

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3792	21-00165-00-TL	KENDALL	3	1
		ILLINOIS	CONTRACT NO.	

**KENDALL COUNTY  
HIGHWAY DEPARTMENT**

**PLANS FOR PROPOSED  
TRAFFIC SIGNAL MODIFICATION**

**FAU ROUTE 3792  
SECTION 21-00165-00-TL  
NORTHBOUND MAST ARM REPLACEMENT**

**LIST OF HIGHWAY STANDARDS**

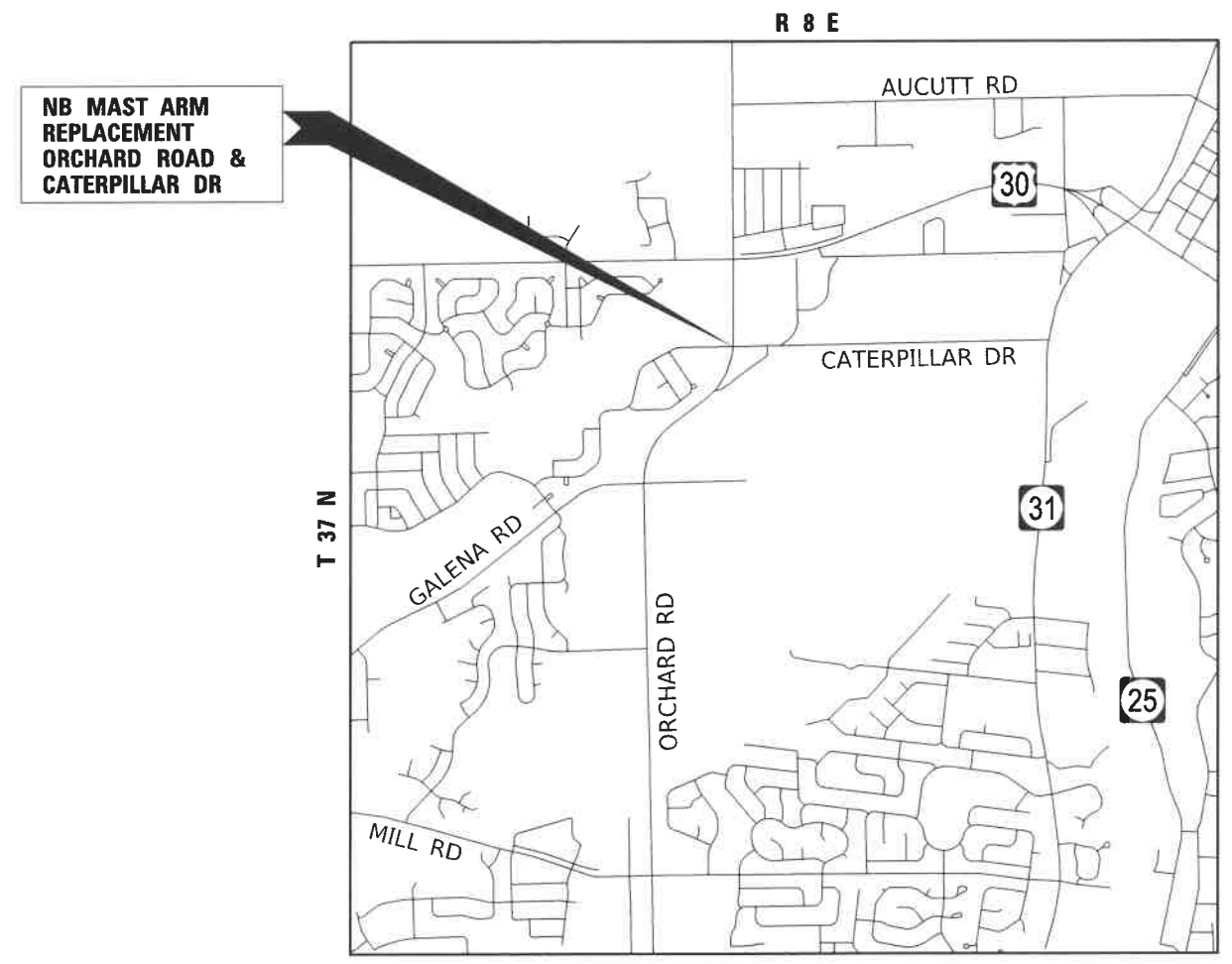
- 701101-05 OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 M) TO 24' (600 MM) FROM PAVEMENT EDGE
- 701106-02 OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
- 701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 TRAFFIC SIGNAL MODIFICATION PLAN AND SCHEDULE OF QUANTITIES
- 3 CABLE PLAN AND PHASE DESTINATION DIAGRAM

