

**RECONSTRUCT WATER VALVE RECD**  
 STA 31+93.79, RT 14.65

**FIRE HYDRANT ASSEMBLY AND VALVE RECD**  
 STA 28+22.00, RT 95.50  
 STA 28+45.00, LT 44.00  
 STA 31+52.00, LT 1.00

**REMOVE WATER VALVE RECD**  
 STA 28+00.38, RT 15.27  
 STA 28+14.18, RT 10.38  
 STA 28+24.18, RT 15.38

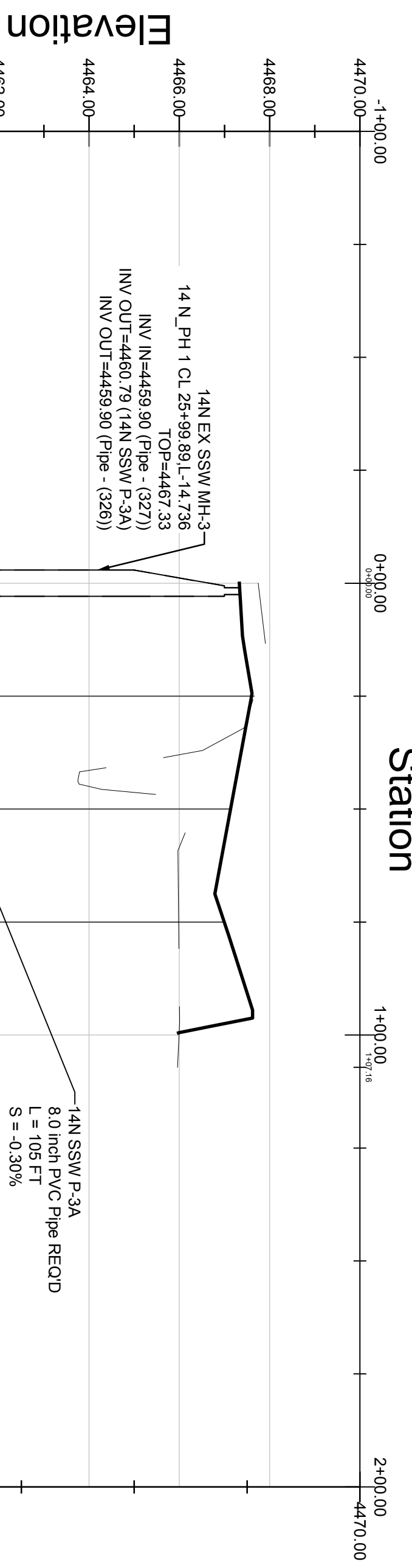
**RELOCATE LIGHT POLE RECD**  
 STA 31+80.01, RT 50.84

**ADJUST MANHOLE RECD**  
 STA 30+99.56, LT 13.35

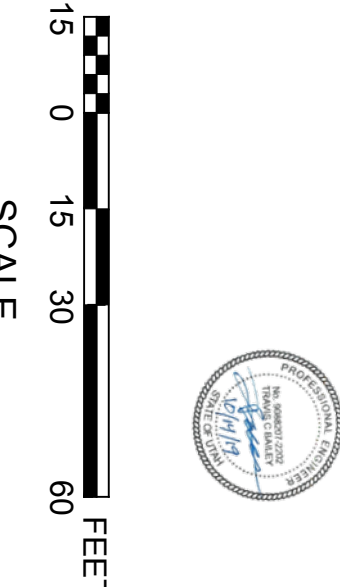
**PRECAST MANHOLE 60" RECD**  
 STA 28+00.00, LT 14.50  
 STA 31+08.83, RT 136.83

**10" GATE VALVE RECD**  
 STA 25+25.00, RT 14.10  
 STA 28+11.34, RT 68.75  
 STA 28+17.25, LT 48.00  
 STA 28+70.00, RT 15.80

**REMOVE FIRE HYDRANT RECD**  
 STA 31+68.24, RT 28.21  
 STA 28+39.10, RT 30.25



- NOTES:**
- CONTACT BLUE STAKES OF UTAH BEFORE DIGGING. 1-800-682-4111 OR 817, ALL EXISTING UTILITY LOCATIONS ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO LOCATE BOTH HORIZONTAL AND VERTICAL UTILITY LOCATIONS IN THE FIELD. PROTECT IN PLACE ALL EXISTING UTILITIES UNLESS MARKED OTHERWISE.
  - STORM DRAIN SHOWN FOR INFORMATION ONLY. SEE DR SHEETS.
  - PROVIDE AT LEAST 48 HOUR NOTICE PRIOR TO ANY WATER OUTAGES BEING PERFORMED.



