

15 DISTRICT #: Metro
 32 PLOT NAME: layout
 PATH & FILENAME: Projects\DM罗斯49400000TrafficSignal\587 TH494 @ TAMARACK RD WEST RAMP 1736269\REVISED: 3-JAN-2022

LOOP DETECTOR CHART			
NUMBER	SIZE (FT)	LOCATION	STATUS
D2-1, D2-2	6X6	250	INPLACE
▲ D4-1, D4-2, D4-3	6X6	120	F&I
▲ D4-4	6X15	5	F&I
▲ D4-5	3-6X6	20	F&I
▲ D4-6	6X6	5	F&I
▲ D4-7	2-6X6	5	F&I
D5-1, D5-2	6X6	40	INPLACE
D5-3, 5-4	6X6	10	INPLACE
▲ D5-5, D5-6	2-6X6	25 & 55	F&I
D6-1, D6-2	6X6	175	INPLACE

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
 -LOCATION: DISTANCE FROM CROSSWALK /STOP BAR IN FEET
 -SPlice Loops D5-1 & D5-5 TOGETHER (D5-1)
 -SPlice Loops D5-2 & D5-6 TOGETHER (D5-2)

(A) EQUIPMENT PAD CONTROLLER & CABINET MASTER CONTROLLER
 4" RSC INTO HH-1 WITH:
 3-12/C 12
 1-3/C 12
 10-2/C 14
 1-3/C 20
 ** REMOVE -1-6pr 19
 ▲ REMOVE -8-2/C 14
 ▲ F&I -2-6/C 14
 ▲ F&I -7-2/C 14

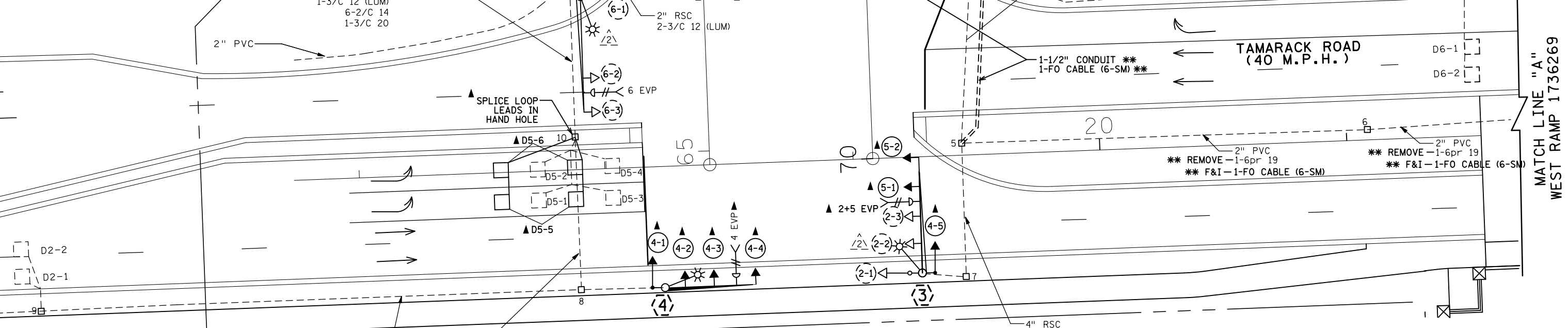
2" PVC
 ▲ REMOVE -3-2/C 14
 ▲ F&I -3-2/C 14

3" RSC
 3-12/C 12
 1-3/C 12
 1-3/C 12 (LUM)
 6-2/C 14
 1-3/C 20
 ** REMOVE -1-6pr 19
 ▲ REMOVE -4-2/C 14
 ▲ F&I -2-6/C 14
 ▲ F&I -3-2/C 14

4" RSC INTO HH-11 WITH:
 2-12/C 12
 2-3/C 12
 6-2/C 14
 2-3/C 20

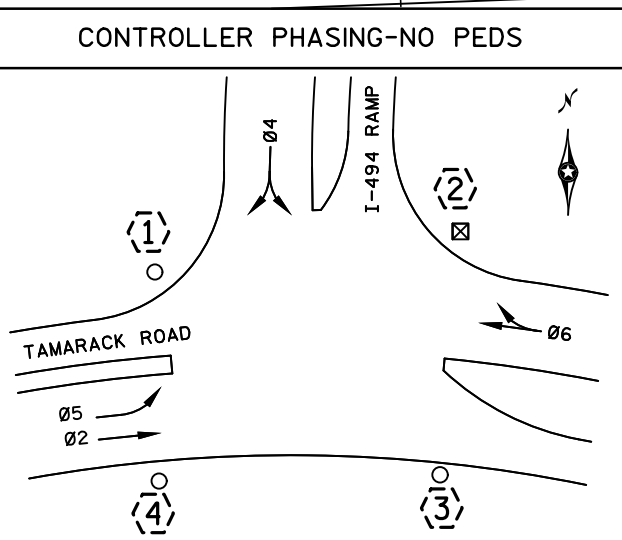
1-3" RSC STUB OUT OF CABINET:
 ** EXTEND 3" TO HH 1A
 ** 1-FO CABLE (6-SM)

(B) SOURCE OF POWER GROUND MOUNTED TRANSFORMER APPROX. LOCATION.
 EXTEND 2" RSC INTO STEP DOWN TRANSFORMER:
 3-1/C 2



SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
2-1, 2-2, 2-3	○	○		○
▲ 4-1, 4-2	●	→		→
▲ 4-3, 4-4, 4-5	←	←		←
▲ 5-1, 5-2, 5-3	←	←	←	←
6-1, 6-2, 6-3	○	○		○

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS



SIGNAL SYSTEM OPERATION
 - THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 4 PHASE, WITH PHASE(S) 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
 - PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

▲ REVISE SIGNAL SYSTEM WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL BE NOTED WITH A ▲ AND SHALL BE INCLUDED IN THE REVISE SIGNAL SYSTEM PAY ITEM. ALL OTHER ITEMS SHOWN ARE INPLACE.

- NOTES:
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET. PAVEMENT MARKINGS ARE INCIDENTAL.
 - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT.
 - CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

BY	DATE	REVISIONS	SYSTEM ID: 1736269 T.E. 6017	INTERSECTION LAYOUT	S.A.P. NO. 192-143-002	DRAWN BY: JAR	CKD BY: BPV	DATE: 7-6-18
SJK	1/3/22	SP 8286-81 AS-BUILT PLAN	METER ADDRESS: 7092 TAMARACK RD.	REVISE TRAFFIC CONTROL SIGNAL SYSTEM A	CERTIFIED BY: <i>[Signature]</i>	LIC. NO. 40444	DATE: 8-29-18	
			OLD SYSTEM ID: 22427	TH 494 AT TAMARACK RD WEST RAMP				
				IN WOODBURY, WASHINGTON COUNTY	STATE PROJ. NO. 8286-81 (T.H.694)	SHEET NO. SS10 OF SS33 SHEETS		

DISTRICT #: Metro
 PLOT NAME: pole notes
 PATH & FILENAME: Projects\DM罗斯49400001Traffic\Signal\587 TH494 @ TAMARACK RD WEST RAMP 1736269\736269_587.dwg/REVISED: 3-JAN-2022

