

DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	2	6' X 6'	6	355.0	2.64
2. NB THRU CCO	2	6' X 6'	6	352.1	2.57
3. NB LT CD	5	6' X 50' (Q)	3 - 6 - 3	824.3	2.46
6. SB THRU CCO	6	6' X 6'	7	532.4	4.20
7. SB THRU CCO	6	6' X 6'	7	529.3	4.13
8. SB LT CD	1	6' X 50' (Q)	3 - 6 - 3	889.2	3.94

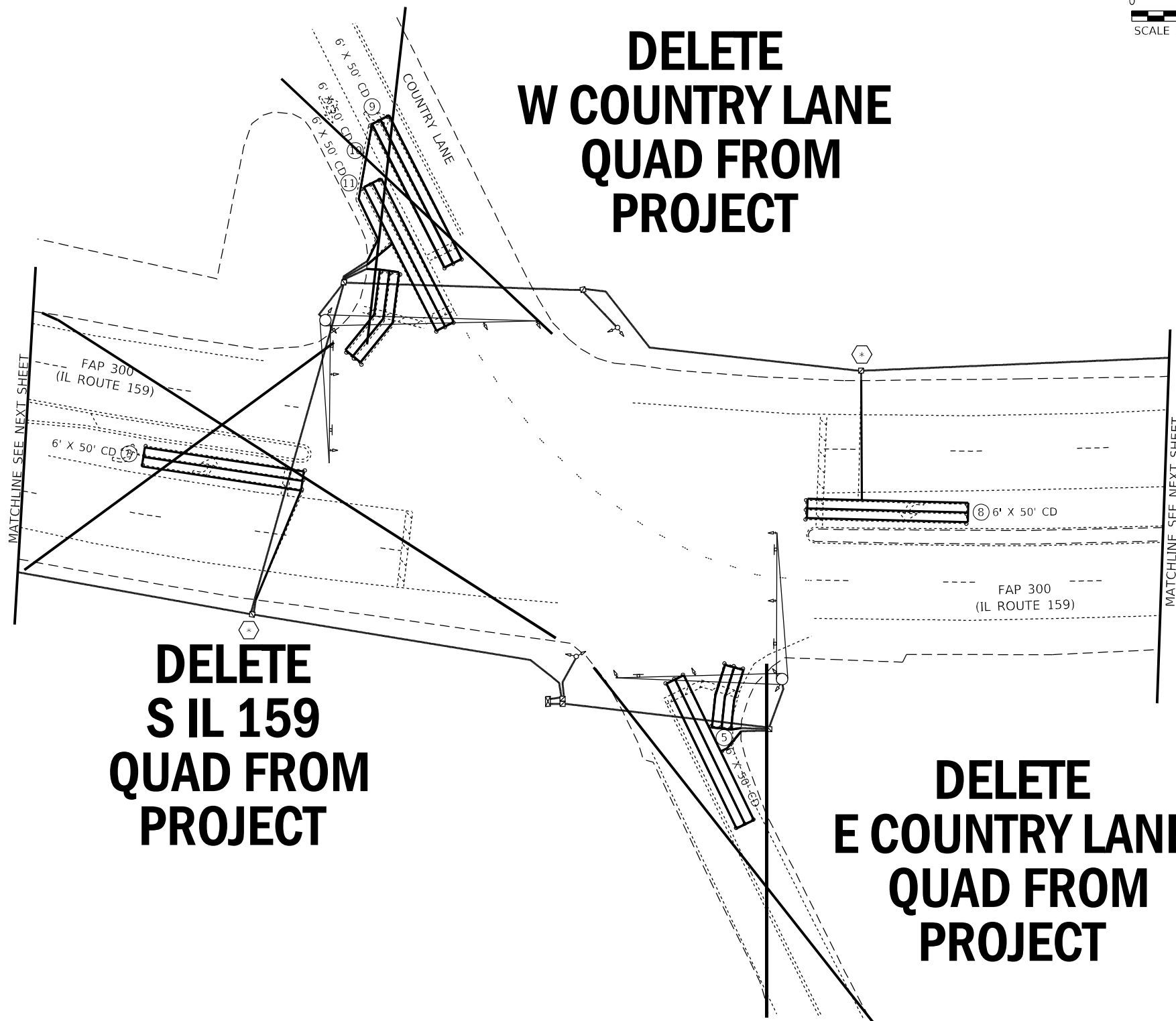
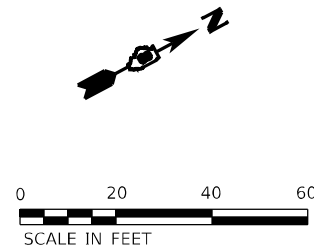
THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



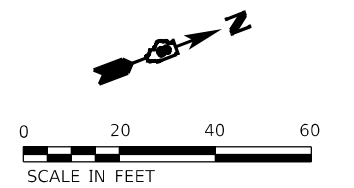
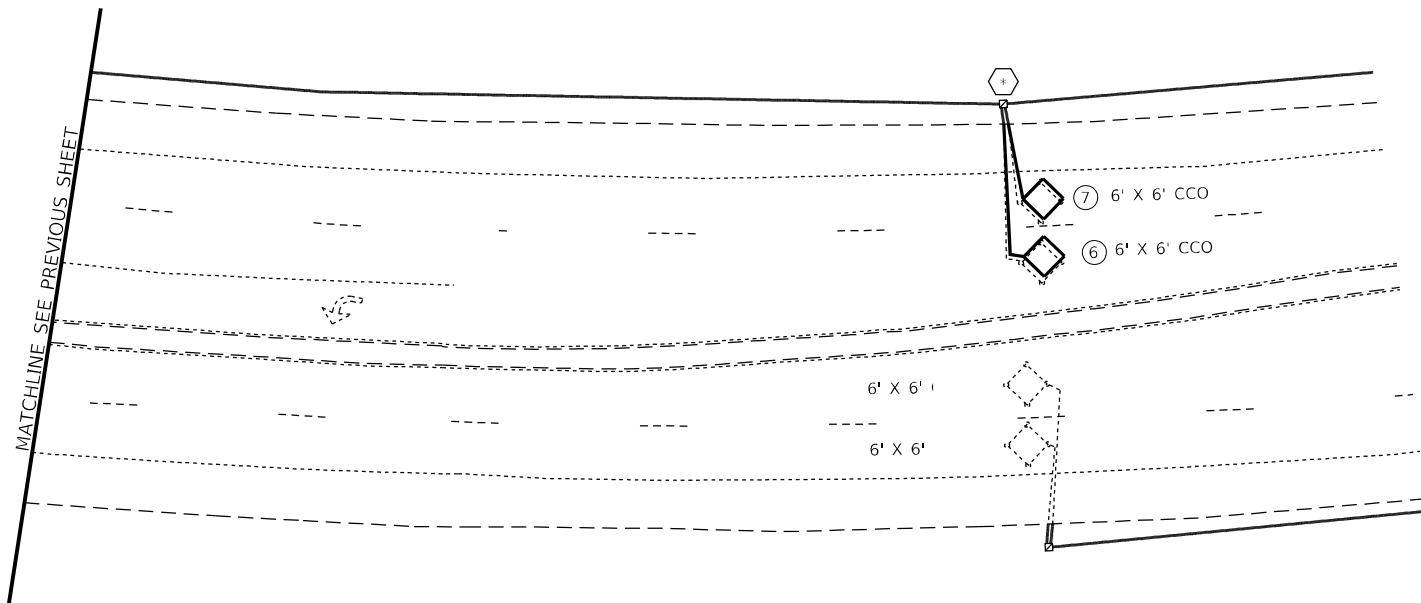
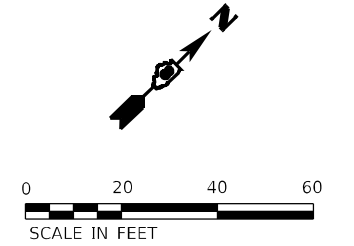
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	USER NAME = Default	DESIGNED - _____	REVISED - AMM-102522	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL ROUTE 159 AND COUNTRY LANE DETECTOR LOOP REPLACEMENT PLAN	F.A.P. RTE. = 600	SECTION = (122, 122-1, 30) R5-4	COUNTY = MADISON	TOTAL SHEETS = 328	SHEET NO. = 301
	PLOT SCALE = 40,0000 * / in.	CHECKED - _____	REVISED - _____			SCALE: 1"=20'	SHEET 6 OF 32 SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 76M87	
	PLOT DATE = 10/25/2022	DATE - _____	REVISED - _____							

DELETE

QUAD FROM
FAP 300
(IL ROUTE 15)

6' CCO ①



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		DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 159 AND COUNTRY LANE
DETECTOR LOOP REPLACEMENT PLAN

SCALE: 1"=20" SHEET 7 OF 32 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	302
CONTRACT NO. 76M87			ILLINOIS FED. AID PROJECT	

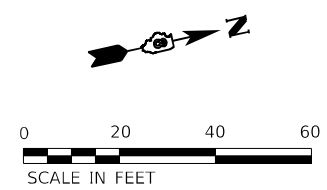
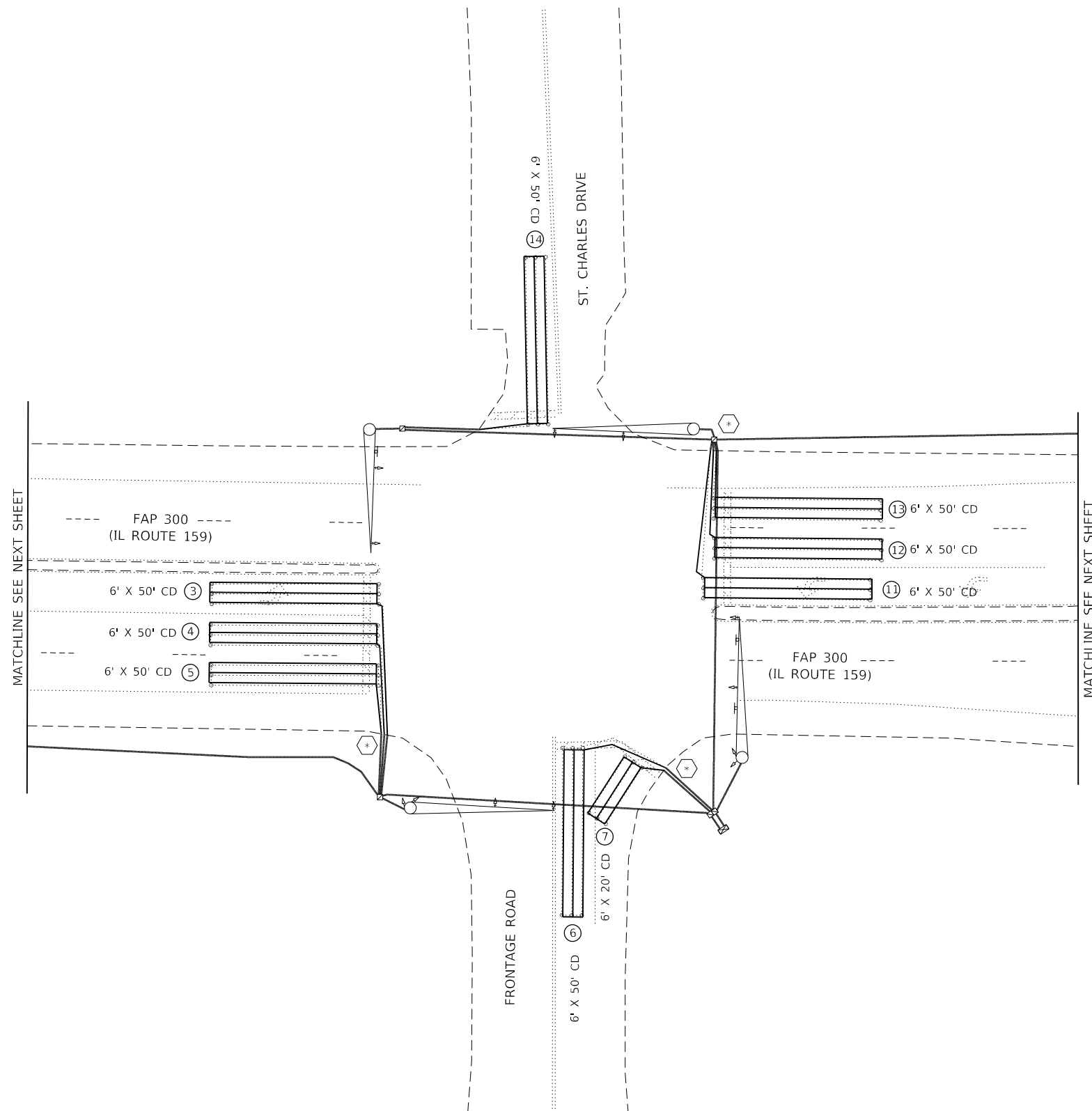
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1.	NB THRU CCO	6' X 6'	6	367.1	2.91
2.	NB THRU CCO	6' X 6'	6	364.4	2.85
3.	NB LT CD	6' X 50' (Q)	3 - 6 - 3	827.4	2.53
4.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	824.7	2.47
5.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	821.9	2.41
6.	WB THRU CD	6' X 50' (Q)	3 - 6 - 3	801.0	1.93
7.	WB RT CD	6' X 20' (Q)	3 - 6 - 3	346.8	0.94
8.	SB THRU CCO	6' X 6'	6	368.4	2.94
9.	SB THRU CCO	6' X 6'	6	365.5	2.88
10.	SB THRU CCO	6' X 6'	6	363.3	2.83
11.	SB LT CD	6' X 50' (Q)	3 - 6 - 3	826.7	2.52
12.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	823.8	2.45
13.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	821.2	2.39

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

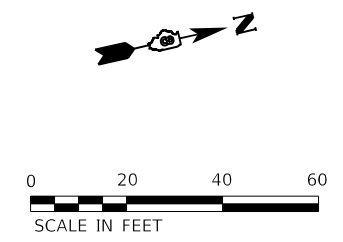
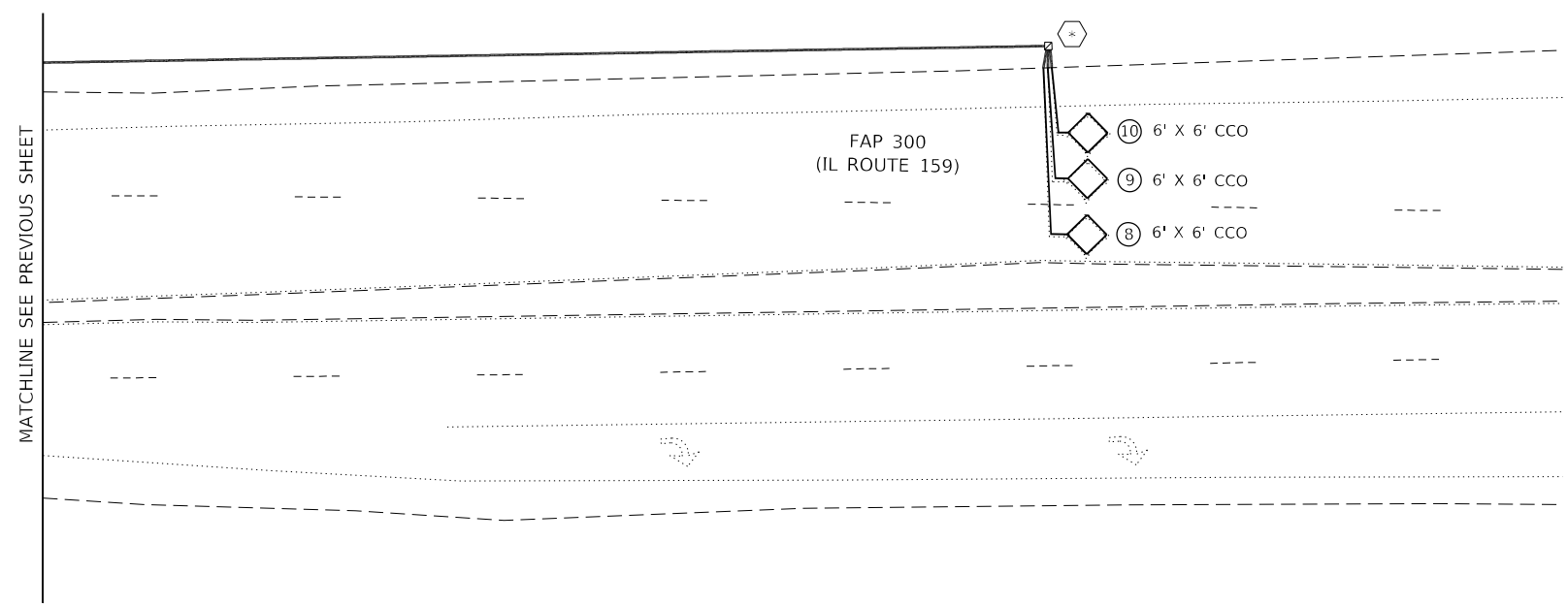
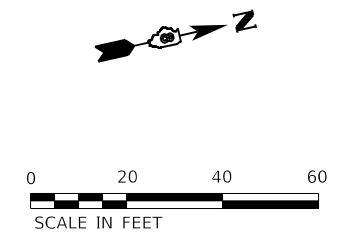
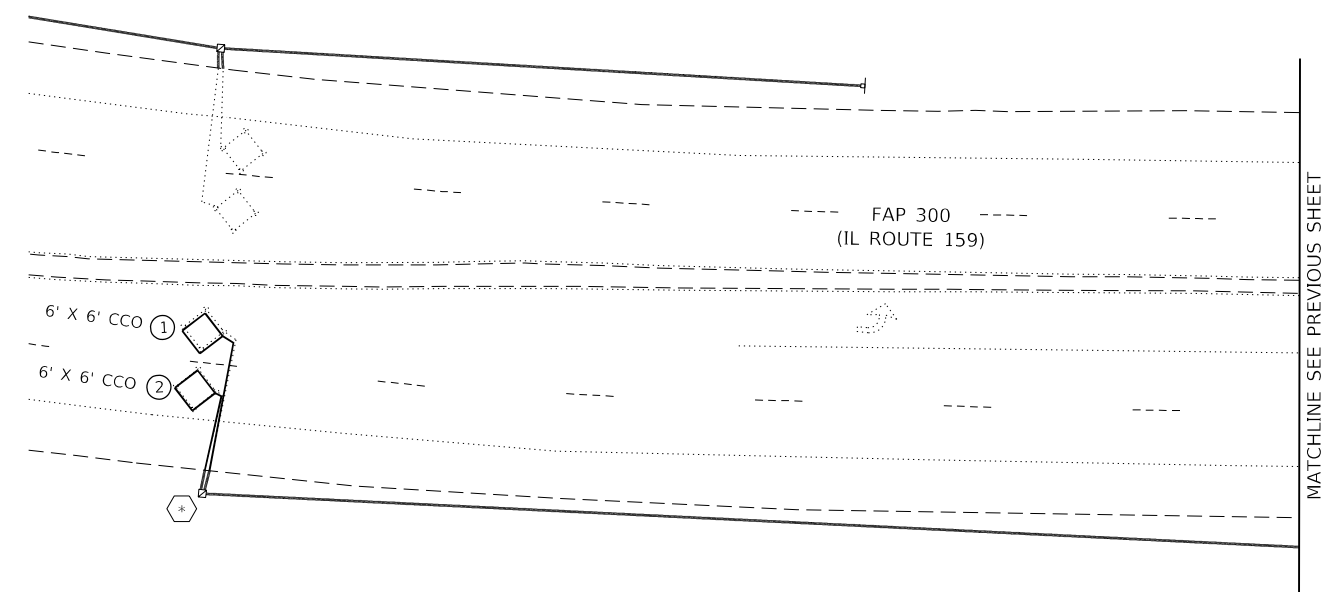
SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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	DATE -	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	303
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND ST. CHARLES DRIVE / FRONTAGE ROAD
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 9 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	304
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

