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**RWA**  
 Regina Webster & Associates, Inc.

06-15-12 LETTING ITEM 142

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**PROPOSED  
 HIGHWAY PLANS**

VARIOUS LOCATIONS IN LAKE COUNTY  
 LIGHT EMITTING DIODE (LED) INSTALLATION

SECTION 2012-003 I  
 LAKE COUNTY

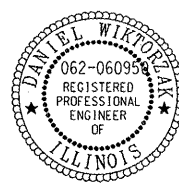
FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	1
		ILLINOIS	CONTRACT NO. 60T41	

D-91-349-12



LOCATION OF SECTION INDICATED THUS: — ■ —

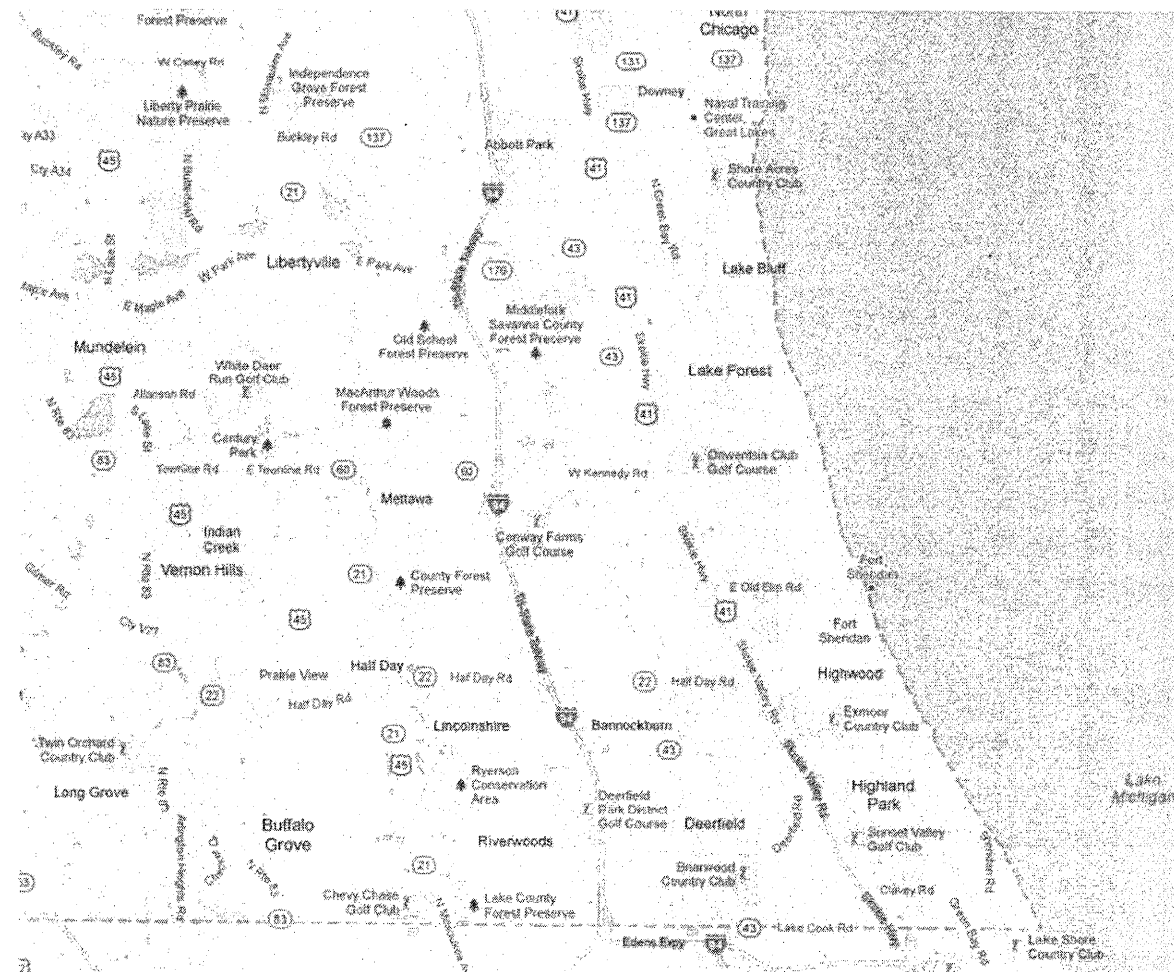


Signed *Daniel Wiktorzak*  
 DANIEL WIKTORZAK, P.E. IL Lic. No. 062-060950  
 Expires 11-30-2013  
 Date 03/23/11

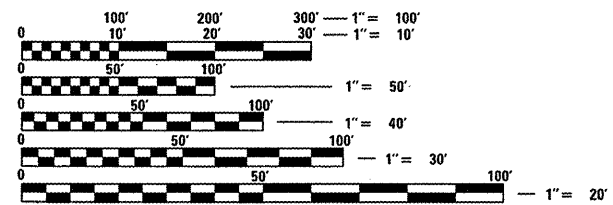
**STANDARDS**

- 701006-03 OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701101-02 OFF-ROAD OPERATIONS MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701701-08 URBAN LANE CLOSURE MULTILANE INTERSECTION
- 701901-02 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAIL
- 720006-03 SIGN PANEL ERECTION DETAILS
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS

C-91-349-12



LAKE COUNTY  
 LOCATION MAP  
 SEE SHEET NO. 3



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123  
 OR 811

PROJECT ENGINEER: SUDUD MAHMOUD  
 PROJECT MANAGER: DARYLE DREW

CONTRACT NO. 60T41

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED *March 30* 20 *12*

*Darin M. O'Keefe*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*John D. Baramillo PE*  
 COUNTY ENGINEER OF DESIGN AND ENVIRONMENT

*May 11* 20 *12*

*William R. Freyler*  
 COUNTY DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS

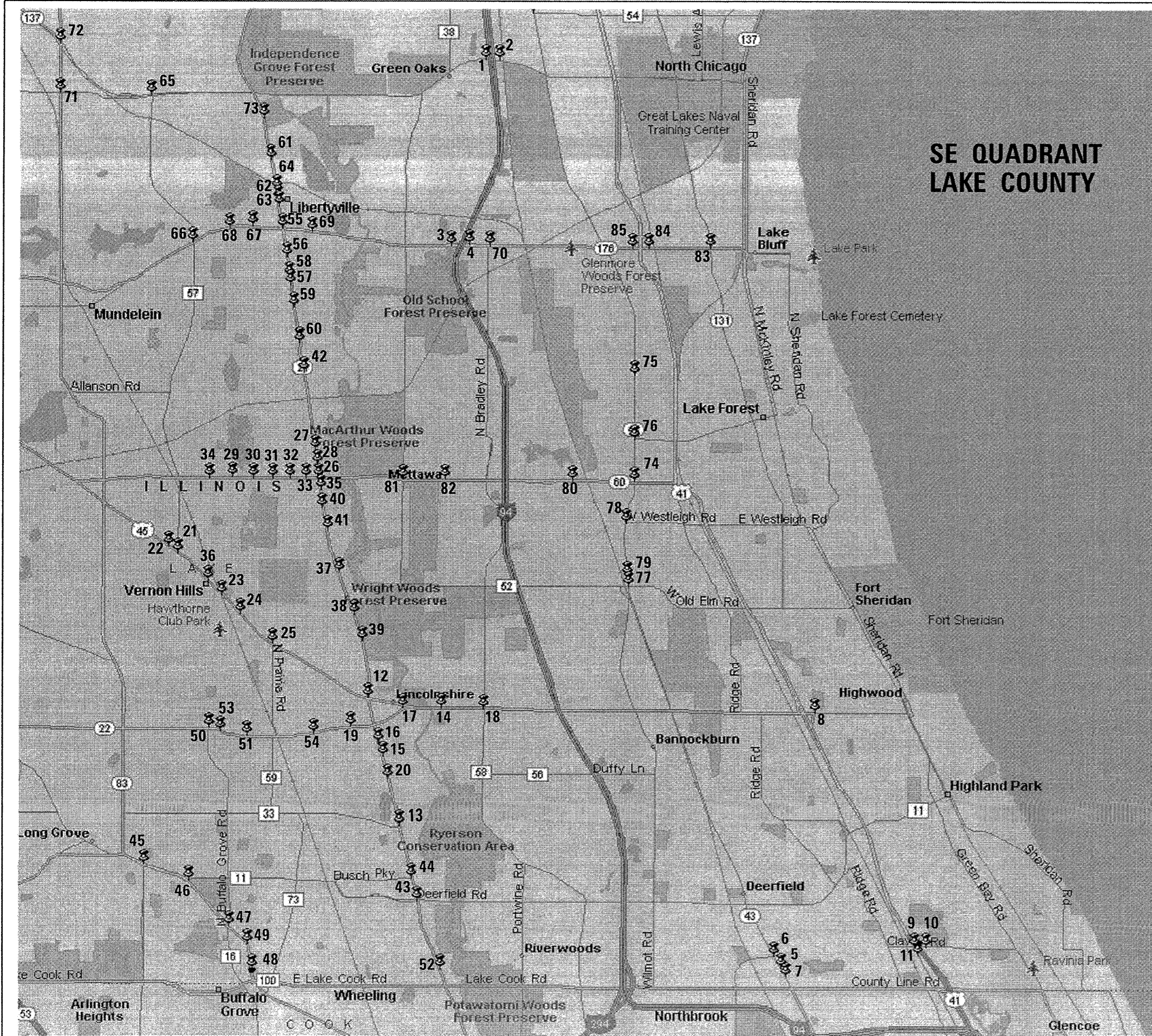
# INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS
- 3 LOCATION MAP
- 4-9 SUMMARY OF QUANTITIES
- 10-15 DISTRICT 1 TRAFFIC SIGNAL STANDARD DETAIL SHEETS

## TRAFFIC SIGNAL PLANS:

- |       |       |  |       |       |  |
|-------|-------|--|-------|-------|--|
| 16    | 935   | IL 137 AT I 94 WEST RAMP                           | 56    | 22050 | IL 21 MILWAUKEE AVE AT MARKET PLACE                |
| 17    | 936   | IL 137 AT I 94 EAST RAMP                           | 57    | 22052 | IL 21 MILWAUKEE AVE AT CONTINENTAL DR              |
| 18    | 925   | IL 176 AT I 94 TRI STATE TLWY WEST RAMP            | 58    | 14018 | IL 21 MILWAUKEE AVE AT NORTH ARTAIUS/GREGGS PRKWAY |
| 19    | 930   | IL 176 AT I 94 TRI STATE TLWY E RAMP/LAMB          | 59    | 6650  | US 45-IL 21 MILWAUKEE AVE AT DEERFIELD RD          |
| 20    | 2367  | IL 43 WAUKEGAN RD AT OAKMONT AVE                   | 60    | 6680  | US 45-IL 21 MILWAUKEE AVE AT BUSCH PARKWAY (T?)    |
| 21    | 12920 | IL 43 WAUKEGAN RD AT KATES RD                      | 61    | 6960  | IL 83 AT ARLINGTON HEIGHTS RD                      |
| 22    | 12915 | IL 43 WAUKEGAN RD AT MCDONALDS/CADWELLS CR         | 62    | 6965  | IL 83 AT DEERFIELD PKWY/CHECKER                    |
| 23    | 6543  | IL 22 AT US 41 NORTH RAMP                          | 63    | 6975  | IL 83 AT BUFFALO GROVE RD                          |
| 24    | 11875 | US 41 AT CLAVEY RD/OLD SKOKIE RD                   | 64    | 6985  | IL 83 AT BUFFALO GROVE SCHIGHPOINT                 |
| 25    | 11876 | SKOKIE VALLEY RD AT CLAVEY RD                      | 65    | 9885  | IL 83 MCHENRY RD AT PAULINE AVE/TOWN PLACE PK      |
| 26    | 11877 | US 41 AT SKOKIE VALLEY RD                          | 66    | 20425 | IL 22 AT BUFFALO GROVE RD                          |
| 27    | 6595  | US 45-IL 21 MILWAUKEE AVE AT US 45 OLD HALF DAY RD | 67    | 20426 | IL 22 AT BUFFALO GROVE FIRE HOUSE                  |
| 28    | 6630  | US 45-IL 21 MILWAUKEE AVE AT APTAKISIC RD          | 68    | 20995 | US 45-IL 21 MILWAUKEE AVE AT RIVERWALK/COLUMBUS    |
| 29    | 11605 | IL 22 AT ELMOXFORD DRIVE                           | 69    | 21215 | IL 22 AT ARBORETUM WAY                             |
| 30    | 6665  | US 45-IL 21 MILWAUKEE AVE AT KNIGHTSBRIDGE PKWY    | 70    | 21965 | IL 22 AT STEVENSON HS ENT/PALAZZO                  |
| 31    | 6695  | US 45-IL 21 MILWAUKEE AVE AT MARRIOTT LINCOLNSHIRE | 71    | 6715  | IL 21 MILWAUKEE AVE AT IL 176                      |
| 32    | 6760  | IL 22 AT PORT CLINTON/OLD HALF DAY                 | 72    | 12120 | IL 21 MILWAUKEE AVE AT ROCKLAND RD                 |
| 33    | 6770  | IL 22 AT RIVERWOODS/BRADLEY                        | 73    | 14005 | IL 21 MILWAUKEE AVE AT VALLEY PARK DRIVE           |
| 34    | 6780  | IL 22 AT BARCLAY/OLD HLF DAY                       | 74    | 14007 | IL 21 MILWAUKEE AVE AT CONDELL                     |
| 35    | 21405 | US 45-IL 21 MILWAUKEE AVE AT TOWER PKWY            | 75    | 14017 | IL 21 MILWAUKEE AVE AT GOLF RD LIBERTYVILLE        |
| 36    | 6640  | US 45 AT BUTTERFIELD RD                            | 76    | 14015 | IL 21 MILWAUKEE AVE AT RED TOP DR GREENTREE BLVD   |
| 37    | 6641  | US 45 AT OAKWOOD RD                                | 77    | 13985 | IL 21 MILWAUKEE AVE AT WINCHESTER                  |
| 38-39 | 6655  | US 45 AT DEERPATH DR                               | 78    | 13990 | IL 21 MILWAUKEE AVE AT COOK AV.                    |
| 40    | 6657  | US 45 AT COMMUTER LO/RANNEY                        | 79    | 13995 | IL 21 MILWAUKEE AVE AT CHURCH ST.                  |
| 41    | 6658  | US 45 AT BUFFALO GROVE RD/FAIRWAY                  | 80    | 21490 | IL 21 MILWAUKEE AVE AT LAKE ST.                    |
| 42    | 6700  | IL 21 MILWAUKEE AVE AT IL 60                       | 81    | 7094  | IL 137 AT BUTTERFIELD SQUARE                       |
| 43    | 6720  | IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #6          | 82    | 14020 | IL 176 AT BUTTERFIELD RD                           |
| 44    | 6725  | IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #7          | 83    | 14025 | IL 176 AT GARFIELD AVE/BRAINERD                    |
| 45    | 6870  | IL 60 AT DEERPATH RD                               | 84    | 14030 | IL 176 AT DAWES ST                                 |
| 46    | 6875  | IL 60 AT LAKEVIEW PKWY/HAWTHORN CTR #1             | 85    | 14035 | IL 176 AT 4TH AVE                                  |
| 47    | 6880  | IL 60 AT HAWTHORN CENTER DRIVE #3                  | 86    | 20375 | IL 176 AT BRADLEY DR                               |
| 48    | 6885  | IL 60 AT HAWTHORN CENTER DRIVE #4                  | 87    | 6675  | US 45 AT 137 (PETERSON RD.)                        |
| 49    | 6890  | IL 60 AT HAWTHORN CENTER DRIVE #5                  | 88    | 6675  | US 45 AT IL 137 (BUCKLEY)                          |
| 50    | 6900  | IL 60 AT ASPEN DR.                                 | 89    | 21660 | IL 21 (MILWAUKEE) AT ALDER PARK (N. FIRE STATION)  |
| 51    | 11615 | IL 21 MILWAUKEE AVE AT HAWTHORN HILLS SCHAWTHORN   | 90    | 6795  | IL 43 WAUKEGAN RD AT IL 60                         |
| 52    | 21070 | US 45 AT EVERGREEN DR                              | 91    | 6806  | IL 43 WAUKEGAN RD AT WESTMORELAND DR (MIDDLE FORK) |
| 53    | 21409 | IL 21 MILWAUKEE AVE AT AMERICAN HOTEL              | 92    | 10665 | IL 43 WAUKEGAN AT DEER PATH RD                     |
| 54    | 21410 | IL 21 MILWAUKEE AVE AT CORPORATE WOODS PKWY        | 93-94 | 10670 | IL 43 WAUKEGAN RD AT EVERETT RD                    |
| 55    | 21411 | IL 21 MILWAUKEE AVE AT WOODLAND                    | 95    | 10675 | IL 43 WAUKEGAN RD AT WESTLEIGH RD                  |
|       |       |  | 96    | 10676 | IL 43 WAUKEGAN RD AT GLOUCESTER CROSSING           |
|       |       |  | 97    | 11708 | IL 60 AT LAKE FOREST ACADEMY                       |
|       |       |  | 98    | 6895  | IL 60 AT ST MARYS RD                               |
|       |       |  | 99    | 11701 | IL 60 AT W W GRAINGER                              |
|       |       |  | 100   | 7020  | IL 131 GREEN BAY RD AT IL 176                      |
|       |       |  | 101   | 12275 | US 41 AT IL 176 EAST RAMP                          |
|       |       |  | 102   | 12280 | US 41 AT IL 176 WEST RAMP                          |

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	PLOT DATE : 3/28/2012	DATE :	REVISED :			SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	[ILLINOIS] FED. AID PROJECT	



# SE QUADRANT LAKE COUNTY

TS#	INTERSECTION
1.	935 IL 137 AT I 94 WEST RAMP
2.	936 IL 137 AT I 94 EAST RAMP
3.	925 IL 176 AT I 94 TRI STATE TLWY WEST RAMP
4.	930 IL 176 AT I 94 TRI STATE TLWY E RAMP/LAMB
5.	2367 IL 43 WAUKEGAN RD AT OAKMONT AVE
6.	12920 IL 43 WAUKEGAN RD AT KATES RD
7.	12915 IL 43 WAUKEGAN RD AT MCDONALDS/CADWELLS CR
8.	6543 IL 22 AT US 41 NORTH RAMP
9.	11875 US 41 AT CLAVEY RD/ OLD SKOKIE RD
10.	11876 SKOKIE VALLEY RD AT CLAVEY RD
11.	11877 US 41 AT SKOKIE VALLEY RD
12.	6595 US 45-IL 21 MILWAUKEE AVE AT US 45 OLD HALF DAY RD
13.	6630 US 45-IL 21 MILWAUKEE AVE AT APTAKISIC RD
14.	11605 IL 22 AT ELM/OXFORD DRIVE
15.	6665 US 45-IL 21 MILWAUKEE AVE AT KNIGHTSBRIDGE PKWY
16.	6695 US 45-IL 21 MILWAUKEE AVE AT MARRIOTT LINCOLNSHIRE
17.	6760 IL 22 AT PORT CLINTON/OLD HALF DAY
18.	6770 IL 22 AT RIVERWOODS/BRADLEY
19.	6780 IL 22 AT BARCLAY/OLD HALF DAY
20.	21405 US 45-IL 21 MILWAUKEE AVE AT TOWER PKWY
21.	6640 US 45 AT BUTTERFIELD RD
22.	6641 US 45 AT OAKWOOD RD
23.	6655 US 45 AT DEERPATH DR
24.	6657 US 45 AT COMMUTER LOI/RANNEY
25.	6658 US 45 AT BUFFALO GROVE RD/FAIRWAY
26.	6700 IL 21 MILWAUKEE AVE AT IL 60
27.	6720 IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #6
28.	6725 IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #7
29.	6870 IL 60 AT DEERPATH RD
30.	6875 IL 60 AT LAKEVIEW PKWY/HAWTHORN CTR #1
31.	6880 IL 60 AT HAWTHORN CENTER DRIVE #3
32.	6885 IL 60 AT HAWTHORN CENTER DRIVE #4
33.	6890 IL 60 AT HAWTHORN CENTER DRIVE #5
34.	6900 IL 60 AT ASPEN DR.
35.	11615 IL 21 MILWAUKEE AVE AT HAWTHORN HILLS SC/HAWTHORN
36.	21070 US 45 AT EVERGREEN DR
37.	21409 IL 21 MILWAUKEE AVE AT AMERICAN HOTEL
38.	21410 IL 21 MILWAUKEE AVE AT CORPORATE WOODS PKWY
39.	21411 IL 21 MILWAUKEE AVE AT WOODLAND
40.	22050 IL 21 MILWAUKEE AVE AT MARKET PLACE
41.	22052 IL 21 MILWAUKEE AVE AT CONTINENTAL DR
42.	14018 IL 21 MILWAUKEE AVE AT NORTH ARTAIUS/ GREGGS PRKWY
43.	6650 US 45-IL 21 MILWAUKEE AVE AT DEERFIELD RD
44.	6680 US 45-IL 21 MILWAUKEE AVE AT BUSCH PARKWAY
45.	6960 IL 83 AT ARLINGTON HEIGHTS RD
46.	6965 IL 83 AT DEERFIELD PKWY/CHECKER
47.	6975 IL 83 AT BUFFALO GROVE RD
48.	6985 IL 83 AT BUFFALO GROVE SC/HIGHPOINT
49.	9885 IL 83 MCHENRY RD AT PAULINE AVE/TOWN PLACE PK
50.	20425 IL 22 AT BUFFALO GROVE RD
51.	20426 IL 22 AT BUFFALO GROVE FIRE HOUSE
52.	20995 US 45-IL 21 MILWAUKEE AVE AT RIVERWALK/COLUMBUS
53.	21215 IL 22 AT ARBORETUM WAY
54.	21965 IL 22 AT STEVENSON HS ENT/PALAZZO
55.	6715 IL 21 MILWAUKEE AVE AT IL 176
56.	12120 IL 21 MILWAUKEE AVE AT ROCKLAND RD
57.	14005 IL 21 MILWAUKEE AVE AT VALLEY PARK DRIVE
58.	14007 IL 21 MILWAUKEE AVE AT CONDELL
59.	14017 IL 21 MILWAUKEE AVE AT GOLF RD LIBERTYVILLE
60.	14015 IL 21 MILWAUKEE AVE AT RED TOP DR GREENTREE BLVD
61.	13985 IL 21 MILWAUKEE AVE AT WINCHESTER
62.	13990 IL 21 MILWAUKEE AVE AT COOK AV.
63.	13995 IL 21 MILWAUKEE AVE AT CHURCH ST.
64.	21490 IL 21 MILWAUKEE AVE AT LAKE ST.
65.	7094 IL 137 AT BUTTERFIELD SQUARE
66.	14020 IL 176 AT BUTTERFIELD RD
67.	14025 IL 176 AT GARFIELD AVE/BRAINERD
68.	14030 IL 176 AT DAWES ST
69.	14035 IL 176 AT 4TH AVE
70.	20375 IL 176 AT BRADLEY DR
71.	6675 US 45 AT 137 (PETERSON RD.)
72.	21660 US 45 AT IL 137 (BUCKLEY)
73.	14016 IL 21 (MILWAUKEE) AT ALDER PARK (N. FIRE STATION)
74.	6795 IL 43 WAUKEGAN RD AT IL 60
75.	6806 IL 43 WAUKEGAN RD ATWESTMORELAND DR (MIDDLE FORK)
76.	10665 IL 43 WAUKEGAN AT DEER PATH RD
77.	10670 IL 43 WAUKEGAN RD AT EVERETT RD
78.	10675 IL 43 WAUKEGAN RD AT WESTLEIGH RD
79.	10676 IL 43 WAUKEGAN RD AT GLOUCHESTER CROSSING
80.	11708 IL 60 AT LAKE FOREST ACADEMY
81.	6895 IL 60 AT ST MARYS RD
82.	11701 IL 60 AT W W CRAINGER
83.	7020 IL 131 GREEN BAY RD AT IL 176
84.	12275 US 41 AT IL 176 EAST RAMP
85.	12280 US 41 AT IL 176 WEST RAMP

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PLOT DATE : 3/28/2012	DATE	REVISED : -	CONTRACT NO. 60T41												
											ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES HEADING LEGEND

COLUMN NUMBER	TS#	INTERSECTION	FUNDING PARTICIPATION																	
			STATE	LAKE COUNTY	GREEN OAKS	DEER-FIELD	HIGHLAND PARK	LINCOLN-SHIRE	VERNON HILLS	BUFFALO GROVE	LIBERTY-VILLE	LAKE FOREST	METTAWA	LAKE BLUFF	HAWTHORN L.P.	MID. AM	HAWTHORN V. H. LLC	INLAND		
1	935	IL 137 AT I 94 WEST RAMP	✓	100%																
1	936	IL 137 AT I 94 EAST RAMP	✓	100%																
1	925	IL 176 AT I 94 TRI STATE TLWY WEST RAMP	✓	100%																
1	930	IL 176 AT I 94 TRI STATE TLWY E RAMP/LAMB	✓	100%																
2	2367	IL 43 WAUKEGAN RD AT OAKMONT AVE	✓	95%		✓	5%													
3	12920	IL 43 WAUKEGAN RD AT KATES RD	✓	96.7%		✓	3.3%													
2	12915	IL 43 WAUKEGAN RD AT MCDONALDS/CADWELLS CR	✓	95%		✓	5%													
1	6543	IL 22 AT US 41 NORTH RAMP	✓	100%																
1	11875	US 41 AT CLAVEY RD/ OLD SKOKIE RD	✓	100%																
4	11876	SKOKIE VALLEY RD AT CLAVEY RD	✓	95%				5%	✓											
1	11877	US 41 AT SKOKIE VALLEY RD	✓	100%																
1	6595	US 45-IL 21 MILWAUKEE AVE AT US 45 OLD HALF DAY RD	✓	100%																
7	6630	US 45-IL 21 MILWAUKEE AVE AT APTAKISIC RD	✓	96.7%	3.3%	✓														
6	11605	IL 22 AT ELM/OXFORD DRIVE	✓	95%					5%	✓										
6	6665	US 45-IL 21 MILWAUKEE AVE AT KNIGHTSBRIDGE PKWY	✓	95%					5%	✓										
6	6695	US 45-IL 21 MILWAUKEE AVE AT MARRIOTT LINCOLNSHIRE	✓	95%					5%	✓										
1	6760	IL 22 AT PORT CLINTON/OLD HALF DAY	✓	100%																
8	6770	IL 22 AT RIVERWOODS/BRADLEY	✓	95%	5%	✓														
5	6780	IL 22 AT BARCLAY/OLD HLF DAY	✓	97.5%					2.5%	✓										
6	21405	US 45-IL 21 MILWAUKEE AVE AT TOWER PKWY	✓	95%					5%	✓										
7	6640	US 45 AT BUTTERFIELD RD	✓	96.7%	3.3%	✓														
9	6641	US 45 AT OAKWOOD RD	✓	96.7%						3.3%	✓									
9	6655	US 45 AT DEERPATH DR	✓	96.7%						3.3%	✓									
10	6657	US 45 AT COMMUTER LOI/RANNEY	✓	95%						5%	✓									
11	6658	US 45 AT BUFFALO GROVE RD/FAIRWAY	✓	95%	2.5%	✓				2.5%	✓									
1	6700	IL 21 MILWAUKEE AVE AT IL 60	✓	100%																
13	6720	IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #6	✓	95%										5%	✓					
13	6725	IL 21 MILWAUKEE AVE AT HAWTHORN CTR DR #7	✓	95%										5%	✓					
9	6870	IL 60 AT DEERPATH RD	✓	96.7%						3.3%	✓									
19	6875	IL 60 AT LAKEVIEW PKWY/HAWTHORN CTR #1	✓	95%						2.5%	✓							2.5%	✓	
14	6880	IL 60 AT HAWTHORN CENTER DRIVE #3	✓	95%						2.5%	✓			1.25%	✓	1.25%	✓			
15	6885	IL 60 AT HAWTHORN CENTER DRIVE #4	✓	95%										2.5%	✓	2.5%	✓			
16	6890	IL 60 AT HAWTHORN CENTER DRIVE #5	✓	95%										2.5%	✓			2.5%	✓	
10	6900	IL 60 AT ASPEN DR.	✓	95%						5%	✓									
17	11615	IL 21 MILWAUKEE AVE AT HAWTHORN HILLS SC/HAWTHORN	✓	95%													2.5%	✓	2.5%	✓
9	21070	US 45 AT EVERGREEN DR	✓	96.7%						3.3%	✓									
10	21409	IL 21 MILWAUKEE AVE AT AMERICAN HOTEL	✓	95%						5%	✓									
10	21410	IL 21 MILWAUKEE AVE AT CORPORATE WOODS PKWY	✓	95%						5%	✓									
10	21411	IL 21 MILWAUKEE AVE AT WOODLAND	✓	95%						5%	✓									
18	22050	IL 21 MILWAUKEE AVE AT MARKET PLACE	✓	95%													5%	✓		
10	22052	IL 21 MILWAUKEE AVE AT CONTINENTAL DR	✓	95%						5%	✓									
12	14018	IL 21 MILWAUKEE AVE AT NORTH ARTAIUS/ GREGGS PRKWY	✓	95%						2.5%	✓		2.5%	✓						
8	6650	US 45-IL 21 MILWAUKEE AVE AT DEERFIELD RD	✓	95%	5%	✓														
20	6680	US 45-IL 21 MILWAUKEE AVE AT BUSCH PARKWAY	✓	95%							5%	✓								
21	6960	IL 83 AT ARLINGTON HEIGHTS RD	✓	95%	2.5%	✓					2.5%	✓								
21	6965	IL 83 AT DEERFIELD PKWY/CHECKER	✓	95%	2.5%	✓					2.5%	✓								
8	6975	IL 83 AT BUFFALO GROVE RD	✓	95%	5%	✓														
20	6985	IL 83 AT BUFFALO GROVE SC/HIGHPOINT	✓	95%							5%	✓								

Rev.

SUMMARY OF QUANTITIES HEADING LEGEND

FUNDING PARTICIPATION

COLUMN NUMBER	TS#	INTERSECTION	STATE	LAKE COUNTY	GREEN OAKS	DEER-FIELD	HIGHLAND PARK	LINCOLN-SHIRE	VERNON HILLS	BUFFALO GROVE	LIBERTY-VILLE	LAKE FOREST	METTAWA	LAKE BLUFF	HAWTHORN L.P.	MID. AM	HAWTHORN V. H. LLC	INLAND
20	9885	IL 83 MCHENRY RD AT PAULINE AVE/TOWN PLACE PK	✓	95%						5% ✓								
8	20425	IL 22 AT BUFFALO GROVE RD	✓	95%	5% ✓													
20	20426	IL 22 AT BUFFALO GROVE FIRE HOUSE	✓	95%						5% ✓								
20	20995	US 45-IL 21 MILWAUKEE AVE AT RIVERWALK/COLUMBUS	✓	95%						5% ✓								
20	21215	IL 22 AT ARBORETUM WAY	✓	95%						5% ✓								
20	21965	IL 22 AT STEVENSON HS ENT/PALAZZO	✓	95%						5% ✓								
1	6715	IL 21 MILWAUKEE AVE AT IL 176	✓	100%														
23	12120	IL 21 MILWAUKEE AVE AT ROCKLAND RD	✓	95%							5% ✓							
22	14005	IL 21 MILWAUKEE AVE AT VALLEY PARK DRIVE	✓	96.7%							3.3% ✓							
23	14007	IL 21 MILWAUKEE AVE AT CONDELL	✓	95%							5% ✓							
23	14017	IL 21 MILWAUKEE AVE AT GOLF RD LIBERTYVILLE	✓	95%							5% ✓							
23	14015	IL 21 MILWAUKEE AVE AT RED TOP DR GREENTREE BLVD	✓	95%							5% ✓							
25	13985	IL 21 MILWAUKEE AVE AT WINCHESTER	✓	95%	2.5% ✓						2.5% ✓							
23	13990	IL 21 MILWAUKEE AVE AT COOK AV.	✓	95%							5% ✓							
23	13995	IL 21 MILWAUKEE AVE AT CHURCH ST.	✓	95%							5% ✓							
22	21490	IL 21 MILWAUKEE AVE AT LAKE ST.	✓	96.7%							3.3% ✓							
23	7094	IL 137 AT BUTTERFIELD SQUARE	✓	95%							5% ✓							
8	14020	IL 176 AT BUTTERFIELD RD	✓	95%	5% ✓													
23	14025	IL 176 AT GARFIELD AVE/BRAINERD	✓	95%							5% ✓							
23	14030	IL 176 AT DAWES ST	✓	95%							5% ✓							
23	14035	IL 176 AT 4TH AVE	✓	95%							5% ✓							
35	20375	IL 176 AT BRADLEY DR	✓	95%		5% ✓												
24	6675	US 45 AT 137 (PETERSON RD.)	✓	97.5%	2.5% ✓													
1	21660	US 45 AT IL 137 (BUCKLEY)	✓	100%														
23	14016	IL 21 (MILWAUKEE) AT ALDER PARK (N. FIRE STATION)	✓	95%							5% ✓							
1	6795	IL 43 WAUKEGAN RD AT IL 60	✓	100%														
26	6806	IL 43 WAUKEGAN RD AT WESTMORELAND DR (MIDDLE FORK)	✓	95%								5% ✓						
26	10665	IL 43 WAUKEGAN AT DEER PATH RD	✓	95%								5% ✓						
26	10670	IL 43 WAUKEGAN RD AT EVERETT RD	✓	95%								5% ✓						
26	10675	IL 43 WAUKEGAN RD AT WESTLEIGH RD	✓	95%								5% ✓						
26	10676	IL 43 WAUKEGAN RD AT GLOUCESTER CROSSING	✓	95%								5% ✓						
26	11708	IL 60 AT LAKE FOREST ACADEMY	✓	95%								5% ✓						
8	6895	IL 60 AT ST MARYS RD	✓	95%	5% ✓													
27	11701	IL 60 AT W W GRAINGER	✓	95%									5% ✓					
28	7020	IL 131 GREEN BAY RD AT IL 176	✓	97.5%										2.5% ✓				
1	12275	US 41 AT IL 176 EAST RAMP	✓	100%														
1	12280	US 41 AT IL 176 WEST RAMP	✓	100%														
29	12915	IL 43 WAUKEGAN RD AT MCDONALDS/CADWELLS CR (EVP)				100% ✓												
30	11875	US 41 AT CLAVEY RD/ OLD SKOKIE RD (EVP)					100% ✓											
30	11876	SKOKIE VALLEY RD AT CLAVEY RD (EVP)					100% ✓											
31	6630	US 45-IL 21 MILWAUKEE AVE AT APTAKISIC RD (EVP)						100% ✓										
32	6641	US 45 AT OAKWOOD RD (EVP)							100% ✓									
32	11615	IL 21 MILWAUKEE AVE AT HAWTHORN HILLS SC/HAWTHORN (EVP)							100% ✓									
32	21410	IL 21 MILWAUKEE AVE AT CORPORATE WOODS PKWY (EVP)							100% ✓									
32	22050	IL 21 MILWAUKEE AVE AT MARKET PLACE (EVP)							100% ✓									
33	6960	IL 83 AT ARLINGTON HEIGHTS RD (EVP)								100% ✓								
34	13985	IL 21 MILWAUKEE AVE AT WINCHESTER (EVP)									100% ✓							
34	14030	IL 176 AT DAWES ST (EVP)									100% ✓							
34	14035	IL 176 AT 4TH AVE (EVP)									100% ✓							

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DESIGNED - DW  
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PLOT SCALE = 95SCALE#  
 PLOT DATE = 3/28/2012

CHECKED - KMM  
 DATE

REVISIONS  
 REVISIONS

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES  
 (SHEET 2 OF 6)

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	5
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

Rev

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE																																			
				TRAFFIC SIGNAL																																			
				0021																																			
				URBAN																																			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6																																			
67100100	MOBILIZATION	L SUM	1	1																																			
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1																																			
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	20																							10		10											
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	85	15	2	1	1	1	4	2	6	4	6	1	1	2	1	1	1	1	1	1	1	1	7	2	2	11	1	1	6	1	1					1	
86000105	MASTER CONTROLLER (SPECIAL)	EACH	1			1																																	
86400100	TRANSCIVER - FIBER OPTIC	EACH	9	1		1		1		1	1										1	1																1	
87502440	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	4							2																												2	
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	16	2	2				2		3															2		4						1					
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	37	6	2				2		5	2														4		5		8								3	
87502520	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	5	1	1						1																											2	
87900200	DRILL EXISTING HANDHOLE	EACH	2																							1												1	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	42	7					11		6	3														4		5		1		4		1					
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	23	2	3				7		3																											3	
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	19	2					2		1																											4	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE																																			
				TRAFFIC SIGNAL																																			
				0021																																			
				URBAN																																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35					
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	51	5	2			8	9	1								6		8																4			
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	13	3	1					1										2							2								4				
88030220	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	8					1	1									2		3																1			
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	19	2	2			4	7																											4			
88030310	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2		1			1																															
88055150	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3	3																																			
88055160	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2	2																																			
88055200	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1	1																																			
88060130	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMED, 1-5 SECTION, BRACKET MOUNTED	EACH	2	2																																			
88102710	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	4																																	2			
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	159	22	2	2	2	4	4	4	18	4	14	7							2	2	2	10	12	4	30							6	6		2		
88102740	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	3																																	3			
88102747	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	38	4	1		1				6	5	1								1	1	1	4		1	6							5	1				
88102757	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	7							2		1														2		2											
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	117	24	2		8	19	15	4	4										10															13	9	4	5

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PLOT DATE : 3/28/2012		DATE	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**  
**(SHEET 4 OF 6)**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	7
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE																																		
				TRAFFIC SIGNAL																																		
				0021																																		
				URBAN																																		
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88500100	INDUCTIVE LOOP DETECTOR	EACH	78	5		8		6	5	5						9	11		22							7												
88800100	PEDESTRIAN PUSH-BUTTON	EACH	122	22	2	4	4	4	4	24	6	6							2	8		20	2		12										2			
<del>89500100</del>	<del>RELOCATE EXISTING SIGNAL HEAD</del>	<del>EACH</del>	<del>3</del>																																			
89501400	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	4																														1		1	2		
89501410	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	11																															2	1	5	2	1
89502200	MODIFY EXISTING CONTROLLER	EACH	1																																		1	
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	75	14	2	1		1	4	1	6	3	4	1	1	2	1	1	1			1	7	1	2	11	1		6	1	1						1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	67	10	2	1	1	1	4	2	5	4	6	1					1	1	1	6	2	2	8	1	1	5									1	
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	8	1					1	1	1							1	1																			
X8570231	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1			1																																
X8620050	UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED	EACH	2																							1		1										
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	82	15	2	1	1	1	4	2	6	4	5	1	1	2	1	1	1	1	1	1	1	1	1	6	2	2	10	1	1	6	1	1				1
X8803040	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	14	2	2	1				1	2	1							3	1																		1
X8803050	SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	1																																			1
X8803051	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	3						1	1																												1
X8803082	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	46	21	3			2	3	7																1		5										4

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		CHECKED - KMM	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES  
(SHEET 5 OF 6)**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 1	LAKE	102	8
CONTRACT NO. 60T41			ILLINOIS FED. AID PROJECT	



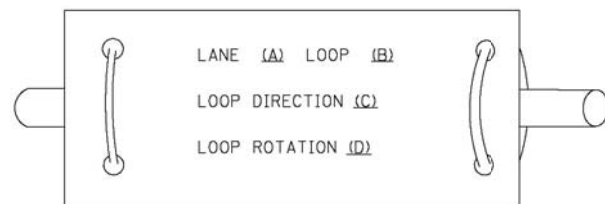
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				0021																																
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
X8803084	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	102	22	2	4	3		2	2	6	13					5		8	8		9				18										
X8803086	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED, RETROFIT	EACH	12									12																								
X8803088	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	74	10	2	1	5		2	6	2	7					5		7	8		5				14										
X8803090	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	16	5	2														2	2		5														
X8803110	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED, RETROFIT	EACH	2	2																																
X8803210	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	37	5		3			1	1	3	3							4	3		5														
X8803280	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED, RETROFIT	EACH	4									4																								
X8803910	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT	EACH	14	3		2			1	2	1						1		1	1						2										
X8808119	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	5	1															4																	
X8880015	PEDESTRIAN PUSH-BUTTON, NON-LATCHING	EACH	127	5	3					19	13	9					3	3	3	21	6	5	21		6	3		7								
X8803060	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	2			1						1																								
X0326310	RELOCATE EXISTING SWITCH, SPECIAL	EACH	3							1											1															
X0327406	RELOCATE EXISTING VIDEO ENCODER, SPECIAL	EACH	3							1																										
88060110	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMED, 1-3 SECTION, BRACKET MOUNTED	EACH	1	1																																
88060405	COMBINATION SIGNAL HEAD, LED, 3-FACE, 1-3 SEC OPTICALLY PROGRAMED, 1-5 SEC OPTICALLY PROGRAMED, 1-3 , BRACKET MOUNTED	EACH	1	1																																

SECTION ↑

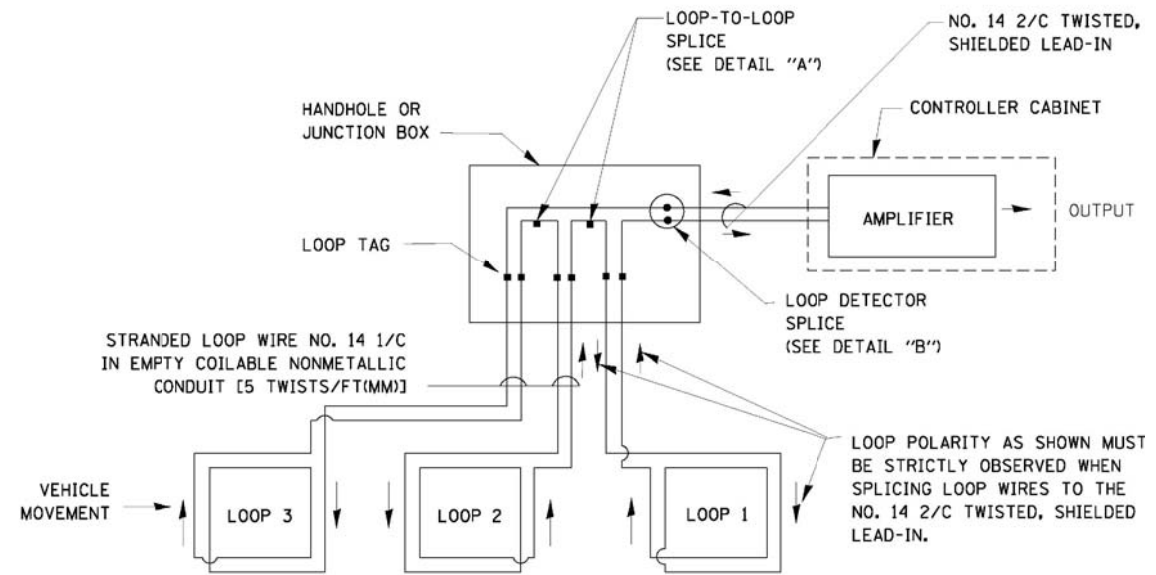
### LOOP DETECTOR NOTES

- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

#### LOOP LEAD-IN CABLE TAG

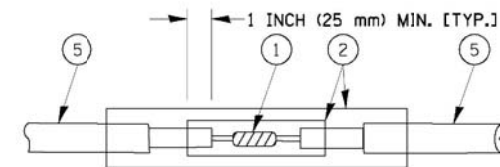


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

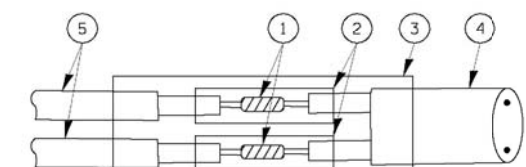


#### DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

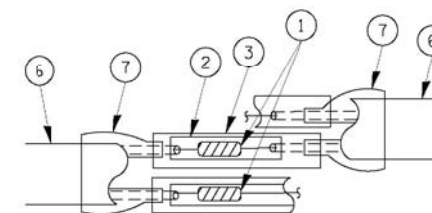


DETAIL "A"  
LOOP-TO-LOOP SPLICE

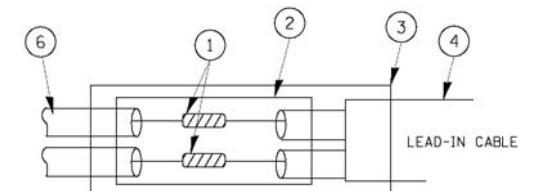


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### TYPE I LOOP



DETAIL "A"  
LOOP-TO-LOOP SPLICE



#### PREFORMED LOOP

DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- PREFORMED LOOP
- XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

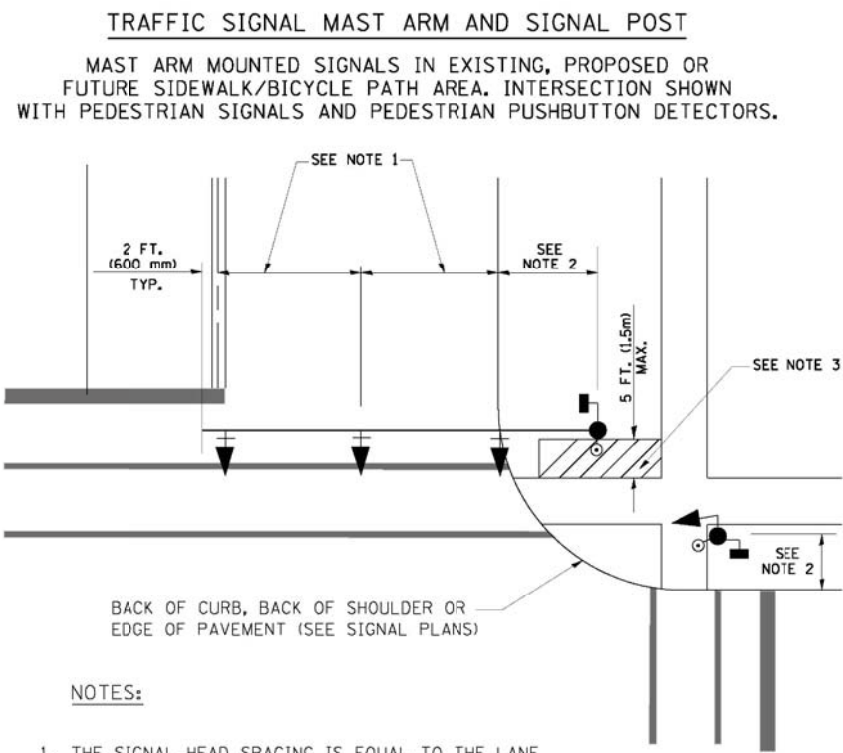
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS

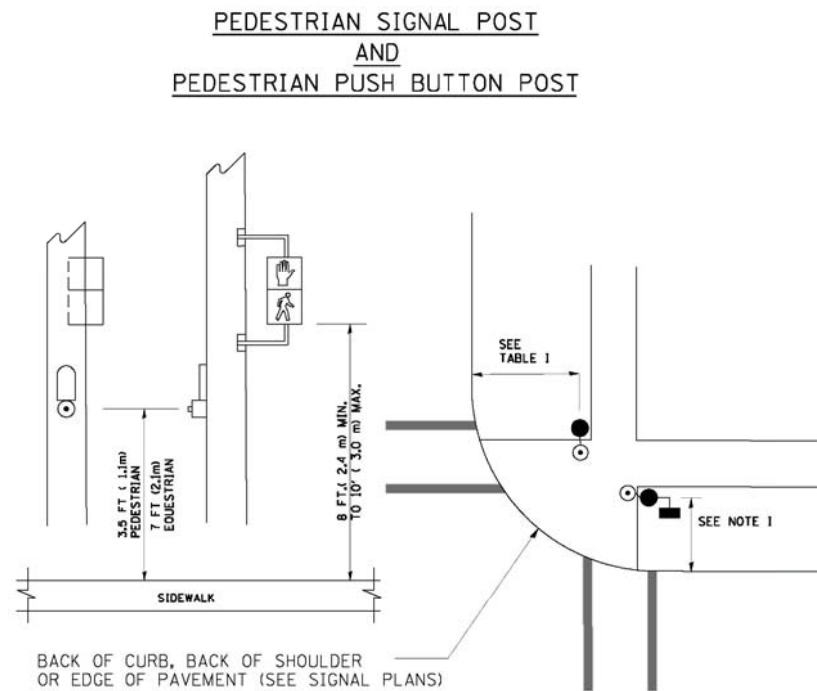
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	10
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				



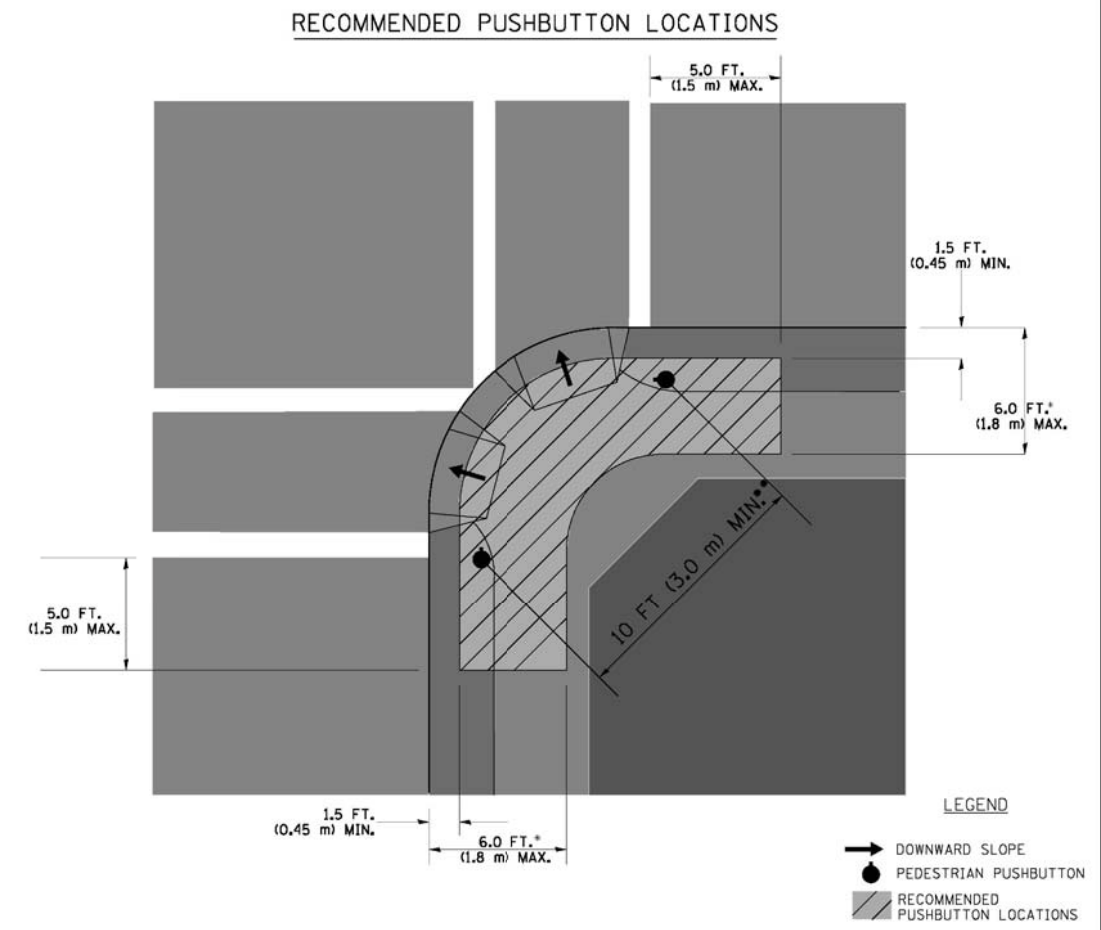
**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

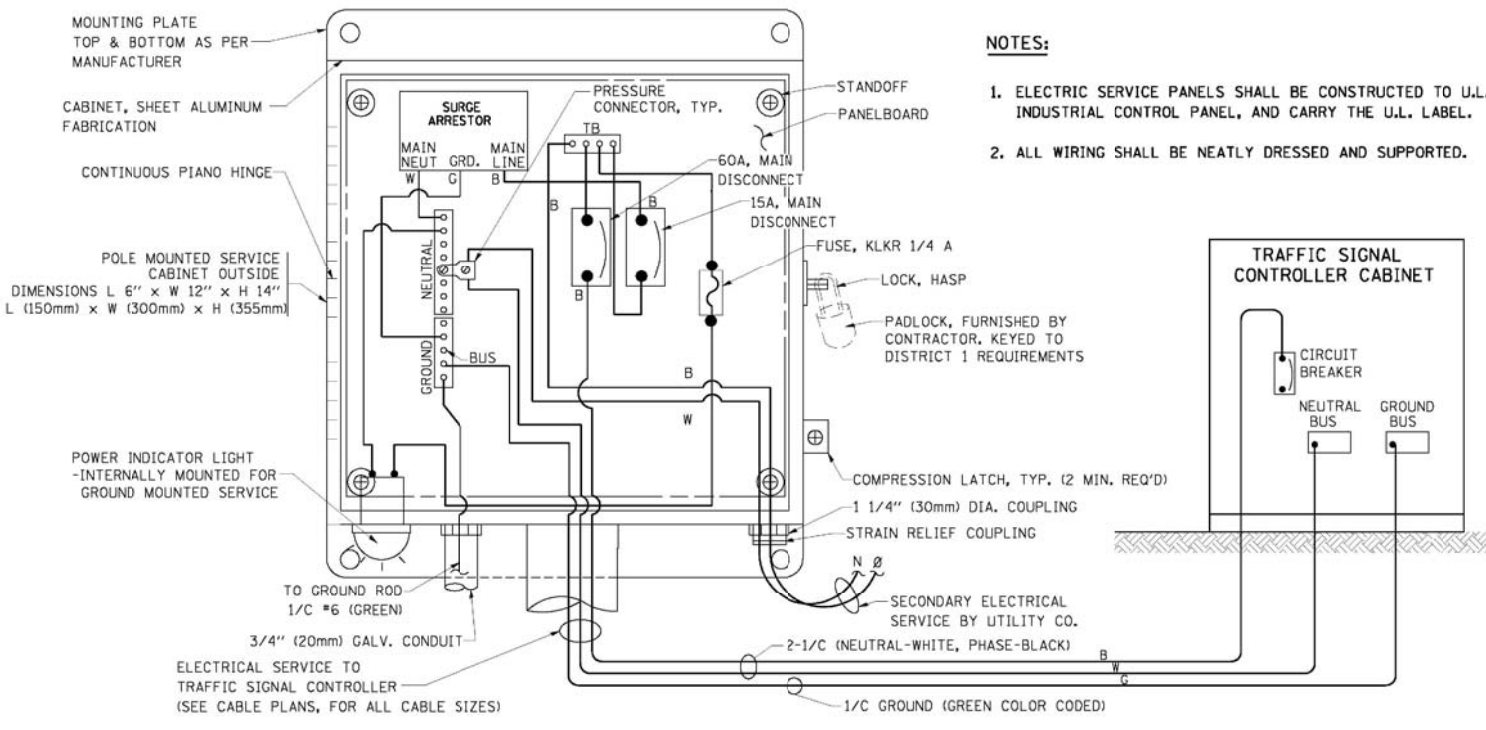
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

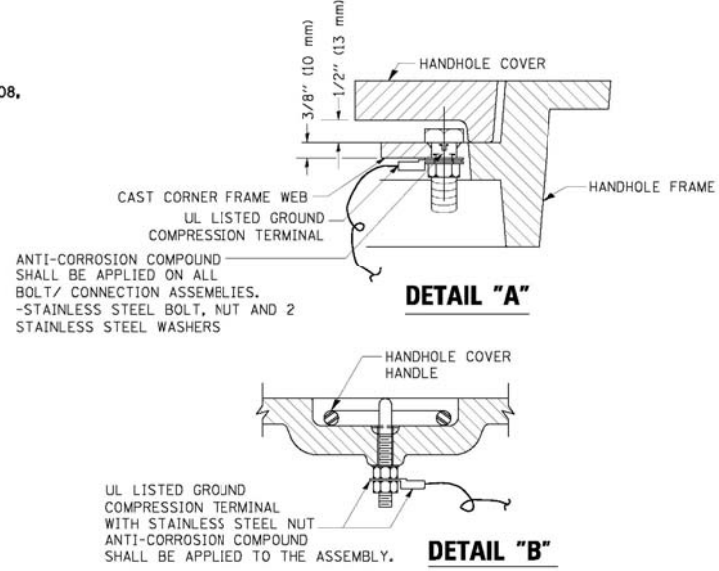
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

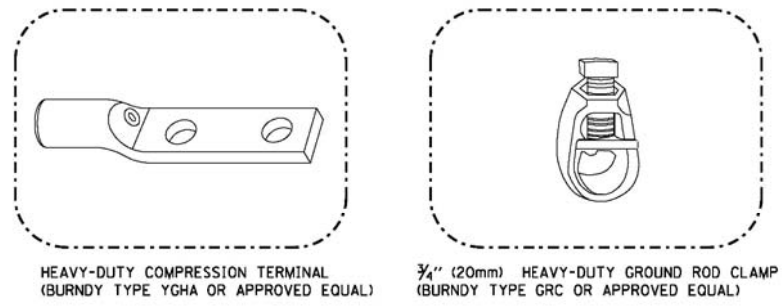
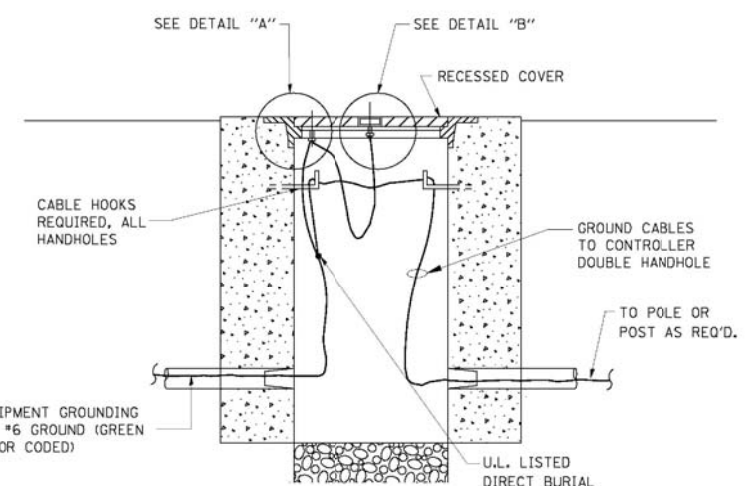


- NOTES:**
1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
  2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



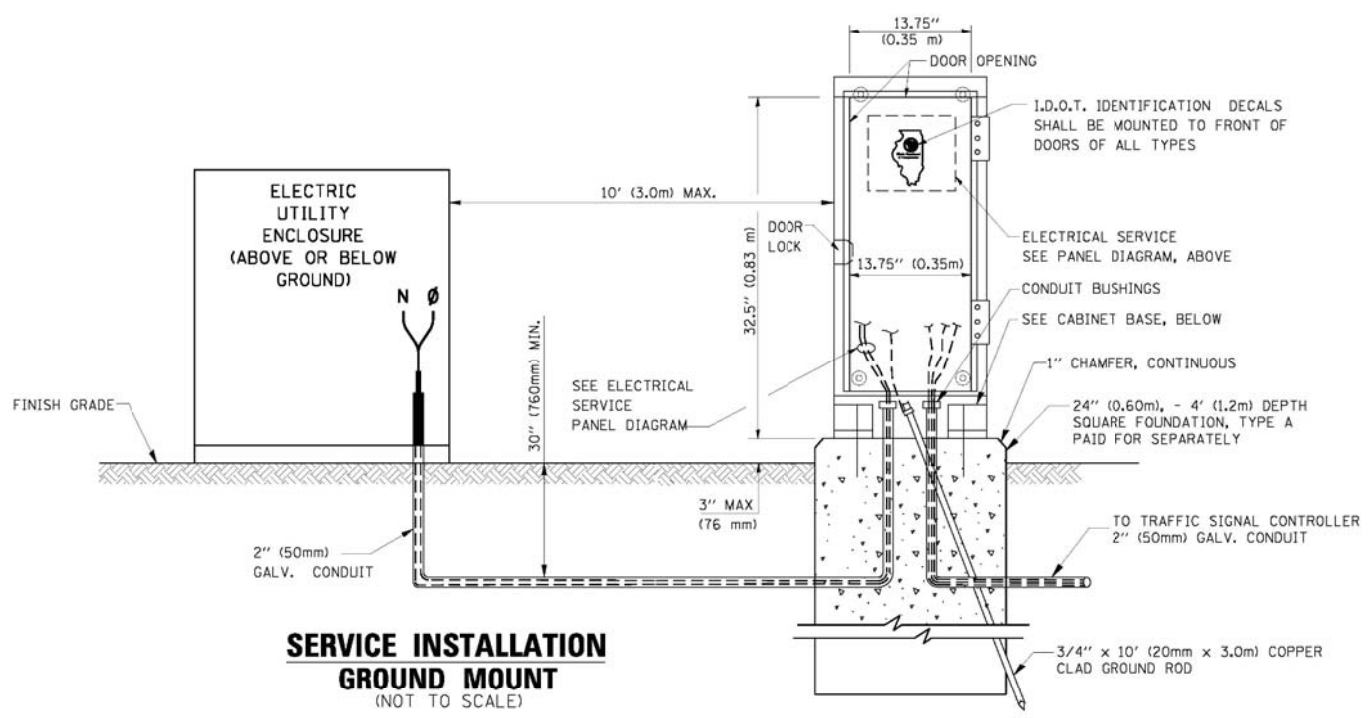
- NOTES:**
- GROUNDING SYSTEM**
1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
  2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
  3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
  4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE) SERVICE INSTALLATION POLE MOUNT (SHOWN) (NOT TO SCALE)**

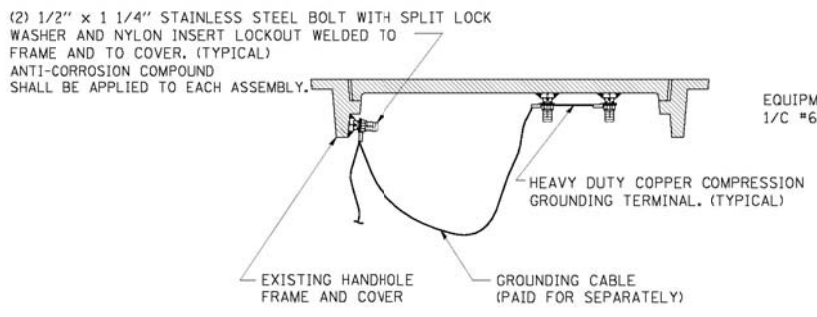


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES. 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES. 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

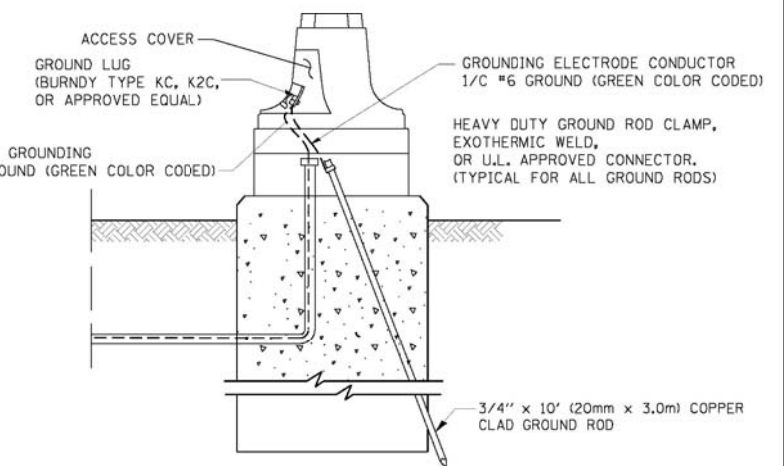
**HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**



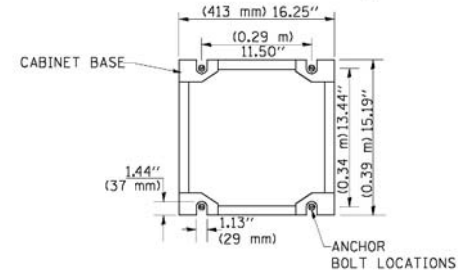
**SERVICE INSTALLATION GROUND MOUNT (NOT TO SCALE)**



**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**

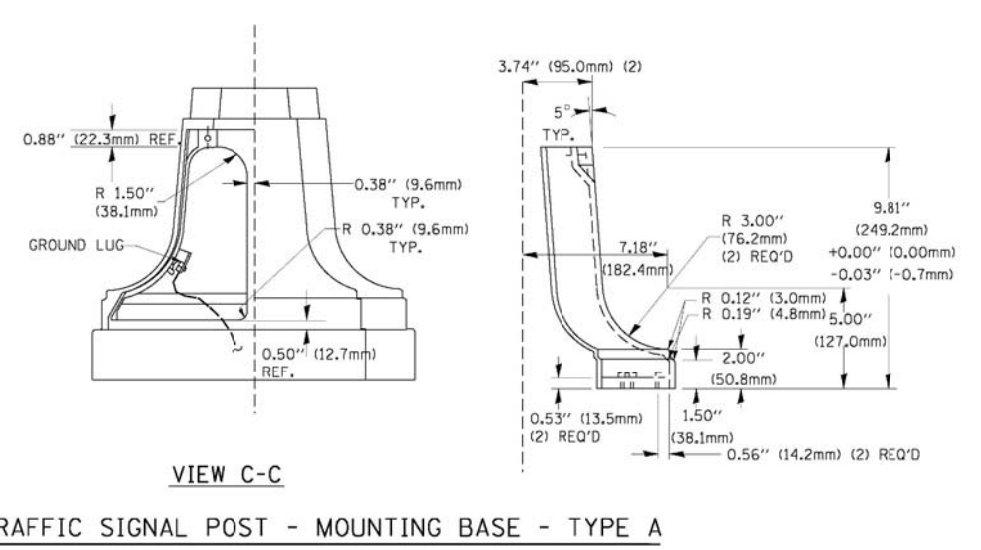
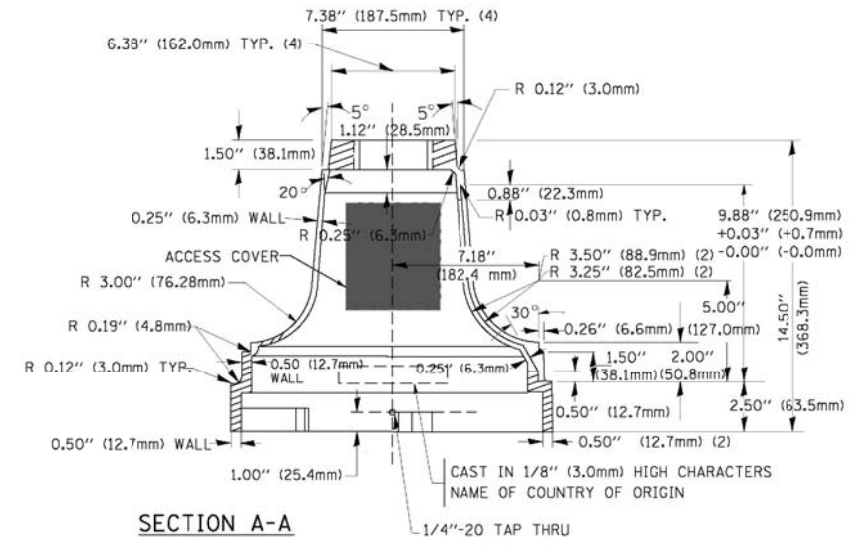
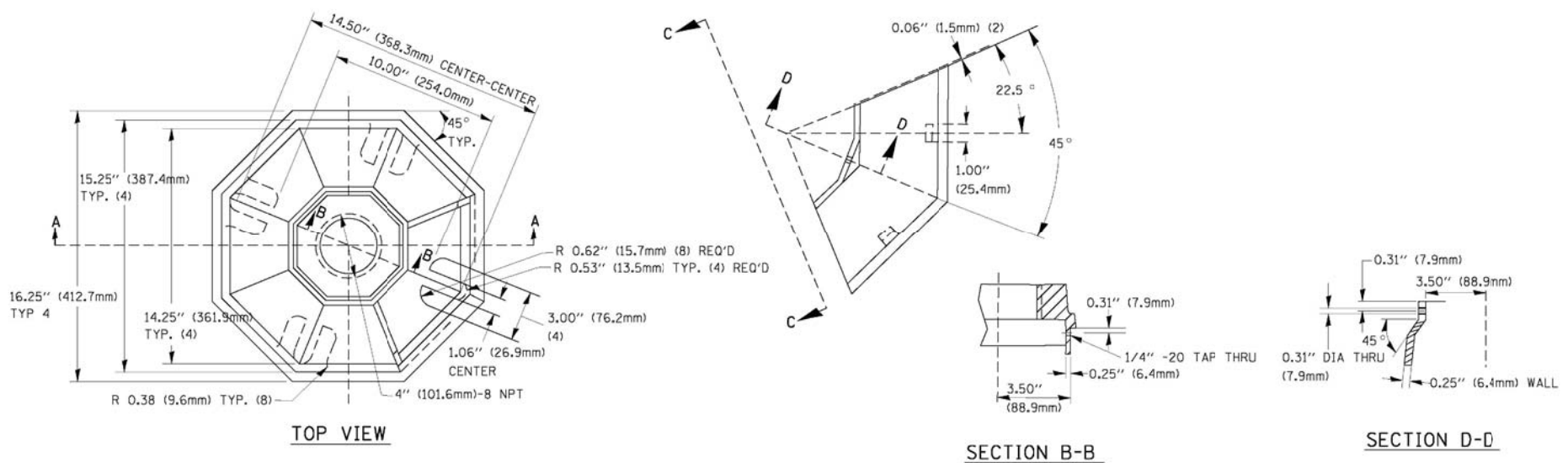


**MAST ARM POLE / POST-GROUNDING DETAIL (NOT TO SCALE)**

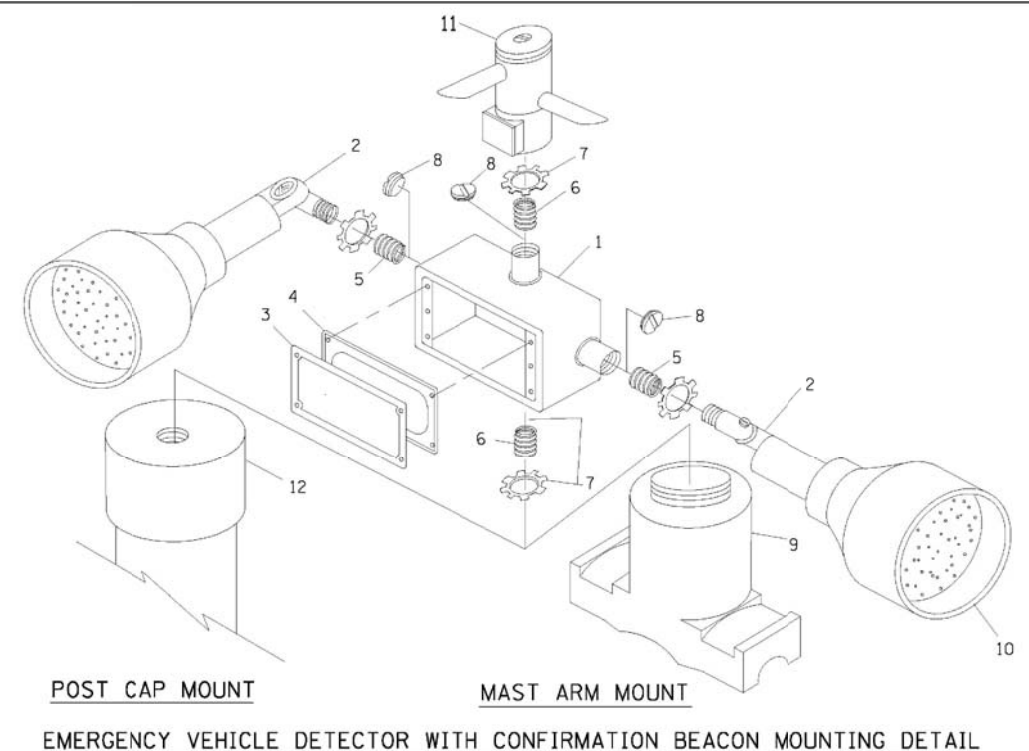


**CABINET - BASE BOLT PATTERN (NOT TO SCALE)**

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
N:\Projects\312004\Design\CAD\Sheet Files\12-001 Sheets SE Lake Co\60741\DOT DETAIL_3	DRAWN - JDH	CHECKED - KMM	REVISED -			2012-003 I	LAKE	102	12		
PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISOR -	REVISED -			CONTRACT NO. 60741					
PLOT DATE = 3/28/2012	DATE -	REVISOR -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: N.T.S.	SHEET NO. 3 OF 6 SHEETS	STA.	TO STA.			



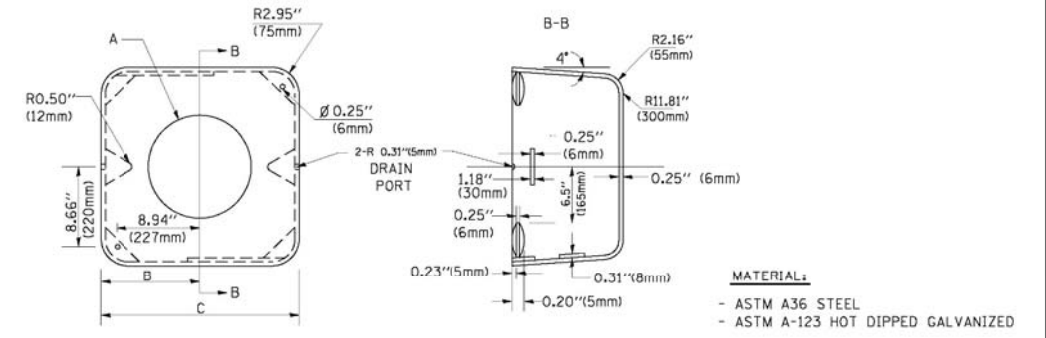
TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\" (19 mm) CLOSE NIPPLE
7	3/4\" (19 mm) LOCKNUT
8	3/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [8 FT. (5.4 m) POST MIN.]

- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
 ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
 ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

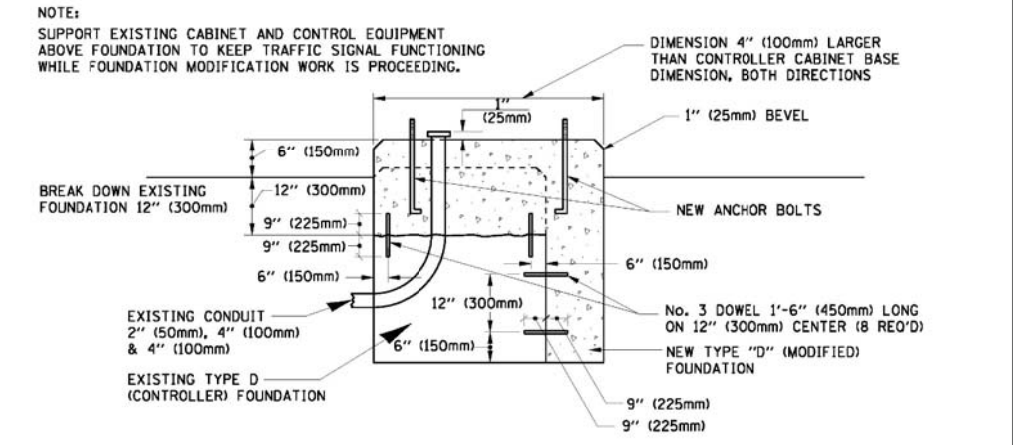
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



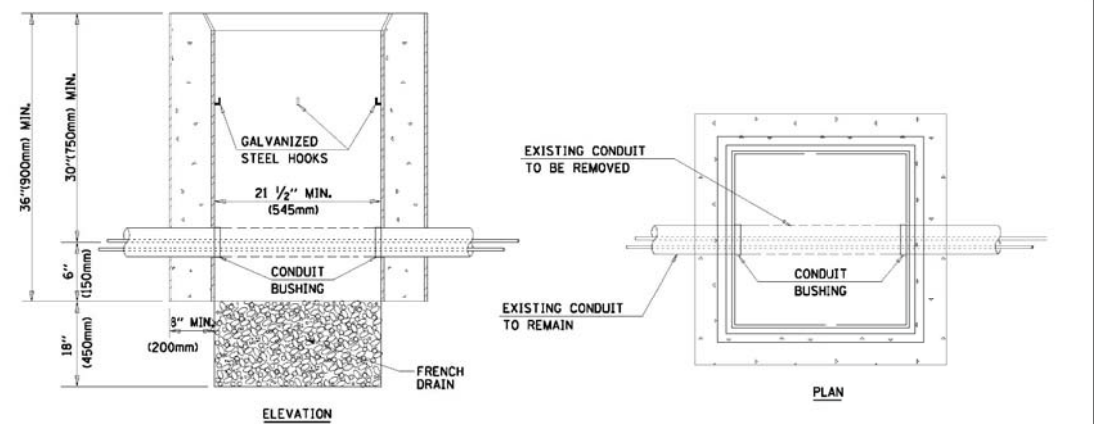
A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\" (241mm)	19\" (483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIABLES	10.75\" (273mm)	21.5\" (546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIABLES	13.0\" (330mm)	26\" (660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIABLES	18.5\" (470mm)	37\" (940mm)	7\" (178mm) - 12\" (300mm)	126 lbs (57 kg)

SHROUD

- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

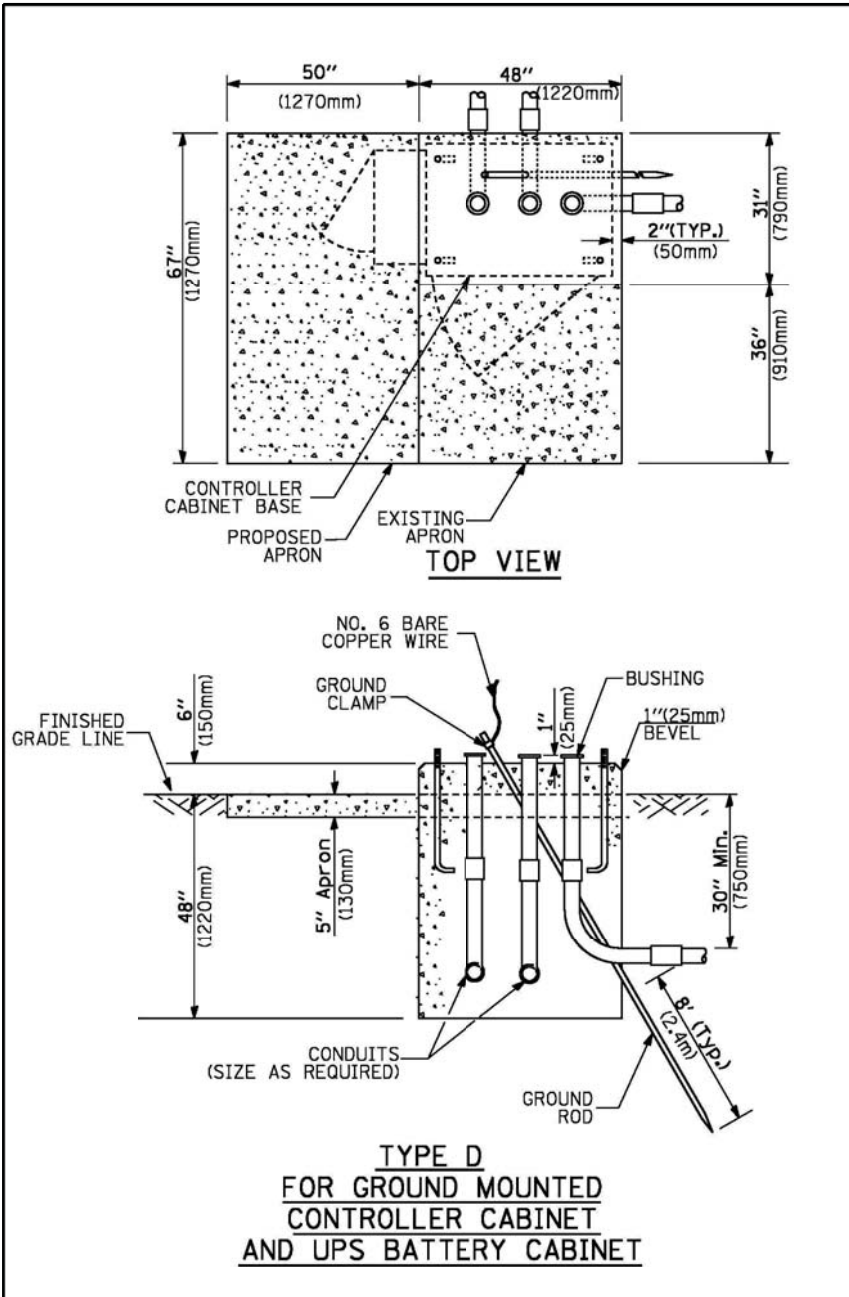


MODIFY EXISTING TYPE "D" FOUNDATION

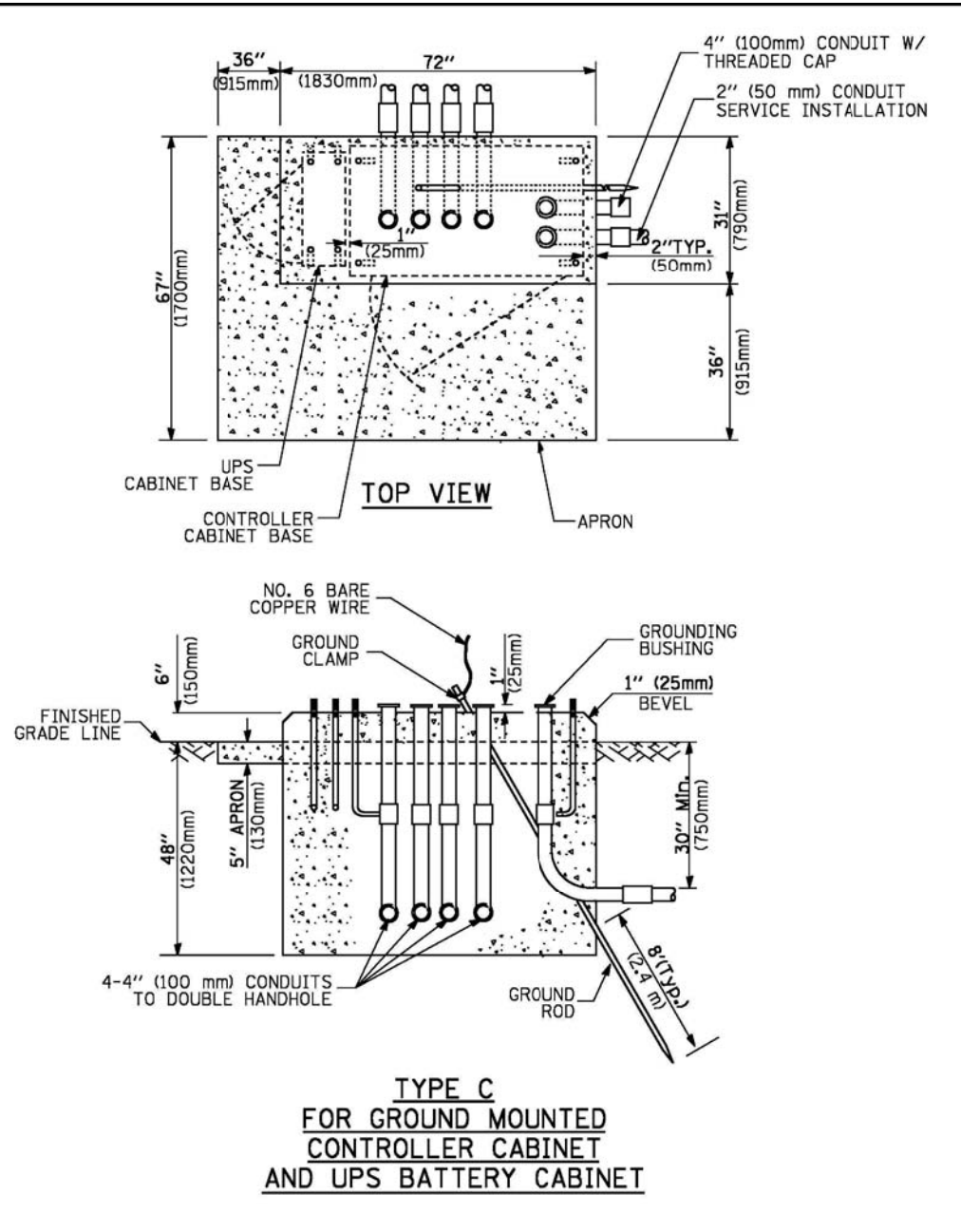


- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
  - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

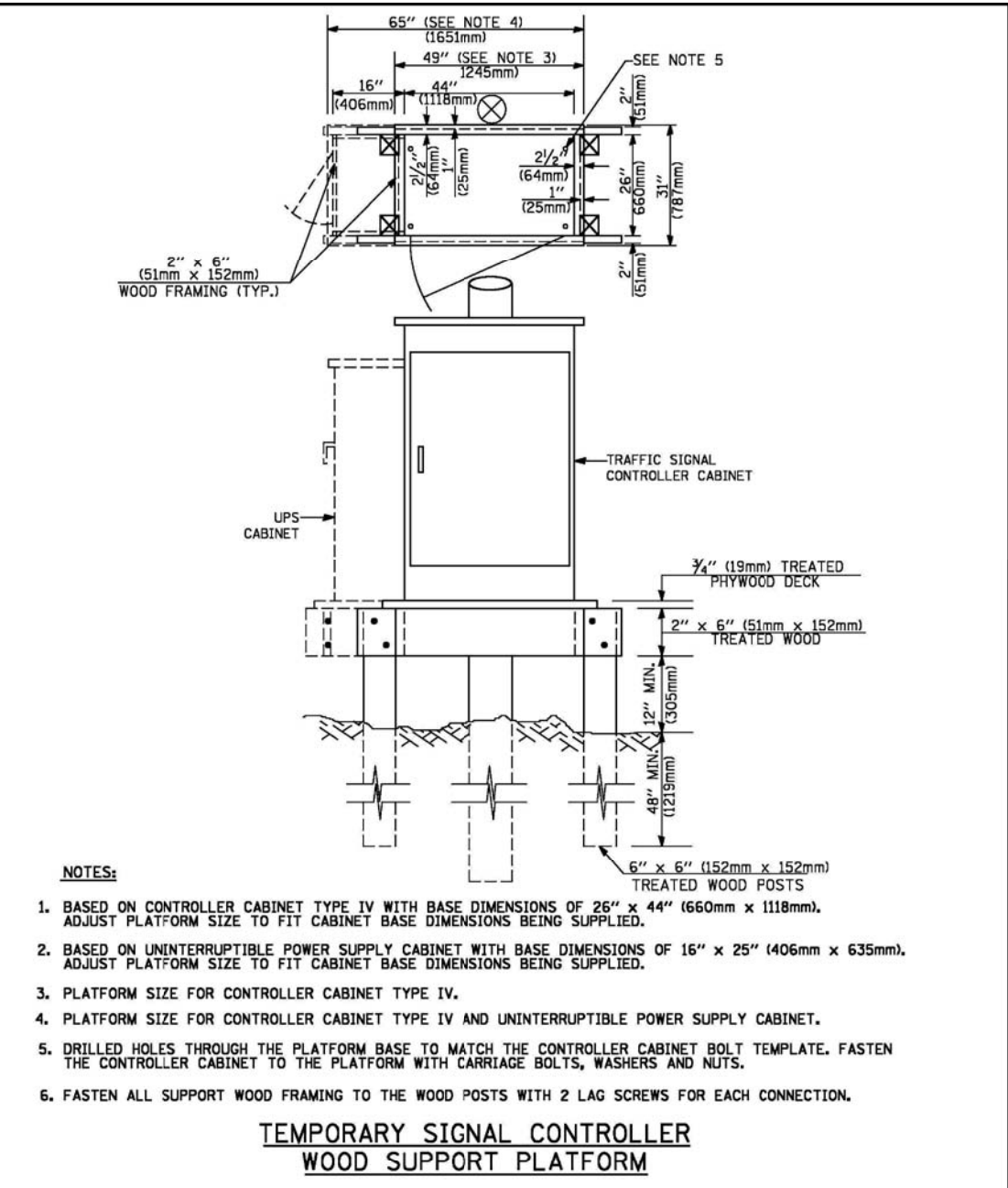
HANDHOLE TO INTERCEPT EXISTING CONDUIT



**TYPE D  
 FOR GROUND MOUNTED  
 CONTROLLER CABINET  
 AND UPS BATTERY CABINET**



**TYPE C  
 FOR GROUND MOUNTED  
 CONTROLLER CABINET  
 AND UPS BATTERY CABINET**



- NOTES:**
1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
  4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
  5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
  6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
 WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

- NOTES:**
1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
  2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
  3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
  4. For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

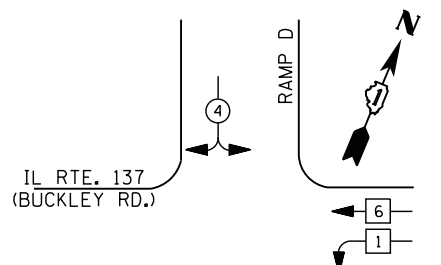
# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
GUY WIRE				ABANDON ITEM				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				EXISTING INTERSECTION LOOP DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				RAILROAD CONTROL CABINET			
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD CANTILEVER MAST ARM			
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				FLASHING SIGNAL			
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				CROSSING GATE			
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				CROSSBUCK			
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

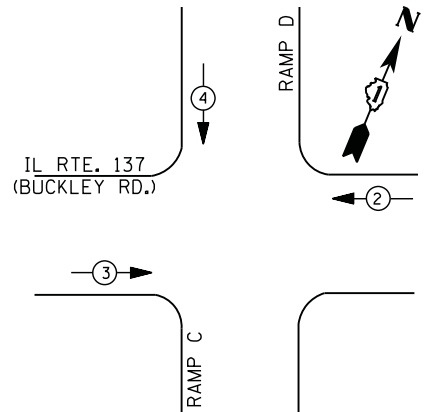
ITEM	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**  
 OVERLAP PERMISSIVE PROTECTED  
 LETTER PHASE PHASE  
 A = 2 + 4

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

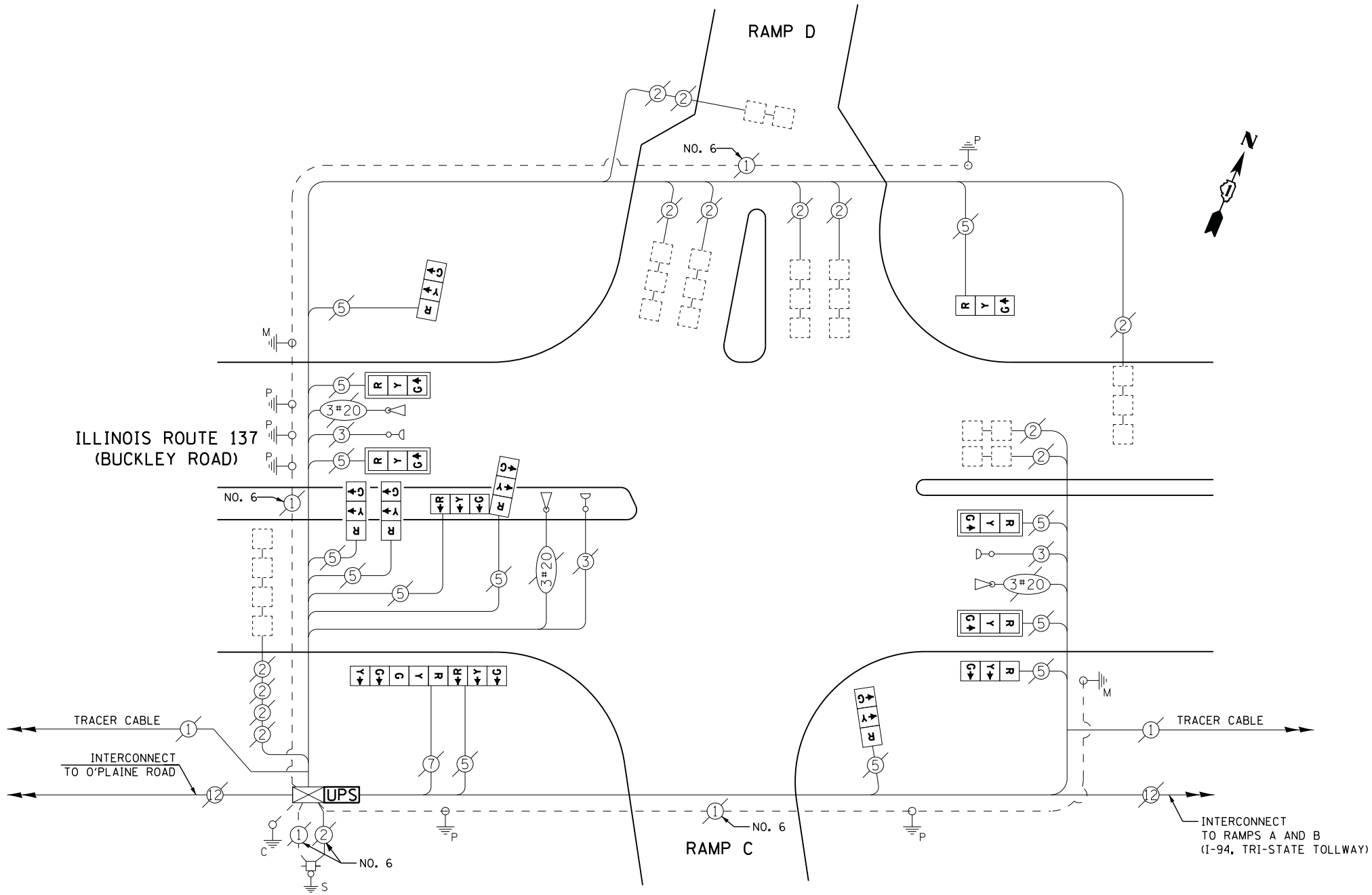
EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT	←	→	↓

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	2	135	12	0.10	2
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					362

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

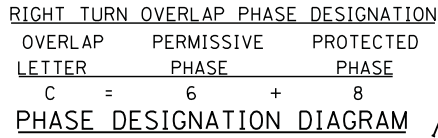
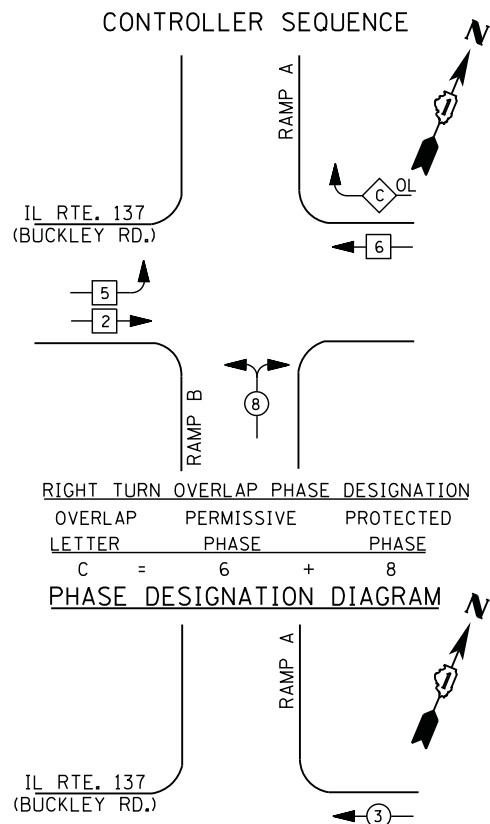
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT

**RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.**

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

TS# 935  
 GREEN OAKS





### EMERGENCY VEHICLE PREEMPTION SEQUENCE

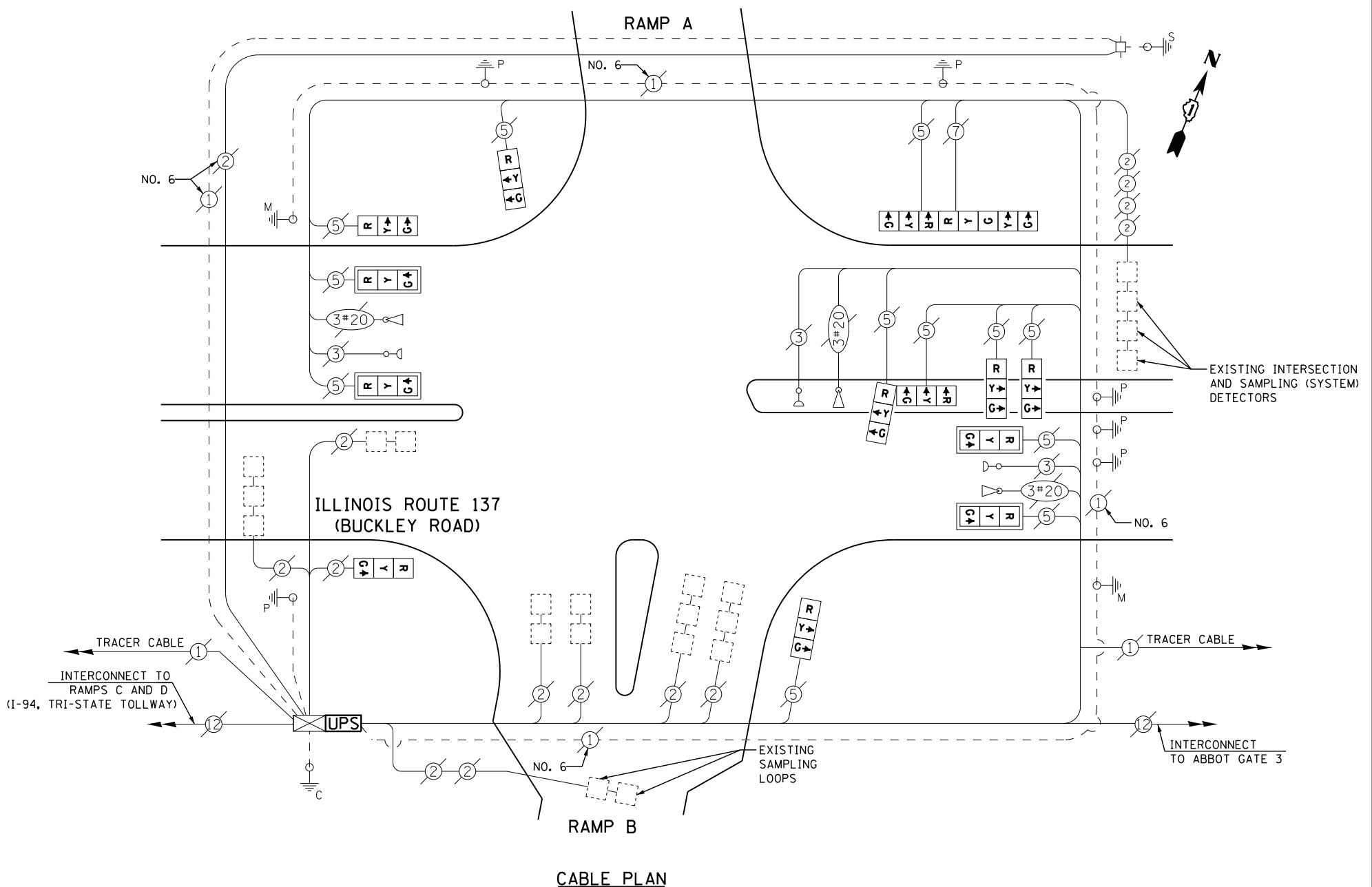
EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT	→	←	↑

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	2	135	12	0.10	2
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					362

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT FERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



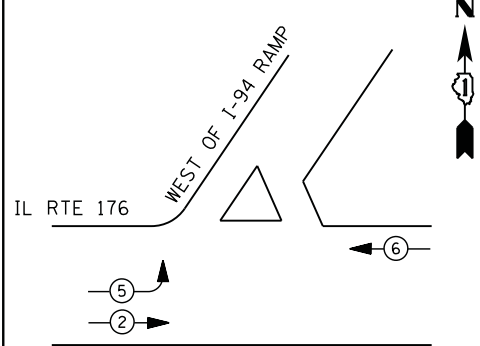
### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

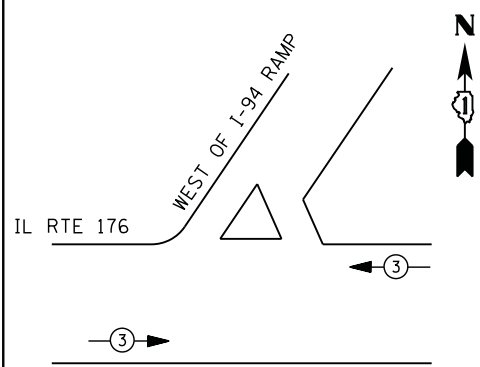
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

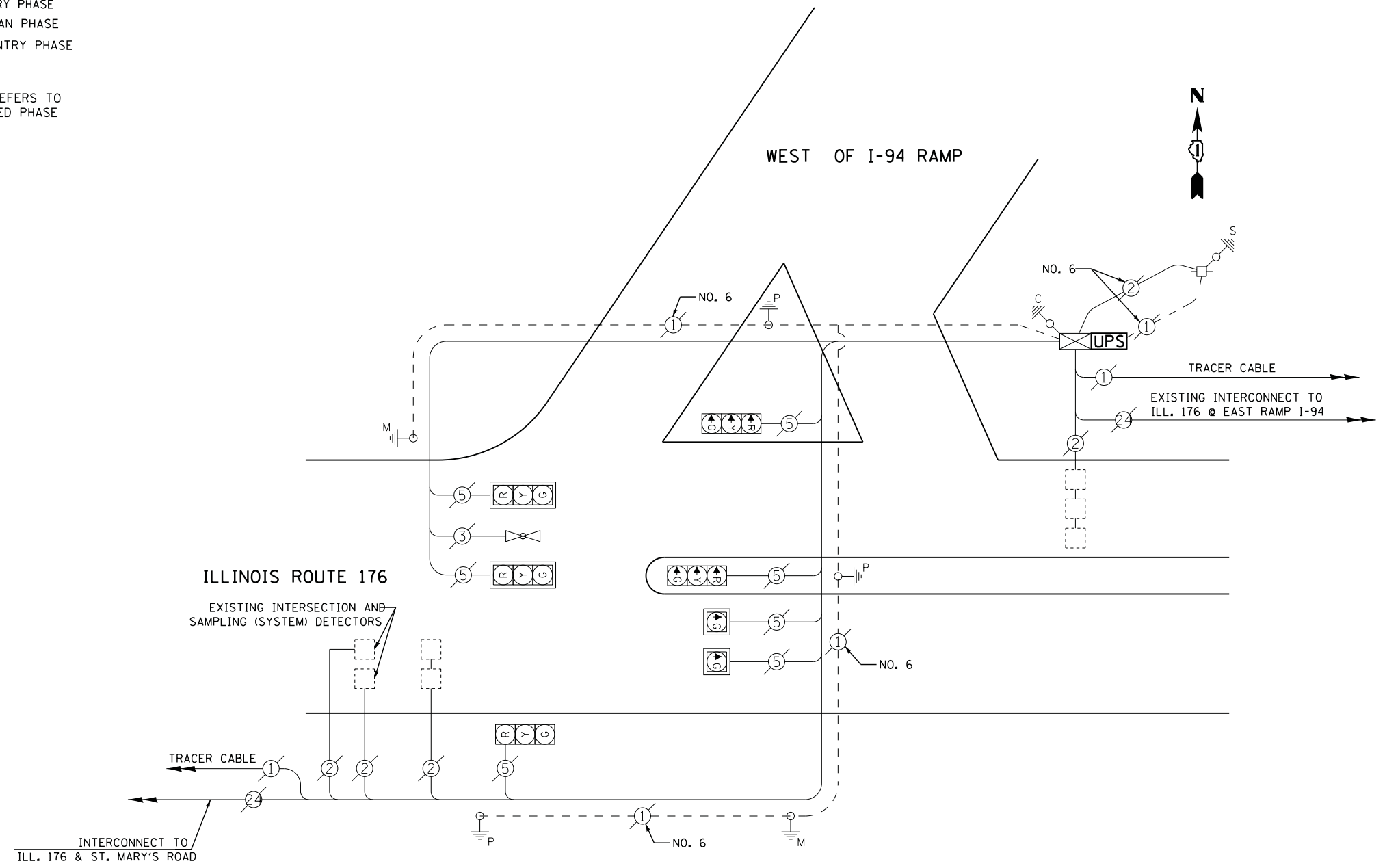
EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	3
MOVEMENT	← →

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	5	135	17	0.50	43
(YELLOW)	5	135	25	0.25	31
(GREEN)	7	135	15	0.25	26
ARROW		135	12	0.10	--
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					200

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

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 DRAWN - JDH  
 CHECKED - KMM  
 DATE -  
 PLOT SCALE = \$SCALE\$  
 PLOT DATE = 3/28/2012

DESIGNED - DW  
 DRAWN - JDH  
 CHECKED - KMM  
 DATE -

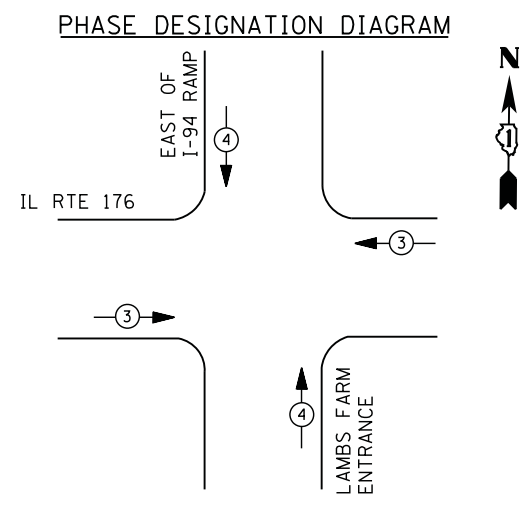
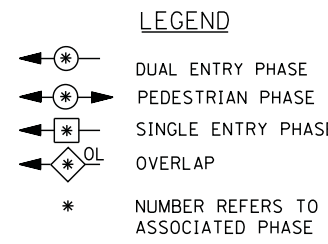
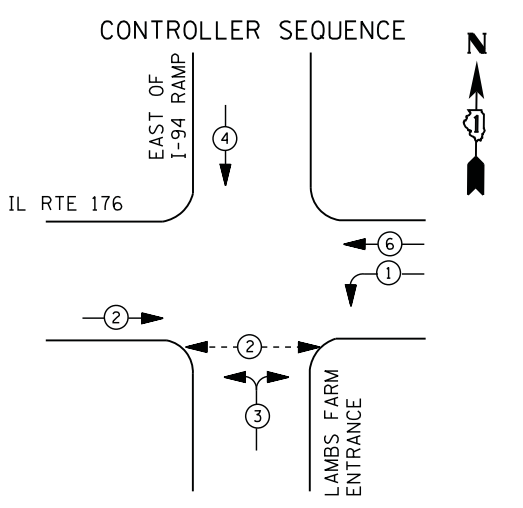
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ILLINOIS ROUTE 176 & WEST OF I-94 RAMP - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	18
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 925  
 GREEN OAKS



### EMERGENCY VEHICLE PREEMPTION SEQUENCE

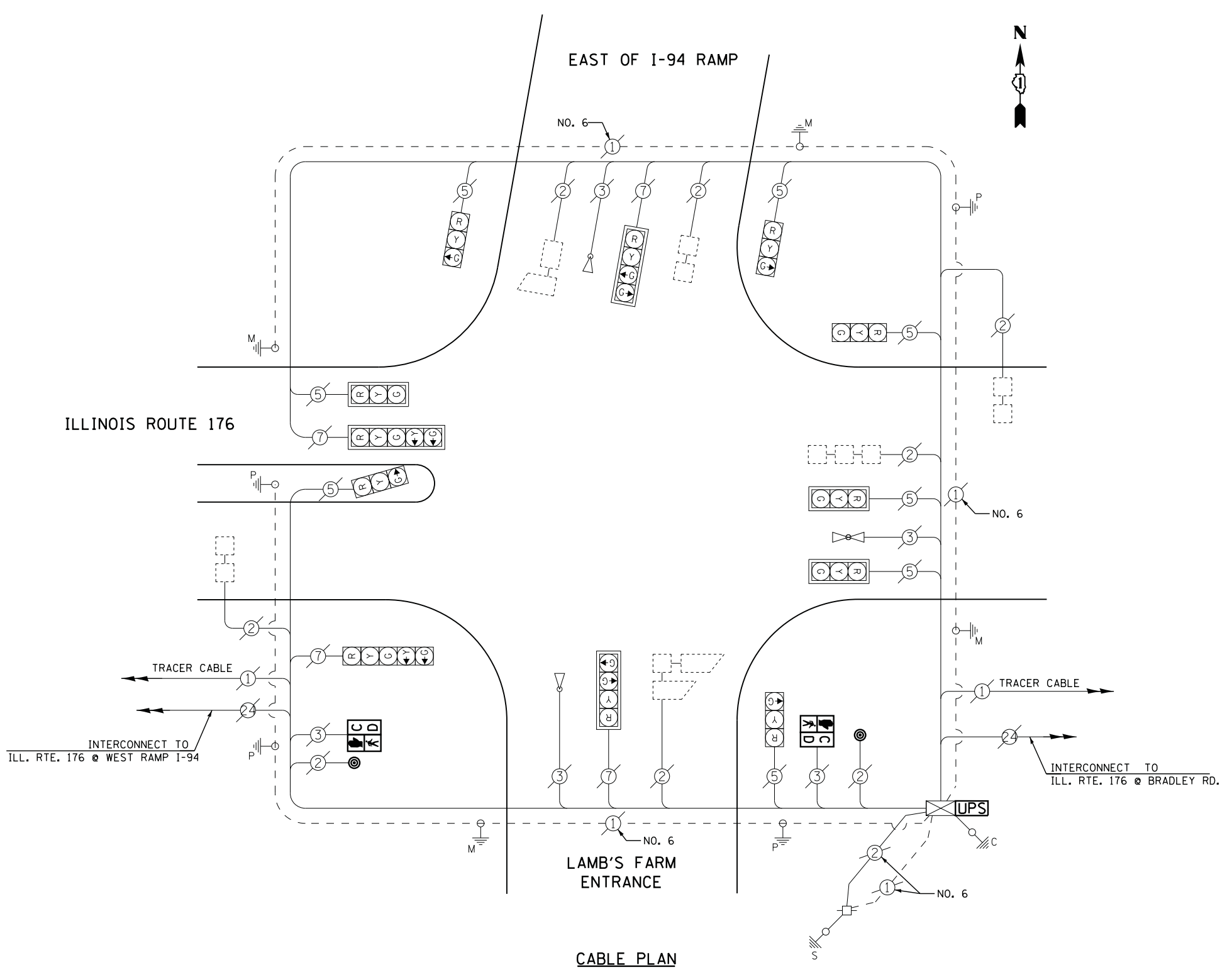
EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	14	135	15	0.25	53
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					385

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON

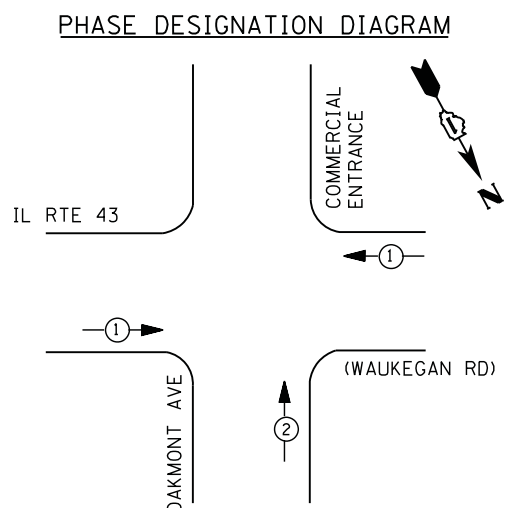
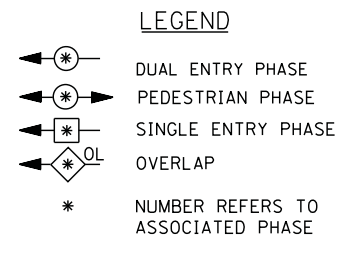
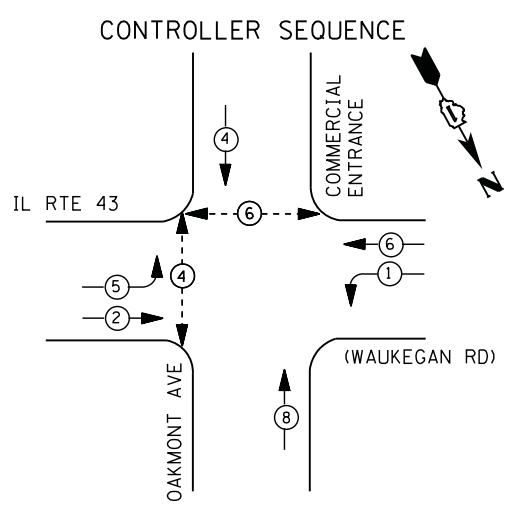
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	PLOT DATE = 3/28/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL RTE. 176 & EAST OF I-94 RAMP/LAMBS FARM ENTR. - CABLE PLAN  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	19
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 930  
 GREEN OAKS



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	←	↑

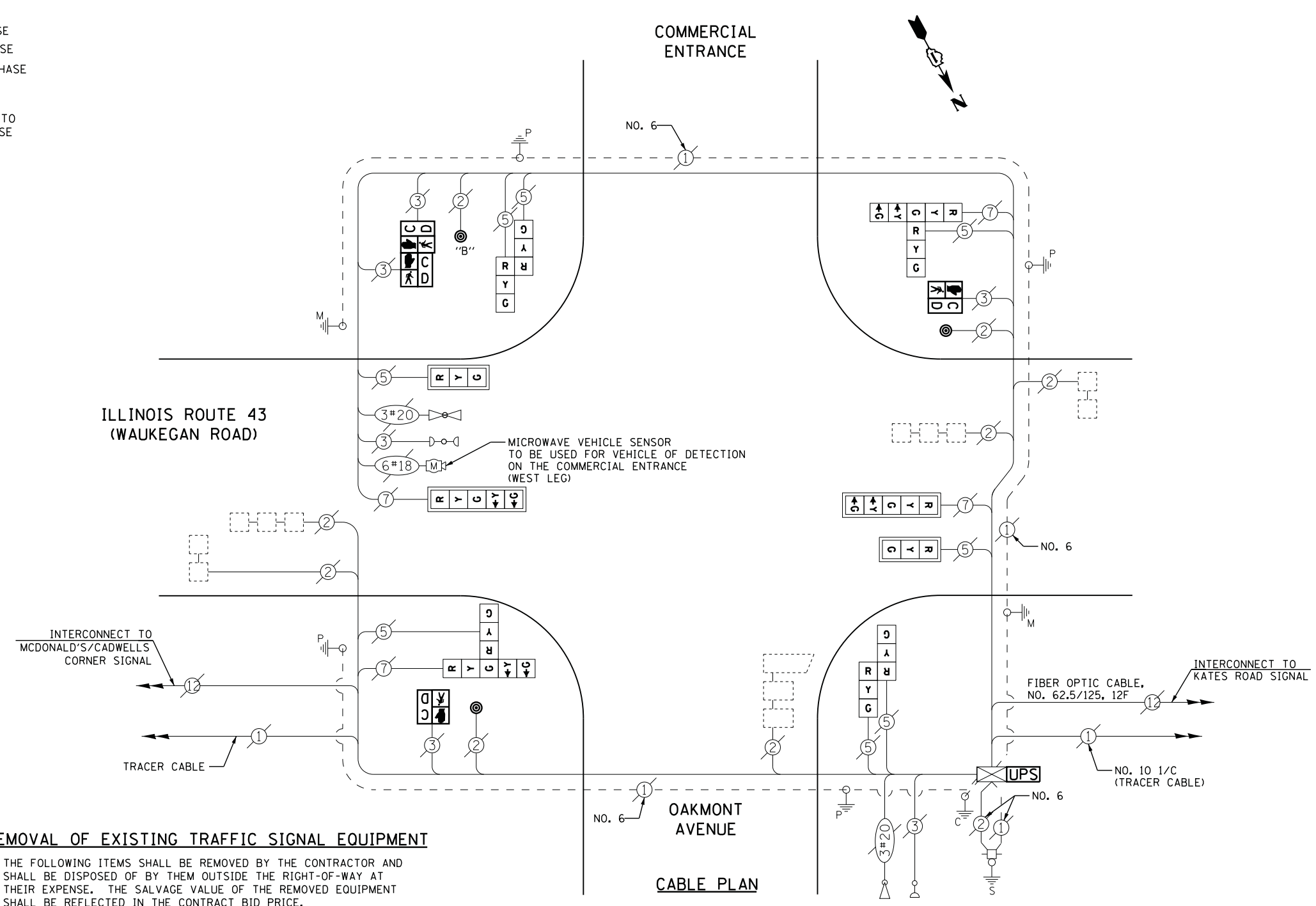
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					432

ENERGY COSTS- BILLED TO: VILLAGE OF DEERFIELD  
 850 WAUKEGAN ROAD  
 DEERFIELD, IL 60015

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**ILLINOIS ROUTE 43 (WAUKEGAN ROAD)**



**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 3 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

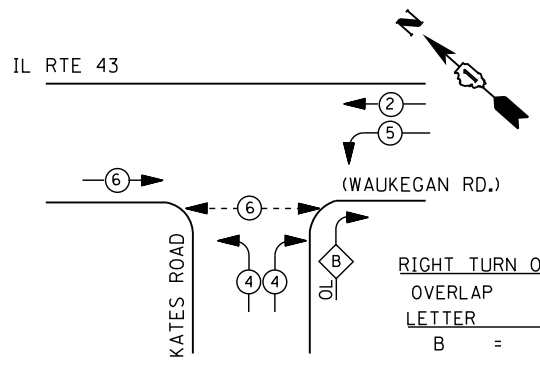
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

NOTE: PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**CONTROLLER SEQUENCE**



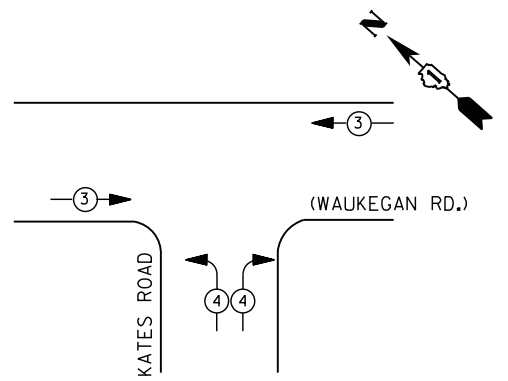
**LEGEND**

- ⊛ DUAL ENTRY PHASE
- ⊛ PEDESTRIAN PHASE
- ⊛ SINGLE ENTRY PHASE
- ⊛ OL OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	← ↘ ↙ →

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					396

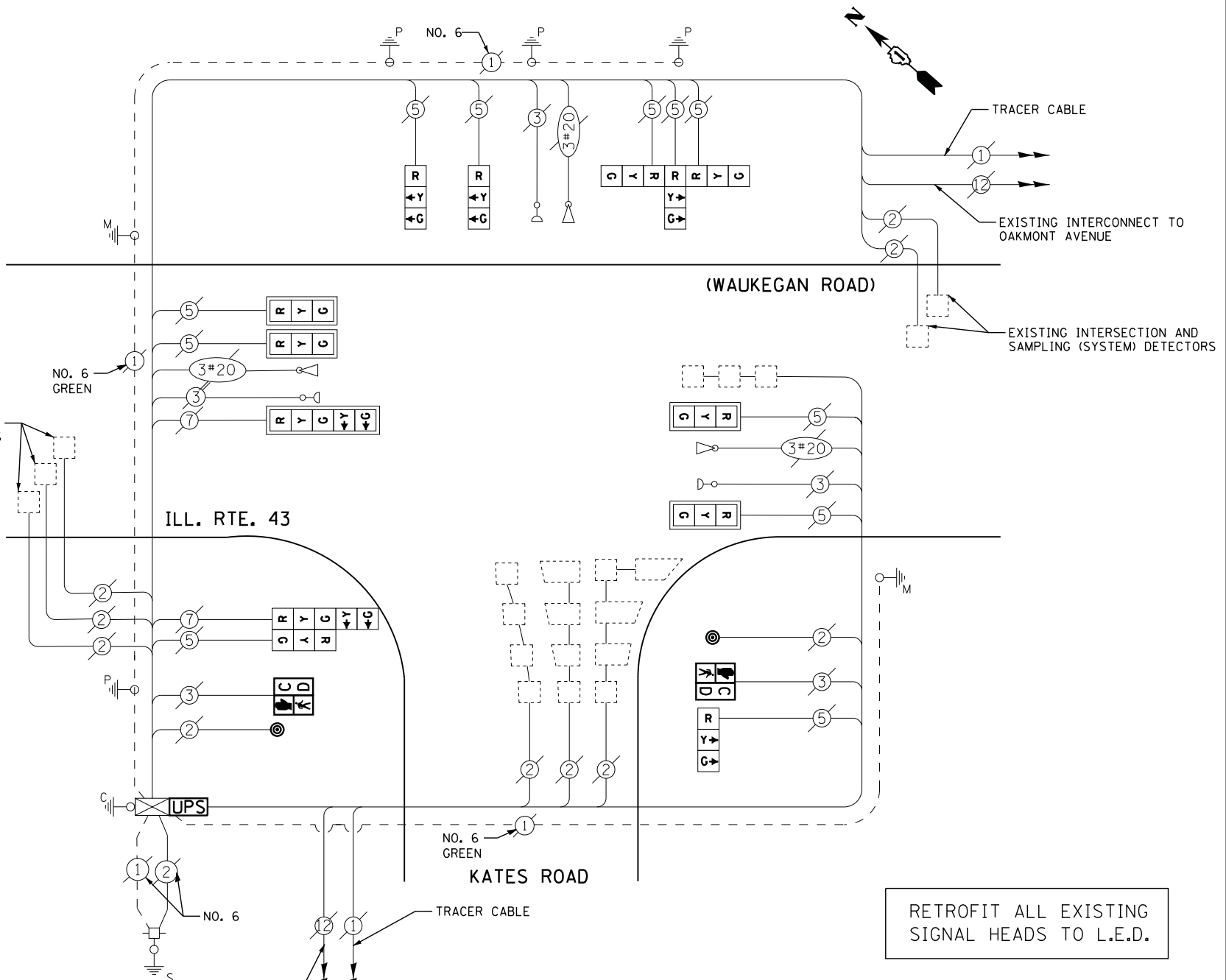
ENERGY COSTS- **BILLED TO: VILLAGE OF DEERFIELD**  
 850 WAUKEGAN ROAD  
 DEERFIELD, IL 60015

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED RETROFIT

**CABLE PLAN**



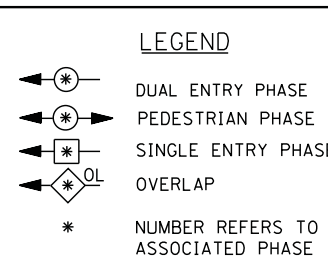
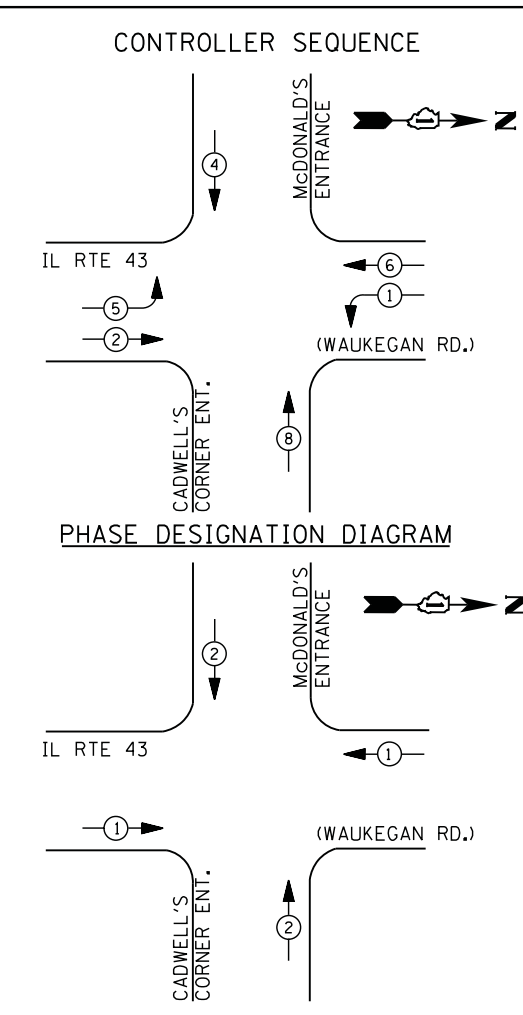
**RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.**

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	← →	↑ ↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	8	135	12	0.10	10
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					370

ENERGY COSTS- **BILLED TO: VILLAGE OF DEERFIELD**  
 850 WAUKEGAN ROAD  
 DEERFIELD, IL 60015

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

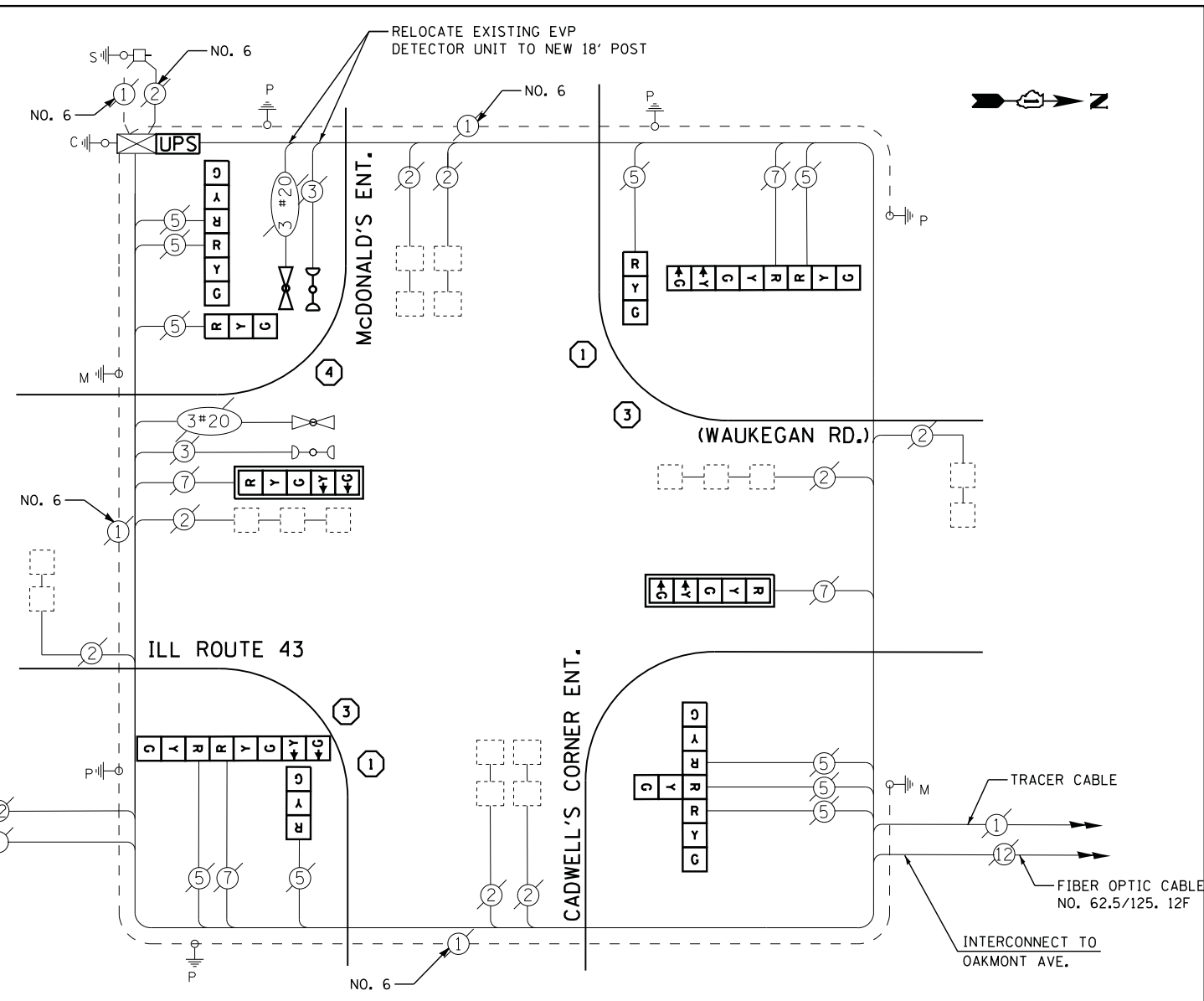
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 10 EACH SIGNAL HEAD, 3 - SECTION
- 4 EACH SIGNAL HEAD, 5 - SECTION
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 5 EACH STEEL POST

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

\* - 100% COST TO VILLAGE OF DEERFIELD



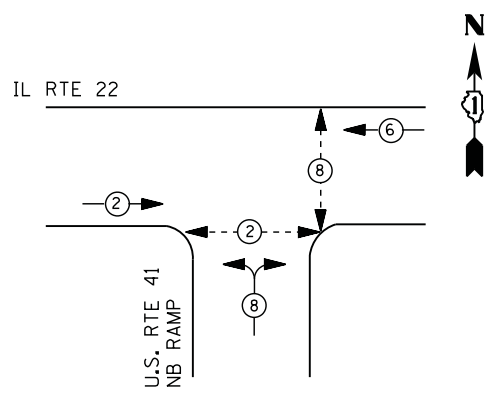
**CABLE PLAN**

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

TS# 12915  
 DEERFIELD

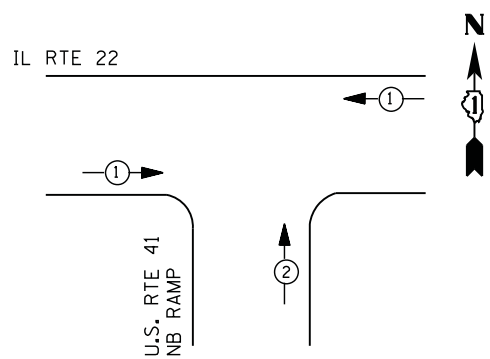
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊙ (with star) DUAL ENTRY PHASE
- ⊙ (with star and arrow) PEDESTRIAN PHASE
- ⊙ (with star and arrow) SINGLE ENTRY PHASE
- ⊙ (with star and OL) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	←	↑

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

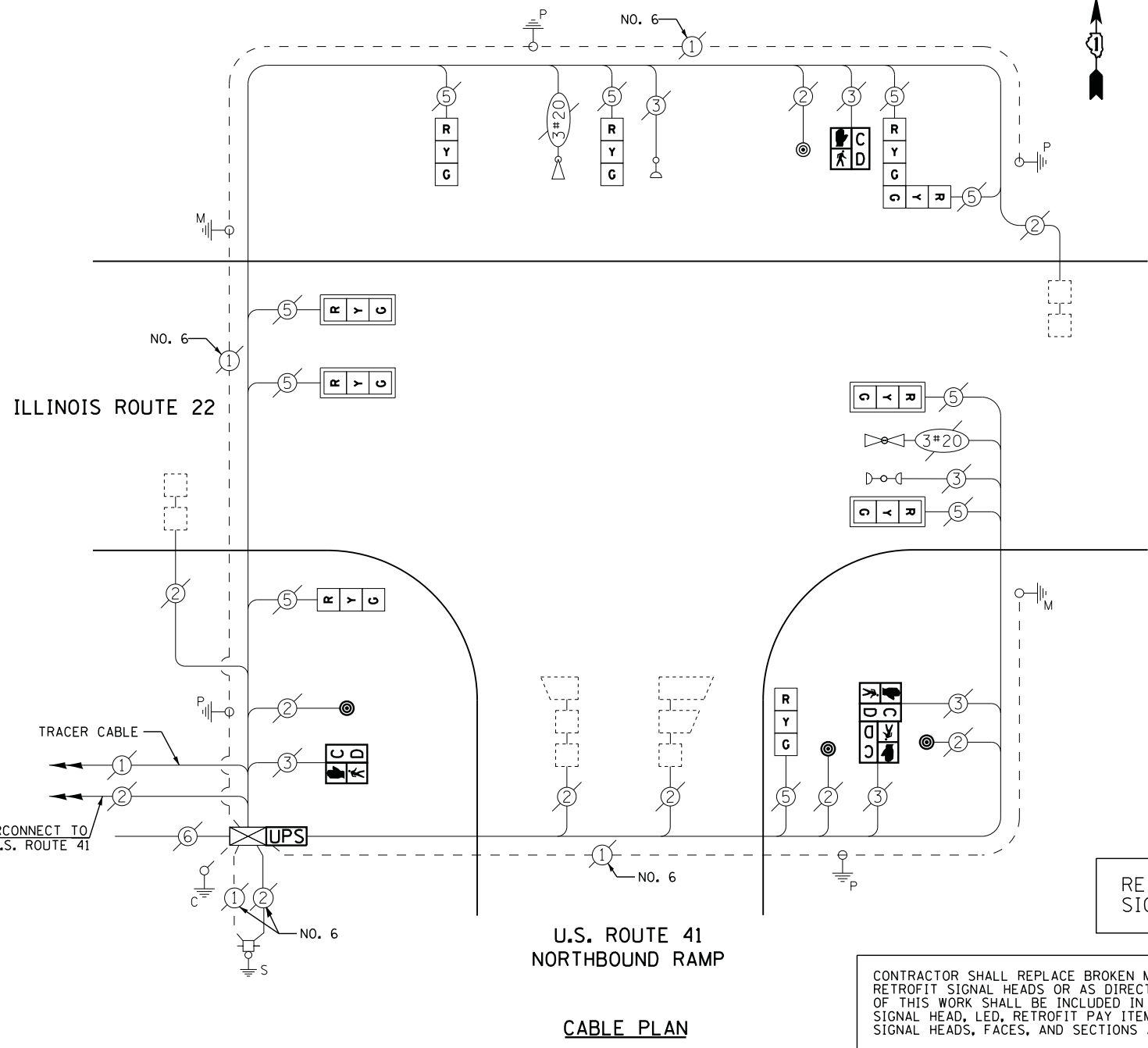
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	85
(YELLOW)	10	135	25	0.25	63
(GREEN)	10	135	15	0.25	38
ARROW	0	135	12	0.10	--
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	1	252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	--
TOTAL =					386

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4 EACH PEDESTRIAN SIGNAL HEAD  
 4 EACH PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06543.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

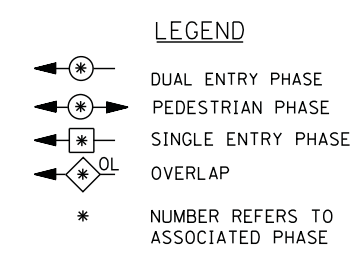
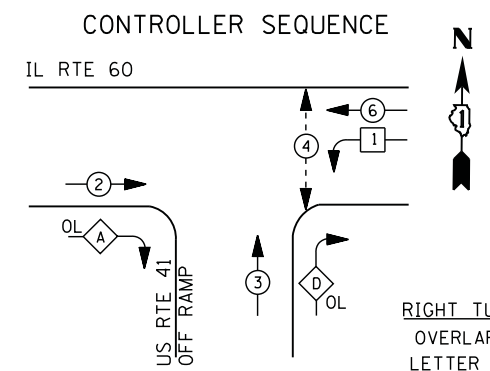
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 22 & U.S. ROUTE 41 NORTHBOUND RAMP - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	23
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

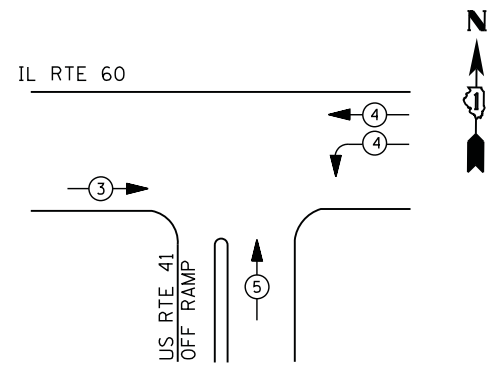
TS# 6543  
 HIGHLAND PARK



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
D =	3 +	1

PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

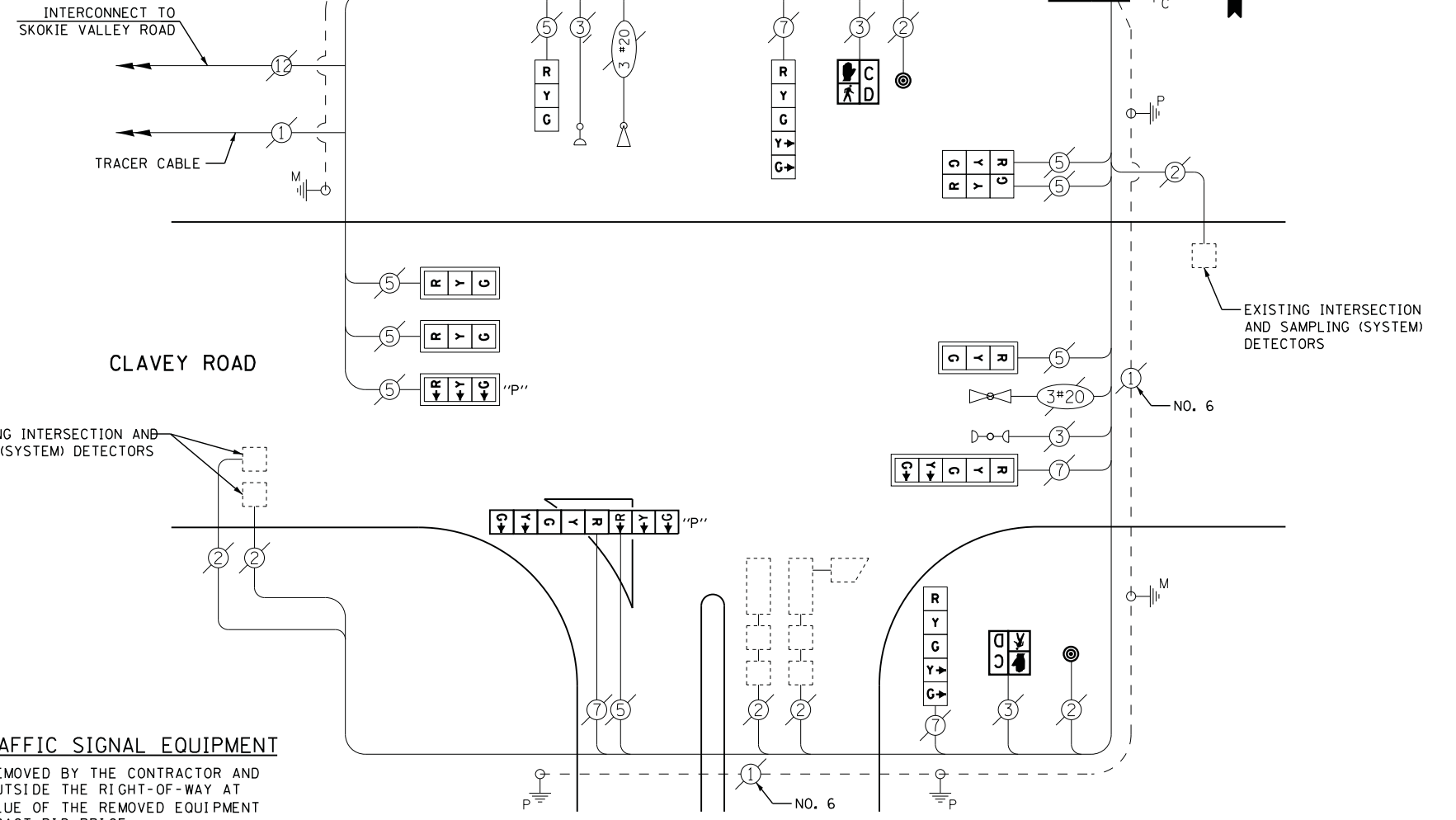
EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↑

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					382

ENERGY COSTS- BILLED TO: CITY OF HIGHLAND PARK  
 1707 ST. JOHNS AVENUE  
 HIGHLAND PARK, IL 60035

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON



CLAVEY ROAD

U.S. ROUTE 41 OFF RAMP

CABLE PLAN

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH SIGNAL HEAD, 1 - FACE, 3 - SECTION
- 1 EACH SIGNAL HEAD, 1 - FACE, 5 - SECTION
- 5 EACH TRAFFIC SIGNAL BACKPLATE

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
1	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
5	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
5	EACH	INDUCTIVE LOOP DETECTOR
2	EACH	PEDESTRIAN PUSH-BUTTON
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT

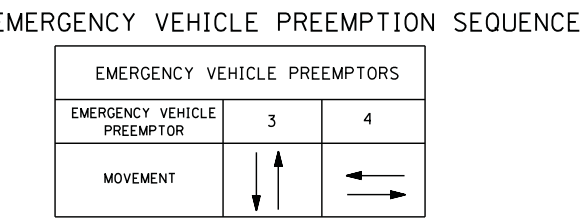
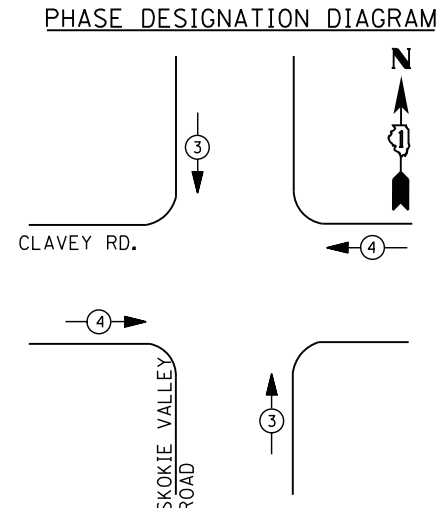
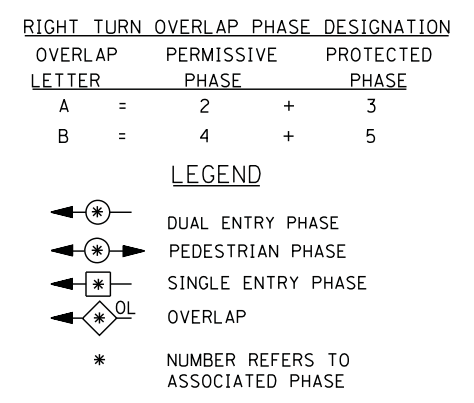
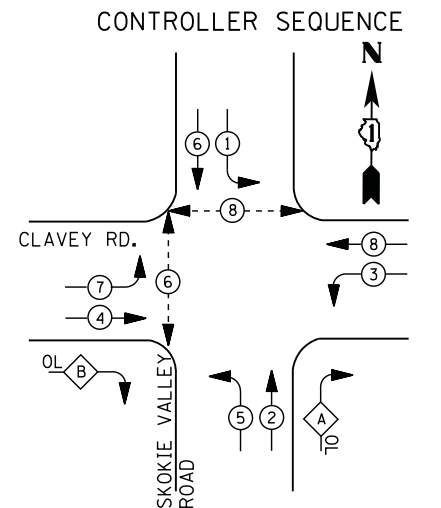
\* - 100% COST TO CITY OF HIGHLAND PARK

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.





I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	15	135	17	0.50	128
(YELLOW)	15	135	25	0.25	94
(GREEN)	15	135	15	0.25	56
ARROW	24	135	12	0.10	29
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					507

ENERGY COSTS- BILLED TO: CITY OF HIGHLAND PARK  
 1707 ST. JOHNS AVENUE  
 HIGHLAND PARK, IL 60035

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

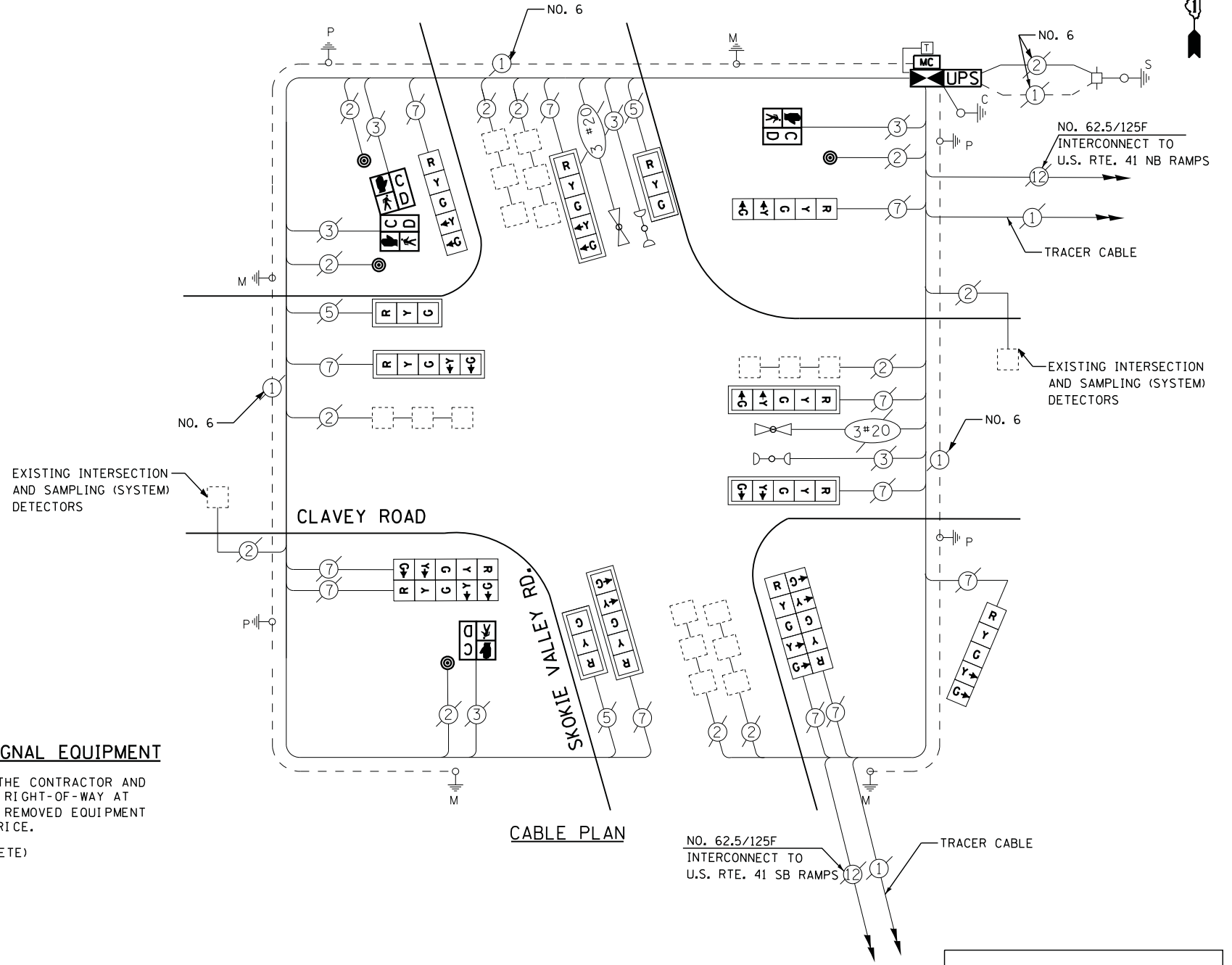
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH MASTER CONTROLLER
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON
- 8 EACH TRAFFIC SIGNAL BACKPLATE

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MASTER CONTROLLER (SPECIAL)
1	EACH	TRANSCEIVER - FIBER OPTIC
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
8	EACH	INDUCTIVE LOOP DETECTOR
4	EACH	PEDESTRIAN PUSH-BUTTON
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

\* - 100% COST TO CITY OF HIGHLAND PARK

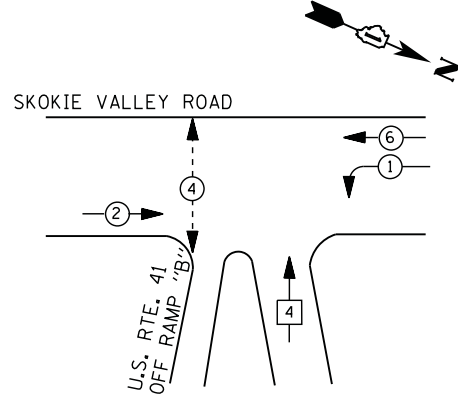


RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

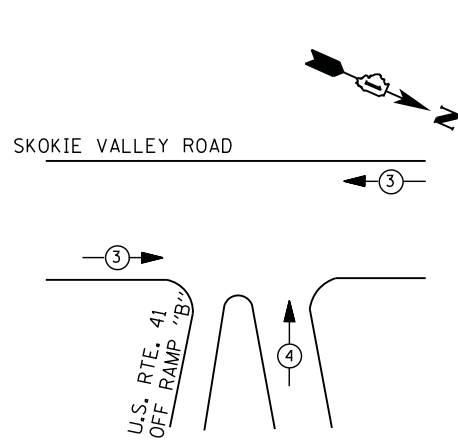
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					341

ENERGY COSTS- **BILLED TO: CITY OF HIGHLAND PARK**  
 1707 ST. JOHNS AVENUE  
 HIGHLAND PARK, IL 60035

ENERGY SUPPLY - **CONTACT: TERRI BLECK**  
 PHONE: 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**

- ⊙ (with two arrows) DUAL ENTRY PHASE
- ⊙ (with one arrow) PEDESTRIAN PHASE
- ⊙ (with one arrow and 'OL') SINGLE ENTRY PHASE
- ⊙ (with one arrow and 'OL') OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

SKOKIE VALLEY RD.