INTERSECTION NOTES

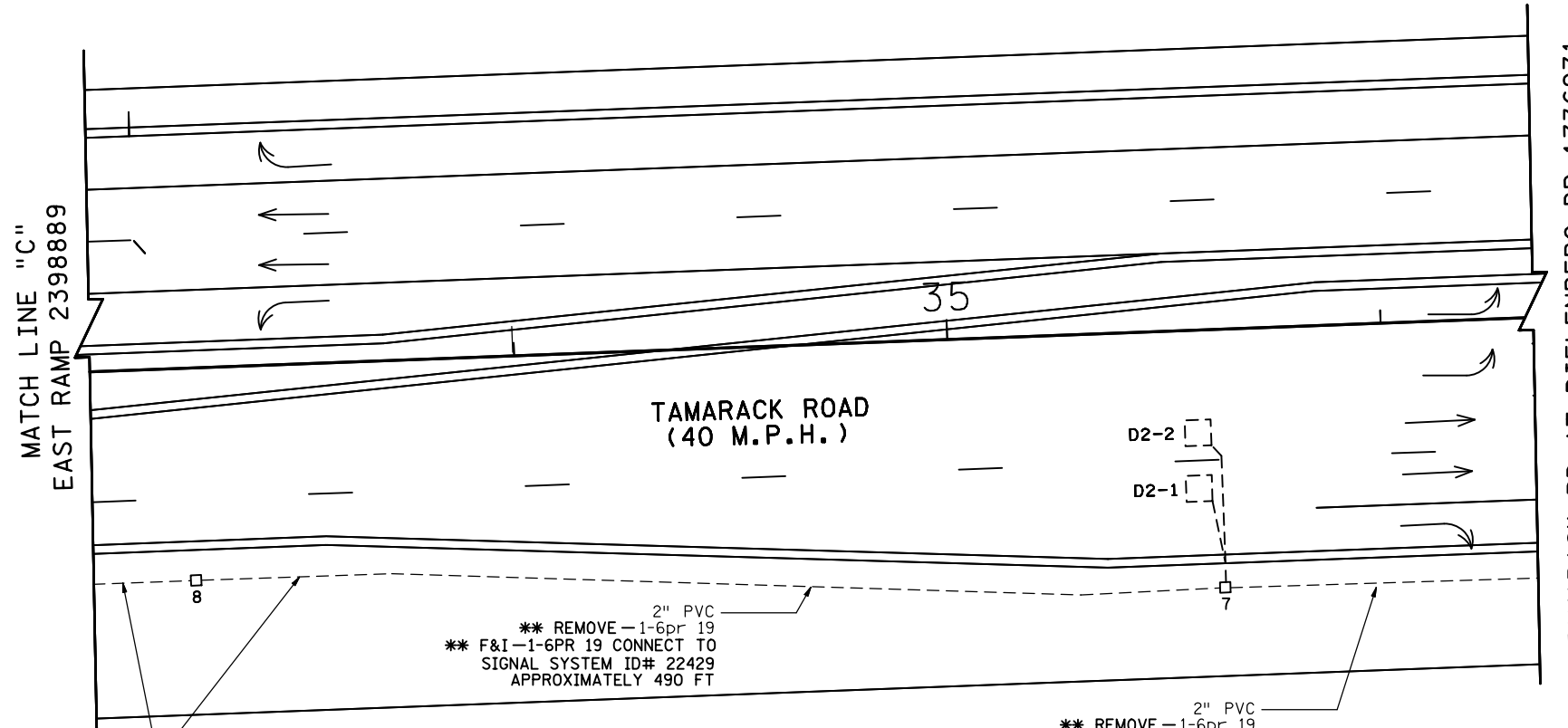
▲ REVISE SIGNAL SYSTEM WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL BE NOTED WITH A ▲ AND SHALL BE INCLUDED IN THE REVISE SIGNAL SYSTEM PAY ITEM. ALL OTHER ITEMS SHOWN ARE INPLACE.

- 1** PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 2 - ONE WAY SIGNALS OVERHEAD (0' AND 12' FROM END OF MAST ARM)
 TYPE 10A POLE MOUNTED AT 180 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 LUMINAIRE - 250 WATT H.P.S.
 2 - R9-3 SIGNS FACING PEDESTAL 2 AND POLE 4
 1 - R6-1 (R) SIGN
 TYPE D-1 SIGN
 EXTEND INTO HH-11:
 3" RSC
 1-12/C 12
 1-3/C 12
 1-3/C 12 (LUM)
 1-3/C 20

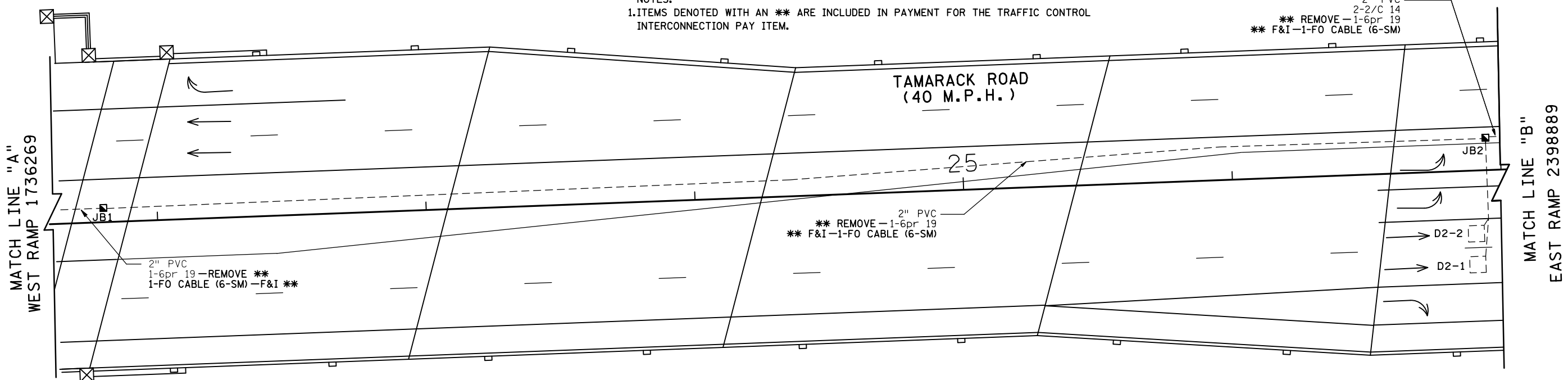
- 2** PEDESTAL FOUNDATION
 14' PEDESTAL AND BASE
 TYPE 5A
 2 - R9-3 SIGNS FACING POLES 1 & 3
 1 - R6-1 (R) SIGN
 1 - R6-1 (L) SIGN
 EXTEND INTO HH-4:
 3" RSC
 1-12/C 12
 ▲ REMOVE - TYPE 5A BRACKETING AND HEAD (5-2)
 ▲ F&I - TYPE 5A BRACKETING AND HEAD (5-3)

- 3** PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)
 3 - ONE WAY SIGNALS OVERHEAD (0', 17' AND 28' FROM END OF MAST ARM)
 TYPE 10A POLE MOUNTED AT 90 DEG
 TYPE 10A POLE MOUNTED AT 270 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2+5)
 LUMINAIRE - 250 WATT H.P.S.
 1 - R9-3 SIGN FACING PEDESTAL 2
 1 - R6-1 (L) SIGN
 1 - R10-X12 SIGN ADJACENT TO HEAD (5-2)
 2-TYPE D SIGNS, D-2 AND D-3
 EXTEND INTO HH-7:
 3" RSC
 2-12/C 12
 1-3/C 12
 1-3/C 12 (LUM)
 1-3/C 20
 ▲ REMOVE - END MOUNT OVERHEAD SIGNAL
 1 - TYPE 10A POLE MOUNTED AT 90 DEG
 ▲ SALVAGE - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2+5)
 ▲ F&I - 5' MINI ARM EXTENSION
 1-ANGLE MOUNT SIGNAL OVERHEAD AT -5'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 6'
 1 - TYPE 10A POLE MOUNTED AT 90 DEG
 1-R10-X12 SIGN ADJACENT TO HEAD (5-2)
 2-6/C 14
 ▲ INSTALL - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2+5) AT 12'

