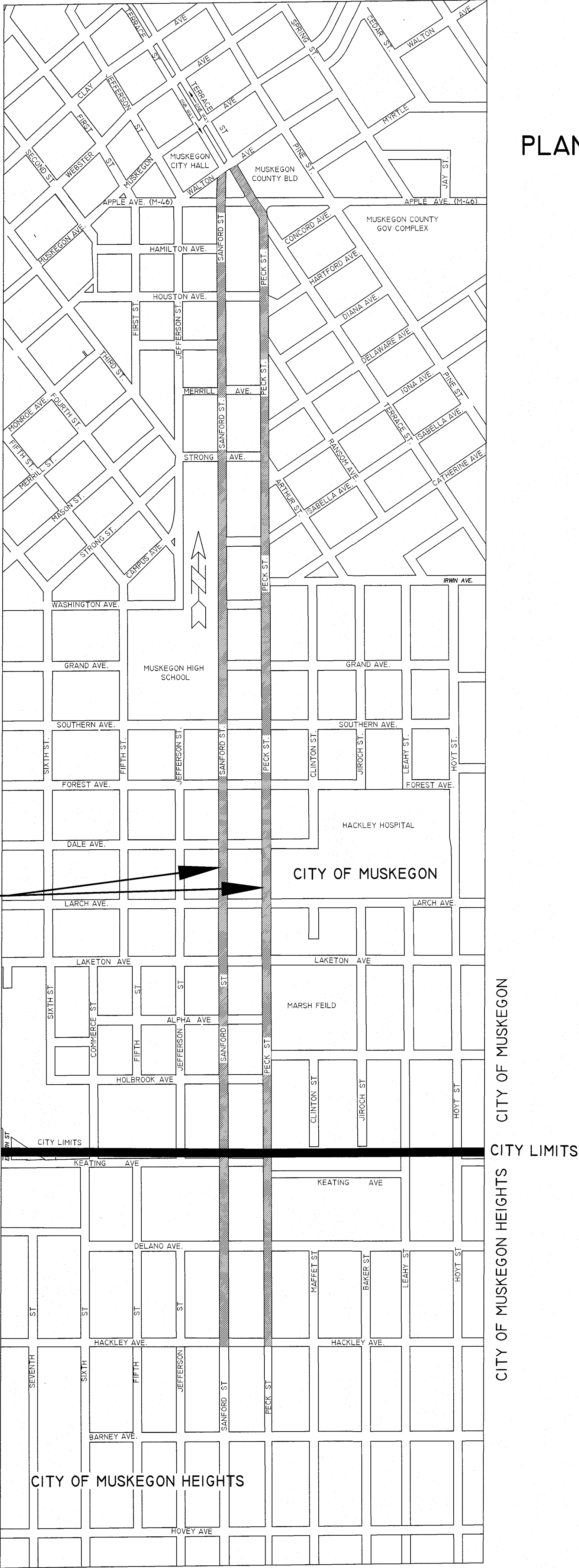


NOTE:
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THESE IMPROVEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2004 AASHTO GUIDELINES.

INDEX TO SHEETS

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3	— PERMANENT SIGNING DETAIL KEATING AVE. TO LARCH AVE.
4	— PERMANENT SIGNING DETAIL LARCH AVE. TO GRAND AVE.
5	— PERMANENT SIGNING DETAIL GRAND AVE. TO MERRILL AVE.
6	— PERMANENT SIGNING DETAIL MERRILL AVE. TO WALTON AVE.
7	— PAVEMENT MARKING DETAIL HACKLEY AVE. TO KEATING AVE.
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TS-4	— PECK - APPLE INTERSECTION TRAFFIC SIGNAL REMOVALS
TS-5	— PECK - APPLE INTERSECTION TRAFFIC SIGNAL UPGRADES
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TS-9	— PECK - LAKETON INTERSECTION TRAFFIC SIGNAL UPGRADES
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TS-11	— SANFORD - HACKLEY INTERSECTION TRAFFIC SIGNAL TEMPORARY
TS-12	— SANFORD - HACKLEY INTERSECTION TRAFFIC SIGNAL UPGRADES
TS-13	— PECK - HACKLEY INTERSECTION TRAFFIC SIGNAL REMOVALS
TS-13	— PECK - HACKLEY INTERSECTION TRAFFIC SIGNAL UPGRADES

PROJECT LOCATION



CITY OF MUSKEGON
PLAN FOR THE CONVERSION OF ONE WAY TRAFFIC TO TWO WAY TRAFFIC ON
PECK STREET AND SANFORD STREET
FROM
HACKLEY AVENUE TO APPLE AVENUE
PROJECT NUMBER H-91859



3 WORKING DAYS
EXCLUDING SAT, SUN & HOLIDAYS
BEFORE YOU DIG
CALL MISS DIG

Know what's below.
Call before you dig.

UTILITIES

ELECTRIC
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(231) 332-2601

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860 TERRACE STREET
MUSKEGON MI 49440
(231) 727-1319

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VINCENT DUCA
DTE ENERGY
2359 OLTHOFF DRIVE
MUSKEGON MI 49444
(231) 578-0488 (CELL)

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JIM STITZEL
COMCAST
700 W BROADWAY AVENUE
MUSKEGON, MI 49441
(810) 217-1642

WATER & SEWER
DAVE BAKER
CITY OF MUSKEGON DPW
1350 E KEATING AVENUE
MUSKEGON MI 49442
(231) 724-4100

3 MI OF CONVERTING EXISTING ONE WAY TRAFFIC ON PECK ST. AND SANFORD ST. TO TWO WAY TRAFFIC. WORK INCLUDES REMOVING PAVEMENT MARKINGS AND TRAFFIC SIGNS, SALVAGING EXISTING SIGNS AND PLACING NEW SIGNS, PAVEMENT MARKINGS AND TRAFFIC SIGNAL UPGRADES ON PECK AND SANFORD STREETS IN THE CITY OF MUSKEGON, MUSKEGON COUNTY.

PREPARED UNDER THE SUPERVISION OF:

LEO EVANS, P.E.
CITY ENGINEER

CITY OF MUSKEGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE.
MUSKEGON MI 49442

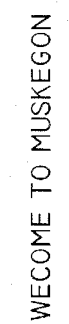
REGISTRATION NUMBER

CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

DRAWN C WIGGINS	JAN 19	REVISION	SURVEY C WIGGINS	H-91859
CHECKED		REVISION	AS-BUILT	PROJECT NO
APPROVED			SCALE NONE	SHEET NO 1 OF 12

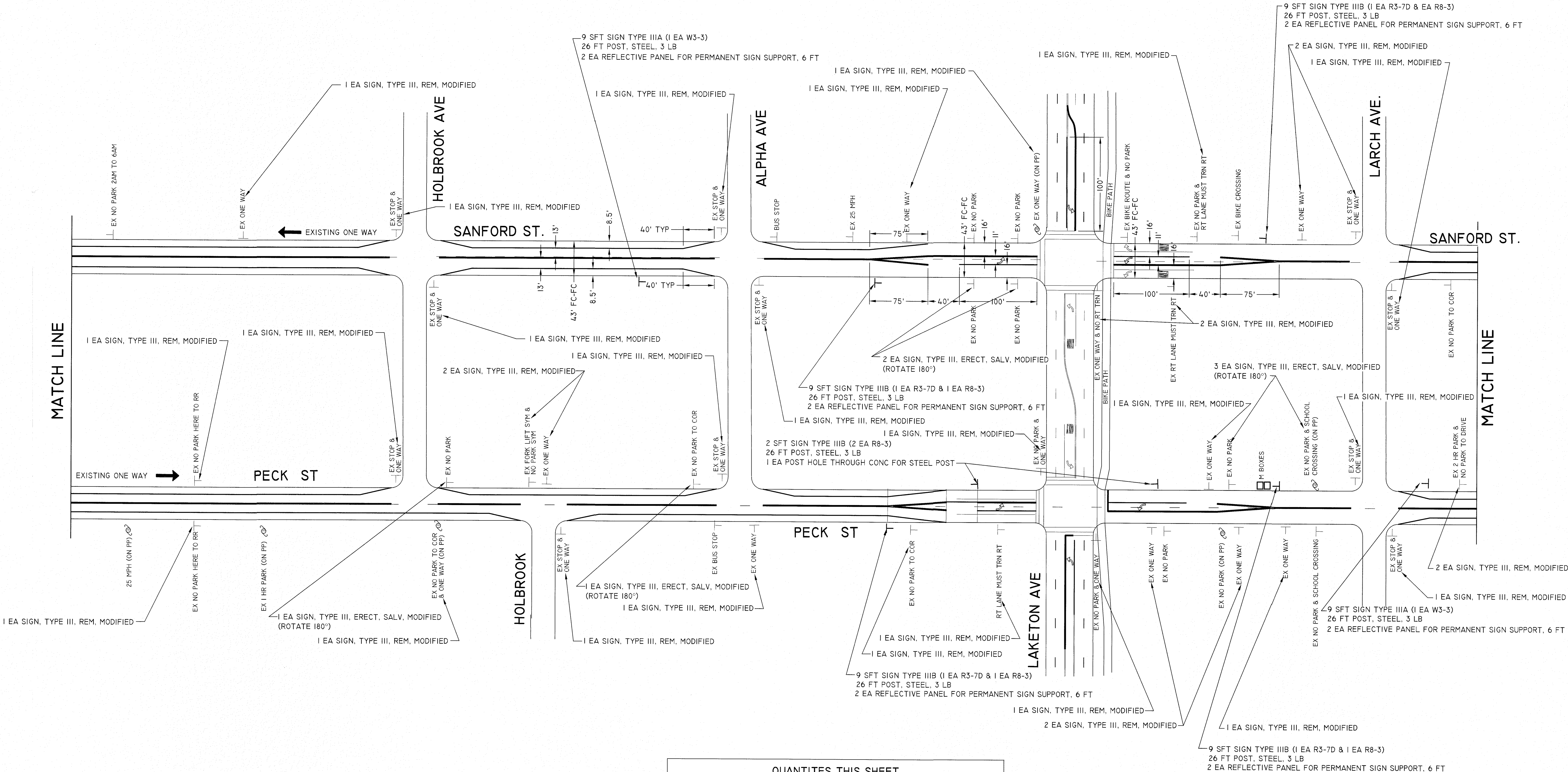
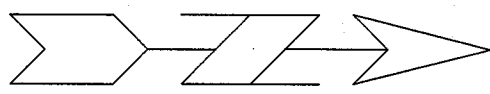
MATCH LINE



QUANTITIES THIS SHEET		
SIGN, TYPE III, REM, MODIFIED	23	EA
SIGN, TYPE III, ERECT, SALV, MODIFIED	0	EA
SIGN TYPE IIIA	40	SF
SIGN TYPE IIIB	41	SF
POST, STEEL, 3 LB	182	FT
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 6 FT	14	EA
POST HOLE THROUGH CONC FOR STEEL POST	0	EA

CITY OF MUSKEGON						SANFORD ST. AND PECK ST CONVERSION FROM ONE WAY TO TWO WAY TRAFFIC					
OFFICE OF THE CITY ENGINEER											
DRAWN	C WIGGINS	DEC 16	REVISION			SURVEY	C WIGGINS	MAY 16		H-91859	
CHECKED			REVISION			AS-BUILT				PROJECT NO	
APPROVED						SCALE	1" = 20'			SHEET NO 2 OF 12	

PERMANENT SIGNING DETAIL



PERMANENT SIGN QUANTITIES THIS SHEET						
SIGN	TYPE	DESCRIPTION	QUANTITY	DIMENSION	AREA	TOTAL AREA
W3-3	TYPE (IIIA)	TRAFFIC LIGHT AHEAD	2	36" X 36"	9 SFT	18 SFT
R3-7D	TYPE (IIIB)	LEFT ONLY & THRU / RT TURN SYM	4	30" X 36"	7.5 SFT	30 SFT
R8-3	TYPE (IIIB)	NO PARK SYM	6	12" X 12"	1 SFT	6 SFT

QUANTITIES THIS SHEET		
SIGN, TYPE III, REM, MODIFIED	34	EA
SIGN, TYPE III, ERECT, SALV, MODIFIED	7	EA
SIGN TYPE IIIA	18	SFT
SIGN TYPE IIIB	36	SFT
POST, STEEL, 3 LB	182	FT
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 6 FT	14	EA
POST HOLE THROUGH CONC FOR STEEL POST	1	EA

CITY OF MUSKEGON

OFFICE OF THE CITY ENGINEER

DRAWN C WIGGINS DEC 16

CHECKED

APPROVED

REVISION

REVISION

SURVEY C WIGGINS MAY 16

AS-BUILT

SCALE 1" = 20'

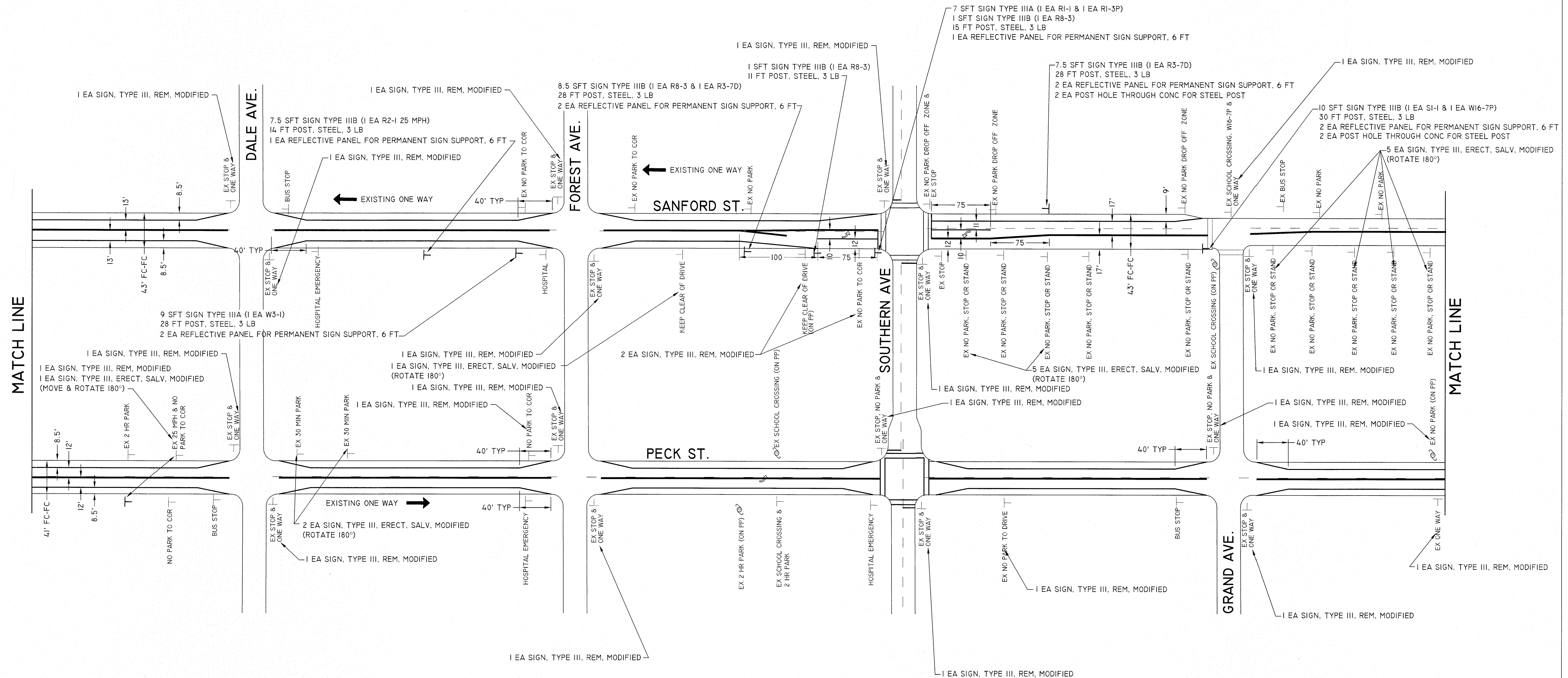
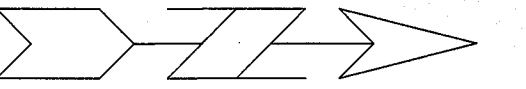
PROJECT NO H-91859

SHEET NO 3 OF 12

PERMANENT SIGNING DETAIL

SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

PERMANENT SIGNING DETAIL



PERMANENT SIGN QUANTITIES THIS SHEET

SIGN	TYPE	DESCRIPTION	QUANTITY	DIMENSION	AREA	TOTAL AREA
R1-1	TYPE (IIIA)	STOP	1	30" X 30"	6.25 SFT	6.25 SFT
W3-1	TYPE (IIIA)	STOP AHEAD SYM	1	36" X 36"	9 SFT	9 SFT
R1-3P	TYPE (IIIA)	ALL WAY	1	18" X 6"	0.75 SFT	2.25 SFT
R3-7D	TYPE (IIIB)	LEFT ONLY & THRU / RT TURN SYM	4	30" X 36"	7.5 SFT	30 SFT
R8-3	TYPE (IIIB)	NO PARK SYM	13	12" X 12"	1 SFT	13 SFT
SI-1	TYPE (IIIB)	SCHOOL CROSSING SYM	1	36" X 36"	9 SFT	9 SFT
W16-7P	TYPE (IIIB)	ARROW	1	30" X 15"	3.1 SFT	3.1 SFT
R2-1	TYPE (IIIB)	SPEED LIMIT 25 MPH	1	24" X 30"	5 SFT	5 SFT

QUANTITIES THIS SHEET

SIGN, TYPE III, REM, MODIFIED	25	EA
SIGN, TYPE III, ERECT, SALV, MODIFIED	14	EA
SIGN TYPE IIIA	18	SFT
SIGN TYPE IIIB	75	SFT
POST, STEEL, 3 LB	156	FT
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 6 FT	12	EA
POST HOLE THROUGH CONC FOR STEEL POST	4	EA

PERMANENT SIGNING DETAIL

CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

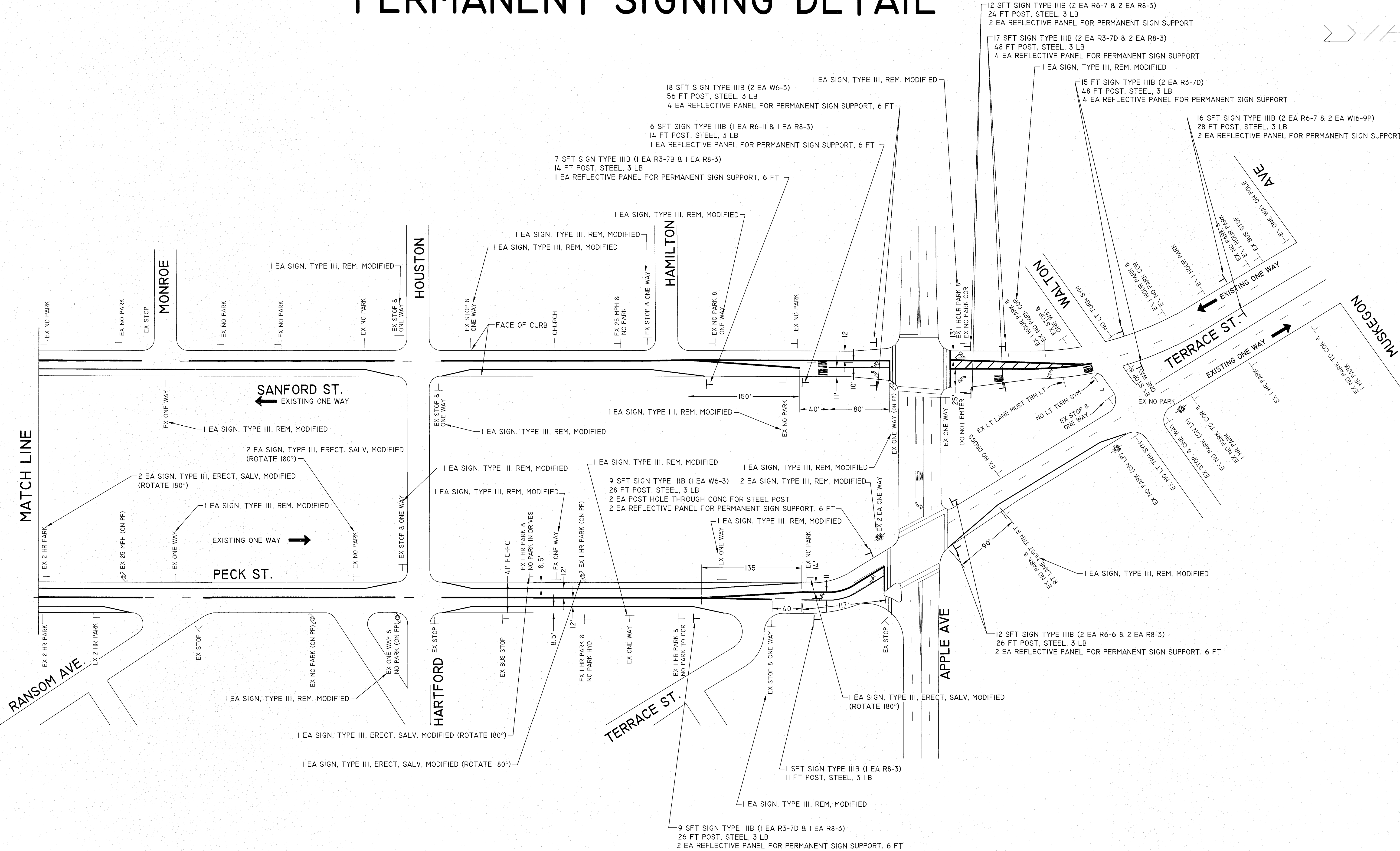
DRAWN C WIGGINS DEC 16	REVISION	SURVEY C WIGGINS MAY 16	H-91859
CHECKED	REVISION	AS-BUILT	PROJECT NO
APPROVED		SCALE 1" = 20'	SHEET NO 4 OF 12



QUANTITIES THIS SHEET		
SIGN, TYPE III, REM, MODIFIED	25	EA
SIGN, TYPE III, ERECT, SALV, MODIFIED	7	EA
SIGN TYPE IIIA	0	SF
SIGN TYPE IIIB	33	SF
POST, STEEL, 3 LB	81	FT
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 6 FT	6	EA
POST HOLE THROUGH CONC FOR STEEL POST	0	EA

					PERMANENT SIGNING DETAIL			
CITY OF MUSKEGON OFFICE OF THE CITY ENGINEER					SANFORD ST. AND PECK ST CONVERSION FROM ONE WAY TO TWO WAY TRAFFIC			
DRAWN	C WIGGINS	DEC 16	REVISION		SURVEY	C WIGGINS	MAY 16	H-91859
CHECKED			REVISION		AS-BUILT			
APPROVED					SCALE	1" = 20'		
					PROJECT NO.			
					SHEET NO. 5 OF 12			

PERMANENT SIGNING DETAIL



PERMANENT SIGN QUANTITIES THIS SHEET

SIGN	TYPE	DESCRIPTION	QUANTITY	DIMENSION	AREA	TOTAL AREA
R3-7B	TYPE (IIIB)	LEFT & RIGHT TURN ONLY SYM	1	36" X 24"	6 SFT	6 SFT
R3-7D	TYPE (IIIB)	LEFT ONLY & THRU / RT TURN SYM	5	36" X 30"	9 SFT	37.5 SFT
R6-6	TYPE (IIIB)	BEGIN ONE WAY	2	30" X 24"	6 SFT	12 SFT
R6-7	TYPE (IIIB)	END ONE WAY	4	30" X 24"	6 SFT	24 SFT
R8-3	TYPE (IIIB)	NO PARK SYM	10	12" X 12"	1 SFT	10 SFT
R6-II	TYPE (IIIB)	ALL TRAFFIC MUST TURN	1	24" X 30"	5 SFT	5 SFT
W6-3	TYPE (IIIB)	TWO WAY TRAFFIC SYM	3	36" X 36"	9 SFT	27 SFT
W6-9P	TYPE (IIIB)	AHEAD	2	30" X 15"	3.1 SFT	6.2 SFT

QUANTITIES THIS SHEET

SIGN, TYPE III, REM, MODIFIED	19	EA
SIGN, TYPE III, ERECT, SALV, MODIFIED	7	EA
SIGN TYPE IIIA	0	SFT
SIGN TYPE IIIB	128	SFT
POST, STEEL, 3 LB	323	FT
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 6 FT	17	EA
POST HOLE THROUGH CONC FOR STEEL POST	2	EA

