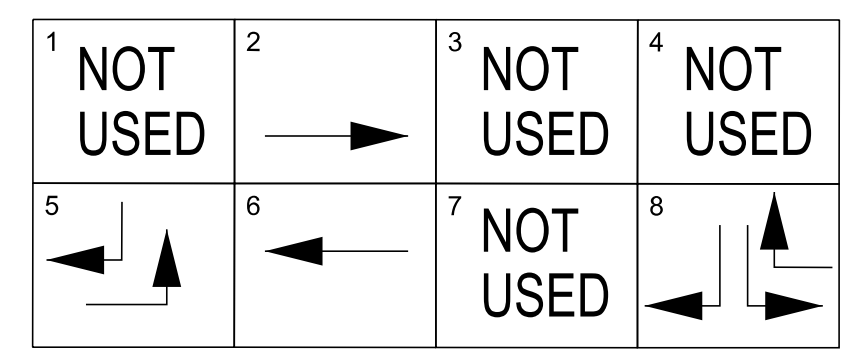
POLE NO. 4
STA. 249+93.63, 50.00' RT.

POLE NO. 3
STA. 251+40.20, 48.70' RT.

WIRING DIAGRAM



PHASING



DETECTION SCHEDULE

DETECTION	RADAR	DIMENSION	MODE	MEMORY	SETBACK FROM STOP BAR
2-1	R2	6'X20'	PRES.	L	0'
2-2	R2	6'X20'	PRES.	L	0'
2-3	R2ADV	6'X6'	PULSE	NL	325'
2-4	R2ADV	6'X6'	PULSE	NL	325'
5-1	R2	6'X50'	DELAY	NL	0'
6-1	R6	6'X20'	PRES.	L	0'
6-2	R6	6'X20'	PRES.	L	0'
6-3	R6ADV	6'X6'	PULSE	NL	325'
6-4	R6ADV	6'X6'	PULSE	NL	325'
8-1	R8	6'X50'	PRES.	L	0'
8-2	R8	6'X50'	DELAY	NL	0'

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

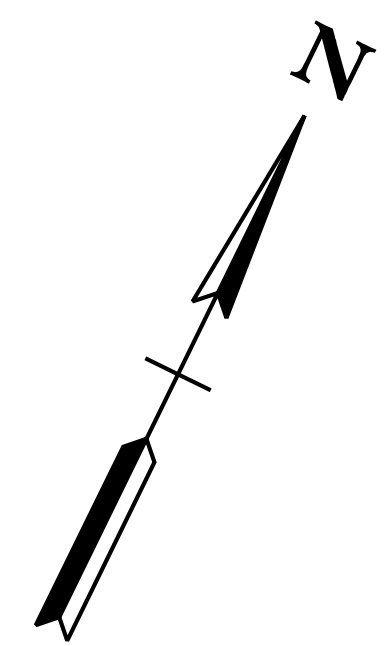
SIGNAL PLANS
S.R. 34 AT
MAHLE RD.

SCALE: 1"=20'

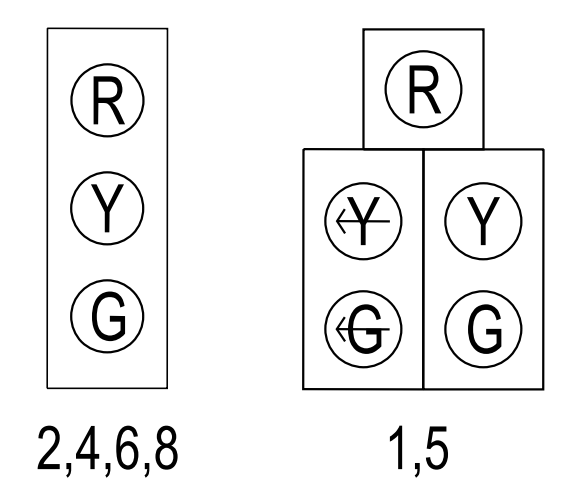
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2024	NH-34(86)	SIG-3