- 4** PA90 POLE FOUNDATION
 TYPE PA90-A-25-D40-9 (DAVIT AT 350 DEG)
 1 - ONE WAY SIGNAL OVERHEAD
 TYPE 10A POLE MOUNTED AT 180 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
 LUMINAIRE - 250 WATT H.P.S.
 1 - R9-3 SIGN FACING POLE 1
 1 - TYPE D-6 SIGN
 EXTEND INTO HH-8:
 3" RSC
 1-12/C 12
 1-3/C 12
 1-3/C 12 (LUM)
 1-3/C 20
 ▲ REMOVE - A-25 MAST ARM
 END MOUNT OVERHEAD SIGNAL
 1 - TYPE 10A POLE MOUNTED AT 180 DEG
 ▲ SALVAGE - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 ▲ F&I - A-35 MAST ARM
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-STRAIGHT MOUNT SIGNAL OVERHEAD AT 17' & 28'
 1 - TYPE 10A POLE MOUNTED AT 180 DEG
 ▲ INSTALL - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)

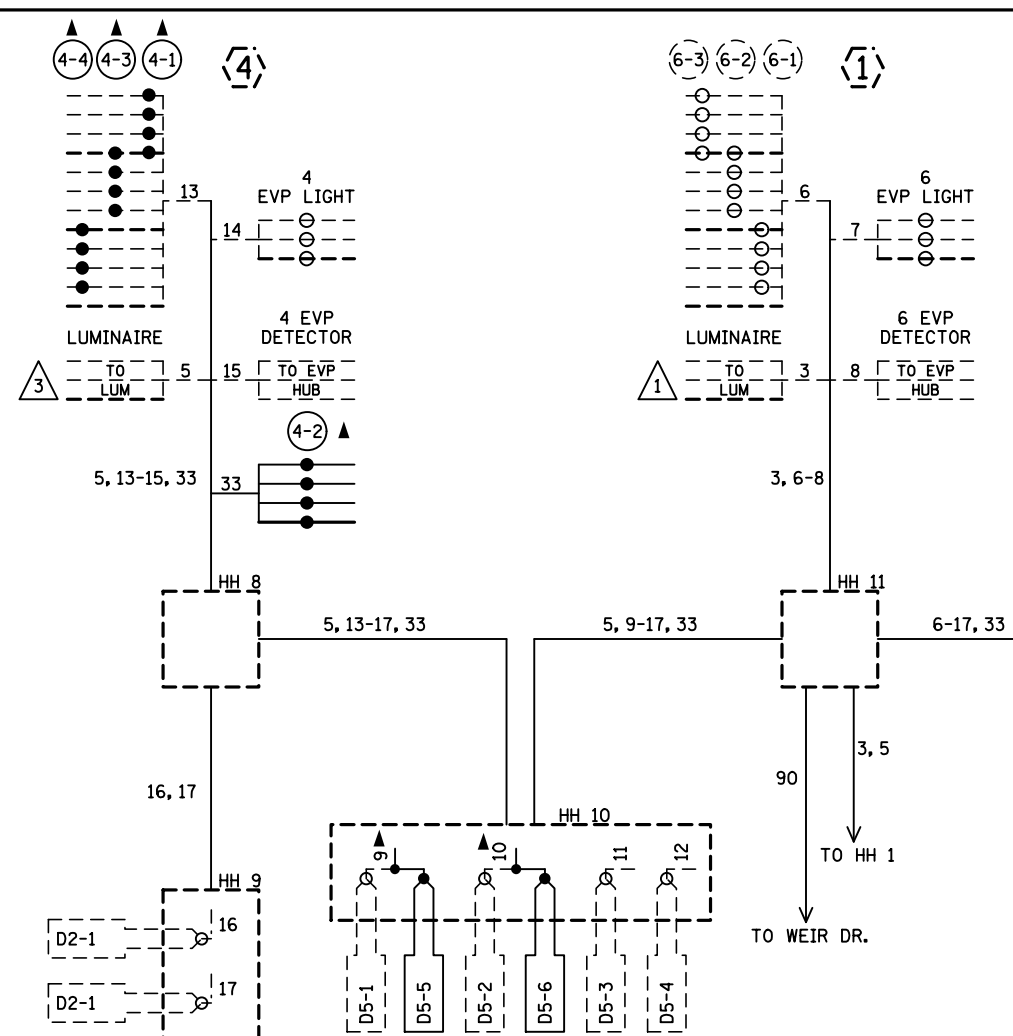


NOTES:
 1. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.



BY	DATE	REVISIONS	SYSTEM ID: 1736269 T.E. 6017	MATCH LINE / INTERSECTION NOTES	S.A.P. NO. 192-143-002	DRAWN BY: JAR	CKD BY: BPV	DATE: 7-6-18
SJK	1/3/22	SP 8286-81 AS-BUILT PLAN	METER ADDRESS: 7092 TAMARACK RD.	REVISE TRAFFIC CONTROL SIGNAL SYSTEM A	CERTIFIED BY: <i>B. P. [Signature]</i>	LIC. NO. 40444	DATE: 8-29-18	
			OLD SYSTEM ID: 22427	TH 494 AT TAMARACK RD WEST RAMP	STATE PROJ. NO. 8286-81 (T.H.694)		SHEET NO. SS11 OF SS33 SHEETS	
				IN WOODBURY, WASHINGTON COUNTY				