**TRAFFIC DATA**

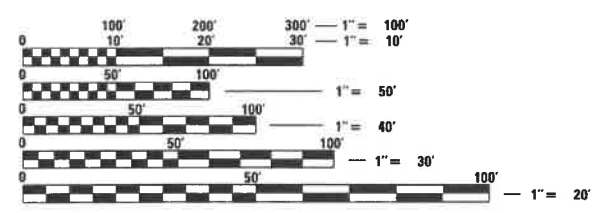
- ORCHARD ROAD  
DESIGN DESIGNATION: MINOR ARTERIAL  
ADT: 23,200 (2019)  
DESIGN SPEED: 45 MPH  
POSTED SPEED: 45 MPH
- CATERPILLAR DRIVE  
DESIGN DESIGNATION: LOCAL ROAD  
ADT: 4,550 (2019)  
DESIGN SPEED: 30 MPH  
POSTED SPEED: 30 MPH



**LOCATION MAP  
(NOT TO SCALE)**

**IMPROVEMENTS LIMITED TO INTERSECTION**  
GROSS LENGTH = NA  
NET LENGTH = NA

ANTHONY P. SIMMONS, P.E.  
NO. 062-058414  
EXPIRES: 11/30/2021  
HR GREEN, INC.



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 EXCAVATORS**  
1-800-892-0123  
OR 811

**AGENCY RESPONSIBLE FOR LETTING**

APPROVED *October 19, 2021*  
*[Signature]*  
KENDALL COUNTY ENGINEER

2363 SEQUOIA DRIVE, SUITE 101 | AURORA, ILLINOIS 60506  
Phone: 630.553.7560 | Toll Free: 800.728.7805 | Fax: 630.553.7646 | HRGreen.com  
ILLINOIS PROFESSIONAL DESIGN FIRM #184-001322

CODE NUMBER	PAY ITEM DESCRIPTION	UNIT	ORCHARD ROAD AT CATERPILLAR DRIVE
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1
81028370	UNDERGROUND CONDUIT, PVC, 3" DIA.	FOOT	28
81702450	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 10	FOOT	276
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	281
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	526
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	513
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	36
87702950	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT.	EACH	1
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
87900200	DRILL EXISTING HANDHOLE	EACH	1
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	2
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	1
88200410	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	4
89501250	RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
89502200	MODIFY EXISTING CONTROLLER	EACH	1
89502220	MODIFY EXISTING CONCRETE FOUNDATION	EACH	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2244
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	281
	RADAR CABLE, COMPLETE	FOOT	281

NOTES:

- ALL EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL REMAIN IN OPERATION WHILE THE NEW MAST ARM, SIGNAL HEADS, FOUNDATION AND ELECTRIC CABLE ARE INSTALLED.
- THE PROPOSED RADAR DETECTION CABLE SHALL INCLUDE ALL REQUIRED CABLES NEEDED TO FULLY OPERATE THE RADAR DETECTION DEVICE. THE CABLES SHALL BE VERIFIED TO MATCH THE EXISTING CABLES PRIOR TO ORDERING.
- THE EXISTING MAST ARM FOUNDATION IN THE NORTHEAST CORNER SHALL BE REMOVED DOWN TO A MINIMUM OF ONE FOOT BELOW GRADE. THIS WORK WILL BE PAID FOR AT THE UNIT PRICE PER EACH FOR MODIFY EXISTING CONCRETE FOUNDATION.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL BECOME THE PROPERTY OF THE KENDALL COUNTY HIGHWAY DEPARTMENT AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE KENDALL COUNTY HIGHWAY DEPARTMENT. THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPARATELY).

