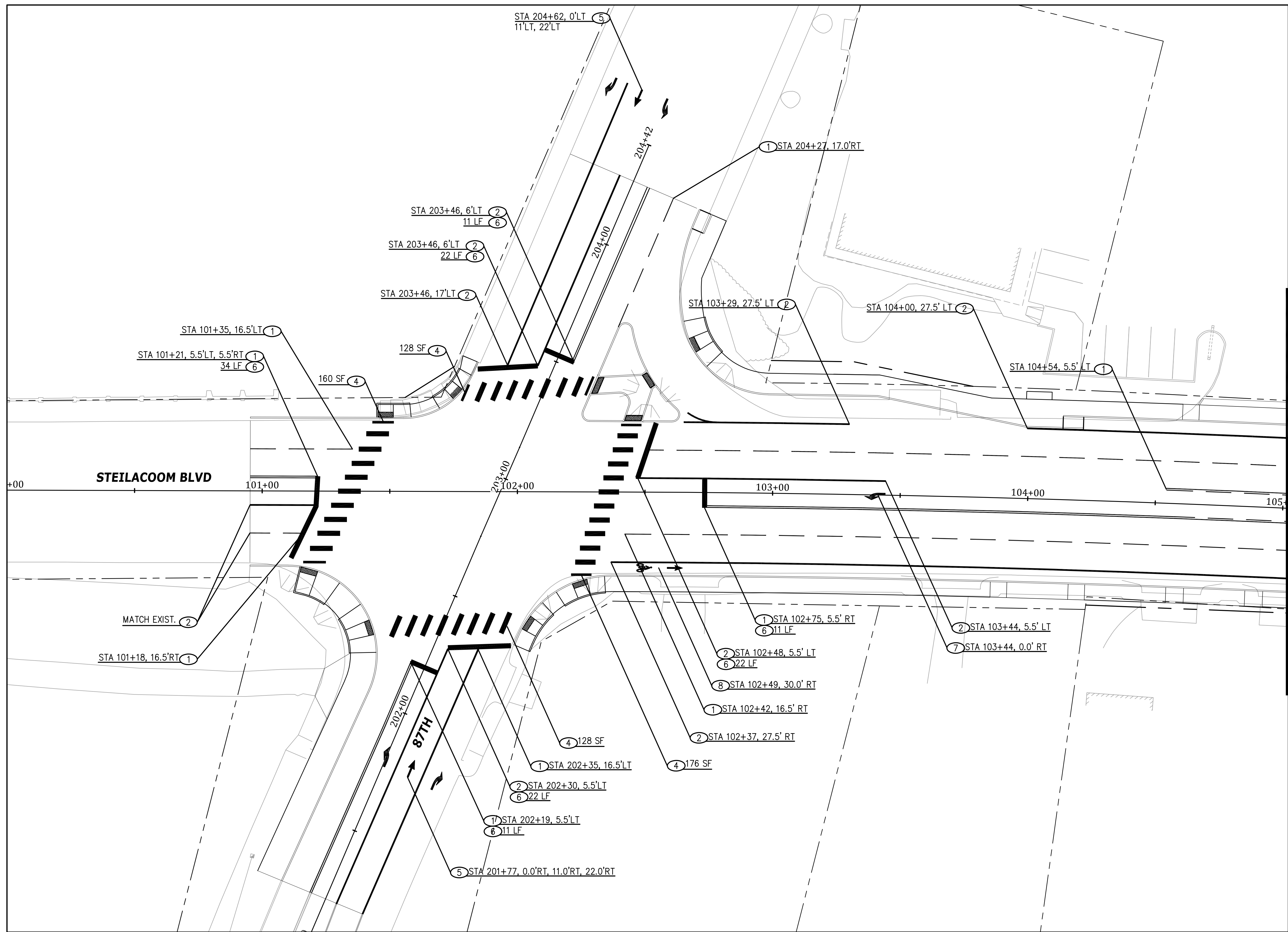
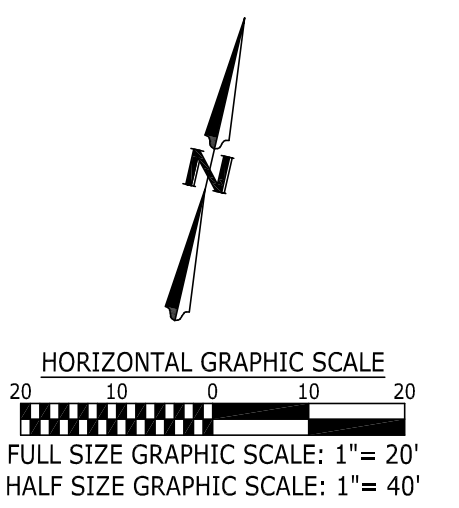


- CHANNELIZATION NOTES**
- 1 PROFILED PLASTIC LINE PER WSDOT STD PLAN M-20.20-02
 - 2 PLASTIC WIDE LANE LINE PER WSDOT STD PLAN M-20.10-04
 - 3 RAISED PAVEMENT MARKER TYPE 2 (YY) 40' O.C.
 - 4 PLASTIC CROSSWALK LINE PER WSDOT STD PLAN M-15.10-01
 - 5 PLASTIC TRAFFIC ARROW PER WSDOT STD PLAN M-24.40-02
 - 6 PLASTIC STOP LINE PER WSDOT STD PLAN M-20.60-04
 - 7 PLASTIC TRAFFIC LETTER PER WSDOT STD PLAN M-80.10-01
 - 8 PLASTIC BICYCLE LANE SYMBOL PER WSDOT STD PLAN M-9.50-02

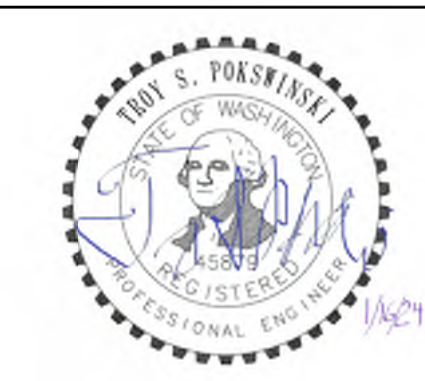


MATCH LINE STA. 105+00
SEE DRAWING CH2



No.	Release/Revision	Re. Date	Re. By
△			
△			
△			
△			
△			

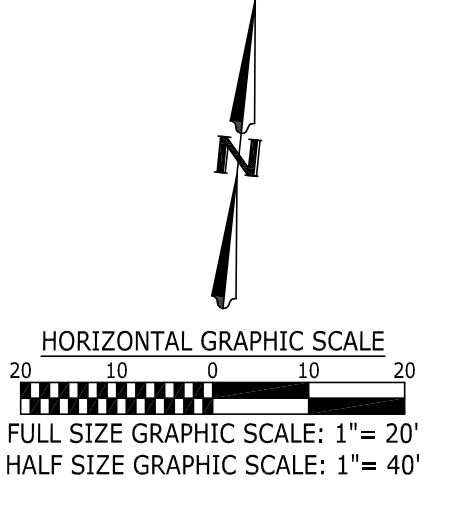
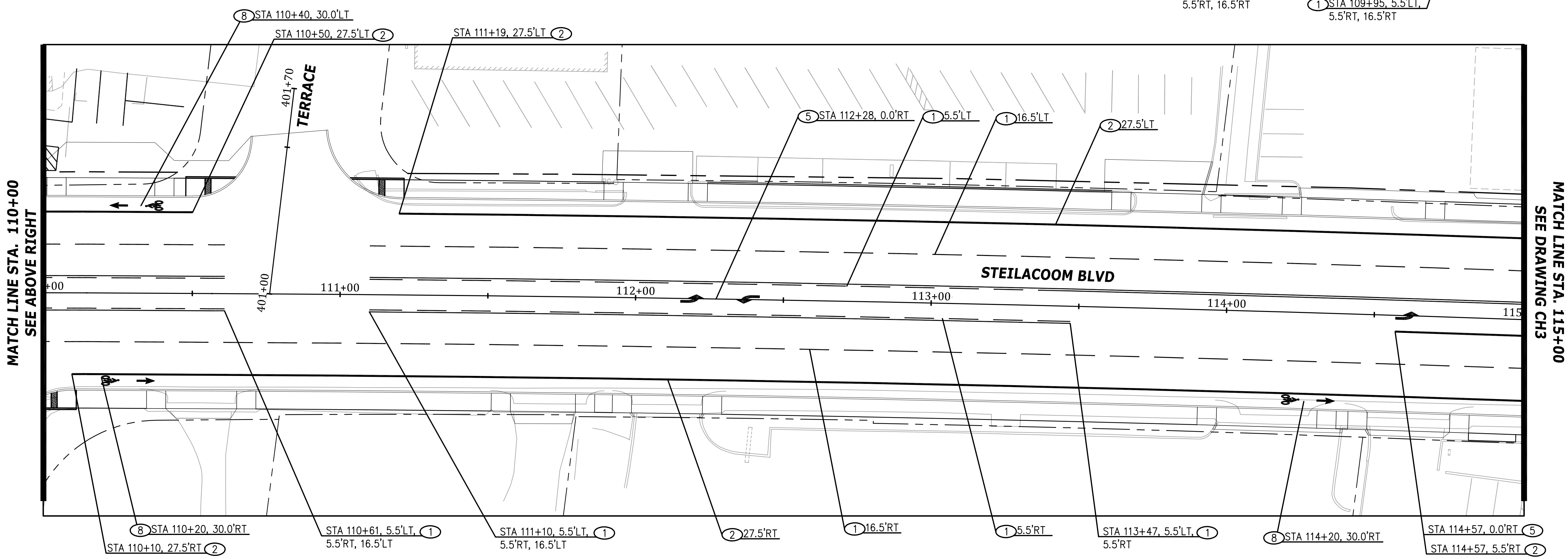
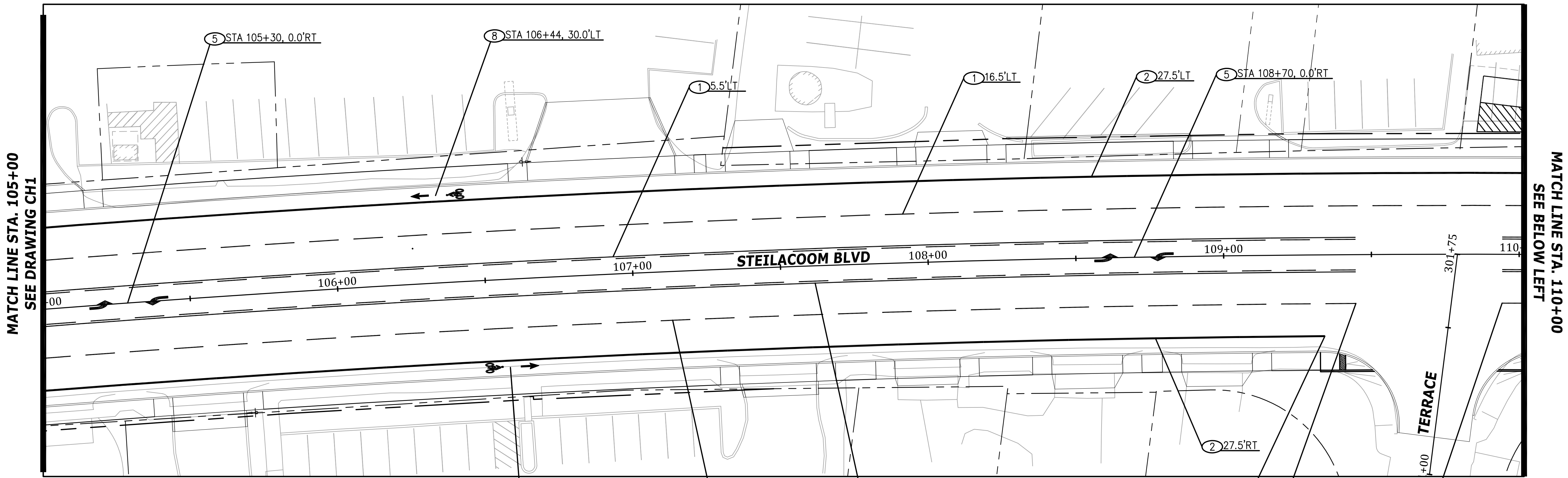
Designed By: T. POKSWINSKI
 Drawn By: T. POKSWINSKI
 Checked By: P. BUCICH
 Approved By: P. BUCICH
 Project Start Date: 12/11/18
 Drawing Scale: AS SHOWN
 Electronic File Name: 302.0024



Project Name: STEILACOOM BLVD - 87TH TO WELLER
 Drawing Name: CHANNELIZATION - STA. 100+00 TO STA. 105+00

Job No. 302.0133
 Drawing No. CH1
 Sheet 23 of 47

- CHANNELIZATION NOTES**
- 1 PROFILED PLASTIC LINE PER WSDOT STD PLAN M-20.20-02
 - 2 PLASTIC WIDE LANE LINE PER WSDOT STD PLAN M-20.10-04
 - 3 RAISED PAVEMENT MARKER TYPE 2 (YY) 40' O.C.
 - 4 PLASTIC CROSSWALK LINE PER WSDOT STD PLAN M-15.10-01
 - 5 PLASTIC TRAFFIC ARROW PER WSDOT STD PLAN M-24.40-02
 - 6 PLASTIC STOP LINE PER WSDOT STD PLAN M-20.60-04
 - 7 PLASTIC TRAFFIC LETTER PER WSDOT STD PLAN M-80.10-01
 - 8 PLASTIC BICYCLE LANE SYMBOL PER WSDOT STD PLAN M-9.50-02



No.	Release/Revision	Re. Date	Re. By
▲			
▲			
▲			
▲			
▲			

Designed By: T. POKSWINSKI
 Drawn By: T. POKSWINSKI
 Checked By: P. BUCICH
 Approved By: P. BUCICH
 Project Start Date: 12/11/18
 Drawing Scale: AS SHOWN
 Electronic File Name: 302.0024

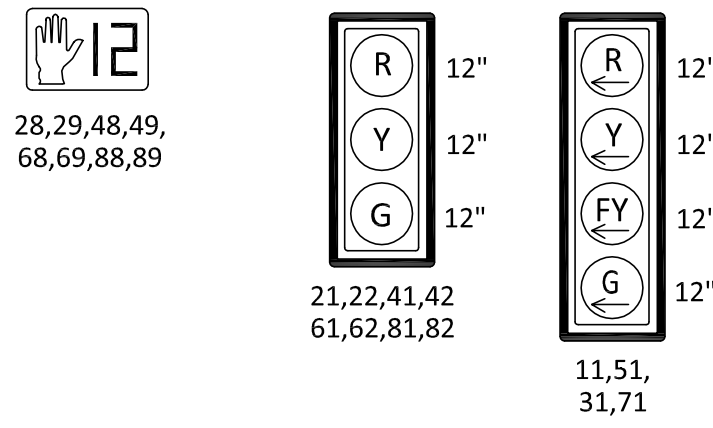


Project Name: STEILACOOM BLVD - 87TH TO WELLER
 Drawing Name: CHANNELIZATION - STA. 105+00 TO STA. 115+00

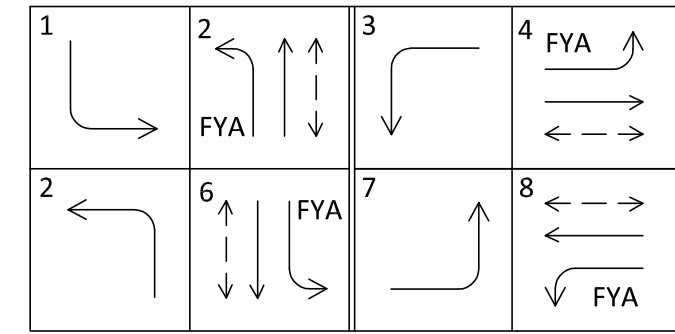
Job No. 302.0133
 Drawing No. CH2
 Sheet 24 of 47

SIGNAL HEAD DISPLAYS

ALL VEHICLE AND PEDESTRIAN HEADS SHALL BE LED. VEHICLE SIGNAL HEADS SHALL HAVE TUNNEL VISORS AND BACKPLATES. BACKPLATES SHALL HAVE TWO INCH REFLECTIVE TAPE ON OUTER EDGE FACING FRONT. VEHICLE HEADS SHALL USE MOUNT TYPE M PER WSDOT STD. PLAN J-75-20-01. PEDESTRIAN SIGNAL HEAD 28, 48, 49, 68, 69, 88 SHALL USE MOUNT TYPE D PER WSDOT STD. PLAN J-20-16-02. PEDESTRIAN SIGNAL HEADS 29, 89 SHALL USE MOUNT TYPE E PER WSDOT STANDARD PLAN J-75-10-02.



SIGNAL PHASE DIAGRAM



→ VEHICLE MOVEMENT
 ← PEDESTRIAN MOVEMENT
 FYA FLASHING YELLOW ARROW

PREEMPT SCHEDULE

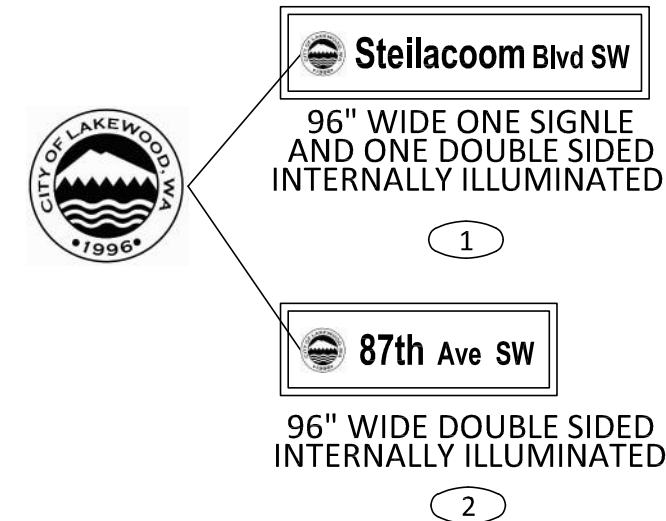
A	2&5
B	4&7
C	1&6
D	3&8

PUSHBUTTON SCHEDULE

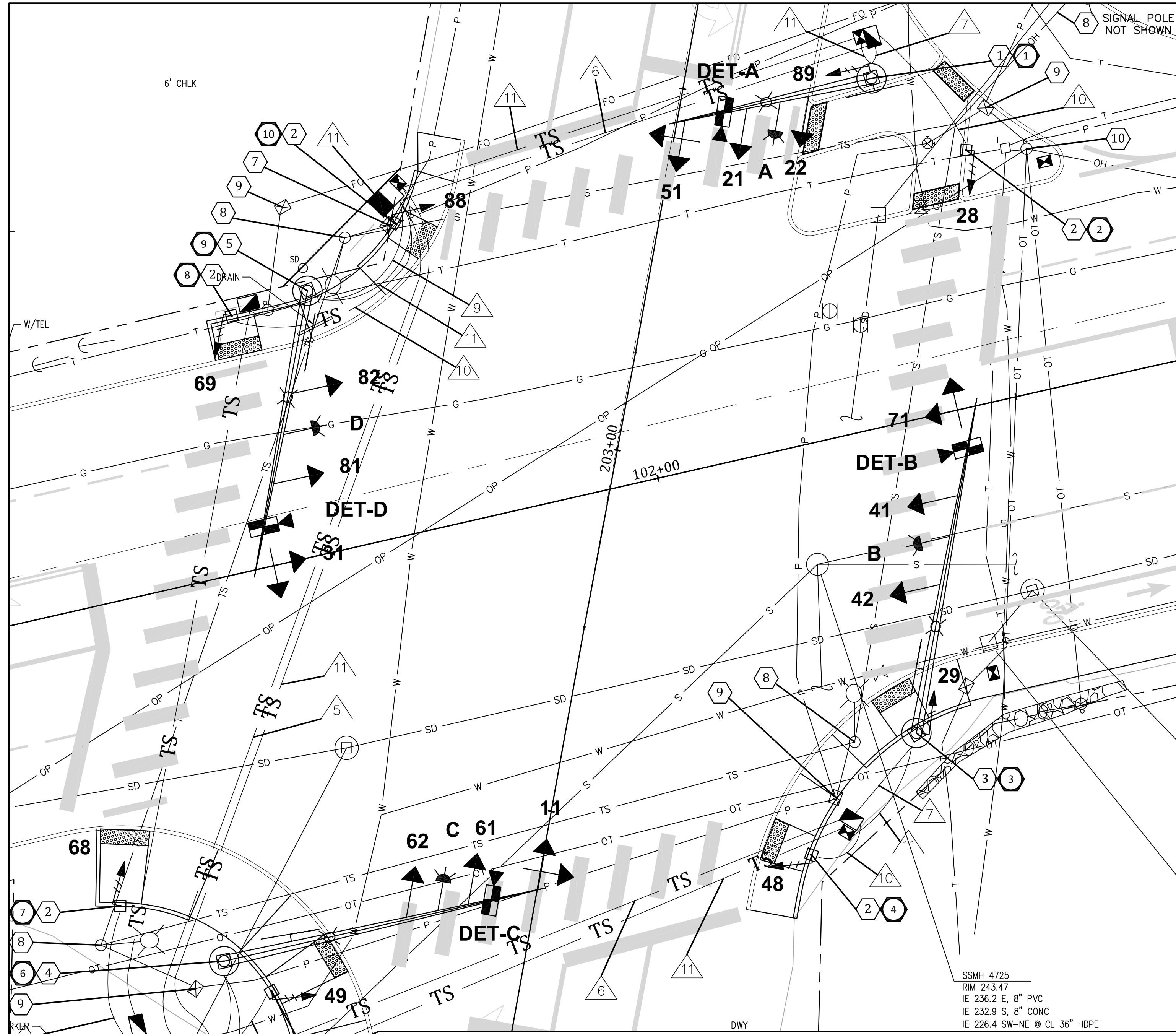
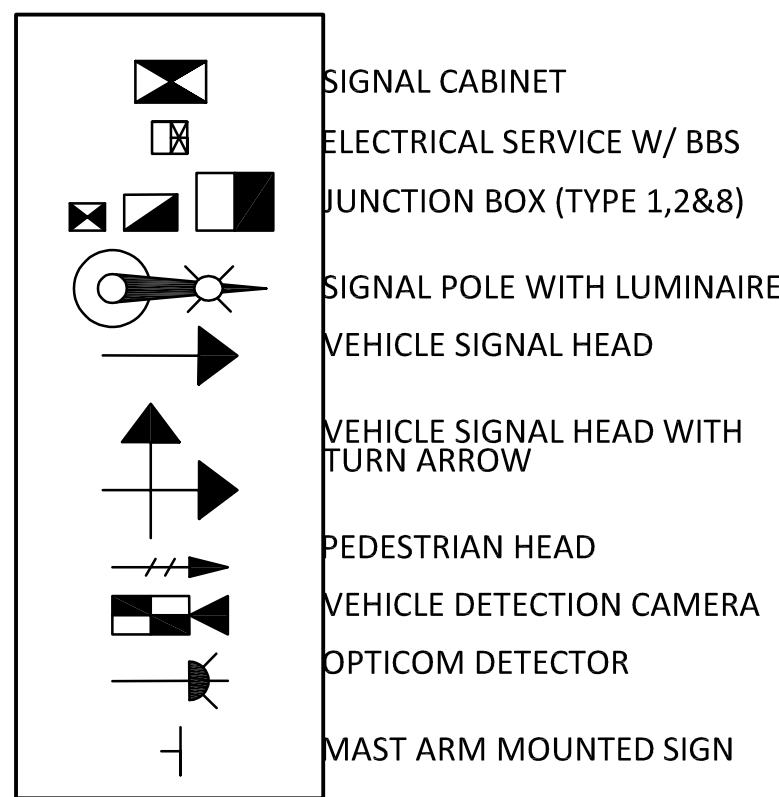
POLE NO.	PHASE	BUTTON DIRECTION
1	8	RIGHT
2	2	LEFT
3	2	LEFT
3	4	RIGHT
4	4	LEFT
4	6	RIGHT
6	6	LEFT
6	8	RIGHT

SEE SIGNAL STANDARD DETAIL CHART ON TS-4 FOR MOUNTING LOCATION ON POLE.

SIGNS



LEGEND



WIRING SCHEDULE***

RUN NO.	SIZE	SIGNAL HEAD 7C	SIGNAL HEAD 5C	PED HD & PPB 5C	PREEMPT 3CS	CAMERA CABLE 3C	SERVICE	ILLUM. #8	GROUND #8	ST NAME SIGN 3C	PTZ CAMERA 1-CAT5E 3-#12	NOTES*
1	**						3-3/0					ELECT. SERV. DATA SERV.
2	**						**					
3	2"						3#6					
4	(3)3"	4	4	8	4	4		1			1	1-3" SPARE
5	3"2"	2	2	4	2	2		1				1-2" SPARE
6	(2)2"	1	1	2	1	1		1				1-2" SPARE
7	(2)2"	1	1	1	1	1		1				1-2" SPARE
8	(2)2"	1	1	1	1	1		1			1	1-2" SPARE
9	(2)2"	1	1		1	1		1				1-2" SPARE
10	2"			1				1				
11	2"							2	1	1		

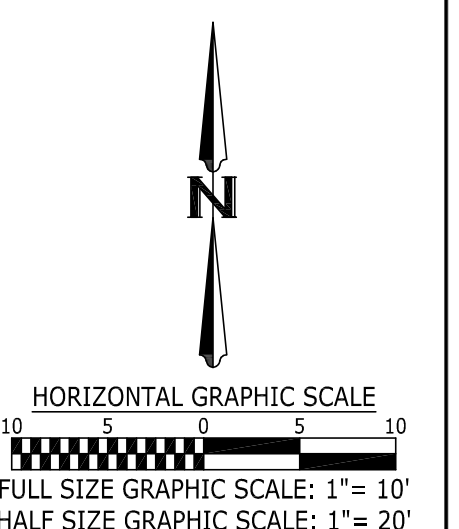
* SPARE CONDUIT NOTE SIGNIFIES NUMBER OF CONDUITS IN RUN TO REMAIN EMPTY AND DOES NOT IMPLY ADDITIONAL CONDUIT TO BE INSTALLED BEYOND WHAT IS SHOWN IN "SIZE" COLUMN
 ** AS REQUIRED BY UTILITY PURVEYOR
 *** SEE ILLUMINATION AND INTERCONNECT PLAN SHEETS FOR NON SIGNAL RELATED WIRING.

CONSTRUCTION NOTES

- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR AND ONE VEHICLE DETECTION CAMERA ON A 27.0 FOOT MAST ARM. FURNISH AND INSTALL ONE ILLUMINATED STREET NAME SIGN, ONE PEDESTRIAN SIGNAL HEAD, ONE PEDESTRIAN PUSHBUTTON AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A TYPE PS SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL ONE PEDESTRIAN SIGNAL HEAD AND ONE PEDESTRIAN PUSH BUTTON.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 46.0 FOOT MAST ARM. FURNISH AND INSTALL ONE PEDESTRIAN SIGNAL HEAD, ONE PEDESTRIAN PUSHBUTTON AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 44.5 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 39.5 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A COMBINATION FOUNDATION, ACCESS PAD, TYPE-44 CONTROLLER CABINET AND SERVICE CABINET WITH BATTERY BACKUP LOCATED AT STA 101+12.5 (66.8' RT) PER CITY OF LAKEWOOD STD. PLAN IS-05. CABINET DOORS SHALL FACE SOUTHWEST.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING CONTROLLER AND ELECTRICAL SERVICE CABINETS, ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FILED AND PER SPECIAL PROVISIONS. REMOVE SERVICE CONNECTION AT UTILITY POLE.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING SPAN WIRE SYSTEM AND ALL ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE AND EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS.
- REMOVE EXISTING JUNCTION BOX AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. REMOVE UNUSED WIRING AND CAP AND ABANDON EXISTING EMPTY CONDUIT (TYPICAL).
- FURNISH AND INSTALL ELECTRICAL RISER TO UTILITY POLE PER UTILITY PURVEYOR REQUIREMENTS.
- FURNISH AND INSTALL PAN TILT ZOOM CAMERA TO LUMINAIRE ARM AND TERMINATION PANEL IN SIGNAL CONTROL CABINET PER LAKEWOOD STD. PLAN IS-XX.

