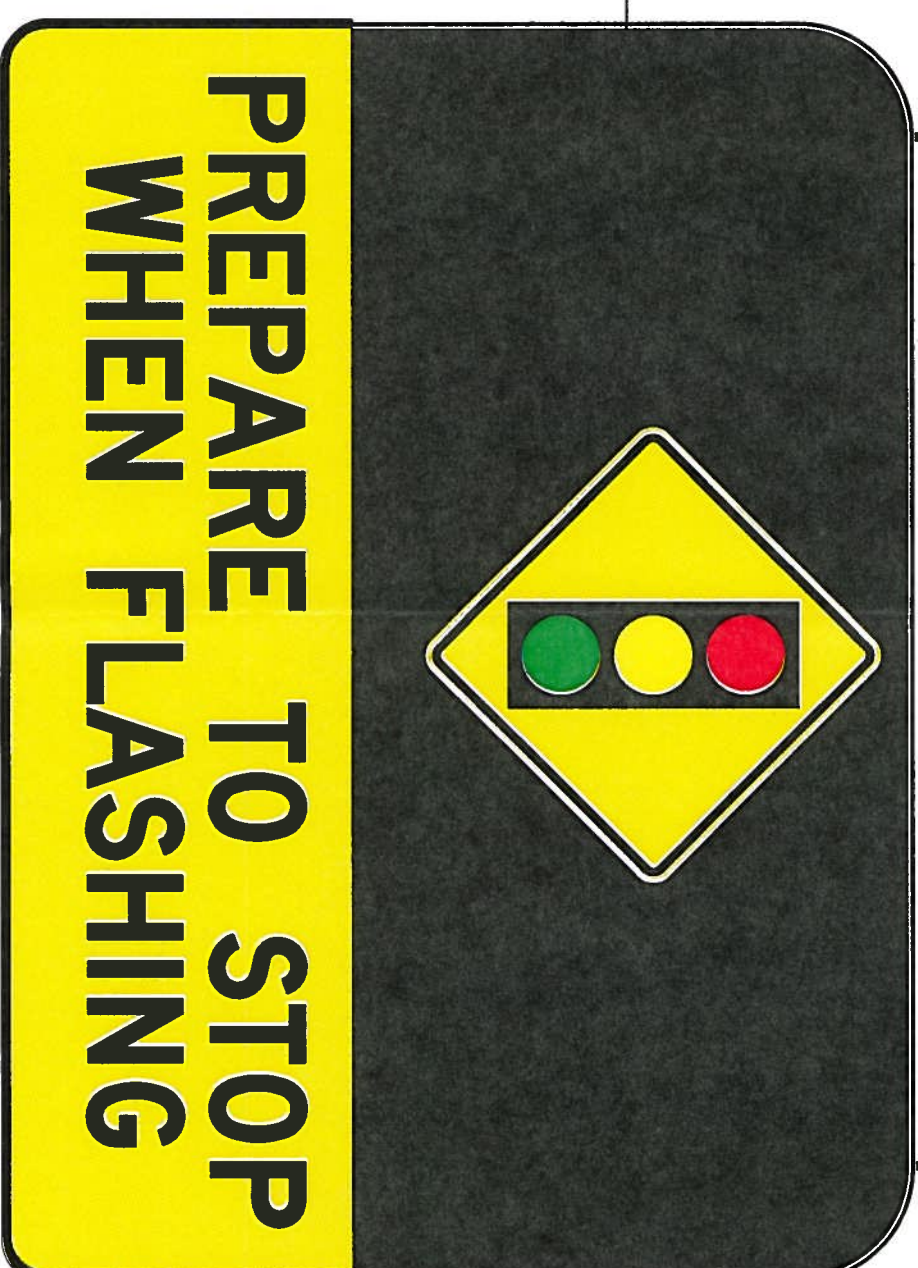


12" DIAM. FLASHING BEACON
W/ TUNNEL VISORS

9'

12" Min

W3-3 30"X30"



Post Details:

2 Posts

Size: 6X8 Wood

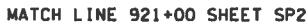
Drilled and Notched

45"

6'