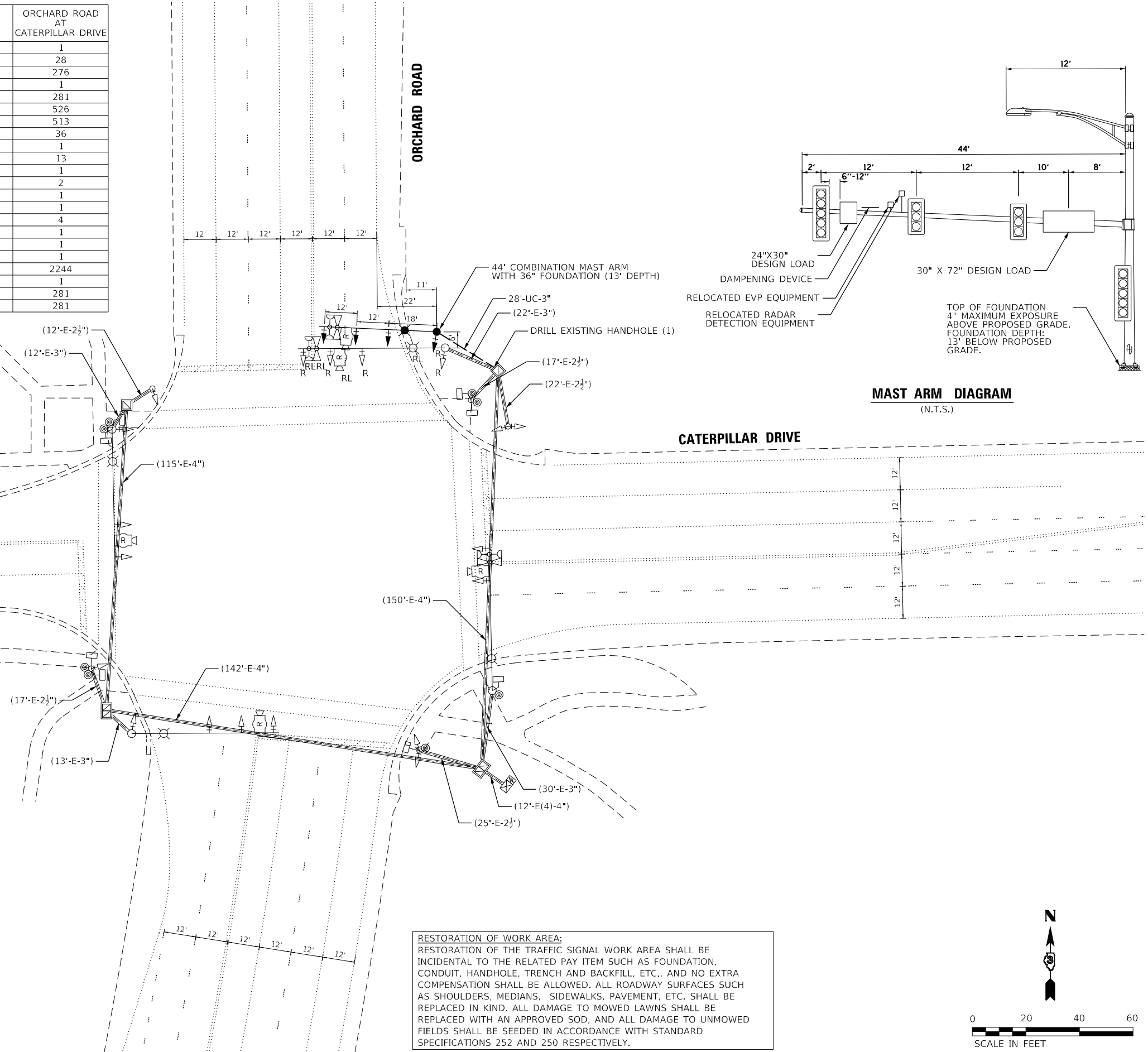
- 4 EACH TRAFFIC SIGNAL HEADS
- 4 EACH TRAFFIC SIGNAL BACKPLATES

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE RIGHT-OF-WAY AT HIS EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPARATELY).

- 1 EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE

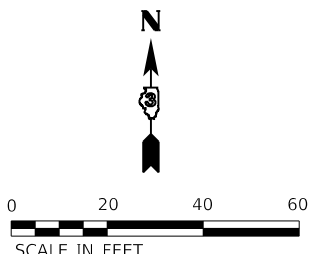
THE FOLLOWING ITEMS SHALL BE RELOCATED BY THE CONTRACTOR FROM THE EXISTING MAST ARM IN THE NORTHEAST CORNER TO THE PROPOSED MAST ARM, AND SHALL CONFIRMED TO BE IN WORKING ORDER. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT. THE REPLACEMENT OF ELECTRIC CABLE WILL BE PAID FOR SEPARATELY.