PERMANENT SIGNING DETAIL

CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

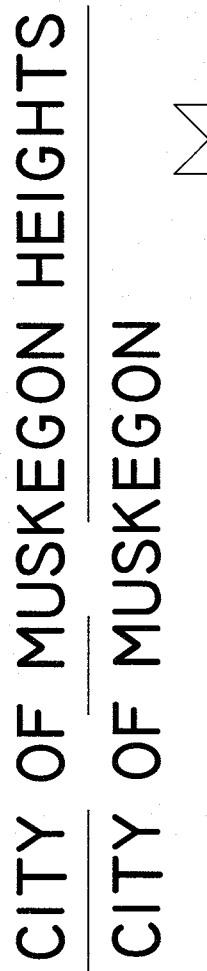
SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

DRAWN C WIGGINS DEC 16
CHECKED
APPROVED

REVISION
REVISION

SURVEY C WIGGINS MAY 16
SCALE 1" = 20'

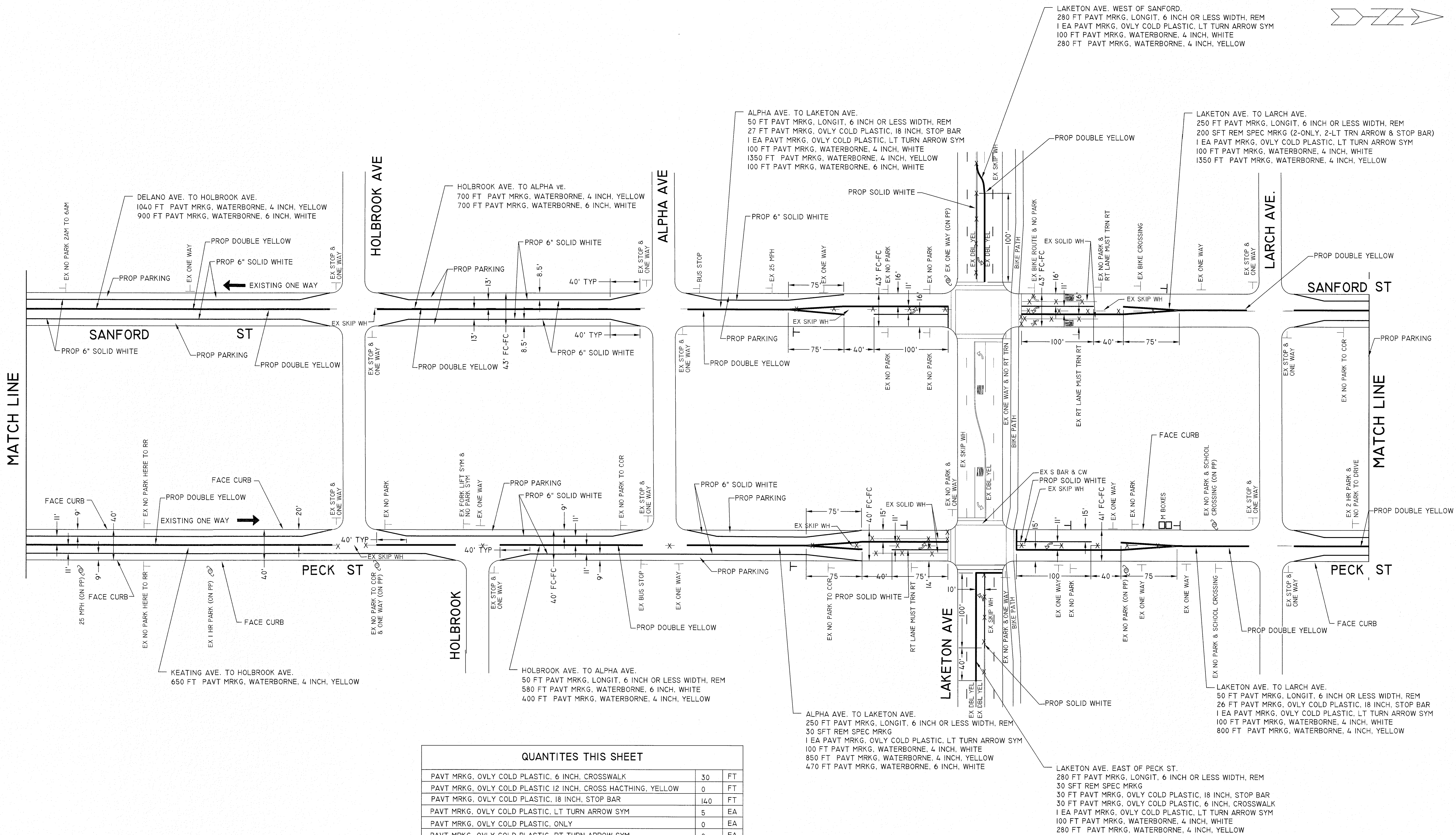
PROJECT NO
H-91859
SHEET NO 6 OF 12

PAVTMENT MARKING DETAIL

SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

DRAWN	C WIGGINS	DEC 16	REVISION		SURVEY	C WIGGINS	MAY 16	H-91859
CHECKED			REVISION		AS-BUILT			
APPROVED					SCALE	1" = 20'		SHEET NO 7 OF 12

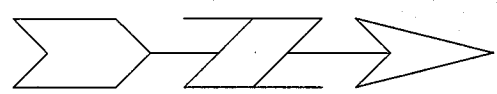
PAVEMENT MARKING DETAIL



QUANTITIES THIS SHEET		
PAVT MRKG, OVLY COLD PLASTIC, 6 INCH, CROSSWALK	30	FT
PAVT MRKG, OVLY COLD PLASTIC 12 INCH, CROSS HATCHING, YELLOW	0	FT
PAVT MRKG, OVLY COLD PLASTIC, 18 INCH, STOP BAR	140	FT
PAVT MRKG, OVLY COLD PLASTIC, LT TURN ARROW SYM	5	EA
PAVT MRKG, OVLY COLD PLASTIC, ONLY	0	EA
PAVT MRKG, OVLY COLD PLASTIC, RT TURN ARROW SYM	0	EA
PAVT MRKG, OVLY COLD PLASTIC, THRU AND RT TURN ARROW SYM	0	EA
PAVT MRKG, WATERBORNE, 4 INCH, WHITE	500	FT
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	7420	FT
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	3750	FT
PAVT MRKG, LONGIT, 6 INCH OR LESS WIDTH, REM	880	FT
REM SPEC MRKG	260	SFT

CITY OF MUSKEGON				PAVTMENT MARKING DETAIL	
OFFICE OF THE CITY ENGINEER				SANFORD ST. AND PECK ST CONVERSION FROM ONE WAY TO TWO WAY TRAFFIC	
DRAWN	C WIGGINS	DEC 16	REVISION	SURVEY	C WIGGINS MAY 16
CHECKED			REVISION	AS-BUILT	
APPROVED				SCALE	1" = 20'
				PROJECT NO.	H-91859
				SHEET NO 8 OF 12	

PAVEMENT MARKING DETAIL



LAKETON AVE. TO LARCH AVE.
250 FT PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM
200 SFT REM SPEC MRKG (2-ONLY, 2-LT TRN ARROW & STOP BAR)
1 EA PAVT MRKG. OVLY COLD PLASTIC, LT TURN ARROW SYM
100 FT PAVT MRKG. WATERBORNE, 4 INCH, WHITE
1350 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW

SOUTHERN AVE. TO GRAND AVE.
200 FT PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM
1 EA PAVT MRKG. OVLY COLD PLASTIC, LT TURN ARROW SYM
75 FT PAVT MRKG. WATERBORNE, 4 INCH, WHITE
700 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
350 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

GRAND AVE. TO WASHINGTON AVE.
100 FT PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM
600 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
600 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

ALPHA AVE. TO LAKETON AVE.
50 FT PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM
1 EA PAVT MRKG. OVLY COLD PLASTIC, LT TURN ARROW SYM
75 FT PAVT MRKG. WATERBORNE, 4 INCH, WHITE
850 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
630 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

SANFORD ST. AND SOUTHERN AVE. INTERSECTION
92 FT PAVT MRKG. OVLY COLD PLASTIC, 18 INCH, STOP BAR
350 FT PAVT MRKG. OVLY COLD PLASTIC, 6 INCH, CROSSWALK
20 SFT REM SPEC MRKG (STOP BAR)

PECK ST. AND SOUTHERN AVE. INTERSECTION
25 FT PAVT MRKG. OVLY COLD PLASTIC, 18 INCH, STOP BAR
370 FT PAVT MRKG. OVLY COLD PLASTIC, 6 INCH, CROSSWALK

FOREST AVE. TO SOUTHERN AVE.
50 FT PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM
850 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
850 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

LARCH AVE. TO DALE AVE.
700 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
700 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

LARCH AVE. TO DALE AVE.
700 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
700 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

DALE AVE. TO FOREST AVE.
600 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
600 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

LARCH AVE. TO DALE AVE.
600 FT PAVT MRKG. WATERBORNE, 4 INCH, YELLOW
600 FT PAVT MRKG. WATERBORNE, 6 INCH, WHITE

MATCH LINE

MATCH LINE

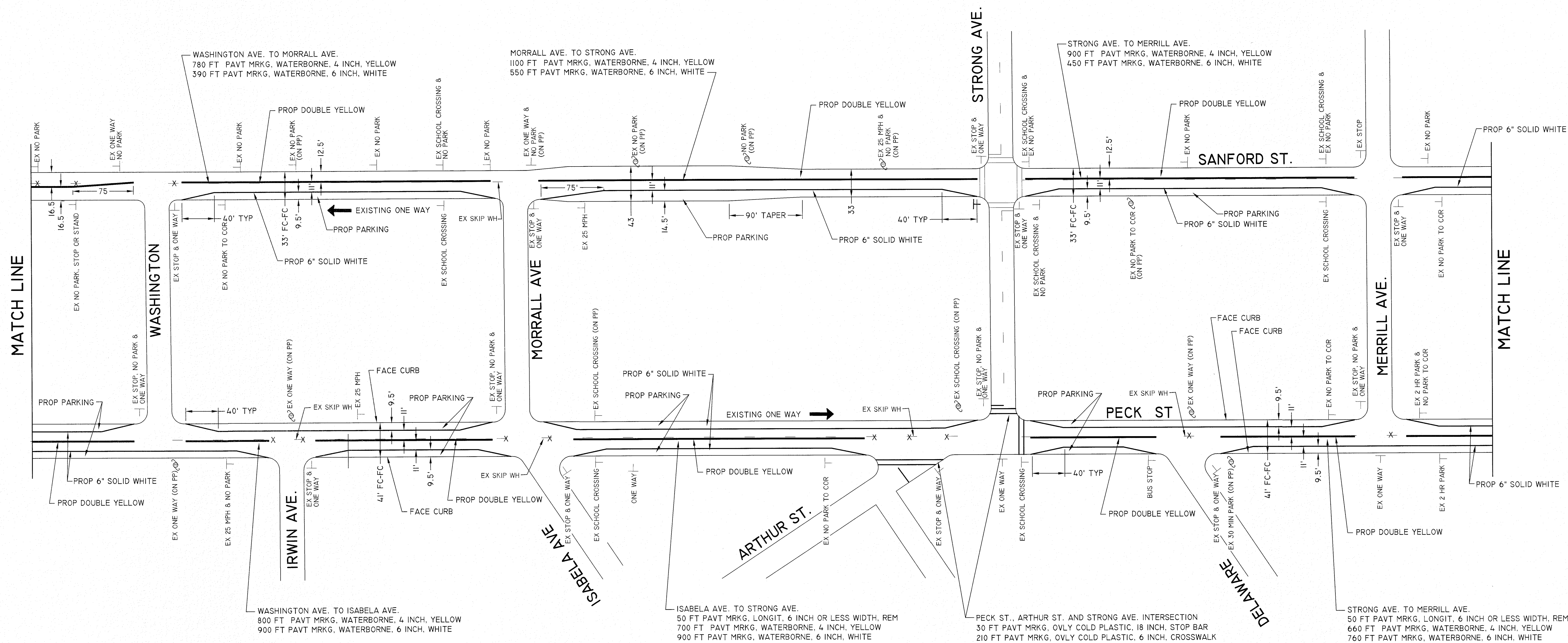
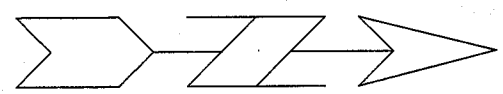
QUANTITES THIS SHEET

PAVT MRKG. OVLY COLD PLASTIC, 6 INCH, CROSSWALK	620	FT
PAVT MRKG. OVLY COLD PLASTIC 12 INCH, CROSS HATCHING, YELLOW	0	FT
PAVT MRKG. OVLY COLD PLASTIC, 18 INCH, STOP BAR	172	FT
PAVT MRKG. OVLY COLD PLASTIC, LT TURN ARROW SYM	2	EA
PAVT MRKG. OVLY COLD PLASTIC, ONLY	0	EA
PAVT MRKG. OVLY COLD PLASTIC, RT TURN ARROW SYM	0	EA
PAVT MRKG. OVLY COLD PLASTIC, THRU AND RT TURN ARROW SYM	0	EA
PAVT MRKG. WATERBORNE, 4 INCH, WHITE	150	FT
PAVT MRKG. WATERBORNE, 4 INCH, YELLOW	7650	FT
PAVT MRKG. WATERBORNE, 6 INCH, WHITE	6725	FT
PAVT MRKG. LONGIT. 6 INCH OR LESS WIDTH, REM	450	FT
REM SPEC MRKG	20	SFT

PAVTMENT MARKING DETAIL

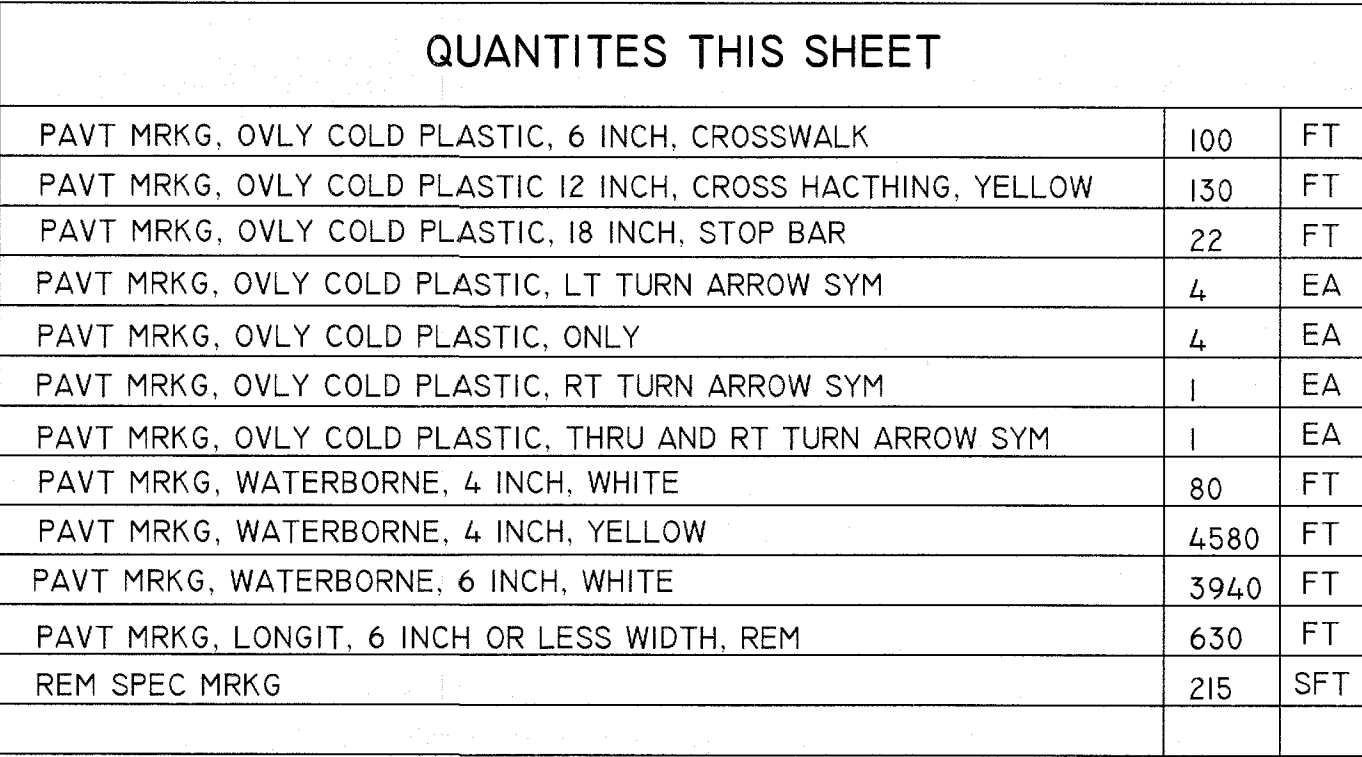
CITY OF MUSKEGON		SANFORD ST. AND PECK ST	
OFFICE OF THE CITY ENGINEER		CONVERSION FROM ONE WAY TO	
		TWO WAY TRAFFIC	
DRAWN	C WIGGINS	DEC 16	REVISION
CHECKED			REVISION
APPROVED			
SURVEY		C WIGGINS	MAY 16
AS-BUILT		PROJECT NO	
SCALE 1" = 20'		SHEET NO 9 OF 12	

PAVEMENT MARKING DETAIL



QUANTITIES THIS SHEET		
PAVT MRKG, OVLY COLD PLASTIC, 6 INCH, CROSSWALK	210	FT
PAVT MRKG, OVLY COLD PLASTIC 12 INCH, CROSS HATCHING, YELLOW	0	FT
PAVT MRKG, OVLY COLD PLASTIC, 18 INCH, STOP BAR	30	FT
PAVT MRKG, OVLY COLD PLASTIC, LT TURN ARROW SYM	4	EA
PAVT MRKG, OVLY COLD PLASTIC, ONLY	0	EA
PAVT MRKG, OVLY COLD PLASTIC, RT TURN ARROW SYM	0	EA
PAVT MRKG, OVLY COLD PLASTIC, THRU AND RT TURN ARROW SYM	0	EA
PAVT MRKG, WATERBORNE, 4 INCH, WHITE	0	FT
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	4880	FT
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	3950	FT
PAVT MRKG, LONGIT, 6 INCH OR LESS WIDTH, REM	100	FT
REM SPEC MRKG	0	SFT

PAVTMENT MARKING DETAIL			
CITY OF MUSKEGON		SANFORD ST. AND PECK ST	
OFFICE OF THE CITY ENGINEER		CONVERSION FROM ONE WAY TO	
		TWO WAY TRAFFIC	
DRAWN C WIGGINS	DEC 16	REVISION	SURVEY C WIGGINS MAY 16
CHECKED		REVISION	AS-BUILT
APPROVED			SCALE 1" = 20'
			PROJECT NO H-91859
			SHEET NO 10 OF 12



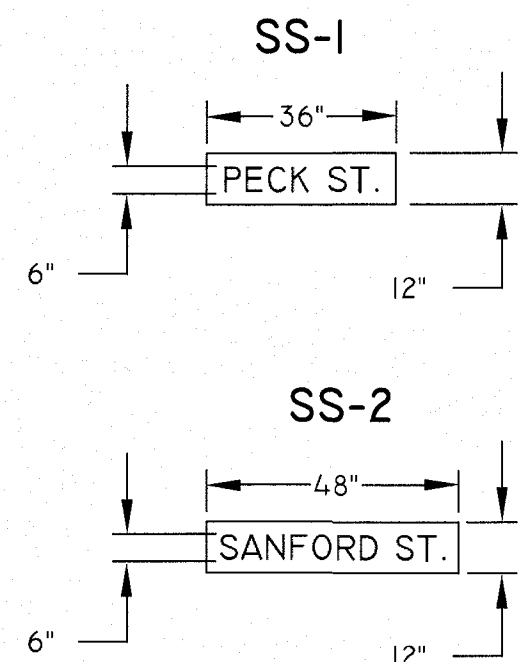
PHASE I
TRAFFIC CONTROL DETAIL

PHASE I ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY				
SIGN	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
W21-4	ROAD WORK AHEAD	30	16 SFT	480 SFT
W20-2	DETOUR AHEAD	1	16 SFT	16 SFT
W20-3	ROAD CLOSED AHEAD	33	16 SFT	528 SFT
R11-4	ROAD CLOSED TO THRU TRAFFIC	32	12.5 SFT	400 SFT
M4-10 RT	DETOUR ARROW RIGHT	1	6 SFT	6 SFT
M4-9 RT	DETOUR ARROW RIGHT	1	5 SFT	5 SFT
M4-9 UP	DETOUR ARROW UP	3	5 SFT	15 SFT
M4-9 LT	DETOUR ARROW LEFT	3	5 SFT	15 SFT
M4-8A	DETOUR ENDS	1	4 SFT	4
TOTAL				1469 SFT

PHASE 6 ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY, SPECIAL				
	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
SS-1	PECK ST	13	3 SFT	39 SFT
TOTAL				39 SFT

ESTIMATED PHASE I TRAFFIC CONTROL DEVICES		
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, FURN	32	EA
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, OPER	32	EA
PLASTIC DRUM, HIGH INTENSITY, FURN	132	EA
PLASTIC DRUM, HIGH INTENSITY, OPER	132	EA
SIGN, TYPE B TEMP, PRISMATIC, FURN	1469	SFT
SIGN, TYPE B TEMP, PRISMATIC, OPER	1469	SFT
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL, FURN	39	SFT
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL, OPER	39	SFT
MINOR TRAFFIC DEVICES	1	LS

SPECIAL SIGNS



PHASE 2
TRAFFIC CONTROL DETAIL

PHASE I ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY				
SIGN	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
W21-4	ROAD WORK AHEAD	23	16 SFT	368 SFT
W20-2	DETOUR AHEAD	1	16 SFT	16 SFT
W20-3	ROAD CLOSED AHEAD	31	16 SFT	496 SFT
R11-4	ROAD CLOSED TO THRU TRAFFIC	31	12.5 SFT	388 SFT
M4-10 RT	DETOUR ARROW RIGHT	1	6 SFT	6 SFT
M4-9 RT	DETOUR ARROW RIGHT	2	5 SFT	10 SFT
M4-9 UP	DETOUR ARROW UP	2	5 SFT	10 SFT
M4-9 LT	DETOUR ARROW LEFT	0	5 SFT	0
M4-8A	DETOUR ENDS	1	4 SFT	4 SFT
TOTAL				1298 SFT

PHASE 6 ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY, SPECIAL				
	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
SS-2	SANFORD ST	10	4 SFT	40 SFT
TOTAL				40 SFT

ESTIMATED PHASE I TRAFFIC CONTROL DEVICES		
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, FURN	32	EA
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, OPER	32	EA
PLASTIC DRUM, HIGH INTENSITY, FURN	132	EA
PLASTIC DRUM, HIGH INTENSITY, OPER	132	EA
SIGN, TYPE B TEMP, PRISMATIC, FURN	1469	SFT
SIGN, TYPE B TEMP, PRISMATIC, OPER	1469	SFT
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL, FURN	39	SFT
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL, OPER	39	SFT
MINOR TRAFFIC DEVICES	1	LS

TRAFFIC CONTROL NOTES:

1. THE PROJECT SHALL BE CONSTRUCTED IN TWO PHASES. PHASE ONE SHALL CONSIST OF PLACING PERMANENT SIGNS, PAVEMENT MARKINGS, AND COMPLETING TRAFFIC SIGNAL WORK ON PECK STREET FROM HACKLEY AVENUE TO WALTON AVENUE CONVERTING PECK STREET FROM ONE-WAY TRAFFIC TO TWO-WAY TRAFFIC. WHEN PHASE ONE IS COMPLETED AND OPEN TO TRAFFIC THE CONTRACTOR CAN MOVE ON TO PHASE TWO.

PHASE TWO SHALL CONSIST OF PLACING PERMANENT SIGNS, PAVEMENT MARKINGS, AND TRAFFIC SIGNAL WORK ON SANFORD STREET FROM MUSKEGON AVENUE TO HACKLEY AVENUE CONVERTING SANFORD STREET FROM ONE-WAY TRAFFIC TO TWO-WAY TRAFFIC.