18" D
18" D
18" D

4/2/07

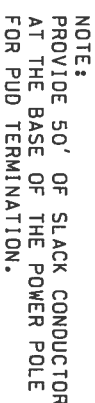






CONDUIT RISER
CONST BY PUD

NOTE:
PROVIDE 50' OF
CONDUIT AT THE BASE
OF RISER FOR PUD
TERMINATION

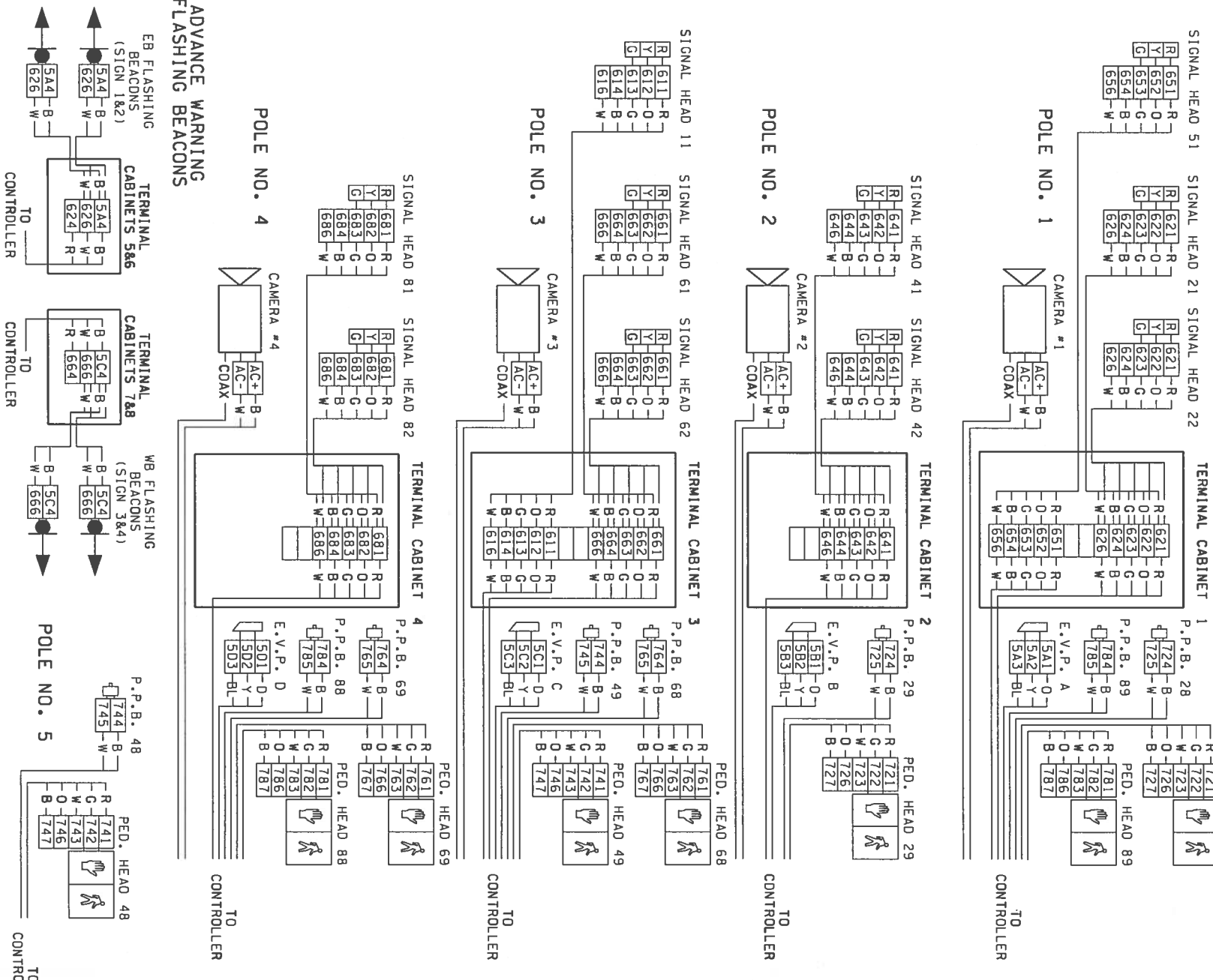
- 4 INSTALL ADVANCE WARNING FLASHING BEACONS AND SIGNS. SEE SHEET SP8 FOR DETAILS
- 5 DIRECTIONAL BORING REQUIRED
- 6 CONSTRUCT TYPE 3 ADVANCE LOOP. SEE STANDARD PLAN J-8c.