S.R. 34

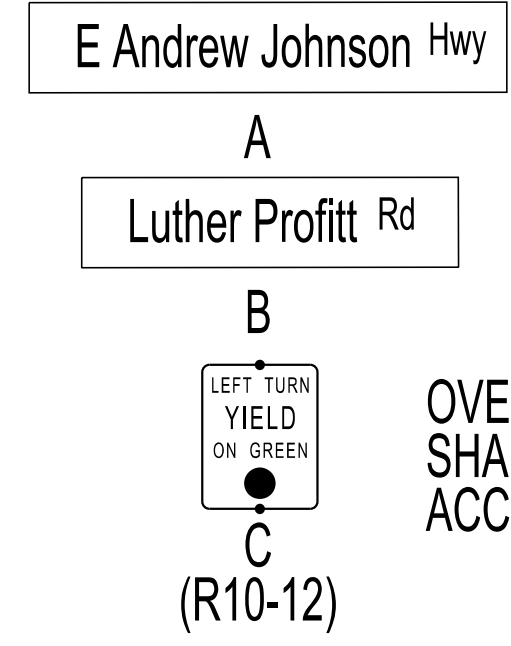
HAMBLEN CO.



SIGNAL HEADS



PROPOSED SIGNS



OVERHEAD STREET NAME SIGN SHALL BE DESIGNED AND SIZED ACCORDING TO TOM 1502.

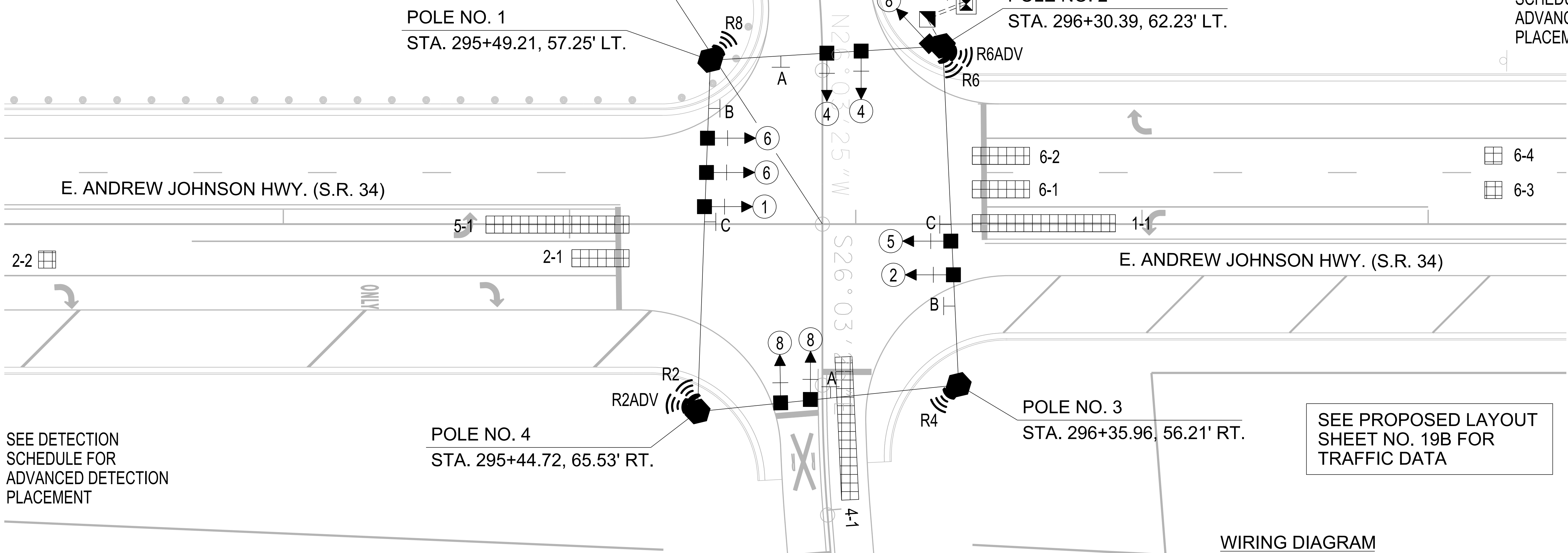
STA. 520+00.00 E. MORRIS BLVD=
STA. 295+88.35 S.R. 34
STA. 500+00.00 LUTHER PROFFITT RD
N 711163.5620
E 2793916.1583