GENERAL NOTES

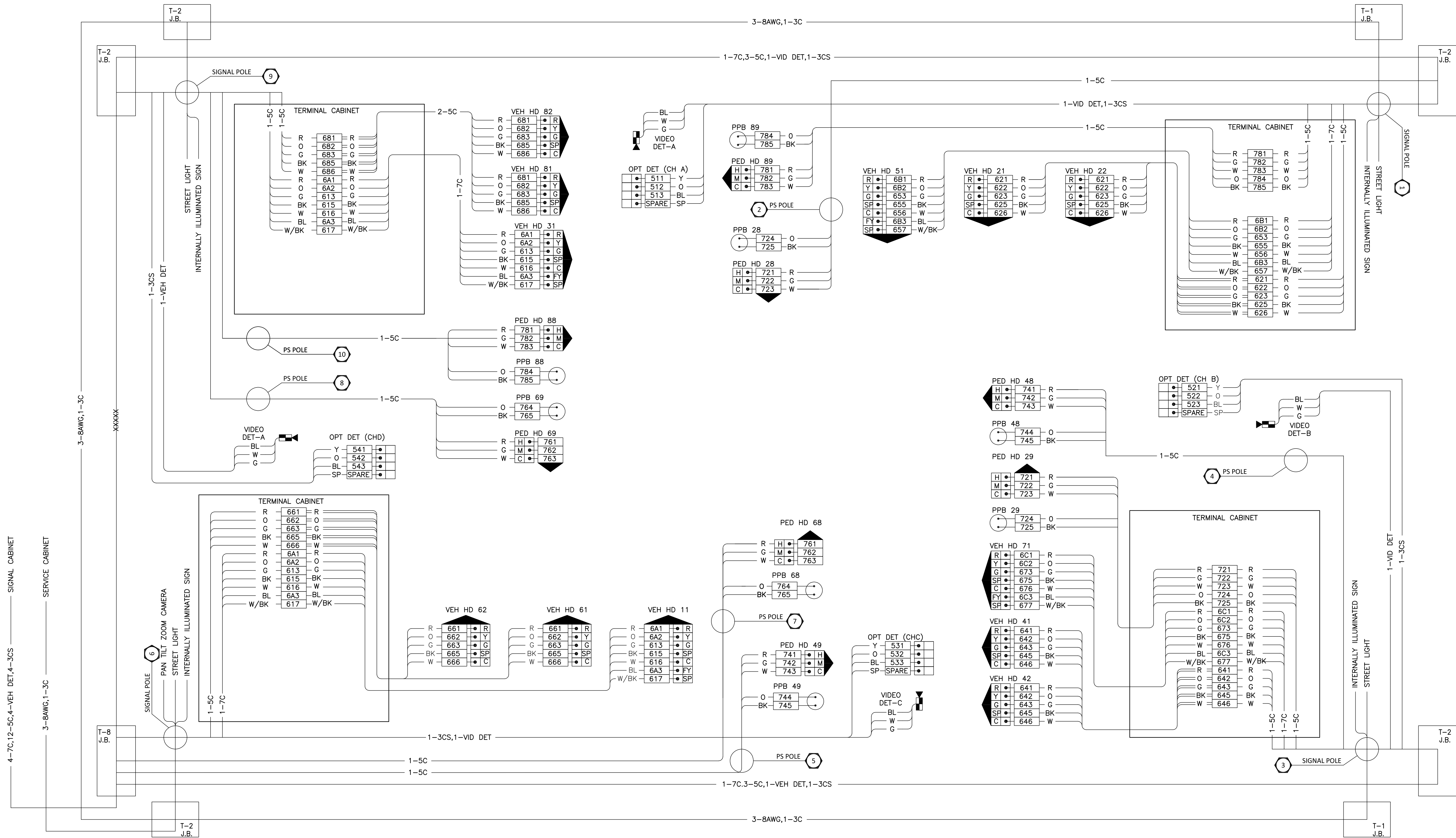
- EXISTING TRAFFIC SIGNAL SHALL REMAIN FULLY OPERATIONAL UNTIL DAY OF CHANGE OVER TO NEW FULLY FUNCTIONING TRAFFIC SIGNAL SYSTEM,
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION.
- ALL NEW FOUNDATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE OF 16'-6" FOR ALL SIGNAL HEADS ABOVE ROADWAY PRIOR TO PLACING THE SIGNAL POLE FOUNDATION.
- ALL CONDUCTORS SHALL BE LABELED IN EACH SIGNAL HEAD, TERMINATION BOX, AND SIGNAL CABINET.
- ALL TRAFFIC SIGNAL AND PEDESTRIAN HEADS AND PUSH BUTTONS SHALL BE SECURELY COVERED WHILE NOT IN OPERATION.
- CONDUIT SHALL BE PLACED IN THE SAME TRENCH WITH OTHER CONDUIT WHEN POSSIBLE.
- SEE LAKEWOOD STD. PLAN RW-XX TYPICAL ALL SIGNAL TRENCHING.
- SEE PLAN SHEET TS-13 FOR VEHICLE DETECTION CAMERA MOUNTING DETAILS.



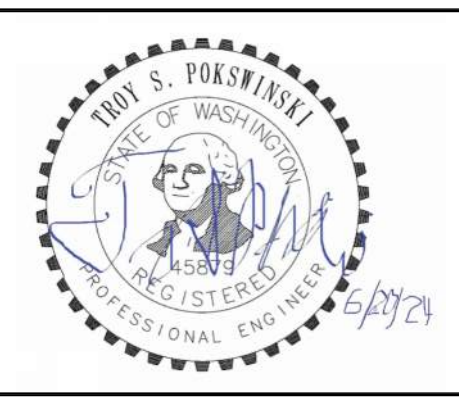
S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 8:15 AM

NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER J. HOWE DESIGN ENGINEER J. HOWE DRAWN BY WESTON OTT, P.E. CITY ENGINEER DESIGN START 10/20/18 SCALE AS SHOWN		PROJECT NAME STEILACOOM - 87TH TO WELLER DRAWING NAME TRAFFIC SIGNAL PLAN - 87TH AVENUE	PROJECT 302.0133 DRAWING TS1 27 of 47
-----	------------------	------	----	--	--	--	---

S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 8:19 AM



NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER
▲			J. HOWE DESIGN ENGINEER	
▲			J. HOWE DRAWN BY	
▲			WESTON OTT, P.E. CITY ENGINEER	
▲			DESIGN START 10/20/18	SCALE AS SHOWN



PROJECT NAME STEILACOOM - 87TH TO WELLER	PROJECT 302.0133
DRAWING NAME TRAFFIC SIGNAL WIRING DIAGRAM - 87TH	DRAWING TS2
	28 of 47

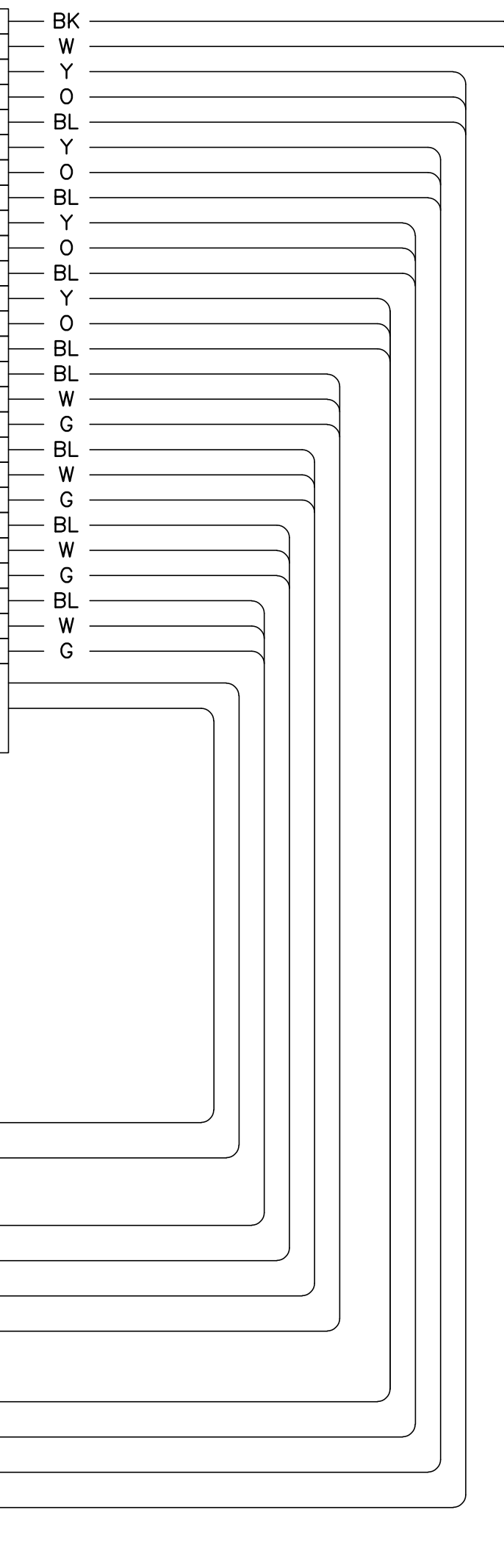
S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 8:27 AM

WIRING FROM FIELD

- 1-12ST FIBER INTERCONNECT
- 1-12CT COPPER INTERCONNECT
- 1-3C FROM POLE NO. 9 (VIDEO DET D)
- 1-3C FROM POLE NO. 6 (VIDEO DET C)
- 1-3C FROM POLE NO. 3 (VIDEO DET B)
- 1-3C FROM POLE NO. 1 (VIDEO DET A)
- 1-3CS FROM POLE NO. 9 CH D
- 1-3CS FROM POLE NO. 6 CH C
- 1-3CS FROM POLE NO. 3 CH B
- 1-3CS FROM POLE NO. 1 CH A
- 3 NO. 6 FROM POWER SOURCE
- 7C FROM POLE NO. 1
- 5C FROM POLE NO. 1
- 5C FROM POLE NO. 2
- 5C FROM POLE NO. 1
- 7C FROM POLE NO. 3
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 4
- 7C FROM POLE NO. 6
- 5C FROM POLE NO. 6
- 5C FROM POLE NO. 5
- 5C FROM POLE NO. 7
- 7C FROM POLE NO. 9
- 5C FROM POLE NO. 9
- 5C FROM POLE NO. 8
- 5C FROM POLE NO. 10

CONTROLLER CABINET

AC+	501	BK
AC-	502	W
	511	Y
	512	O
	513	BL
	521	Y
	522	O
	523	BL
	531	Y
	532	O
	533	BL
	541	Y
	542	O
	543	BL
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GRD	G

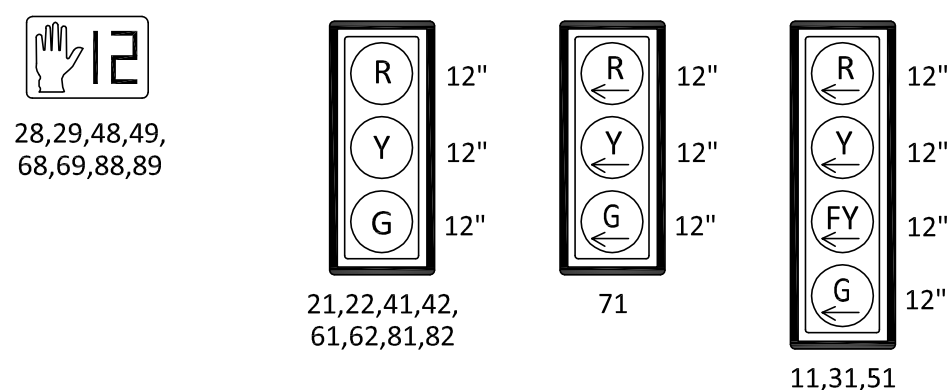


R	611	VEHICLE SIGNAL HEADS
O	612	
G	613	
BK	615	
W	616	
R	621	
O	622	
G	623	
BK	625	
W	626	
R	631	
O	632	
G	633	VEHICLE SIGNAL HEADS
BK	635	
W	636	
R	641	
O	642	
G	643	
BK	645	
W	646	
R	651	
O	652	
G	653	
BK	655	
W	656	
R	661	
O	662	
G	663	
BK	665	
W	666	
R	671	
O	672	
G	673	
BK	675	
W	676	PEDESTRIAN HEADS
R	681	
O	682	
G	683	
BK	685	
W	686	
R	721	
G	722	
W	723	
R	741	
G	742	
W	743	
R	761	
G	762	
W	763	
R	781	
G	782	
W	783	
O	724	PUSHBUTTONS
BK	725	
O	744	
BK	745	
O	764	
BK	765	
O	784	
BK	785	
R	6A1	
Y	6A2	
BL	6A3	
W/BK	617	
R	6B1	
Y	6B2	
BL	6B3	
W/BK	637	
R	6C1	
Y	6C2	
BL	6C3	
W/BK	657	
R	6D1	
Y	6D2	
BL	6D3	
W/BK	677	

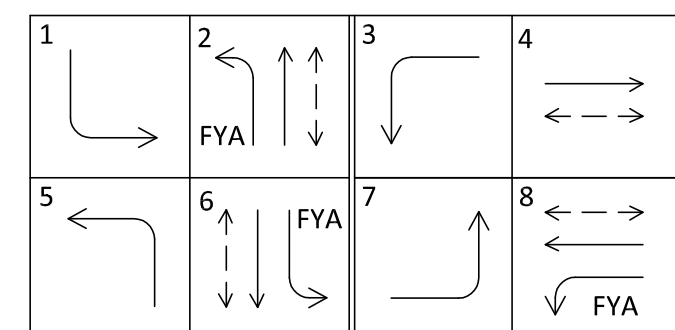
NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER	 	PROJECT NAME	PROJECT
				J. HOWE DESIGN ENGINEER		STEILACOOM - 87TH TO WELLER	302.0133
				J. HOWE DRAWN BY		DRAWING NAME	TS3
				WESTON OTT, P.E. CITY ENGINEER		TRAFFIC SIGNAL CABINET TERMINATION DIAGRAM - 87TH	29 of 47
			SCALE 10/20/18 AS SHOWN				

SIGNAL HEAD DISPLAYS

ALL VEHICLE AND PEDESTRIAN HEADS SHALL BE LED. VEHICLE SIGNAL HEADS SHALL HAVE TUNNEL VISORS AND BACKPLATES. BACKPLATES SHALL HAVE TWO INCH REFLECTIVE TAPE ON OUTER EDGE FACING FRONT. VEHICLE HEADS SHALL USE MOUNT TYPE M PER WSDOT STD. PLAN J-75.20-01. PEDESTRIAN SIGNAL HEADS 28,29,48,49,68,69,88,89 SHALL USE MOUNT TYPE C PER WSDOT STD. PLANJ-20.16-02.



SIGNAL PHASE DIAGRAM



→ VEHICLE MOVEMENT
 ← PEDESTRIAN MOVEMENT
 FYA FLASHING YELLOW ARROW

PREEMPT SCHEDULE

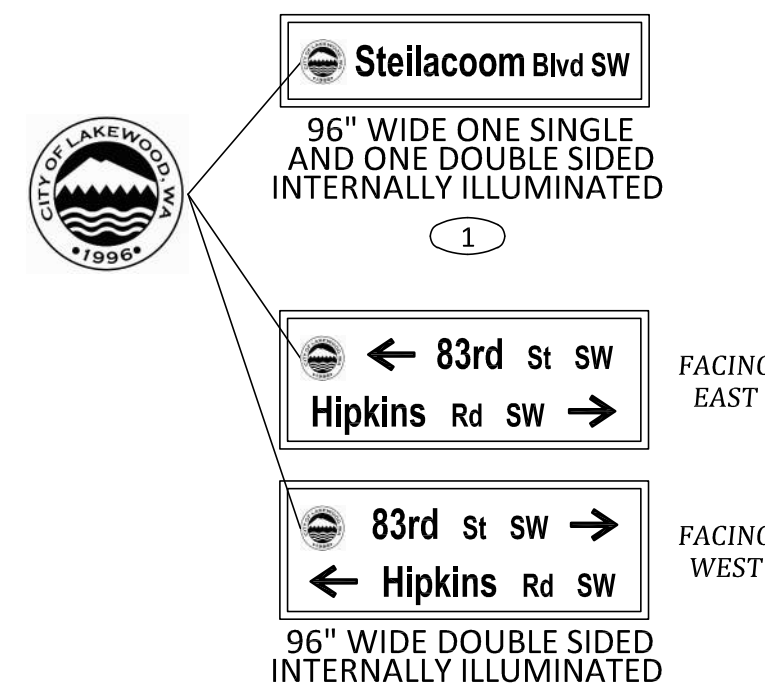
A	2&5
B	4&7
C	1&6
D	3&8

PUSHBUTTON SCHEDULE

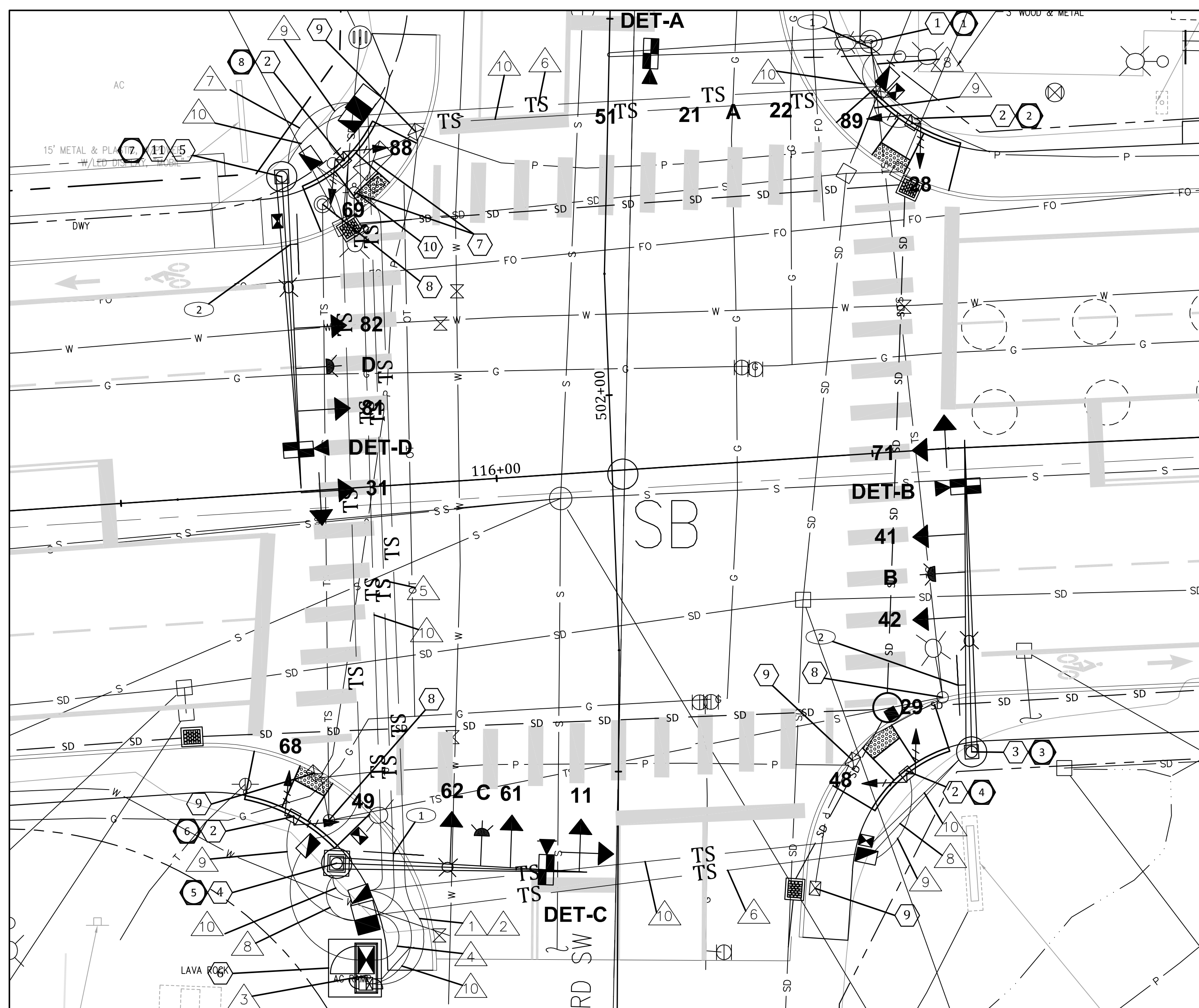
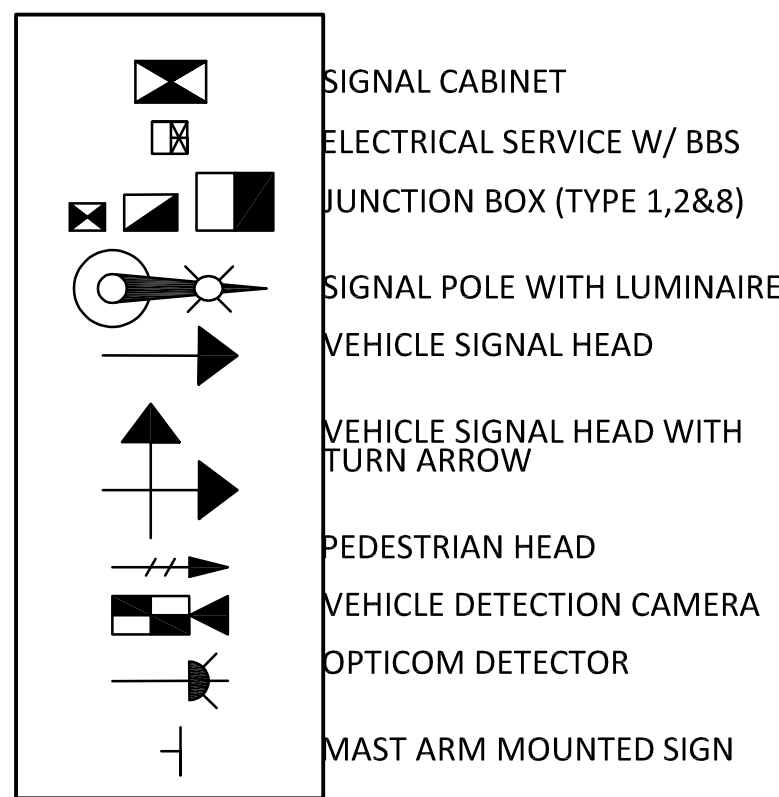
POLE NO.	PHASE	BUTTON DIRECTION
2	2	RIGHT
2	8	LEFT
4	2	LEFT
4	4	RIGHT
6	4	LEFT
6	6	RIGHT
8	6	LEFT
8	8	RIGHT

SEE SIGNAL STANDARD DETAIL CHART ON TS-13 FOR MOUNTING LOCATION ON POLE.

SIGNS



LEGEND



WIRING SCHEDULE***

RUN NO.	SIZE	SIGNAL HEAD 7C	SIGNAL HEAD 5C	PED HD & PPB 5C	PREEMPT 3CS	CAMERA CABLE 3C	SERVICE	ILLUM. #8	GROUND #8	ST NAME SIGN 3C	BLANKOUT SIGN 3C	SCHOOL SIGN 3C	PTZ CAMERA 1-CAT5E 3-#12	NOTES*
1	**						3-3/0							ELECT. SERV.
2	**						**							DATA SERV.
3	2"						3#6							
4	(3)3"	4	4	8	4	4			1				1	1-3" SPARE
5	3",2"	2	2	4	2	2			1				1	1-2" SPARE
6	(2)2"	1	1	2	1	1			1					1-2" SPARE
7	(2)2"	1	1	1	1	1			1				1	1-2" SPARE
8	(2)2"	1	1		1	1			1					1-2" SPARE
9	2"			2					1					
10	2"							2	1	1				
11														
12														
13														
14														
15														

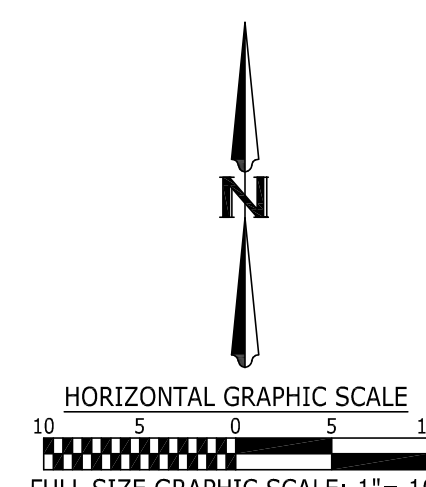
* SPARE CONDUIT NOTE SIGNIFIES NUMBER OF CONDUITS IN RUN TO REMAIN EMPTY AND DOES NOT IMPLY ADDITIONAL CONDUIT TO BE INSTALLED BEYOND WHAT IS SHOWN IN "SIZE" COLUMN
 ** AS REQUIRED BY UTILITY PURVEYOR
 *** SEE ILLUMINATION AND INTERCONNECT PLAN SHEETS FOR NON SIGNAL RELATED WIRING.

CONSTRUCTION NOTES

- PROTECT EXISTING SIGNAL POLE. REMOVE EXISTING PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS. CAP HOLES.
- FURNISH AND INSTALL A TYPE PS SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO PEDESTRIAN SIGNAL HEADS AND TWO PEDESTRIAN PUSH BUTTONS.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR AND ONE VEHICLE DETECTION CAMERA ON A 41.5 FOOT MAST ARM. FURNISH AND INSTALL ONE INTERNALLY ILLUMINATED STREET NAME SIGN AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 33.0 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 43.0 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A COMBINATION FOUNDATION, ACCESS PAD, TYPE-44 CONTROLLER CABINET AND SERVICE CABINET WITH BATTERY BACKUP LOCATED AT STA 115+76.9 (63.6' RT) PER CITY OF LAKEWOOD STD. PLAN IS-05. CABINET DOORS SHALL FACE WEST.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING CONTROLLER AND ELECTRICAL SERVICE METER, ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS. REMOVE SERVICE CONNECTION AT UTILITY POLE.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING SPAN WIRE SYSTEM AND ALL ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE AND EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS.
- REMOVE EXISTING JUNCTION BOX AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. REMOVE UNUSED WIRING AND CAP AND ABANDON EXISTING EMPTY CONDUIT (TYPICAL).
- FURNISH AND INSTALL ELECTRICAL RISER TO UTILITY POLE PER UTILITY PURVEYOR REQUIREMENTS.
- FURNISH AND INSTALL PAN TILT ZOOM CAMERA TO LUMINAIRE ARM AND TERMINATION PANEL IN SIGNAL CONTROL CABINET PER LAKEWOOD STD. PLAN IS-XX.

GENERAL NOTES

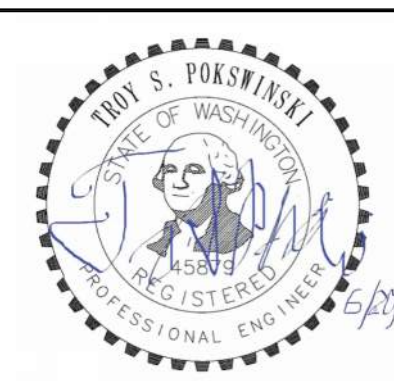
- EXISTING TRAFFIC SIGNAL SHALL REMAIN FULLY OPERATIONAL UNTIL DAY OF CHANGE OVER TO NEW FULLY FUNCTIONING TRAFFIC SIGNAL SYSTEM,
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION.
- ALL NEW FOUNDATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE OF 16'-6" FOR ALL SIGNAL HEADS ABOVE ROADWAY PRIOR TO PLACING THE SIGNAL POLE FOUNDATION.
- ALL CONDUCTORS SHALL BE LABELED IN EACH SIGNAL HEAD, TERMINATION BOX, AND SIGNAL CABINET.
- ALL TRAFFIC SIGNAL AND PEDESTRIAN HEADS AND PUSH BUTTONS SHALL BE SECURELY COVERED WHILE NOT IN OPERATION.
- CONDUIT SHALL BE PLACED IN THE SAME TRENCH WITH OTHER CONDUIT WHEN POSSIBLE.
- SEE LAKEWOOD STD. PLAN RW-XX TYPICAL ALL SIGNAL TRENCHING.
- SEE PLAN SHEET TS-13 FOR VEHICLE DETECTION CAMERA MOUNTING DETAILS.