3. SEE SHEET SP4 FOR LEGEND; BREAKER, WIRING, AND LUMINAIRE SCHEDULES.

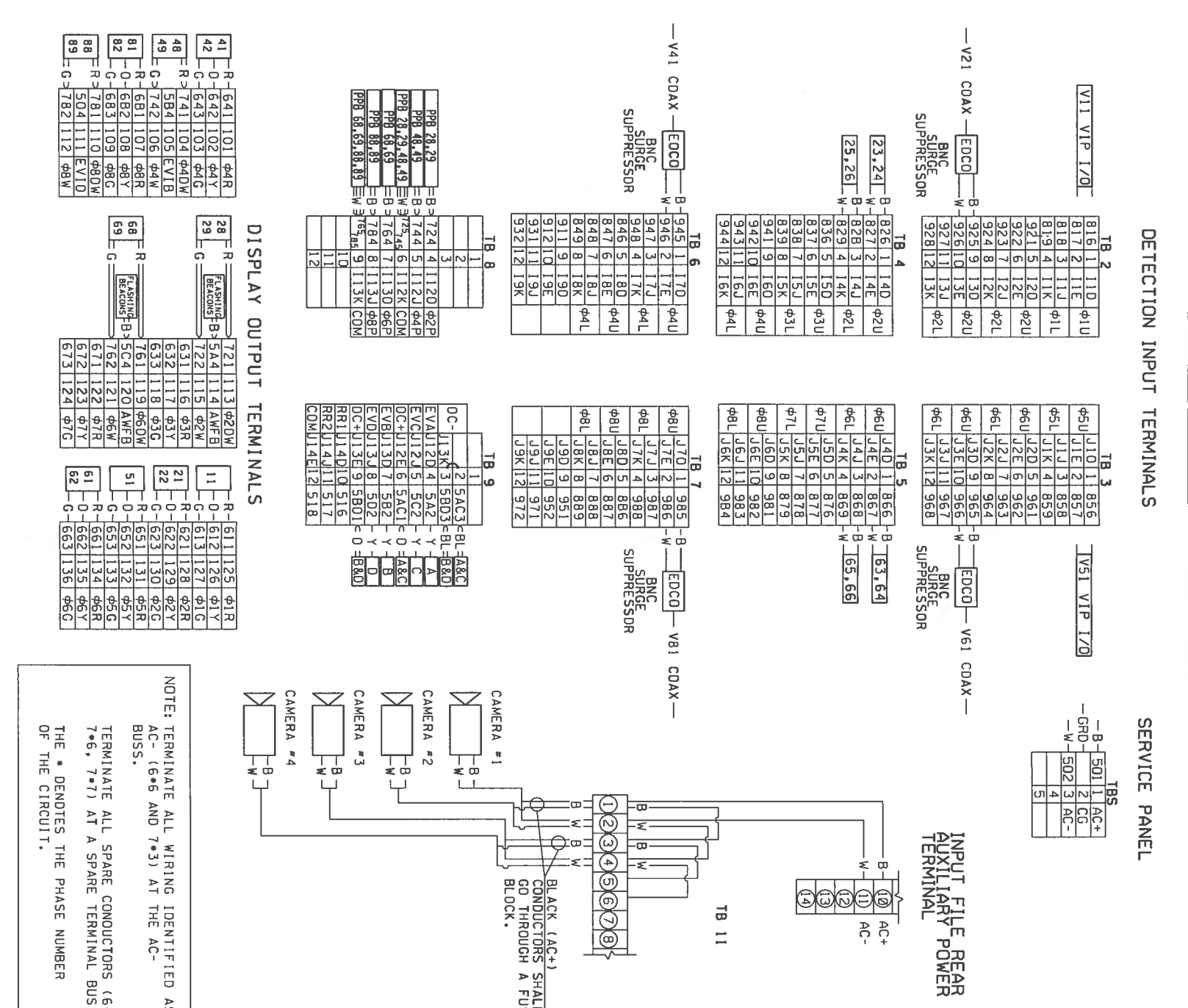


FILE NAME										G:\Engineering\PE20N\Projects\US 2\Leavenworth to Cashmere\add\cadd\XL2576 Signal Design.dgn										PLOT#3	
TIME										9:25:18 AM										SP3	
DATE										1/25/2007											
PLOTTED BY										stullr											
DESIGNED BY										R. STULL											
ENTERED BY										R. STULL											
CHECKED BY										D. KIENINGER											
PROJ. ENCR.										M. FLEMING											
REGIONAL ADM.										D. SENN											
REVISION																					
DATE										BY											
										FED. AID PROJ. NO.											
										JOB NUMBER											
										07B006											
										CONTRACT NO.											
										LOCATION NO.											
										XL2576											
																				EXPIRES OCT. 19, 2007 P.E., STATE BOX DATE _____	
																				EXPIRES SEP. 1, 2008 P.E., STATE BOX DATE _____	
Washington State Department of Transportation										US 2 LEAVENWORTH TO CASHMERE PAVING										SHEET 45 OF 94 SHEETS	