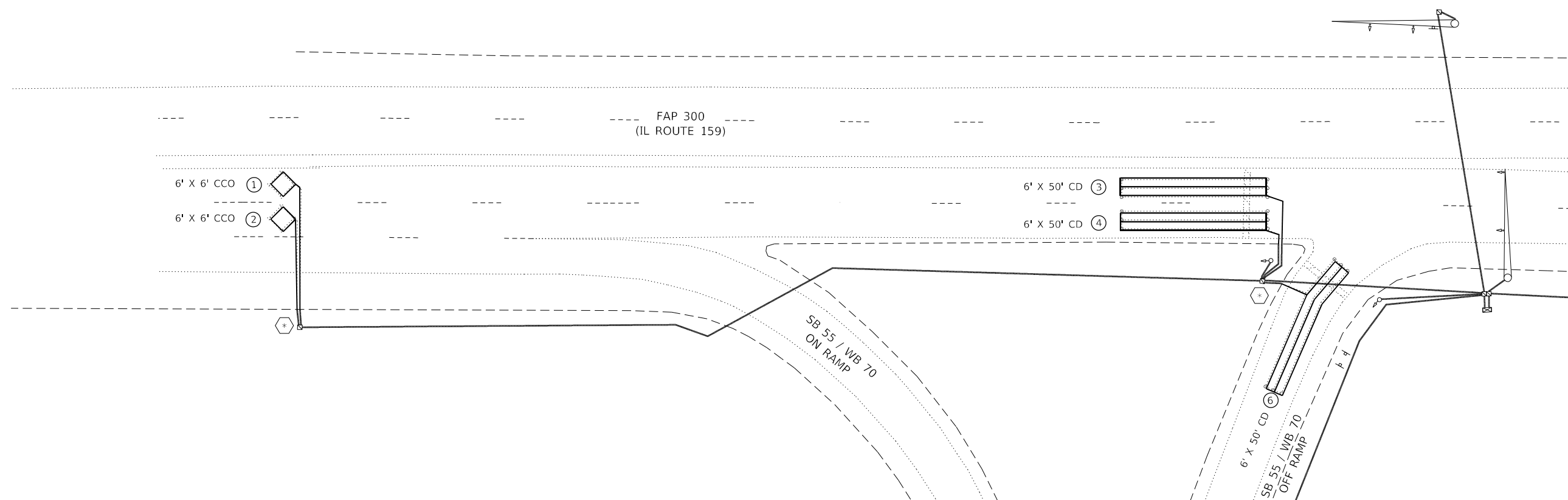
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	2	6' X 6'	6	364.7	2.86
2. NB THRU CCO	2	6' X 6'	6	361.8	2.79
3. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	817.7	2.31
4. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	814.8	2.25
6. WB RT CD	4	6' X 50' (Q)	3 - 6 - 3	813.1	2.21

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊛ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1.	NB THRU CCO	6' X 6'	6	357.2	2.69
2.	NB THRU CCO	6' X 6'	6	353.0	2.59
3.	NB LT CD	6' X 50' (Q)	3 - 6 - 3	839.2	2.80
4.	NB LT CD	6' X 50' (Q)	3 - 6 - 3	836.6	2.74
5.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	831.8	2.63
6.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	829.8	2.59
7.	NB RT CD	6' X 50' (Q)	3 - 6 - 3	828.2	2.55
8.	WB LT CD	6' X 50' (Q)	3 - 6 - 3	864.1	3.37
9.	WB THRU CD	6' X 50' (Q)	3 - 6 - 3	861.2	3.30
10.	WB THRU CD	6' X 50' (Q)	3 - 6 - 3	858.6	3.24
11.	SB THRU CCO	6' X 6'	6	376.5	3.13
12.	SB THRU CCO	6' X 6'	6	373.9	3.07
13.	SB RT CCO	6' X 6'	6	369.9	2.98
14.	SB LT CD	6' X 50' (Q)	3 - 6 - 3	843.4	2.90
15.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	840.6	2.83
16.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	837.7	2.77
17.	SB RT CD	6' X 50' (Q)	3 - 6 - 3	835.1	2.71

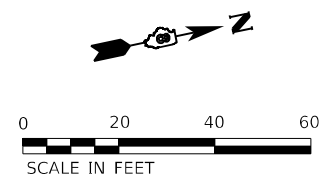
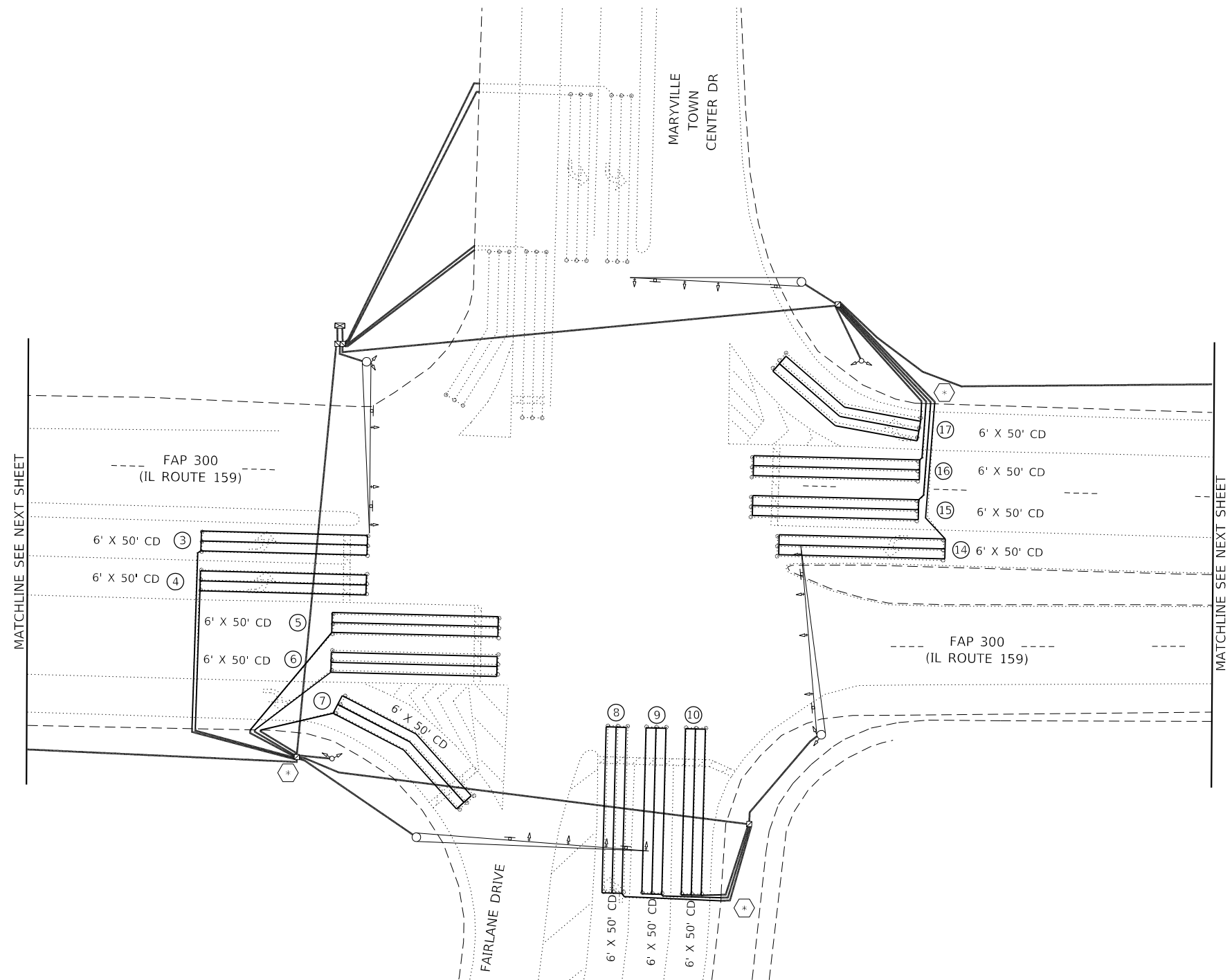
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Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.

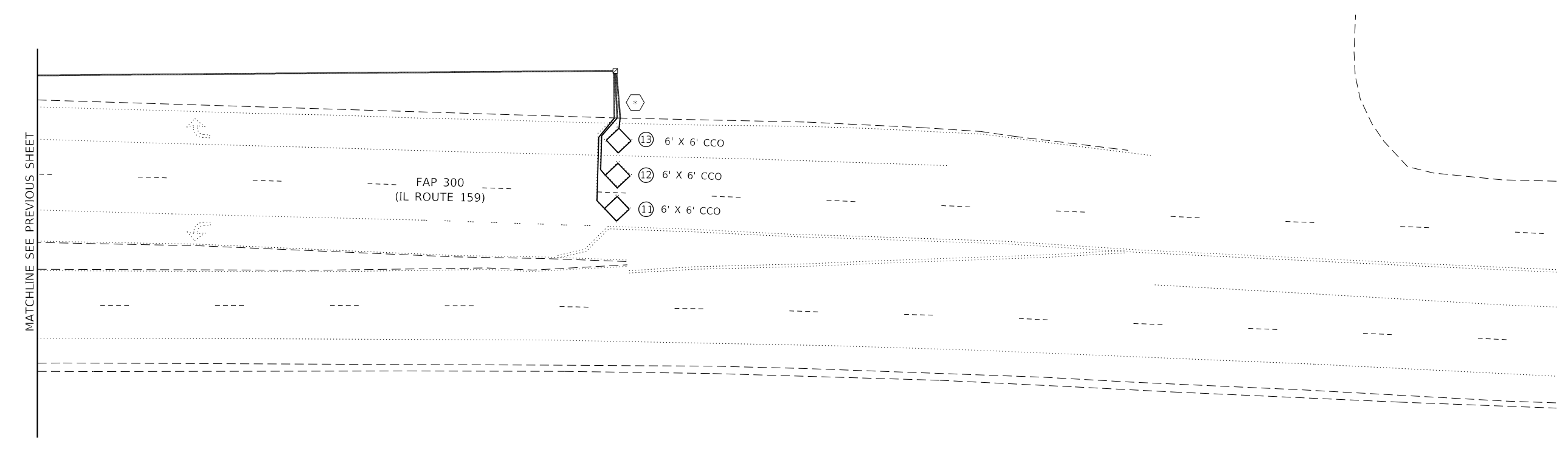
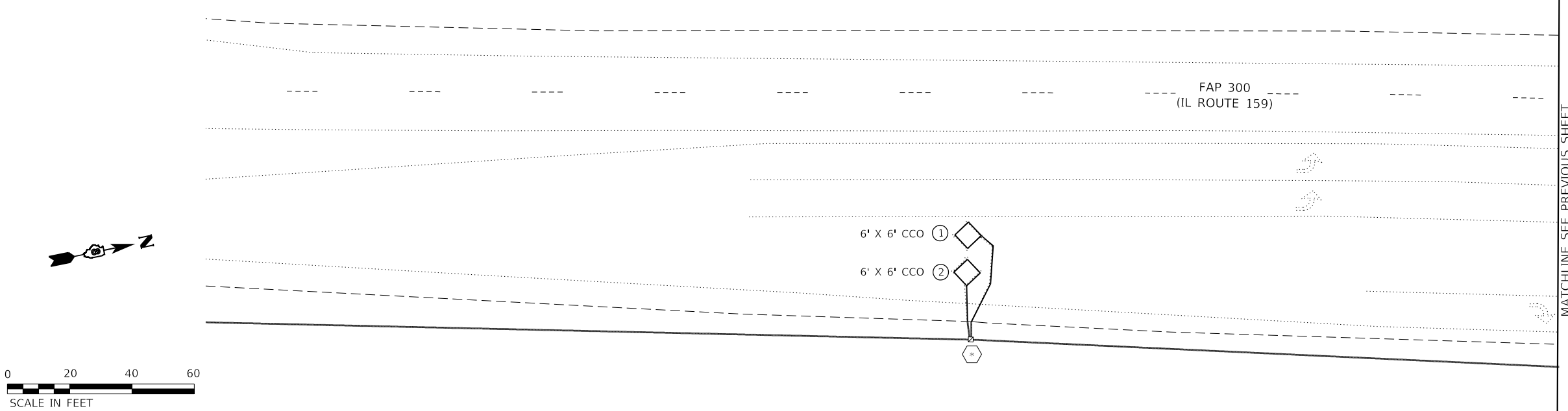


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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	306
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	307
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

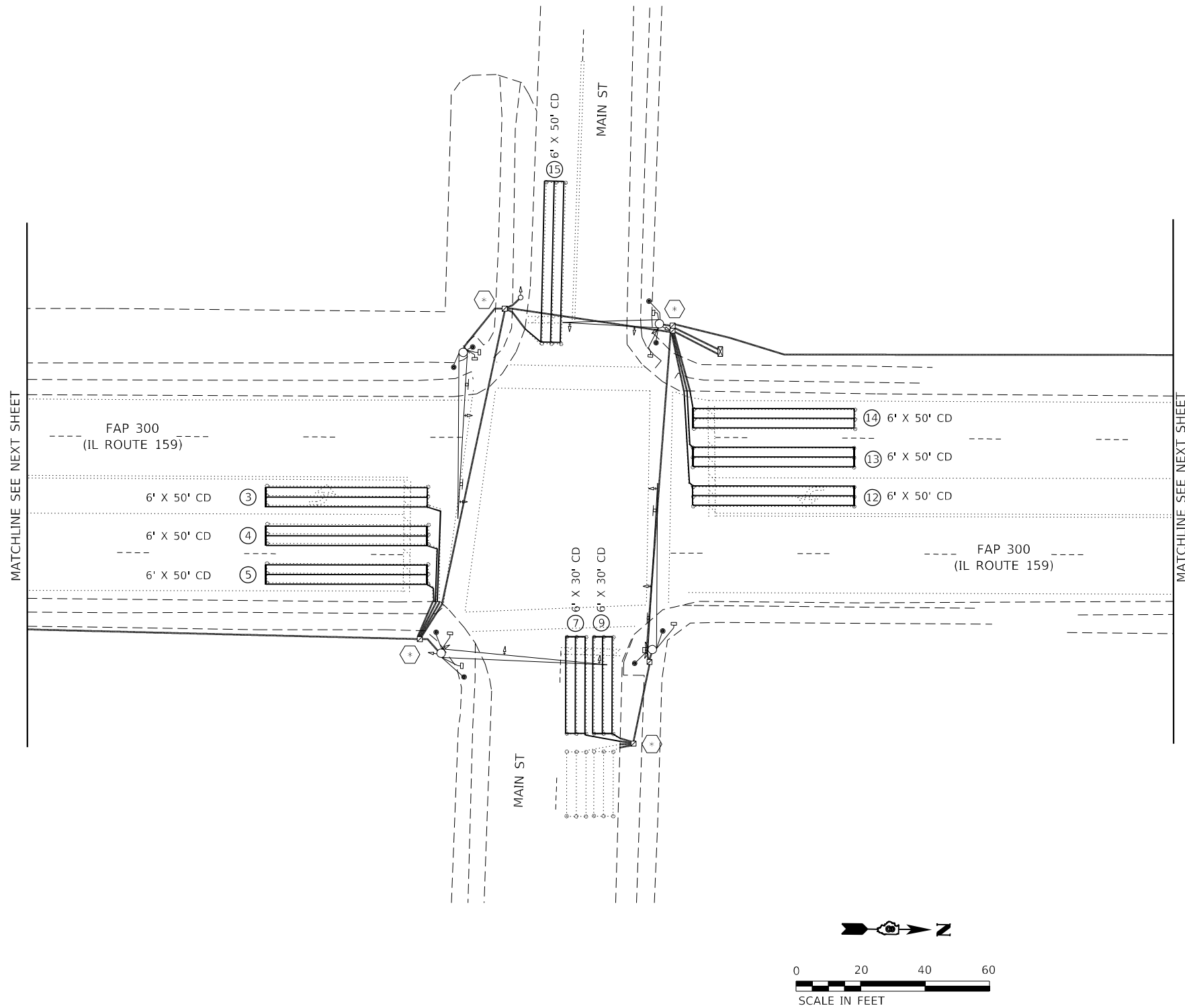
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	369.5	2.97
2. NB THRU CCO	6	6' X 6'	6	366.6	2.90
3. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	841.4	2.85
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	838.6	2.79
5. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	835.7	2.72
7. WB THRU CD	3	6' X 30' (Q)	3 - 6 - 3	528.5	1.96
9. WB RT CD	3	6' X 30' (Q)	3 - 6 - 3	526.5	1.91
10. SB THRU CCO	2	6' X 6'	5	234.3	1.79
11. SB THRU CCO	2	6' X 6'	5	231.2	1.72
12. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	804.5	2.01
13. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	801.8	1.95
14. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	799.2	1.89
15. EB THRU CD	4	6' X 50' (Q)	3 - 6 - 3	808.4	2.10