2. IN ADDITION TO THE TRAFFIC CONTROL DEVICES SHOWN ON THE PHASE ONE AND PHASE TWO TRAFFIC CONTROL DETAILS, THE TRAFFIC CONTROL DEVICES SHOWN ON THE FOLLOWING TABLE WILL BE REQUIRED FOR INTERMITTENT LANE CLOSURES ON APPLE AVE., LAKETON AVE. AND HACKLEY AVE. FOR THE WORK ASSOCIATED WITH THE TRAFFIC SIGNAL UPGRADES. TEMPORARY LANE CLOSURES WILL BE IN COMPLIANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

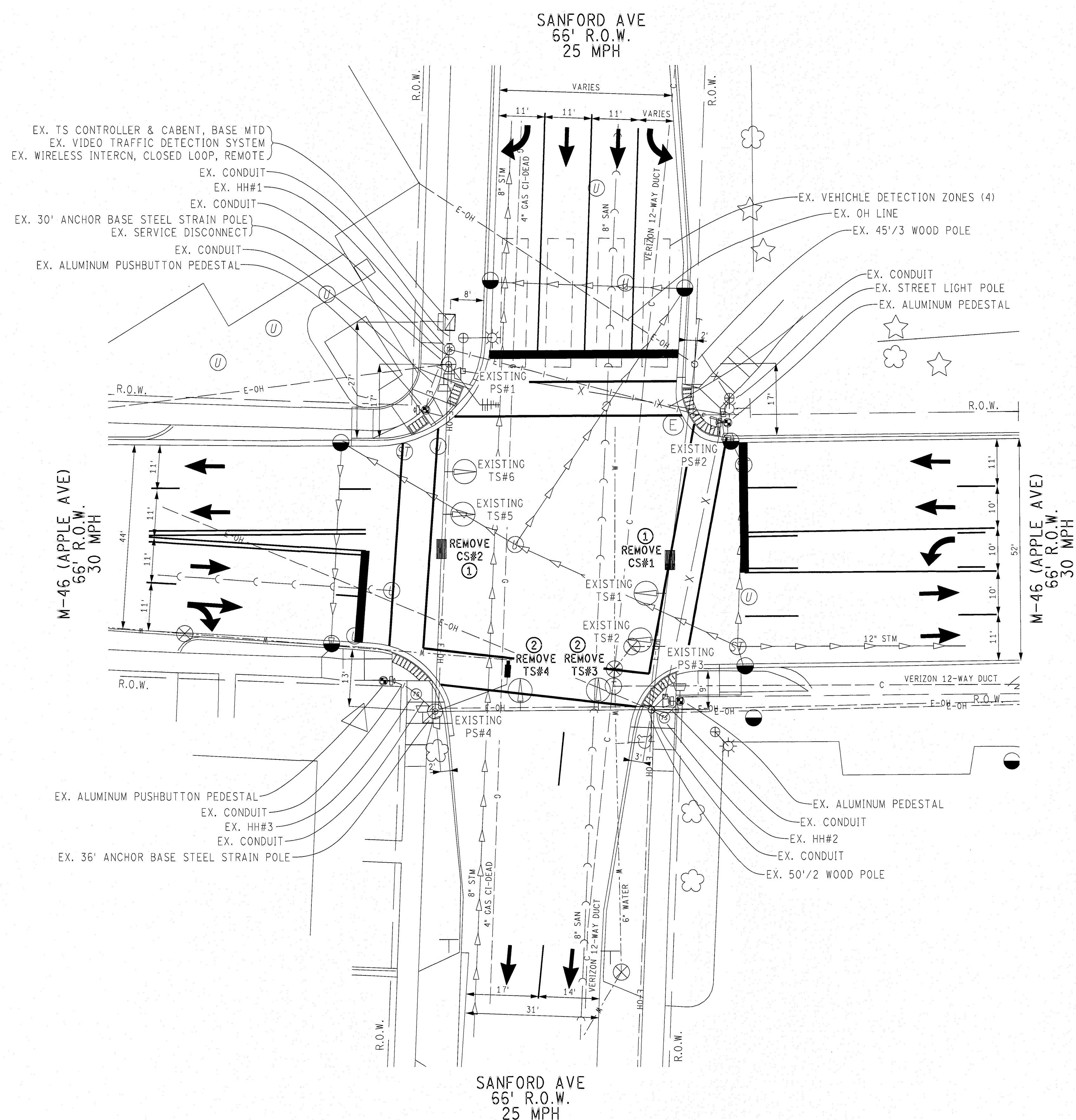
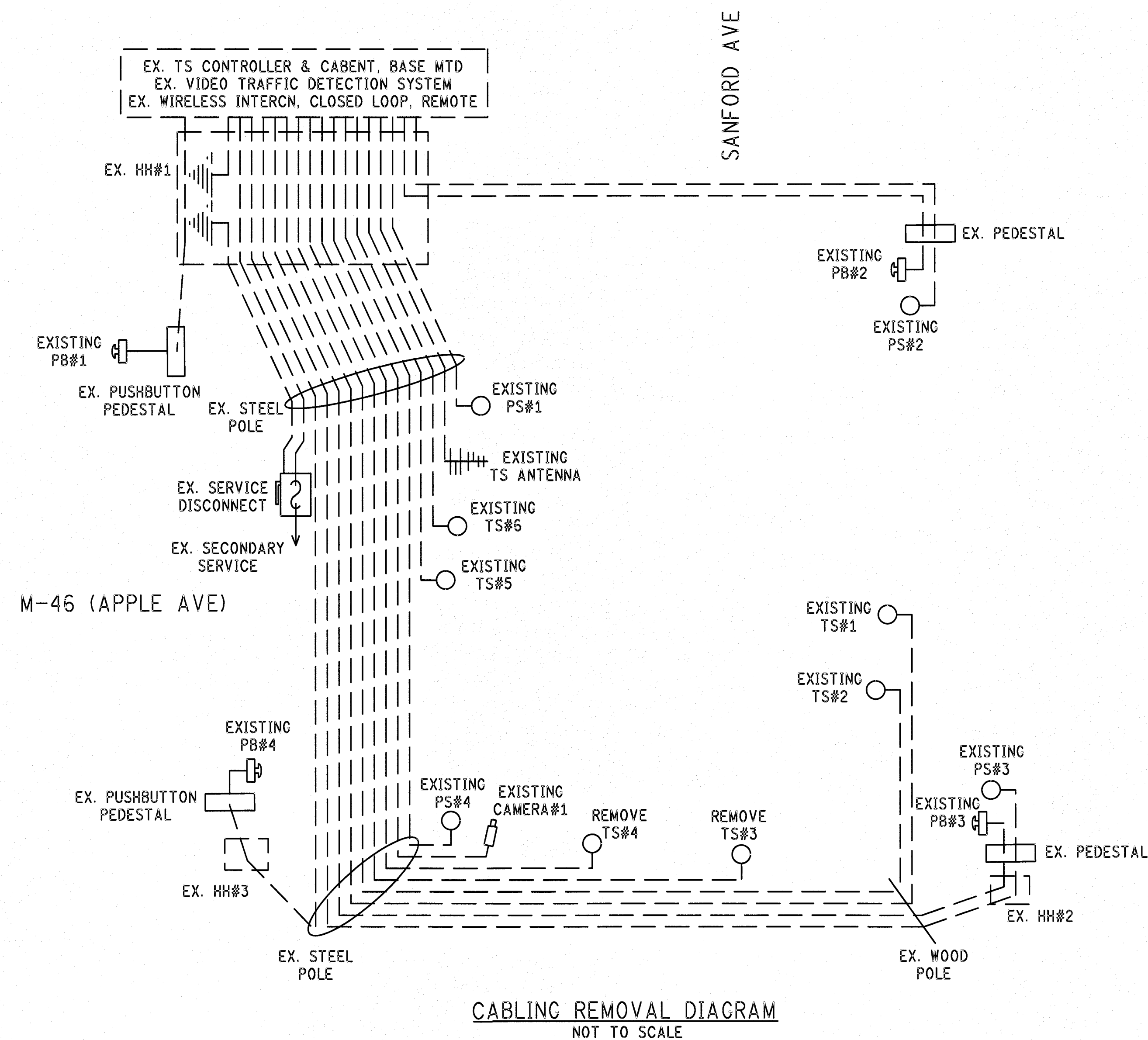
ESTIMATED TRAFFIC CONTROL DEVICES FOR INTERMITTENT LANE CLOSURES		
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN	2	EA
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, OPER	2	EA
PLASTIC DRUM, HIGH INTENSITY, FURN	50	EA
PLASTIC DRUM, HIGH INTENSITY, OPER	50	EA
SIGN, TYPE B TEMP, PRISMATIC, FURN	150	SFT
SIGN, TYPE B TEMP, PRISMATIC, OPER	150	SFT
LIGHTED ARROW, TYPE C, FURN	2	EA
LIGHTED ARROW, TYPE C, OPER	2	EA

CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

DRAWN C WIGGINS DEC 16
CHECKED AS-BUILT
APPROVED

TRAFFIC CONTROL
SANFORD ST. AND PECK ST
CONVERSION FROM ONE WAY TO
TWO WAY TRAFFIC

SURVEY C WIGGINS MAY 16
PROJECT NO H-91859
SCALE 1" = 20'
SHEET NO 12 OF 12



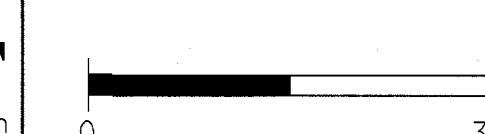
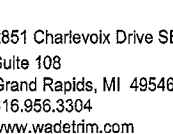
EX. RADIO CONFIGURATION:	REMOTE
EX. RADIO MODEL NUMBER:	5200
EX. ANTENNA ORIENTATION:	HORIZONTAL
EX. HOP PATTERN:	DIRECTION (FACING):
PRIMARY (22)	EAST

NOTE: SEE PAVEMENT MARKING PLAN SHEETS
FOR SIGNING AND PAVEMENT MARKING REMOVALS
AND QUANTITIES.

NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Case Sign, Rem	2 Ea	8200020
②	TS, Span Wire Mtd, Rem	2 Ea	8200182

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE:)			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



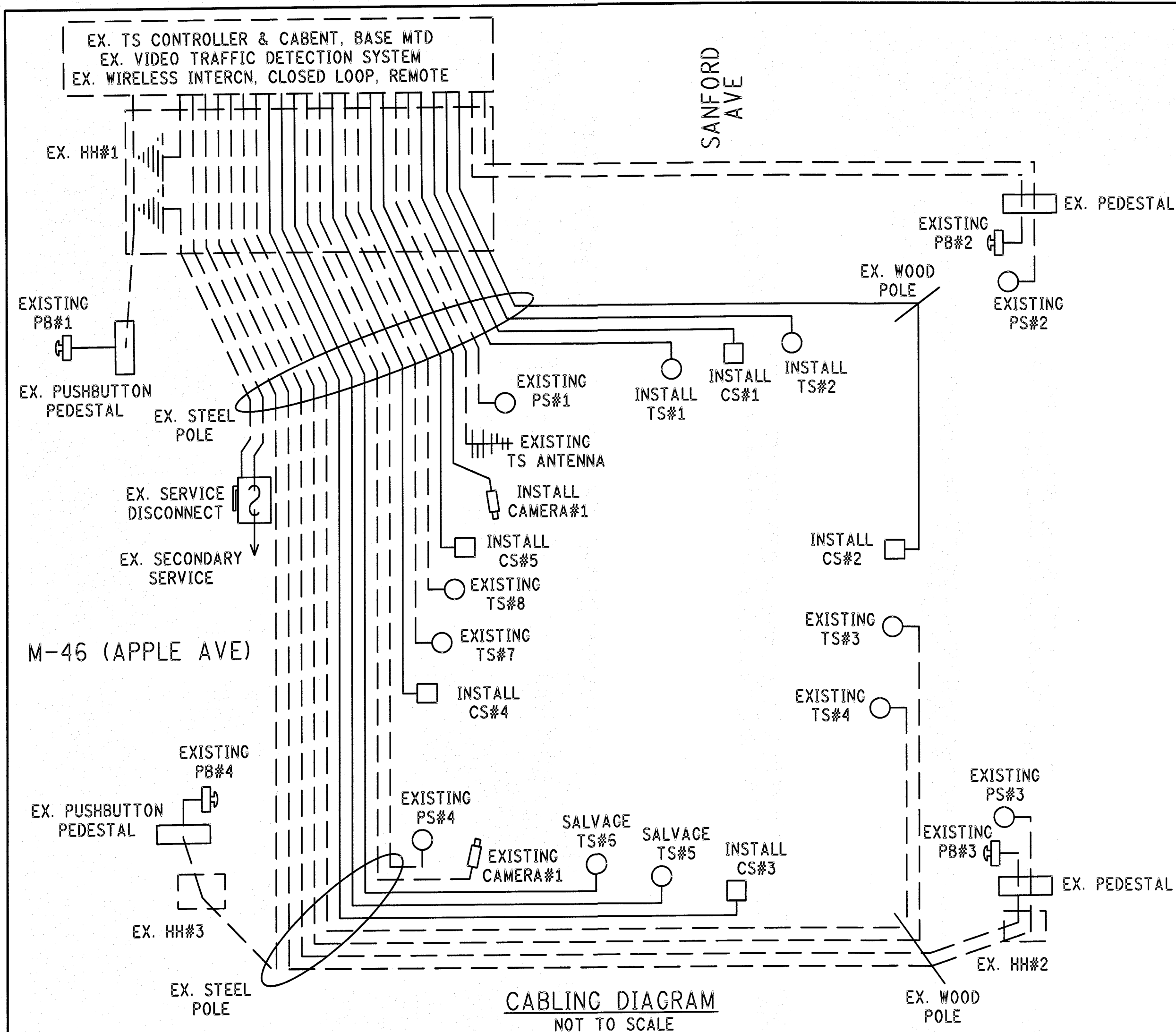
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DESIGNED BY: WADETRIM	
FILE: 6102201008_REM001.dgn	

DATE: 05/14/19
DESIGN UNIT: SIGNALS
TSC: MUSKEGON

CS: 61022
JN: PERMIT

TRAFFIC SIGNAL REMOVAL SHEET		DRAWING	SHEET
M-46 (APPLE AVE) @ SANFORD ST		SIG LOC	SECT 1
CITY OF MUSKEGON, MUSKEGON COUNTY			TS-2

SIGNALS	
OPENINCS:	26
CYCLIC WATTS:	346
STEADY WATTS:	0
PLAN: 61022-01-008	



CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

- 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
- 1-WAY 24"X30" LED CASE SIGN CABLES ARE 7/C#16 PJ.
- VIDEO DETECTION CAMERA CABLES ARE COMBINATION COAXIAL/POWER CABLE RC 59-3 CONDUCTOR 16AWG

EX. RADIO CONFIGURATION:	REMOTE
EX. RADIO MODEL NUMBER:	5200
EX. ANTENNA ORIENTATION:	HORIZONTAL
EX. HOP PATTERN:	DIRECTION (FACING):
PRIMARY (22)	EAST

NOTE: SEE PAVEMENT MARKING PLAN SHEETS FOR SIGNING AND PAVEMENT MARKING INSTALLATIONS AND QUANTITIES.

NOTE: THE VIDEO DETECTION ZONE LOCATIONS TO BE DETERMINED BY THE STATEWIDE SIGNAL INSPECTOR, JIM KWAPISZEWSKI AT (517) 242-1486. PLEASE PROVIDE FIVE WORKING DAYS NOTICE.

NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

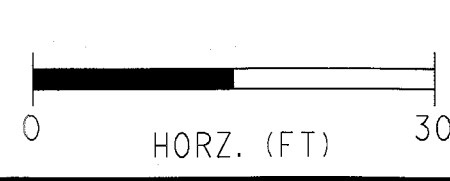
LIST OF MATERIAL

NO.	ITEM	QUANTITIES	ITEM CODE
①	Span Wire	1 Ea	8200140
②	TS, One Way Span Wire Mtd (LED)	2 Ea	8200313
③	TS, One Way Span Wire Mtd, Salv	2 Ea	8200191
④	Case Sign (LED), One Way, 24 inch by 30 inch	5 Ea	8200029
⑤	Video Traf Detection Camera	1 Ea	8200381
⑥	Strut Guy	1 Ea	8200168

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)					
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE

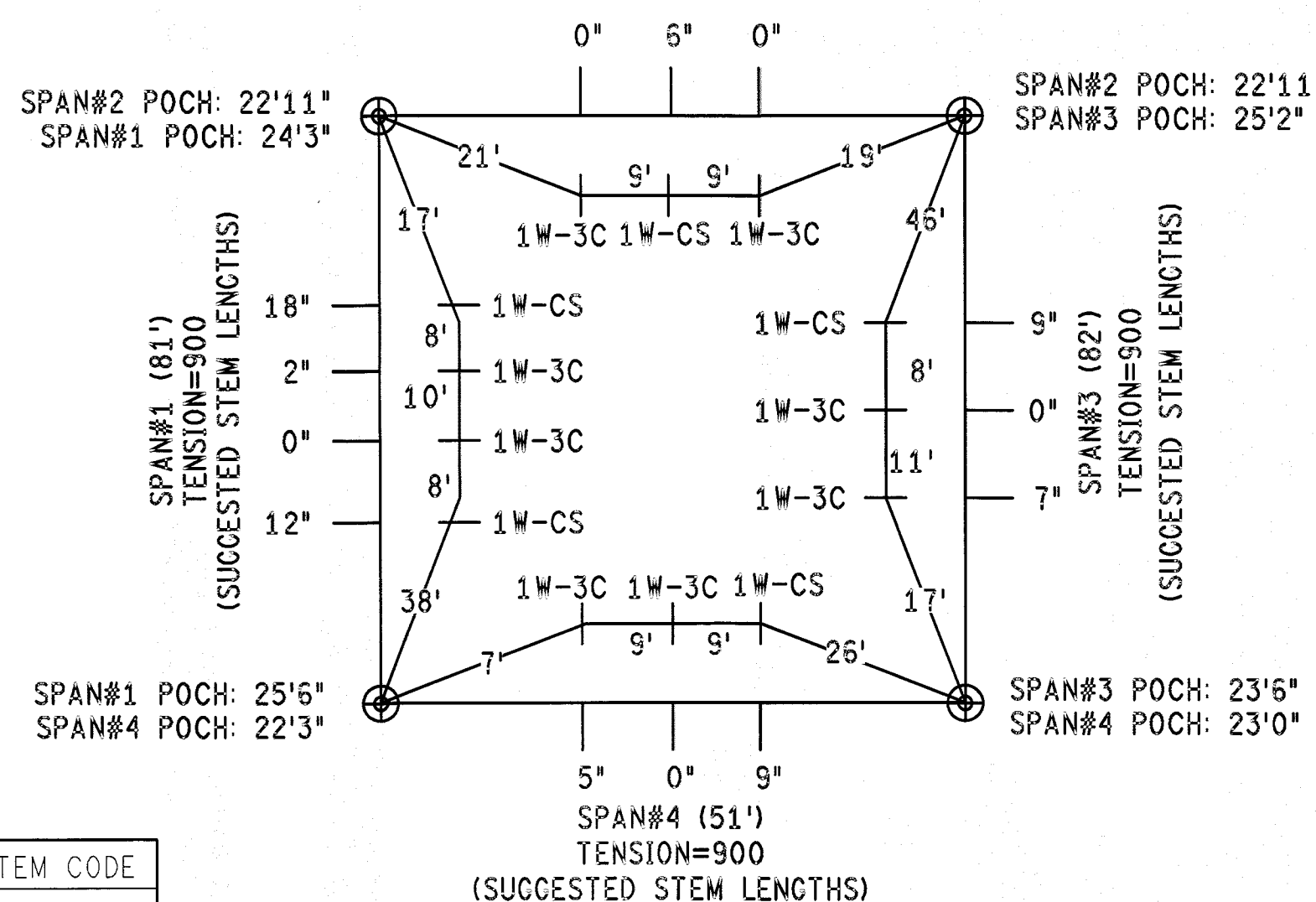


2851 Charlevoix Drive SE,
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Grand Rapids, MI 49546
616.996.3308
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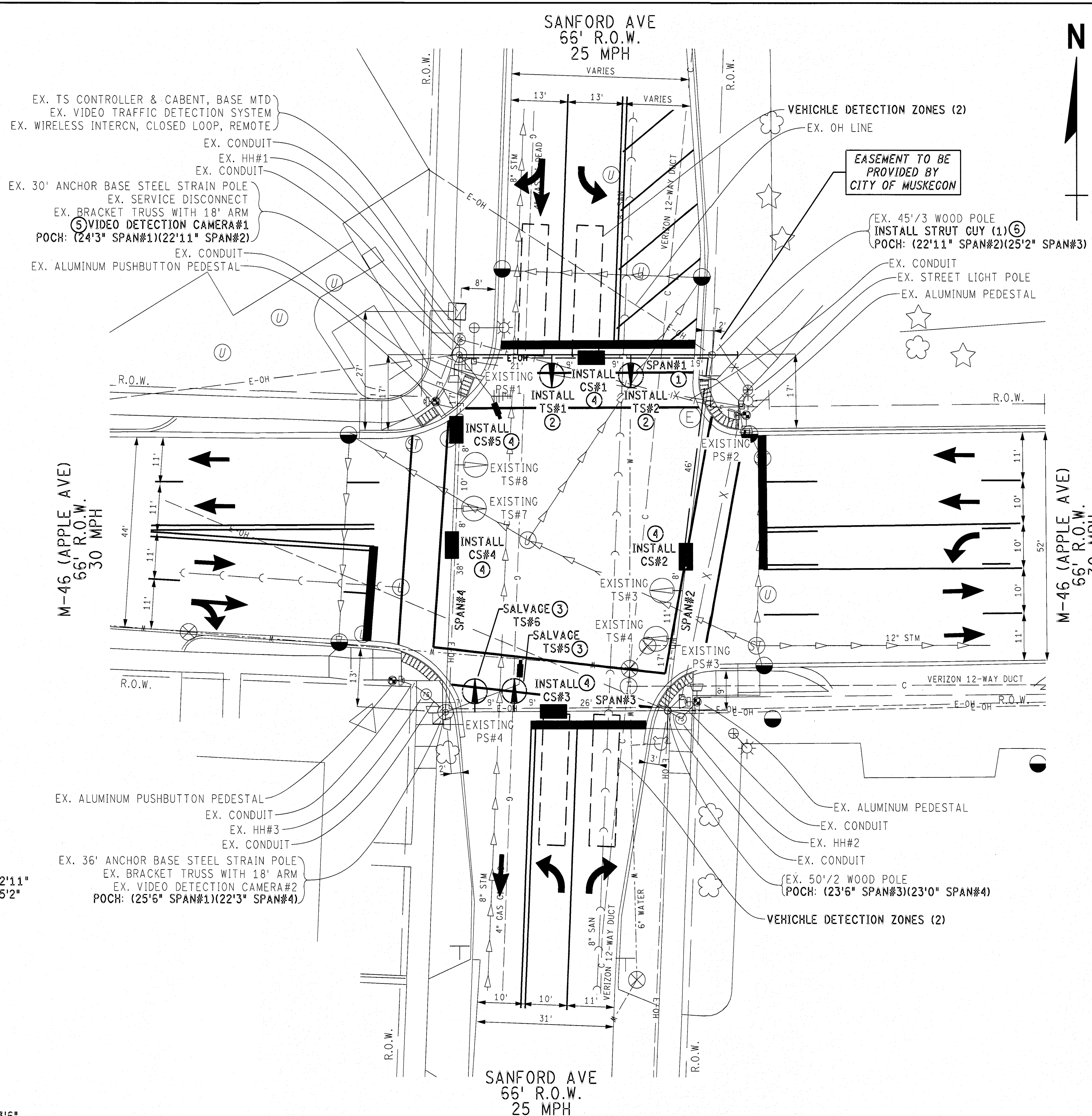


BOX SPAN CALCULATIONS

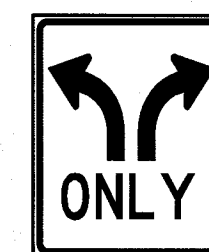
NOT TO SCALE
SPAN#2 (58')
TENSION=900
(SUGGESTED STEM LENGTHS)



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.