																				SIGNAL & ILLUMINATION PLAN	

FIELD WIRE TERMINATIONS



CABINET WIRE TERMINATIONS



FILE NAME	G:\Engineering\PE20\Projects\US 2\Leavenworth to Cashmere\dcadd\X12576 SignalDesign.dgn			
TIME	9:23:27 AM			
DATE	1/25/2007			
DESIGNED BY	R. STULL			
ENTERED BY	R. STULL			
CHECKED BY	D. KIENINGER			
PROJ. ENGR.	M. FLEMING			
REGIONAL ADM.	D. SENN			
REVISION	DATE BY			
FED. AID PROJ. NO.				
JOB NUMBER 07B006				
CONTRACT NO.				
LOCATION NO. X12576				
PROFESSIONAL ENGINEER SEAL				
P.E. STATE BOX				
EXPIRES OCT 9, 2007				
DATE				
P.E. STATE BOX				
EXPIRES SEPT 1, 2008				
DATE				
P.E. STATE BOX				
WASHINGTON STATE Department of Transportation				
US 2 LEAVENWORTH TO CASHMERE PAVING				
WIRE TERMINATION PLAN				
SHEET 48 OF 94 SHEETS				
PLOT 6				

CONSTRUCTION NOTES






ADVANCE WARNING FLASHING BEACON AND SIGN DETAILS

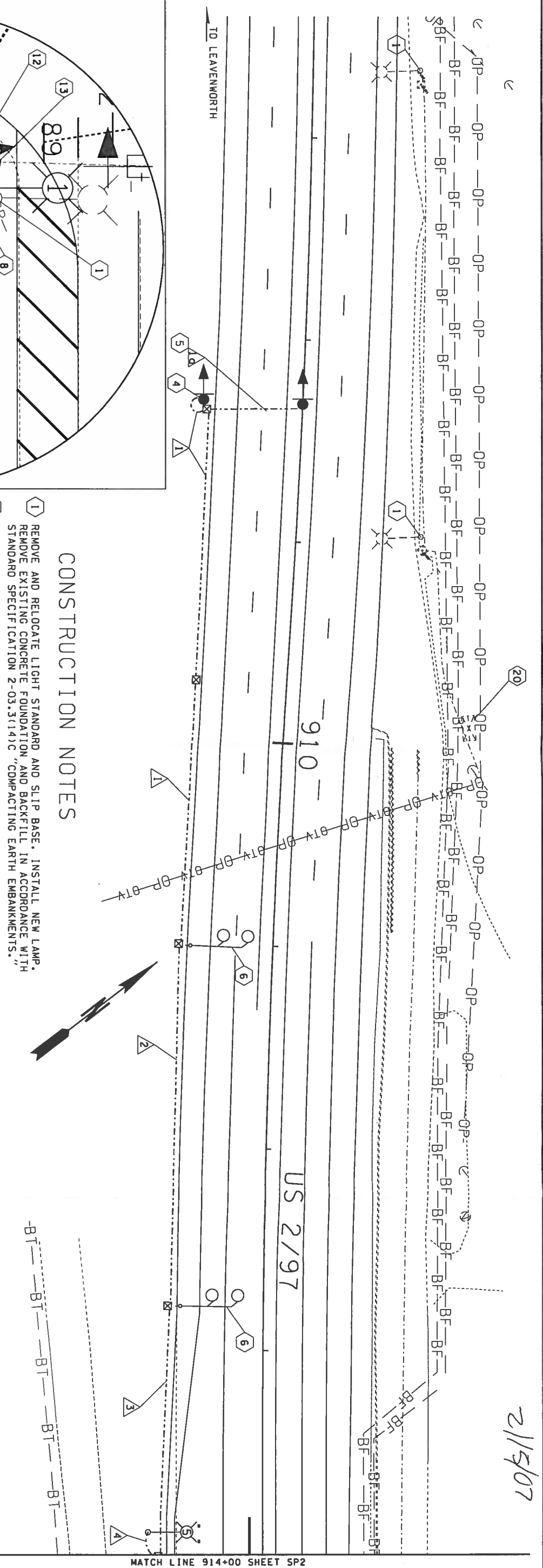
STA. 908+32 RT	STA. 926+55 LT
STA. 908+32 CL	STA. 926+55 CL