SIGNAL SUPPORT POLE DATA AND SPAN DETAILS

POLE NO.	STATION	OFFSET	NORTHING	EASTING	SPAN (LT TO RT.)	SPAN LENGTH	SNS	S	SH-1	SH-2	SH-3	SNS
1	295+49.21	57.25'	711197.8041	2793855.8520	P1 TO P2	81.33'	24.65		32.29	40.77	52.77	
2	296+30.39	62.23'	711237.9343	2793926.5924	P2 TO P3	118.57'		62.44	68.24	80.04		90.99
3	296+35.96	56.21'	711133.9765	2793398.6187	P3 TO P4	91.72'	45.00		52.06	62.52		
4	295+44.72	65.53'	711085.5245	27933905.7462	P4 TO P1	122.87'		66.37	71.67	83.64	95.64	106.05

LEGEND:
S: SIGN
SNS: STREET NAME SIGN
SH-X: SIGNAL HEAD
VD: VEHICLE DETECTION (VIDEO/RADAR)
PRE: PRE-EMPTION

SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT



SEE DETECTION SCHEDULE FOR ADVANCED DETECTION PLACEMENT

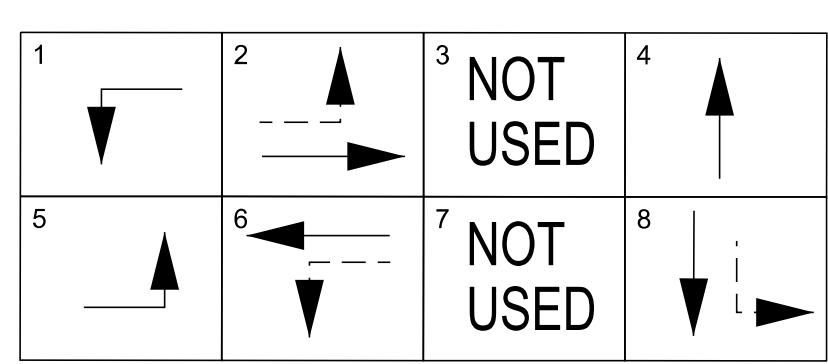
SEE PROPOSED LAYOUT SHEET NO. 19B FOR TRAFFIC DATA