ON RAMP

**CABLE PLAN**

OFF RAMP

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**SCHEDULE OF QUANTITIES**

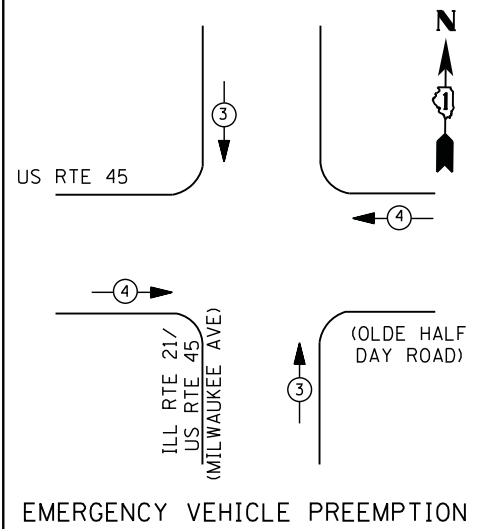
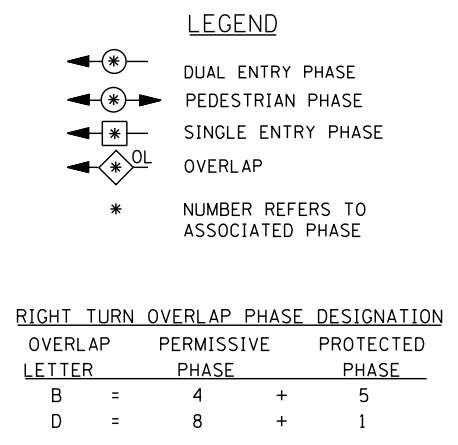
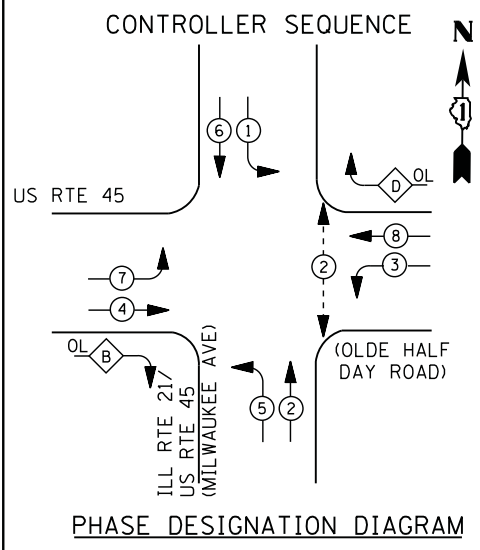
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH TRAFFIC SIGNAL BACKPLATE

TS# 11877  
 HIGHLAND PARK



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓ ↑	← →

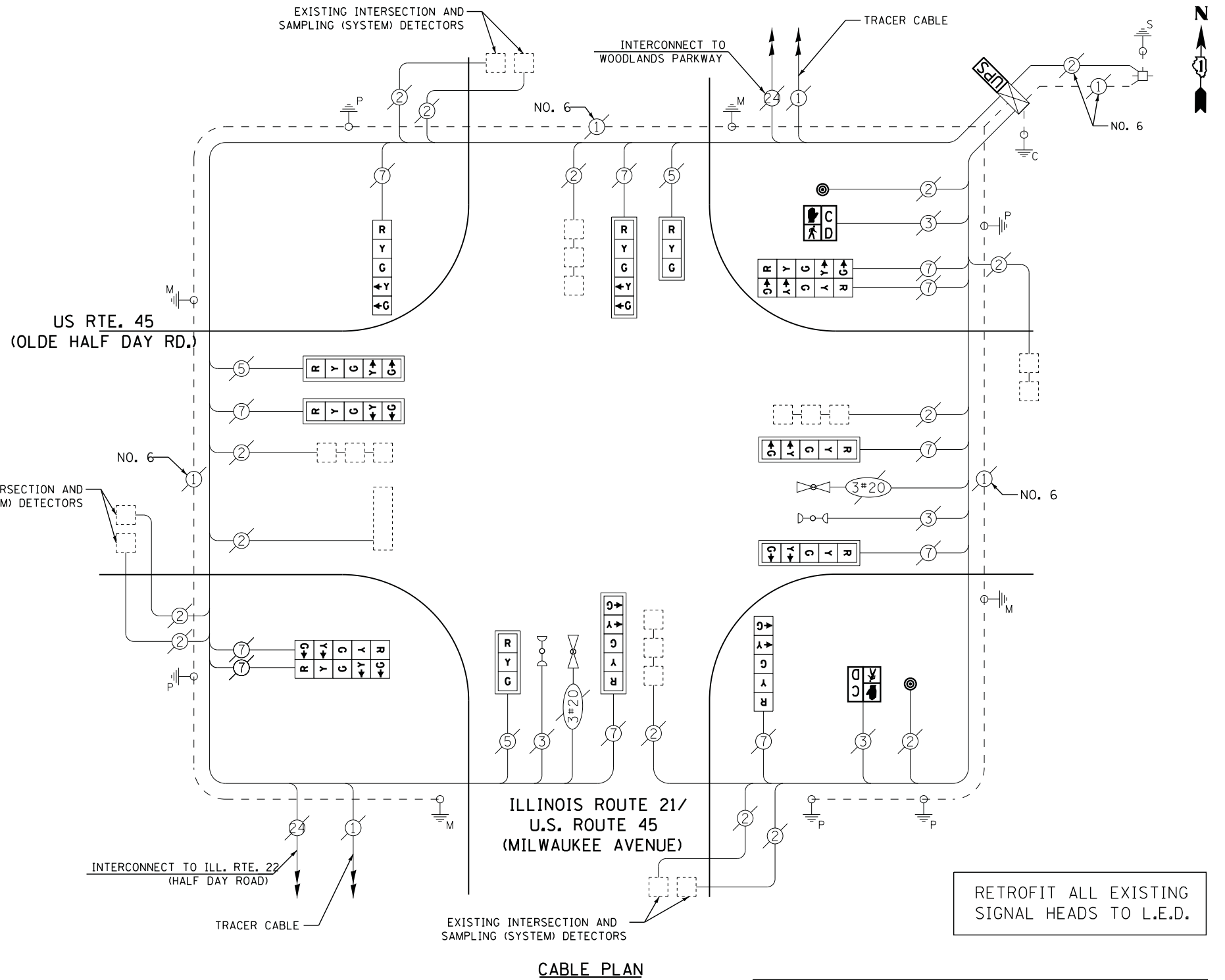
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	24	135	12	0.10	29
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					439

ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

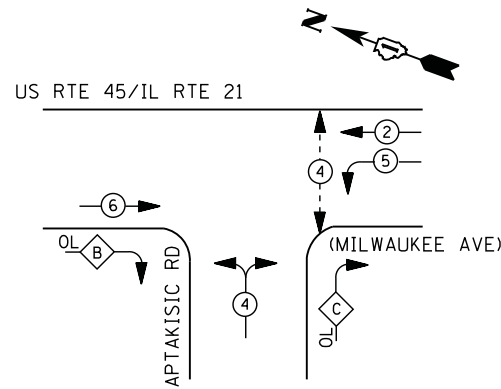
CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

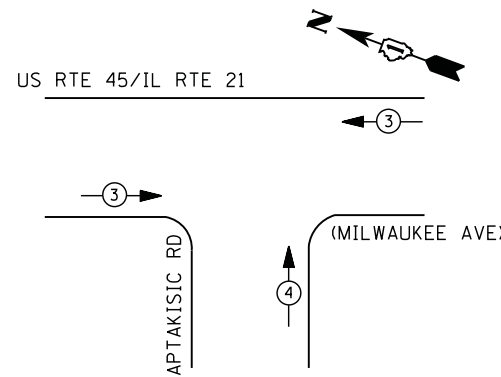
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH PEDESTRIAN SIGNAL HEAD  
 2 EACH PEDESTRIAN PUSH-BUTTON

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↑

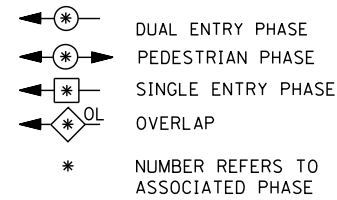
**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	12	135	12	0.10	14
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					536

ENERGY COSTS- **BILLED TO: VILLAGE OF LINCOLNSHIRE**  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

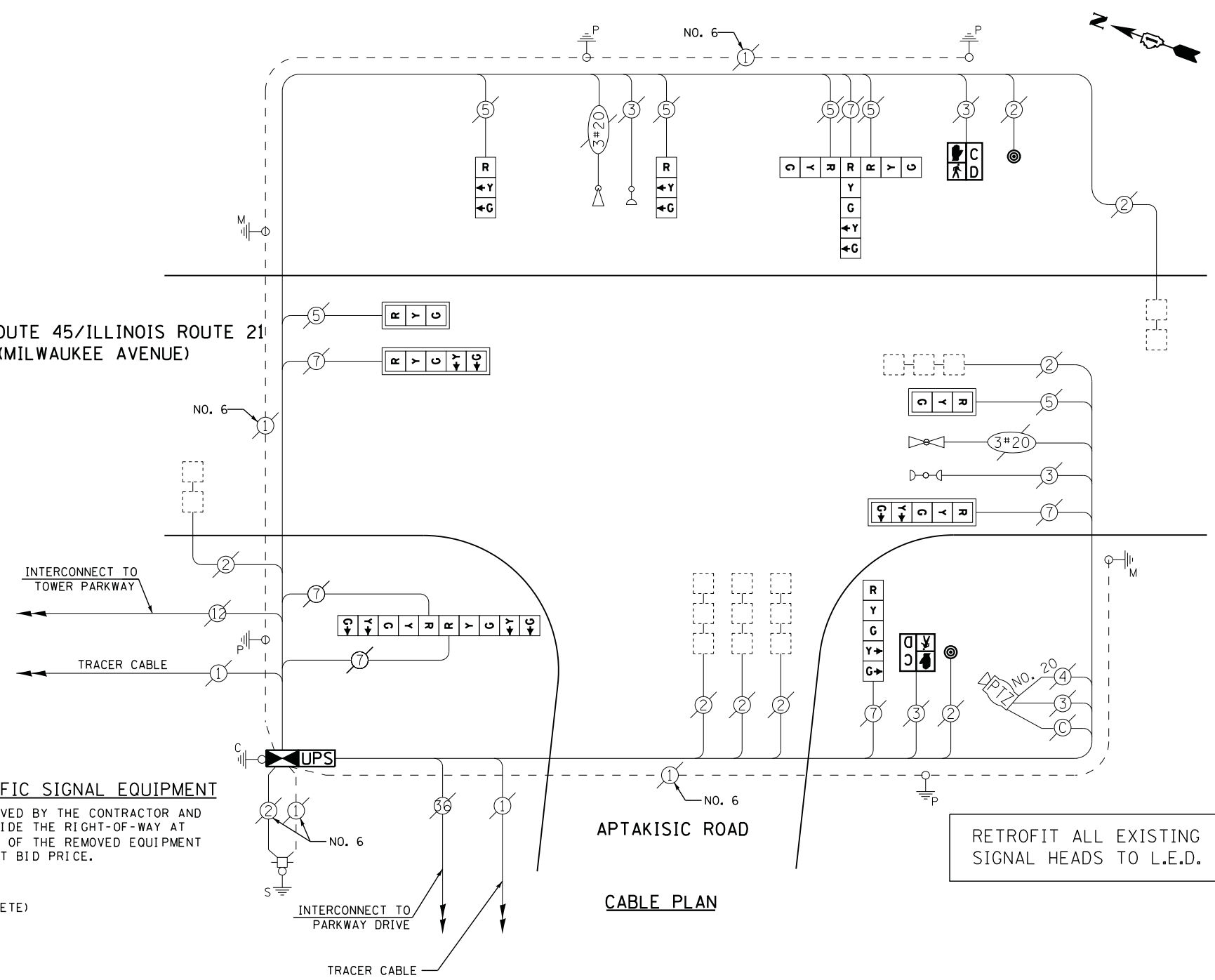
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	6 +	4
C =	4 +	5

**U.S. ROUTE 45/ILLINOIS ROUTE 21  
 (MILWAUKEE AVENUE)**



**CABLE PLAN**

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 1 CONTROLLER AND CABINET (COMPLETE)

**SCHEDULE OF QUANTITIES**

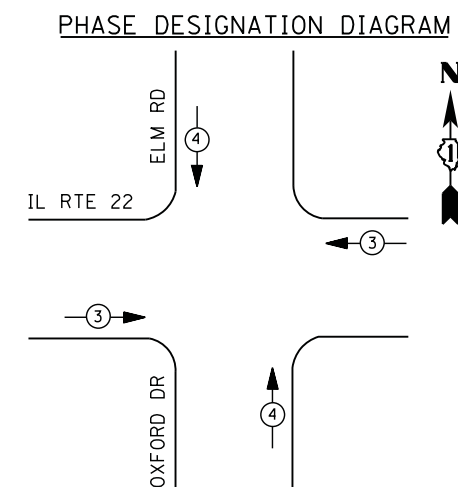
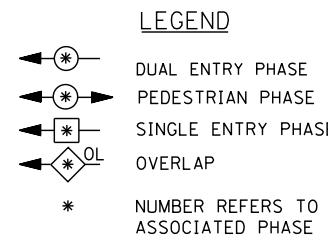
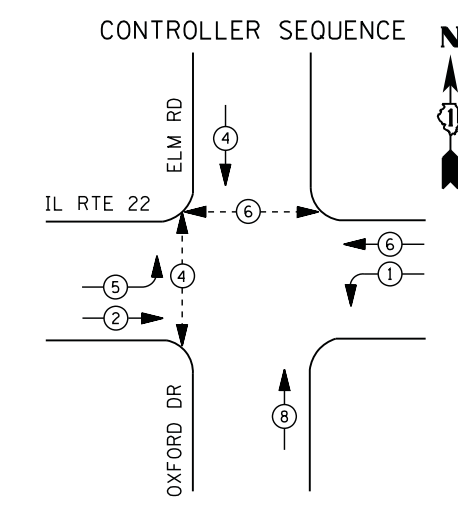
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCIVER - FIBER OPTIC
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
6	EACH	INDUCTIVE LOOP DETECTOR
2	EACH	PEDESTRIAN PUSH-BUTTON
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
1	EACH	RELOCATE EXISTING SWITCH (SPECIAL)
1	EACH	RELOCATE EXISTING VIDEO ENCODER, SPECIAL

\* - 100% COST TO VILLAGE OF LINCOLNSHIRE

**CONSTRUCTION NOTES**

- 1) THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- 2) CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.
- 3) CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

TS# 6630  
 LINCOLNSHIRE



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

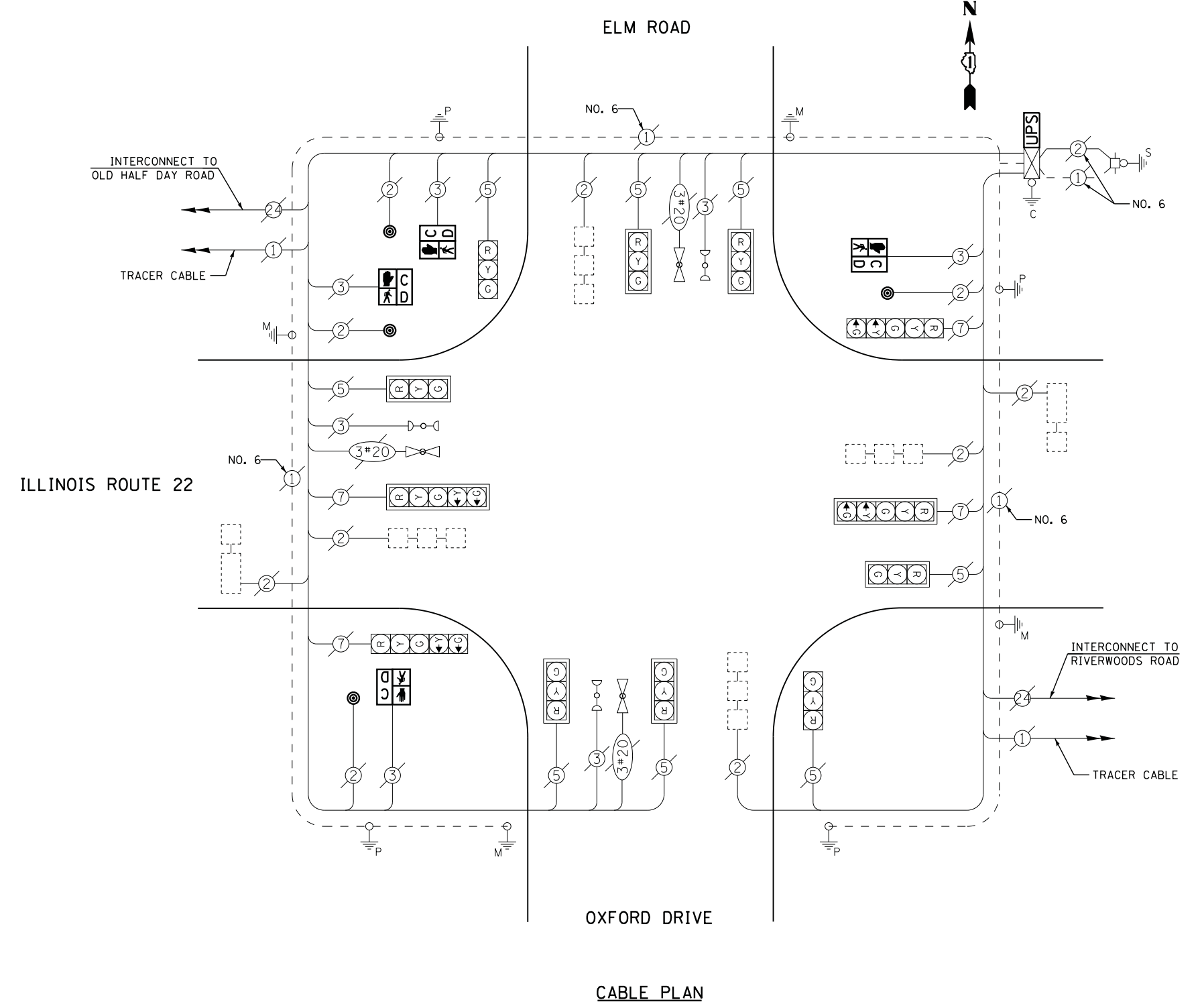
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					432

ENERGY COSTS- **BILLED TO: VILLAGE OF LINCOLNSHIRE**  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - **CONTACT FERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

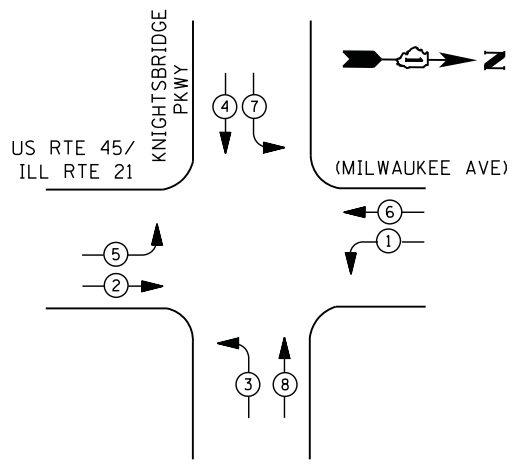


**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON

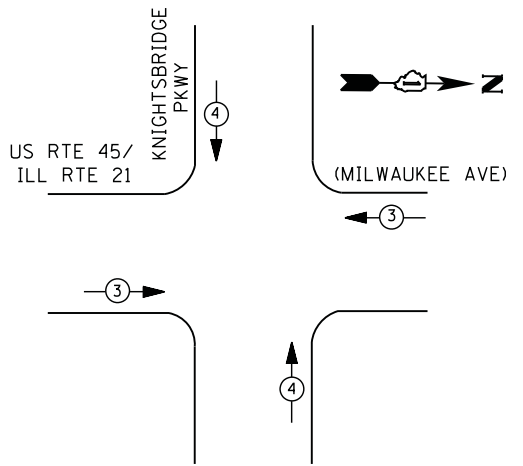
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊙ (with star) DUAL ENTRY PHASE
- ⊙ (with star and arrow) PEDESTRIAN PHASE
- ⊙ (with star and arrow) SINGLE ENTRY PHASE
- ⊙ (with star and arrow) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

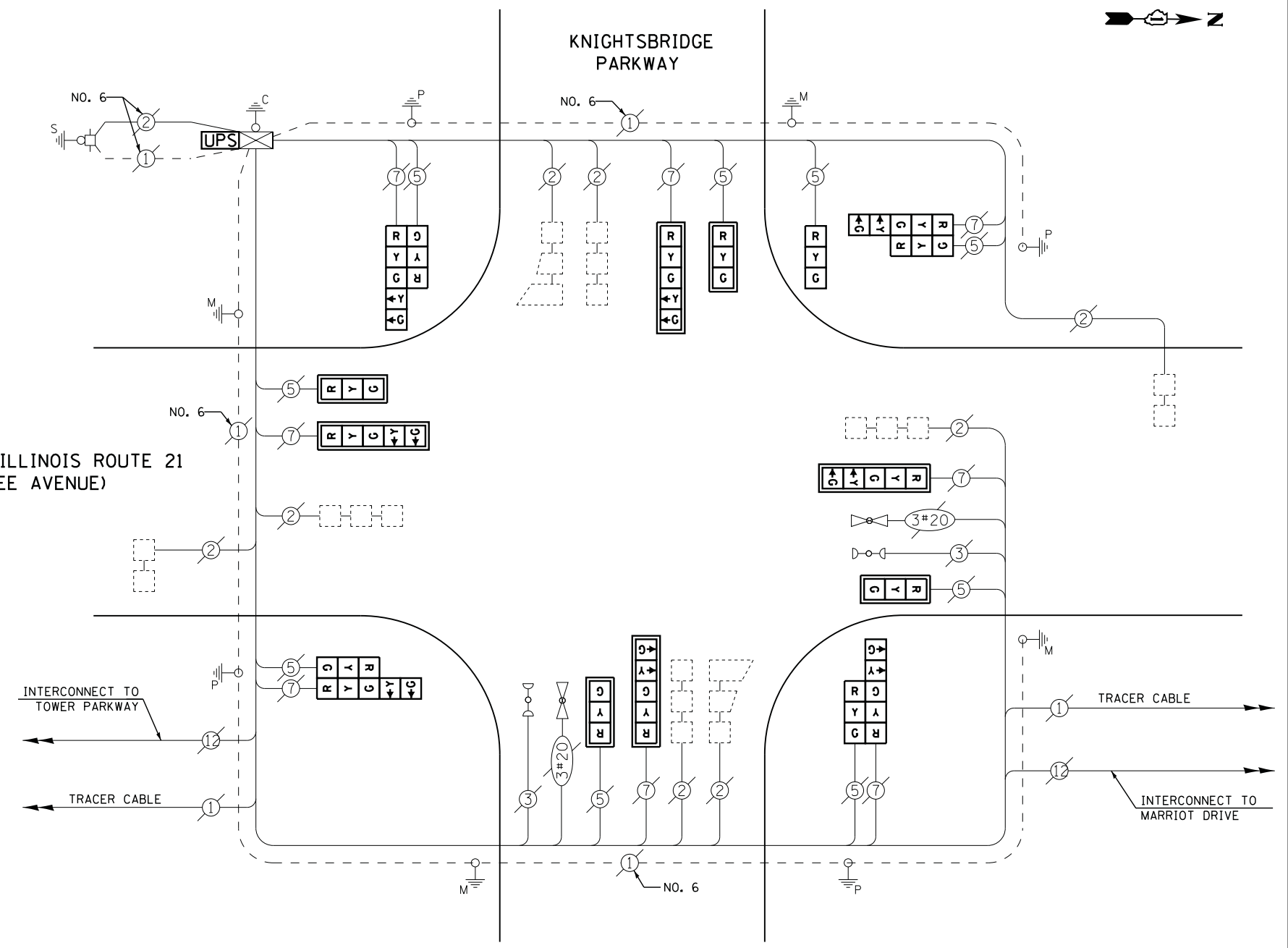
**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	17	135	17	0.50	145
(YELLOW)	17	135	25	0.25	106
(GREEN)	17	135	15	0.25	64
ARROW	16	135	12	0.10	19
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					434

ENERGY COSTS- **BILLED TO: VILLAGE OF LINCOLNSHIRE**  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**U.S. ROUTE 45/ILLINOIS ROUTE 21  
 (MILWAUKEE AVENUE)**



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

9	EACH	SIGNAL HEAD, 3 - SECTION
8	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	TRAFFIC SIGNAL BACKPLATE

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\312004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06665_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

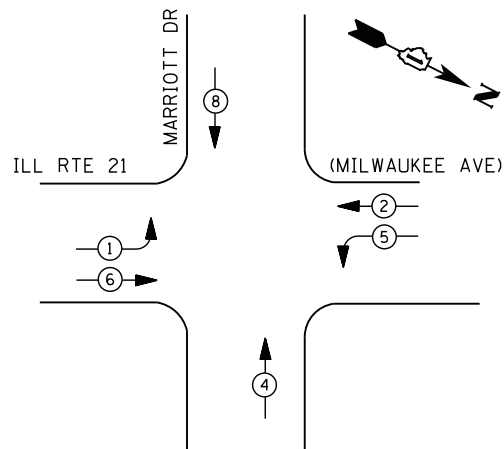
**U.S. RTE. 45 /IL RTE. 21 & KNIGHTSBRIDGE PKWY.- CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

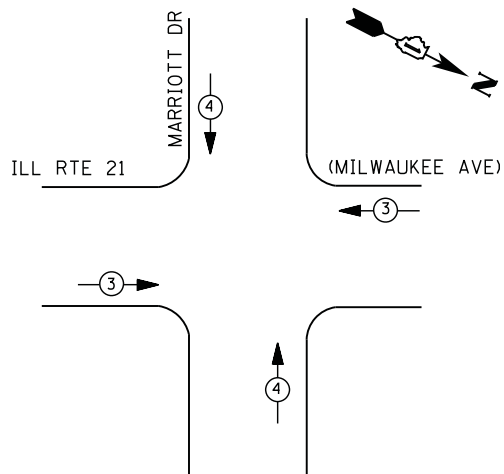
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	30
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6665  
 LINCOLNSHIRE

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

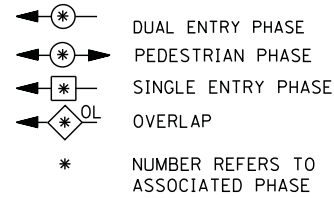
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					

TOTAL = 332

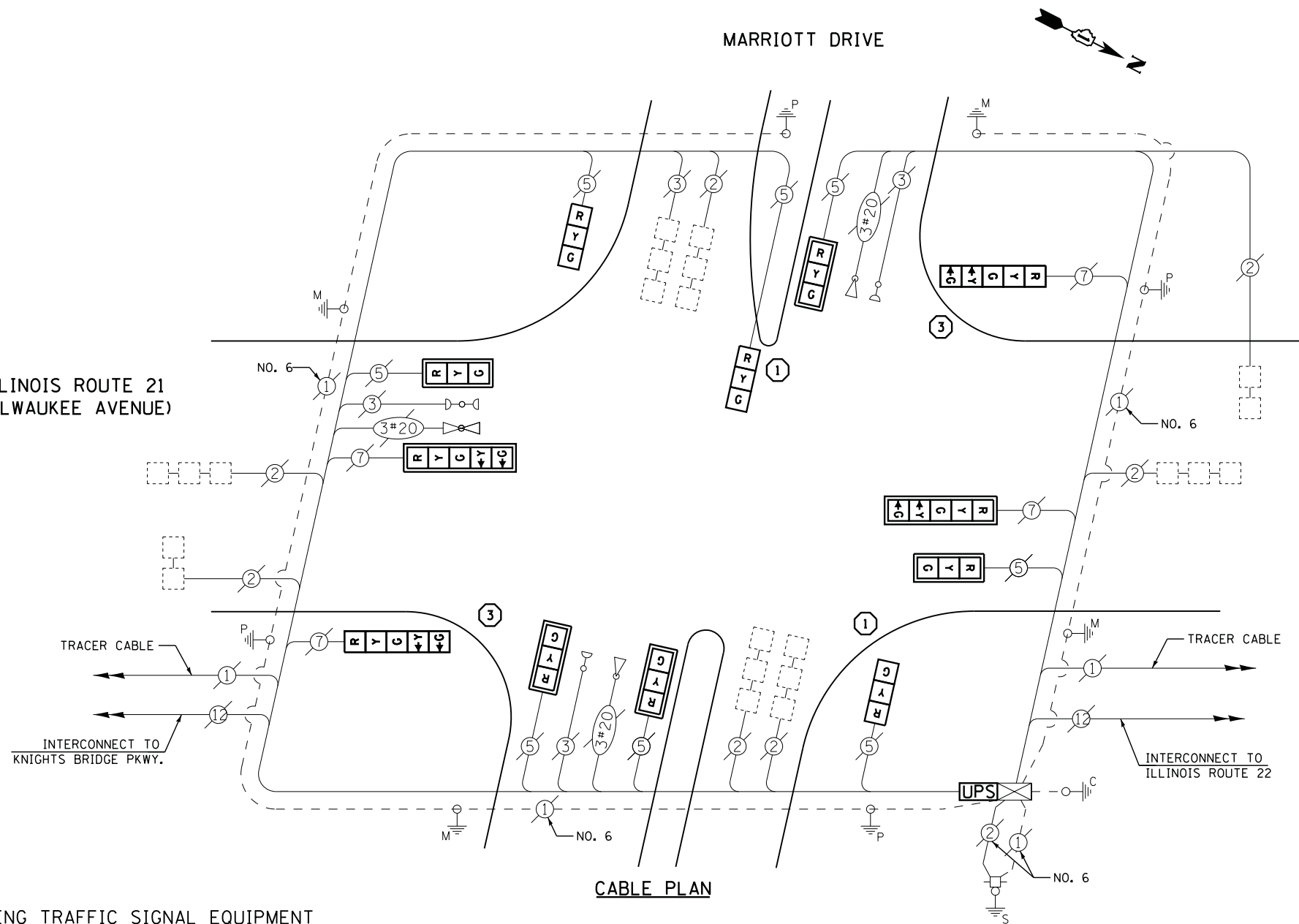
ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**



**ILLINOIS ROUTE 21  
 (MILWAUKEE AVENUE)**



**CABLE PLAN**

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH SIGNAL HEAD, 3 - SECTION
- 4 EACH SIGNAL HEAD, 5 - SECTION
- 7 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL POST

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
7	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

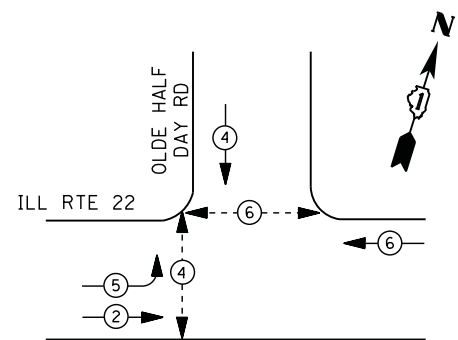
- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

TS# 6695  
 LINCOLNSHIRE

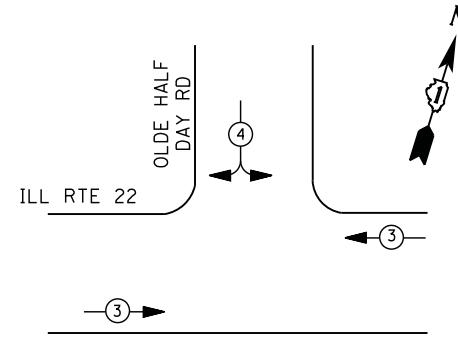
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	11	135	17	0.50	94
( YELLOW )	11	135	25	0.25	69
( GREEN )	11	135	15	0.25	41
ARROW	4	135	12	0.10	5
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					409

ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

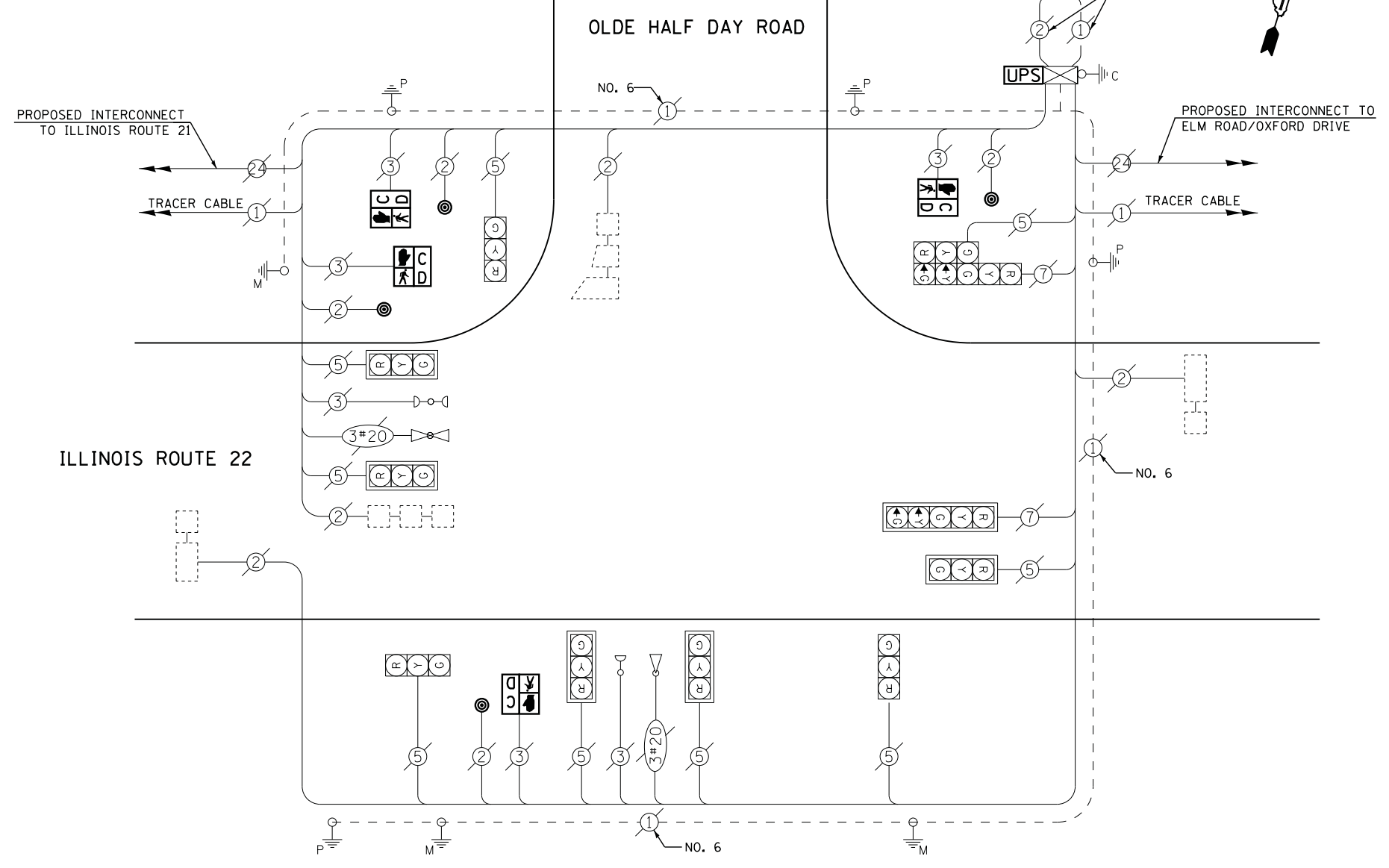
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON



**CABLE PLAN**

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ILLINOIS ROUTE 22 & OLDE HALF DAY ROAD - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

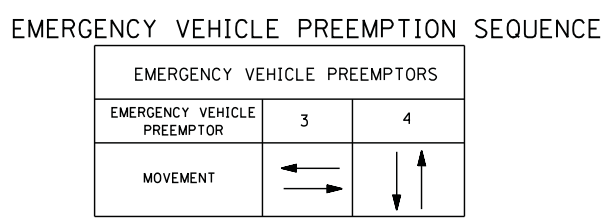
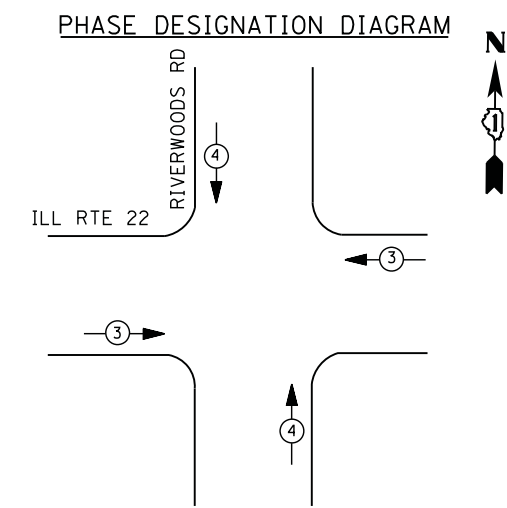
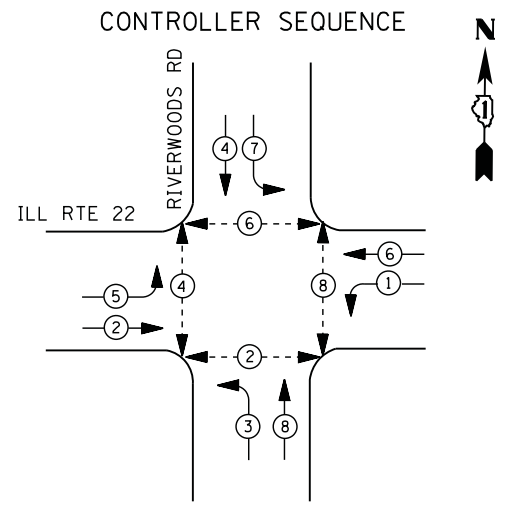
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	32
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
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	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

SCALE: N.T.S. SHEET NO. X OF X SHEETS STA. TO STA.

TS# 6760  
 LINCOLNSHIRE





I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

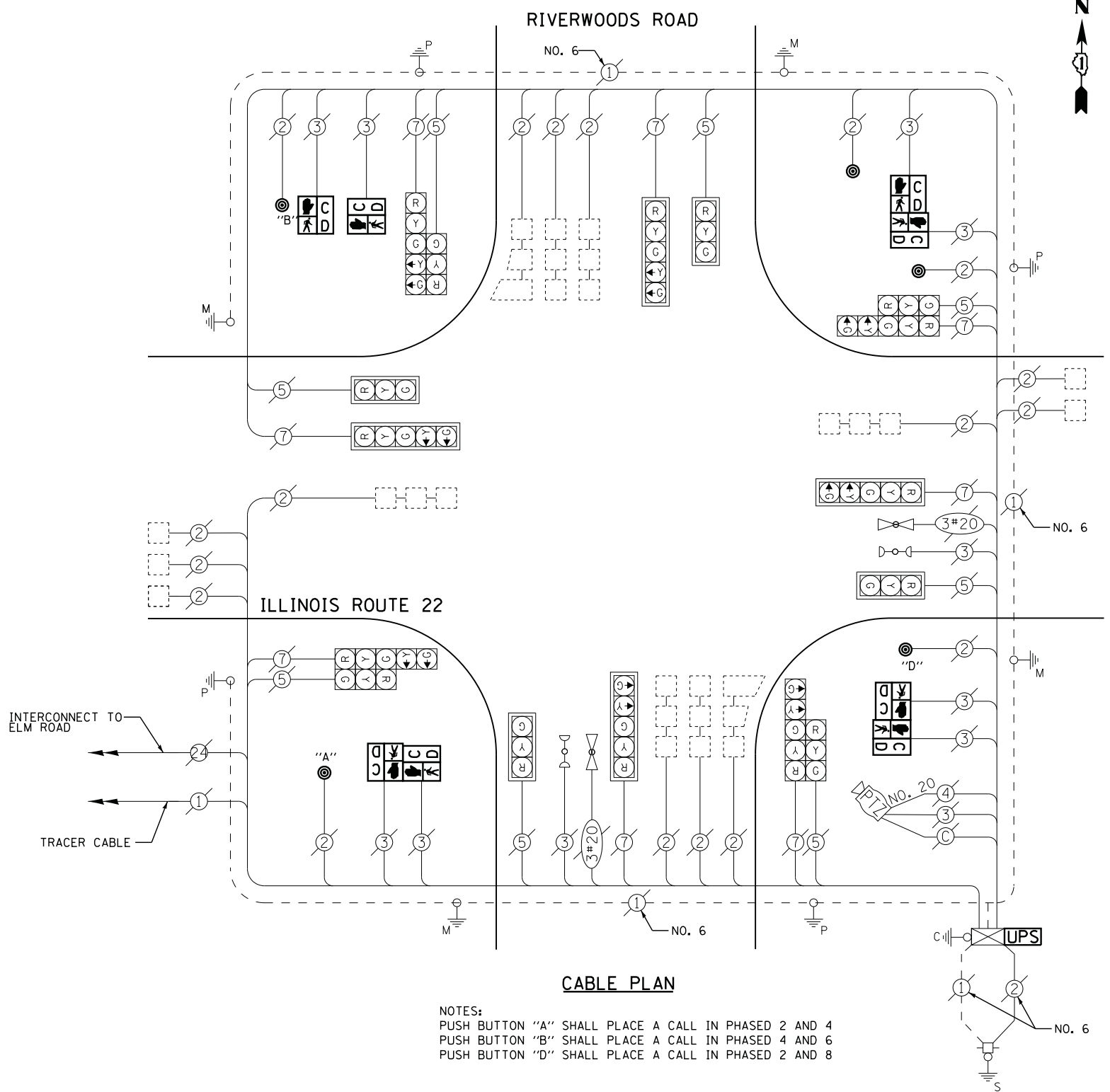
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					765

ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**

- ⊙ (with arrow) DUAL ENTRY PHASE
- ⊙ (with pedestrian) PEDESTRIAN PHASE
- ⊙ (with arrow) SINGLE ENTRY PHASE
- ⊙ (with OL) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE



NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASED 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASED 4 AND 6  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASED 2 AND 8

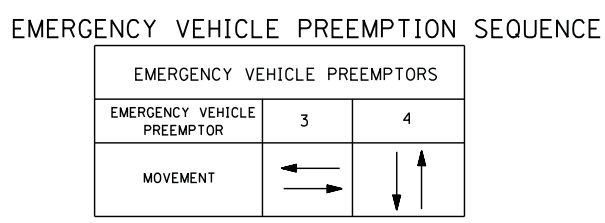
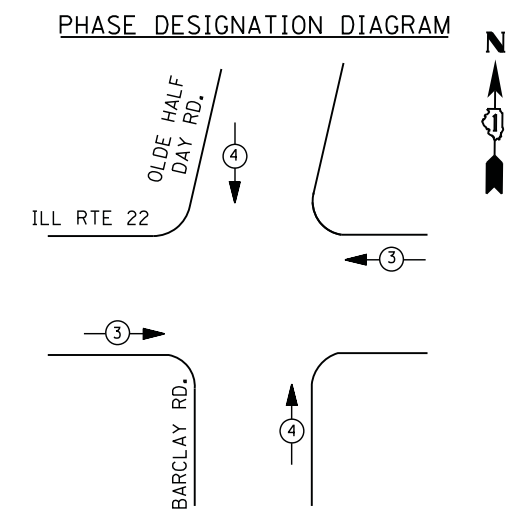
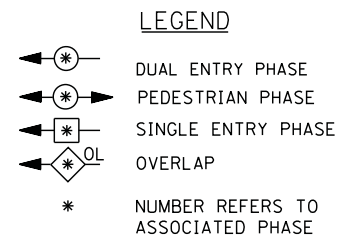
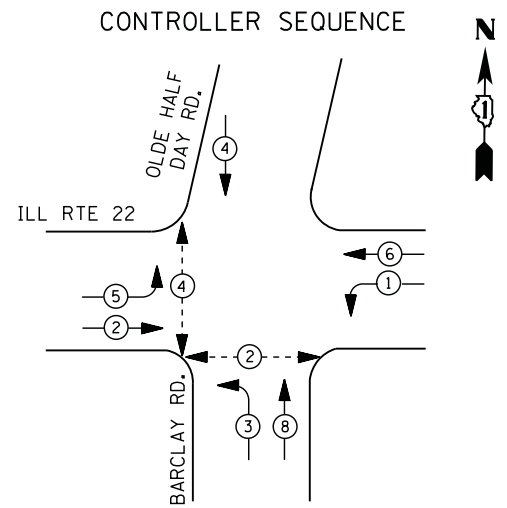
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 5 EACH PEDESTRIAN PUSH-BUTTON

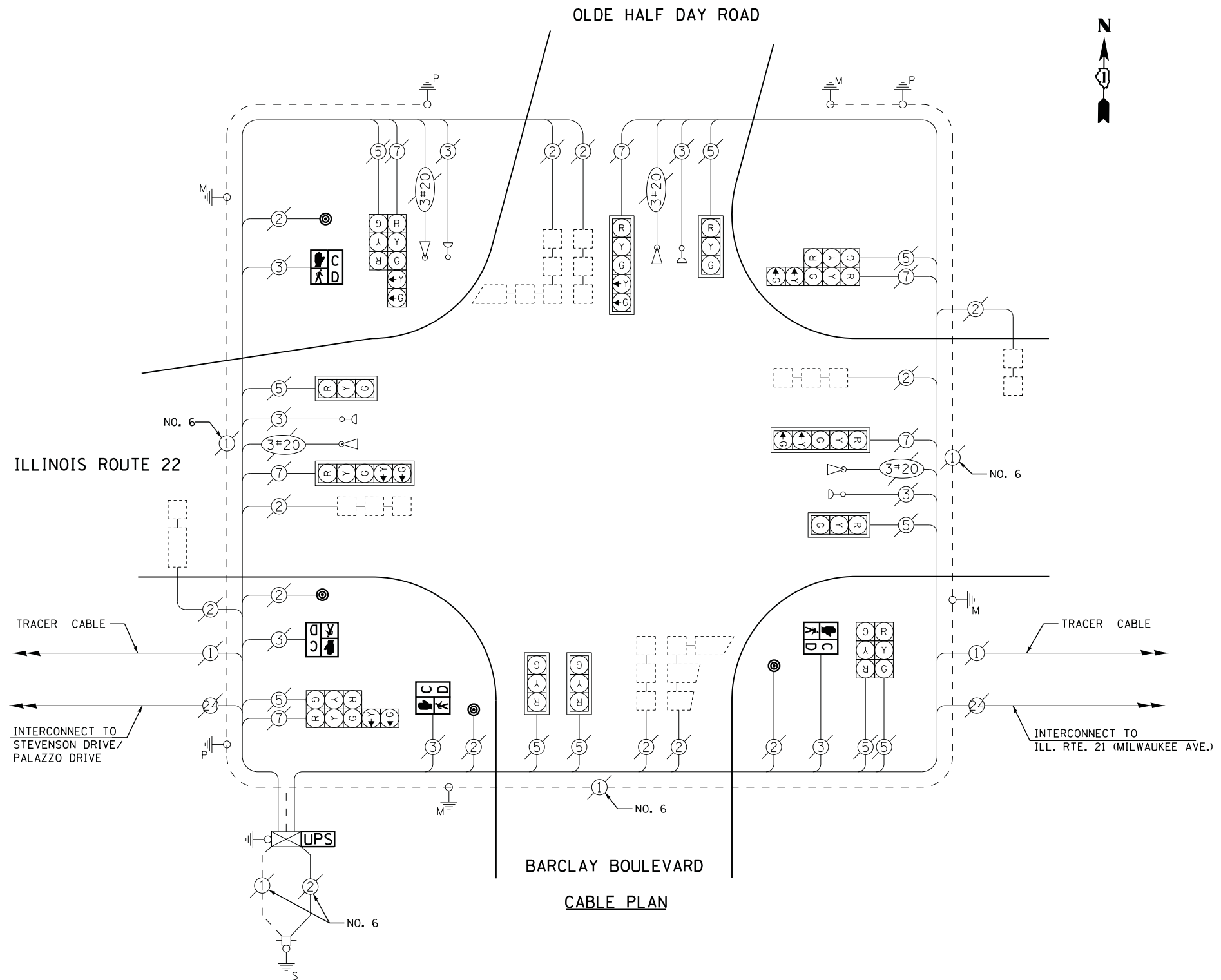


I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	16	135	17	0.50	136
( YELLOW )	16	135	25	0.25	100
( GREEN )	16	135	15	0.25	60
ARROW	12	135	12	0.10	14
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					510

ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



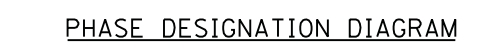
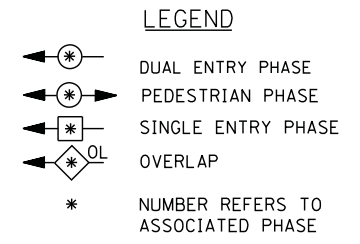
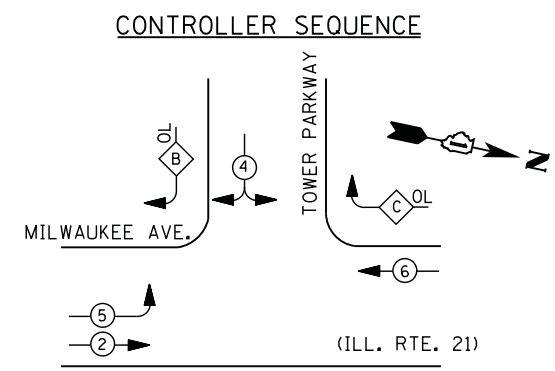
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

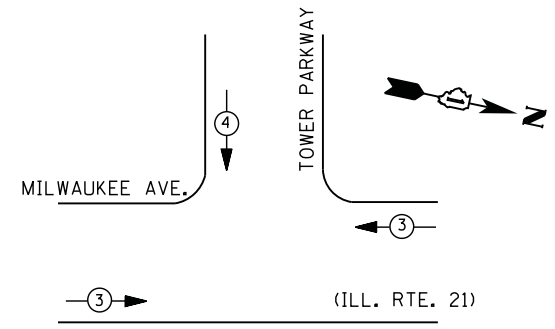
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON



### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	4



### EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					332

ENERGY COSTS- BILLED TO: VILLAGE OF LINCOLNSHIRE  
 1 OLDE HALF DAY RD.  
 LINCOLNSHIRE, IL 60069

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FIBER OPTIC CABLE 62.5/125  
 12F MULTIMODE

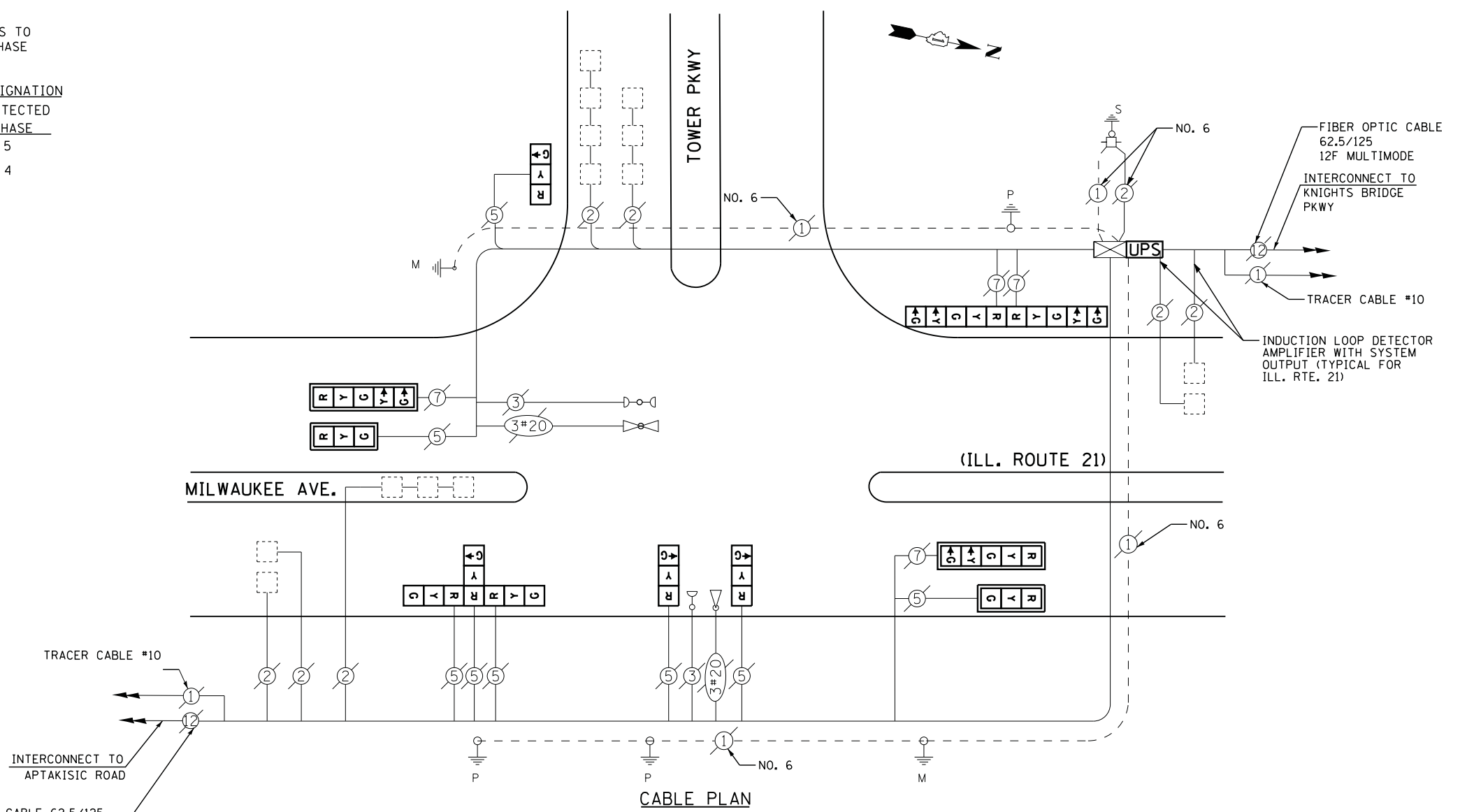
### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	SIGNAL HEAD, 3 - SECTION
4	EACH	SIGNAL HEAD, 5 - SECTION
4	EACH	TRAFFIC SIGNAL BACKPLATE



FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED -
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	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

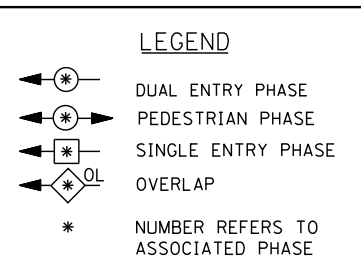
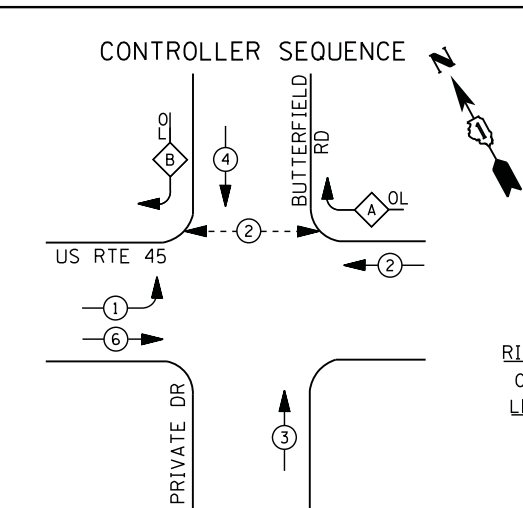
### IL ROUTE 21 & TOWER PARKWAY - CABLE PLAN

#### SCHEDULE OF QUANTITIES, PHASE DESIGN DIAGRAM & EVP SEQUENCE

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

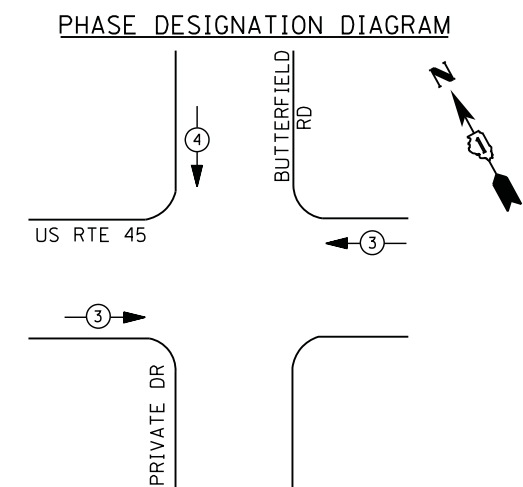
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	35
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 21405  
 LINCOLNSHIRE



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2 +	4
B	= 4 +	1



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

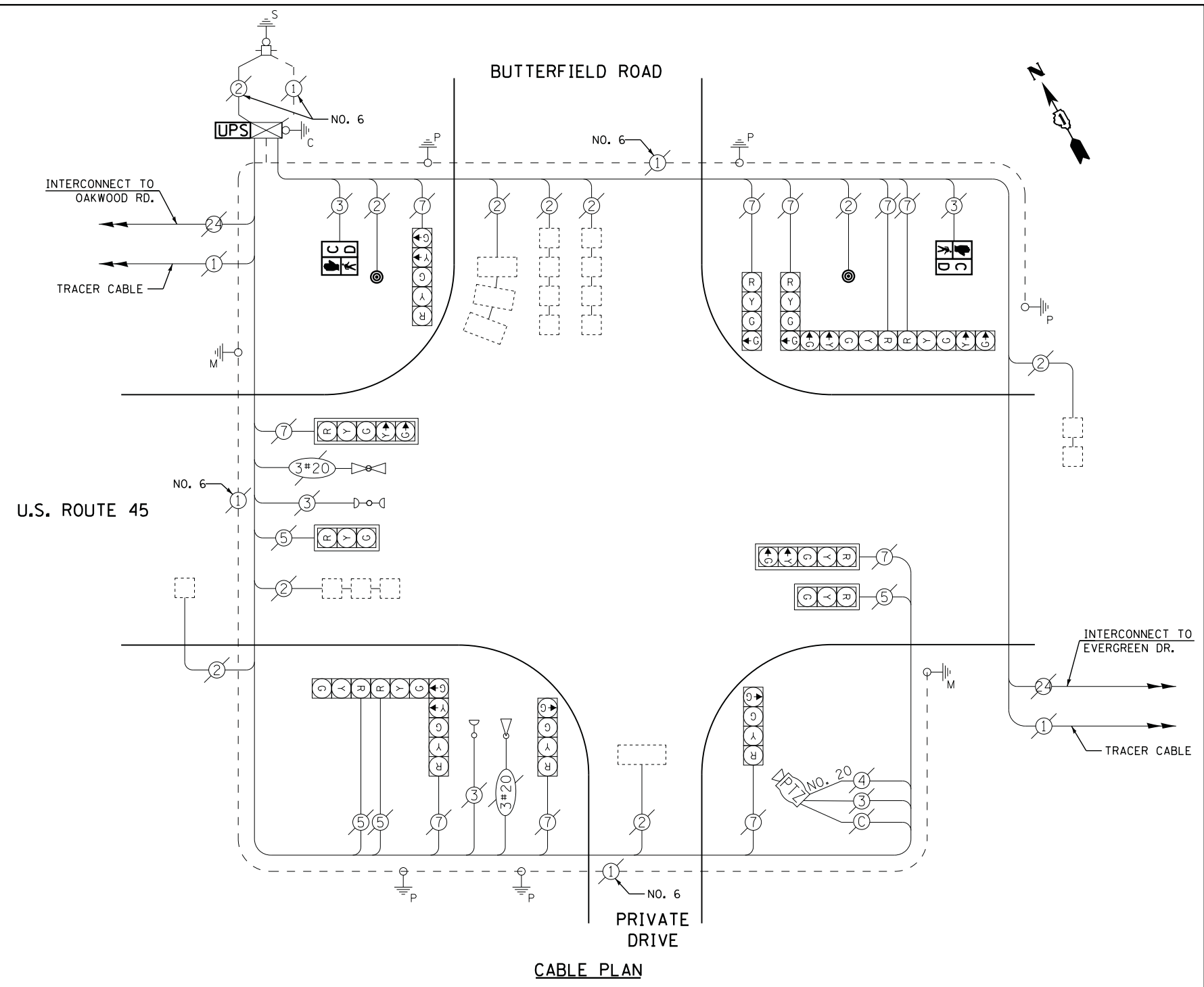
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	18	135	15	0.25	68
ARROW	12	135	12	0.10	14
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					589

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT **FERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



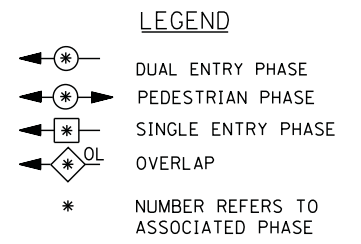
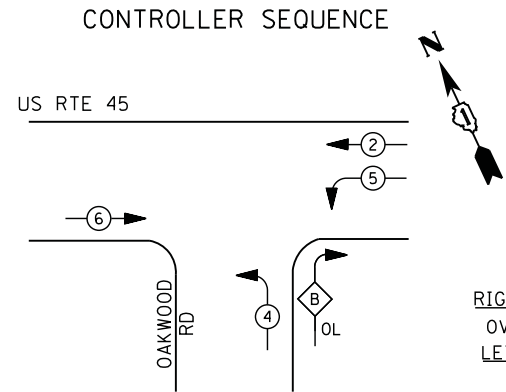
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

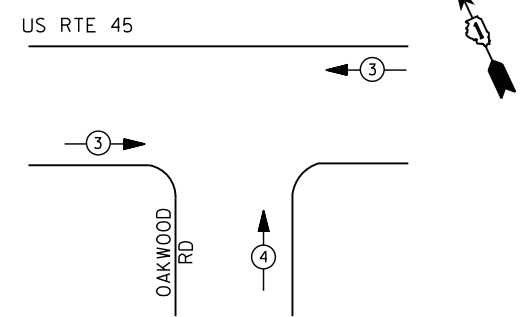
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

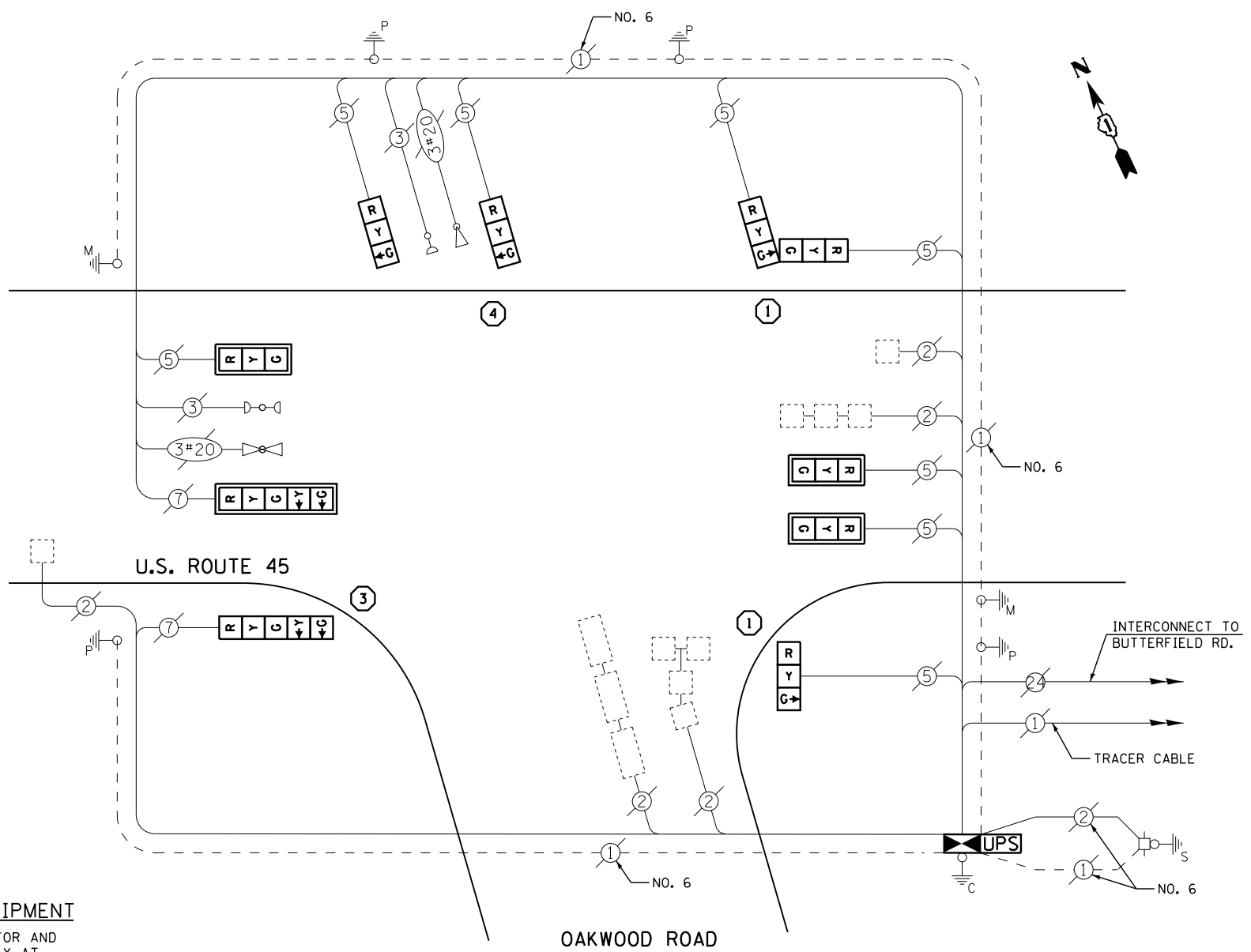
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH SIGNAL HEAD, 3 - SECTION
- 2 EACH SIGNAL HEAD, 5 - SECTION
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL POST
- 1 EACH CONTROLLER AND CABINET (COMPLETE)

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
5	EACH	INDUCTIVE LOOP DETECTOR
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL

\* - 100% COST TO VILLAGE OF VERNON HILLS



CABLE PLAN

**CONSTRUCTION NOTES**

- 1) THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- 2) CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.
- 3) CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					291

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-001 Sheets SE Lake Co\06641.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

U.S. ROUTE 45 & OAKWOOD ROAD - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE

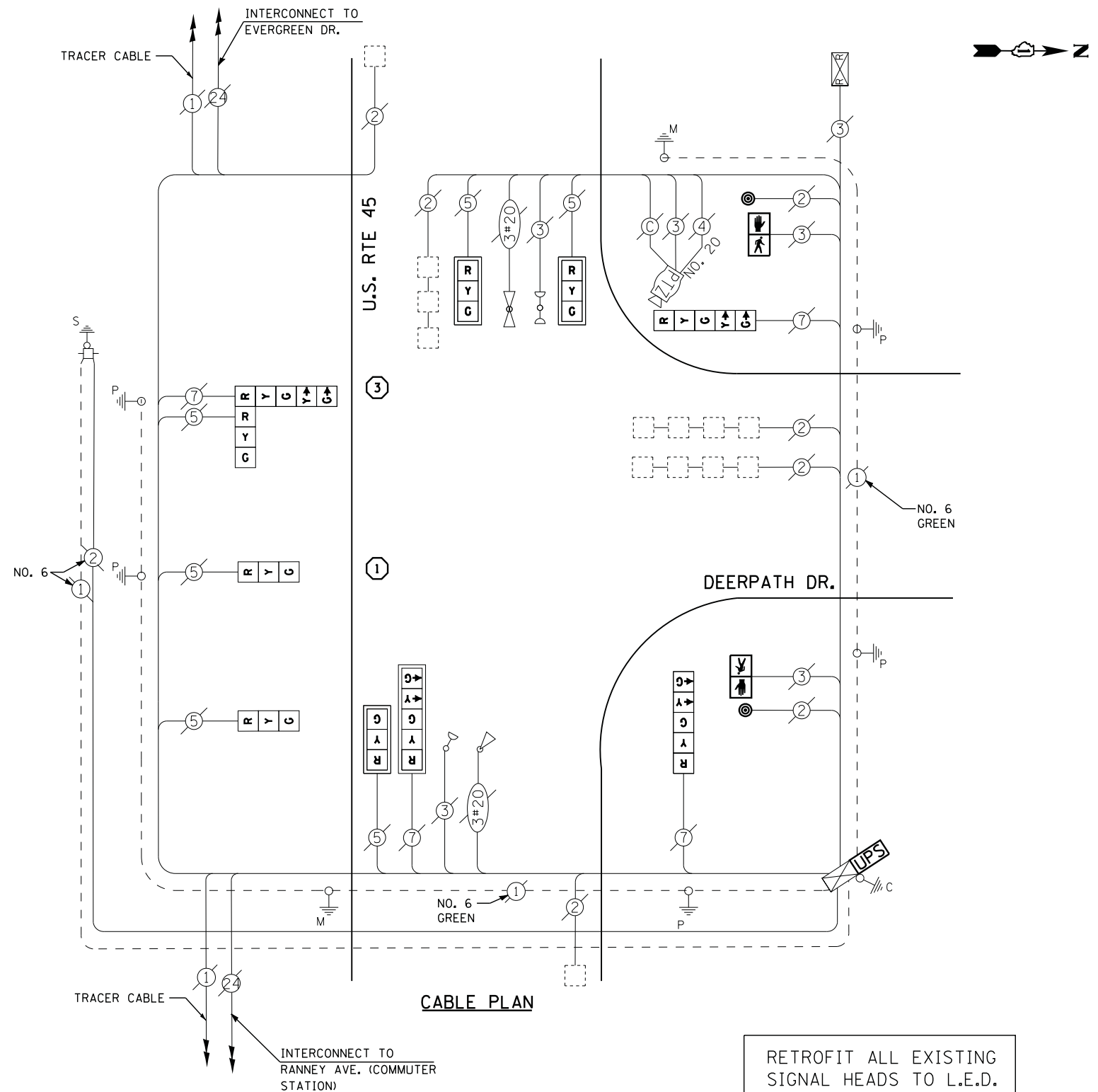
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	37
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6641  
 VERNON HILLS

- ① REPLACE 14 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	85
(YELLOW)	10	135	25	0.25	63
(GREEN)	10	135	15	0.25	38
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					496

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED
2	EACH	PEDESTRIAN PUSH-BUTTON
3	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN PUSH-BUTTON
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	SIGNAL POST



PROPOSED NORMAL SEQUENCE OF OPERATION

PHASE	1 + 6		2 + 6					3				FLASHER
MOVEMENT (NORTH →)	1	2	3	4	5A	5B	6	7A	7B	8A	8B	
CHANGE TO PHASE		2+6			4			2+5		2+6		
U.S. ROUTE 45 SOUTH-EASTBOUND FAR RIGHT SIGNAL	G	G	G	G	Y	R	R	R	R	R	R	R
U.S. ROUTE 45 SOUTH-EASTBOUND END MAST ARM AND FAR LEFT SIGNALS	←G	←Y	G	G	Y	R	R	R	R	R	R	R
U.S. ROUTE 45 NORTH-WESTBOUND FAR RIGHT SIGNAL	R	R	G	G	Y	R	R	R	R	R	R	R
U.S. ROUTE 45 NORTH-WESTBOUND END MAST ARM AND FAR LEFT SIGNALS	R	R	G	G	Y	R	R	R	R	R	R	R
DEERPETH DRIVE SOUTHBOUND NEAR AND FAR RIGHT SIGNALS	G→	Y→	R	R	R	R	G	G→	G→	Y	R	R
DEERPETH DRIVE SOUTHBOUND FAR LEFT AND CENTER SIGNAL	R	R	R	R	R	R	G	Y	R	Y	R	R
PEDESTRIAN CROSSING ON NORTH SIDE OF U.S. ROUTE 45	DW	DW	* W	** FL DW	DW	DW	DW	DW	DW	DW	DW	DW

NOTE: PHASES 2 + 6 SHALL BE PLACED ON RECALL

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

FROM NORMAL INTERVAL	1	1			3			6			PRE-EMPTOR 3	PRE-EMPTOR 4
EMERGENCY VEHICLE PRE-EMPTION SEQUENCE INTERVAL	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	2	3
CHANGE TO EMERGENCY VEHICLE PRE-EMPTION INTERVAL	2	1C	3	2	1F	1G	3	1J	2	3	◇	◇
U.S. ROUTE 45 SOUTH-EASTBOUND FAR RIGHT SIGNAL	G	Y	R	G	G	Y	R	R	R	R	G	R
U.S. ROUTE 45 SOUTH-EASTBOUND END MAST ARM AND FAR LEFT SIGNALS	←G	←Y	R	G	G	Y	R	R	R	R	G	R
U.S. ROUTE 45 NORTH-WESTBOUND FAR RIGHT SIGNAL	R	R	R	G	G	Y	R	R	R	R	G	R
U.S. ROUTE 45 NORTH-WESTBOUND END MAST ARM AND FAR LEFT SIGNALS	R	R	R	G	G	Y	R	R	R	R	G	R
DEERPETH DRIVE SOUTHBOUND NEAR AND FAR RIGHT SIGNALS	Y→	G→	G→	R	R	R	R	Y	R	G	R	G
DEERPETH DRIVE SOUTHBOUND FAR LEFT AND CENTER SIGNAL	R	R	R	R	R	R	R	Y	R	G	R	G
PEDESTRIAN CROSSING ON NORTH SIDE OF U.S. ROUTE 45	DW	DW	DW	** FL DW	** FL DW	DW	DW	DW	DW	DW	DW	DW

\* TO APPEAR ONLY UPON PUSHBUTTON ACTUATION.  
 \*\* FLASHING "DON'T WALK" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN CLEARANCE INTERVAL.

◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL 1\* DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY INTERVAL 2 OR 3 IS TERMINATED.