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

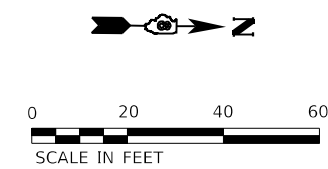
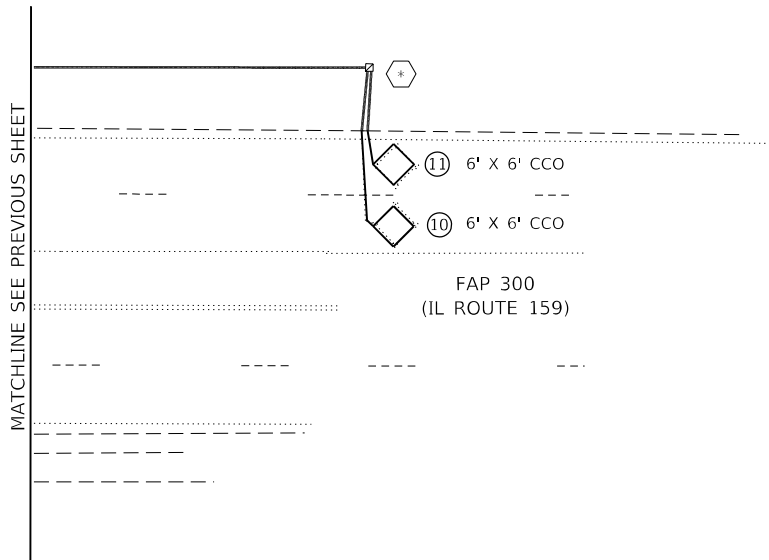
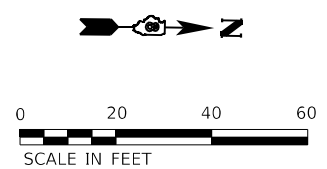
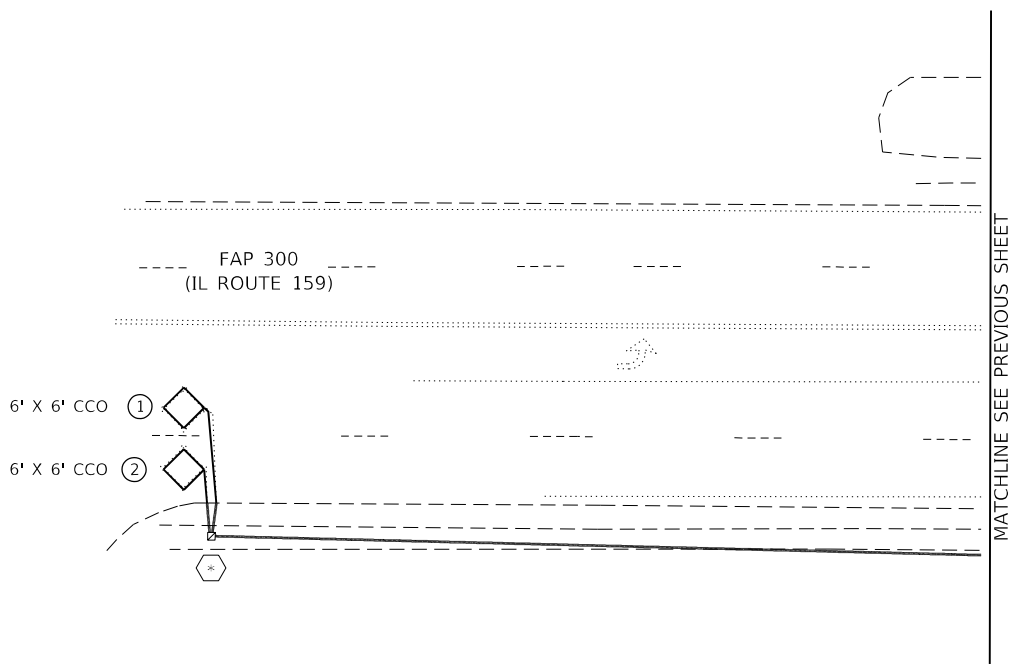
⊗ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) RS-4	MADISON	328	309
CONTRACT NO. 76M87				
ILLINOIS		FED. AID PROJECT		

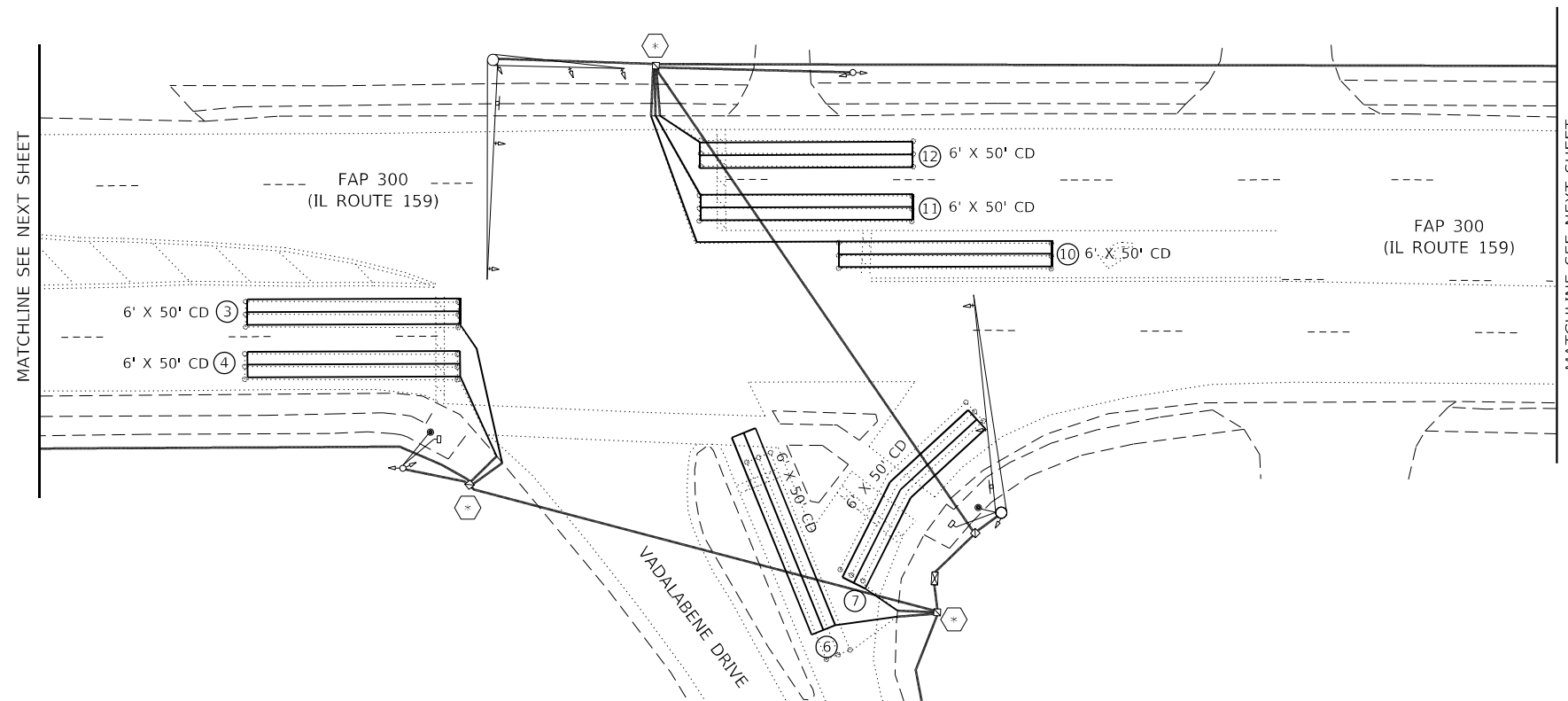
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	2	6' X 6'	6	362.2	2.80
2. NB THRU CCO	2	6' X 6'	6	359.6	2.74
3. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	826.0	2.50
4. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	823.0	2.43
6. WB THRU CD	8	6' X 50' (Q)	3 - 6 - 3	795.5	1.81
7. WB RT CD	8	6' X 50' (Q)	3 - 6 - 3	794.4	1.78
8. SB THRU CCO	6	6' X 6'	6	373.2	3.05
9. SB THRU CCO	6	6' X 6'	6	370.6	2.99
10. SB LT CD	1	6' X 50' (Q)	3 - 6 - 3	839.0	2.80
11. SB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	829.3	2.58
12. SB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	827.4	2.53

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⬡ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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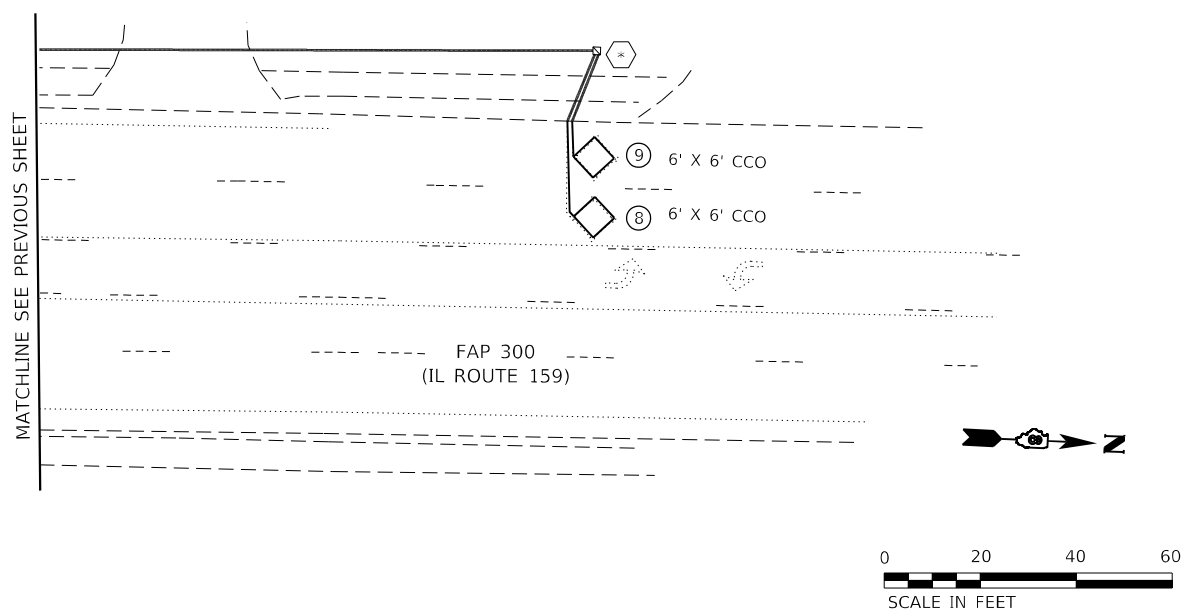
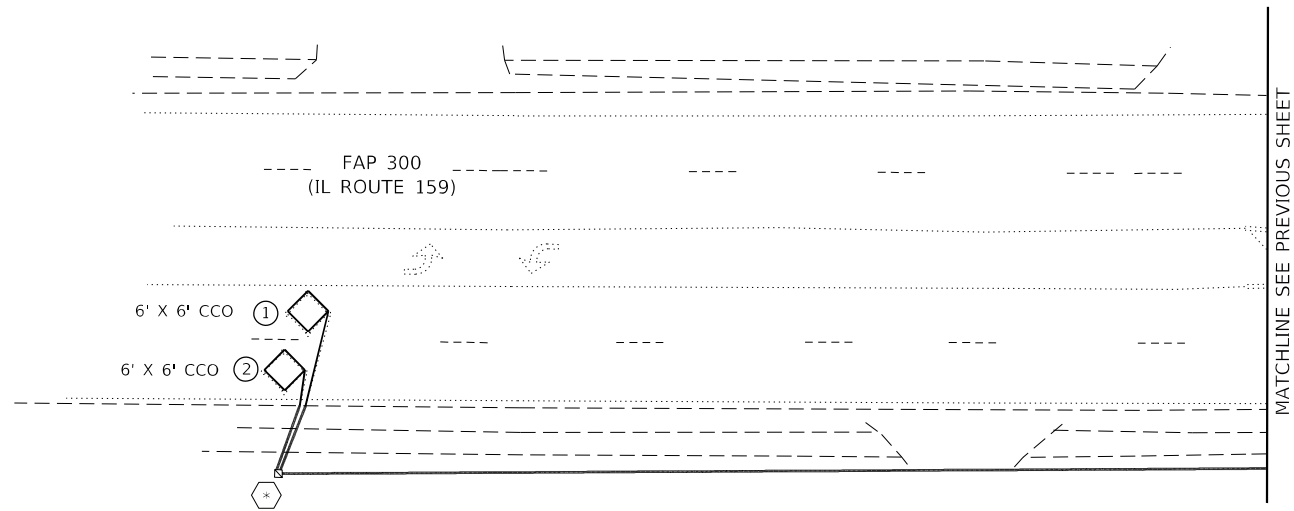
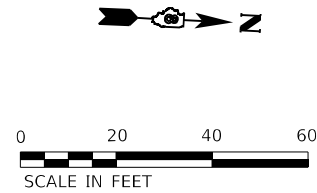
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND VADALABENE DRIVE
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 15 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	310
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

IL ROUTE 159 AND VADALABENE DRIVE DETECTOR LOOP REPLACEMENT PLAN	
SCALE: 1"=20'	SHEET 16 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
300	(122, 122-1, 30) R5-4	MADISON	328	311
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	2	6' X 6'	6	369.5	2.97
2. NB THRU CCO	2	6' X 6'	6	365.5	2.88
3. NB LT CD	5	6' X 50' (Q)	3 - 6 - 3	834.2	2.69
4. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	830.2	2.60
5. NB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	827.4	2.53
9. SB THRU CCO	6	6' X 6'	6	364.9	2.86
10. SB THRU CCO	6	6' X 6'	6	361.6	2.79
11. SB LT CD	1	6' X 50' (Q)	3 - 6 - 3	827.8	2.54
12. SB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	823.4	2.44
13. SB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	820.5	2.38

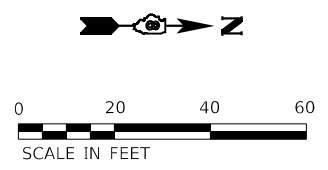
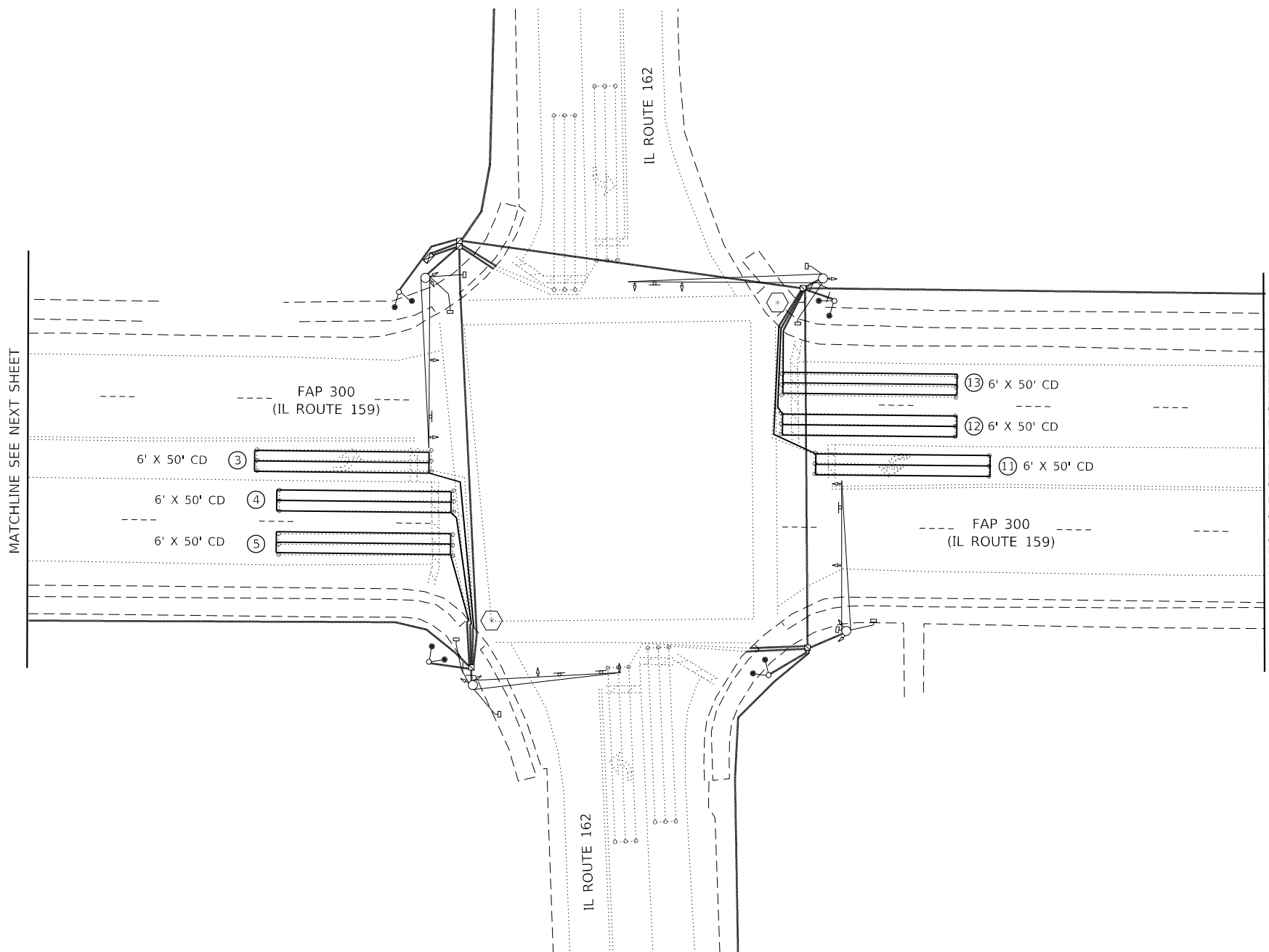
THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