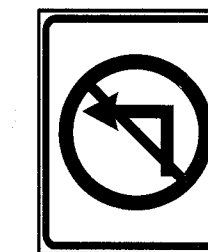
ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN



INSTALL TS#1 & TS#2 FACING SOUTH
EXISTING TS#3 & TS#4 FACING WEST
SALVAGE TS#5 & TS#6 FACING NORTH
EXISTING TS#7 & TS#8 FACING EAST

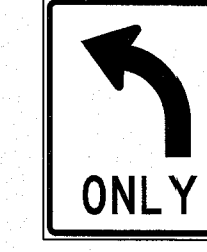
INSTALL CS#1 FACING SOUTH

ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN



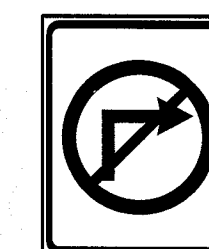
INSTALL CS#2 FACING WEST

ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN



INSTALL CS#3 FACING NORTH
INSTALL CS#4 FACING EAST

ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN



INSTALL CS#5 FACING EAST

SIGNALS

OPENINGS:	37
CYCLIC WATTS:	432
STEADY WATTS:	225
PLAN:	61022-01-008

PROJECT NUMBER
H-91859

TRAFFIC SIGNAL CONSTRUCTION SHEET

M-46 (APPLE AVE) @ SANFORD ST

CITY OF MUSKEGON, MUSKEGON COUNTY

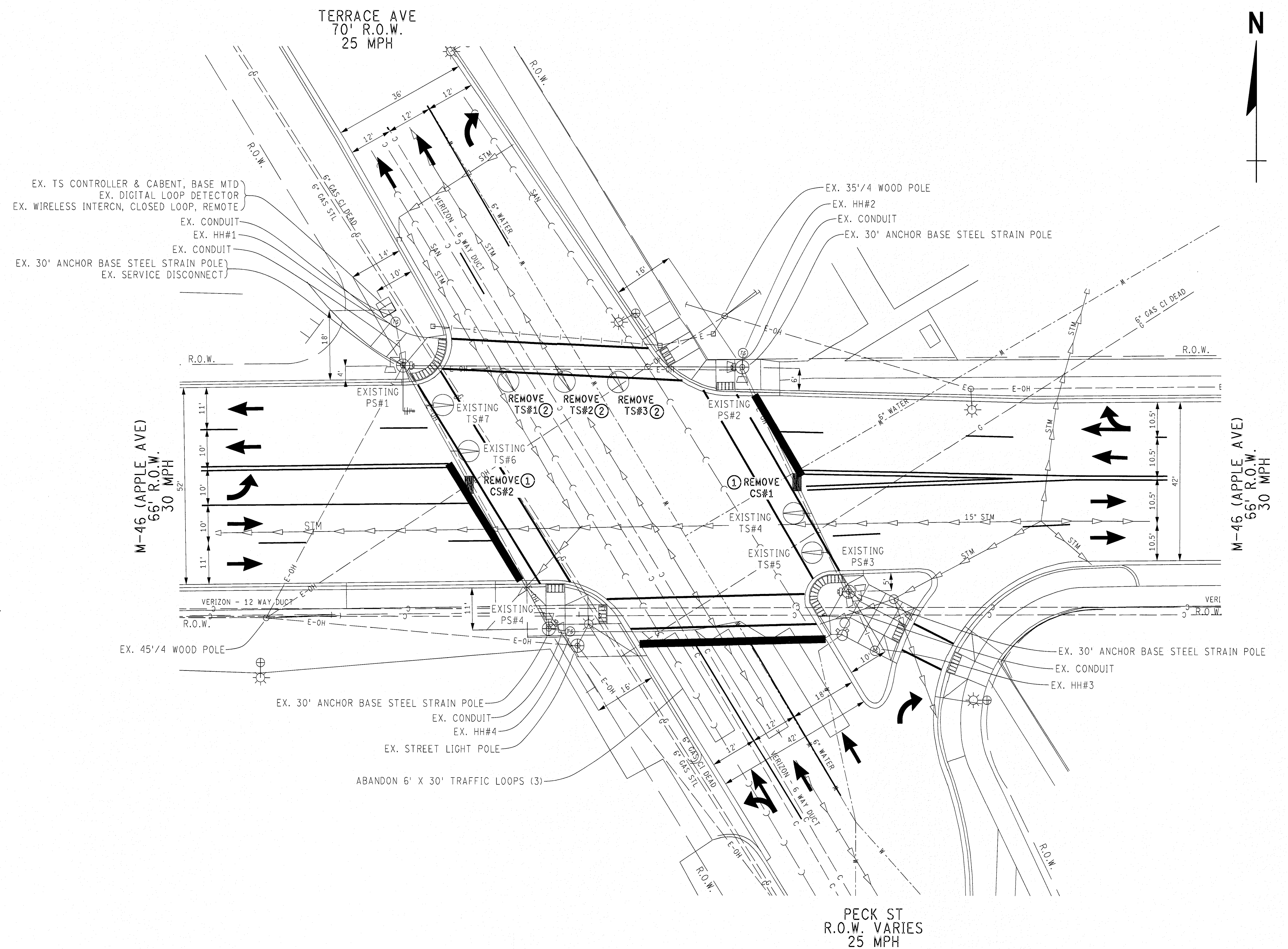
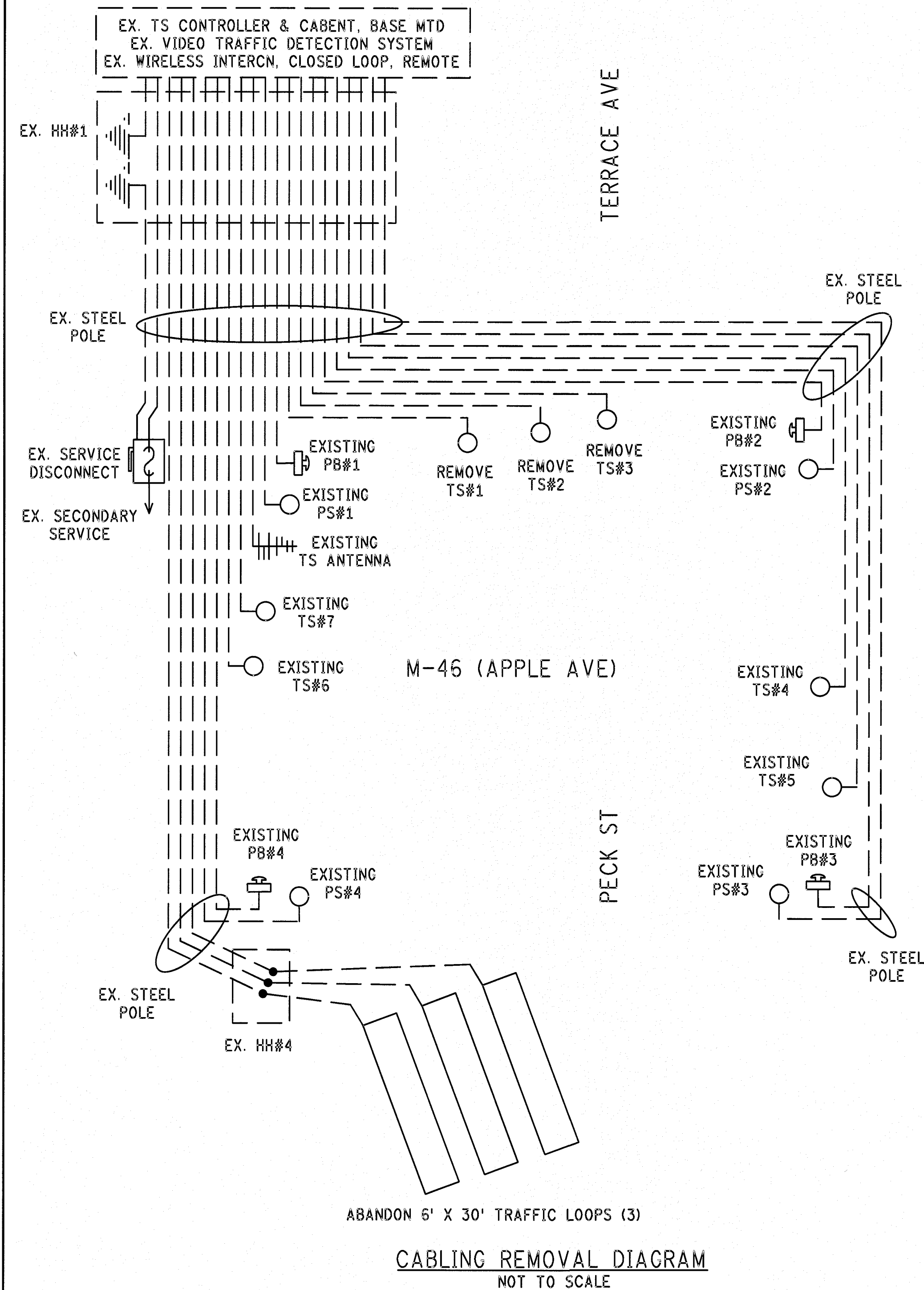
DRAWING

SHEET

SIG

LOC

TS-3



EX. RADIO CONFIGURATION:	REMOTE
EX. RADIO MODEL NUMBER:	5200
EX. ANTENNA ORIENTATION:	HORIZONTAL
EX. HOP PATTERN:	DIRECTION (FACING):
PRIMARY (22)	EAST

NOTE: SEE PAVEMENT MARKING PLAN SHEETS FOR SIGNING AND PAVEMENT MARKING REMOVALS AND QUANTITIES.

NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
1	Case Sign, Rem	2 Ea	8200020
2	TS, Span Wire Mtd, Rem	3 Ea	8200182

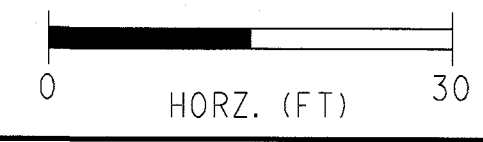
REMOVE CS#1
ONE-WAY NON-ILLUMINATED
24" X 30" CASE SIGN

REMOVE CS#2
ONE-WAY NON-ILLUMINATED
24" X 30" CASE SIGN



REMOVE TS#1, TS#2 & TS#3 FACING SOUTH
EXISTING TS#4 & TS#5 FACING WEST
EXISTING TS#6 & TS#7 FACING EAST

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)					
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE



INT CS: 61022	INT SPOT: 009	DATE: 05/14/19	CS: 61022
DESIGNED BY: WADETRIM	DESIGN UNIT: SIGNALS	JN: PERMIT	
FILE: 6102201009_REM001.dgn	TSC: MUSKEGON		

TRAFFIC SIGNAL REMOVAL SHEET			
M-46 (APPLE AVE) @ TERRACE AVE/PECK ST			
CITY OF MUSKEGON, MUSKEGON COUNTY			
SIG LOC		SHEET	TS-4

SIGNALS	
OPENINGS:	29
CYCLIC WATTS:	389
STEADY WATTS:	0
PLAN:	61022-01-009

PROJECT NUMBER
H-91859



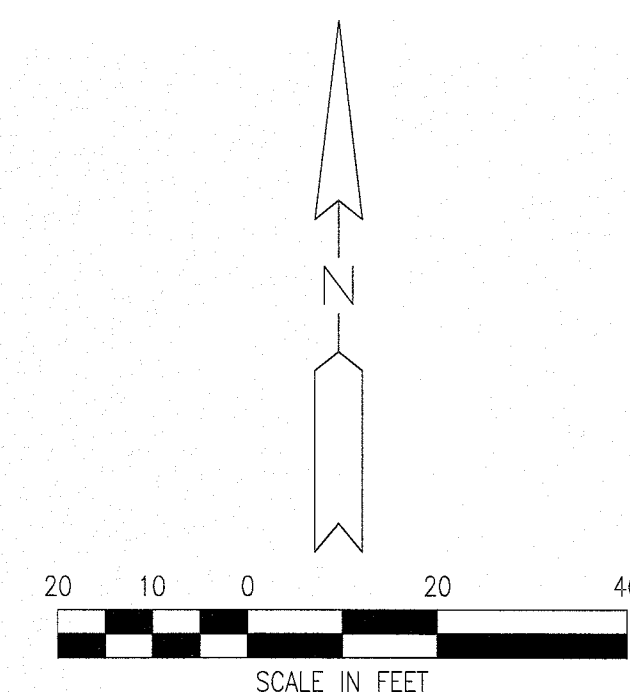
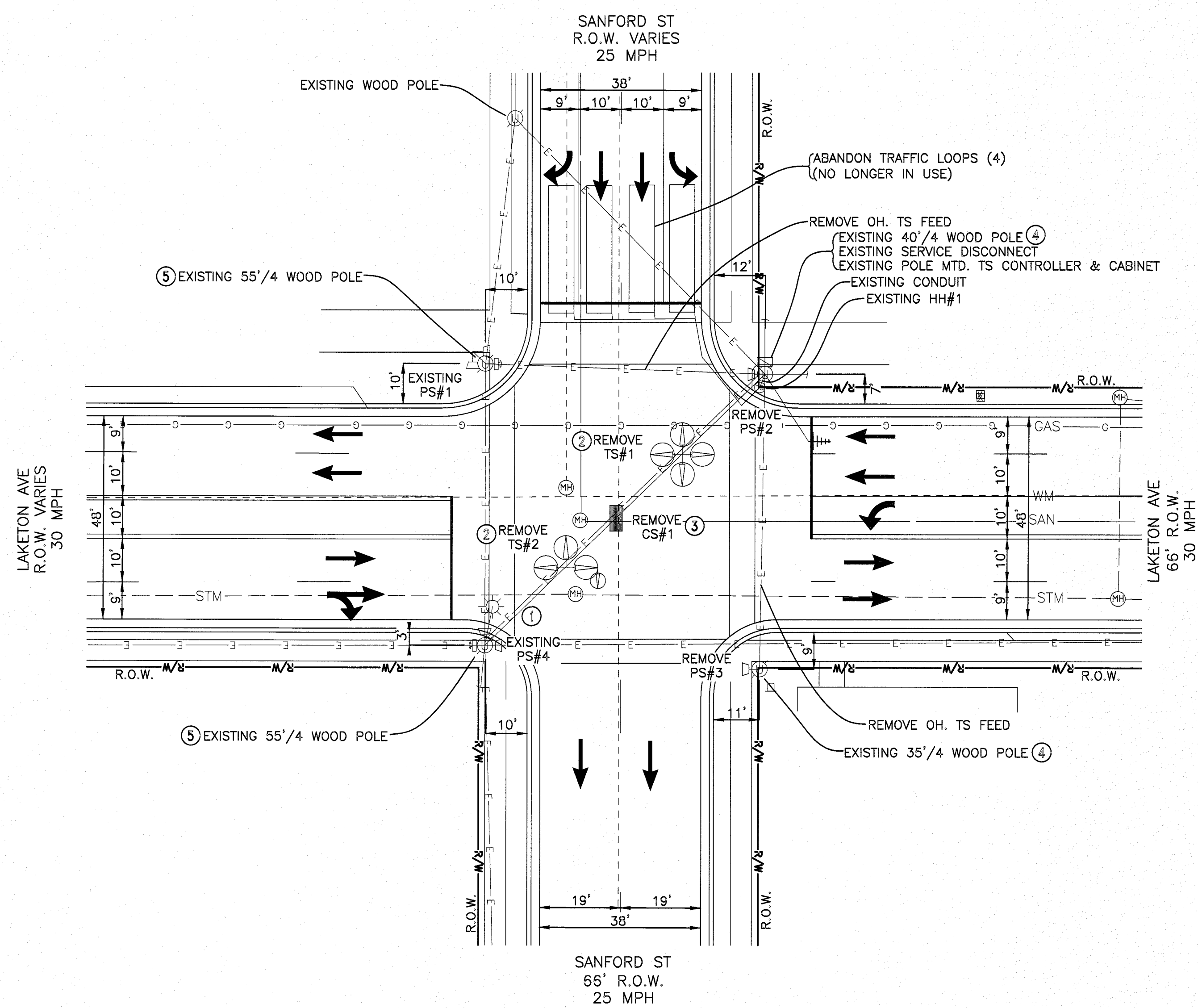
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1-WAY 24"X30" LED CASE SIGN CABLES ARE 7/C#16 PJ.
3. LOOP LEAD-IN CABLES ARE 2/C#16 SHIELDED PJ.
4. TRAFFIC LOOPS ARE 1/C#14 THHN 3 TURNS

EX. RADIO CONFIGURATION:	REMOTE
EX. RADIO MODEL NUMBER:	5200
EX. ANTENNA ORIENTATION:	HORIZONTAL
EX. HOP PATTERN:	DIRECTION (FACING):
PRIMARY (22)	EAST

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



TRAFFIC SIGNAL CONSTRUCTION SHEET		DRAWING	SHEET
M-46 (APPLE AVE) @ TERRACE AVE/PECK ST		SIG LOC	SECT 1
CITY OF MUSKEGON, MUSKEGON COUNTY			TS-5

[illegible]

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Grand Rapids, MI 49546
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CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL REMOVAL SHEET
SANFORD STREET @ LAKETON AVENUE

ISSUED FOR:	DATE:	BY:
REVIEW	03/26/19	MRP
FINAL PLANS	05/14/19	MRP

JOB NO.
MUS2011.01N

SHEET

TS-6

[illegible]

NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS
FOR SIGNING AND PAVEMENT MARKING REMOVAL,
INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Span Wire, Rem	1 Ea	8200141
②	TS, Span Wire Mtd, Rem	2 Ea	8200182
③	Case Sign, Rem	1 Ea	8200020
④	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea	8200180
⑤	Pushbutton, Rem	2 Ea	8200122

REMOVE CS#1
TWO-WAY 24"X30" CASE SIGN



FACING EAST



FACING WEST



REMOVE TS#1 FACING ALL DIRECTIONS
REMOVE TS#2 FACING WEST & NORTH



REMOVE TS#2 FACING EAST

OPENINGS	30
CYCLIC WATTS	343
STEADY WATTS	90

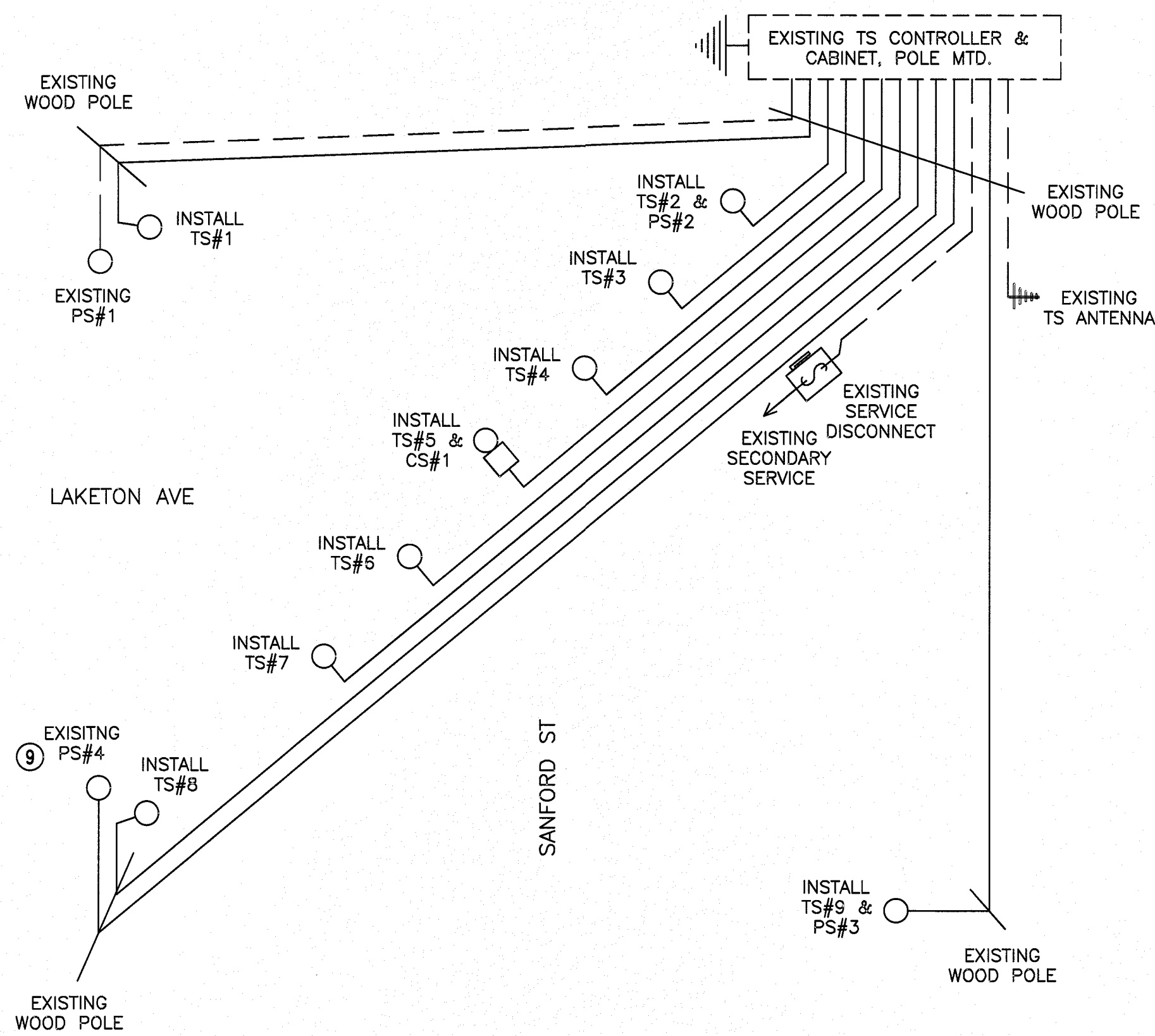


**Know what's below.
Call before you dig**

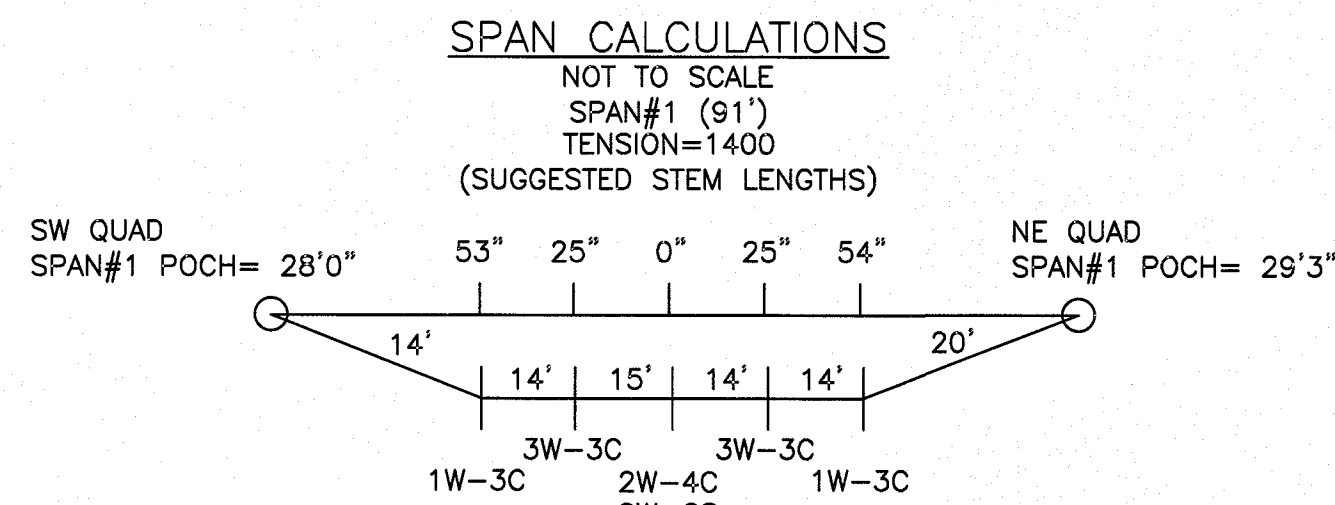
PROJECT NUMBER
H-91859

PROJECT MANAGER: C:\VW\WORK\2\0941601\CTS-PLTS-SIGNALPLANS.DWG - SHT 7 - PLOTTED 5/14/2019 1:40 PM BY CARUSO, JASON

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 3W-3C TRAFFIC SIGNAL CABLES ARE 7/C#16 PJ.
3. 2W-4C & 2-WAY 24"x30" LED CASE SIGN/TRAFFIC SIGNAL CABLES ARE 14/C#14 PJ.
4. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.
5. PEDESTRIAN SIGNAL W/1W-3C & 1W-4C TRAFFIC SIGNAL CABLES ARE 12/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

NOTE: REWIRING OF EXISTING PS#4 SHALL BE INCLUDED IN THE PAY ITEM "RECAPABLE, TS".

NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

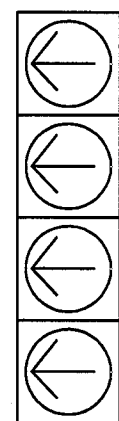
NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNING AND PAVEMENT MARKING REMOVAL, INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
1	Span Wire	1 Ea	8200140
2	Case Sign (LED), Two Way, 24 inch by 30 inch	1 Ea	8200022
3	TS, Two Way Span Wire Mtd, FYA (LED)	1 Ea	8207050
4	TS, One Way Span Wire Mtd (LED)	2 Ea	8200313
5	TS, Three Way Span Wire Mtd (LED)	2 Ea	8200325
6	TS, One Way Bracket Arm Mtd (LED)	2 Ea	8200333
7	TS, One Way Bracket Arm Mtd, FYA (LED)	2 Ea	8200334
8	TS, Pedestrian, Two Way Bracket Arm Mtd (LED)	2 Ea	8200338
9	Recable, TS	150 Ft	8197001

CS#1
TWO-WAY 24"x30" LED
CASE SIGN



FACING
NORTH & SOUTH



R
Y
F
Y
G

TS#5 FACING EAST & WEST
TS#2 FACING WEST
TS#8 FACING EAST

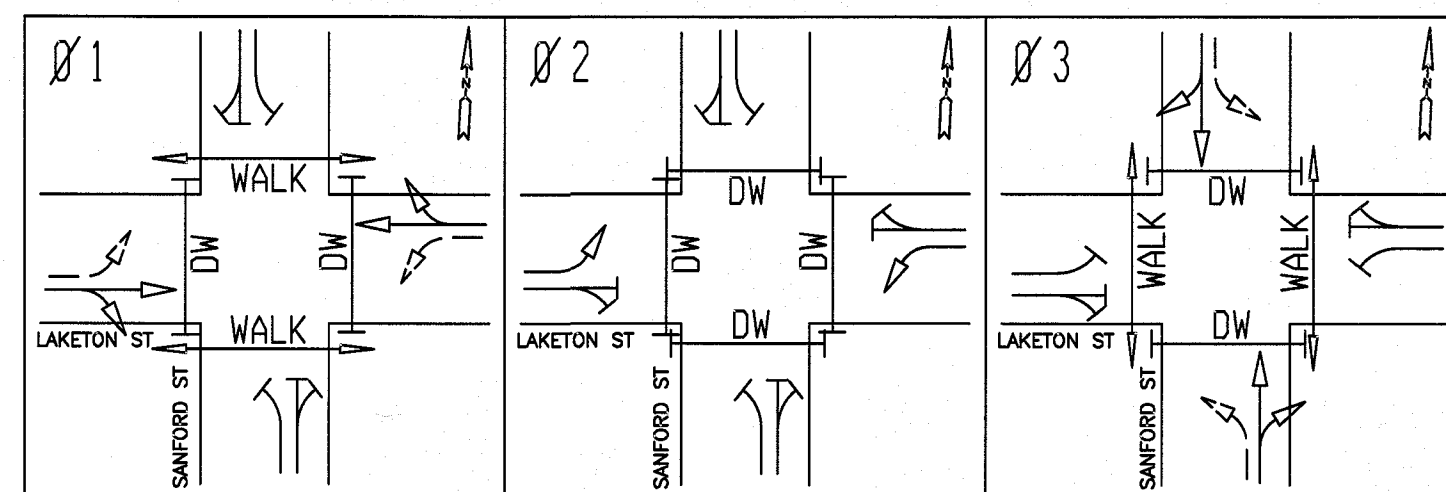
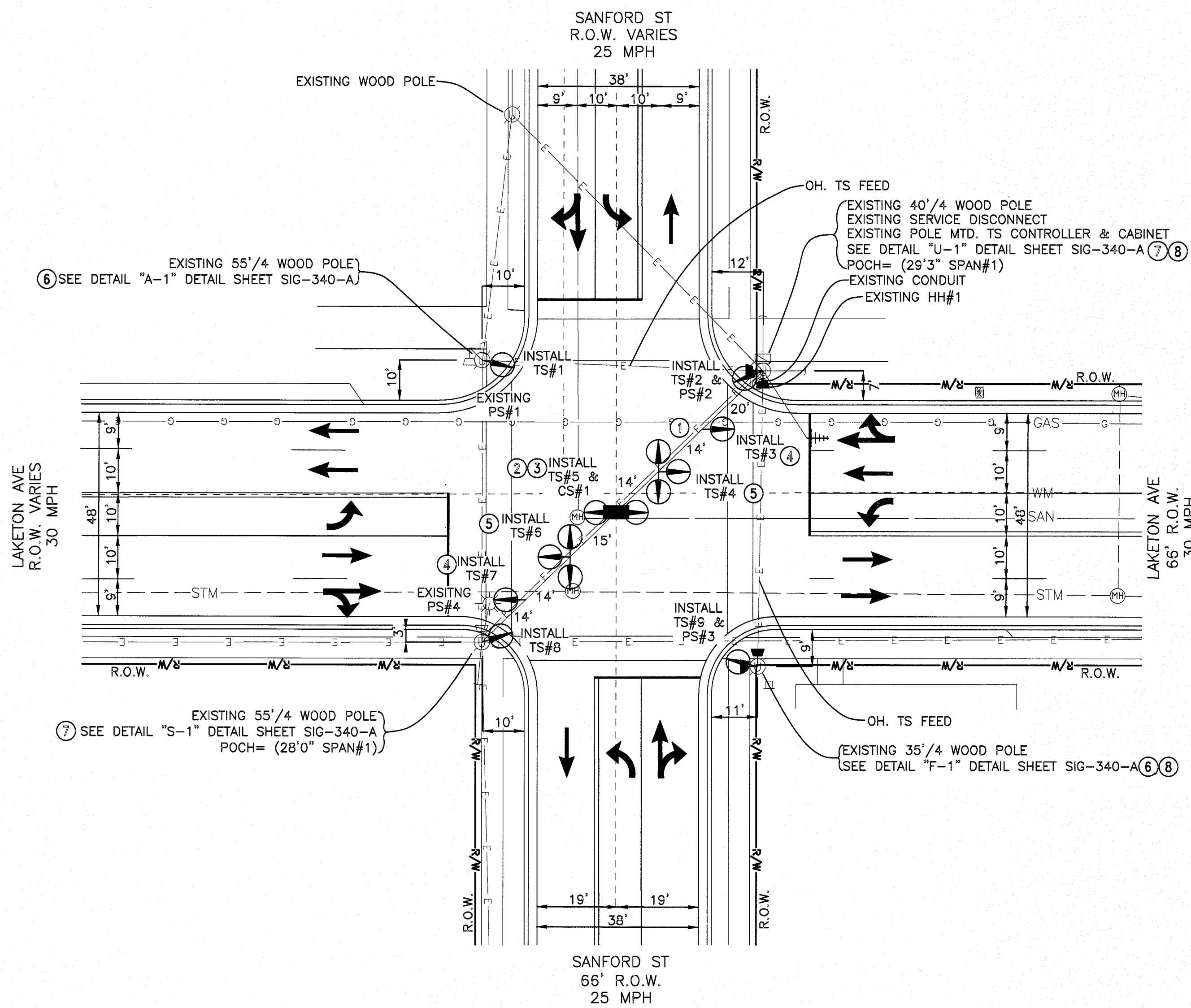


TS#1 & TS#3 FACING EAST
TS#4 FACING NORTH, EAST & SOUTH
TS#6 FACING SOUTH, WEST & NORTH
TS#7 & TS#9 FACING WEST

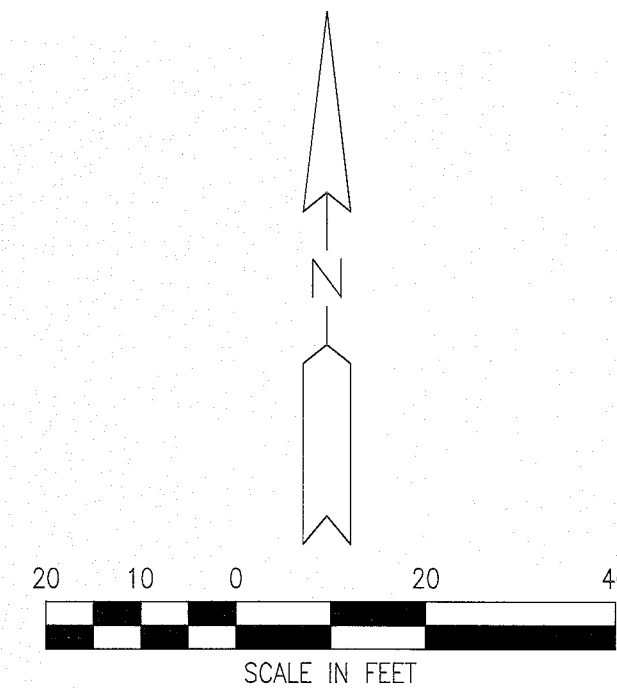
(LED) PEDESTRIAN
HEAD



INSTALL PS#2 & PS#3



PHASING DIAGRAM



PROJECT NUMBER
H-91859

OPENINGS	56
CYCLIC WATTS	505
STEADY WATTS	90

CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL CONSTRUCTION SHEET
SANFORD STREET @ LAKETON AVENUE

ISSUED FOR: DATE: BY:
REVIEW 03/25/19 MRD
FINAL PLANS 05/14/19 MRD

JOB NO.
MUS2011.01N

SHEET
TS-7



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Grand Rapids, MI 49508
www.wadefirm.com

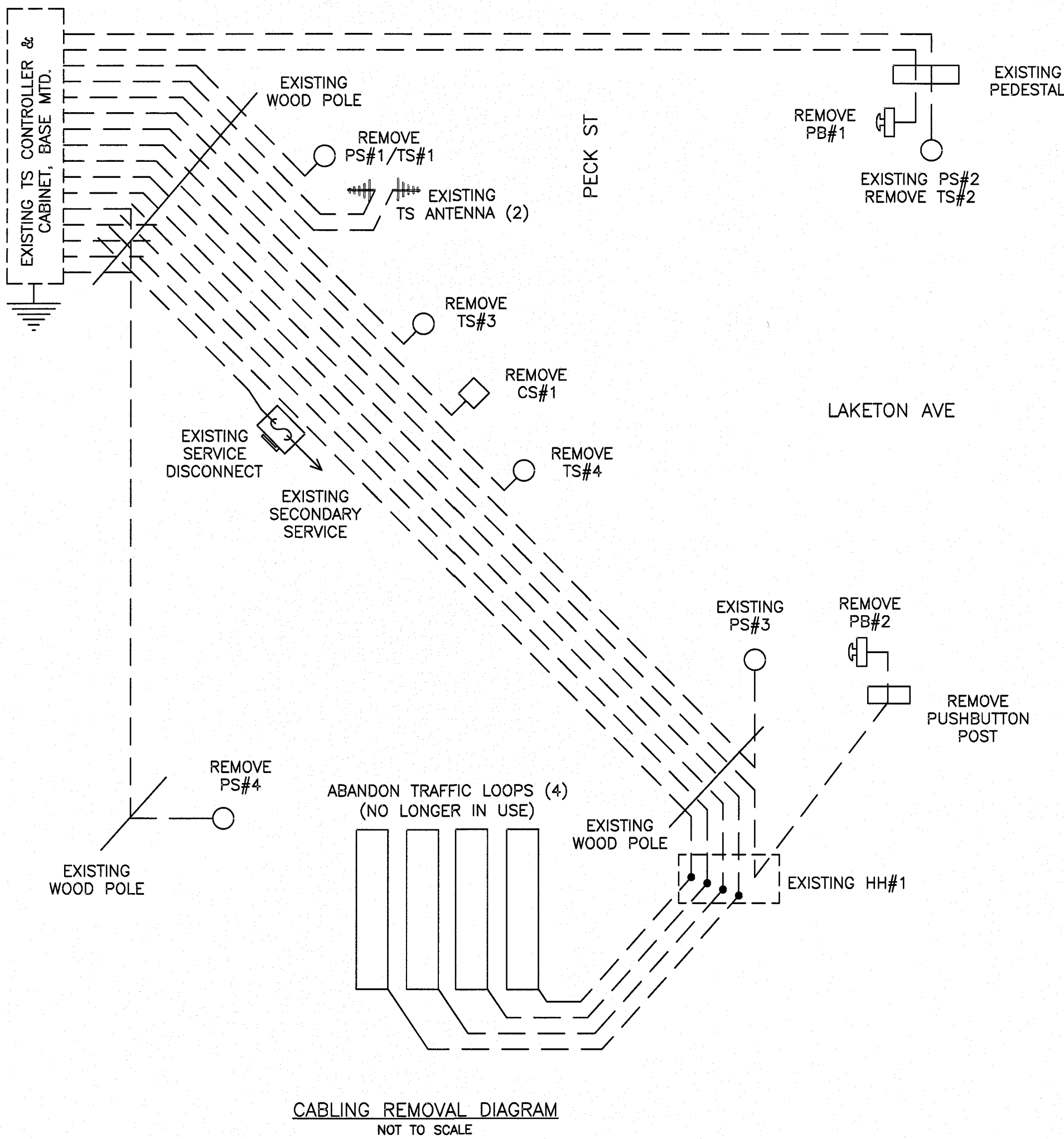
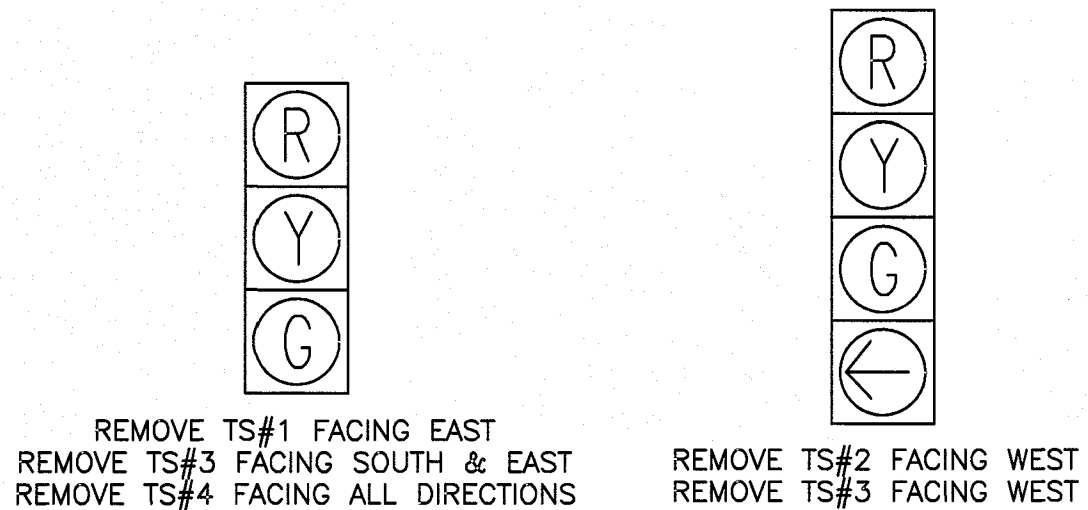
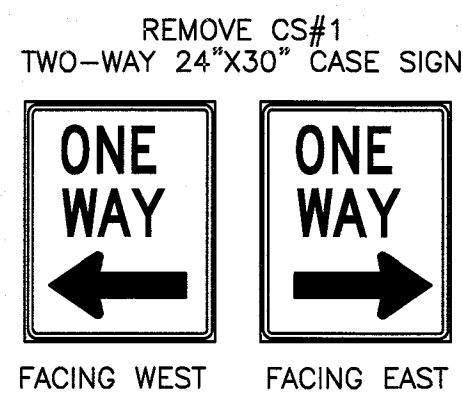
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PROJECT MANAGER: C:\VW\WORK\2\0941001\CTS-PLTS-SIGNALPLANS.DWG - SHT 8 - PLOTTED 5/14/2019 1:40 PM BY CARUSO, JASON

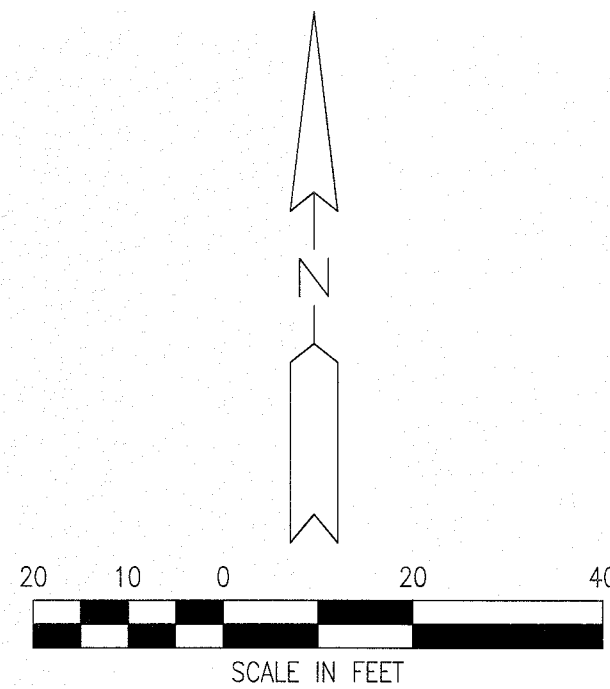
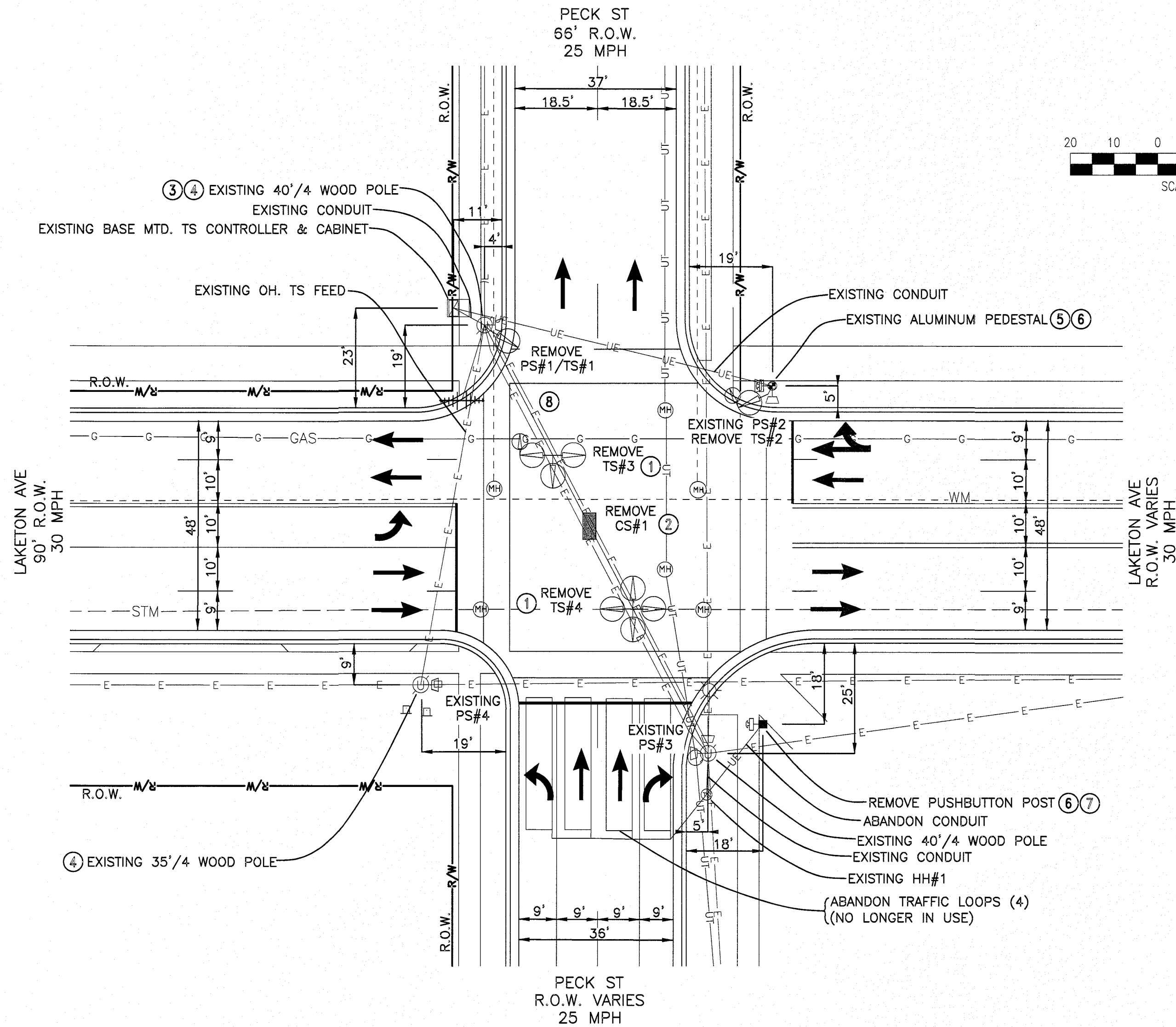
NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNING AND PAVEMENT MARKING REMOVAL, INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	TS, Span Wire Mtd, Rem	2 Ea	8200182
②	Case Sign, Rem	1 Ea	8200020
③	TS, Bracket Arm Mtd, Rem	1 Ea	8200175
④	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea	8200180
⑤	TS, Pedestal Mtd, Rem	1 Ea	8200179
⑥	Pushbutton, Rem	2 Ea	8200122
⑦	Fdn, Wood Support, Rem	1 Ea	8100280
⑧	Span Wire, Rem	1 Ea	8200141