NDT TD SCALE



- 1 12" YELLOW LED TRAFFIC SIGNAL SECTION WITH TUNNEL VISOR AND DIMMER UNIT. BEACON SHALL BE ATTACHED TO UNISTRUT USING TWO BOLTS. EACH BOLT SHALL HAVE TWO STAINLESS STEEL(S.S.) FLAT WASHERS, A S.S. LOCK WASHER AND A S.S. NUT.
- 2 TERMINAL CABINET WITH MOUNTING FLANGES. ATTACH TERMINAL CABINET TO UNISTRUT WITH 4 S.S. BOLTS. EACH BOLT SHALL HAVE TWO S.S. FLAT WASHERS, A S.S. LOCK WASHER AND A S.S. NUT.
- 3 ¾" LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT. SEAL CONDUIT AT ENTRANCES TO TERMINAL CABINET. SIGNAL HEADS, AND POLE. MAINTAIN BONDING AND GROUNDING. 2 - #10 OR 1 - 3C.
- 4 5 AMP. FUSED QUICK DISCONNECT FOR FLASHING BEACON CIRCUIT.
- 5 UNFUSED QUICK DISCONNECT (NEUTRAL) FOR FLASHING BEACON CIRCUIT.
- 6 UNFUSED QUICK DISCONNECT (SPARE) FOR FLASHING BEACON CIRCUIT.
- 7 TYPE TP-B SIGN SUPPORT, GALVANIZED CARBON STEEL ¾" WALL THICKNESS. SEE SHEET S12 FOR POST SIZE. SEE STANDARD PLANS G-8a, G-8b.
- 8 SEE SHEET S12 FOR SIGN DETAILS.
- 9 ¾" X 1½" S.S. FLAT BAR. ATTACH TO UNISTRUT WITH 4 S.S. BOLTS. EACH BOLT SHALL HAVE TWO S.S. FLAT WASHERS, A S.S. LOCK WASHER AND A S.S. NUT.
- 10 1½" X 1½" UNISTRUT. ATTACH UNISTRUT TO POLE AND CHANNEL WITH 3 S.S. BOLTS THAT ARE DRILLED ALL THE WAY THROUGH THE POLE. EACH BOLT SHALL HAVE TWO S.S. FLAT WASHERS, A S.S. LOCK WASHER AND A S.S. NUT.
- 11 HAND HOLE WITH RAIN-TIGHT COVER.
- 12 POLE TOP RAIN-TIGHT COVER.
- 13 TYPE TP-B BREAKAWAY SIGN BRACKET ASSEMBLY. SEE STANDARD PLAN G-8b.
- 14 TYPE TP-B CONCRETE FOUNDATION. SEE STD PLAN G-8b.
- 15 1" DIA. RIGID GALVANIZED STEEL CONDUIT.
- 16 HMA CL ½" PG 64-28 - 0.25' MIN (TYP).
- 17 CRUSHED SURFACING TOP COURSE, 1.25' MIN. (TYP).
- 18 NATIVE MATERIAL, APPROX. 2' (TYP)

FILE NAME G:\Engineering\FEDND\Projects\US 2\Leavenworth to Cashmere\cdadd.XL2576 SignalDesign.dgn						
TIME	9:23:30 AM					
DATE	1/25/2007					
PLOTTED BY	stu11r					
DESIGNED BY	R. STULL					
ENTERED BY	R. STULL					
CHECKED BY	D. KIENINGER					
PROJ. ENGR.	M. FLEMING					
REGIDNAL ADM.	D. SENNA					
REVISION		DATE	BY			
		REGION NO.	STATE	FED.AID PROJ.NO.		
		10	WASH			
		JOB NUMBER				
		07B006				
		CONTRACT NO.				
				LOCATION NO.		
				XL2576		
						