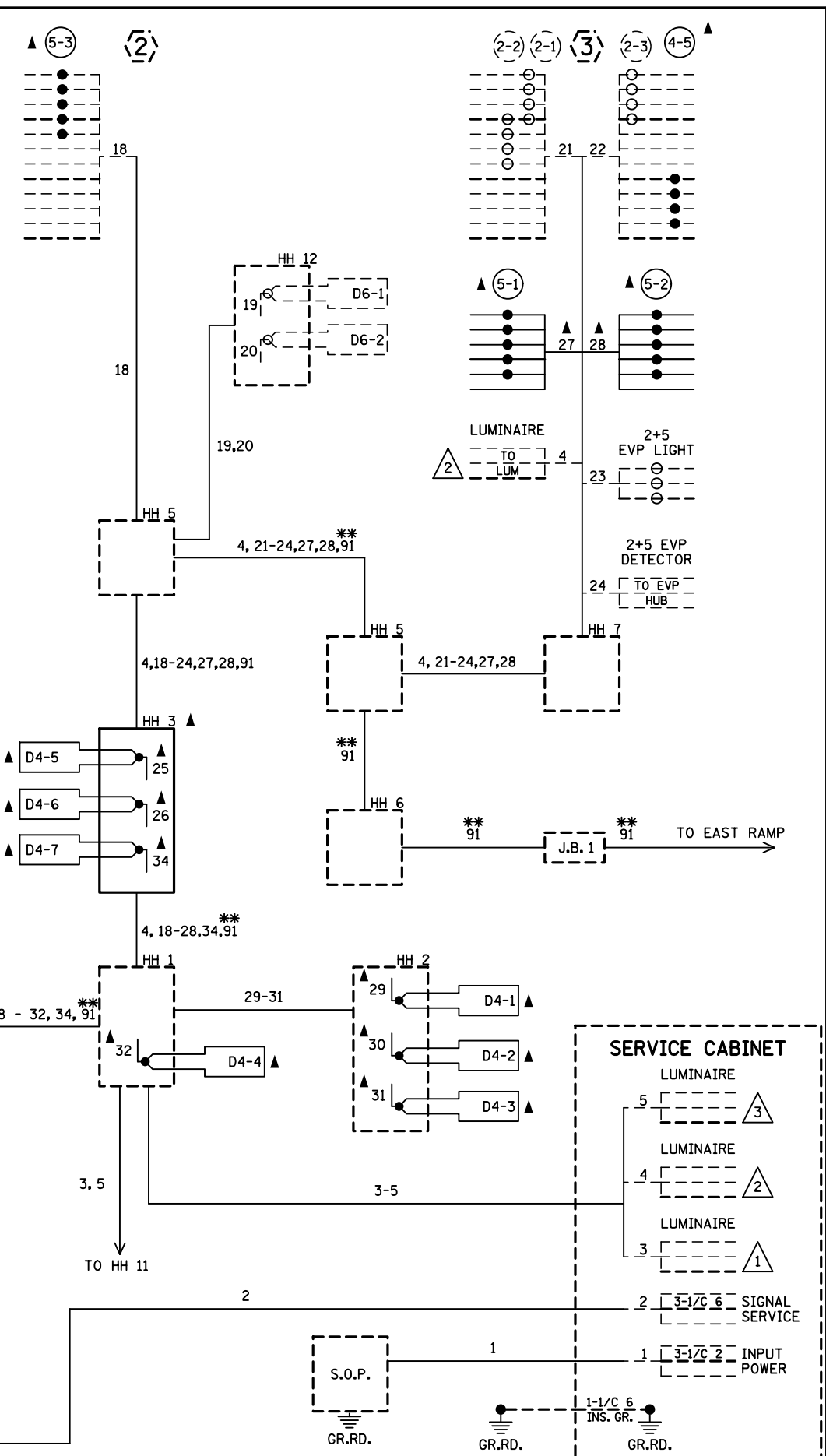
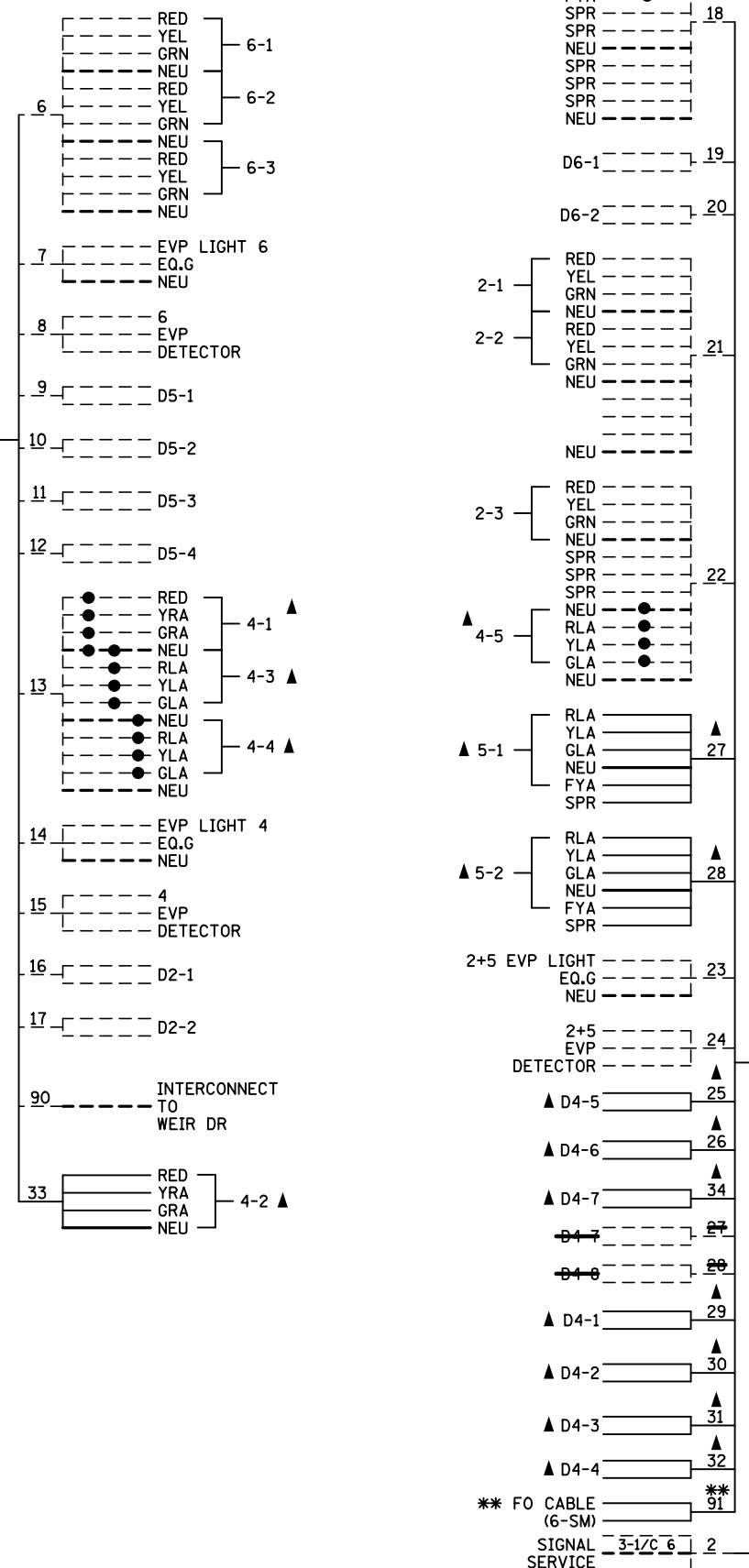
DISTRICT #: Metro
 PLOT NAME: wiring diagram
 PATH & FILENAME: Projects\DM罗斯49400000\Traffic\Signal\587 TH494 @ TAMARACK RD WEST RAMP 1736269\736269_spl\dwg\REVISED: 3-JAN-2022



NOTES:
 1. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

▲ REVISE SIGNAL SYSTEM WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL BE NOTED WITH A ▲ AND SHALL BE INCLUDED IN THE REVISE SIGNAL SYSTEM PAY ITEM. ALL OTHER ITEMS SHOWN ARE INPLACE.

CONTROLLER CABINET



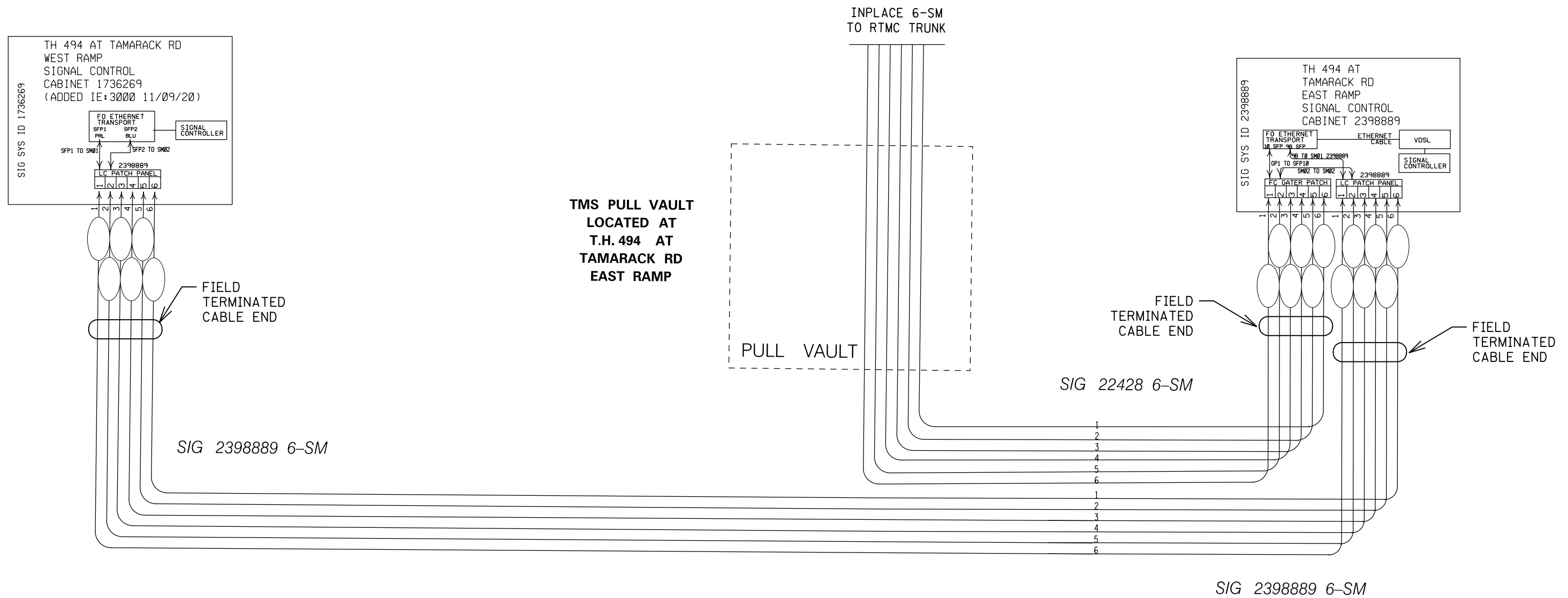
BY	DATE	REVISIONS
SJK	1/3/22	SP 8286-81 AS-BUILT PLAN