CABLING REMOVAL DIAGRAM
NOT TO SCALE



OPENINGS	37
CYCLIC WATTS	435
STEADY WATTS	90



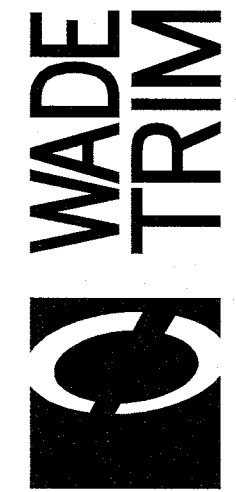
PROJECT NUMBER
H-91859

CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL REMOVAL SHEET
PECK STREET @ LAKETON AVENUE

ISSUED FOR: DATE: BY:	REVIEW: 03/26/19 MRP	FINAL PLANS 05/14/19 MRP
JOB NO.	MUS2011.01N	
SHEET	TS-8	

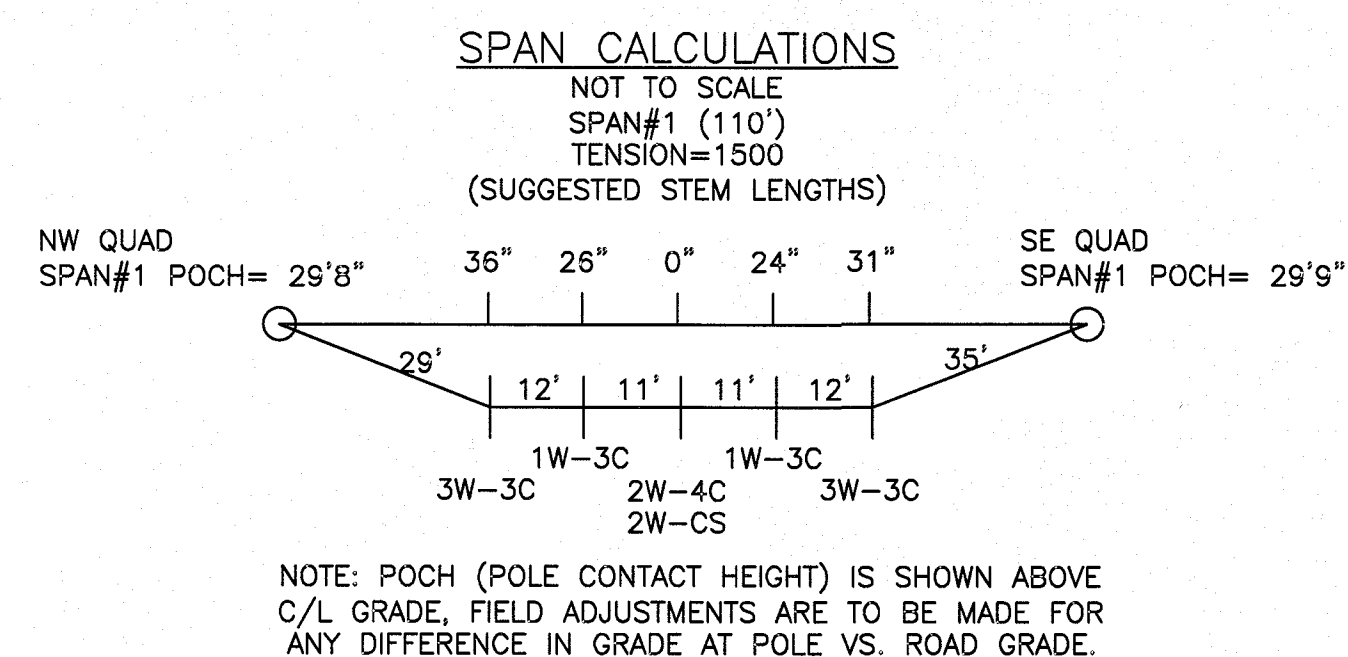
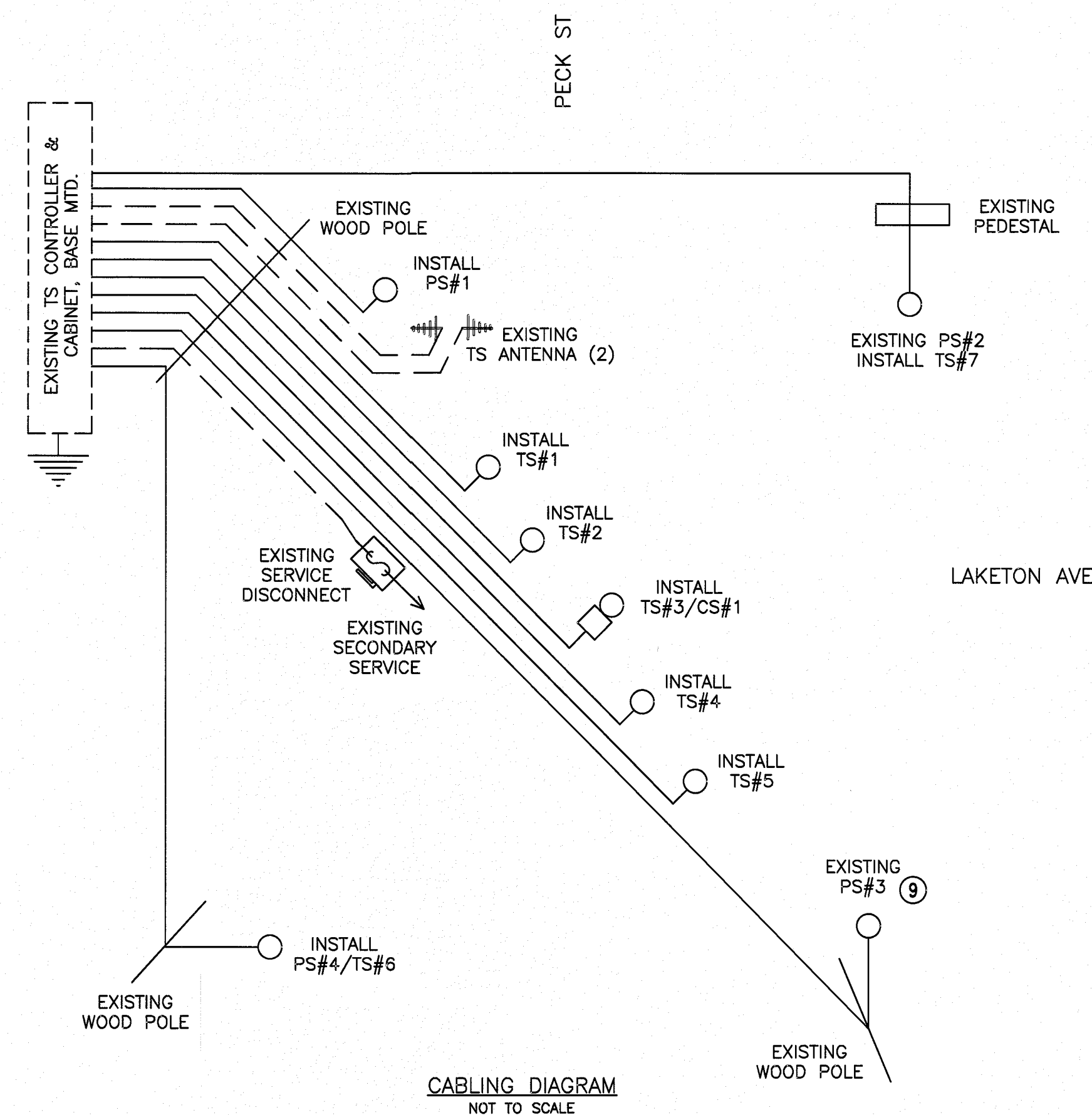
REV#	DATE	DESCRIPTION	BY

2851 Chalkbrook Drive SE, Suite 108
Grand Rapids, MI 49546
www.wadetrims.com



CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 3W-3C TRAFFIC SIGNAL CABLES ARE 7/C#16 PJ.
3. 2W-4C & 2-WAY 24"X30" LED CASE SIGNAL/TRAFFIC SIGNAL CABLES ARE 14/C#14 PJ.
4. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.
5. PEDESTRIAN SIGNAL W/1W-4C TRAFFIC SIGNAL CABLES ARE 12/C#16 PJ.

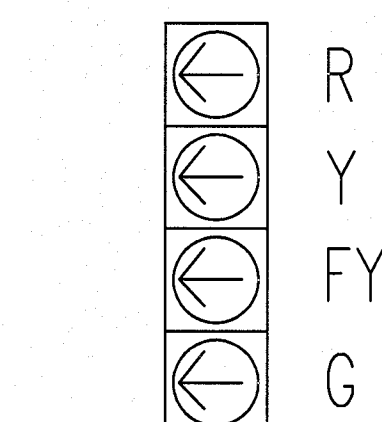


NOTE: REWIRING OF EXISTING PS#3 SHALL BE INCLUDED IN THE PAY ITEM "RECAP. TS".

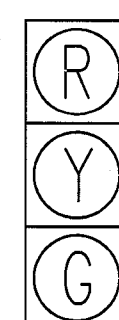
NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS
FOR SIGNING AND PAVEMENT MARKING REMOVAL,
INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Span Wire	1 Ea	8200140
②	Case Sign (LED), Two Way, 24 inch by 30 inch	1 Ea	8200022
③	TS, Two Way Span Wire Mtd, FYA (LED)	1 Ea	8207050
④	TS, One Way Span Wire Mtd (LED)	2 Ea	8200313
⑤	TS, Three Way Span Wire Mtd (LED)	2 Ea	8200325
⑥	TS, One Way Bracket Arm Mtd, FYA (LED)	1 Ea	8200334
⑦	TS, Pedestrian, Two Way Bracket Arm Mtd (LED)	2 Ea	8200338
⑧	TS, One Way Pedestal Mtd, FYA (LED)	1 Ea	8207050
⑨	Recable, TS	150 Ft	8197001



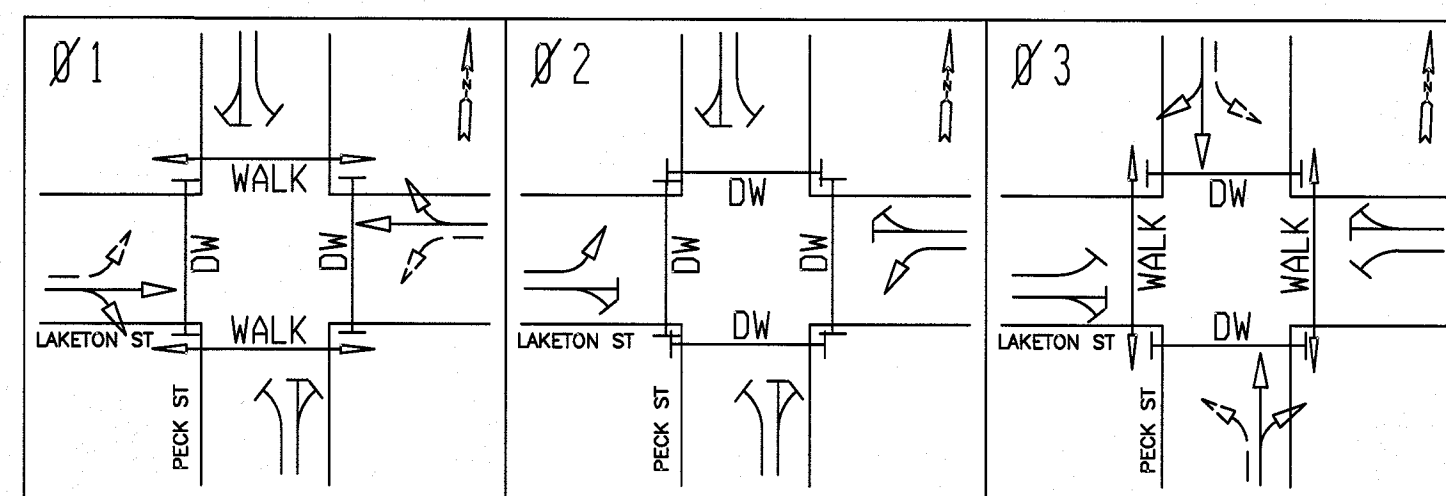
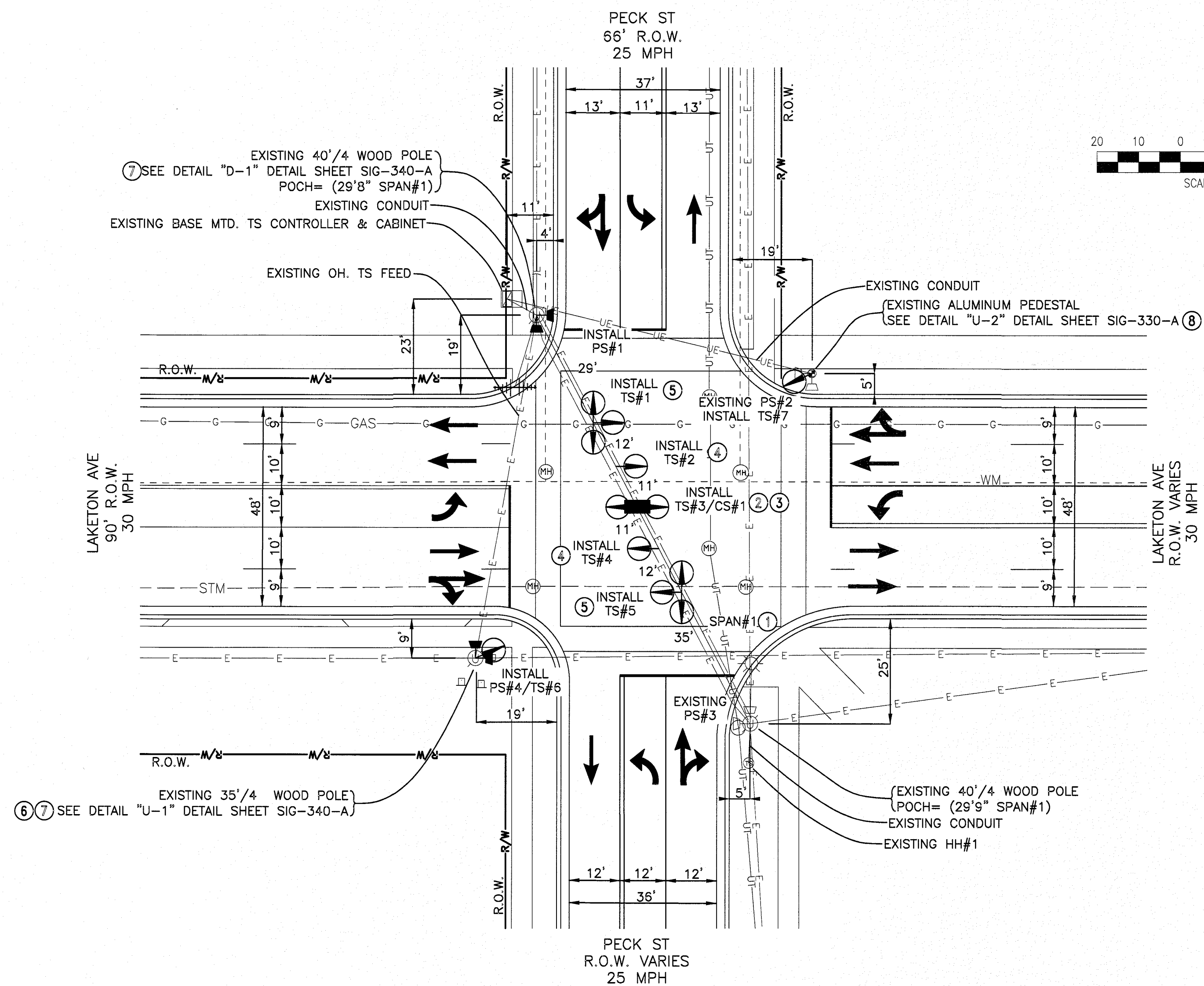
TS#3 FACING EAST & WEST
TS#6 FACING EAST
TS#7 FACING WEST



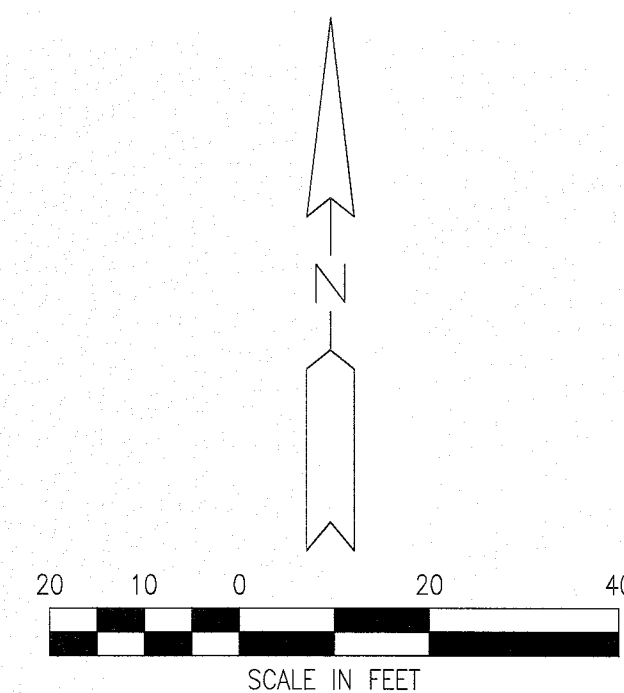
TS#1 FACING NORTH, EAST & SOUTH
TS#2 FACING EAST
TS#4 FACING WEST
TS#5 FACING SOUTH, WEST & NORTH



INSTALL PS#1 & PS#4



PHASING DIAGRAM

[illegible]

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CITY OF MUSKOGEE
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGEE, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL CONSTRUCTION SHEET
PECK STREET @ LAKEVIEW AVENUE

ISSUED FOR:	DATE:	BY:
REVIEW	03/26/19	MRP
FINAL PLANS	05/14/19	MRP

JOB NO.
MUS2011.01N

SHEET

TS-9



Know what's **below**.
Call before you dig.

PROJECT NUMBER
H-91859

OPENINGS	50
CYCLIC WATTS	520
STEADY WATTS	90

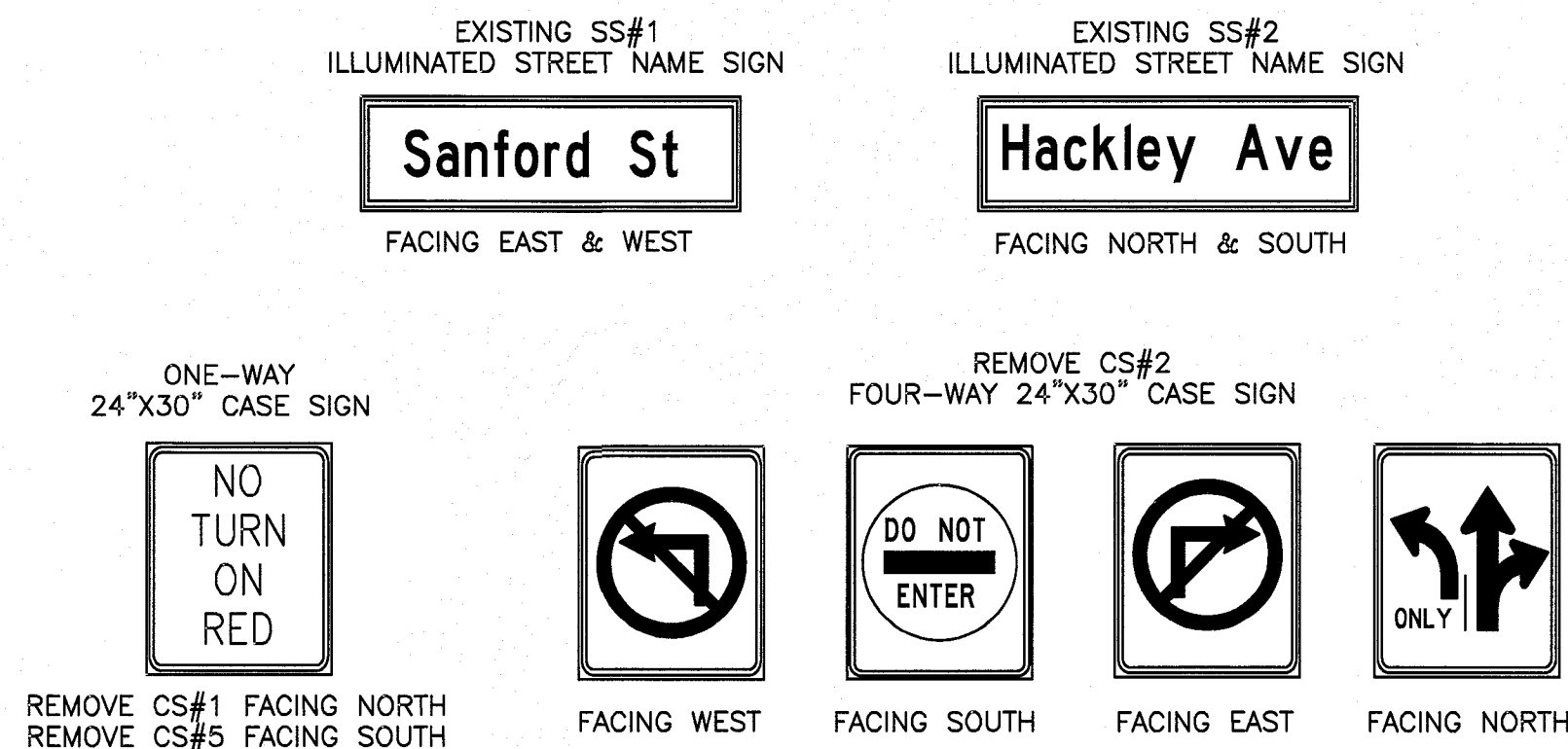
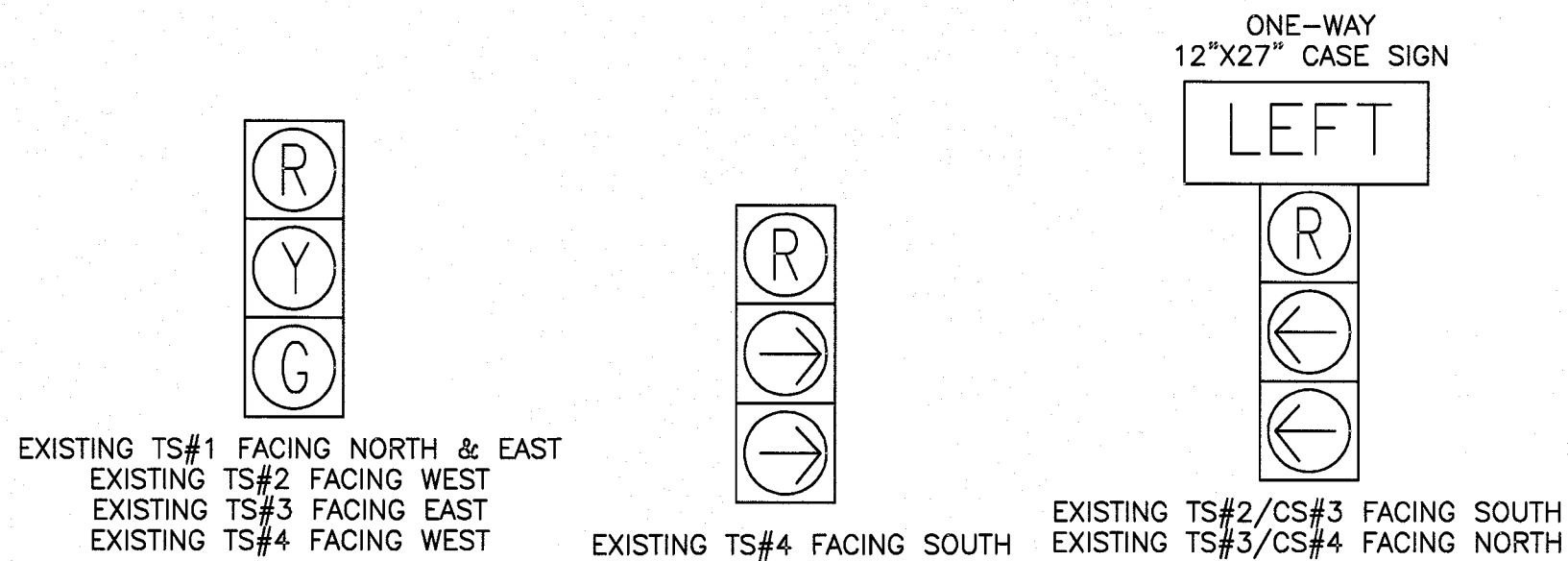
PROJECT MANAGER: FIELD BOOK INFORMATION: C:\PW\WORK\2\0941801\CIS-PLUS-SIGNALPLANS.DWG - SHIT 10 - PLOTTED 5/17/2019 8:42 AM BY CARUSO, JASON

NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNING AND PAVEMENT MARKING REMOVAL, INSTALLATIONS AND QUANTITIES.

