

**BILL OF MATERIALS**

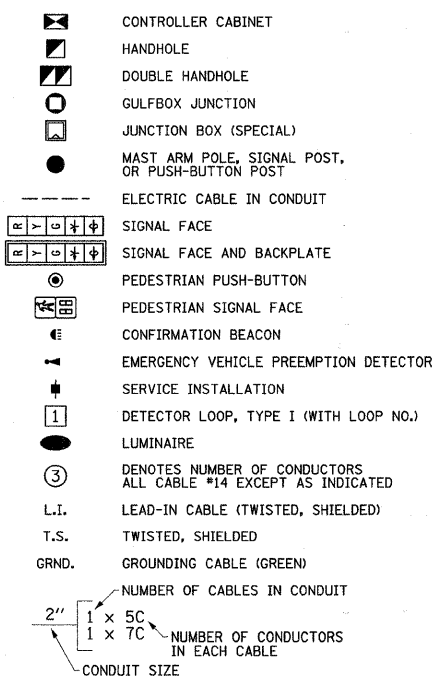
ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 1" DIA., PVC	FOOT	108
CONDUIT IN TRENCH, 1 1/4" DIA., PVC	FOOT	42
CONDUIT IN TRENCH, 1 1/2" DIA., PVC	FOOT	28
CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	42
CONDUIT IN TRENCH, 2 1/2" DIA., PVC	FOOT	15
CONDUIT IN TRENCH, 4" DIA., PVC	FOOT	30
HANDHOLE TO BE ADJUSTED	EACH	2
HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	1
GULFBOX JUNCTION, COMPOSITE CONCRETE	EACH	2
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	13
TRENCH AND BACKFILL WITH SCREENINGS OR SAND	FOOT	252
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	420
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	1220
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	410
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	FOOT	820
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 18 3 PAIR	FOOT	1260
TRAFFIC SIGNAL POST, 16 FT.	EACH	1
PEDESTRIAN PUSH-BUTTON POST, TYPE I	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	3
DRILL EXISTING HANDHOLE	EACH	2
DETECTOR LOOP, TYPE I	FOOT	540
PEDESTRIAN PUSH-BUTTON	EACH	2
RELOCATE EXISTING SIGNAL HEAD	EACH	2
RELOCATE EXISTING PEDESTRIAN SIGNAL HEAD	EACH	2
MODIFY EXISTING CONTROLLER (SPECIAL)	EACH	1
REMOVE EXISTING HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	1
MODIFY EXISTING SERVICE INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	L SUM	0.1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	760
ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED	FOOT	520
INDUCTIVE LOOP DETECTOR, RACK MOUNTED	EACH	8
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 1C	FOOT	660
REMOVE ELECTRIC CABLE FROM CONDUIT (SPECIAL)	L SUM	1

SEE SPECIAL PROVISIONS FOR SYSTEM GROUNDING INFORMATION.