S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 8:29 AM

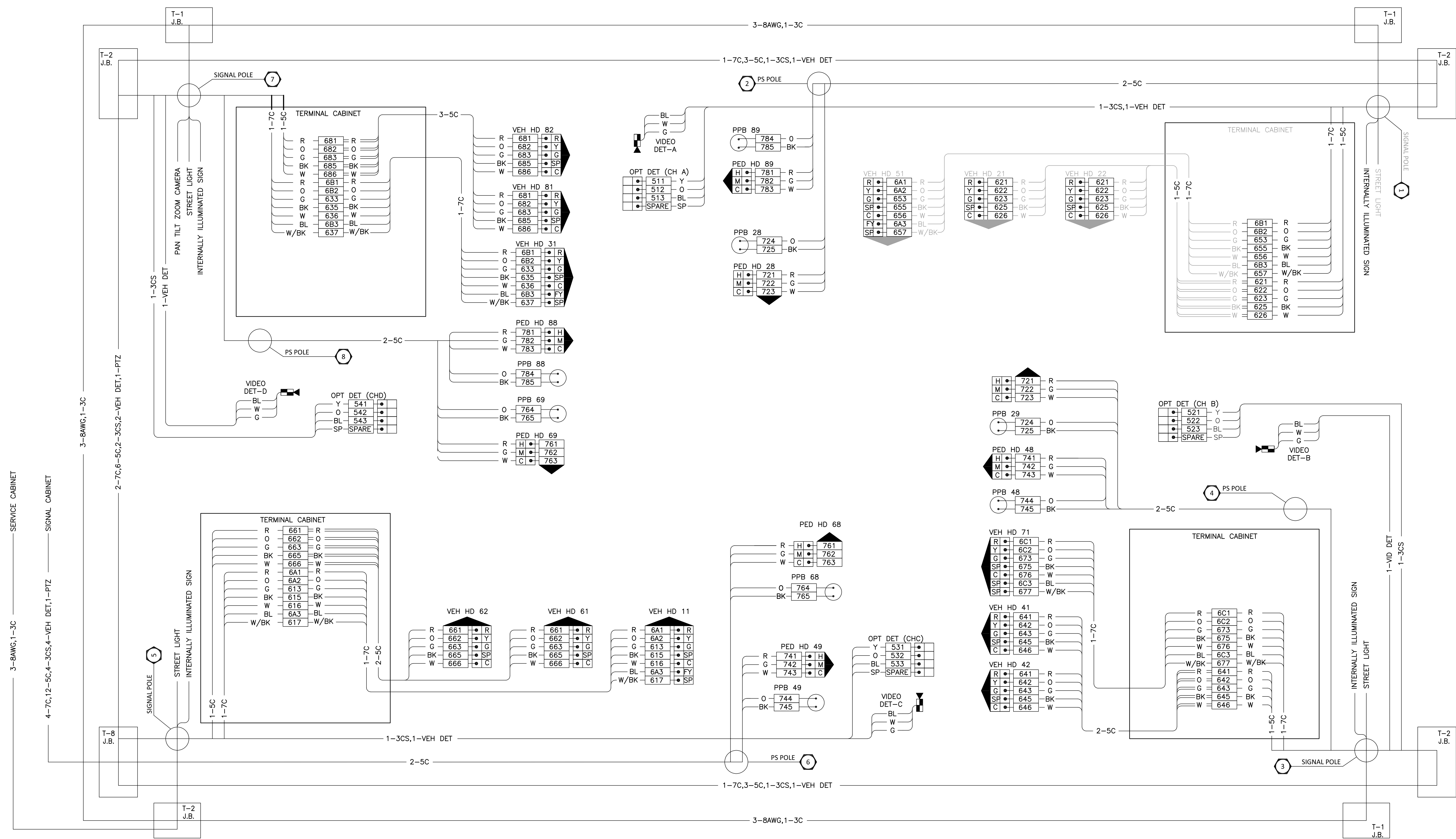
NO.	RELEASE/REVISION	DATE	BY

T. POKSWINSKI
 PROJECT ENGINEER
 J. HOWE
 DESIGN ENGINEER
 J. HOWE
 DRAWN BY
 WESTON OTT, P.E.
 CITY ENGINEER
 DESIGN START 10/20/18 SCALE AS SHOWN





PROJECT NAME	STEILACOOM - 87TH TO WELLER
DRAWING NAME	TRAFFIC SIGNAL PLAN - HIPKINS
PROJECT	302.0133
DRAWING	TS4
	30 of 47

S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 8:30 AM



NO.	RELEASE/REVISION	DATE	BY

T. POKSWINSKI PROJECT ENGINEER	 	PROJECT NAME	PROJECT
J. HOWE DESIGN ENGINEER		STEILACOOM - 87TH TO WELLER	302.0133
J. HOWE DRAWN BY		DRAWING NAME	TS5
WESTON OTT, P.E. CITY ENGINEER		TRAFFIC SIGNAL WIRING DIAGRAM - HIPKINS	31 of 47
DESIGN START 10/20/18		SCALE AS SHOWN	



PROJECT NAME	PROJECT
STEILACOOM - 87TH TO WELLER	302.0133
DRAWING NAME	DRAWING
TRAFFIC SIGNAL WIRING DIAGRAM - HIPKINS	TS5
	31 of 47

S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 8:31 AM

WIRING FROM FIELD

- 1-12ST FIBER INTERCONNECT
- 1-12CT COPPER INTERCONNECT
- 1-3C FROM POLE NO. 7 (VIDEO DET D)
- 1-3C FROM POLE NO. 5 (VIDEO DET C)
- 1-3C FROM POLE NO. 3 (VIDEO DET B)
- 1-3C FROM POLE NO. 1 (VIDEO DET A)
- 1-3CS FROM POLE NO. 7 CH D
- 1-3CS FROM POLE NO. 5 CH C
- 1-3CS FROM POLE NO. 3 CH B
- 1-3CS FROM POLE NO. 1 CH A
- 3 NO. 6 FROM POWER SOURCE
- 7C FROM POLE NO. 1
- 5C FROM POLE NO. 1
- 5C FROM POLE NO. 2
- 5C FROM POLE NO. 2
- 7C FROM POLE NO. 3
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 4
- 5C FROM POLE NO. 4
- 7C FROM POLE NO. 5
- 5C FROM POLE NO. 5
- 5C FROM POLE NO. 6
- 5C FROM POLE NO. 6
- 7C FROM POLE NO. 7
- 5C FROM POLE NO. 7
- 5C FROM POLE NO. 8
- 5C FROM POLE NO. 8

CONTROLLER CABINET

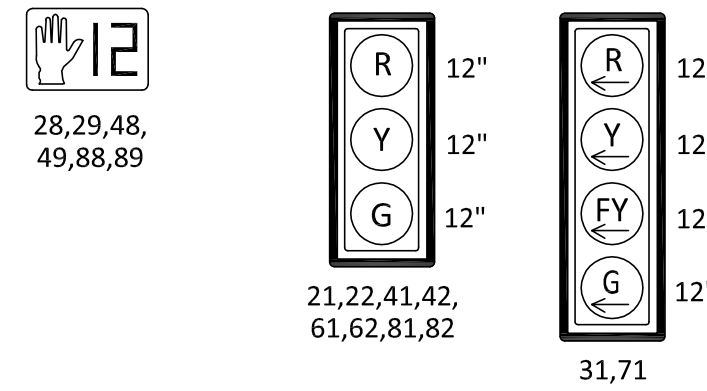
AC+	501	BK
AC-	502	W
	511	Y
	512	O
	513	BL
	521	Y
	522	O
	523	BL
	531	Y
	532	O
	533	BL
	541	Y
	542	O
	543	BL
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GRD	G
COMMUNI- CATION CABLE		

R	611	VEHICLE SIGNAL HEADS	
O	612		
G	613		
BK	615		
W	616		
R	621		
O	622		
G	623		
BK	625		
W	626		
R	631		
O	632		
G	633	VEHICLE SIGNAL HEADS	
BK	635		
W	636		
R	641		
O	642		
G	643		
BK	645		
W	646		
R	651		
O	652		
G	653		
BK	655		VEHICLE SIGNAL HEADS
W	656		
R	661		
O	662		
G	663		
BK	665		
W	666		
R	671		
O	672		
G	673		
BK	675		
W	676	PEDESTRIAN HEADS	
R	681		
O	682		
G	683		
BK	685		
W	686		
R	721		
G	722		
W	723		
R	741		
G	742		
W	743		
R	761		
G	762		
W	763		
R	781		
G	782		
W	783		
O	724	PEDESTRIAN HEADS	
BK	725		
O	744		
BK	745		
O	764		
BK	765		
O	784		
BK	785		
R	6A1		PUSHBUTTONS
Y	6A2		
BL	6A3		
W/BK	617		
R	6B1		
Y	6B2		
BL	6B3		
W/BK	637		
R	6C1		
Y	6C2		
BL	6C3		
W/BK	657		
R	6D1		
Y	6D2		
BL	6D3		
W/BK	677		

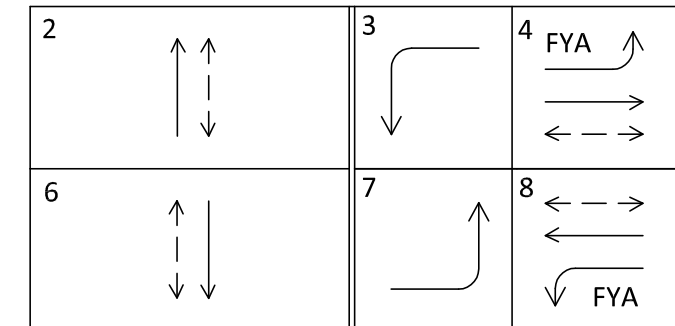
NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER	 	PROJECT NAME	STEILACOOM - 87TH TO WELLER	PROJECT	302.0133	
				J. HOWE DESIGN ENGINEER		DRAWING NAME	TRAFFIC SIGNAL CABINET TERMINATION DIAGRAM - HIPKINS	DRAWING	TS6	
				J. HOWE DRAWN BY						
				WESTON OTT, P.E. CITY ENGINEER		SCALE	AS SHOWN			32 of 47

SIGNAL HEAD DISPLAYS

ALL VEHICLE AND PEDESTRIAN HEADS SHALL BE LED. VEHICLE SIGNAL HEADS SHALL HAVE TUNNEL VISORS AND BACKPLATES. BACKPLATES SHALL HAVE TWO INCH REFLECTIVE TAPE ON OUTER EDGE FACING FRONT. VEHICLE HEADS SHALL USE MOUNT TYPE M PER WSDOT STD. PLAN J-75-20-01. PEDESTRIAN SIGNAL HEADS 29, 48 SHALL USE MOUNT TYPE C PER WSDOT STD. PLAN J-20-16-02. PEDESTRIAN SIGNAL HEAD 88 SHALL USE MOUNT TYPE D PER WSDOT STD. PLAN J-20-16-02. PEDESTRIAN SIGNAL HEADS 28, 49, 89 SHALL USE MOUNT TYPE E PER WSDOT STD. PLAN J-75-10-02.



SIGNAL PHASE DIAGRAM

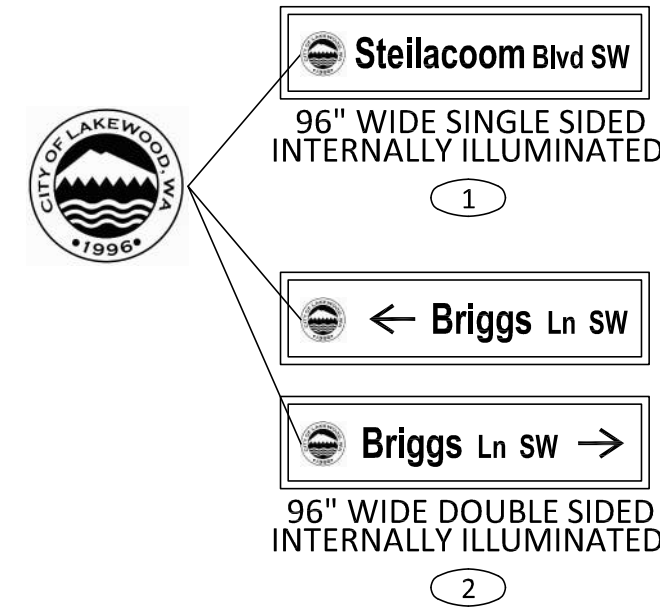


PREEMPT SCHEDULE

A	2
B	4&7
C	6
D	3&8

→ VEHICLE MOVEMENT
 ← PEDESTRIAN MOVEMENT
 FYA FLASHING YELLOW ARROW

SIGNS

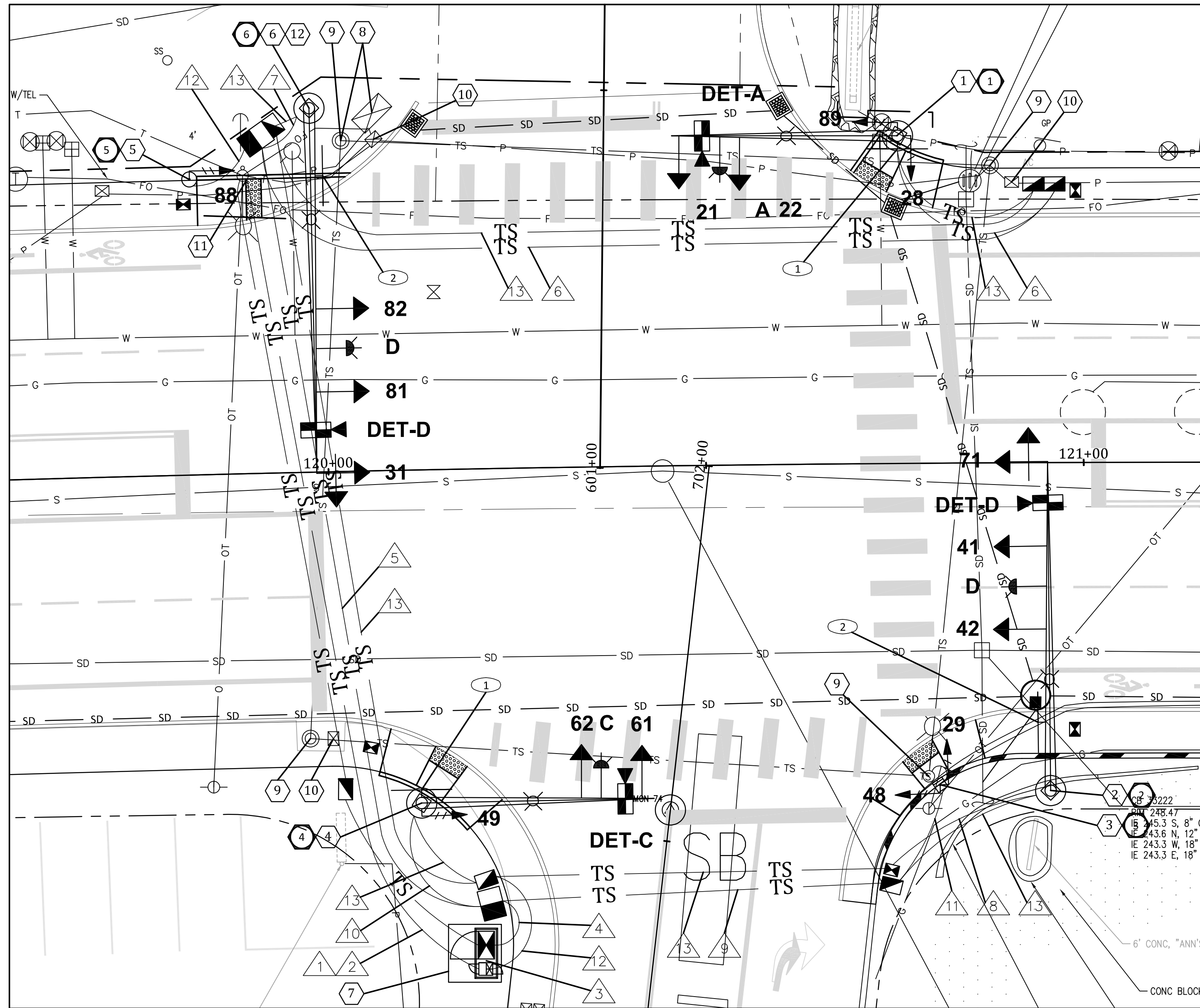
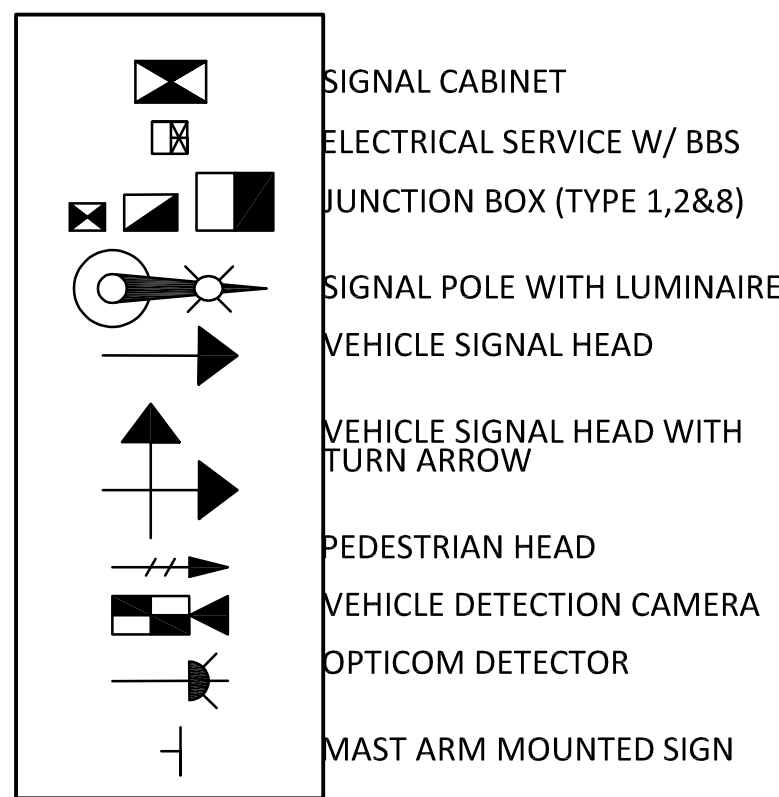


PUSHBUTTON SCHEDULE

POLE NO.	PHASE	BUTTON DIRECTION
1	2	RIGHT
1	8	LEFT
3	2	LEFT
3	4	RIGHT
4	4	LEFT
-	-	-
-	-	-
5	8	RIGHT

SEE SIGNAL STANDARD DETAIL CHART ON TS-13 FOR MOUNTING LOCATION ON POLE.

LEGEND



WIRING SCHEDULE***

RUN NO.	SIZE	SIGNAL HEAD 7C	SIGNAL HEAD 5C	PED HD & PPB 5C	PREEMPT 3CS	CAMERA CABLE 3C	SERVICE	ILLUM. #8	GROUND #8	ST NAME SIGN 3C	BLANKOUT SIGN 3C	SCHOOL SIGN 3C	PTZ CAMERA 1-CAT5E 3-#12	NOTES*
1	**						3-3/0							ELECT. SERV.
2	**						**							DATA SERV.
3	2"						3#6							
4	(3)3"	2	4	6	4	4			1			1		1-3" SPARE
5	3",2"	1	2	3	2	2			1			1		1-2" SPARE
6	(2)2"		1	2	1	1			1					1-2" SPARE
7	(2)2"	1	1	1	1	1			1			1		1-2" SPARE
8	(2)2"	1	1		1	1			1					1-2" SPARE
9	(2)2"	1	1	2	1	1			1					1-2" SPARE
10	2"		1	1	1	1			1					
11	2"				2				1					
12	2"			1					1					
13	2"							2	1	1				

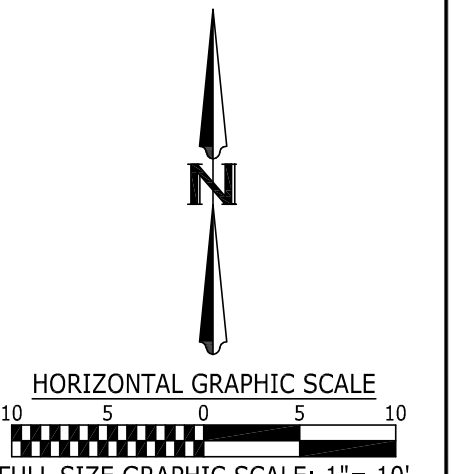
* SPARE CONDUIT NOTE SIGNIFIES NUMBER OF CONDUITS IN RUN TO REMAIN EMPTY AND DOES NOT IMPLY ADDITIONAL CONDUIT TO BE INSTALLED BEYOND WHAT IS SHOWN IN "SIZE" COLUMN
 ** AS REQUIRED BY UTILITY PURVEYOR
 *** SEE ILLUMINATION AND INTERCONNECT PLAN SHEETS FOR NON SIGNAL RELATED WIRING.

CONSTRUCTION NOTES

- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE TRAFFIC SIGN ON A 30.0 FOOT MAST ARM. FURNISH AND INSTALL ONE INTERNALLY ILLUMINATED STREET NAME SIGN, TWO PEDESTRIAN SIGNAL HEADS, TWO PEDESTRIAN PUSHBUTTONS AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 44.5 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A TYPE PS SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO PEDESTRIAN SIGNAL HEADS AND TWO PEDESTRIAN PUSH BUTTONS.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE TRAFFIC SIGN ON A 30.0 FOOT MAST ARM. FURNISH AND INSTALL ONE INTERNALLY ILLUMINATED STREET NAME SIGN, ONE PEDESTRIAN SIGNAL HEAD, ONE PEDESTRIAN PUSHBUTTON AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A TYPE PS SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL ONE PEDESTRIAN SIGNAL HEAD AND ONE PEDESTRIAN PUSH BUTTON.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 49.5 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A COMBINATION FOUNDATION, ACCESS PAD, TYPE-44 CONTROLLER CABINET AND SERVICE CABINET WITH BATTERY BACKUP LOCATED AT STA 120+18.2 (64.1' RT) PER CITY OF LAKEWOOD STD. PLAN IS-05. CABINET DOORS SHALL FACE WEST.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING CONTROLLER AND ELECTRICAL SERVICE CABINETS, ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS. REMOVE SERVICE CONNECTION AT UTILITY POLE.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING SPAN WIRE SYSTEM AND ALL ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE AND EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS.
- REMOVE EXISTING JUNCTION BOX AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. REMOVE UNUSED WIRING AND CAP AND ABANDON EXISTING EMPTY CONDUIT (TYPICAL).
- FURNISH AND INSTALL ELECTRICAL RISER TO UTILITY POLE PER UTILITY PURVEYOR REQUIREMENT
- FURNISH AND INSTALL PAN TILT ZOOM CAMERA TO LUMINAIRE ARM AND TERMINATION PANEL IN SIGNAL CONTROL CABINET PER LAKEWOOD STD. PLAN IS-XX.

GENERAL NOTES

- EXISTING TRAFFIC SIGNAL SHALL REMAIN FULLY OPERATIONAL UNTIL DAY OF CHANGE OVER TO NEW FULLY FUNCTIONING TRAFFIC SIGNAL SYSTEM,
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION.
- ALL NEW FOUNDATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE OF 16'-6" FOR ALL SIGNAL HEADS ABOVE ROADWAY PRIOR TO PLACING THE SIGNAL POLE FOUNDATION.
- ALL CONDUCTORS SHALL BE LABELED IN EACH SIGNAL HEAD, TERMINATION BOX, AND SIGNAL CABINET.
- ALL TRAFFIC SIGNAL AND PEDESTRIAN HEADS AND PUSH BUTTONS SHALL BE SECURELY COVERED WHILE NOT IN OPERATION.
- CONDUIT SHALL BE PLACED IN THE SAME TRENCH WITH OTHER CONDUIT WHEN POSSIBLE.
- SEE LAKEWOOD STD. PLAN RW-XX TYPICAL ALL SIGNAL TRENCHING.
- SEE PLAN SHEET TS-13 FOR VEHICLE DETECTION CAMERA MOUNTING DETAILS.



S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 8:33 AM

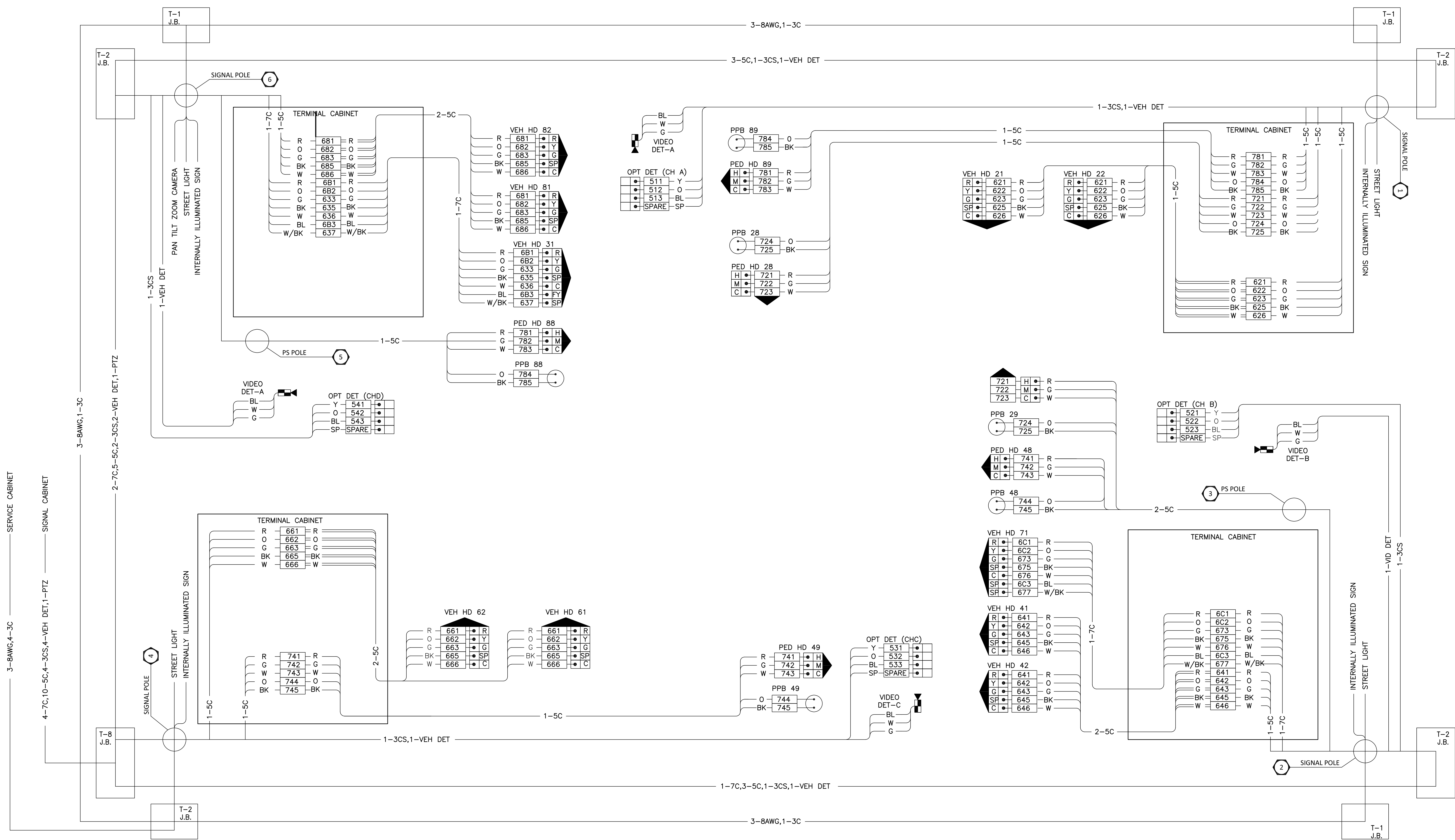
NO.	RELEASE/REVISION	DATE	BY

T. POKSWINSKI
 PROJECT ENGINEER
 J. HOWE
 DESIGN ENGINEER
 J. HOWE
 DRAWN BY
 WESTON OTT, P.E.
 CITY ENGINEER
 DESIGN START 10/20/18
 SCALE AS SHOWN



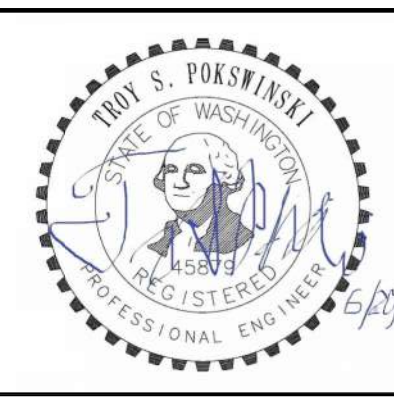
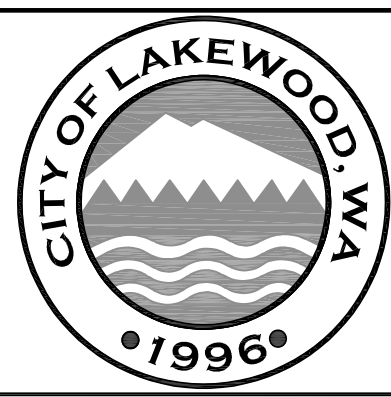
PROJECT NAME	STEILACOOM - 87TH TO WELLER	PROJECT	302.0133
DRAWING NAME	TRAFFIC SIGNAL PLAN - BRIGGS	DRAWING	TS7
			33 of 47

S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 8:34 AM



NO.	RELEASE/REVISION	DATE	BY

T. POKSWINSKI PROJECT ENGINEER		PROJECT NAME STEILACOOM - 87TH TO WELLER	PROJECT 302.0133
J. HOWE DESIGN ENGINEER		DRAWING NAME TRAFFIC SIGNAL WIRING DIAGRAM - BRIGGS	DRAWING TS8
J. HOWE DRAWN BY			34 of 47
WESTON OTT, P.E. CITY ENGINEER			
DESIGN START 10/20/18	SCALE AS SHOWN		



PROJECT NAME
STEILACOOM - 87TH TO WELLER

DRAWING NAME
TRAFFIC SIGNAL WIRING DIAGRAM - BRIGGS

PROJECT
302.0133

DRAWING
TS8

34 of 47

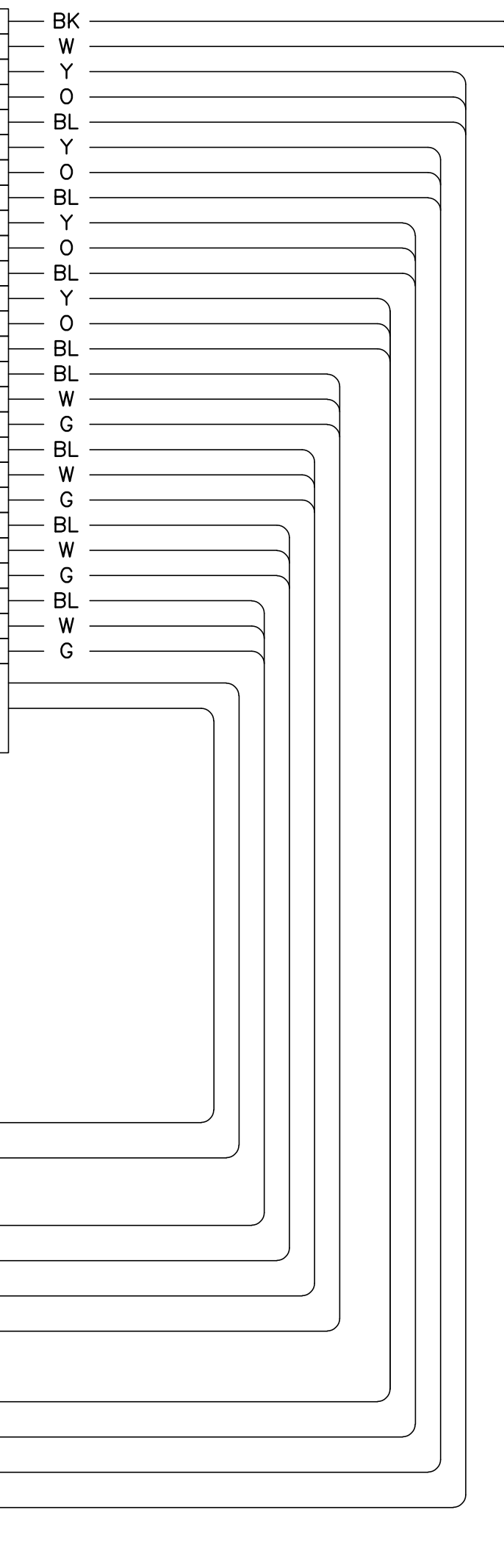
S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 8:35 AM

WIRING FROM FIELD

- 1-12ST FIBER INTERCONNECT
- 1-12CT COPPER INTERCONNECT
- 1-3C FROM POLE NO. 6 (VIDEO DET D)
- 1-3C FROM POLE NO. 4 (VIDEO DET C)
- 1-3C FROM POLE NO. 2 (VIDEO DET B)
- 1-3C FROM POLE NO. 1 (VIDEO DET A)
- 1-3CS FROM POLE NO. 6 CH D
- 1-3CS FROM POLE NO. 4 CH C
- 1-3CS FROM POLE NO. 2 CH B
- 1-3CS FROM POLE NO. 1 CH A
- 3 NO. 6 FROM POWER SOURCE
- 5C FROM POLE NO. 1
- 5C FROM POLE NO. 1
- 5C FROM POLE NO. 1
- 7C FROM POLE NO. 2
- 5C FROM POLE NO. 2
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 4
- 5C FROM POLE NO. 4
- 5C FROM POLE NO. 4
- 7C FROM POLE NO. 6
- 5C FROM POLE NO. 6
- 5C FROM POLE NO. 6
- 5C FROM POLE NO. 5

CONTROLLER CABINET

AC+	501	BK
AC-	502	W
	511	Y
	512	O
	513	BL
	521	Y
	522	O
	523	BL
	531	Y
	532	O
	533	BL
	541	Y
	542	O
	543	BL
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GRD	G



R	611	VEHICLE SIGNAL HEADS
O	612	
G	613	
BK	615	
W	616	
R	621	
O	622	
G	623	
BK	625	
W	626	
R	631	
O	632	
G	633	VEHICLE SIGNAL HEADS
BK	635	
W	636	
R	641	
O	642	
G	643	
BK	645	
W	646	
R	651	
O	652	
G	653	
BK	655	
W	656	
R	661	
O	662	
G	663	
BK	665	
W	666	
R	671	
O	672	
G	673	
BK	675	
W	676	PEDESTRIAN HEADS
R	681	
O	682	
G	683	
BK	685	
W	686	
R	721	
G	722	
W	723	
R	741	
G	742	
W	743	
R	761	
G	762	
W	763	
R	781	PEDESTRIAN HEADS
G	782	
W	783	
O	724	
BK	725	
O	744	
BK	745	
O	764	
BK	765	
O	784	
BK	785	

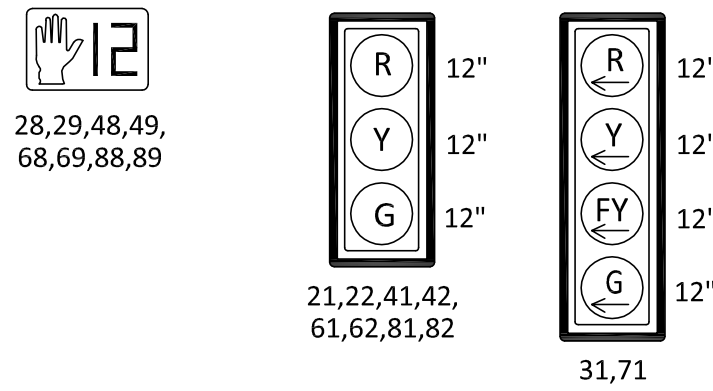
R	6B1
Y	6B2
BL	6B3
W/BK	637

R	6D1
Y	6D2
BL	6D3
W/BK	677

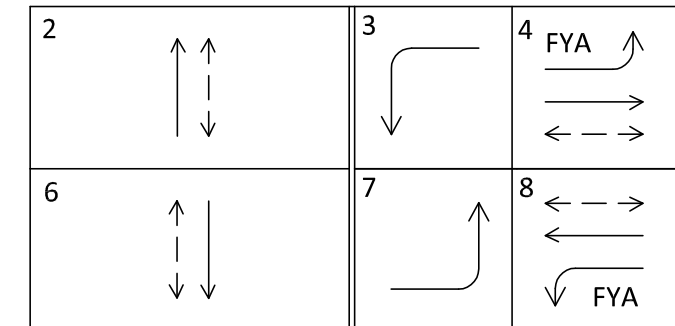
NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER	 	PROJECT NAME	STEILACOOM - 87TH TO WELLER	PROJECT	302.0133
				J. HOWE DESIGN ENGINEER		DRAWING NAME	TRAFFIC SIGNAL CABINET TERMINATION DIAGRAM - BRIGGS	DRAWING	TS9
				J. HOWE DRAWN BY					
				WESTON OTT, P.E. CITY ENGINEER					
				DESIGN START 10/20/18	SCALE AS SHOWN				35 of 47

SIGNAL HEAD DISPLAYS

ALL VEHICLE AND PEDESTRIAN HEADS SHALL BE LED. VEHICLE SIGNAL HEADS SHALL HAVE TUNNEL VISORS AND BACKPLATES. BACKPLATES SHALL HAVE TWO INCH REFLECTIVE TAPE ON OUTER EDGE FACING FRONT. VEHICLE HEADS SHALL USE MOUNT TYPE M PER WSDOT STD. PLAN J-75-20-01. PEDESTRIAN SIGNAL HEADS SHALL USE MOUNT TYPE C PER WSDOT STD. PLAN J-75-20-16-02. PEDESTRIAN SIGNAL HEADS 28,29 SHALL USE MOUNT TYPE E PER WSDOT STD. PLAN J-75-10-02.