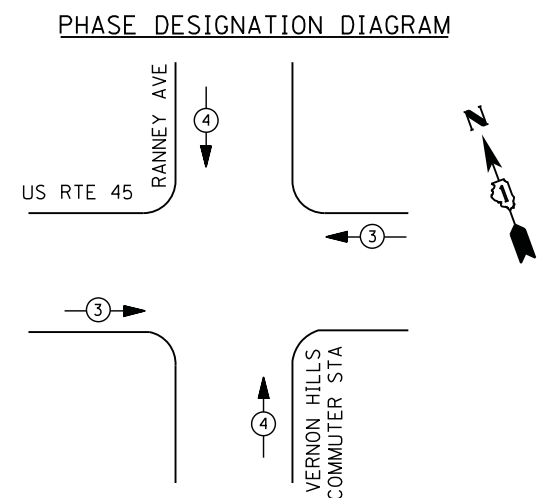
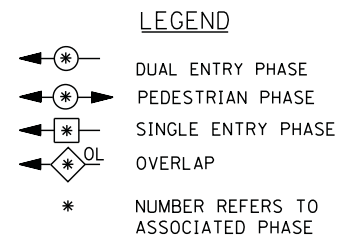
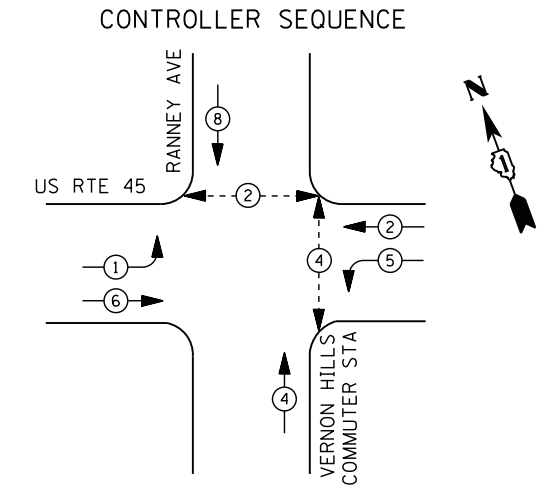
PROPOSED RAILROAD PRE-EMPTION SEQUENCE OF OPERATION

FROM NORMAL INTERVAL	1	3			6			PRE-EMPTOR 3	PRE-EMPTOR 4	PRE-EMPTOR 2	CLEAR TO NORMAL SEQUENCE			
FROM EMERGENCY VEHICLE PRE-EMPTION SEQUENCE INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	2	3	4	5	
RAILROAD PREEMPTION INTERVAL	2	1C	2	1E	2	1G	2	1J	2	3	4	5	6	△
CHANGE TO RAILROAD PREEMPTION INTERVAL	2	1C	2	1E	2	1G	2	1J	2	3	4	5	6	△
U.S. ROUTE 45 SOUTH-EASTBOUND FAR RIGHT SIGNAL	G	G	G	R	R	G	G	R	R	G	Y	R	R	△
U.S. ROUTE 45 SOUTH-EASTBOUND END MAST ARM AND FAR LEFT SIGNALS	←G	G	G	R	R	G	G	R	R	←G	Y	R	R	△
U.S. ROUTE 45 NORTH-WESTBOUND FAR RIGHT SIGNAL	R	Y	R	R	R	Y	R	R	R	R	R	R	R	△
U.S. ROUTE 45 NORTH-WESTBOUND END MAST ARM AND FAR LEFT SIGNALS	R	Y	R	R	R	Y	R	R	R	R	R	R	R	△
DEERPETH DRIVE SOUTHBOUND NEAR AND FAR RIGHT SIGNALS	Y→	R	R	Y	R	R	R	Y	R	R	R	R	G	△
DEERPETH DRIVE SOUTHBOUND FAR LEFT AND CENTER SIGNAL	R	R	R	Y	R	R	R	Y	R	R	R	R	G	△
PEDESTRIAN CROSSING ON NORTH SIDE OF U.S. ROUTE 45	DW	** FL DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	△

△ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

HOLD

TS# 6655  
 VERNON HILLS



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					451

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

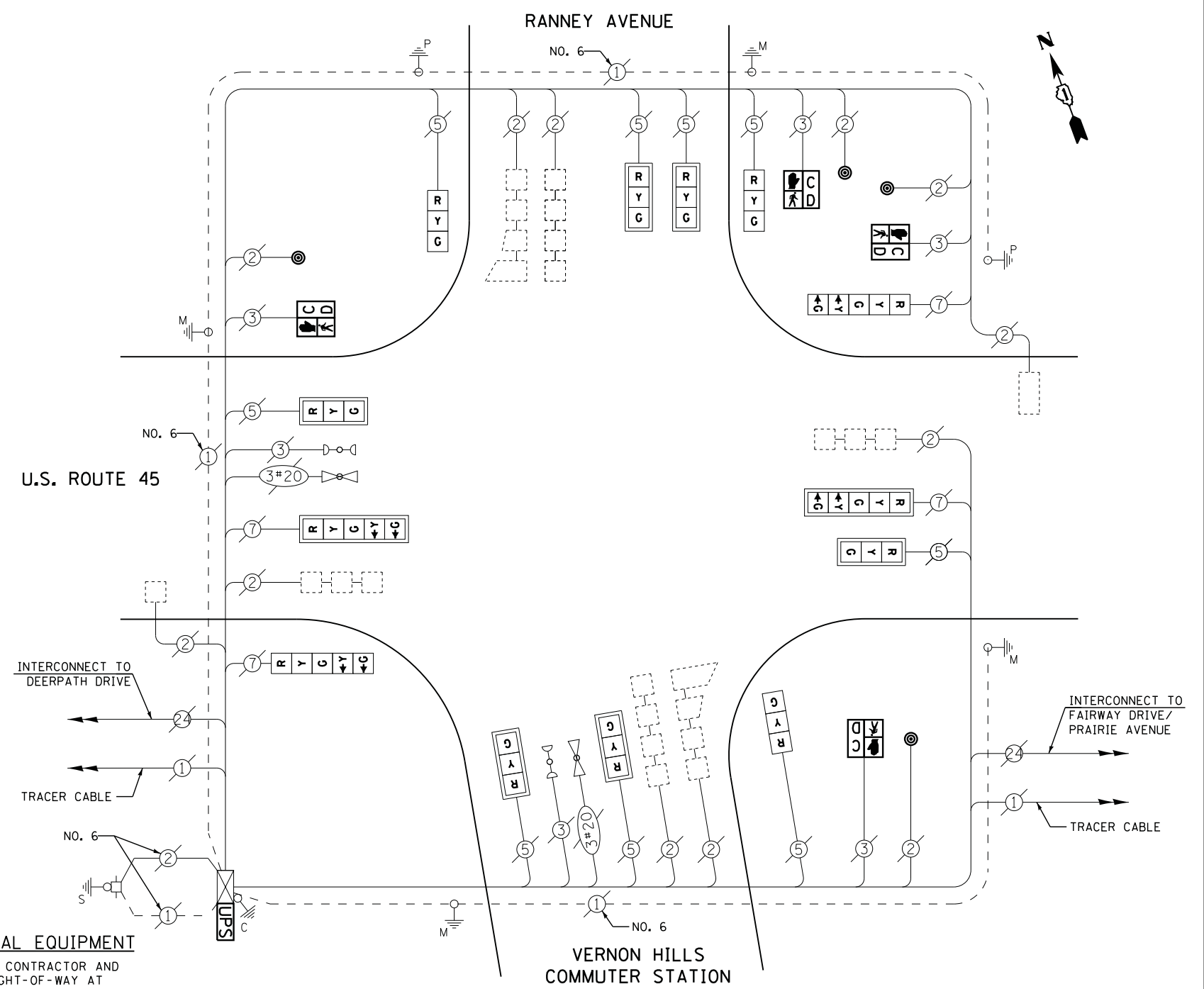
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4 EACH PEDESTRIAN SIGNAL HEAD  
 4 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT



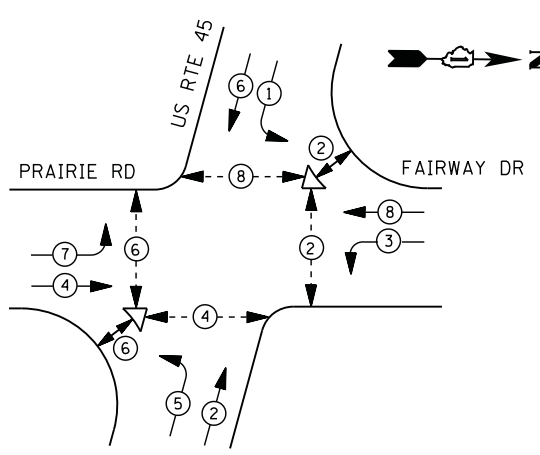
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

TS# 6657  
 VERNON HILLS



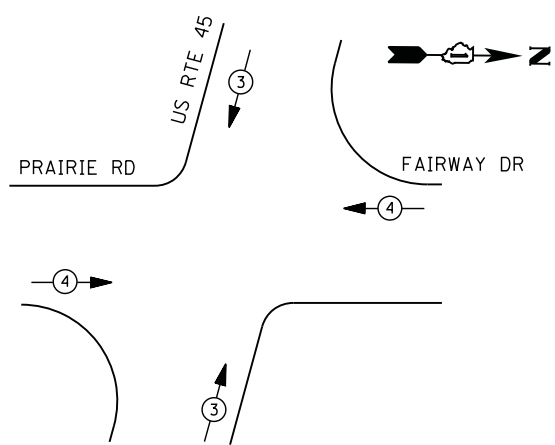
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓ ↑	← →

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	22	135	17	0.50	187
(YELLOW)	22	135	25	0.25	138
(GREEN)	22	135	15	0.25	83
ARROW	16	135	12	0.10	19
PED. SIGNAL	12	90	25	1.00	300
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					977

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

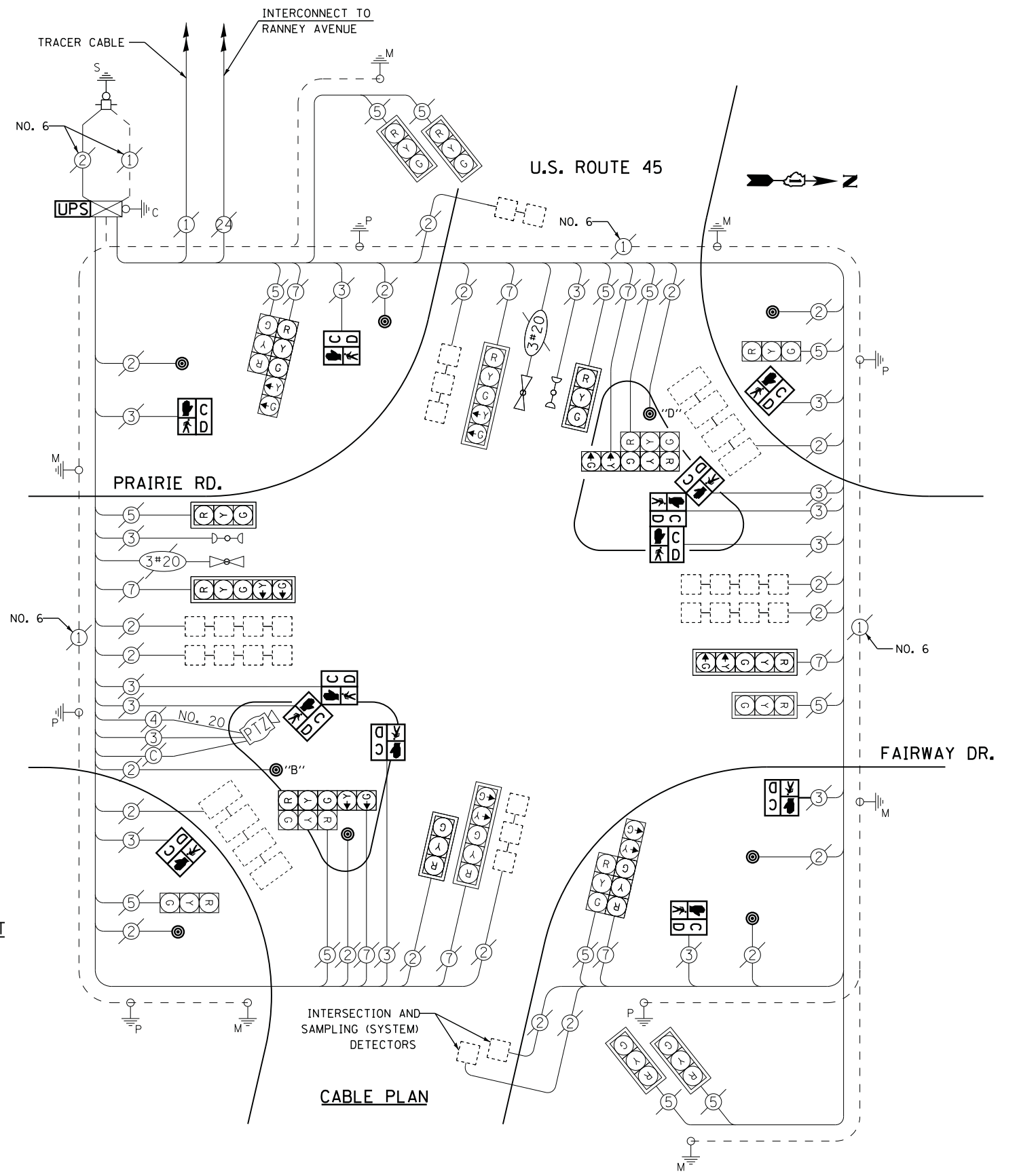
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 12 EACH PEDESTRIAN SIGNAL HEAD
- 9 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

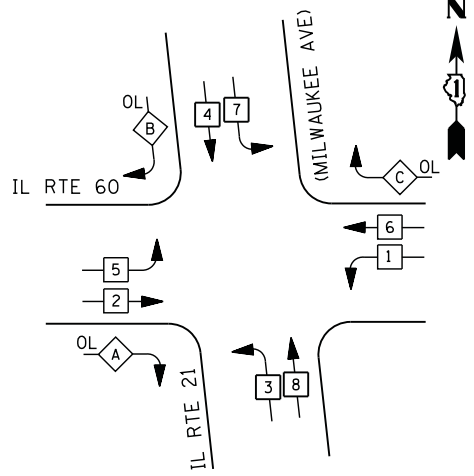
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
7	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
9	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



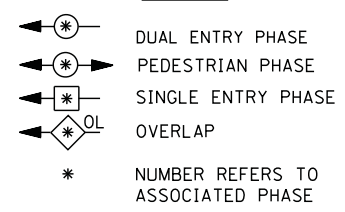
NOTES:  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASED 4 AND 6  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASED 2 AND 8

TS# 6658  
 VERNON HILLS

**CONTROLLER SEQUENCE**



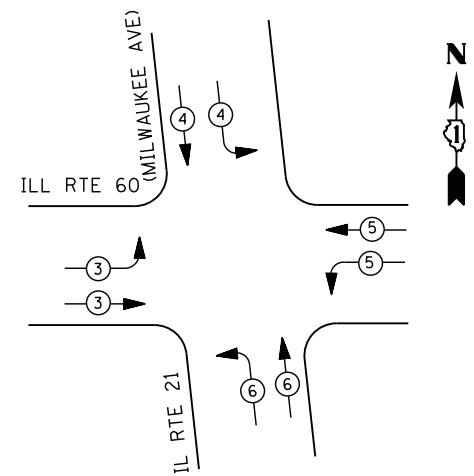
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
B =	4 +	5
C =	6 +	7

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT				

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

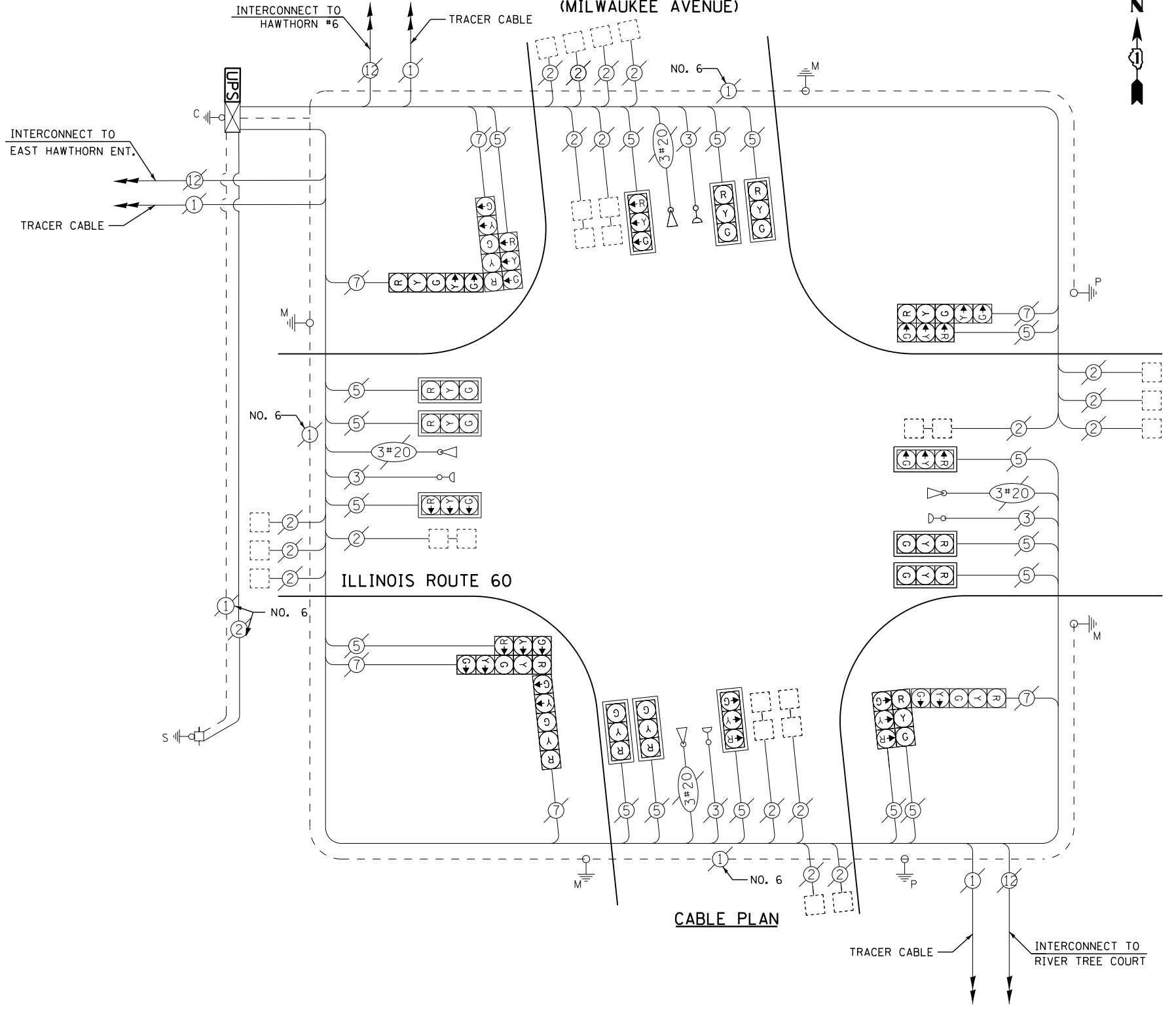
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	23	135	17	0.50	196
( YELLOW )	23	135	25	0.25	144
( GREEN )	23	135	15	0.25	86
ARROW	12	135	12	0.10	14
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					540

BILLED TO: IDOT DISTRICT 1  
201 WEST CENTER COURT  
SCHAUMBURG, IL 60196-1096  
CONTACT: TERRI BLECK  
PHONE: 847-816-5239  
COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**ILLINOIS ROUTE 21 (MILWAUKEE AVENUE)**



**CABLE PLAN**

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06700_CAB_LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 3/28/2012	DATE -		REVISED -	

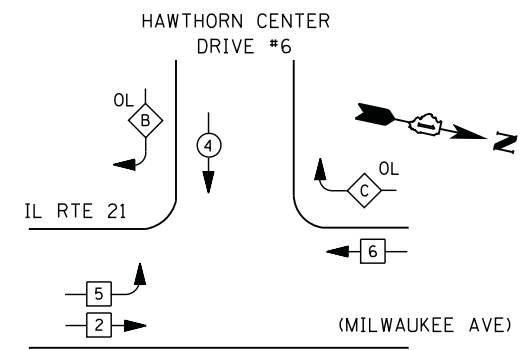
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL RTE. 60 (TOWNLIN RD.) & IL RTE. 21 (MILWAUKEE AVE.) - CABLE PLAN**  
SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE  
SCALE: N.T.S. SHEET NO. OF X SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

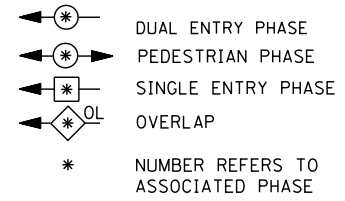
TS# 6700  
VERNON HILLS

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

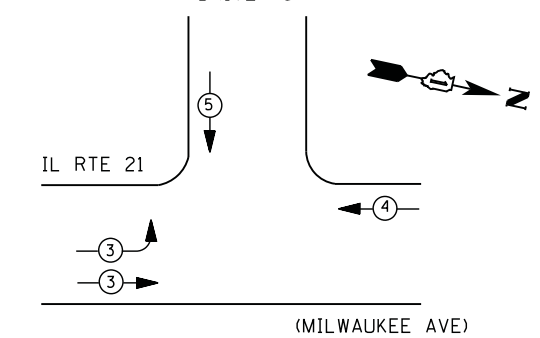
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	4

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↓

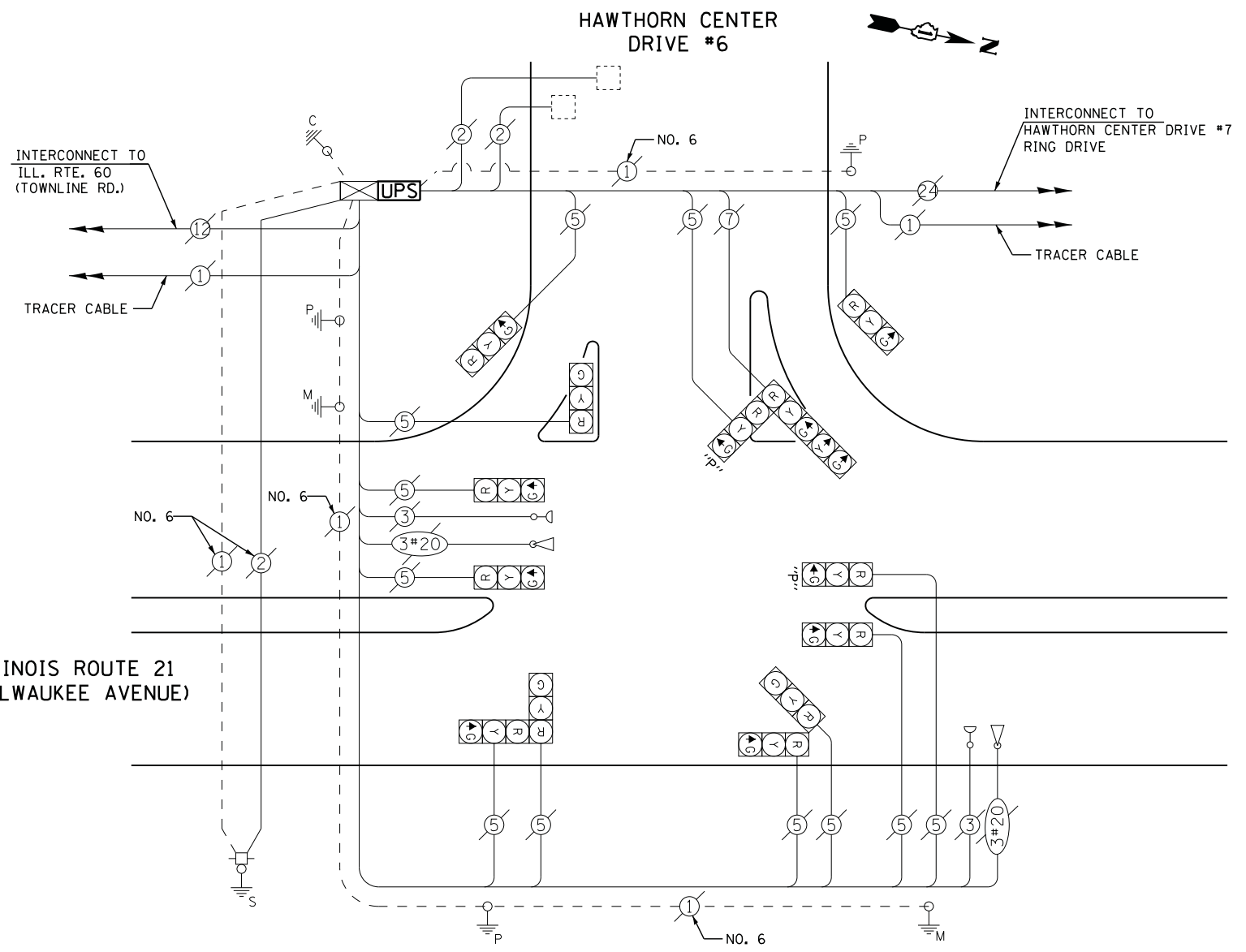
**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	2	135	12	0.10	10
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					351

ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**ILLINOIS ROUTE 21 (MILWAUKEE AVENUE)**



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
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	PLOT DATE = 3/28/2012	DATE -	REVISED -

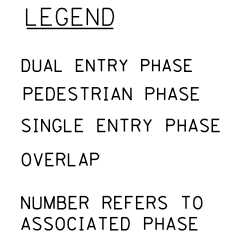
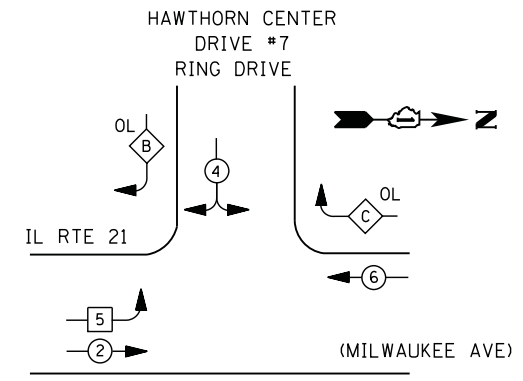
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL RTE. 21 (MILWAUKEE AVE.) & HAWTHORN CENTER DR. #6 -CABLE PLAN**  
**SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6720  
 VERNON HILLS

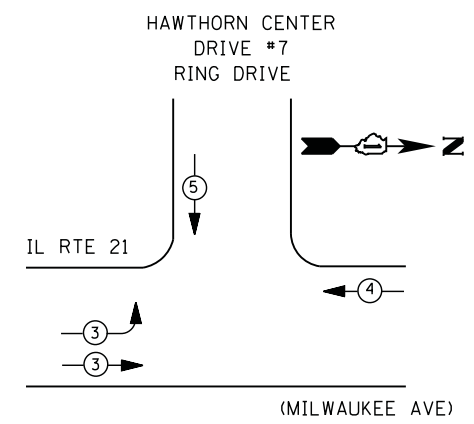
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	4

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↓

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	4	135	12	0.10	5
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					345

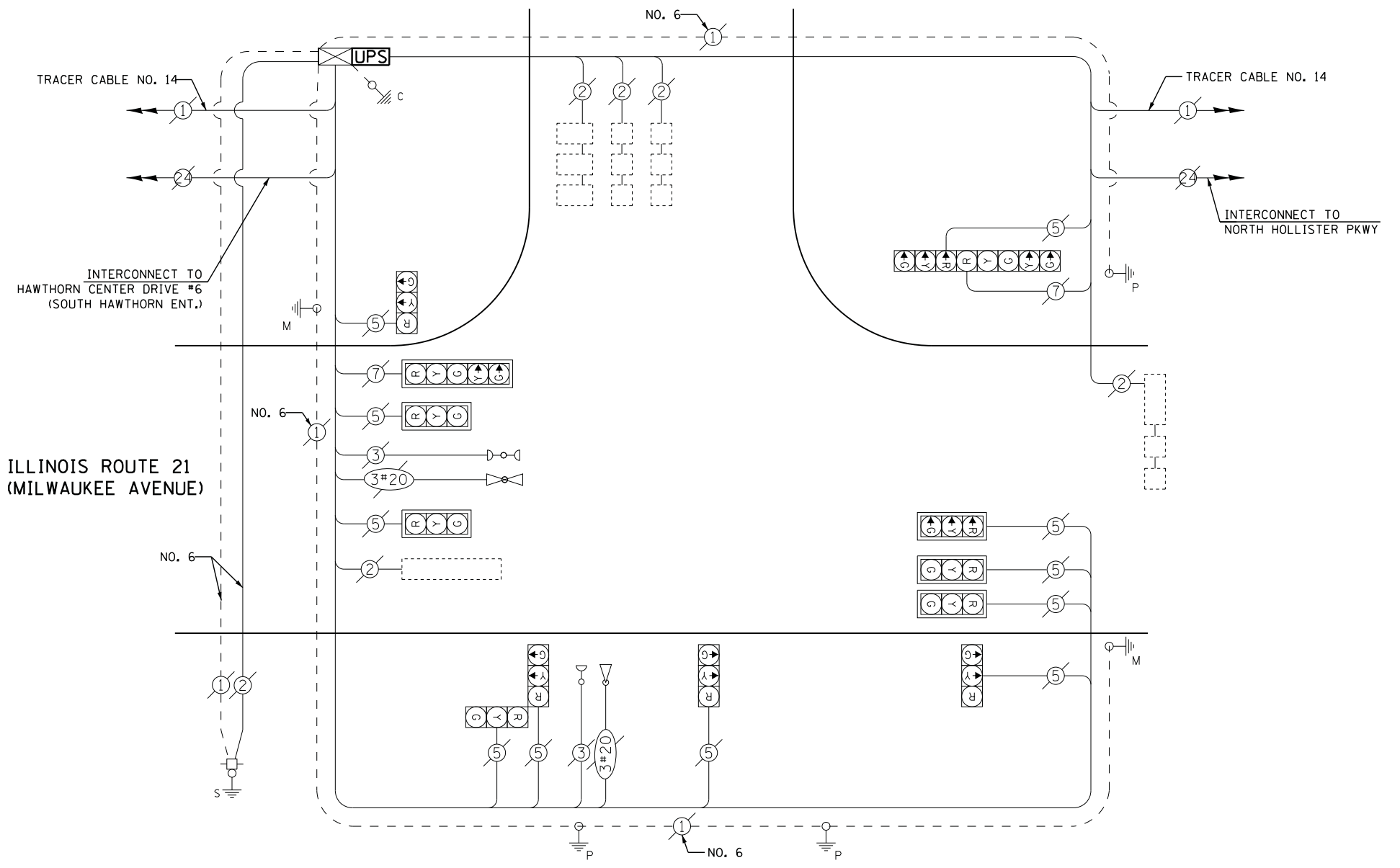
ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**HAWTHORN CENTER  
 DRIVE #7  
 RING DRIVE**



**CABLE PLAN**

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 DESIGNED - DW  
 DRAWN - JDH  
 CHECKED - KMM  
 DATE -  
 PLOT SCALE = \*SCALE\*  
 PLOT DATE = 3/28/2012

REVISIED -  
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 REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

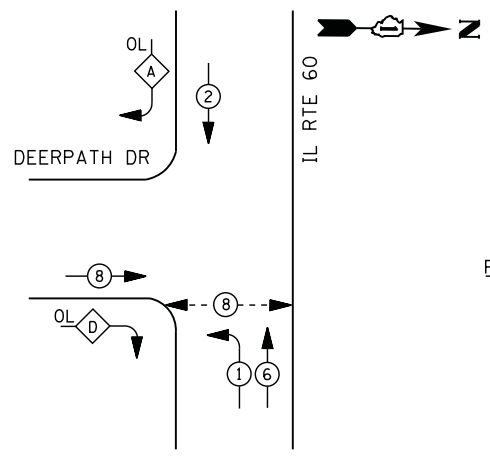
**IL RTE. 21 (MILWAUKEE AVE.) & HAWTHORN CENTER DR. #7-CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

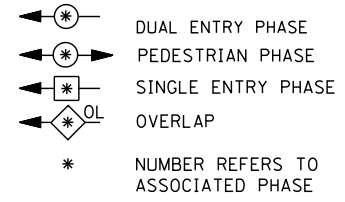
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6725  
 VERNON HILLS

**CONTROLLER SEQUENCE**



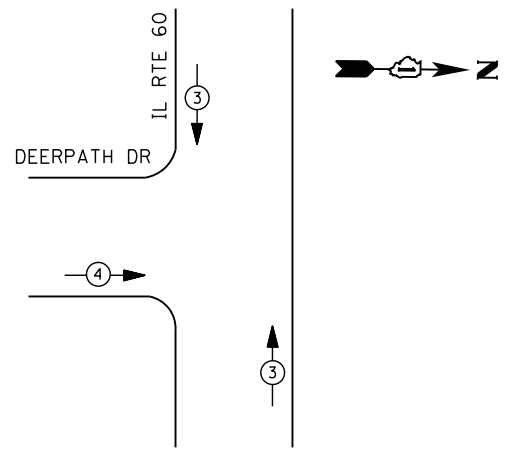
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A	= 2	+ 8	- 2
D	= 8	+ 1	- 8

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↑	→

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	11	135	17	0.50	94
(YELLOW)	11	135	25	0.25	69
(GREEN)	11	135	15	0.25	41
ARROW	12	135	12	0.10	14
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					368

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

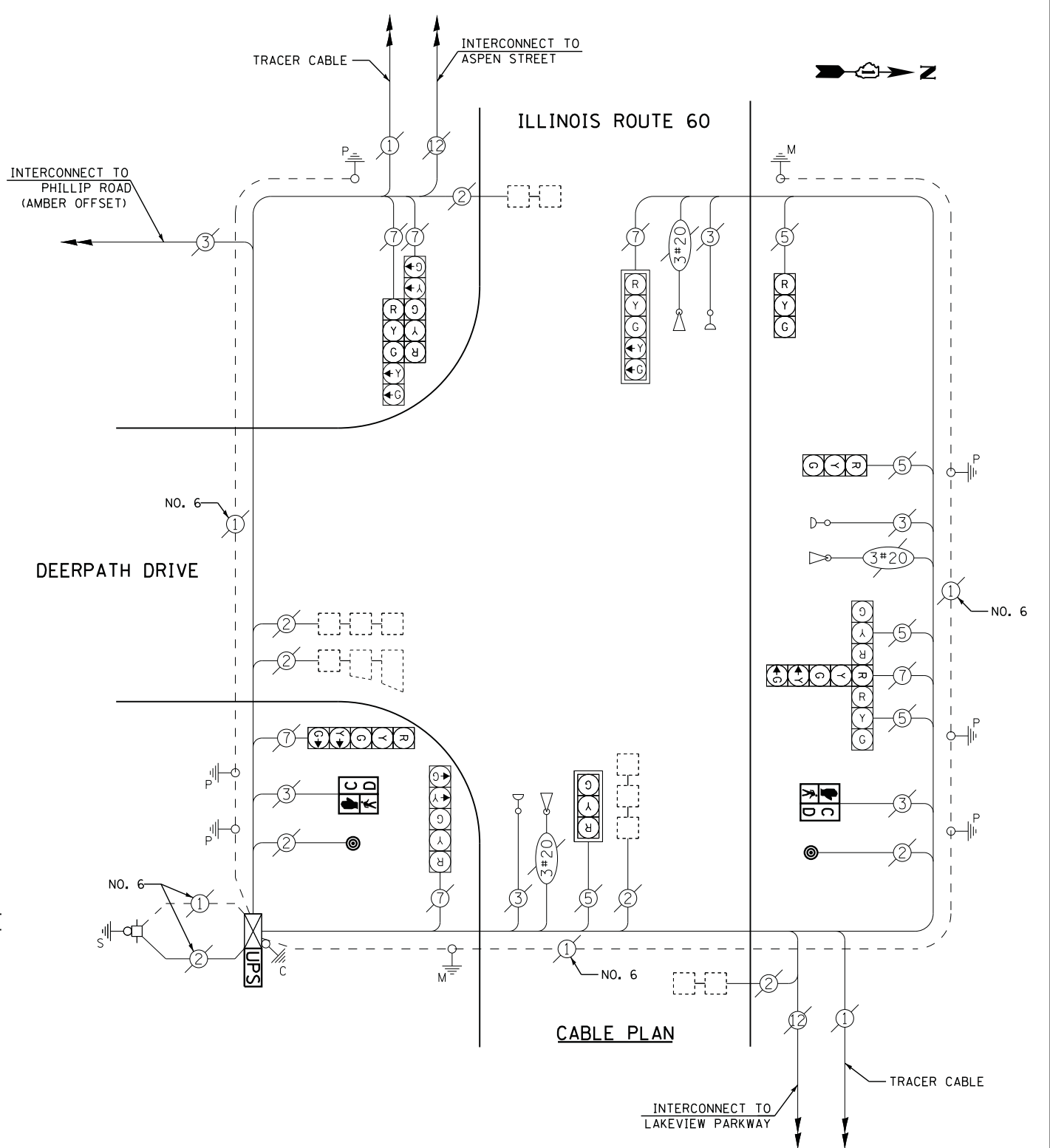
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

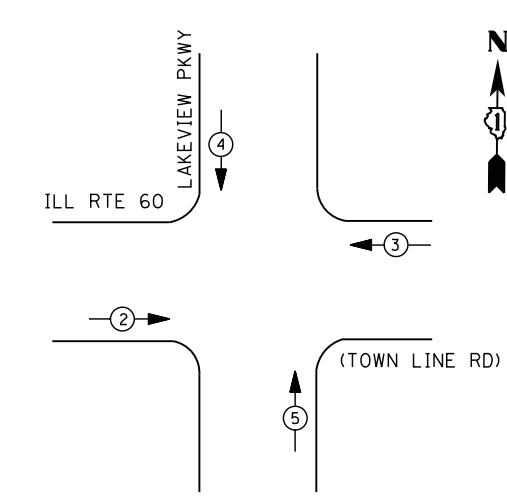
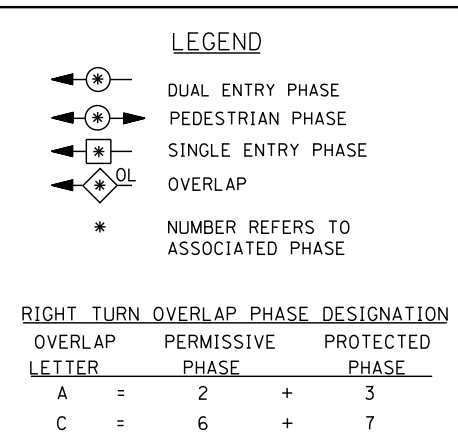
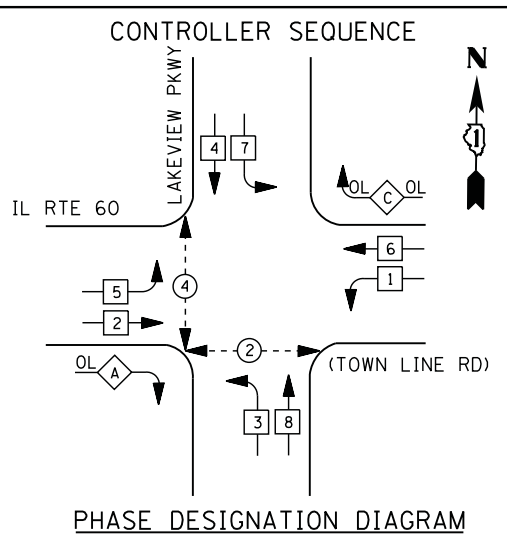
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	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 3/28/2012	DATE -		REVISED -	

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

<b>ILLINOIS ROUTE 60 &amp; DEERPETH DRIVE - CABLE PLAN</b>			
<b>SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM &amp; EVP SEQUENCE</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	45
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6870  
 VERNON HILLS



EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	2	3	4	5
MOVEMENT	→	←	↓	↑

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

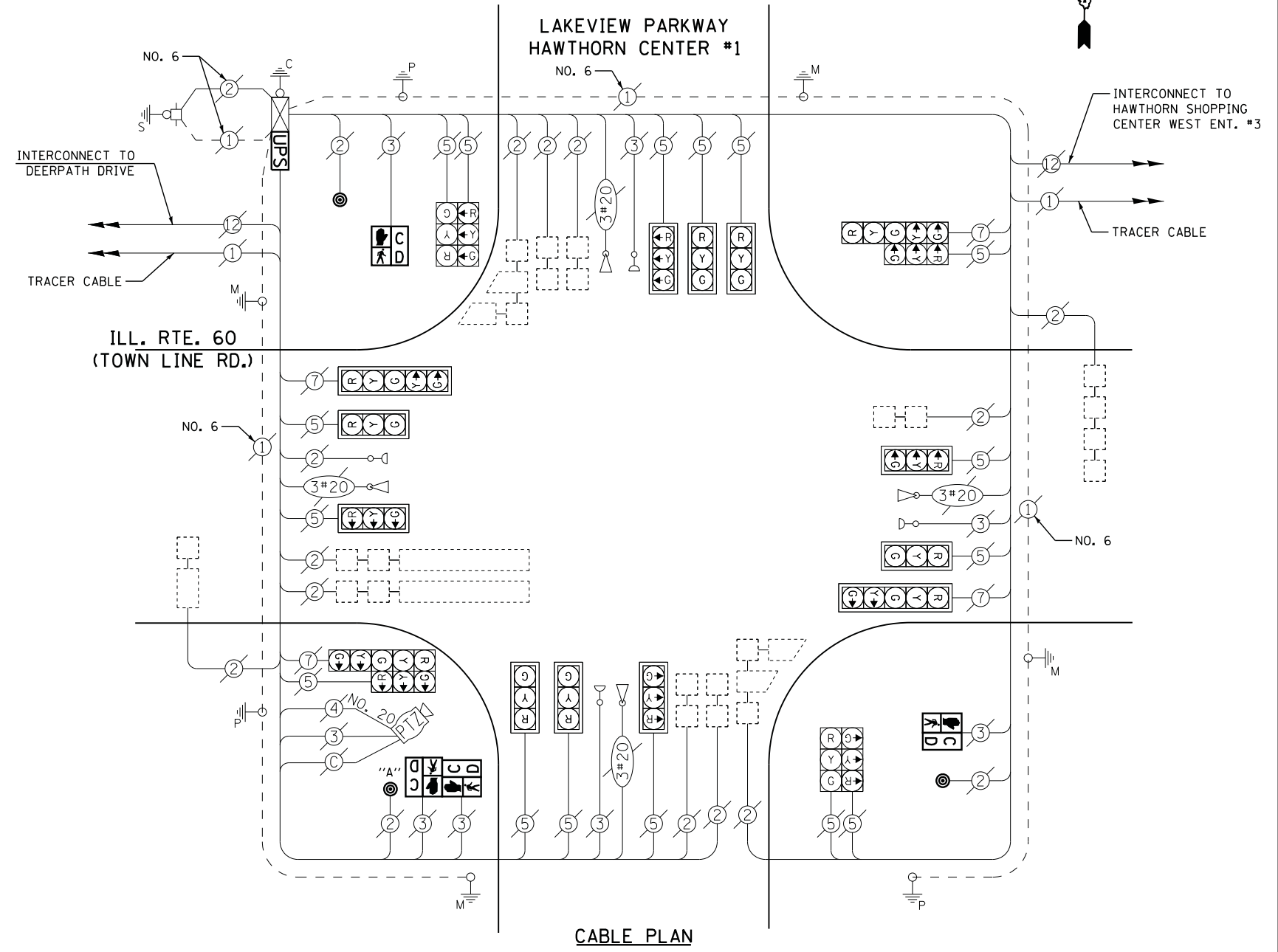
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	20	135	17	100	170
(YELLOW)	20	135	25		125
(GREEN)	20	135	15		75
ARROW	8	135	12		10
PED. SIGNAL	4	90	25		100
CONTROLLER	1	100	100		100
ILLUM. SIGN		252	25		--
VIDEO SYSTEM	1	150	-		150
TOTAL =					730

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

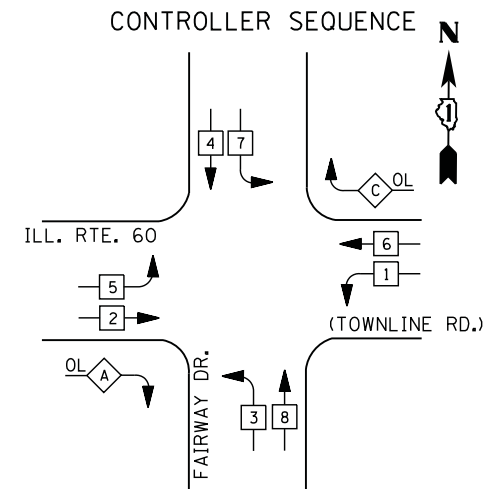


NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASED 2 AND 4

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

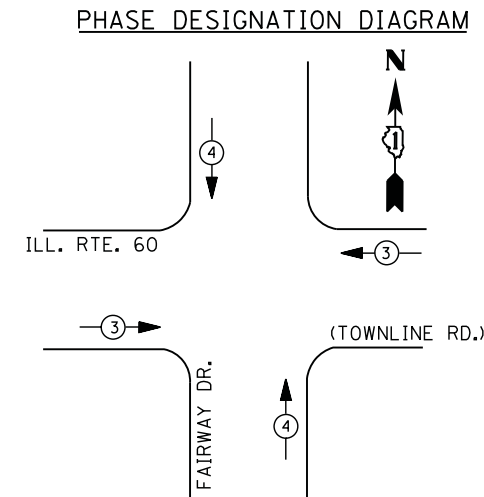
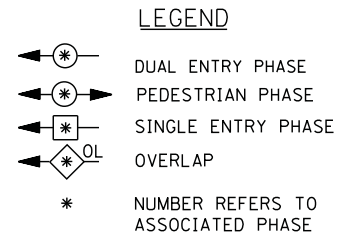
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON



### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
C =	6 +	7



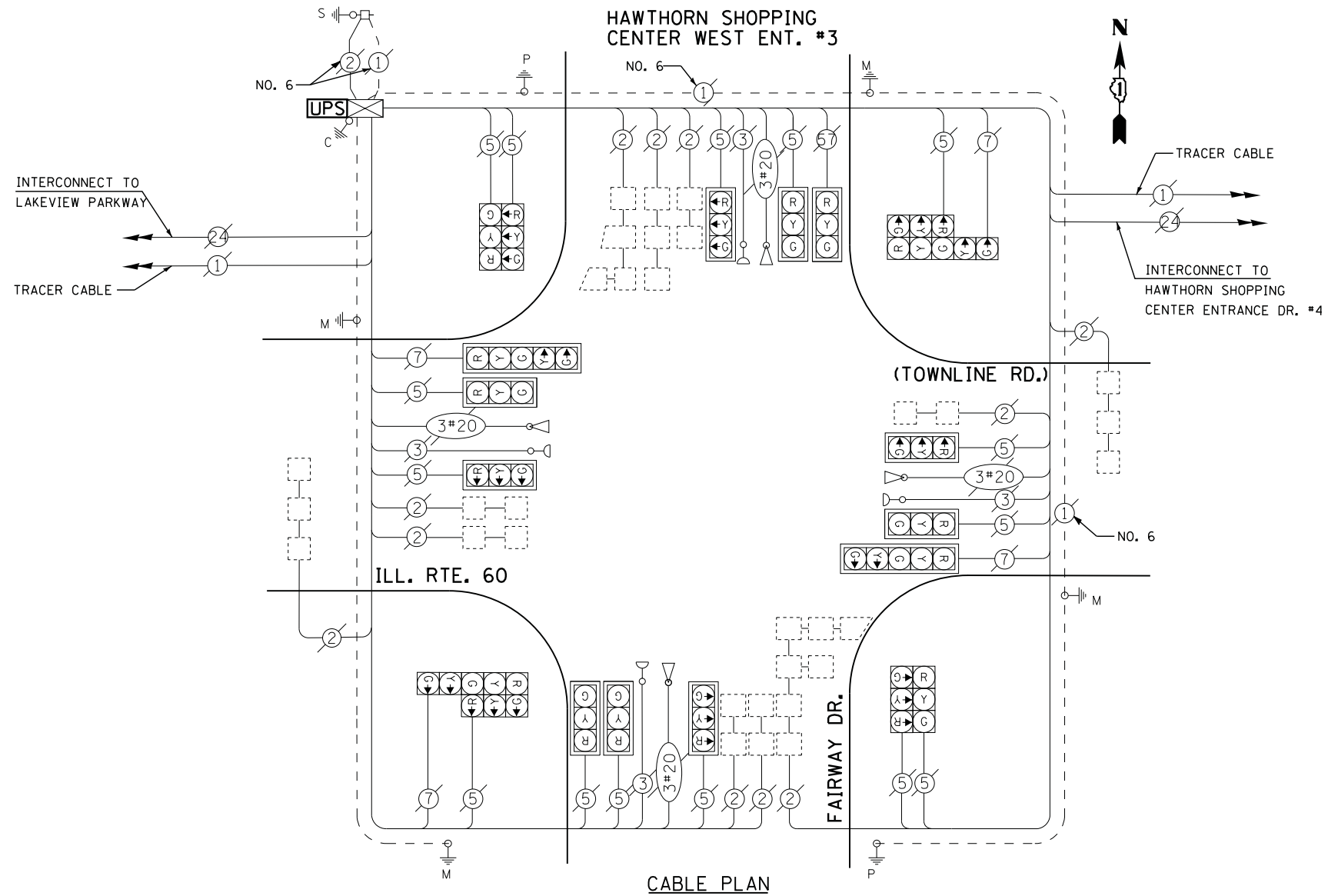
### EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	20	135	17	0.50	170
( YELLOW )	20	135	25	0.25	125
( GREEN )	20	135	15	0.25	75
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					480

ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

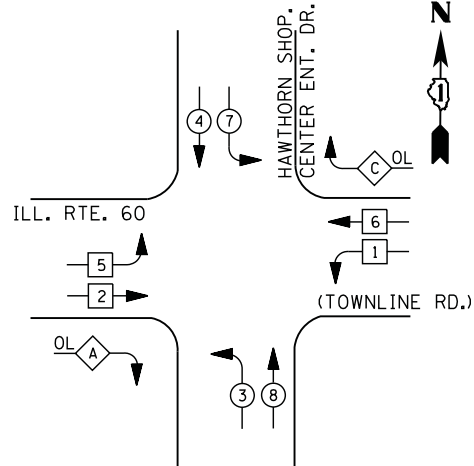
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON



### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**CONTROLLER SEQUENCE**



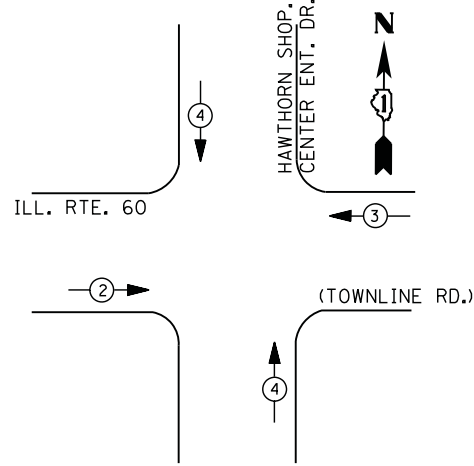
**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2	3
C =	6	7

**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT	→	←	↕

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	16	135	17	0.50	136
( YELLOW )	16	135	25	0.25	100
( GREEN )	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					415

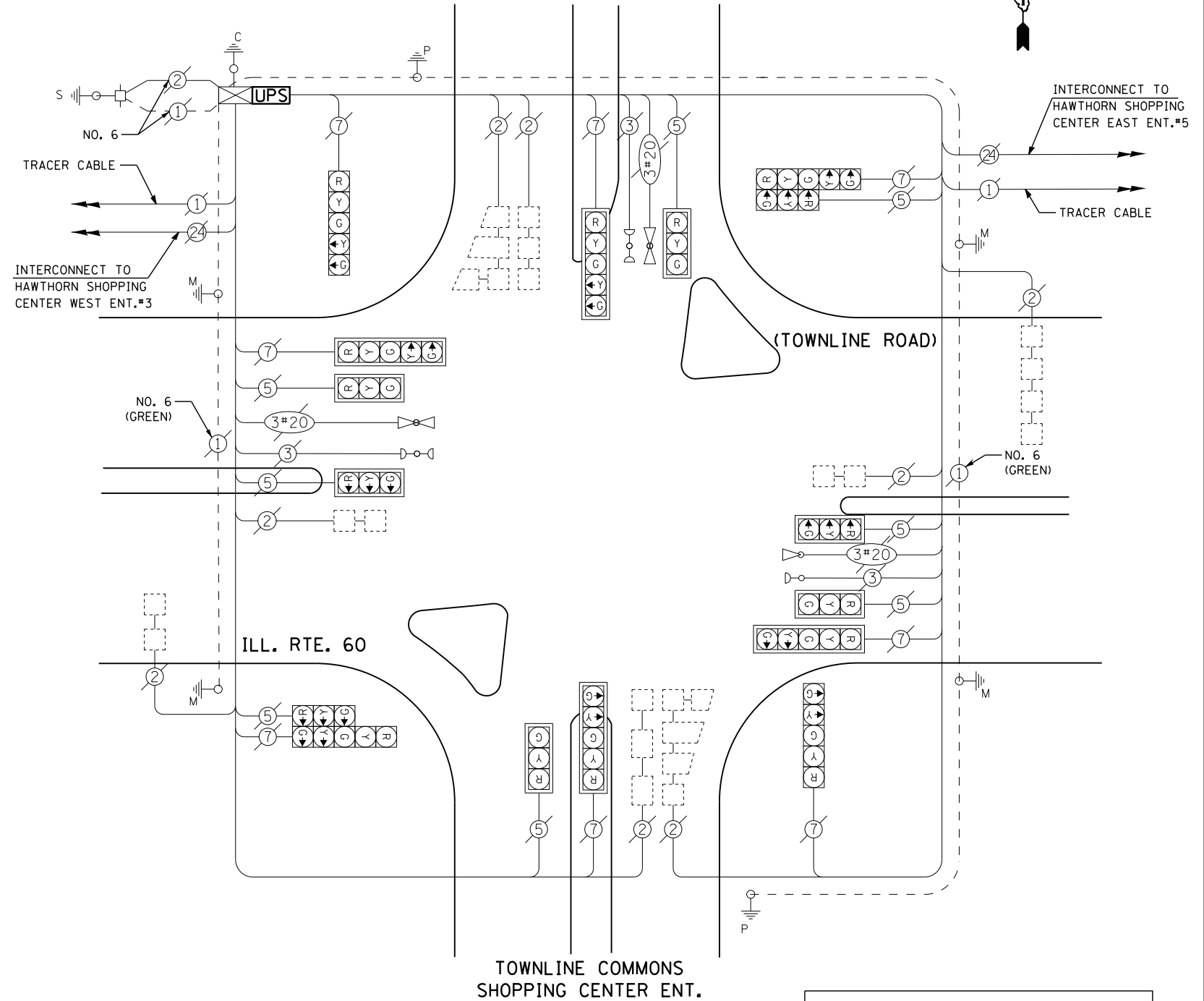
ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**HAWTHORN SHOPPING CENTER ENTRANCE DR.#4**



**TOWNLIN COMMONS SHOPPING CENTER ENT. CABLE PLAN**

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06885_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

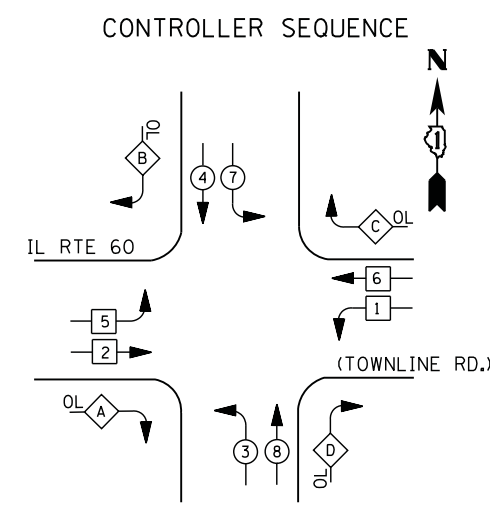
**IL RTE. 60 AT HAWTHORN SHOPPING CENTER ENT. DR. #4 - CABLE PLAN, SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	48
CONTRACT NO. 60741				
ILLINOIS FED. AID PROJECT				

TS# 6885  
 VERNON HILLS



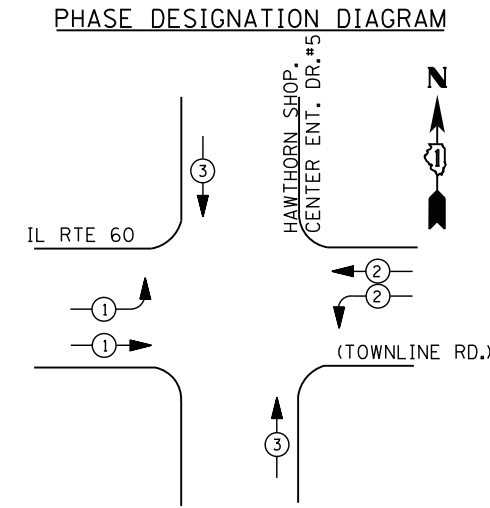


### LEGEND

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A	= 2	+ 3	- 2
B	= 4	+ 5	- 4
C	= 6	+ 7	- 6
D	= 8	+ 1	- 8



### EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	1	2	3
MOVEMENT			

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

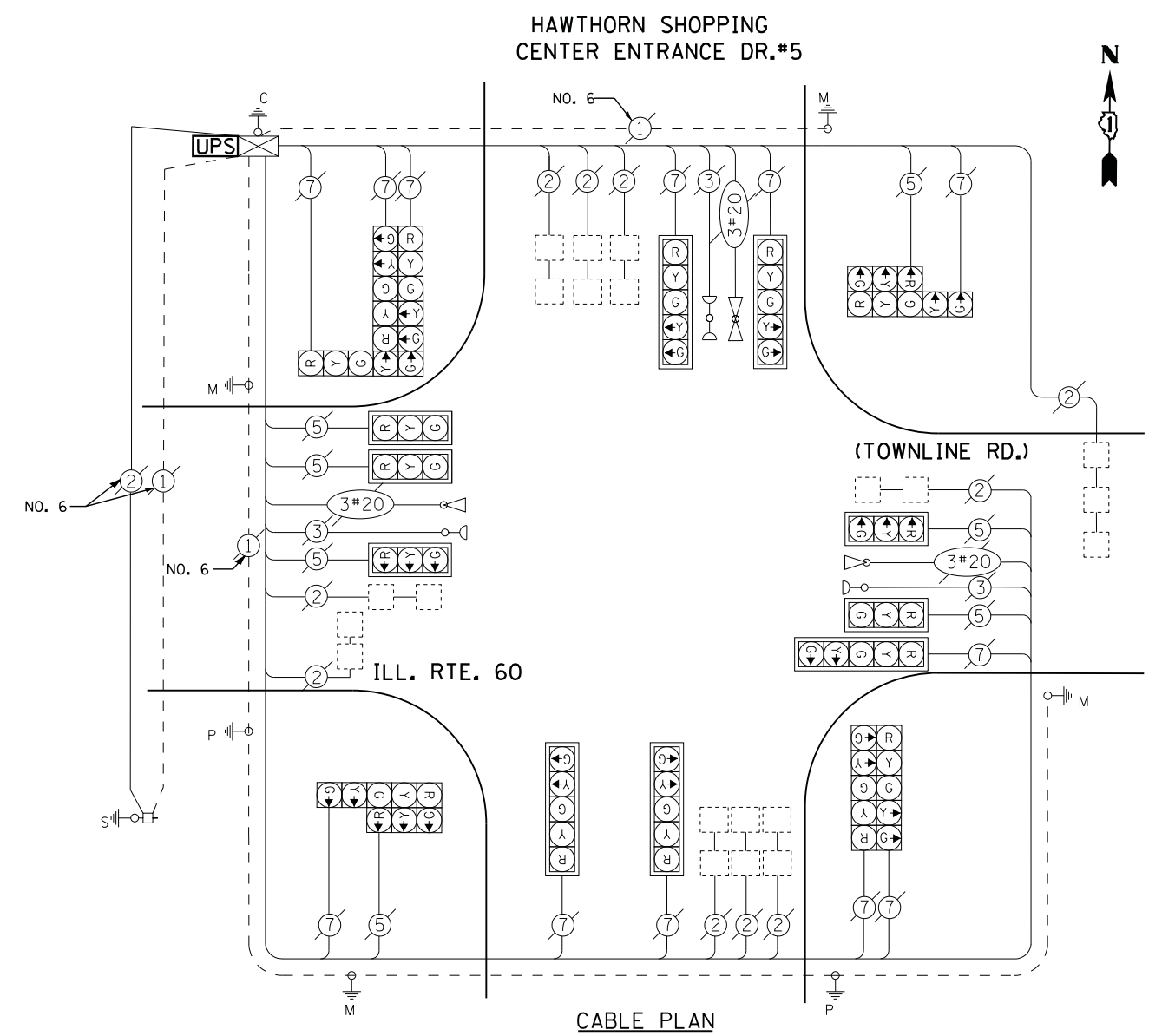
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	19	135	17	0.50	162
(YELLOW)	19	135	25	0.25	119
(GREEN)	19	135	15	0.25	71
ARROW	24	135	12	0.10	29
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					481

ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

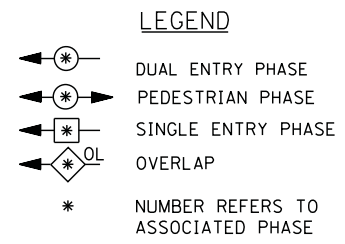
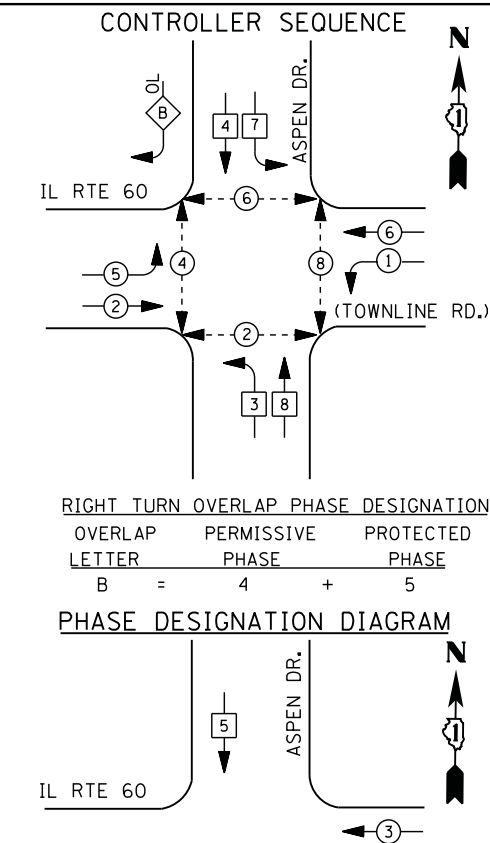
ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

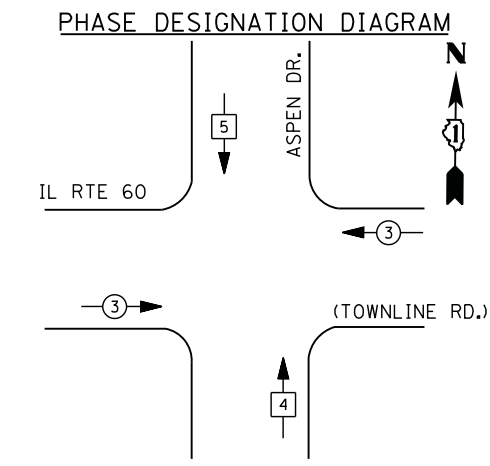


TS# 6890  
 VERNON HILLS



#### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5



#### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

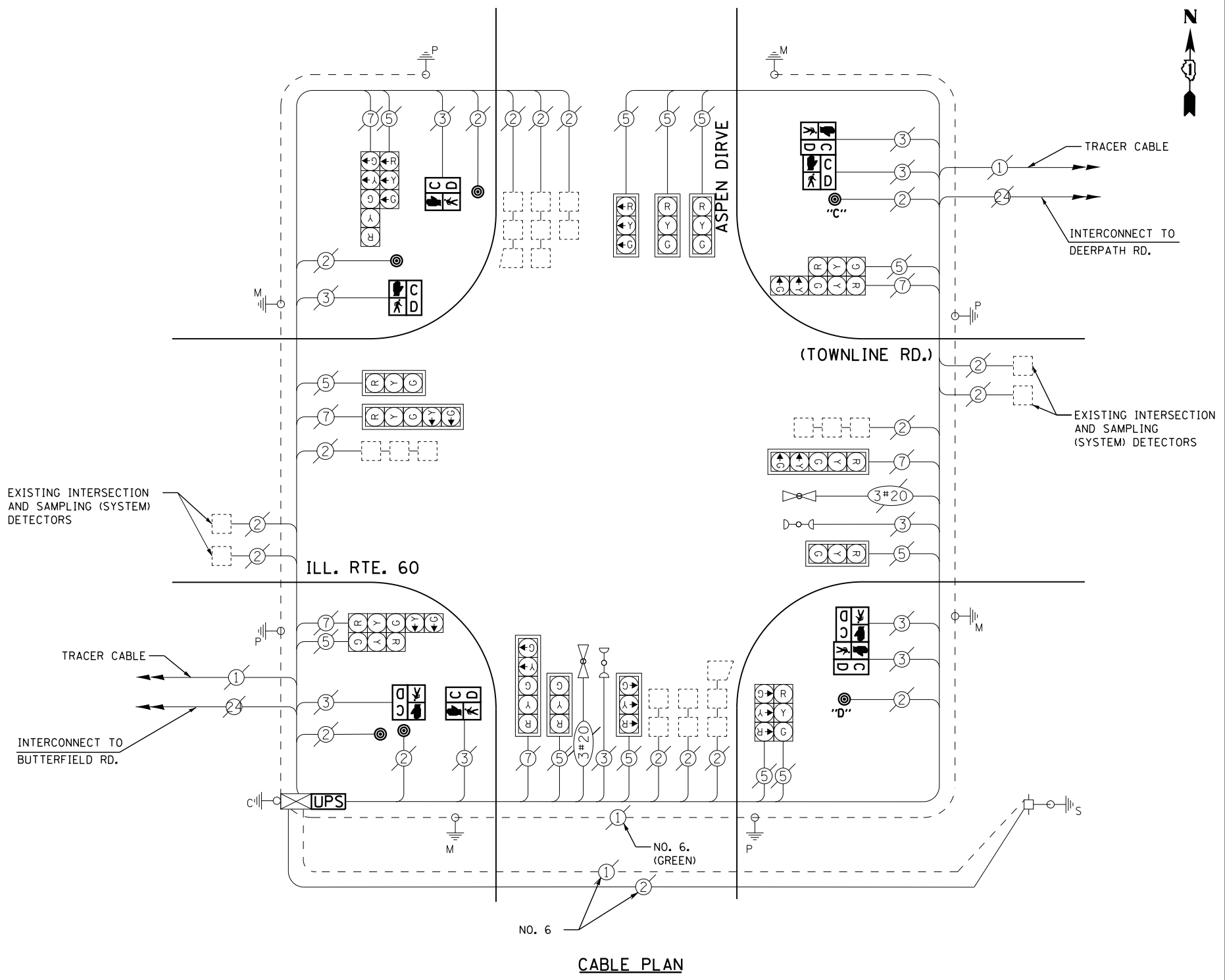
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	18	135	17	0.50	153
( YELLOW )	18	135	25	0.25	113
( GREEN )	18	135	15	0.25	68
ARROW	12	135	12	0.10	14
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					648

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
290 EVERGREEN DRIVE  
VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
PHONE 847-816-5239  
COMMONWEALTH EDISON

#### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



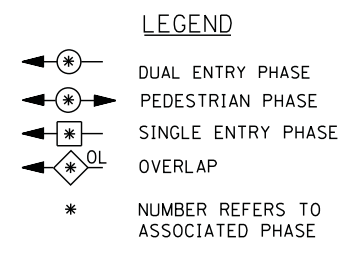
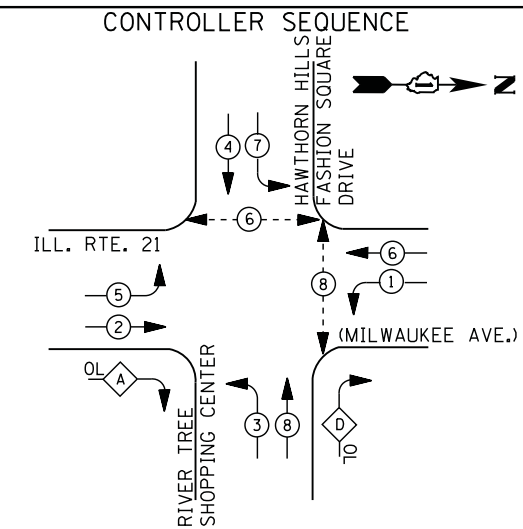
NOTES:  
PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
PUSH-BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

#### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

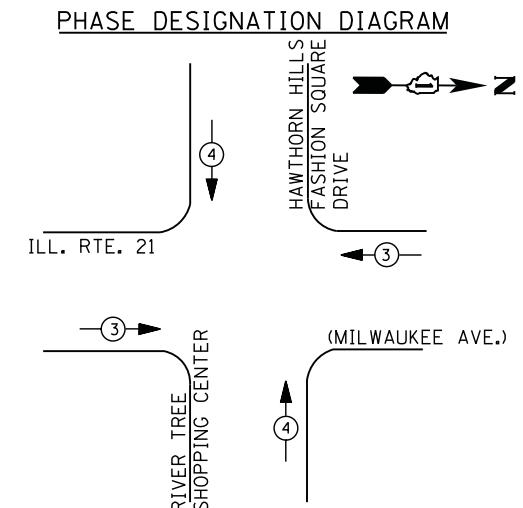
8	EACH	PEDESTRIAN SIGNAL HEAD
6	EACH	PEDESTRIAN PUSH-BUTTON

TS# 6900  
VERNON HILLS



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
D =	8 +	1



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←→	↑↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	24	135	12	0.10	29
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					525

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

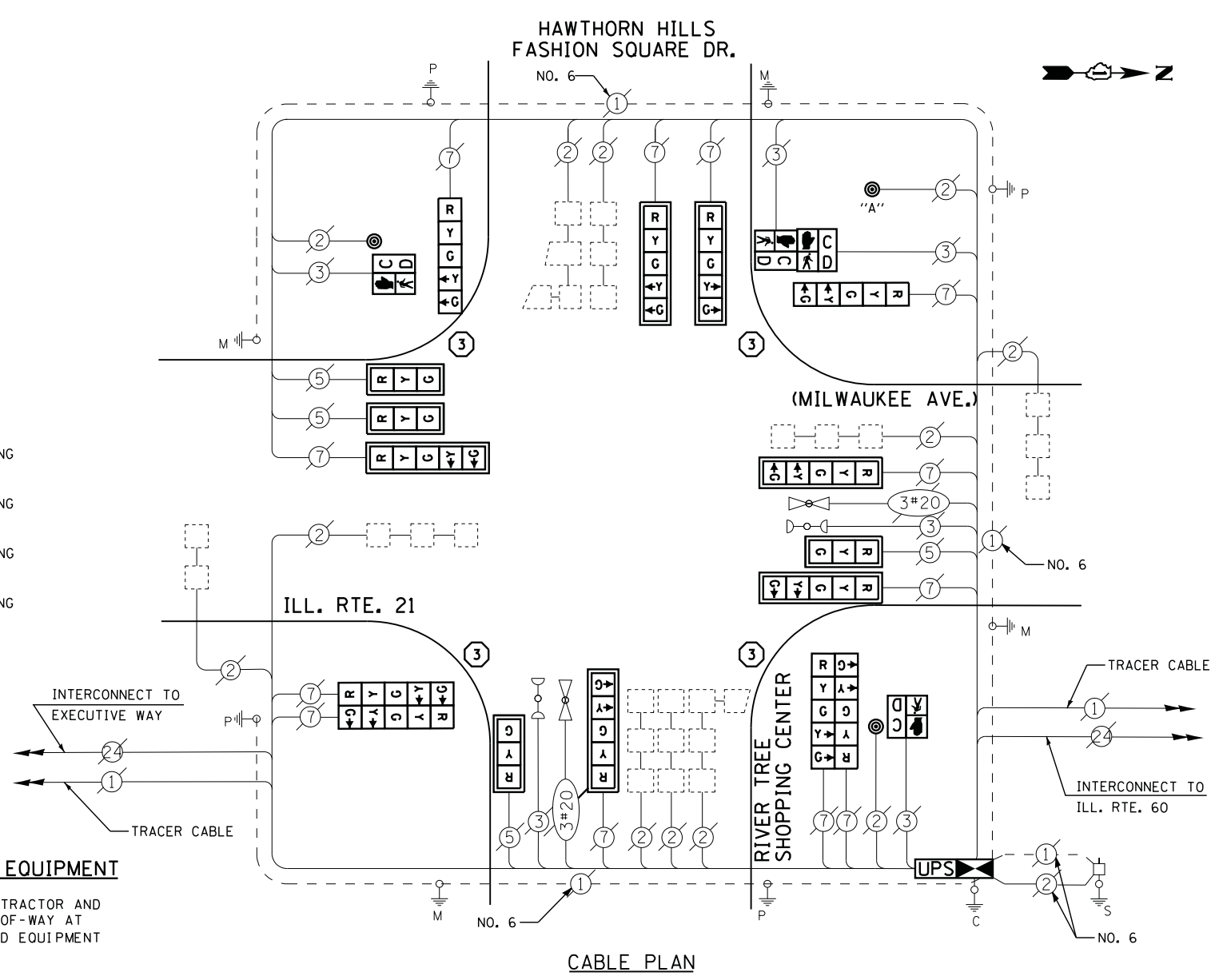
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH SIGNAL HEAD, 3 - SECTION
- 12 EACH SIGNAL HEAD, 5 - SECTION
- 10 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH STEEL POST
- 3 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 1 EACH CONTROLLER AND CABINET (COMPLETE)

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
9	EACH	INDUCTIVE LOOP DETECTOR
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

\* - 100% COST TO VILLAGE OF VERNON HILLS



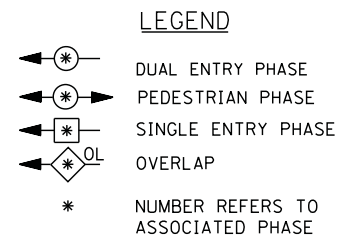
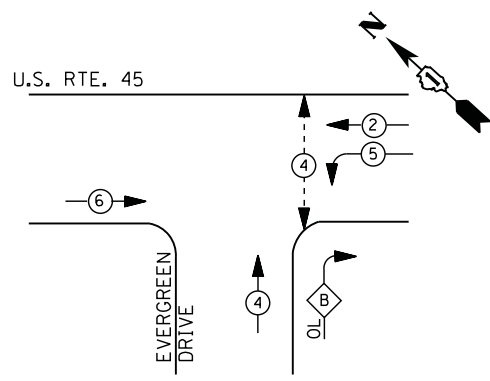
NOTE: PUSHBUTTON "A" TO PLACE CALLS IN PHASES 6 AND 8.