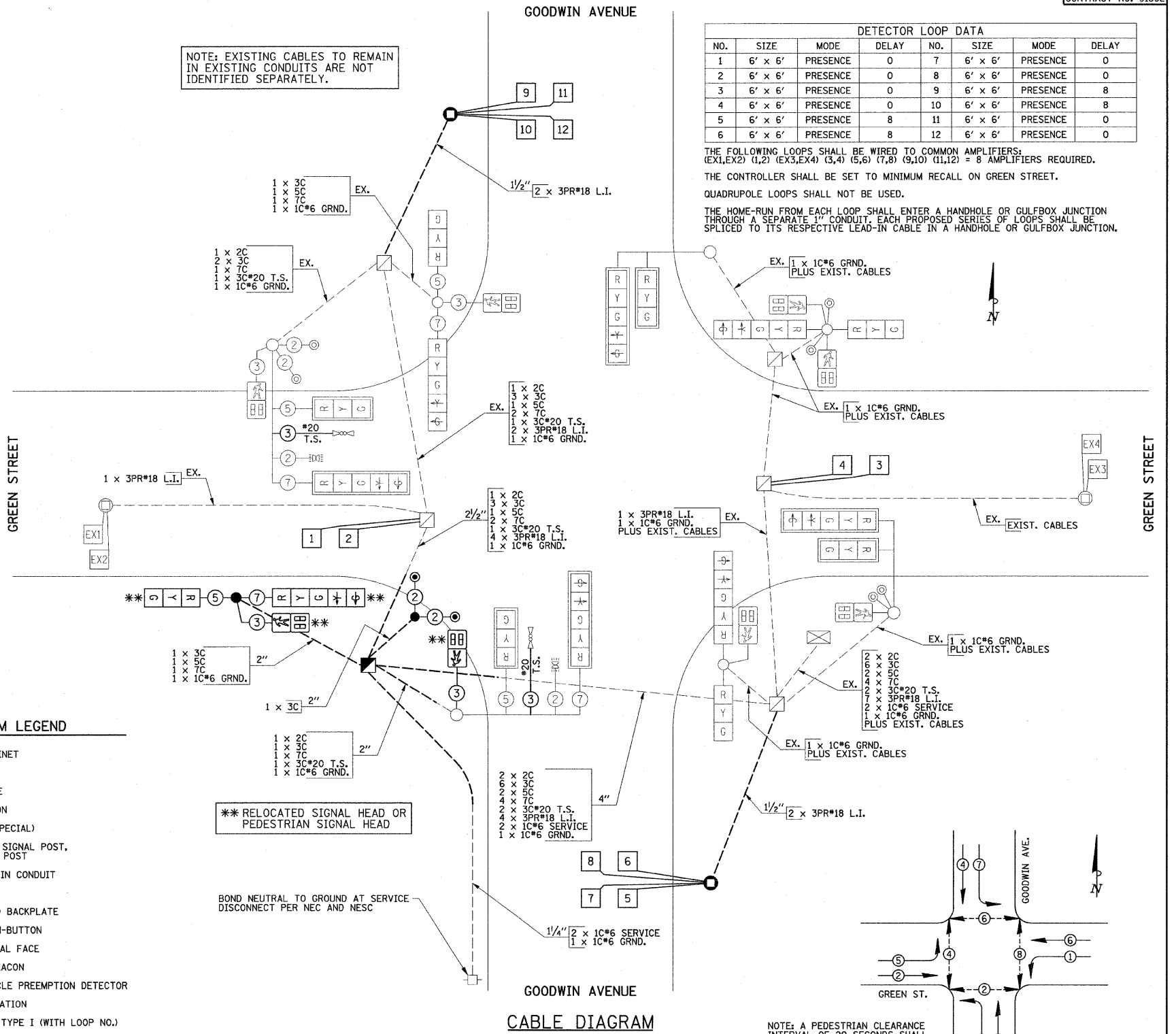
**TRAFFIC SIGNAL GENERAL NOTES**

- THE ACTUAL LOCATIONS OF ALL SIGNAL FOUNDATIONS AND HANDHOLES WILL BE VERIFIED IN THE FIELD BY THE ENGINEER.
- POST MOUNTED SIGNAL HEADS SHALL BE INSTALLED SUCH THAT NO PART OF THE SIGNAL HEAD IS WITHIN TWO (2) FEET OF THE FACE OF CURB.
- 12" LENSES SHALL BE USED ON ALL SIGNAL FACES. LED INDICATIONS SHALL BE USED ON ALL SIGNAL HEADS AND PEDESTRIAN SIGNAL HEADS. PEDESTRIAN SIGNAL HEAD FACES SHALL BE SYMBOLS WITH COUNTDOWN TIMERS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FOOT DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES OR TO MATCH THE DEPTH OF THE EXISTING CONDUIT TO BE INTERCEPTED.
- A 1/4" POLYPROPYLENE PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT RUNS EXCEEDING 20 FEET. A MINIMUM OF 2 FEET OF ROPE SHALL BE PROVIDED AT EACH END OF A CONDUIT RUN. THE ROPE SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONDUIT PAY ITEM.
- ALL ADAPTERS REQUIRED TO CONNECT THE PROPOSED CONDUIT TO THE EXISTING CONDUIT SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONDUIT PAY ITEM, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ELECTRICAL SERVICE FOR THE TRAFFIC SIGNALS. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY AND THE CITY OF URBANA PRIOR TO COMMENCEMENT OF WORK FOR THE REQUIREMENTS FOR THE SERVICE INSTALLATION.
- CONTROLLER PROGRAMMING OF SIGNAL TIMING WILL BE PROVIDED BY THE CITY OF URBANA.
- THE ELECTRIC CABLE FOR EACH EXISTING LIGHT DETECTOR SHALL BE A CONTINUOUS UNBROKEN RUN FROM THE LIGHT DETECTOR TO THE LIGHT DETECTOR AMPLIFIER. SPLICES IN THE CABLE SHALL NOT BE ALLOWED.
- THE EXISTING ELECTRIC CABLES IN THE MAST ARM POLES AND SIGNAL POSTS THAT WILL REMAIN ON THE NORTHWEST AND SOUTHWEST QUADRANTS, EXCEPT FOR THE EXISTING LIGHT DETECTOR CABLES, MAY REMAIN IN THE POLES/POSTS AND BE SPLICED TO THE PROPOSED CABLES IN THE EXISTING POLE/POST HANDHOLES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE THREE SECTION AND FIVE SECTION SIGNAL HEADS THAT OPERATE TOGETHER IN THE SAME PHASE AT THE SAME LOCATION WILL BE COMBINED ON A SINGLE SEVEN CONDUCTOR CABLE. TWO PEDESTRIAN PUSH-BUTTONS AT THE SAME LOCATION WILL BE COMBINED ON A SINGLE THREE CONDUCTOR CABLE. SPLICES WILL BE MADE AT THE POLE HANDHOLE OR PUSH-BUTTON POST CAP WITH INDIVIDUAL CABLES RUNNING FROM THE SPLICE TO EACH SIGNAL HEAD OR PEDESTRIAN PUSH-BUTTON.
- THE EXISTING "NO TURN ON RED" SIGN ON THE SOUTHWEST QUADRANT SHALL BE RELOCATED FROM THE EXISTING TRAFFIC SIGNAL POST TO THE PROPOSED TRAFFIC SIGNAL POST, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE EXISTING PEDESTRIAN PUSH-BUTTON SIGNS ON THE SOUTHWEST QUADRANT SHALL BE RELOCATED FROM THE EXISTING MAST ARM POLE TO THE PROPOSED PEDESTRIAN PUSH-BUTTON POST, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE CONCRETE FOUNDATION FOR THE PEDESTRIAN PUSH-BUTTON POST SHALL BE INCLUDED IN THE COST OF THE PEDESTRIAN PUSH-BUTTON POST.
- DETECTOR LOOPS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE HMA SURFACE COURSE.