- 1 EACH EVP EQUIPMENT (LIGHT DETECTOR AND CONFIRMATION BEACON)
- 1 EACH RADAR EQUIPMENT
- 1 EACH LUMINAIRE
- 1 EACH MAST ARM MOUNTED STREET NAME SIGN
- 1 EACH R10-12 SIGN



**RESTORATION OF WORK AREA:**  
 RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**MAST ARM DIAGRAM**  
(N.T.S.)



HRG PROJECT NO. 210903  
 HRG PROJ. CONTACT:  
 FILE NAME: 210903\_S1901.dgn  
 PEN TABLE: 1901.tbl



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PLOT SCALE = 40.0000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 10/19/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**KENDALL COUNTY  
HIGHWAY DEPARTMENT**

**TRAFFIC SIGNAL MODERNIZATION PLAN  
AND SCHEDULE OF QUANTITIES**

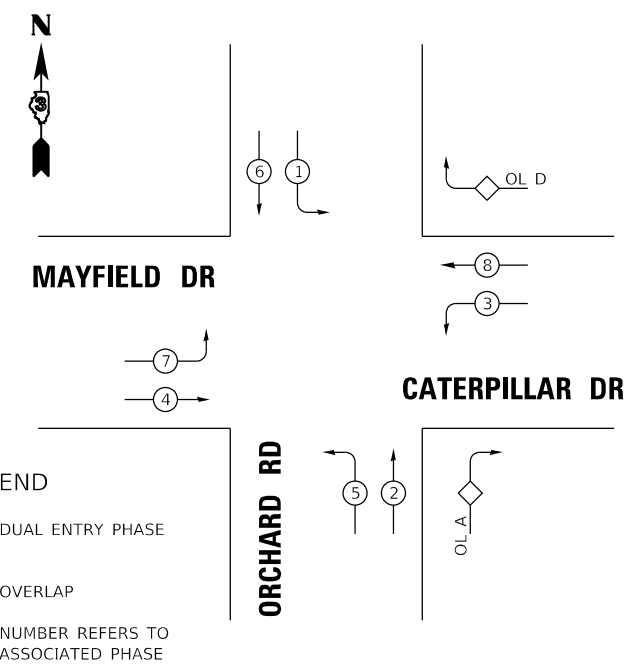
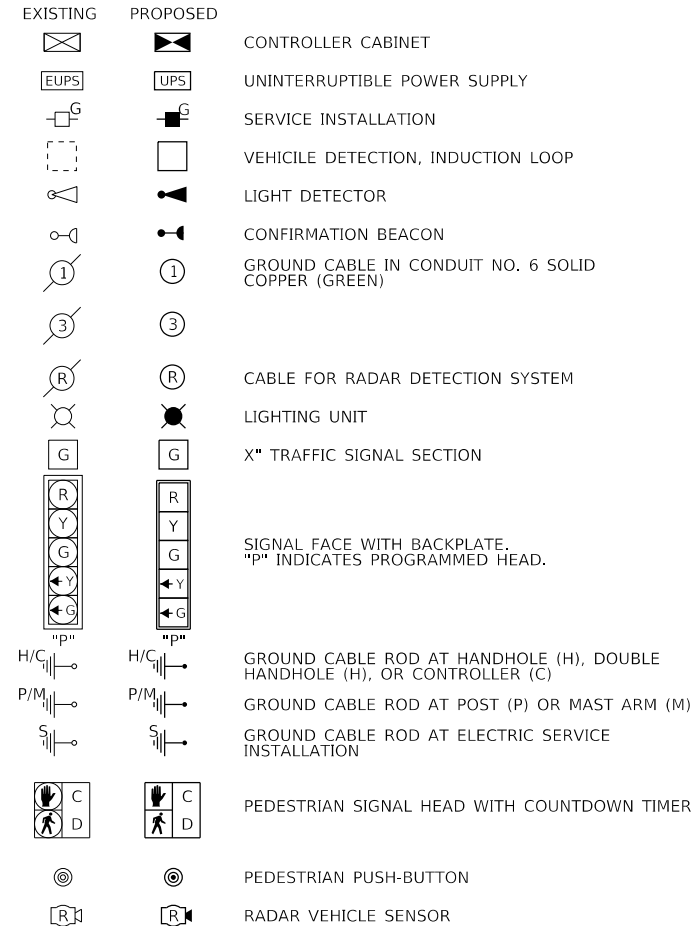
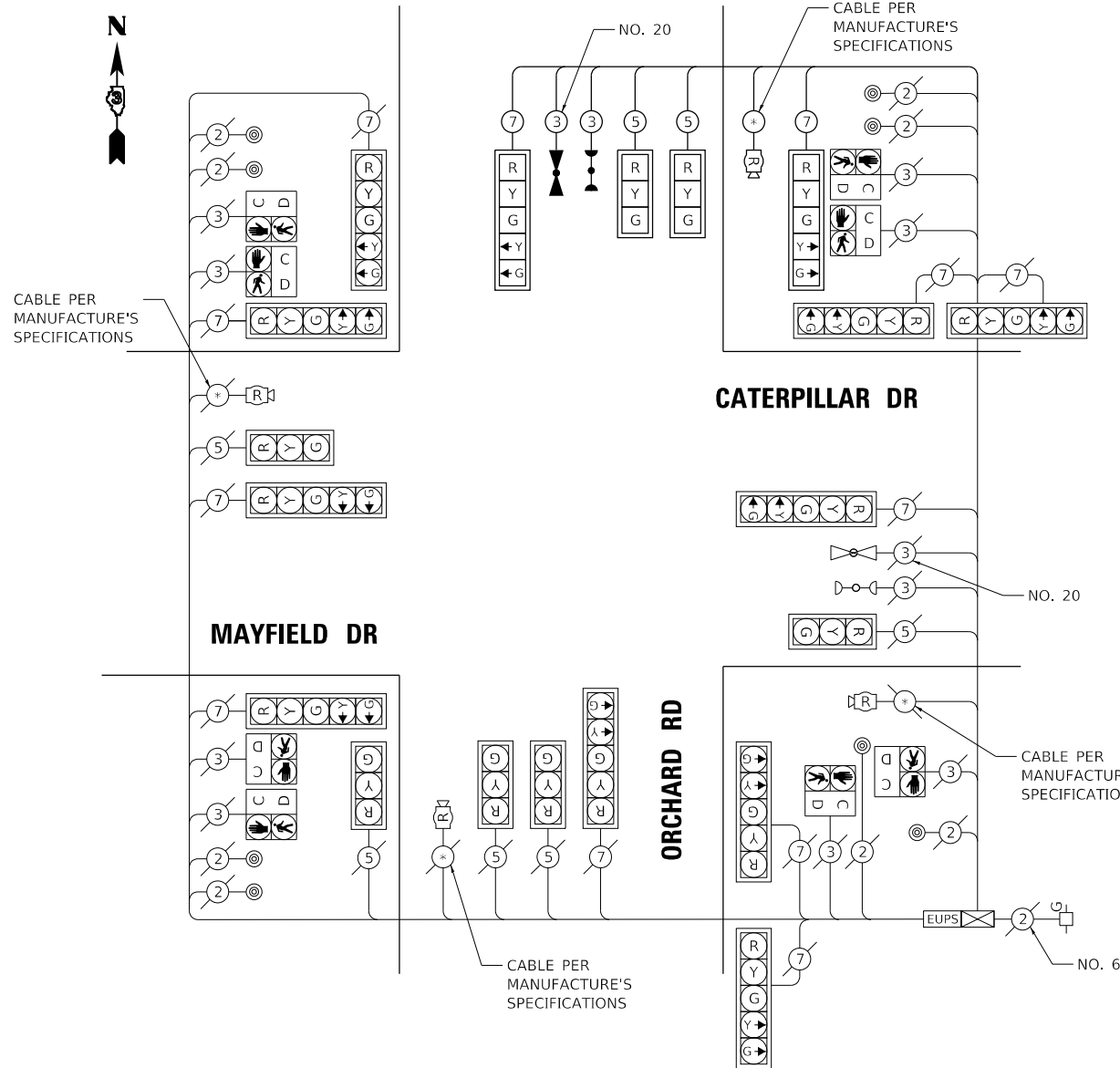
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3792	21-00165-00-TL	KENDALL	3	2
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