**LOGAN CITY ENGINEERING**  
 290 NORTH 100 WEST  
 LOGAN, UTAH 84321

1400 NORTH AT 600 WEST  
 TRAFFIC SIGNAL PROJECT  
 UTILITY PLAN SHEET

756 E Winchester St.  
 Suite 400  
 Salt Lake City,  
 UT 84107  
 801-904-4000

DESIGNED: DAN  
 DRAFTED: JCL  
 CHECKED: TCB

REVISION BLOCK:  
 10/11/2019 ADDENDUM 1

SHEET NO:  
**UT-3**



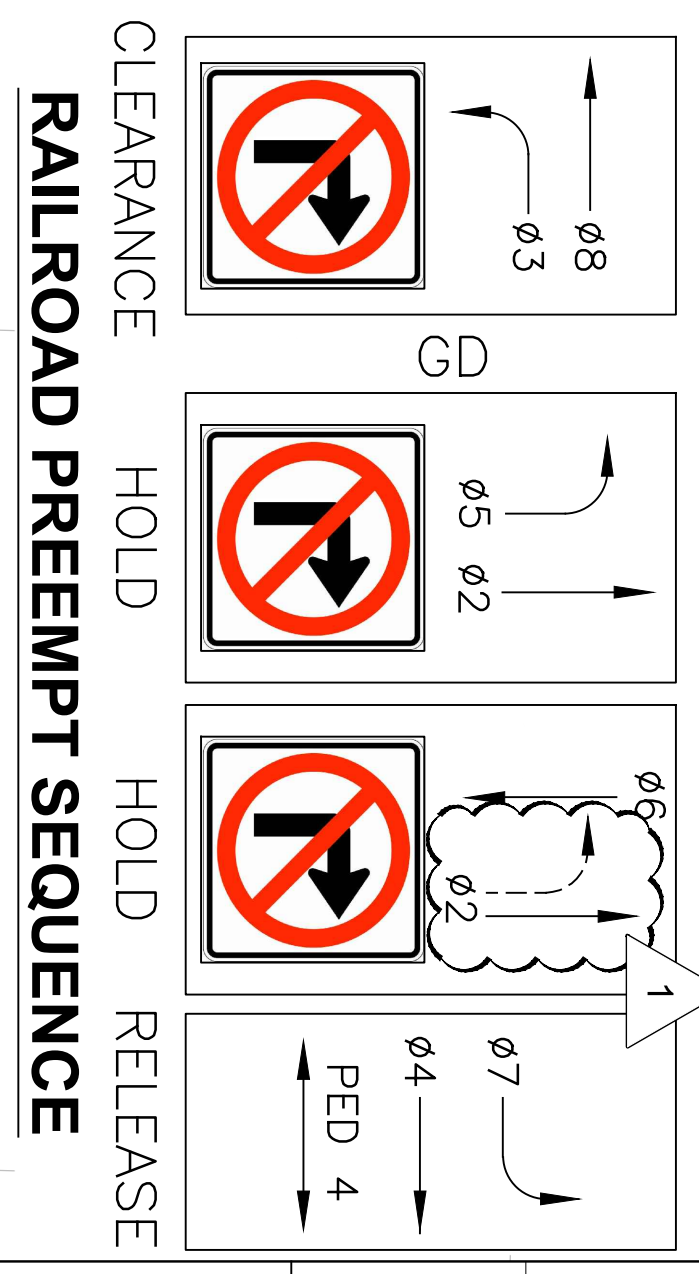
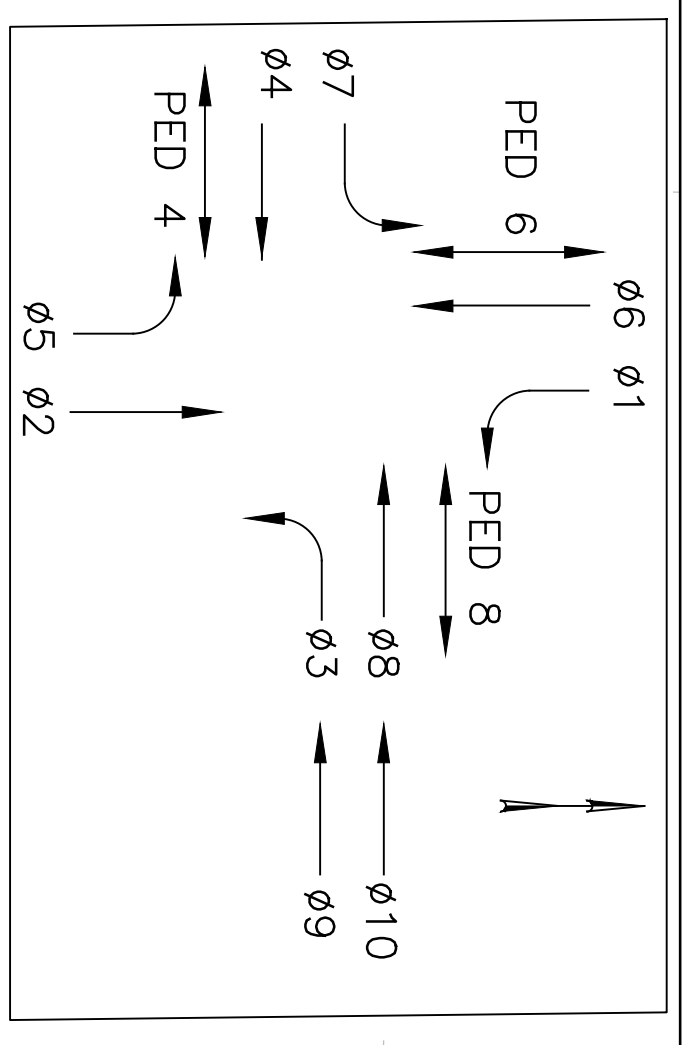
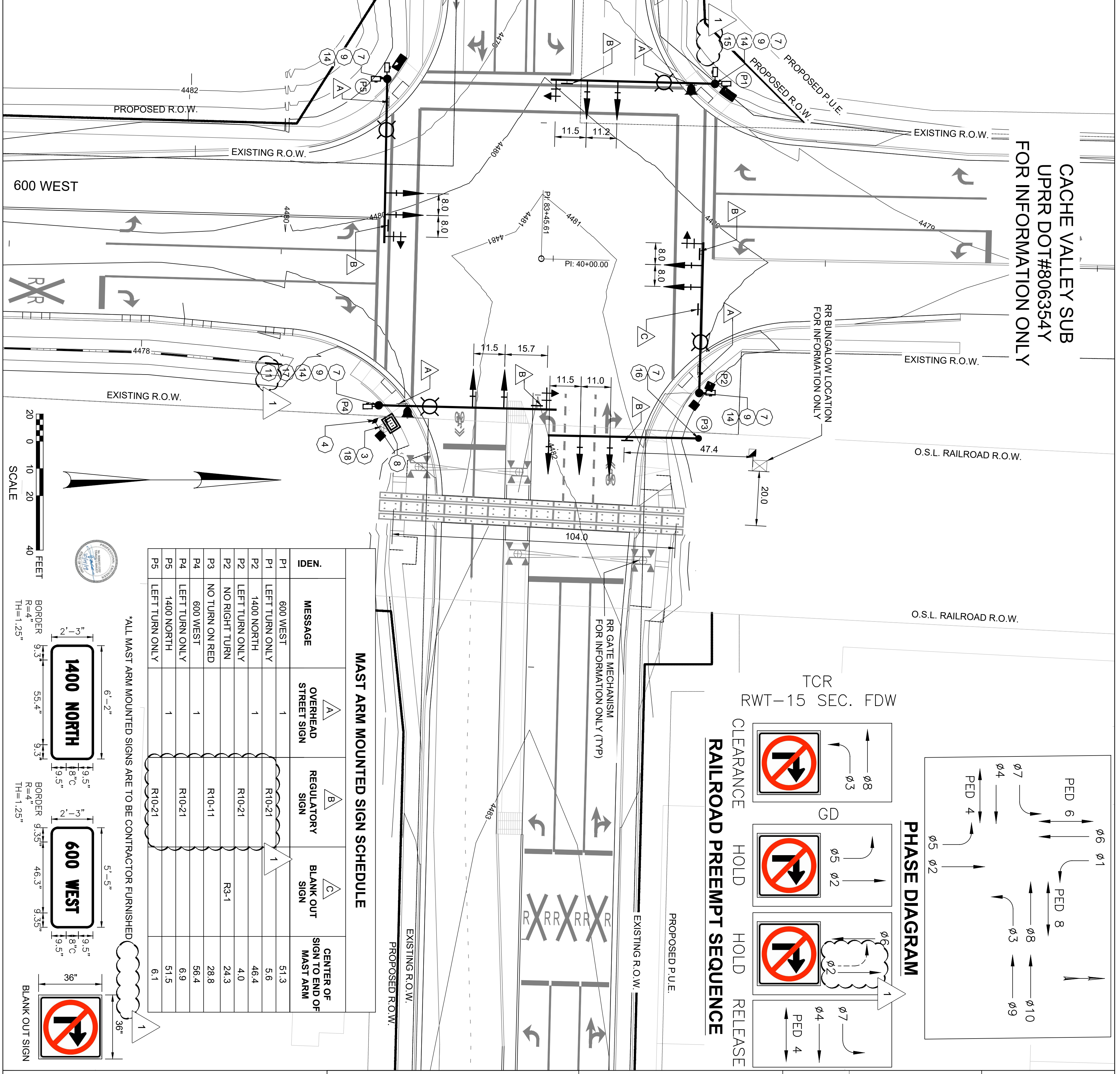
- NOTES:**
- 1 ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
  - 2 A TRAFFIC SIGNAL SYSTEM AT 1400 NORTH AND 600 WEST IS REQUIRED. SEE SHEET SG-2 AND SG-3 FOR ADDITIONAL INFORMATION.
  - 3 INSTALL ECONOLITE COBAL T CONTROLLER WITH BATTERY BACK-UP POWER SUPPLY AND NEMA TS2 TYPE 6 CABINET ON CONTRACTOR FURNISHED TYPE 6 FOUNDATION NEAR P4 POLE. SEE UDOT STD DWG SL 4A.
  - 4 PROVIDE AND INSTALL UNDERGROUND SERVICE PEDESTAL ON CONCRETE PAD NEAR CONTROLLER CABINET. SEE UDOT STD DWG SL 4C.