CONSTRUCTION FIELD REVIEW

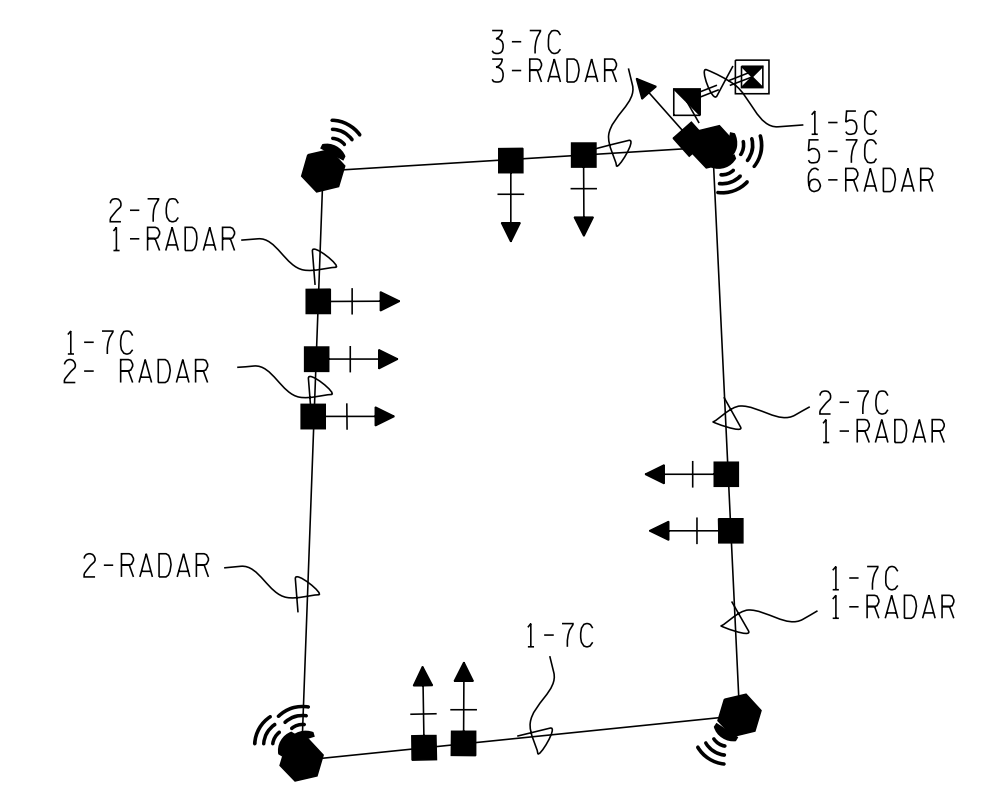
DETECTION SCHEDULE

DETECTION	RADAR	DIMENSION	MODE	MEMORY	SETBACK FROM STOP BAR
1-1	R6	6'X50'	DELAY	NL	0'
2-1	R2	6'X20'	PRES.	L	0'
2-2	R2ADV	6'X6'	PULSE	NL	325'
4-1	R4	6'X50'	PRES.	NL	0'
5-1	R2	6'X50'	DELAY	NL	0'
6-1	R6	6'X20'	PRES.	L	0'
6-2	R6	6'X20'	PRES.	L	0'
6-3	R6ADV	6'X6'	PULSE	NL	325'
6-4	R6ADV	6'X6'	PULSE	NL	325'
8-1	R8	6'X50'	PRES.	L	0'
8-2	R8	6'X50'	DELAY	NL	0'

PHASING



WIRING DIAGRAM



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNAL PLANS
S.R. 34 AT
LUTHER PROFFITT
SCALE: 1"=20'

NOTES

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS NO. 730 AND CITY OF MORRISTOWN STANDARD SPECIFICATIONS (SP730MTOWN)
- REFER TO TDOT STANDARD DETAILS NOS. 2, 3A, 4, 5, 7, 7A, C, D, E, F, G, HH, 8,9A, 12.
- CABINET AND CONTROLLER SHALL BE SIEMENS M60 COMPATIBLE WITH THE CITY OF MORRISTOWN CURRENT SIGNAL SYSTEM.
- THE LOCATION OF THE UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.
- CONTRACTOR RESPONSIBLE FOR COORDINATION WITH TENNESSEE ONE CALL AND LOCATION OF ALL UTILITIES. COST OF ANY DAMAGE TO UTILITY FACILITIES TO BE BORNE BY CONTRACTOR.
- COORDINATE ELECTRICAL SERVICE CONNECTION WITH THE CITY OF MORRISTOWN.
- ALL TRAFFIC SIGNALS UTILIZE 12" DISPLAYS WITH BACKPLATES. UNLESS ATTACHED TO POLES WHERE NO BACKPLATE IS REQUIRED. ANY SIGNAL HEAD VISIBLE TO DRIVERS AND NOT IN OPERATION SHALL BE COVERED.
- ALL CIRCULAR INDICATIONS WITHIN ALL VEHICULAR SIGNAL HEADS SHALL CONSIST OF A L.E.D. (LIGHT EMITTING DIODE) SIGNAL MODULE IN CONFORMANCE TO ITE STANDARDS. LED MODULE RETROFITS ARE UNACCEPTABLE AND MODULE SHALL BE COMPATIBLE WITH THE CONFLICT MONITOR OR MMU.
- LED ARROW DISPLAYS SHALL BE OPERATED WITH THREE ROWS OF LED'S PER VECTOR OF ARROW. SINGLE ROW IS NOT PERMITTED.
- DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL CONDITION UNLESS OTHERWISE APPROVED BY THE CITY OF MORRISTOWN.
- VEHICLE DETECTION WILL BE WAVETRONIX RADAR DETECTION TO INCLUDE ALL SENSING UNITS, PROCESSOR UNITS, HARDWARE, CABLE, AND RELATED EQUIPMENT TO PROVIDE DETECTION ZONES SHOWN ON PLANS.
- CONTRACTOR SHALL PROVIDE MODEM AND ALL DEVICES REQUIRED FOR COMMUNICATIONS WITHIN THE CITY OF MORRISTOWN SIGNAL SYSTEM.
- FINAL DESIGN OF POLES AND FOUNDATIONS ARE THE RESPONSIBILITY OF THE POLE MANUFACTURER AND/OR CONTRACTOR.
- SIGNAL POLE LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS REQUIRED SUBJECT TO APPROVAL BY TDOT.
- CONTRACTOR SHALL CONTACT THE CITY OF MORRISTOWN FOR APPROVAL PRIOR TO SIGNAL ACTICATION TO FULL STOP AND-GO OPERATIONS.
- CONTRACTOR SHALL REMOVE STOP SIGNS WHEN THE TRAFFIC SIGNALS ARE ACTIVATED IN THEIR INITIAL "FLASH" MODE PERIOD. SIGNS TO BE PROVIDED TO THE PROPERTY OWNER.
- EMERGENCY PREEMPTION UNITS ARE TO BE 3M OPTICOM IR TO INCLUDE ONE PHASE SELECTOR, 4 DETECTING DEVICES, AND ALL CABLE AND HARDWARE TO PROVIDE DETECTION ZONES SHOWN ON PLANS.
- CONTRACTOR WILL PROVIDE A 8-PORT ETHERNET SWITCH AND COORDINATE WITH MUS FIBERNET TO INSTALL ON OPTICAL NETWORK TERMINAL.