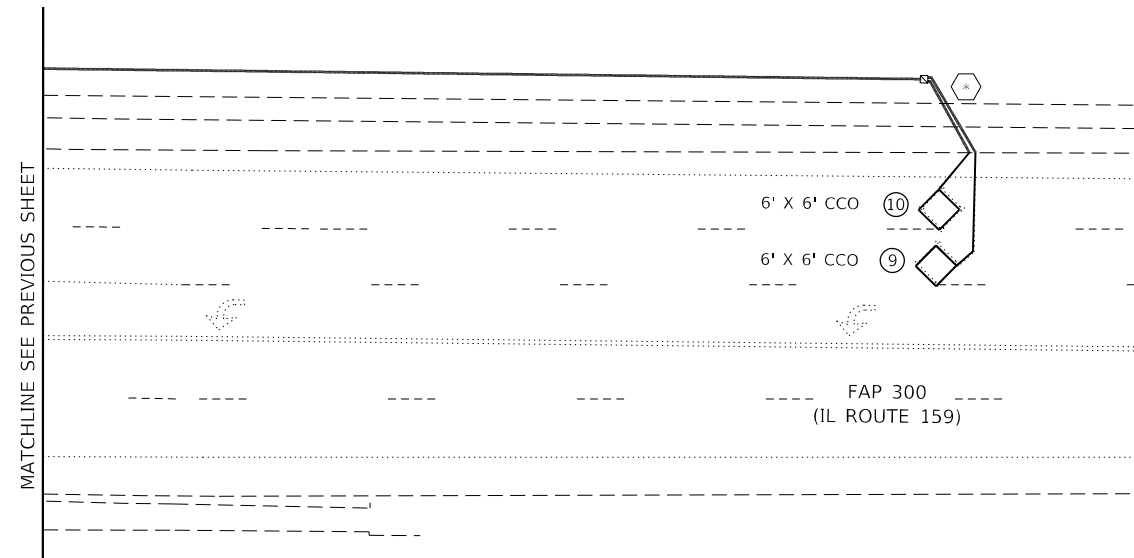
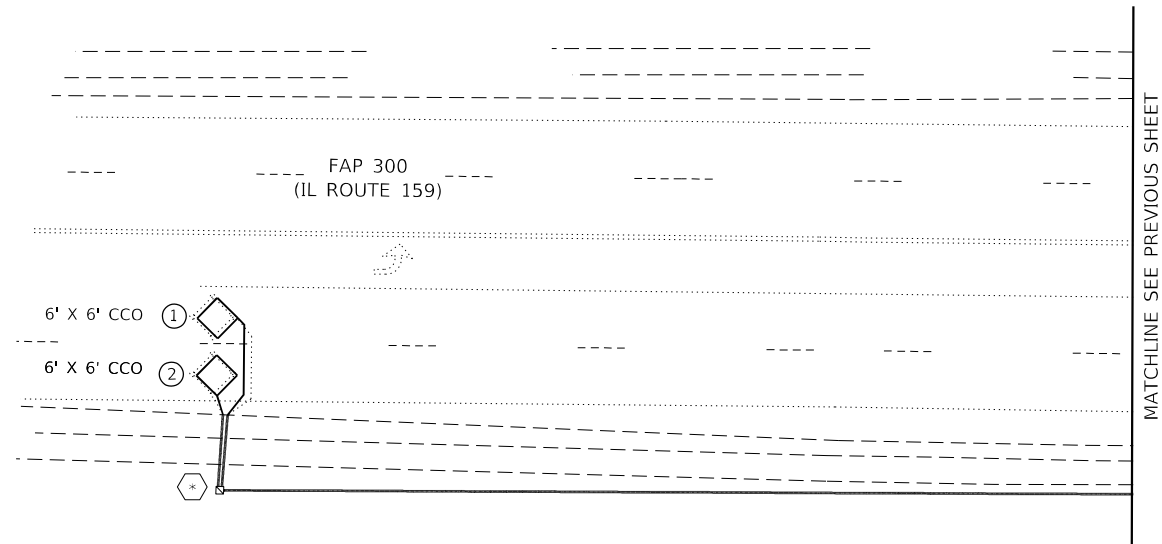
SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



MODEL: C:\E\Projects\2020\20-1544_PTB_194-59_VARIOUS_PHASE_BILL_DB - HMG\Work_Order\06\CADD\CADD_Sheets\0876M87-111-11-17-09Plan1.dgn

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	312
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



MODEL: FILE NAME: C:\EIT\2022\2021\1544_PTB_194-59_VARIOUS_PHASE_BILL_DB - HMG\Work_Order\06\CADD\CADD_Sheets\18-09\Plan2.dwg

DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP #	PHASE #	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	374.6	3.08
2. NB THRU CCO	6	6' X 6'	6	370.6	2.99
3. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	828.9	2.57
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	876.0	2.50
5. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	823.4	2.44
6. WB THRU CD	4	6' X 50' (Q)	3 - 6 - 3	844.3	2.92
7. SB THRU CCO	2	6' X 6'	6	377.2	3.14
8. SB THRU CCO	2	6' X 6'	6	374.3	3.08
9. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	841.7	2.86
10. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	839.2	2.80
11. SB RT CD	2	6' X 50' (Q)	3 - 6 - 3	823.8	2.45
12. EB THRU CD	3	6' X 50' (Q)	3 - 6 - 3	811.1	2.16
13. EB RT CD	3	6' X 50' (Q)	3 - 6 - 3	802.1	1.96

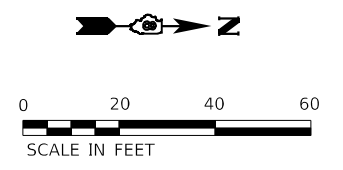
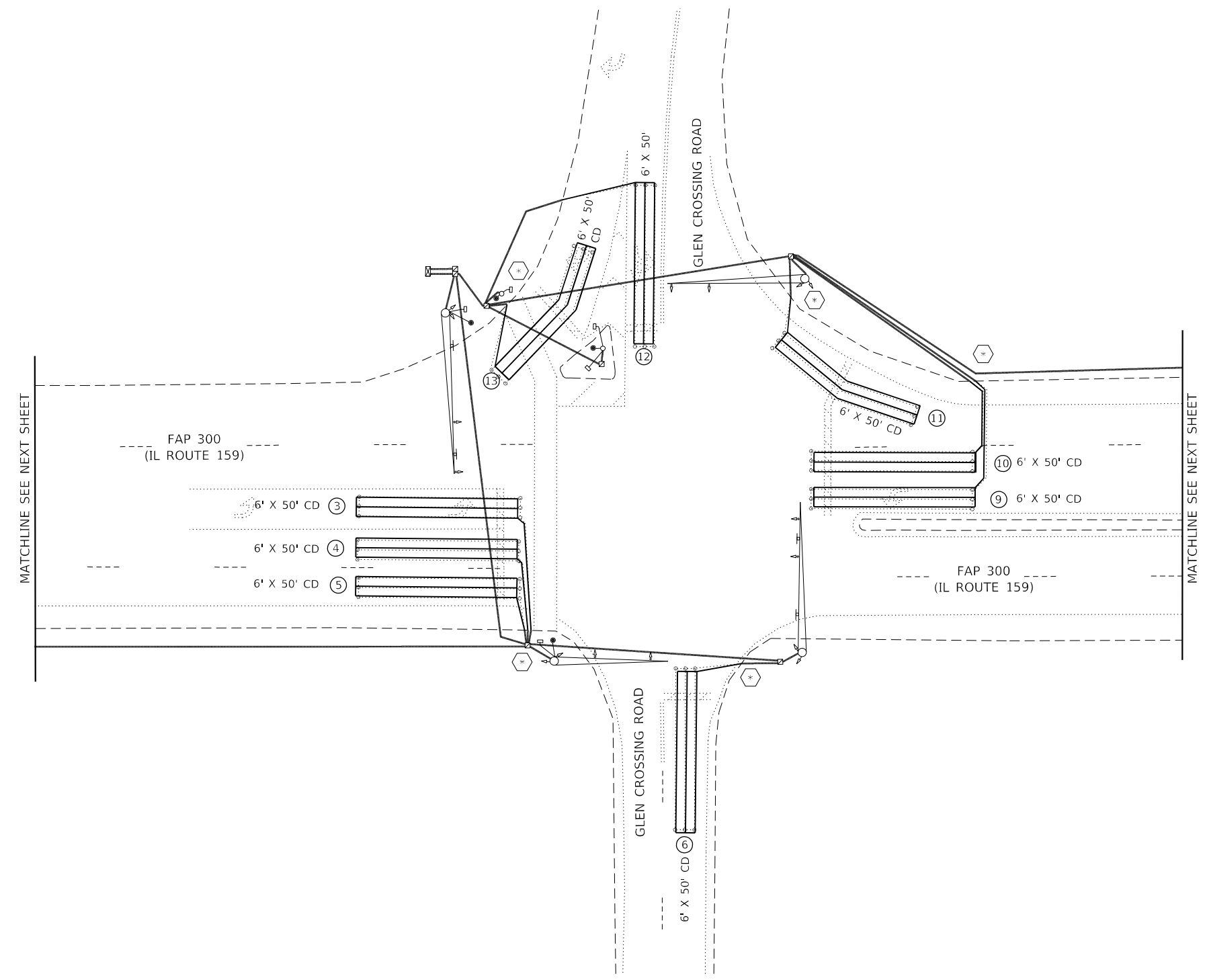
THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

Q=QUADRAPOLE

⊗ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



MODEL: FILE NAME: CAFFE[ibx]_202002011544_PTB_19459_VARIOUS_PHASE_BELI_DB - HMG\Work_Order\06\CADD\CADD_Sheets\0876M87-1\11-19-2019\1.dgn



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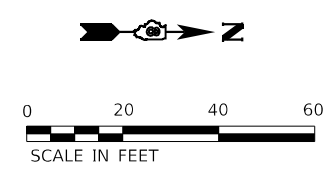
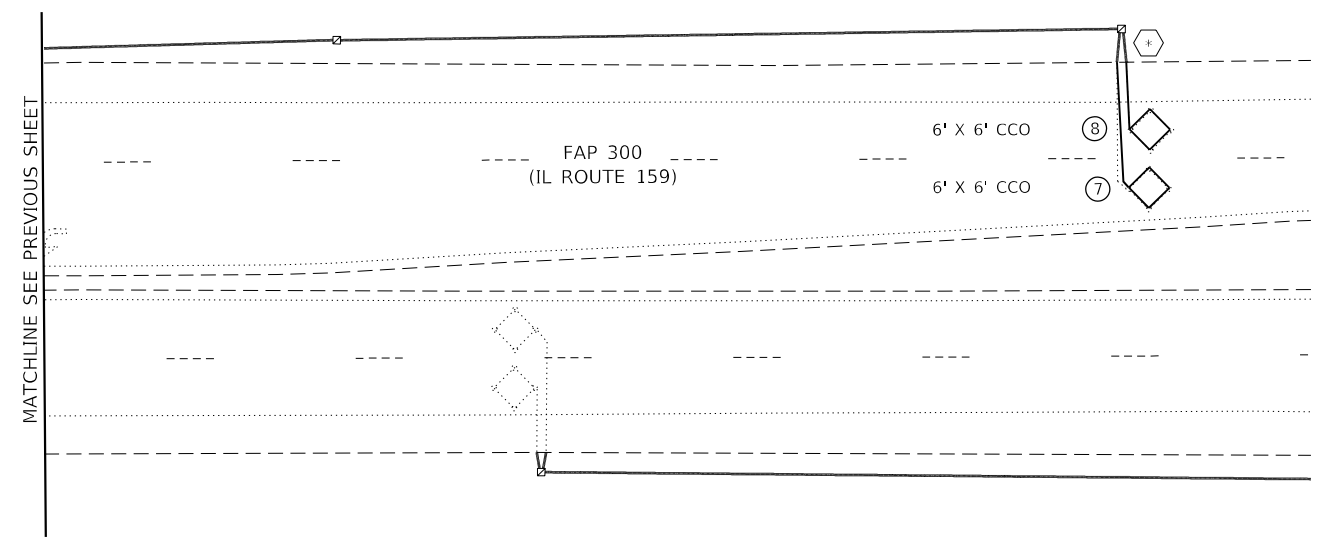
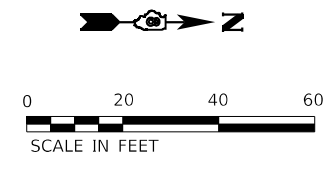
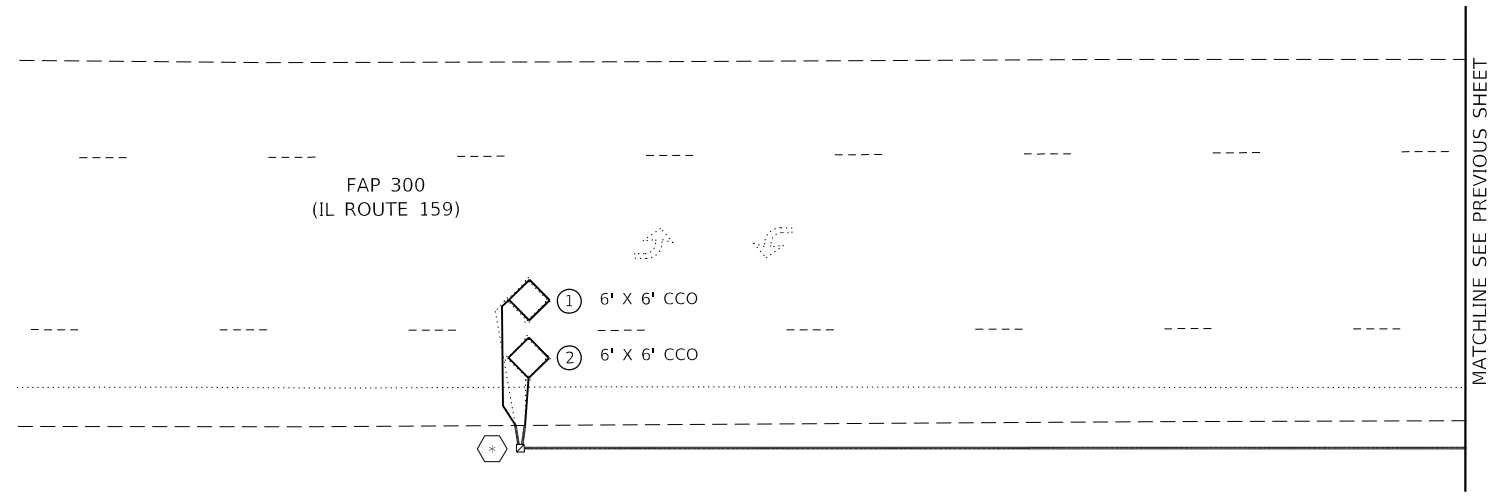
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

IL ROUTE 159 AND GLEN CROSSING ROAD DETECTOR LOOP REPLACEMENT PLAN			
SCALE: 1"=20'	SHEET 19	OF 32 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	314
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND GLEN CROSSING ROAD
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 20 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	315
CONTRACT NO. 76M87				
ILLINOIS		FED. AID PROJECT		

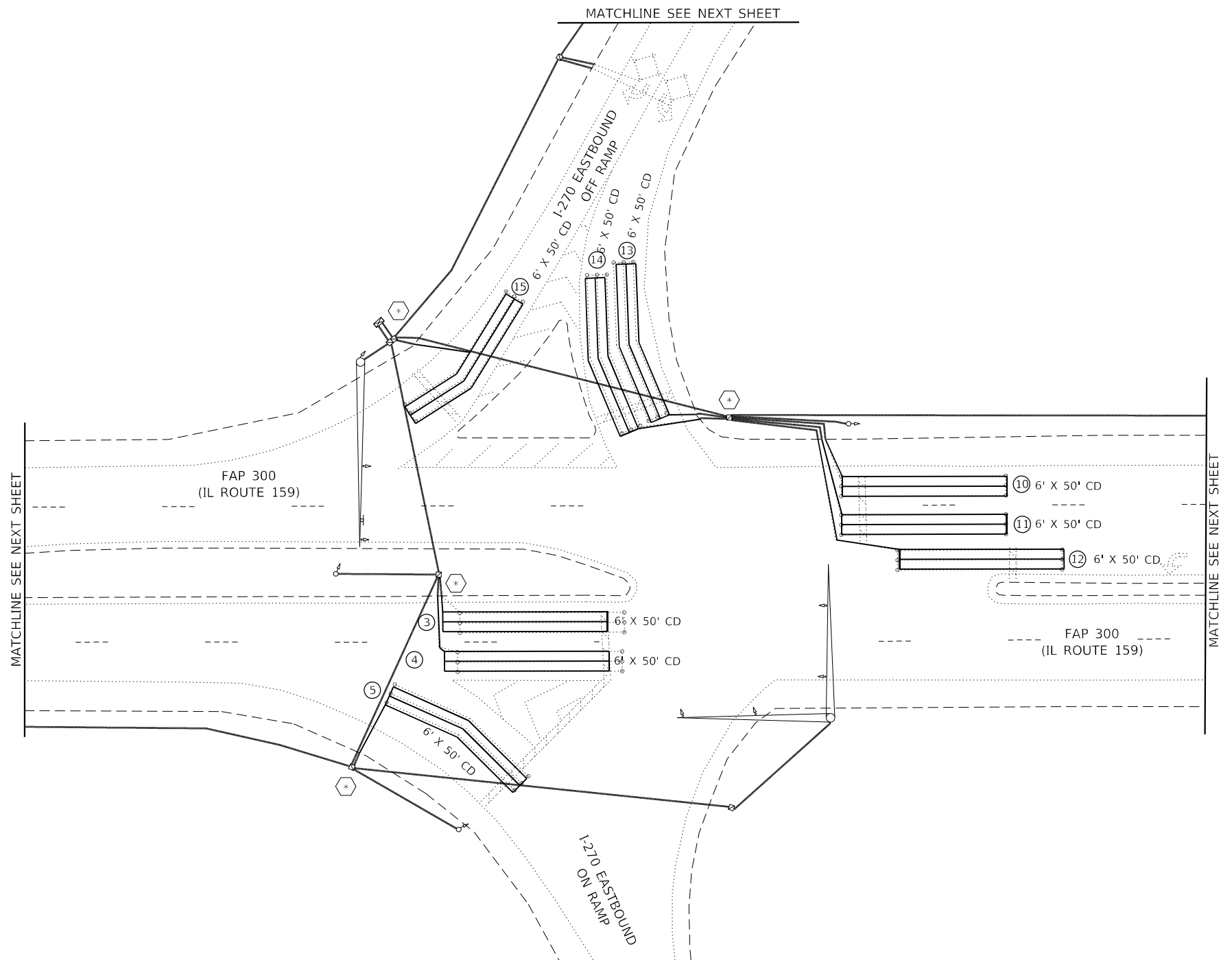
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	354.5	2.63
2. NB THRU CCO	6	6' X 6'	6	351.9	2.57
3. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	811.1	2.16
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	813.9	2.23
5. NB RT CD	6	6' X 50' (Q)	3 - 6 - 3	829.1	2.57
6. SB THRU CCO	2	6' X 6'	6	374.1	3.07
7. SB THRU CCO	2	6' X 6'	6	371.3	3.01
8. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	834.6	2.70
9. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	828.7	2.56
10. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	826.3	2.51
11. EB THRU CCO	8	6' X 6'	6	340.5	2.31
12. EB THRU CCO	8	6' X 6'	5	251.9	2.19
13. EB LT CD	8	6' X 50' (Q)	3 - 6 - 3	819.9	2.36
14. EB LT CD	8	6' X 50' (Q)	3 - 6 - 3	822.3	2.42
15. EB RT CD	8	6' X 50' (Q)	3 - 6 - 3	796.3	1.83