  - 5 SIGNAL POWER WILL BE PROVIDED TO THE UNDERGROUND SERVICE PEDESTAL BY LOGAN CITY LIGHT AND POWER. NOTIFY CHRIS NIEMANN AT LOGAN CITY LIGHT AND POWER AT (435) 716-9743, 30 DAYS BEFORE POWER IS REQUIRED.
  - 6 FURNISHED MAST ARM MOUNTED SIGN SCHEDULE ON THIS SHEET.
  - 7 INSTALL 3' x 12' TRAFFIC SIGNAL POLE FOUNDATION, SEE APWA PLAN NO. 751.
  - 8 INSTALL 2" CONDUIT FROM UNDERGROUND SERVICE PEDESTAL TO TYPE C JUNCTION BOX AND TO TRAFFIC SIGNAL CABINET, EACH WITH 2 SINGLE CONDUCTOR NO. 6 AWG AND NO. 6 BARE COPPER GROUND
  - 9 PROVIDE AND INSTALL PEDESTRIAN SIGNAL ON POLES P1, P2, P4, AND P5. SEE APWA PLAN NO. 752.
  - 10 PROVIDE AND INSTALL LED LENSES FOR ALL TRAFFIC AND PEDESTRIAN SIGNAL HEADS.
  - 11 PROVIDE AND INSTALL ENTERPRISE SERIES 4.9-5.8 GHZ REDLINE IP RADIO WITH LINE OF SIGHT TO SIGNAL AT 200 WEST.
  - 12 PROVIDE ADEQUATE CONDUCTOR SLACK IN MAST ARM TO ALLOW FOR VERTICAL ADJUSTMENT OF SIGNAL HEADS WITHIN FULL RANGE OF MOUNTING BRACKET.
  - 13 BOTTOM OF TRAFFIC SIGNAL HEADS SHALL BE BETWEEN 18.5' MINIMUM AND 19.5' MAXIMUM ABOVE ROADWAY SURFACE.