SYSTEM ID: 1736269 T.E. 6017
 METER ADDRESS: 7092 TAMARACK RD.
 OLD SYSTEM ID: 22427

FIELD WIRING DIAGRAM
 REVISE TRAFFIC CONTROL SIGNAL SYSTEM A
 TH 494 AT TAMARACK RD WEST RAMP
 IN WOODBURY, WASHINGTON COUNTY

S.A.P. NO. 192-143-002
 DRAWN BY: JAR CKD BY: BPV DATE: 7-6-18
 CERTIFIED BY: *[Signature]* L.C. NO. 40444 DATE: 8-29-18
 STATE PROJ. NO. 8286-81 (T.H.694) SHEET NO. SS12 OF SS33 SHEETS

FIBER OPTIC SCHEMATIC (FOR SIGNAL COMMUNICATIONS)



① SEE SHEET SS7 FOR DETAILS ON TESTING AND SPLICING.

DISTRICT #: Metro
 PLOT NAME: Fiber schematics
 PATH & FILENAME: Projects\DM罗斯49400000Traffic\Sig\587 TH494 @ TAMARACK RD WEST RAMP 1736269\736269_schematic.DWG/REVISED: 3-JAN-2022

BY	DATE	REVISIONS		S.A.P. NO. 192-143-002	DRAWN BY:JAR	CKD BY:BPV	DATE:7-6-18
SJK	1/3/22	SP 8286-81 AS-BUILT PLAN FROM STEVE P. (RTMC)	FIBER OPTIC SCHEMATIC TRAFFIC CONTROL SIGNAL SYSTEM T.H. 494 AT TAMARACK RD WEST & EAST RAMP IN WOODBURY, WASHINGTON COUNTY	CERTIFIED BY <small>LICENSED PROFESSIONAL ENGINEER</small>	LIC. NO. 40444	DATE: 7-9-18	
					STATE PROJ.NO. 8286-81 (T.H.694)	SHEET NO. SS9 OF SS33 SHEETS	

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

LOOP DETECTOR CHART		DISTANCE TO STOP BAR
DESIGNATION	SIZE/FT.	
D2-1, D2-2	1-6'X6'	250'
D4-1, D4-2, D4-3	1-6'X6'	150'
D4-4	1-6'X15'	-3'
D4-5, D4-6	1-6'X6'	40'
D4-7, D4-8	2-6'X6'	10'
D5-1, D5-2	1-6'X6'	40'
D5-3, D5-4	1-6'X6'	10'
D6-1, D6-2	1-6'X6'	175'

(A) EQUIPMENT PAD
 CONTROLLER & CABINET
 MASTER CONTROLLER
 EXTEND 4" RSC INTO HH-1 WITH:
 3 - 12/C #12, 1 - 3/C #12,
 10 - 2/C #14, 1 - 3/C #20
 AND 1 - 6pr #19
 EXTEND 4" RSC INTO HH-11 WITH:
 2 - 12/C #12, 2 - 3/C #12,
 6 - 2/C #14 AND 2 - 3/C #20
 1 - 3" RSC STUB OUT OF CABINET
 (THREADED AND CAPPED BOTH ENDS)

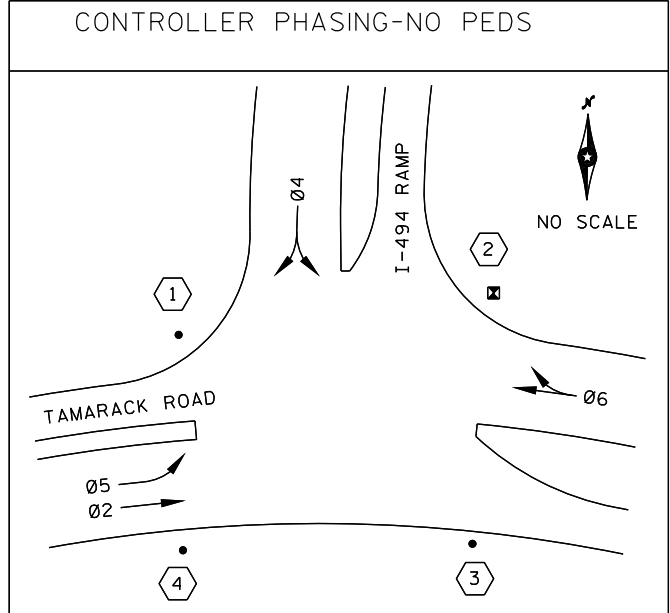
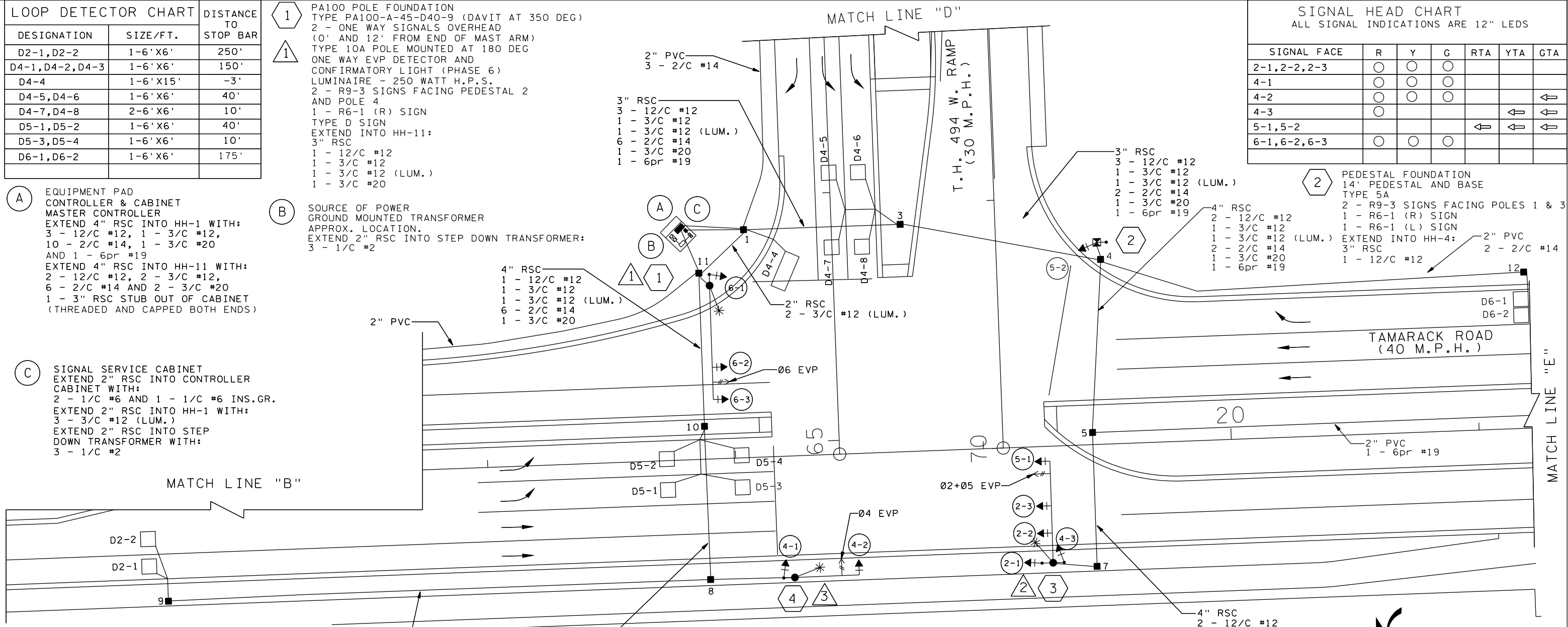
(1) PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 2 - ONE WAY SIGNALS OVERHEAD
 (0' AND 12' FROM END OF MAST ARM)
 TYPE 10A POLE MOUNTED AT 180 DEG
 ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 6)
 LUMINAIRE - 250 WATT H.P.S.
 2 - R9-3 SIGNS FACING PEDESTAL 2
 AND POLE 4
 1 - R6-1 (R) SIGN
 TYPE D SIGN
 EXTEND INTO HH-11:
 3" RSC
 1 - 12/C #12
 1 - 3/C #12
 1 - 3/C #12 (LUM.)
 1 - 3/C #20