**CONSTRUCTION NOTES**

- 1) THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- 2) CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.
- 3) CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.
- 4) UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

TS# 11615  
 VERNON HILLS

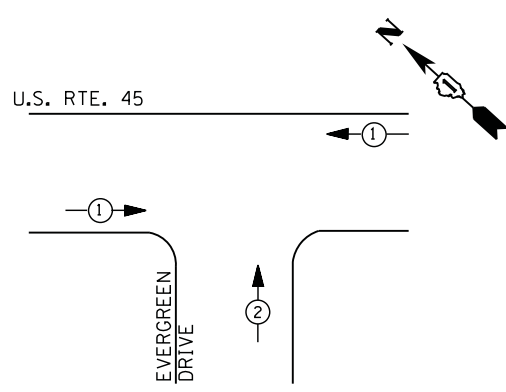
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
B	= 4	+ 5	- 4

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT		

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	11	135	17	0.50	94
(YELLOW)	11	135	25	0.25	69
(GREEN)	11	135	15	0.25	41
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					364

ENERGY COSTS- **BILLED TO: VILLAGE OF VERNON HILLS**  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE **847-816-5239**  
 COMMONWEALTH EDISON

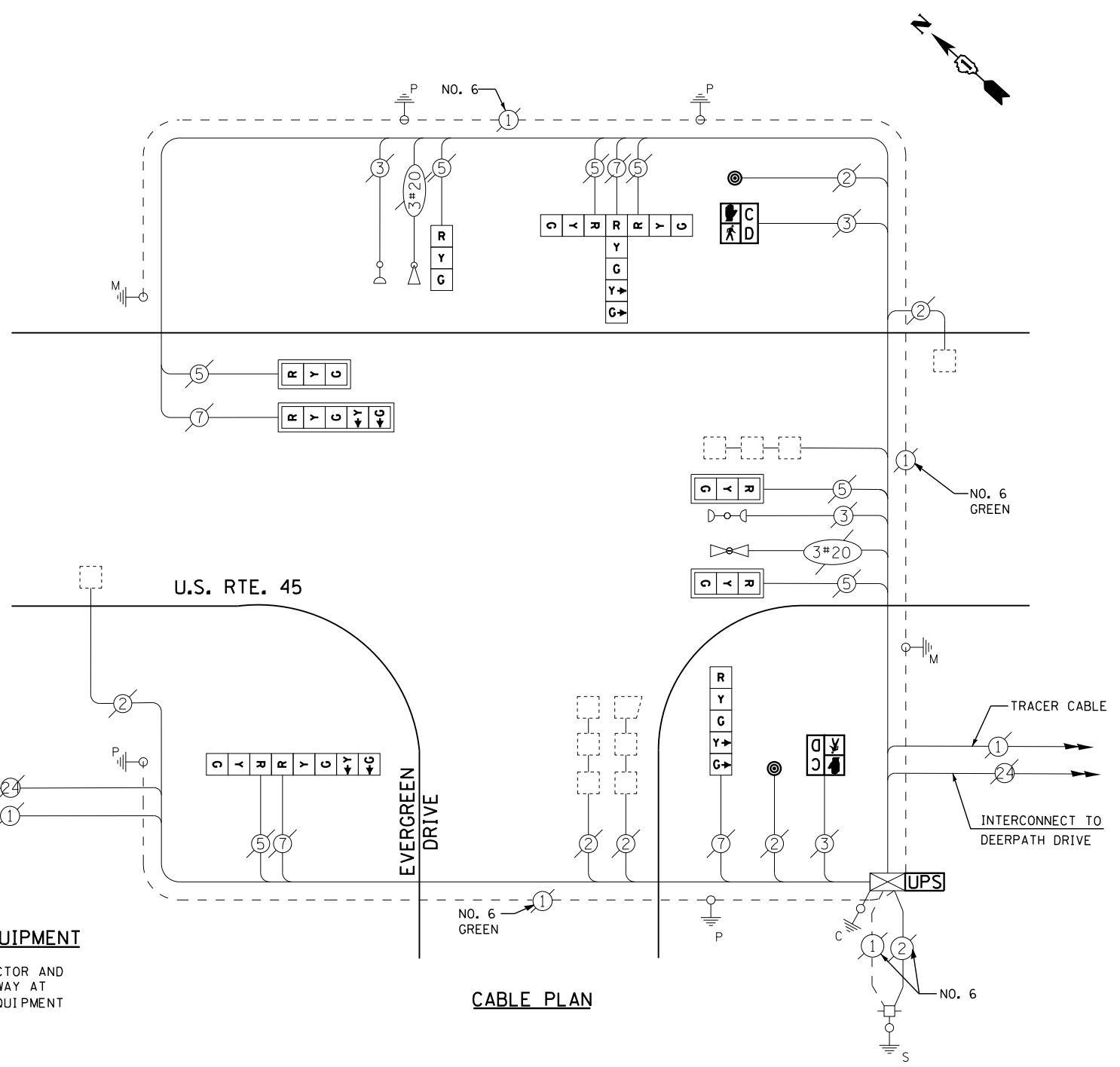
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH PEDESTRIAN SIGNAL HEAD

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT



**CABLE PLAN**

**RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.**

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -
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	PLOT DATE = 3/28/2012	DATE -	REVISED -

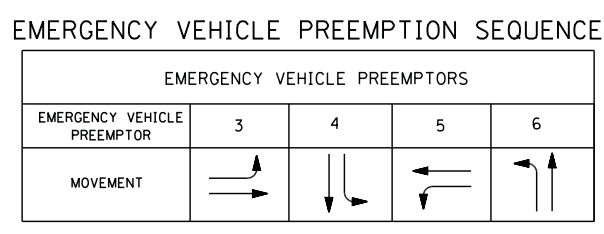
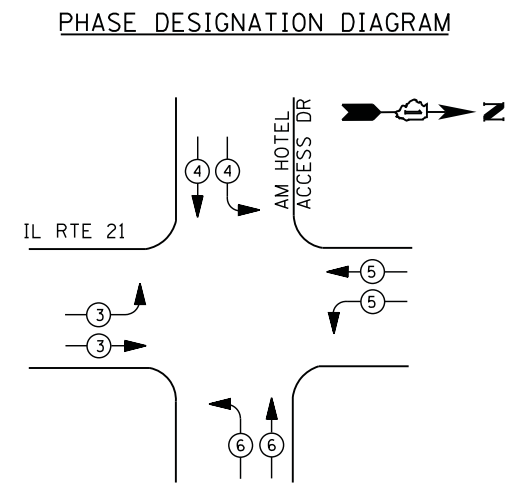
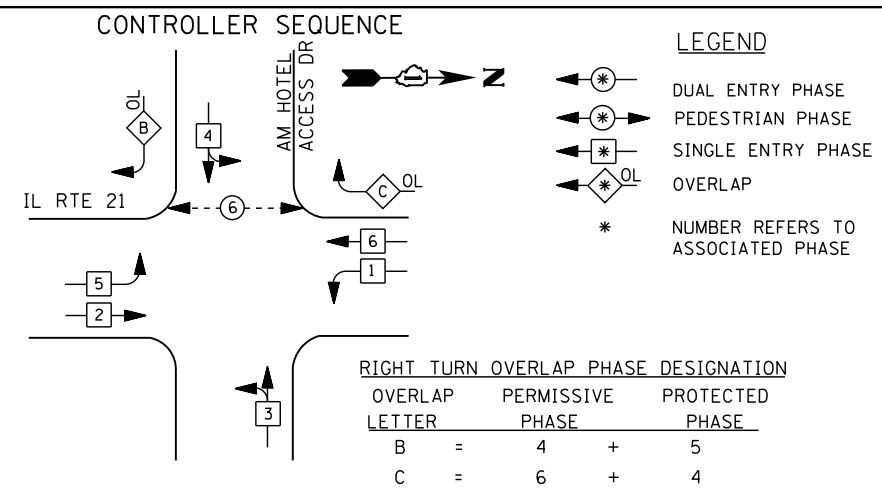
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 45 AT EVERGREEN DRIVE - CABLE PLAN, SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	52
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 21070  
 VERNON HILLS



### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	19	135	17	0.50	162
( YELLOW )	19	135	25	0.25	119
( GREEN )	23	135	15	0.25	87
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					528

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

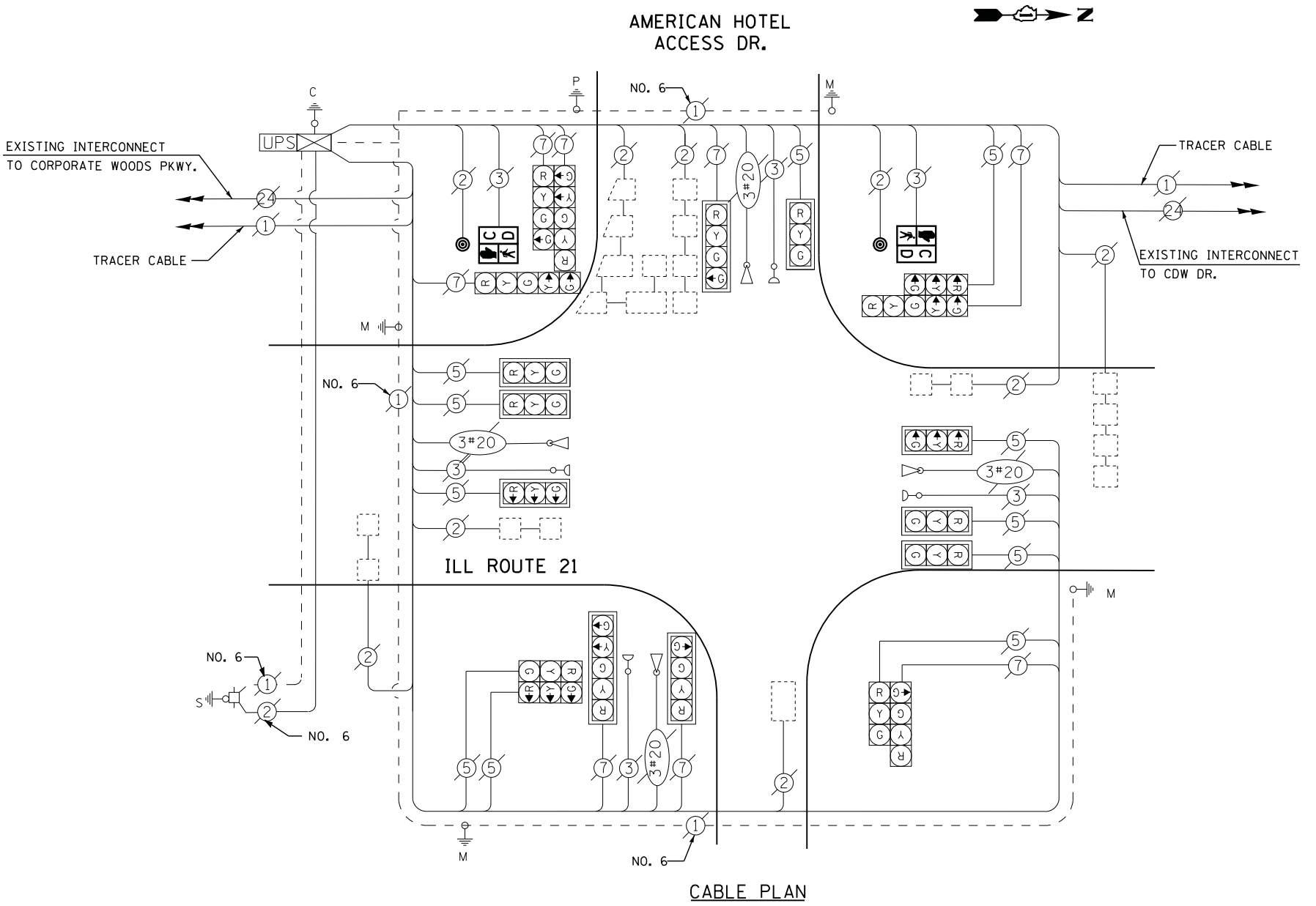
### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

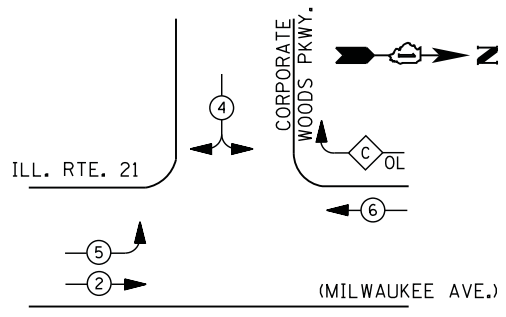
### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON



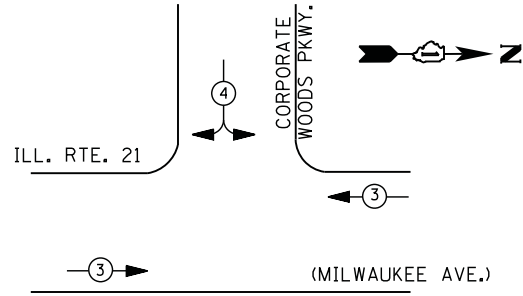
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
C	6	4

**PHASE DESIGNATION DIAGRAM**

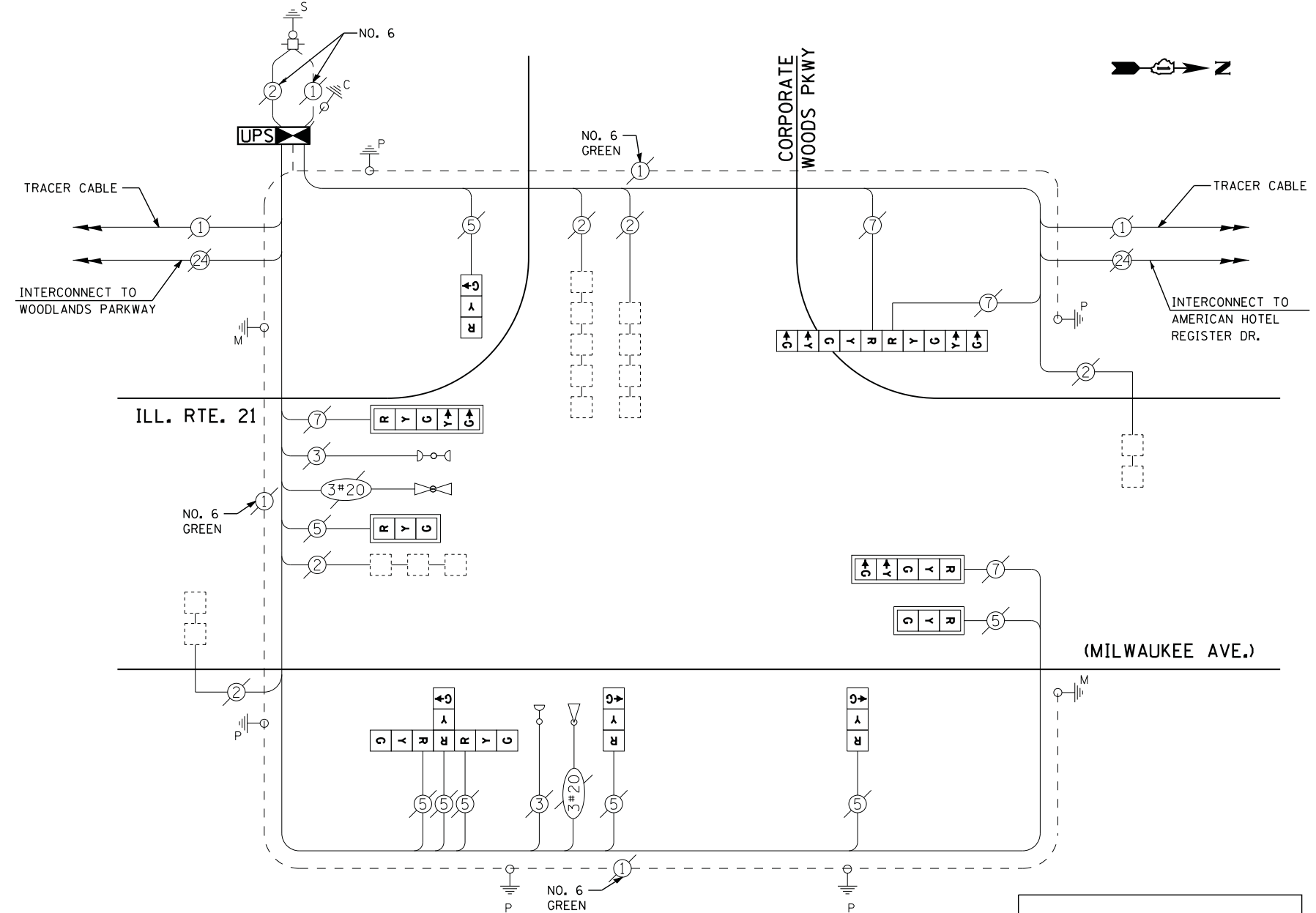


**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←→	↕

**LEGEND**

- ⊙ (with two arrows) DUAL ENTRY PHASE
- ⊙ (with one arrow) PEDESTRIAN PHASE
- ⊙ (with one arrow and 'OL') SINGLE ENTRY PHASE
- ⊙ (with two arrows and 'OL') OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 4 EACH TRAFFIC SIGNAL BACKPLATE

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
5	EACH	INDUCTIVE LOOP DETECTOR
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED RETROFIT

\* - 100% COST TO VILLAGE OF VERNON HILLS

**CONSTRUCTION NOTES**

- 1) THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- 2) CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.
- 3) CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

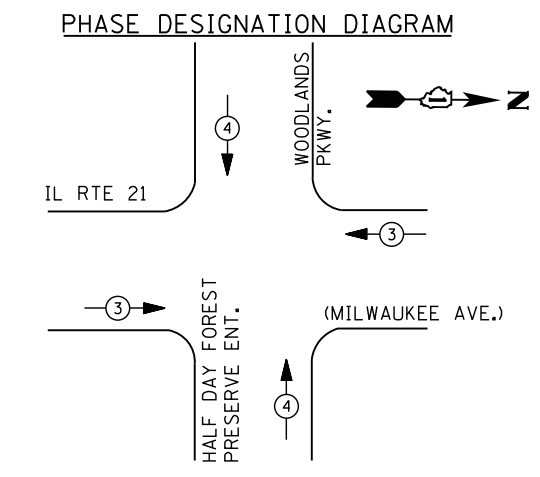
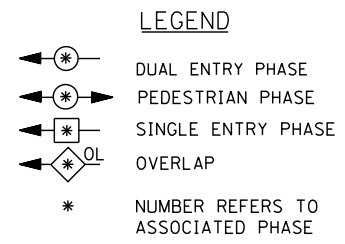
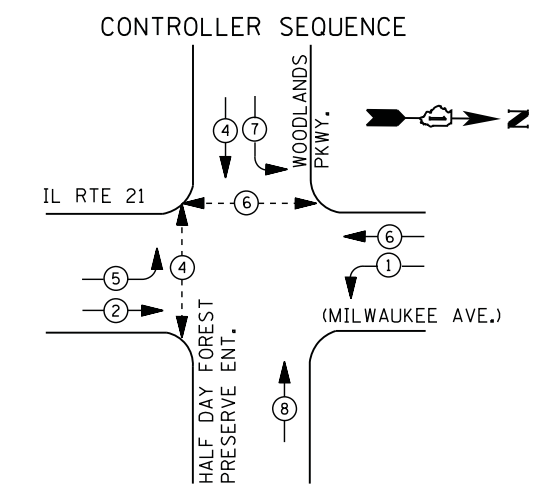
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					332

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

TS# 21410  
 VERNON HILLS



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	12	135	12	0.10	14
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					455

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

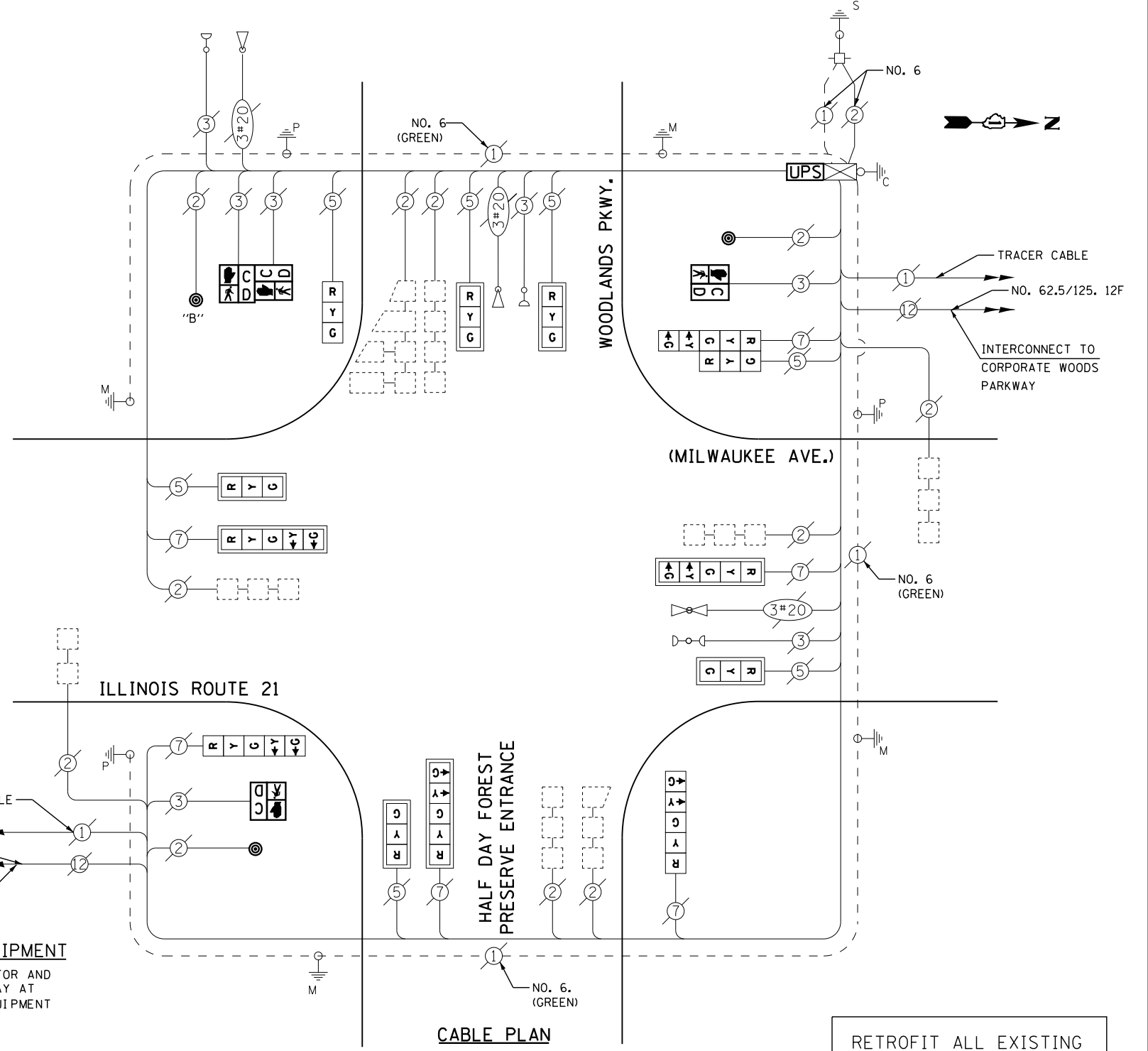
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4 EACH PEDESTRIAN SIGNAL HEAD  
 3 EACH PEDESTRIAN PUSH-BUTTON

SCHEDULE OF QUANTITIES

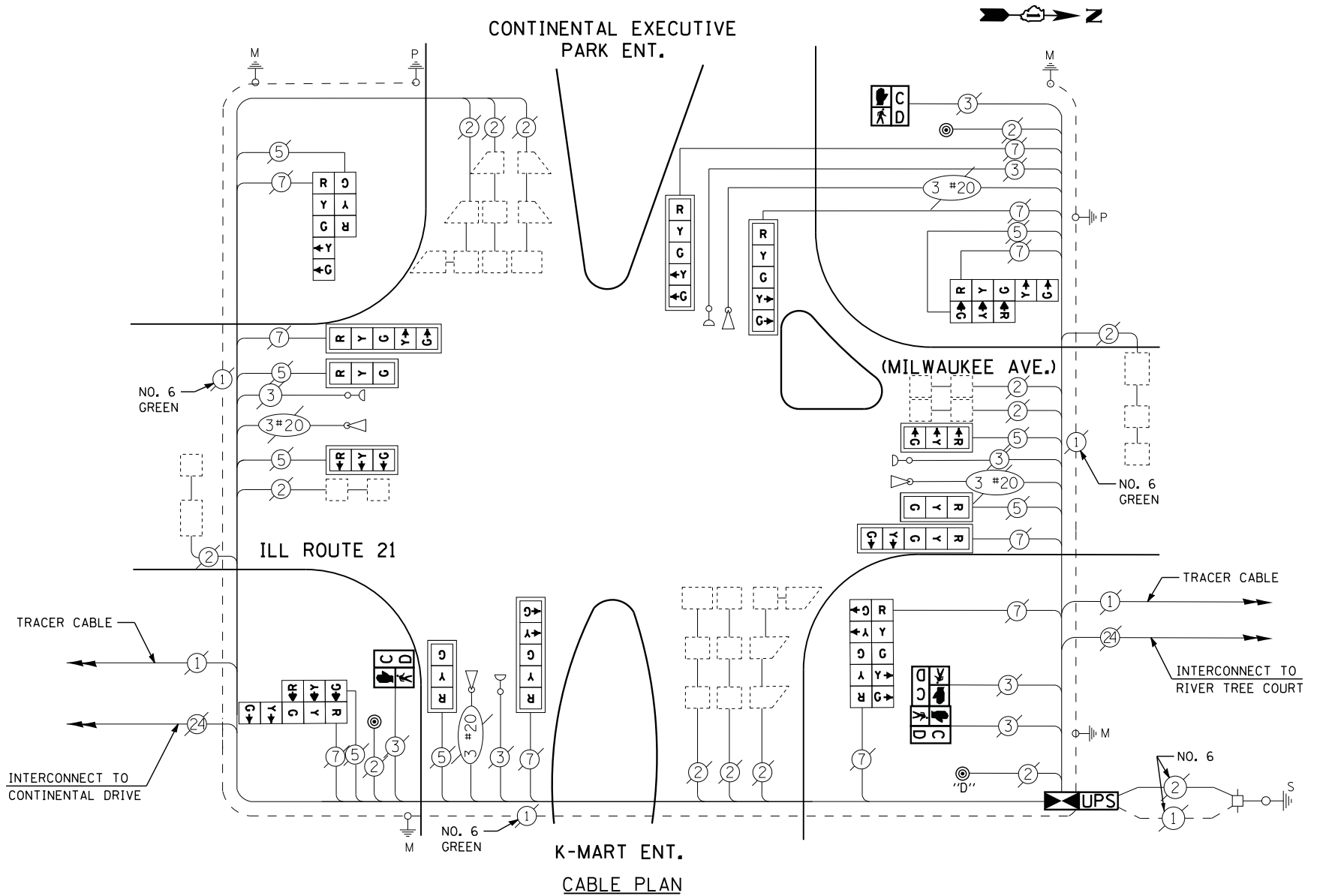
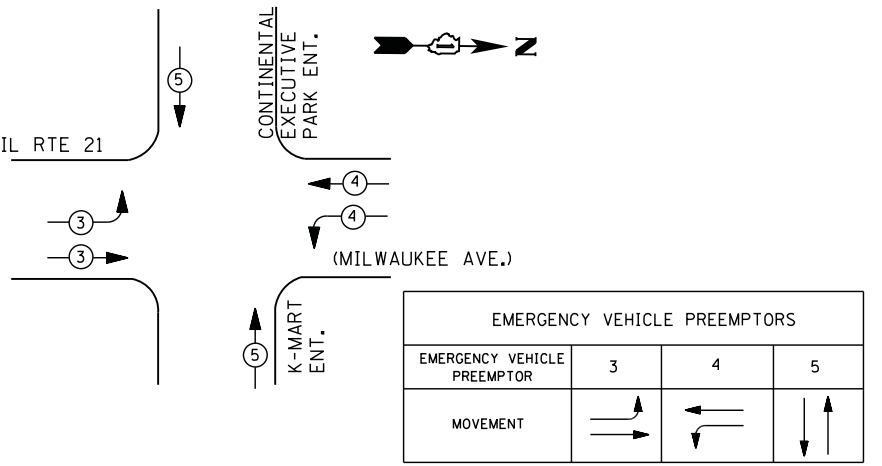
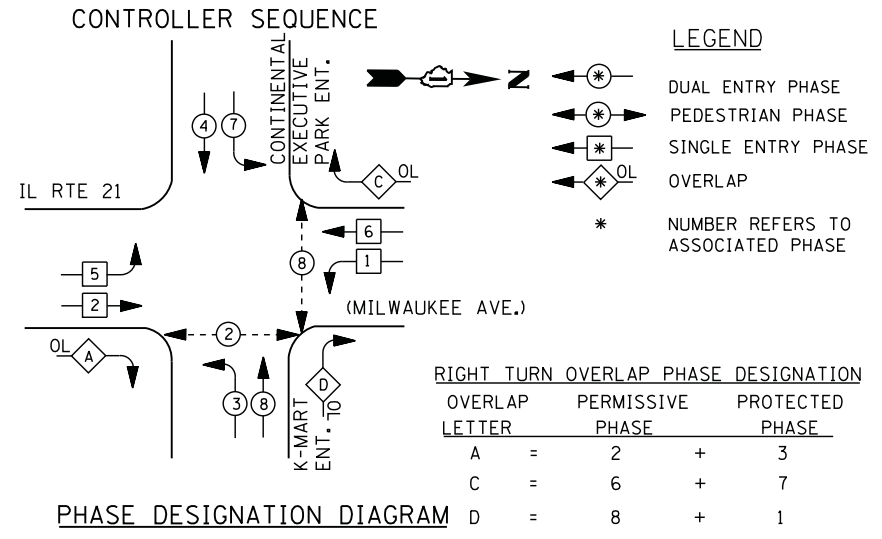
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTE: PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**CONSTRUCTION NOTES**

- THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.
- CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 3 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCIVER - FIBER OPTIC
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
11	EACH	INDUCTIVE LOOP DETECTOR
* 2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

\* - 100% COST TO VILLAGE OF VERNON HILLS

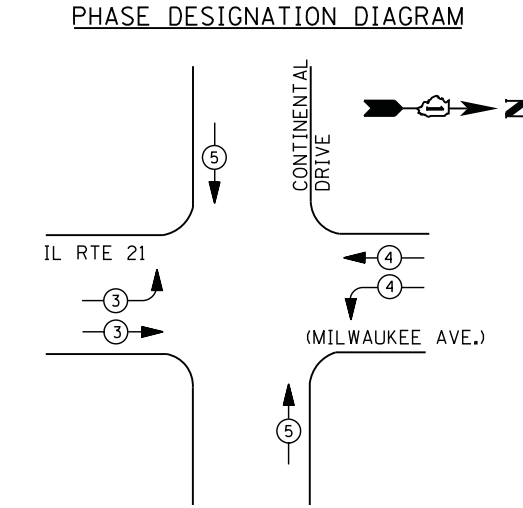
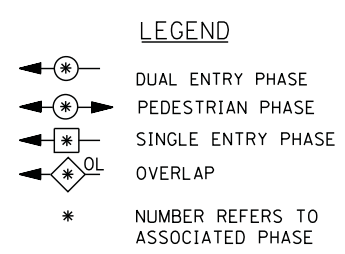
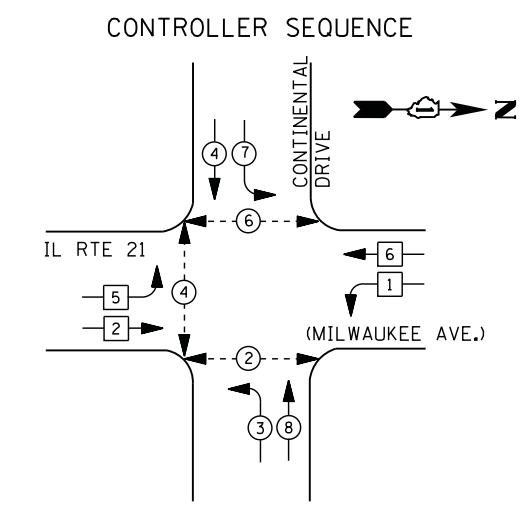
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	113
(GREEN)	18	135	15	0.25	68
ARROW	20	135	12	0.10	24
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					458

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON





EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↕

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	8	135	12	0.10	10
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					556

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DRIVE  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

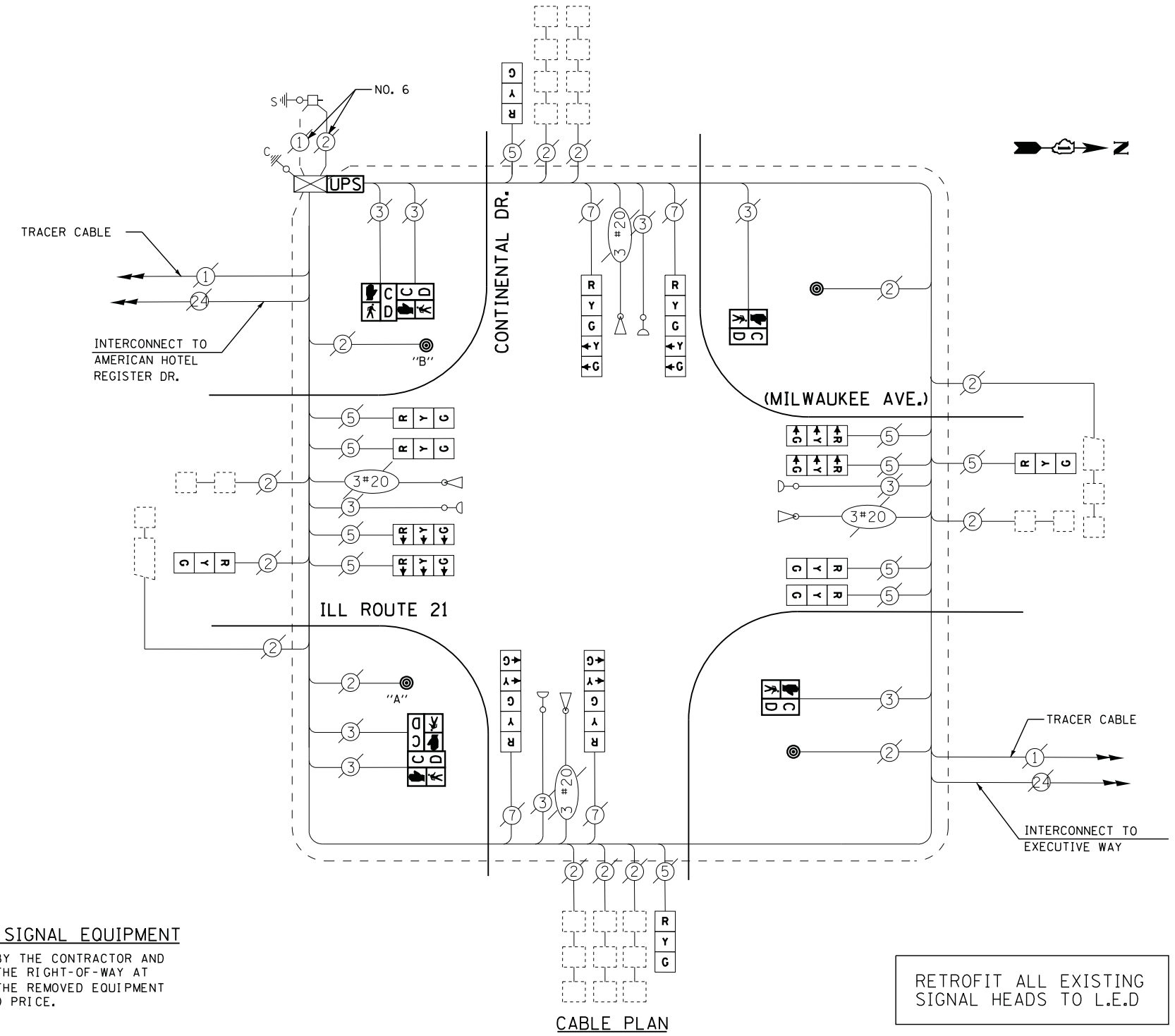
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6 EACH PEDESTRIAN SIGNAL HEAD  
 4 EACH PEDESTRIAN PUSH-BUTTON

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
12	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED, RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



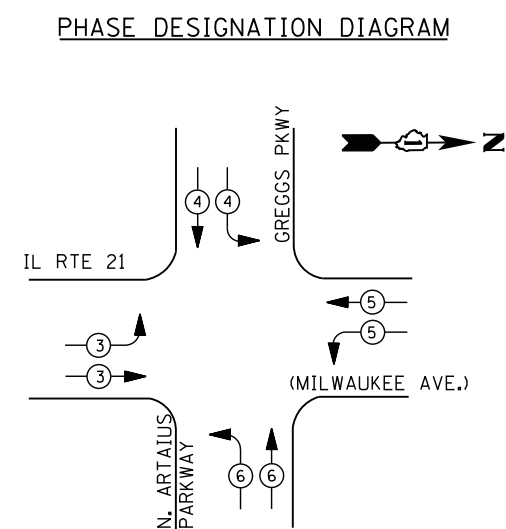
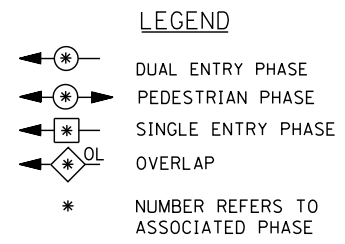
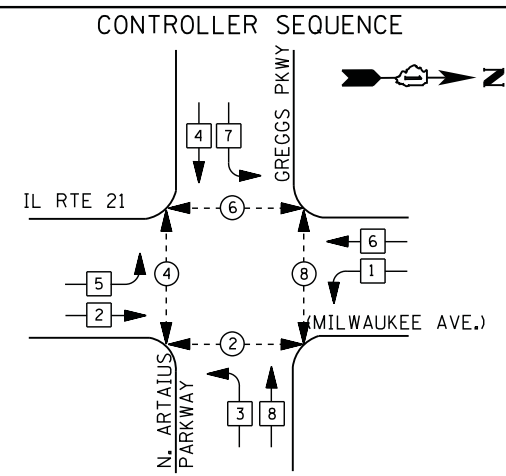
CABLE PLAN

NOTE:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

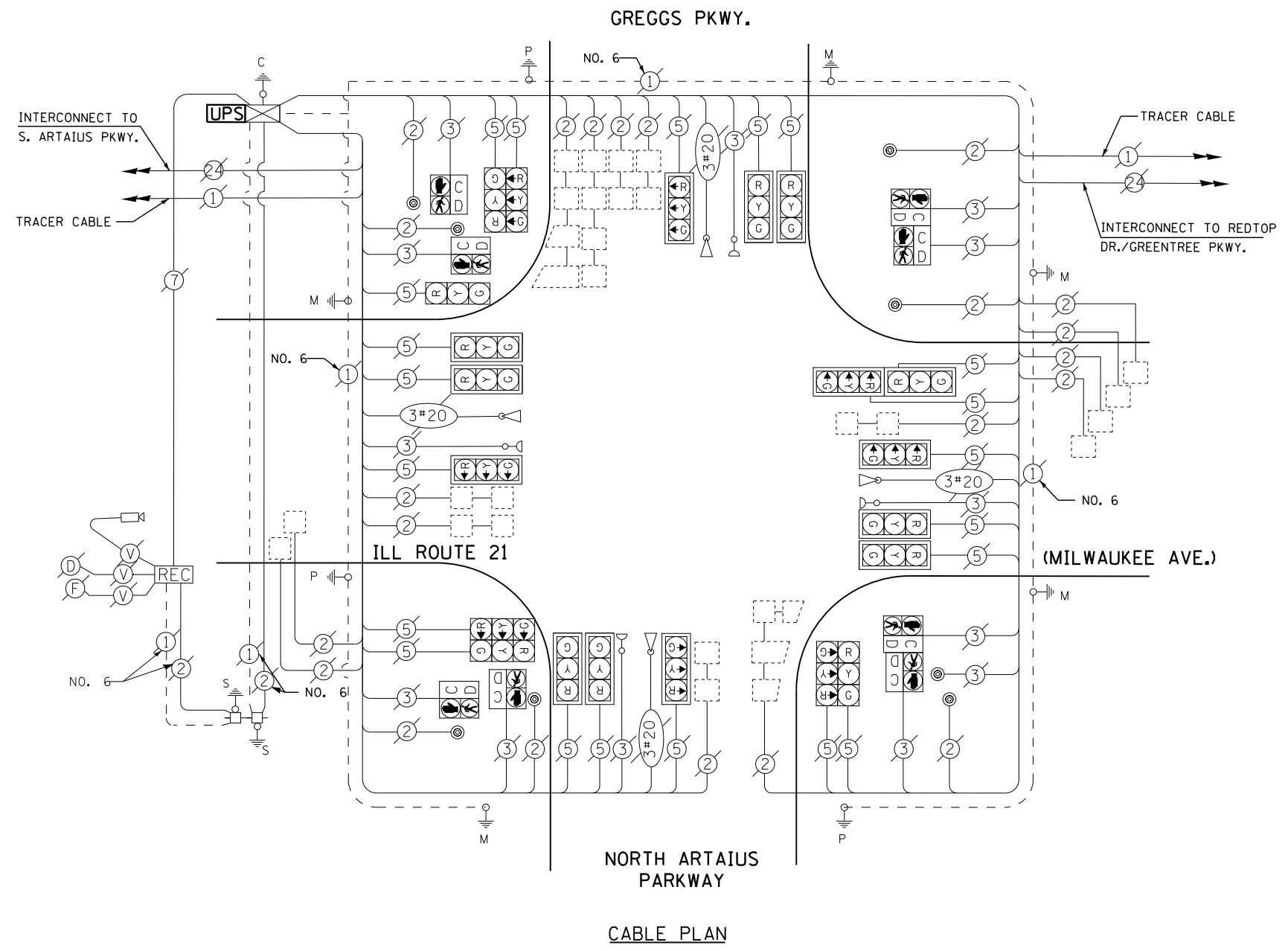
UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT	→	↓	←	↑



I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	21	135	17	0.50	179
( YELLOW )	21	135	25	0.25	131
( GREEN )	21	135	15	0.25	79
ARROW	--	135	12	0.10	--
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					689

ENERGY COSTS- BILLED TO: VILLAGE OF VERNON HILLS  
 290 EVERGREEN DR.  
 VERNON HILLS, IL 60061

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

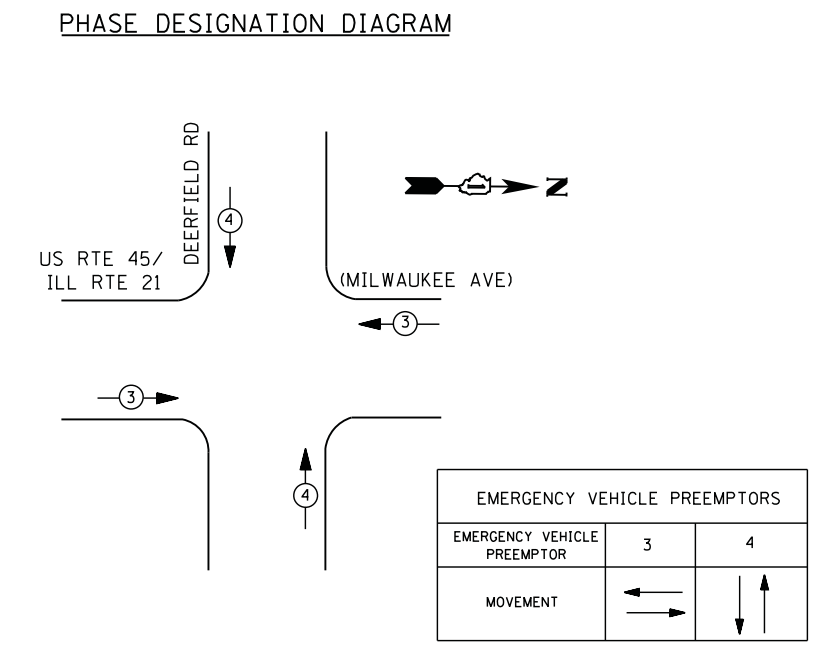
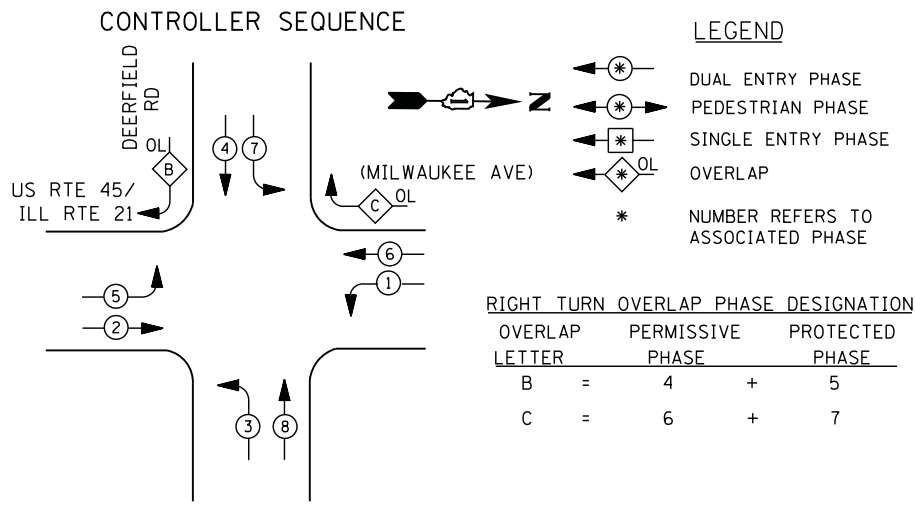
DUE TO THE PRESENCE OF A RED LIGHT RUNNING (RLR) CAMERA WITHIN THE PROJECT LIMITS, CONTRACTOR SHALL NOTIFY THE VILLAGE OF LIBERTYVILLE AND GATSO USA, INC. PRIOR TO THE START OF CONSTRUCTION.

VILLAGE OF LIBERTYVILLE  
 200 W. COOK AVENUE  
 LIBERTYVILLE, IL 60048  
 847-918-2100

GATSO USA, INC.  
 900 CUMMINGS CENTER, SUITE 321-U  
 BEVERLY, MA 01915  
 978-922-7294

THE VILLAGE OF LIBERTYVILLE OR GATSO USA, INC. SHALL MAKE THE RLR CAMERA INOPERATIVE FOR THE TIME OF CONSTRUCTION. ANY RLR CAMERA EQUIPMENT THAT IS IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY ITS RESPECTIVE OWNERS PRIOR TO THE START OF CONSTRUCTION.

TS# 14018  
 VERNON HILLS/LIBERTYVILLE



### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

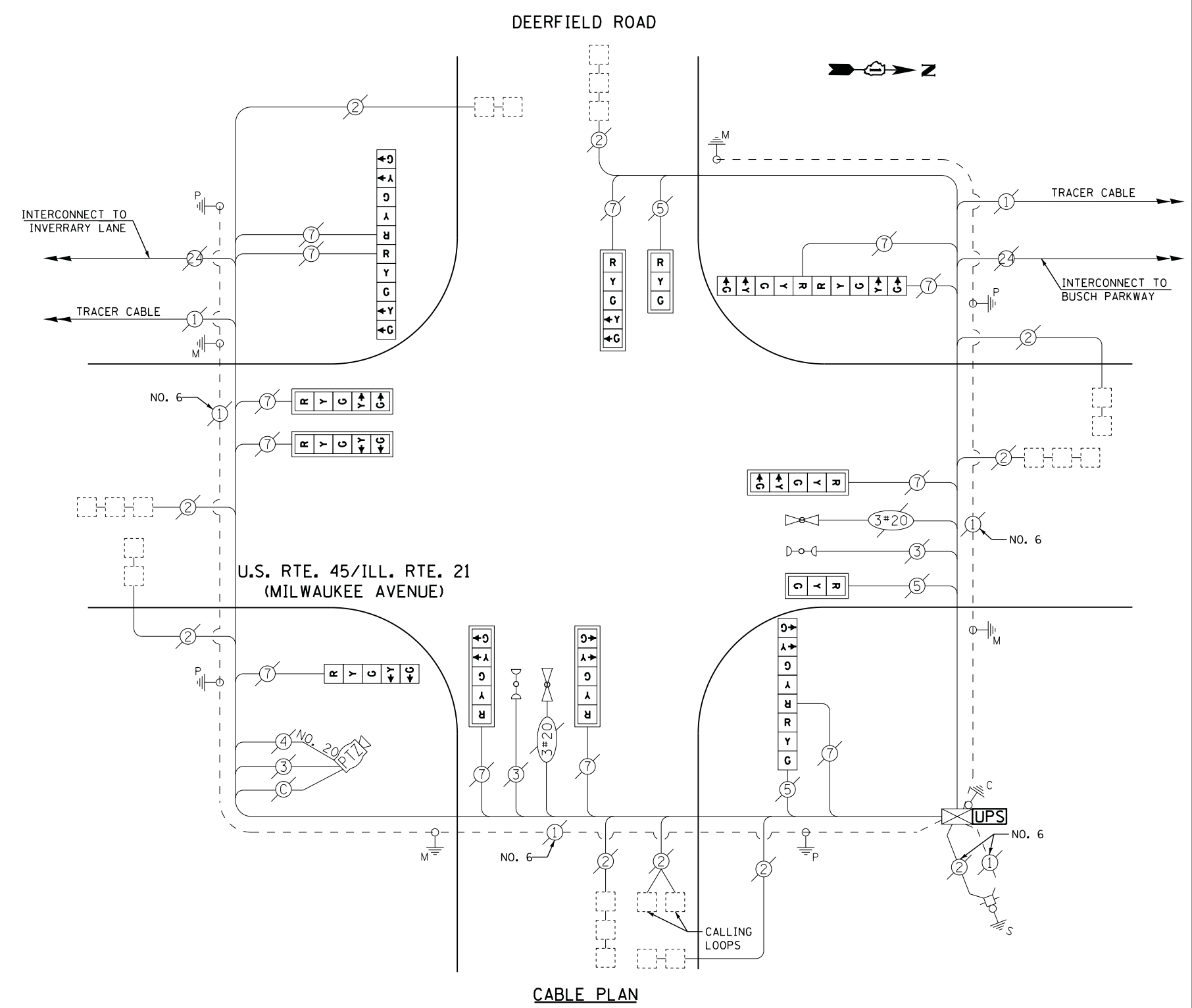
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	15	135	17	0.50	128
( YELLOW )	15	135	25	0.25	94
( GREEN )	15	135	15	0.25	57
ARROW	24	135	12	0.10	29
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					558

ENERGY COSTS- BILLED TO: VILLAGE OF BUFFALO GROVE  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

### SCHEDULE OF QUANTITIES

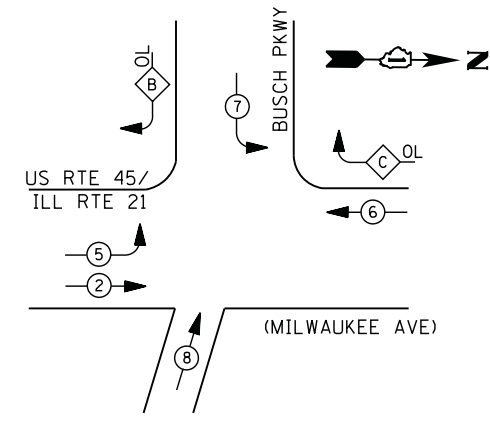
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

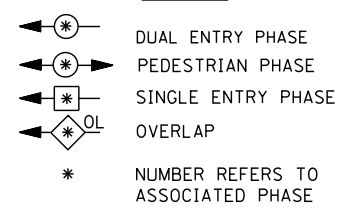
CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**CONTROLLER SEQUENCE**



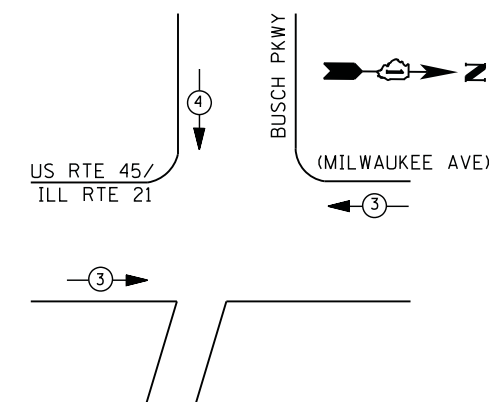
**PHASE DESIGNATION DIAGRAM**

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 7	+ 5
C	= 6	+ 7



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	8	135	12	0.10	10
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					351

ENERGY COSTS- **BILLED TO: VILLAGE OF BUFFALO GROVE**  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT **DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

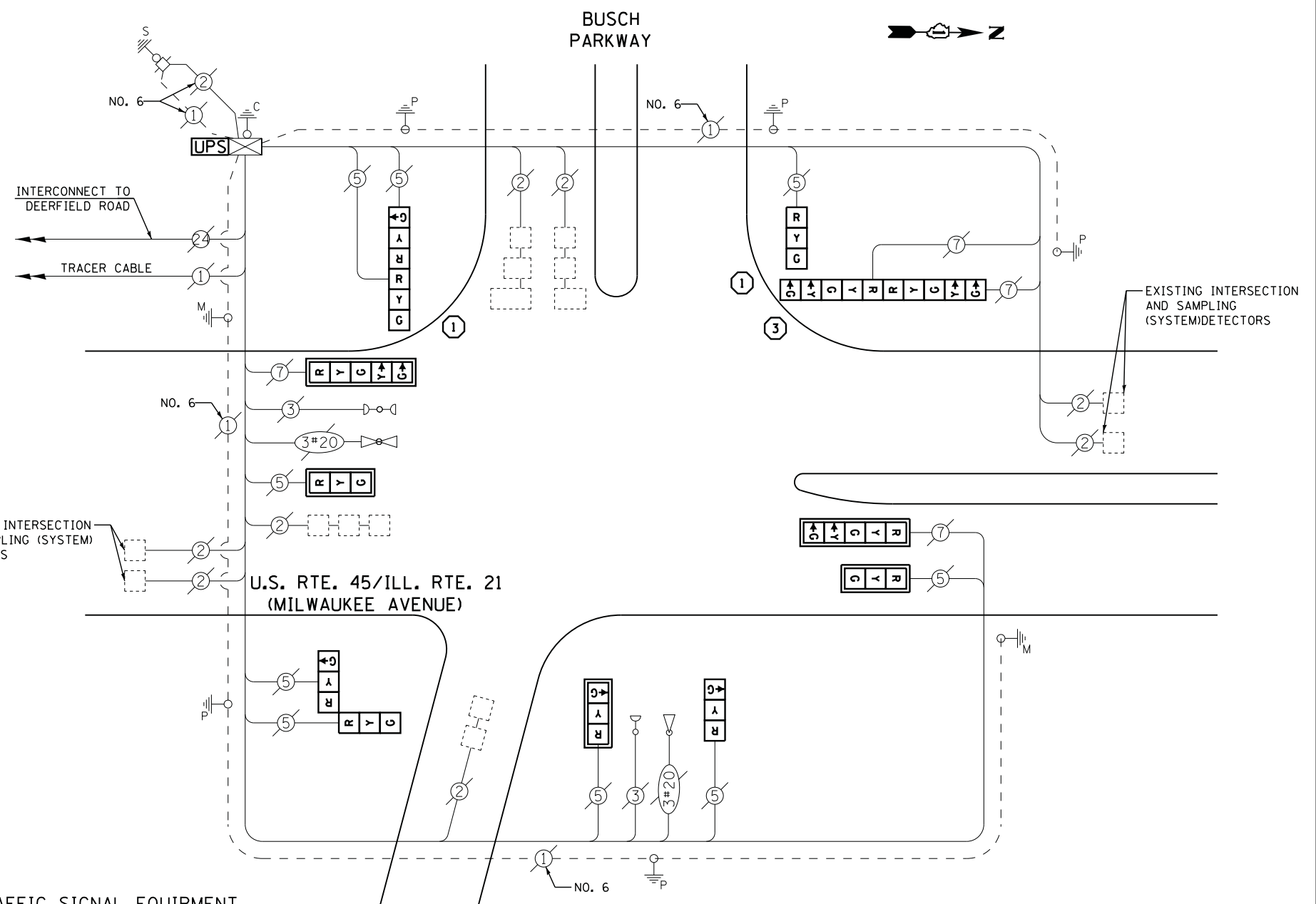
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 9 EACH SIGNAL HEAD, 3 - SECTION
- 4 EACH SIGNAL HEAD, 5 - SECTION
- 5 EACH TRAFFIC SIGNAL BACKPLATE
- 3 EACH SIGNAL POST

**SCHEDULE OF QUANTITIES**

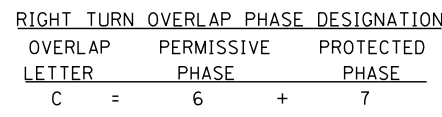
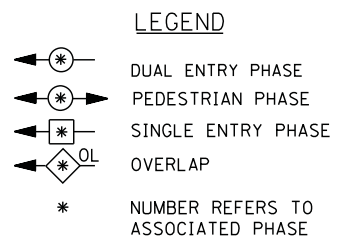
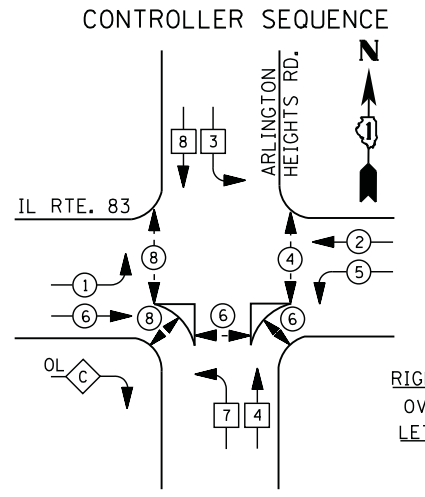
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
5	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM

CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT	↓	↔	↑

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	113
(GREEN)	18	135	15	0.25	68
ARROW	12	135	12	0.10	14
PED. SIGNAL	10	90	25	1.00	250
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					848

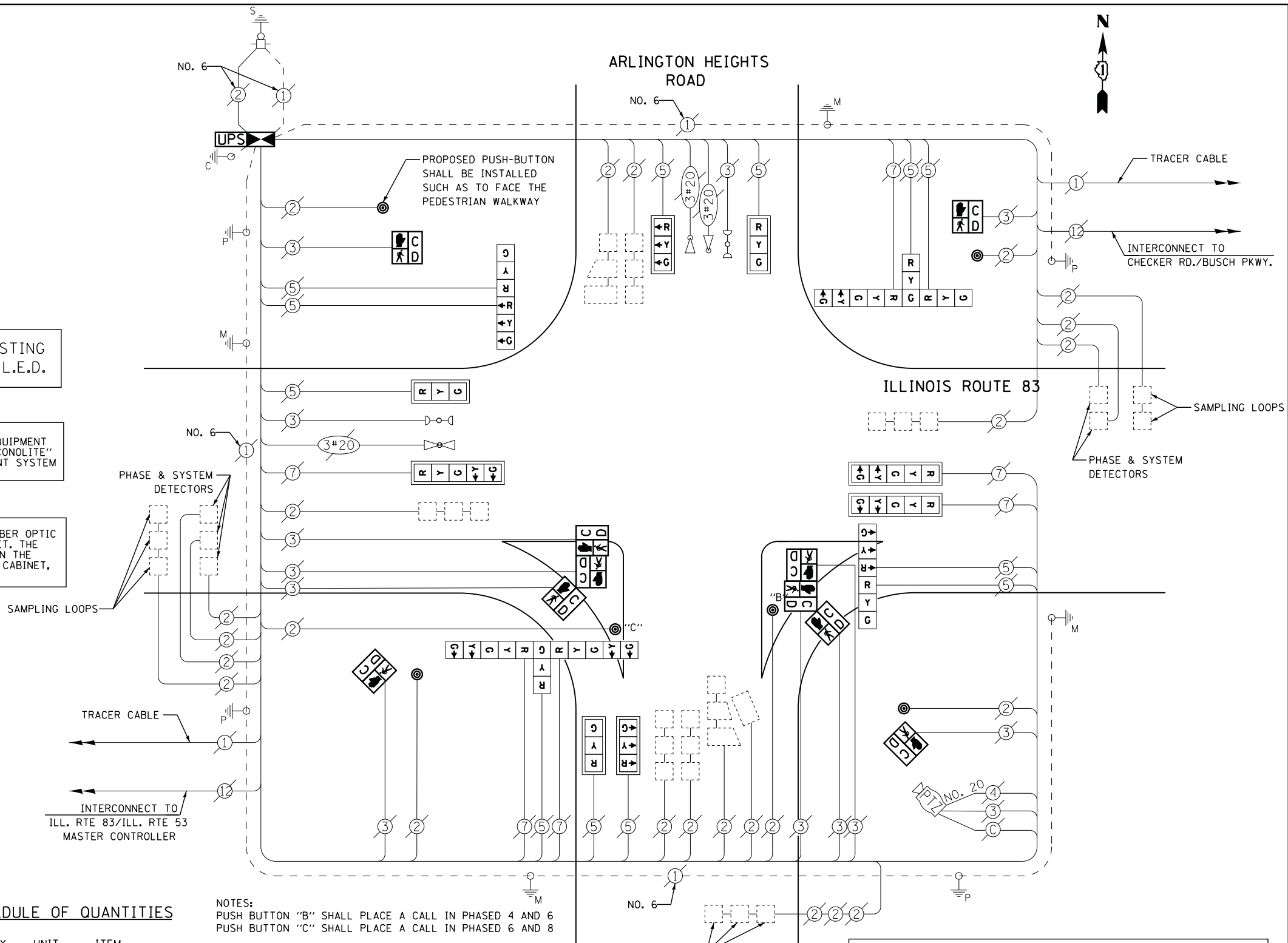
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
22	EACH	INDUCTIVE LOOP DETECTOR
* 2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING
1	EACH	RELOCATE EXISTING SWITCH (SPECIAL)
1	EACH	RELOCATE EXISTING VIDEO ENCODER, SPECIAL

\* - 100% COST TO VILLAGE OF BUFFALO GROVE



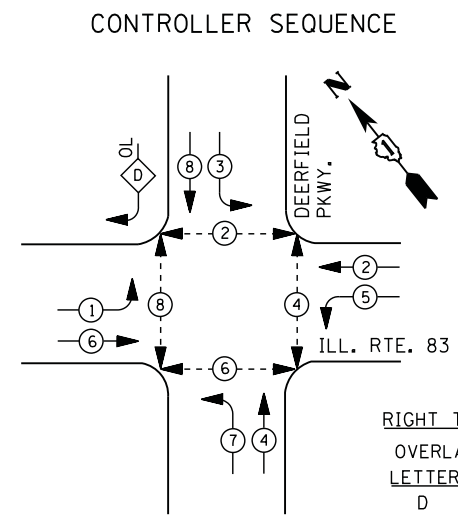
CABLE PLAN

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

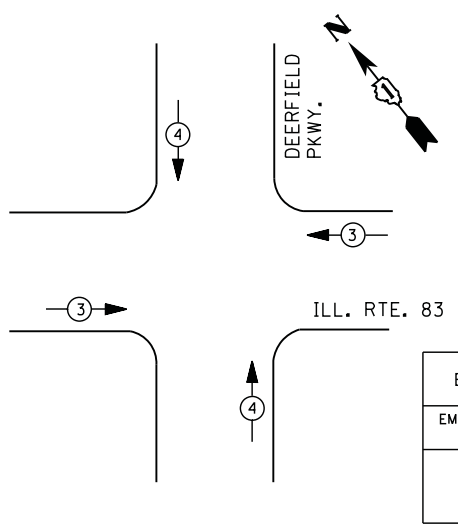
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

10	EACH	PEDESTRIAN SIGNAL HEAD
6	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	CONTROLLER AND CABINET (COMPLETE)



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	20	135	12	0.10	24
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					715

ENERGY COSTS- BILLED TO: VILLAGE OF BUFFALO GROVE  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

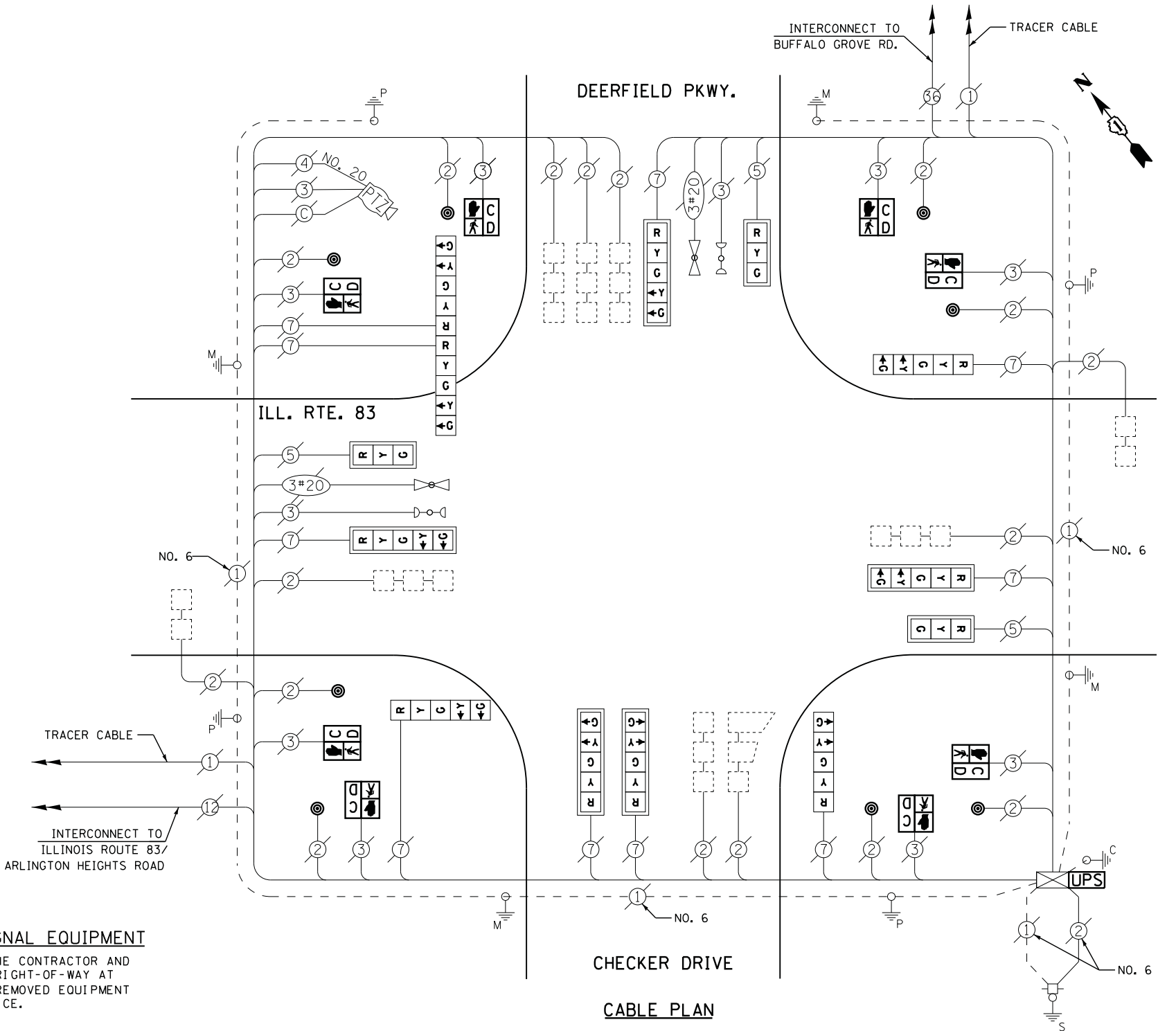
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 8 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

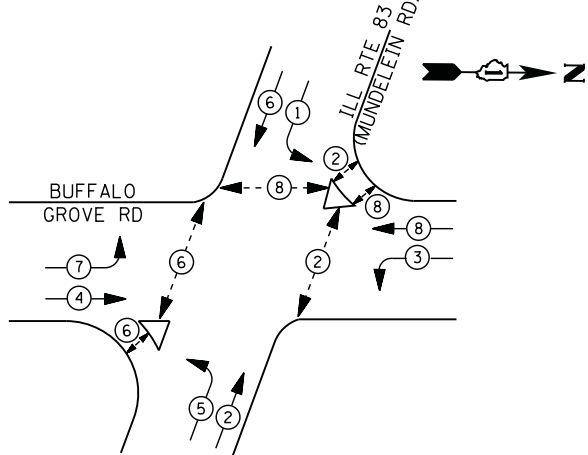


CHECKER DRIVE  
 CABLE PLAN

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

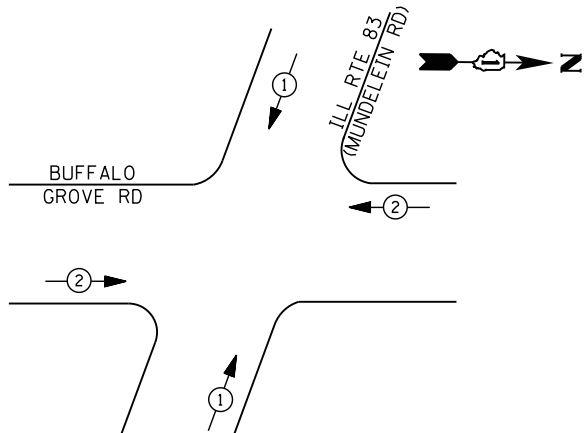
**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT		

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	10	90	25	1.00	250
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					665

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - **CONTACT DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

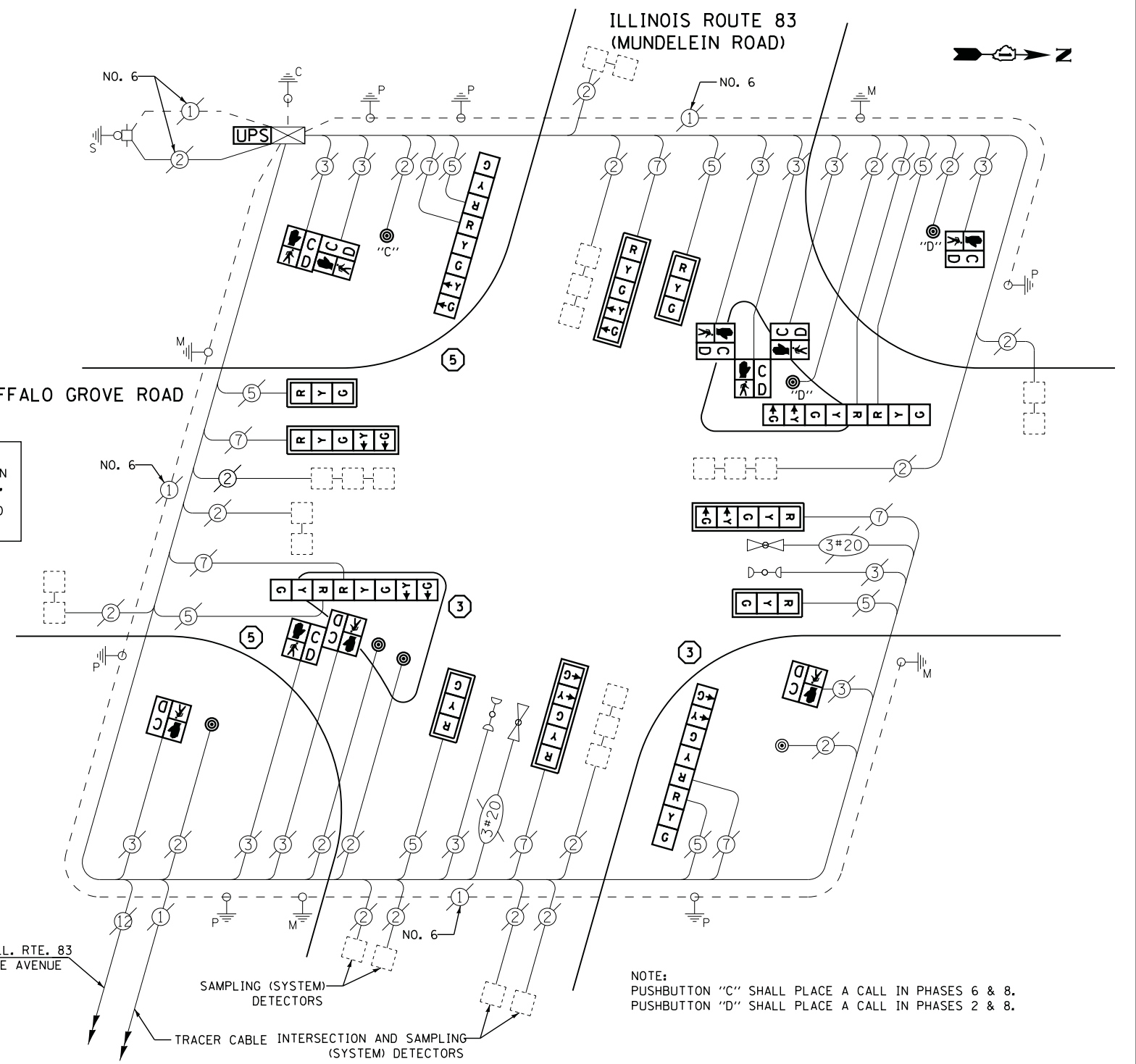
- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

INTERCONNECT TO ILL. RTE. 83 AND PAULINE AVENUE

**BUFFALO GROVE ROAD**



**CABLE PLAN**

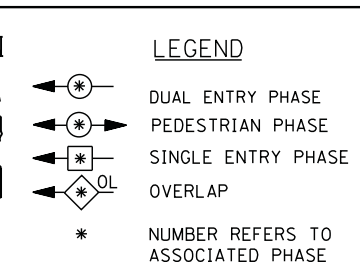
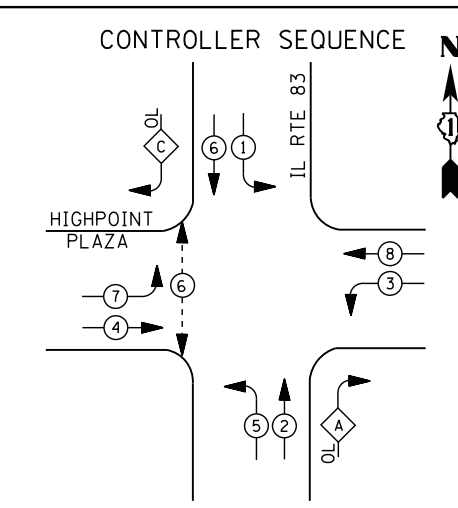
NOTE: PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 & 8. PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 & 8.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

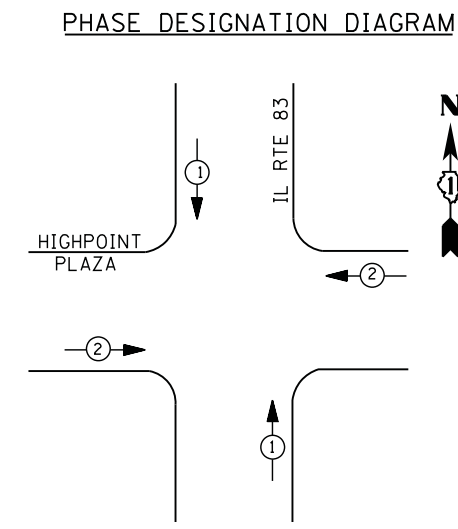
8	EACH	SIGNAL HEAD, 3 - SECTION
8	EACH	SIGNAL HEAD, 5 - SECTION
10	EACH	PEDESTRIAN SIGNAL HEAD
7	EACH	PEDESTRIAN PUSH-BUTTON
8	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST

TS# 6975  
 BUFFALO GROVE



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
C	= 6	+ 7



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	↓ ↑	← →

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

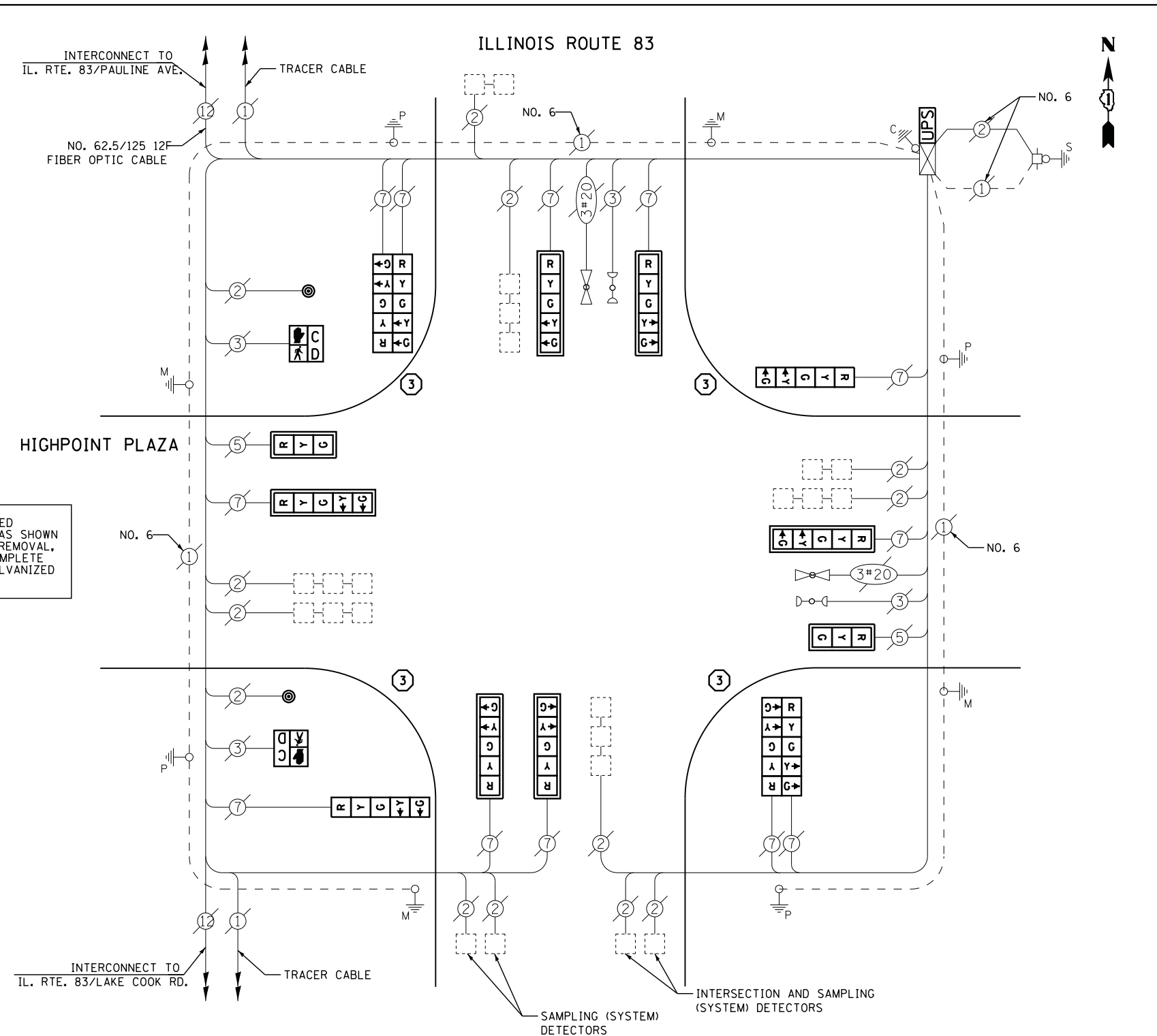
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	24	135	12	0.10	29
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					439