STOP SIGNS FOR NB AND SB SANFORD STREET SHALL BE INSTALLED PRIOR TO REMOVAL OF TRAFFIC SIGNAL.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Case Sign, Rem	3 Ea	8200020



OPENINGS	38
CYCLIC WATTS	323
STEADY WATTS	300



PROJECT NUMBER	H-91859
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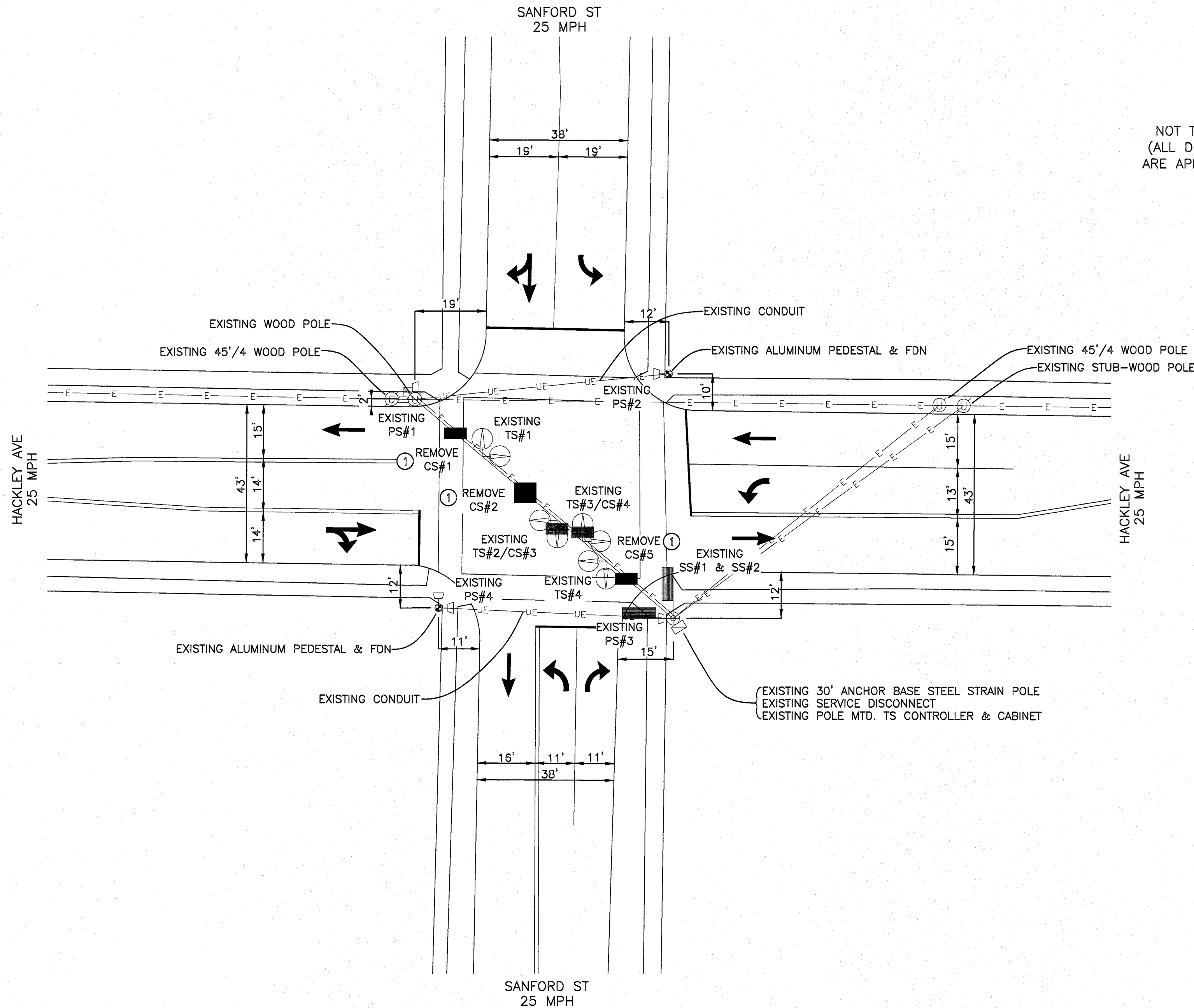
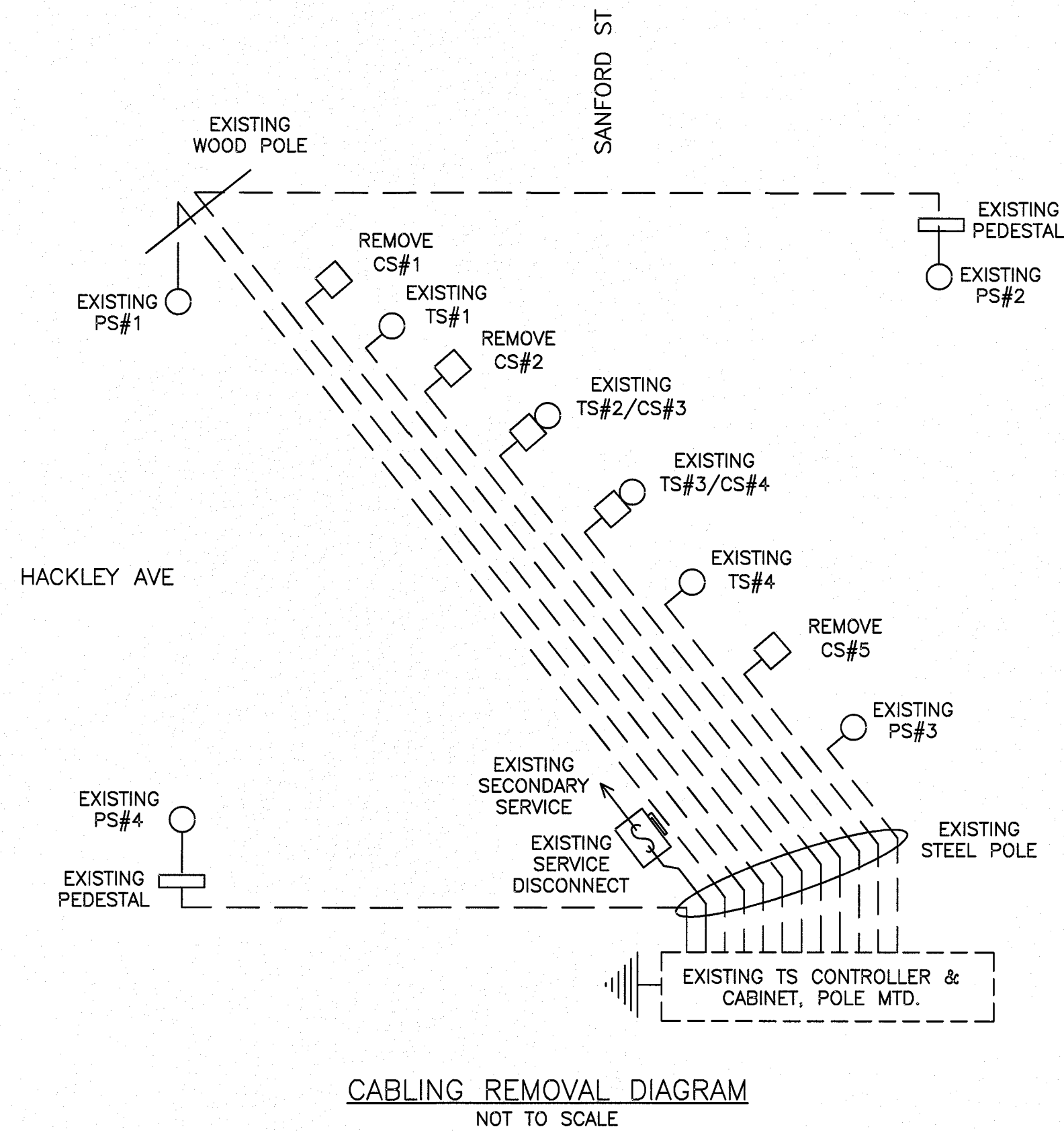
ISSUED FOR: DATE: BY:	REVIEW: 03/26/19 MRP	FINAL PLANS: 05/14/19 MRP	REV FINAL: 05/21/19 MRP
JOB NO.	MUS2011.01N	SHEET	TS-10

CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL REMOVAL SHEET
SANFORD STREET @ HACKLEY AVENUE



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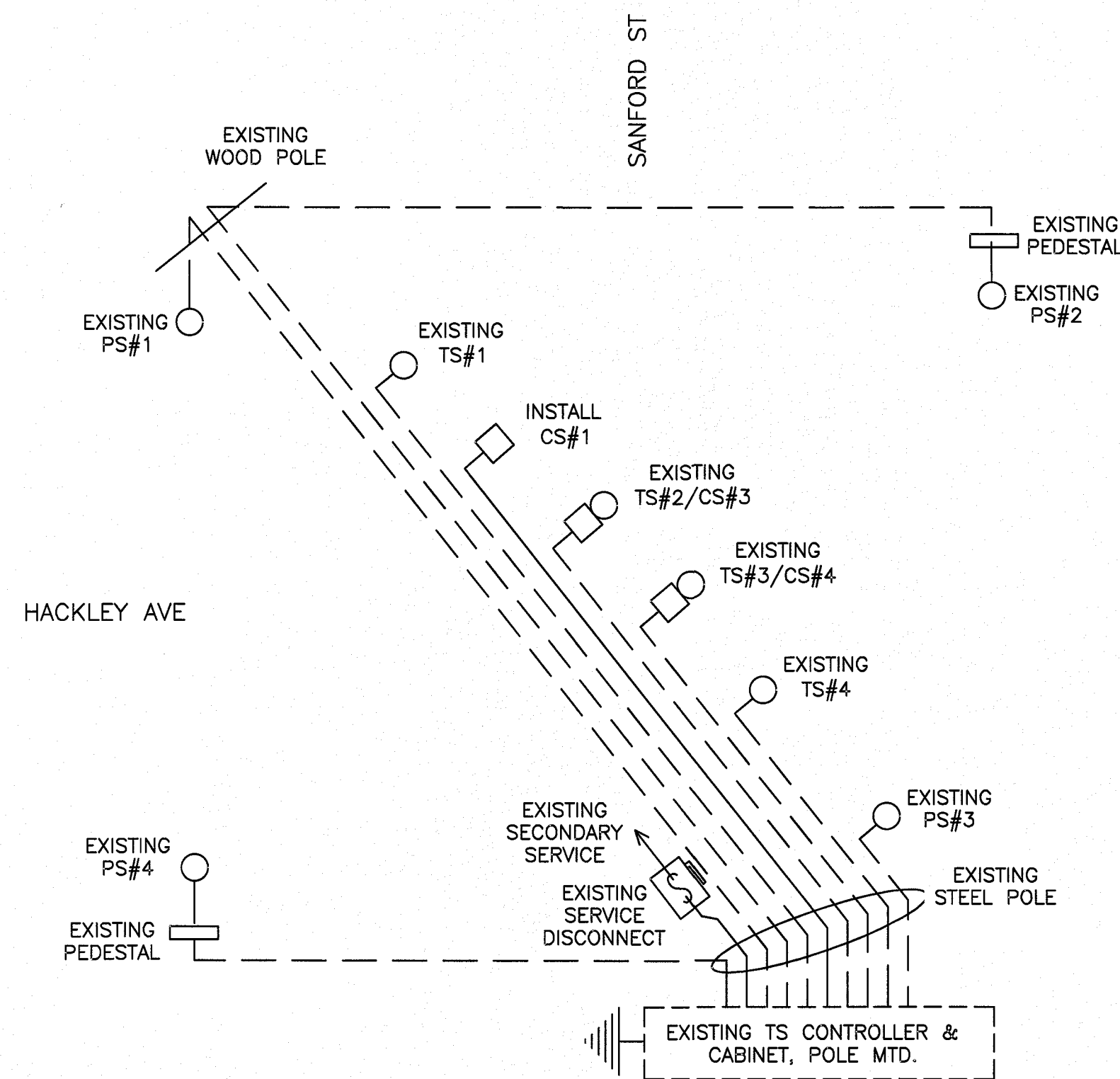
REV#	DATE	DESCRIPTION	BY



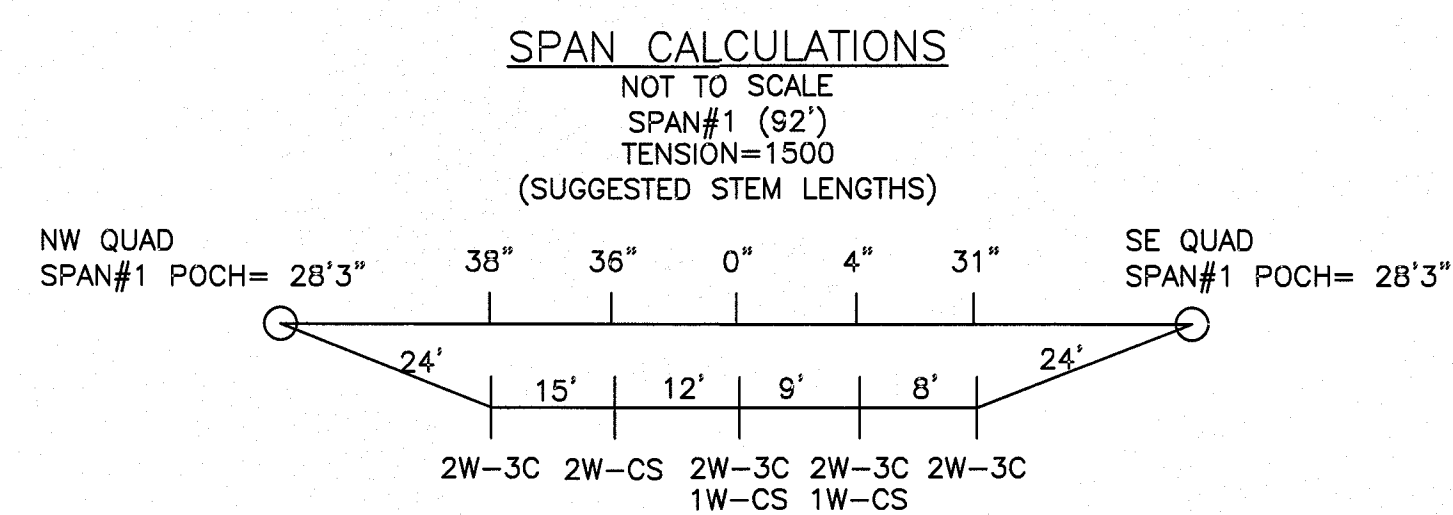
NOT TO SCALE
(ALL DIMENSIONS
ARE APPROXIMATE)

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 2-WAY 24"x30" LED CASE SIGN CABLES ARE 4/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE
C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR
ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

NOTE: TRAFFIC SIGNALS SHALL FLASH RED SANFORD STREET
APPROACHES AND YELLOW FOR HACKLEY STREET
APPROACHES.

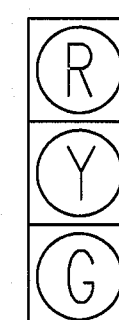
NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: ANY ADJUSTMENTS TO THE SPAN WIRE CONTACT HEIGHTS TO MAINTAIN 17' OF UNDERCLEARANCE SHALL BE INCLUDED IN THE PAY ITEM "CASE SIGN (LED), TWO WAY, 24 INCH BY 30 INCH" AND WILL NOT BE PAID FOR SEPARATELY

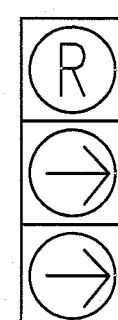
NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS
FOR SIGNING AND PAVEMENT MARKING REMOVAL,
INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Case Sign (LED), Two Way, 24 inch by 30 inch	1 Ea	8200022
②	TS Face, Bag	2 Ea	8200458

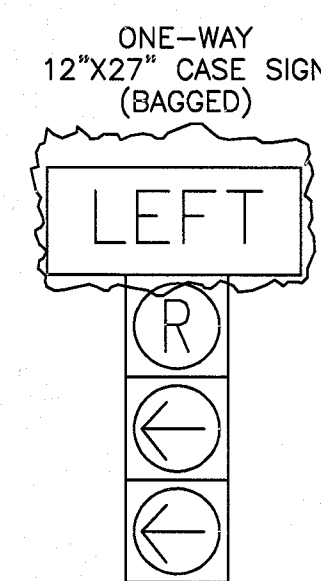
NOTE: SIGNAL SHALL REMAIN IN FLASH MODE FOR A PERIOD OF A MINIMUM OF 90 DAYS IN ACCORDANCE WITH THE MMUTCD.



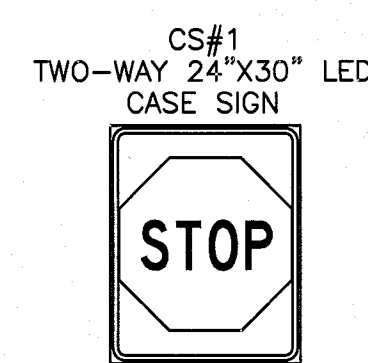
EXISTING TS#1 FACING NORTH & EAST
EXISTING TS#2 FACING WEST
EXISTING TS#3 FACING EAST
EXISTING TS#4 FACING WEST



EXISTING TS#4 FACING SOUTH



EXISTING TS#2/CS#3 FACING SOUTH
EXISTING TS#3/CS#4 FACING NORTH



FACING
NORTH & SOUTH

EXISTING SS#1
ILLUMINATED STREET NAME SIGN

Sanford St

FACING EAST & WEST

EXISTING SS#2
ILLUMINATED STREET NAME SIGN

Hackley Ave

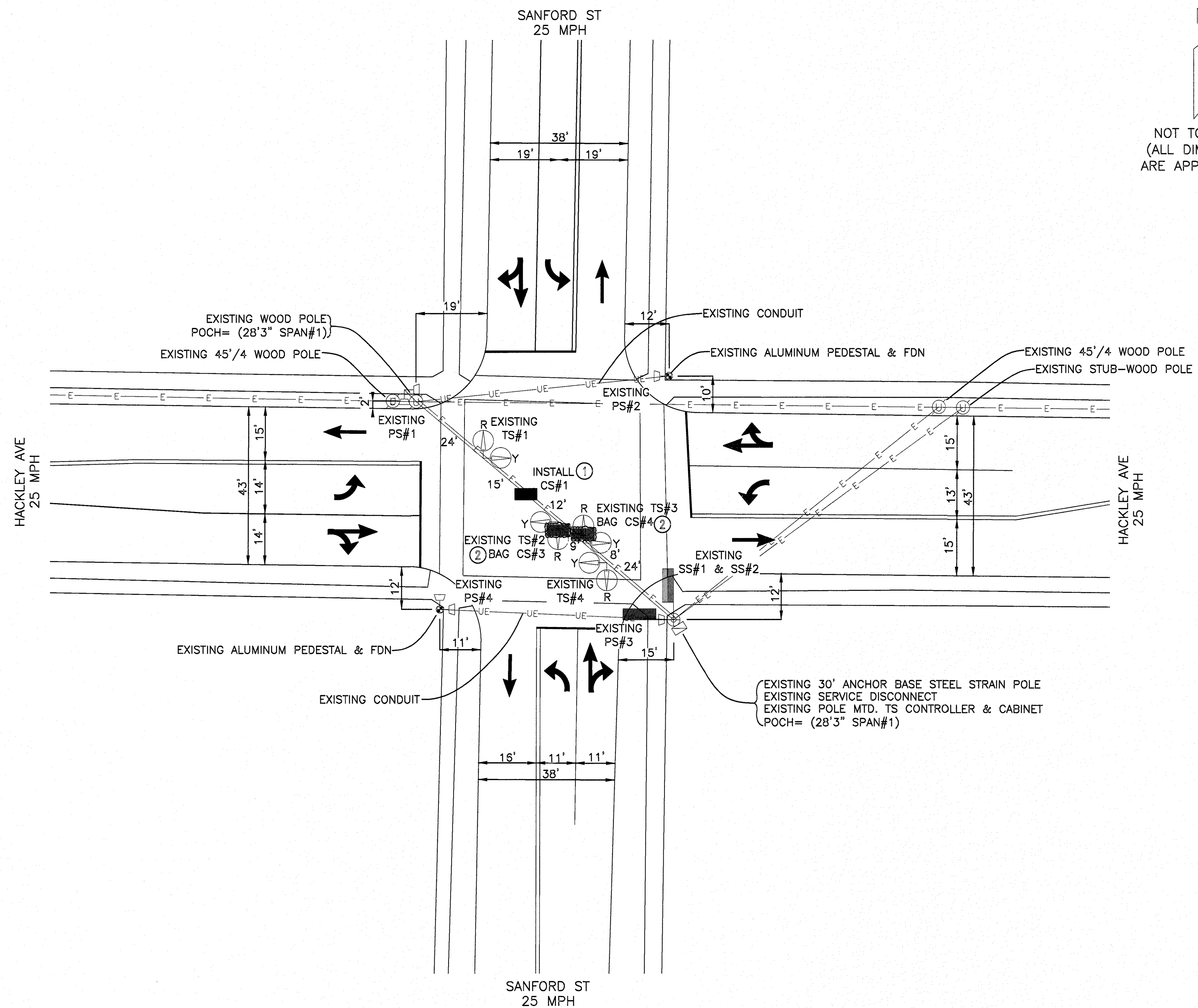
FACING NORTH & SOUTH



Know what's **below**.
Call before you dig.

OPENINGS	32
CYCLIC WATTS	323
STEADY WATTS	90

PROJECT NUMBER
H-91859



NOT TO SCALE
(ALL DIMENSIONS
ARE APPROXIMATE)

[illegible]

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CITY OF MUSKEGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKEGON, MI 49442

ISSUED FOR:	DATE:	BY:
REVIEW	03/26/19	MRP
FINAL PLANS	05/14/19	MRP
REV FINAL	05/21/19	MRP

JOB NO.
MUS2011.01N

TS-11

PROJECT MANAGER: -- FIELD BOOK INFORMATION:--
C:\PW_WORK2\00941601\CTS--PLTS--SIGNALPLANS.DWG -- SHT 11 -- PLOTTED 5/21/2019 8:42 AM BY CARUSO, JASON

PROJECT MANAGER - C:\P\WORK\2\0094\601\CTS-PLTS-SIGNALPLANS.DWG - SHT 12 - PLOTTED 5/21/2019 8:42 AM BY CARUSO, JASON

NOTE: TIME OF TRAFFIC SIGNAL REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: ILLUMINATED STREET NAME SIGNS WILL REMAIN IN PLACE. ANY NECESSARY RE-WIRING OF EXISTING SS#1 & EXISTING SS#2 SHALL BE INCLUDED IN THE PAY ITEM "REPLACE, TS".

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	TS, Span Wire Mtd, Rem	4 Ea	8200182
4	Case Sign, Rem	3 Ea	8200020
5	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea	8200180
6	TS, Pedestrian, Pedestal Mtd, Rem	2 Ea	8200181
7	Wood Pole, Rem	1 Ea	8190505
8	Pedestal, Rem	2 Ea	8200110
9	Pedestal Fdn, Rem	2 Ea	8200106
10	Recable, TS	150 Ft	8197001

REMOVE TS#1 FACING NORTH & EAST
REMOVE TS#2 FACING WEST
REMOVE TS#3 FACING EAST
REMOVE TS#4 FACING WEST

REMOVE TS#4 FACING SOUTH
REMOVE TS#3/CS#4 FACING NORTH

REMOVE ONE-WAY
12"x27" CASE SIGN
(BAGGED)

LEFT

REMOVE CS#1
TWO-WAY 24"x30" LED
CASE SIGN

STOP

FACING
NORTH & SOUTH

EXISTING SS#1
ILLUMINATED STREET NAME SIGN

Sanford St

FACING EAST & WEST

EXISTING SS#2
ILLUMINATED STREET NAME SIGN

Hackley Ave

FACING NORTH & SOUTH

OPENINGS	32
CYCLIC WATTS	323
STEADY WATTS	90

811

Know what's below.
Call before you dig.