(B) SOURCE OF POWER
 GROUND MOUNTED TRANSFORMER
 APPROX. LOCATION.
 EXTEND 2" RSC INTO STEP DOWN TRANSFORMER:
 3 - 1/C #2

(C) SIGNAL SERVICE CABINET
 EXTEND 2" RSC INTO CONTROLLER CABINET WITH:
 2 - 1/C #6 AND 1 - 1/C #6 INS.GR.
 EXTEND 2" RSC INTO HH-1 WITH:
 3 - 3/C #12 (LUM.)
 EXTEND 2" RSC INTO STEP DOWN TRANSFORMER WITH:
 3 - 1/C #2

SIGNAL HEAD CHART						
ALL SIGNAL INDICATIONS ARE 12" LEDS						
SIGNAL FACE	R	Y	G	RTA	YTA	GTA
2-1, 2-2, 2-3	○	○	○			
4-1	○	○	○			
4-2	○	○	○			⇐
4-3	○					⇐ ⇐
5-1, 5-2					⇐	⇐ ⇐
6-1, 6-2, 6-3	○	○	○			

(2) PEDESTAL FOUNDATION
 14' PEDESTAL AND BASE
 TYPE 5A
 2 - R9-3 SIGNS FACING POLES 1 & 3
 1 - R6-1 (R) SIGN
 1 - R6-1 (L) SIGN
 EXTEND INTO HH-4:
 3" RSC
 1 - 12/C #12
 2 - 2/C #14

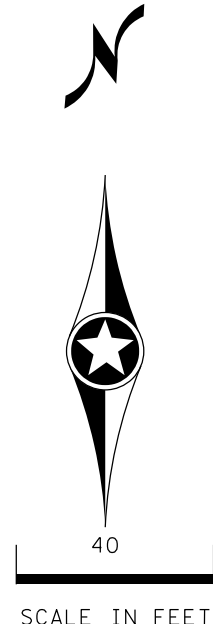


(4) PA90 POLE FOUNDATION
 TYPE PA90-A-25-D40-9 (DAVIT AT 350 DEG)
 1 - ONE WAY SIGNAL OVERHEAD
 TYPE 10A POLE MOUNTED AT 180 DEG
 ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 4)
 LUMINAIRE - 250 WATT H.P.S.
 1 - R9-3 SIGN FACING POLE 1
 TYPE D SIGN
 EXTEND INTO HH-8:
 3" RSC
 1 - 12/C #12
 1 - 3/C #12
 1 - 3/C #12 (LUM.)
 1 - 3/C #20

SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 3 PHASE, WITH 05 BEING A PROTECTED LEFT TURN PHASE
- FLASH MODE SHALL BE ALL RED
- 02 & 06 SHALL BE ON VEHICLE RECALL

(3) PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)
 3 - ONE WAY SIGNALS OVERHEAD
 (0', 17' AND 28' FROM END OF MAST ARM)
 TYPE 10A POLE MOUNTED AT 90 DEG
 TYPE 10A POLE MOUNTED AT 270 DEG
 ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 2+5)
 LUMINAIRE - 250 WATT H.P.S.
 1 - R9-3 SIGN FACING PEDESTAL 2
 1 - R6-1 (L) SIGN
 TYPE D SIGN
 EXTEND INTO HH-7:
 3" RSC
 2 - 12/C #12
 1 - 3/C #12
 1 - 3/C #12 (LUM.)
 1 - 3/C #20

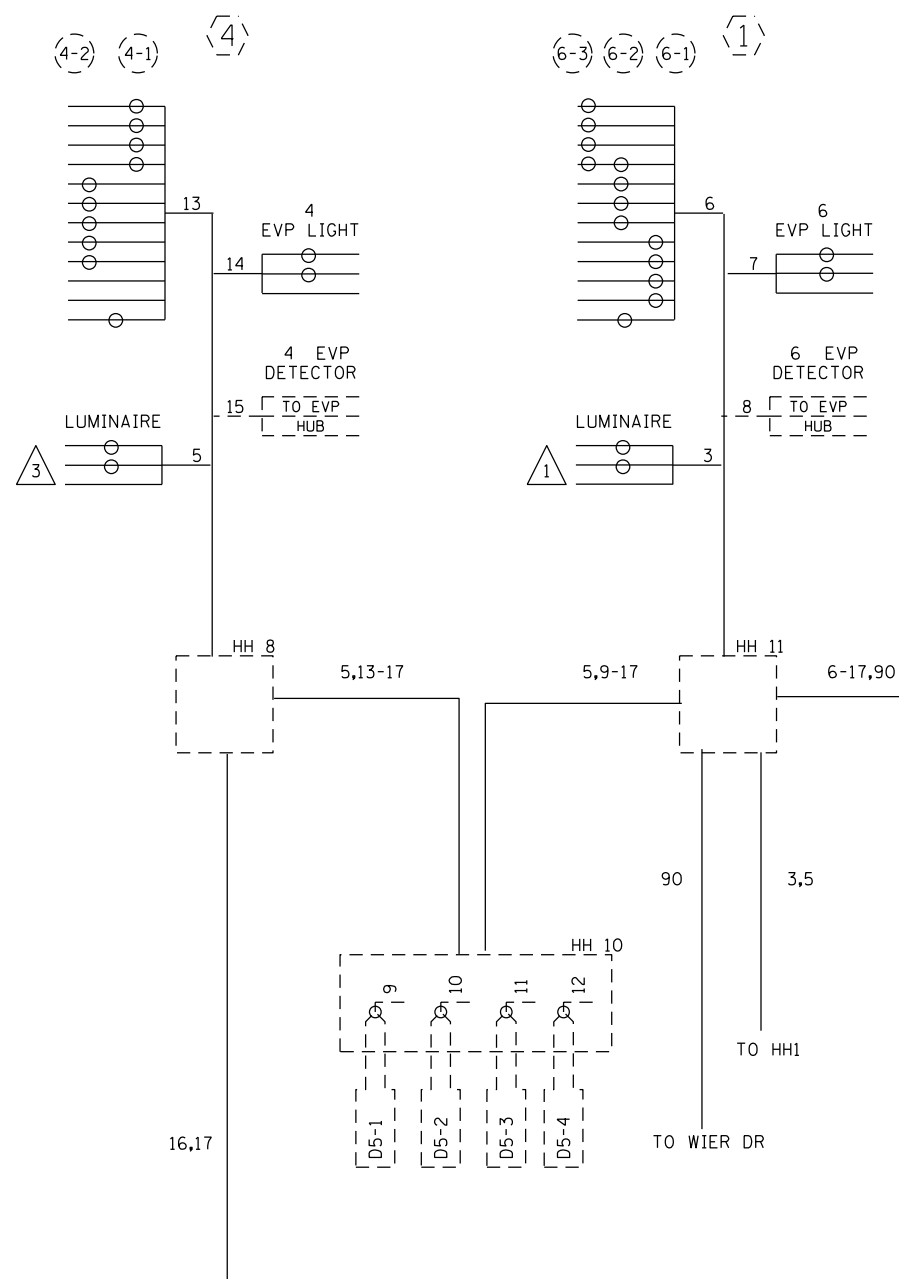


DISTRICT #: \$\$\$@DISTRICT@\$\$
 IPLOT NAME: \$\$\$@PLOT\$NAME@\$\$
 PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$