ENERGY COSTS- **BILLED TO: VILLAGE OF BUFFALO GROVE**  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - **CONTACT DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

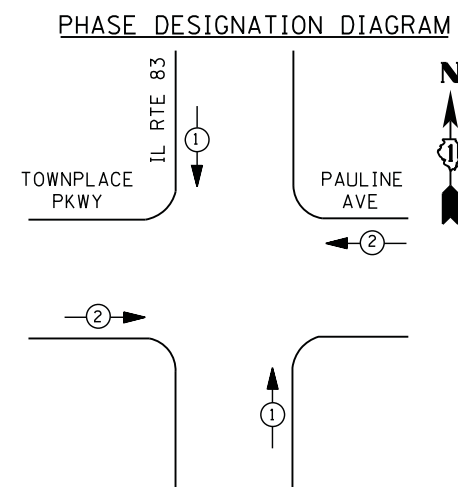
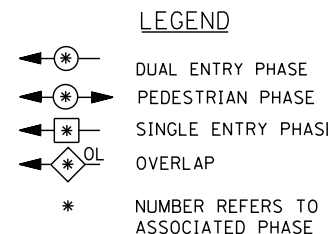
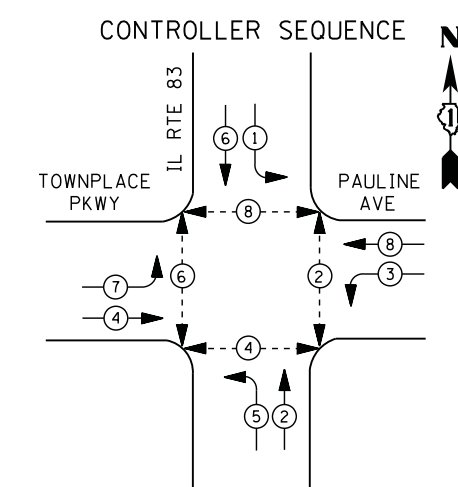
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	SIGNAL HEAD, 3 - SECTION
12	EACH	SIGNAL HEAD, 5 - SECTION
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
8	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST

TS# 6985  
 BUFFALO GROVE





**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	↓	←

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					541

ENERGY COSTS- **BILLED TO: VILLAGE OF BUFFALO GROVE**  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT **DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

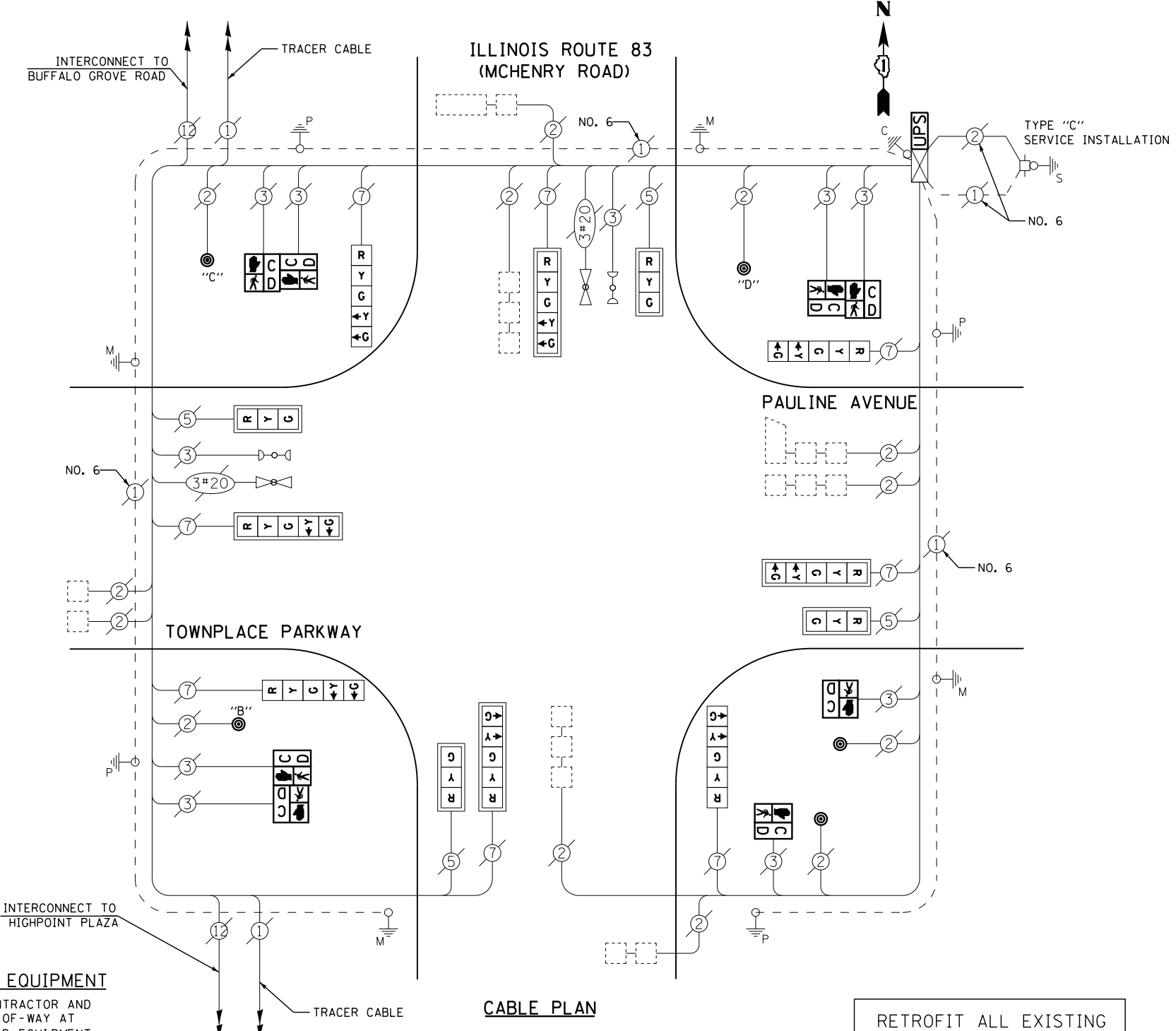
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 5 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

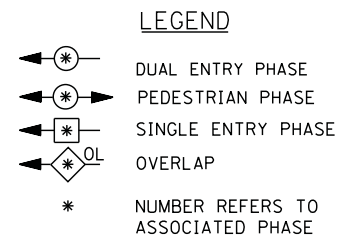
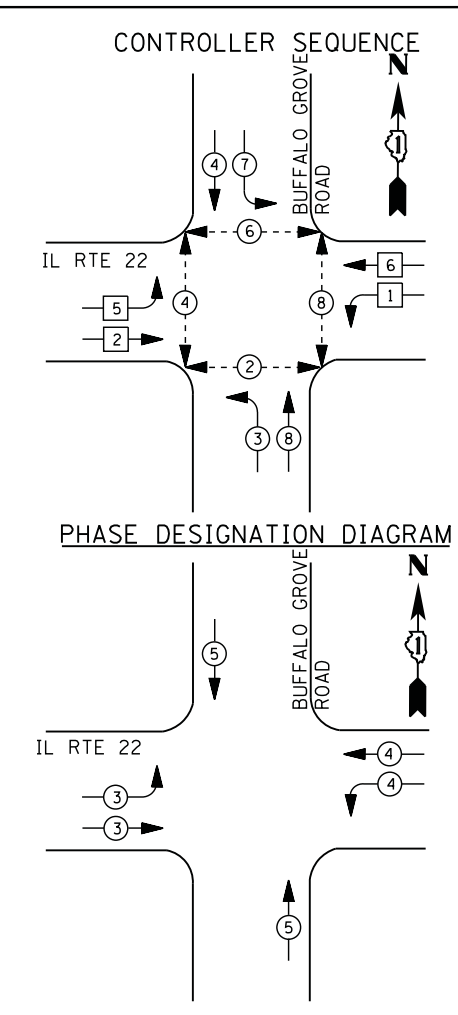
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTES:  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASE 4 AND 6.  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASE 6 AND 8.  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASE 2 AND 8.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

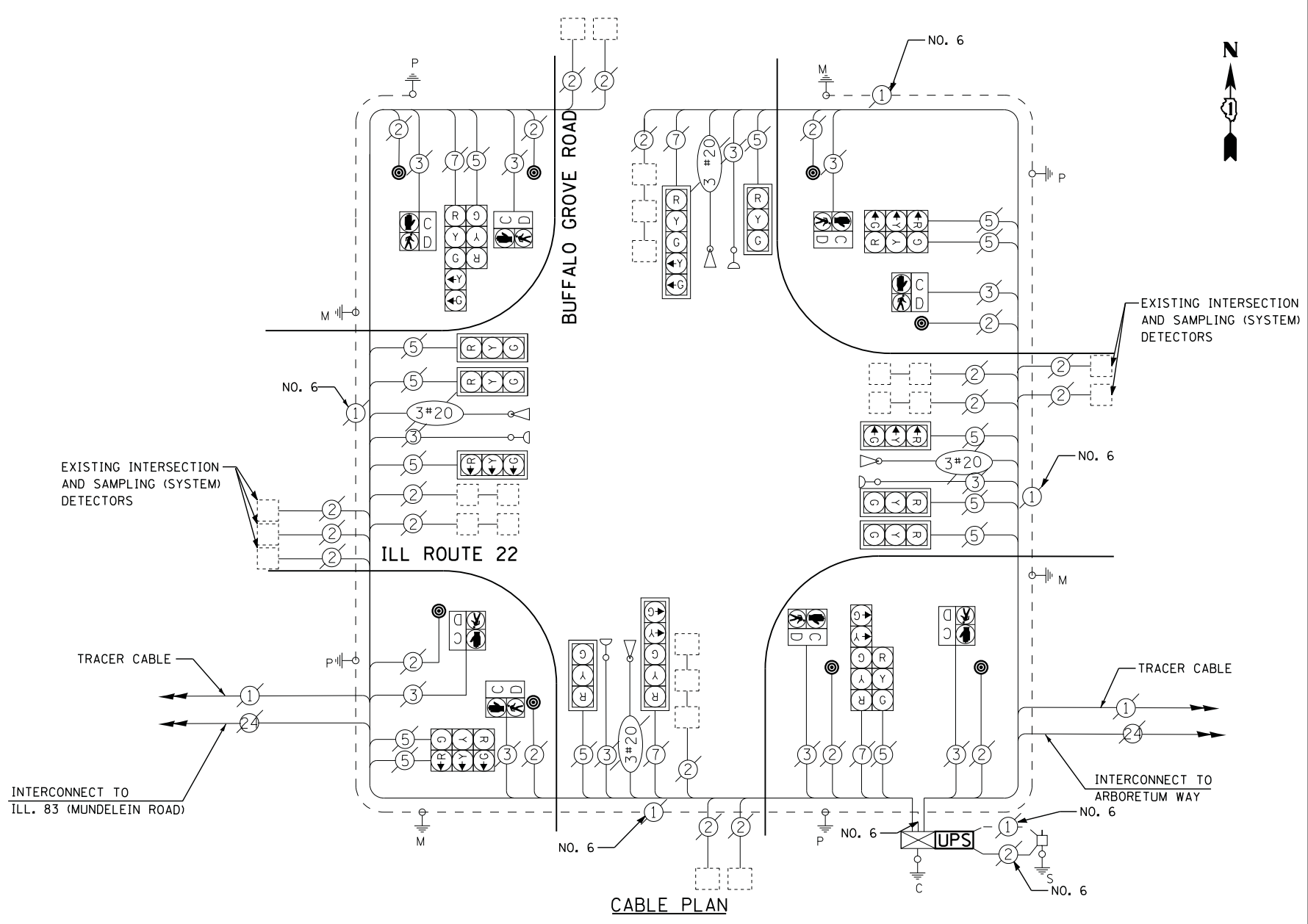
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	18	135	17	0.50	153
( YELLOW )	18	135	25	0.25	113
( GREEN )	18	135	15	0.25	68
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					644

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



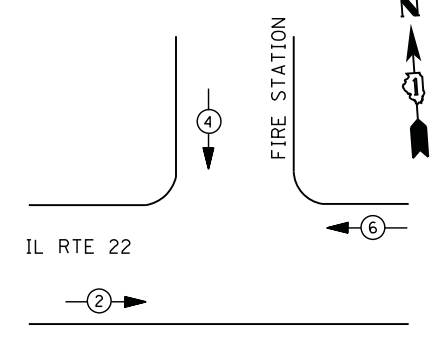
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN PUSH-BUTTON

TS# 20425  
 BUFFALO GROVE

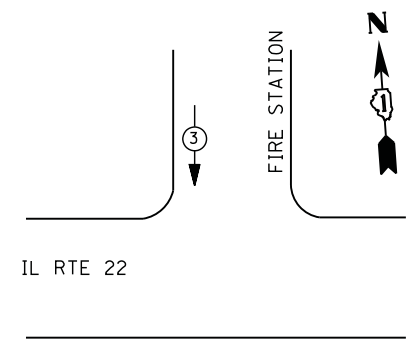
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊖ (with star) DUAL ENTRY PHASE
- ⊖ (with circle) PEDESTRIAN PHASE
- ⊖ (with square) SINGLE ENTRY PHASE
- ⊖ (with diamond) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	3
MOVEMENT	↓

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

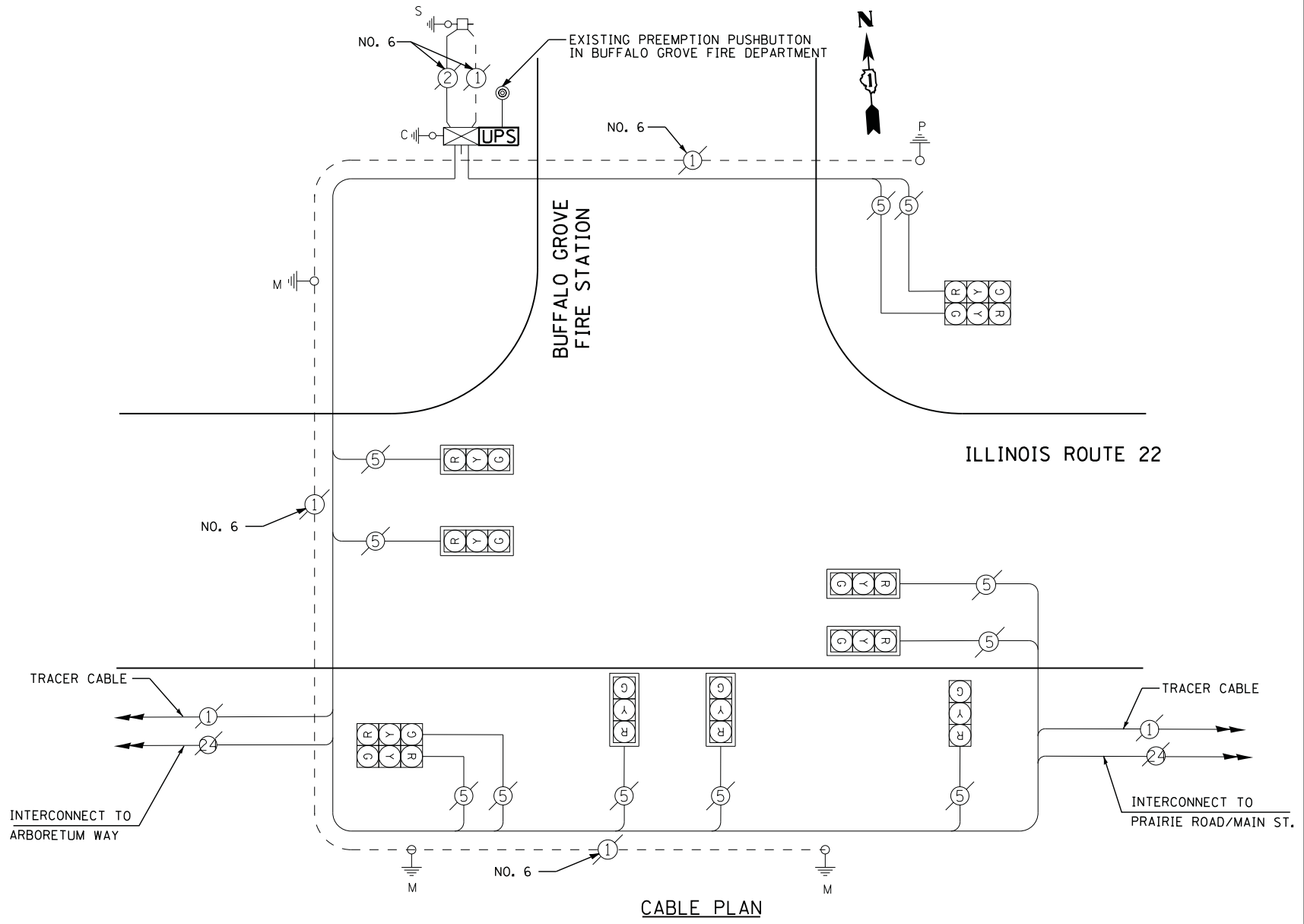
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	11	135	17	0.50	94
( YELLOW )	11	135	25	0.25	69
( GREEN )	11	135	15	0.25	41
ARROW		135	12	0.10	--
PED. SIGNAL		90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					304

ENERGY COSTS- **BILLED TO: VILLAGE OF BUFFALO GROVE**  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT **DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\20426_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

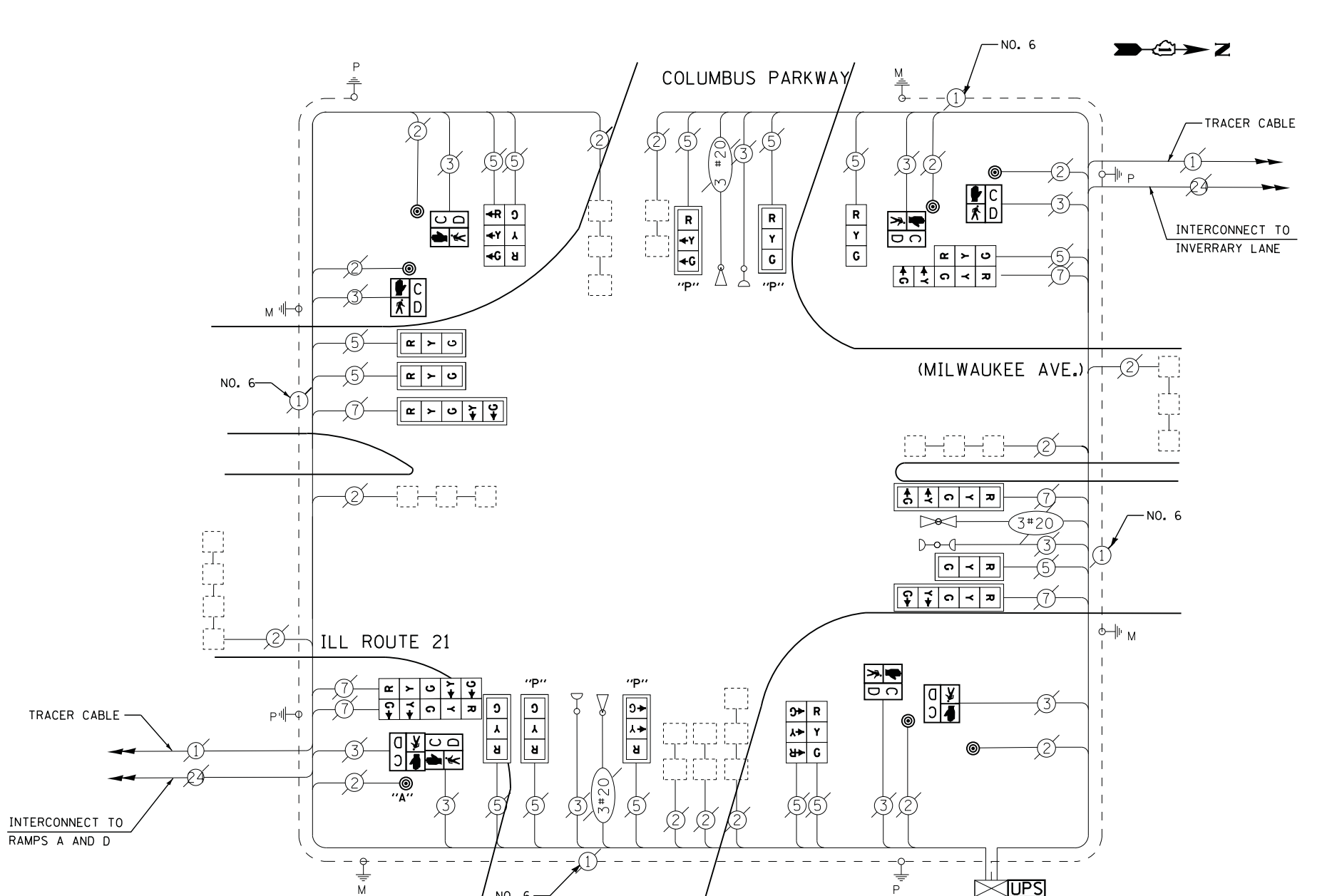
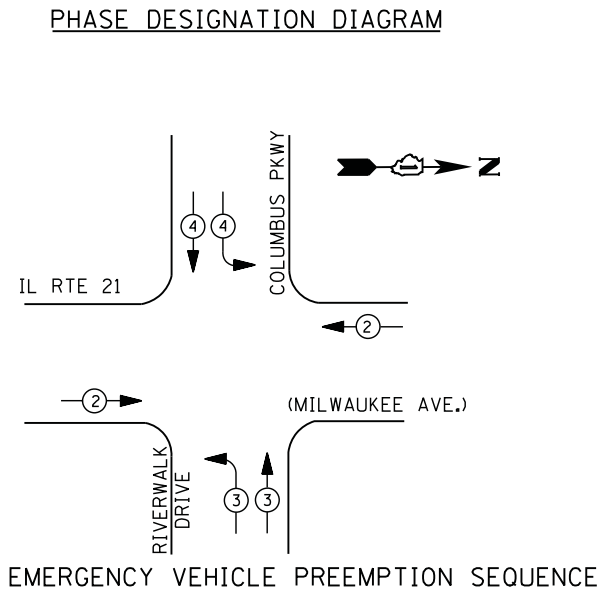
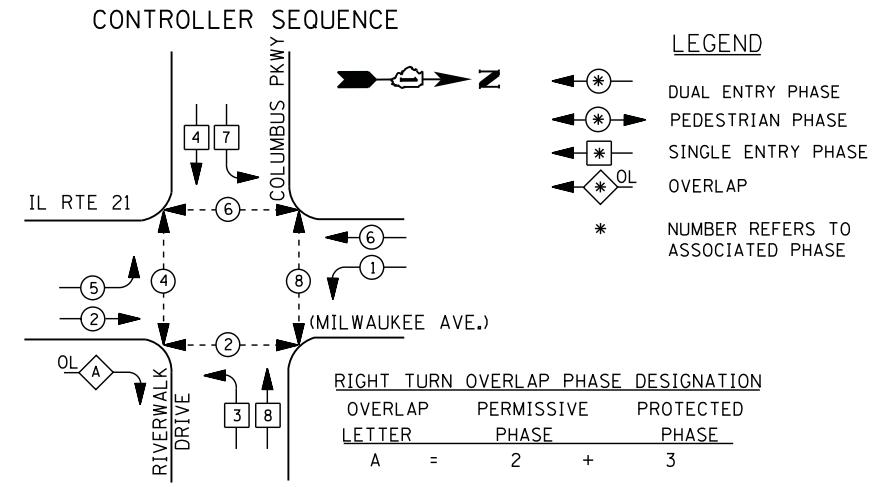
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 22 AT BUFFALO GROVE (FIRE STATION) - CABLE PLAN, SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	67
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 20426  
 BUFFALO GROVE



#### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	20	135	17	0.50	170
(YELLOW)	20	135	25	0.25	125
(GREEN)	20	135	15	0.25	75
ARROW	12	135	12	0.10	14
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					684

ENERGY COSTS- BILLED TO: VILLAGE OF BUFFALO GROVE  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWEALTH EDISON

#### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

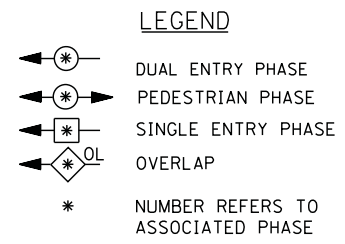
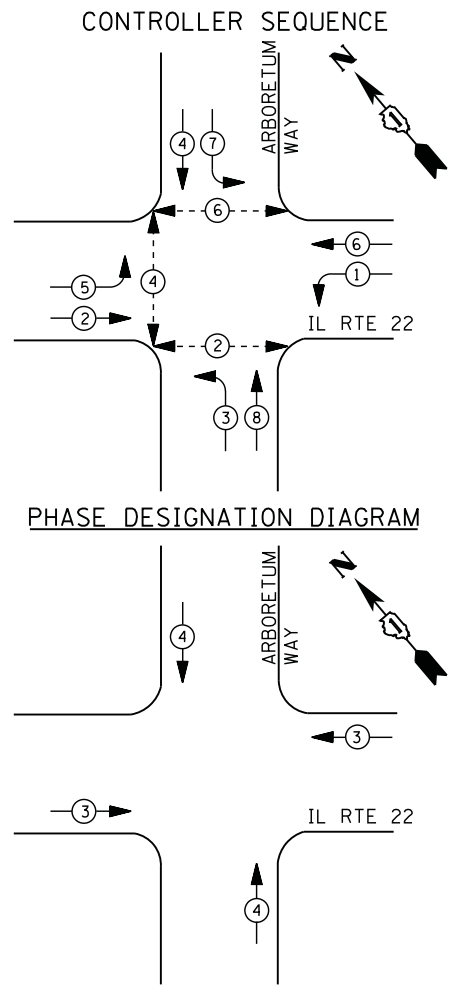
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 7 EACH PEDESTRIAN PUSH-BUTTON

#### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
4	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

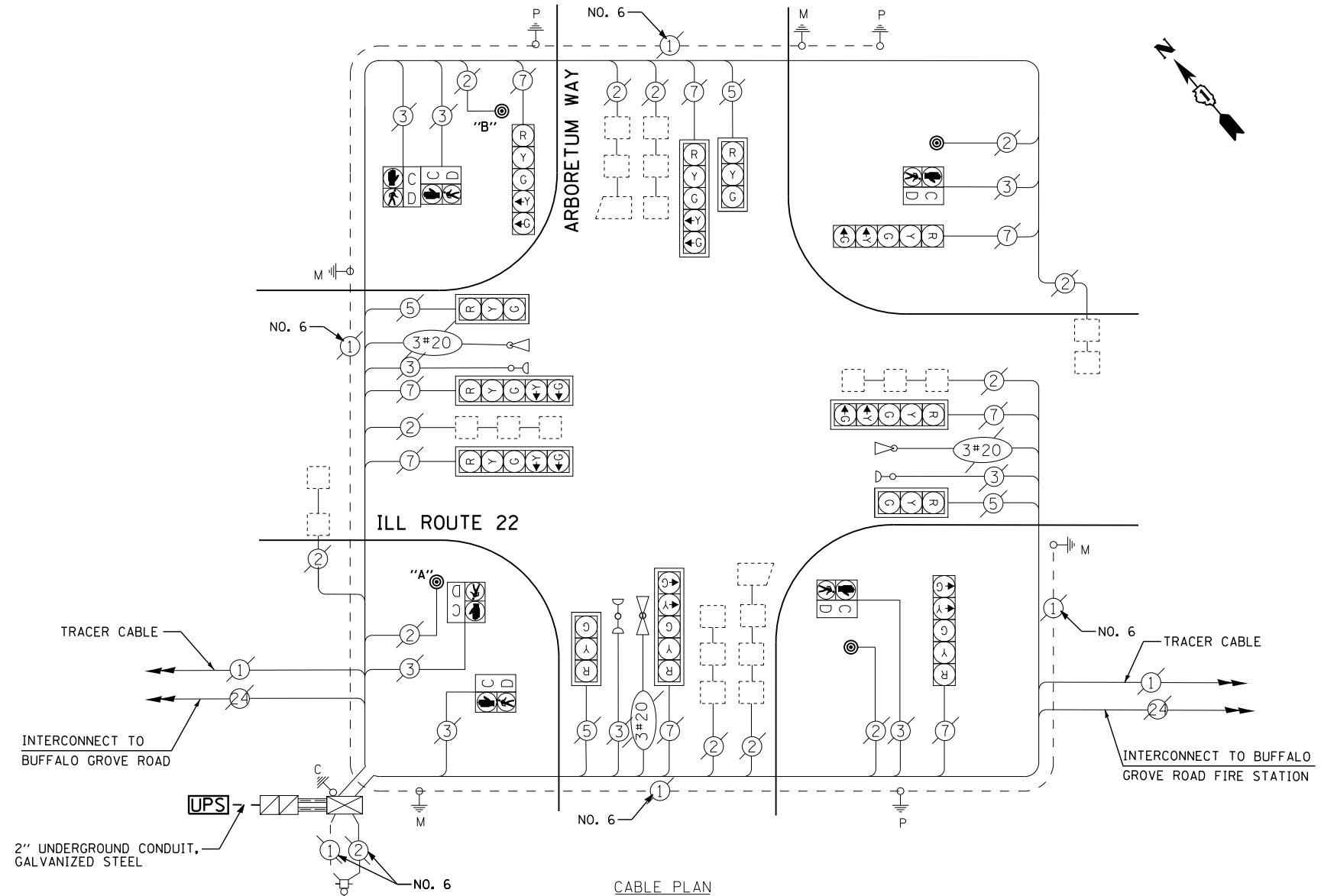
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					491

ENERGY COSTS- **BILLED TO: VILLAGE OF BUFFALO GROVE**  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT **DAVE SCHACHT**  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



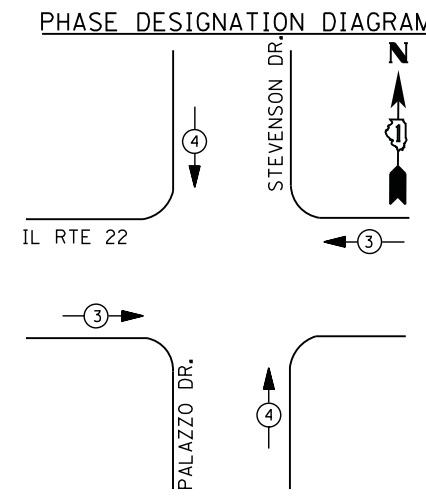
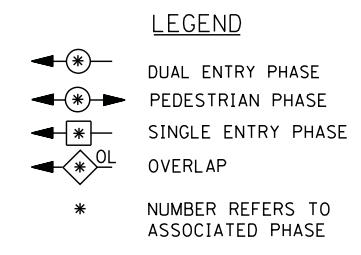
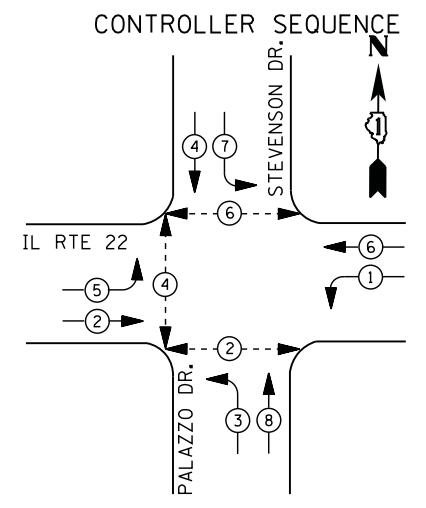
NOTE:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

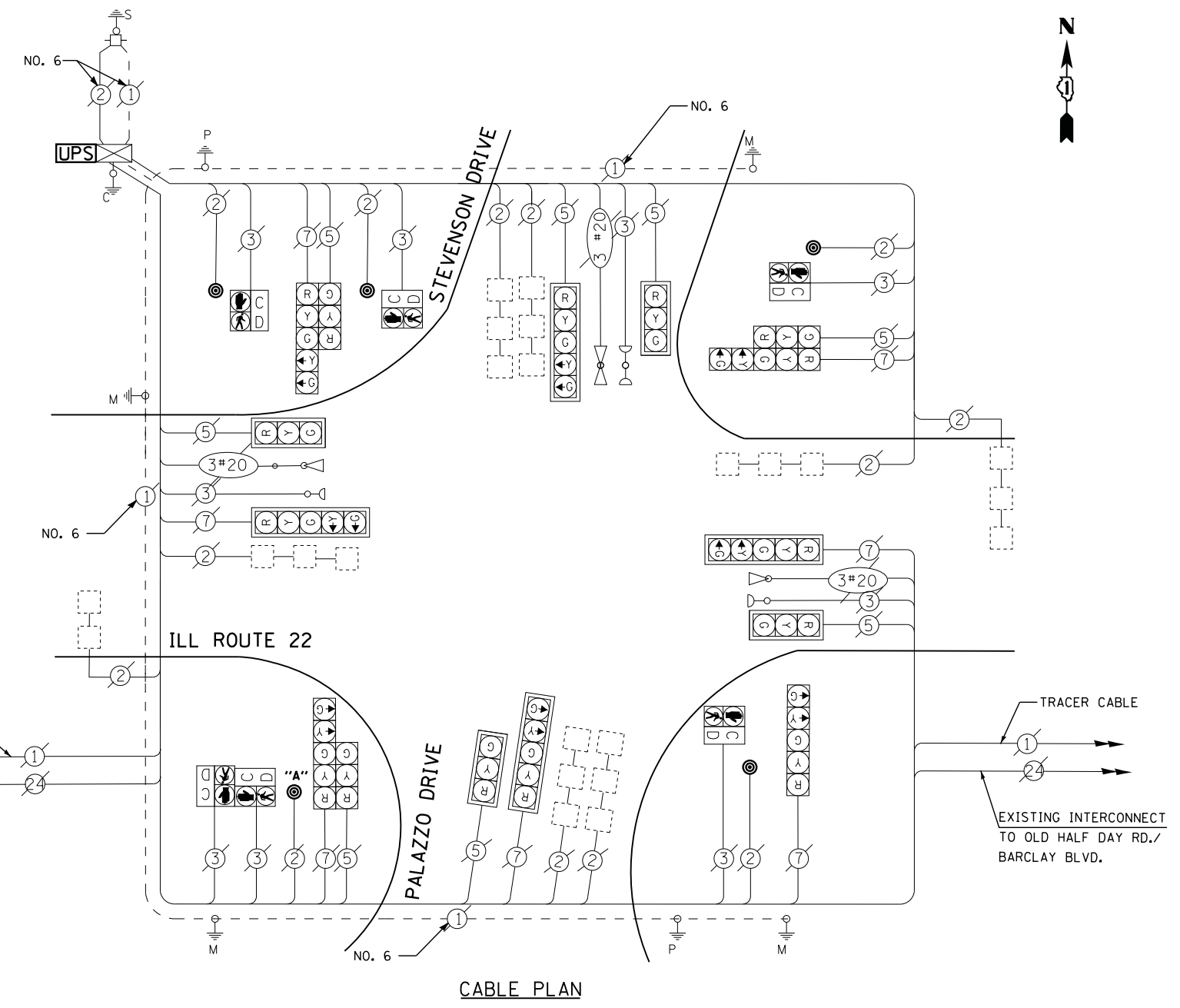
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4 EACH PEDESTRIAN PUSH-BUTTON



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓



NOTE: PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 5 EACH PEDESTRIAN PUSH-BUTTON

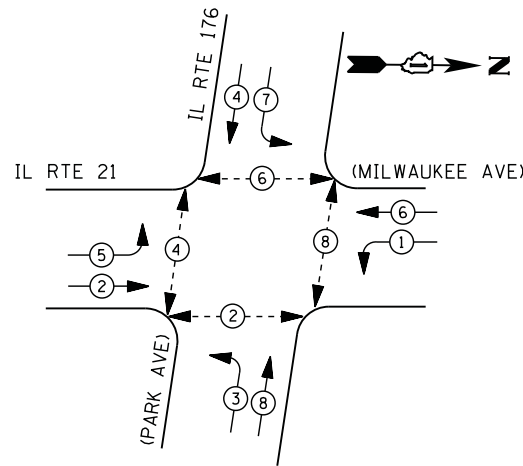
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	15	135	17	0.50	128
( YELLOW )	15	135	25	0.25	94
( GREEN )	15	135	15	0.25	56
ARROW	16	135	12	0.10	19
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					547

ENERGY COSTS- BILLED TO: VILLAGE OF BUFFALO GROVE  
 50 RAUPP BOULEVARD  
 BUFFALO GROVE, IL 60089

ENERGY SUPPLY - CONTACT DAVE SCHACHT  
 PHONE 630-437-2129  
 COMMONWELTH EDISON

TS# 21965  
 BUFFALO GROVE

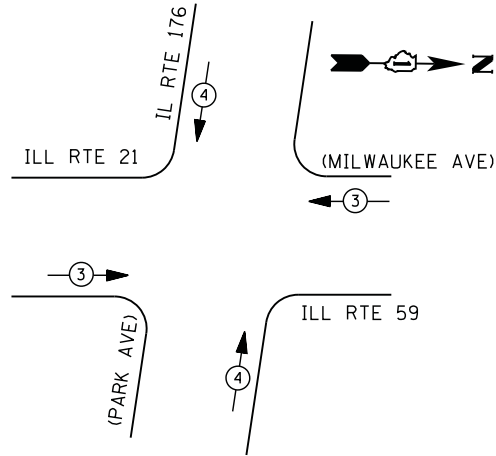
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150

TOTAL = 691

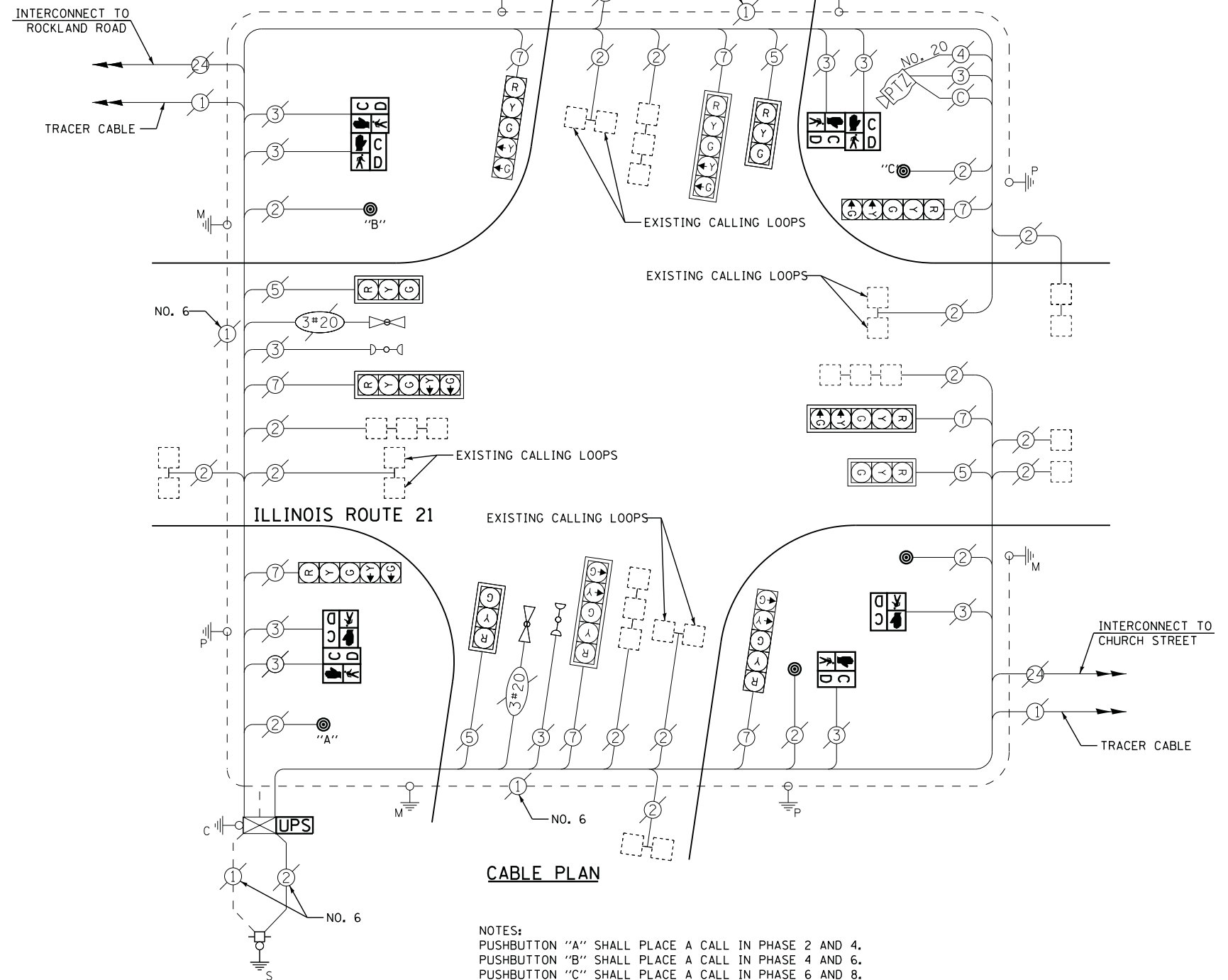
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**ILLINOIS ROUTE 176  
 (PARK AVENUE)**



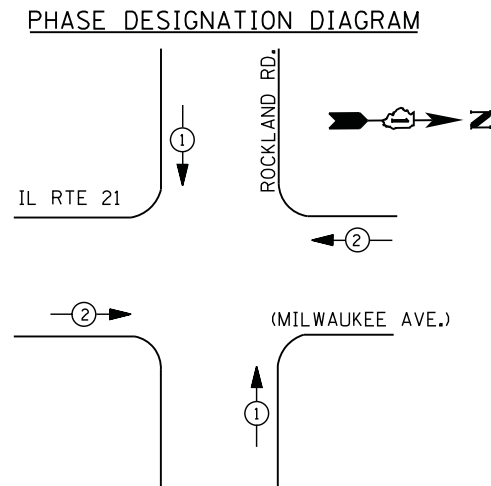
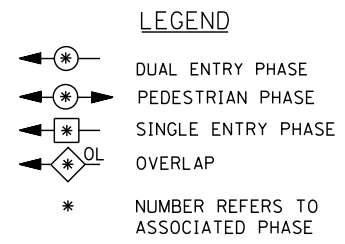
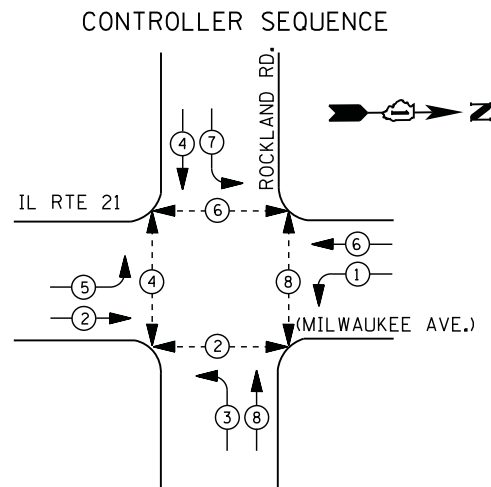
**CABLE PLAN**

NOTES:  
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASE 2 AND 4.  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASE 4 AND 6.  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASE 6 AND 8.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
5	EACH	PEDESTRIAN PUSH-BUTTON



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	↑ ↓	← →

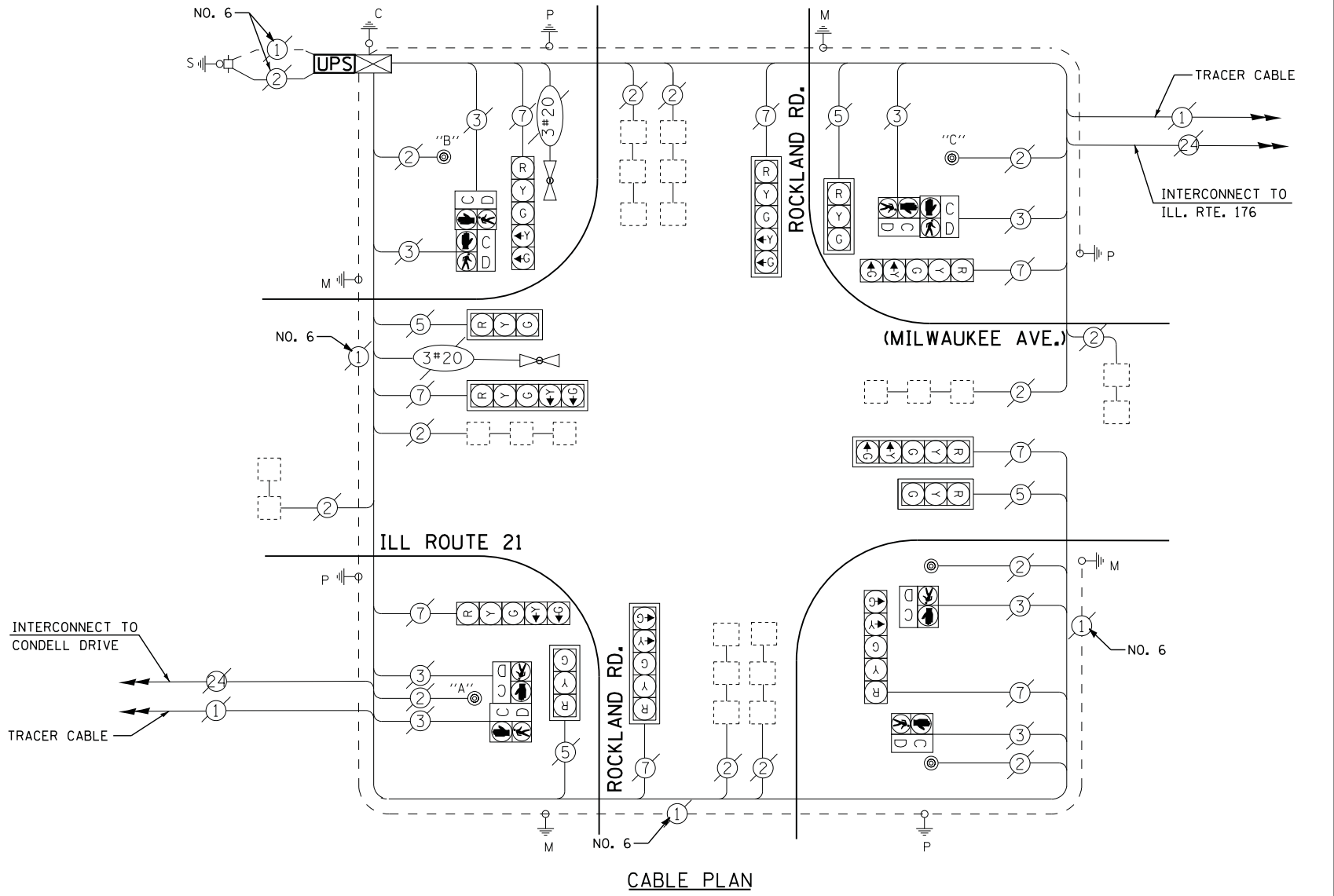
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					541

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

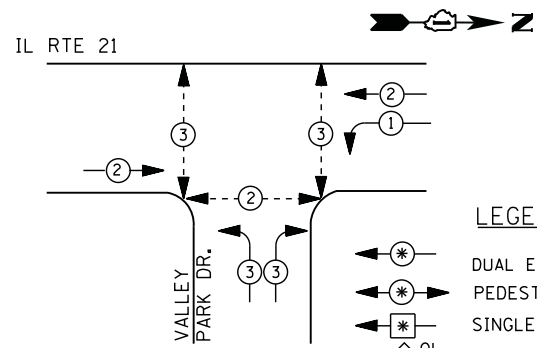
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



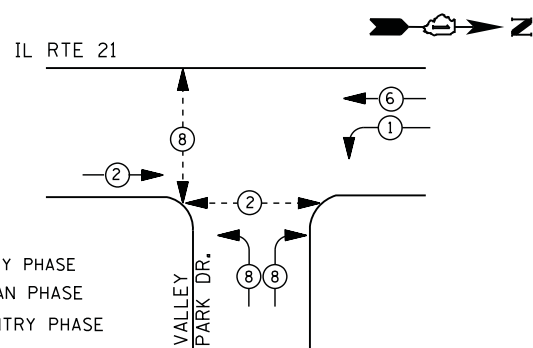
NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASED 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASED 4 AND 6  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASED 6 AND 8



EXISTING CONTROLLER SEQUENCE



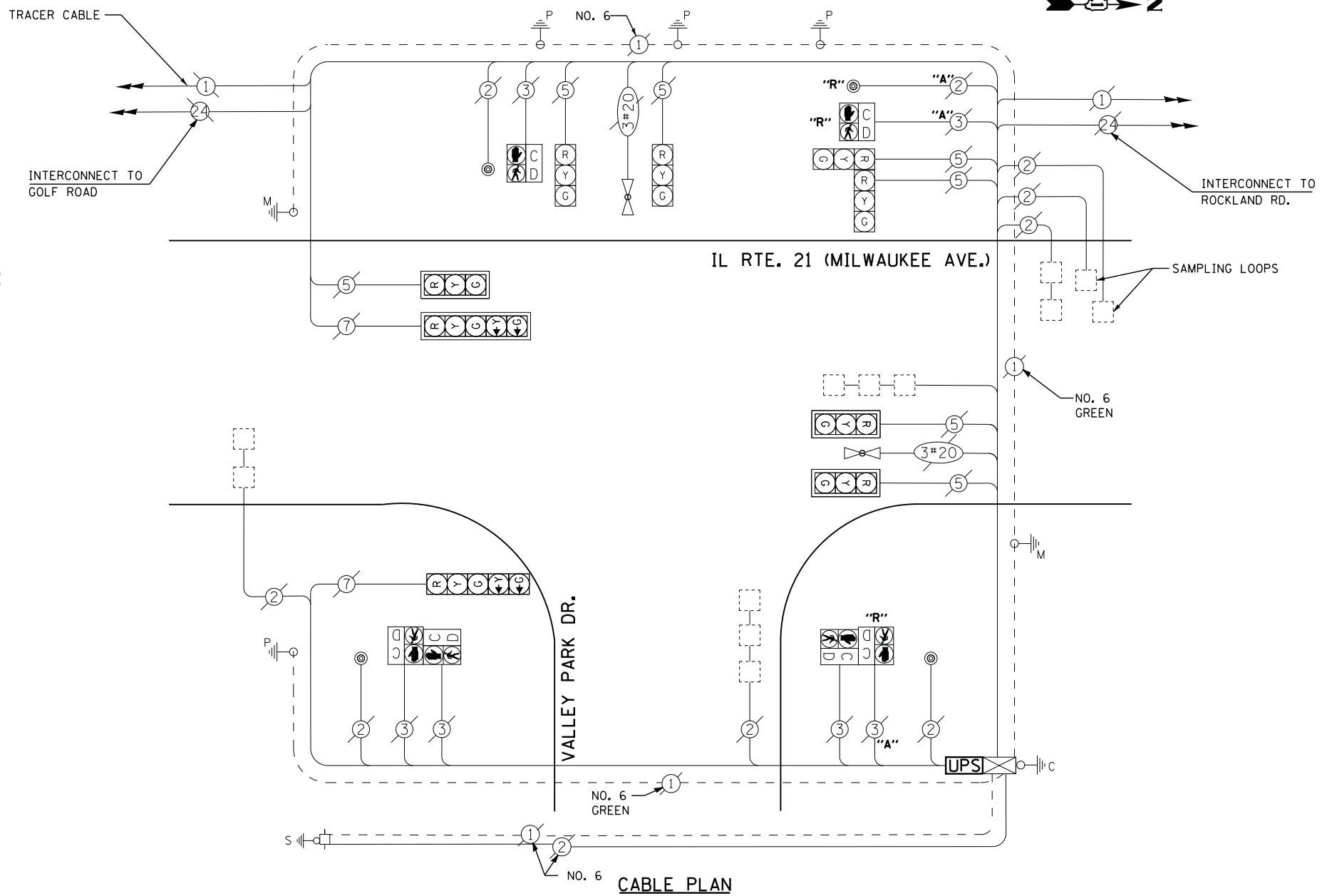
PROPOSED CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAMS



CABLE PLAN

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	9	135	17	0.50	76
(YELLOW)	9	135	25	0.25	56
(GREEN)	9	135	15	0.25	34
ARROW	4	135	12	0.10	5
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					371

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

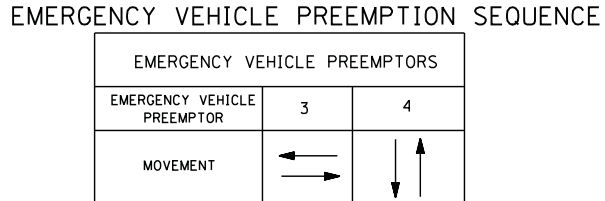
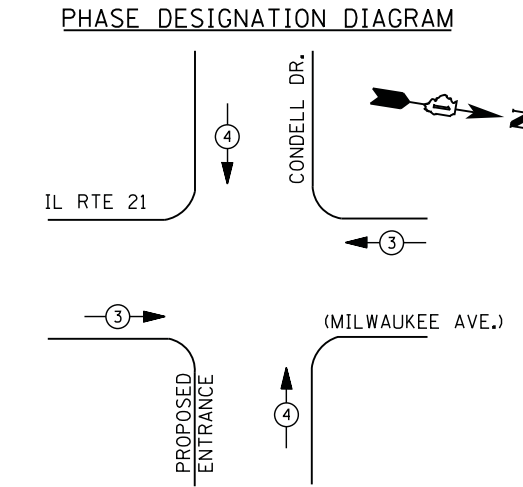
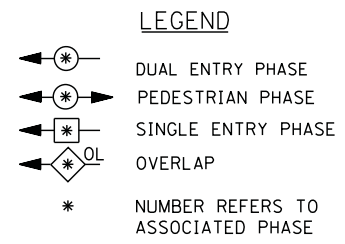
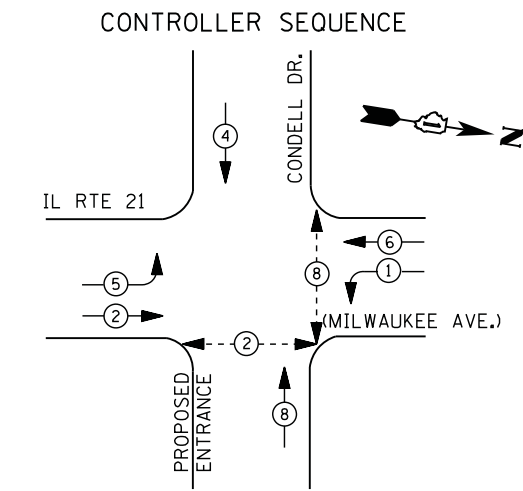
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1 EACH PEDESTRIAN PUSH-BUTTON  
 2 EACH PEDESTRIAN SIGNAL HEAD

TS# 14005  
 LIBERTYVILLE



I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					432

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

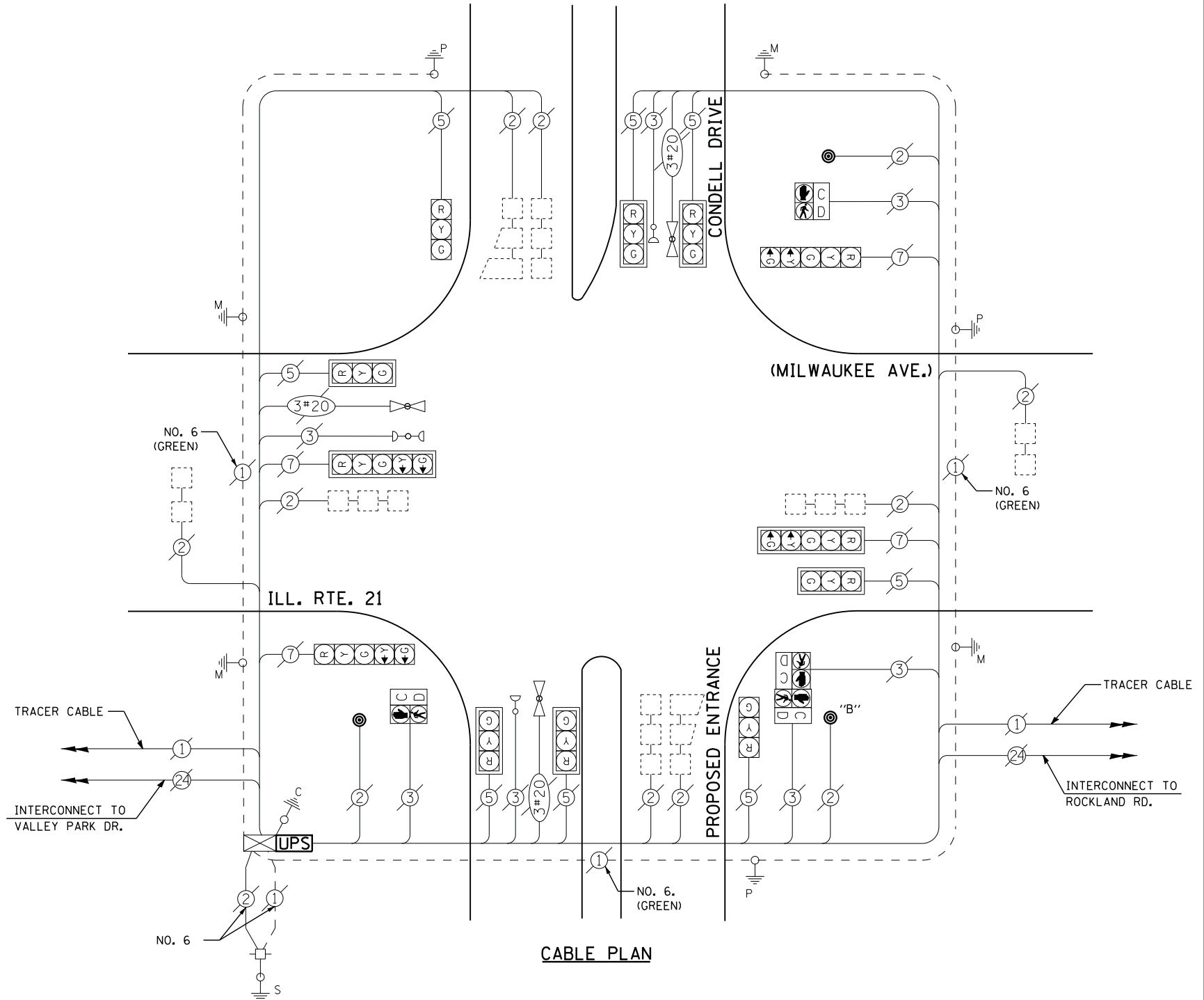
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

3 EACH PEDESTRIAN SIGNAL HEAD



NOTE: PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 2 AND 8.

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

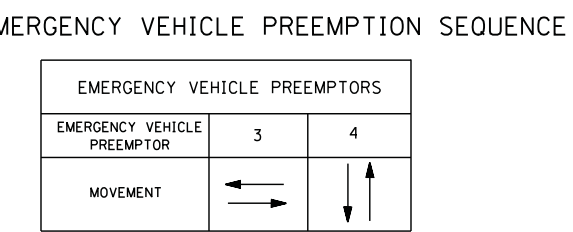
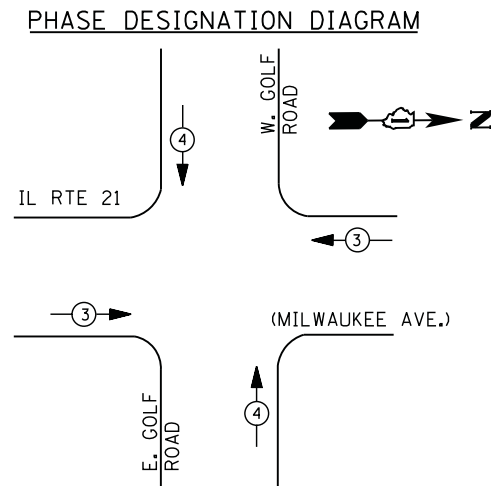
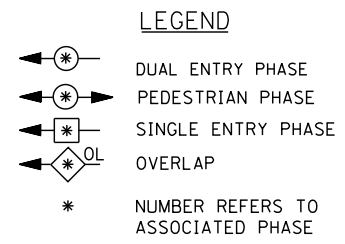
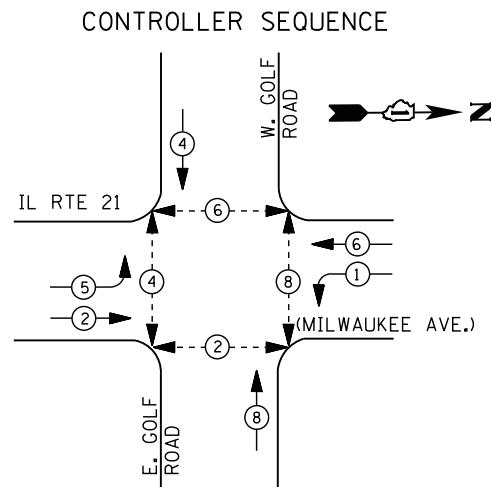
IL RTE. 21 (MILWAUKEE AVE.) AT CONDELL DR. - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\Design\CAD\Sheet Files\12-001 Sheets SE Lake Co\14007_CAB_LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 3/28/2012	DATE -		REVISED -	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	74
CONTRACT NO. 60741				
ILLINOIS FED. AID PROJECT				

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

TS# 14007  
 LIBERTYVILLE



I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

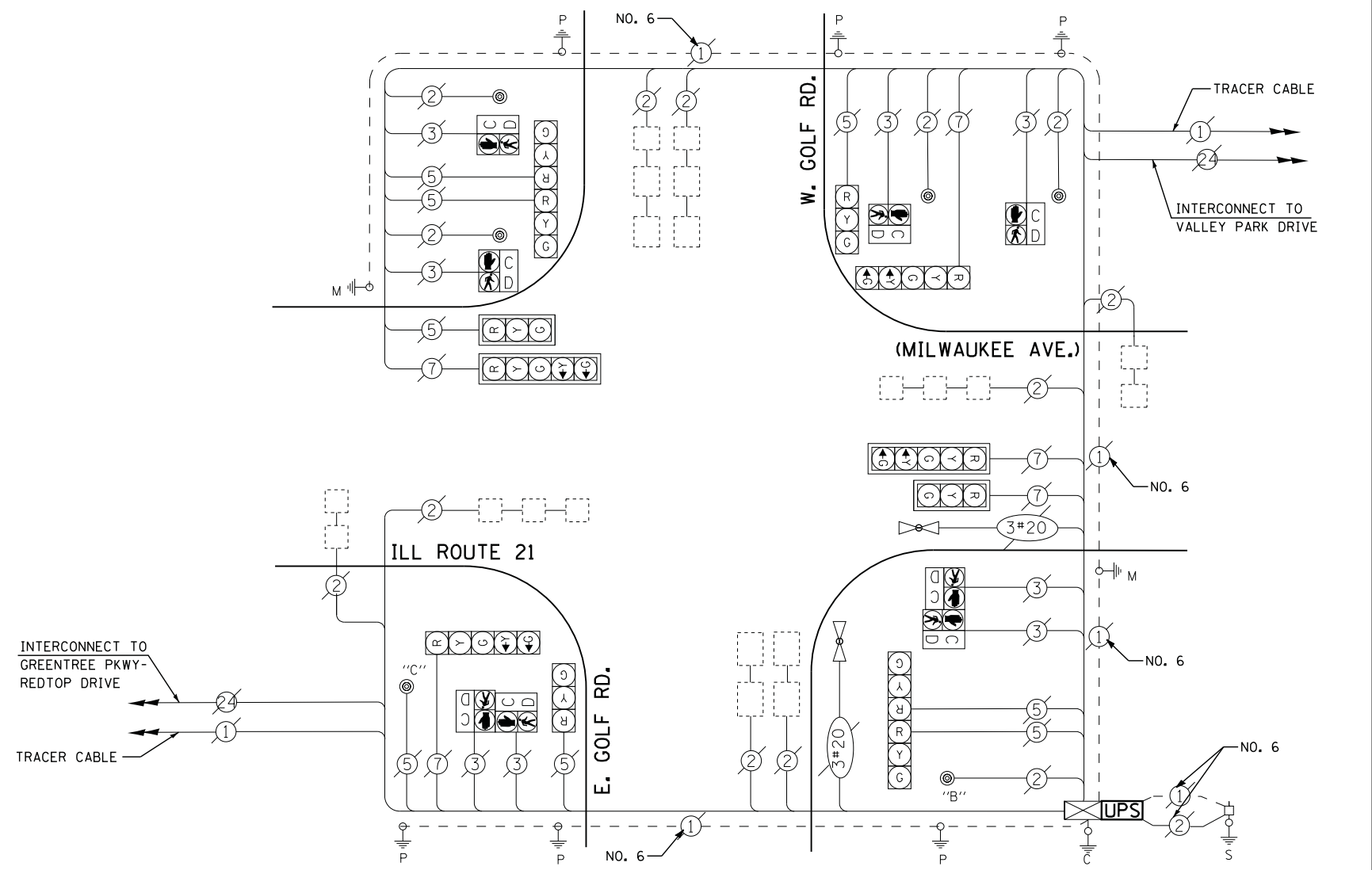
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					532

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

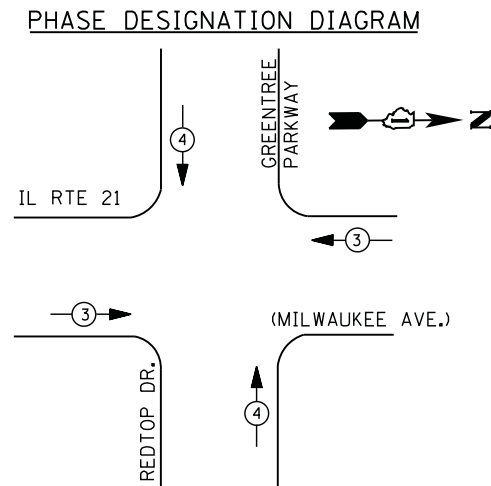
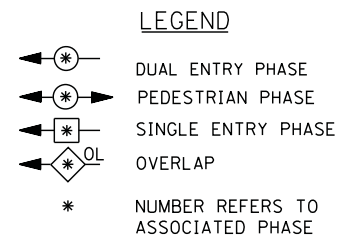
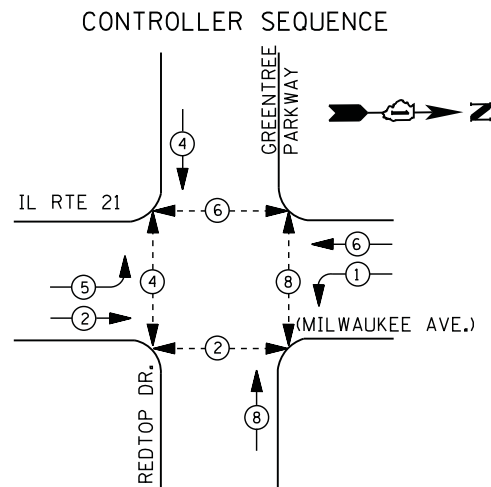
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



NOTES:  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASED 4 AND 8  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASED 6 AND 8



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

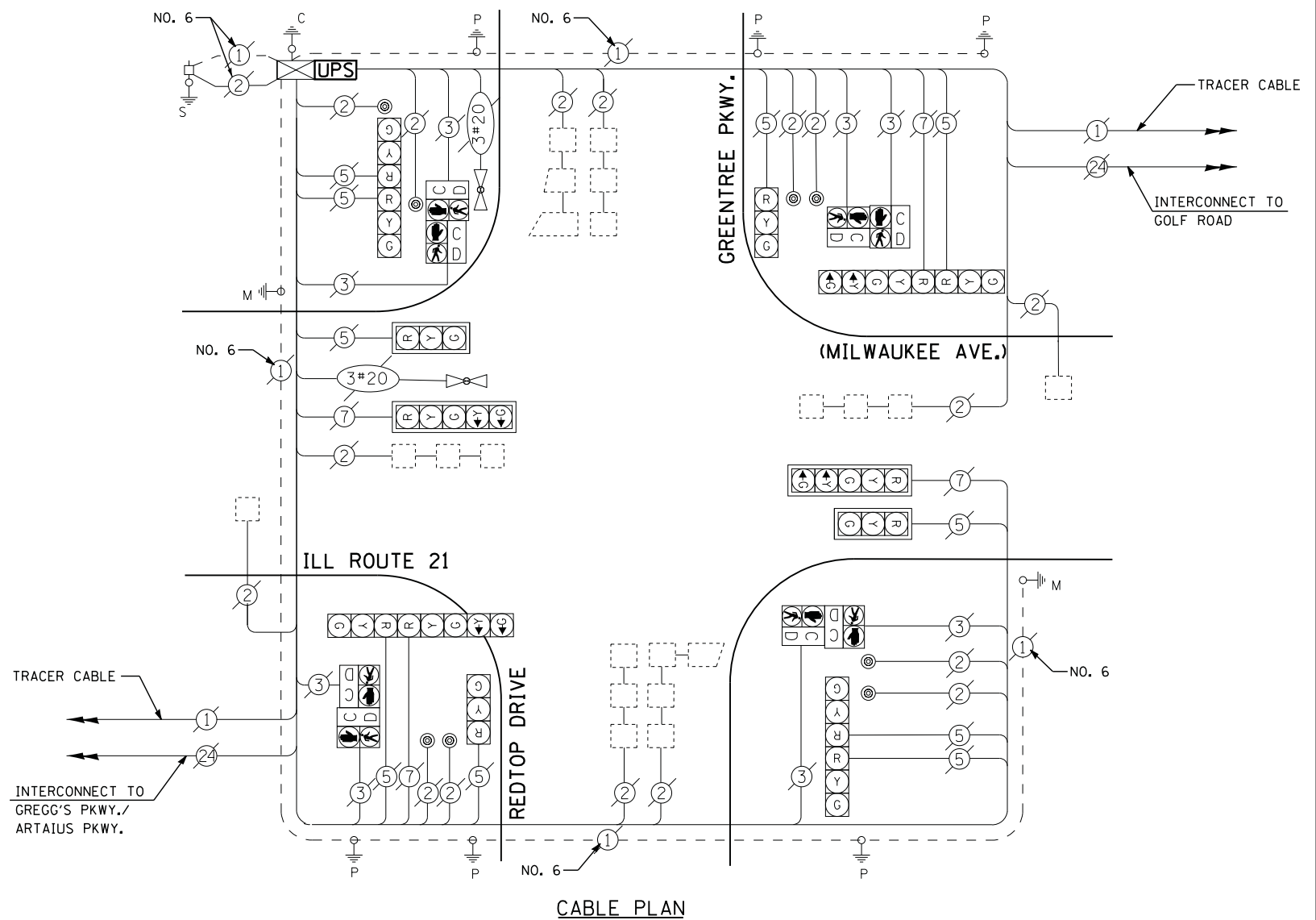
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					570

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

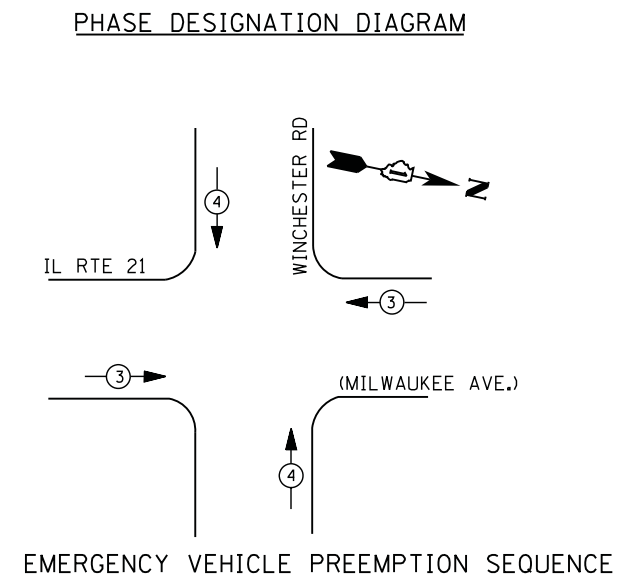
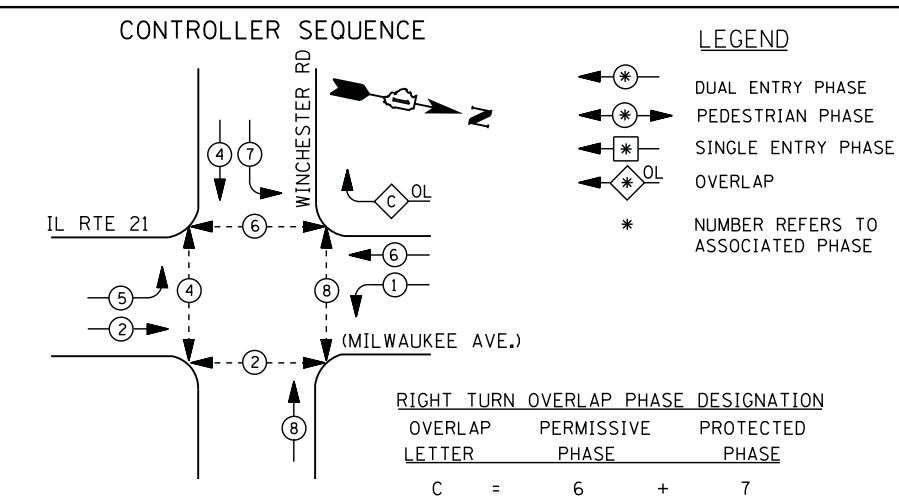
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



TS# 14015  
LIBERTYVILLE



TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					710

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

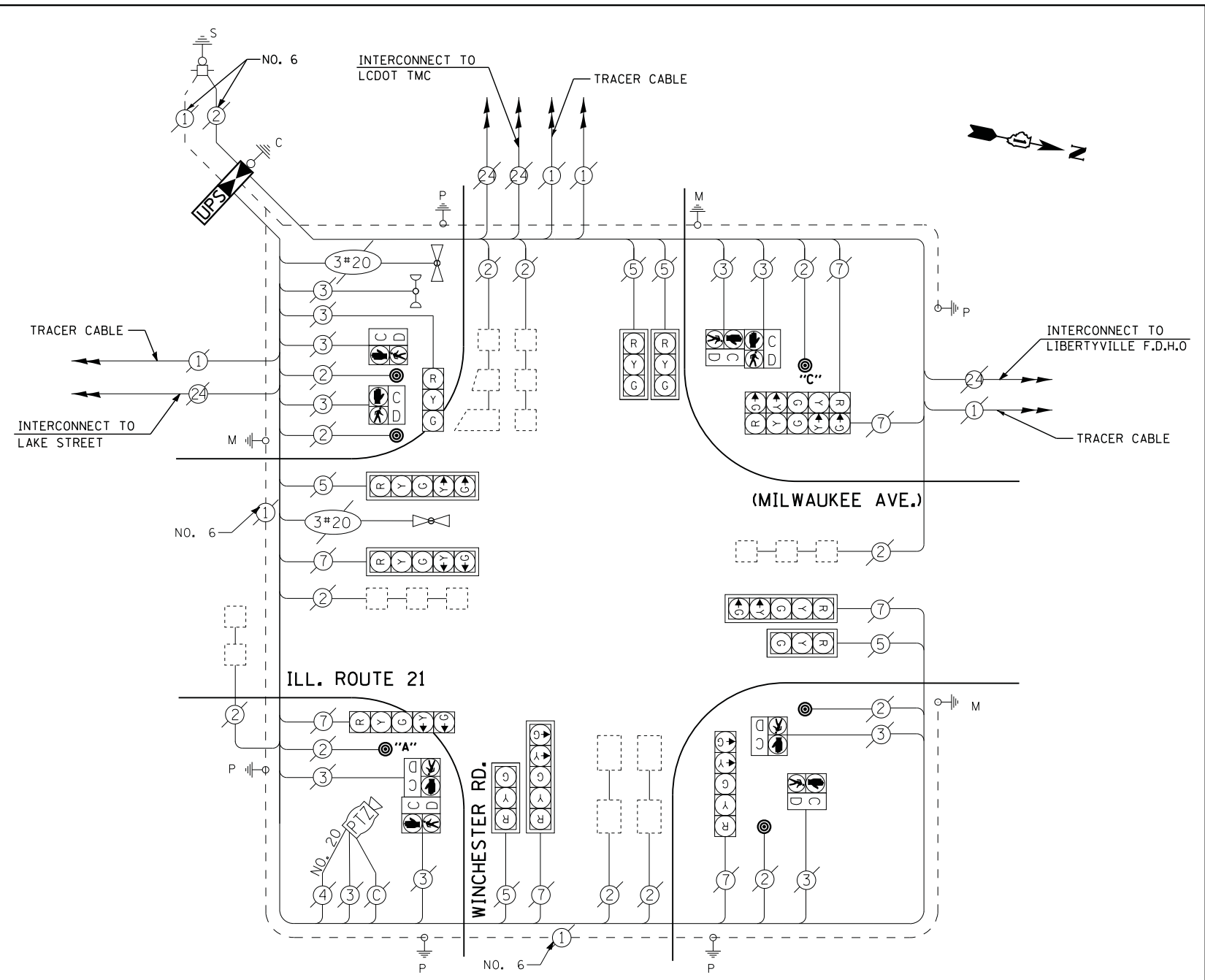
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 6 EACH PEDESTRIAN PUSH-BUTTON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
7	EACH	INDUCTIVE LOOP DETECTOR
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING
1	EACH	RELOCATE EXISTING SWITCH (SPECIAL)
1	EACH	RELOCATE EXISTING VIDEO ENCODER, SPECIAL

\* - 100% COST TO VILLAGE OF LIBERTYVILLE

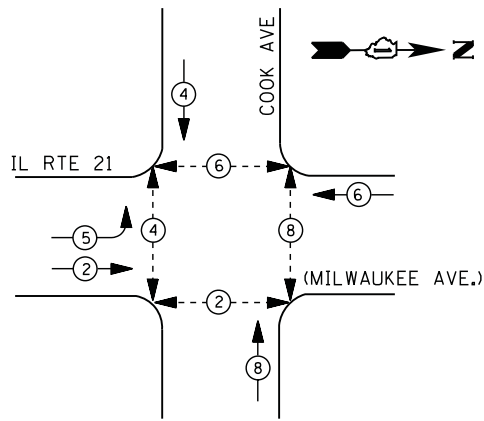


NOTES:  
 PUSH-BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM

CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.