SIGNAL PHASE DIAGRAM

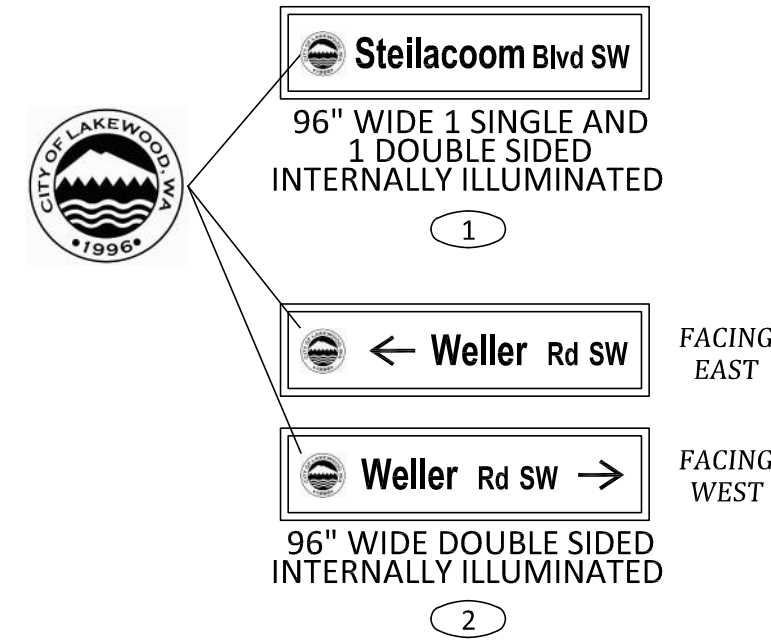


→ VEHICLE MOVEMENT
 ← PEDESTRIAN MOVEMENT
 FYA FLASHING YELLOW ARROW

PREEMPT SCHEDULE

A	2
B	4&7
C	6
D	3&8

SIGNS

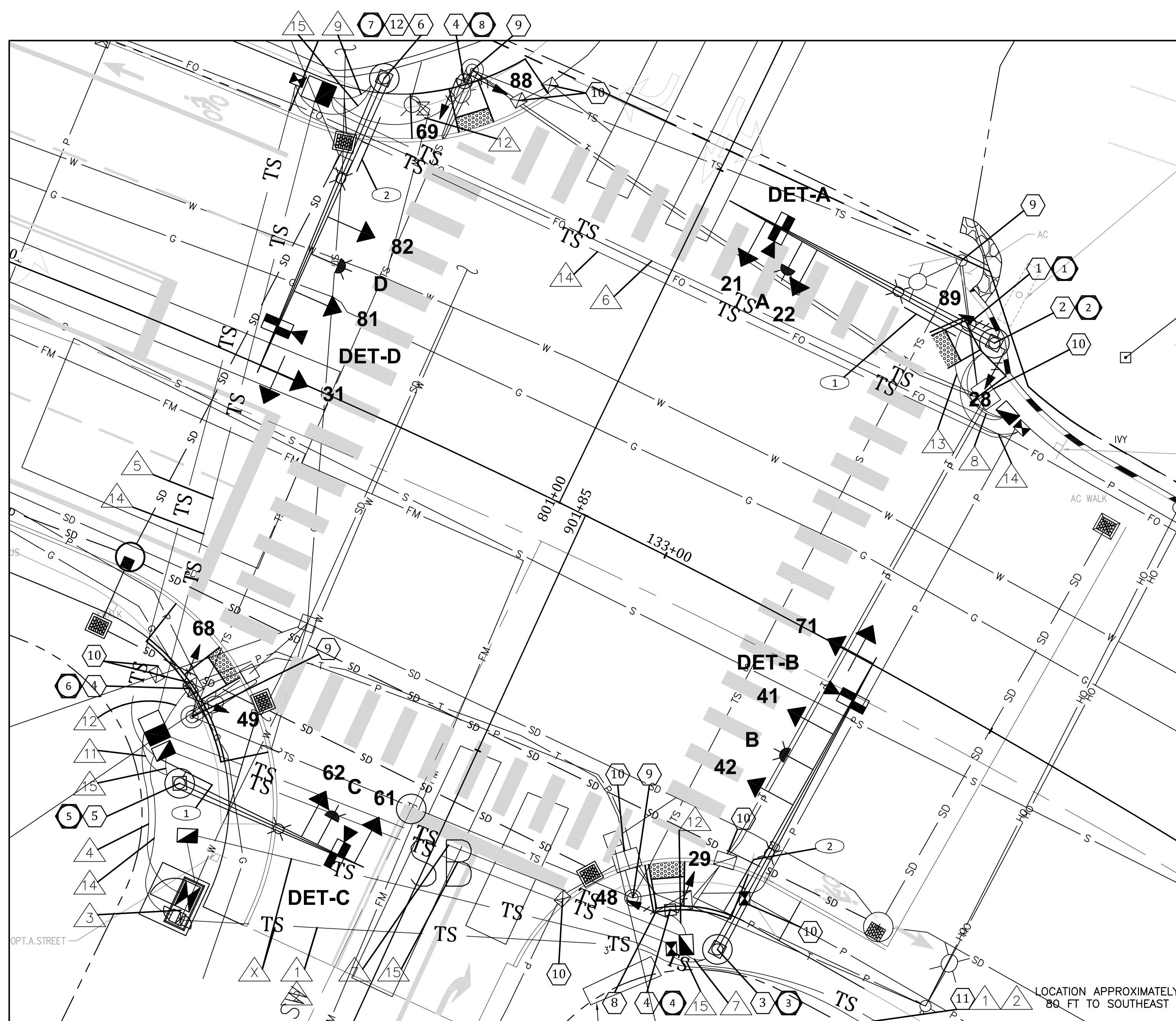
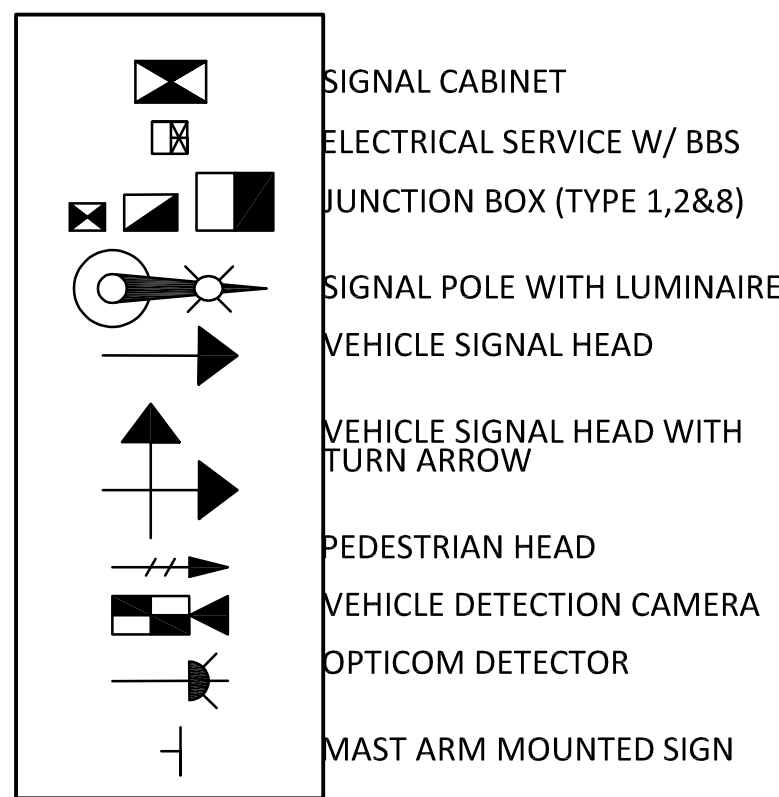


PUSHBUTTON SCHEDULE

POLE NO.	PHASE	BUTTON DIRECTION
1	2	RIGHT
1	8	LEFT
4	2	LEFT
4	4	RIGHT
6	4	LEFT
6	6	RIGHT
8	6	LEFT
8	8	RIGHT

SEE SIGNAL STANDARD DETAIL CHART ON TS-13 FOR MOUNTING LOCATION ON POLE.

LEGEND



WIRING SCHEDULE***

RUN NO.	SIZE	SIGNAL HEAD 7C	SIGNAL HEAD 5C	PED HD & PPB 5C	PED HD 3C	PPB 2C	PREEMPT 3CS	CAMERA CABLE 3C	SERVICE	ILLUM. #8	GROUND #8	ST NAME SIGN 3C	BLANKOUT SIGN 3C	SCHOOL SIGN 3C	PTZ CAMERA 1-CAT5E 3-#12	NOTES*
1	**								3-3/0							ELECT. SERV.
2	**								**							DATA SERV.
3	2"								3#6							
4	(3)3"	2	4	6	2	2	4	4			1				1	1-3" SPARE
5	3",2"	1	2	2	2	2	2	2			1				1	1-2" SPARE
6	(2)2"		1		2	2	1	1			1					1-2" SPARE
7	(2)2"	1	1	2			1	1			1					1-2" SPARE
8	(2)2"		1		2		1	1			1					1-2" SPARE
9	(2)2"	1	1				1	1			1				1	1-2" SPARE
10	(2)2"	1	1				1	1			1					1-2" SPARE
11	(2)2"		1				1	1			1					1-2" SPARE
12	2"			2				1			1					
13	2"				2						1					
14	2"									2	1	1		1		
15	2"									2	1	1				

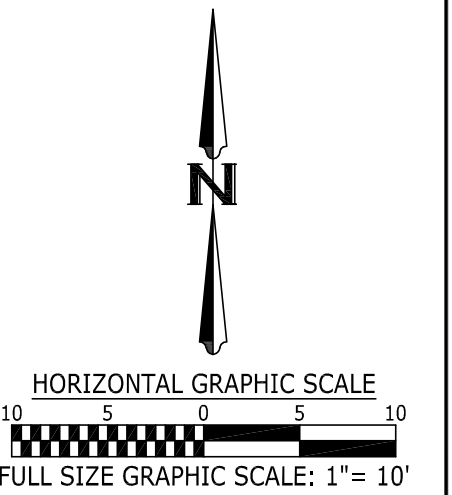
* SPARE CONDUIT NOTE SIGNIFIES NUMBER OF CONDUITS IN RUN TO REMAIN EMPTY AND DOES NOT IMPLY ADDITIONAL CONDUIT TO BE INSTALLED BEYOND WHAT IS SHOWN IN "SIZE" COLUMN
 ** AS REQUIRED BY UTILITY PURVEYOR
 *** SEE ILLUMINATION AND INTERCONNECT PLAN SHEETS FOR NON SIGNAL RELATED WIRING.

CONSTRUCTION NOTES

- FURNISH AND INSTALL TYPE PPB SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO PEDESTRIAN PUSHBUTTONS.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA, ONE TRAFFIC SIGN AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 40.0 FOOT MAST ARM. FURNISH AND INSTALL TWO PEDESTRIAN SIGNAL HEADS AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 45.0 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A TYPE PS SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO PEDESTRIAN SIGNAL HEADS AND TWO PEDESTRIAN PUSH BUTTONS.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL TWO VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE TRFFIC SIGN ON A 27.0 FOOT MAST ARM. FURNISH AND INSTALL ONE ILLUMINATED STREET NAME SIGN AND ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL TYPE III SIGNAL POLE AND FOUNDATION. FURNISH AND INSTALL THREE VEHICLE SIGNAL HEADS, ONE OPTICOM DETECTOR, ONE VEHICLE DETECTION CAMERA AND ONE INTERNALLY ILLUMINATED STREET NAME SIGN ON A 43.5 FOOT MAST ARM. FURNISH AND INSTALL ONE TERMINAL CABINET ON SIGNAL POLE. FURNISH AND INSTALL ONE LED LUMINAIRE ON 14 FOOT LUMINAIRE ARM.
- FURNISH AND INSTALL A COMBINATION FOUNDATION, ACCESS PAD, TYPE-44 CONTROLLER CABINET AND SERVICE CABINET WITH BATTERY BACKUP LOCATED AT STA 132+58.8 (70.8' RT) PER CITY OF LAKEWOOD STD. PLAN IS-05. CABINET DOORS SHALL FACE NORTHWEST.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING CONTROLLER AND ELECTRICAL SERVICE CABINETS, ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS. REMOVE SERVICE CONNECTION AT UTILITY POLE.
- FOLLOWING ACTIVATION OF FULLY FUNCTIONING NEW SIGNAL SYSTEM, REMOVE EXISTING SPAN WIRE SYSTEM AND ALL ASSOCIATED EQUIPMENT AND WIRING. GRIND DOWN EXISTING FOUNDATION TWO FEET BELOW PROPOSED GRADE AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. SALVAGE AND EXISTING EQUIPMENT AS DETERMINED BY THE ENGINEER IN THE FIELD AND PER SPECIAL PROVISIONS.
- REMOVE EXISTING JUNCTION BOX AND BACKFILL AND COMPACT PER SPECIAL PROVISIONS. REMOVE UNUSED WIRING AND CAP AND ABANDON EXISTING EMPTY CONDUIT (TYPICAL).
- FURNISH AND INSTALL ELECTRICAL RISER TO UTILITY POLE PER UTILITY PURVEYOR REQUIREMENTS.
- FURNISH AND INSTALL PAN TILT ZOOM CAMERA TO LUMINAIRE ARM AND TERMINATION PANEL IN SIGNAL CONTROL CABINET PER LAKEWOOD STD. PLAN IS-XX.

GENERAL NOTES

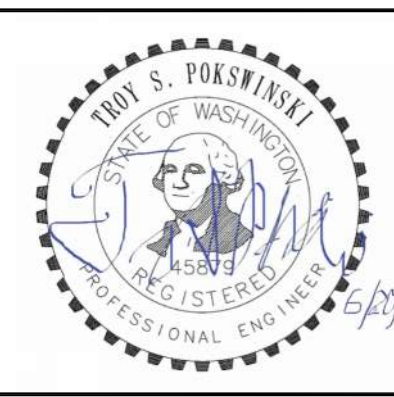
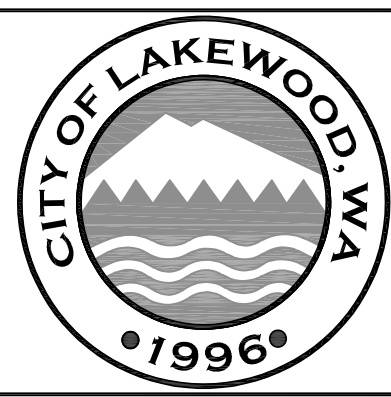
- EXISTING TRAFFIC SIGNAL SHALL REMAIN FULLY OPERATIONAL UNTIL DAY OF CHANGE OVER TO NEW FULLY FUNCTIONING TRAFFIC SIGNAL SYSTEM,
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION.
- ALL NEW FOUNDATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE OF 16'-6" FOR ALL SIGNAL HEADS ABOVE ROADWAY PRIOR TO PLACING THE SIGNAL POLE FOUNDATION.
- ALL CONDUCTORS SHALL BE LABELED IN EACH SIGNAL HEAD, TERMINATION BOX, AND SIGNAL CABINET.
- ALL TRAFFIC SIGNAL AND PEDESTRIAN HEADS AND PUSH BUTTONS SHALL BE SECURELY COVERED WHILE NOT IN OPERATION.
- CONDUIT SHALL BE PLACED IN THE SAME TRENCH WITH OTHER CONDUIT WHEN POSSIBLE.
- SEE LAKEWOOD STD. PLAN RW-XX TYPICAL ALL SIGNAL TRENCHING.
- SEE PLAN SHEET TS-13 FOR VEHICLE DETECTION CAMERA MOUNTING DETAILS.



S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 8:39 AM

NO.	RELEASE/REVISION	DATE	BY

T. POKSWINSKI
 PROJECT ENGINEER
 J. HOWE
 DESIGN ENGINEER
 J. HOWE
 DRAWN BY
 WESTON OTT, P.E.
 CITY ENGINEER
 DESIGN START 10/20/18
 SCALE AS SHOWN



PROJECT NAME	STEILACOOM - 87TH TO WELLER	PROJECT	302.0133
DRAWING NAME	TRAFFIC SIGNAL PLAN - WELLER	DRAWING	TS10
			36 of 47

S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 9:33 AM

WIRING FROM FIELD

- 1-12ST FIBER INTERCONNECT
- 1-12CT COPPER INTERCONNECT
- 1-3C FROM POLE NO. 8 (VIDEO DET D)
- 1-3C FROM POLE NO. 5 (VIDEO DET C)
- 1-3C FROM POLE NO. 3 (VIDEO DET B)
- 1-3C FROM POLE NO. 2 (VIDEO DET A)
- 1-3CS FROM POLE NO. 8 CH D
- 1-3CS FROM POLE NO. 5 CH C
- 1-3CS FROM POLE NO. 3 CH B
- 1-3CS FROM POLE NO. 2 CH A
- 3 NO. 6 FROM POWER SOURCE
- 5C FROM POLE NO. 2
- 2x3C FROM POLE NO. 2
- 2x2C FROM POLE NO. 2
- 7C FROM POLE NO. 3
- 5C FROM POLE NO. 3
- 5C FROM POLE NO. 4
- 5C FROM POLE NO. 4
- 5C FROM POLE NO. 5
- 5C FROM POLE NO. 6
- 5C FROM POLE NO. 6
- 7C FROM POLE NO. 8
- 5C FROM POLE NO. 8
- 5C FROM POLE NO. 7
- 5C FROM POLE NO. 7

AC+	501	BK
AC-	502	W
	511	Y
	512	O
	513	BL
	521	Y
	522	O
	523	BL
	531	Y
	532	O
	533	BL
	541	Y
	542	O
	543	BL
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GND	G
	DC+	BL
	DC-	W
	GRD	G

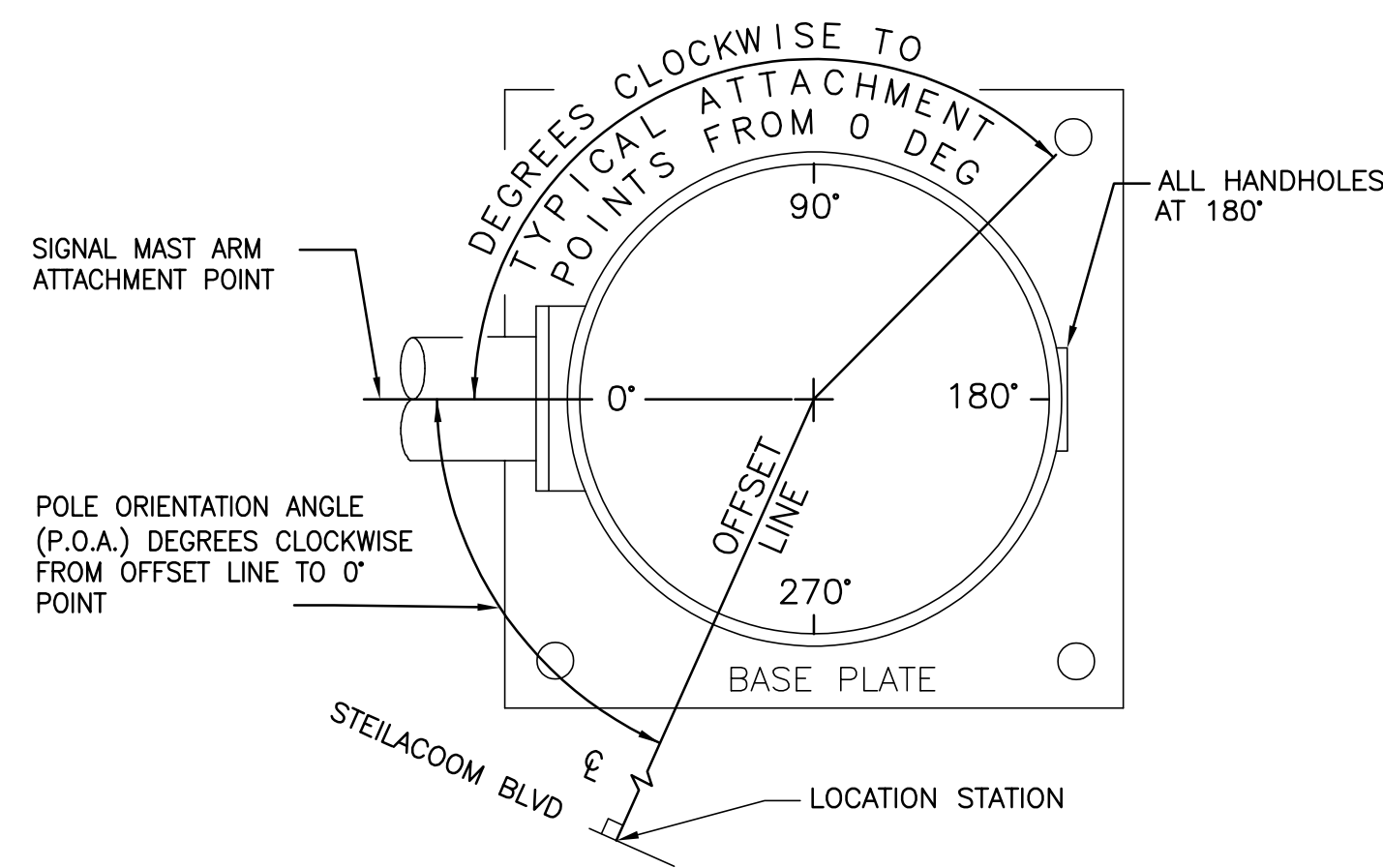
CONTROLLER CABINET

R	611	VEHICLE SIGNAL HEADS
O	612	
G	613	
BK	615	VEHICLE SIGNAL HEADS
W	616	
R	621	
O	622	VEHICLE SIGNAL HEADS
G	623	
BK	625	
W	626	VEHICLE SIGNAL HEADS
R	631	
O	632	
G	635	VEHICLE SIGNAL HEADS
BK	636	
W	641	
R	642	VEHICLE SIGNAL HEADS
O	643	
G	645	
BK	646	VEHICLE SIGNAL HEADS
W	651	
R	652	
O	653	VEHICLE SIGNAL HEADS
G	655	
BK	656	
W	661	VEHICLE SIGNAL HEADS
R	662	
O	663	
G	665	VEHICLE SIGNAL HEADS
BK	666	
W	671	
R	672	VEHICLE SIGNAL HEADS
O	673	
G	675	
BK	676	VEHICLE SIGNAL HEADS
W	681	
R	682	
O	683	VEHICLE SIGNAL HEADS
G	685	
BK	686	
W	721	PEDESTRIAN HEADS
R	722	
G	723	
W	741	PEDESTRIAN HEADS
R	742	
G	743	
W	761	PEDESTRIAN HEADS
R	762	
G	763	
W	781	PEDESTRIAN HEADS
R	782	
G	783	
W	784	PEDESTRIAN HEADS
O	724	
BK	725	
O	744	PUSHBUTTONS
BK	745	
O	764	
BK	765	PUSHBUTTONS
O	784	
BK	785	

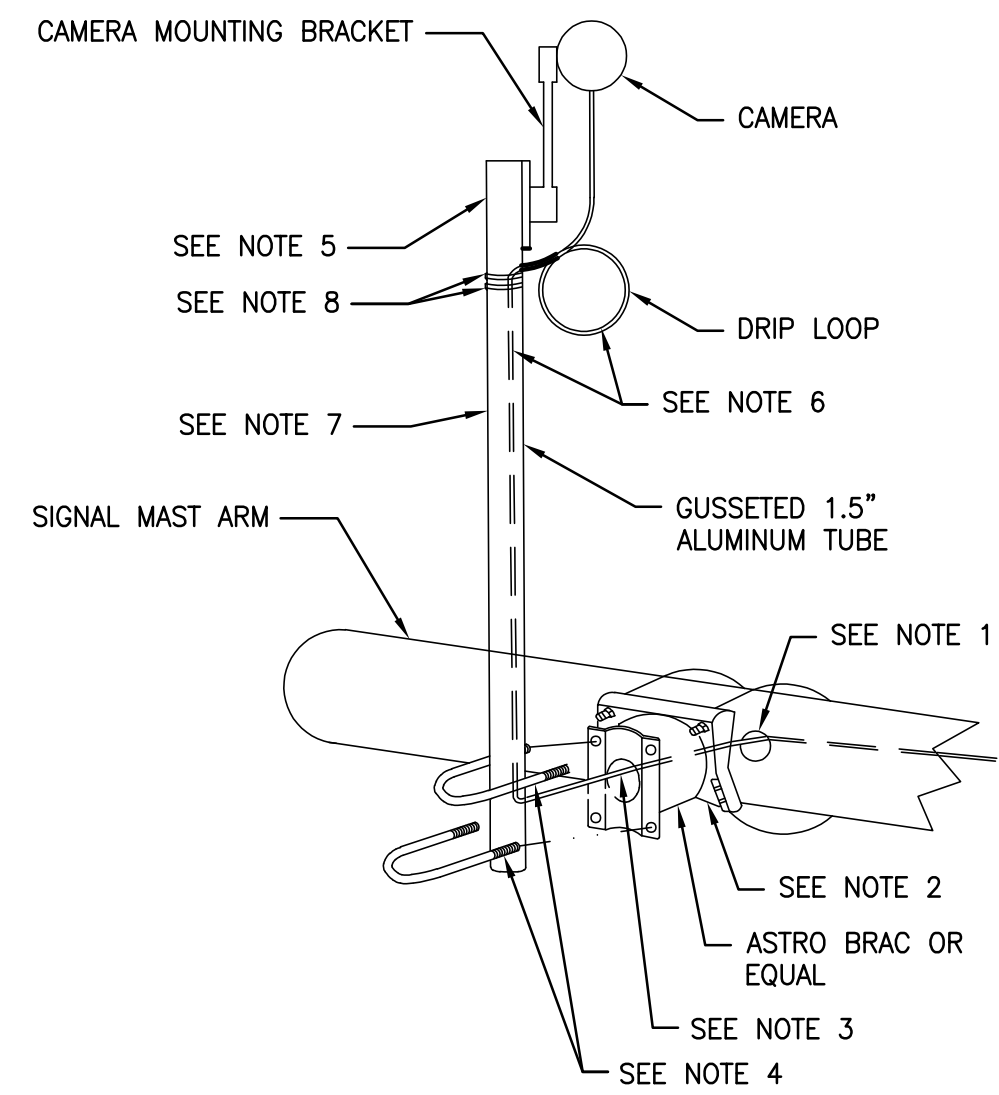
R	6B1
Y	6B2
BL	6B3
W/BK	637

R	6D1
Y	6D2
BL	6D3
W/BK	677

NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER	 	PROJECT NAME	STEILACOOM - 87TH TO WELLER	PROJECT	302.0133
				J. HOWE DESIGN ENGINEER		DRAWING NAME	TRAFFIC SIGNAL CABINET TERMINATION DIAGRAM - WELLER	DRAWING	TS12
				J. HOWE DRAWN BY					
				WESTON OTT, P.E. CITY ENGINEER		SCALE	AS SHOWN		
				DESIGN START 10/20/18					38 of 47