BY EJA	DATE 05-20-15	REVISIONS AS-BUILT OF WR#284686- D6-1 & D6-2 RELOCATED	SYSTEM ID: 22427 METER ADDRESS: 7092 TAMARACK RD MASTER ID: 22430	T.E. T.E.	INTERSECTION LAYOUT TH 494 AT TAMARACK RD WEST RAMP IN WOODBURY, WASHINGTON COUNTY	S.A.P. NO.	CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER	STATE PROJ. NO. (T.H.494)	DRAWN BY: _____	CKD BY: _____	DATE: _____	LIC. NO. _____	DATE: _____	SHEET NO. 1 OF 3 SHEETS
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PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

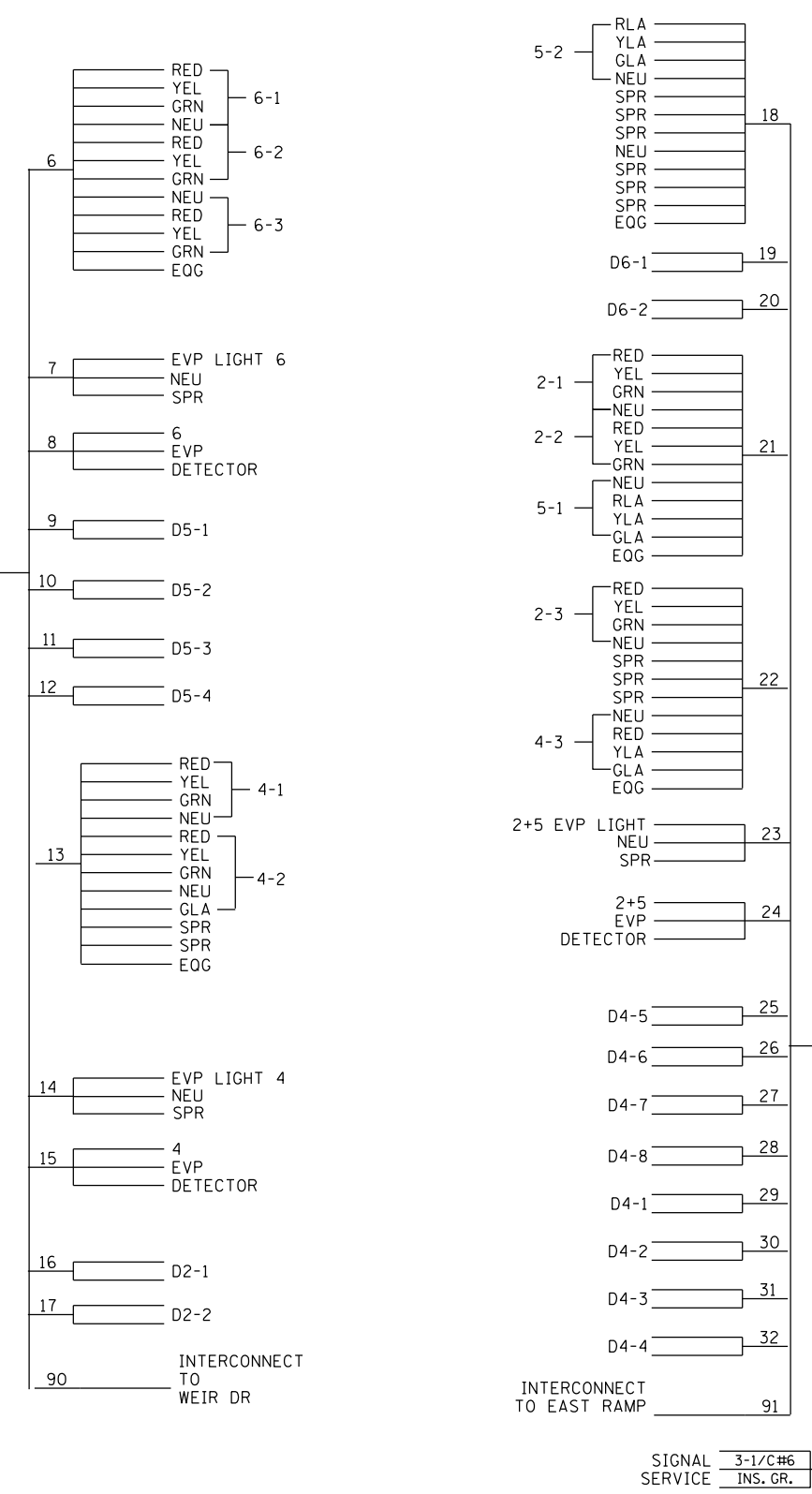
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 I/PLOT NAME: \$\$\$@I/PLOT\$NAME@\$\$
 PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$



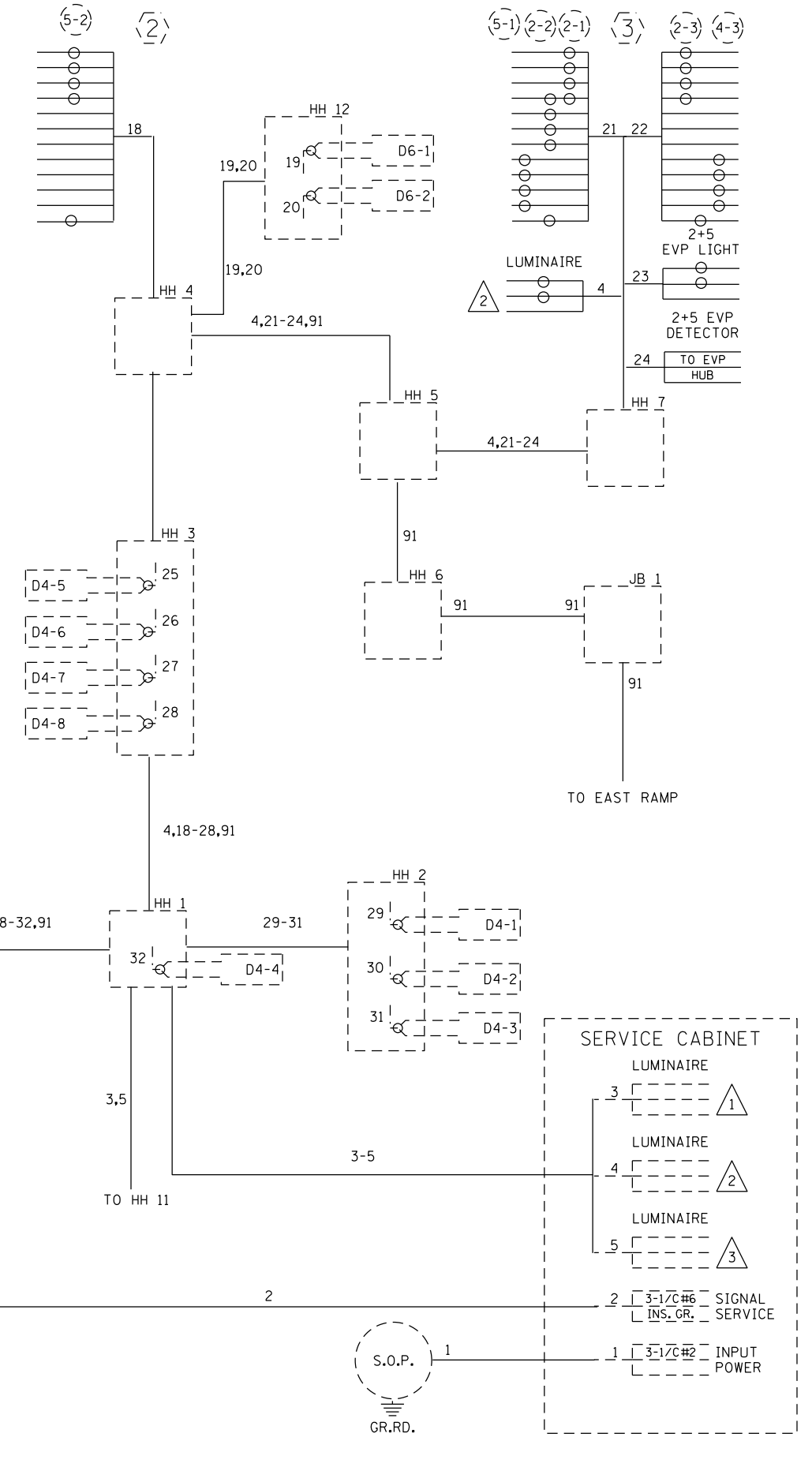
CONDUCTOR COLOR CODE			
6PR#19			
3-1/C#2	R	WH	INPUT POWER
		BLK	
3-1/C#6	BLK	WH	SIGNAL SERVICE
		G	
12/C#12	R	BLK	
	O	WH	
	BL		
	WH	BLK	
	R/BLK	3/C#12	WH
	O/BLK		G
	BL/BLK	2/C#14	BLK
	WH/BLK		WH OR CLR
	BLK		
	G/BLK	3/C#20	R OR O
	G		WH OR YEL
			BLK OR BL