- NOTES (CONTD):**
- 14 INSTALL LUMINAIRE ON SIGNAL POLES. LUMINAIRES SHALL BE TYPE A 240 VOLT/250 WATT EQUIVALENT LED.
  - 15 PROGRAMMABLE SIGNAL HEADS ARE REQUIRED ON P1. ADJUST SO THAT ALL LENSES ARE NOT VISIBLE UNTIL AFTER VEHICLE HAS CROSSED THE WESTBOUND STOPBAR.
  - 16 CONTRACTOR SHALL COORDINATE WITH LOGAN CITY TO ADJUST THE OFFSET FOR THE GREEN SIGNAL DISPLAY APPROPRIATELY FOR DRIVING CONDITIONS SUCH THAT THE PRE-SIGNAL DISPLAYS ON P3 TERMINATE THE GREEN INDICATION BEFORE THE GREEN INDICATION ON P1, TO ELIMINATE WESTBOUND VEHICLES FROM STOPPING AT THE INTERSECTION.
  - 17 INSTALL GRIDSMART CAMERA DETECTION ON LUMINAIRE EXTENSION LOCATED ON P4.
  - 18 PROVIDE AN INTERCONNECTED WARNING LABEL IN THE TRAFFIC SIGNAL CABINET TO WARN TRAFFIC SIGNAL TECHNICIANS THAT THE TRAFFIC SIGNAL IS INTERCONNECTED WITH THE RAILROAD AND PROVIDE BOTH HIGHWAY AND RAILROAD AGENCY CONTACT INFORMATION.

