

**SPECIFICATIONS**

The following Traffic Signal Special Provisions and the included details supplement the requirements of Section 800, ELECTRICAL, and other Sections of the State of Illinois Specifications for Road and Bridge Construction. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified on the plans and as specified herein in a manner acceptable and approved by the Engineer.

**FULL-ACTUATED CONTROLLER AND TYPE IV CABINET**

This item shall consist of furnishing a full-actuated controller with a Type IV cabinet and installing it in satisfactory operating condition. The cabinet shall have a natural aluminum finish. The detectors shall be rack mounted.

**DETECTOR LOOPS, TY I**

One-inch (1") PVC detector loop lead-in stubs shall be provided with spacing of one foot (1') between stubs. The Detector Loops shall be installed during work to be concurrently performed under the contract for the IL Route 23/Maplewood Drive Intersection Improvements. The Detector Loops shall be installed at the locations designated in this Traffic Signal Plan at a point in time following placement of the Bituminous Concrete Binder Course and prior to placement of the Bituminous Concrete Surface Course. The Contractor for this Traffic Signal project shall be responsible for coordinating this work with the Contractor for the Intersection Improvements project.

**CONDUIT**

All Conduit installed prior to completion of work under the contract for the IL Route 23/Maplewood Drive Intersection Improvements project shall be installed with adequate clearance and cover for existing and proposed grade conditions as well as to provide protection during performance of roadway and drainage improvements as detailed in the Intersection Improvements plans. The Contractor for this Traffic Signal project shall be responsible for coordinating this work with the Contractor for the Intersection Improvements project.

**ELECTRICAL SERVICE INSTALLATION, TY B**

The Type B, 240-volt electrical service installation shall provide for two 30-amp circuits on one 120-volt leg for the luminaires and flashing beacon, and one 60-amp circuit on the other 120-volt leg for the traffic signals. Circuit breakers shall be provided for each of these circuits in a box to be mounted at 5.5 feet from the ground on a 4"x6" pressure-treated timber post installed adjacent to the traffic signal controller. The Contractor shall notify the Commonwealth Edison marketing representative a minimum of 30 working days prior to the anticipated date of electrical service hook-up. This 30-day advance notification will begin only after the Commonwealth Edison marketing representative has received a service charge payment from the Contractor. Prior to contacting the Commonwealth Edison marketing representative for service connection, the service installation electrical power disconnect and both the traffic signal controller cabinet and flashing beacon controller cabinet and cables must be installed for inspection by Commonwealth Edison.

**EMERGENCY VEHICLE PRIORITY SYSTEM**

This item shall consist of a Vorrax transmitter and detector system and shall be installed complete with a confirmation beacon.

**FLASHING BEACONS AND CONTROLLER**

The existing flashing beacon controller shall be relocated to the 4"x6" pressure-treated timber post installed adjacent to the traffic signal controller on which the electrical power disconnects are mounted. Conduit and Electrical Cable for the future relocation of two Flashing School Zone Beacons shall be installed as indicated in the plans. Temporary caps shall be placed on the ends of the Conduit at the sign locations and the end locations shall be marked as approved by the Engineer.

**LUMINAIRES**

The luminaires shall be mounted at a height of thirty-five feet (35') on eight-foot (8') arms. The luminaires shall include 310-watt, high pressure sodium lamps and shall be installed complete with surge protectors and level indicators.

**PEDESTRIAN TRAFFIC SIGNALS**

The pedestrian traffic signals shall be mounted on traffic signal poles or pedestrian push-button posts, as indicated on the plans. Pedestrian push-button posts shall be mounted on galvanized steel pedestals.

**TRAFFIC SIGNAL HEADS**

All traffic signal heads shall be equipped with L.E.D. (light emitting diode) lamps and polycarbonate housings.

**FILL AND GRADING FOR EQUIPMENT BASES AND HANDHOLES**

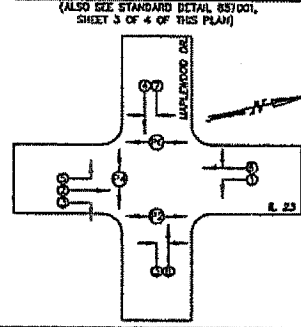
This item shall consist of: 1. providing fill material consisting of AGGREGATE BASE, TYPE B, at all locations of mast arm poles, signal poles, handholes, and the controller cabinet; 2. compacting the Aggregate Base in accordance with applicable portions of Section 351 of the State of Illinois Standard Specifications for Road and Bridge Construction; and, 3. shaping and grading the surface and side slopes as specified in the Plans and by the Engineer. Existing pavement materials, topsoil, and other earth materials or debris unsuitable for providing support for equipment bases and handholes shall be removed and disposed of as directed by the Engineer and in accordance with applicable portions of Section 202 regarding earth excavation in the Standard Specifications. Surface drainage around the location of equipment bases and handholes shall be maintained without impeding customary drainage flows. Temporary erosion control measures shall be provided at all stages of soil disturbance in accordance with applicable portions of Section 280 of the Standard Specifications. The expense of excavation and erosion controls shall be considered as incidental to providing and grading the aggregate base fill for the equipment bases and handholes.