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊛ = SEE DETAIL

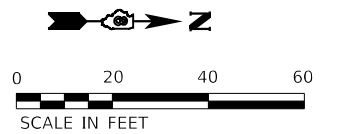
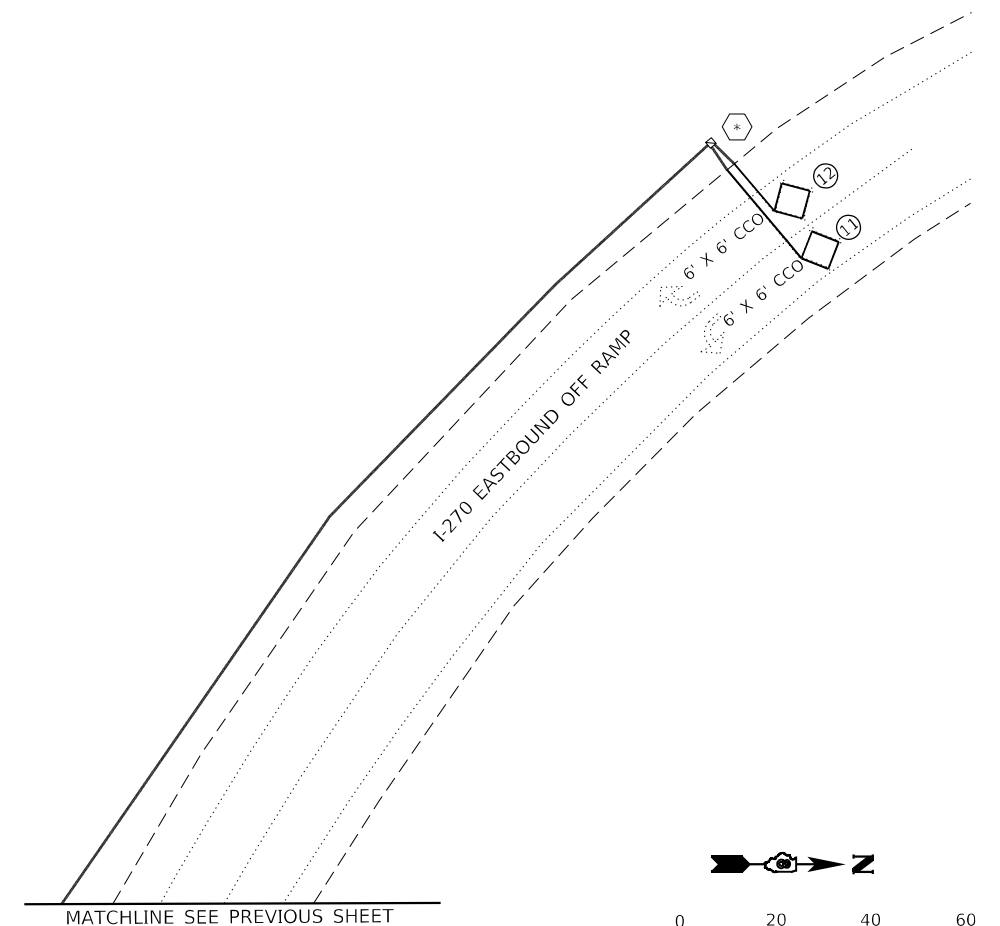
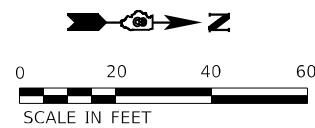
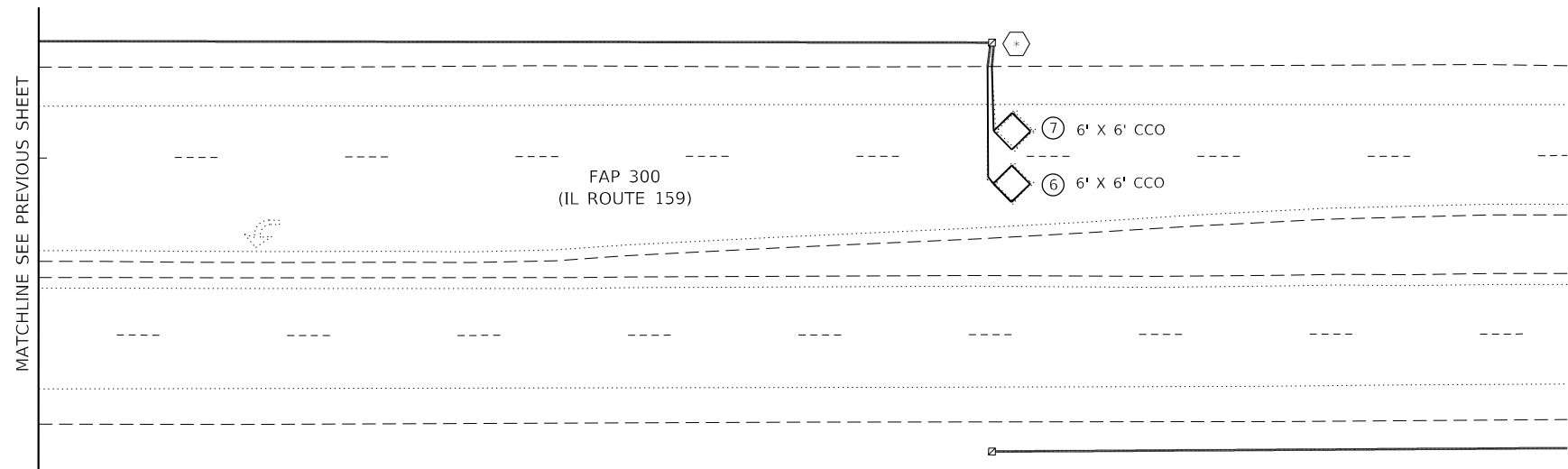
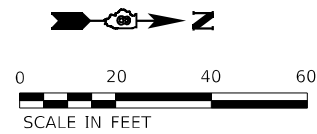
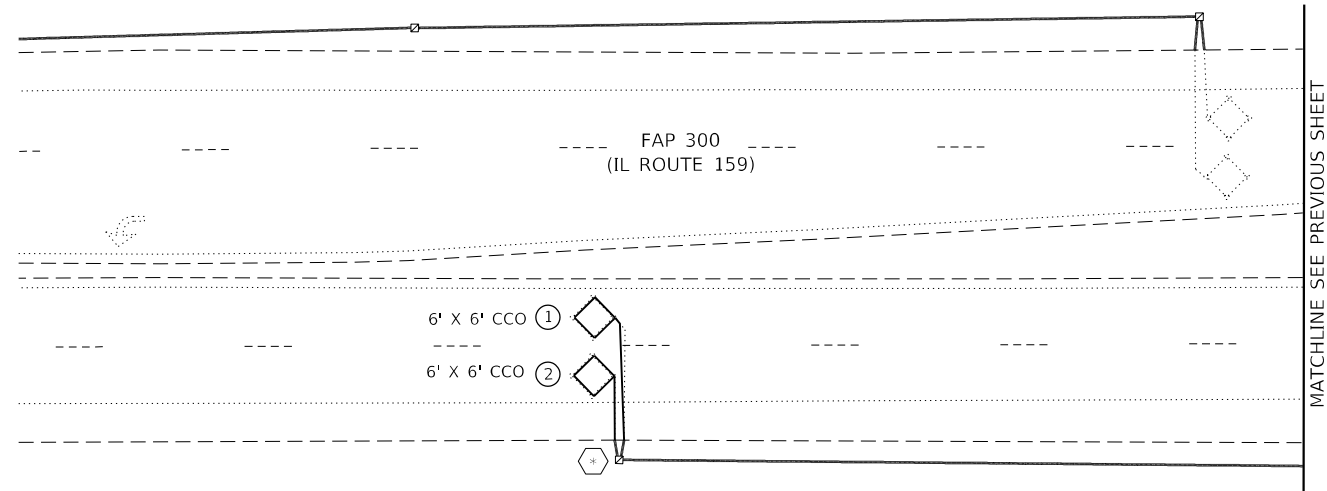
NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	317
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

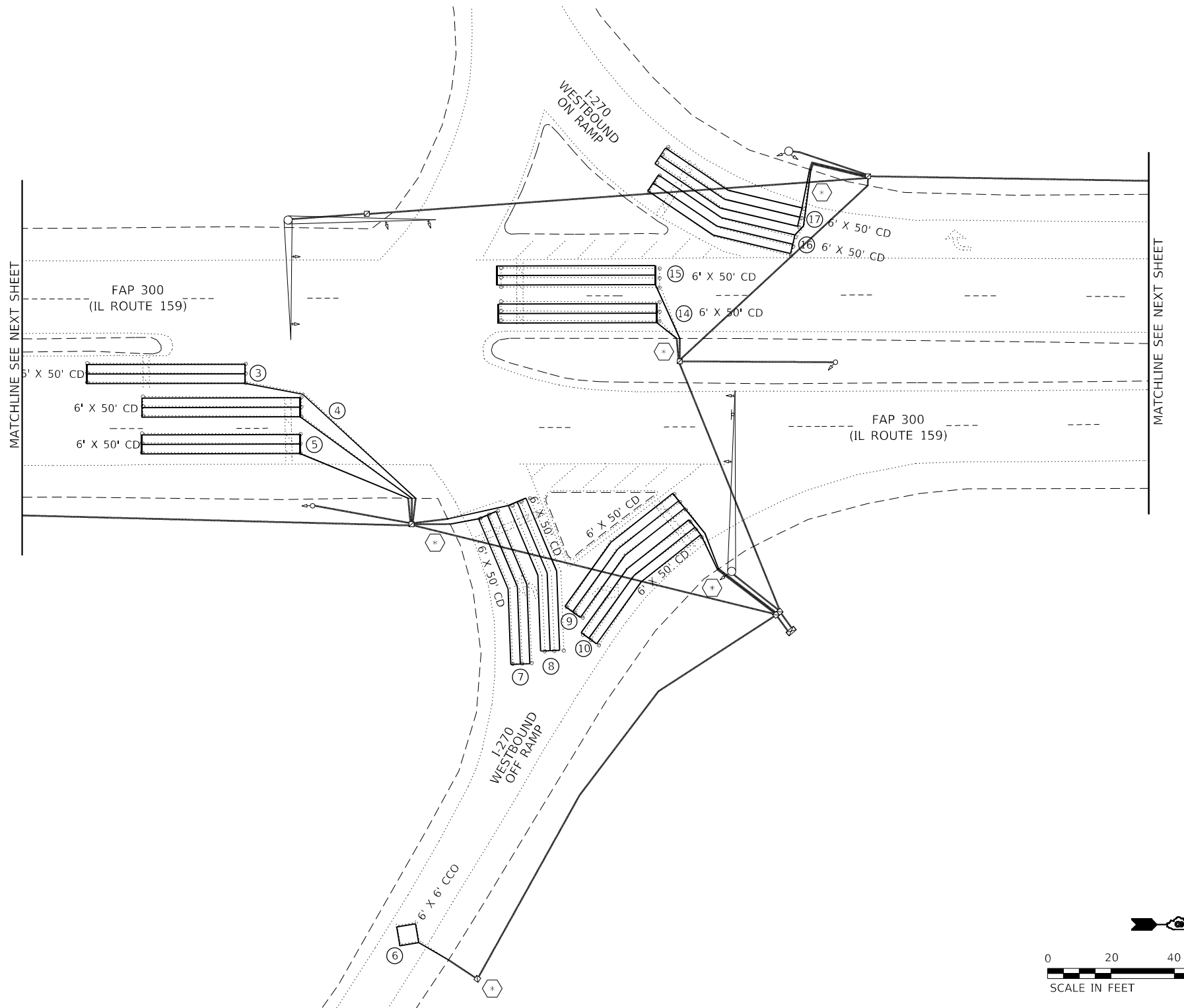
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	379.2	3.19
2. NB THRU CCO	6	6' X 6'	6	376.3	3.12
3. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	835.9	2.73
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	830.9	2.61
5. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	829.3	2.58
6. WB THRU CCO	4	6' X 6'	4	148.8	1.27
7. WB LI CD	4	6' X 50' (Q)	3 - 6 - 3	823.4	2.44
8. WB LT CD	4	6' X 50' (Q)	3 - 6 - 3	825.8	2.50
9. WB RT CD	4	6' X 50' (Q)	3 - 6 - 3	801.2	1.94
10. WB RT CD	4	6' X 50' (Q)	3 - 6 - 3	799.0	1.89
11. SB THRU CCO	2	6' X 6'	6	356.7	2.68
12. SB THRU CCO	2	6' X 6'	6	354.1	2.62
13. SB RT CCO	2	6' X 6'	6	351.7	2.56
14. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	814.8	2.25
15. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	817.2	2.30
16. SB RT CD	2	6' X 50' (Q)	3 - 6 - 3	841.2	2.85
17. SB RT CD	0	6' X 50' (Q)	3 - 6 - 3	839.0	2.80

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

* = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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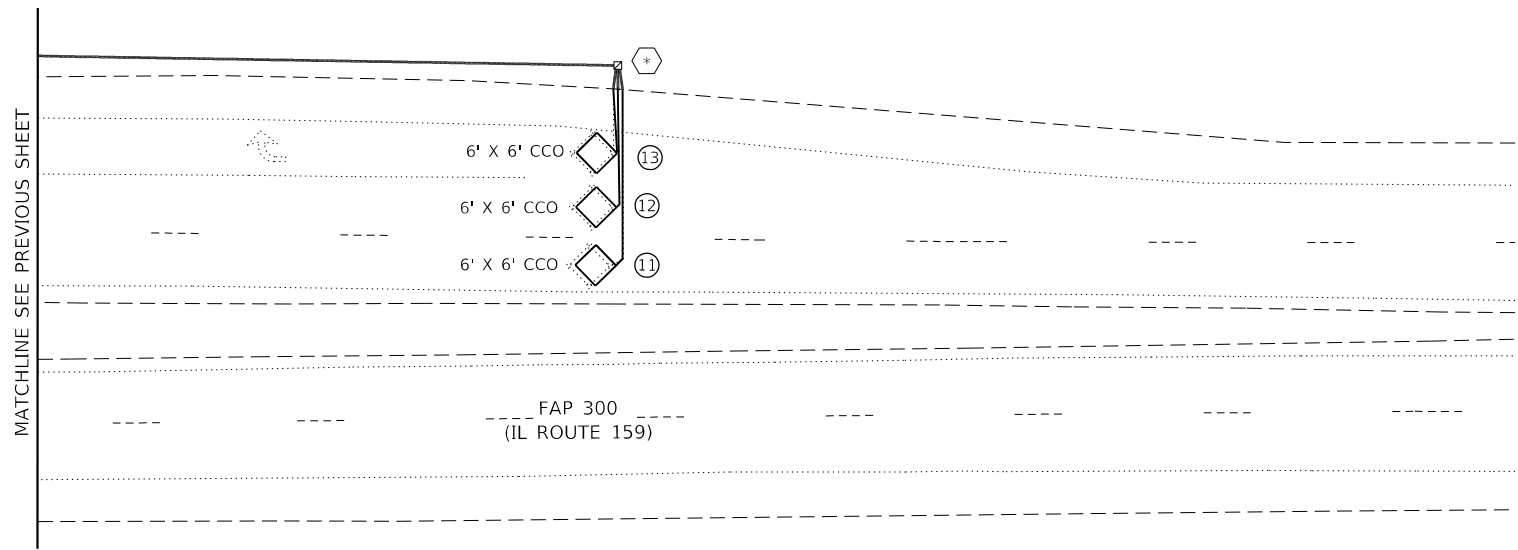
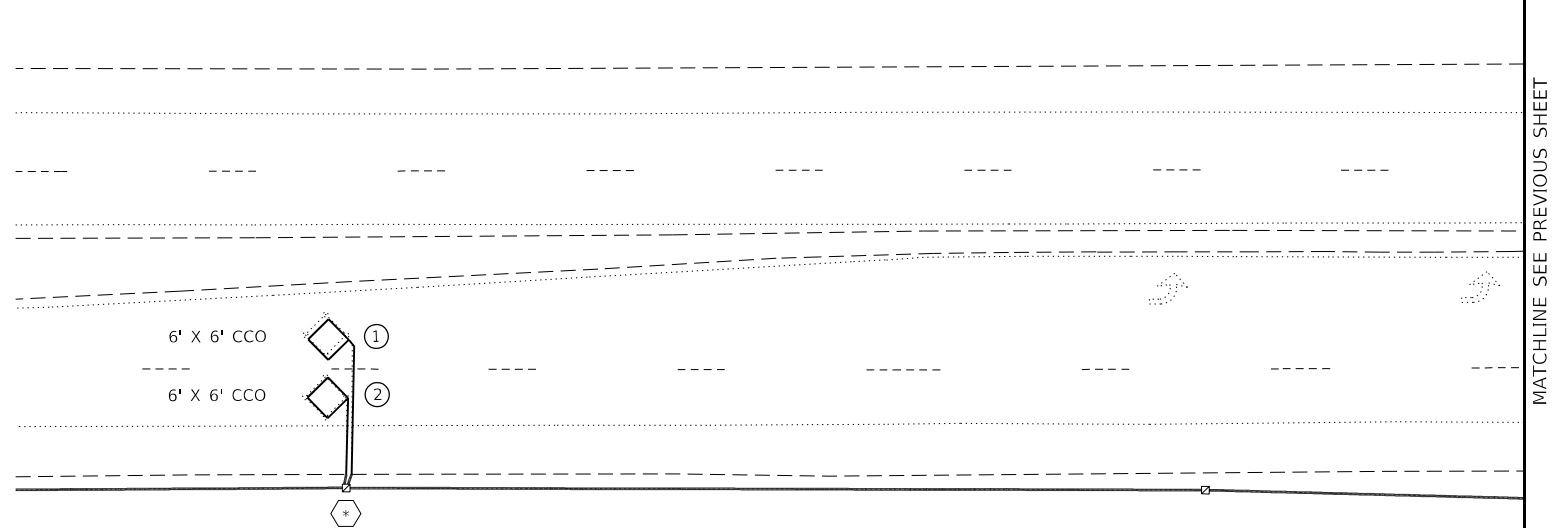
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND I-270 WESTBOUND RAMPS
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 23 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	318
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