NOTE:
 ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

CONTROLLER CABINET



MASTER CONTROLLER
 ID# 22430



BY	DATE	REVISIONS
EJA	05-20-15	AS-BUILT OF WR# 28426 D6-1 & D6-2 RELOCATED

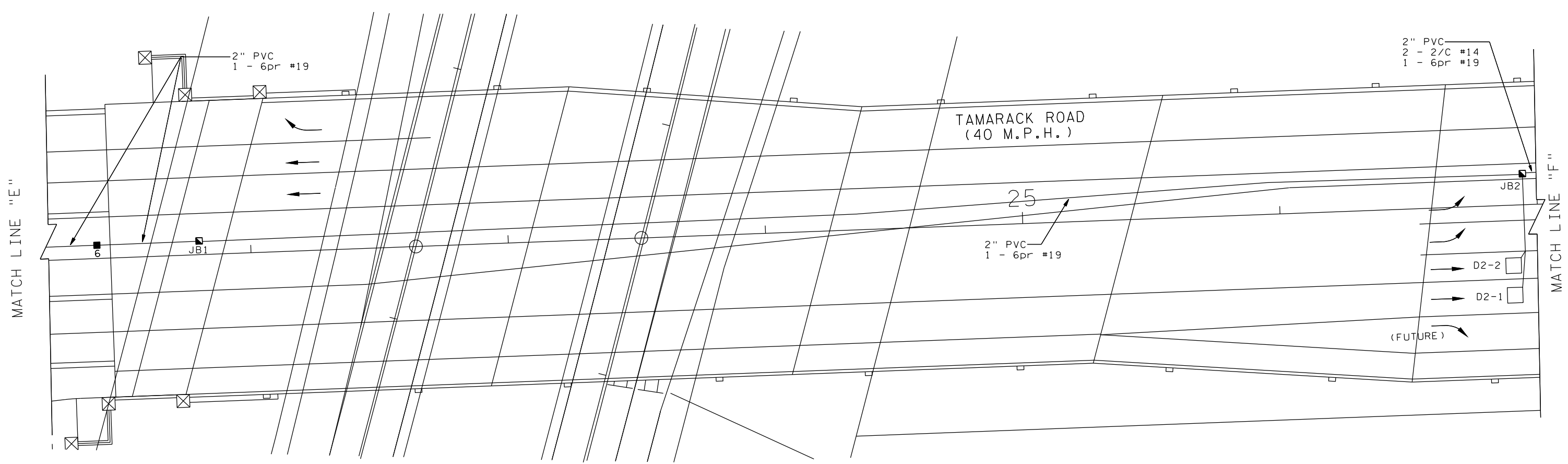
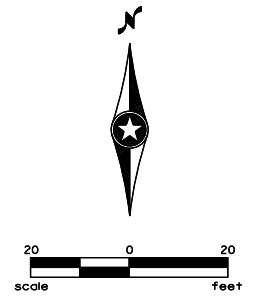
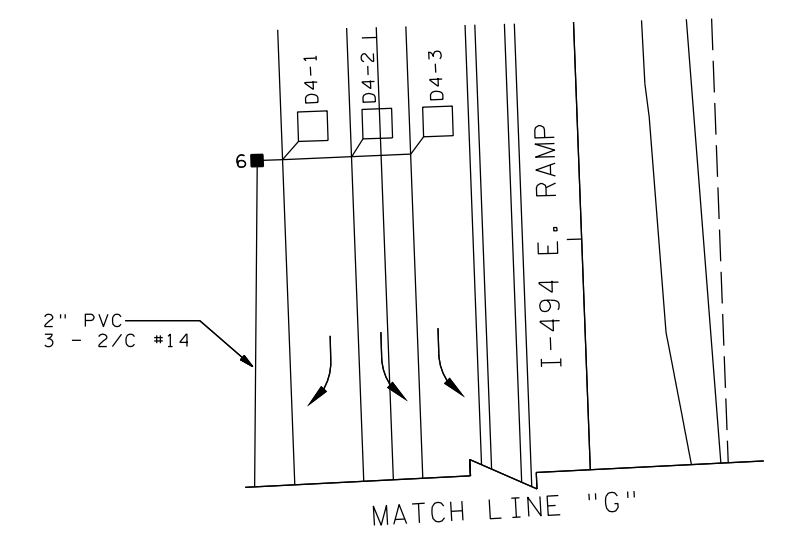
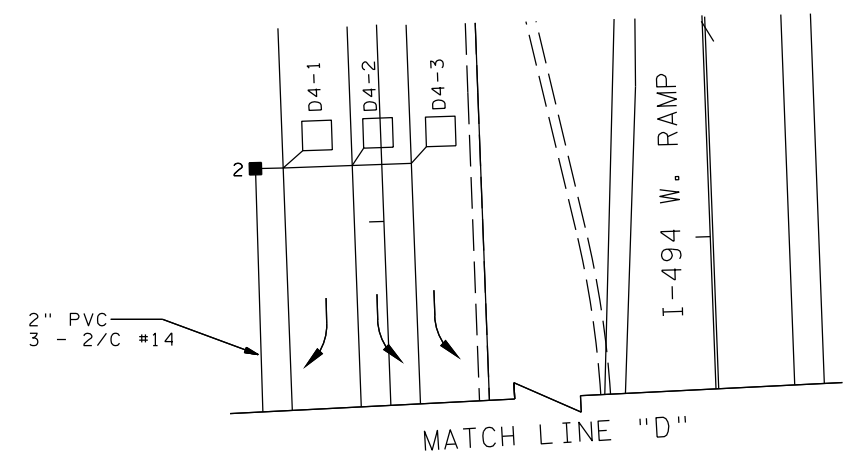
SYSTEM ID: 22427
 T.E.
 METER ADDRESS: 7092 TAMARACK RD
 MASTER ID: 22430
 T.E.

WIRING DIAGRAM
 TH 494 AT TAMARACK RD WEST RAMP
 IN WOODBURY, WASHINGTON COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
LICENSED PROFESSIONAL ENGINEER			
STATE PROJ. NO.	(T.H.494)	SHEET NO.	3 OF 3 SHEETS

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

DISTRICT #: \$\$\$@DISTRICT@\$\$
PLOT NAME: \$\$\$@PLOT\$NAME@\$\$
PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$



BY	DATE	REVISIONS
EJA	05-20-15	AS-BUILT OF WR# 28426 D6-1 & D6-2 RELOCATED

SYSTEM ID: 22427	T.E.
METER ADDRESS: 7092 TAMARACK RD	
MASTER ID: 22430	T.E.

MATCH LINE LAYOUT
TH 494 AT TAMARACK RD WEST RAMP
IN WOODBURY, WASHINGTON COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY: _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO.	(T.H. 494)	SHEET NO.	2 OF 3 SHEETS