**CABLE PLAN**  
N.T.S.

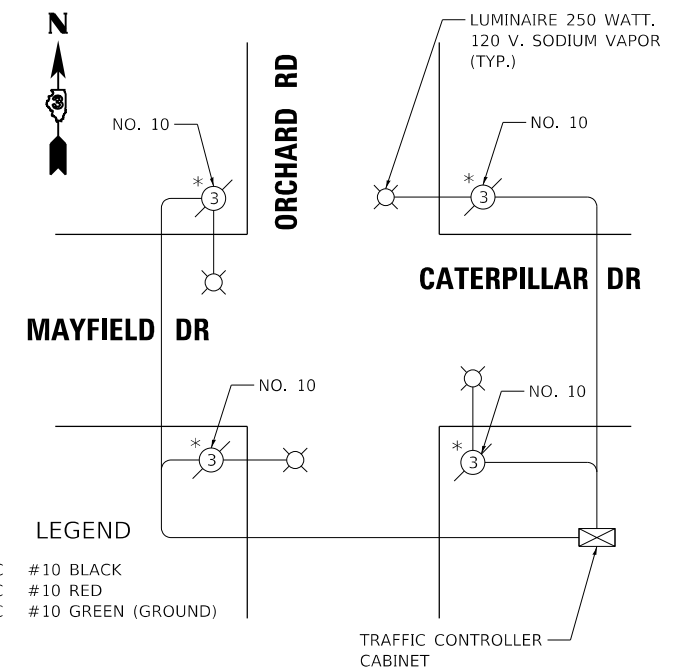
**CABLE DIAGRAM LEGEND**

**CONTROLLER SEQUENCE**  
N.T.S.

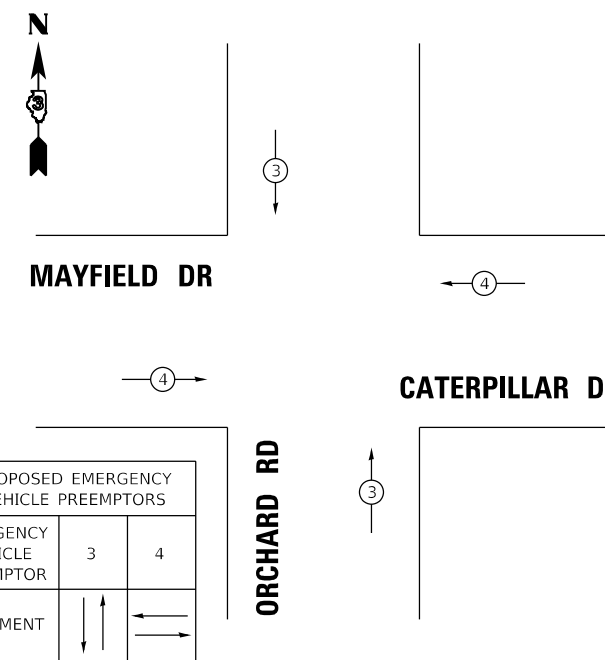


**PHASE DESIGNATION DIAGRAM**

**LIGHTING CABLE PLAN**  
N.T.S.



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**  
N.T.S.



IDOT TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	
		INCAND.	LED		
SIGNAL (RED)	19		12	0.50	114.00
(YELLOW)	19		12	0.25	57.00
(GREEN)	19		12	0.25	57.00
ARROW	24		12	0.10	20.80
PED SIGNAL	8		25	1.00	200.00
CONTROLLER	1		100	1.00	100.00
ELUM SIGN				0.05	
BATTERY BACKUP	1		25	1.00	25.00
LUMINAIRE	4	250		0.50	500.00
RADAR SYSTEM	1		25	1.00	25.00
FLASHER				0.50	
TOTAL					1098.80

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.1)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6.1 + L - 1.0 =)
E - MAST ARM POLE		SIGNAL POST	2 (1.0)		
< 30' MA 30" DIA.	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
< 40' MA 30" DIA.	13.5 (4.1)	FIBER OPTIC	13 (4.0)	PED. PUSH BUTTON	4 (1.2)
< 40' MA 36" DIA.	11 (3.4)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
< 50' MA 36" DIA.	13 (4.0)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
> 50' MA 36" DIA.	15 (4.6)			POST MOUNTED	5 (1.8)

HRG PROJECT NO. 210903  
HRG PROJ. CONTACT:  
FILE NAME: 210903\_csp01.dgn  
PEN TABLE: sp10tab01.tbl



USER NAME = amiller	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/19/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**KENDALL COUNTY  
HIGHWAY DEPARTMENT**

**CABLE PLAN AND  
PHASE DESTINATION DIAGRAM**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE. 3792	SECTION 21-00165-00-TL	COUNTY KENDALL	TOTAL SHEETS 3	SHEET NO. 3
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				