POLE ORIENTATION AND ATTACHMENT POINT DETAIL



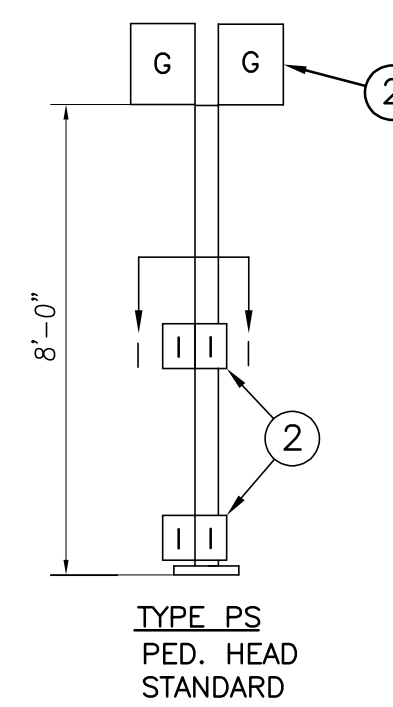
VEHICLE DETECTION CAMERA MOUNTING DETAIL

NOTES

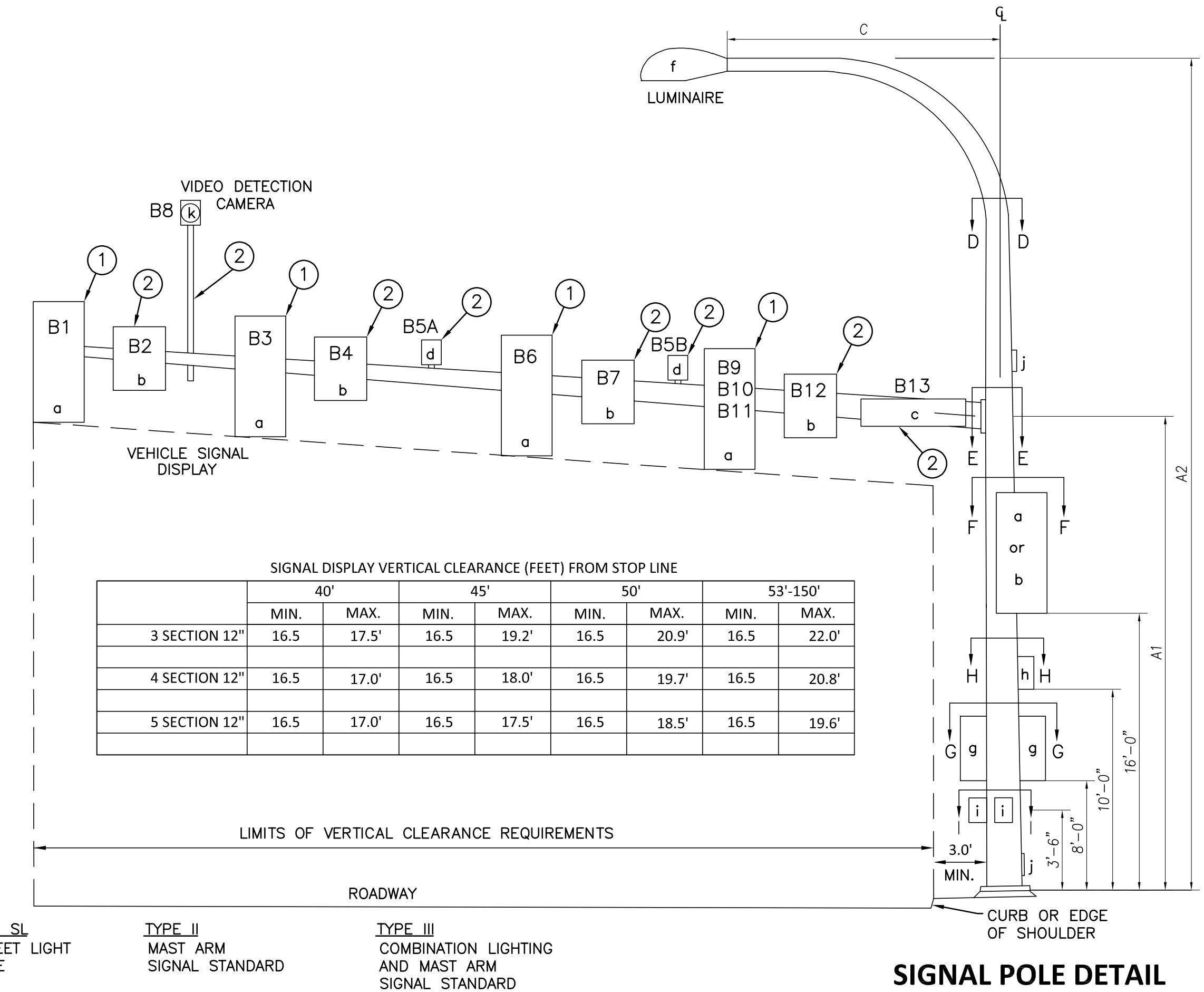
1. THE CONTRACTOR SHALL DRILL A 1" HOLE IN THE BACK SIDE OF THE SIGNAL MAST ARM DEBURR, & PUT A RUBBER GROMMET IN HOLE. VERIFY MOUNTING LOCATION WITH ENGINEER PRIOR TO DRILLING.
2. THE ASTRO BRACKET SHALL BE INSTALLED OVER THE 1" HOLE.
3. VIDEO CABLE SHALL BE PULLED THROUGH THE SIGNAL MAST ARM THROUGH THE 1" HOLE AND THROUGH THE ASTRO BRACKET.
4. BOLT 1.5" GUSSETED TUBE TO ASTRO BRACKET.
5. ATTACH VIDEO CAMERA MOUNTING BRACKET TO THE TOP OF THE GUSSETED TUBE.
6. ROUTE VIDEO CABLE IN GUSSET TO THE INSIDE OF TUBE, UP THE TUBE EXITING TUBE AT TOP OF GUSSET AND CONNECT TO VIDEO JUNCTION BOX LEAVING A DRIP LOOP IN CABLE.
7. INSTALL VINYL INSERT IN GUSSET, LEAVING NO MORE THAN A 1" GAP AT THE TOP FOR CABLE TO EXIT THE TUBE.
8. INSTALL 2 BLACK WEATHER RATED WIRE TIES AROUND TUBE WHERE CABLES EXIT AT THE TOP OF THE VINYL INSERT.

NOTES

1. MOUNTING COUPLING INSTALLED BY FABRICATOR AT OFFSET DISTANCES INDICATED IN CHART.
2. FIELD INSTALLED.



LEGEND



SIGNAL POLE DETAIL

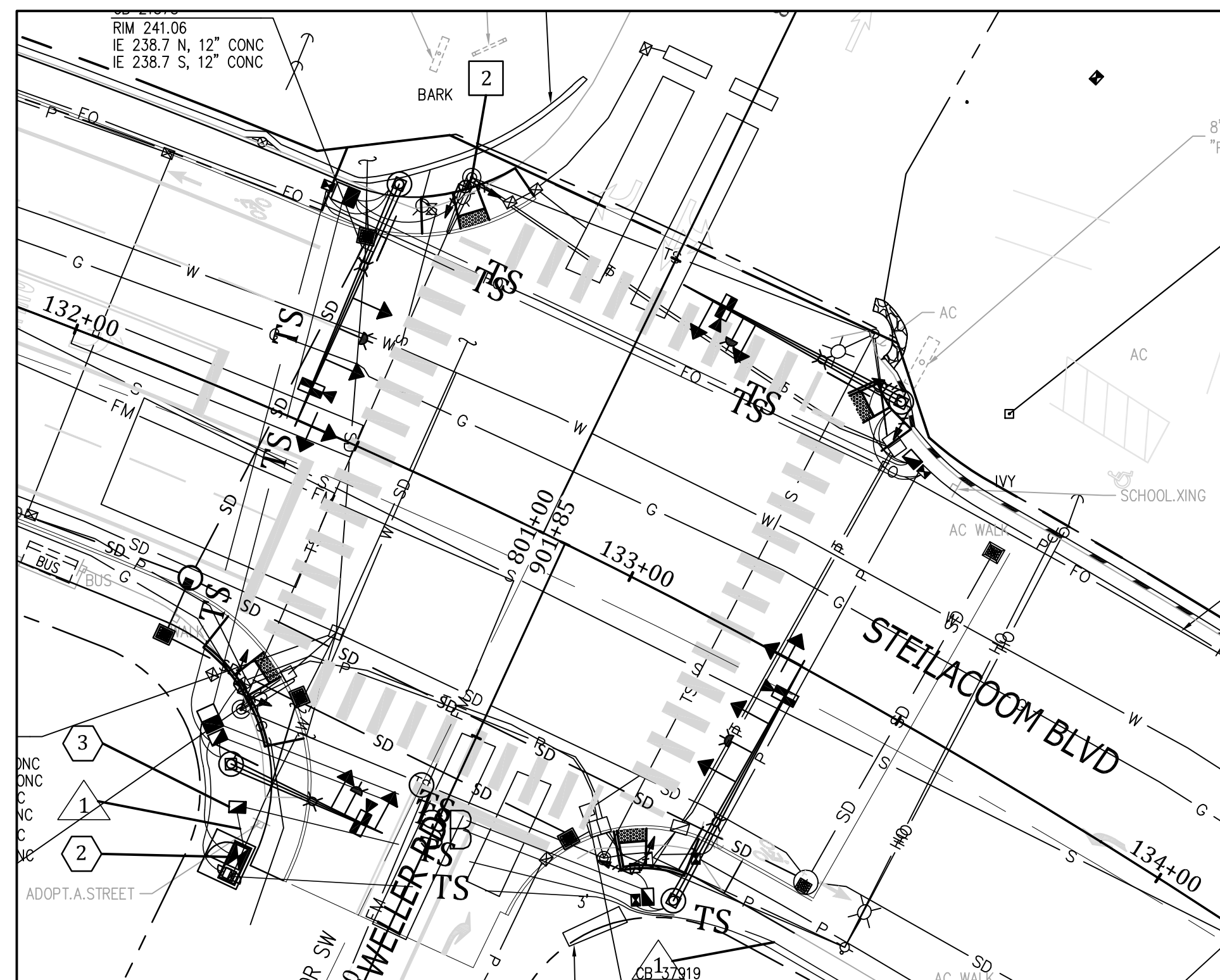
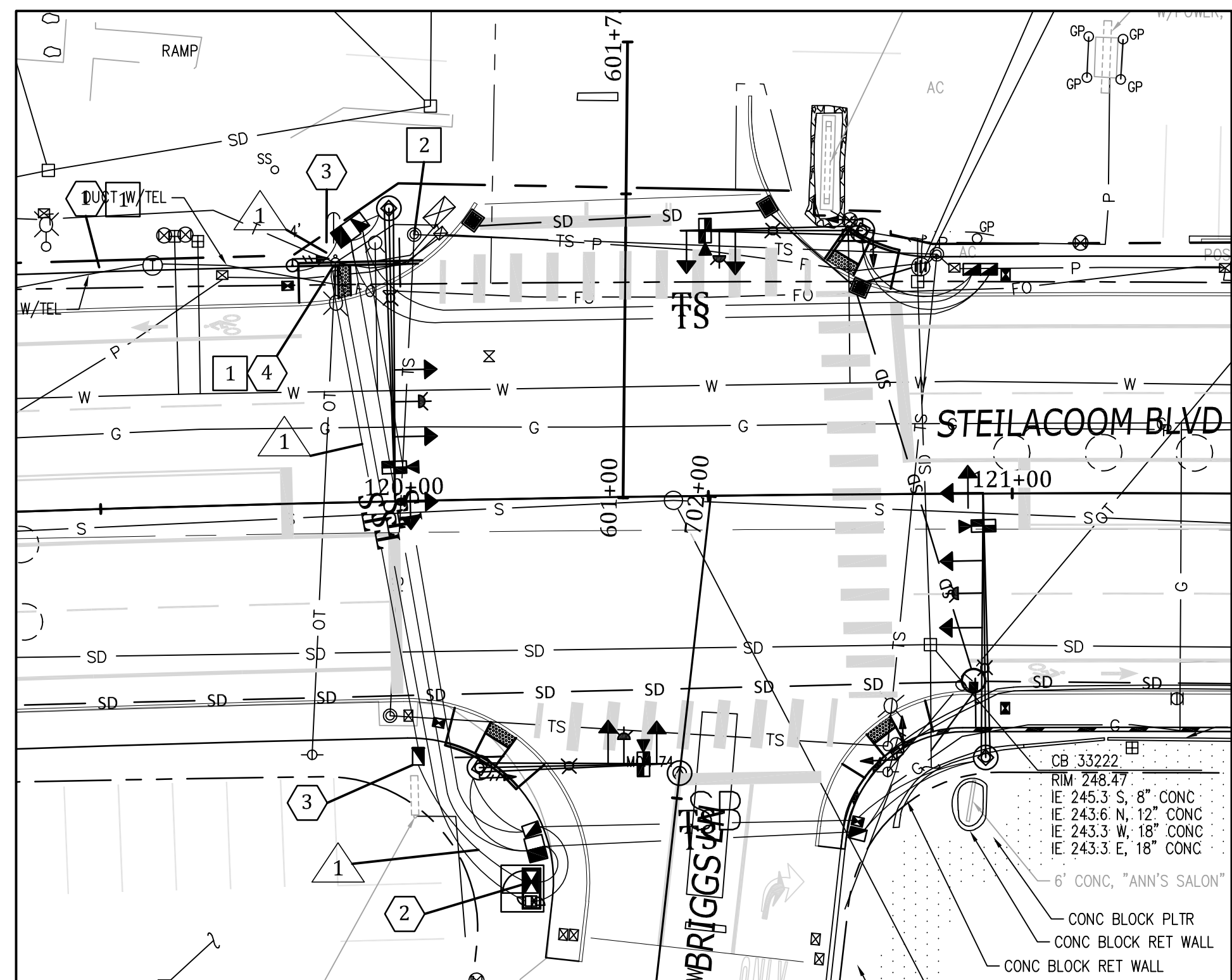
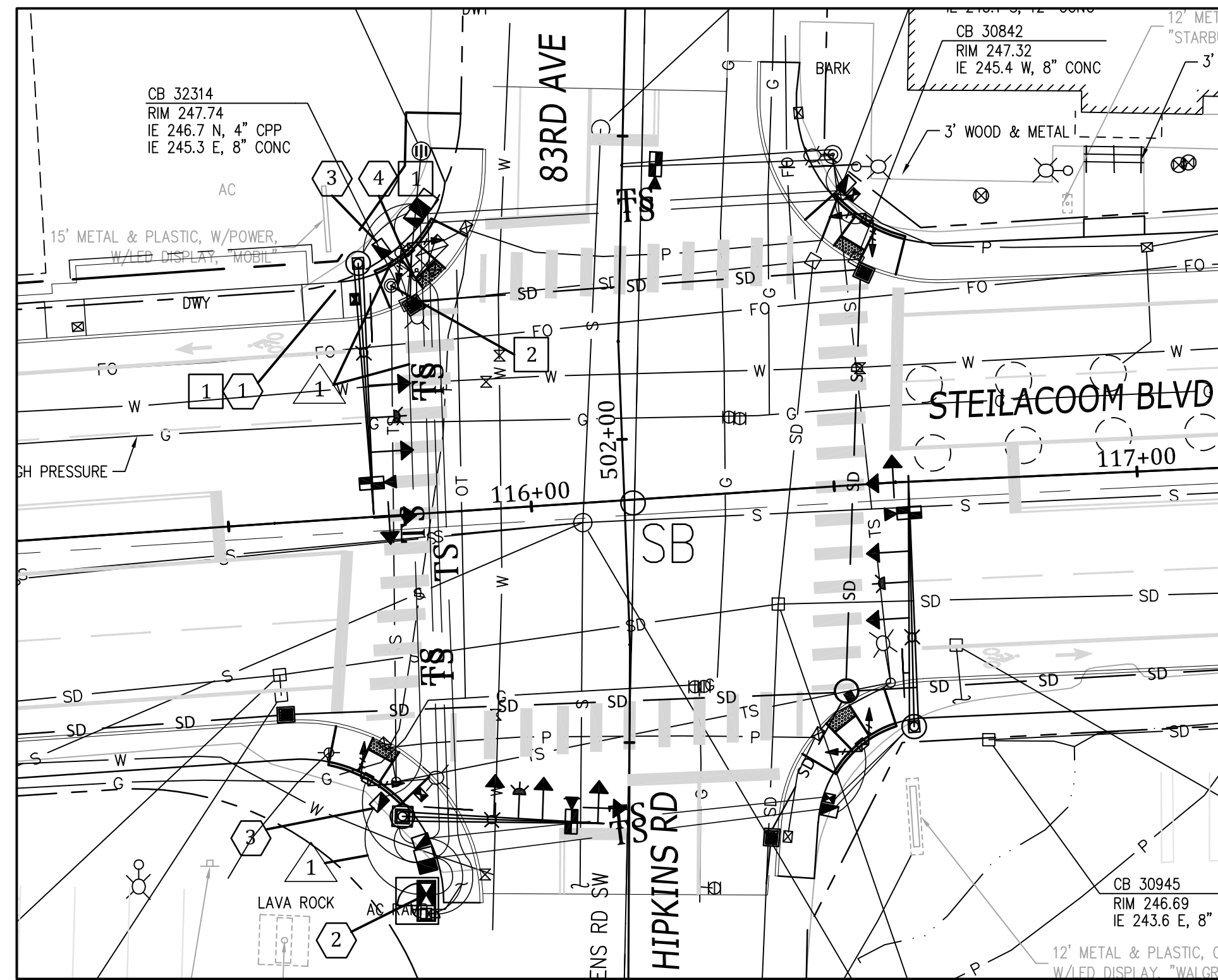
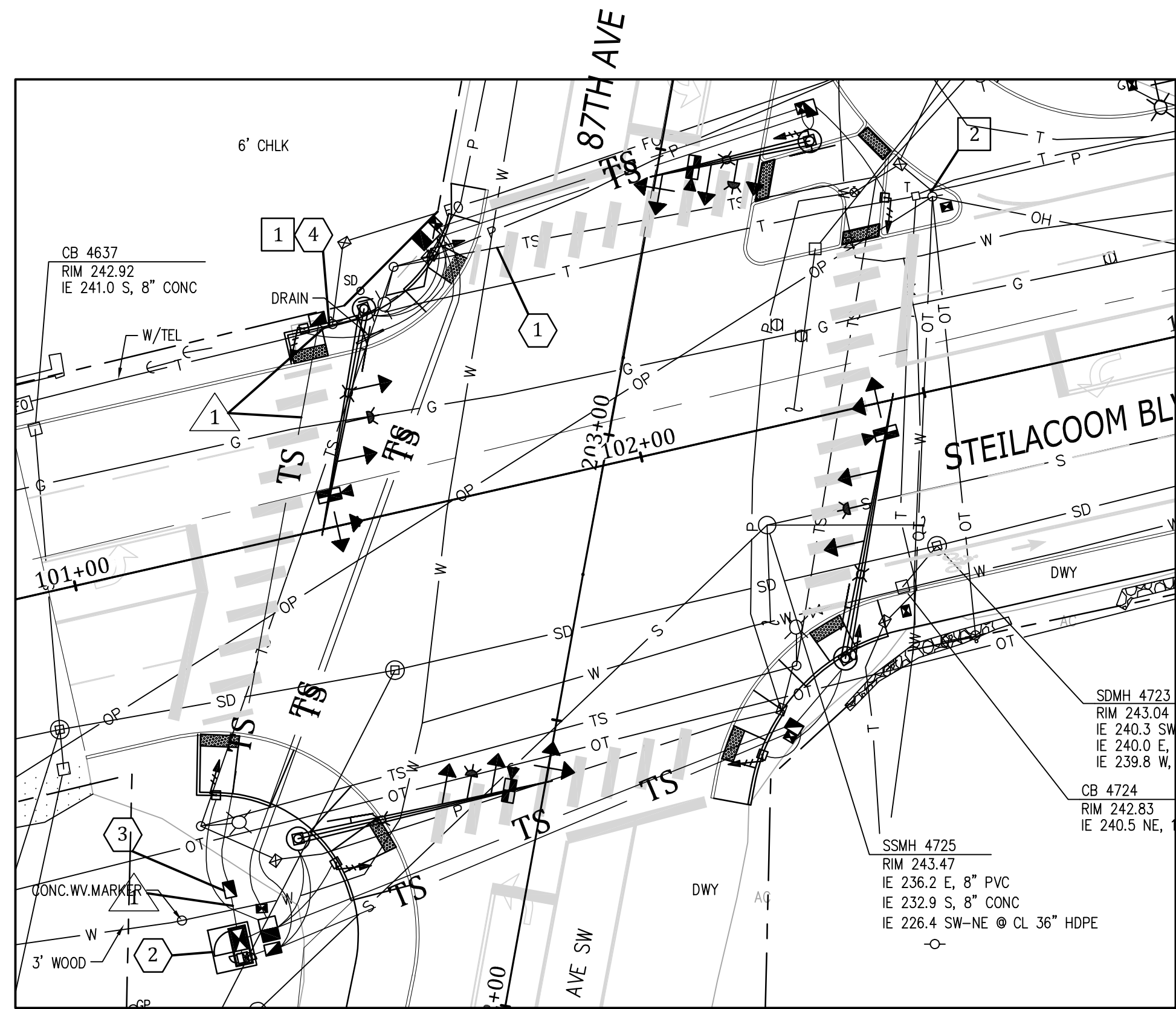
SIGNAL STANDARD DETAIL CHART

POLE NO.	FIELD LOCATION			POLE TYPE	MAST ARM LENGTH	MOUNTING HEIGHT		SIGNAL MAST ARM DATA											LUMINAIRE ARM (FT.)	POLE ATTACHMENT POINT ANGLES (DEG)						FOUNDATION DEPTHS (FT)*		FOUNDATION																			
	STATION	OFFSET	P.O.A.			A1	A2	Ø OFFSET (Z) POLE TO ATTACHMENT POINT						WINDLOAD AREAS (FT) ² (X)(Y)						(X)(Y)(Z)	TOTAL(FT) ³	C	D	E1	F (a/b)	G1	G2	H	I1	I2	3'RD	4'RD	ELEV.	WSDOT STD. PLAN*													
								B1	B2	B3	B4	B5A/B5B	B6	B7	B8**	B9	B10	B11																	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	LUMINAIRE	
STEILACOOM BOULEVARD AND BRIGGS LANE																																															
1	120+75.7	43.4L	90°	III	30.0	19.5	35	29.0	25.5	21.0		23.5	13.0	9.5	26.5			POLE	9.2	7.5F	9.2		1.0	9.2F	7.5F	2.0			20.0	53.0	972	14	0'	0'		180°	270°	225°	0'	90°	7	6	248.44'	J-26.10-03			
2	120+95.4	43.4R	0°	III	44.5	19.5	35	43.5	40.0	32.5		27.0	21.5		38.0			9.0	11.6	7.5F	9.2		1.0	9.2		2.0			20.0	53.0	1638	14	0'	0'			135°			13	7	251.44'	J-26.10-03				
3	120+80.7	42.6R		PS																																	90°	180°	0'	270°							J-20.11-03
4	120+11.5	44.1R	90°	III	30.0	19.5	35	29.0	25.5	21.0		17.0	13.0	9.5	25.0			POLE	9.2	7.5F	9.2		1.0	9.2F	7.5F	2.0			20.0	53.0	963	14	0'	0'			180°		225°	0'		7	6	247.90'	J-26.10-03		
5	119+82.5	39.1L		PS																																											J-21.10-04
6	119+98.5	48.2L	0°	III	49.5	19.5	35	48.5	45.0	37.5		32.0	26.5		43.0			9.0	11.6	7.5F	9.2		1.0	9.2		2.0			20.0	53.0	1840	14	0'	0'			135°			13	7	249.12'	J-26.10-03				
STEILACOOM BOULEVARD AND WELLER ROAD																																															
1	133+21.4	46.8L		PS																																											J-20.10-05
2	133+25.6	46.1L	90°	III	40.0	19.5	35	35.0	31.5	27.0		29.5	19.0	15.5	32.5			9.0	9.2	7.5F	9.2		1.0	9.2F	7.5F	2.0			20.0	53.0	1426	14	0'	0'			225°			11	6	241.97'	J-26.10-03				
3	133+31.8	43.9R	0°	III	45.0	19.5	35	44.0	40.5	33.0		27.5	22.0		38.5			9.0	11.6	7.5F	9.2		1.0	9.2		2.0			20.0	53.0	1658	14	0'	0'			135°			13	7	241.73'	J-26.10-03				
4	133+23.3	42.2R		PS																																										J-20.11-03	
5	132+52.6	56.2R	90°	III	27.0	19.5	35	26.0	22.5	18.0		20.5	10.0	6.5	23.5			POLE	9.2	7.5F	9.2		1.0	9.2F	7.5F	2.0			20.0	53.0	835	14	0'	0'			225°			6	6	241.20'	J-26.10-03				
6	132+48.5	43.9R		PS																																									J-20.11-03		
7	132+39.4	42.3L	0°	III	43.5	19.5	35	42.5	39.0	31.0		25.5	20.0		36.5			9.0	11.6	7.5F	9.2		1.0	9.2		2.0			20.0	53.0	1587	14	0'	0'			135°			13	7	ENGR	J-26.10-03				
8	132+49.0	46.3L		PS																																									J-21.10-04		

* WSDOT STD. PLAN J-26.10-03 ALTERNATE NUMBER 2 CORRUGATED METAL PIPE TYPE CONSTRUCTION FOUNDATION DEPTH SHOWN
 ** CONTRACTOR SHALL VERIFY MOUNTING LOCATION WITH THE ENGINEER PRIOR TO DRILLING CABLING HOLES.
 NOTE: FUTURE USE MAY BE INCLUDED IN CALCULATIONS

S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 9:36 AM

NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER		PROJECT NAME	PROJECT
			J. HOWE DESIGN ENGINEER	STEILACOOM - 87TH TO WELLER		302.0133	
			J. HOWE DRAWN BY	DRAWING NAME		TS14	
			WESTON OTT, P.E. CITY ENGINEER	TRAFFIC SIGNAL DETAILS - BRIGGS AND WELLER		40 of 47	
			DESIGN START 10/20/18	SCALE AS SHOWN			



CONSTRUCTION NOTES

- 1 MODIFY FIBER SPLICE IN EXISTING AERIAL SPLICE ENCLOSURE. SPLICE FIBER PER DETAIL ON DRAWING TS-16. LASH UP SLACK LOOP.
- 2 FURNISH AND INSTALL WALL MOUNTED FIBER PATCH PANEL IN TRAFFIC SIGNAL CONTROL CABINET PER LAKEWOOD STD. PLAN IS-XX. TERMINATE FIBER PER DETAIL IN DRAWING TS-16. FURNISH FIVE 6 FT CAT5E CABLES IN TRAFFIC SIGNAL CABINET.
- 3 TYPE 1, 2 OR 8 JUNCTION BOX
- 4 COUPLE NEW CONDUIT TO EXISTING RISER.

DEMOLITION NOTES

- 1 REMOVE EXISTING LAKEWOOD 12 ST FIBER INTERCONNECT CABLE. PROTECT OTHER OVER LASHED CABLES.
- 2 REMOVE EXISTING LAKEWOOD 25PR COPPER INTERCONNECT AND SUPPORT CABLE.

GENERAL NOTES

- 1 FIBER SIGNAL INTERCONNECT SHALL BE A COMPLETE AND FULLY OPERATIONAL SYSTEM.
- 2 CONDUIT SHALL BE INSTALLED PER LAKEWOOD STD. PLAN RW-08
- 3 ALL SIGNAL INTERCONNECT SHALL BE LABELED IN EACH VAULT, JUNCTION BOX, AERIAL OR UNDERGROUND SPLICE ENCLOSURE AND SIGNAL CABINET.
- 4 ONE HUNDRED (100) FEET OF FIBER INTERCONNECT CABLE SHALL BE LOOPED IN ALL EXISTING AND NEW VAULTS. FIFTY (50) FEET OF FIBER INTERCONNECT CABLE SHALL BE LOOPED IN ALL EXISTING AND NEW JUNCTION BOXES AND BASE OF TRAFFIC SIGNAL CABINETS.
- 5 EXISTING FIBER HAS ACTIVE STRANDS THAT SHALL REMAIN ACTIVE AT ALL TIMES UNLESS MODIFIED PER PLAN OR OTHERWISE APPROVED BY THE ENGINEER.
- 6 UTILITY LOCATIONS SHOWN ARE APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION (CALL 511 FOR UTILITY LOCATION SERVICES).

WIRING SCHEDULE**			
RUN NO.	SIZE	FIBER INTERCONNECT 12ST	NOTES*
1	2"	1	

* SPARE CONDUIT NOTE SIGNIFIES NUMBER OF CONDUITS IN RUN TO REMAIN EMPTY AND DOES NOT IMPLY ADDITIONAL CONDUIT TO BE INSTALLED BEYOND WHAT IS SHOWN IN "SIZE" COLUMN
 ** SEE ILLUMINATION AND SIGNAL PLAN SHEETS FOR NON INTERCONNECT RELATED WIRING.