**POLE SCHEDULE**

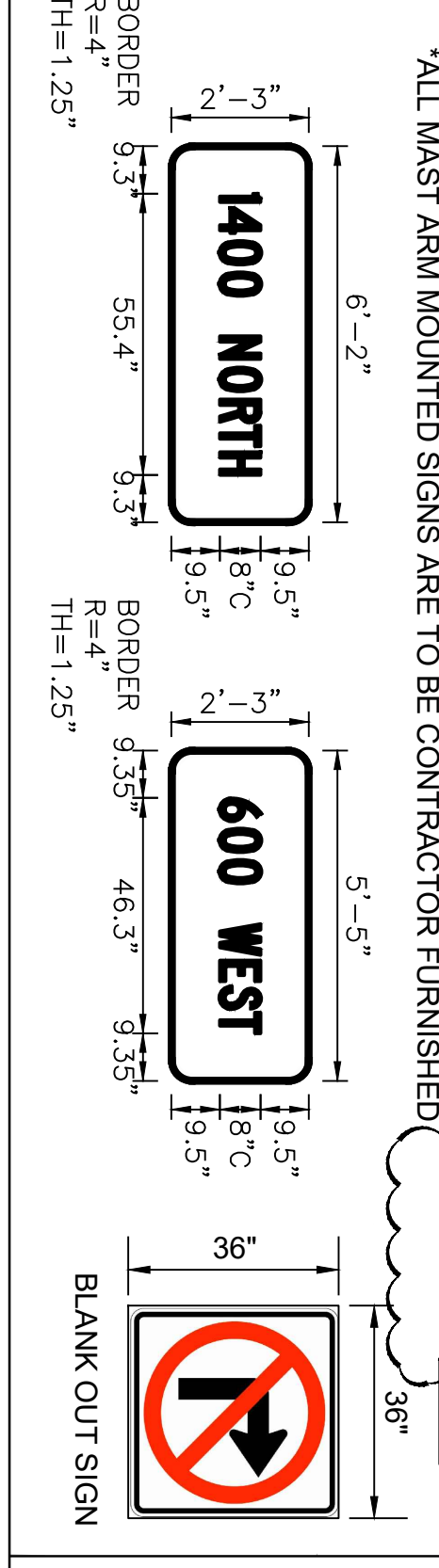
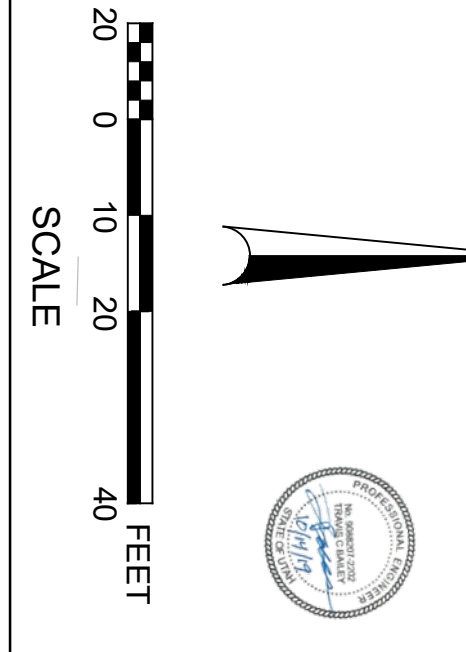
IDEN.	CENTER OF POLE STATION	DISTANCE (FT)		MAST ARM LENGTH (FT)	REMARKS
		LT.	RT.		
P1	84+08.25	65.32		60.00	W/ VIBRATION MITIGATOR
P2	84+04.57		48.39	55.00	
P3	84+04.61		65.07	55.00	
P4	82+87.39		55.62	65.00	W/ VIBRATION MITIGATOR
P5	82+87.21	64.37		60.00	W/ VIBRATION MITIGATOR
	82+89.52		63.92		CONTROLLER CABINET