**TRAFFIC SIGNAL PLAN**

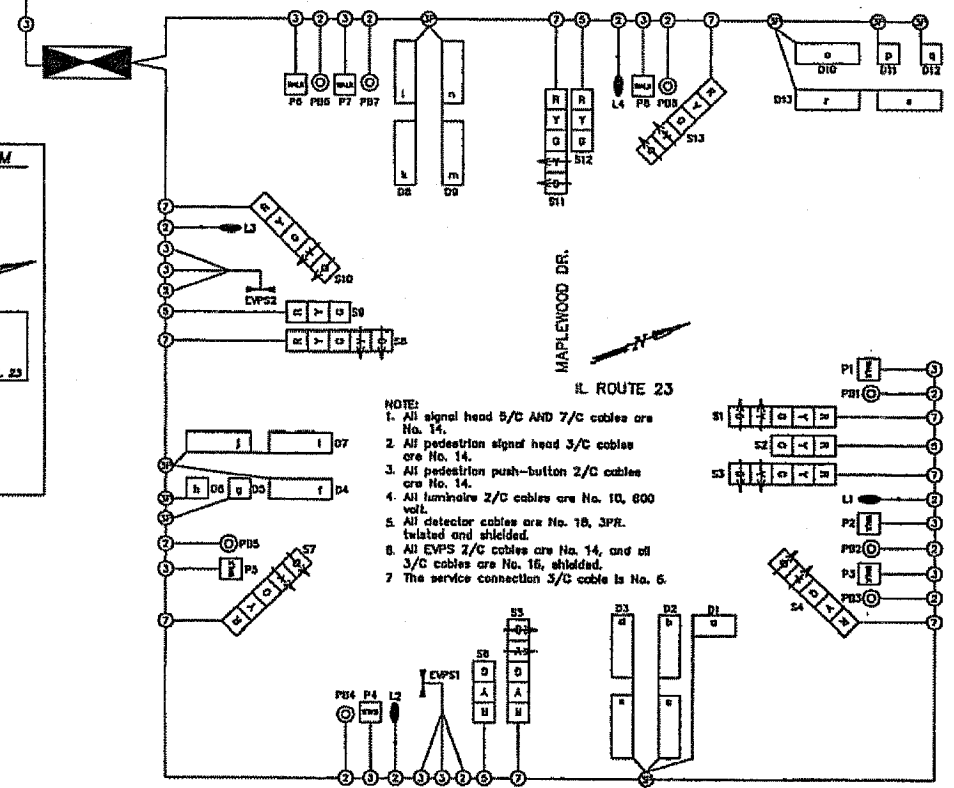
**FOR INFORMATION ONLY**

DETECTOR & LOOP ASSIGNMENTS	
DETECTOR	LOOPS
D1	a
D2	b,c
D3	d,e
D4	f
D5	g
D6	h
D7	i,j
D8	k,l
D9	m,n
D10	o
D11	p
D12	q
D13	r,s