LEGEND

EXISTING	NEW	
---	---	CONDUIT
□	■	JUNCTION BOX (TYPE 1,2,8)
	■	25-TA VAULT
	⊗	CONSTRUCTION NOTE
	⊗	WIRE NOTE
	⊗	DEMOLITION NOTE

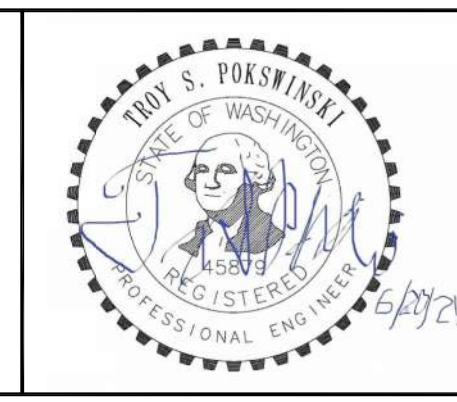
- 1 LOCATION APPROXIMATELY 400 FT TO SOUTHEAST
- 4 1 LOCATION APPROXIMATELY 80 FT TO SOUTHEAST



S:\CSD\Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN SHEETS\9 - TS.dwg 9/25/2024 9:41 AM

NO.	RELEASE/REVISION	DATE	BY

T. POKWINSKI
PROJECT ENGINEER
 J. HOWE
DESIGN ENGINEER
 J. HOWE
DRAWN BY
 WESTON OTT, P.E.
CITY ENGINEER
 DESIGN START 10/20/18 SCALE AS SHOWN



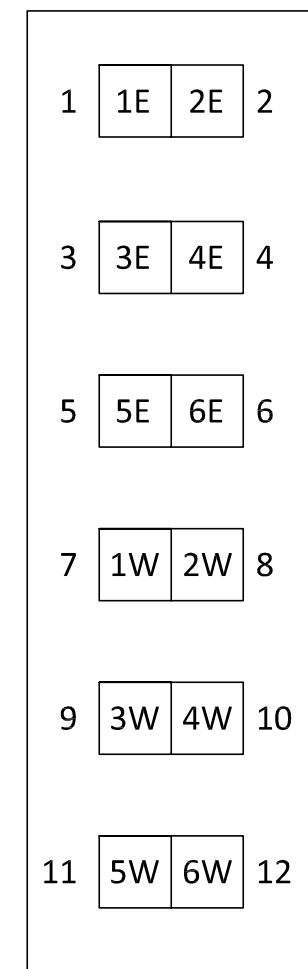
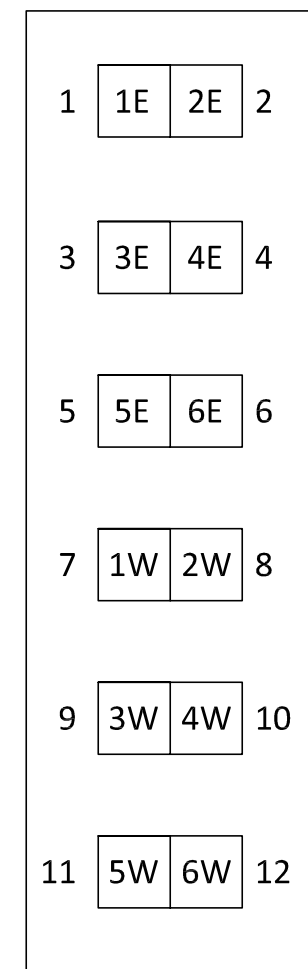
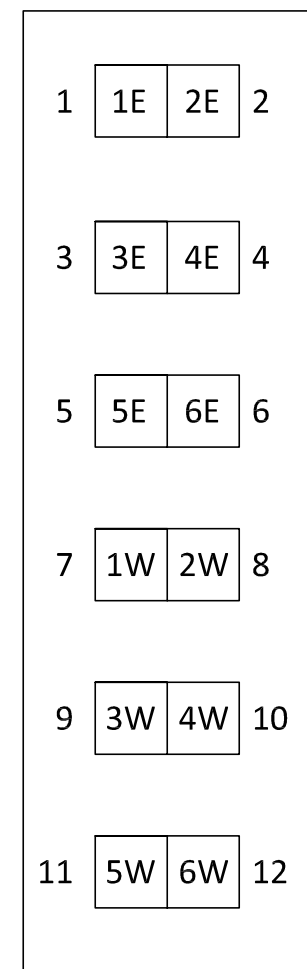
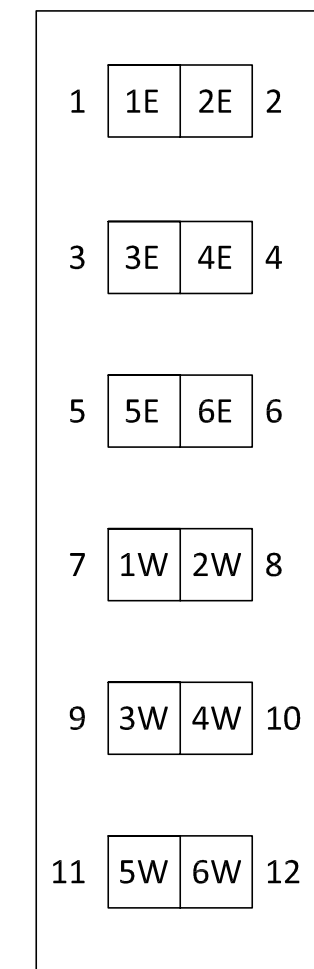
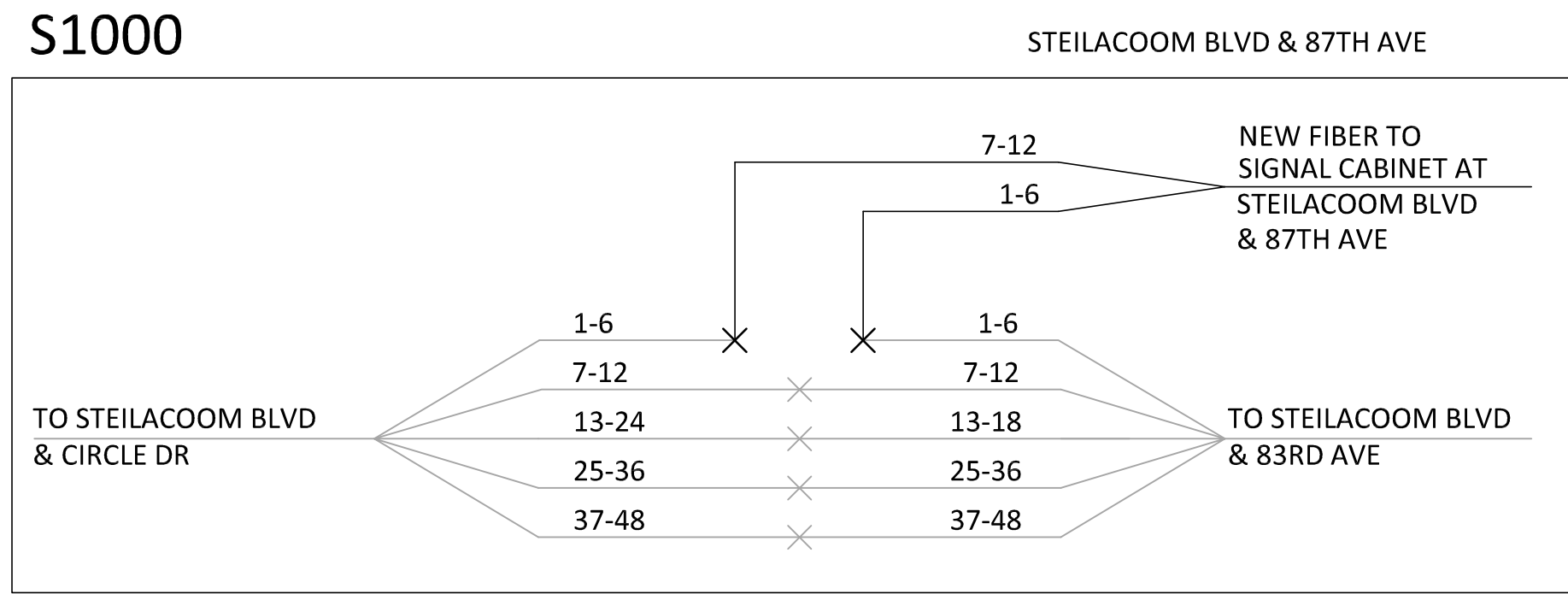
PROJECT NAME	STEILACOOM - 87TH TO WELLER
DRAWING NAME	TRAFFIC SIGNAL INTERCONNECT PLAN

PROJECT	302.0133
DRAWING	TS15
	41 of 47

FIBER SPLICE DETAILS

FIBER TERMINATION

GENERAL NOTES



STEILACOOM BLVD & 87TH AVE

STEILACOOM BLVD & 83RD AVE

STEILACOOM BLVD & BRIGGS LN

STEILACOOM BLVD & WELLER RD

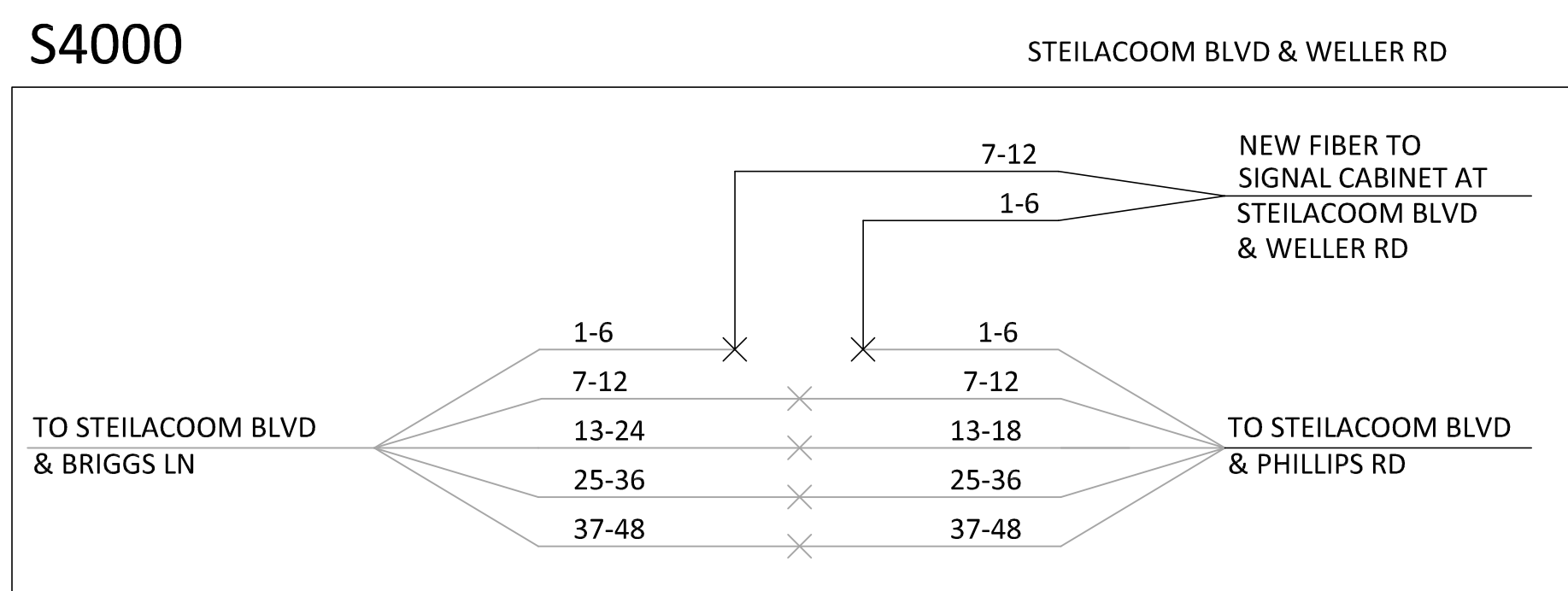
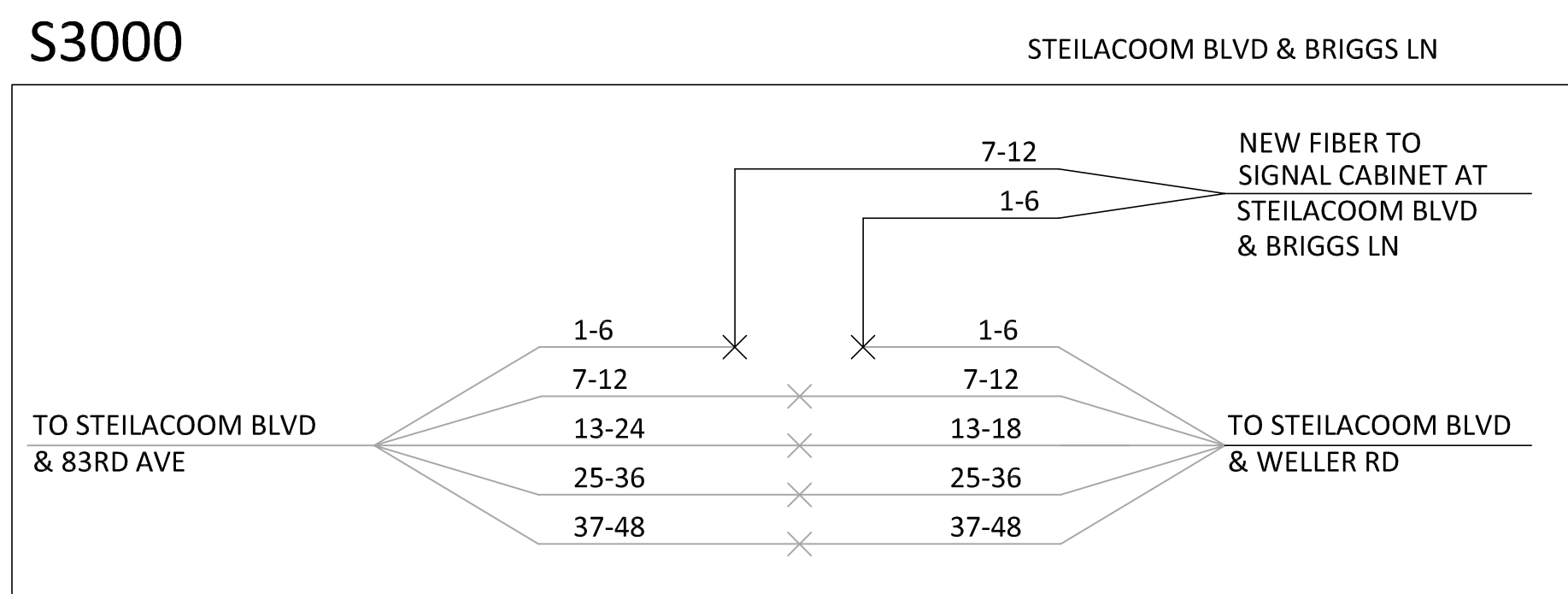
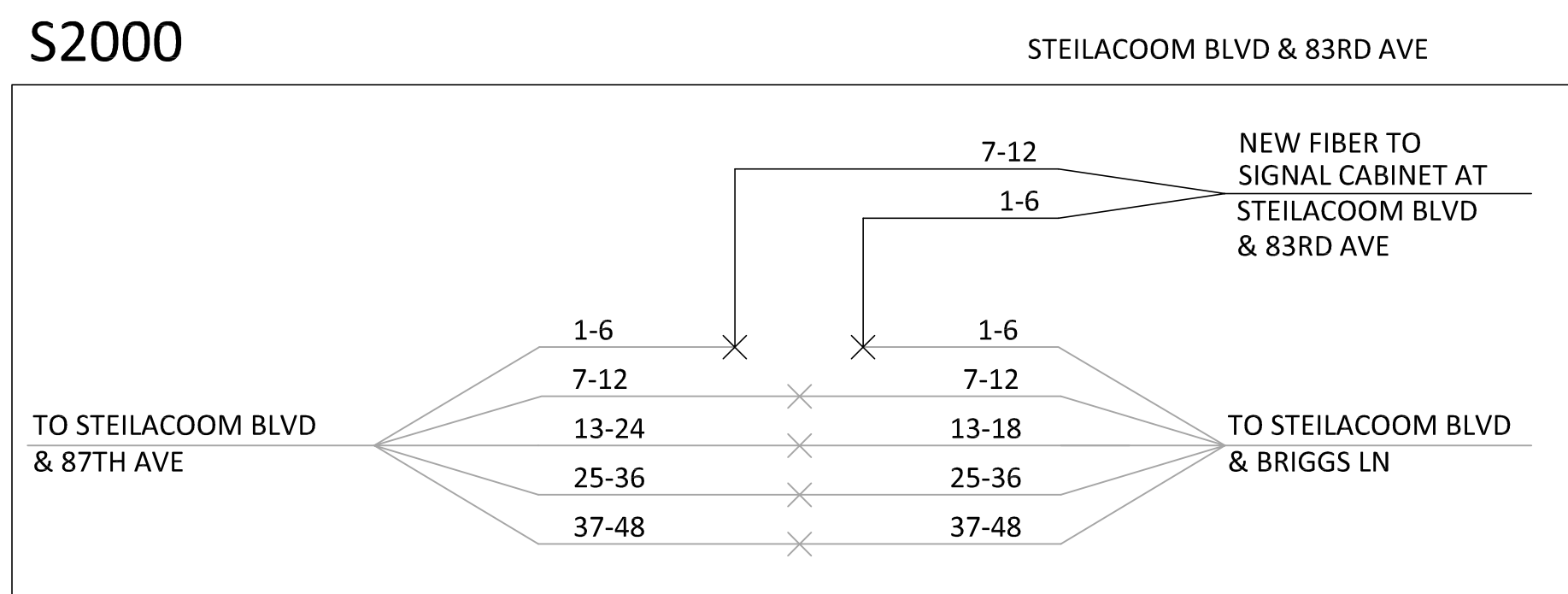
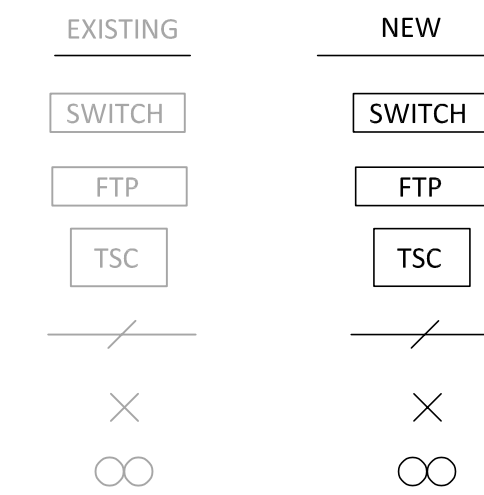
TRAFFIC SIGNAL INTERCONNECT SHALL BE A COMPLETE AND FULLY OPERABLE SYSTEM.

ONE HUNDRED (100) FEET OF INTERCONNECT CABLE SHALL BE LOOPED IN ALL EXISTING AND NEW VAULTS, FIFTY (50) FEET OF INTERCONNECT CABLE SHALL BE LOOPED IN ALL EXISTING AND NEW JUNCTION BOXES AND BASE OF TRAFFIC SIGNAL CABINETS.

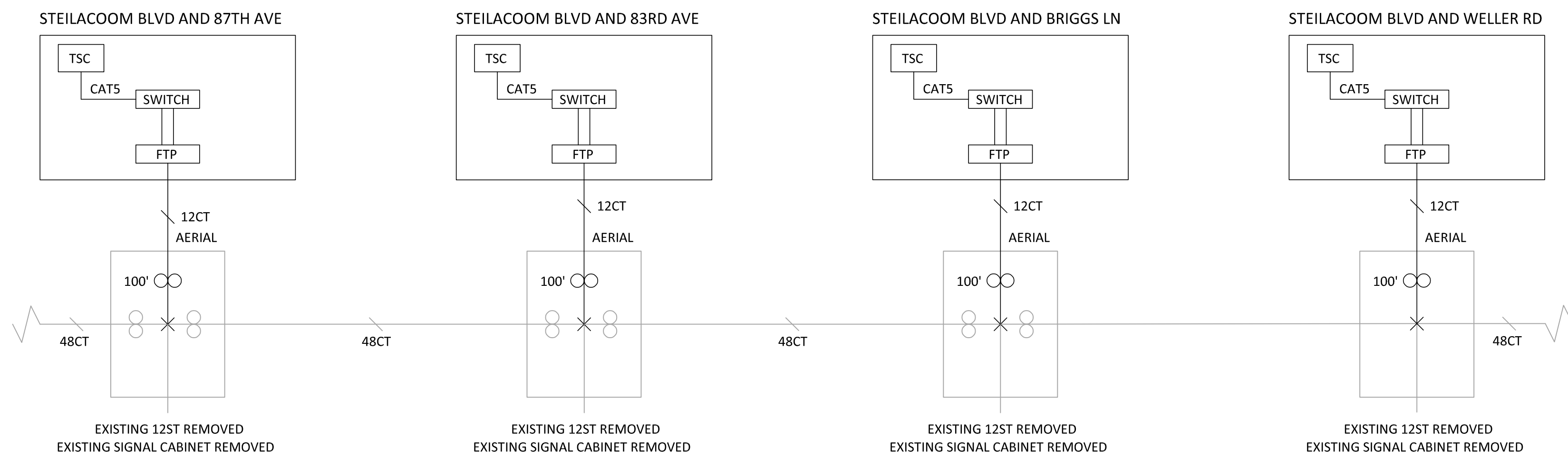
EXISTING FIBER HAS ACTIVE STRANDS THAT SHALL REMAIN ACTIVE AT ALL TIMES.

EXISTING COPPER SIGNAL INTERCONNECT SYSTEM SHALL REMAIN FULLY OPERATIONAL UNTIL ACTIVATION OF NEW SIGNAL SYSTEM.

LEGEND



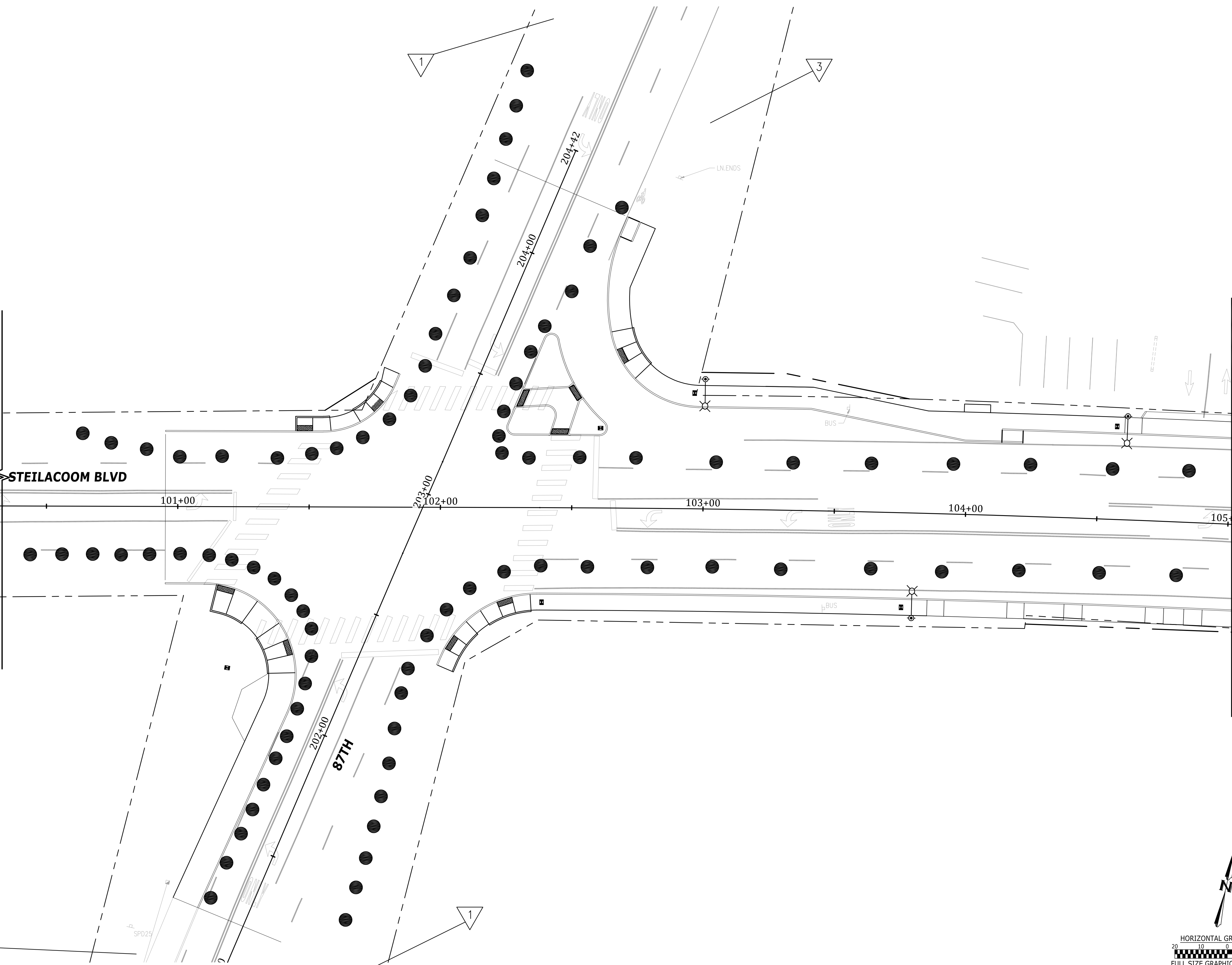
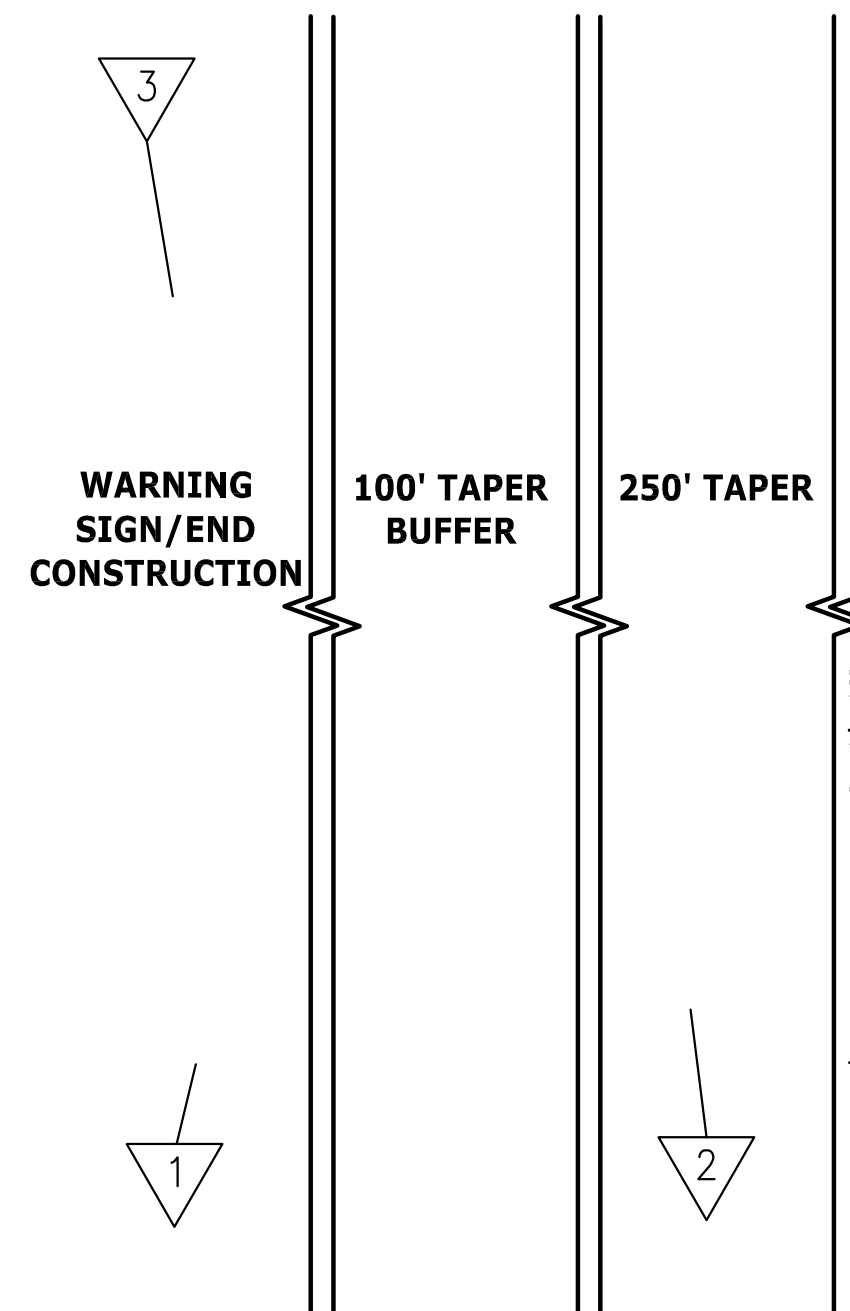
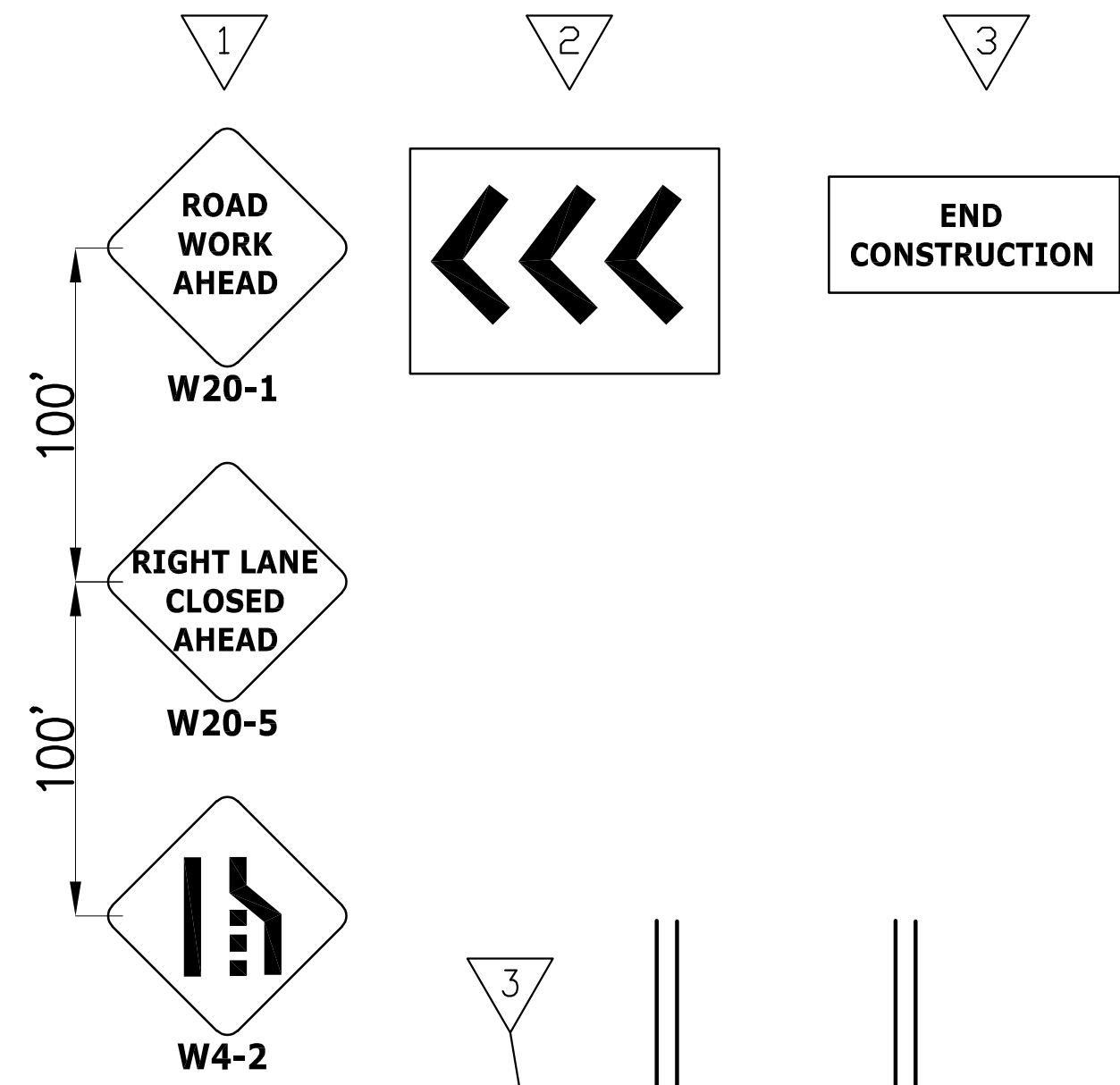
COMMUNICATION SCHEMATIC