EXPIRES OCT.19, 2001 DATE _____ P.E., STATE BOX						
						
EXPIRES SEPT.1, 2008 DATE _____ P.E., STATE BOX						
 Washington State Department of Transportation						
US 2 LEAVENWORTH TO CASHMERE PAYING						
ADVANCED WARNING SIGN DETAILS						
						PL018
						SHEET 50 OF 94 SHEETS
						SHEET SP8



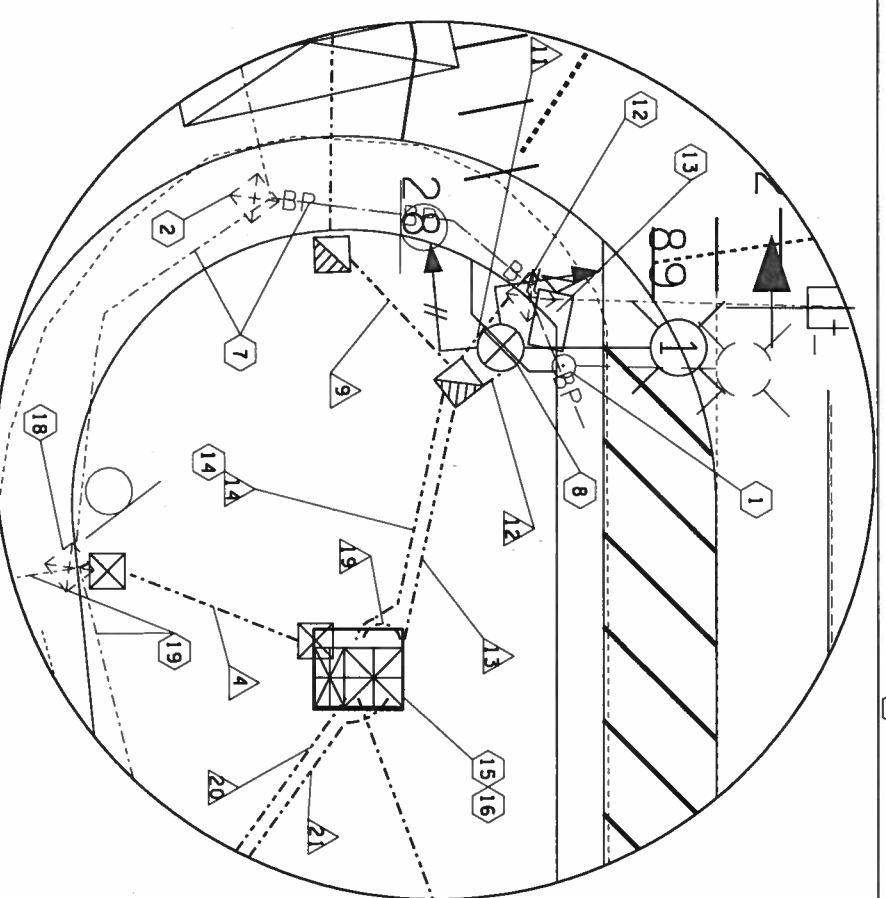
2/5/07

CONSTRUCTION NOTES

- 1 REMOVE AND RELOCATE LIGHT STANDARD AND SLIP BASE. INSTALL NEW LAMP. REMOVE EXISTING CONCRETE FOUNDATION AND BACKFILL IN ACCORDANCE WITH STANDARD SPECIFICATION 2-03.3(14)C "COMPACTING EARTH EMBANKMENTS."
- 2 REMOVE AND DISPOSE OF EXISTING JUNCTION BOX. REMOVE EXISTING CONDUCTORS AND CONDUIT SWEEPS. BACKFILL WITH CRUSHED SURFACING TDP COURSE. ABANDON EXISTING CONDUIT IN PLACE.
- 4 INSTALL ADVANCE WARNING FLASHING BEACONS AND SIGNS. SEE SHEET SP8 FOR DETAILS. DIRECTIONAL BDRING REQUIRED.
- 5 CONSTRUCT TYPE 3 ADVANCE LOOP. SEE STANDARD PLAN J-8c.
- 6 REMOVE EXISTING CONDUCTORS TO THE NEAREST JUNCTION BOX. ABANDON EXISTING CONDUIT. EXCAVATED AREAS ARE TO BE BACKFILLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS IN PAVEMENT WIDENING AREAS.
- 8 INSTALL SIGNAL STANDARD COMPLETE WITH SIGNAL DISPLAY, TWO PBB-M (STD. PLAN J-5), TERMINAL CABINET, ONE PRE-EMPT DETECTOR, LUMINAIRE, VIDEO DETECTION CAMERA, AND SIGNS.
- 12 EXISTING JUNCTION BOX. REMOVE WIRES AND SWEEP FROM EXISTING 1" ILLUMINATION CONDUIT. INSTALL NEW CONDUIT AND WIRING INTO EXISTING JUNCTION BOX.
- 13 INSTALL VIDEO DETECTION CAMERA ON 16' MAST ARM AT A MOUNTING HEIGHT OF 40'.
- 14 EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS, CLEAN CONDUIT WITH A CLEANING MANREL SIZED FOR THE CONDUIT, AND INSTALL NEW CONDUCTORS.
- 15 NEW SERVICE #1. SEE SERVICE CONNECTION DETAIL ON SHEET SP3 FOR MAIN FEED INSTALLATION FROM SERVICE TO POLE.
- 16 INSTALL CONTROLLER CABINET FOUNDATION AND INSTALL CONTROLLER CABINET AND MODIFIED TYPE B SERVICE. STRUT MOUNT. SEE SHEET SPT AND STANDARD PLAN J-3d.
- 18 REMOVE AND DISPOSE OF EXISTING JUNCTION BOX. REMOVE EXISTING CONDUCTORS AND CONDUIT SWEEPS. BACKFILL WITH CRUSHED SURFACING TOP COURSE.
- 19 EXTEND EXISTING 1" CONDUIT TO NEW JUNCTION BOX AND INSTALL NEW SWEEPS. SPLICE EXISTING CONDUCTORS INTO NEW CIRCUIT.
- 20 EXISTING ELECTRICAL SERVICE. SERVICE, MAIN FEED, AND CDDUIT IS TO REMAIN IN PLACE.




GENERAL NOTES