MODEL: FILE NAME: CAFFE[1]_2020-20-1544_PTB_194-59_VARIOUS_PHASE_DEI_DB - HMGWork_Order_06/CADD/CADD_Sheets/DB76M87-111-12-12Ran2.dgn



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PLOT DATE = 6/28/2022	CHECKED -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 159 AND I-270 WESTBOUND RAMPS DETECTOR LOOP REPLACEMENT PLAN		
SCALE: 1"=20'	SHEET 24 OF 32 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	319
			CONTRACT NO. 76M87	
		ILLINOIS	FED. AID PROJECT	

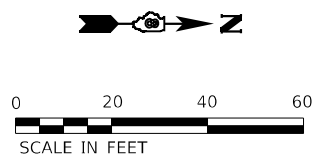
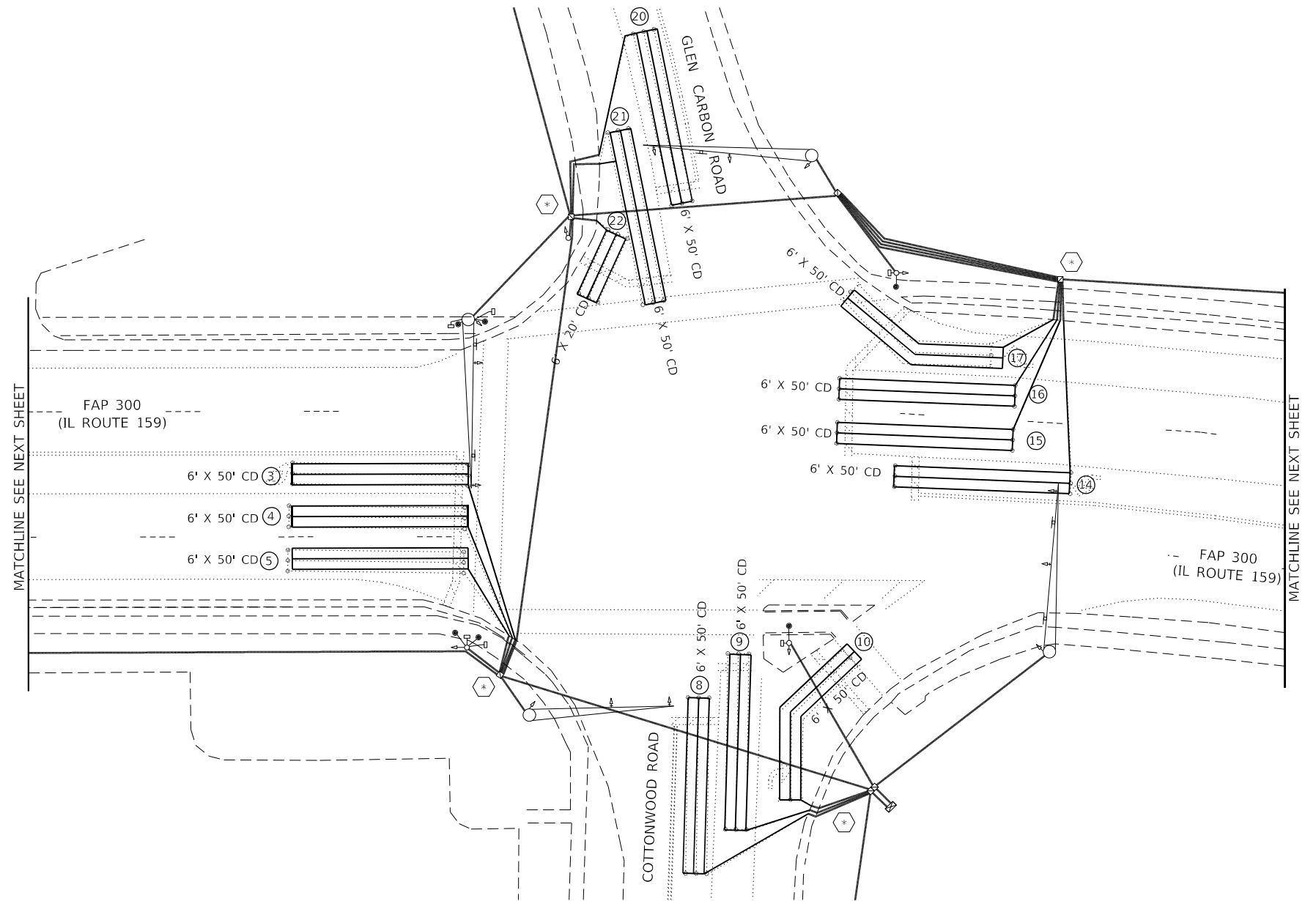
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	361.1	2.78
2. NB THRU CCO	6	6' X 6'	6	358.5	2.72
3. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	829.8	2.59
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	827.1	2.53
5. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	824.5	2.47
8. WB LT CD	3	6' X 50' (Q)	3 - 6 - 3	801.6	1.95
9. WB THRU CD	3	6' X 50' (Q)	3 - 6 - 3	798.1	1.87
10. WB RT CD	3	6' X 50' (Q)	3 - 6 - 3	794.8	1.79
11. SB LT CCO	5	6' X 6'	7	537.6	4.32
12. SB THRU CCO	2	6' X 6'	7	535.0	4.26
13. SB THRU CCO	2	6' X 6'	7	532.1	4.20
14. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	895.3	4.08
15. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	893.1	4.03
16. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	890.5	3.97
17. SB RT CD	2	6' X 50' (Q)	3 - 6 - 3	889.2	3.94
20. EB LT CD	4	6' X 50' (Q)	3 - 6 - 3	861.2	3.30
21. EB THRU CD	4	6' X 50' (Q)	3 - 6 - 3	854.0	3.14
22. EB RT CD	4	6' X 20' (Q)	3 - 6 - 3	400.0	2.15

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

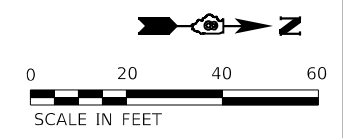
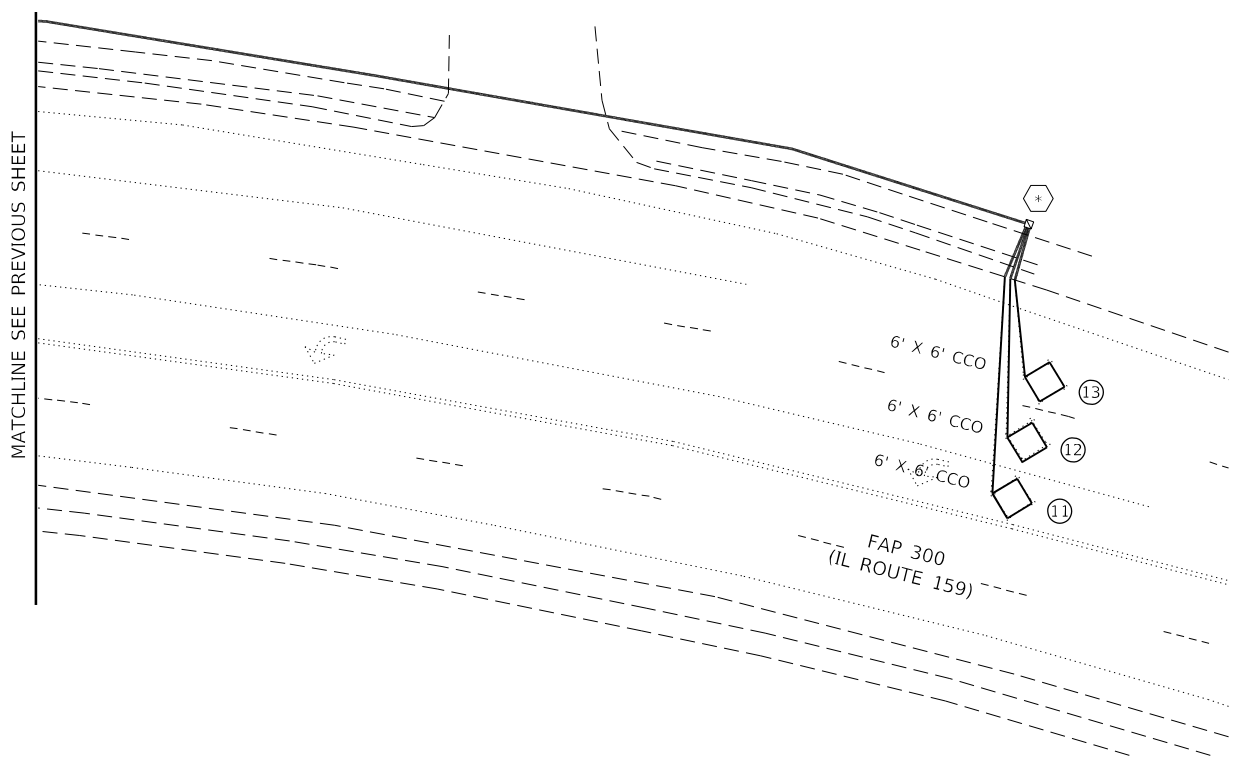
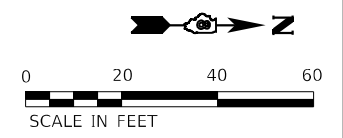
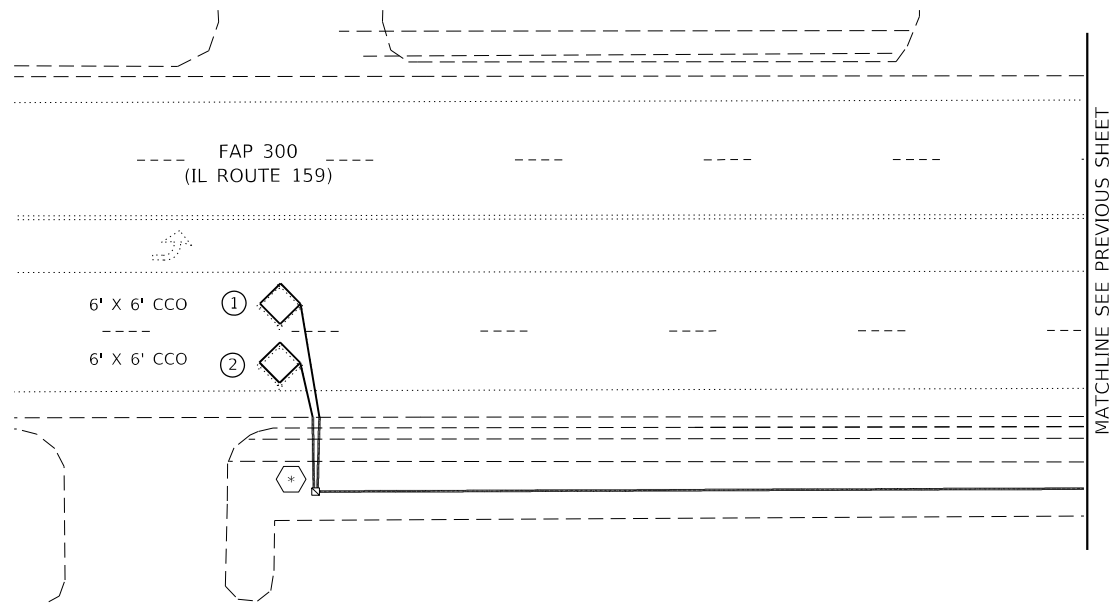
SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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F.A.P. RTE. 600	SECTION (122, 122-1, 30) R5-4	COUNTY MADISON	TOTAL SHEETS 328	SHEET NO. 320
			CONTRACT NO. 76M87	
		ILLINOIS FED. AID PROJECT		



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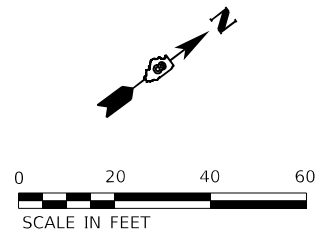
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND GLEN CARBON ROAD / COTTONWOOD ROAD
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 26 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	321
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1.	NB THRU CCO	6' X 6'	6	375.4	3.10
2.	NB THRU CCO	6' X 6'	6	372.8	3.04
3.	NB LT CD	6' X 50' (Q)	3 - 6 - 3	833.3	2.67
4.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	830.4	2.60
5.	NB THRU CD	6' X 50' (Q)	3 - 6 - 3	827.8	2.54
9.	SB LT CCO	6' X 6'	6	366.0	2.89
10.	SB THRU CCO	6' X 6'	6	363.6	2.83
11.	SB THRU CCO	6' X 6'	6	361.8	2.79
12.	SB LT CD	6' X 50' (Q)	3 - 6 - 3	835.3	2.71
13.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	832.9	2.66
14.	SB THRU CD	6' X 50' (Q)	3 - 6 - 3	830.7	2.61