S:\CSD Projects\302.0024 Steilacoom Blvd Joint Project\DESIGN\SHEETS\9 - TS.dwg 9/25/2024 9:43 AM

NO.	RELEASE/REVISION	DATE	BY	T. POKSWINSKI PROJECT ENGINEER		PROJECT NAME	PROJECT
			J. HOWE DESIGN ENGINEER	STEILACOOM - 87TH TO WELLER		302.0133	
			J. HOWE DRAWN BY	DRAWING NAME		TS16	
			WESTON OTT, P.E. CITY ENGINEER	TRAFFIC SIGNAL INTERCONNECT DETAILS		42 of 47	
			DESIGN START 10/20/18 SCALE AS SHOWN				

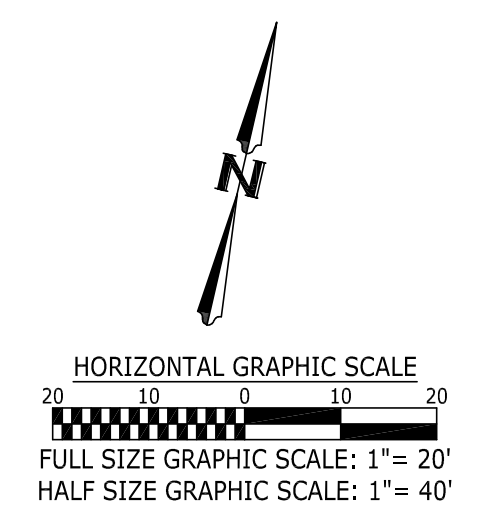
TRAFFIC CONTROL SIGN SCHEDULE



MATCH LINE STA. 105+00
SEE DRAWING TC2

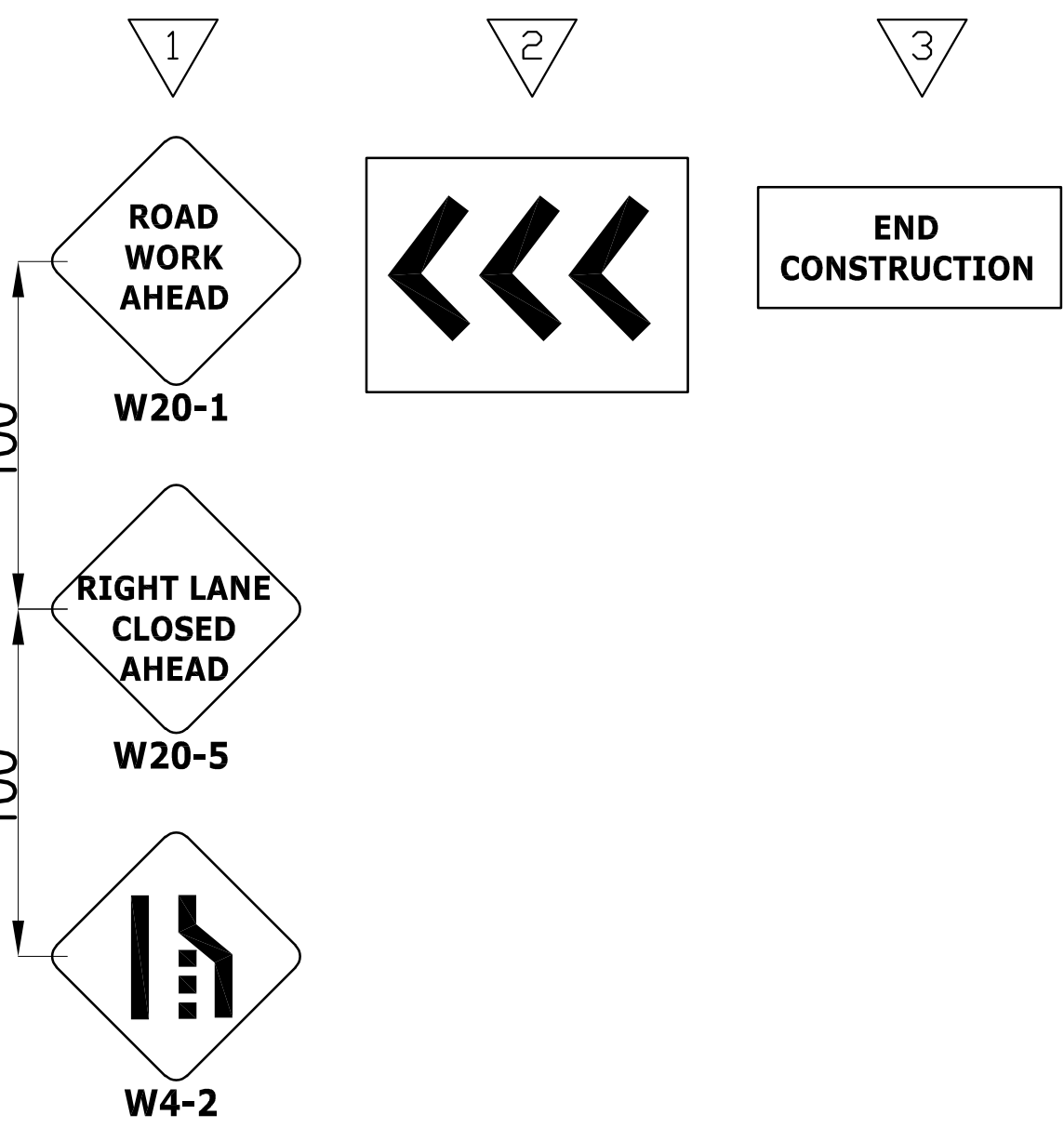
CONSTRUCTION NOTE: THE CONTRACTOR SHALL COMPLY WITH ADAAG DURING THE CONSTRUCTION OF THE PROJECT TO THE MAXIMUM EXTENT FEASIBLE. FOR THIS PROJECT, THIS SHALL MEAN THAT THE CONTRACTOR SHALL COMPLETE SIDEWALK IMPROVEMENTS ON THE NORTH SIDE OF THE ROADWAY PRIOR TO REMOVING THE EXISTING SIDEWALK ON THE SOUTH SIDE.

PRIOR TO TAKING ANY LANES, THE CONTRACTOR SHALL MEET WITH THE CITY TO ENSURE COMPLIANCE DURING CONSTRUCTION.

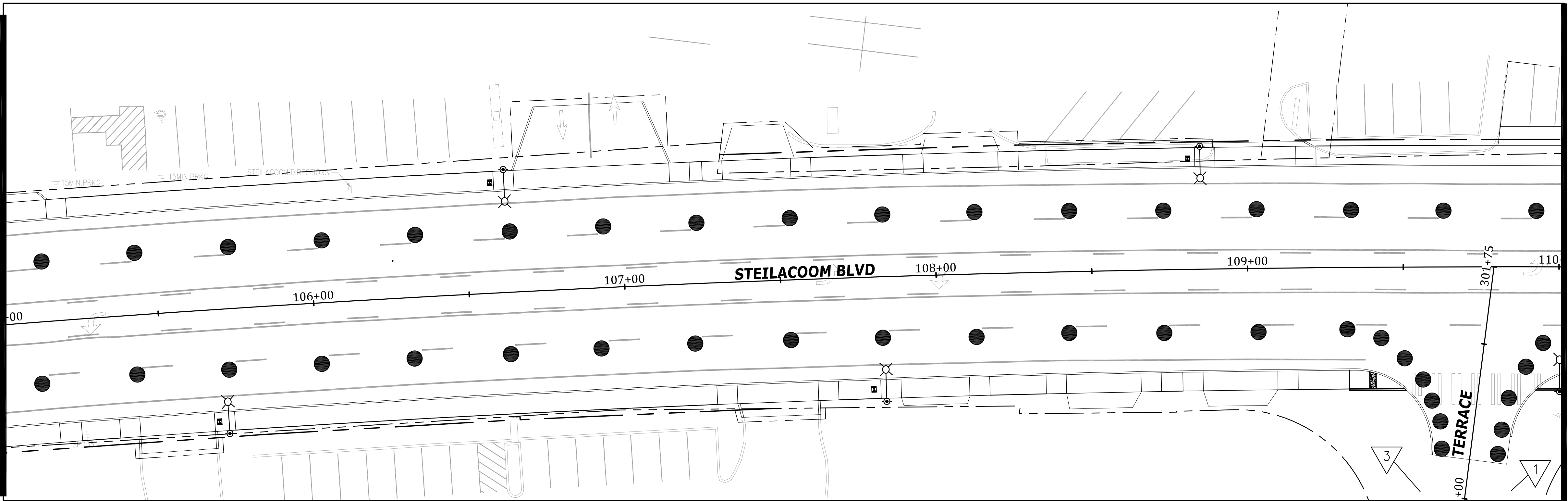


No.	Release/Revision	Re. Date	Re. By	Designed By:	Project Name:	Job No.
▲				T. POKSWINSKI	STEILACOOM BLVD - 87TH TO WELLER	302.0133
▲				Drawn By: T. POKSWINSKI		
▲				Checked By: P. BUCICH		
▲				Approved By: P. BUCICH		
▲				Project Start Date: 12/11/18 Drawing Scale: AS SHOWN		
▲				Electronic File Name: 302.0024	Drawing Name:	Sheet
					TRAFFIC CONTROL PLAN - WEST END TO 105+00	43 of 47



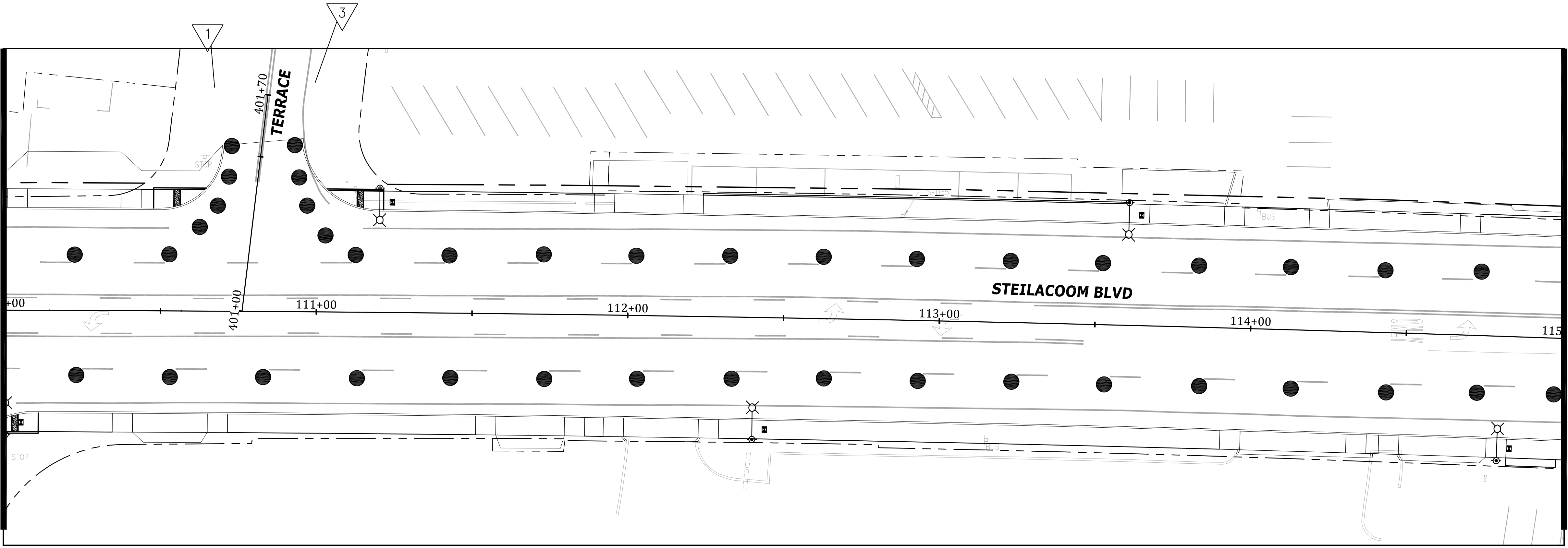


MATCH LINE STA. 105+00
SEE DRAWING TC1



MATCH LINE STA. 110+00
SEE BELOW LEFT

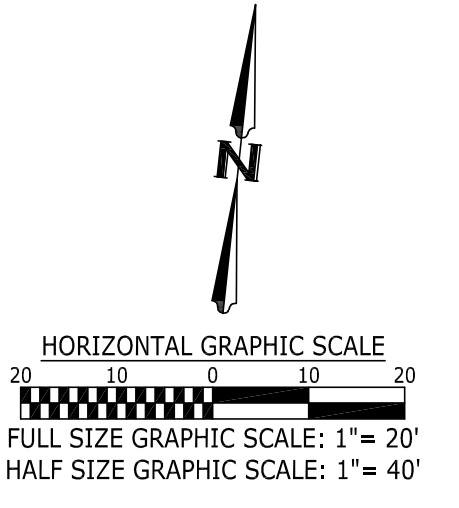
MATCH LINE STA. 110+00
SEE ABOVE RIGHT



MATCH LINE STA. 115+00
SEE DRAWING TC3

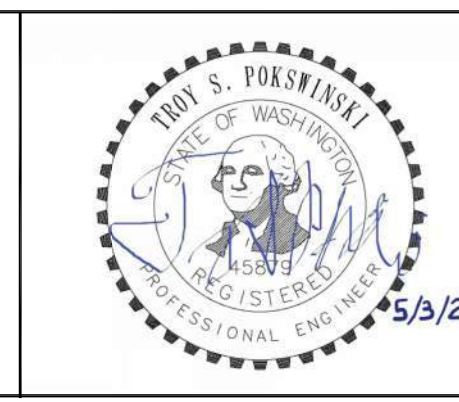
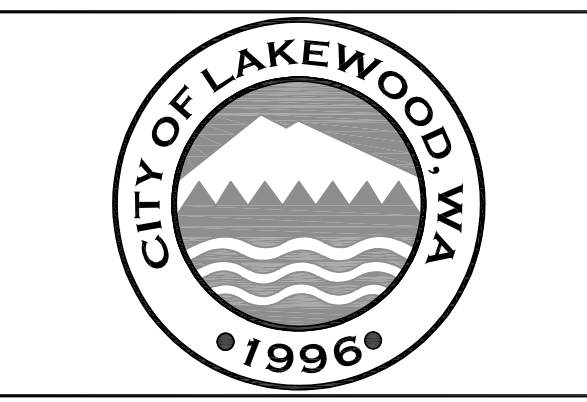
CONSTRUCTION NOTE: THE CONTRACTOR SHALL COMPLY WITH ADAAG DURING THE CONSTRUCTION OF THE PROJECT TO THE MAXIMUM EXTENT FEASIBLE. FOR THIS PROJECT, THIS SHALL MEAN THAT THE CONTRACTOR SHALL COMPLETE SIDEWALK IMPROVEMENTS ON THE NORTH SIDE OF THE ROADWAY PRIOR TO REMOVING THE EXISTING SIDEWALK ON THE SOUTH SIDE.

PRIOR TO TAKING ANY LANES, THE CONTRACTOR SHALL MEET WITH THE CITY TO ENSURE COMPLIANCE DURING CONSTRUCTION.



No.	Release/Revision	Re. Date	Re. By
▲			
▲			
▲			
▲			
▲			

Designed By:	T. POKSWINSKI
Drawn By:	T. POKSWINSKI
Checked By:	P. BUCICH
Approved By:	P. BUCICH
Project Start Date:	12/11/18
Drawing Scale:	AS SHOWN
Electronic File Name:	302.0024

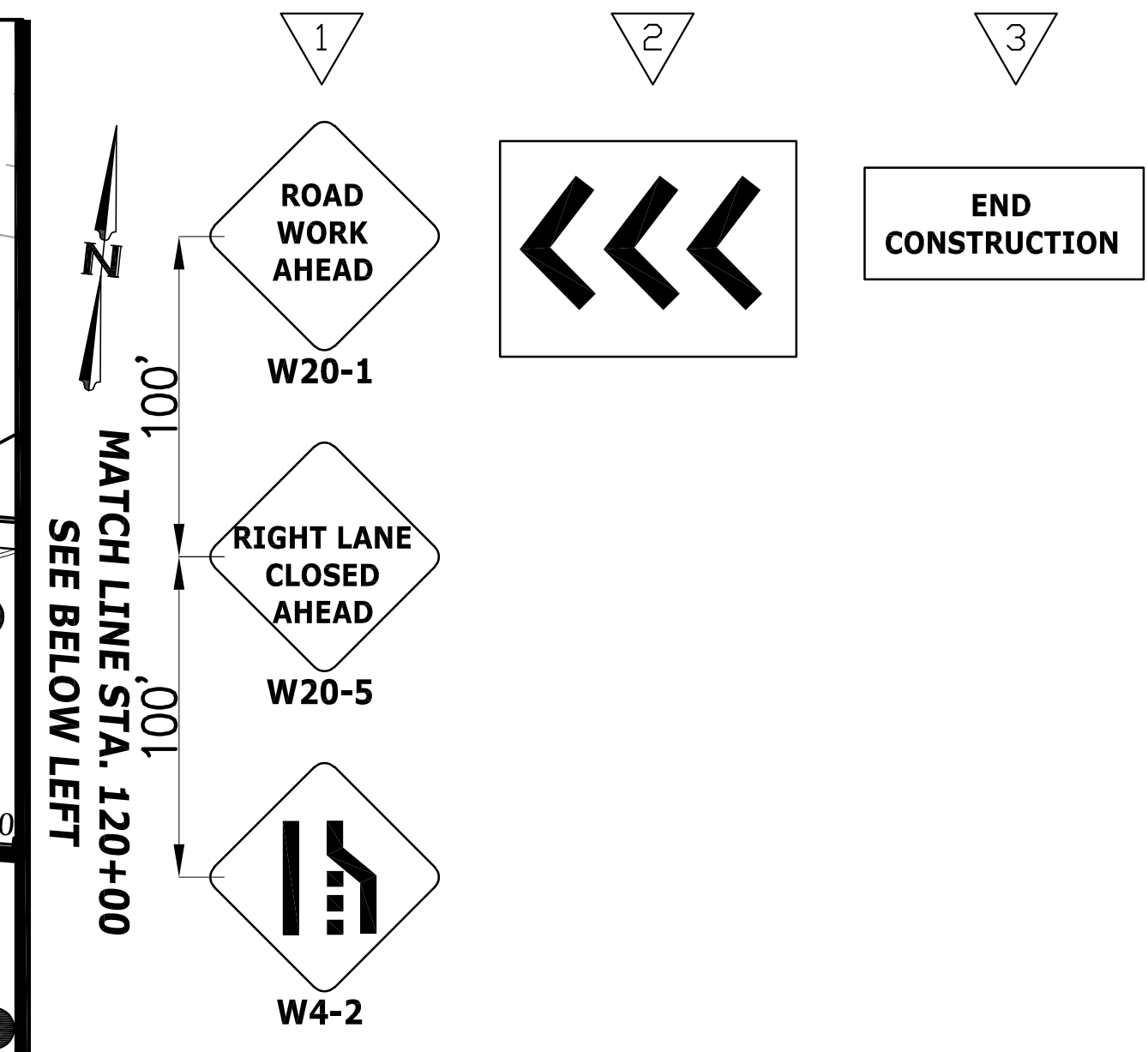
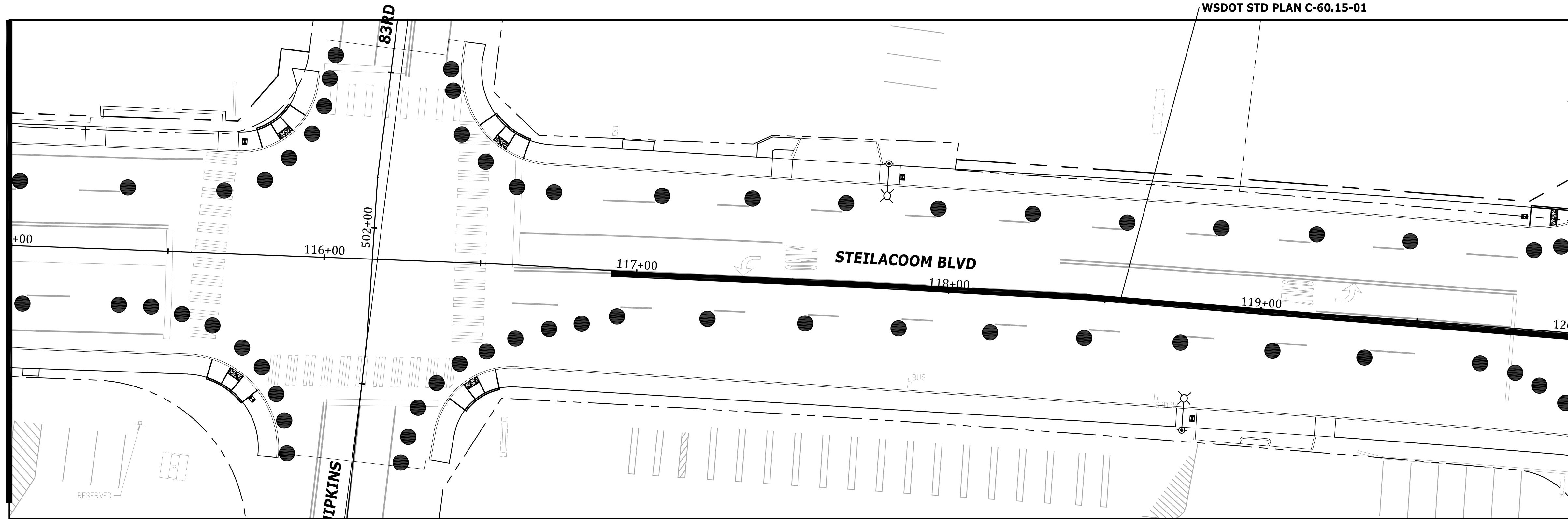


Project Name:	STEILACOOM BLVD - 87TH TO WELLER
Drawing Name:	TRAFFIC CONTROL PLAN - 105+00 - 115+00

Job No.	302.0133
Drawing No.	TC2
Sheet	44 of 47

540 LF OF TEMPORARY CONCRETE BARRIER TYPE F PER
WSDOT STD PLAN C-60.15-01

MATCH LINE STA. 115+00
SEE DRAWING TC2

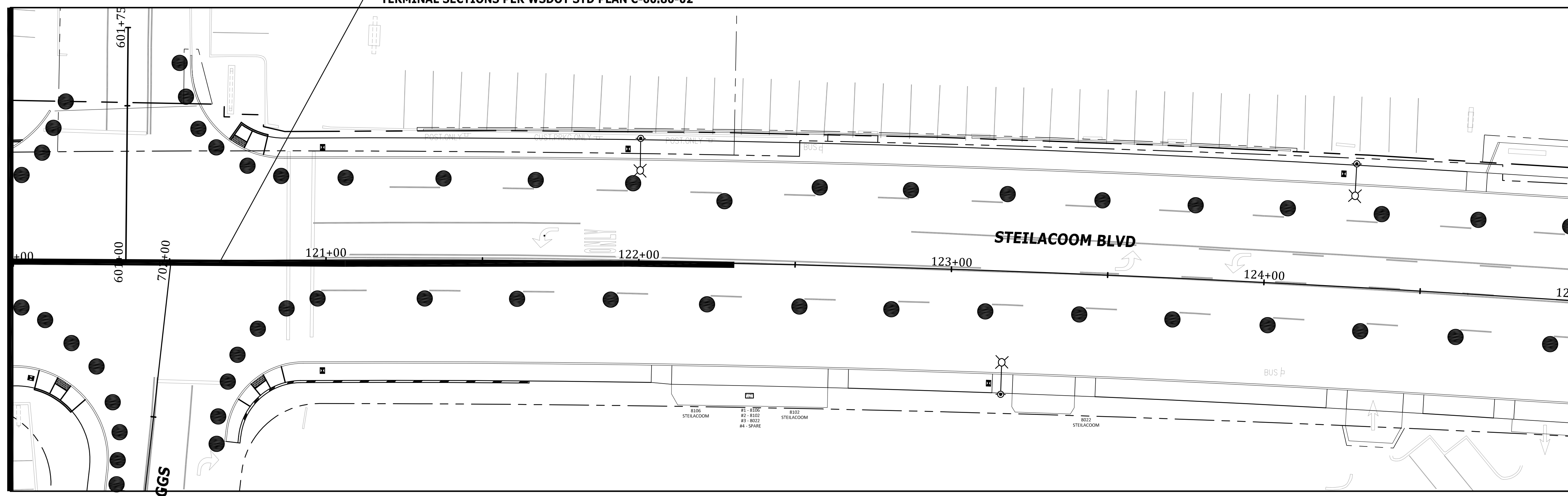


CONSTRUCTION NOTE: THE CONTRACTOR SHALL COMPLY WITH ADAAG DURING THE CONSTRUCTION OF THE PROJECT TO THE MAXIMUM EXTENT FEASIBLE. FOR THIS PROJECT, THIS SHALL MEAN THAT THE CONTRACTOR SHALL COMPLETE SIDEWALK IMPROVEMENTS ON THE NORTH SIDE OF THE ROADWAY PRIOR TO REMOVING THE EXISTING SIDEWALK ON THE SOUTH SIDE.

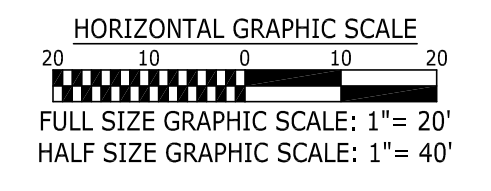
PRIOR TO TAKING ANY LANES, THE CONTRACTOR SHALL MEET WITH THE CITY TO ENSURE COMPLIANCE DURING CONSTRUCTION.