PROJECT NUMBER
H-91859

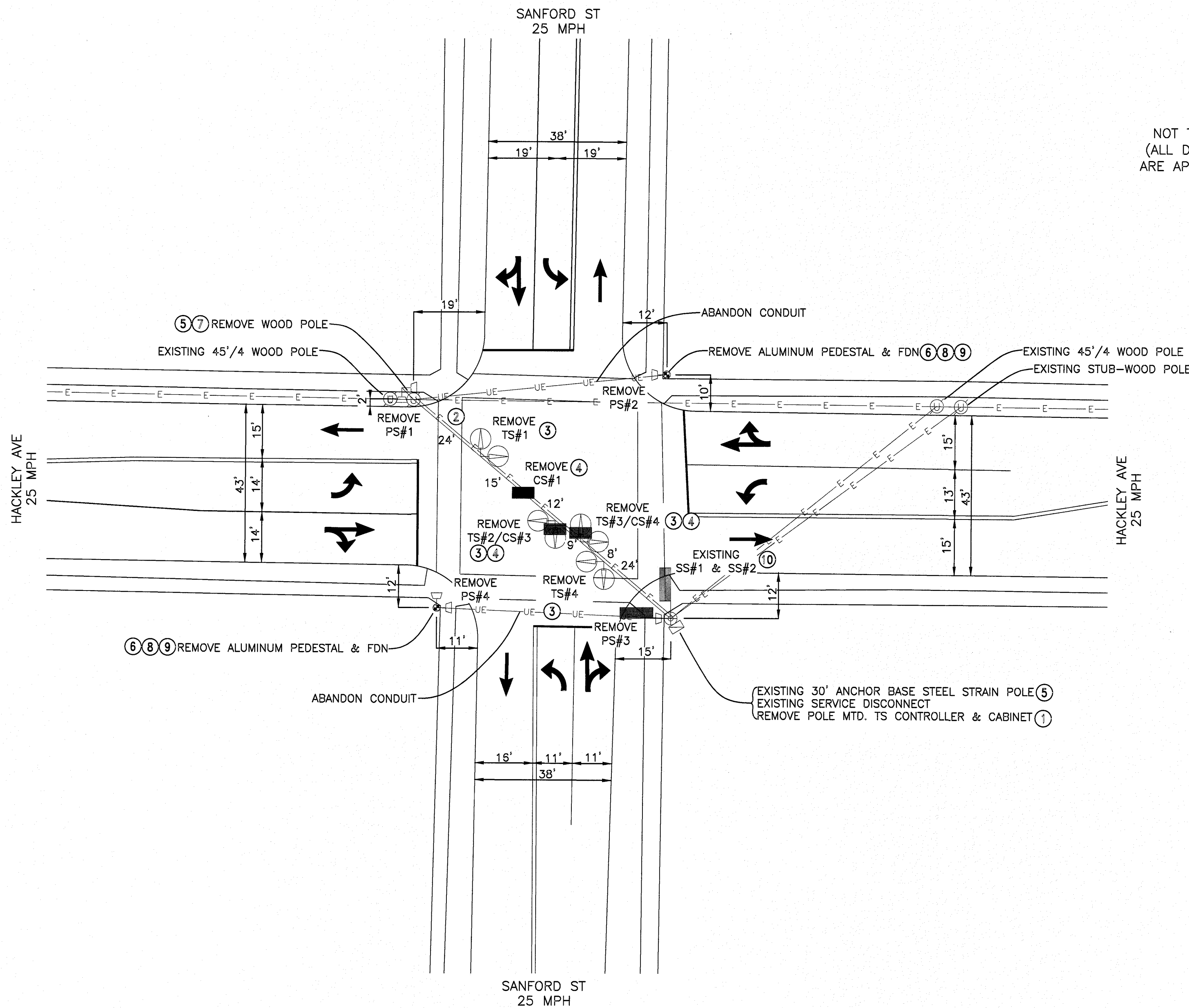
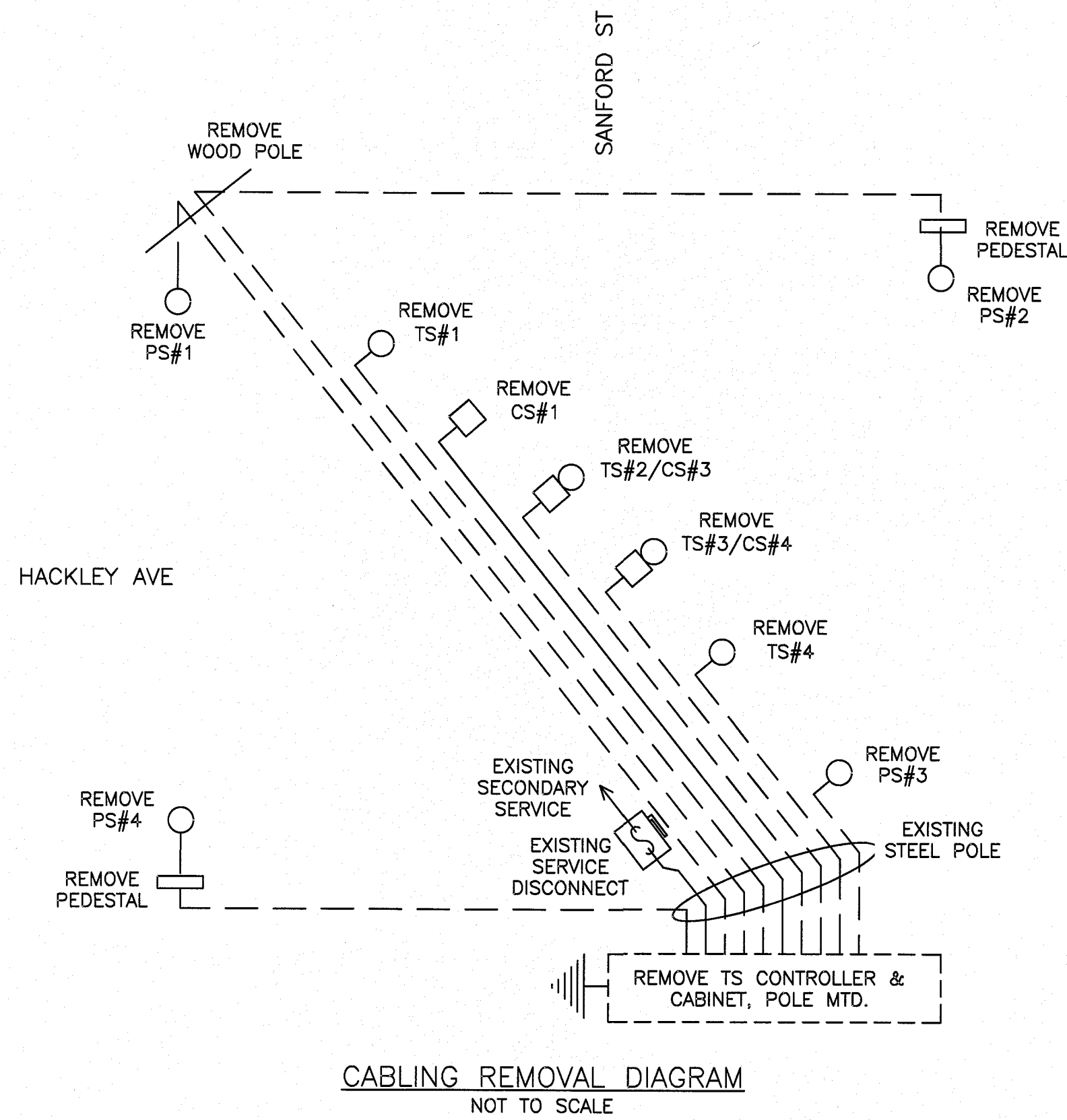
CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL REMOVAL SHEET
SANFORD STREET @ HACKLEY AVENUE

ISSUED FOR: DATE: BY:
REVIEW 03/26/19 WRB
FINAL PLANS 05/14/19 WRB
REV FINAL 05/21/19 WRB

JOB NO.
MUS2011.01N

SHEET
TS-12

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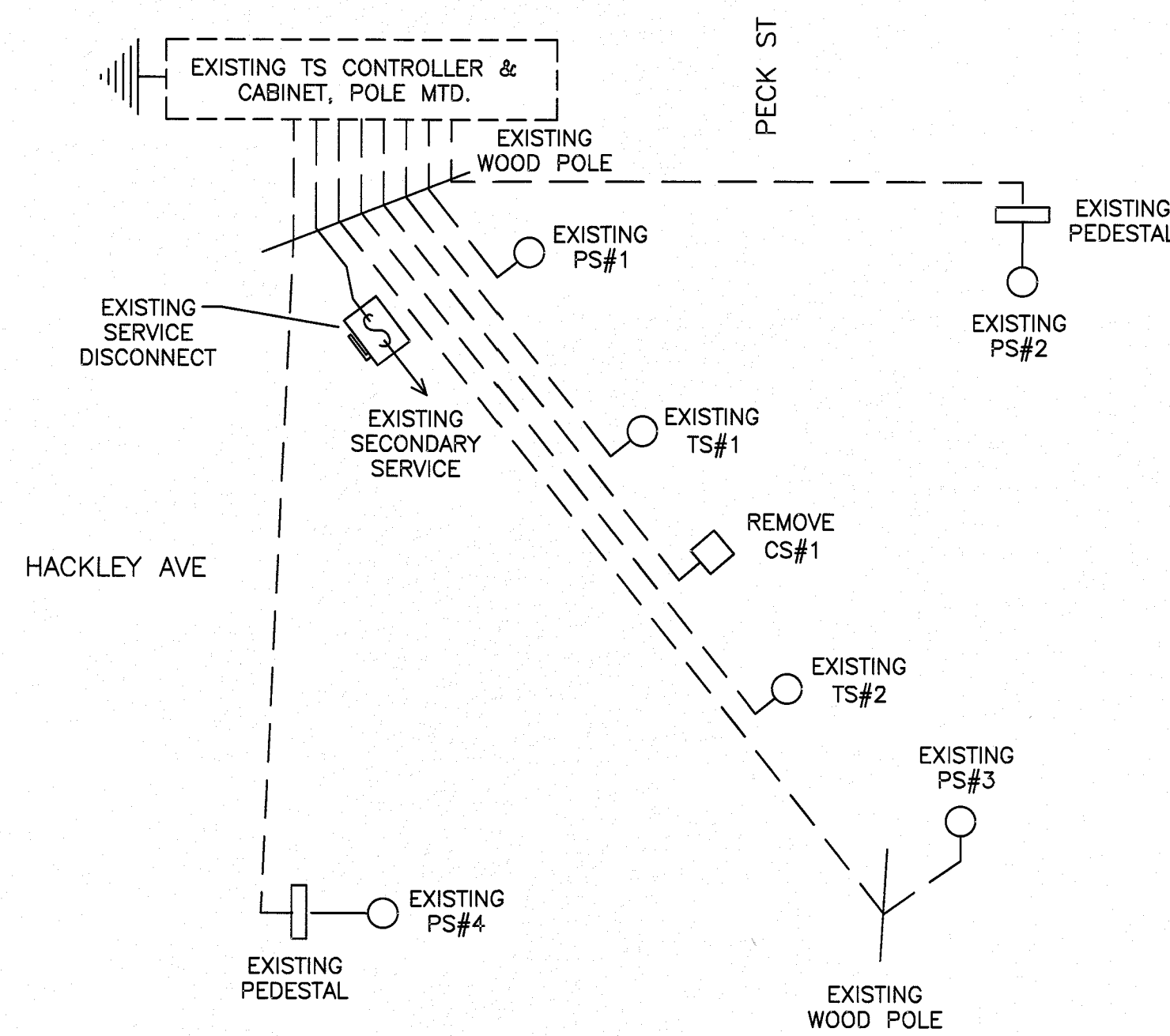


REV#	DATE	DESCRIPTION	BY

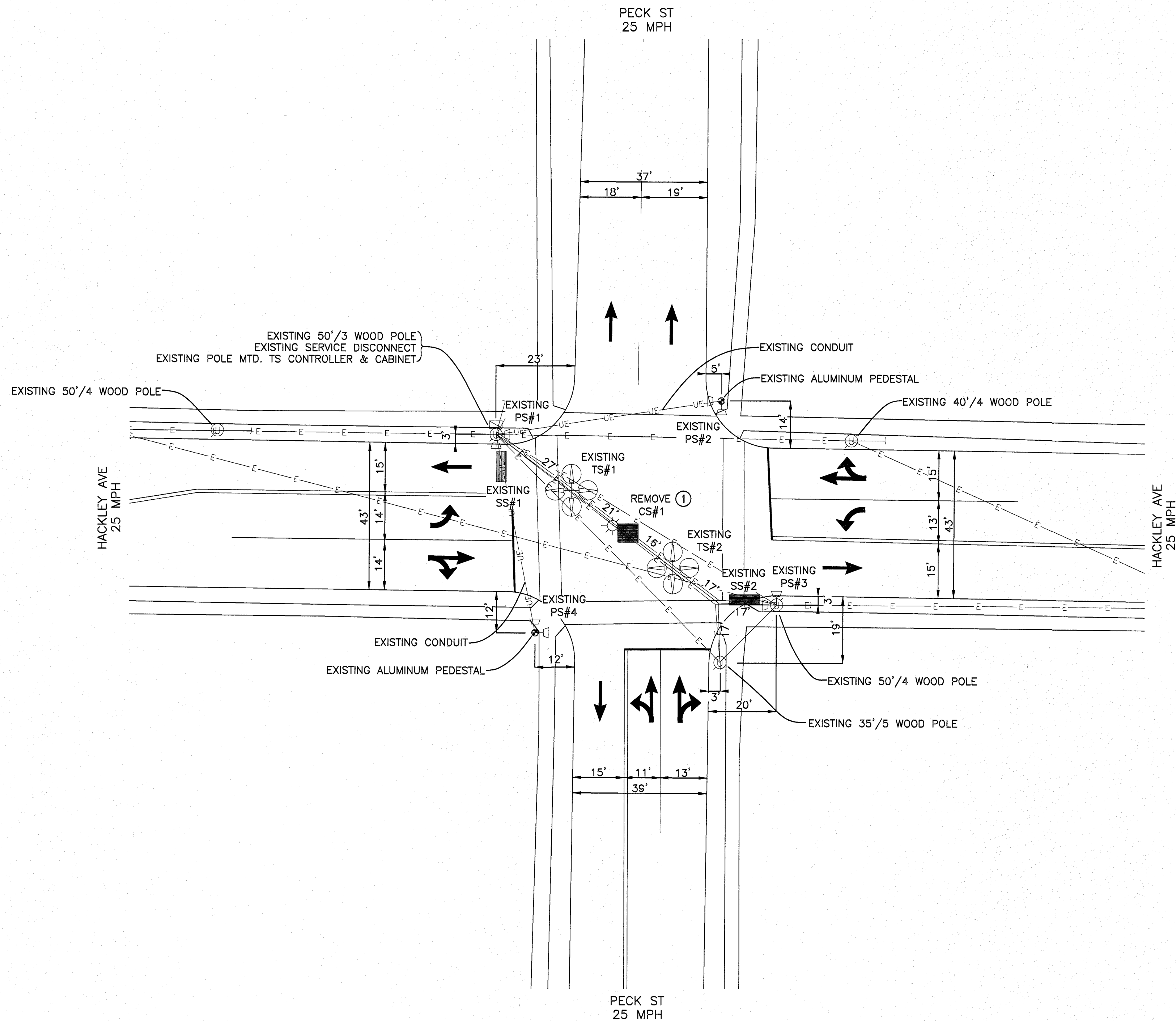
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PROJECT MANAGER: C:\PW\WORK2\0341601\CTS-PTS-SIGNALPLANS.DWG - SHEET 13 - PLOTTED 5/21/2019 8:42 AM BY CARLOS JASON



CABLING REMOVAL DIAGRAM
NOT TO SCALE



NOT TO SCALE
(ALL DIMENSIONS
ARE APPROXIMATE)

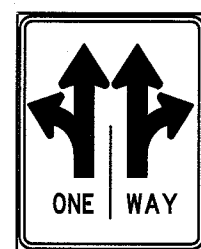
NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNING AND PAVEMENT MARKING REMOVAL, INSTALLATIONS AND QUANTITIES.
NOTE: REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
1	Case Sign, Rem	1 Ea	8200020

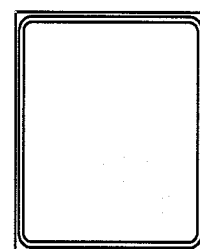
EXISTING TS#1 & TS#2
FACING ALL DIRECTIONS



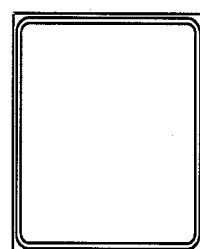
FACING WEST



FACING SOUTH



FACING EAST



FACING NORTH

REMOVE CS#1
FOUR-WAY 24"x30" CASE SIGN

EXISTING SS#1
ILLUMINATED STREET NAME SIGN
Peck St
FACING EAST & WEST

EXISTING SS#2
ILLUMINATED STREET NAME SIGN
Hackley Ave
FACING NORTH & SOUTH

OPENINGS	42
CYCLIC WATTS	5200
STEADY WATTS	250

811
Know what's below.
Call before you dig.

PROJECT NUMBER
H-91859

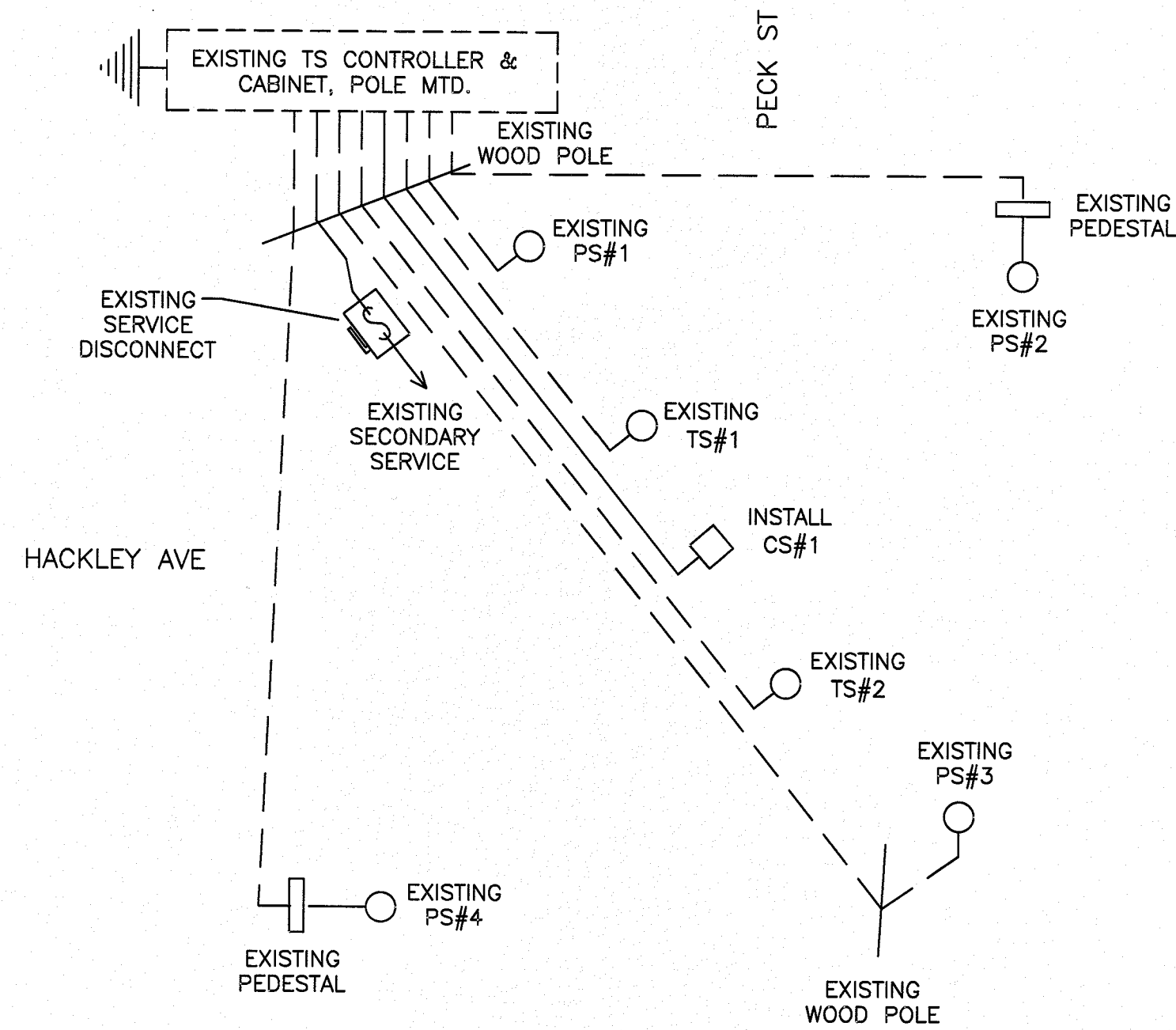
CITY OF MUSKEGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKEGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL REMOVAL SHEET
PECK STREET @ HACKLEY AVENUE

ISSUED FOR: DATE: BY:
REVIEW 03/25/19 MRP
FINAL PLANS 05/14/19 MRP
REV FINAL 05/21/19 MRP
JOB NO. MUS2011.01N
SHEET TS-13

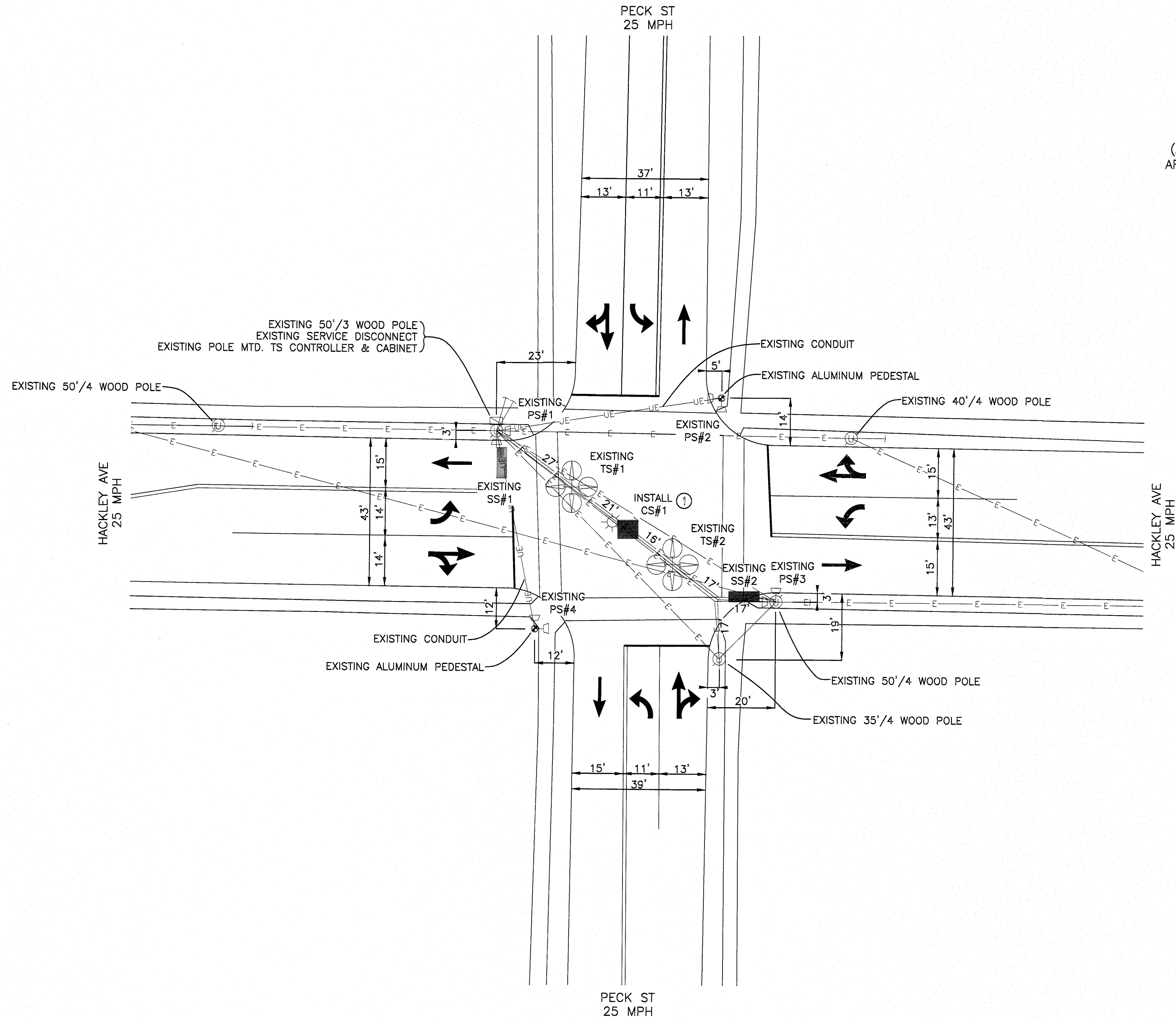
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CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1.4-WAY 24"x30" LED CASE SIGN CABLES ARE 4/C#16 PJ.



CABLING DIAGRAM
NOT TO SCALE



NOT TO SCALE
(ALL DIMENSIONS
ARE APPROXIMATE)

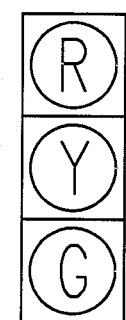


NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH THE IMPLEMENTATION OF THE TWO-WAY CONVERSION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

NOTE: ANY ADJUSTMENTS TO THE SPAN WIRE CONTACT HEIGHTS TO MAINTAIN 17' OF UNDERCLEARANCE SHALL BE INCLUDED IN THE PAY ITEM "CASE SIGN (LED), FOUR WAY, 24 INCH BY 30 INCH" AND WILL NOT BE PAID FOR SEPARATELY.

NOTE: SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNING AND PAVEMENT MARKING REMOVAL, INSTALLATIONS AND QUANTITIES.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
1	Case Sign (LED), Four Way, 24 inch by 30 inch	1 Ea	8200023



EXISTING TS#1 & TS#2
FACING ALL DIRECTIONS

INSTALL CS#1
FOUR-WAY 24"x30" LED
CASE SIGN



FACING
ALL DIRECTIONS

EXISTING SS#1
ILLUMINATED STREET NAME SIGN



FACING EAST & WEST

EXISTING SS#2
ILLUMINATED STREET NAME SIGN



FACING NORTH & SOUTH

OPENINGS	44
CYCLIC WATTS	5200
STEADY WATTS	180



PROJECT NUMBER
H-91859

CITY OF MUSKOGON
PUBLIC WORKS DEPARTMENT
1350 E. KEATING AVE., MUSKOGON, MI 49442
SANFORD & PECK CONVERSION FROM 1-WAY TO 2-WAY TRAFFIC
TRAFFIC SIGNAL CONSTRUCTION SHEET
PECK STREET @ HACKLEY AVENUE

ISSUED FOR: DATE: BY:
REVIEW 03/28/19 MRP
FINAL PLANS 05/14/19 MRP

JOB NO.
MUS2011.01N

SHEET
TS-14

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