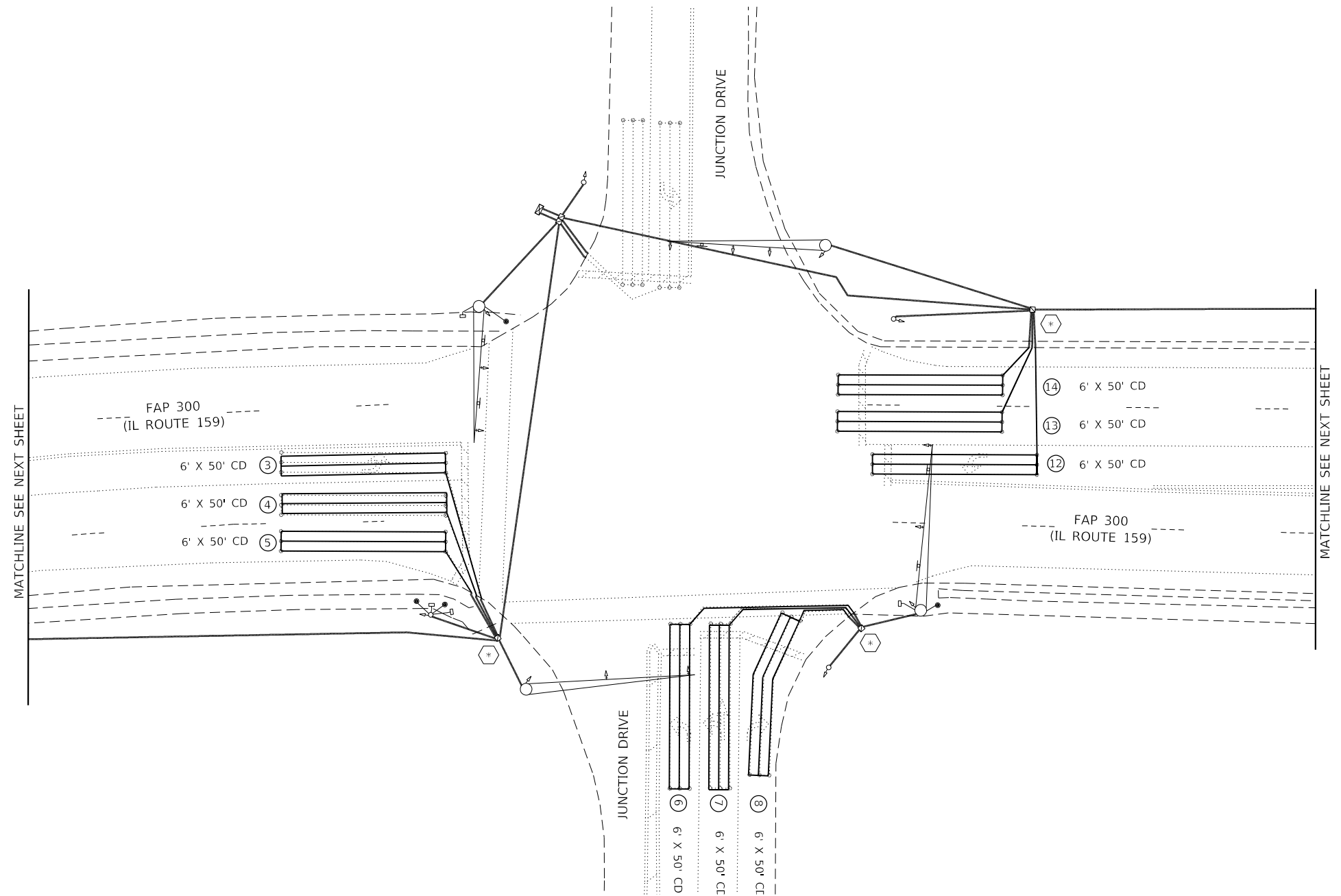


THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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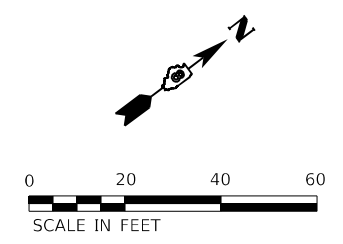
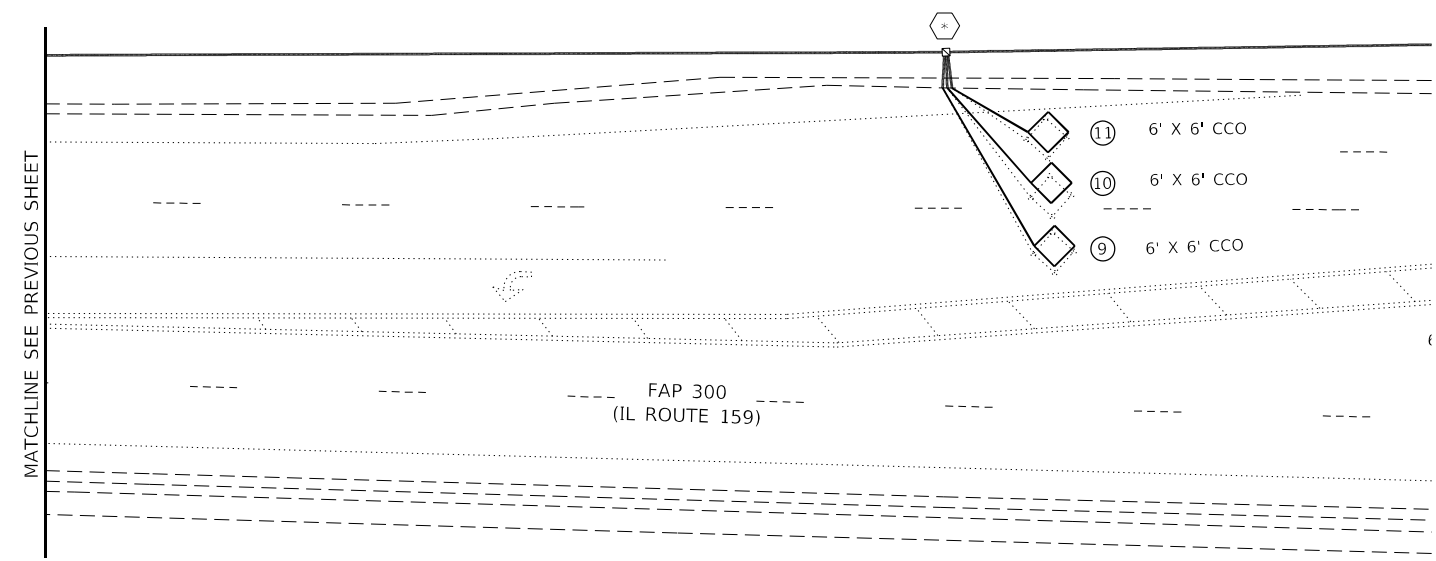
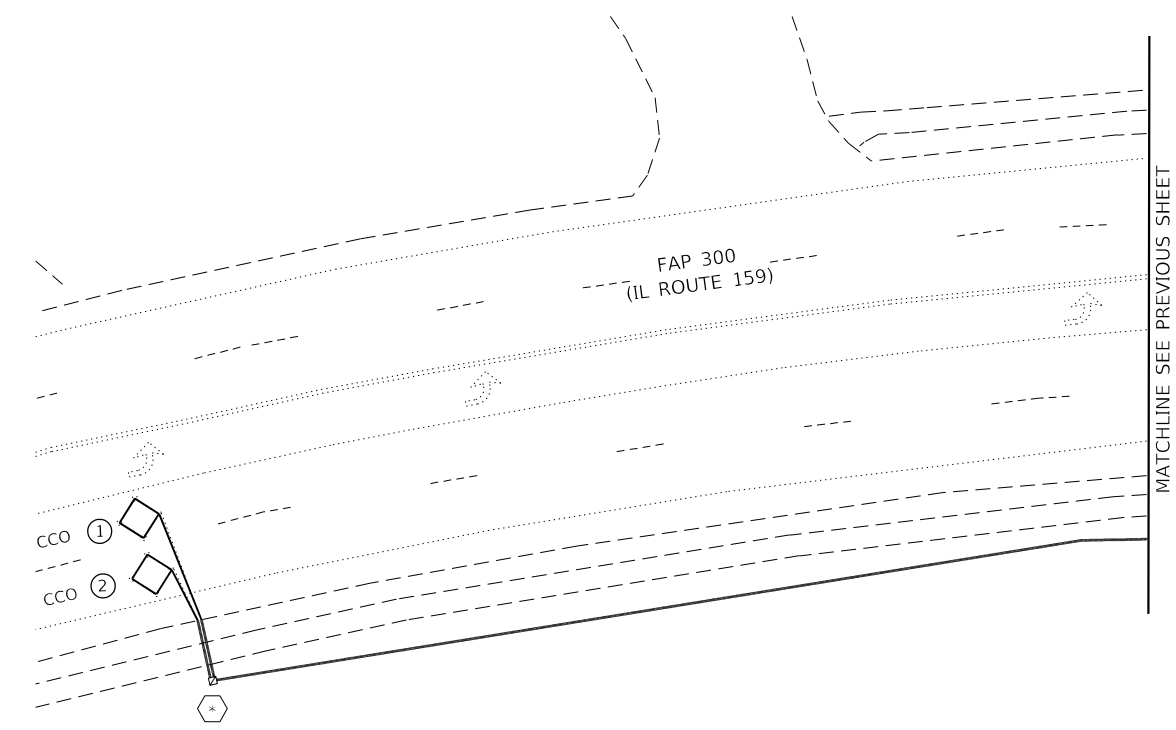
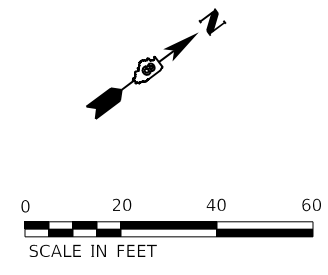
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND JUNCTION DRIVE
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20" SHEET 27 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	322
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



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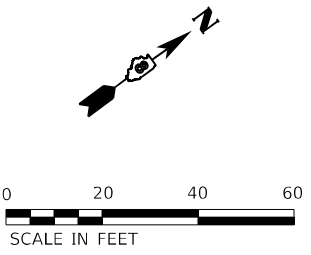
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	DATE -	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

IL ROUTE 159 AND JUNCTION DRIVE DETECTOR LOOP REPLACEMENT PLAN	
SCALE: 1"=20'	SHEET 28 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	323
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μh)	CALCULATED RESISTANCE OHMS (Ω)
1. NB LT CCO	1	6' X 6'	5	251.5	2.18
2. NB THRU CCO	6	6' X 6'	5	248.8	2.12
3. NB THRU CCO	6	6' X 6'	5	246.4	2.07
4. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	810.6	2.15
5. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	804.7	2.02
6. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	801.8	1.95
7. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	799.2	1.89
10. SB THRU CCO	2	6' X 6'	7	508.2	3.65
11. SB THRU CCO	2	6' X 6'	7	505.5	3.59
12. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	865.0	3.39
13. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	862.6	3.33
14. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	859.9	3.27
15. SB RT CD	2	6' X 30' (Q)	3 - 6 - 3	562.1	2.72

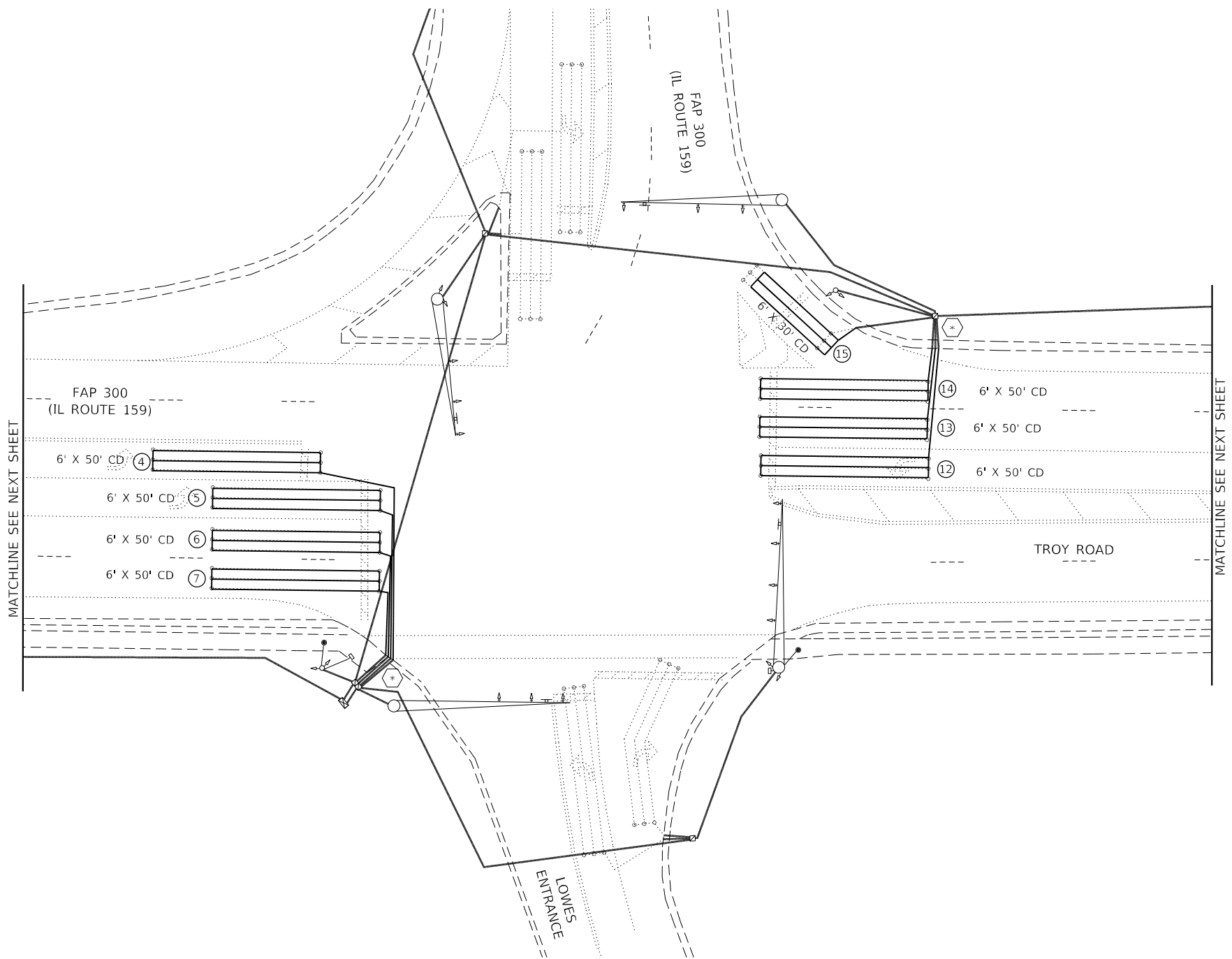


THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

⊕ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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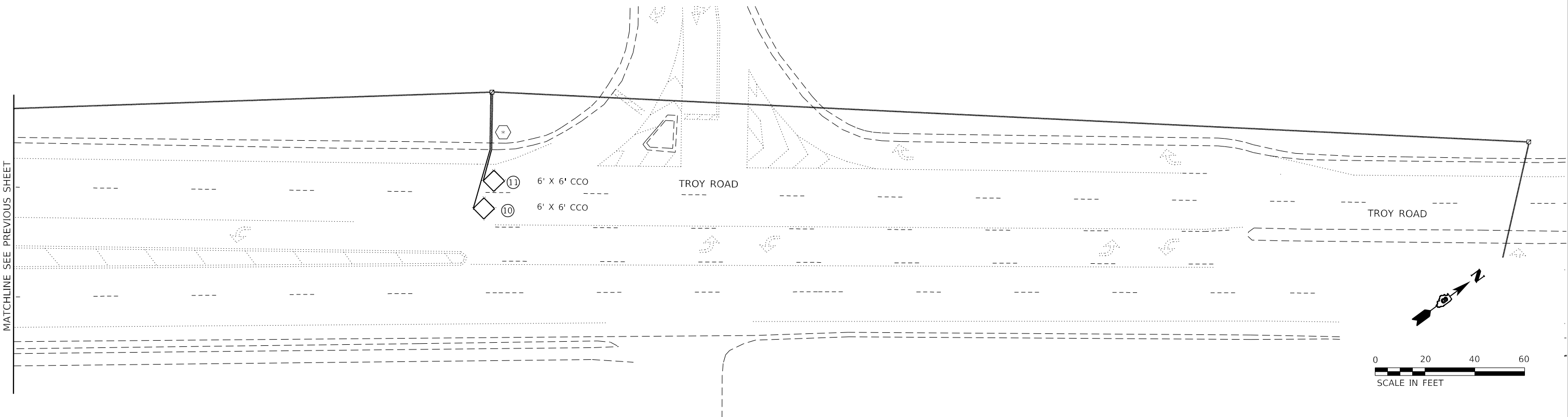
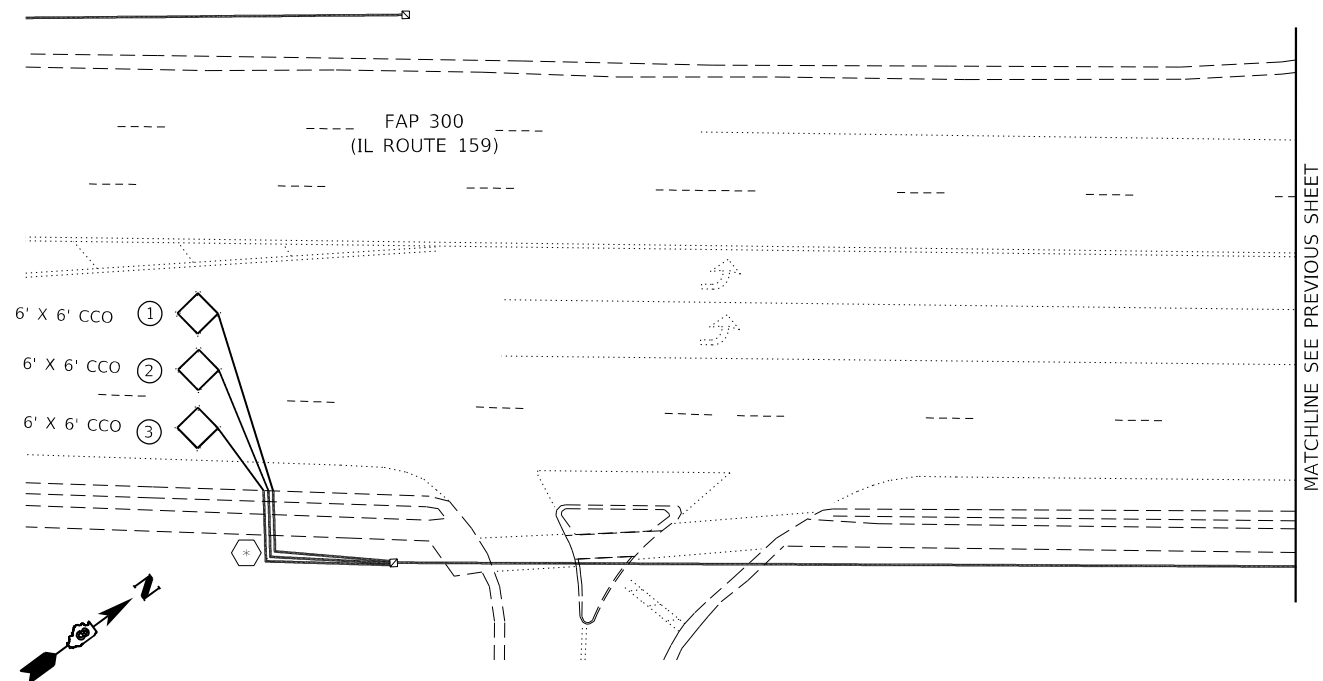
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND TROY ROAD /LOWES ENTRANCE
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20" SHEET 29 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	324
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



MODEL: FILE NAME: CAFFE[IB]s_202020-1544_PTB_19459_VARIOUS PHASE I&II DB - HMG\Work Order 06\CADD\CADD_Sheets\0876M87-111330-15Plan2.dgn



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 159 AND TROY ROAD /LOWES ENTRANCE
DETECTOR LOOP REPLACEMENT PLAN**

SCALE: 1"=20' SHEET 30 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	325
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				