**CACHE VALLEY SUB  
UPRR DOT#806354Y  
FOR INFORMATION ONLY**



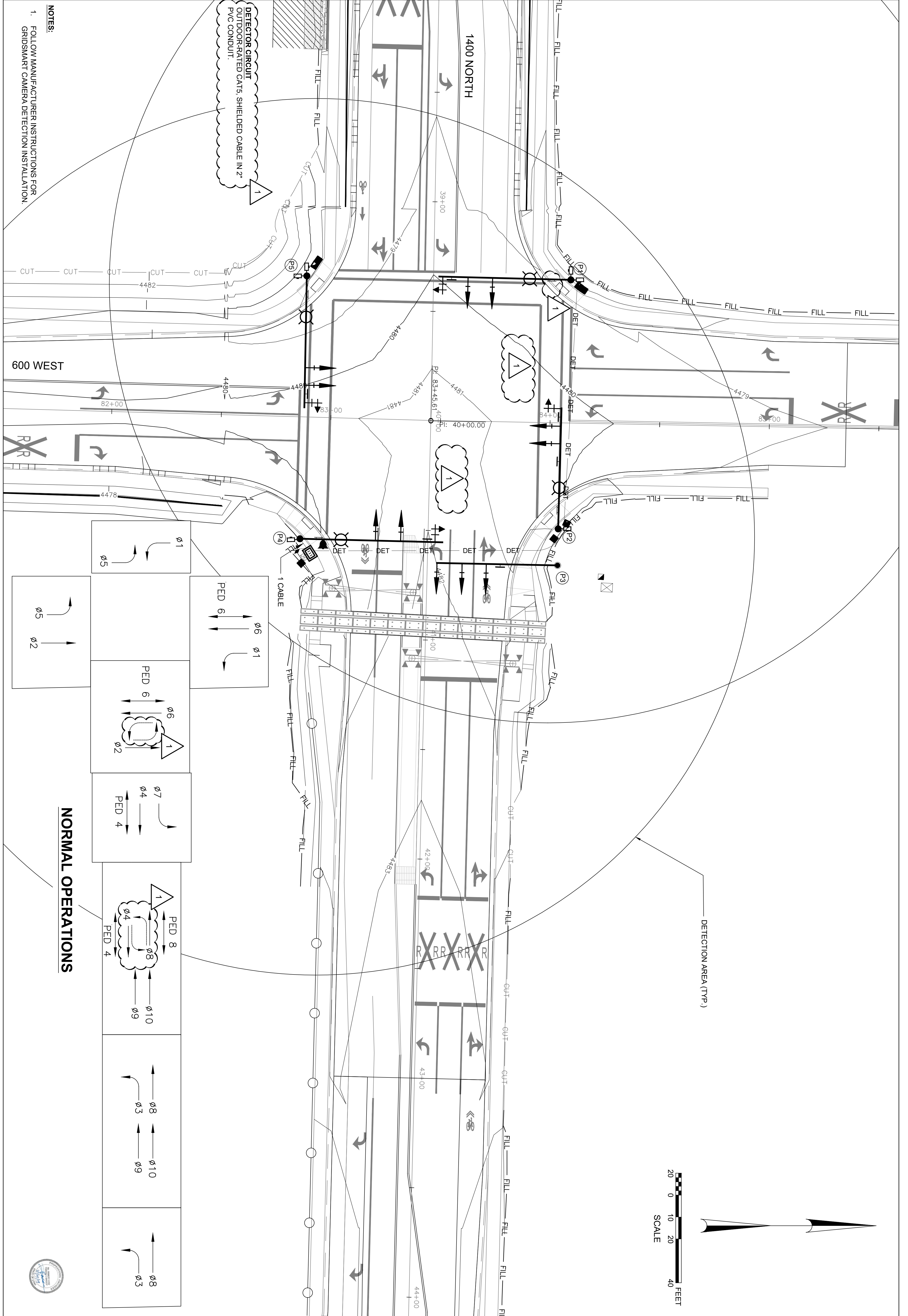
**MAST ARM MOUNTED SIGN SCHEDULE**

IDEN.	MESSAGE	OVERHEAD STREET SIGN	REGULATORY SIGN	BLANK OUT SIGN	CENTER OF SIGN TO END OF MAST ARM
P1	600 WEST	A	R10-21		51.3
P1	LEFT TURN ONLY		R10-21		5.6
P2	1400 NORTH		R10-21		46.4
P2	LEFT TURN ONLY		R10-21		4.0
P2	NO RIGHT TURN		R3-1		24.3
P3	NO TURN ON RED		R10-11		28.8
P4	600 WEST		R10-21		56.4
P4	LEFT TURN ONLY		R10-21		6.9
P5	1400 NORTH		R10-21		51.5
P5	LEFT TURN ONLY		R10-21		6.1