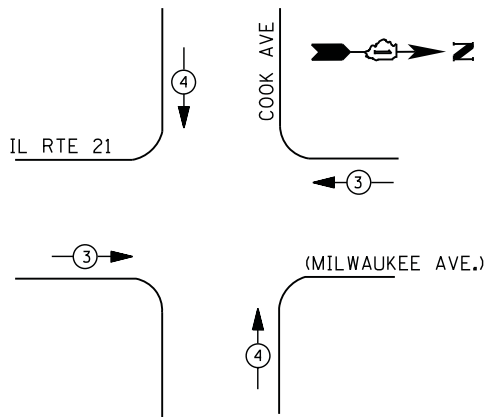
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	2	252	25	0.05	3
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					530

ENERGY COSTS- **BILLED TO: VILLAGE OF LIBERTYVILLE**  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

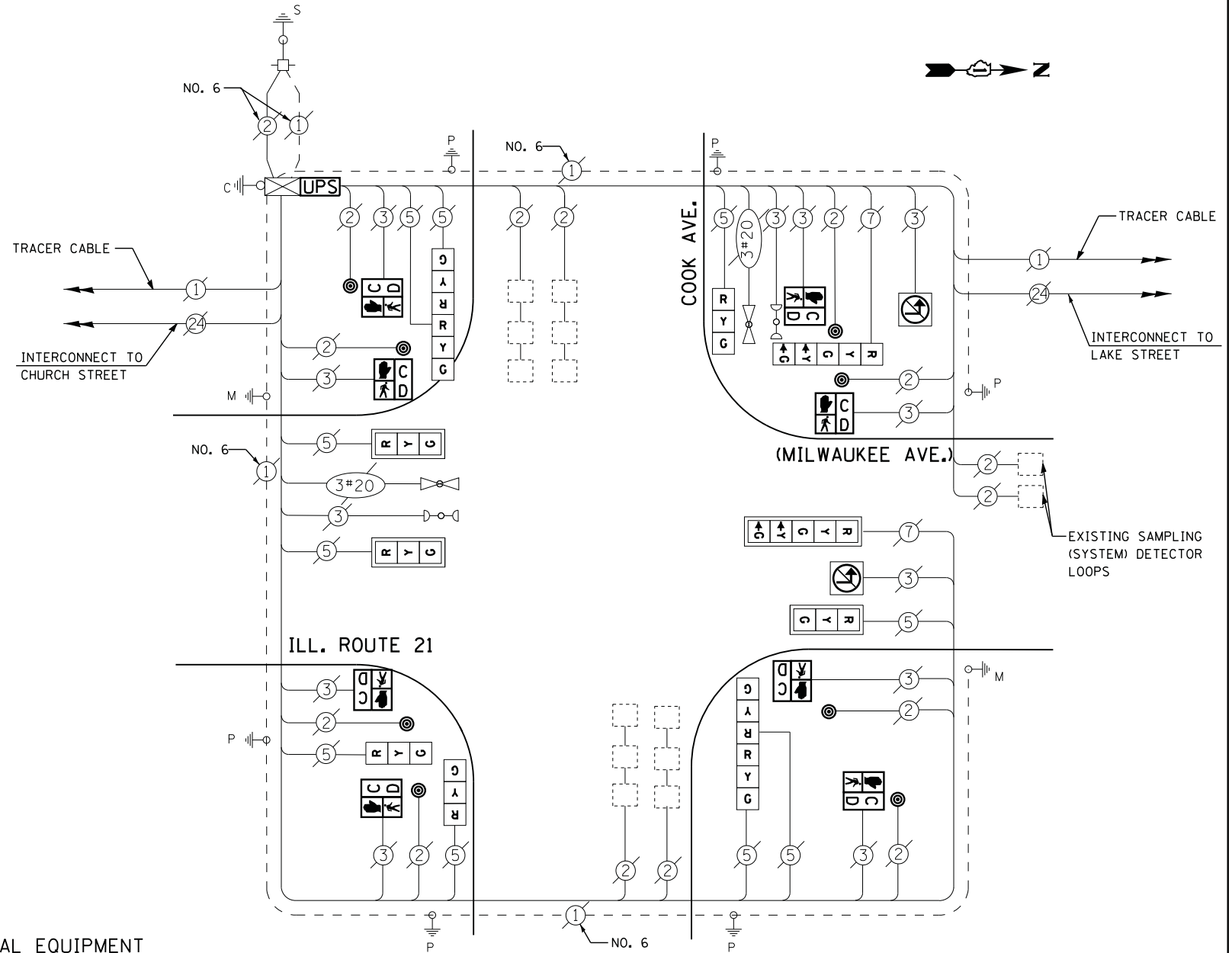
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL RTE. 21 (MILWAUKEE AVE.) AT COOK AVE. - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	78
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 13990  
 LIBERTYVILLE

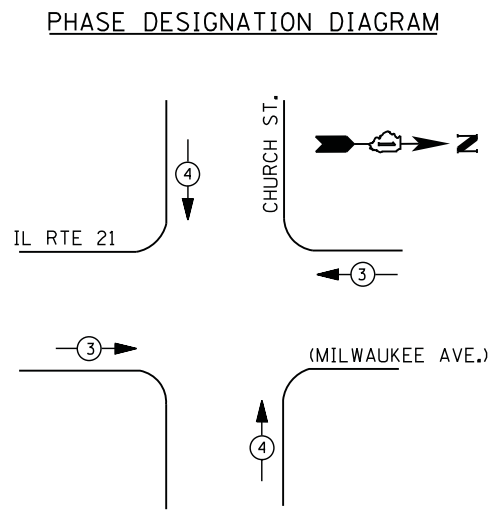
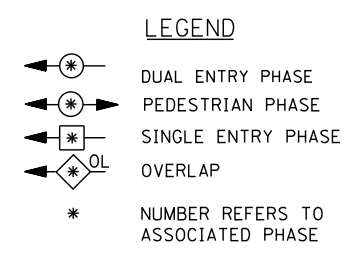
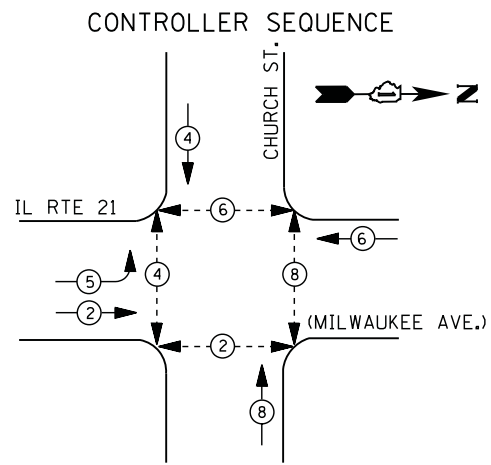


**CABLE PLAN**

**RETROFIT ALL EXISTING  
 SIGNAL HEADS TO L.E.D**

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
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	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 3/28/2012	DATE -		REVISED -	



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	2	252	25	0.05	3
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					530

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

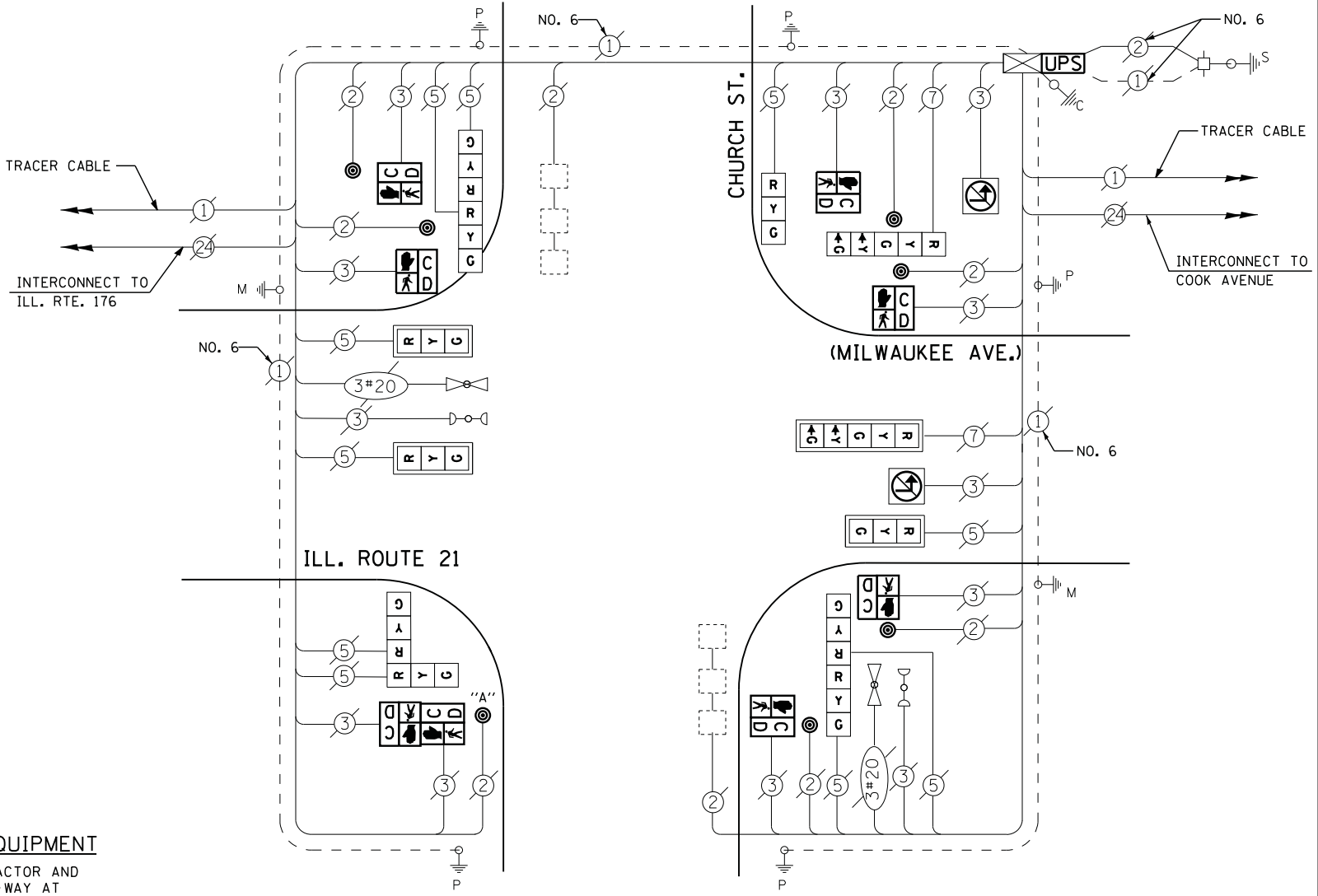
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 7 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

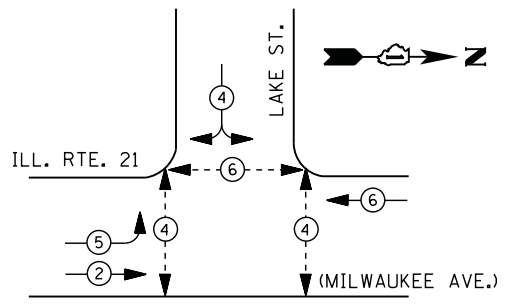
NOTE: PUSHBUTTON "A" SHALL PLACE A CALL ON PHASES 2 AND 4.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

TS# 13995  
 LIBERTYVILLE

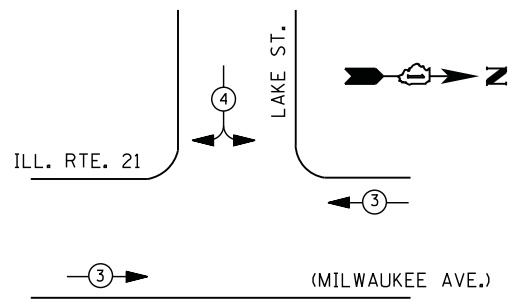
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊙ ← ⊙ → DUAL ENTRY PHASE
- ⊙ ← ⊙ → PEDESTRIAN PHASE
- ⊙ ← ⊙ → SINGLE ENTRY PHASE
- ⊙ ← ⊙ → OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↕

**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	9	135	17	0.50	77
( YELLOW )	9	135	25	0.25	56
( GREEN )	9	135	15	0.25	34
ARROW	4	135	12	0.10	5
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					422

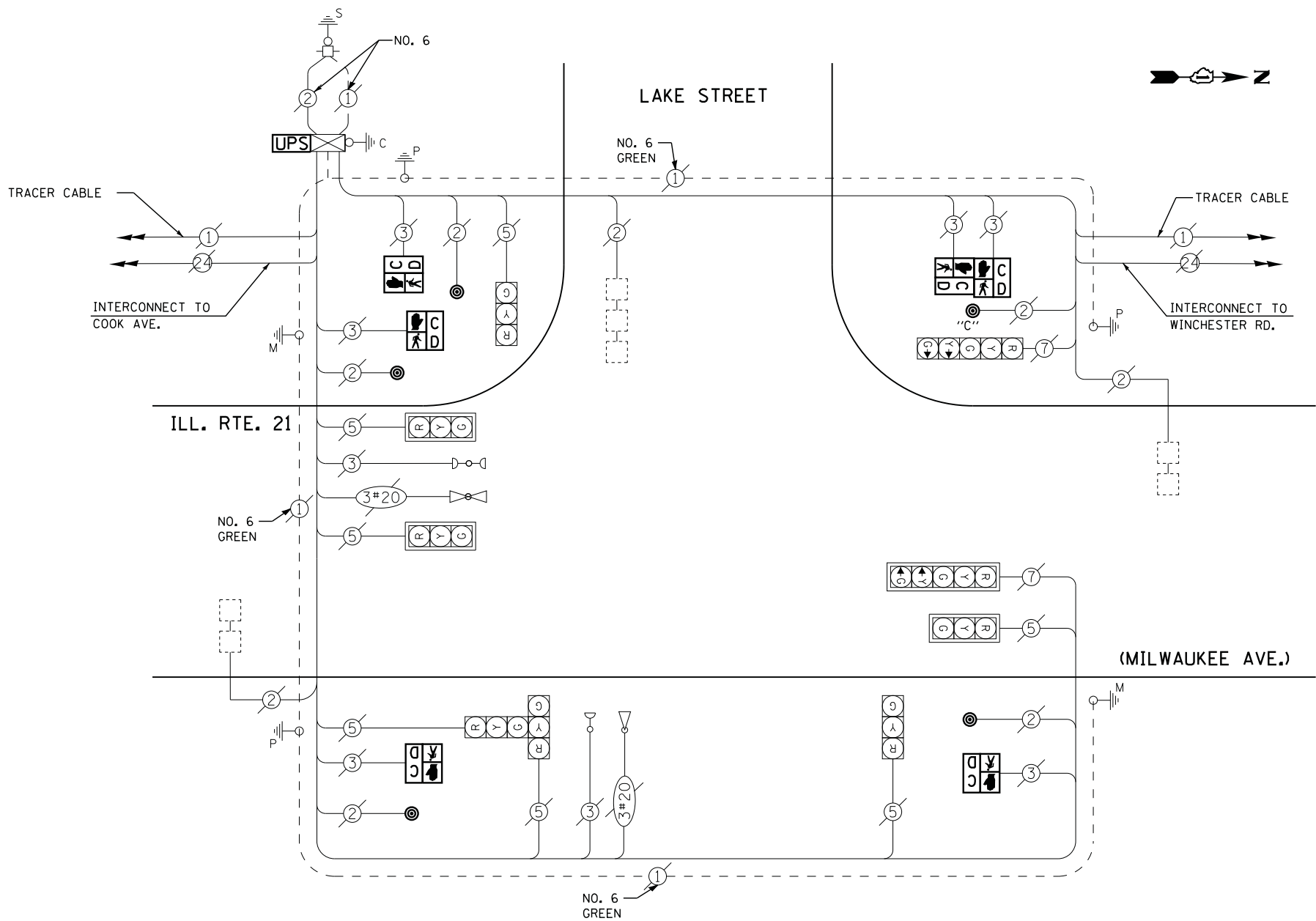
ENERGY COSTS- **BILLED TO: VILLAGE OF LIBERTYVILLE**  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**CABLE PLAN**



NOTES: PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 4.

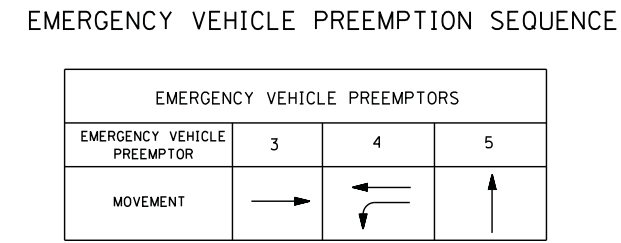
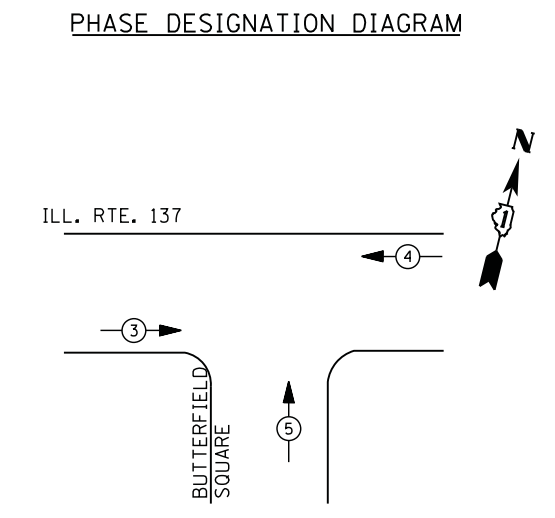
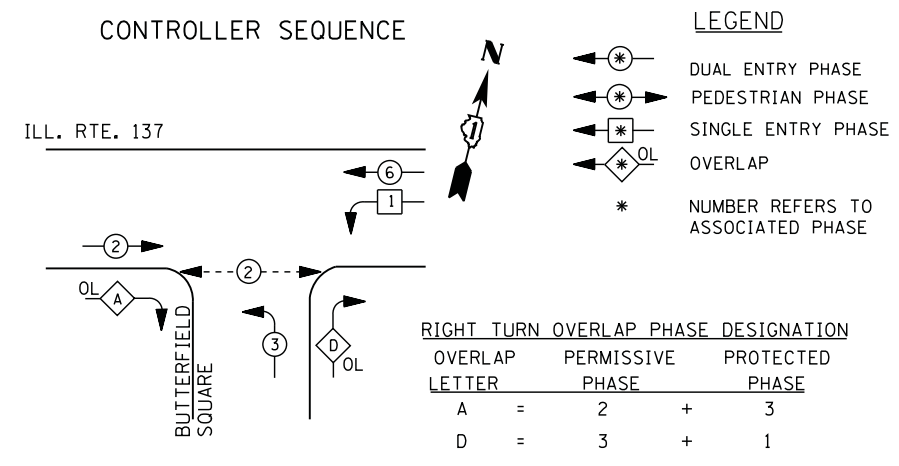
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6 EACH PEDESTRIAN SIGNAL HEAD  
 5 EACH PEDESTRIAN PUSH-BUTTON

TS# 21490  
 LIBERTYVILLE





### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					396

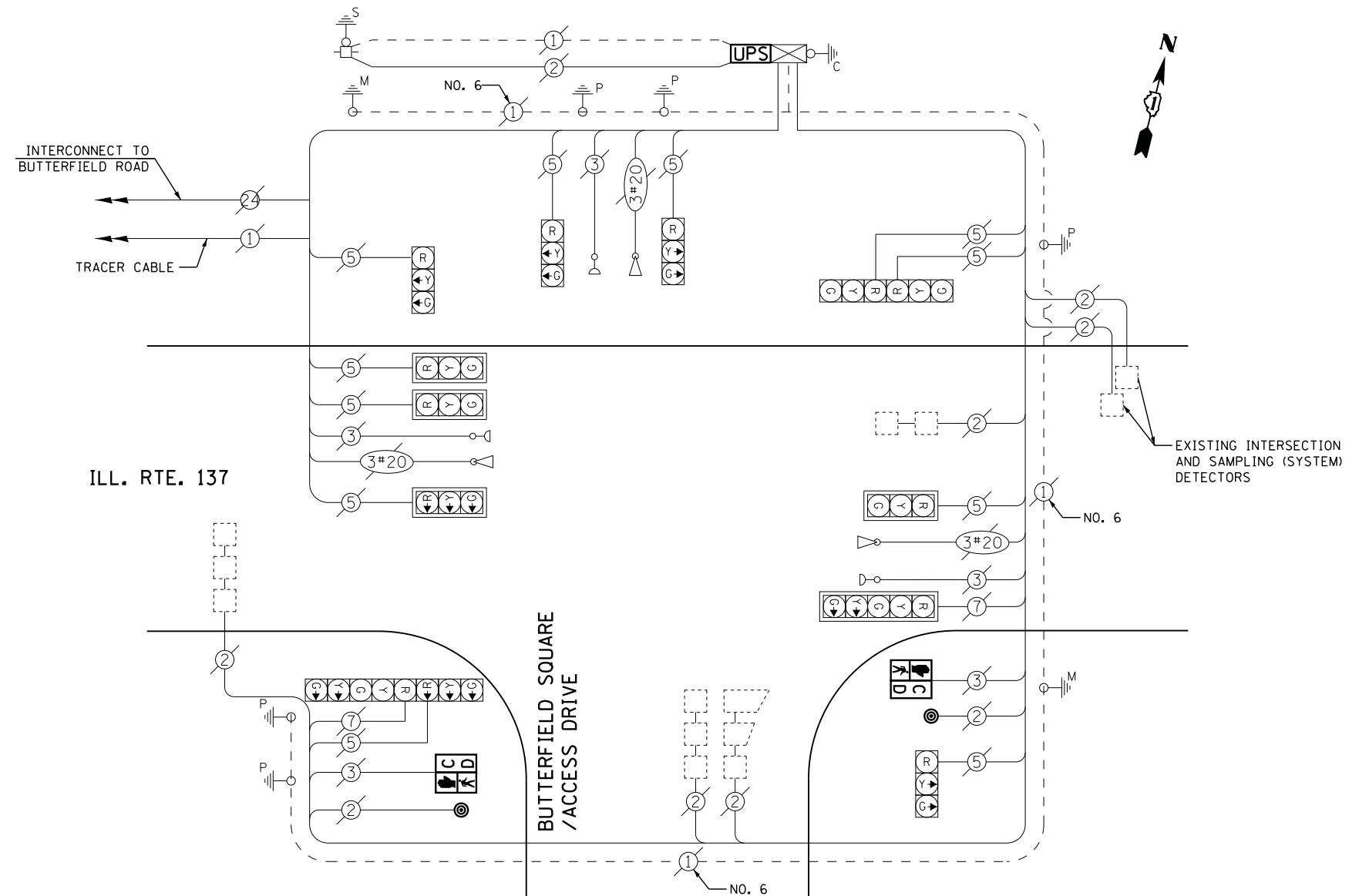
ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

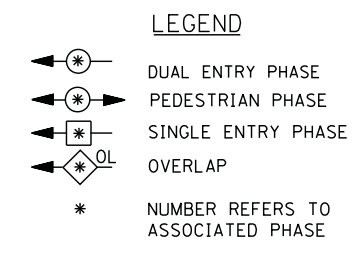
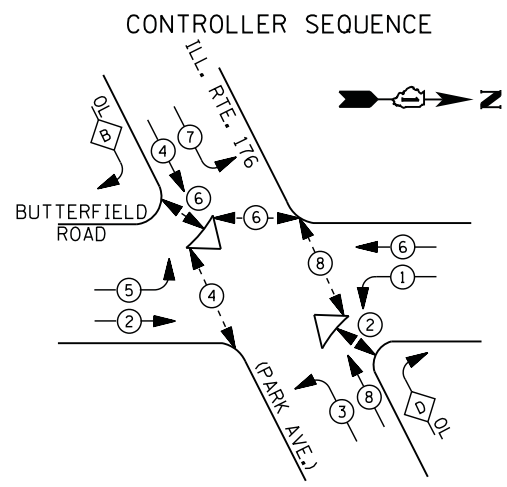
### CABLE PLAN



### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

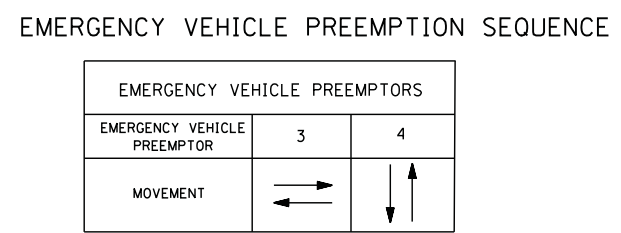
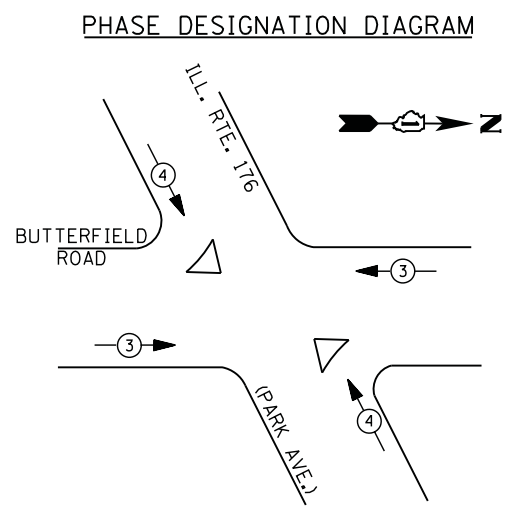
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4	5
D =	8	1



**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	24	135	12	0.10	29
PED. SIGNAL	10	90	25	1.00	250
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					789

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

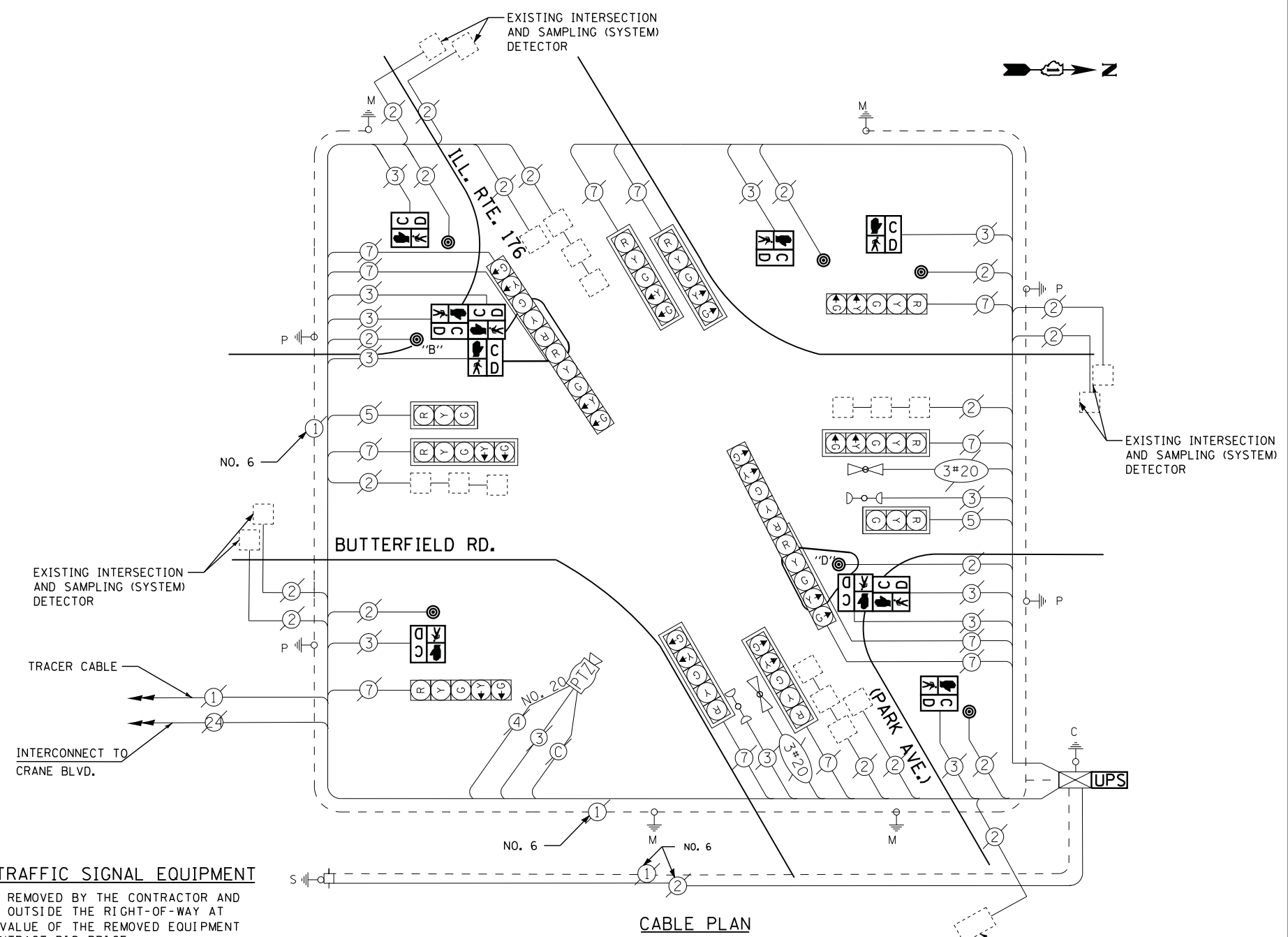
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

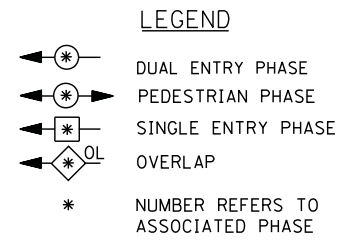
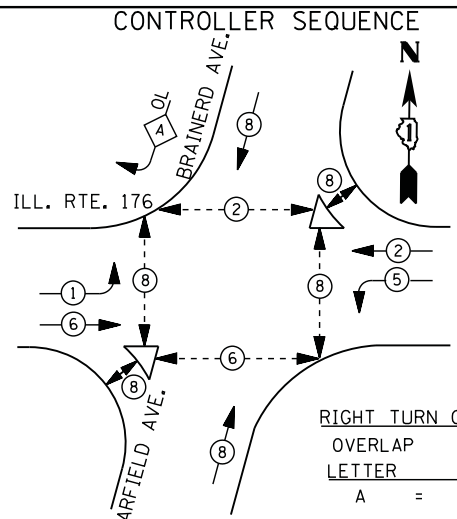
10 EACH PEDESTRIAN SIGNAL HEAD  
 7 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
5	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

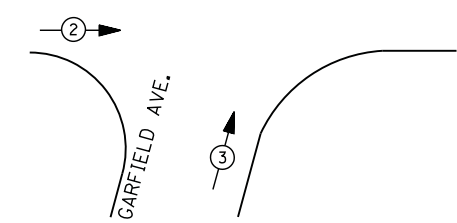
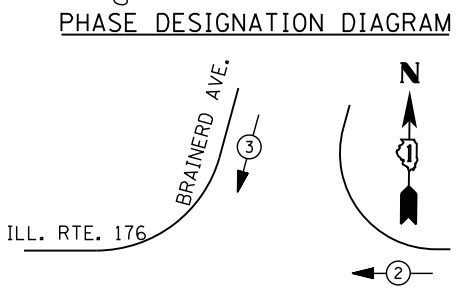


**NOTE:**  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 8	+ 1



**EMERGENCY VEHICLE PREEMPTORS**

EMERGENCY VEHICLE PREEMPTOR	2	3
MOVEMENT	←	↑

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	85
(YELLOW)	10	135	25	0.25	63
(GREEN)	10	135	15	0.25	38
ARROW	12	135	12	0.10	14
PED. SIGNAL	12	90	25	1.00	300
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					600

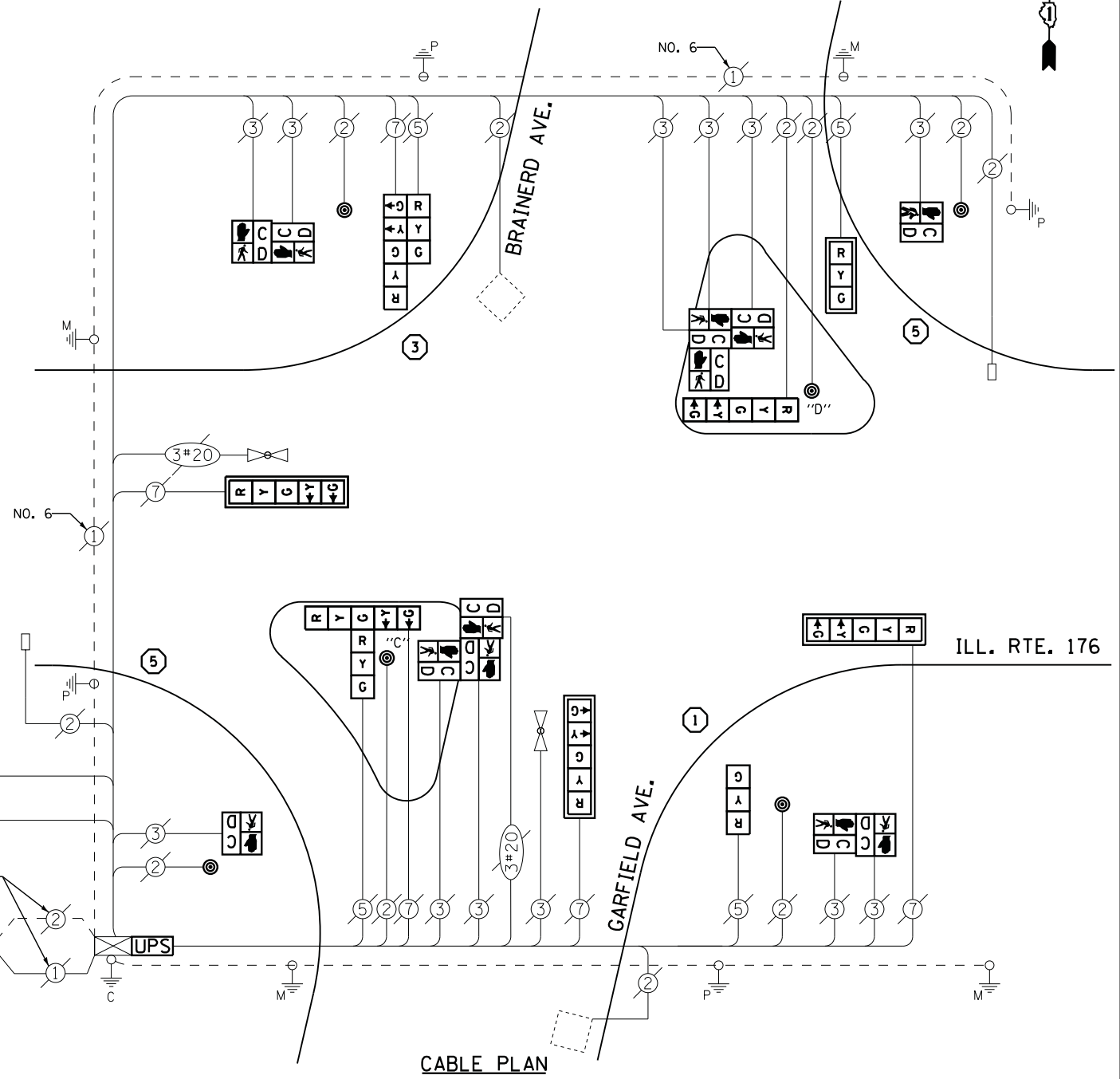
ENERGY COSTS- **BILLED TO: VILLAGE OF LIBERTYVILLE**  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

INTERCONNECT TO DAWES AVENUE  
 TRACER CABLE



**SCHEDULE OF QUANTITIES**

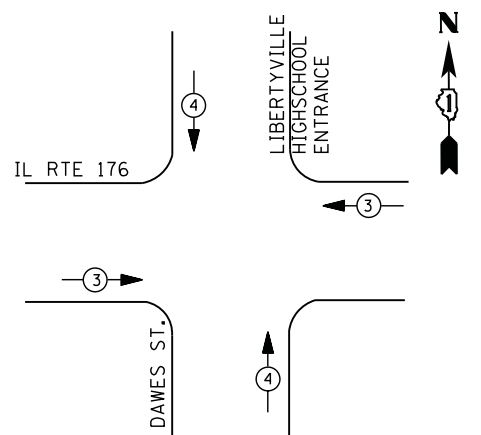
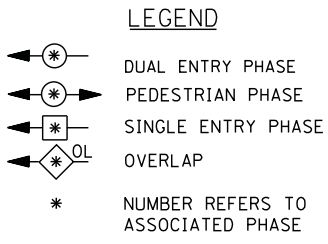
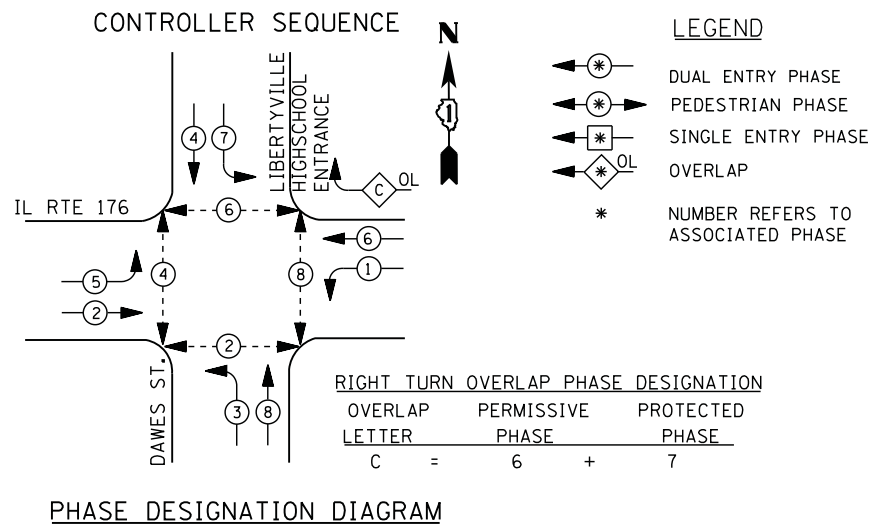
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

NOTES:  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASED 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASED 2 AND 8

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

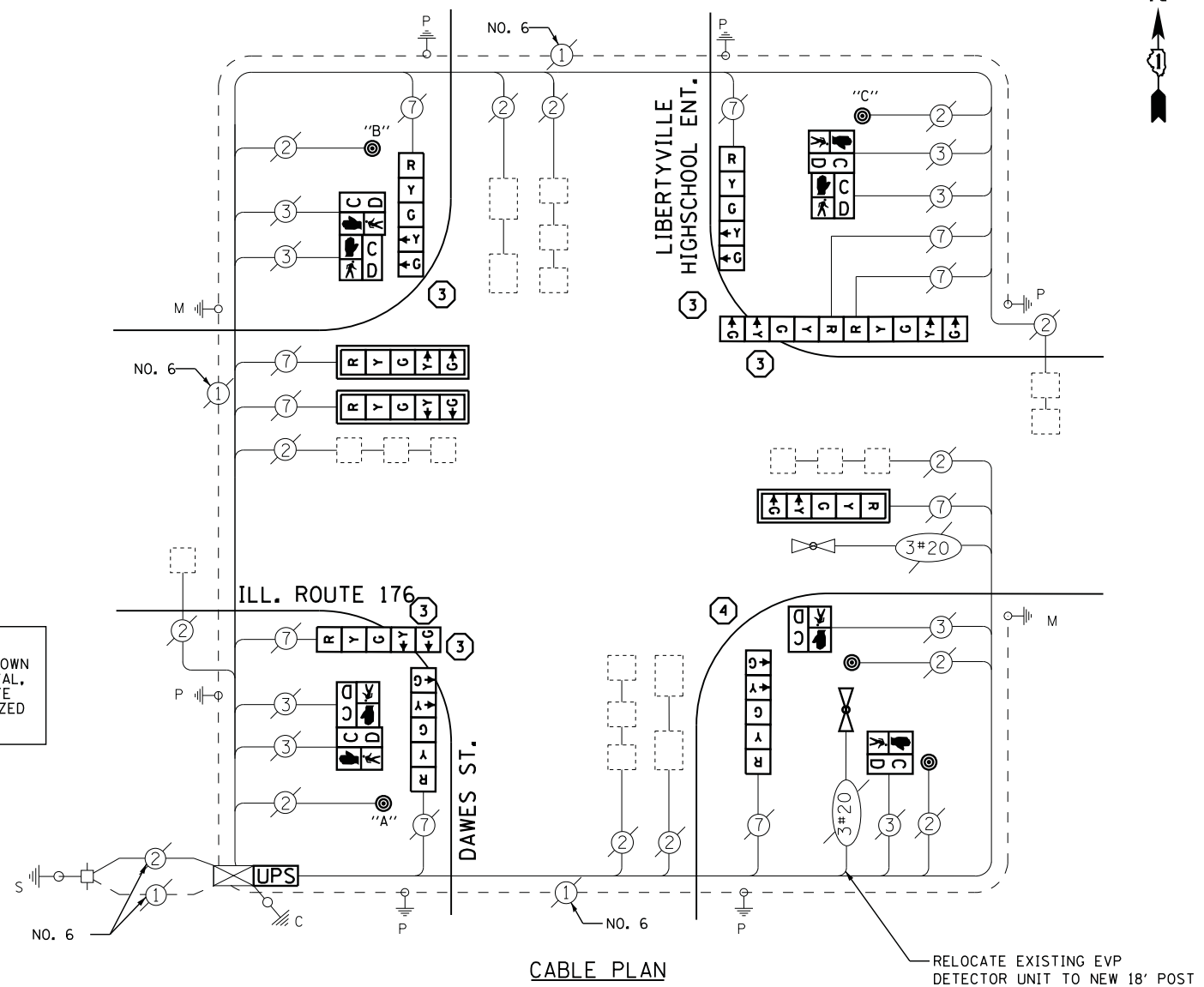
4	EACH	SIGNAL HEAD, 3 - SECTION
6	EACH	SIGNAL HEAD, 5 - SECTION
12	EACH	PEDESTRIAN SIGNAL HEAD
6	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

- ① REPLACE 14 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.



NOTES:  
 PUSH-BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH-BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	20	135	12	0.10	24
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					510

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

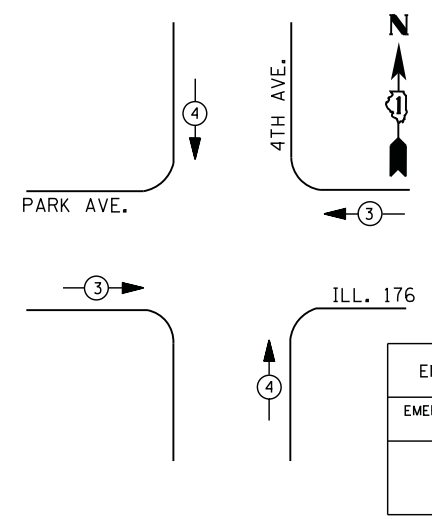
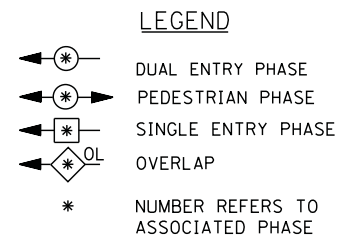
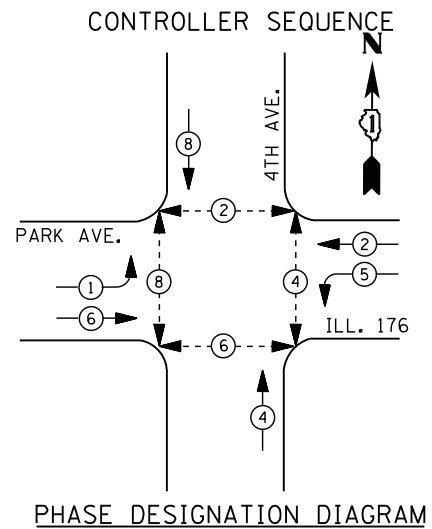
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
5	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

\* - 100% COST TO VILLAGE OF LIBERTYVILLE

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

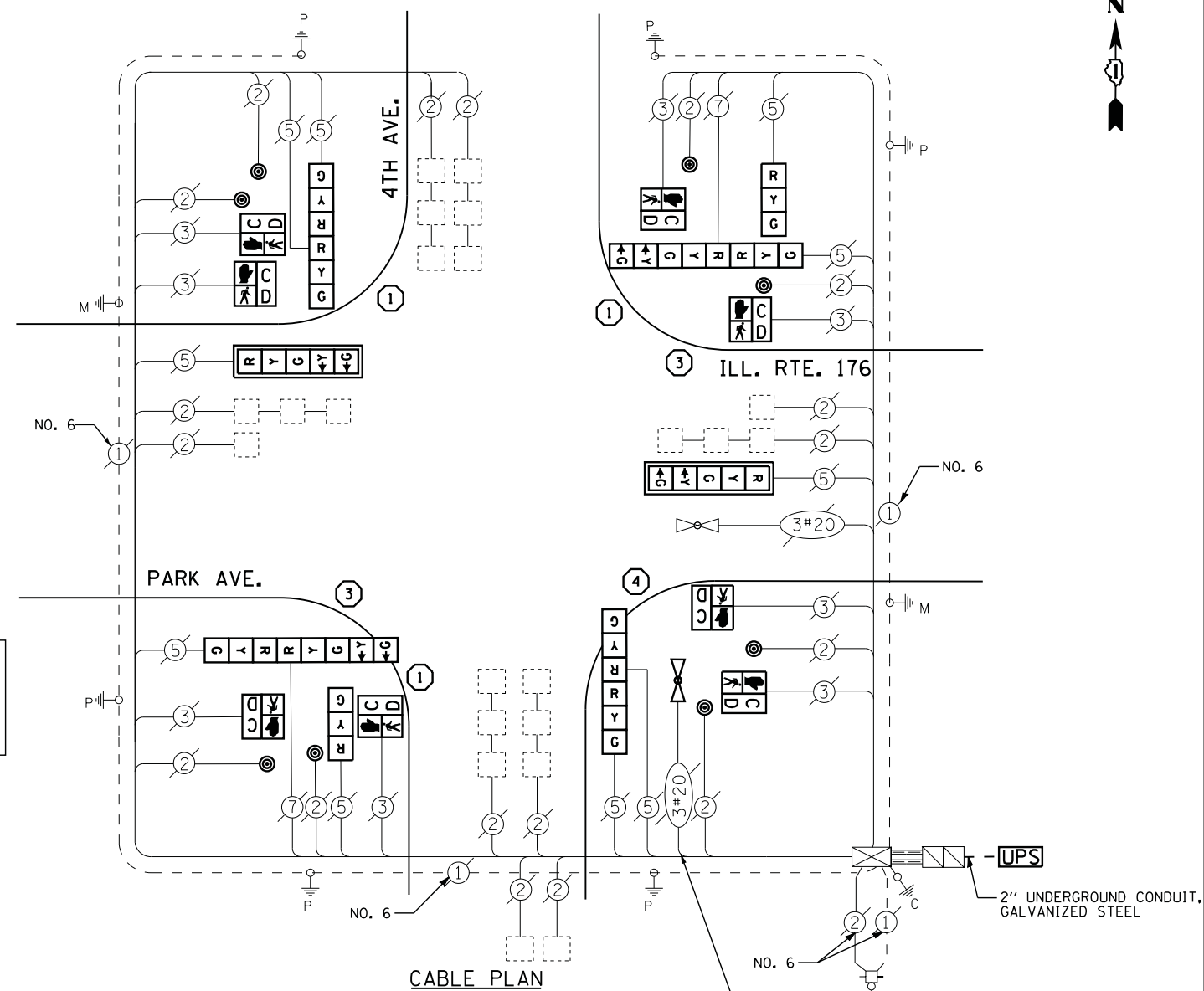
10	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	PEDESTRIAN SIGNAL HEAD
5	EACH	PEDESTRIAN PUSH-BUTTON
6	EACH	STEEL POST
3	EACH	TRAFFIC SIGNAL BACKPLATE



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.



UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.
1	EACH	DRILL EXISTING HANDHOLE
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
8	EACH	PEDESTRIAN PUSH-BUTTON
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED

\* - 100% COST TO VILLAGE OF LIBERTYVILLE

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

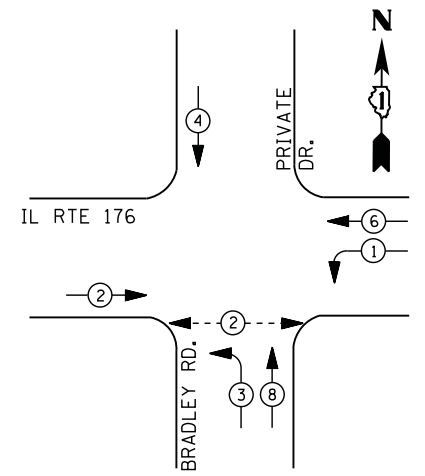
- 8 EACH SIGNAL HEAD, 3 - SECTION
- 4 EACH SIGNAL HEAD, 5 - SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 6 EACH SIGNAL POST
- 2 EACH TRAFFIC SIGNAL BACKPLATE

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					532

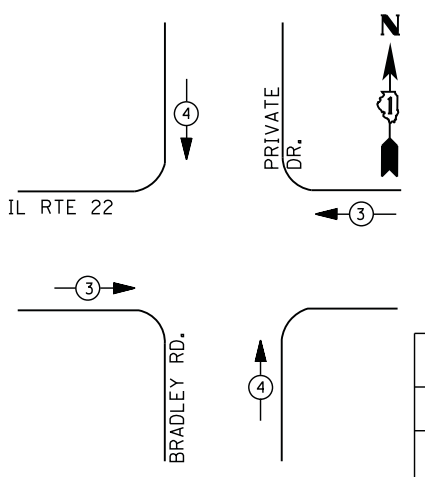
ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT FERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**CONTROLLER SEQUENCE**

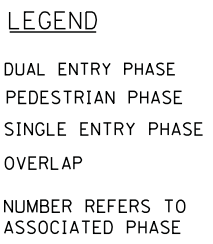


**PHASE DESIGNATION DIAGRAM**



EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	
MOVEMENT	←	↑	↓

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	11	135	17	0.50	94
( YELLOW )	11	135	25	0.25	69
( GREEN )	11	135	15	0.25	42
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	150	1.00	--
TOTAL =					365

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

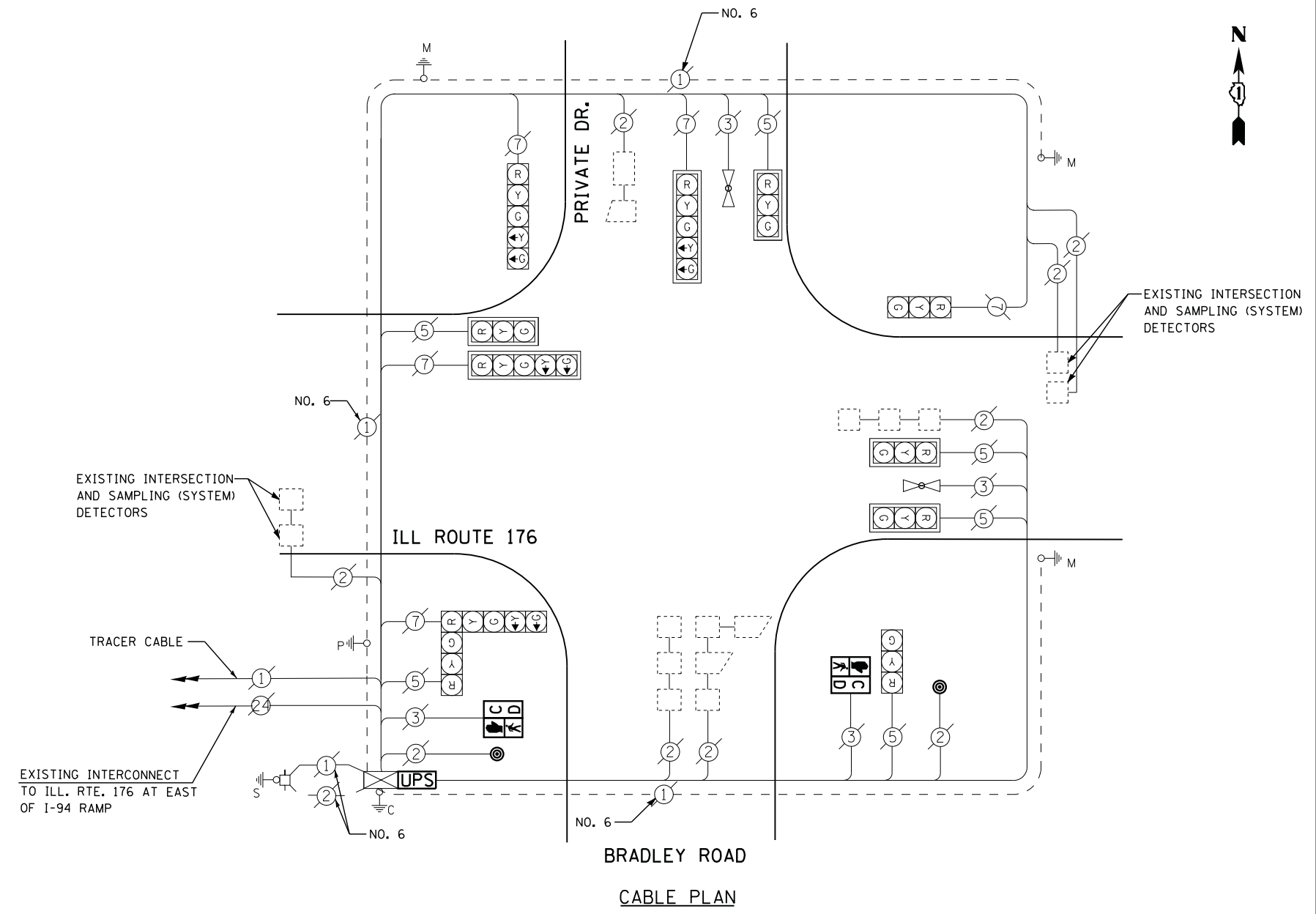
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH PEDESTRIAN SIGNAL HEAD  
 2 EACH PEDESTRIAN PUSH-BUTTON



EXISTING INTERCONNECT TO ILL. RTE. 176 AT EAST OF I-94 RAMP

EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

TRACER CABLE

EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTORS



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL RTE. 176 AT BRADLEY ROAD - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE

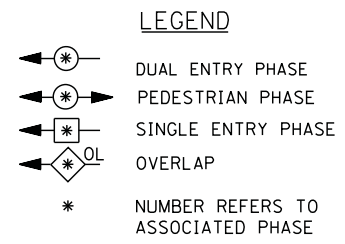
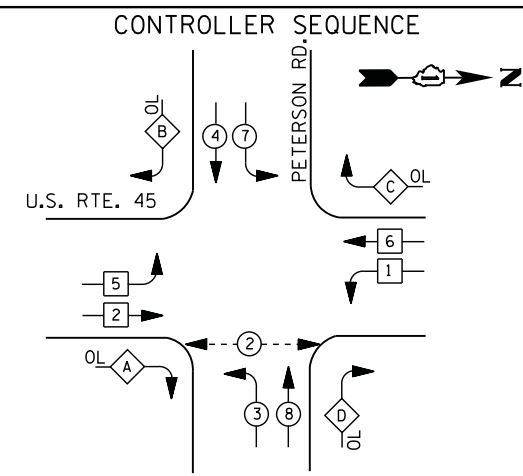
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	86
CONTRACT NO. 60T41				

TS# 20375  
 GREEN OAKS

FILE NAME	USER NAME	DESIGNED	REVISED
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\20375_CAB.LAKE.dgn	*USERS*	DW	-
		JDH	REVISED -
		KMM	REVISED -
			REVISED -

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

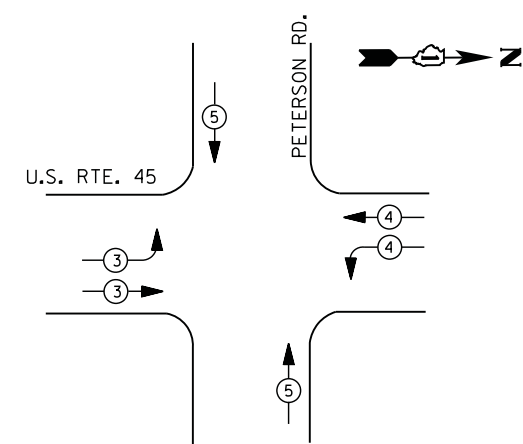
ILLINOIS FED. AID PROJECT



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A =	2 +	3 -	2
B =	4 +	5 -	4
C =	6 +	7 -	6
D =	8 +	1 -	8

PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	18	135	17	0.50	153
( YELLOW )	18	135	25	0.25	113
( GREEN )	18	135	15	0.25	68
ARROW	24	135	12	0.10	29
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					663

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096  
 CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

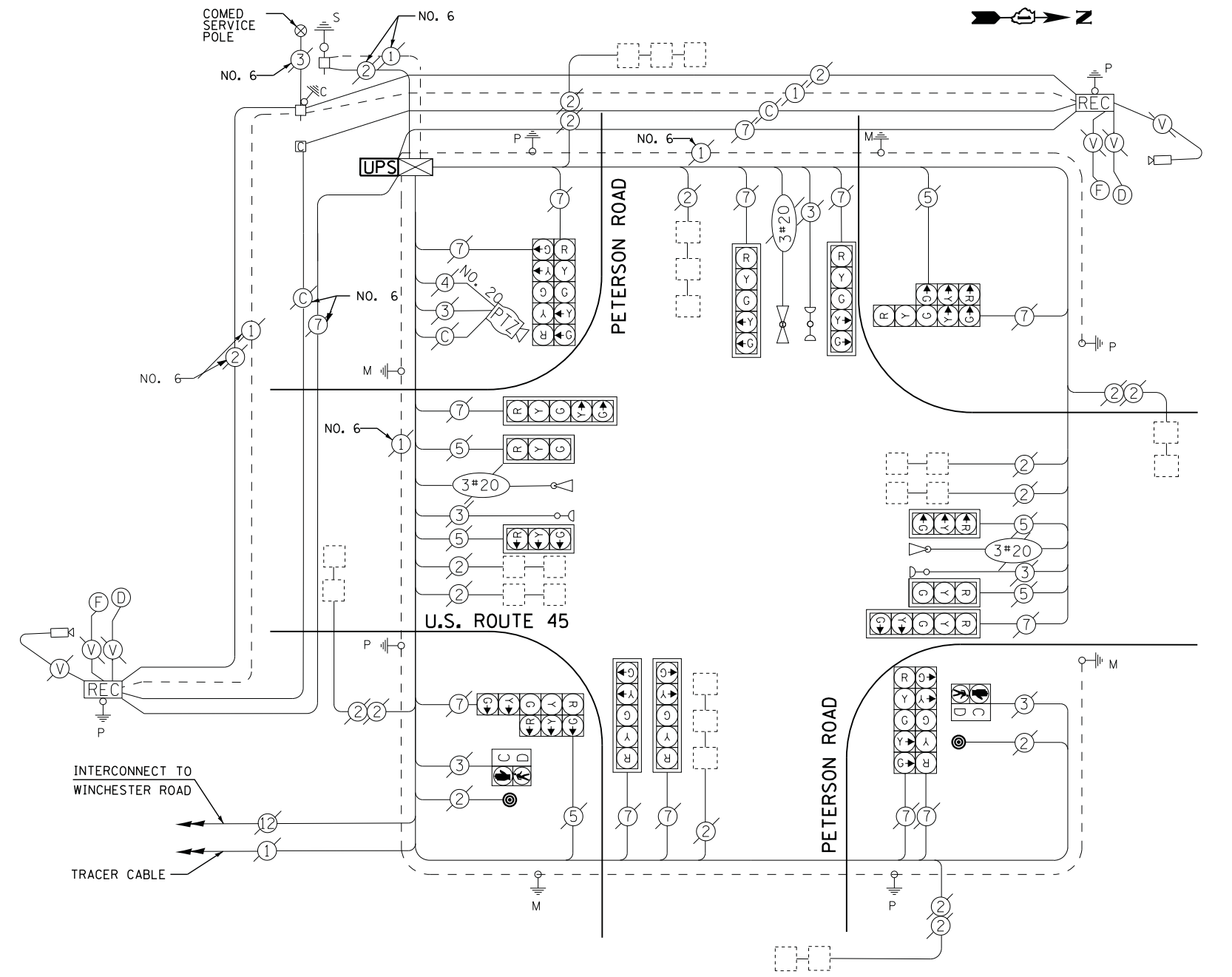
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

DUE TO THE PRESENCE OF A RED LIGHT RUNNING (RLR) CAMERA WITHIN THE PROJECT LIMITS, CONTRACTOR SHALL NOTIFY THE VILLAGE OF LIBERTYVILLE AND GATSO USA, INC. PRIOR TO THE START OF CONSTRUCTION.

VILLAGE OF LIBERTYVILLE  
 200 W. COOK AVENUE  
 LIBERTYVILLE, IL 60048  
 847-918-2100

GATSO USA, INC.  
 900 CUMMINGS CENTER, SUITE 321-U  
 BEVERLY, MA 01915  
 978-922-7294

THE VILLAGE OF LIBERTYVILLE OR GATSO USA, INC. SHALL MAKE THE RLR CAMERA INOPERATIVE FOR THE TIME OF CONSTRUCTION. ANY RLR CAMERA EQUIPMENT THAT IS IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY ITS RESPECTIVE OWNERS PRIOR TO THE START OF CONSTRUCTION.