PRIOR TO TAKING ANY LANES, THE CONTRACTOR SHALL REMOVE THE EXISTING TRAFFIC SIGNAL AT THE STEILACOOM/BRIGGS INTERSECTION AND INSTALL 540 LF OF TEMPORARY CONCRETE BARRIER TYPE F WITH TWO TERMINAL SECTIONS PER WSDOT STD PLAN C-60.80-02

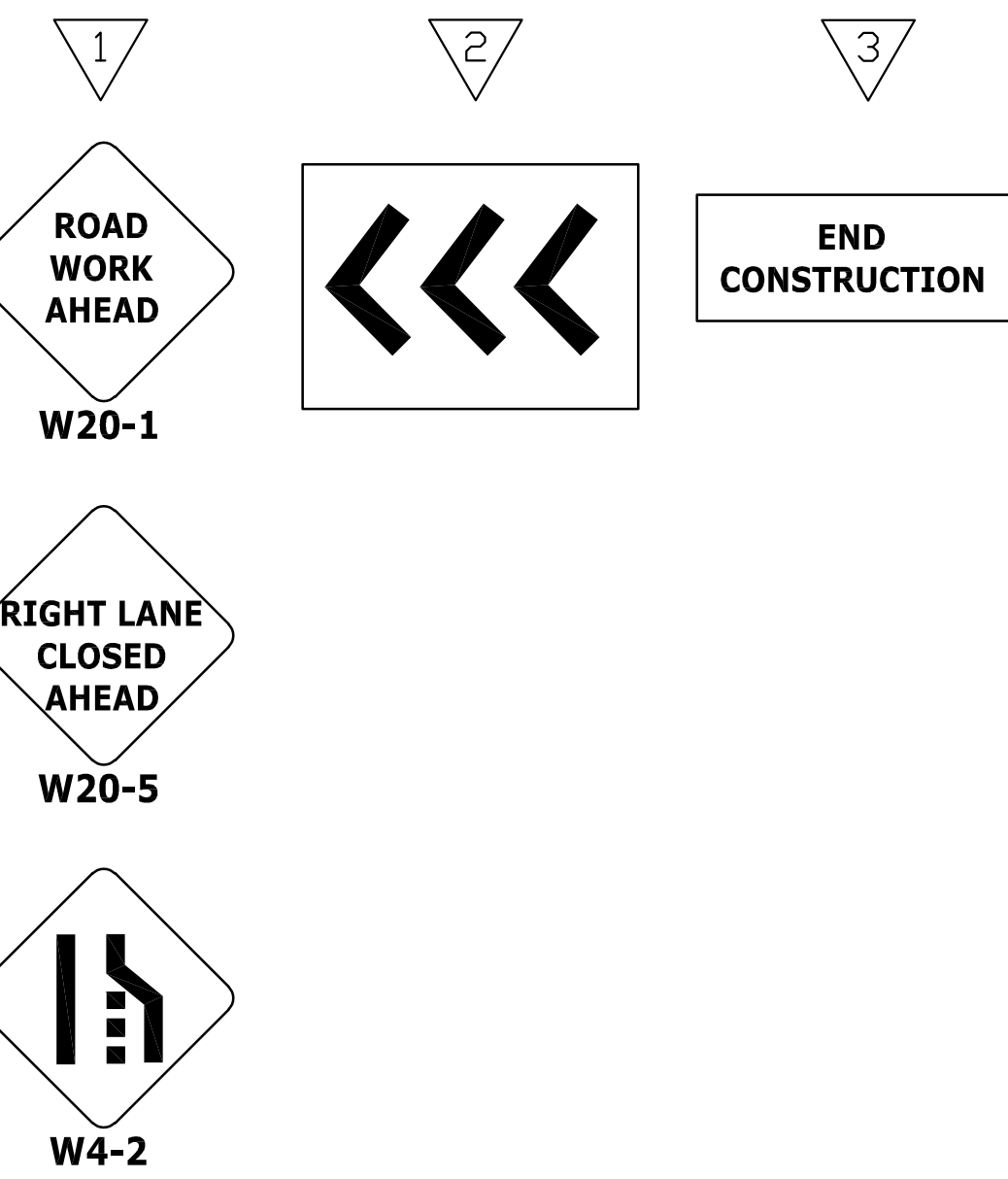
MATCH LINE STA. 120+00
SEE ABOVE RIGHT



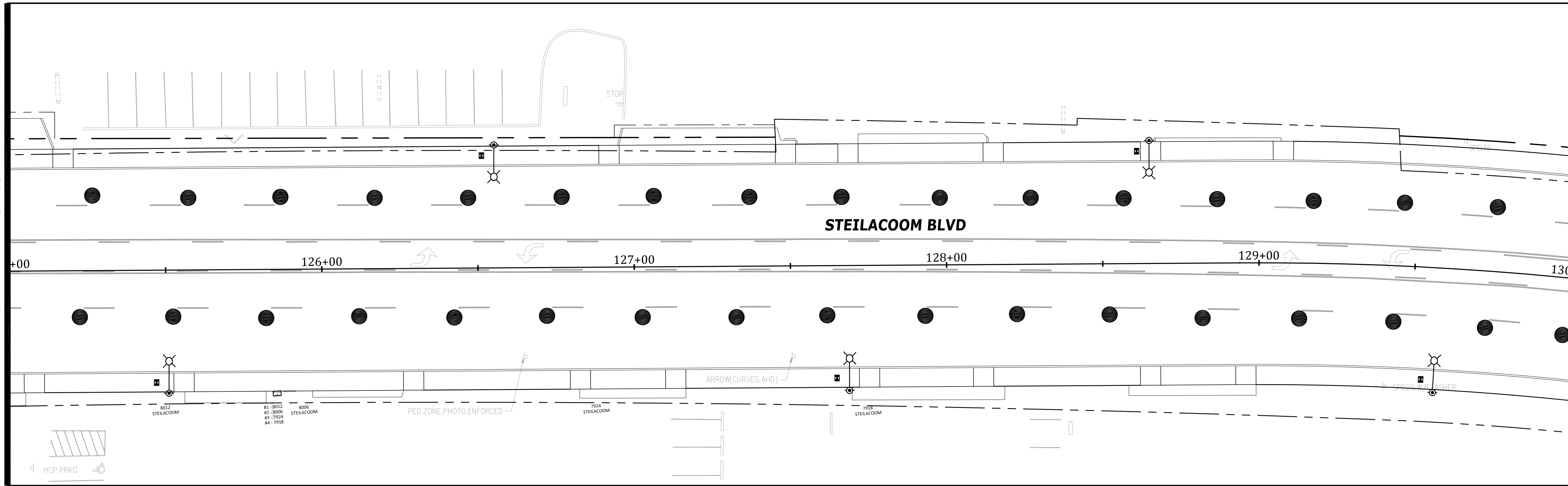
MATCH LINE STA. 125+00
SEE DRAWING TC4



No.	Release/Revision	Re. Date	Re. By	Designed By: T. POKSWINSKI	 	Project Name: STEILACOOM BLVD - 87TH TO WELLER	Job No. 302.0133
▲				Drawn By: T. POKSWINSKI		Drawing Name: TRAFFIC CONTROL PLAN - STA 115+00 - 125+00	Drawing No. TC3
▲				Checked By: P. BUCICH			Sheet 45
▲				Approved By: P. BUCICH			of 47
▲				Project Start Date: 12/11/18 Drawing Scale: AS SHOWN Electronic File Name: 302.0024			



MATCH LINE STA. 125+00
SEE DRAWING TC3

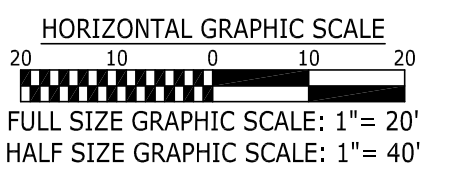
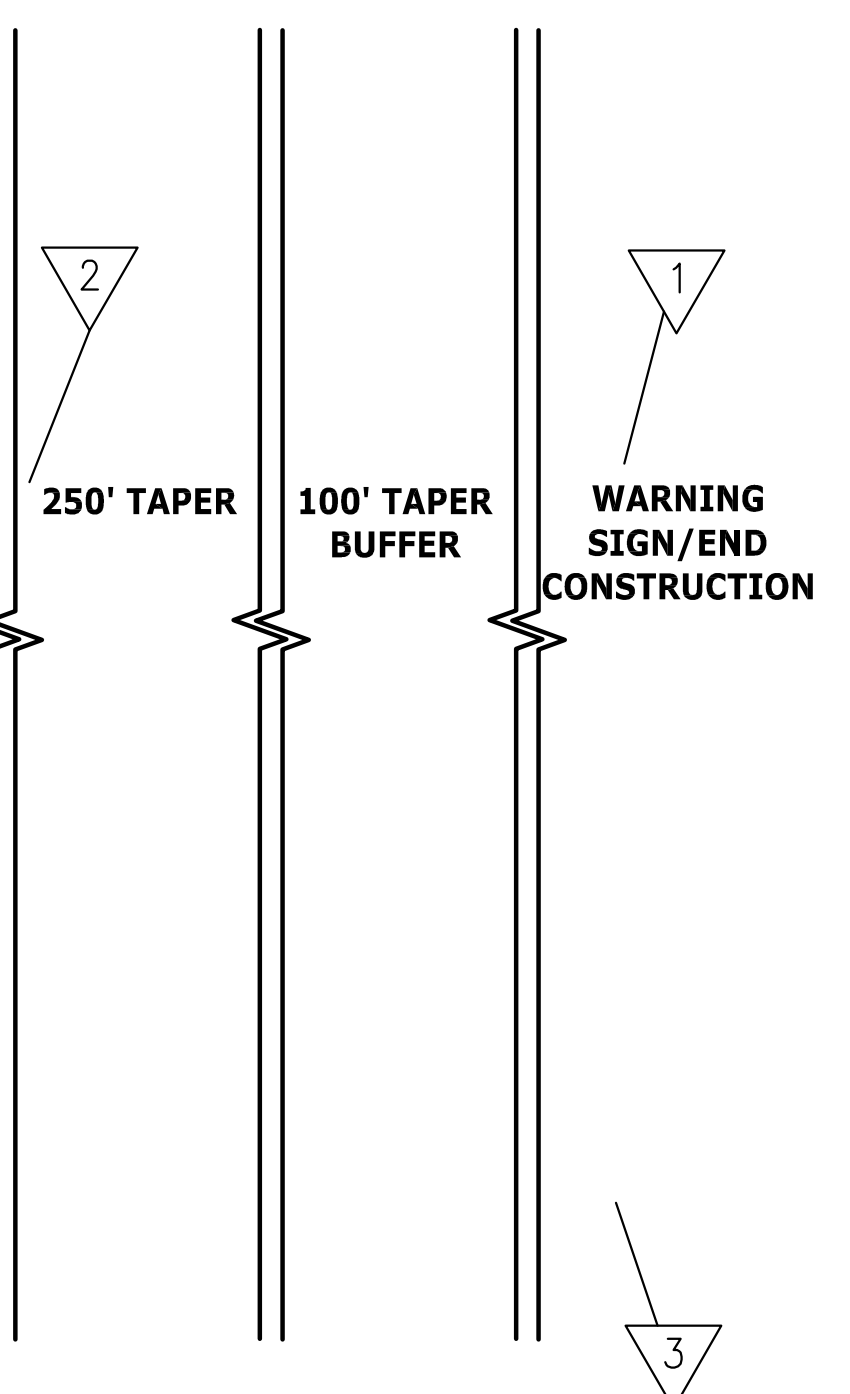
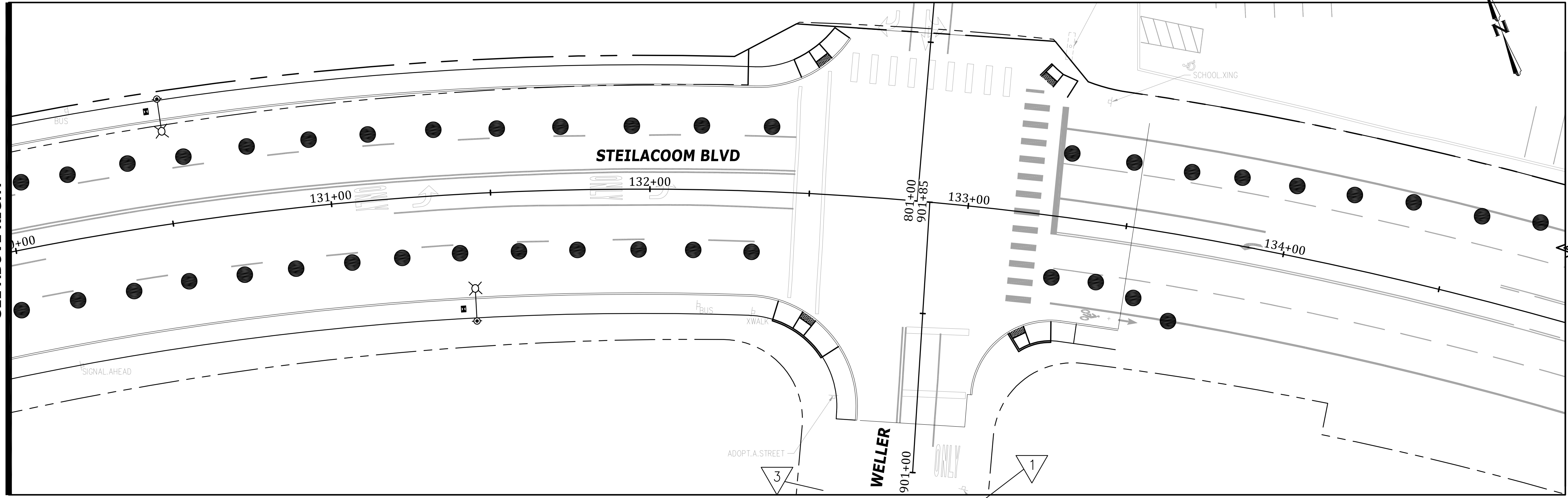


MATCH LINE STA. 130+00
SEE BELOW LEFT

CONSTRUCTION NOTE: THE CONTRACTOR SHALL COMPLY WITH ADAAG DURING THE CONSTRUCTION OF THE PROJECT TO THE MAXIMUM EXTENT FEASIBLE. FOR THIS PROJECT, THIS SHALL MEAN THAT THE CONTRACTOR SHALL COMPLETE SIDEWALK IMPROVEMENTS ON THE NORTH SIDE OF THE ROADWAY PRIOR TO REMOVING THE EXISTING SIDEWALK ON THE SOUTH SIDE.

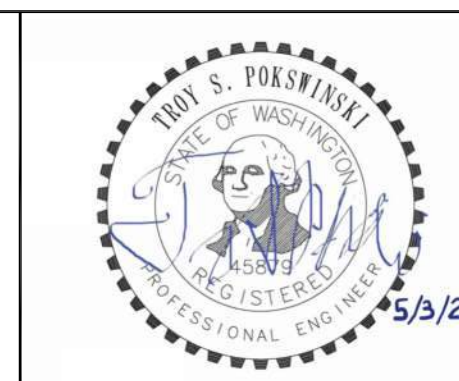
PRIOR TO TAKING ANY LANES, THE CONTRACTOR SHALL MEET WITH THE CITY TO ENSURE COMPLIANCE DURING CONSTRUCTION.

MATCH LINE STA. 130+00
SEE ABOVE RIGHT



No.	Release/Revision	Re. Date	Re. By
▲			
▲			
▲			
▲			
▲			

Designed By: T. POKSWINSKI
 Drawn By: T. POKSWINSKI
 Checked By: P. BUCICH
 Approved By: P. BUCICH
 Project Start Date: 12/11/18
 Drawing Scale: AS SHOWN
 Electronic File Name: 302.0024



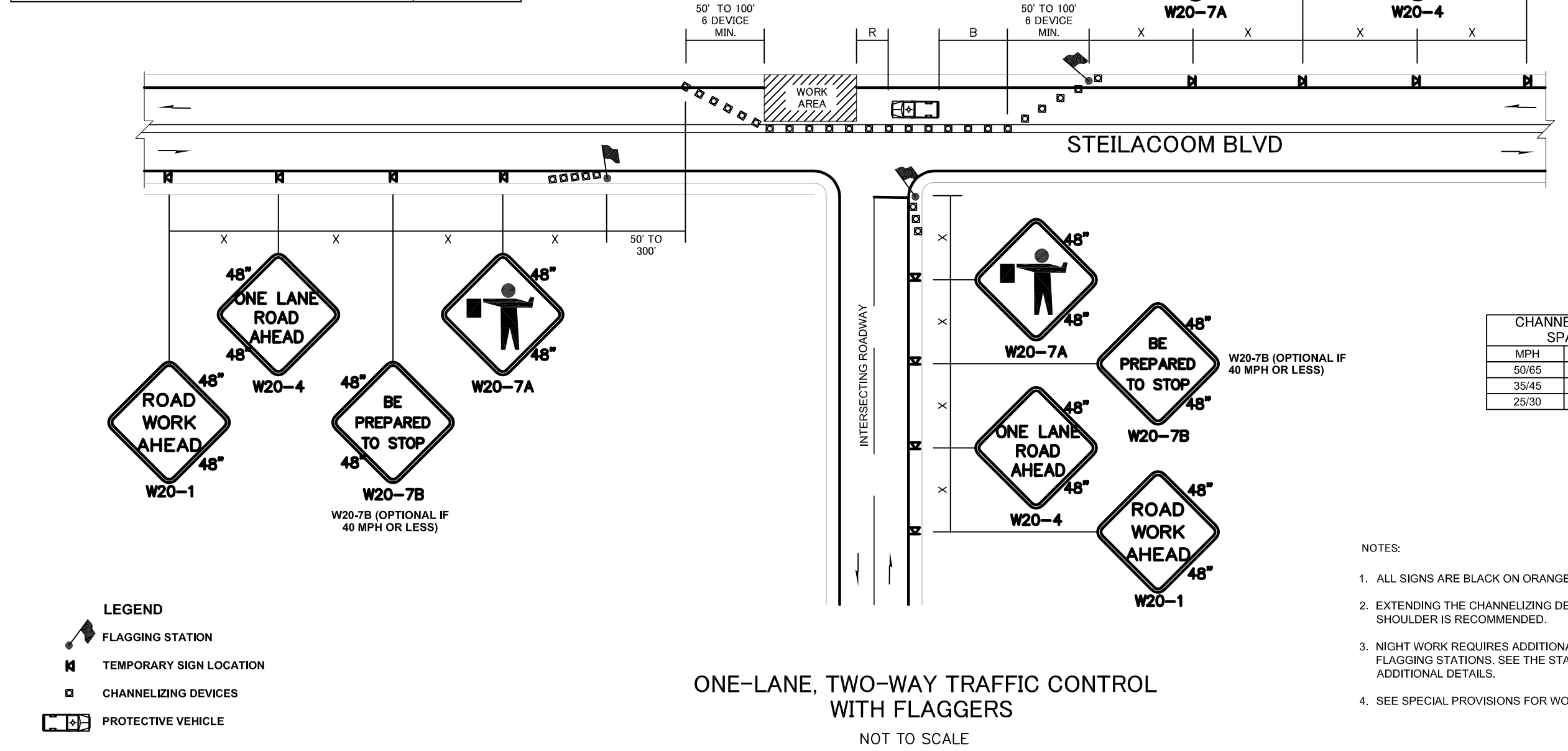
Project Name: STEILACOOM BLVD - 87TH TO WELLER
 Drawing Name: TRAFFIC CONTROL PLAN - STA 125+00-EAST END

Job No. 302.0133
 Drawing No. TC4
 Sheet 46 of 47

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (FEET)	155	200	250	305	360	425	495	570	645	-
BUFFER VEHICLE ROLL AHEAD DISTANCE = R										
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.									30 FEET MIN. TO 100 FEET MAX.	
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.									NO SPECIFIED DISTANCE REQUIRED	

SIGN SPACING = X (1)			
RURAL HIGHWAYS	60 / 65 MPH	800' ±	
RURAL ROADS	45 / 55 MPH	500' ±	
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±	
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)	
URBAN STREETS	25 MPH OR LESS	100' ± (2)	

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.



CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

- NOTES:
- ALL SIGNS ARE BLACK ON ORANGE.
 - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
Posted Speed (mph)										
LANE WIDTH (feet)	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
Posted Speed (mph)										
SHOULDER WIDTH (feet)	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

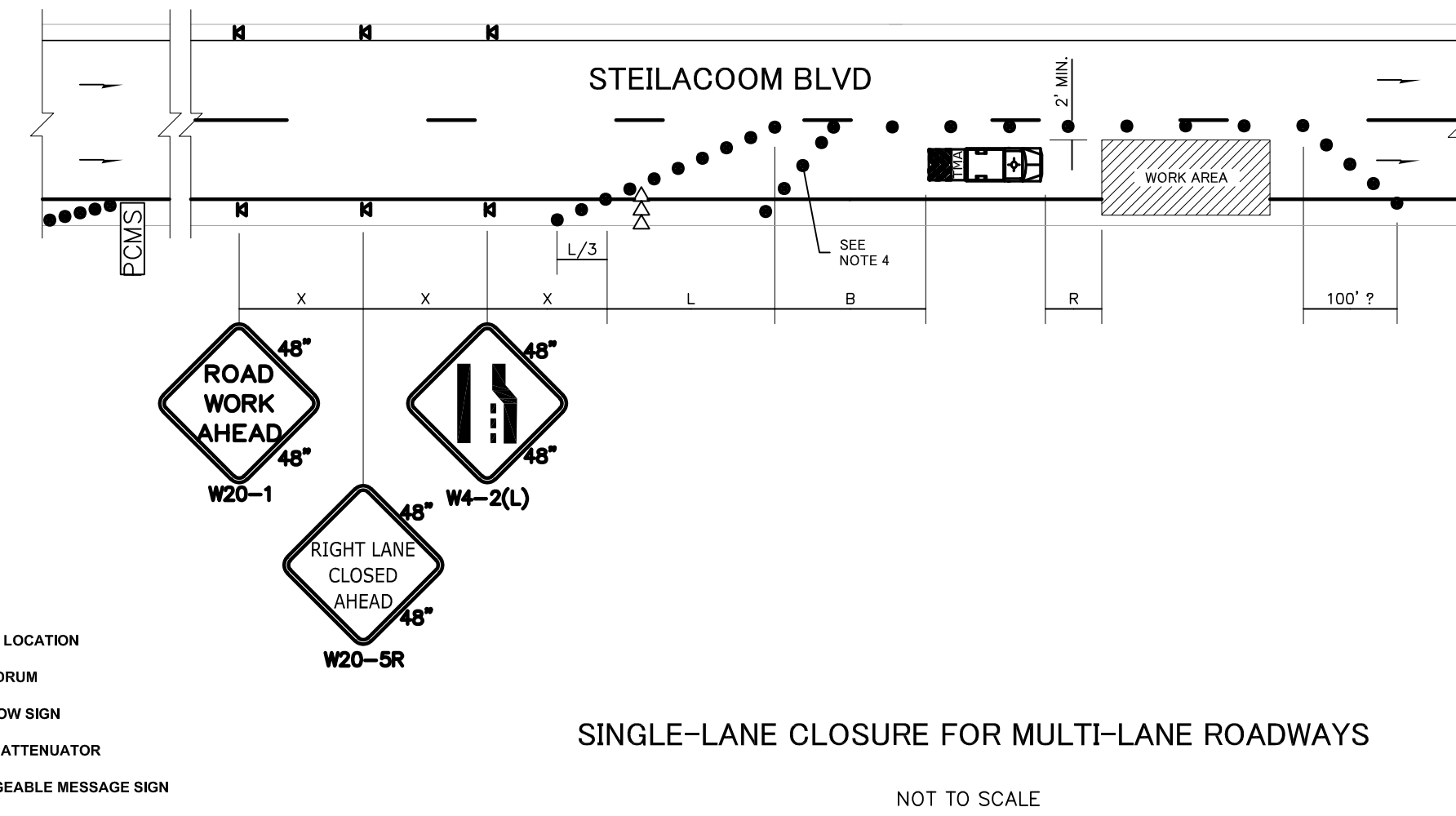
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THAN 8'.

SIGN SPACING = X (1)		
FREeways & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ± (2)
RURAL ROADS & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZING DEVICE SPACING (feet)			
MPH	TAPER	TANGENT	
50/70	40	80	
35/45	30	60	
25/30	20	40	

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
LENGTH (feet)	25	30	35	40	45	50	55	60	65	70
	155	200	250	305	360	425	495	570	645	730
BUFFER VEHICLE ROLL AHEAD DISTANCE = R										
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.									30 FEET MIN. TO 100 FEET MAX.	



PCMS	
1	2
RIGHT LANE CLOSURE	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE IN ADVANCE OF LANE CLOSURE SIGNING.

- NOTES:
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
 - DEVICES SHALL NOT ENCRoACH INTO THE ADJACENT LANE.
 - USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' (FT) (RECOMMENDED).
 - DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
 - ALL SIGNS ARE BLACK ON ORANGE.

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
Posted Speed (mph)										
SHOULDER WIDTH (feet)	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	-	-	-	-	-	-
10'	40	60	90	90	-	-	-	-	-	-

USE A 3 DEVICES TAPER FOR SHOULDERS LESS THAN 8'

CHANNELIZING DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/40	30	60
25/30	20	40

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
BUFFER VEHICLE ROLL AHEAD DISTANCE = R										
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.									30 FEET MIN. TO 100 FEET MAX.	
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.									NO SPECIFIED DISTANCE REQUIRED	

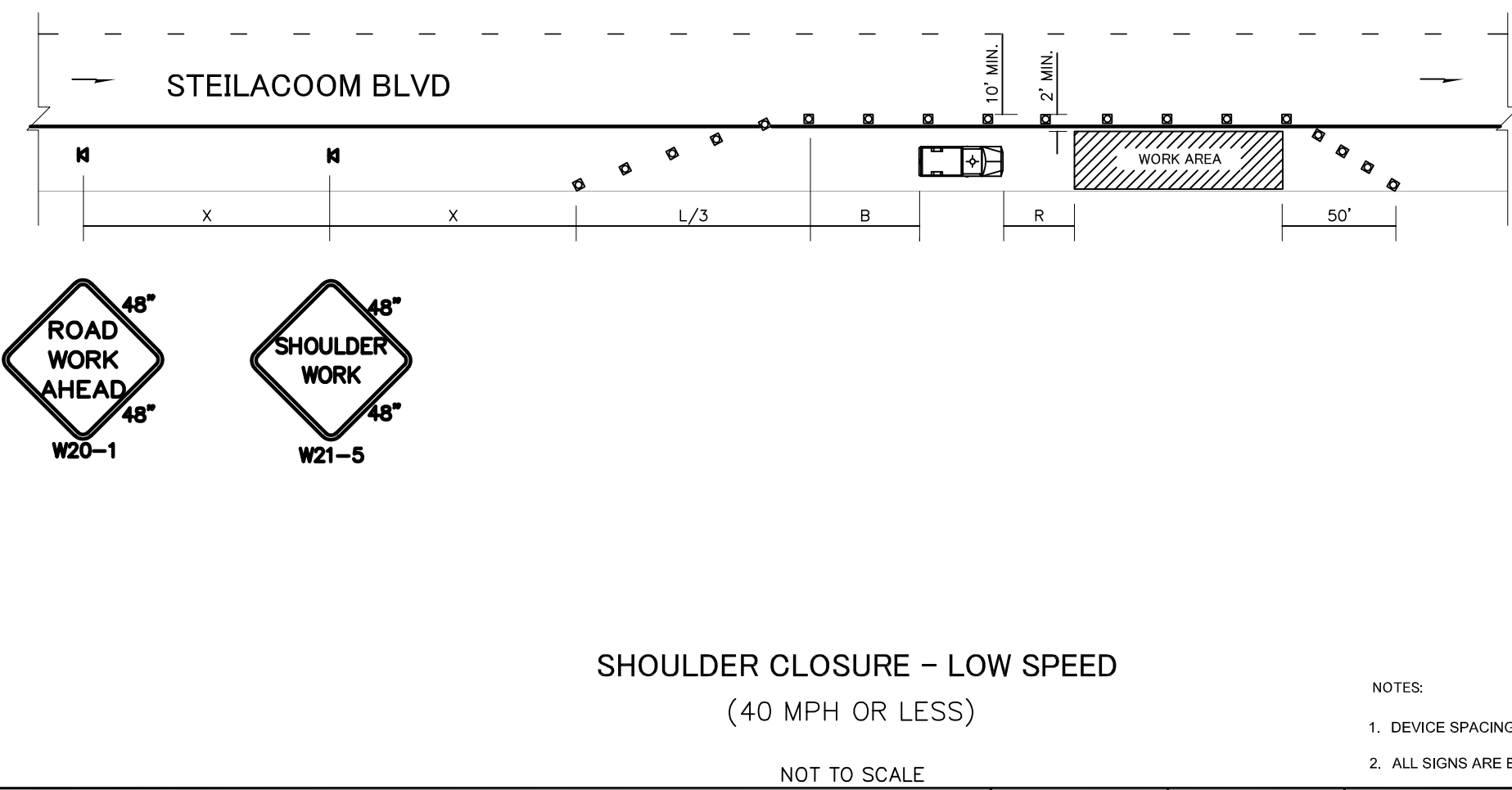
BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
BUFFER VEHICLE ROLL AHEAD DISTANCE = R										
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.									30 FEET MIN. TO 100 FEET MAX.	
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.									NO SPECIFIED DISTANCE REQUIRED	

SIGN SPACING = X (1)		
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ± (2)
RURAL ROADS & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

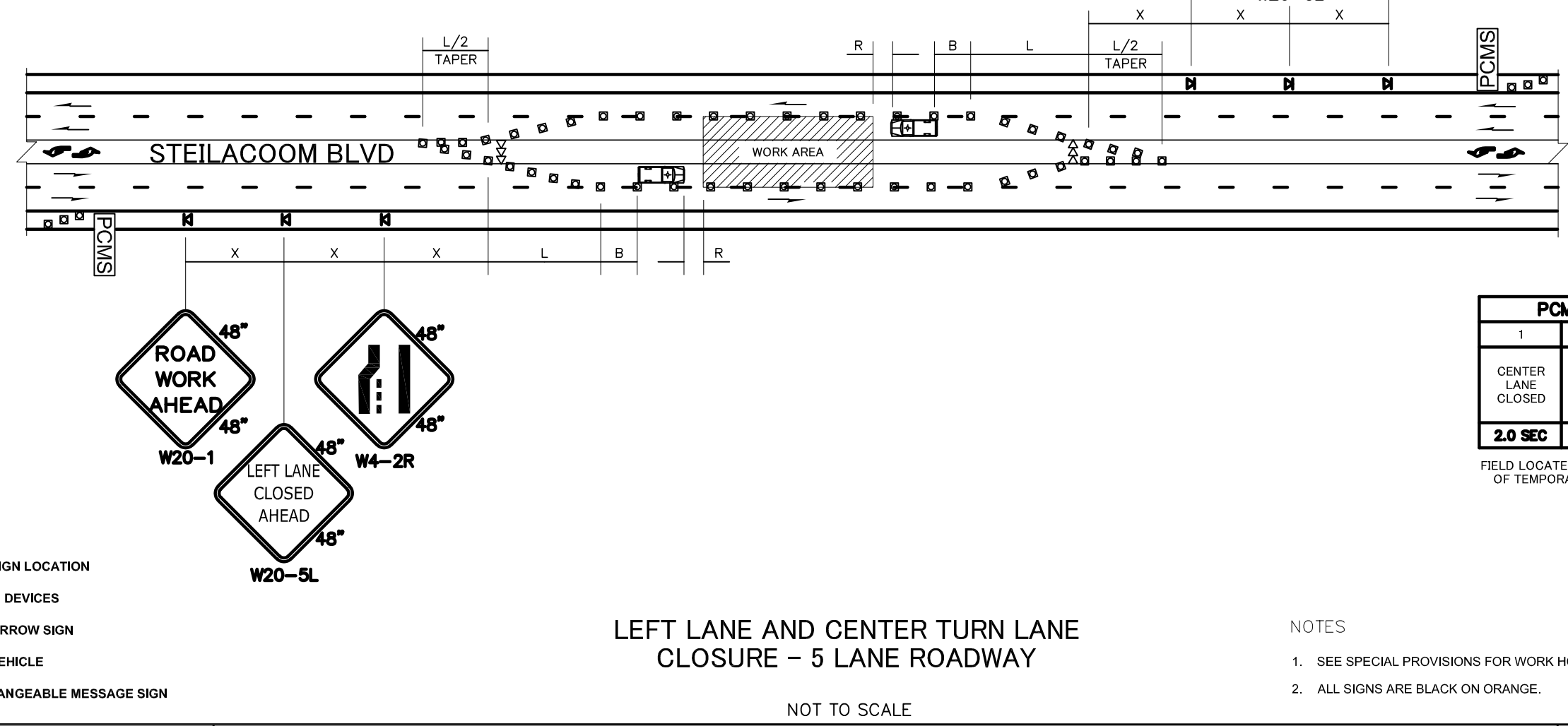
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

MINIMUM TAPER LENGTH = L (feet)										
Posted Speed (mph)										
LANE WIDTH (feet)	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

CHANNELIZING DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50	40	80
35/45	30	60
25/30	20	40



- NOTES:
- DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
 - ALL SIGNS ARE BLACK ON ORANGE.



PCMS	
1	2
CENTER LANE CLOSED	NO LEFT TURNING
2.0 SEC	2.0 SEC

FIELD LOCATE IN ADVANCE OF TEMPORARY SIGNS.

- NOTES:
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - ALL SIGNS ARE BLACK ON ORANGE.

No.	Release/Revision	Re. Date	Re. By	Designed By	Project Name	Job No.
▲				T. POKSWINSKI	STEILACOOM BLVD - 87TH TO WELLER	302.0133
▲				T. POKSWINSKI		Drawing No.
▲				P. BUCICH		TC5
▲				P. BUCICH	TRAFFIC CONTROL PLAN - TYPICAL LANE CLOSURES	Sheet 47 of 47
▲				Project Start Date: 12/11/18 Drawing Scale: AS SHOWN Electronic File Name: 302.0024		