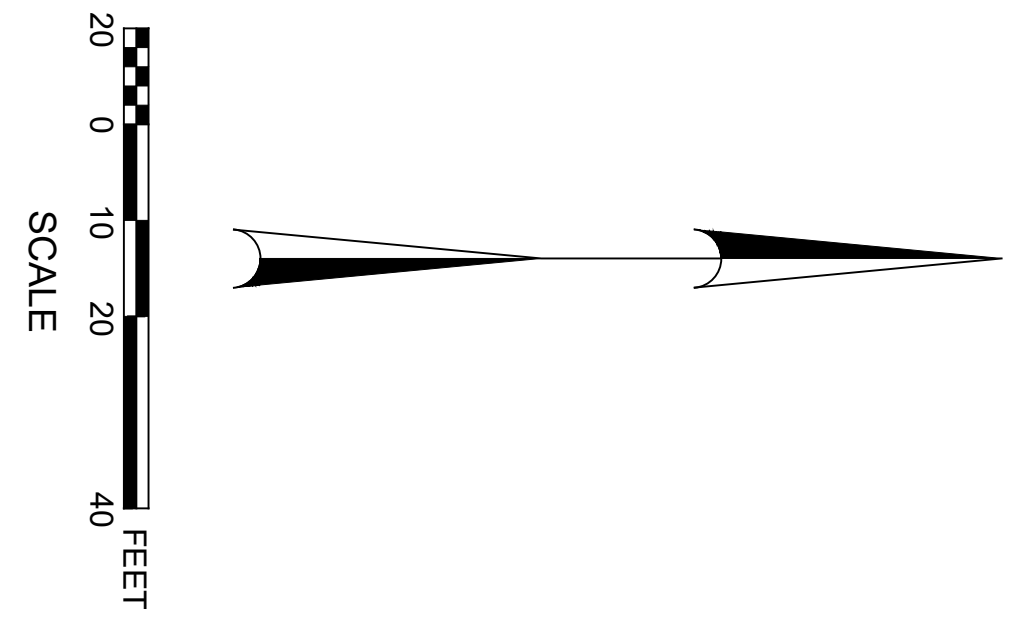


<p>LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321</p>	1400 NORTH AT 600 WEST	<p>756 E Winchester St. Suite 400 Salt Lake City, UT 84107 801-904-4000</p>	DESIGNED: KDH	REVISION BLOCK: 10/11/2019 ADDENDUM 1	<p>SHEET NO: <b>SG-1</b></p>
	TRAFFIC SIGNAL PROJECT		DRAFTED: DLL		
	TRAFFIC SIGNAL PLAN SHEET		CHECKED: JVH		





NOTES:  
1. FOLLOW MANUFACTURER INSTRUCTIONS FOR GRIDSMART CAMERA DETECTION INSTALLATION.



LOGAN CITY ENGINEERING  
290 NORTH 100 WEST  
LOGAN, UTAH 84321

1400 NORTH AT 600 WEST  
TRAFFIC SIGNAL PROJECT  
DETECTOR PLAN SHEET

756 E Winchester St.  
Suite 400  
Salt Lake City,  
UT 84107  
801-904-4000



DESIGNED: KDH  
DRAFTED: DLL  
CHECKED: JVH

REVISION BLOCK:  
10/11/2019 ADDENDUM 1

SHEET NO:  
**SG-2**



# SIGNAL SCHEDULE SHEET

LOCATION	EA	DESCRIPTION	SIGNAL STRUCTURAL SUPPORT SYSTEM		SIGNAL HEAD		OTHER		POWER SOURCE SYSTEMS (SEE NOTES 7 & 8 THIS SHEET)		
			EA	LN	EA	LN	EA	LN	EA	LN	EA
1400 NORTH @ 600 WEST	5	MAST ARM SIGNAL POLE FOUNDATION 3' x 12'									
		TRAFFIC SIGNAL POLE FOUNDATION 2' X 3'									
		TYPE 5 CABINET FOUNDATION									
		TYPE 6 CABINET FOUNDATION									
		UNDERGROUND SERVICE PEDESTAL FOUNDATION									
		MESSENGER (STRANDED) 5/8" CABLE									
		TYPE I SIGNAL HEAD W/LED LENSES									
		TYPE II SIGNAL HEAD W/LED LENSES									
		TYPE III SIGNAL HEAD W/LED LENSES									
		TYPE IV SIGNAL HEAD W/LED LENSES									
		TYPE V SIGNAL HEAD W/LED LENSES									
		SINGLE SECTION SIGNAL HEAD W/LED LENSES									
		BACK PLATE (LOUVERED) (FOR TYPE I, II, III)									
		BACK PLATE (LOUVERED) (FOR TYPE IV)									
		46" SIGNAL HEAD BRACKET									
		58" SIGNAL HEAD BRACKET									
		MAST ARM MOUNTED SIGN WITH MOUNTING BRACKETS									
		16" ARM KIT FOR O.P.S. HEADS - 1 PAIR									
		McCAIN TYPE-1 PROGRAMMABLE HEAD									
		McCAIN TYPE-6 PROGRAMMABLE HEAD									
		36" x 36" BLANKOUT - SINGLE MESSAGE (Orange Traffic Signs)									
		SINGLE CONDUCTOR NO. 4 CABLE									
		SINGLE CONDUCTOR NO. 6 CABLE									
		3" P V C CONDUIT									
		3" GALV. RIGID STEEL CONDUIT									
		UNDERGROUND SERVICE PEDESTAL									
		POWER SOURCE (3 WIRE 240 VOLT)									

NOTES:  
1. SIGNAL CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH CURRENT UDOT STANDARD SPECIFICATIONS AND DRAWINGS

LOCATION	EA	DESCRIPTION	SIGNAL AND PEDESTRIAN SIGNAL HEAD SYSTEMS		INTERCONNECT SYSTEM		STREET LIGHTING LUMINAIRES FULL CUTOFF		GROUND SYSTEM		DETECTION DEVICE		JUNCTION BOX		FUTURE USE	
			EA	LN	EA	LN	EA	LN	EA	LN	EA	LN	EA	LN	EA	LN
1400 NORTH @ 600 WEST	6	PEDESTRIAN SIGNAL HEAD														
		5 CONDUCTOR NO. 14 CABLE (PEDESTRIAN CIRCUIT)														
		7 CONDUCTOR (IN POLE)														
		7 CONDUCTOR (IN CONDUIT)														
		2" P V C														
		6 PAIR														
		1.5" P V C CONDUIT														
		3" P V C CONDUIT														
		HPS 400W														
		HPS 250W														
		HPS LUMINAIRE TILTABLE														
		HPS 400W														
		HPS 250W														
		NO. 4 SINGLE CONDUCTOR CABLE														
		NO. 6 SINGLE CONDUCTOR CABLE														
		NO. 12 SINGLE CONDUCTOR CABLE														
		2" P V C CONDUIT														
		NO. 6 GROUND WIRE														
		NO. 12 GROUND WIRE														
		GROUND ROD 3/4" x 10'														
		GRID SMART CAMERA														
		PUSH BUTTON AND SIGN														
		7 CONDUCTOR NO. 14 (RR PREEMPT)														
		CAT5 CABLE														
		4 CONDUCTOR NO. 18 (PUSH BUTTON CRT.)														
		1" P V C														
		1.25" P V C														
		1.5" P V C														
		2" P V C														
		2.5" P V C														
		3" P V C														
		POLYMER CONCRETE TYPE A														
		POLYMER CONCRETE TYPE B														
		POLYMER CONCRETE TYPE C														
		2" PVC CONDUIT W/NO.14 SINGLE COND. PULL WIRE														
		4" PVC CONDUIT W/NO.14 SINGLE COND. PULL WIRE														
		TRENCHING AND BACKFILL SOIL														
		CAT5 CABLE (COMM CIRCUIT)														
		REDLINE IP RADIO														
		ETHERNET SWITCH														