3. SEE SHEET SP4 FOR LEGEND; BREAKER, WIRING, AND LUMINAIRE SCHEDULES.



INSERT FOR SHEET SP2



FILE NAME G:\Engineering\PE20\Projects\US 2\Leavenworth to Cashmere\add\XL2576 Signal Design.dgn										PLOT#	
TIME 9:25:15 AM										SPL	
DATE 1/25/2007										SHEET 43	
PLOTTED BY STULL										OF 94	
DESIGNED BY R. STULL										SHEETS	
ENTERED BY R. STULL											
CHECKED BY D. KIENINGER											
PROJ. ENGR. M. FLEMING											
REGIONAL ADM. D. SENN											
REVISION											
DATE											
BY											
<div> <div>REGION NO. 10</div> <div>STATE WASH</div> </div>											
<div> <div>JOB NUMBER 078006</div> <div>CONTRACT NO.</div> </div>											
<div> <div>LOCATION NO. XL2576</div> </div>											
<div> <div>  </div> </div>											
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<div> <div>  </div> </div>											
<div> <div> <div>US 2</div> <div>LEAVENWORTH TO CASHMERE</div> <div>PAVING</div> <div>SIGNAL & ILLUMINATION PLAN</div> </div> </div>											

SR-12 Prepare To Stop When Flashing Signs

Project Background

When looking at the accident data for this location we found that there were an a high number of drivers on SR-12 that failed to stop for the signal causing a collision. This intersection already had flashing signs in advance warning drivers of the signal ahead. But we discovered these signs were placed too far in advance and since they flashed all the time drivers tended to ignore them.



Solution

Since the existing signs were outdated and improperly spaced from the intersection, we felt an update to the signing would create a safer intersection and reduce accidents. For this location we chose to install Prepare to Stop When Flashing Signs east and west of the intersection along SR-12. These signs are triggered by the signal and flash only when the signal is red. Because these signs don't flash continuously, drivers will pay more attention and will stop for the signal.



Conclusion

Completed: 6/19/07

Although this project was just completed we believe that the update in signing has created a safer intersection. By updating the warning signs and moving them to a location closer to the intersection a safer

Cost: \$5,000 PE
\$16,000 Implementation

environment has been created for drivers traveling in this area.
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