**CABLE DIAGRAM LEGEND**



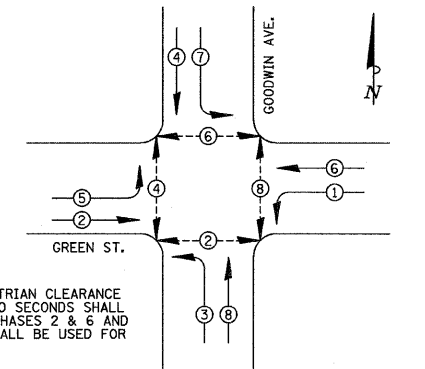
NOTE: EXISTING CABLES TO REMAIN IN EXISTING CONDUITS ARE NOT IDENTIFIED SEPARATELY.



**DETECTOR LOOP DATA**

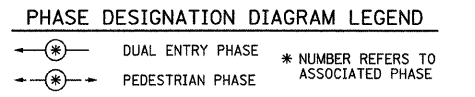
NO.	SIZE	MODE	DELAY	NO.	SIZE	MODE	DELAY
1	6' x 6'	PRESENCE	0	7	6' x 6'	PRESENCE	0
2	6' x 6'	PRESENCE	0	8	6' x 6'	PRESENCE	0
3	6' x 6'	PRESENCE	0	9	6' x 6'	PRESENCE	8
4	6' x 6'	PRESENCE	0	10	6' x 6'	PRESENCE	8
5	6' x 6'	PRESENCE	8	11	6' x 6'	PRESENCE	0
6	6' x 6'	PRESENCE	8	12	6' x 6'	PRESENCE	0

THE FOLLOWING LOOPS SHALL BE WIRED TO COMMON AMPLIFIERS: (EX1,EX2) (1,2) (EX3,EX4) (3,4) (5,6) (7,8) (9,10) (11,12) = 8 AMPLIFIERS REQUIRED. THE CONTROLLER SHALL BE SET TO MINIMUM RECALL ON GREEN STREET. QUADRUPOLE LOOPS SHALL NOT BE USED. THE HOME-RUN FROM EACH LOOP SHALL ENTER A HANDHOLE OR GULFBOX JUNCTION THROUGH A SEPARATE 1" CONDUIT. EACH PROPOSED SERIES OF LOOPS SHALL BE SPLICED TO ITS RESPECTIVE LEAD-IN CABLE IN A HANDHOLE OR GULFBOX JUNCTION.



NOTE: A PEDESTRIAN CLEARANCE INTERVAL OF 20 SECONDS SHALL BE USED FOR PHASES 2 & 6 AND 24 SECONDS SHALL BE USED FOR PHASES 4 & 8.

**PHASE DESIGNATION DIAGRAM**



FILE NAME = P:\U0070052\Plans\Sheets\53-Signals-Green.dgn	DESIGNED - JAJ	REVISED -
PLOT DATE = 1/23/2009 3:02:14 PM	DRAWN - JAJ	REVISED -
	CHECKED - SMW	REVISED -
	DATE - 01-2009	REVISED -

STATE OF ILLINOIS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DEPARTMENT OF TRANSPORTATION	7175	07-00456-00-RS	CHAMPAIGN	75	55
	GOODWIN AVENUE		CONTRACT NO. 91392		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GOODWIN AVENUE & GREEN STREET TRAFFIC SIGNAL PLANS	
CABLE DIAGRAM/GENERAL NOTES/BILL OF MATERIALS	
SCALE : NONE	SHEET NO. 55 OF 75 SHEETS STA. TO STA.

STATE OF ILLINOIS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DEPARTMENT OF TRANSPORTATION	7175	07-00456-00-RS	CHAMPAIGN	75	55
	GOODWIN AVENUE		CONTRACT NO. 91392		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		