\* THESE ITEMS ARE COMBINED ON ESTIMATE AS TRAFFIC SIGNAL SYSTEM

\$ THESE ITEMS ARE CALCULATED BY THE CONTRACTOR.



**LOGAN CITY ENGINEERING**  
290 NORTH 100 WEST  
LOGAN, UTAH 84321

1400 NORTH AT 600 WEST  
TRAFFIC SIGNAL PROJECT  
SIGNAL SCHEDULE SHEET

756 E Winchester St.  
Suite 400  
Salt Lake City,  
UT 84107  
801-904-4000



DESIGNED: KDH  
DRAFTED: DLL  
CHECKED: JVH

REVISION BLOCK:  
10/11/2019 ADDENDUM 1

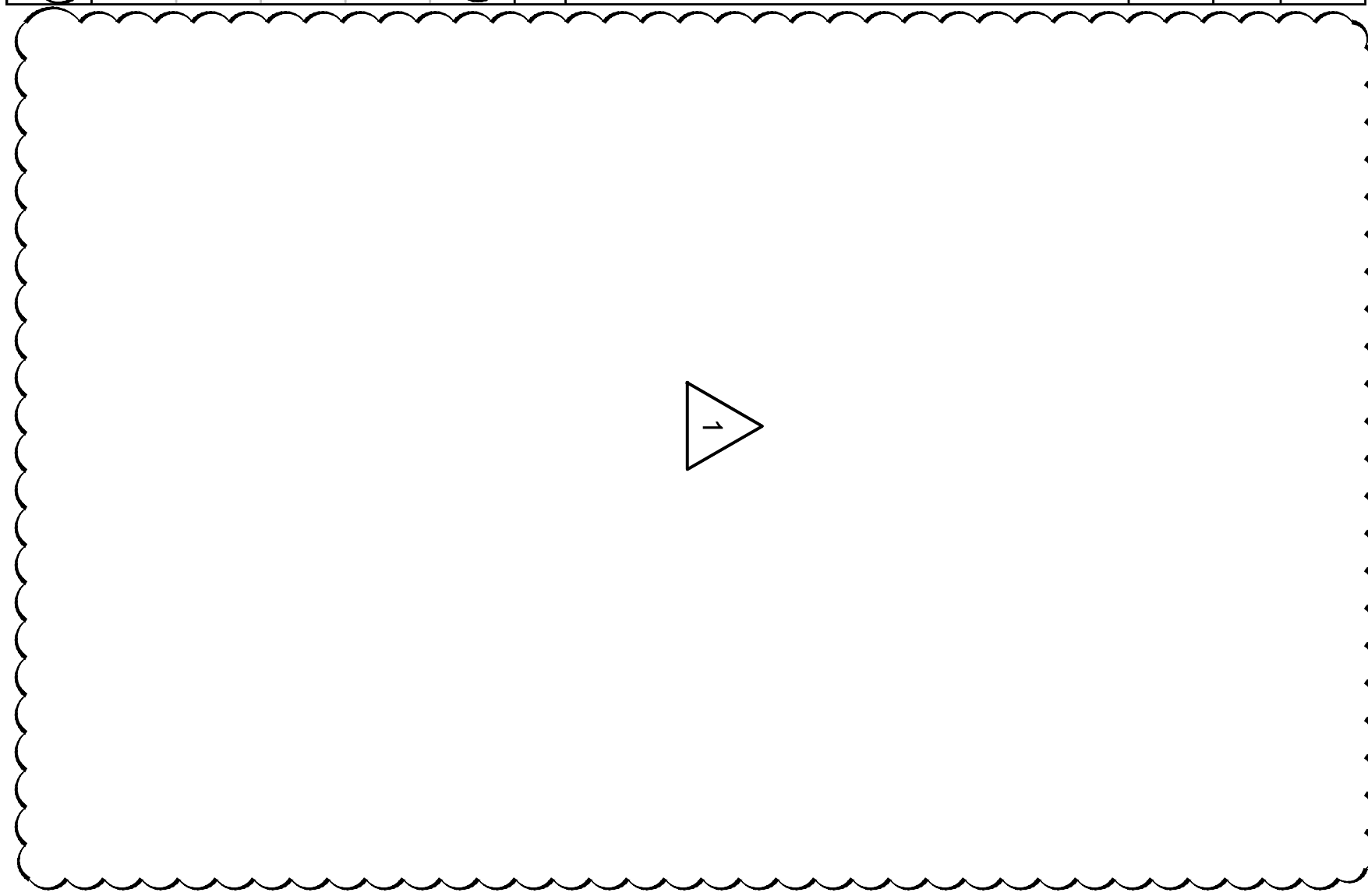
SHEET NO:  
**SG-S1**



# SIGNAL SCHEDULE SHEET

		STATE FURNISHED MATERIALS		SIGNAL SCHEDULE		STATE FURNISHED MATERIALS		SIGNAL SCHEDULE		HIGHWAY LIGHTING SCHEDULE					
		TRAFFIC SIGNAL		POLES		MAST ARMS		ANCHOR BOLTS		POLE / EXTENSIONS		ARMS		LED'S	
		EA	CONTROLLER												
		EA	M.M.U.												
		EA	SIGNAL CABINET												
		EA	BATTERY BACKUP (In Cabinet)												
		LUMP	POWDER COATING												
		EA	BASE PLATE ADAPTER												
		EA	VIBRATION MITIGATOR												
		EA	5'6" TRAFFIC / PED POLE (Slip Base)												
		EA	11' TRAFFIC / PED POLE (Slip Base)												
		EA	15' TRAFFIC / PED POLE (Slip Base)												
		EA	TYPE-A MAST ARM SIGNAL POLE (30' to 55')												
		EA	TYPE-B MAST ARM SIGNAL POLE (60' to 70')												
		EA	TYPE-C MAST ARM SIGNAL POLE (80' to 85')												
		EA	TYPE-DC DUAL MAST ARM POLE (30' to 45')												
		EA	TYPE-A POLE CAP												
		EA	TYPE-B POLE CAP												
		EA	TYPE-C POLE CAP												
		EA	30' MAST ARM												
		EA	35' MAST ARM												
		EA	40' MAST ARM												
		EA	45' MAST ARM												
		EA	50' MAST ARM												
		EA	55' MAST ARM												
		EA	60' MAST ARM												
		EA	65' MAST ARM												
		EA	70' MAST ARM												
		EA	75' MAST ARM												
		EA	80' MAST ARM												
		EA	85' MAST ARM												
		EA	VIBRATION MITIGATOR												
		EA	2" x 66" ANCHOR BOLT (Mast Poles)												
		EA	1" x 36" ANCHOR BOLT (Traffic Poles)												
		EA	40' HIGHWAY LUMINAIRE POLE (Slip Base)												
		EA	30' HIGHWAY LIGHT POLE (Slip Base)												
		EA	LUMINAIRE POLE CAP												
		EA	25' LUMINAIRE EXTENSION (2' 6") (For Type-A Mast Pole)												
		EA	30' LUMINAIRE EXTENSION (7' 6") (For Type-A Mast Pole)												
		EA	40' LUMINAIRE EXTENSION (17' 6") (For Type-A Mast Pole)												
		EA	40' LUMINAIRE EXTENSION (12' 6") (For Type-B Mast Pole)												
		EA	VERTICAL LUMINAIRE EXTENSION												
		EA	10' LUMINAIRE ARM												
		EA	15' LUMINAIRE ARM												
		EA	10' DUAL LUMINAIRE ARM												
		EA	15' DUAL LUMINAIRE ARM												
		EA	MULTI-VOLT / TYPE-A (250w)												
		EA	MULTI-VOLT / TYPE-B (400w)												
TOTALS															

		STATE FURNISHED MATERIALS		SIGNAL SCHEDULE		STATE FURNISHED MATERIALS		SIGNAL SCHEDULE	
		DETECTION SCHEDULE		AUDIBLE PED BUTTONS		LED MODULES		POLYMER SIGNAL HEADS	
		RADAR DETECTION							
		EA	ADVANCE RADAR SENSOR (Dilemma Zone)						
		EA	STOPBAR RADAR SENSOR (Matrix)						
		EA	SENSOR MOUNT						
		EA	100' CABLE w-CONNECTOR						
		EA	120' CABLE w-CONNECTOR						
		EA	EPOXY SPLICE KIT						
		EA	CLICK-650 RADAR INTERFACE (4 sensors)						
		EA	CLICK-656 RADAR INTERFACE (6 sensors)						
		EA	2-SENSOR BACKPLATE						
		EA	4-SENSOR BACKPLATE						
		EA	2 / 4 CHANNEL RACK CARDS (Used w-Backplates)						
		EA	2-WIRE AUDIBLE PED BUTTON (For Full Intersection)						
		EA	2-WIRE CENTRAL CONTROL UNIT						
		EA	4-WIRE AUDIBLE PED BUTTON (For 1 or 2 Crossings)						
		EA	RED BALL						
		EA	YELLOW BALL						
		EA	GREEN BALL						
		EA	RED ARROW						
		EA	YELLOW ARROW						
		EA	GREEN ARROW						
		EA	1-SECTION SIGNAL HEAD						
		EA	3-SECTION SIGNAL HEAD						
		EA	4-SECTION SIGNAL HEAD						
		EA	5-SECTION SIGNAL HEAD						
		EA	HYBRID BEACON SIGNAL HEAD (HAWK)						
		EA	TYPE-7 SIGNAL HEAD (Dual-Red)						
		EA	3 SECTION ASTRO-BRAC ASSEMBLY						
		EA	4/5 SECTION ASTRO BRAC ASSEMBLY						
TOTALS									



**LOGAN CITY ENGINEERING**  
 290 NORTH 100 WEST  
 LOGAN, UTAH 84321

1400 NORTH AT 600 WEST  
 TRAFFIC SIGNAL PROJECT  
 SIGNAL SCHEDULE SHEET

756 E Winchester St.  
 Suite 400  
 Salt Lake City,  
 UT 84107  
 801-904-4000

DESIGNED: KDH  
 DRAFTED: DLL  
 CHECKED: JWH

REVISION BLOCK:  
 10/11/2019 ADDENDUM 1

SHEET NO:  
**SG-S2**