ITEM NO.	UNIT	DESCRIPTION	TOTAL QUANTITY
712-01	LS	TRAFFIC CONTROL	1
1 713-14.21	EA	STREET NAME SIGN (RIGID 0.100 IN THICK)	9
713-16.20	EA	SIGNS (LED ELECTRONIC BLANK OUT R3-1)	1
713-16.21	EA	SIGNS (LED ELECTRONIC BLANK OUT R3-2)	1
713-16.22	EA	SIGNS (R10-12)	3
717-01	LS	MOBILIZATION	1
2 730-01.02	EA	REMOVAL OF SIGNAL EQUIPMENT	2
730-02.03	EA	SIGNAL HEAD ASSEMBLY (130 A3 W/BACKPLATE)	2
730-02.08	EA	SIGNAL HEAD ASSEMBLY (130 POLE MOUNTED)	1
730-02.09	EA	SIGNAL HEAD ASSEMBLY (130 W/BACKPLATE)	15
730-02.14	EA	SIGNAL HEAD ASSEMBLY (140 A1 W/ BACKPLATE)	1
730-02.17	EA	SIGNAL HEAD ASSEMBLY (150 A2H W/BACKPLATE)	9
730-02.18	EA	SIGNAL HEAD ASSEMBLY (150 A2 POLE MOUNTED)	1
730-03.21	EA	INSTALL PULL BOX (TYPE B)	3
3 730-05.01	EA	ELECTRICAL SERVICE CONNECTION	3
730-08.02	LF	SIGNAL CABLE - 5 CONDUCTOR	800
730-08.03	LF	SIGNAL CABLE - 7 CONDUCTOR	3200
730-09.20	LF	SPAN WIRE ASSEMBLY	1270
730-10.01	LF	TETHER WIRE ASSEMBLY - 1/4" DIAMETER	1270
730-11.01	EA	STEEL CONDUIT RISER ASSEMBLY	4
4 730-12.08	LF	CONDUIT 2" DIAMETER (RGS)	275
4 730-12.16	LF	CONDUIT 1" (RGS)	65
730-13.08	EA	VEHICLE DETECTOR (RADAR - STOP BAR)	11
730-13.13	EA	VEHICLE DETECTOR (RADAR - ADVANCE)	6
730-15.32	EA	CABINET (EIGHT PHASE BASE MOUNTED)	3
730-16.14	EA	CONTROLLER (EIGHT PHASE ACTUATED, LOCAL)	3
730-16.25	EA	INSTALLATION OF CABINET AND CONTROLLER	3
730-20.01	EA	LOCAL COORDINATOR	3
730-23.01	EA	STEEL STRAIN POLE (SIGNAL SUPPORT)	12
730-24.01	EA	FOUNDATION (SIGNAL SUPPORT)	12
730-35.06	EA	BATTERY BACK-UP AND POWER CONDITIONER	3

FOOTNOTES

- STREET NAME SIGN TO CORRESPOND TO MAJOR AND MINOR CROSS STREETS AND FOLLOW TOM 1502 STANDARDS.
- REMOVE EXISTING SIGNALS AT JAYBIRD AND MAHLE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY TO OBTAIN THE ESTIMATE FOR ANY CHARGES BY THE UTILITY FOR PROVIDING ELECTRICAL SERVICE TO THE SIGNAL CONTROLLER. THESE CHARGES AND ANY OTHER EQUIPMENT NECESSARY FOR A COMPLETE SERVICE CONNECTION SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.
- TO BE INSTALLED BY OPEN CUTTING OR TRENCHING.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2024	NH-34(86)	SIG-4

S.R. 34

HAMBLEN CO.

**CONSTRUCTION
FIELD
REVIEW**

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**SIGNAL
NOTES**