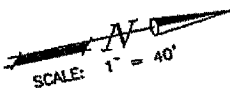
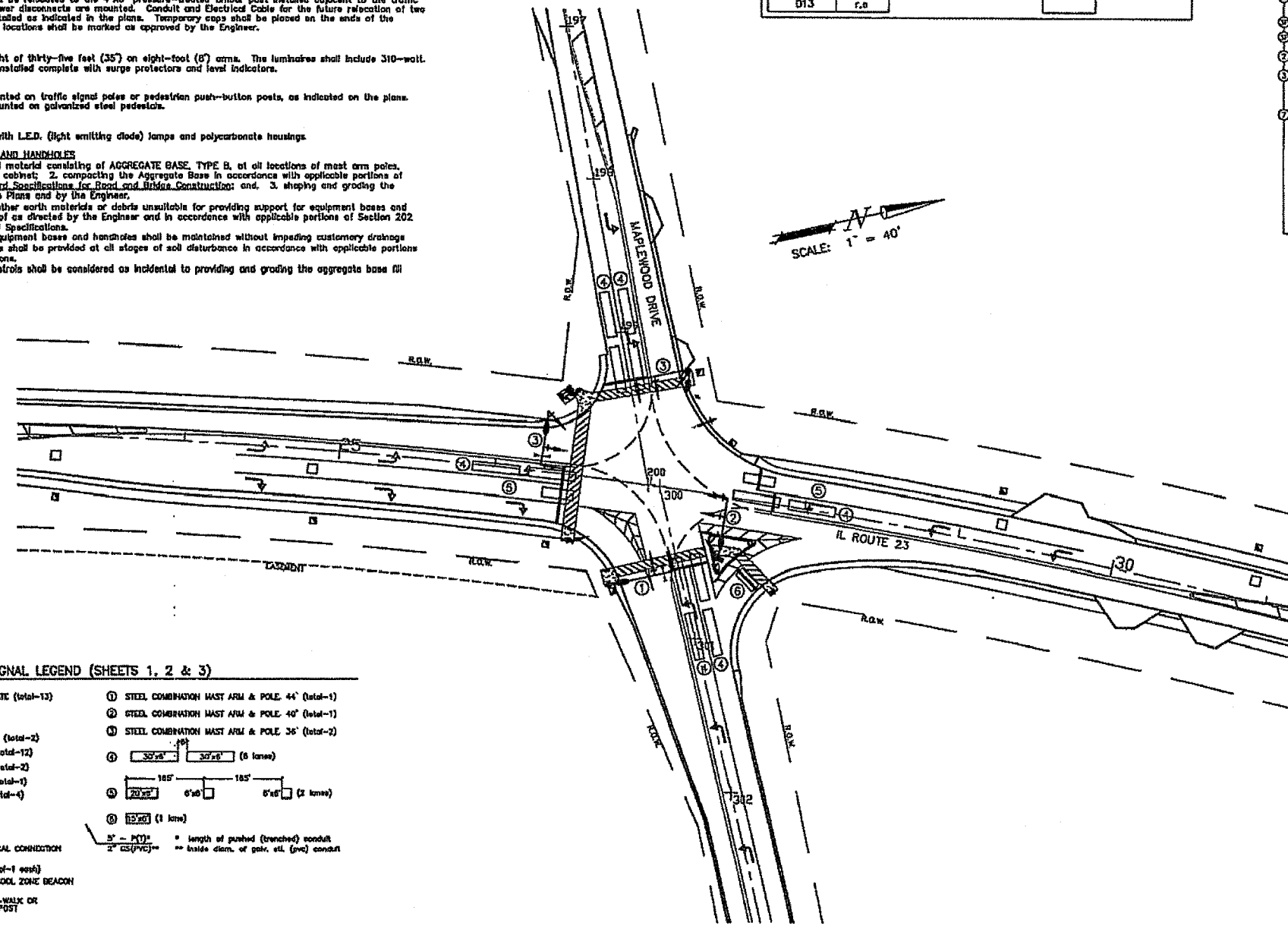
**PHASE DESIGNATION DIAGRAM**  
(ALSO SEE STANDARD DETAIL 851/001, SHEET 3 OF 4 OF THIS PLAN)



**SIGNAL PLAN SHEET 2 OF 6**



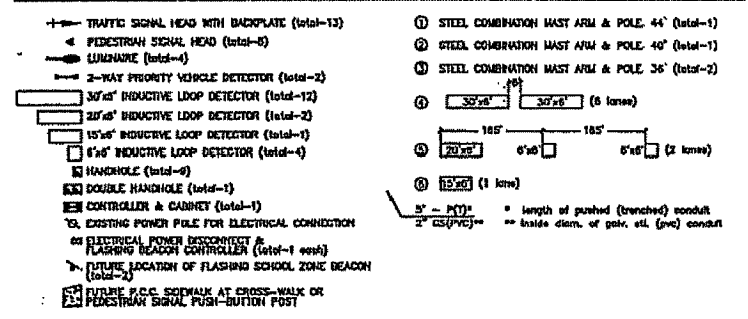
- NOTE:**
- All signal head 5/C AND 7/C cables are No. 14.
  - All pedestrian signal head 3/C cables are No. 14.
  - All pedestrian push-button 2/C cables are No. 14.
  - All luminaires 2/C cables are No. 10, 600 volt.
  - All detector cables are No. 18, 3PR, twisted and shielded.
  - All EVPS 2/C cables are No. 14, and all 3/C cables are No. 16, shielded.
  - The service connection 3/C cable is No. 6.