CABLE PLAN

REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06675_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

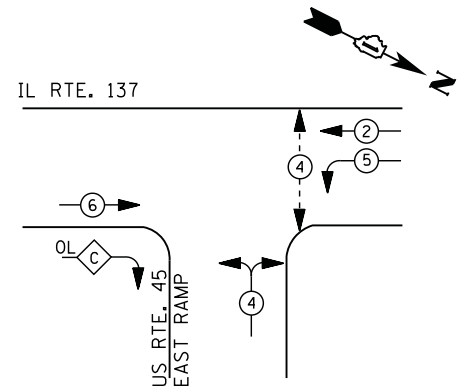
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

U.S. RTE. 45 AT PETERSON ROAD. - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	87
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6675  
 LIBERTYVILLE

**CONTROLLER SEQUENCE**



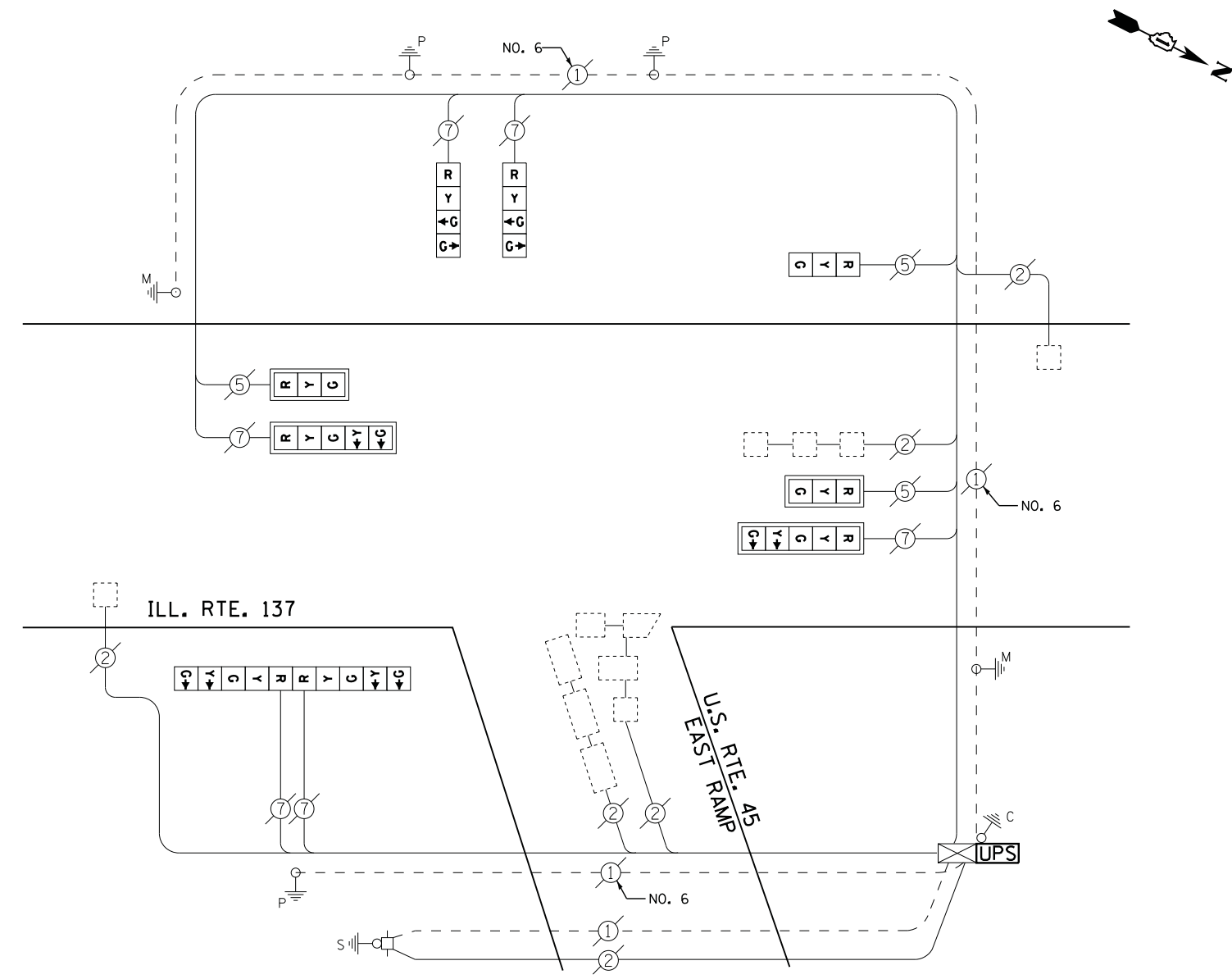
**LEGEND**

- ←\*→ DUAL ENTRY PHASE
- ←\*→ PEDESTRIAN PHASE
- ←\*→ SINGLE ENTRY PHASE
- ←\*OL→ OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
C =	6 +	4

**PHASE DESIGNATION DIAGRAM**



**CABLE PLAN**

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	9	135	17	0.50	77
( YELLOW )	9	135	25	0.25	56
( GREEN )	11	135	15	0.25	41
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					284

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

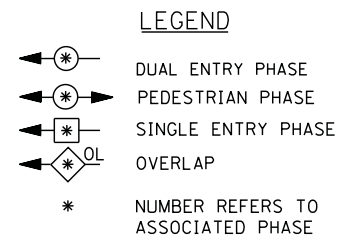
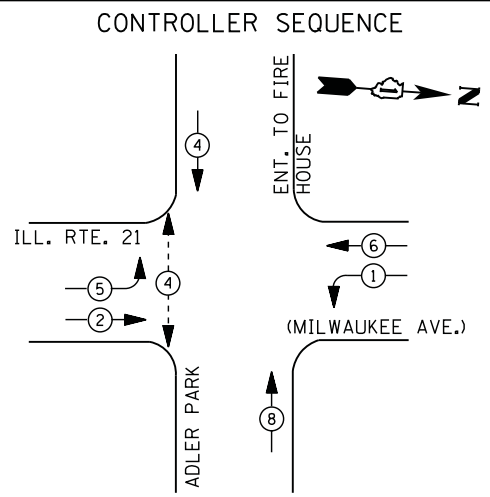
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

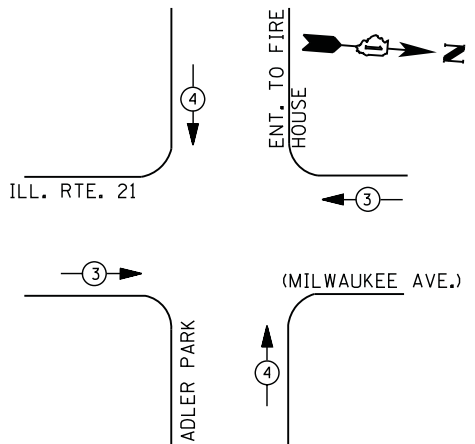
TS# 21660  
LIBERTYVILLE



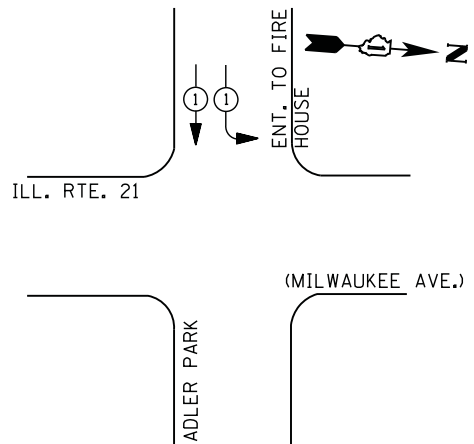


**PHASE DESIGNATION DIAGRAM**

**PRIORITY SEQUENCE FOR CONTROLLER SEQUENCE IV**



**E.B. FIRE LANE SEQUENCE FOR CONTROLLER SEQUENCE IV**



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	1
MOVEMENT	↓

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

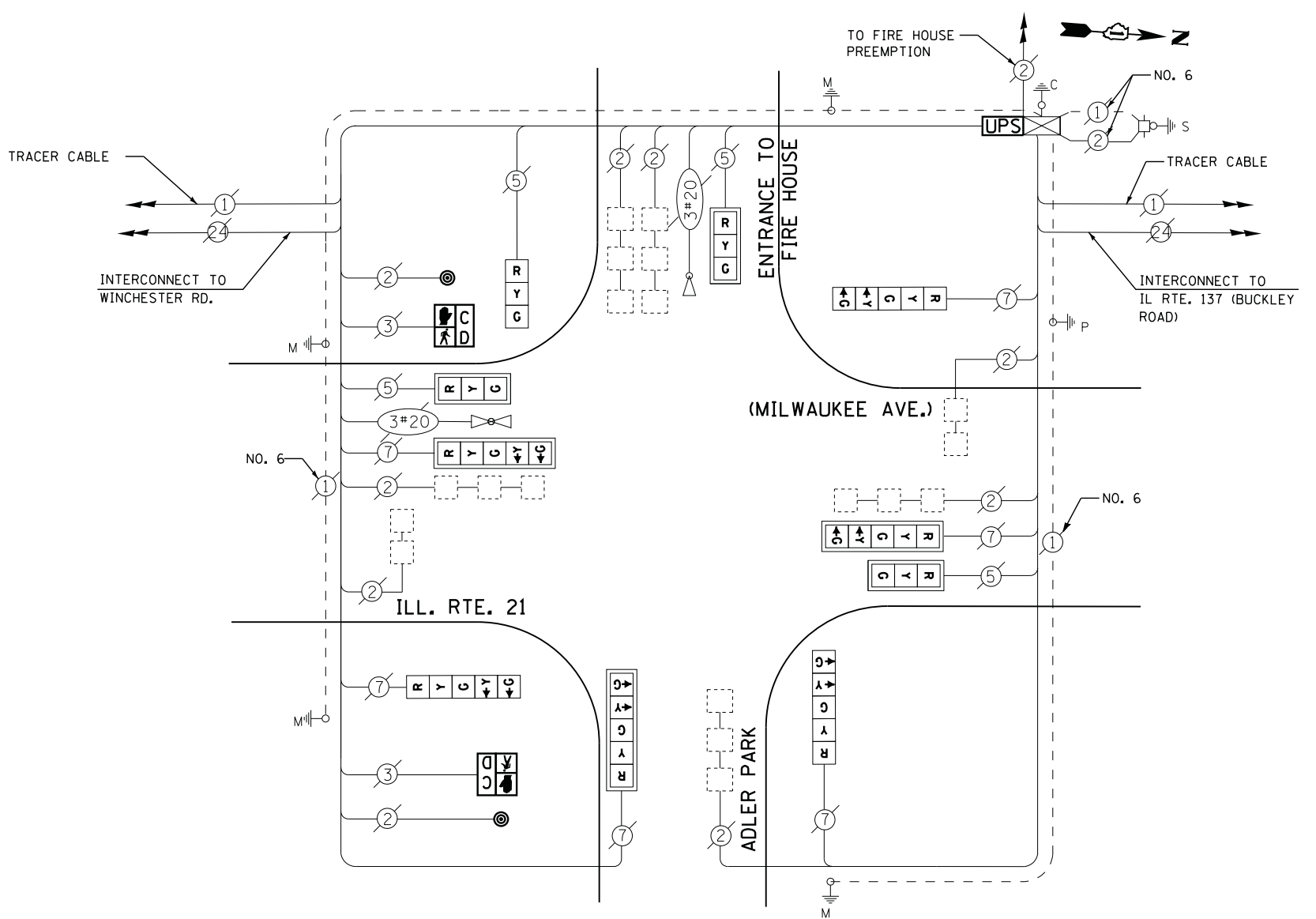
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	85
(YELLOW)	10	135	25	0.25	63
(GREEN)	10	135	15	0.25	38
ARROW	12	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					350

ENERGY COSTS- BILLED TO: VILLAGE OF LIBERTYVILLE  
 200 E. COOK AVENUE  
 LIBERTYVILLE, IL 60048

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

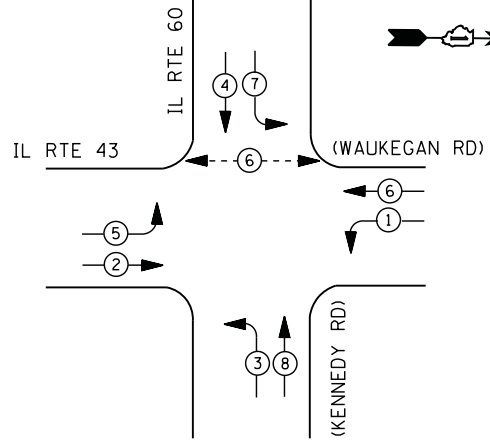
CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON

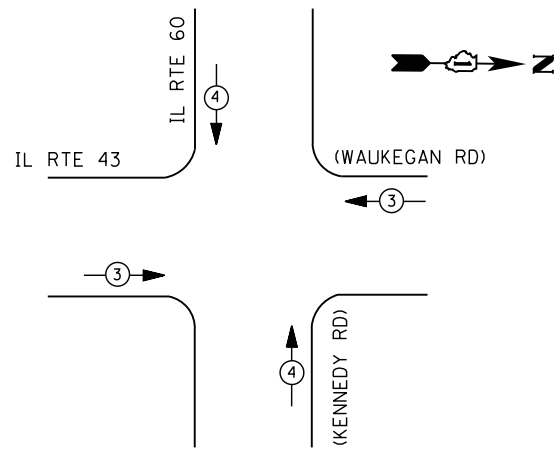
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	16	135	12	0.10	19
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					579

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

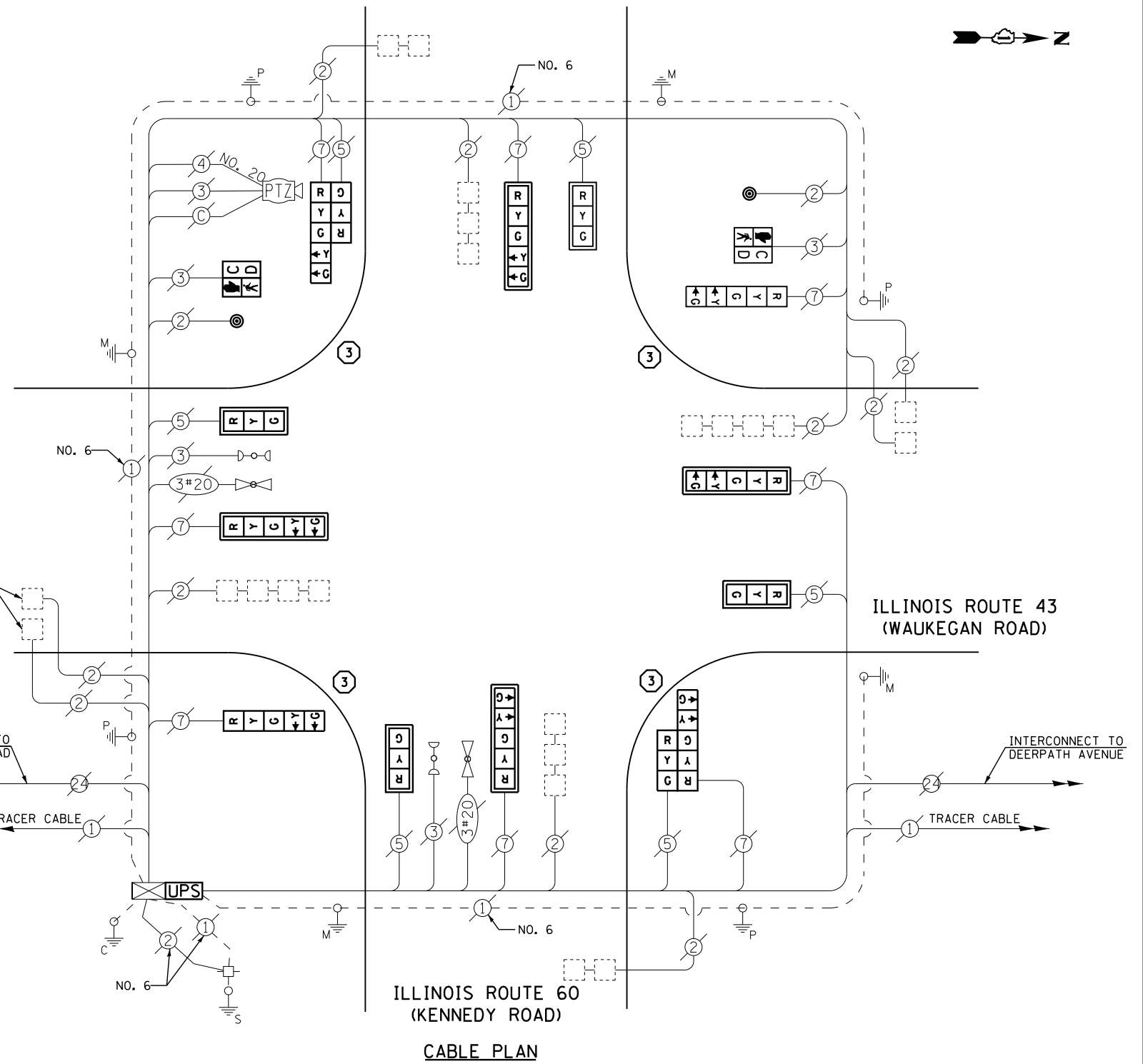
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

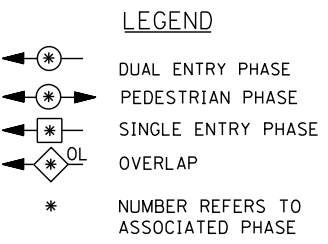
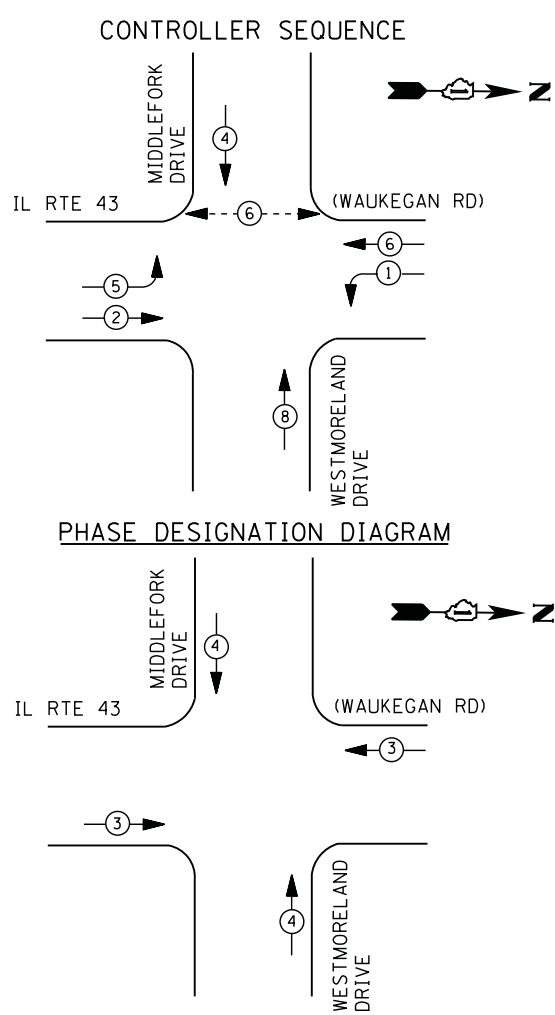
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
8	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	TRAFFIC SIGNAL BACKPLATE
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	SIGNAL POST



**CABLE PLAN**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					382

ENERGY COSTS- **BILLED TO: CITY OF LAKE FOREST**  
220 E. DEERPATH  
LAKE FOREST, IL 60045

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
PHONE 847-816-5239  
COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**ILLINOIS ROUTE 43 (WAUKEGAN ROAD)**

EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

INTERCONNECT TO DEERPATH AVENUE

TRACER CABLE

**MIDDLEFORK DRIVE**

NO. 6

UPS



EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

INTERCONNECT TO ILL. RTE. 176 (ROCKLAND RD.)

TRACER CABLE

**WESTMORELAND DRIVE**

**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH PEDESTRIAN SIGNAL HEAD  
2 EACH PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-001 Sheets SE Lake Co\06806_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

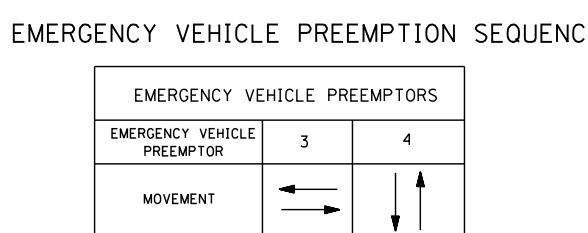
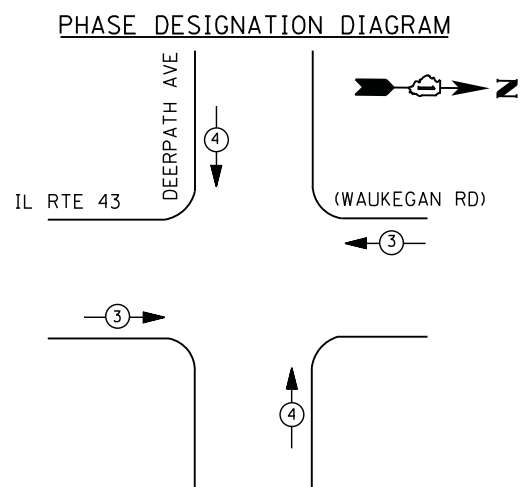
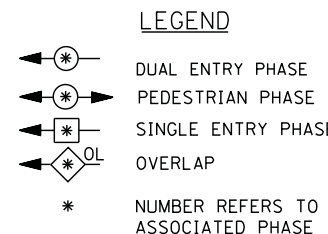
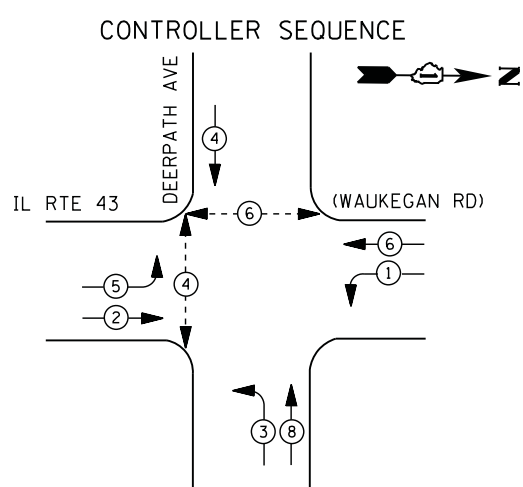
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL RTE. 43 & MIDDLEFORK DR /WESTMORELAND DR - CABLE PLAN, SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	91
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 6806 LAKE FOREST



### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	12	135	12	0.10	14
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					455

ENERGY COSTS- BILLED TO: CITY OF LAKE FOREST  
220 E. DEERPETH  
LAKE FOREST, IL 60045

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON

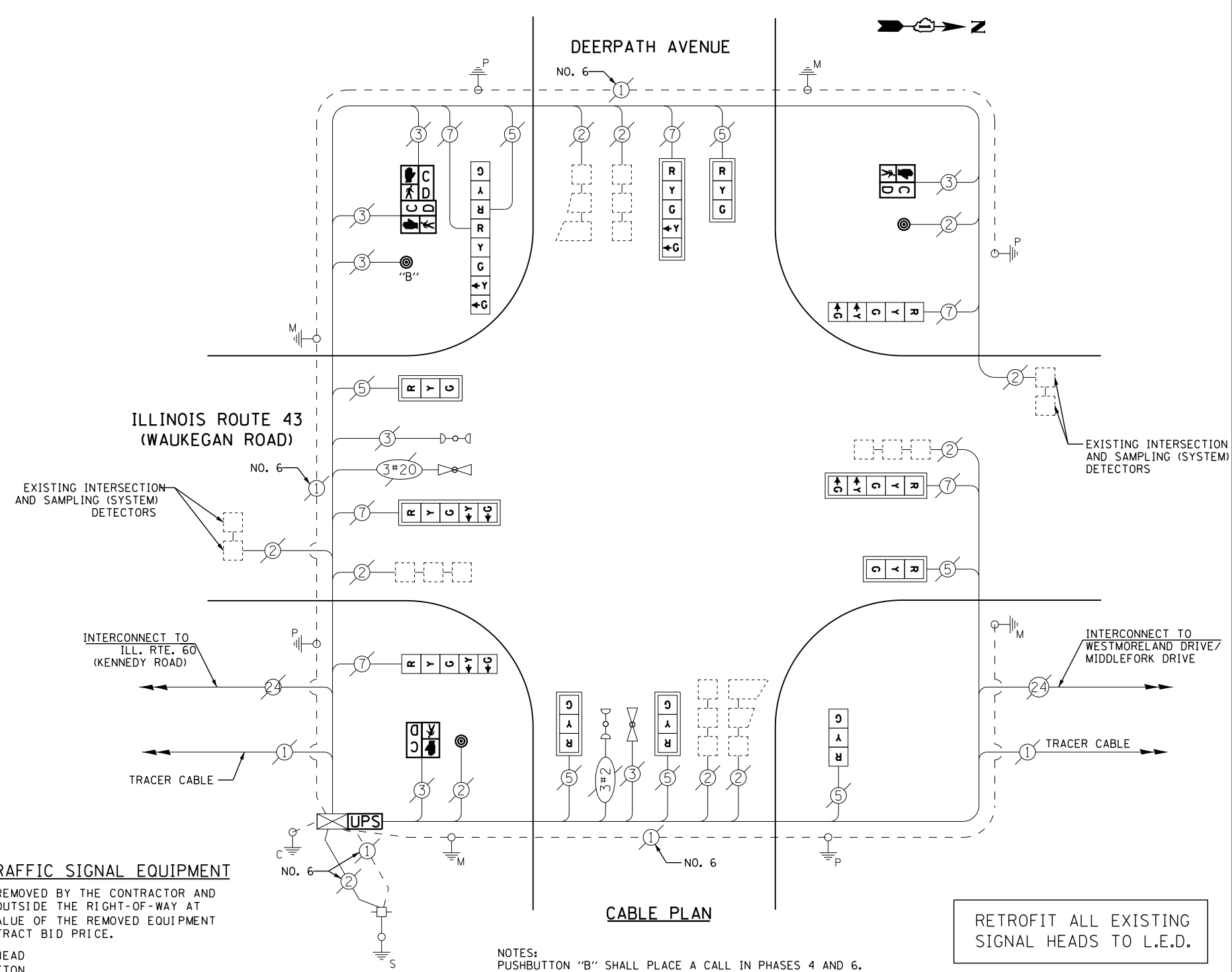
### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 3 EACH PEDESTRIAN PUSH-BUTTON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTES:  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
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	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

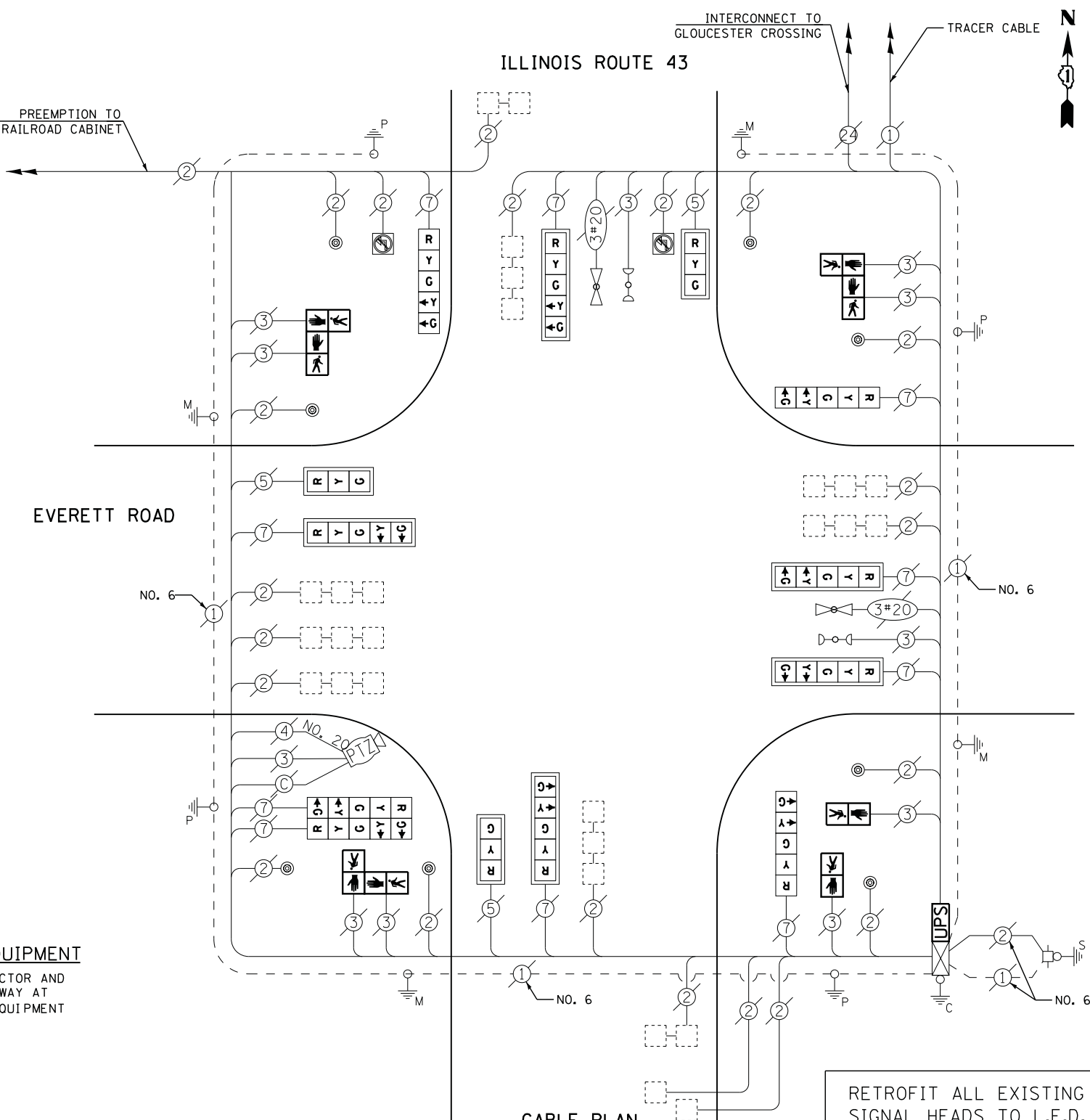
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL RTE. 43 (WAUKEGAN ROAD) & DEERPETH AVENUE - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	92
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 10665  
 LAKE FOREST

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	20	135	12	0.10	24
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	2	252	25	0.05	25
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					740
ENERGY COSTS- BILLED TO: CITY OF LAKE FOREST					
220 E. DEERPATH					
LAKE FOREST, IL 60045					
ENERGY SUPPLY - CONTACT TERRI BLECK					
PHONE 847-816-5239					
COMMONWEALTH EDISON					

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

**SEQUENCE OF OPERATION**

MOVEMENT	1+5	1+6	1+7	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
ILL. RTE. 43 (BAUKEDAN ROAD) FAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←
ILL. RTE. 43 (BAUKEDAN ROAD) NEAR S/B RIGHT AND FAR RIGHT MAST ARM SIGNALS	R	R	R	G	G	R	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←
EVERETT ROAD NEAR E/S RIGHT AND FAR RIGHT MAST ARM SIGNALS	G	←	←	←	←	←	←	←	←	←
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD FAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE WEST SIDE OF ILL. RTE. 43	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE EAST SIDE OF ILL. RTE. 43	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE NORTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE SOUTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW

- PHASES 2 AND 6 SHALL BE PLACED ON RECALL.
- TO APPEAR ONLY UPON PUSHBUTTON ACTUATION
  - FLASHING "DON'T WALK" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.
  - THIS "WALK" OR FLASHING "DON'T WALK" INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE "WALK" OR FLASHING "DON'T WALK" INTERVALS.
- W = "WALK"  
 FL = FLASHING "DON'T WALK"  
 DW = "DON'T WALK"
- NLT = "NO LEFT TURN" OR
- NRT = "NO RIGHT TURN" OR

**RAILROAD PREEMPTION SEQUENCE OF OPERATION**

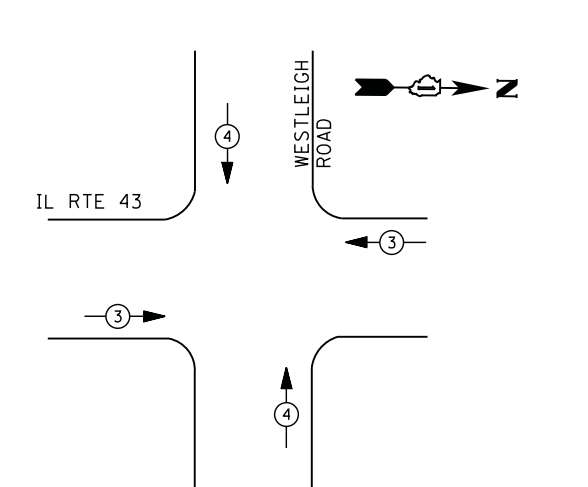
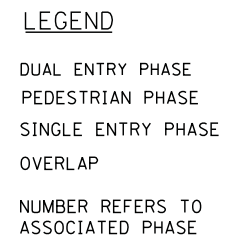
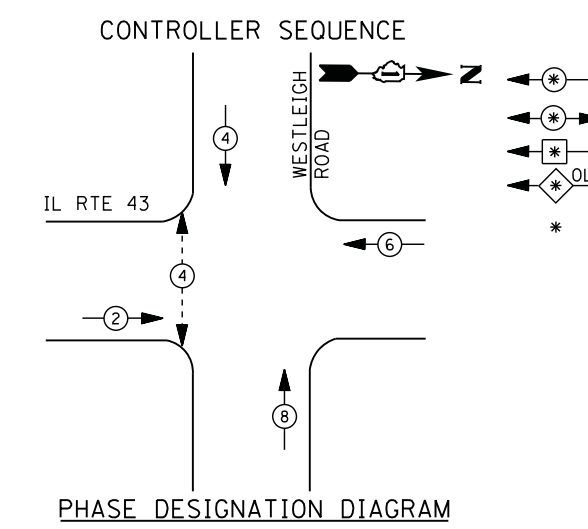
	1	5	8	11	14	18	22	26	PREEMPTION NUMBER 3	PREEMPTION NUMBER 4	PREEMPTION NUMBER 2	FLASH
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	5	8	11	14	18	22	26	2	3		
CHANGE FROM EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1K	2	1M	2	1P
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1K	2	1M	2	1P
ILL. RTE. 43 (BAUKEDAN ROAD) FAR RIGHT SIGNAL	R	R	R	Y	R	Y	R	R	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←	←	←
ILL. RTE. 43 (BAUKEDAN ROAD) NEAR S/B RIGHT AND FAR RIGHT MAST ARM SIGNALS	R	Y	R	R	R	Y	R	R	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←	←	←
EVERETT ROAD NEAR E/S RIGHT AND FAR RIGHT MAST ARM SIGNALS	G	←	←	←	←	←	←	←	←	←	←	←
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD FAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE WEST SIDE OF ILL. RTE. 43	DW	FL	DW	DW	DW	FL	DW	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE EAST SIDE OF ILL. RTE. 43	DW	DW	DW	FL	DW	FL	DW	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE NORTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	FL	DW	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE SOUTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	FL	DW	DW	DW	DW	DW
ILL. RTE. 43 (BAUKEDAN ROAD) ILLUMINATED SIGN NO LEFT TURN	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT

RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION**

	1	1	5	5	8	8	11	11	14	18	18	22	22	26	26	PREEMPTION NUMBER 3	PREEMPTION NUMBER 4	FLASH
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	1	5	5	8	8	11	11	14	18	18	22	22	26	26	2	3	
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	3	1D	2	1G	1H	3	1K	2	1M	1N	3	1Q	2	1S	1T	3	2
ILL. RTE. 43 (BAUKEDAN ROAD) FAR RIGHT SIGNAL	R	R	R	R	R	R	R	G	G	Y	R	G	G	Y	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
ILL. RTE. 43 (BAUKEDAN ROAD) NEAR S/B RIGHT AND FAR RIGHT MAST ARM SIGNALS	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R
ILL. RTE. 43 (BAUKEDAN ROAD) END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
EVERETT ROAD NEAR E/S RIGHT AND FAR RIGHT MAST ARM SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
EVERETT ROAD FAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
EVERETT ROAD END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE WEST SIDE OF ILL. RTE. 43	DW	DW	FL	DW	FL	DW	DW	DW	DW	DW	DW	FL	DW	FL	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING EVERETT ROAD ON THE EAST SIDE OF ILL. RTE. 43	DW	DW	DW	DW	DW	DW	FL	DW	FL	DW	DW	FL	DW	FL	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE NORTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	FL	DW	FL	DW	DW	FL	DW	FL	DW	DW	DW	DW
PEDESTRIAN SIGNALS CROSSING ILL. RTE. 43 ON THE SOUTH SIDE OF EVERETT ROAD	DW	DW	DW	DW	DW	DW	FL	DW	FL	DW	DW	FL	DW	FL	DW	DW	DW	DW

EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2 OR 3 IS TERMINATED.



EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	0	135	12	0.10	--
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					372

ENERGY COSTS- BILLED TO: CITY OF LAKE FOREST  
 220 E. DEERPETH  
 LAKE FOREST, IL 60045

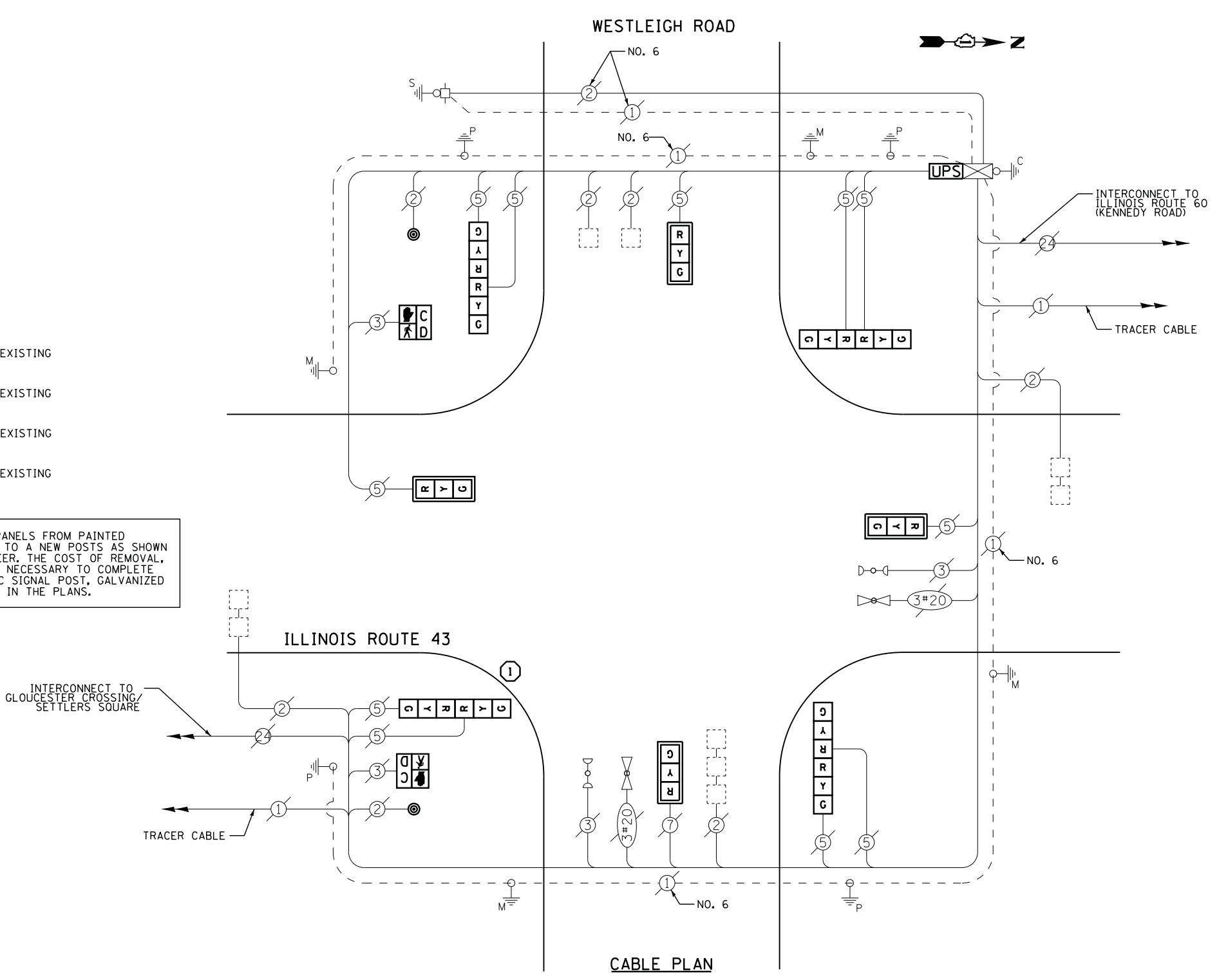
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

### SCHEDULE OF QUANTITIES

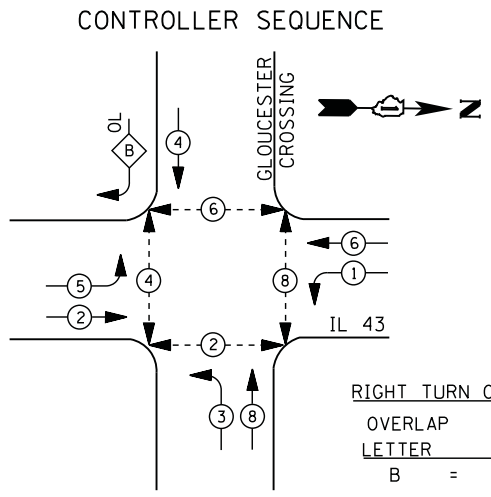
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

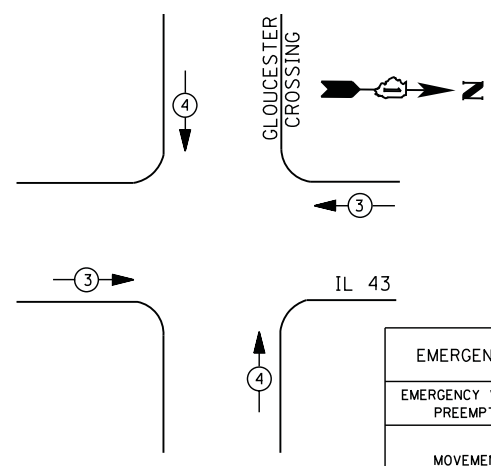
12	EACH	SIGNAL HEAD, 3 - SECTION
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	TRAFFIC SIGNAL BACKPLATE
1	EACH	SIGNAL POST



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

PHASE DESIGNATION DIAGRAM



**EMERGENCY VEHICLE PREEMPTORS**

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

EMERGENCY VEHICLE PREEMPTION SEQUENCE

**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					560

ENERGY COSTS- **BILLED TO: CITY OF LAKE FOREST**  
 220 E. DEERPATH  
 LAKE FOREST, IL 60045

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

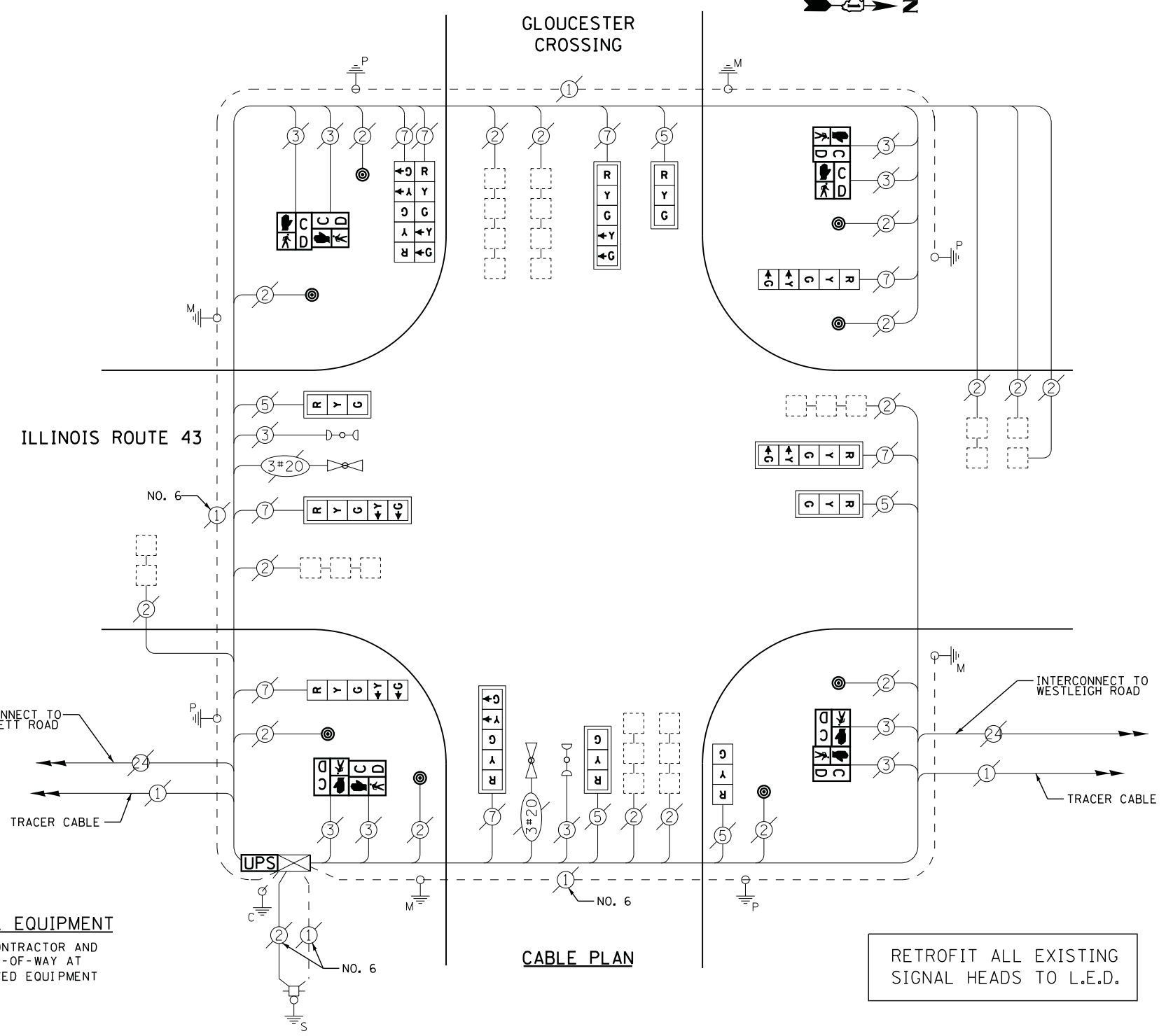
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 8 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT



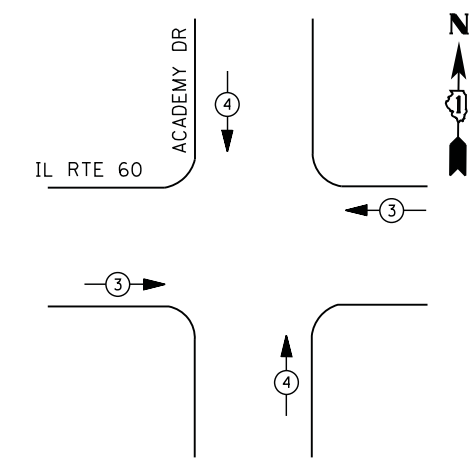
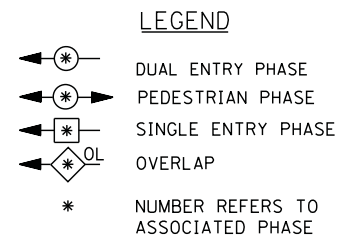
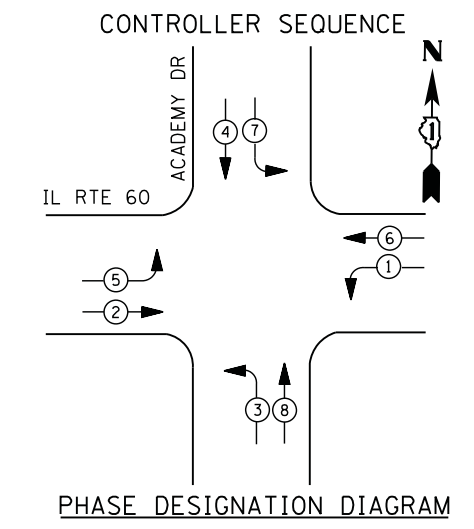
CABLE PLAN

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEADS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.





EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

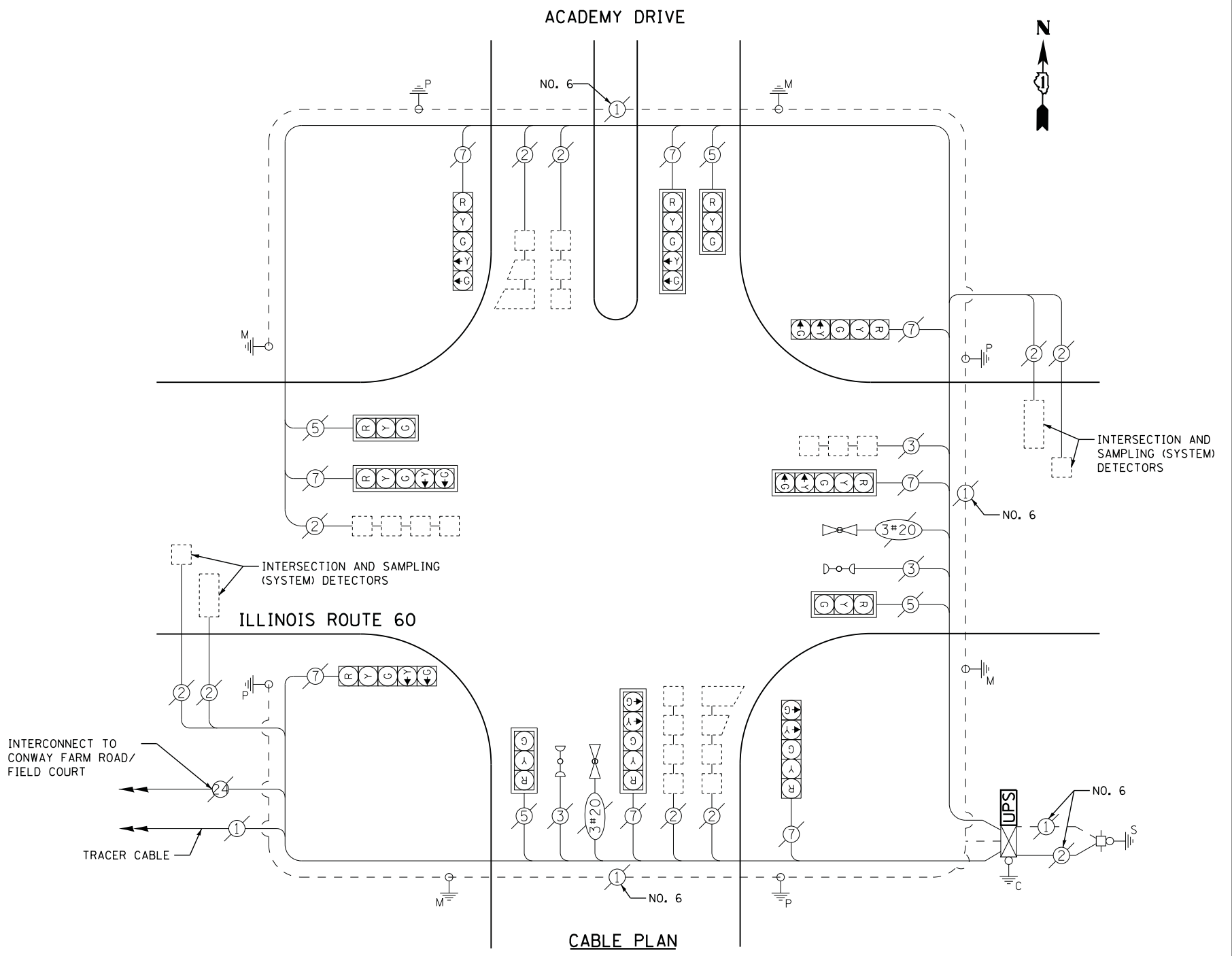
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					341

ENERGY COSTS- BILLED TO: CITY OF LAKE FOREST  
 220 E. DEERPATH  
 LAKE FOREST, IL 60045

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



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 PLOT SCALE = \*SCALE\*  
 PLOT DATE = 3/28/2012

DESIGNED - DW  
 DRAWN - JDH  
 CHECKED - KMM  
 DATE -  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

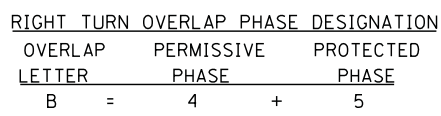
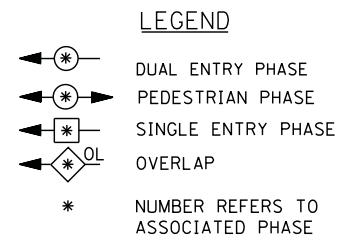
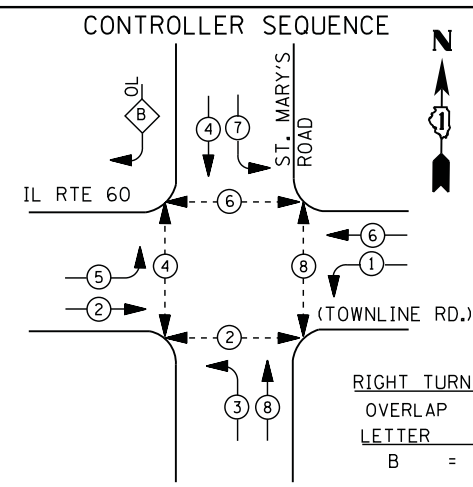
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 60 & ACADEMY DRIVE - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

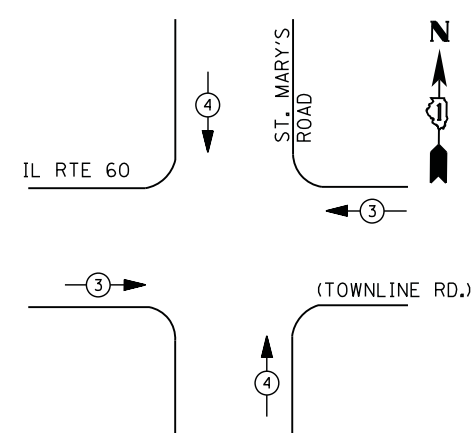
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	97

CONTRACT NO. 60T41  
 ILLINOIS FED. AID PROJECT

TS# 11708  
 LAKE FOREST



PHASE DESIGNATION DIAGRAM



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	15	150	17	0.50	128
( YELLOW )	15		25	0.25	94
( GREEN )	15		15	0.25	56
ARROW	20		12	0.10	24
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
ILLUM. SIGN			25	0.05	--
VIDEO SYSTEM			-	1.00	150
TOTAL =					752

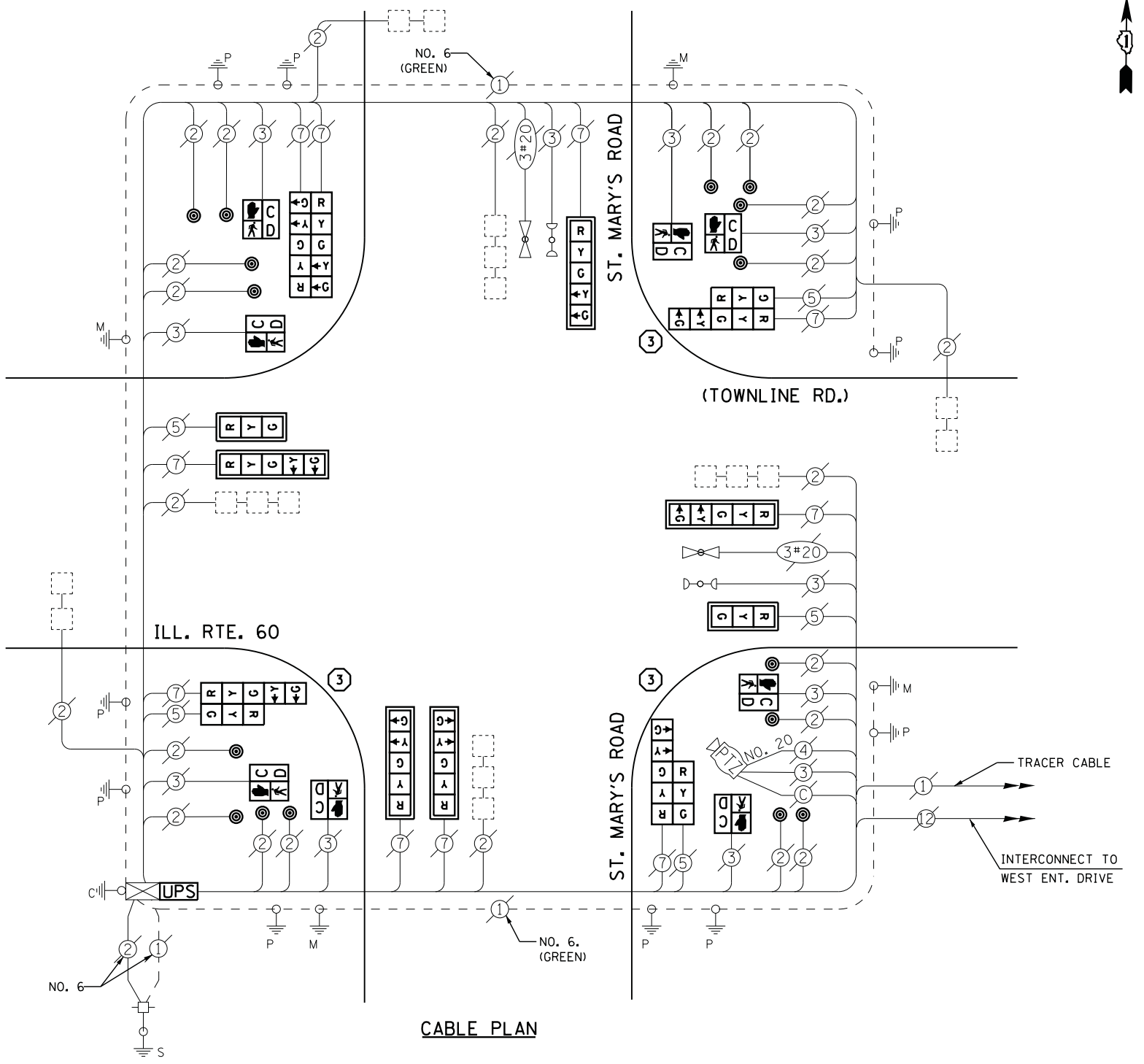
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
7	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
16	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL

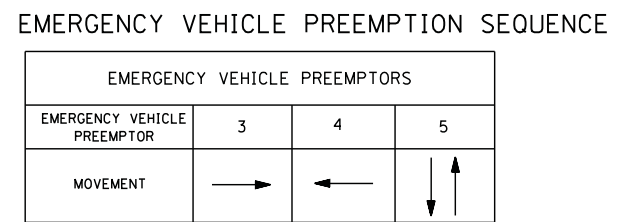
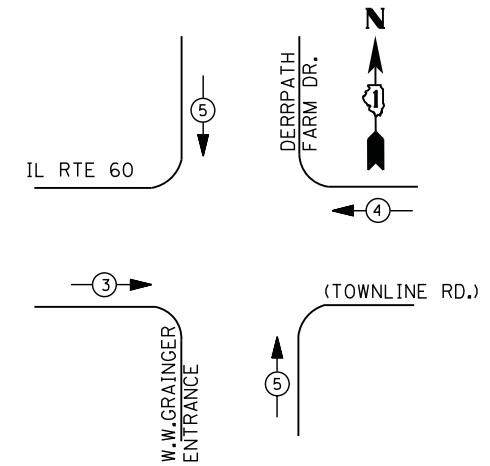
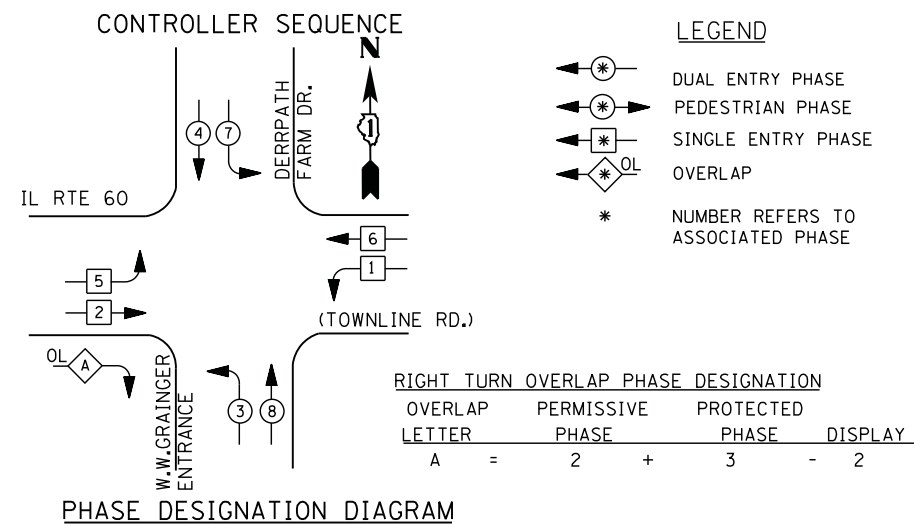
CABLE PLAN



REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

- THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.
- 5 EACH SIGNAL HEAD, 3 - SECTION
  - 10 EACH SIGNAL HEAD, 5 - SECTION
  - 7 EACH TRAFFIC SIGNAL BACKPLATE
  - 3 EACH STEEL POST
  - 16 EACH PEDESTRIAN PUSH-BUTTON
  - 8 EACH PEDESTRIAN SIGNAL HEAD

TS# 6895  
 METTAWA



### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

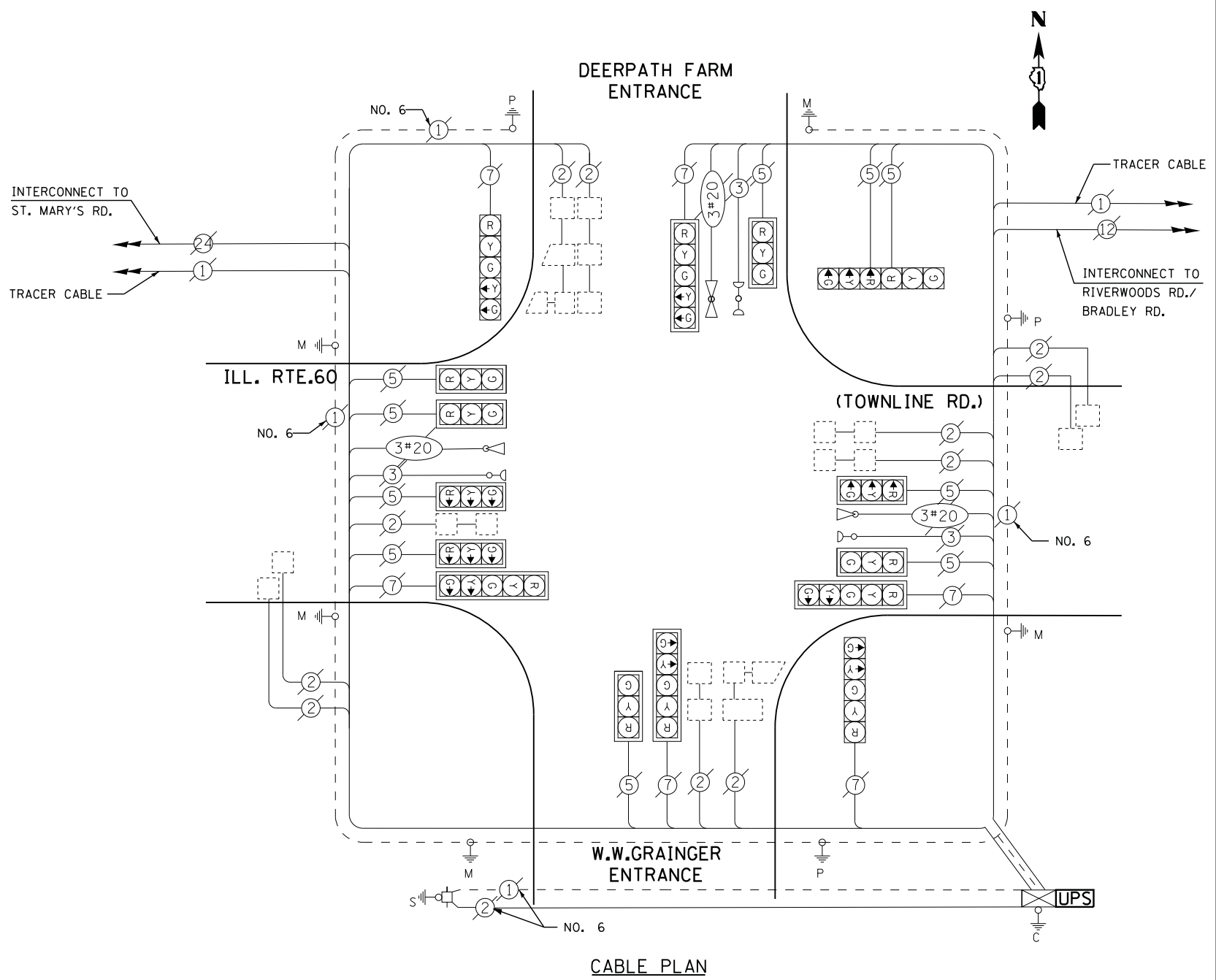
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	16	135	17	0.50	136
( YELLOW )	16	135	25	0.25	100
( GREEN )	16	135	15	0.25	60
ARROW	12	135	12	0.10	14
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					410

ENERGY COSTS- BILLED TO: VILLAGE OF METTAWA  
 26225 N. RIVERWOODS BLVD.  
 METTAWA, IL 60045

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
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	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 3/28/2012	DATE -	REVISED -

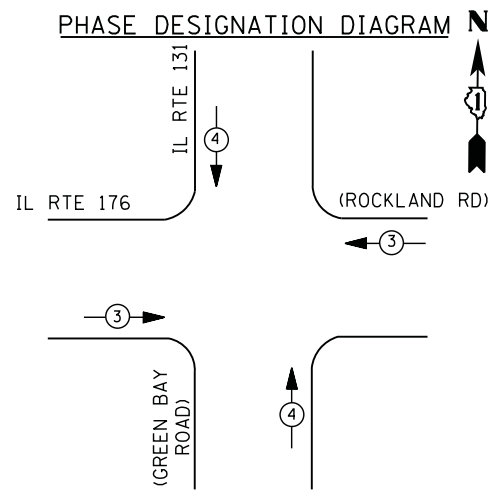
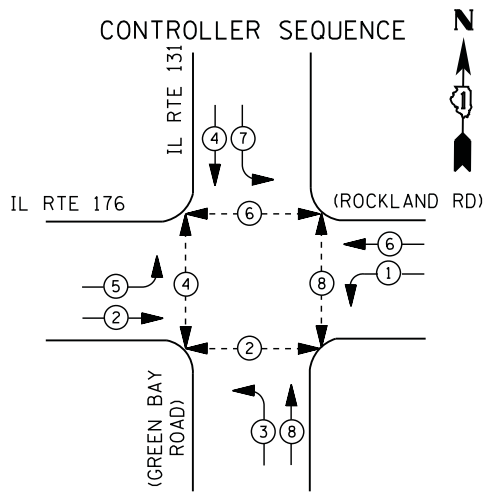
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL RTE. 60 AND W.W. GRAINGER ENT. - CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	99
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 11701  
 METTAWA



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

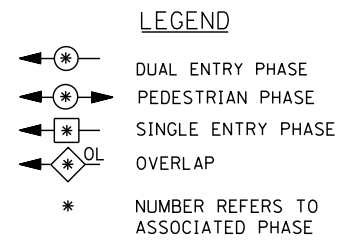
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					541

ENERGY COSTS- **BILLED TO: VILLAGE OF LAKE BLUFF**  
 40 E. CENTER AVENUE  
 LAKE BLUFF, IL 60044

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



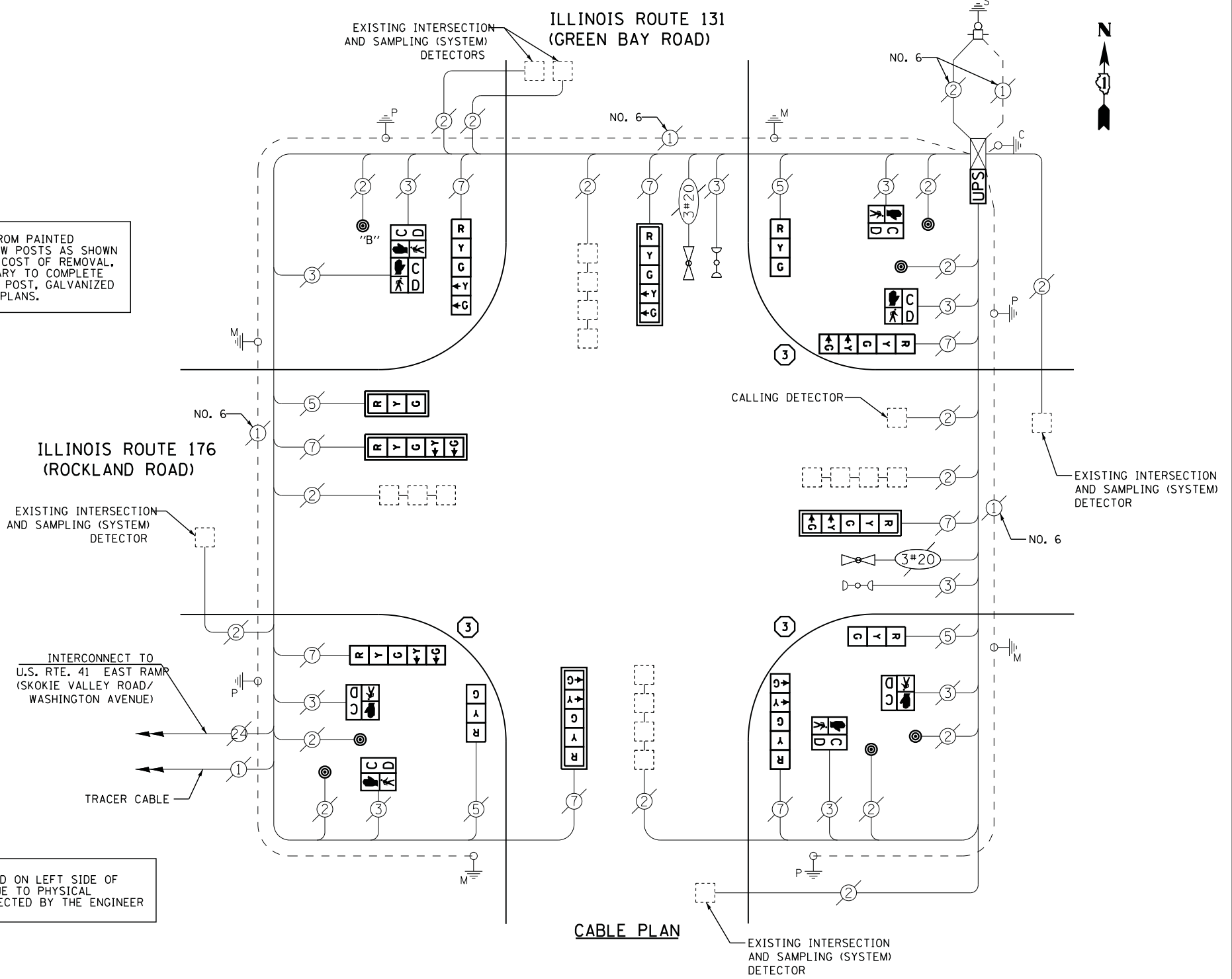
CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
5	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

NOTE: PUSH BUTTON "B" SHALL PLACE A CALL IN PHASED 4 AND 6

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	SIGNAL HEAD, 3 - SECTION
8	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	PEDESTRIAN SIGNAL HEAD
7	EACH	PEDESTRIAN PUSH-BUTTON
5	EACH	TRAFFIC SIGNAL BACKPLATE
3	EACH	SIGNAL POST

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	PLOT DATE = 5/8/2012	DATE -	REVISED -

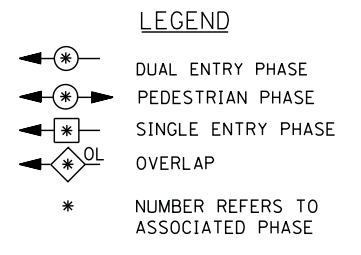
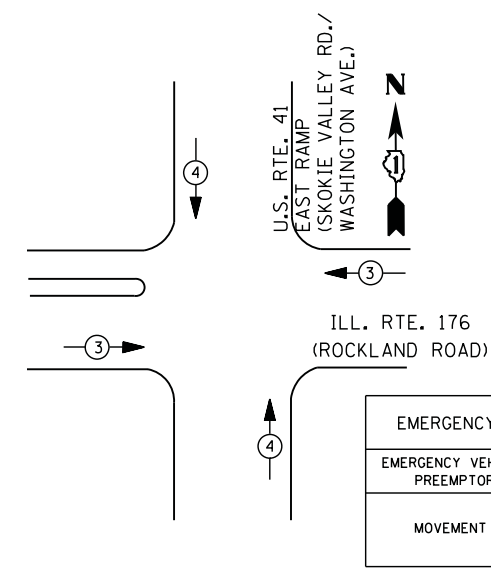
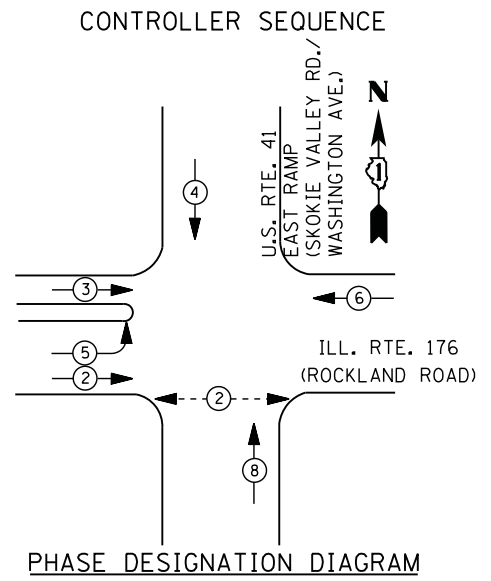
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL RTE. 131 (GREEN BAY RD) & IL RTE. 176 (ROCKLAND RD)- CABLE PLAN,  
 SCHEDULE OF QUANTITIES, PHASE DESIGN. DIAGRAM & EVP SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-003 I	LAKE	102	100
CONTRACT NO. 60T41				
ILLINOIS FED. AID PROJECT				

TS# 7020  
 LAKE BLUFF



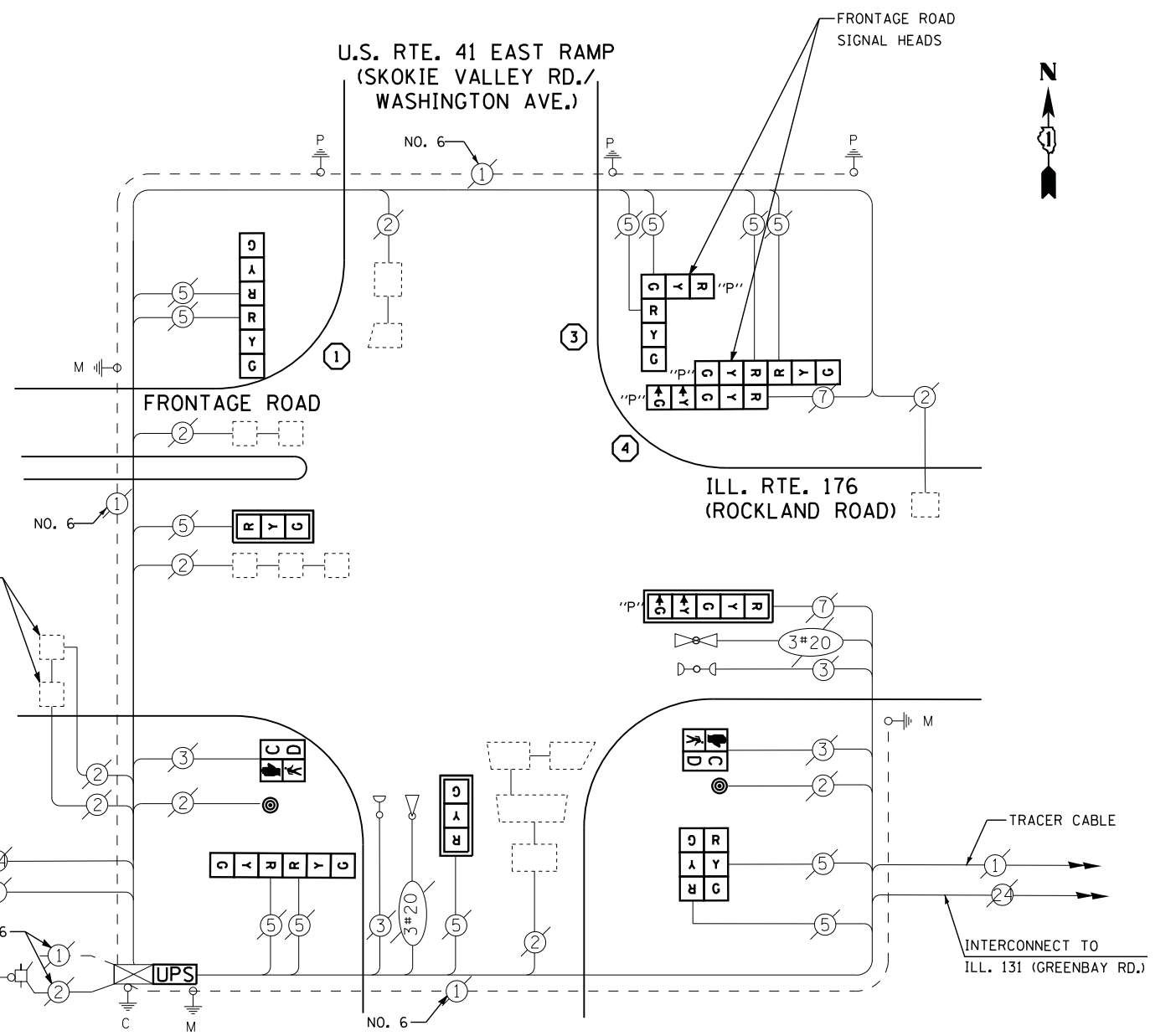
CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

INTERCONNECT TO U.S. RTE. 41 WEST RAMP (SHAGBARK RD./WASHINGTON AVE.)

TRACER CABLE



I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					415

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

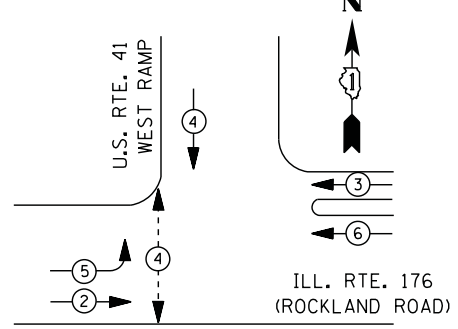
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
1	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-3 SECTION, BRACKET MOUNTED
1	EACH	COMBINATION SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION OPTICALLY PROGRAMMED, 1-3 SECTION, BRACKET MOUNTED

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

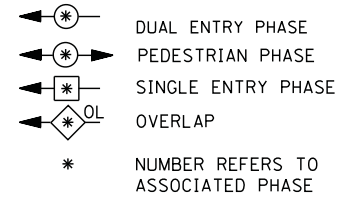
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

12	EACH	SIGNAL HEAD, 3 - SECTION
2	EACH	SIGNAL HEAD, 5 - SECTION
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
3	EACH	SIGNAL POST
3	EACH	TRAFFIC SIGNAL BACKPLATE

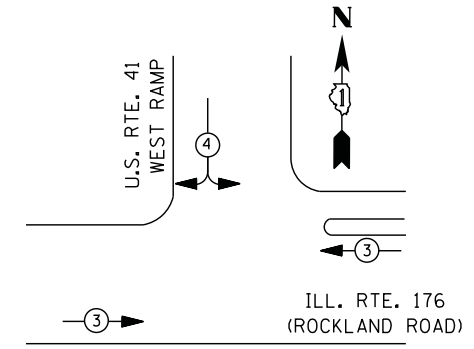
**CONTROLLER SEQUENCE**



**LEGEND**



**PHASE DESIGNATION DIAGRAM**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↖ ↗

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	11	135	17	0.50	94
( YELLOW )	11	135	25	0.25	69
( GREEN )	11	135	15	0.25	41
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					359

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

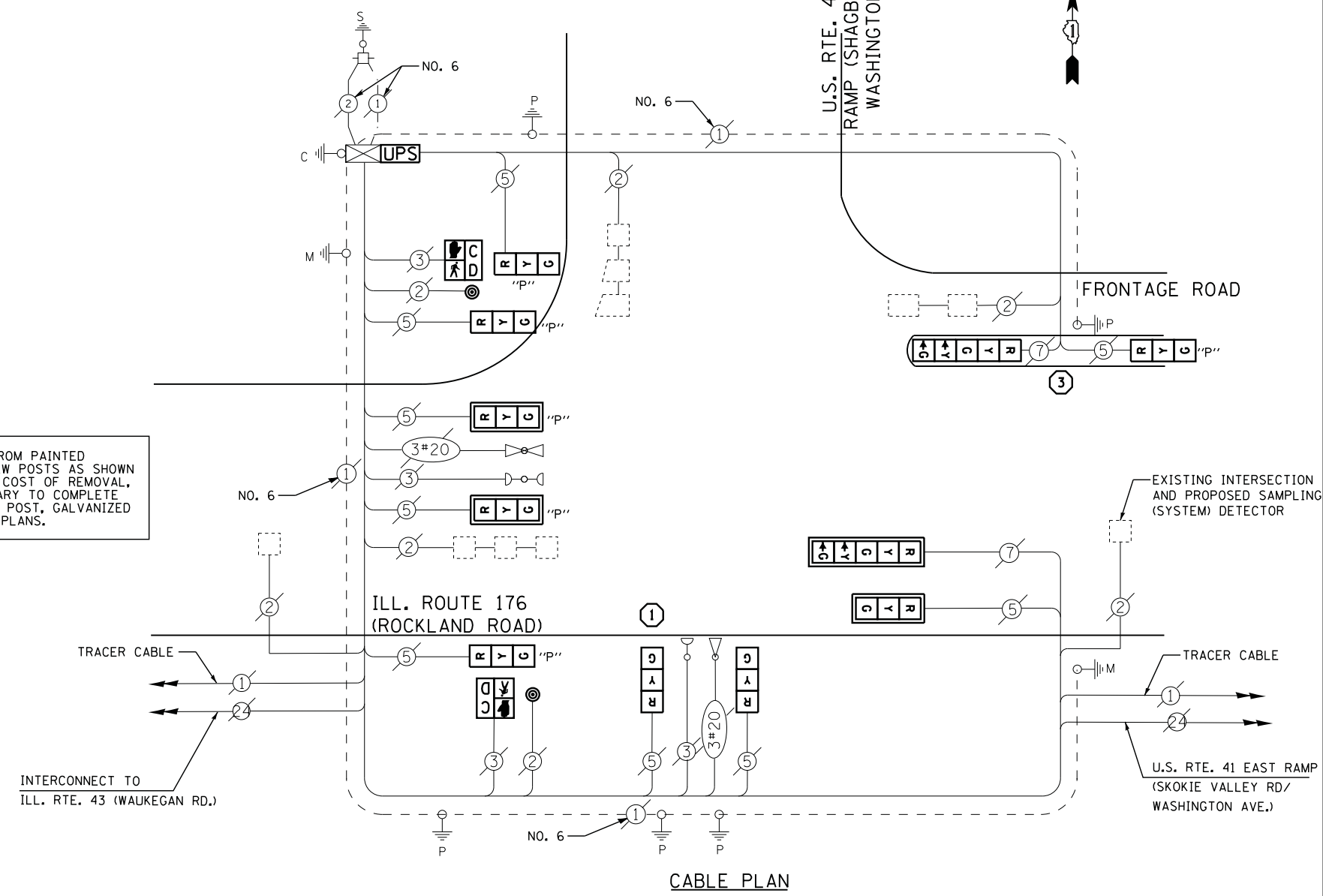
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
3	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
1	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

9	EACH	SIGNAL HEAD, 3 - SECTION
2	EACH	SIGNAL HEAD, 5 - SECTION
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
2	EACH	SIGNAL POST
4	EACH	TRAFFIC SIGNAL BACKPLATE



INTERCONNECT TO ILL. RTE. 43 (WAUKEGAN RD.)

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTOR

U.S. RTE. 41 EAST RAMP (SKOKIE VALLEY RD/ WASHINGTON AVE.)

**CABLE PLAN**

TS# 12280  
LAKE BLUFF