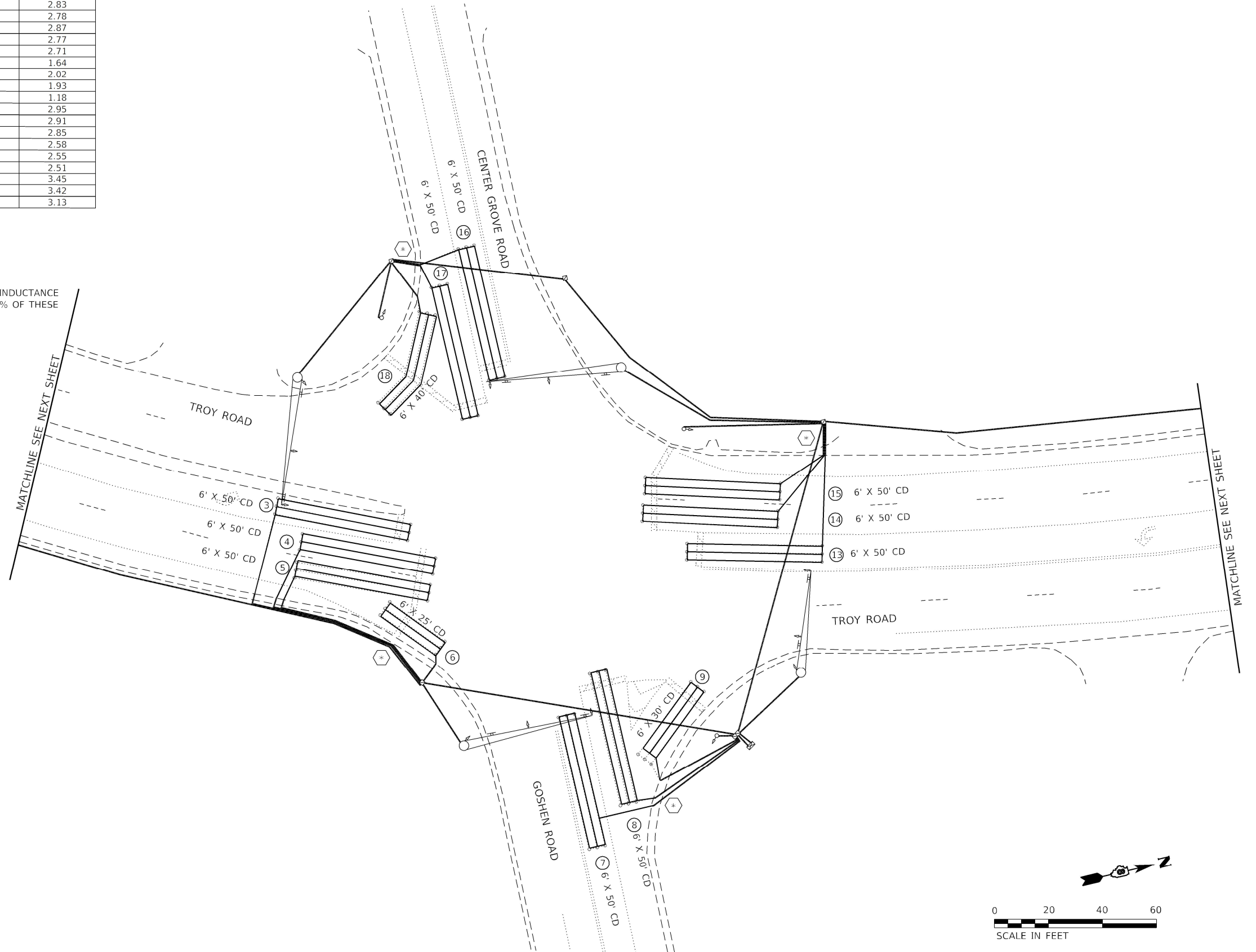
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS					
LOOP#	PHASE#	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μ h)	CALCULATED RESISTANCE OHMS (Ω)
1. NB THRU CCO	6	6' X 6'	6	363.6	2.83
2. NB THRU CCO	6	6' X 6'	6	361.1	2.78
3. NB LT CD	1	6' X 50' (Q)	3 - 6 - 3	842.1	2.87
4. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	837.9	2.77
5. NB THRU CD	6	6' X 50' (Q)	3 - 6 - 3	835.1	2.71
6. NB RT CD	6	6' X 25' (Q)	3 - 6 - 3	446.2	1.64
7. WB LT CD	7	6' X 50' (Q)	3 - 6 - 3	804.9	2.02
8. WB THRU CD	4	6' X 50' (Q)	3 - 6 - 3	801.0	1.93
9. WB RT CD	4	6' X 30' (Q)	3 - 6 - 3	494.4	1.18
10. SB THRU CCO	2	6' X 6'	6	368.6	2.95
11. SB THRU CCO	2	6' X 6'	6	366.9	2.91
12. SB THRU CCO	2	6' X 6'	6	364.2	2.85
13. SB LT CD	5	6' X 50' (Q)	3 - 6 - 3	829.6	2.58
14. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	828.0	2.55
15. SB THRU CD	2	6' X 50' (Q)	3 - 6 - 3	826.3	2.51
16. EB LT CD	3	6' X 50' (Q)	3 - 6 - 3	867.6	3.45
17. EB THRU CD	8	6' X 50' (Q)	3 - 6 - 3	866.3	3.42
18. EB RT CD	8	6' X 40' (Q)	3 - 6 - 3	716.7	3.13

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.
Q=QUADRAPOLE

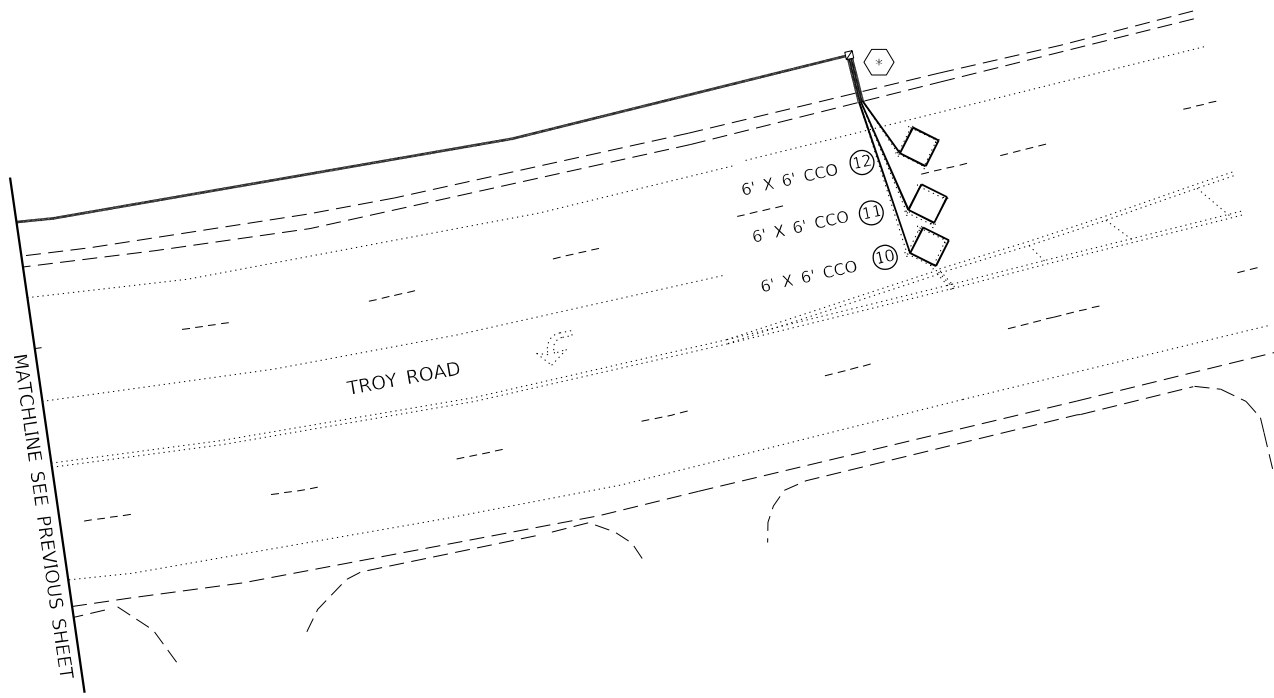
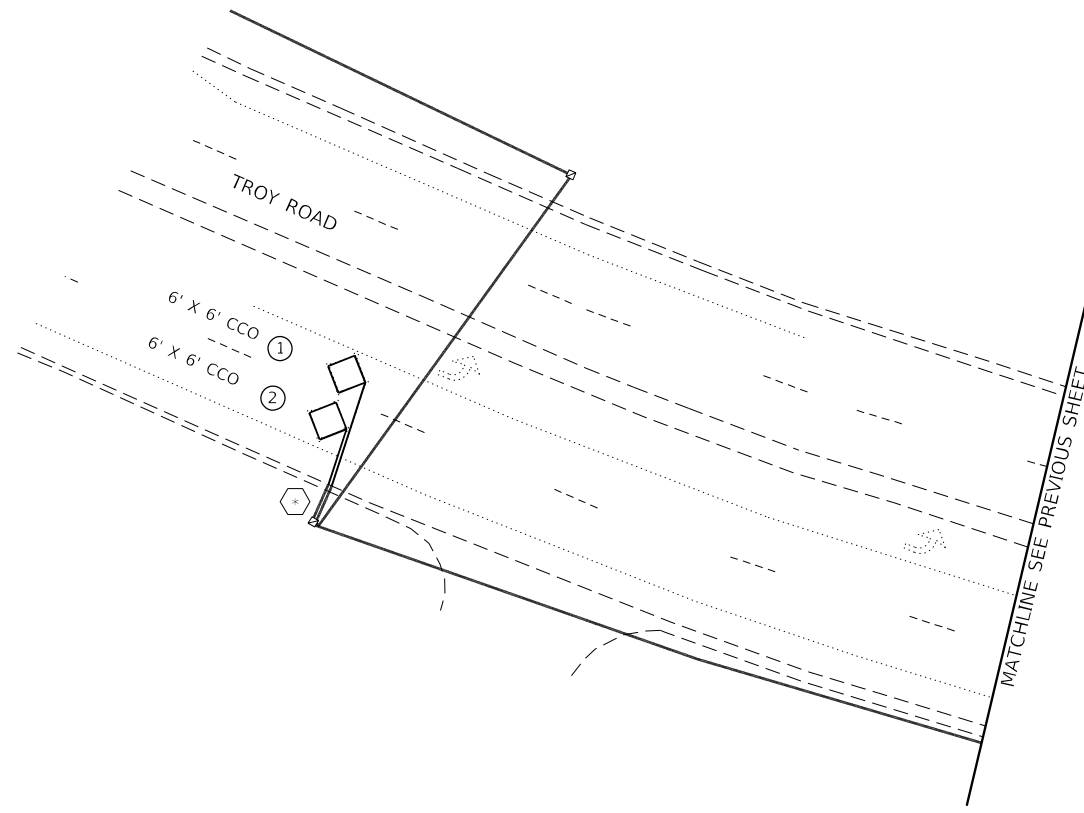
⊕ = SEE DETAIL

NOTES:

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.
SEE "DETAIL" FOR INSTALLING DETECTOR LOOP WIRES IN EXISTING CONDUITS.



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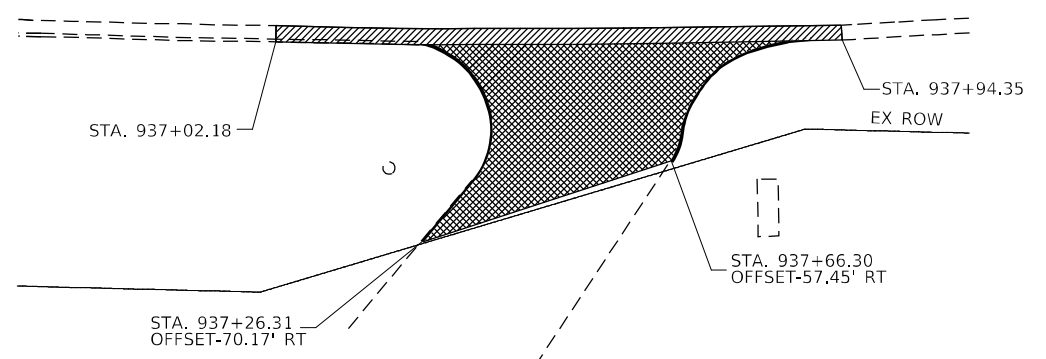
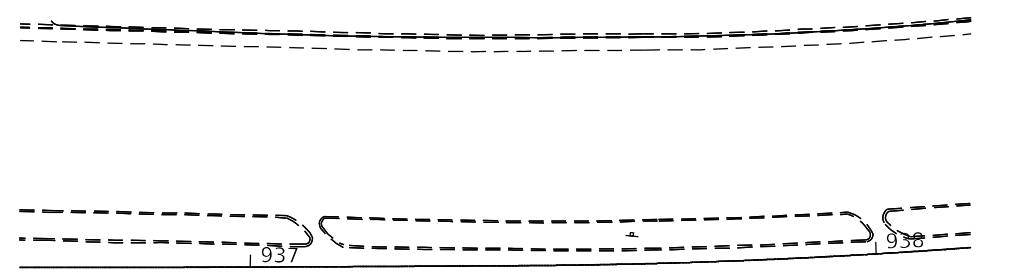
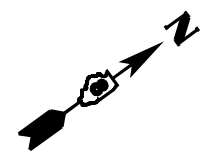
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TROY ROAD AND CENTER GROVE ROAD / GOSHEN ROAD
DETECTOR LOOP REPLACEMENT PLAN

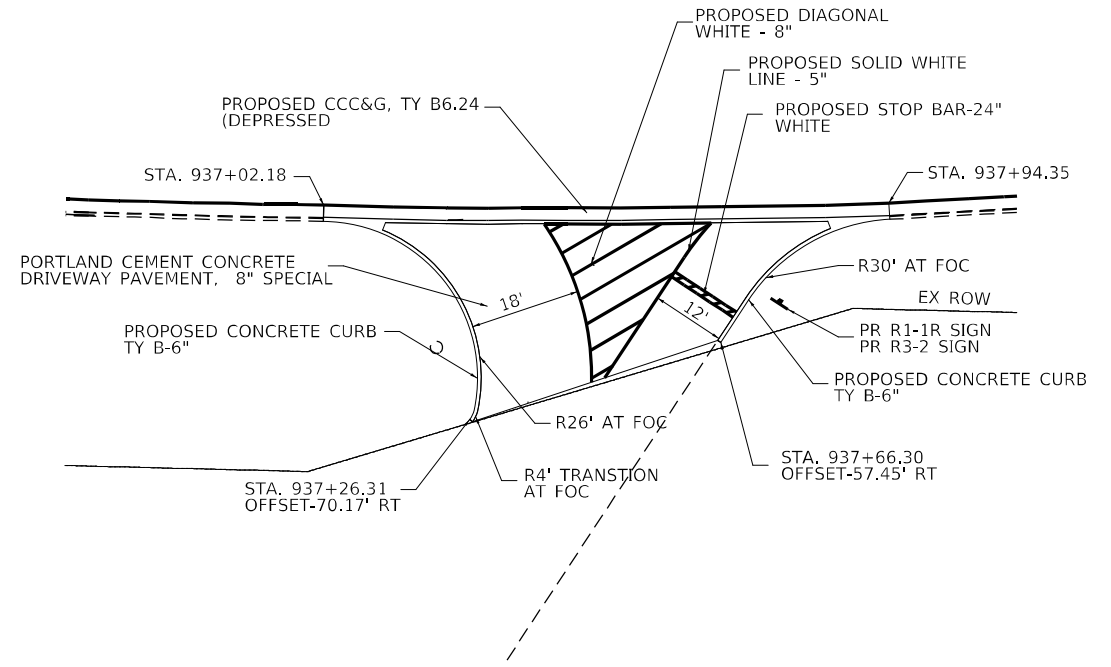
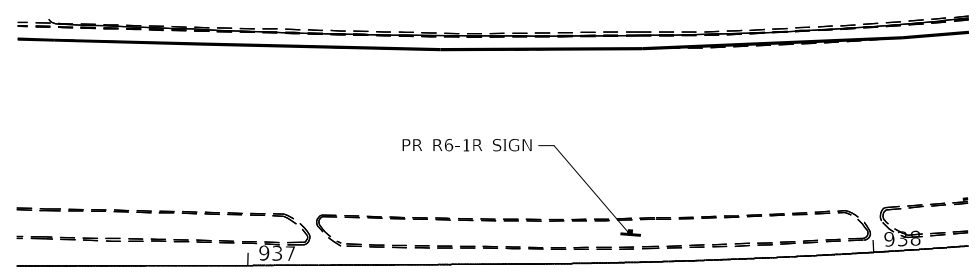
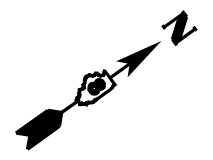
SCALE: 1"=20' SHEET 32 OF 32 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
600	(122, 122-1, 30) R5-4	MADISON	328	327
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				



- PROPOSED CURB REMOVAL = 75 LN FT
- PROPOSED DRIVEWAY PAVEMENT REMOVAL = 96 SQ YDS
- PROPOSED CURB AND GUTTER REMOVAL = 92 LN FT

REMOVAL DETAIL



- CONCRETE CURB TY B = 83 LN FT
- COMBINATION CONCRETE CURB AND GUTTER, TY B6.24 = 94 LN FT
- CONCRET DRIVEWAY PAVEMENT, 8" SPECIAL = 140 SQ YD
- PREFORMED PLASTIC PAVEMENT MARKING TY B INLAID LINE 5" = 85 FT
- PREFORMED PLASTIC PAVEMENT MARKING TY B INLAID LINE 8" = 84 FT
- PREFORMED PLASTIC PAVEMENT MARKING TY B INLAID LINE 24" = 12 FT
- GROOVING FOR RECESSED PAVEMENT MARKING 6" = 85 FT
- GROOVING FOR RECESSED PAVEMENT MARKING 9" = 84 FT
- GROOVING FOR RECESSED PAVEMENT MARKING 25" = 12 FT
- SIGN PANEL, TYPE 1 = 8.25 SQ FT

PROPOSED ENTRANCE

MODEL: I:\MODEL\MAME FILE: MAME: p:\pub\c-24a\bead\p.com\FW\DOT\Documents\DOT_Offices\Dir\dr. B\Project\0876483\CADD\DATA\CAD\PROJECTS\0876483-shr-detaill.dgn

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

HOME DEPOT ENTRANCE DETAIL			
SCALE: NONE	SHEET 1	OF 1	SHEETS
STA.		TO STA.	

F.A./U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(122,122-1,30)RS-4	MADISON	328	328
CONTRACT NO. 76M87				
ILLINOIS FED. AID PROJECT				