**QUANTITIES**

SIGNAL HEAD, L.E.D., POLY, 1-FACE, 5-SECTION, BRACKET MOUNT	4 EACH
SIGNAL HEAD, L.E.D., POLY, 1-FACE, 3-SECTION, MAST ARM MOUNT	4 EACH
SIGNAL HEAD, L.E.D., POLY, 1-FACE, 5-SECTION, MAST ARM MOUNT	5 EACH
TRAFFIC SIGNAL BACKPLATE, 5-SECTION	4 EACH
TRAFFIC SIGNAL BACKPLATE, 3-SECTION	1 EACH
PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNT	4 EACH
PEDESTRIAN SIGNAL HEAD, L.E.D., 3-FACE, BRACKET MOUNT	2 EACH
PEDESTRIAN PUSH-BUTTON	2 EACH
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 36"	2 EACH
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 40"	1 EACH
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 44"	1 EACH
TRAFFIC SIGNAL POST, 10-FOOT, GALVANIZED STEEL	2 EACH
TRAFFIC SIGNAL POST, 15-FOOT, GALVANIZED STEEL	2 EACH
EMERGENCY VEHICLE PRIORITY SYSTEM (EVPS), 2-BAW, W/CONFIRMATION BEACON	2 EACH
LUMINAIRE, HORIZONTAL MOUNT, HPS, 310 WATT, PHOTOCELL CONTROL	4 EACH
MAST ARM MOUNTED STREET WALK SIGNS	44 LF
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	1 EACH
RELOCATE CONTROLLER FOR FLASHING SCHOOL ZONE BEACONS	1 LS.
SERVICE INSTALLATION, TY B	1 EACH
INDUCTIVE LOOP DETECTOR	13 EACH
DETECTOR LOOP, TY I	1470 LF
CONDUIT IN TRENCH, PVC, 1-1/2"	805 LF
CONDUIT IN TRENCH, PVC, 2"	50 LF
CONDUIT IN TRENCH, PVC, 2-1/2"	95 LF
CONDUIT IN TRENCH, PVC, 4"	80 LF
CONDUIT, PUSHED, PVC, 1-1/2"	130 LF
CONDUIT, PUSHED, PVC, 4"	255 LF
ELECTRICAL CABLE IN CONDUIT, SIGNALS, NO. 14, 5/0	725 LF
ELECTRICAL CABLE IN CONDUIT, SIGNALS, NO. 14, 7/C	1650 LF
ELECTRICAL CABLE IN CONDUIT, PEDESTRIAN SIGNALS, NO. 14, 3/C	1290 LF
ELECTRICAL CABLE IN CONDUIT, PEDESTRIAN PUSH-BUTTONS, NO. 14, 2/C	1280 LF
ELECTRICAL CABLE IN CONDUIT, FLASHING SCHOOL ZONE BEACONS, NO. 14, 3/C	765 LF
ELECTRICAL CABLE IN CONDUIT, LUMINAIRES, NO. 10, 2/C, 600 VOLT	730 LF
ELECTRIC CABLE IN CONDUIT, DETECTORS, NO. 18, 3/C, 3 PR, TWISTED & SHIELDED	2435 LF
ELECTRIC CABLE IN CONDUIT, EVPS, NO. 14, 2/C	310 LF
ELECTRIC CABLE IN CONDUIT, EVPS, NO. 16, 3/C, SHIELDED	410 LF
CONCRETE FOUNDATION, POLE, TY A	9 LF
CONCRETE FOUNDATION, POLE, TY E	54 LF
CONCRETE FOUNDATION, CONTROLLER, TY B	4 LF
HANDHOLE	8 EACH
DOUBLE HANDHOLE	1 EACH
AGGREGATE BASE, TYPE B	500 CY
TRENCH AND BACKFILL FOR ELECTRICAL WORK	875 LF

**TRAFFIC SIGNAL LEGEND (SHEETS 1, 2 & 3)**



REV. 03/2004 BY DLK PER DOT REVIEW  
REV. 04/2005 BY DLK PER DOT REVIEW  
REV. 05/2005 BY DLK PER DOT REVIEW  
REV. 04/2007 BY DLK  
REV. 12/2007 BY DLK PER DOT REVIEW



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**IL 23/MAPLEWOOD IMPROVEMENTS**

DRAWN BY: DLK DATE: 09/10/02 SHEET NO.: 15  
CHECKED BY: KCB DATE: 09/10/02  
DS1026 SIGNAL\_PLAN.DWG

FILE NAME =	USER NAME = schwanberg	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETECTOR LOOP DETAILS - MAPLEWOOD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\proj\cts\4366676\cover.sht.dgn		DRAWN -	REVISED -			324	(25,26)RS-3	DEKALB	24	21	
	PLOT SCALE = 50,0000' / IN.	CHECKED -	REVISED -			CONTRACT NO. 66676					
	PLOT DATE = Apr 16, 2008 - 10:18:39 AM	DATE -	REVISED -			FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT					