

EXISTING DRAINAGE STRUCTURE SCHEDULE											
STR. NUM.	STATION	OFFSET	REMOVING MANHOLES EACH	REMOVING CATCH BASINS EACH	REMOVING INLETS EACH	CONCRETE HEADWALL REMOVAL EACH	REMOVE EX FL END SEC EACH	MANHOLES TO BE ADJUSTED EACH	CATCH BASINS TO BE ADJUSTED EACH	MANHOLES TO BE RECONSTRUCTED EACH	DRAINAGE STRUCTURE TO BE CLEANED EACH
100A	16+80	47 RT				1					
100B	16+80	52 LT				1					
101B	12+95	71 LT					1				
105A	28+30	31 RT				1					
105B	28+30	31 LT				1					
118A	43+13	30 RT				1					
118B	43+13	30 LT				1					
129A	60+93	23 RT				1					
129B	60+93	23 LT				1					
130A	66+83	23 LT				1					
130B	66+83	22 RT				1					
135A	73+69	23 LT				1					
135B	73+69	22 RT				1					
150	92+46	62 RT	1								
151	93+47	62 RT		1							
152	62+34	70 RT	1								
153A	95+83	56 RT					1				
158	110+50	42 RT			1						
159	110+45	58 RT	1								
160	110+72	57 RT			1						
161	111+14	57 RT	1								
162	111+10	43 RT			1						
163A	116+72	46 LT				1					
164	116+72	31 RT	1								
165	116+77	58 RT			1						
166	116+79	38 RT			1						
167	117+94	31 RT		1							
168	118+06	31 RT	1								
168A	118+70	32 RT					1				
169	117+32	60 LT	1								
170	118+81	61 RT	1								
171	121+04	61 LT	1								
172	121+97	61 LT	1								
173	122+72	60 LT	1								
174	124+62	59 LT	1								
174A	125+88	44 LT					1				
175A	126+00	40 LT				1					
175B	125+99	23 RT				1					
188	144+74	22 LT	1								
189	147+61	60 RT		1							
190	151+55	57 RT	1								
190A	153+93	56 RT					1				
191	148+00	89 RT							1		
191A	147+64	90 RT							1		
192	148+50	87 RT							1		
194	148+28	34 RT		1							
195	147+43	54 LT					1				
199	155+08	29 RT	1								
200	155+53	29 LT	1								
201	153+65	48 LT					1				
202	155+39	52 LT		1							
203	157+09	61 LT		1							
204	160+00	50 LT	1								
205	169+92	61 LT	1								
206	170+10	37 LT	1								
206A	174+42	38 LT					1				
207A	157+39	41 LT					1				
212A	170+37	57 LT				1					

FILE NAME : D:\60L71\shl-Ex DR schedule_065\trc.dgn

USER NAME = mmaestra	DESIGNED TPD	REVISED -
	DRAWN TPD	REVISED -
PLOT SCALE = 1:20,000	CHECKED PJO	REVISED -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SCHEDULES
EXISTING DRAINAGE STRUCTURE SCHEDULE**

SCALE: NONE SHEET NO. 6 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	401
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60L71	

EXISTING DRAINAGE STRUCTURE SCHEDULE											
STR. NUM.	STATION	OFFSET	REMOVING MANHOLES EACH	REMOVING CATCH BASINS EACH	REMOVING INLETS EACH	CONCRETE HEADWALL REMOVAL EACH	REMOVE EX FL END SEC EACH	MANHOLES TO BE ADJUSTED EACH	CATCH BASINS TO BE ADJUSTED EACH	MANHOLES TO BE RECONSTRUCTED EACH	DRAINAGE STRUCTURE TO BE CLEANED EACH
212B	171+00	57 LT				1					
214	157+23	37 RT	1								
215	157+76	37 RT	1								
216	164+03	39 RT	1								
217	167+64	39 RT			1						
218	168+20	42 RT			1						
218A	160+18	110 RT		1							
218B	160+44	110 RT		1							
219	169+87	29 LT		1							
221	169+90	42 RT					1				
222	170+31	89 RT		1							
223	170+88	59 RT		1							
224	171+12	37 RT		1							
224A	174+53	39 RT					1				
229A	169+93	48 RT					1				
230A	174+49	37 LT				1					
230B	174+87	31 RT				1					
233	176+15	34 RT		1							
235	179+80	242 RT			1						
239A	179+75	26 LT				1					
241	180+26	68 LT									1
247	195+07	25 LT				1					
248	195+06	53 RT					1				
249	198+55	70 RT							1		
254	208+58	43 LT		1							
255	207+58	42 LT		1							
255A	206+84	44 LT					1				
256	215+35	82 LT			1						
257	215+65	83 LT			1						
258	216+89	73 LT			1						
259	217+75	77 LT			1						
260	217+82	36 LT			1						
262	WEIR										
265	222+67	56 LT					1				
268	20005+05	29 RT			1						
269	2003+66	29 RT			1						
270	2001+86	30 RT			1						
271	223+50	56 LT	1								
272	223+57	48 RT	1								
273	223+88	65 LT			1						
274	224+66	43 LT			1						
275	224+66	32 LT			1						
276	225+25	64 LT			1						
278	225+01	65 LT			1						
279	225+10	30 LT	1								
280	225+63	2808 LT	1								
281	227+27	33 LT	1								
282	227+19	60 LT		1							
283	227+22	57 RT		1							
284	227+33	70 LT	1								
284A	225+88	74 LT			1						
285	227+43	57 LT	1								
286	227+55	32 LT			1						
287	227+85	30 LT			1						
288	229+30	29 LT			1						
289	229+27	25 LT			1						
290	229+99	27 LT			1						
291	230+19	30 LT	1								
296	232+68	26 LT			1						
297	234+10	73 LT							1		
298	234+14	63 LT						1			
299	234+41	52 LT		1							

FILE NAME : D:\60L71\shl-Ex DR schedule_075\src.dgn

USER NAME = mmaestra	DESIGNED TPD	REVISION -
	DRAWN TPD	REVISION -
PLOT SCALE = 1:20.0001	CHECKED PJO	REVISION -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISION -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SCHEDULES
EXISTING DRAINAGE STRUCTURE SCHEDULE**

SCALE: NONE SHEET NO. 7 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	402
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60L71	

EXISTING DRAINAGE STRUCTURE SCHEDULE											
STR. NUM.	STATION	OFFSET	REMOVING MANHOLES EACH	REMOVING CATCH BASINS EACH	REMOVING INLETS EACH	CONCRETE HEADWALL REMOVAL EACH	REMOVE EX FL END SEC EACH	MANHOLES TO BE ADJUSTED EACH	CATCH BASINS TO BE ADJUSTED EACH	MANHOLES TO BE RECONSTRUCTED EACH	DRAINAGE STRUCTURE TO BE CLEANED EACH
300	234+70	52 LT		1							
301	234+84	40 LT		1							
302	236+12	35 LT		1							
303	236+09	71 LT					1				
305	237+05	52 LT			1						
306	237+33	53 LT			1						
307	237+49	82 LT		1							
308	237+55	35 LT			1						
310A	236+50	58 LT					1				
310B	236+61	45 LT					1				
315	249+88	39 LT	1								
317	256+87	49 RT	1								
322	258+97	37 RT					1				
323	259+92	401 RT		1							
324	260+22	40 RT		1							
325	261+90	42 RT		1							
326	262+58	41 RT		1							
327	263+14	43 LT				1					
327A	263+14	40 RT				1					
328	263+59	39 RT					1				
329	262+62	41 LT					1				
330	263+68	44 LT					1				
331	263+68	44 LT					1				
332	269+25	41 LT					1				
333	268+41	41 LT			1						
333A	264+57	40 LT					1				
335	264+92	49 RT			1						
341	276+21	37 LT	1								
342	3002+64	17 RT									1
344	3001+98	21 LT						1			
345	3001+33	20 RT			1						
346	3001+20	20 RT			1						
347	3001+35	18 LT			1						
348	3001+21	18 LT			1						
349	3001+23	27 LT						1			
350	276+48	53 LT			1						
351	276+51	49 LT								1	
352	276+46	22 LT								1	
353	2998+87	35 LT	1								
354	2998+84	21 LT			1						
355	2997+70	36 LT						1			
356	2997+67	18 LT			1						
357	2997+02	30 LT						1			
368	2996+91	20 LT						1			
370A	989+60	24 LT		1							
370B	989+03	39 LT		1							
370C	987+93	30 LT		1							
370	993+97	30 RT			1						
371	993+97	21 LT		1							
372	993+90	31 LT		1							
373	996+37	24 LT			1						
374	996+37	30 LT		1							
375	997+12	22 LT	1								
376	996+61	25 RT		1							
376A	997+83	21 RT			1						
377	999+42	28 RT					1				
377A	999+28	27 LT					1				
382	2003+71	29 LT			1						
		TOTAL	35	33	44	23	27	6 *	4 *	3	2

* QUANTITY SHOWN FOR MANHOLES AND CATCH BASINS TO BE ADJUSTED DOES NOT INCLUDE STRUCTURES ADJUSTED FOR MOT PURPOSES. SEE MOT PLANS FOR ADDITIONAL QUANTITIES.

FILE NAME : D:\60L71\shht-Ex DR schedule_085\trc.dgn

USER NAME : mmaestra	DESIGNED TPD	REVISED -
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PLOT SCALE : 1:20,000	CHECKED PJO	REVISED -
PLOT DATE : 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SCHEDULES
EXISTING DRAINAGE STRUCTURE SCHEDULE**

SCALE: NONE SHEET NO. 8 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	403
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60L71	

FILE NAME : D:\60L71\shd\drain_50_Schedule.dgn

REMOVAL OF EXISTING REINFORCED CONCRETE BOX CULVERTS				
PAY ITEM	QUANTITY	LOCATION	SIZE	LENGTH
	EACH			
REMOVAL OF EXISTING STRUCTURES NO. 1	1	Sta. 16+80	4.5' x 2'	98'
REMOVAL OF EXISTING STRUCTURES NO. 2	1	Sta. 28+30	2' x 2'	63'
REMOVAL OF EXISTING STRUCTURES NO. 3	1	Sta. 43+13	4' x 4'	60'
REMOVAL OF EXISTING STRUCTURES NO. 4	1	Sta. 60+90	3' x 2'	46'
REMOVAL OF EXISTING STRUCTURES NO. 5	1	Sta. 66+83	2' x 2'	46'
REMOVAL OF EXISTING STRUCTURES NO. 6	1	Sta. 73+69	5' x 2'	46'
REMOVAL OF EXISTING STRUCTURES NO. 7	1	Sta. 99+63	4' x 2'	79'
REMOVAL OF EXISTING STRUCTURES NO. 8	1	Sta. 116+72	3.5' x 2'	77'
REMOVAL OF EXISTING STRUCTURES NO. 9	1	Sta. 126+00	2' x 2'	64'
REMOVAL OF EXISTING STRUCTURES NO. 10	1	Sta. 155+08 to Sta. 155+53	3' x 2'	73'
REMOVAL OF EXISTING STRUCTURES NO. 11	1	Sta. 170+37 to Sta. 171+00 (No. Parker Road)	4' x 3'	63'
REMOVAL OF EXISTING STRUCTURES NO. 12	1	Sta. 174+49 to Sta. 174+87	5' x 4'	76'
REMOVAL OF EXISTING STRUCTURES NO. 13	1	Sta. 179+75	4' x 2'	52'
REMOVAL OF EXISTING STRUCTURES NO. 14	1	Sta. 195+07	4' x 2'	52'
REMOVAL OF EXISTING STRUCTURES NO. 15	1	Sta. 230+22	4' x 2'	55'
REMOVAL OF EXISTING STRUCTURES NO. 16	1	Sta. 237+56	3' x 2'	66'
REMOVAL OF EXISTING STRUCTURES NO. 17	1	Sta. 263+14	4' x 4'	85'
REMOVAL OF EXISTING STRUCTURES NO. 18	1	Sta. 277+83	2' x 2'	86'

USER NAME = mmaestra	DESIGNED SAN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DRAINAGE SCHEDULES REMOVAL OF EXISTING REINFORCED CONCRETE BOX CULVERTS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN SAN	REVISED -			351	536-R-1	WILL	1232	404	
PLOT SCALE = 1:100.001	CHECKED PJO	REVISED -			CONTRACT NO. 60L71					
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -			SCALE: AS SHOWN	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS		
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW	
1	159TH ST	14+53	45 LT	CB TA 4 DIA T24F&G	744.93			740.64		740.64			740.64		
1A	159TH ST	14+08	58 LT	CB TA 4 DIA T8G	743.37								740.44		
1B	159TH ST	13+33	62 LT	CB TA 4 DIA T8G	743.22			740.21							740.21
1C	159TH ST	12+54	83 LT	MAN TA 4 DIA T1F CL	745.10										
2	159TH ST	14+53	33 RT	INLETS TA T24F&G	745.15	740.98									
2A	159TH ST	14+13	59 RT	CONC ES 542011 15 1:3	N/A							742.50			
2B	159TH ST	13+90	59 RT	CONC ES 542011 15 1:3	N/A			742.00							
3	159TH ST	15+41	40 LT	INLETS TA T24F&G	745.46							741.01			
4	159TH ST	15+41	35 RT	CB TA 4 DIA T24F&G	745.58										
5	159TH ST	16+29	34 LT	CB TA 4 DIA T24F&G	745.98					742.84					
6	159TH ST	16+29	3 RT	CB TA 4 DIA T8G	746.75	742.68				742.68					
7	159TH ST	16+29	37 RT	CB TA 4 DIA T24F&G	746.01	742.54				742.54			742.54		
8	159TH ST	16+29	45 RT	MAN TA 4 DIA T1F CL	746.44	742.53				742.53					
9	159TH ST	16+29	51 RT	CONC ES 542001 15 1:2	N/A	742.50									
10	159TH ST	25+19	32 LT	INLETS TA T24F&G	773.18					767.62					
11	159TH ST	25+19	9 RT	CB TA 4 DIA T8G	774.15	767.23				767.03					
12	159TH ST	25+19	40 RT	CB TA 4 DIA T24F&G	773.14	766.75				766.55					
13	159TH ST	25+19	49 RT	MAN TA 4 DIA T1F CL	772.51	766.50						765.00			
14	159TH ST	22+69	32 LT	INLETS TA T24F&G	763.60					758.34					
15	159TH ST	22+69	38 RT	CB TA 4 DIA T24F&G	763.60	757.66				757.46					
16	159TH ST	22+69	49 RT	MAN TA 4 DIA T1F CL	763.93	757.39									
17	159TH ST	20+19	32 LT	INLETS TA T24F&G	753.56					748.73					
18	159TH ST	20+19	38 RT	CB TA 4 DIA T24F&G	753.56	748.05				747.85					
19	159TH ST	20+19	49 RT	MAN TA 4 DIA T1F CL	753.95	747.78				746.78					
20	159TH ST	16+99	32 LT	INLETS TA T24F&G	746.57							743.98			
21	159TH ST	17+95	32 LT	CB TA 4 DIA T24F&G	747.87					743.58					
22	159TH ST	17+95	38 RT	CB TA 4 DIA T24F&G	747.87	743.30				743.30					
23	159TH ST	17+95	46 RT	MAN TA 4 DIA T1F CL	748.21	743.28				743.48			743.28		
24	159TH ST	17+16	46 RT	MAN TA 4 DIA T1F CL	747.06					742.53					
25	159TH ST	17+16	53 RT	CONC ES 542001 18 1:2	N/A	742.50									
26	159TH ST	20+25	78 RT	CONC ES 542011 15 1:3	N/A								746.90		
27	159TH ST	20+19	78 RT	CB TA 4 DIA T8G	749.18	746.86									
28	159TH ST	17+97	60 RT	CB TA 4 DIA T8G	745.89								742.62		
29	159TH ST	17+47	63 RT	CONC ES 542001 18 1:2	N/A					742.50					
30	159TH ST	21+80	73 LT	CONC ES 542011 15 1:3	N/A							754.91			
31	159TH ST	21+48	73 LT	CONC ES 542011 15 1:3	N/A					754.07					
32	159TH ST	18+96	73 LT	CONC ES 542011 15 1:3	N/A							744.82			
33	159TH ST	18+66	73 LT	CONC ES 542011 15 1:3	N/A					744.38					
38	159TH ST	16+81	49 RT	BOX CUL END SEC C1	N/A										SEE STRUCTURE DETAIL
39	159TH ST	16+81	57 LT	BOX CUL END SEC C2	N/A										SEE STRUCTURE DETAIL
101	159TH ST	26+35	32 LT	INLETS TA T24F&G	775.99					772.11					
102	159TH ST	26+35	38 RT	CB TA 4 DIA T24F&G	775.99	771.77				771.57					
103	159TH ST	26+35	49 RT	MAN TA 4 DIA T1F CL	776.32	771.54									
104	159TH ST	27+69	32 LT	INLETS TA T24F&G	777.78					772.34					
105	159TH ST	27+69	38 RT	CB TA 4 DIA T24F&G	777.78	772.00				771.80					
106	159TH ST	27+69	49 RT	MAN TA 4 DIA T1F CL	778.25	771.77				770.77					
107	159TH ST	27+69	66 RT	PRC FLAR END SEC 12	N/A	770.70									
108	159TH ST	30+44	32 LT	INLETS TA T24F&G	779.67					774.78					
109	159TH ST	30+44	38 RT	CB TA 4 DIA T24F&G	779.67	774.10				773.90					
110	159TH ST	30+44	49 RT	MAN TA 4 DIA T1F CL	779.98	773.83						772.33			
111	159TH ST	28+84	32 LT	INLETS TA T24F&G	778.57					772.68					
112	159TH ST	28+84	4 RT	CB TA 4 DIA T8G	779.08	772.36				772.16					
113	159TH ST	28+84	38 RT	CB TA 4 DIA T24F&G	778.57	771.84				771.64					
114	159TH ST	28+84	49 RT	MAN TA 4 DIA T1F CL	778.90	771.57									
115	159TH ST	28+84	69 RT	PRC FLAR END SEC 12	N/A	770.49									
116	159TH ST	28+30	62 RT	CONC ES 542001 48 1:2	N/A	768.50									
117	159TH ST	28+30	67 LT	CONC ES 542001 48 1:3	N/A										
118	159TH ST	30+41	66 RT	CONC ES 542011 15 1:3	N/A										TRAVERSABLE PIPE GRATE**
119	159TH ST	29+97	68 RT	CONC ES 542011 15 1:3	N/A							774.88			
201	159TH ST	32+49	67 RT	CONC ES 542011 15 1:3	N/A										
201A	159TH ST	32+75	67 RT	CONC ES 542011 15 1:3	N/A										
202	159TH ST	32+98	64 RT	CONC ES 542011 15 1:3	N/A										
202A	159TH ST	33+21	64 RT	CONC ES 542011 15 1:3	N/A										
203	159TH ST	34+81	65 RT	CB TA 4 DIA T8G	774.19										
204	159TH ST	34+62	38 RT	CB TA 4 DIA T24F&G	778.51	771.58				771.38					
205	159TH ST	34+62	32 LT	INLETS TA T24F&G	778.51					771.87					
206	159TH ST	34+62	49 RT	MAN TA 5 DIA T1F CL	778.77	771.35									
207	159TH ST	36+22	64 RT	CB TA 4 DIA T8G	771.50										
208	159TH ST	37+13	58 RT	CB TA 4 DIA T8G	771.75	761.01									
209	159TH ST	37+12	38 RT	CB TA 4 DIA T24F&G	772.69	761.22				761.02					
210	159TH ST	37+12	5 LT	CB TA 4 DIA T8G	773.66	761.62				761.42					
211	159TH ST	37+12	35 LT	INLETS TA T24F&G	772.69					761.75					
212	159TH ST	37+12	49 RT	MAN TA 4 DIA T1F CL	772.66	760.99				760.99					
213	159TH ST	39+21	62 RT	CB TA 4 DIA T8G	763.90										
214	159TH ST	39+62	62 RT	CB TA 4 DIA T8G	762.00	755.61									
215	159TH ST	39+62	38 RT	CB TA 4 DIA T24F&G	763.22	755.80									
216	159TH ST	39+62	38 LT	INLETS TA T24F&G	763.22					755.60					
217	159TH ST	39+62	49 RT	MAN TA 4 DIA T1F CL	763.55	755.57				756.17					
218	159TH ST	40+80	38 LT	CB TA 4 DIA T24F&G	759.42	753.13									
219	159TH ST	40+80	49 RT	MAN TA 4 DIA T1F CL	759.83	752.52									
219A	159TH ST	40+79	67 LT	CB TA 4 DIA T8G	757.40					753.26					
220	159TH ST	42+12	38 RT	CB TA 4 DIA T24F&G	756.86	749.45				749.25					
221	159TH ST	42+12	38 LT	INLETS TA T24F&G	756.86					749.81					
222	159TH ST	42+12	49 RT	MAN TA 4 DIA T1F CL	757.24	749.21									
224	159TH ST	42+70	49 RT	MAN TA 4 DIA T1F CL	756.73					745.24					
224A	159TH ST	42+70	69 RT	CONC ES 542001 24 1:2	N/A	745.20									
225	159TH ST	54+46	38 RT	CB TA 4 DIA T24F&G	776.17	769.41									
226	159TH ST	54+46	38 LT	CB TA 4 DIA T24F&G	776.17	769.89				769.69					
227	159TH ST	55+53	61 LT	CB TA 4 DIA T8G	777.79										
228	159TH ST	54+46	61 LT	CB TA 4 DIA T8G	776.14										
229	159TH ST	54+46	32 RT	MAN TA 4 DIA T1F CL	776.41					770.18					
230	159TH ST	52+46	61 RT	CB TA 4 DIA T8G	769.93	765.02				769.98					
231	159TH ST	52+46	38 RT	CB TA 4 DIA T24F&G	772.20	764.99				769.38					
232	159TH ST	52+46	2 RT	CB TA 4 DIA T8G	772.92	765.30									
233	159TH ST	52+46	38 LT	CB TA 4 DIA T24F&G	772.20	765.46				765.30					

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
1	STORM SEW CL A 1	12	44	0.44%	6		
1A	STORM SEW CL A 1	15	70	0.33%	-		
1B	STORM SEW CL A 1	18	78	0.26%	21		
2	STORM SEW CL A 2	12	77	0.44%	15		
2A	P CUL CL A 1	15	23	2.17%	5		
3	STORM SEW CL A 2	12	85	0.44%	17		
4	STORM SEW CL A 1	12	84	0.44%	7		
5	STORM SEW CL A 1	12	38	0.44%	6		
6	STORM SEW CL A 1	12	30	0.44%	5		
7	STORM SEW CL A 1	15	4	0.33%	1		
8	STORM SEW CL A 1	15	4	0.75%	1		
10	STORM SEW CL A 2	12	39	1.00%	17		
11	STORM SEW CL A 2	12	28	1.00%	21		
12	STORM SEW CL A 2	12	5	1.00%	3		
13	STORM SEW CL A 2	12	246	3.50%	262		
14	STORM SEW CL A 2	12	68	1.00%	24		
15	STORM SEW CL A 2	12	7	1.00%	3		
16	STORM SEW CL A 2	15	246	3.50%	265		

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS			
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW		
234	159TH ST	52+46	74 LT	CB TA 4 DIA T8G	768.80											
235	159TH ST	52+46	32 RT	MAN TA 4 DIA T1F CL	772.44											
236	159TH ST	50+67	38 RT	CB TA 4 DIA T24F&G	768.65	762.29										
237	159TH ST	50+67	38 LT	CB TA 4 DIA T24F&G	768.65											
238	159TH ST	50+67	32 RT	MAN TA 4 DIA T1F CL	768.89											
239	159TH ST	49+60	32 RT	MAN TA 5 DIA T1F CL	766.77											
239A	159TH ST	49+12	91 RT	CB TA 4 DIA T11V F&G	763.30		759.23									
239B	159TH ST	48+88	91 RT	INLETS TA T11V F&G	763.32											
239C	159TH ST	49+38	59 RT	CB TA 4 DIA T8G	764.50											
240	159TH ST	49+60	38 RT	CB TA 4 DIA T24F&G	766.53	760.51										
241	159TH ST	49+60	6 RT	CB TA 4 DIA T8G	767.08	760.01										
242	159TH ST	49+60	38 LT	INLETS TA T24F&G	766.53											
244	159TH ST	49+30	49 RT	MAN TA 5 DIA T1F CL	766.26		759.02									
245	159TH ST	47+11	38 RT	CB TA 4 DIA T24F&G	761.59	754.18										
246	159TH ST	47+11	38 LT	CB TA 4 DIA T24F&G	761.59											
248	159TH ST	47+11	49 RT	MAN TA 4 DIA T1F CL	761.92	754.15										
250	159TH ST	45+92	38 RT	CB TA 4 DIA T24F&G	759.23											
251	159TH ST	44+59	38 RT	CB TA 4 DIA T24F&G	756.85	748.68										
252	159TH ST	44+59	38 LT	CB TA 4 DIA T24F&G	756.85	749.24										
253	159TH ST	45+41	65 LT	CB TA 4 DIA T8G	757.31											
254	159TH ST	44+59	65 LT	CB TA 4 DIA T8G	754.50											
255	159TH ST	44+59	49 RT	MAN TA 6 DIA T1F CL	757.30	748.44										
255A	159TH ST	45+92	49 RT	MAN TA 6 DIA T1F CL	759.56	750.96										
256	159TH ST	43+23	38 LT	INLETS TA T24F&G	756.08											
257	159TH ST	43+36	38 LT	CB TA 4 DIA T24F&G	756.07											
258	159TH ST	43+79	38 LT	INLETS TA T24F&G	756.17											
260	159TH ST	43+22	38 RT	INLETS TA T24F&G	756.08											
261	159TH ST	43+36	0 LT	CB TA 4 DIA T8G	756.62	751.25										
262	159TH ST	43+36	38 RT	CB TA 4 DIA T24F&G	756.07	750.88										
263	159TH ST	43+79	38 RT	CB TA 4 DIA T24F&G	756.17											
264	159TH ST	43+72	49 RT	MANHOLE W/RESTRICT PLT	756.47											
265	159TH ST	43+58	70 RT	CONC ES 542001 24 1:2	N/A											
266	159TH ST	43+09	61 RT	CONC ES 542001 72 1:2	N/A	744.20										
267	159TH ST	43+10	66 LT	CONC ES 542001 72 1:2	N/A											
268	159TH ST	42+99	107 LT	PRC FLAR END SEC 72	N/A											
269	159TH ST	42+67	118 LT	PRC FLAR END SEC 72	N/A											
270	159TH ST	45+51	65 RT	CONC ES 542011 15 1:3	N/A											
271	159TH ST	45+21	65 RT	CONC ES 542011 15 1:3	N/A											
301	159TH ST	57+96	38 RT	INLETS TA T24F&G	777.92	773.64										
302	159TH ST	57+96	38 LT	CB TA 4 DIA T24F&G	777.92	773.26										
303	159TH ST	57+96	52 LT	MAN TA 4 DIA T1F CL	778.20											
304	159TH ST	58+99	38 RT	INLETS TA T24F&G	777.24	773.19										
305	159TH ST	58+99	38 LT	CB TA 4 DIA T24F&G	777.24	772.62										
306	159TH ST	58+99	52 LT	MAN TA 4 DIA T1F CL	777.51											
307	159TH ST	60+02	38 RT	INLETS TA T24F&G	776.56	772.37										
308	159TH ST	60+02	38 LT	CB TA 4 DIA T24F&G	776.56	771.99										
309	159TH ST	60+02	52 LT	MAN TA 4 DIA T1F CL	776.83	771.74										
310	159TH ST	60+02	64 LT	CONC ES 542001 15 1:2	N/A											
311	159TH ST	61+05	38 RT	INLETS TA T24F&G	775.88	772.72										
312	159TH ST	61+05	38 LT	CB TA 4 DIA T24F&G	775.88	772.40										
313	159TH ST	61+05	52 LT	MAN TA 4 DIA T1F CL	776.15											
314	159TH ST	62+08	38 RT	INLETS TA T24F&G	775.20	772.08										
315	159TH ST	62+08	38 LT	CB TA 4 DIA T24F&G	775.20	771.76										
316	159TH ST	62+08	52 LT	MAN TA 4 DIA T1F CL	775.47											
317	159TH ST	63+11	38 RT	INLETS TA T24F&G	774.51	771.63										
318	159TH ST	63+11	6 LT	CB TA 4 DIA T8G	775.51	771.45										
319	159TH ST	63+11	38 LT	CB TA 4 DIA T24F&G	774.51	771.32										
320	159TH ST	63+11	52 LT	MAN TA 4 DIA T1F CL	774.80	771.28										
321	159TH ST	63+11	60 LT	CONC ES 542001 15 1:2	N/A											
322	159TH ST	64+34	38 RT	CB TA 4 DIA T24F&G	773.70											
323	159TH ST	64+37	61 RT	PRC FLAR END SEC 12	N/A	770.30										
324	159TH ST	60+93	61 LT	CONC ES 542001 24 1:2	N/A											
325	159TH ST	60+93	59 RT	CONC ES 542001 24 1:3	N/A	770.90										
401	159TH ST	64+56	38 LT	INLETS TA T24F&G	773.56											
402	159TH ST	65+60	38 LT	CB TA 4 DIA T24F&G	772.87	768.53										
403	159TH ST	65+60	52 LT	MAN TA 4 DIA T1F CL	773.15											
404	159TH ST	66+63	38 RT	INLETS TA T24F&G	772.19	768.57										
405	159TH ST	66+63	38 LT	CB TA 4 DIA T24F&G	772.19	768.21										
406	159TH ST	66+63	52 LT	MAN TA 4 DIA T1F CL	772.47	768.16										
407	159TH ST	66+63	60 LT	CONC ES 542001 15 1:2	N/A											
408	159TH ST	67+80	38 RT	INLETS TA T24F&G	771.89											
409	159TH ST	67+60	38 RT	CB TA 4 DIA T24F&G	771.87											
410	159TH ST	67+40	38 RT	INLETS TA T24F&G	771.89	768.51										
411	159TH ST	67+49	5 RT	CB TA 4 DIA T8G	772.84	768.34										
412	159TH ST	67+80	38 LT	INLETS TA T24F&G	771.89											
413	159TH ST	67+60	38 LT	CB TA 4 DIA T24F&G	771.87											
414	159TH ST	67+40	38 LT	CB TA 4 DIA T24F&G	771.89	768.21										
415	159TH ST	67+49	52 LT	MAN TA 4 DIA T1F CL	772.25											
416	159TH ST	66+94	52 LT	MAN TA 4 DIA T1F CL	772.30	768.04										
417	159TH ST	66+94	61 LT	CONC ES 542001 15 1:2	N/A											
418	159TH ST	66+83	67 LT	CONC ES 542001 24 1:2	N/A											
419	159TH ST	66+83	52 LT	MANHOLE W/RESTRICT PLT	772.35	767.70										
420	159TH ST	66+83	57 RT	CONC ES 542001 24 1:3	N/A	767.60										
421	159TH ST	67+78	70 LT	CONC ES 542011 15 1:3	N/A											
422	159TH ST	67+57	70 LT	CONC ES 542011 15 1:3	N/A											
501	159TH ST	68+71	38 LT	INLETS TA T24F&G	772.20											
502	159TH ST	69+48	38 RT	CB TC T24G&G	772.51	769.95										
502A	159TH ST	69+31	58 RT	CB TC T8G	772.10											
503	159TH ST	69+48	38 LT	CB TA 4 DIA T24F&G	772.51	769.63										
504	159TH ST	69+48	52 LT	MAN TA 4 DIA T1F CL	772.78	769.58										
505	159TH ST	70+39	38 RT	INLETS TA T24F&G	772.87	770.24										
506	159TH ST	70+39	38 LT	CB TA 4 DIA T24F&G	772.87	769.91										
507	159TH ST	70+39	52 LT	MAN TA 4 DIA T1F CL	773.14											
508	159TH ST	71+31	38 RT	INLETS TA T24F&G	773.24	770.53										

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
237	STORM SEW CL A 2	12	73	0.50%	28		
238	STORM SEW CL A 2	18	103	1.25%	87		
239	STORM SEW CL A 2	24	30	1.50%	27		
239A	STORM SEW CL A 2	12	41	0.50%	15		
239B	STORM SEW CL A 1	12	20	0.50%	4		
239C	STORM SEW CL A 2	12	10	1.00%	-		
240	STORM SEW CL A 2	12	7	0.50%	3		
241	STORM SEW CL A 2	12	28	0.50%	22		
242	STORM SEW CL A 2	12	40	0.50%	19		
244	STORM SEW CL A 2	24	215	1.80%	280		
245	STORM SEW CL A 2	12	7	0.44%	7		
246	STORM SEW CL A 2	12	72	0.44%	58		
248	STORM SEW CL A 2	24	114	1.80%	145		
250	STORM SEW CL A 2	12	7	0.50%	7		
251	STORM SEW CL A 2	12	7	0.50%	8		
252	STORM SEW CL A 2	12	72	0.50%	67		
253	STORM SEW CL A 2	12	78	0.50%	59		
254	STORM SEW CL A 2	12	23	0.50%	19		
255	STORM SEW CL A 2	48	81	0.25%	150		
255A	STORM SEW CL						

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS			
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW		
509	159TH ST	71+31	38 LT	CB TA 4 DIA T24F&G	773.24	770.20							770.20			
510	159TH ST	71+31	52 LT	MAN TA 4 DIA T1F CL	773.51								770.16	770.16		
511	159TH ST	69+48	60 LT	CONC ES 542001 18 1:2	N/A								769.57			
512	159TH ST	85+86	61 RT	CB TA 4 DIA T8G	788.75	784.88										
513	159TH ST	85+86	38 LT	CB TA 4 DIA T24F&G	789.15	784.37							784.37			
513A	159TH ST	85+75	68 LT	CB TA 4 DIA T8G	786.70								784.50			
514	159TH ST	85+86	38 RT	CB TA 4 DIA T24F&G	789.15	784.59							784.79			
515	159TH ST	85+86	32 RT	MAN TA 4 DIA T1F CL	789.27	784.07							784.57	784.07		
516	159TH ST	83+36	38 LT	CB TA 4 DIA T24F&G	783.39								778.76			
517	159TH ST	83+36	38 RT	CB TA 4 DIA T24F&G	783.39	777.94										
518	159TH ST	83+36	32 RT	MAN TA 4 DIA T1F CL	783.51	778.42							777.92	777.42		
519	159TH ST	80+78	38 LT	CB TA 4 DIA T24F&G	776.62								771.91			
520	159TH ST	80+81	38 RT	CB TA 4 DIA T24F&G	776.67											
521	159TH ST	80+78	32 RT	MAN TA 5 DIA T1F CL	776.74	771.57									771.59	
522	159TH ST	80+44	59 RT	CONC ES 542001 24 1:2	N/A											
523	159TH ST	79+29	68 LT	CB TA 4 DIA T8G	773.35											
524	159TH ST	79+16	68 LT	CB TA 4 DIA T8G	773.55											
526	159TH ST	79+15	56 RT	CONC ES 542001 18 1:2	N/A	769.78										
527	159TH ST	78+91	38 LT	INLETS TA T24F&G	775.02											
528	159TH ST	78+69	38 LT	INLETS TA T24F&G	775.02											
529	159TH ST	78+81	38 LT	CB TA 4 DIA T24F&G	775.02											
530	159TH ST	78+81	6 RT	CB TA 4 DIA T8G	776.02	770.49										
531	159TH ST	78+90	38 RT	INLETS TA T24F&G	775.02											
532	159TH ST	78+69	38 RT	INLETS TA T24F&G	775.02											
533	159TH ST	78+81	38 RT	CB TA 4 DIA T24F&G	775.02	770.23										
534	159TH ST	78+81	32 RT	MAN TA 4 DIA T1F CL	775.26	770.22										
535	159TH ST	78+25	38 LT	CB TA 4 DIA T24F&G	775.15											
536	159TH ST	78+25	38 RT	CB TA 4 DIA T24F&G	775.15	770.74										
537	159TH ST	78+25	32 RT	MAN TA 4 DIA T1F CL	775.27	770.73										
538	159TH ST	77+06	72 LT	CB TA 4 DIA T8G	772.15											
539	159TH ST	74+58	75 LT	PRC FLAR END SEC 12	N/A											
540	159TH ST	74+95	38 LT	CB TA 4 DIA T24F&G	774.70											
541	159TH ST	76+38	38 LT	CB TA 4 DIA T24F&G	775.27											
542	159TH ST	76+38	32 RT	MAN TA 5 DIA T1F CL	775.34	769.40										
543	159TH ST	76+26	38 RT	CB TA 4 DIA T24F&G	775.22											
544	159TH ST	76+38	55 RT	CONC ES 542001 30 1:2	N/A	769.37										
545	159TH ST	75+16	38 RT	INLETS TA T24F&G	774.78											
546	159TH ST	73+83	38 RT	INLETS TA T24F&G	774.25											
547	159TH ST	74+49	38 RT	CB TA 4 DIA T24F&G	774.51											
548	159TH ST	74+49	46 RT	MAN TA 4 DIA T1F CL	774.90	769.24										
549	159TH ST	74+49	60 RT	PRC FLAR END SEC 12	N/A	768.99										
550	159TH ST	73+02	38 RT	INLETS TA T24F&G	773.92											
551	159TH ST	73+59	38 LT	INLETS TA T24F&G	774.15											
552	159TH ST	72+45	38 LT	CB TA 4 DIA T24F&G	773.70											
553	159TH ST	72+45	0 LT	CB TA 4 DIA T8G	774.15	769.67										
554	159TH ST	71+88	38 RT	INLETS TA T24F&G	773.47											
555	159TH ST	72+45	38 RT	CB TA 4 DIA T24F&G	773.70	769.30										
556	159TH ST	72+45	46 RT	MAN TA 4 DIA T1F CL	774.12	769.08										
557	159TH ST	72+45	56 RT	CONC ES 542001 15 1:2	N/A	768.84										
558	159TH ST	75+85	67 RT	CONC ES 542001 30 1:2	N/A											
559	159TH ST	75+38	67 RT	CONC ES 542001 30 1:2	N/A											
560	159TH ST	71+47	58 LT	BOX CUL END SEC C3	N/A											
561	159TH ST	71+47	50 RT	BOX CUL END SEC C4	N/A											
600	159TH ST	90+05	8 LT	INLETS TA T11V F&G	790.75											
601	159TH ST	90+05	52 RT	CB TA 4 DIA T24F&G	789.86	784.98										
601A	159TH ST	88+57	70 RT	CB TA 4 DIA T8G	789.75											
601B	159TH ST	90+34	67 RT	CB TA 4 DIA T24F&G	788.71											
602	159TH ST	90+52	95 RT	CB TA 4 DIA T24F&G	788.00											
602A	CEDAR RD	998+54	39 LT	CB TA 4 DIA T24F&G	788.11	784.58										
603	CEDAR RD	993+98	33 LT	CB TA 4 DIA T24F&G	800.68	791.22										
604	CEDAR RD	993+99	33 RT	INLETS TA T24F&G	800.68											
605	CEDAR RD	996+23	54 LT	CB TA 4 DIA T8G	793.49											
606	CEDAR RD	996+48	33 LT	CB TA 4 DIA T24F&G	794.76	786.79										
607	CEDAR RD	996+49	33 RT	INLETS TA T24F&G	794.76											
608	159TH ST	91+36	95 RT	CB TA 4 DIA T24F&G	788.32											
609	159TH ST	91+52	67 RT	CB TA 4 DIA T24F&G	788.22											
610	159TH ST	92+05	55 RT	MAN TA 4 DIA T1F CL	788.43	780.64										
611	159TH ST	90+47	62 LT	CB TA 4 DIA T24F&G	788.82											
611A	159TH ST	89+75	70 LT	CB TA 4 DIA T8G	787.90											
612	159TH ST	90+68	95 LT	CB TA 4 DIA T24F&G	788.13											
613	CEDAR RD	1002+10	52 LT	CB TA 4 DIA T8G	788.60	784.12										
613A	CEDAR RD	1002+65	53 LT	CB TA 4 DIA T8G	788.38											
614	159TH ST	90+57	114 LT	MAN TA 4 DIA T1F CL	788.90	783.88										
615	159TH ST	91+51	95 LT	CB TA 4 DIA T24F&G	787.81											
616	CEDAR RD	1002+65	53 RT	CB TA 4 DIA T8G	787.90											
617	159TH ST	91+56	115 LT	MAN TA 6 DIA T1F CL	788.90											
618	159TH ST	92+05	61 LT	MAN TA 6 DIA T1F CL	788.28											
619	159TH ST	92+91	38 RT	CB TA 4 DIA T24F&G	787.43	778.42										
619A	159TH ST	92+85	63 RT	CB TA 4 DIA T11V F&G	785.57	778.53										
619B	159TH ST	93+38	78 RT	INLETS TA T11V F&G	785.45											
620	159TH ST	92+91	50 LT	CB TA 4 DIA T24F&G	787.13	778.02										
620A	159TH ST	92+91	8 RT	CB TA 4 DIA T11V F&G	787.91	778.29										
621	159TH ST	92+91	61 LT	MAN TA 6 DIA T1F CL	787.46											
622	159TH ST	94+17	38 RT	INLETS TA T24F&G	786.20	782.00										
622A	159TH ST	94+17	8 RT	CB TA 4 DIA T11V F&G	786.74	781.66										
623	159TH ST	94+17	47 LT	CB TA 4 DIA T24F&G	785.97	779.41										
624	159TH ST	94+17	61 LT	MAN TA 6 DIA T1F CL	786.25											
625	159TH ST	95+66	63 RT	CB TA 4 DIA T8G	782.15											
626	159TH ST	95+43	38 RT	CB TA 4 DIA T24F&G	784.98	778.08										
627	159TH ST	95+43	40 LT	CB TA 4 DIA T24F&G	784.93	777.75										
628	159TH ST	95+43	55 LT	MAN TA 6 DIA T1F CL	784.89											
629	159TH ST	96+69	38 RT	INLETS TA T24F&G	783.76	779.70										
630	159TH ST	97+95	38 LT	INLETS TA T24F&G	782.67											
631	159TH ST	96+69	38 LT	CB TA 4 DIA T24F&G	783.76	779.14										
632	159TH ST	98+86	38 RT	INLETS TA T24F&G	782.51											

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
510	STORM SEW CL A 1	15	88	0.33%	18		
512	STORM SEW CL A 1	12	19	0.50%	7		
513	STORM SEW CL A 2	12	68	0.44%	19		
513A	STORM SEW CL A 1	12	28	0.44%	7		
514	STORM SEW CL A 2	12	3	0.44%	1		
515	STORM SEW CL A 2	15	246	2.50%	82		
516	STORM SEW CL A 2	12	68	0.50%	19		
517	STORM SEW CL A 2	12	3	0.50%	2		
518	STORM SEW CL A 2	18	254	2.50%	102		
519	STORM SEW CL A 2	12	68	0.50%	19		
520	STORM SEW CL A 2	12	3	0.50%	1		
521	STORM SEW CL A 1	24	41	0.18%	9		
523	STORM SEW CL A 1	18	9	0.26%	-		
524	STORM SEW CL A 1	18	122	0.26%	26		
527	STORM SEW CL A 2	12	7	0.50%	2		
528	STORM SEW CL A 2	12	8	0.50%	2		
529	STORM SEW CL A 2	15	40	0.33%	12		

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS		
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW	
633	159TH ST	98+42	38 RT	INLETS TA T24F&G	782.51			778.62							
634	159TH ST	98+64	38 RT	CB TA 4 DIA T24F&G	782.49	778.33		778.53				778.53			
635	159TH ST	98+64	0 LT	CB TA 4 DIA T8G	782.94	778.22									
636	159TH ST	98+86	38 LT	INLETS TA T24F&G	782.51							778.25			
637	159TH ST	98+42	38 LT	CB TA 4 DIA T24F&G	782.51			778.25				778.45			
638	159TH ST	98+64	38 LT	CB TA 4 DIA T24F&G	782.49	777.91		778.16			778.11	778.16			
639	159TH ST	98+64	52 LT	MANHOLE W/RESTRICT PLT	783.21	776.39					777.89	776.39			
640	159TH ST	96+69	52 LT	MAN TA 6 DIA T1F CL	784.03			776.59			779.09	776.59			
641	159TH ST	98+64	60 LT	CONC ES 542001 42 1:2	N/A						776.38				
642	159TH ST	100+13	38 RT	INLETS TA T24F&G	783.29	779.25									
643	159TH ST	100+13	38 LT	CB TA 4 DIA T24F&G	783.30	778.78					778.88				
644	159TH ST	100+13	52 LT	MAN TA 4 DIA T1F CL	783.57			778.53			778.73				
645	159TH ST	101+10	38 RT	INLETS TA T24F&G	784.18	780.24									
646	159TH ST	101+10	38 LT	CB TA 4 DIA T24F&G	784.18	779.67					779.87				
647	159TH ST	101+10	50 LT	MAN TA 5 DIA T1F CL	784.50	776.62					779.62	778.12			
648	159TH ST	102+32	38 RT	INLETS TA T24F&G	785.30	781.25									
649	159TH ST	102+32	38 RT	CB TA 4 DIA T24F&G	785.30	779.88					780.88				
650	159TH ST	105+08	38 RT	INLETS TA T24F&G	787.82	783.56									
651	159TH ST	105+08	6 RT	CB TA 4 DIA T8G	787.81	783.21					783.41	783.21			
652	159TH ST	105+08	38 LT	CB TA 4 DIA T24F&G	787.82	782.81					783.01				
653	159TH ST	105+08	52 LT	MAN TA 4 DIA T1F CL	788.10						782.76	781.51			
654	159TH ST	103+54	70 RT	CB TA 4 DIA T8G	784.03	780.21									
655	159TH ST	103+54	38 RT	CB TA 4 DIA T24F&G	786.41	779.87					780.07				
656	159TH ST	103+54	38 LT	CB TA 4 DIA T24F&G	786.41	779.31					779.51				
657	159TH ST	103+54	52 LT	MAN TA 4 DIA T1F CL	786.68	779.26					780.01	779.26			
658	159TH ST	102+32	52 LT	MAN TA 4 DIA T1F CL	785.57						777.83	779.83			
659	159TH ST	103+54	61 LT	CB TA 4 DIA T8G	783.68						779.29				
660	159TH ST	101+10	58 LT	MANHOLE W/RESTRICT PLT	784.29	776.62					776.62				
661	159TH ST	101+10	66 LT	CONC ES 542001 24 1:2	N/A						776.61				
662	159TH ST	105+57	67 RT	CONC ES 542011 15 1:3	N/A										
663	159TH ST	105+18	67 RT	CONC ES 542011 15 1:3	N/A										
666	CEDAR RD	1004+32	55 RT	CONC ES 542011 15 1:3	N/A						791.88				
667	CEDAR RD	1004+09	55 RT	CONC ES 542011 15 1:3	N/A	791.59									
668	159TH ST	99+96	62 LT	BOX CUL END SEC C5	N/A										
669	159TH ST	99+96	62 RT	BOX CUL END SEC C6	N/A										
701	159TH ST	108+03	38 LT	CB TA 4 DIA T24F&G	788.20	783.66					783.86				
701A	159TH ST	108+03	38 RT	INLETS TA T24F&G	788.20	784.22									
702	159TH ST	108+03	52 LT	MAN TA 4 DIA T1F CL	788.48						783.41	783.61			
703	159TH ST	109+53	38 RT	INLETS TA T24F&G	786.76	781.28									
704	159TH ST	109+53	38 LT	CB TA 4 DIA T24F&G	786.76	780.35									
705	159TH ST	109+53	52 LT	MAN TA 4 DIA T1F CL	787.04						778.25	780.25			
706	159TH ST	110+32	38 RT	INLETS TA T24F&G	786.00	781.28									
707	159TH ST	110+32	38 LT	CB TA 4 DIA T24F&G	786.00	780.35									
708	159TH ST	110+32	52 LT	MAN TA 4 DIA T1F CL	786.28						777.25	780.25			
709	159TH ST	112+10	38 RT	INLETS TA T24F&G	784.29	779.04									
710	159TH ST	112+10	38 LT	CB TA 4 DIA T24F&G	784.29	778.11					778.31				
711	159TH ST	112+10	52 LT	MAN TA 4 DIA T1F CL	784.57						775.01	778.01			
712	159TH ST	113+60	38 RT	INLETS TA T24F&G	782.85	777.38									
713	159TH ST	113+60	38 LT	CB TA 4 DIA T24F&G	782.85	776.45									
714	159TH ST	113+60	52 LT	MAN TA 4 DIA T1F CL	783.13						773.35	776.35			
715	159TH ST	114+85	38 RT	INLETS TA T24F&G	781.65	775.47									
716	159TH ST	114+85	38 LT	CB TA 4 DIA T24F&G	781.65	774.54					774.74				
717	159TH ST	114+85	52 LT	MAN TA 4 DIA T1F CL	781.92						771.44	774.44			
718	159TH ST	116+10	38 RT	INLETS TA T24F&G	780.45	772.92									
719	159TH ST	116+10	6 LT	CB TA 4 DIA T8G	781.44	772.31					772.51				
720	159TH ST	116+10	38 LT	CB TA 4 DIA T24F&G	780.45	771.83					772.03	772.03			
720A	159TH ST	116+59	38 LT	INLETS TA T24F&G	779.98								772.49		
721	159TH ST	116+37	80 LT	CB TA 4 DIA T8G	773.75								770.00		
722	159TH ST	116+10	80 LT	CB TA 4 DIA T8G	773.85										
723	159TH ST	116+10	52 LT	MAN TA 6 DIA T1F CL	780.73	769.74					769.77	769.77			
724	159TH ST	117+31	50 LT	MAN TA 6 DIA T1F CL	779.27	772.29					772.29	768.62			
724A	159TH ST	117+32	60 LT	CB TA 4 DIA T11V F&G	779.01	772.53EX					772.32				
725	159TH ST	116+70	70 RT	CB TA 4 DIA T8G	776.60						772.77				
726	159TH ST	116+99	66 RT	CB TA 4 DIA T11V F&G	778.90						772.44				
727	159TH ST	118+07	38 RT	CB TA 4 DIA T24F&G	778.55						771.43				
727A	159TH ST	118+00	67 RT	CB TA 4 DIA T8G	774.15	771.76									
728	159TH ST	119+29	38 RT	CB TA 4 DIA T24F&G	777.51	770.64							771.96		
729	159TH ST	119+29	38 LT	CB TA 4 DIA T24F&G	777.51	770.08							770.84		
730	159TH ST	119+29	52 LT	MAN TA 6 DIA T1F CL	777.82						770.28	770.03			
731	159TH ST	120+43	38 RT	INLETS TA T24F&G	776.98	771.44									
732	159TH ST	120+43	38 LT	CB TA 4 DIA T24F&G	776.98	770.87									
733	159TH ST	120+43	52 LT	MAN TA 6 DIA T1F CL	777.25						771.07	771.07			
734	159TH ST	121+57	38 RT	INLETS TA T24F&G	776.52	771.33					770.83				
735	159TH ST	121+57	38 LT	CB TA 4 DIA T24F&G	776.52	770.76									
736	159TH ST	121+57	52 LT	MAN TA 6 DIA T1F CL	776.80						770.96	770.72			
737	159TH ST	122+70	38 RT	CB TA 4 DIA T24F&G	776.07	769.21									
738	159TH ST	122+70	38 LT	CB TA 4 DIA T24F&G	776.07	768.65					769.41				
739	159TH ST	122+70	52 LT	MAN TA 6 DIA T1F CL	776.34										
740A	159TH ST	123+00	68 RT	CB TA 4 DIA T8G	772.20										
740	159TH ST	123+85	38 RT	INLETS TA T24F&G	775.61	771.11									
741	159TH ST	123+85	38 LT	CB TA 4 DIA T24F&G	775.61	770.55									
742	159TH ST	123+85	52 LT	MAN TA 6 DIA T1F CL	775.52						770.75	770.50			
743	159TH ST	124+99	38 RT	INLETS TA T24F&G	775.15	770.99									
744	159TH ST	124+99	38 LT	CB TA 4 DIA T24F&G	775.15	770.42									
745	159TH ST	124+99	49 LT	MAN TA 6 DIA T1F CL	775.49						770.62				
746	159TH ST	125+79	49 LT	MAN TA 8 DIA T1F CL	775.17						767.89	770.39			
747	159TH ST	125+79	62 RT	CONC ES 542001 48 1:3	N/A	767.71					767.82				
748	159TH ST	131+02	38 RT	INLETS TA T24F&G	772.74										
749	159TH ST	131+02	38 LT	INLETS TA T24F&G	772.74										
750	159TH ST	130+21	38 RT	CB TA 4 DIA T24F&G	773.06	769.22					769.22				
751	159TH ST	130+21	6 LT	CB TA 4 DIA T8G	774.05	769.02									
752	159TH ST	130+21	38 LT	CB TA 4 DIA T24F&G	773.06	768.88					769.02	768.88			
753	159TH ST	130+21	49 LT	MAN TA 4 DIA T1F CL	773.40						768.85				
754	159TH ST	129+39	38 RT	INLETS TA T24F&G	773.39	769.34									
755	159TH ST	129+39	38 LT	CB TA 4 DIA T24F&G	773.39	768.88					768.98				

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
634	STORM SEW CL A 2	15	34	0.33%	8		
635	STORM SEW CL A 2	15	34	0.33%	8		
636	STORM SEW CL A 2	12	18	0.50%	4		
637	STORM SEW CL A 2	12	18	0.50%	4		
638	STORM SEW CL A 2	15	7	0.33%	2		
639	STORM SEW CL A 1	42	5	0.11%	5		
640	STORM SEW CL A 2	36	189	0.11%	203		
642	STORM SEW CL A 2	12	74	0.50%	15		
643	STORM SEW CL A 2	12	10	0.50%	3		
644	STORM SEW CL A 2	12	93	0.44%	42		
645	STORM SEW CL A 1	12	73	0.50%	14		
646	STORM SEW CL A 2	12	10	0.50%	3		

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS	
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW
756	159TH ST	129+39	49 LT	MAN TA 4 DIA T1F CL	773.73			768.59		768.84		768.59		
757	159TH ST	128+58	38 RT	INLETS TA T24F&G	773.72	769.44								
758	159TH ST	128+58	38 LT	CB TA 4 DIA T24F&G	773.72	768.88				769.08				
759	159TH ST	128+58	49 LT	MAN TA 4 DIA T1F CL	773.89	768.54		768.34		768.84		768.34		
759A	159TH ST	128+58	67 LT	CB TA 4 DIA T8G	772.75					768.61				
760	159TH ST	127+77	38 RT	INLETS TA T24F&G	774.04	769.26								
761	159TH ST	127+77	38 LT	CB TA 4 DIA T24F&G	774.04	768.69				768.89				
762	159TH ST	127+77	49 LT	MAN TA 4 DIA T1F CL	774.08			768.16		768.66		768.16		
763	159TH ST	126+97	38 RT	INLETS TA T24F&G	774.36	769.07								
764	159TH ST	126+96	38 LT	CB TA 4 DIA T24F&G	774.36	768.51				768.71				
765	159TH ST	126+96	49 LT	MAN TA 4 DIA T1F CL	774.70	768.17		767.97		768.47		767.97		
765A	159TH ST	126+96	67 LT	CB TA 4 DIA T8G	772.45					768.24				
766	159TH ST	126+13	38 RT	INLETS TA T24F&G	774.70	770.60								
767	159TH ST	126+13	0 LT	CB TA 4 DIA T8G	775.16	770.22								
768	159TH ST	126+13	38 LT	CB TA 4 DIA T24F&G	774.70		769.85			770.42				
769	159TH ST	126+21	49 LT	MAN TA 4 DIA T1F CL	775.00			767.80		767.80		769.80		
770	159TH ST	126+21	70 RT	CONC ES 542001 18 1:3	N/A	767.52								
771	159TH ST	110+61	67 RT	CONC ES 542011 15 1:3	N/A			782.80						
772	159TH ST	110+98	67 RT	CONC ES 542011 15 1:3	N/A							783.25		
775	159TH ST	126+00	55 LT	CONC ES 542001 30 1:2	N/A					770.20				
776	159TH ST	126+00	66 RT	CONC ES 542001 30 1:3	N/A	768.00								
801	159TH ST	130+31	72 RT	CONC ES 542001 24 1:3	N/A		765.54							
802	159TH ST	130+40	52 RT	MANHOLE W/RESTRICT PLT	773.26	764.55					765.50			
803	159TH ST	130+40	49 LT	MAN TA 6 DIA T1F CL	773.32			763.78		763.98				
804	159TH ST	131+63	38 RT	INLETS TA T24F&G	772.50	765.46								
805	159TH ST	132+48	38 LT	INLETS TA T24F&G	772.16						765.42			
806	159TH ST	131+63	38 LT	CB TA 4 DIA T24F&G	772.50	764.89		765.09		765.09				
807	159TH ST	131+63	49 LT	MAN TA 4 DIA T1F CL	772.92	763.06		762.86		764.86		763.06		
807A	159TH ST	131+63	60 LT	CB TA 4 DIA T8G	771.00					763.09				
808	159TH ST	133+03	38 RT	INLETS TA T24F&G	771.94	765.24								
809	159TH ST	133+03	38 LT	CB TA 4 DIA T24F&G	771.94	763.88				764.88				
810	159TH ST	133+03	49 LT	MAN TA 4 DIA T1F CL	772.61			761.84		763.84		762.04		
811	159TH ST	133+86	38 RT	INLETS TA T24F&G	772.14	763.77								
812	159TH ST	133+86	38 LT	CB TA 4 DIA T24F&G	772.14	763.20								
813	159TH ST	133+86	49 LT	MAN TA 4 DIA T1F CL	771.98			761.17		763.17		761.37		
814	159TH ST	134+67	38 RT	INLETS TA T24F&G	771.28	763.92								
815	159TH ST	134+67	38 LT	CB TA 4 DIA T24F&G	771.28	762.56				763.56				
816	159TH ST	134+67	52 LT	MAN TA 4 DIA T1F CL	771.56			760.51		762.51		760.71		
817	159TH ST	135+59	38 RT	INLETS TA T24F&G	770.91	762.09								
818	159TH ST	135+59	38 LT	CB TA 4 DIA T24F&G	770.91	761.53				761.73				
819	159TH ST	135+59	52 LT	MAN TA 5 DIA T1F CL	771.24			759.48		761.48		759.98		
820	159TH ST	136+40	38 RT	INLETS TA T24F&G	770.59	761.71								
821	159TH ST	136+40	38 LT	CB TA 4 DIA T24F&G	770.59	761.14								
822	159TH ST	136+40	52 LT	MAN TA 5 DIA T1F CL	770.86			759.09		761.09		759.09		
823	159TH ST	137+65	38 RT	INLETS TA T24F&G	770.49	761.10								
824	159TH ST	137+65	38 LT	CB TA 4 DIA T24F&G	770.49	760.53				760.73				
825	159TH ST	137+65	52 LT	MAN TA 5 DIA T1F CL	770.36					760.48		758.48		
826	159TH ST	138+46	38 RT	INLETS TA T24F&G	769.76					761.04				
827	159TH ST	139+27	38 RT	CB TA 4 DIA T24F&G	769.38	760.45						760.65		
828	159TH ST	139+27	6 LT	CB TA 4 DIA T8G	770.37	760.05				760.25				
829	159TH ST	139+27	38 LT	CB TA 4 DIA T24F&G	769.38	759.71				759.91				
830	159TH ST	139+27	52 LT	MAN TA 5 DIA T1F CL	769.60			757.69		759.69		757.69		
831	159TH ST	139+98	64 LT	CB TA 4 DIA T8G	767.27					758.90				
832	159TH ST	139+98	52 LT	MAN TA 6 DIA T1F CL	769.05	758.87		756.87				757.37		
833	159TH ST	140+63	38 RT	INLETS TA T24F&G	768.06	759.18								
834	159TH ST	140+63	38 LT	CB TA 4 DIA T24F&G	768.06	758.62				758.82				
835	159TH ST	140+63	52 LT	MAN TA 6 DIA T1F CL	768.33			756.57		758.57		756.57		
836	159TH ST	143+36	66 RT	CB TA 4 DIA T8G	762.60	757.70								
837	159TH ST	141+99	38 RT	INLETS TA T24F&G	766.51	758.53								
838	159TH ST	141+99	38 LT	CB TA 4 DIA T24F&G	766.51	757.97				758.17				
839	159TH ST	141+99	62 LT	CB TA 4 DIA T8G	766.40					757.95				
840	159TH ST	141+99	52 LT	MAN TA 6 DIA T1F CL	766.78	757.92		755.92		757.92		755.92		
841	159TH ST	143+35	38 RT	CB TA 4 DIA T24F&G	764.96	757.38				757.58				
842	159TH ST	143+35	38 LT	CB TA 4 DIA T24F&G	764.96	756.82				757.02				
843	159TH ST	143+35	52 LT	MAN TA 6 DIA T1F CL	765.28			755.27		756.77		755.27		
844	159TH ST	144+71	38 RT	INLETS TA T24F&G	763.41	757.23								
845	159TH ST	144+71	38 LT	CB TA 4 DIA T24F&G	763.41	756.67				756.87				
846	159TH ST	144+70	52 LT	MAN TA 6 DIA T1F CL	763.70			754.62		756.62		754.62		
847	159TH ST	146+07	38 RT	INLETS TA T24F&G	761.86	756.58								
848	159TH ST	146+07	38 LT	CB TA 4 DIA T24F&G	761.86	756.02				756.22				
849	159TH ST	146+07	52 LT	MAN TA 6 DIA T1F CL	762.13			753.97		755.97		753.97		
850	159TH ST	147+59	68 RT	CB TA 4 DIA T8G	757.87	755.38								
851	159TH ST	147+53	38 RT	CB TA 4 DIA T24F&G	760.24	755.06				755.26				
852	159TH ST	147+53	6 LT	CB TA 4 DIA T8G	761.23	754.66				754.86				
853	159TH ST	147+53	38 LT	CB TA 4 DIA T24F&G	760.24	754.32				754.52				
854	159TH ST	147+45	63 LT	CB TA 4 DIA T8G	758.48			755.83	755.83					
855	159TH ST	147+53	52 LT	MAN TA 7 DIA T1F CL	760.51			752.77		754.27		753.27	755.77	
856	159TH ST	147+81	61 LT	INLETS TA T11V F&G	759.39							755.97		
858	159TH ST	148+62	44 LT	INLETS TA T11V F&G	759.12			752.88						
863	159TH ST	150+11	64 RT	CB TA 4 DIA T8G	757.84								753.25	
864	159TH ST	149+59	38 RT	CB TA 4 DIA T24F&G	759.11	752.77		752.97						
865	159TH ST	149+59	38 LT	CB TA 4 DIA T24F&G	759.11	752.21		752.41		752.41		752.41		
866	159TH ST	150+43	38 LT	INLETS TA T24F&G	758.74							752.81		
867	159TH ST	149+59	52 LT	MAN TA 6 DIA T1F CL	759.38			751.97		752.17		751.97		
868	159TH ST	151+11	38 RT	INLETS TA T24F&G	758.44	754.19								
869	159TH ST	152+09	66 RT	CB TA 4 DIA T8G	756.93			753.91						
870	159TH ST	152+10	38 RT	CB TA 4 DIA T24F&G	758.00	753.59				753.79				
871	159TH ST	151+11	38 LT	CB TA 4 DIA T24F&G	758.44			753.63		753.83				
872	159TH ST	152+10	38 LT	CB TA 4 DIA T24F&G	758.00	753.03				753.23		753.23		
873	159TH ST	152+10	52 LT	MAN TA 6 DIA T1F CL	758.28			750.99		752.99		750.99		
874	159TH ST	153+28	38 RT	CB TC T24G&G	757.49					754.04				
874A	159TH ST	153+50	65 RT	CB TA 4 DIA T8G	753.95	751.48								
875	159TH ST	153+28	38 LT	CB TC T24G&G	757.49	753.30								
876	159TH ST	153+25	68 LT	CB TA 4 DIA T8G	756.04							752.61		
877	159TH ST	153+25	52 LT	MAN TA 6 DIA T1F CL	757.85	752.55		750.55		753.26		750.55		

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
757	STORM SEW CL A 2	12	73	0.50%	17		
758	STORM SEW CL A 2	12	7	0.50%	2		
759	STORM SEW CL A 2	18	77	0.24%	39		
759A	STORM SEW CL A 2	12	14	0.50%	5		
760	STORM SEW CL A 2	12	73	0.50%	21		
761	STORM SEW CL A 2	12	7	0.50%	3		
762	SS RG CL A 2	18	77	0.24%	66		
763	STORM SEW CL A 2	12	73	0.50%	25		
764	STORM SEW CL A 2	12	7	0.50%	3		
765	STORM SEW CL A 2	18	71	0.24%	69		
765A	STORM SEW CL A 2	12	14	0.50%	6		
766	STORM SEW CL A 2	12	35	0.50%	8		
767	STORM SEW CL A 2	12	34	0.50%	9		
768	STORM SEW CL A 2	12	10	0.50%	3		

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS		
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW	
878	159TH ST	155+07	57 RT	MAN TA 4 DIA T1F CL	756.95	753.54		750.54					750.79		
879	159TH ST	155+36	38 RT	CB TC T24G&G	756.80				753.33						
879A	159TH ST	155+36	57 RT	MAN TA 4 DIA T1F CL	756.96	753.26		750.26				750.46			
880	159TH ST	155+20	38 RT	CB TC T24G&G	756.80				753.57						
880A	159TH ST	155+20	57 RT	MAN TA 4 DIA T1F CL	756.95	753.50		750.50				750.50			
881	159TH ST	155+04	38 RT	CB TC T24G&G	756.80				753.61						
882	159TH ST	153+50	57 RT	MAN TA 4 DIA T1F CL	757.55			751.46	751.46				753.93		
883	159TH ST	155+36	38 LT	CB TC T24G&G	756.80	752.22									
883A	159TH ST	155+36	52 LT	MAN TA 7 DIA T1F CL	757.09			749.18	752.18			749.18			
884	159TH ST	155+20	38 LT	CB TC T24G&G	756.80	752.24									
884A	159TH ST	155+20	52 LT	MAN TA 7 DIA T1F CL	757.12			749.20	752.20			749.20			
885	159TH ST	155+04	38 LT	CB TC T24G&G	756.80	752.22									
886	159TH ST	155+04	67 LT	CB TA 4 DIA T8G	755.80				752.26						
887	159TH ST	155+07	52 LT	MAN TA 7 DIA T1F CL	757.08	752.22		749.22	752.18			749.85			
888	159TH ST	157+06	38 LT	CB TA 4 DIA T24F&G	757.77		754.09								
889	159TH ST	155+76	57 RT	MAN TA 4 DIA T1F CL	757.16	752.73		749.89				750.14			
890	159TH ST	155+76	38 RT	CB TC T24G&G	756.94				752.80						
891	159TH ST	157+06	38 RT	CB TA 4 DIA T24F&G	757.77				754.13						
892	159TH ST	157+24	54 RT	MAN TA 9 DIA T1F CL	757.94	748.77			748.90		749.52	754.04			
893	159TH ST	157+24	52 LT	MAN TA 8 DIA T1F CL	758.16			748.32	748.57	754.01	748.82				
894	159TH ST	158+26	66 RT	CB TA 4 DIA T8G	755.70	752.65									
895	159TH ST	158+26	38 RT	CB TA 4 DIA T24F&G	758.57	752.03			752.53						
896	159TH ST	158+26	38 LT	CB TA 4 DIA T24F&G	758.57	751.17			751.67						
897	159TH ST	158+26	69 LT	CB TA 4 DIA T8G	755.07				748.93		748.93				
897A	159TH ST	157+08	65 LT	CB TA 4 DIA T8G	755.74	749.50		749.50							
897B	159TH ST	157+74	72 LT	PRC FLAR END SEC 12	N/A										
898	159TH ST	158+26	52 LT	MAN TA 9 DIA T1F CL	758.81	748.88		748.13	751.13		748.13				
899	159TH ST	160+39	68 LT	CB TA 4 DIA T8G	757.25				751.77						
900	159TH ST	160+47	38 RT	CB TA 4 DIA T11V F&G	758.72	753.31			753.51						
900A	159TH ST	160+00	101 RT	CB TA 4 DIA T11V F&G	757.52			754.16							
900B	159TH ST	160+33	101 RT	INLETS TA T11V F&G	757.52	753.81					754.01				
901	159TH ST	160+47	38 LT	CB TA 4 DIA T24F&G	758.72	751.24			752.94						
902	159TH ST	160+47	52 LT	MAN TA 8 DIA T1F CL	759.00			747.70	751.20		747.70	751.70			
903	159TH ST	161+32	67 RT	CB TA 4 DIA T8G	757.17	753.77									
904	159TH ST	161+32	38 RT	CB TA 4 DIA T24F&G	758.34	753.45			753.65						
905	159TH ST	161+32	38 LT	CB TA 4 DIA T24F&G	758.34	750.59			753.09						
906	159TH ST	161+32	52 LT	MAN TA 8 DIA T1F CL	758.72			747.55	750.55		747.55				
907	159TH ST	162+36	38 RT	INLETS TA T24F&G	757.87	753.76									
908	159TH ST	163+02	38 LT	INLETS TA T24F&G	757.57						753.23				
909	159TH ST	162+36	38 LT	CB TA 4 DIA T24F&G	757.87	750.39			752.89		753.39				
910	159TH ST	162+66	67 LT	CB TA 4 DIA T8G	755.99						753.48				
911	159TH ST	162+36	52 LT	MAN TA 8 DIA T1F CL	758.34		753.35	747.35	750.35		747.35				
912	159TH ST	163+91	38 RT	INLETS TA T24F&G	757.16	752.96									
913	159TH ST	163+91	38 LT	CB TA 4 DIA T24F&G	757.16	750.10			750.30						
914	159TH ST	163+91	52 LT	MAN TA 8 DIA T1F CL	757.44			747.06	750.06						
915	159TH ST	164+76	38 LT	INLETS TA T24F&G	756.78						750.70				
917	159TH ST	165+12	38 RT	INLETS TA T24F&G	756.61				752.41						
918	159TH ST	165+93	38 RT	CB TA 4 DIA T24F&G	756.24	750.27					750.47	752.02			
918A	159TH ST	165+61	64 RT	CB TA 4 DIA T8G	754.30		750.65								
919	159TH ST	165+93	38 LT	CB TA 4 DIA T24F&G	756.24	749.71			749.91						
920	159TH ST	165+93	52 LT	MAN TA 8 DIA T1F CL	756.47				749.67			746.67			
921	159TH ST	166+68	42 RT	INLETS TA T24F&G	755.80				751.61						
922A	159TH ST	167+26	73 RT	CB TA 4 DIA T8G	755.11	751.41									
922	159TH ST	167+36	46 RT	CB TA 4 DIA T24F&G	755.40	751.08			751.28		751.28				
923	159TH ST	167+36	38 LT	CB TA 4 DIA T24F&G	755.60	749.43			750.68						
924	159TH ST	167+37	52 LT	MAN TA 8 DIA T1F CL	755.87			746.39	749.39		746.39				
925	159TH ST	169+80	50 RT	INLETS TA T24F&G	754.18						750.54				
926	159TH ST	169+14	50 RT	CB TA 4 DIA T24F&G	754.49				750.22		750.22				
927	159TH ST	168+35	50 RT	CB TA 4 DIA T24F&G	754.85	749.85									
928	159TH ST	168+35	8 LT	CB TA 4 DIA T11V F&G	755.69	749.58			749.58						
928A	159TH ST	168+35	38 LT	CB TA 4 DIA T24F&G	755.15	749.25			749.45						
929	159TH ST	168+35	52 LT	MAN TA 8 DIA T1F CL	755.41	749.21		746.21	749.21		746.21				
929A	159TH ST	168+35	66 LT	CB TA 4 DIA T8G	752.00				749.25						
930	159TH ST	169+69	8 LT	INLETS TA T11V F&G	755.01	750.94									
930A	159TH ST	169+66	47 LT	CB TA 4 DIA T24F&G	754.37	749.01			750.76						
931	159TH ST	169+63	60 LT	MAN TA 9 DIA T1F CL	754.60		745.97		748.97		745.97				
932	159TH ST	170+26	127 LT	CB TA 4 DIA T8G	751.30	747.06		746.50			746.50				
932A	PARKER RD	1501+58	39 LT	CB TC T8G	752.18				748.18						
933	159TH ST	170+05	92 LT	MAN TA 9 DIA T1F CL	753.75		746.38	745.88			745.88				
934	159TH ST	170+97	99 LT	INLETS TA T24F&G	752.77		746.92								
935	159TH ST	171+11	127 LT	CB TA 4 DIA T8G	750.00						746.76	746.76			
936	159TH ST	171+45	92 LT	CONC ES 542001 54 1:2	N/A						745.80				
937	159TH ST	169+65	90 RT	CB TA 4 DIA T8G	753.04				748.06						
938	159TH ST	170+03	90 RT	CB TA 4 DIA T8G	751.95		747.95								
939	159TH ST	170+22	80 RT	CB TA 4 DIA T24F&G	753.00						747.89				
940	PARKER RD	1498+05	18 LT	INLETS TA T24F&G	754.16										
941	PARKER RD	1498+05	29 RT	CB TA 4 DIA T8G	751.90						748.23				
942	PARKER RD	1498+05	18 RT	CB TA 4 DIA T24F&G	754.17	748.19		748.19			748.44				
943	159TH ST	170+87	80 RT	CB TA 4 DIA T24F&G	753.04		747.14		747.64	747.64		747.39			
943A	159TH ST	170+95	89 RT	CB TA 4 DIA T8G	751.85							747.68			
943B	159TH ST	171+05	60 RT	CB TA 4 DIA T24F&G	753.31			747.08			747.08				
945	159TH ST	172+31	38 RT	CB TA 4 DIA T24F&G	753.35	746.26					746.76				
946	159TH ST	172+31	50 LT	CB TA 5 DIA T24F&G	753.05	745.61									
947	159TH ST	174+03	38 RT	INLETS TA T24F&G	752.57	748.51			746.86		746.11				
948	159TH ST	174+03	7 RT	CB TA 4 DIA T11V F&G	752.53	748.37					748.37				
948B	159TH ST	174+73	41 LT	INLETS TA T24F&G	752.17						748.48				
949	159TH ST	174+03	45 LT	CB TA 4 DIA T24F&G	752.40			748.13			748.13		747.93		
950	159TH ST	173+17	38 RT	INLETS TA T24F&G	752.96	749.14									
950A	159TH ST	173+17	8 RT	CB TA 4 DIA T11V F&G	753.50	747.80									
951	159TH ST	173+17	50 LT	CB TA 4 DIA T24F&G	752.66			747.52			747.52		747.27		
954	159TH ST	172+31	76 LT	CONC ES 542001 30 1:2	N/A										
955	159TH ST	175+72	38 RT	CB TA 4 DIA T24F&G	751.80	746.70					746.70				
955A	159TH ST	175+72	62 RT	CB TA 4 DIA T8G	749.83	746.79									
956	159TH ST	175+72	38 LT	CB TA 4 DIA T24F&G	751.80			746.38			746.38				
957	159TH ST	176+58	38 LT	CB TA 4 DIA T24F&G	751.41	746.01					746.01				

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
877	STORM SEW CL A 2	42	175	0.40%	192		
878	STORM SEW CL A 2	15	12	0.33%	12		
879	STORM SEW CL A 1	15	15	0.50%	2		
879A	STORM SEW CL A 2	15	36	0.33%	36		
880	STORM SEW CL A 1	15	15	0.50%	2		
880A	STORM SEW CL A 2	15	12	0.33%	12		
881	STORM SEW CL A 1	12	15	0.50%	2		
882	STORM SEW CL A 2	12	152	0.44%	128		
883	STORM SEW CL A 2	15	9	0.50%	3		
883A	STORM SEW CL A 2	48	180	0.20%	264		
884	STORM SEW CL A 2	15	8	0.50%	3		
884A	STORM SEW CL A 2	48	10	0.20%	13		
885	STORM SEW CL A 2	15	8	0.50%	3		
886	ST						

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS			
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW		
959	159TH ST	176+58	69 LT	PRC FLAR END SEC 12	N/A						745.90					
960	159TH ST	174+96	60 LT	CONC ES 542001 60 1:2	N/A						745.20					
960A	159TH ST	174+96	53 RT	MANHOLE W/RESTRICT PLT	752.60	744.89					744.89					
961	159TH ST	131+28	59 LT	CONC ES 542011 15 1:3	N/A											
962	159TH ST	131+55	59 LT	CONC ES 542011 15 1:3	N/A									770.27		
963	159TH ST	134+27	67 RT	CONC ES 542011 15 1:3	N/A										768.85	
964	159TH ST	134+49	67 RT	CONC ES 542011 15 1:3	N/A										768.67	
965	159TH ST	135+28	63 LT	CONC ES 542011 15 1:3	N/A										769.42	
966	159TH ST	135+50	63 LT	CONC ES 542011 15 1:3	N/A										769.25	
967	159TH ST	138+25	65 LT	CONC ES 542011 15 1:3	N/A										768.39	
968	159TH ST	138+47	65 LT	CONC ES 542011 15 1:3	N/A										768.19	
969	159TH ST	137+92	66 RT	CONC ES 542011 15 1:3	N/A										767.86	
970	159TH ST	138+14	66 RT	CONC ES 542011 15 1:3	N/A										767.77	
971	159TH ST	164+64	65 RT	CONC ES 542011 15 1:3	N/A										754.70	
972	159TH ST	164+86	65 RT	CONC ES 542011 15 1:3	N/A										754.60	
973	159TH ST	165+15	66 LT	CONC ES 542011 15 1:3	N/A										753.68	
974	159TH ST	165+59	66 LT	CONC ES 542011 15 1:3	N/A										753.59	
975	PARKER RD	1503+85	41 RT	CONC ES 542011 15 1:3	N/A							751.22				
976	PARKER RD	1503+63	41 RT	CONC ES 542011 15 1:3	N/A	750.93										
1001	159TH ST	177+32	38 RT	CB TA 4 DIA T24F&G	751.07								746.25			
1001A	159TH ST	176+57	62 RT	CB TA 4 DIA T8G	751.98											
1002	159TH ST	178+00	38 RT	CB TA 4 DIA T24F&G	750.76	745.53								745.73		
1003	159TH ST	178+00	38 LT	CB TA 4 DIA T24F&G	750.76	744.97										
1004	159TH ST	179+70	38 RT	INLETS TA T24F&G	749.99										746.75	
1005	159TH ST	179+03	63 RT	CB TA 4 DIA T8G	749.50	746.53										
1006	159TH ST	179+03	38 RT	CB TA 4 DIA T24F&G	750.30	746.23										
1008	159TH ST	179+02	38 LT	CB TA 4 DIA T24F&G	750.30										745.67	
1009	159TH ST	177+99	52 LT	MAN TA 4 DIA T1F CL	751.05											
1010	159TH ST	177+99	70 LT	PRC FLAR END SEC 12	751.13											
1011	159TH ST	180+55	38 RT	CB TA 4 DIA T24F&G	749.61	743.82									744.07	
1011A	159TH ST	180+55	62 RT	CB TA 4 DIA T8G	747.11	744.17										
1012	159TH ST	180+55	38 LT	CB TA 4 DIA T24F&G	749.61	743.58									743.58	
1013	159TH ST	180+55	64 LT	CONC ES 542001 15 1:2	N/A										743.50	
1014	159TH ST	181+45	38 RT	CB TA 4 DIA T24F&G	749.20										744.10	
1014A	159TH ST	181+45	64 RT	CB TC T8G	746.65	744.19										
1015	159TH ST	181+45	38 LT	CB TA 4 DIA T24F&G	749.20	744.84									744.84	
1017	159TH ST	183+10	38 RT	INLETS TA T24F&G	748.45										744.16	
1017A	159TH ST	183+15	63 RT	CB TA 4 DIA T8G	748.59	744.26										
1018	159TH ST	182+25	38 RT	INLETS TA T24F&G	748.83											
1019	159TH ST	182+25	38 LT	INLETS TA T24F&G	748.83										745.08	
1020	159TH ST	184+15	38 RT	CB TA 4 DIA T24F&G	748.27										744.00	
1020A	159TH ST	184+30	63 RT	CB TA 4 DIA T8G	748.49										744.00	
1021	159TH ST	183+69	38 RT	CB TA 4 DIA T24F&G	748.27										743.98	
1022	159TH ST	183+90	38 RT	CB TA 4 DIA T24F&G	748.25	743.66									743.91	
1023	159TH ST	183+90	6 RT	CB TA 4 DIA T8G	749.26	743.57										
1024	159TH ST	184+15	38 LT	INLETS TA T24F&G	748.27										743.78	
1025	159TH ST	183+69	38 LT	CB TC T24G&G	748.27										743.77	
1026	159TH ST	183+90	38 LT	CB TC T24G&G	748.25	743.44									743.69	
1027	159TH ST	183+90	52 LT	MAN TA 4 DIA T1F CL	748.97										743.40	
1029	159TH ST	181+45	68 LT	PRC FLAR END SEC 12	N/A										744.50	
1029A	159TH ST	182+19	65 LT	PRC FLAR END SEC 12	N/A											
1029B	159TH ST	182+22	74 LT	SEE COMMENTS	N/A											
1030	159TH ST	179+77	62 LT	CONC ES 542001 48 1:2	N/A										742.60	
1030A	159TH ST	179+77	57 RT	MANHOLE W/RESTRICT PLT	749.48	741.27									741.27	
1031	159TH ST	179+78	242 RT	SEE COMMENTS	745.95	739.25										
1101	159TH ST	184+72	38 LT	INLETS TA T24F&G	748.45										743.48	
1102	159TH ST	185+57	38 RT	CB TA 4 DIA T24F&G	748.83	743.28										
1102A	159TH ST	185+57	63 RT	CB TA 4 DIA T8G	748.04	743.38										
1103	159TH ST	185+57	38 LT	CB TA 4 DIA T24F&G	748.83	742.92										
1104	159TH ST	185+57	52 LT	MAN TA 4 DIA T1F CL	749.55										742.87	
1105	159TH ST	186+45	38 RT	INLETS TA T24F&G	749.23	743.06										
1106	159TH ST	186+45	38 LT	CB TA 4 DIA T24F&G	749.23	742.50									742.70	
1107	159TH ST	186+45	52 LT	MAN TA 4 DIA T1F CL	749.89										742.45	
1108	159TH ST	189+72	38 RT	INLETS TA T24F&G	748.46	742.44										
1109	159TH ST	189+72	38 LT	CB TA 4 DIA T24F&G	748.46	741.68										
1110	159TH ST	189+72	66 RT	CB TA 4 DIA T8G	746.00										742.08	
1111	159TH ST	189+73	52 LT	MAN TA 5 DIA T1F CL	748.97	741.13										
1112	159TH ST	191+69	38 RT	CB TA 4 DIA T24F&G	746.52	741.19									741.13	
1112A	159TH ST	191+69	70 RT	CB TA 4 DIA T8G	745.22	741.53										
1113	159TH ST	191+69	38 LT	CB TA 4 DIA T24F&G	746.52	740.63										
1114	159TH ST	191+69	52 LT	MAN TA 5 DIA T1F CL	746.47	738.78									740.28	
1115	159TH ST	191+69	65 LT	CONC ES 542001 30 1:2	N/A										738.77	
1201	159TH ST	193+15	38 RT	INLETS TA T24F&G	745.09	741.15										
1202	159TH ST	193+15	38 LT	CB TA 4 DIA T24F&G	745.09	740.58									740.78	
1203	159TH ST	194+73	38 RT	INLETS TA T24F&G	743.54	740.14										
1204	159TH ST	194+73	0 LT	CB TA 4 DIA T8G	743.44	739.77										
1205	159TH ST	194+73	38 LT	CB TA 4 DIA T24F&G	743.54	739.40										
1206	159TH ST	194+73	49 LT	MAN TA 4 DIA T1F CL	743.50										739.36	
1207	159TH ST	193+15	51 LT	MAN TA 4 DIA T1F CL	745.55	738.29									740.54	
1208	159TH ST	193+15	67 LT	CONC ES 542001 15 1:2	N/A										738.23	
1209	159TH ST	195+99	38 RT	INLETS TA T24F&G	742.31	739.42										
1210	159TH ST	195+99	38 LT	CB TA 4 DIA T24F&G	742.31	739.09										
1211	159TH ST	195+99	60 LT	PRC FLAR END SEC 12	N/A										739.02	
1212	159TH ST	195+06	55 LT	BOX CUL END SEC C7	N/A											
1213	159TH ST	195+06	59 RT	BOX CUL END SEC C8	N/A											
1301	159TH ST	197+25	38 RT	INLETS TA T24F&G	741.07											
1302	159TH ST	198+34	67 LT	CB TA 4 DIA T8G	738.00										735.39	
1303	159TH ST	198+34	38 LT	CB TA 4 DIA T24F&G	740.04	735.28										
1304	159TH ST	198+34	6 LT	CB TA 4 DIA T8G	741.03	735.14										
1305	159TH ST	198+34	38 RT	CB TA 4 DIA T24F&G	740.04	734.94										
1306	159TH ST	198+26	67 RT	CB TA 4 DIA T8G	737.91										734.68	
1307	159TH ST	198+33	60 RT	MAN TA 4 DIA T1F CL	739.94	734.65									734.65	
1309	159TH ST	199+45	38 LT	CB TA 4 DIA T24F&G	739.37										735.09	
1310	159TH ST	199+58	52 LT	MAN TA 4 DIA T1F CL	740.13											
1311	159TH ST	200+47	38 RT	CB TC T24G&G	738.96										734.82	
															734.43	

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS
955	STORM SEW CL A 2	12	73	0.44%	23		
955A	STORM SEW CL A 1	12	21	0.44%	6		
956	STORM SEW CL A 2	12	82	0.44%	27		
957	SS RG CL A 1	12	26	0.44%	7		
960	P CUL CL A 1	60	111	0.28%	57		
960A	P CUL CL A 1	60	16	0.28%	-		
961	P CUL CL A 1	15	27	1.22%	5		
963							

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS									
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW								
1311A	159TH ST	200+47	54 RT	MAN TA 4 DIA T1F CL	739.15	734.36			733.86													
1312	159TH ST	200+47	38 LT	CB TC T24G&G	738.96	734.50																
1313	159TH ST	200+45	49 LT	MAN TA 4 DIA T1F CL	739.31	734.46			734.26			734.46										
1313A	159TH ST	200+45	65 LT	CB TA 4 DIA T8G	738.82																	
1314	159TH ST	201+27	38 RT	CB TC T24G&G	738.63							734.40										
1314A	159TH ST	201+27	54 RT	MAN TA 4 DIA T1F CL	738.86	734.33			733.33													
1315	159TH ST	201+27	38 LT	CB TC T24G&G	738.63	733.96																
1316	159TH ST	201+27	49 LT	MAN TA 4 DIA T1F CL	738.97				733.67			733.92			733.92							
1317	159TH ST	202+07	38 RT	CB TC T24G&G	738.30							733.81										
1317A	159TH ST	202+07	54 RT	MAN TA 4 DIA T1F CL	738.53	733.75			732.75						733.00							
1318	159TH ST	202+07	38 LT	CB TC T24G&G	738.30	733.70																
1319	159TH ST	202+09	49 LT	MAN TA 4 DIA T1F CL	738.64				733.16			733.66			733.41							
1320	159TH ST	202+63	38 RT	CB TC T24G&G	738.08							733.97										
1321	159TH ST	202+63	38 LT	CB TC T24G&G	738.08			733.30														
1322	159TH ST	202+70	49 LT	MAN TA 4 DIA T1F CL	738.39				732.81			733.26		733.01								
1323	159TH ST	215+75	38 RT	CB TA 4 DIA T24F&G	763.37							759.38										
1324	159TH ST	215+75	52 RT	MAN TA 4 DIA T1F CL	763.65	759.33									757.63							
1325	159TH ST	213+86	38 LT	INLETS TA T24F&G	758.17							754.17										
1326	159TH ST	213+86	38 RT	CB TA 4 DIA T24F&G	758.17	753.81						753.61										
1327	159TH ST	213+86	52 RT	MAN TA 4 DIA T1F CL	758.45	753.56			752.11					751.86								
1328	159TH ST	212+35	63 LT	CB TA 4 DIA T8G	752.18							748.91										
1329	159TH ST	212+35	38 LT	CB TA 4 DIA T24F&G	752.46	748.80						748.60										
1330	159TH ST	212+35	38 RT	CB TA 4 DIA T24F&G	752.46	748.24						748.04										
1331	159TH ST	212+35	65 RT	CB TA 4 DIA T8G	750.52	747.54																
1332	159TH ST	212+35	52 RT	MAN TA 4 DIA T1F CL	752.74	747.99						747.74			747.49							
1333	159TH ST	208+00	65 LT	CB TA 4 DIA T8G	735.50							732.17			731.97							
1333A	159TH ST	208+85	65 LT	CB TA 4 DIA T8G	736.00										732.57							
1333B	159TH ST	207+83	38 LT	CB TC T24G&G	738.10	731.93																
1333C	159TH ST	207+83	53 LT	MAN TA 4 DIA T1F CL	738.36			731.87				731.87			731.87							
1334	159TH ST	209+84	38 LT	INLETS TB T24F&G	742.90							738.52										
1334A	159TH ST	209+84	6 RT	CB TA 4 DIA T8G	743.82																	
1335	159TH ST	209+84	38 RT	CB TA 4 DIA T24F&G	742.90	737.98						737.78										
1336	159TH ST	209+84	52 RT	MAN TA 4 DIA T1F CL	743.18	737.73			739.33					736.73								
1337	159TH ST	206+92	61 LT	CB TA 4 DIA T11V F&G	737.16				731.51			731.51										
1337A	159TH ST	207+33	61 LT	INLETS TA T11V F&G	737.22									731.71								
1338	159TH ST	205+35	54 RT	MAN TA 4 DIA T1F CL	737.20	732.71			731.01					731.01								
1339	159TH ST	204+55	54 RT	MAN TA 4 DIA T1F CL	737.52	733.21			730.91					730.91								
1340	159TH ST	207+83	38 RT	CB TC T24G&G	738.10							733.87										
1341	159TH ST	207+81	64 RT	CB TA 4 DIA T8G	737.07	733.56																
1342	159TH ST	207+80	52 RT	MAN TA 5 DIA T1F CL	738.34	733.82			732.92			733.52			732.72							
1343	159TH ST	206+64	52 RT	MAN TA 4 DIA T1F CL	737.29				732.16					731.66								
1344	159TH ST	206+91	53 LT	MAN TA 4 DIA T1F CL	737.40	731.49			731.49					731.49								
1345	159TH ST	205+91	38 RT	CB TC T24G&G	736.78							732.63										
1345A	159TH ST	205+91	54 RT	MAN TA 5 DIA T1F CL	737.01	732.57			731.07					731.07								
1346	159TH ST	206+23	38 RT	CB TC T24G&G	736.78							732.66										
1346A	159TH ST	206+23	54 RT	MAN TA 5 DIA T1F CL	737.01	732.60			731.60					731.10								
1347	159TH ST	206+07	38 RT	CB TC T24G&G	736.77							732.34										
1348	159TH ST	206+07	54 RT	MAN TA 5 DIA T1F CL	737.00	732.28			731.08					731.08								
1349	159TH ST	205+91	38 LT	CB TC T24G&G	736.78	732.20																
1349A	159TH ST	205+91	49 LT	MAN TA 4 DIA T1F CL	737.12				731.17			732.17			731.17							
1350	159TH ST	206+23	38 LT	CB TC T24G&G	736.78	732.24																
1350A	159TH ST	206+23	49 LT	MAN TA 4 DIA T1F CL	737.12				731.21			732.21			731.21							
1351	159TH ST	206+07	38 LT	CB TC T24G&G	736.77	732.22																
1352	159TH ST	206+07	49 LT	MAN TA 4 DIA T1F CL	737.11				731.19					731.19								
1353	159TH ST	205+35	38 RT	CB TA 4 DIA T24F&G	736.97							732.77										
1354	159TH ST	205+35	38 LT	CB TC T24G&G	736.97	731.94																
1355	159TH ST	205+36	49 LT	MAN TA 4 DIA T1F CL	737.30				731.11			731.91			731.11							
1356	159TH ST	204+55	38 RT	CB TC T24G&G	737.29							733.27										
1357	159TH ST	204+55	38 LT	CB TC T24G&G	737.29	732.54																
1358	159TH ST	204+54	49 LT	MAN TA 4 DIA T1F CL	737.64				731.01			732.51			731.01							
1359	159TH ST	203+75	38 RT	CB TC T24G&G	737.62							733.38										
1360	159TH ST	203+75	54 RT	MAN TA 4 DIA T1F CL	737.85	733.31			730.81					730.81								
1360A	159TH ST	203+75	38 LT	CB TC T24G&G	737.62	732.93																
1361	159TH ST	203+72	49 LT	MAN TA 4 DIA T1F CL	737.97				730.90			732.90			730.90							
1361A	159TH ST	202+89	49 LT	MANHOLE W/RESTRICT PLT	738.31				730.80			730.80			730.80							
1363	159TH ST	202+79	49 LT	MAN TA 5 DIA T1F CL	738.35	730.80						730.80			732.80							
1364	159TH ST	202+79	64 RT	CONC ES 542001 30 1:2	N/A	730.66																
1364A	159TH ST	202+79	54 RT	MAN TA 6 DIA T1F CL	738.24	730.67						730.67			732.44							
1364B	159TH ST	202+89	54 RT	MANHOLE W/RESTRICT PLT	738.20				730.71			730.71			730.71							
1365	159TH ST	202+79	64 LT	SEE COMMENTS	736.75				732.31													
1366	159TH ST	202+92	64 LT	CB TA 4 DIA T8G	735.56				732.46					732.36								
1367	159TH ST	202+94	70 LT	SEE COMMENTS	N/A							732.49										
1401	159TH ST	216+21	8 LT	INLETS TA T11V F&G	764.81	761.01																
1401A	159TH ST	216+21	38 LT	CB TA 4 DIA T24F&G	764.27	760.68						760.88										
1402	159TH ST	216+21	50 LT	MAN TA 4 DIA T1F CL	764.95				759.64			760.64										
1403	159TH ST	218+17	38 RT	INLETS TA T24F&G	766.49	762.52																
1404	159TH ST	218+17	6 RT	CB TA 4 DIA T8G	767.44	762.17						762.37										
1405	159TH ST	218+17	38 LT	CB TA 4 DIA T24F&G	766.49	761.72						761.97										
1406	159TH ST	218+17	49 LT	MAN TA 4 DIA T1F CL	767.15				758.68					758.68								
1407	159TH ST	219+54	50 LT	MANHOLE W/RESTRICT PLT	767.20				757.83					758.03								
1408	159TH ST	221+08	38 RT	INLETS TA T24F&G	764.98	761.43																
1408A	159TH ST	221+08	8 LT	CB TA 4 DIA T11V F&G	765.52	761.01																

STURCTURE NO.	ALIGNMENT	LOCATION		TYPE	RIM ELEV	INVERT DIRECTION							COMMENTS			
		STATION	OFFSET			N	NE	E	SE	S	SW	W		NW		
1803	159TH ST	276+19	39 LT	INLETS TA T24F&G	731.31											
1804	159TH ST	275+98	7 LT	CB TA 4 DIA T8G	732.39		727.96			727.96		728.13	728.13			
1805	159TH ST	276+07	50 RT	CB TA 4 DIA T24F&G	731.05	727.69			724.69				727.69			
1806	WILL-COOK RD	2998+85	30 RT	INLETS TA T24F&G	729.08								725.09			
1807	WILL-COOK RD	2998+86	28 LT	CB TA 4 DIA T24F&G	729.15			724.82					724.32			
1808	WILL-COOK RD	2998+97	35 LT	MAN TA 4 DIA T1F CL	729.74	721.30 EX		724.30			721.3 EX			724.30		
1810	WILL-COOK RD	2997+67	18 LT	CB TA 4 DIA T24F&G	727.69											
1813	159TH ST	280+13	46 LT	INLETS TA T24F&G	729.53								726.07			
1814	159TH ST	279+32	50 LT	CB TA 4 DIA T24F&G	729.75			725.68					725.48			
1814A	159TH ST	279+33	8 RT	CB TA 4 DIA T11V F&G	730.59	725.21							725.01			
1815	159TH ST	279+33	38 RT	CB TA 4 DIA T24F&G	730.05	724.88							724.68			
1816	159TH ST	279+33	44 RT	MAN TA 4 DIA T1F CL	730.48	724.67							724.47			
1817	159TH ST	278+51	50 LT	INLETS TA T11V F&G	730.08								726.71			
1817A	159TH ST	278+52	8 RT	CB TA 4 DIA T24F&G	730.91	726.43							726.23			
1818	159TH ST	278+52	39 RT	CB TA 4 DIA T24F&G	730.35	726.10							725.90			
1819	159TH ST	278+52	45 RT	MAN TA 4 DIA T1F CL	730.80	725.89			724.09			723.89				
1820	159TH ST	277+82	80 LT	CB TA 5 DIA T8G	727.50								723.52			
1820A	159TH ST	277+69	80 LT	CB TA 4 DIA T8G	727.55								723.52			
1821	159TH ST	277+82	58 RT	MAN TA 6 DIA T1F CL	730.76	723.35	723.55					723.35				
1822	159TH ST	277+73	82 LT	CONC ES 542001 30 1:2	N/A											
1823	159TH ST	277+02	111 LT	INLETS TA T24F&G	729.56									725.65		
1824	159TH ST	276+59	108 LT	CB TA 4 DIA T24F&G	729.80			725.45						724.70		
1825	N. BELL RD	2006+92	42 RT	CONC ES 542001 24 1:3	N/A			722.60								
1901	159TH ST	235+45	6 LT	CB TA 4 DIA T8G	754.52					746.99						
1902	159TH ST	235+45	38 LT	CB TA 4 DIA T24F&G	753.52	746.82			744.82							
1903	159TH ST	236+20	90 RT	CB TA 4 DIA T24F&G	749.61			744.03					744.23			
1903A	159TH ST	235+90	88 RT	CB IC T8G	749.30			744.35						744.55		
1904	159TH ST	236+78	90 RT	CB TA 4 DIA T24F&G	749.70								743.79			
1905	159TH ST	237+57	38 LT	CB TA 4 DIA T24F&G	750.75	746.72							743.92			
1905A	159TH ST	237+19	38 LT	INLETS TB T24F&G	751.31											
1906	159TH ST	237+48	82 LT	CB TA 4 DIA T8G	749.90											
1907	159TH ST	237+57	60 RT	MAN TA 7 DIA T1F CL	749.10	743.25							743.05			
1907A	159TH ST	237+57	70 RT	MANHOLE W/RESTRICT PLT	749.00	743.03							743.03			
1908	159TH ST	237+57	75 RT	CONC ES 542011 15 1:3	N/A	743.00										
2000	CEDAR RD	988+70	25 RT	CB TA 5 DIA T24F&G	800.54						EX					
2001	CEDAR RD	989+60	24 LT	MAN TA 4 DIA T1F CL	801.90							EX				
2002	CEDAR RD	989+07	33 LT	CB TA 4 DIA T24F&G	800.92			796.19								
2003	CEDAR RD	989+07	24 LT	MAN TA 4 DIA T1F CL	801.22	795.89							794.89		796.14	
2004	CEDAR RD	987+93	33 LT	CB TA 4 DIA T24F&G	798.74										EX	
2005	CEDAR RD	987+93	27 LT	MAN TA 4 DIA T1F CL	798.98	793.76							793.56		793.81	

PIPE NO.	TYPE	SIZE INCH	LENGTH FEET	SLOPE %	T&B CU YD	CLSM CU YD	COMMENTS	
1740	P CUL CL A 1	15	45	0.22%	7			
1742	P CUL CL A 1	15	47	0.53%	8			
1801	STORM SEW CL A 1	15	93	0.50%	9			
1802	STORM SEW CL A 1	12	114	0.50%	10			
1803	STORM SEW CL A 1	12	34	0.50%	6			
1804	STORM SEW CL A 1	12	54	0.50%	9			
1805	STORM SEW CL A 2	12	78	0.50%	63			
1806	STORM SEW CL A 1	12	55	0.50%	11			
1807	STORM SEW CL A 2	12	3	0.50%	1			
1813	STORM SEW CL A 1	12	78	0.50%	12			
1814	STORM SEW CL A 2	12	54	0.50%	15			
1814A	STORM SEW CL A 2	12	26	0.50%	9			
1815	STORM SEW CL A 2	12	2	0.50%	2			
1816	STORM SEW CL A 2	12	77	0.50%	68			
1817	STORM SEW CL A 1	12	55	0.50%	10			
1817A	STORM SEW CL A 2	12	27	0.50%	7			
1818	STORM SEW CL A 2	12	2	0.50%	1			
1819	STORM SEW CL A 2	12	67	0.50%	-			
1820	STORM SEW CL A 1	30	133	0.13%	50			
1820A	STORM SEW CL A 1	24	9	0.18%	-			
1821	STORM SEW CL A 2	30	23	0.13%	22			
1823	STORM SEW CL A 1	12	41	0.50%	8			
1824	STORM SEW CL A 1	12	13	0.50%	2			
1901	STORM SEW CL A 2	12	40	0.44%	32			
1902	SS RG CL A 2	12	61	0.44%	24			
1903	STORM SEW CL A 2	12	54	0.44%	20			
1903A	STORM SEW CL A 2	12	27	0.44%	-			
1904	SS RG CL A 2	24	77	0.44%	-			
1905	SS RG CL A 2	30	94	0.50%	47			
1905A	STORM SEW CL A 2	12	40	0.44%	31			
1906	STORM SEW CL A 1	12	41	0.50%	4			
1907	STORM SEW CL A 2	30	5	0.50%	-			
1907A	STORM SEW CL A 2	15	8	0.33%	-			
2001	STORM SEW CL A 2	15	49	1.00%		17		
2002	STORM SEW CL A 2	12	5	1.00%		2		
2003	STORM SEW CL A 2	15	113	1.00%		43		
2004	STORM SEW CL A 2	12	5	1.00%		2		
2005	STORM SEW CL A 1	15	112	0.50%		24		
					TOTAL	33,235	410	

** SEE IDOT STANDARD DETAIL 542311 TRAVERSABLE PIPE GRATE OR STRUCTURAL PLANS FOR SCHEDULE AND DETAILS OF CONCRETE END SECTIONS OR HEADWALLS THAT REQUIRE TRAVERSABLE PIPE GRATES

PAY ITEM	TOTAL	UNITS
PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	12	EACH
PRECAST REINFORCED CONCRETE FLARED END SECTIONS 36"	1	EACH
PRECAST REINFORCED CONCRETE FLARED END SECTIONS 72"	2	EACH
TRAVERSABLE PIPE GRATE	119	FOOT
CONCRETE END SECTION, STANDARD 542001, 15", 1:2	8	EACH
CONCRETE END SECTION, STANDARD 542001, 18", 1:2	4	EACH
CONCRETE END SECTION, STANDARD 542001, 24", 1:2	7	EACH
CONCRETE END SECTION, STANDARD 542001, 30", 1:2	8	EACH
CONCRETE END SECTION, STANDARD 542001, 42", 1:2	1	EACH
CONCRETE END SECTION, STANDARD 542001, 48", 1:2	2	EACH
CONCRETE END SECTION, STANDARD 542001, 54", 1:2	1	EACH
CONCRETE END SECTION, STANDARD 542001, 60", 1:2	1	EACH
CONCRETE END SECTION, STANDARD 542001, 72", 1:2	2	EACH
CONCRETE END SECTION, STANDARD 542001, 15", 1:3	60	EACH
CONCRETE END SECTION, STANDARD 542001, 18", 1:3	3	EACH
CONCRETE END SECTION, STANDARD 542001, 24", 1:3	4	EACH
CONCRETE END SECTION, STANDARD 542001, 30", 1:3	1	EACH
CONCRETE END SECTION, STANDARD 542001, 42", 1:3	1	EACH
CONCRETE END SECTION, STANDARD 542001, 48", 1:3	2	EACH
CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	127	EACH
CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 11V FRAME AND GRATE	20	EACH
CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 24 FRAME AND GRATE	263	EACH
CATCH BASINS, TYPE A, 5'-DIAMETER, TYPE 8 GRATE	1	EACH
CATCH BASINS, TYPE A, 5'-DIAMETER, TYPE 24 FRAME AND GRATE	2	EACH
CATCH BASINS, TYPE C, TYPE 8 GRATE	5	EACH
CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE	33	EACH
MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	137	EACH
MANHOLES, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	25	EACH
MANHOLES, TYPE A, 6'-DIAMETER, TYPE 1 FRAME, CLOSED LID	39	EACH
MANHOLES, TYPE A, 7'-DIAMETER, TYPE 1 FRAME, CLOSED LID	8	EACH
MANHOLES, TYPE A, 8'-DIAMETER, TYPE 1 FRAME, CLOSED LID	9	EACH
MANHOLES, TYPE A, 9'-DIAMETER, TYPE 1 FRAME, CLOSED LID	4	EACH
INLETS, TYPE A, TYPE 11V FRAME AND GRATE	14	EACH
INLETS, TYPE A, TYPE 24 FRAME AND GRATE	149	EACH
INLETS, TYPE B, TYPE 24 FRAME AND GRATE	2	EACH
MANHOLES, WITH RESTRICTOR PLATE	12	EACH

PAY ITEM	TOTAL*	UNITS
PIPE CULVERTS, CLASS A, TYPE 1 15"	958	FOOT
PIPE CULVERTS, CLASS A, TYPE 1 24"	120	FOOT
PIPE CULVERTS, CLASS A, TYPE 1 30"	167	FOOT
PIPE CULVERTS, CLASS A, TYPE 1 48"	127	FOOT
PIPE CULVERTS, CLASS A, TYPE 1 60"	127	FOOT
PIPE CULVERTS, CLASS A, TYPE 1 72"	156	FOOT
STORM SEWERS, CLASS A, TYPE 1 10"	34	FOOT
STORM SEWERS, CLASS A, TYPE 1 12"	4,857	FOOT
STORM SEWERS, CLASS A, TYPE 1 15"	965	FOOT
STORM SEWERS, CLASS A, TYPE 1 18"	695	FOOT
STORM SEWERS, CLASS A, TYPE 1 24"	171	FOOT
STORM SEWERS, CLASS A, TYPE 1 30"	161	FOOT
STORM SEWERS, CLASS A, TYPE 1 42"	5	FOOT
STORM SEWERS, CLASS A, TYPE 1 54"	135	FOOT
STORM SEWERS, CLASS A, TYPE 2 12"	16,498	FOOT
STORM SEWERS, CLASS A, TYPE 2 15"	3,616	FOOT
STORM SEWERS, CLASS A, TYPE 2 18"	3,019	FOOT
STORM SEWERS, CLASS A, TYPE 2 24"	4,677	FOOT
STORM SEWERS, CLASS A, TYPE 2 30"	1,301	FOOT
STORM SEWERS, CLASS A, TYPE 2 36"	2,160	FOOT
STORM SEWERS, CLASS A, TYPE 2 42"	1,882	FOOT
STORM SEWERS, CLASS A, TYPE 2 48"	582	FOOT
STORM SEWERS, CLASS A, TYPE 2 54"	1,219	FOOT
STORM SEWERS, CLASS A, TYPE 3 12"	78	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 12"	335	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 15"	24	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 18"	165	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 24"	20	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 30"	24	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 42"	151	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 48"	114	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 12"	836	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 15"	52	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 18"	380	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 24"	542	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 30"	175	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 36"	150	FOOT
STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 42"	571	FOOT
STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH	494	FOOT
STORM SEWER (WATER MAIN REQUIREMENTS) 16 INCH	147	FOOT

*PIPE LENGTH TOTALS INCLUDE PIPE LENGTHS FROM DITCH CHECKS SHOWN ON DETAIL SHEET DD-02

FILE NAME : D:\BOL\71-shr-drain-61_Schedule.dgn

USER NAME : mmoestra	DESIGNED SAN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DRAINAGE SCHEDULES PROPOSED DRAINAGE SCHEDULE	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN SAN	REVISED -			351	536-R-1	WILL	1232	415	
PLOT SCALE : 1:100.001	CHECKED PJO	REVISED -			CONTRACT NO. 60L71					
PLOT DATE : 10/21/2014	DATE 10/21/2014	REVISED -			ILLINOIS FED. AID PROJECT					

SCALE: AS SHOWN SHEET NO. 11 OF 12 SHEETS STA. TO STA.

TRANSVERSE PIPE UNDERDRAIN SCHEDULE	
STA	PIPE UNDERDRAINS, FABRIC LINED TRENCH 4"
	FOOT
16+32	58
17+98	53
22+72	65
26+38	65
28+88	55
37+16	69
40+83	77
43+39	57
47+15	69
50+70	70
54+50	65
60+06	71
63+16	72
67+64	64
71+34	57
78+85	72
83+40	57
92+95	94
95+47	78
98+86	56
102+35	70
109+56	59
113+65	63
116+14	70
120+47	65
123+89	59
127+01	60
130+24	68
133+90	71
137+70	71
142+02	69
146+11	71
149+63	69
152+13	61
155+23	57
157+07	63
163+96	61

TRANSVERSE PIPE UNDERDRAIN SCHEDULE	
STA	PIPE UNDERDRAINS, FABRIC LINED TRENCH 4"
	FOOT
168+39	89
172+35	90
175+76	67
180+58	69
183+94	71
185+61	61
189+76	62
193+19	58
196+03	66
198+38	69
201+27	64
202+63	74
204+55	65
206+07	65
207+83	63
210+00	69
212+39	60
216+29	78
222+43	91
227+04	77
230+39	59
233+87	62
238+69	78
241+79	60
245+88	58
249+71	69
253+75	71
256+65	57
261+63	74
263+49	72
266+78	70
270+31	77
276+13	89
279+37	89
TOTAL	4821

UNDERCUT PIPE UNDERDRAIN SCHEDULE	
AREA NO.	PIPE UNDERDRAINS, FABRIC LINED TRENCH 4"
1	257
2	407
3	237
4	243
5	615
6	619
7	219
8	175
TOTAL	2772

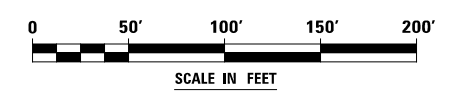
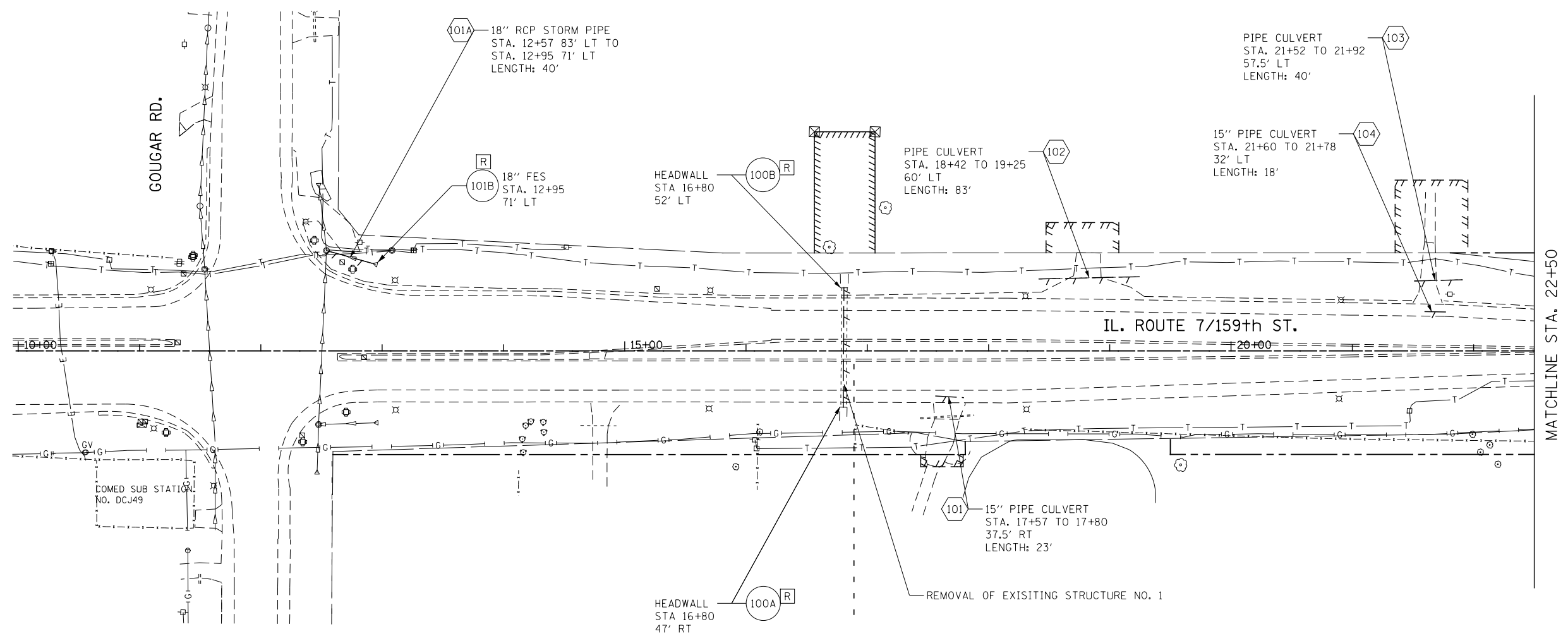
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DRAINAGE SCHEDULES PROPOSED DRAINAGE SCHEDULE	
SCALE: AS SHOWN	SHEET NO. 12 OF 12 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	416
CONTRACT NO. 60L71			ILLINOIS FED. AID PROJECT	



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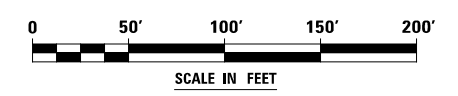
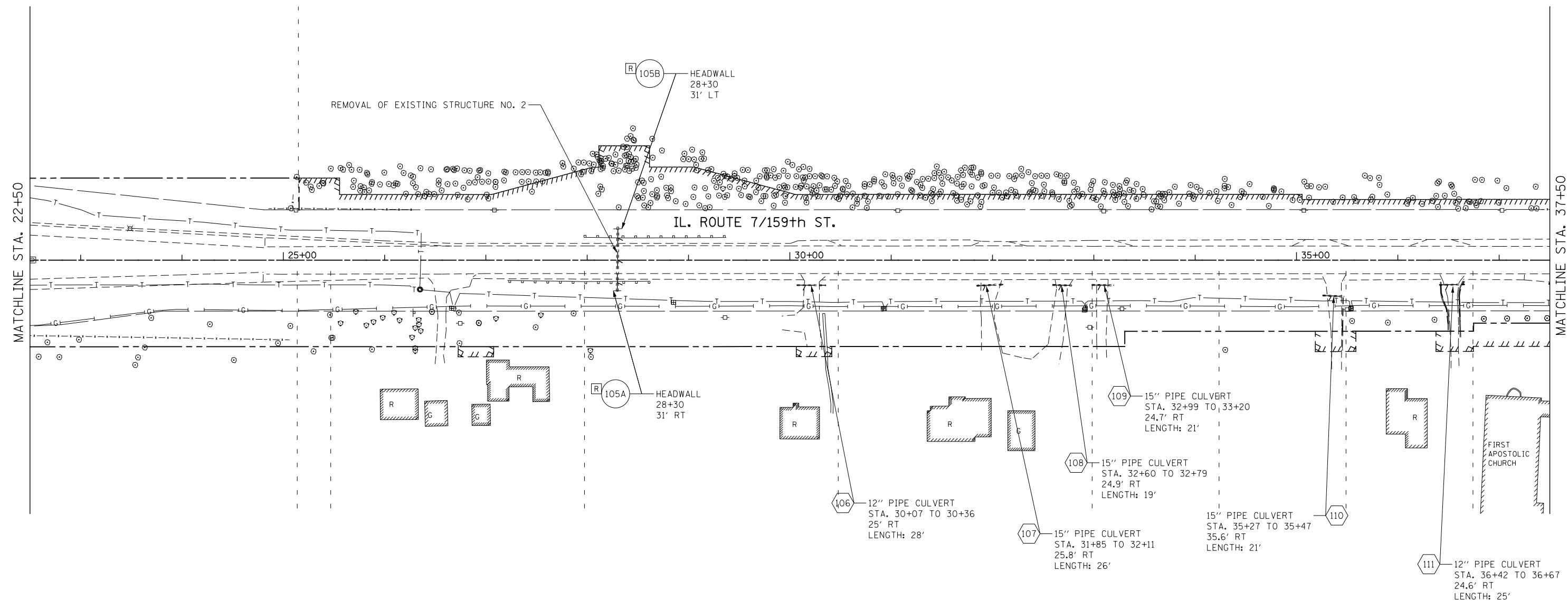
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	DRAWN SAN	REVISED -
PLOT SCALE = 1:100.001	CHECKED PJO	REVISED -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 1 OF 25 SHEETS STA. BEGIN TO STA. 22+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	417
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



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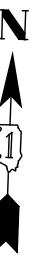
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

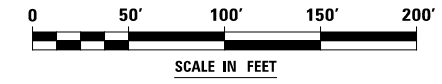
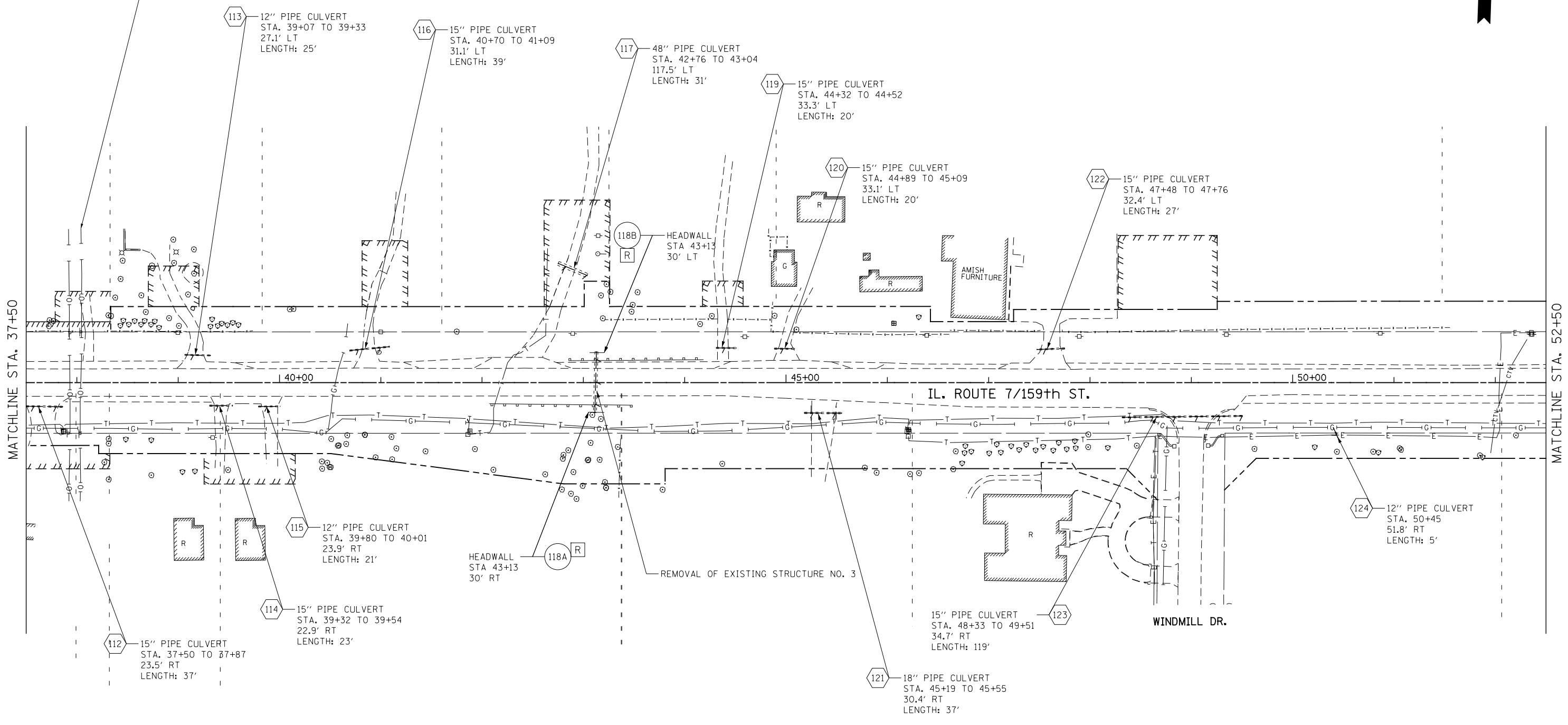
EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 2 OF 25 SHEETS STA. 22+50 TO STA. 37+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	418
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



18" MUSTANG PIPELINE LLC,
 PRODUCT: CRUDE OIL
 W/24" CASING
 CONTACT: ANDREW ZASTROW
 PHONE: (815) 739-4262



FILE NAME : D:\60L71\shd-drain-rem-93.dgn

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	DATE 8/15/2014	REVISED -

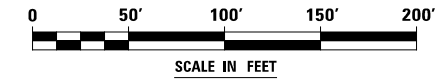
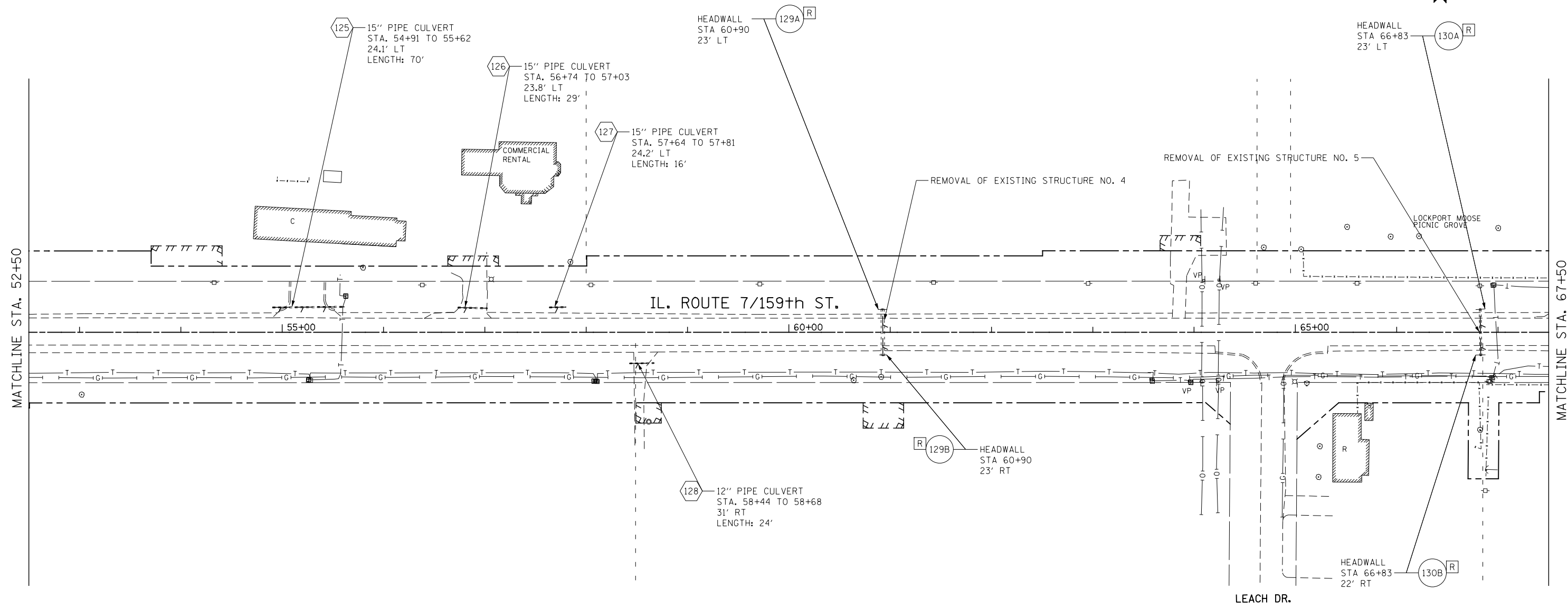
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 3 OF 25 SHEETS STA. 37+50 TO STA. 52+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	419
CONTRACT NO. 60L71				

ILLINOIS FED. AID PROJECT



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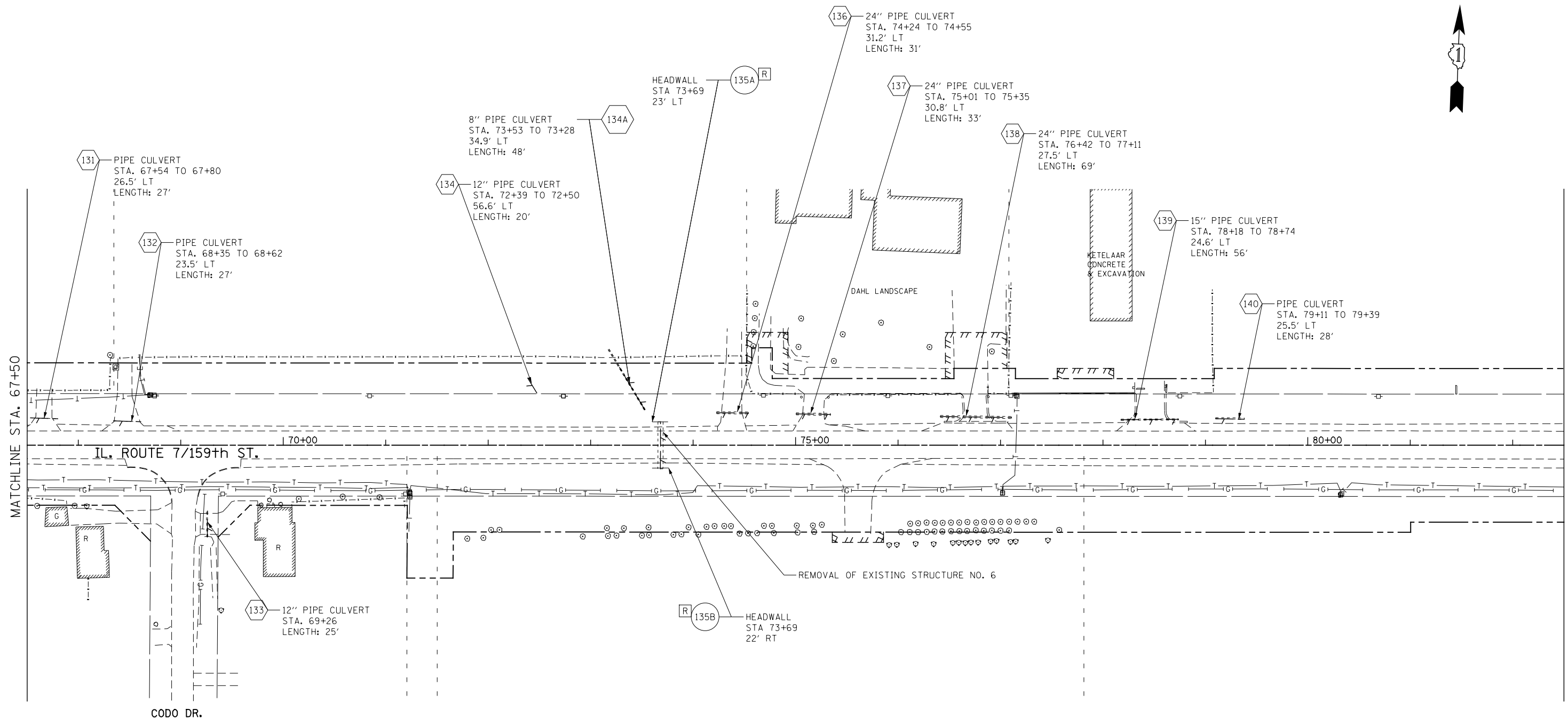
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 4 OF 25 SHEETS STA. 52+50 TO STA. 67+50

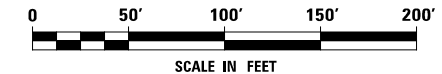
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	420
CONTRACT NO. 60L71				

ILLINOIS FED. AID PROJECT



MATCHLINE STA. 67+50

MATCHLINE STA. 82+50



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USER NAME = mmaestra	DESIGNED SAN	REVISED -
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

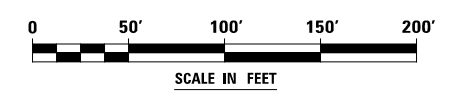
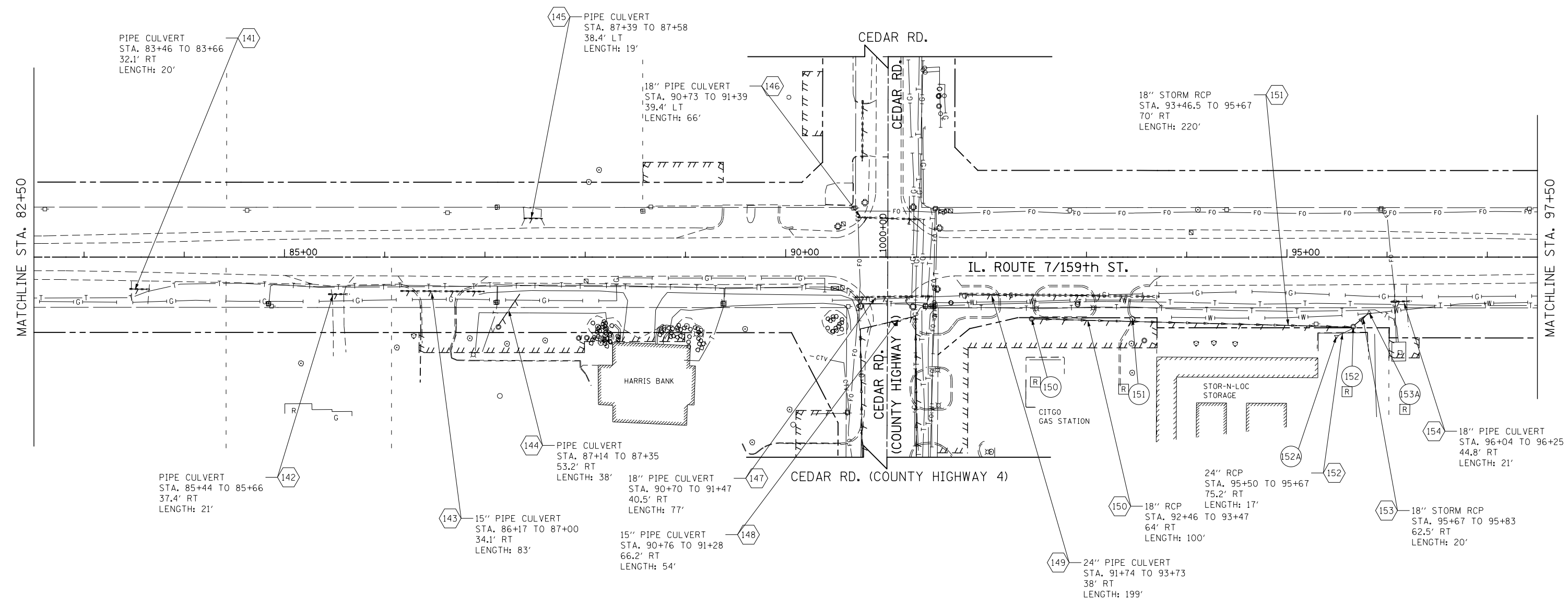
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 5 OF 25 SHEETS STA. 67+50 TO STA. 82+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	421
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- (R) 150 MH
STA. 92+46
62' RT
INVERT: 18" E
- (R) 153A FES
STA. 95+83
55.7' RT
- (R) 151 CB
STA. 93+47
61.8' RT
RIM ELEV. 784.74
INV. 18" SS E,
18" SS W
- (R) 152A FES
STA. 95+50
79.5' RT
- (R) 152 MH
STA. 95+67
69.7' RT
RIM. ELEV 784.11'
INV. 18" SS W,
18" SS NE



FILE NAME = D:\60L71\shd-drain-rem-96.dgn

USER NAME = mmaestra	DESIGNED SAN	REVISED -
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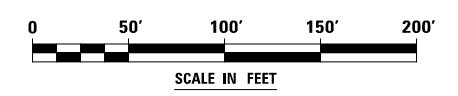
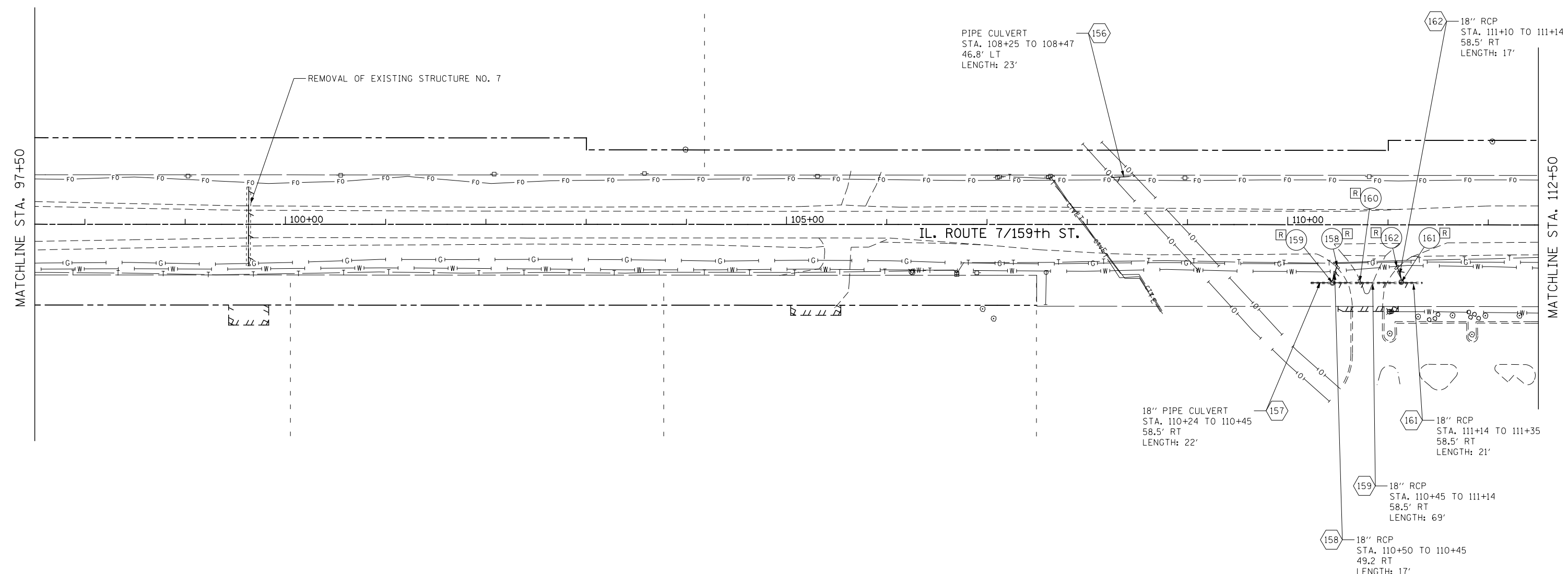
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 6 OF 25 SHEETS STA. 82+50 TO STA. 97+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	422
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- (R) 158 INLET
STA. 110+50
42.2' RT
- (R) 159 MH
STA. 110+45
58.3' RT
RIM ELEV. 785.22
INV. 18" SS E,
18" SS W
- (R) 160 INLET
STA. 110+72
57.1' RT
- (R) 161 MH
STA. 111+14
57.4' RT
RIM ELEV. 784.60
INV. 18" SS E,
18" SS W
- (R) 162 INLET
STA. 111+10
42.6' RT



FILE NAME = D:\60L71\shd\drain\rem-97.dgn

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DRAWN SAN	REVISIED -	
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

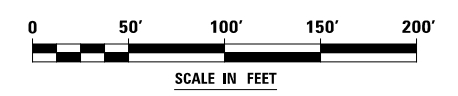
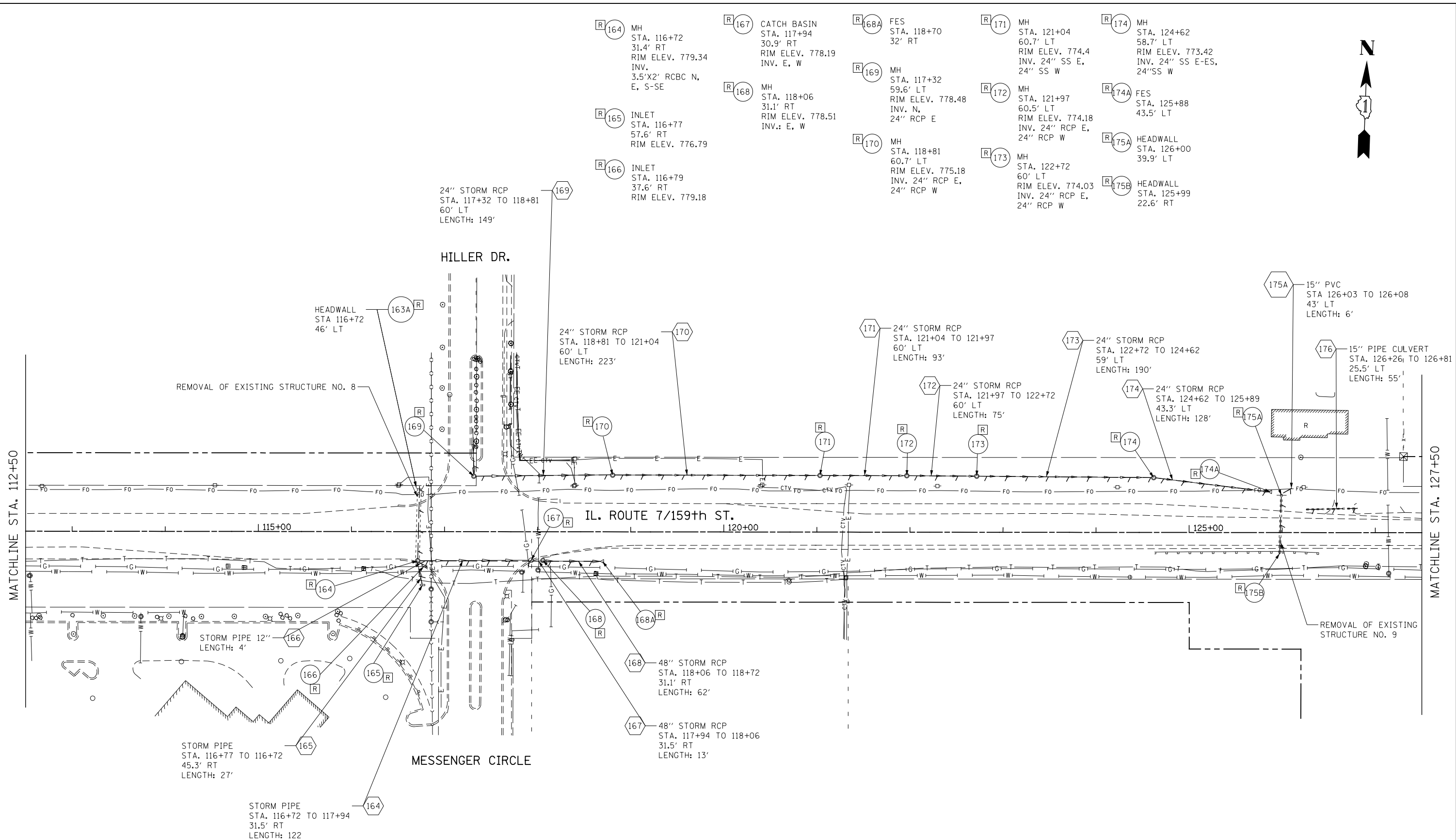
EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 7 OF 25 SHEETS STA. 97+50 TO STA. 112+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	423
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- R164 MH STA. 116+72
31.4' RT
RIM ELEV. 779.34
INV. 3.5'X2' RCBC N,
E, S-SE
- R165 INLET STA. 116+77
57.6' RT
RIM ELEV. 776.79
- R166 INLET STA. 116+79
37.6' RT
RIM ELEV. 779.18
- R167 CATCH BASIN STA. 117+94
30.9' RT
RIM ELEV. 778.19
INV. E, W
- R168 MH STA. 118+06
31.1' RT
RIM ELEV. 778.51
INV.: E, W
- R169 MH STA. 117+32
59.6' LT
RIM ELEV. 778.48
INV. N,
24" RCP E
- R170 MH STA. 118+81
60.7' LT
RIM ELEV. 775.18
INV. 24" RCP E,
24" RCP W
- R168A FES STA. 118+70
32' RT
- R171 MH STA. 121+04
60.7' LT
RIM ELEV. 774.4
INV. 24" SS E,
24" SS W
- R172 MH STA. 121+97
60.5' LT
RIM ELEV. 774.18
INV. 24" RCP E,
24" RCP W
- R173 MH STA. 122+72
60' LT
RIM ELEV. 774.03
INV. 24" RCP E,
24" RCP W
- R174 MH STA. 124+62
58.7' LT
RIM ELEV. 773.42
INV. 24" SS E-ES,
24"SS W
- R174A FES STA. 125+88
43.5' LT
- R175A HEADWALL STA. 126+00
39.9' LT
- R175B HEADWALL STA. 125+99
22.6' RT



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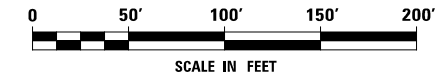
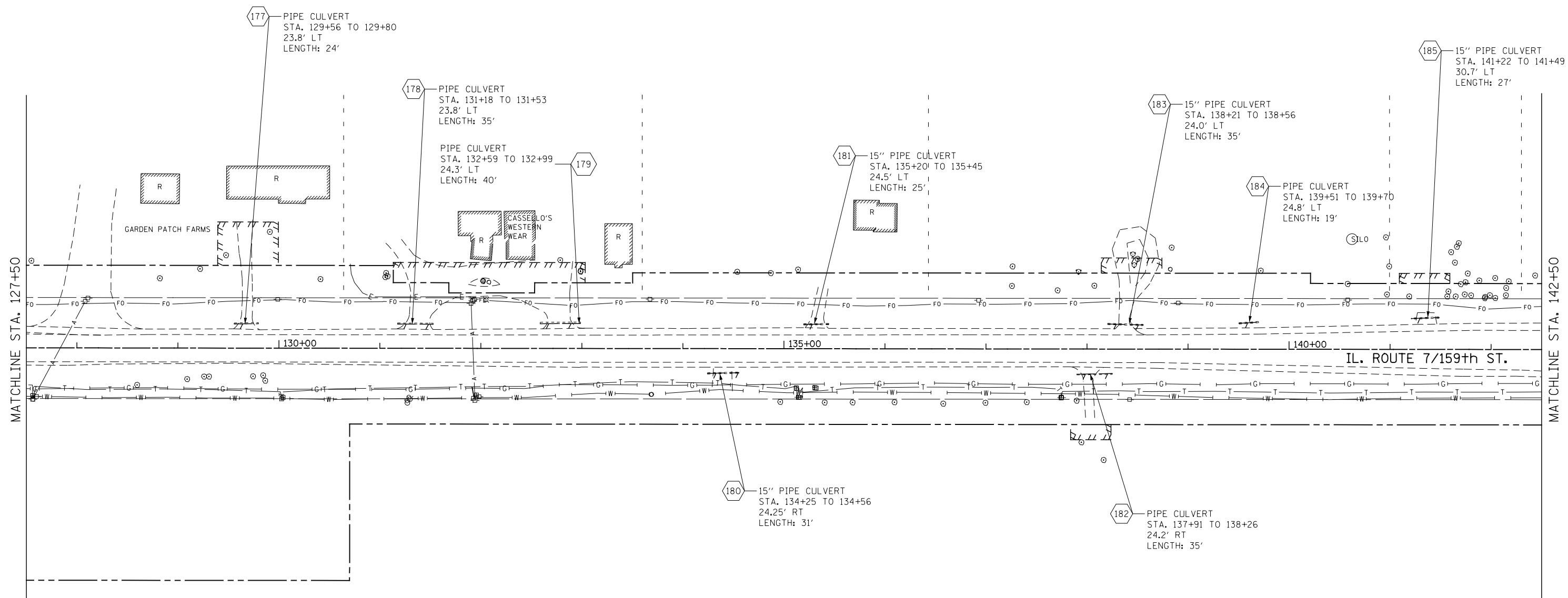
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 8 OF 25 SHEETS STA. 112+50 TO STA. 127+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	424
CONTRACT NO. 60L71			ILLINOIS FED. AID PROJECT	



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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 9 OF 25 SHEETS STA. 127+50 TO STA. 142+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	425
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



15" PIPE CULVERT
STA. 143+44 TO 143+79
29.7' LT
LENGTH: 36'

36" PIPE CULVERT
STA. 147+45 TO 148+81
51.4' LT
LENGTH: 135'

36" PIPE CULVERT
STA. 147+45 TO 148+81
51.4' LT
LENGTH: 135'

24" STORM PIPE
STA. 144+74 TO 155+53
24.5' LT
LENGTH: 1037'

30" STORM PIPE
STA. 155+16 TO 155+39
LENGTH: 28'

36" STORM PIPE
STA. 155+39 TO 157+08
56.4' LT
LENGTH: 169'

36" STORM PIPE
STA. 153+63 TO 155+39
51' LT
LENGTH: 172'

MATCHLINE STA. 142+50

MATCHLINE STA. 157+00

IL. ROUTE 7/159th ST.

STONEBRIDGE DR.

15" PIPE CULVERT
STA. 144+04 TO 144+25
32.4' RT
LENGTH: 21'

STORM SEWERS TO BE CLEANED 30"
STA 147+64 TO 148+00
90.4' RT LENGTH: 36'

30" STORM RCP
STA. 148+50 TO 152+54
87' RT
LENGTH: 404'

42" EORS
STA. 147+60 TO 151+55
59.6' RT
LENGTH: 396'

8" STORM PVC
STA. 148+28
LENGTH: 51'

STORM SEWERS TO BE CLEANED 30"
STA. 148+00 TO 148+50
88' RT LENGTH: 50'

12" PIPE CULVERT
STA. 152+33 TO 152+55
32' RT
LENGTH: 22'

12" PIPE CULVERT
STA. 150+55 TO 150+76
32.6' RT
LENGTH: 22'

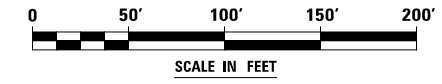
42" EORS
STA. 151+55 TO 153+93
56' RT
LENGTH: 229'

30" RCP
STA. 152+54 TO 154+27
87' RT
LENGTH: 173'

12" STORM PIPE
STA. 155+08
END UNKNOWN

30" RCP
STA. 154+27
87' RT
LENGTH:

18" RCP
STA. 156+71 TO 157+08
124' RT
LENGTH: 50'



- (R) 188 MH STA. 144+74 22.0' LT RIM ELEV. 762.42' INV. E
- (R) 189 CB STA. 147+61 59.6' RT RIM ELEV. 759.27' INV. E
- (R) 190 MH STA. 151+55 56.9' RT RIM ELEV. 761.32' INV. E, W
- (R) 190A FES STA. 153+93 56' RT
- (ADJ) 191 CB STA. 148+00 89' RT RIM 758.17 INV 30" RCP E 30" RCP W
- (ADJ) 191A CB STA. 147+64 90.4' RT RIM 758.25 INV 30" RCP E 30" RCP S-SW
- (ADJ) 192 CB STA. 148+50 87' RT RIM ELEV. 758.20 INV. E, W
- (R) 193 MH STA. 152+54 81.5' RT RIM INV. 30" E-SE 30" W
- (R) 193A MH STA. 154+27 87' RT RIM ELEV. 757.67 INV. 30" W, S
- (R) 194 CB STA. 148+28 33.5' RT RIM ELEV. 757.33' INV. 8" N
- (R) 195 FES STA. 147+43 53.5' LT
- (R) 199 MH STA. 155+08 29.4' RT RIM ELEV. 755.54 INV. 1-12" S, 3'X2' NE
- (R) 200 MH STA. 155+16 28.6' LT RIM ELEV. --- INV. SW, E, W
- (R) 201 FES STA. 153+65 47.8' LT
- (R) 202 CB STA. 155+39 51.9' LT RIM ELEV. 754.08 INV. E, W

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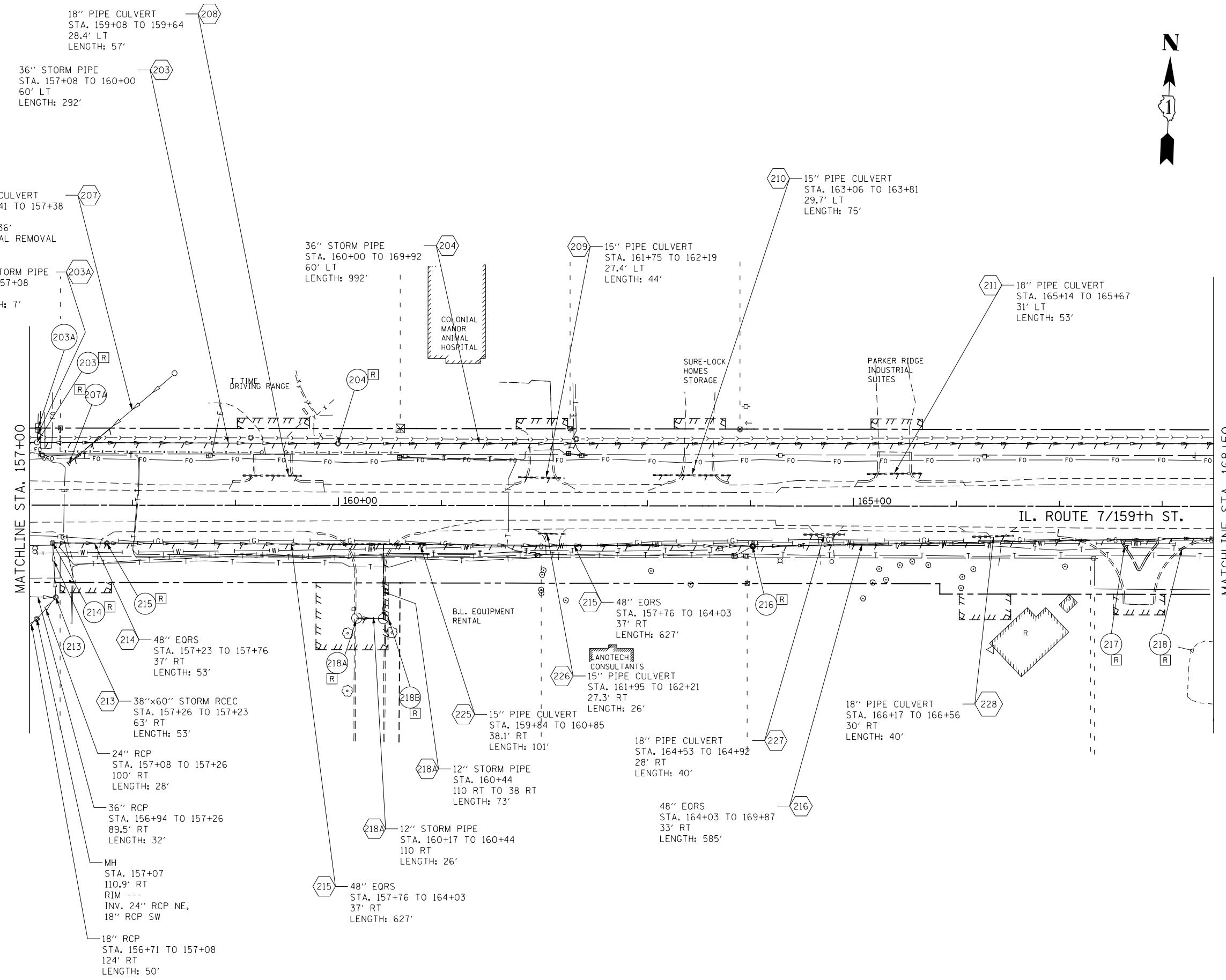
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

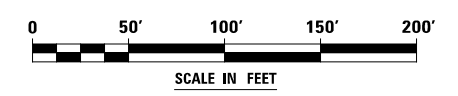
EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 10 OF 25 SHEETS STA. 142+50 TO STA. 157+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	426
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- (R)203 CB
STA. 157+08
60.8' LT
RIM ELEV. 756.71
INV. 36" E, 36" W
24" N
- (203A) DROP INLET, OUTLET
CONTROL STRUCTURE
STA. 157+08
74.5' LT
RIM ELEV. 757.42
INV. 24" N, 24" S
- (R)204 MH
STA. 160+00
60' LT
RIM --
INV. 36" E,
36" W
- (R)207A FES
STA. 157+39
40.6' LT
- (213) MH
STA. 157+26
90' RT
RIM ELEV. ---
INV. 38"x60" RCEP N,
24" RCP SW, 36" RCP W
- (R)214 MH
STA. 157+23
36.9' RT
RIM ELEV. 753.85
INV. 38"x60" S, 48" EQRS E
- (R)215 MH
STA. 157+76
37.3' RT
RIM ELEV. ---
INV. 48" EQRS E,
48" EQRS W
- (R)216 MH
STA. 164+03
39.4' RT
RIM 755.28
INV. E,
42"EQRS W
- (R)217 INLET
STA. 167+64
39.1' RT
RIM 754.42
- (R)218 INLET
STA. 168+20
41.5' RT
RIM 753.73
- (R)218A CATCH BASIN
STA. 160+17
109.3 RT
RIM N/A
- (R)218B CATCH BASIN
STA. 160+44
109.9 RT
RIM N/A



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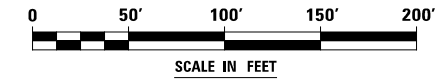
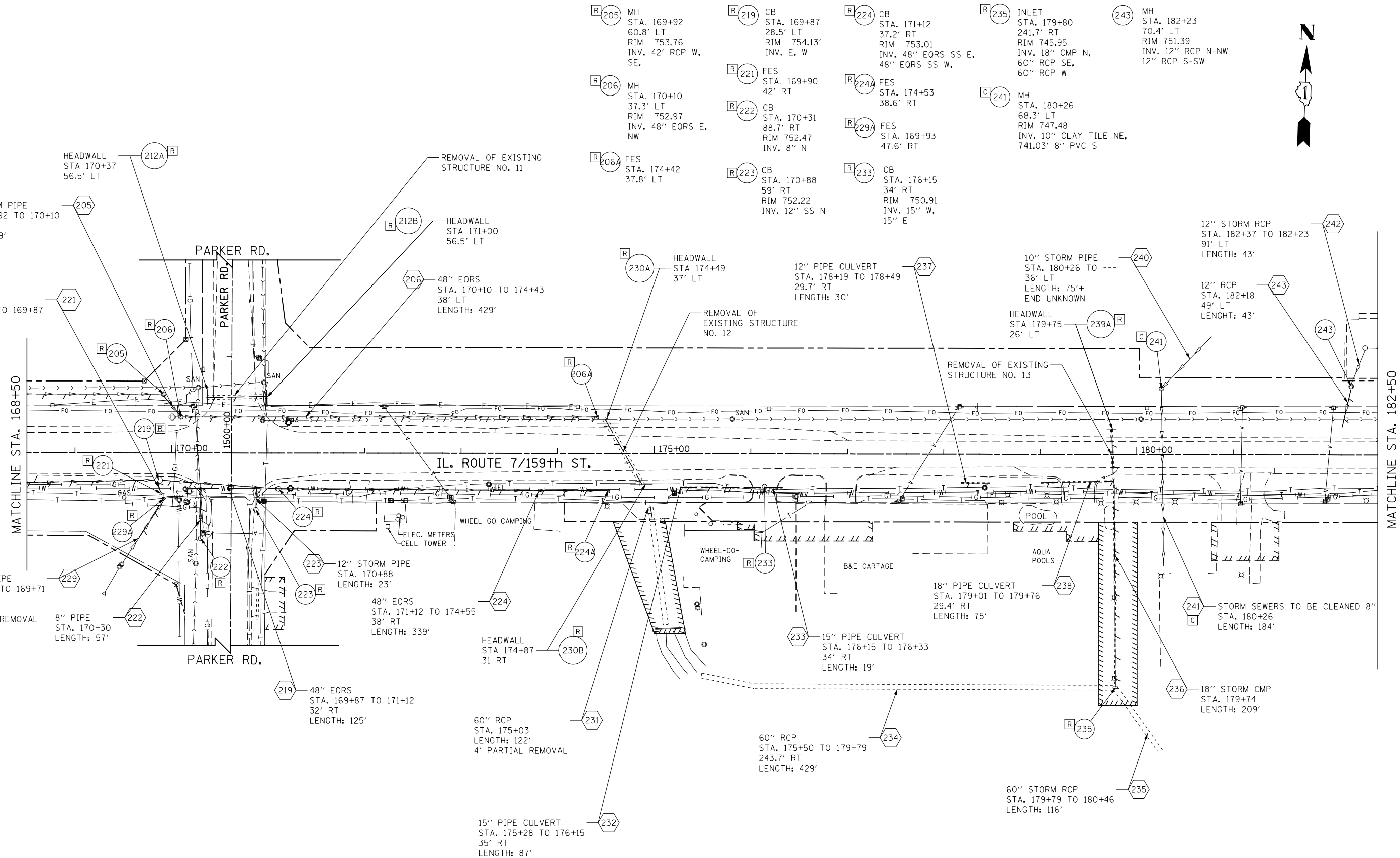
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	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 11 OF 25 SHEETS STA. 157+00 TO STA. 168+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	427
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



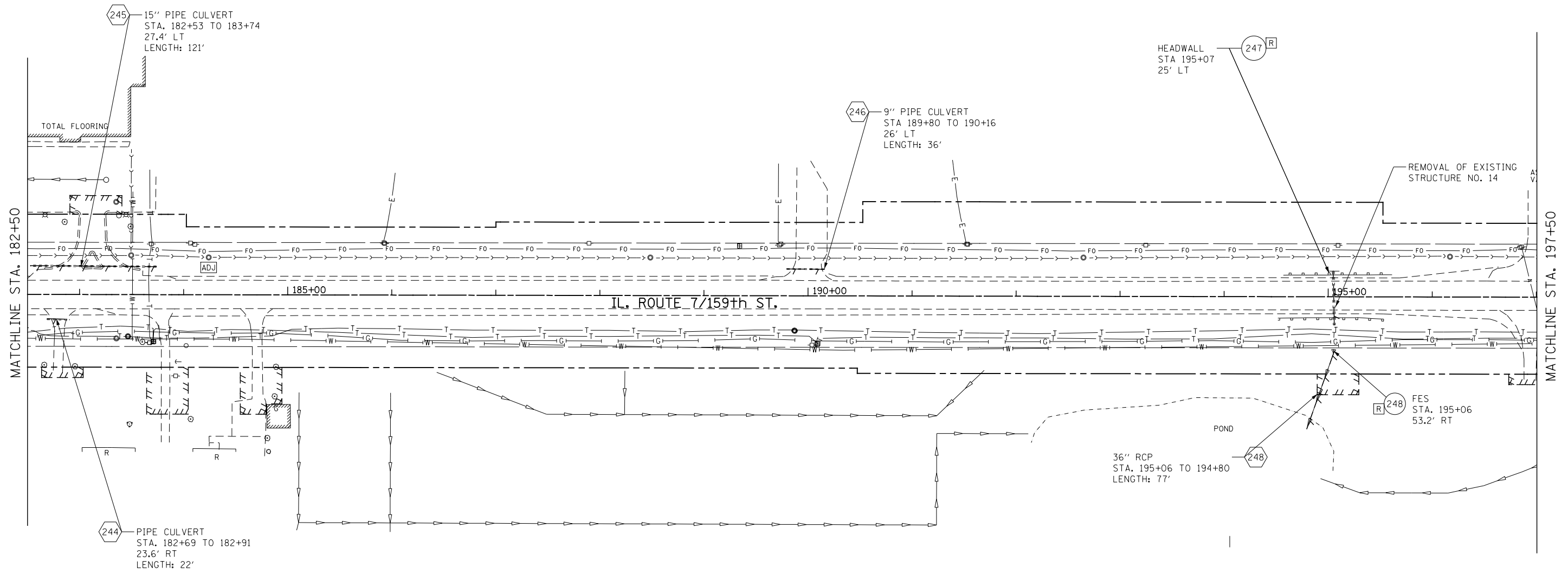
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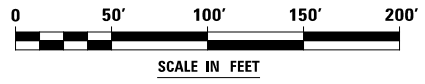
EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7		
SCALE: AS SHOWN	SHEET NO. 12 OF 25 SHEETS	STA. 168+50 TO STA. 182+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	428
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA. 182+50

MATCHLINE STA. 197+50



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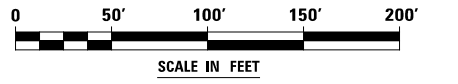
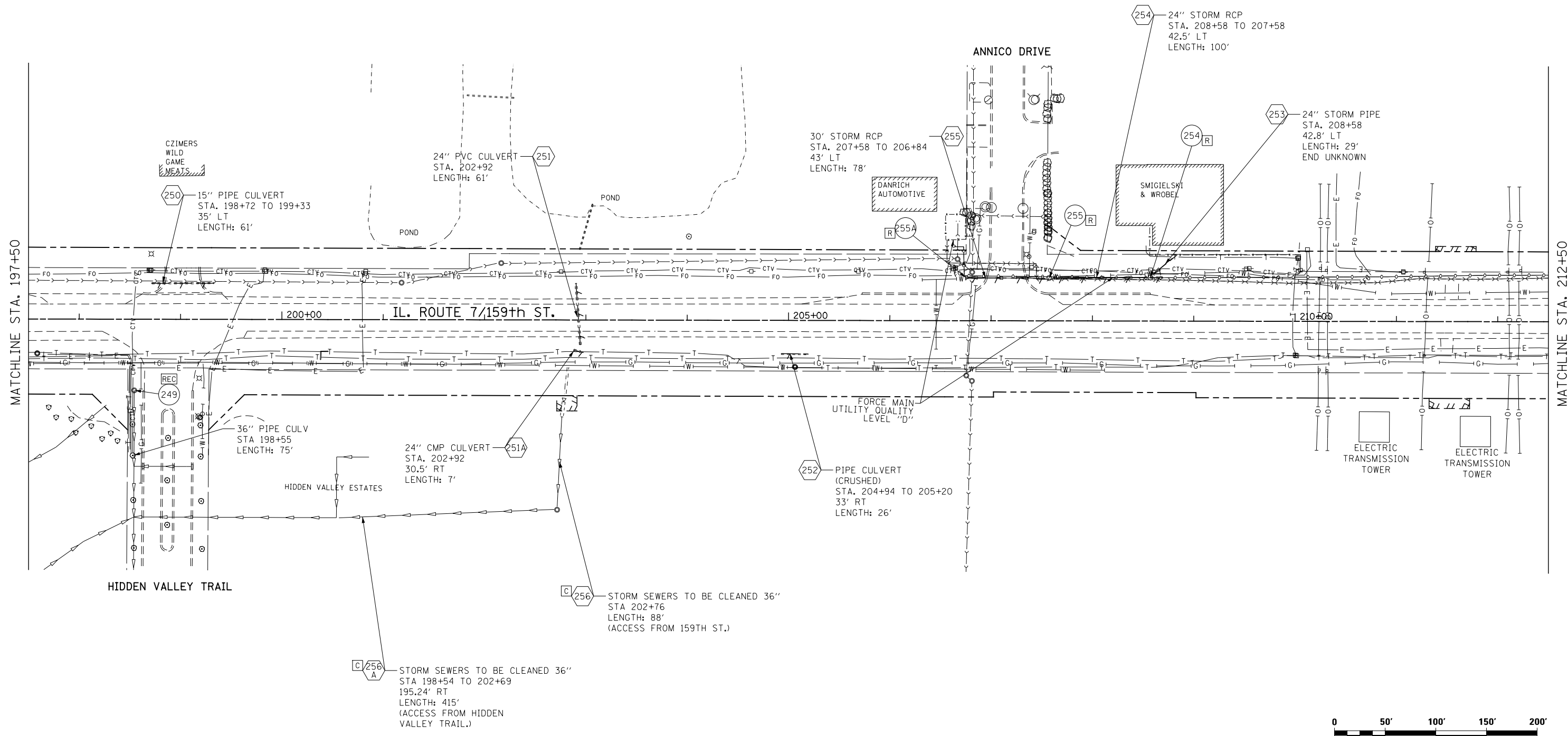
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN | SHEET NO. 13 OF 25 SHEETS | STA. 182+50 TO STA. 197+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	429
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- REC 249 MH
STA. 198+55
70.4' RT
RIM 738.35
INV. 36" S
- R 255 CB
STA. 207+58
42.1' LT
RIM 736.40
INV 24" E,
24" W
- R 254 CB
STA. 208+58
42.8' LT
RIM 736.67
INV 24" RCP W,
12" PIPE NE
- R 255A FES
STA. 206+84
44' LT



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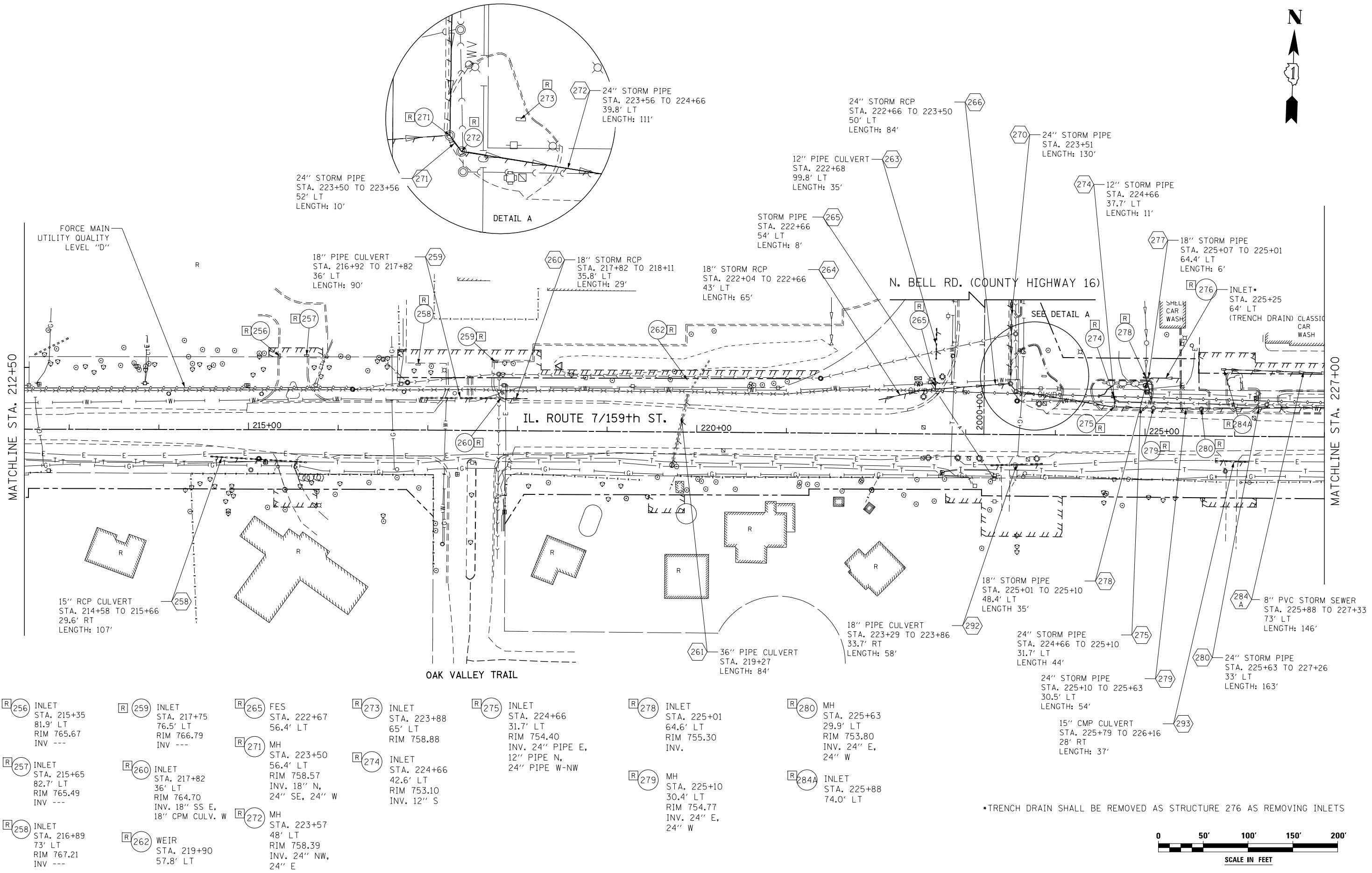
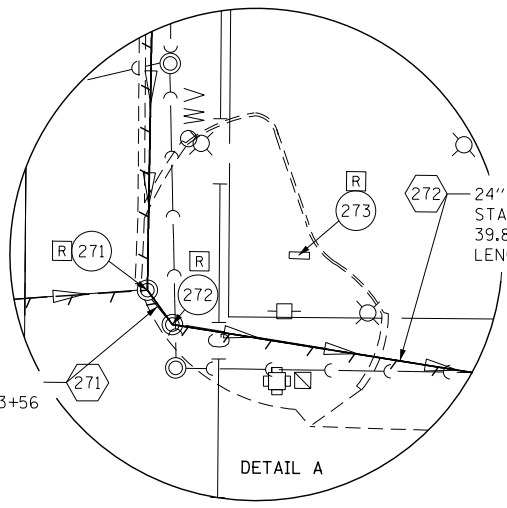
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

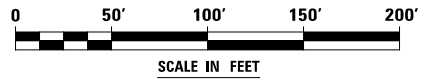
SCALE: AS SHOWN SHEET NO. 14 OF 25 SHEETS STA. 197+50 TO STA. 212+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	430
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- R256** INLET STA. 215+35 81.9' LT RIM 765.67 INV ---
- R257** INLET STA. 215+65 82.7' LT RIM 765.49 INV ---
- R258** INLET STA. 216+89 73' LT RIM 767.21 INV ---
- R259** INLET STA. 217+75 76.5' LT RIM 766.79 INV ---
- R260** INLET STA. 217+82 36' LT RIM 764.70 INV. 18" SS E, 18" CPM CULV. W
- R262** WEIR STA. 219+90 57.8' LT
- R265** FES STA. 222+67 56.4' LT
- R271** MH STA. 223+50 56.4' LT RIM 758.57 INV. 18" N, 24" SE, 24" W
- R272** MH STA. 223+57 48' LT RIM 758.39 INV. 24" NW, 24" E
- R273** INLET STA. 223+88 65' LT RIM 758.88
- R274** INLET STA. 224+66 42.6' LT RIM 753.10 INV. 12" S
- R275** INLET STA. 224+66 31.7' LT RIM 754.40 INV. 24" PIPE E, 12" PIPE N, 24" PIPE W-NW
- R278** INLET STA. 225+01 64.6' LT RIM 755.30 INV.
- R279** MH STA. 225+10 30.4' LT RIM 754.77 INV. 24" E, 24" W
- R280** MH STA. 225+63 29.9' LT RIM 753.80 INV. 24" E, 24" W
- R284A** INLET STA. 225+88 74.0' LT
- R284** 8" PVC STORM SEWER STA. 225+88 TO 227+33 73' LT LENGTH: 146'

*TRENCH DRAIN SHALL BE REMOVED AS STRUCTURE 276 AS REMOVING INLETS



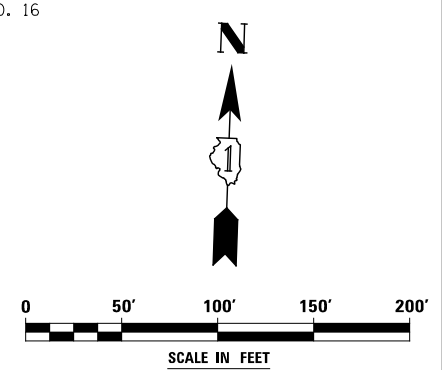
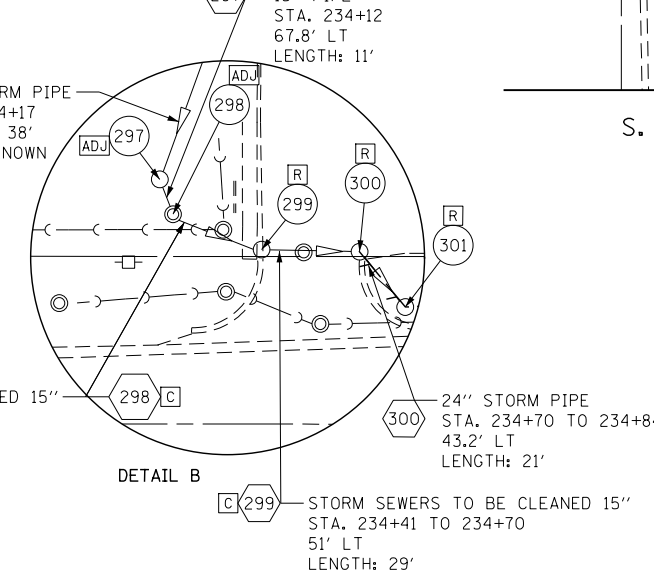
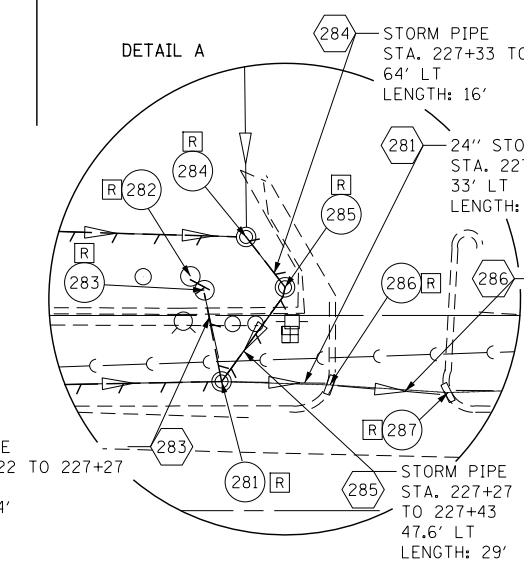
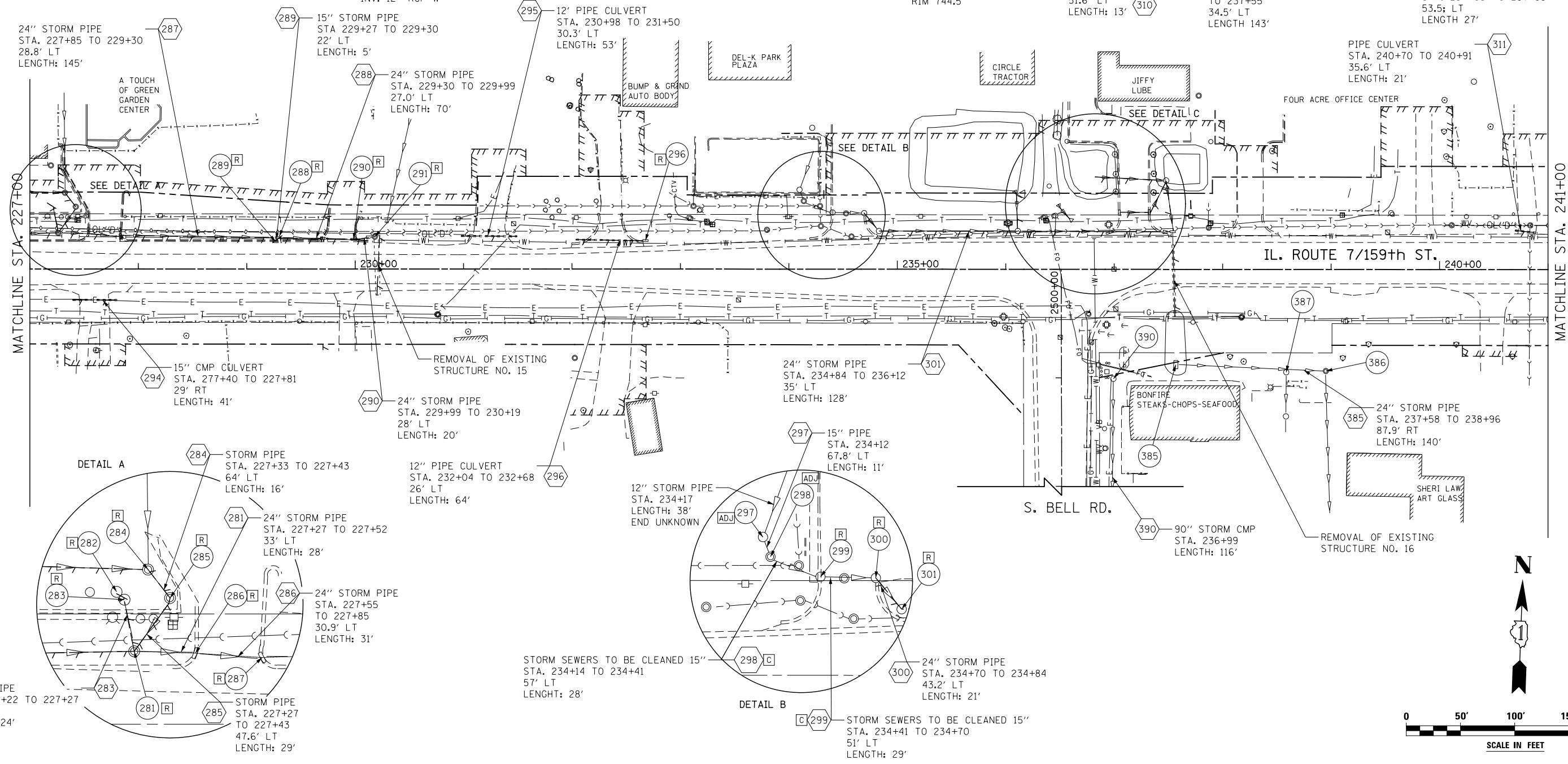
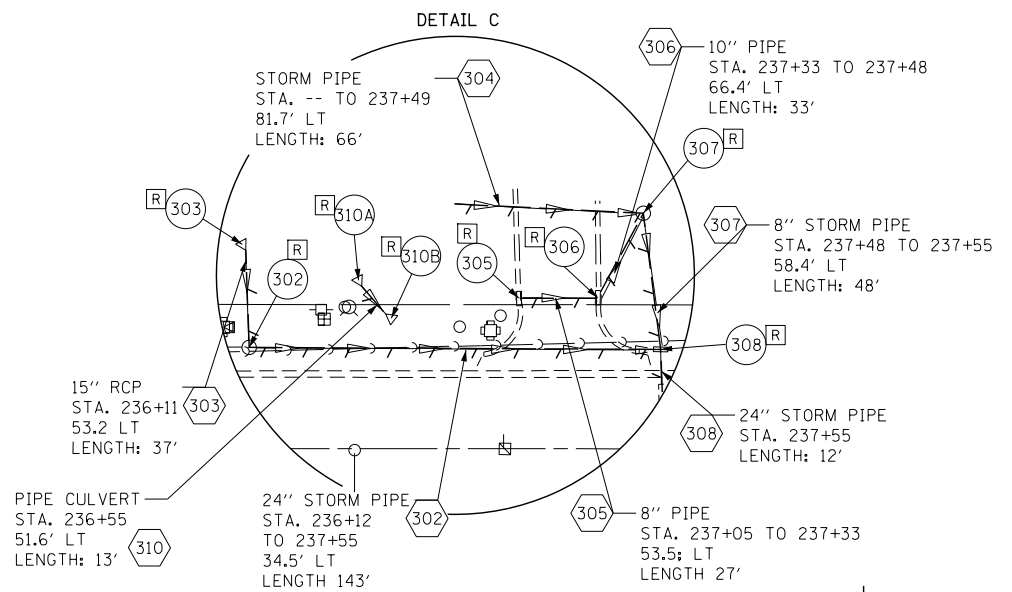
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DRAWN SAN	REVISIED -	
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: AS SHOWN	SHEET NO. 15 OF 25 SHEETS	351	536-R-1	WILL	1232	431
STA. 212+50 TO STA. 227+00		CONTRACT NO. 60L71				
		ILLINOIS FED. AID PROJECT				

- (R)281 MH STA. 227+27 33' LT RIM --- INV. 24" E, 24" W
- (R)282 CB STA. 227+19 60.0' LT RIM 755.67 INV. E-SE
- (R)283 CB STA. 227+22 56.5' LT RIM 755.66 INV. S, W-NW
- (R)284 MH STA. 227+33 70.1' LT RIM 756.23 INV. N, SE. W
- (R)285 MH STA. 227+43 57.3' LT RIM 755.76 INV. NW, SW
- (R)286 INLET STA. 227+55 32' LT RIM 748.30 INV. 24" E, 24" W
- (R)287 INLET STA. 227+85 30.3' LT RIM 747.23 INV. 24" E, 24" W
- (R)288 INLET STA. 229+30 28.8' LT RIM 745.92 INV. 15" NE
- (R)289 INLET STA. 229+27 25.0' LT RIM 745.11 INV. 24" E, 24" W 15" SW
- (R)290 INLET STA. 229+99 27.1' LT RIM 745.01 INV. 24" E-NE, 24" W
- (R)291 MH STA. 230+19 29.6' LT RIM 746.11 INV. 24" W-SW
- (R)296 INLET STA. 232+68 26' LT RIM 751.57 INV. 12" RCP W
- (ADJ)297 CB STA. 234+10 73' LT RIM 754.64 INV. 12" N-NE, S-SE
- (ADJ)298 MH (W/ RESTRICTOR) STA. 234+14 62.6' LT RIM 756.83 INV. ---
- (R)299 CB STA. 234+41 52' LT RIM 753.93
- (R)300 CB STA. 234+70 51.5' LT RIM 753.76 INV. 15" W, 24" SE
- (R)301 CB STA. 234+84 40' LT RIM 753.06 INV. 24" N-NW, 24" E
- (R)302 CB STA. 236+12 35' LT RIM 751.10 INV. 24" E, 24" W
- (R)303 FES STA. 236+09 70.9' LT
- (R)305 INLET STA. 237+05 52.3' LT RIM 751.41 INV. 8" E
- (R)306 INLET STA. 237+33 52.54' LT RIM 751.45 INV. 8" W 10" N-NE
- (R)307 CB STA. 237+49 81.8' LT RIM 751.10 INV. 8" S, W
- (R)308 INLET STA. 237+55 34.5' LT RIM 749.39 INV. ---
- (R)310A FES STA. 236+50 58.4' LT
- (R)310B FES STA. 236+61 45.3' LT
- (385) INLET STA. 237+58 88.3' RT RIM 740.40
- (386) MH STA. 238+96 93.8' RT RIM 745.84 INV. W, S
- (387) CB STA. 238+59 94.9' RT RIM 742.59 INV. 1 S
- (390) CB STA. 237+93 110' RT RIM 744.5



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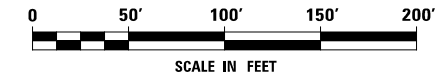
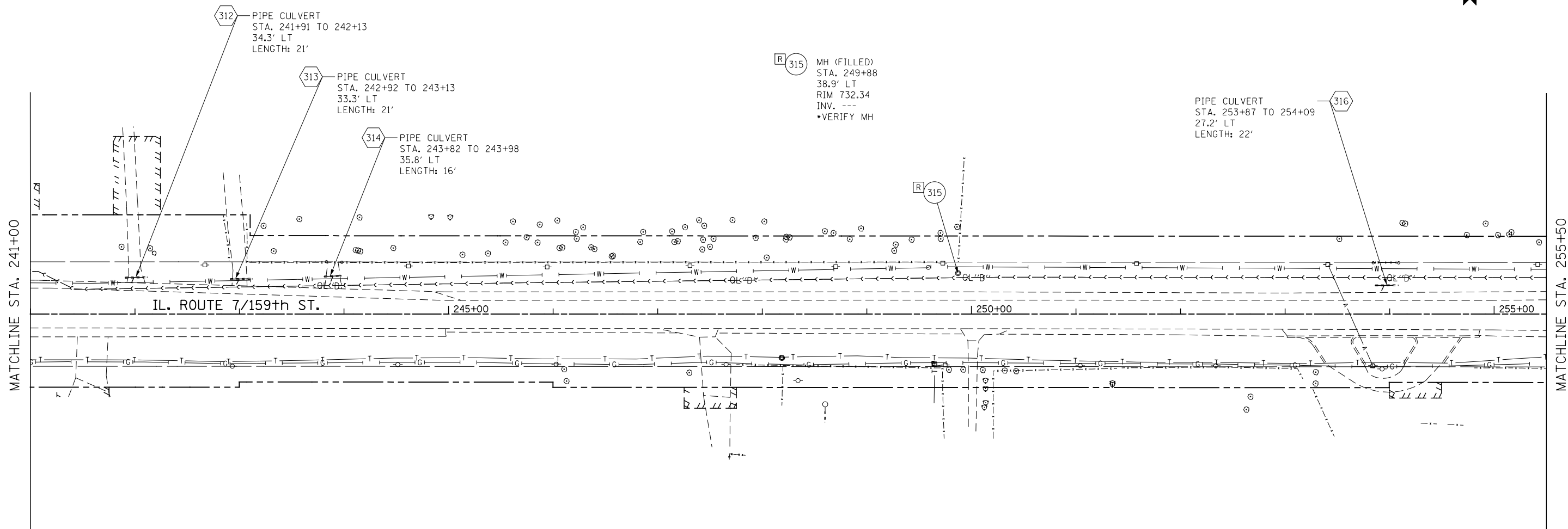
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 16 OF 25 SHEETS STA. 218+00 TO STA. 232+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	432
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

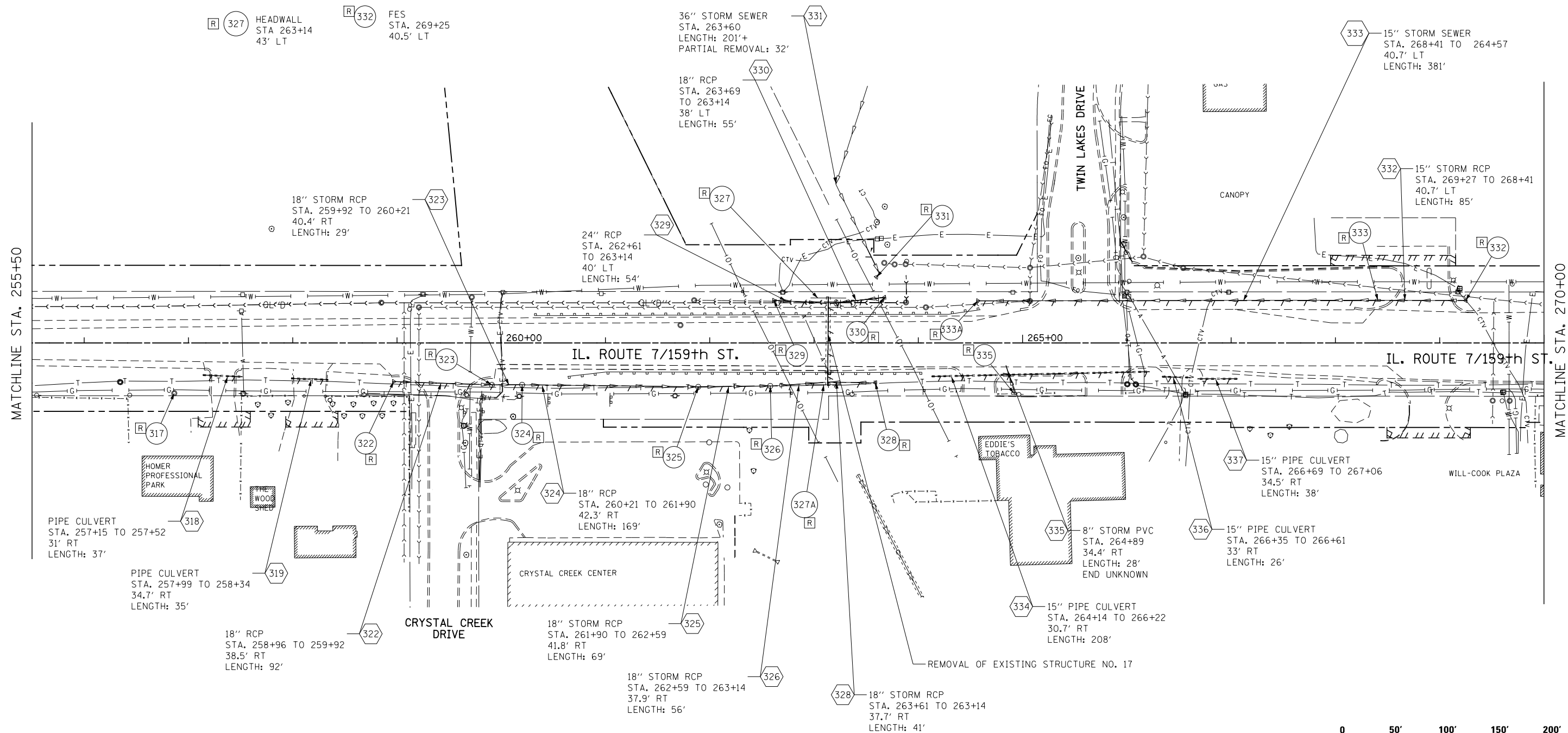
SCALE: AS SHOWN SHEET NO. 17 OF 25 SHEETS STA. 241+00 TO STA. 255+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	433
CONTRACT NO. 60L71				

ILLINOIS FED. AID PROJECT

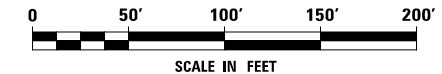


- R** 317 MH (FILLED)
STA. 256+87
48.5' RT
RIM 730.11
INV. ---
•VERIFY MH
- R** 322 FES
STA. 258+97
37.2' RT
- R** 323 CB
STA. 259+92
40.4' RT
RIM 725.70
INV. 18" E,
18" W
- R** 324 CB
STA. 260+22
40.3' RT
RIM 723.30
INV. 18" E,
18" W
- R** 325 CB
STA. 261+90
42.3' RT
RIM 720.41
INV. 18" E,
18" W
- R** 326 CB
STA. 262+58
41.2' RT
RIM 716.27
INV. 18" E,
18" W
- R** 327 HEADWALL
STA 263+14
43' LT
- R** 327A HEADWALL
STA 263+14
40 RT
- R** 328 FES
STA. 263+59
38.5' RT
- R** 329 FES
STA. 262+62
40.6' LT
- R** 330 FES
STA. 263+68
43.5' LT
- R** 331 FES
STA. 263+68
43.5' LT
- R** 332 FES
STA. 269+25
40.5' LT
- R** 333 INLET
STA. 268+41
40.7' LT
RIM 726.26
INV. 15" E,
15" W
- R** 333A FES
STA. 264+57
40.2' LT
- R** 335 INLET
STA. 264+92
48.5' RT
RIM 720.98
INV. 8" PVC N-NW



MATCHLINE STA. 255+50

MATCHLINE STA. 270+00



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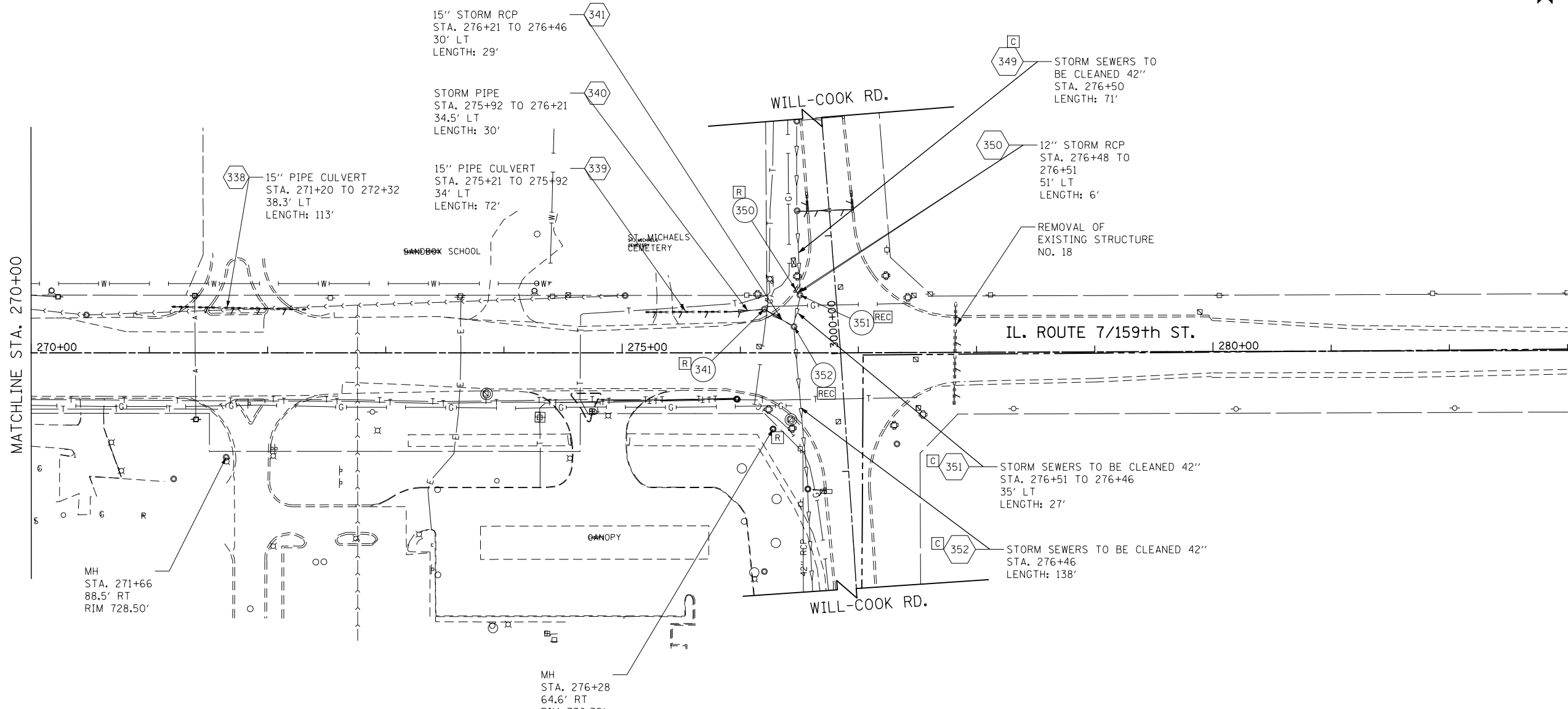
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

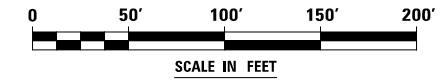
SCALE: AS SHOWN SHEET NO. 18 OF 25 SHEETS STA. 255+50 TO STA. 270+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	434
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- R** 341 MH STA. 276+21
36.7' LT
RIM 731.06
INV. 15" RCP SE
W
- REC** 351 MH STA. 276+51
48.7' LT
RIM 730.47
INV. 42" N, 42" S,
NW
- R** 350 INLET STA. 276+48
53.3' LT
RIM 730.25
INV. 1SE
- REC** 352 MH STA. 276+46
22' LT
RIM 731.17
INV. 42"N,
24" S, 15" NW
LENGTH: 87'



MATCHLINE STA. 270+00



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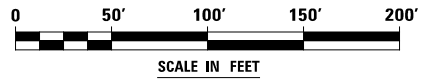
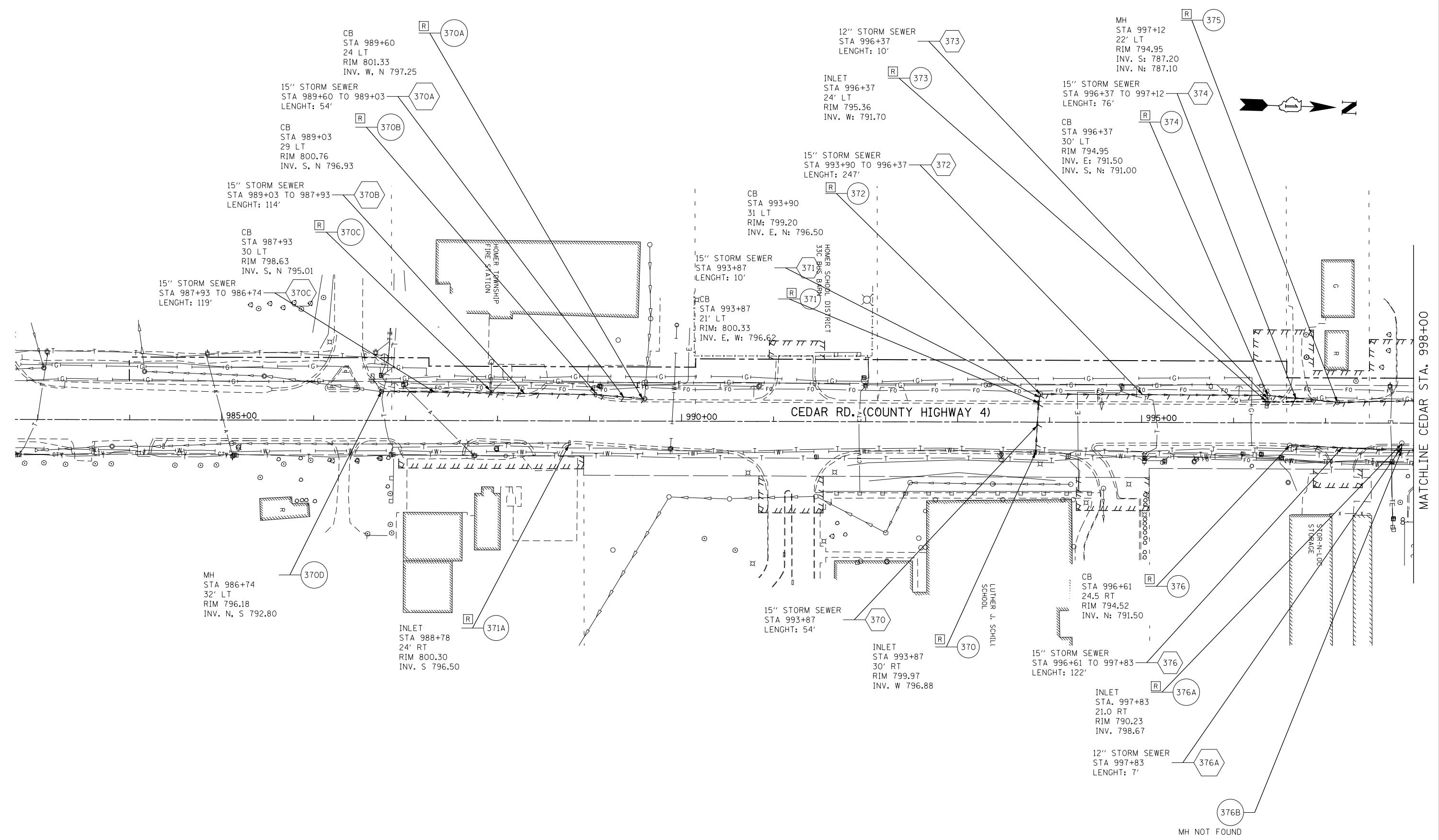
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - ILLINOIS ROUTE 7

SCALE: AS SHOWN | SHEET NO. 19 OF 25 SHEETS | STA. 270+00 TO STA. END

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	435
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

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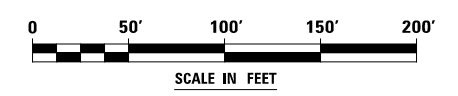
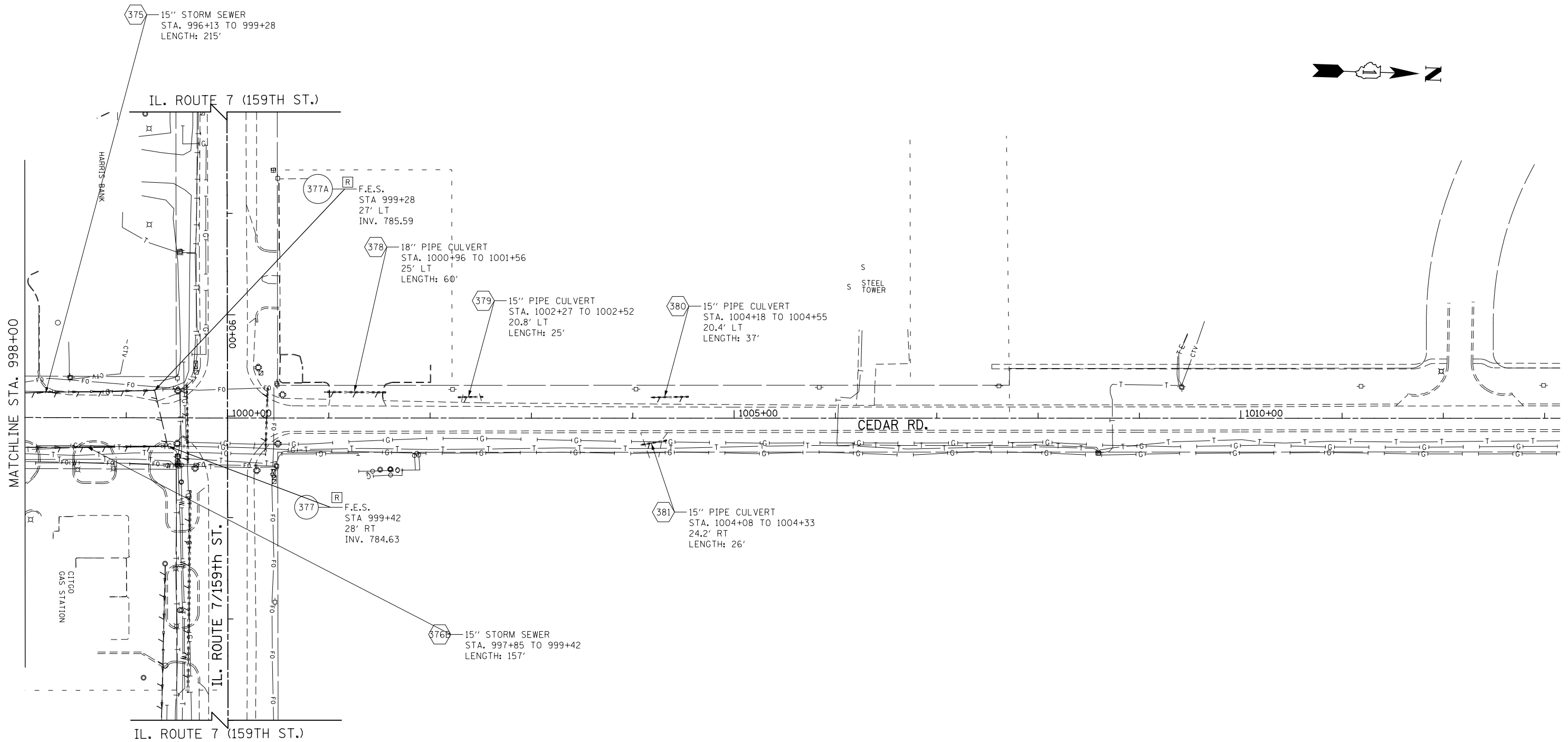
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - CEDAR ROAD

SCALE: AS SHOWN SHEET NO. 20 OF 25 SHEETS STA. BEGIN TO STA. 998+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	436
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



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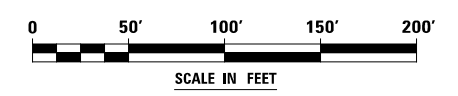
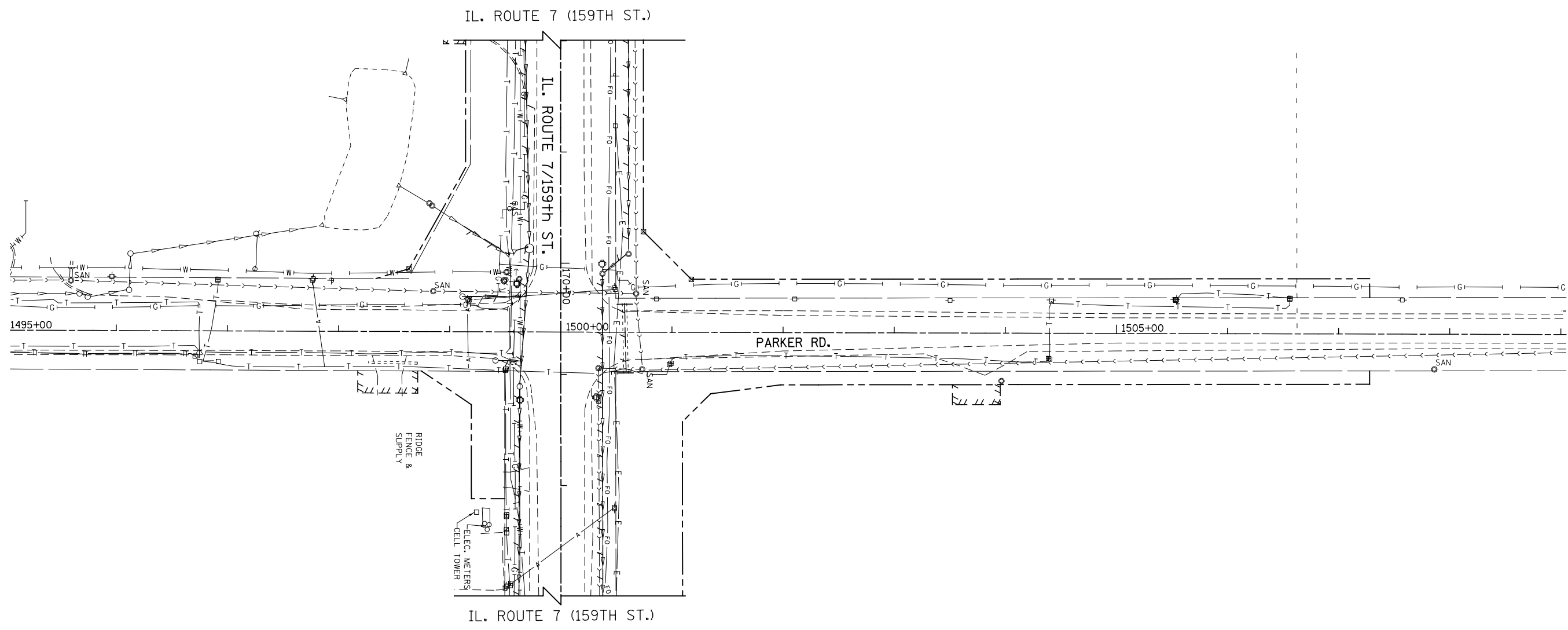
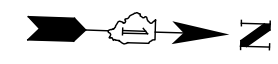
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - CEDAR ROAD

SCALE: AS SHOWN SHEET NO. 21 OF 25 SHEETS STA. 998+00 TO STA. END

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	437
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



FILE NAME : D:\60L71\shd\drain\rem-22_Parker.dgn

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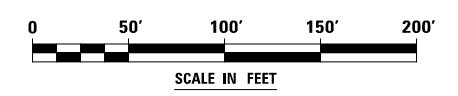
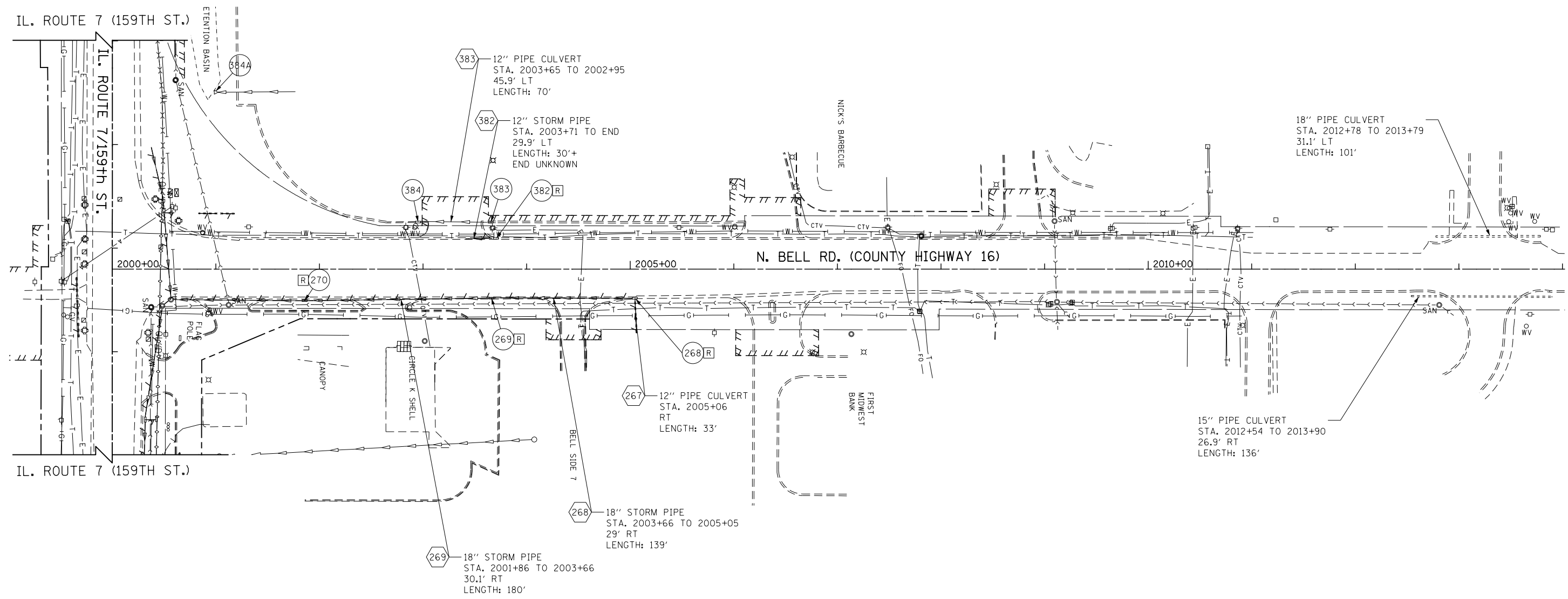
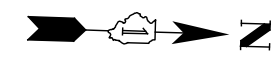
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - PARKER ROAD

SCALE: AS SHOWN SHEET NO. 22 OF 25 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	438
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- R268** INLET
STA. 2005+05
29.1' RT
RIM 768.77'
INV. 12" E,
18" S
- R270** INLET
STA. 2001+86
30.1' RT
RIM 761.30'
INV. 18" N,
24" S
- 383** INLET
STA. 2003+65
44.7' LT
RIM 766.41'
INV. 12" S
- 384A** FES
STA. 2001+00
171.1' LT
- R269** INLET
STA. 2003+66
28.7' RT
RIM 765.39'
INV. 18" N,
18" S
- R382** INLET
STA. 2003+71
29' LT
RIM 766.05'
INV. 12" S
- 384** INLET
STA. 2002+95
44.9' LT
RIM 765.25'
INV. 12" N,
12" SW



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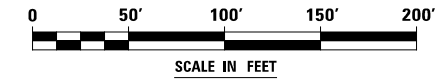
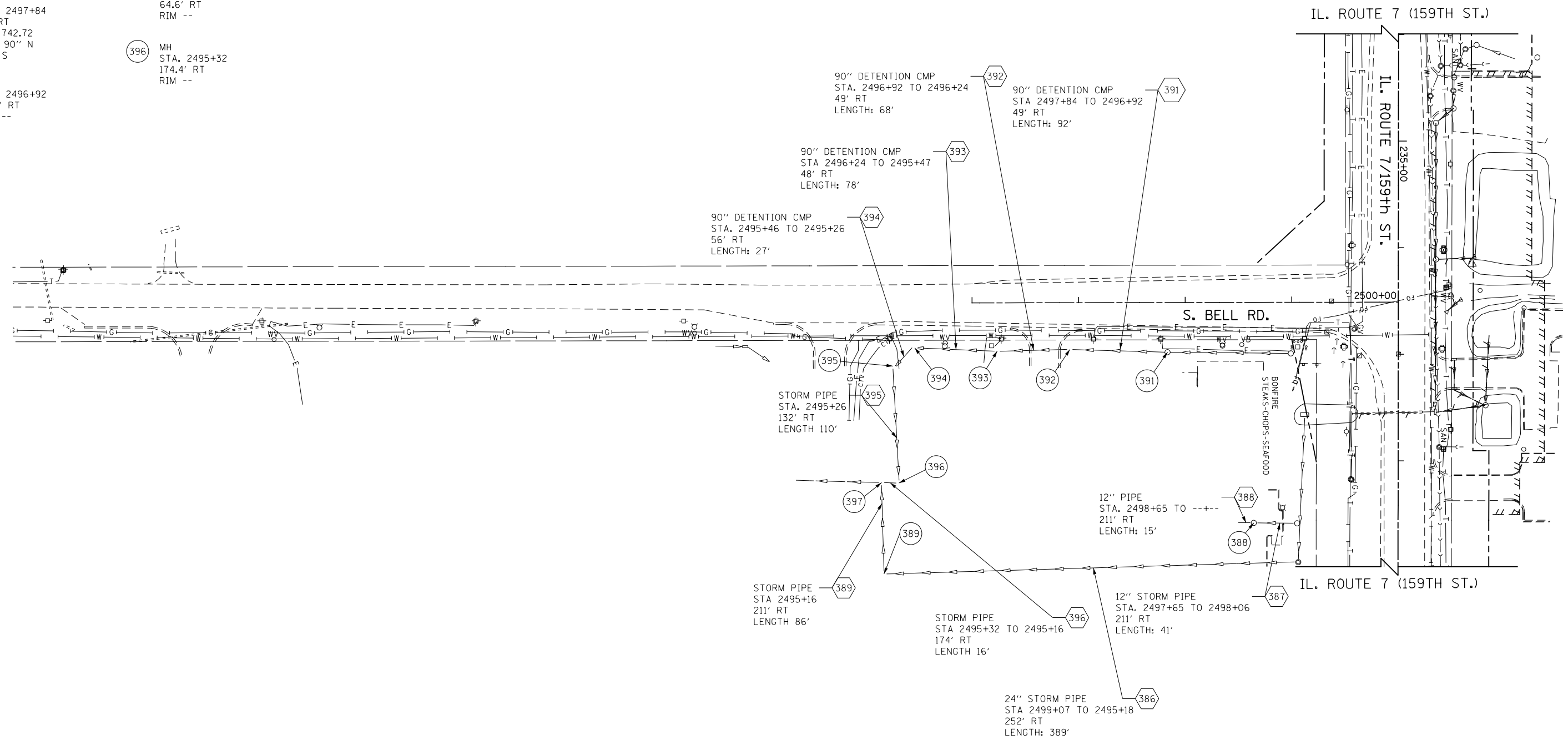
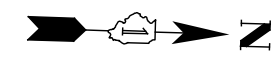
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN – NORTH BELL ROAD

SCALE: AS SHOWN SHEET NO. 23 OF 25 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	439
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

- 388 CB
STA. 2498+65
211' RT
RIM 742.43
INV. 12" N,
12" S
- 389 MH
STA. 2495+18
259.7' RT
RIM --
- 391 CB
STA. 2497+84
51' RT
RIM 742.72
INV. 90" N
90" S
- 392 CB
STA. 2496+92
48.6' RT
RIM --
- 393 CB
STA. 2496+24
50.4' RT
RIM --
- 394 CB
STA. 2495+45
47.5' RT
RIM --
- 395 CB
STA. 2495+26
64.6' RT
RIM --
- 396 MH
STA. 2495+32
174.4' RT
RIM --
- 397 MH
STA. 2495+16
174' RT
RIM --



FILE NAME = D:\60L71-sht-drain-rem-24-S.Bell.dgn

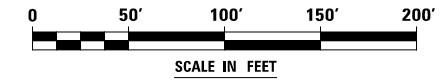
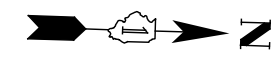
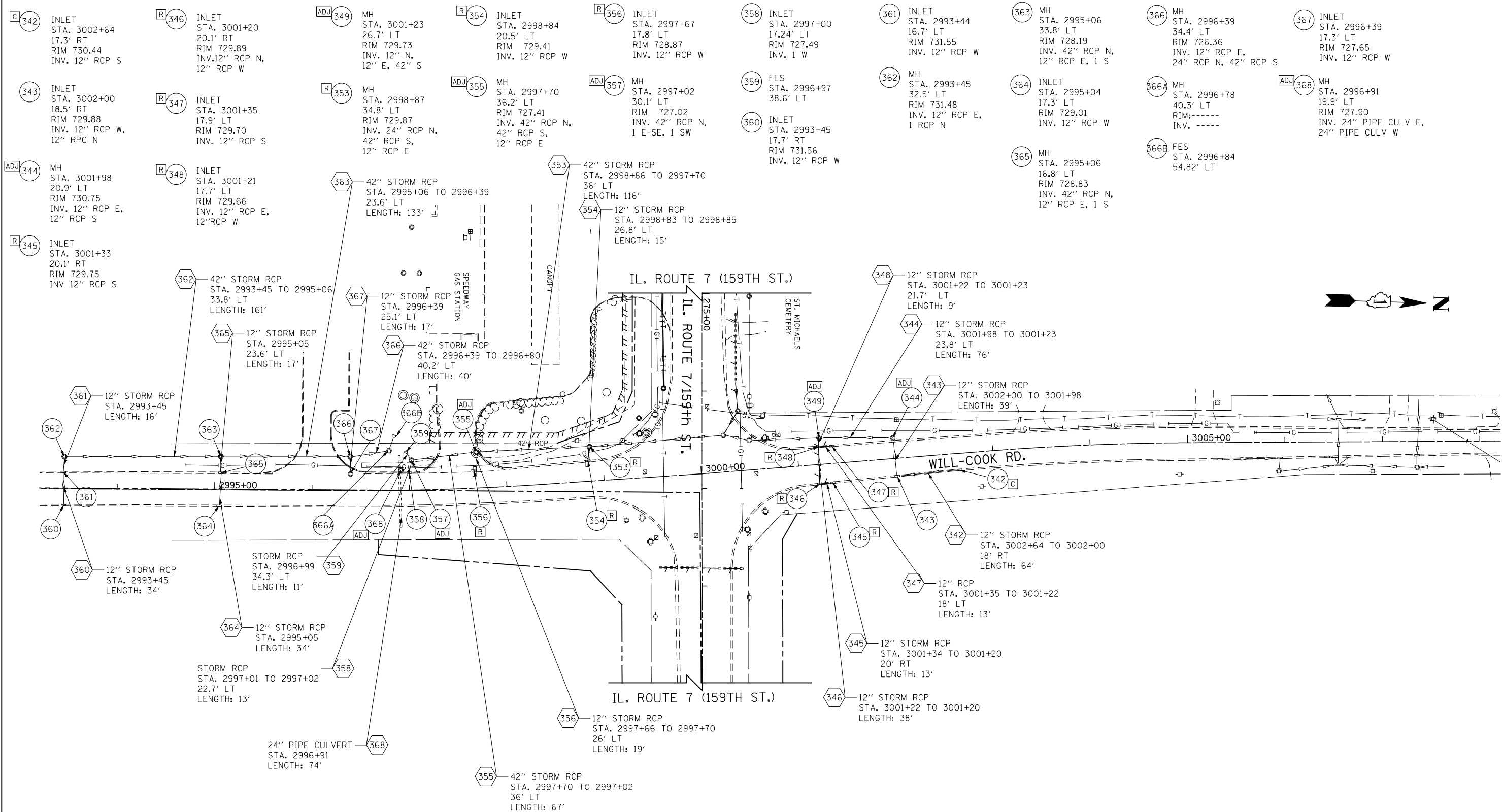
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - SOUTH BELL ROAD

SCALE: AS SHOWN SHEET NO. 24 OF 25 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	440
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



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DRAWN SAN	REVISED -	
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING DRAINAGE PLAN - WILL COOK ROAD

SCALE: AS SHOWN SHEET NO. 25 OF 25 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	441
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PRECAST BOX CULVERT SCHEDULE (ASTM C 1577)						
STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
16+81.0 49.0' RT	16+81.0 57.0' LT	5' X 3'	0°	1.6	1.8	YES
LENGTH: 106 FT						

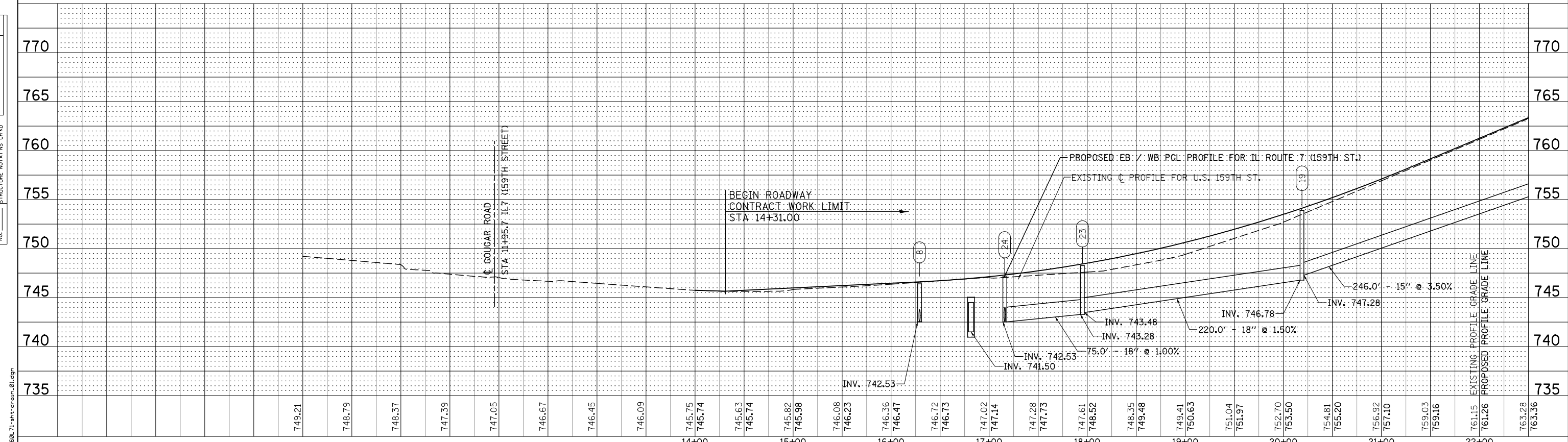
BOX CULVERT END SECTIONS 38 AND 39 SHALL BE EMBEDDED.
SEE DD-02 FOR DETAILS

TOTAL WETLAND AREA, SITE W22 - 0.63 AC.
PERMANENT IMPACT AREA - 0.19 AC.

TOTAL WETLAND AREA, SITE W21 - 0.33 AC.
NO IMPACTS

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	

PROFILE	SURVEYED	DATE
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	

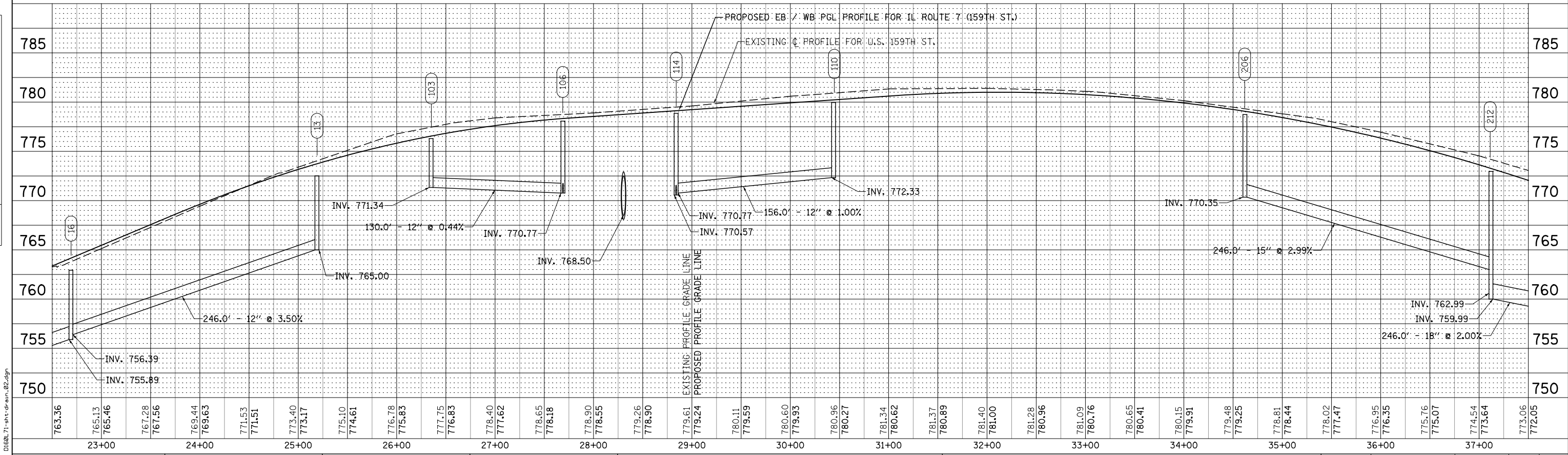
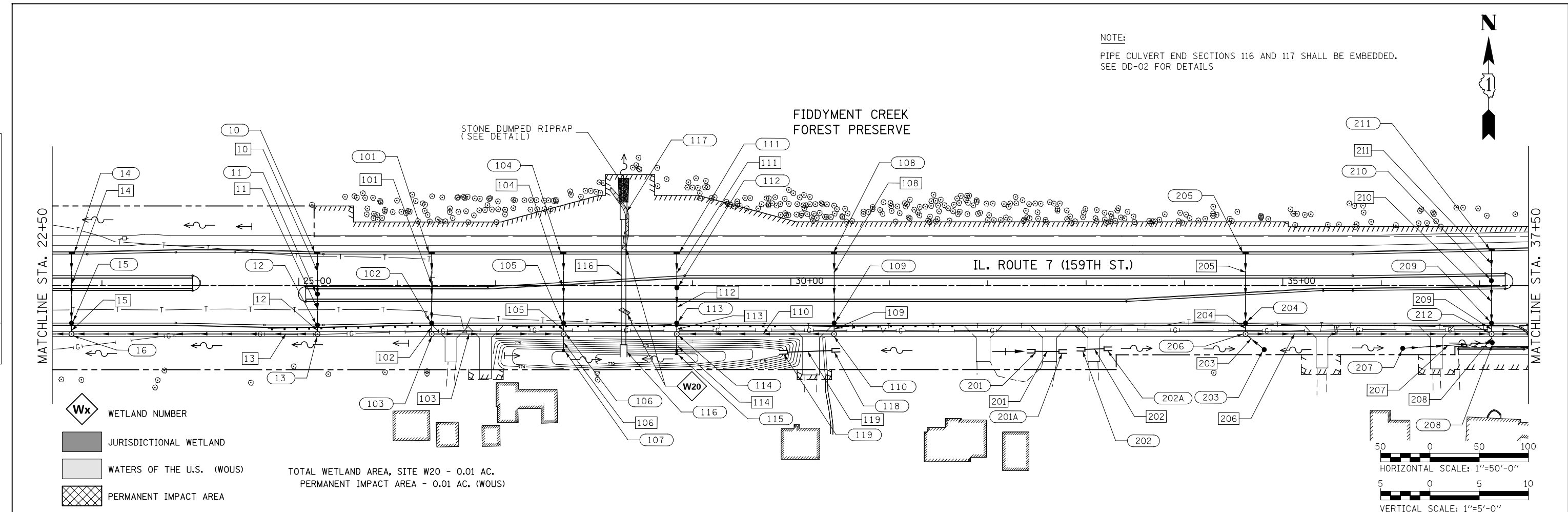


USER NAME = mmaestra	DESIGNED - SAN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED DRAINAGE PLAN & PROFILE - IL ROUTE 7			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 1/99,9998	DRAWN - SAN	REVISED -		SCALE: 1" = 50'	SHEET NO. 1 OF 26 SHEETS	STA. 14+31 TO STA. 22+50	351	536-R-1	WILL	1232	442
PLOT DATE = 8/18/2014	CHECKED - PJO	REVISED -					CONTRACT NO. 60L71				
	DATE - 8/15/2014	REVISED -					ILLINOIS FED. AID PROJECT				

FILE NAME = D:\60L71\site\plan\01.dwg

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	CHECKED		
	ALIGNMENT		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	GRADES CHECKED		
	STRUCTURE		
	NOTATION		
	CHWD		
	NO.		



763.36	765.13	765.46	767.28	767.56	769.44	769.63	771.53	771.51	773.40	773.47	775.10	774.61	776.78	775.83	777.75	776.83	778.40	777.62	778.65	778.18	778.90	778.55	779.26	778.90	779.61	779.24	780.11	779.59	780.60	779.93	780.96	780.27	781.34	780.62	781.37	780.89	781.40	781.00	781.28	780.96	781.09	780.76	780.65	780.41	780.15	779.91	779.48	779.25	778.81	778.44	778.02	777.47	776.95	776.35	775.76	775.07	774.54	773.64	773.06	772.05
23+00		24+00		25+00		26+00		27+00		28+00		29+00		30+00		31+00		32+00		33+00		34+00		35+00		36+00		37+00																																

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1/99,9998	CHECKED - PJO	REVISED -
PLOT DATE = 8/15/2014	DATE - 8/15/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE		
PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 2 OF 26 SHEETS	STA. 22+50 TO STA. 37+50

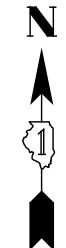
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	443
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

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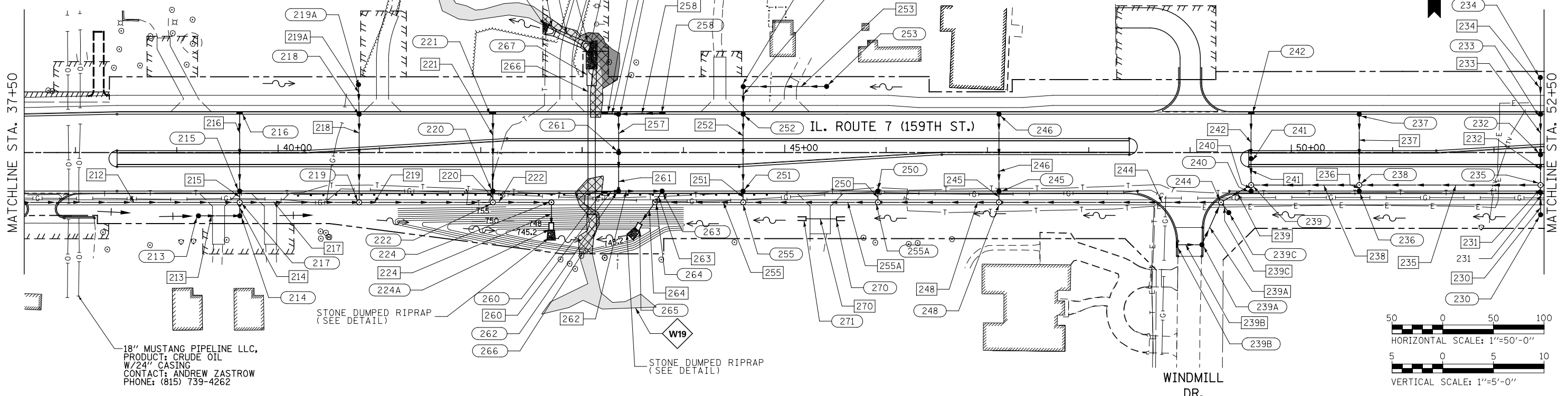
- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA

TOTAL WETLAND AREA, SITE W19 - 0.14 AC.
 PERMANENT IMPACT AREA - 0.046 AC. (WOUS)
 0.016 AC. (WETLAND)
 0.06 AC. TOTAL

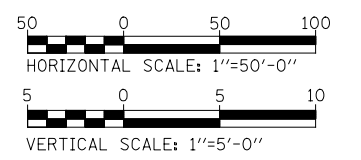
NOTE:
 PIPE CULVERT END SECTIONS 266, 267, 268, AND 269
 SHALL BE EMBEDDED. SEE DD-02 FOR DETAILS



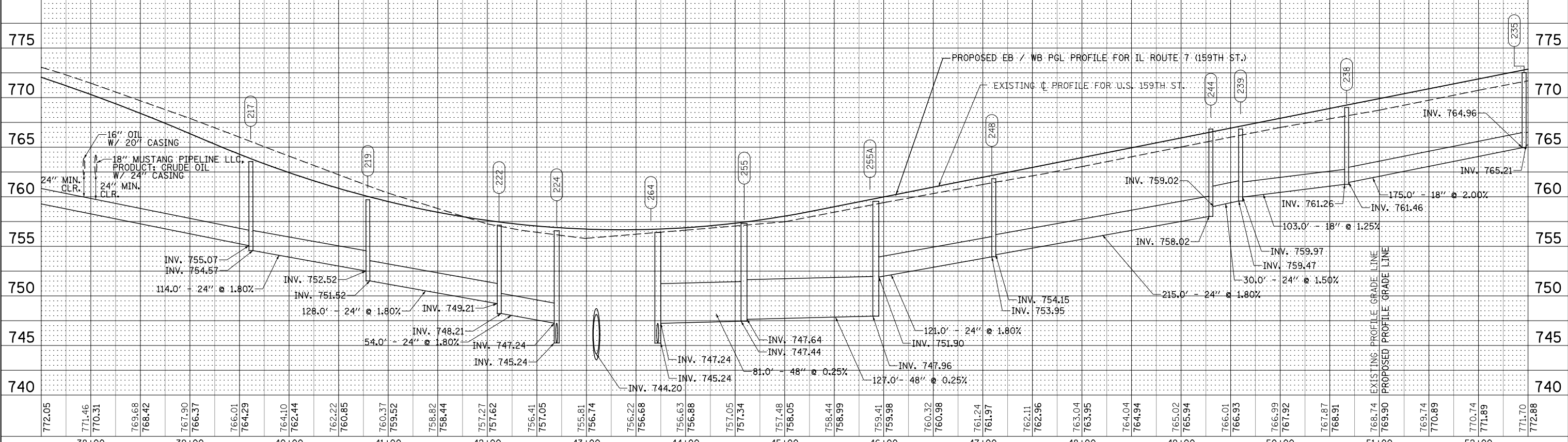
PLAN	SURVISED	DATE
NOTE BOOK	PLOTTED	
	CHECKED	
	AT	
	ALIGNMENT	
	FILE NAME	
	NO.	



18" MUSTANG PIPELINE LLC,
 PRODUCT: CRUDE OIL
 W/24" CASING
 CONTACT: ANDREW ZASTROW
 PHONE: (815) 739-4262



PROFILE	SURVISED	DATE
NOTE BOOK	PLOTTED	
	CHECKED	
	STRUCTURE	
	NOTATIS	
	CHVD	
	NO.	



FILE NAME = D:\68L71\sh-t\dr\an_03.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1:99,9998	CHECKED - PJO	REVISED -
PLOT DATE = 8/15/2014	DATE - 8/15/2014	REVISED -

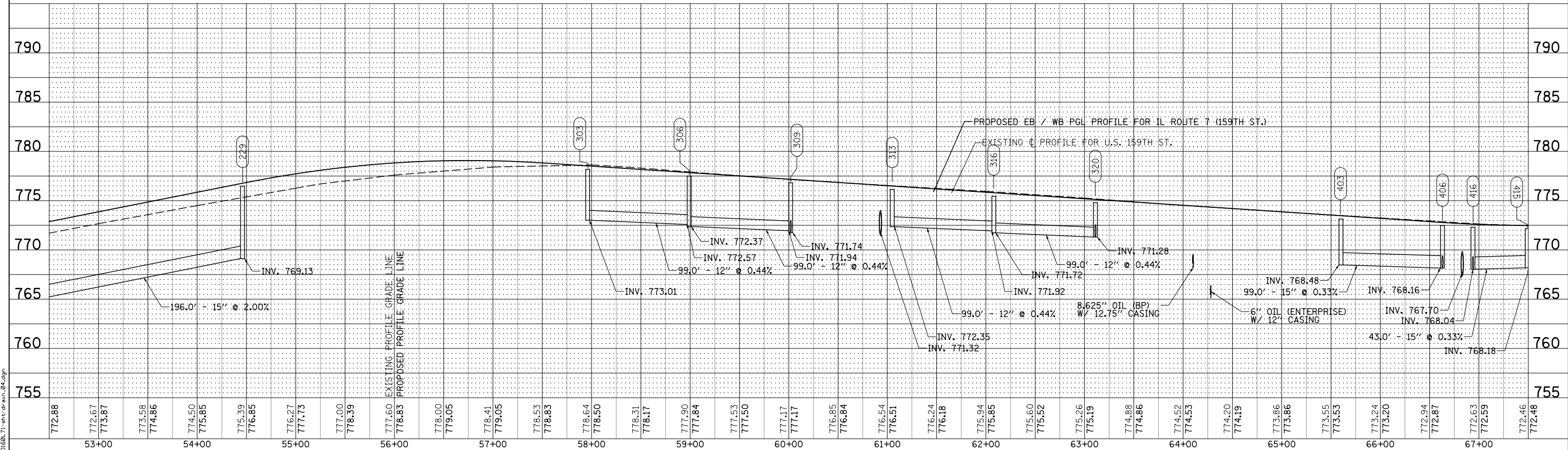
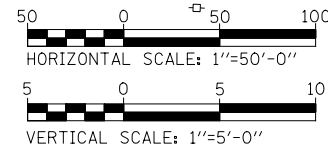
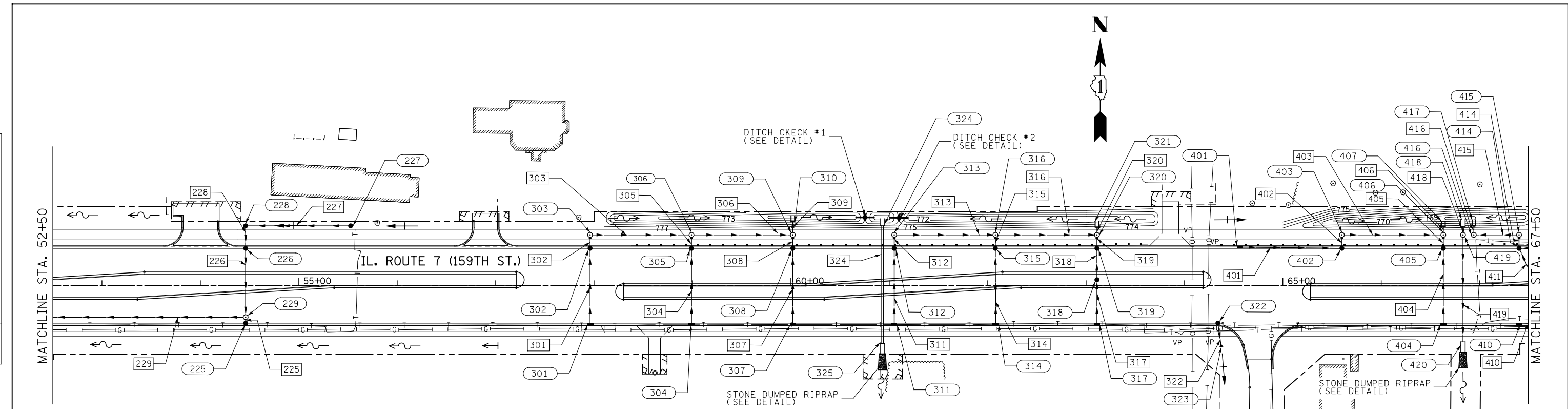
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			
SCALE: 1" = 50'	SHEET NO. 3 OF 26 SHEETS	STA. 37+50 TO STA. 52+50	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	444
CONTRACT NO. 60L71				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		
	CHWD		
	NO.		



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	DRAWN - SAN	REVISED -
PLOT SCALE = 1:99,998	CHECKED - PJO	REVISED -
PLOT DATE = 8/18/2014	DATE - 8/15/2014	REVISED -

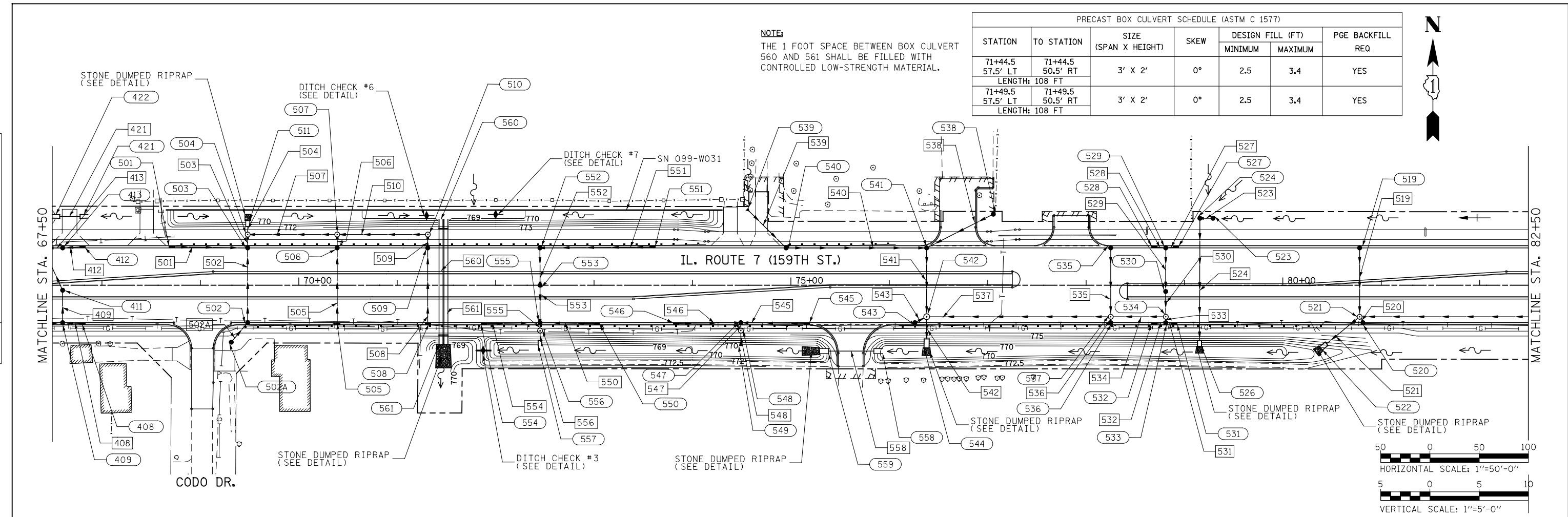
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 4 OF 26 SHEETS	STA. 52+50 TO STA. 67+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	445
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

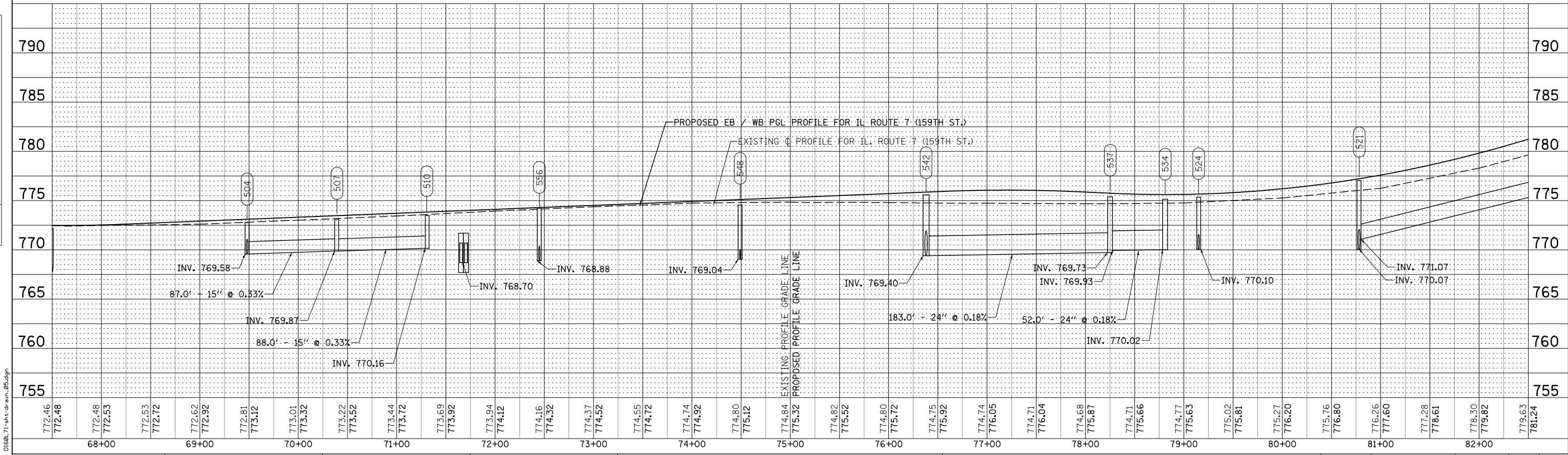
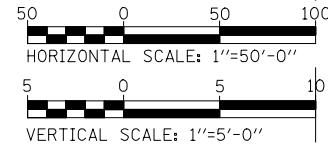
DATE	
BY	
PLAN	
SURVEYED	
PLOTTED	
CHECKED	
ALIGNED	
FILE NAME	
NO.	

DATE	
BY	
PROFILE	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE	
NOTATION	
CHWD	
NO.	



STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
71+44.5 57.5' LT	71+44.5 50.5' RT	3' X 2'	0°	2.5	3.4	YES
LENGTH: 108 FT						
71+49.5 57.5' LT	71+49.5 50.5' RT	3' X 2'	0°	2.5	3.4	YES
LENGTH: 108 FT						

NOTE:
THE 1 FOOT SPACE BETWEEN BOX CULVERT 560 AND 561 SHALL BE FILLED WITH CONTROLLED LOW-STRENGTH MATERIAL.



FILE NAME = D:\60L71\sh-t\dr\pr_05.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,9998	DRAWN - SAN	REVISED -
PLOT DATE = 8/18/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

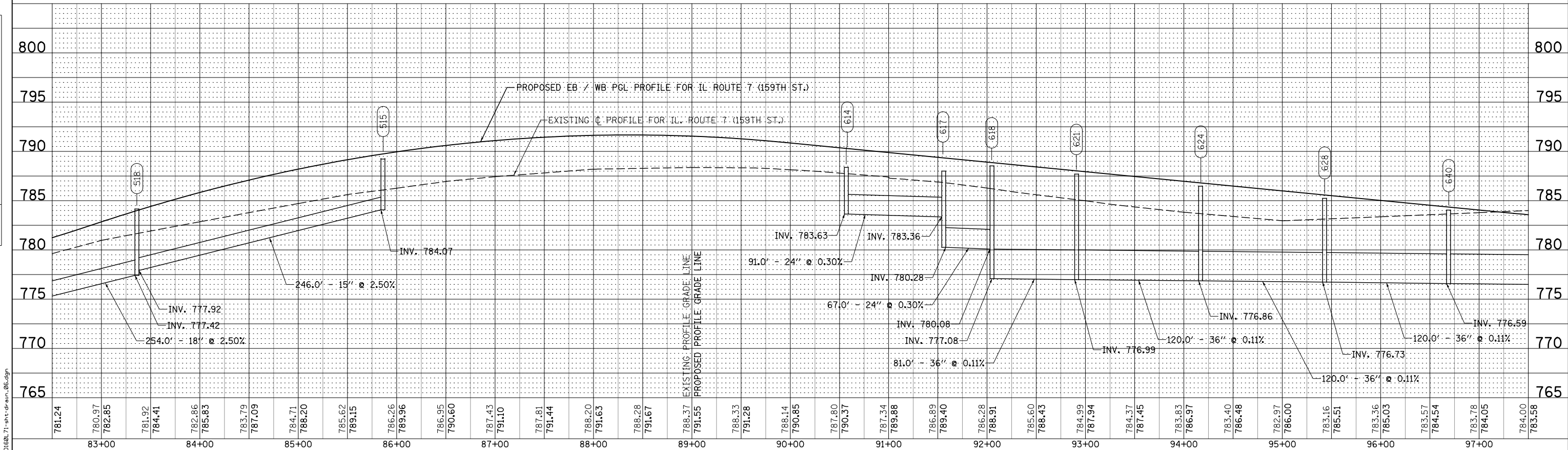
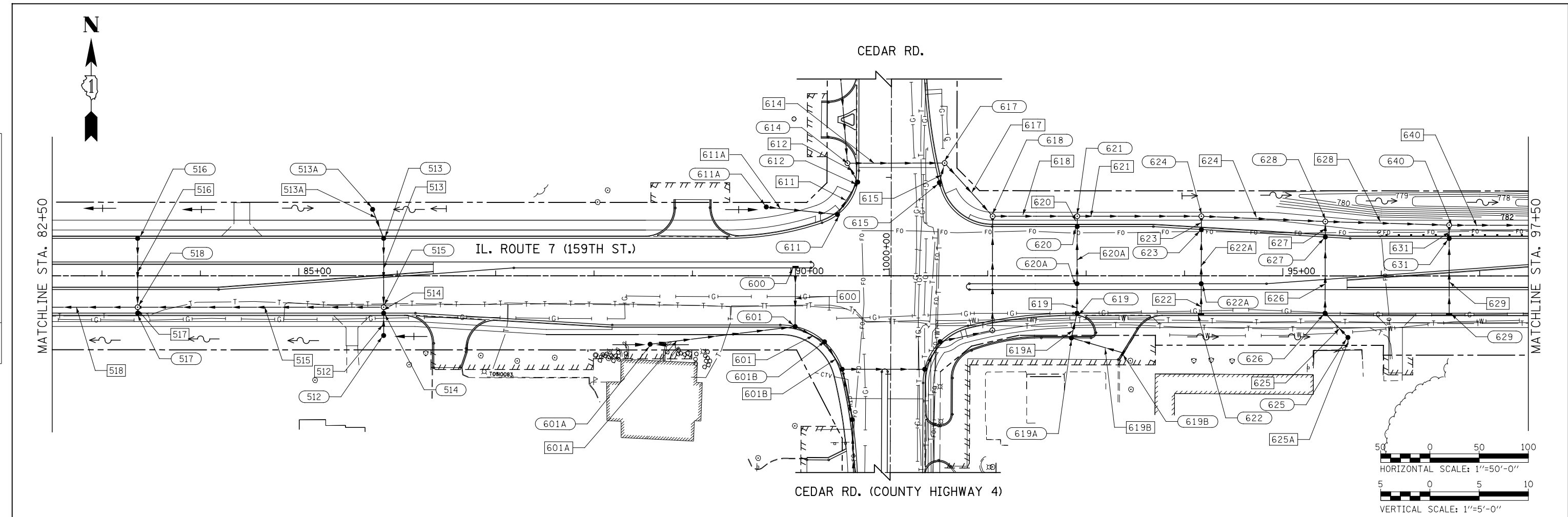
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 5 OF 26 SHEETS	STA. 67+50 TO STA. 82+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	446
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILED		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		
	NO.		



FILE NAME = D:\6071\sh-t\c4\plan_06.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1:99,998	CHECKED - PJO	REVISED -
PLOT DATE = 8/15/2014	DATE - 8/15/2014	REVISED -

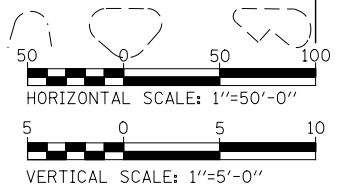
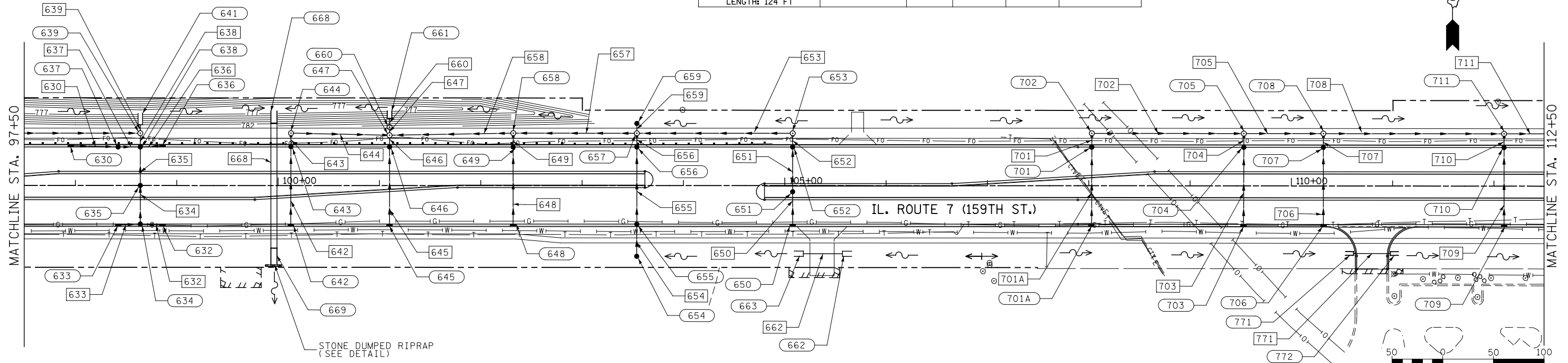
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			
SCALE: 1" = 50'	SHEET NO. 6 OF 26 SHEETS	STA. 82+50 TO STA. 97+50	

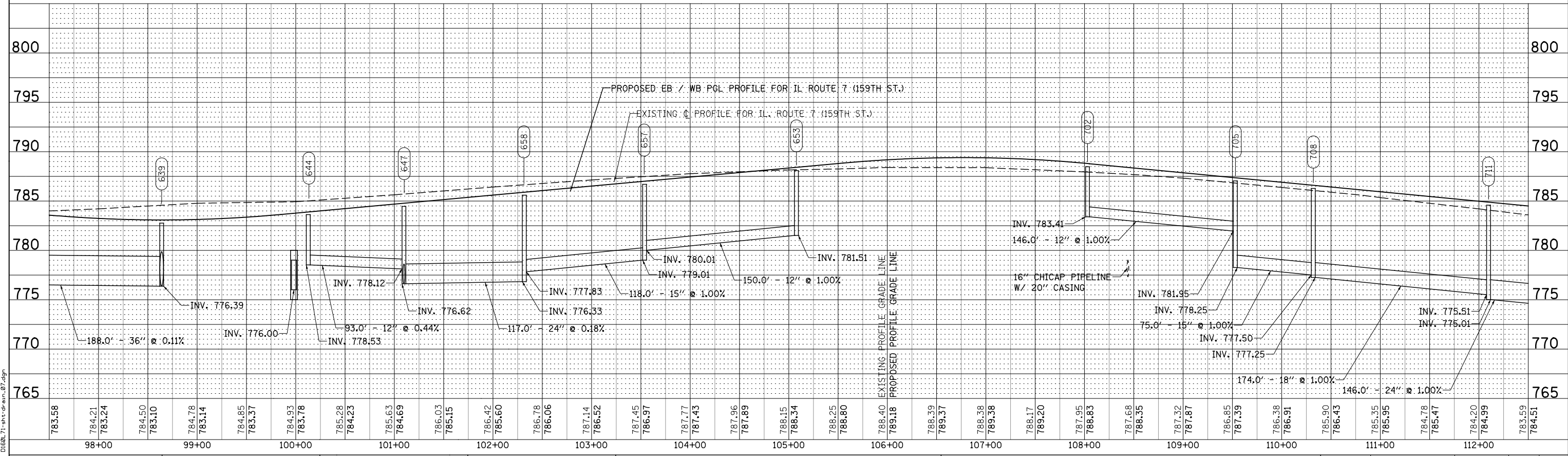
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	447
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PRECAST BOX CULVERT SCHEDULE (ASTM C 1577)						
STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
99+96.0 62.0' LT	99+96.0 62.0' RT	5' X 3'	0°	3.8	5.1	YES
LENGTH: 124 FT						

PLAN	SURVISED	DATE
NOTE BOOK	PLOTTED	
	CHECKED	
	ALIGNED	
	FILE NAME	



PROFILE	SURVISED	DATE
NOTE BOOK	GRADES CHECKED	
	STRUCTURE	
	NOTATION	



FILE NAME = D:\6071\sh-t\drain_07.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,9998	DRAWN - SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED - PJO	REVISED -
	DATE = 10/21/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

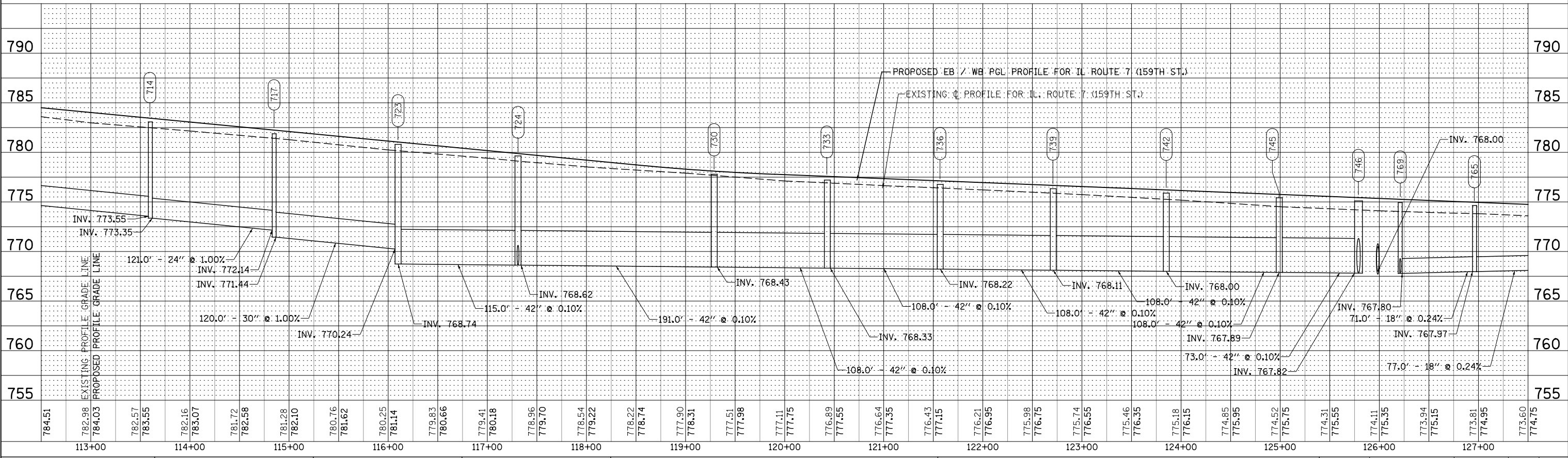
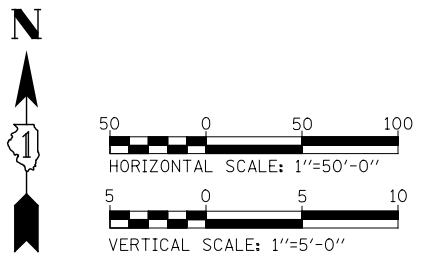
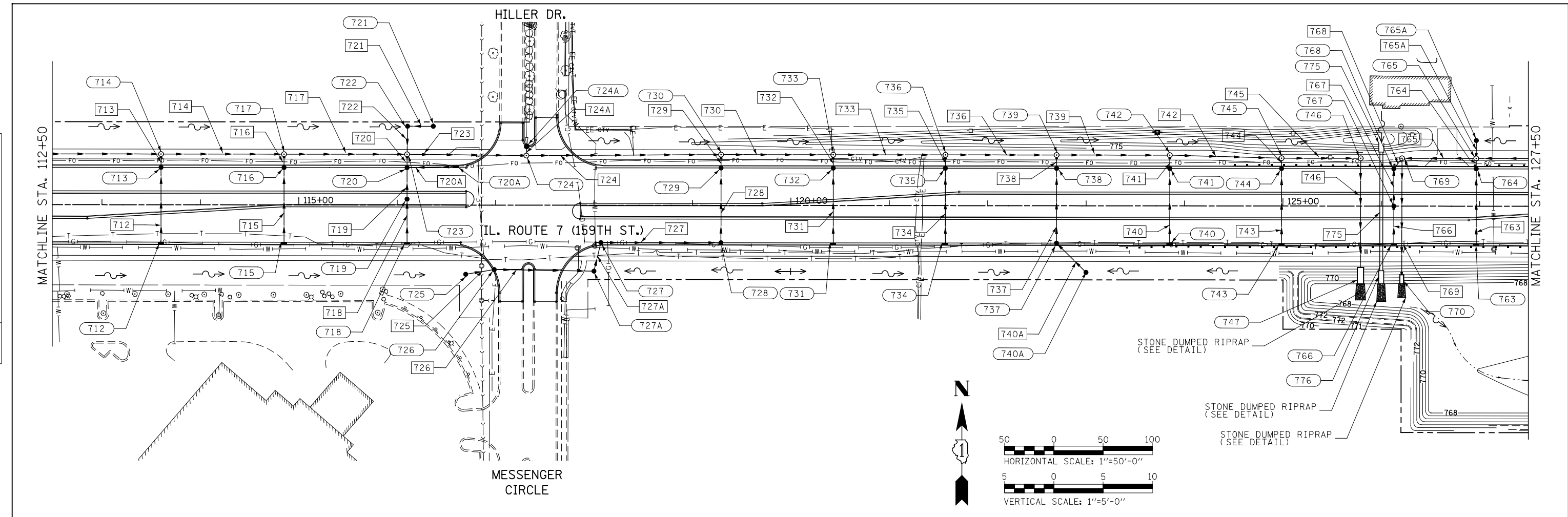
**PROPOSED DRAINAGE
PLAN & PROFILE - IL. ROUTE 7**

SCALE: 1" = 50' SHEET NO. 7 OF 26 SHEETS STA. 97+50 TO STA. 112+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	448
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	CHECKED	
	ALIGNED	
	FILED	
	NO. _____	
	FILE NAME _____	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	CHECKED	
	STRUCTURE	
	NOTATION	
	CHWD	
	NO. _____	



FILE NAME = D:\60L71-shr-tp-ar_08.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,998	DRAWN - SAN	REVISED -
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

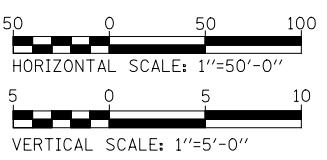
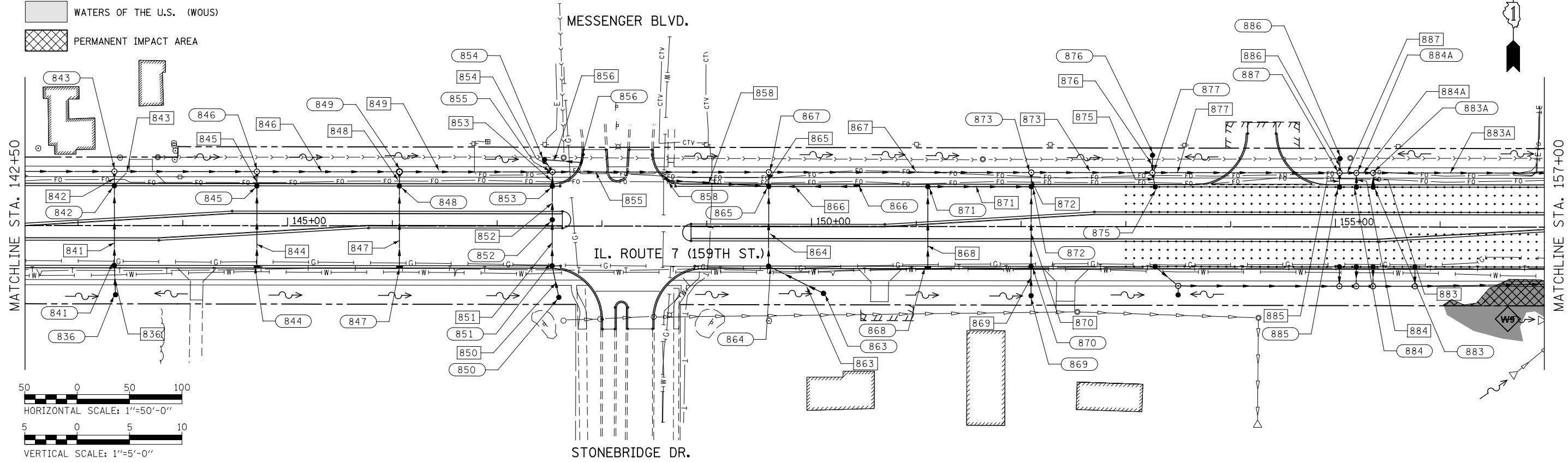
PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			
SCALE: 1" = 50'	SHEET NO. 8 OF 26 SHEETS	STA. 112+50 TO STA. 127+50	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	449
CONTRACT NO. 60L71				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

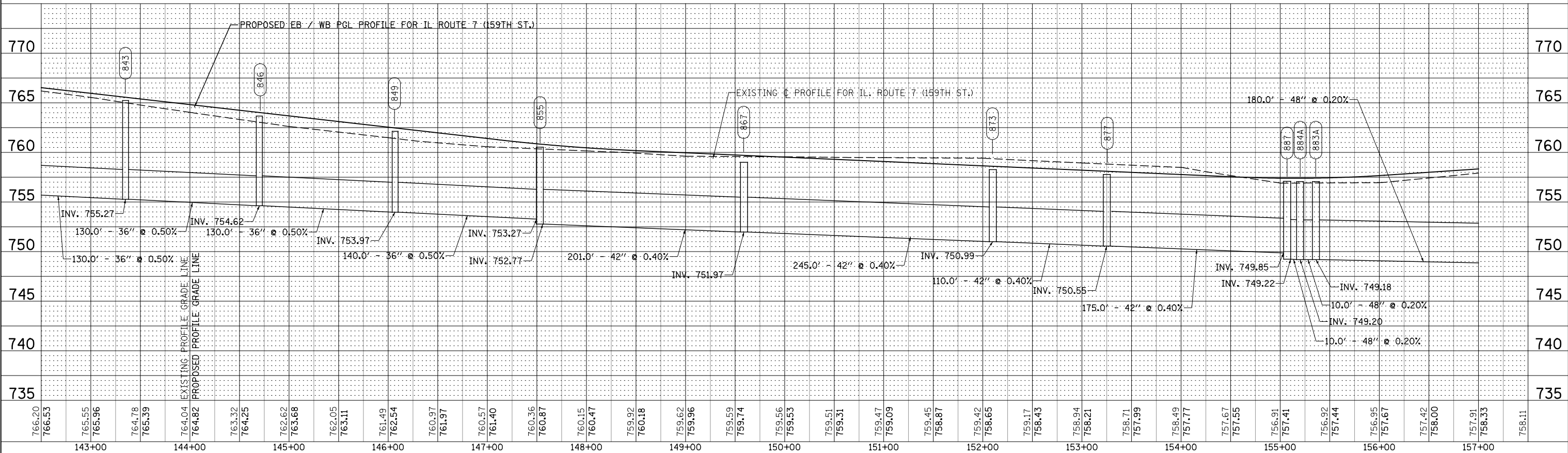
- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA



PLAN	SURVEYED	CHECKED
NOTE BOOK	PLOTTED	ALIGNMENT
NO.	FILE NAME	NO.



PROFILE	SURVEYED	CHECKED
NOTE BOOK	PLOTTED	GRADES
NO.	STRUCTURE	NOTATIONS



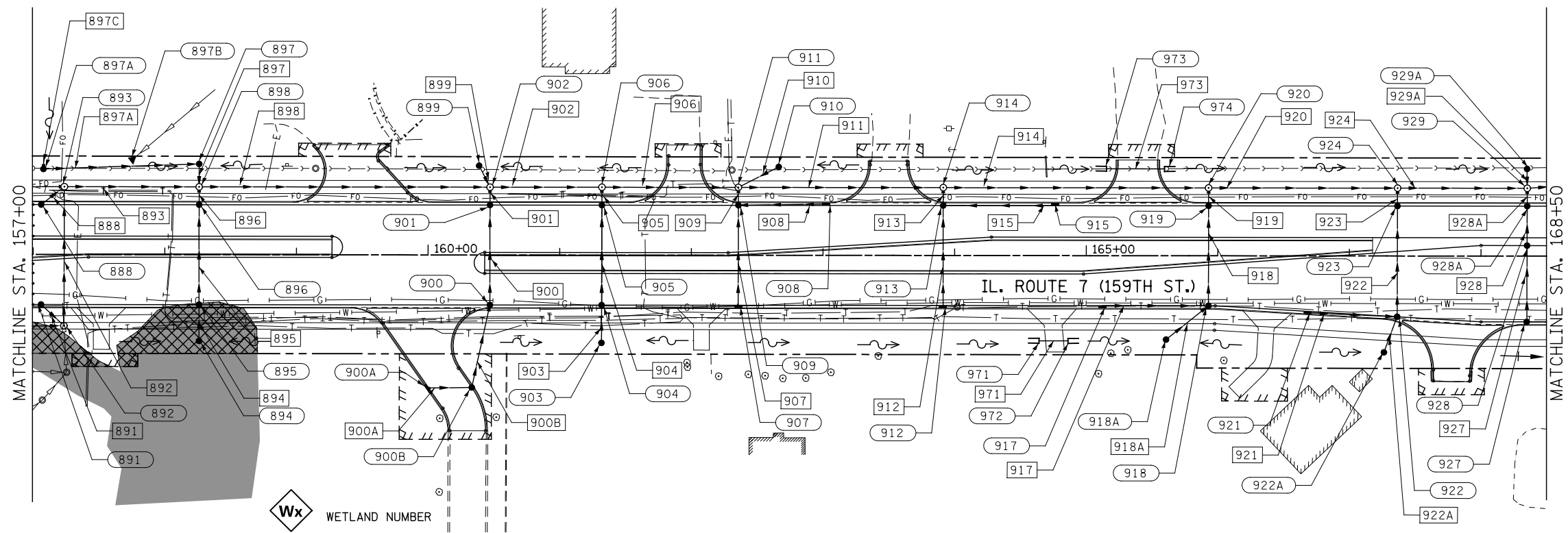
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USER NAME = mmaestra	DESIGNED - SAN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 1:99,998	DRAWN - SAN	REVISED -					351	536-R-1	WILL	1232	451
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -					CONTRACT NO. 60L71				
DATE = 8/15/2014	DATE - 8/15/2014	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SCALE: 1" = 50' SHEET NO. 10A OF 26 SHEETS STA. 142+50 TO STA. 157+00

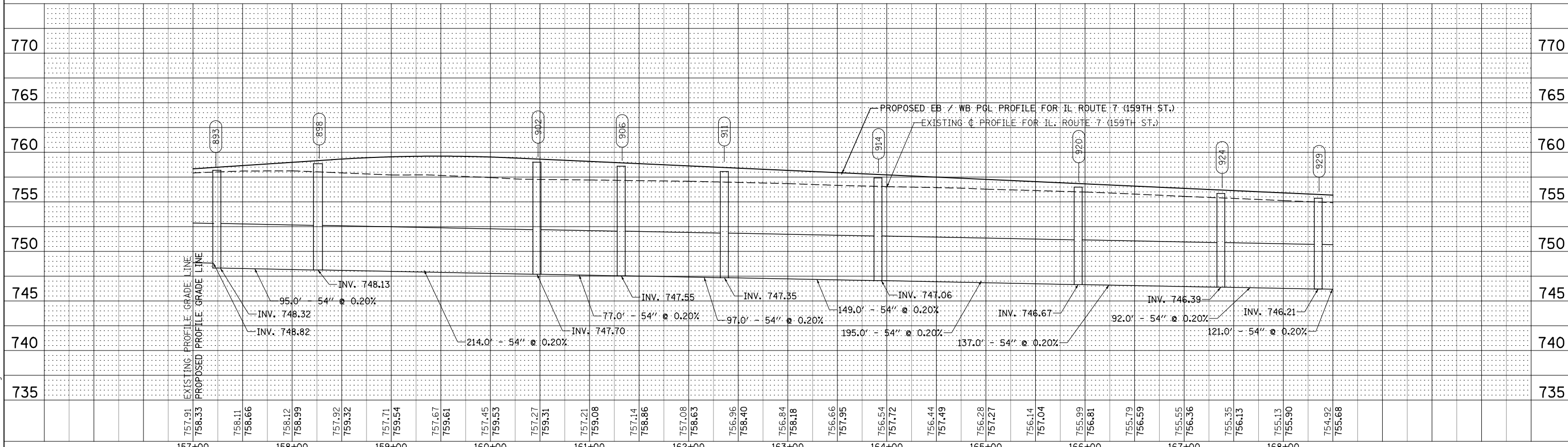
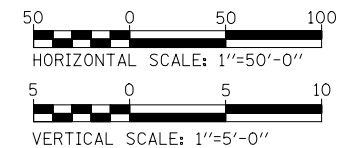
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	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		



TOTAL WETLAND AREA, SITE W9 - 0.49 AC.
PERMANENT IMPACT AREA - 0.13 AC.

- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA



FILE NAME = D:\60L71\site\plan\plan11.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,998	DRAWN - SAN	REVISED -
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

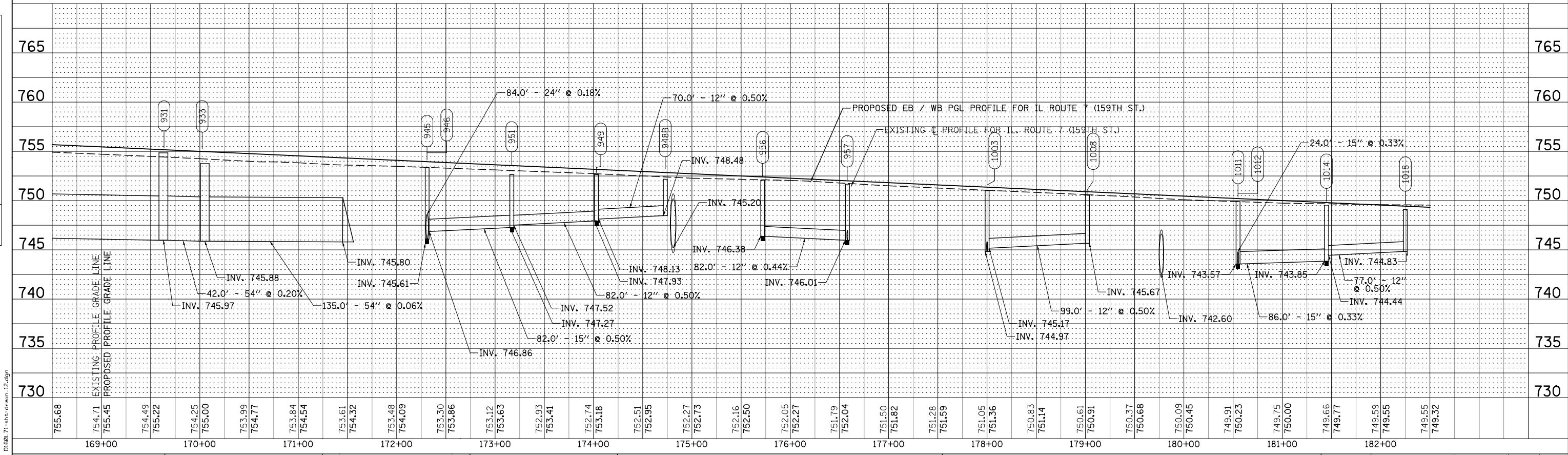
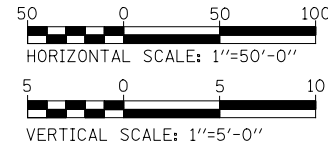
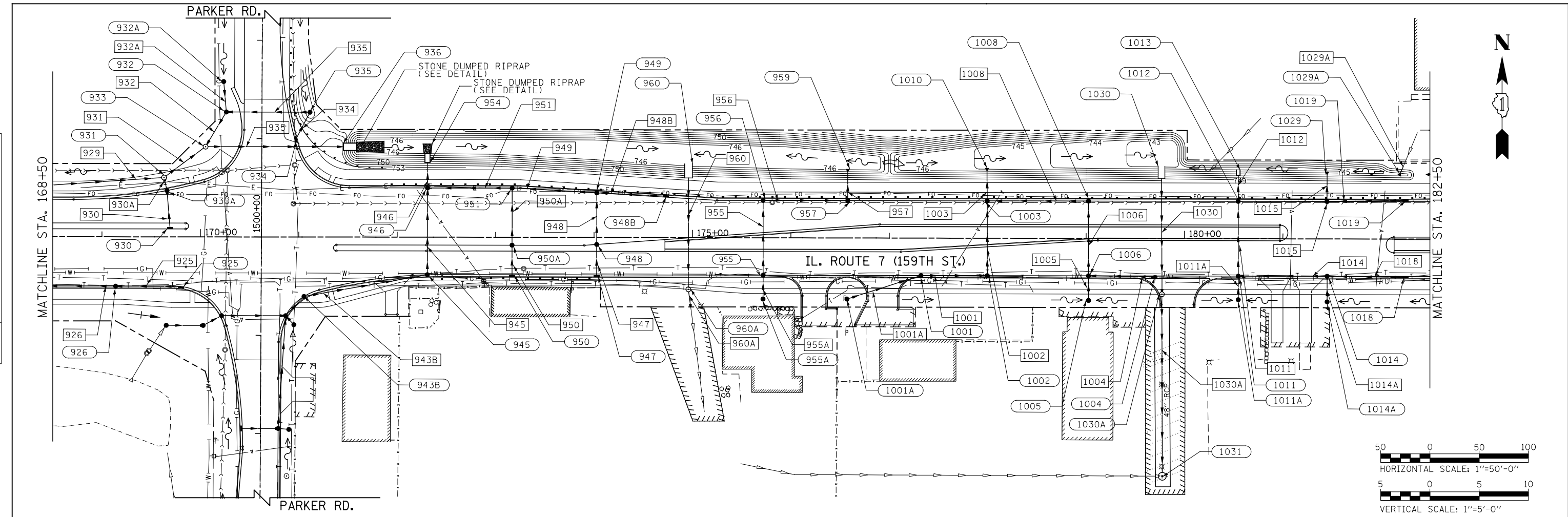
**PROPOSED DRAINAGE
PLAN & PROFILE - IL. ROUTE 7**

SCALE: 1" = 50' SHEET NO. 11 OF 26 SHEETS STA. 157+00 TO STA. 168+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	453
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	ALIGNED	
	FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	STRUCTURE	
	NOTATION	
	CHWD	
	NO.	



FILE NAME = D:\6071-shr-14-12.dgn

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PLOT DATE = 11/22/2014	CHECKED - PJO	REVISED -
	DATE = 11/22/2014	REVISED -

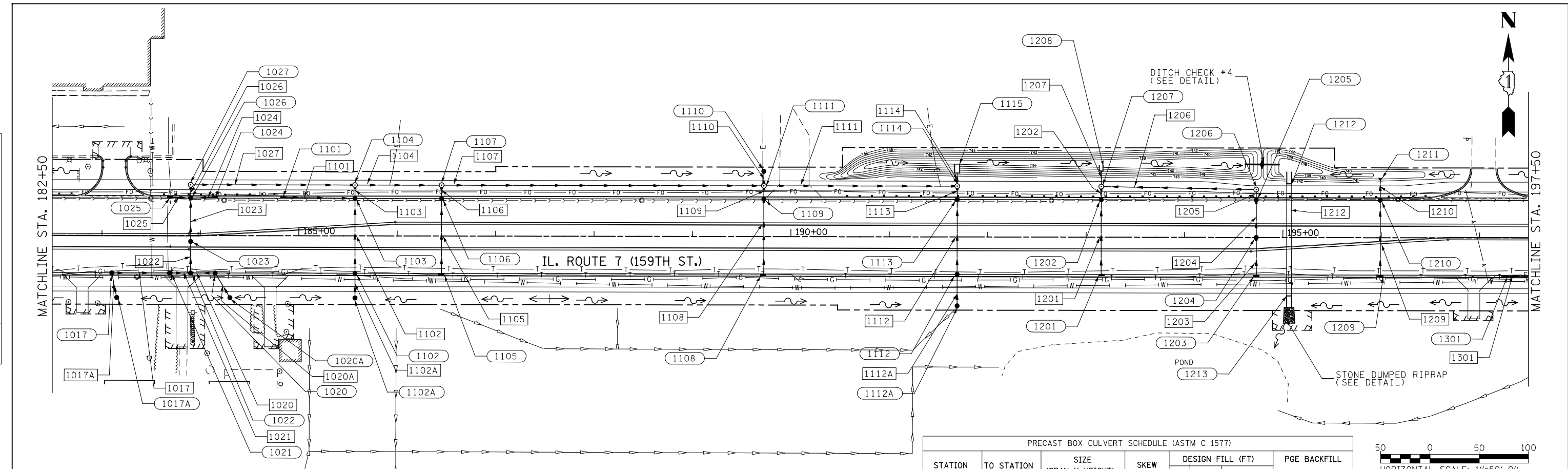
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7	
SCALE: 1" = 50'	SHEET NO. 12 OF 26 SHEETS
STA. 168+50	TO STA. 182+50

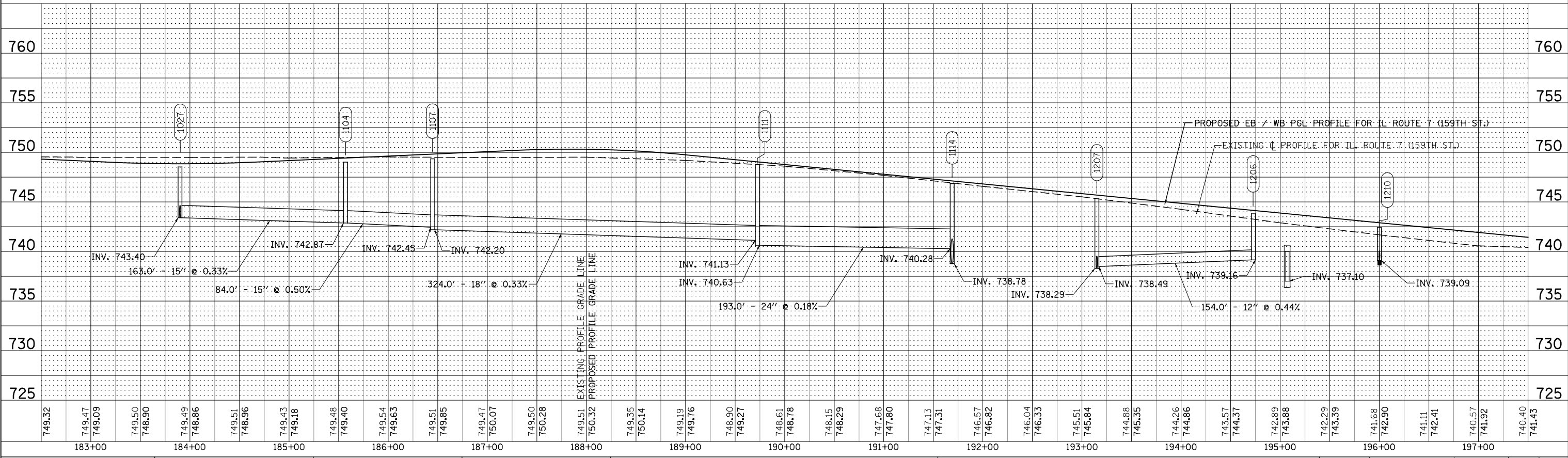
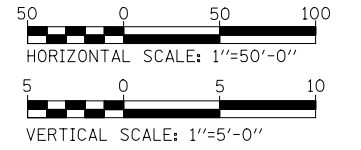
F.A.P. RTE. 351	SECTION 536-R-1	COUNTY WILL	TOTAL SHEETS 1232	SHEET NO. 454
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	CHECKED	
	ALIGNMENT	
	FILE NAME	

PROFILE	SURVEYED	DATE
NOTE BOOK	GRADES CHECKED	
NO.	STRUCTURE	
	NOTATION	



STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
195+06.0	195+06.0	4' X 3'	0°	1.0	3.6	YES
55.0' LT 59.0' RT						
LENGTH: 116 FT						



FILE NAME = D:\6071\shc\shc\plan13.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1:99.9998	DRAWN - SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

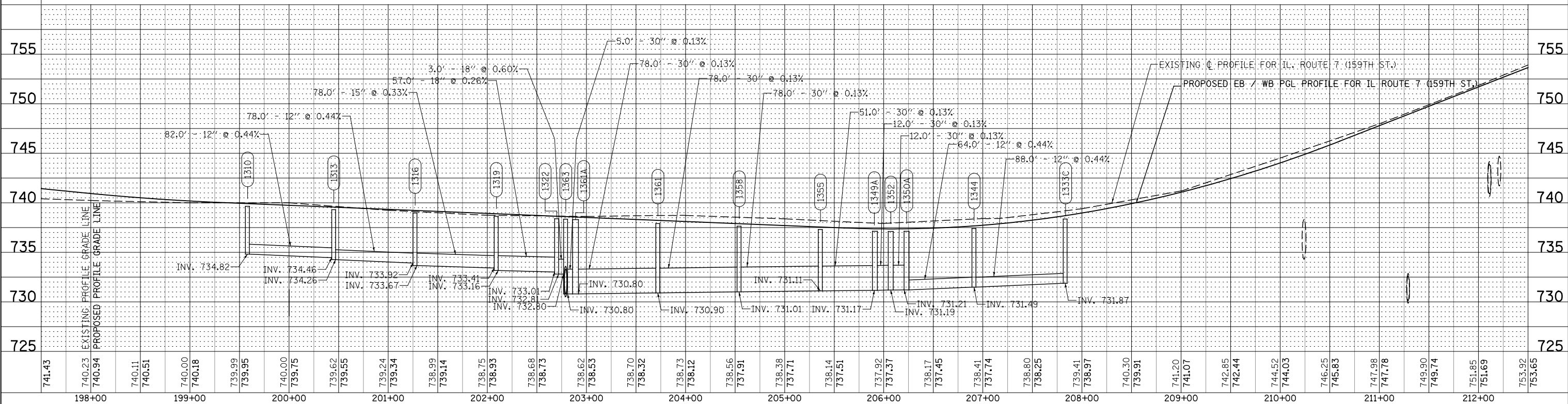
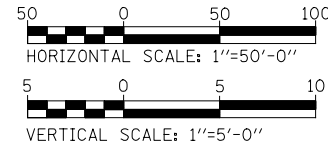
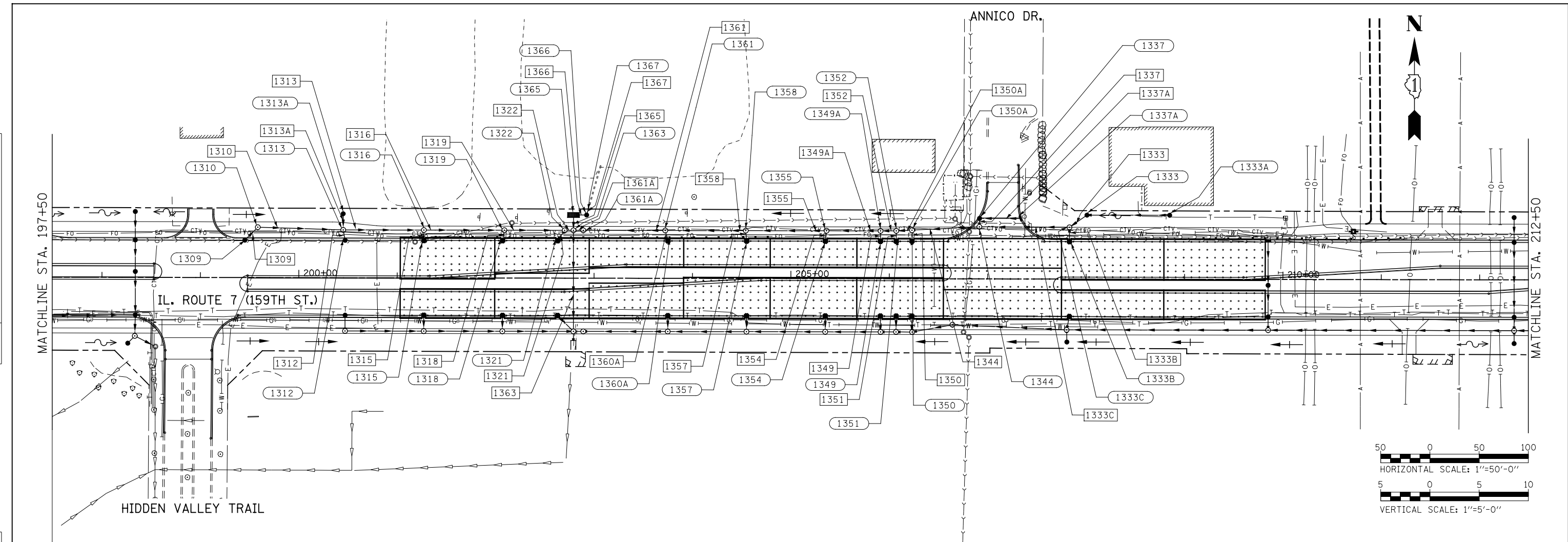
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 13 OF 26 SHEETS	STA. 182+50 TO STA. 197+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	455
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. _____	
	FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. _____	
	FILE NAME	



FILE NAME = D:\60L71\shc\plan_148.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1/99,9998	CHECKED - PJO	REVISED -
PLOT DATE = 8/15/2014	DATE - 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED DRAINAGE
PLAN & PROFILE - IL. ROUTE 7**

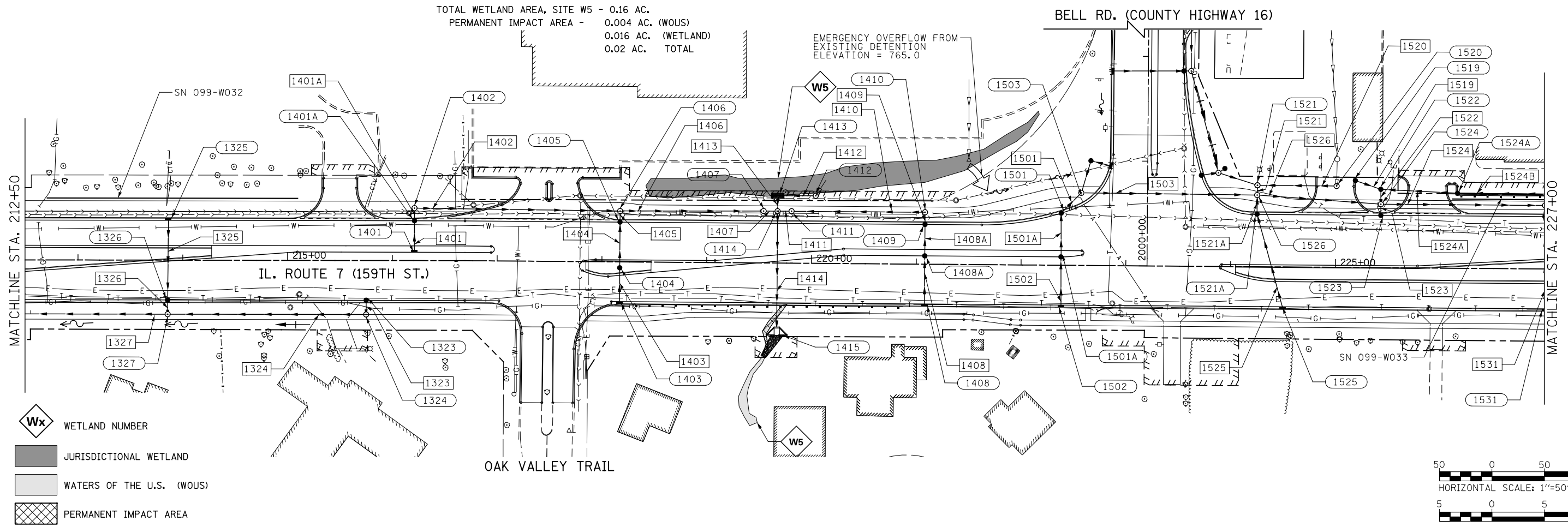
SCALE: 1" = 50' SHEET NO. 148 OF 26 SHEETS STA. 197+50 TO STA. 212+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	457
CONTRACT NO. 60L71				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

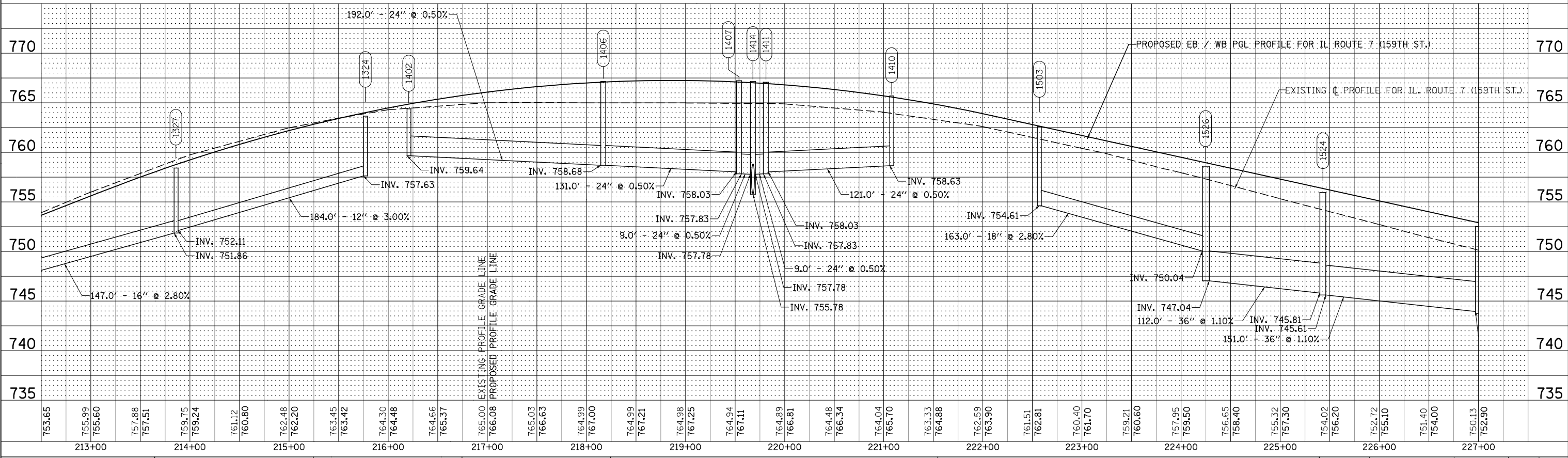
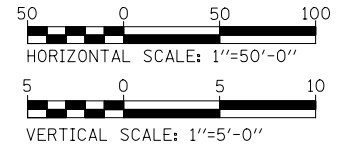
PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	ALIGNED	
	FILED	
	NO.	
	FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	STRUCTURE	
	NOT THIS CHD	
	NO.	

TOTAL WETLAND AREA, SITE W5 - 0.16 AC.
 PERMANENT IMPACT AREA - 0.004 AC. (WOUS)
 0.016 AC. (WETLAND)
 0.02 AC. TOTAL



- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA



FILE NAME = D:\06\71-shr-tp-ar-15.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,998	DRAWN - SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED - PJO	REVISED -
	DATE - 10/21/2014	REVISED -

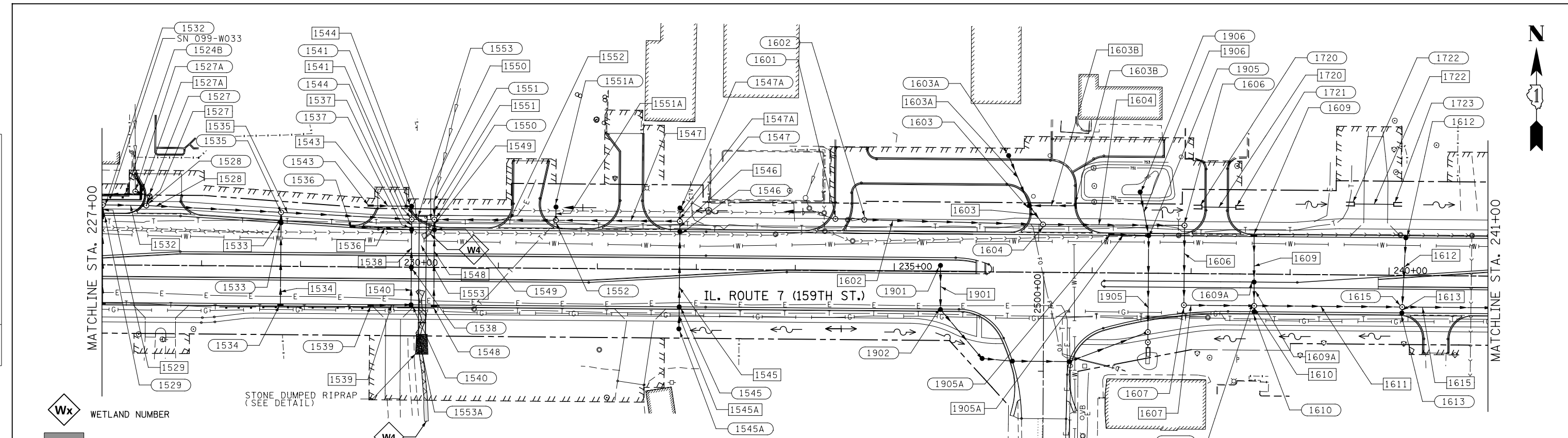
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 15 OF 26 SHEETS	STA. 212+50 TO STA. 227+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	458
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	ALIGNED	
	FILED	
	NO.	
	NAME	

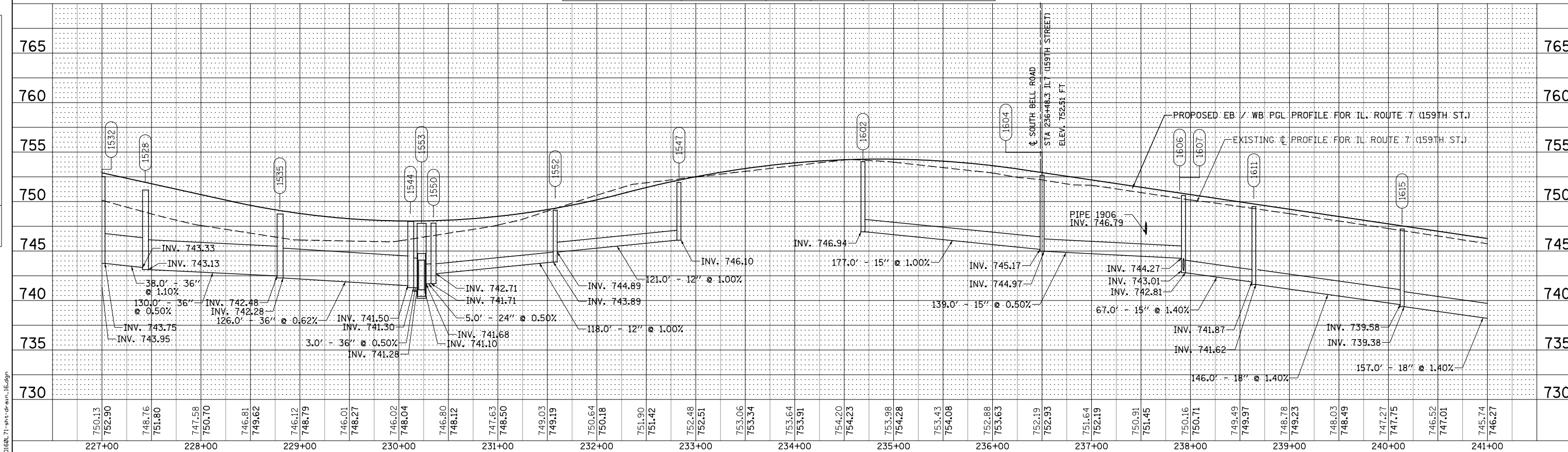
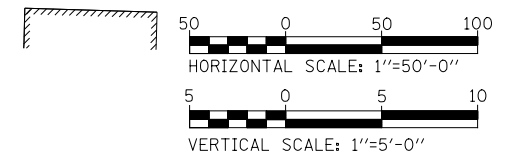
PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	GRADES	
	STRUCTURE	
	NOTATIONS	
	CHWD	
	NO.	
	NAME	



- Wx WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA

TOTAL WETLAND AREA, SITE W4 - 0.01 AC.
PERMANENT IMPACT AREA - 0.01 AC. (WOUS)

STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
230+23.0	230+23.0	6' X 3'	0°	1.0	3.8	YES
46.0' LT						
56.0' RT						
LENGTH: 103 FT						



FILE NAME = D:\06\71-shr-16-16.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,998	DRAWN - SAN	REVISED -
PLOT DATE = 8/18/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

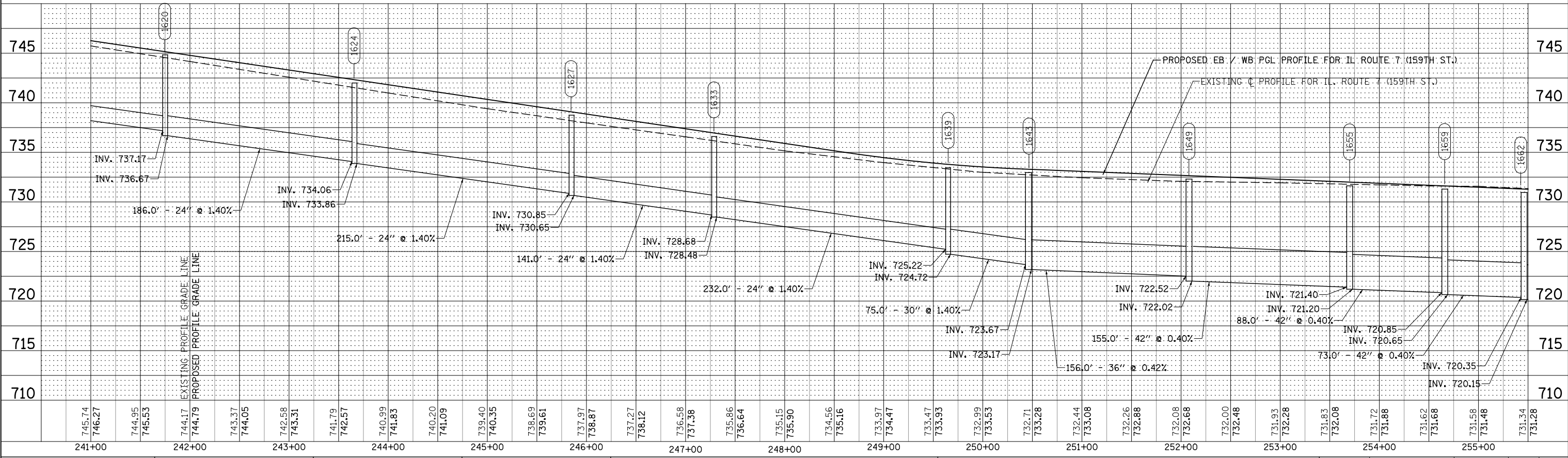
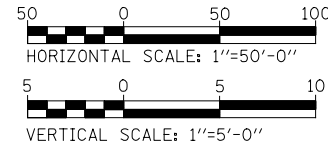
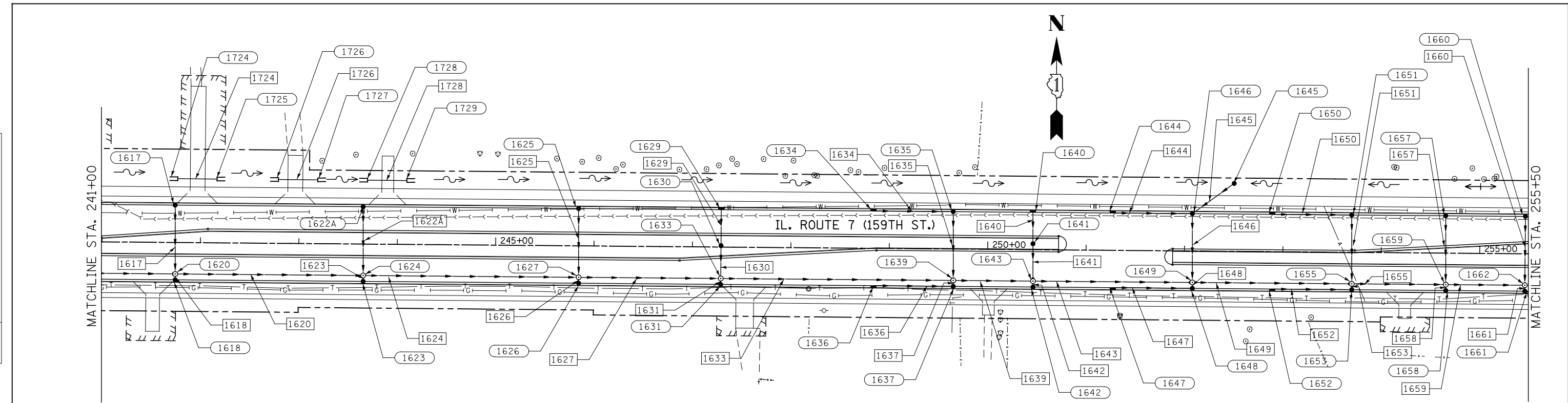
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 16 OF 26 SHEETS	STA. 227+00 TO STA. 241+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	459
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		



FILE NAME = D:\68\71-shr-tp-an-17.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1/99,998	DRAWN - SAN	REVISED -
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7		
SCALE: 1" = 50'	SHEET NO. 17 OF 26 SHEETS	STA. 241+00 TO STA. 255+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	460
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

PRECAST BOX CULVERT SCHEDULE (ASTM C 1577)						
STATION	TO STATION	SIZE (SPAN X HEIGHT)	SKEW	DESIGN FILL (FT)		PGE BACKFILL REQ
				MINIMUM	MAXIMUM	
263+13.0	263+13.0 65.0' RT	6' X 6'	0°	1.0	6.5	YES

BOX CULVERT END SECTIONS 1744 AND 1745 SHALL BE EMBEDDED. SEE DD-02 FOR DETAILS.

STONE DUMPED RIPRAP
(SEE DETAIL)

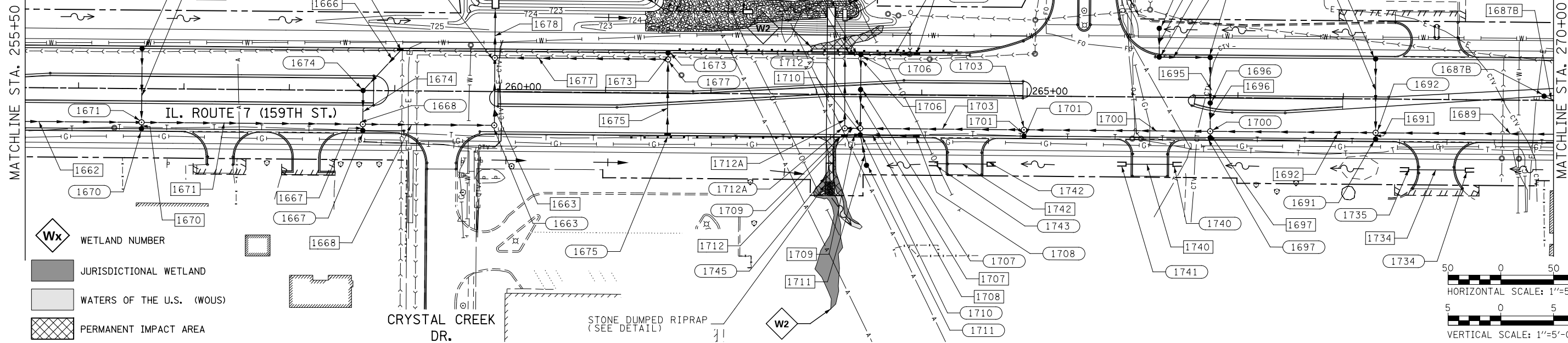
PERMANENT EROSION CONTROL
(SEE EROSION CONTROL PLANS)

TWIN LAKES DR.

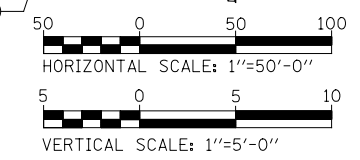
TOTAL WETLAND AREA, SITE W1 - 0.45 AC.
NO IMPACTS
TOTAL WETLAND AREA, SITE W2 - 0.07 AC.
PERMANENT IMPACT AREA - 0.019 AC. (WOUS)
0.009 AC. (WETLAND)
0.03 AC. TOTAL



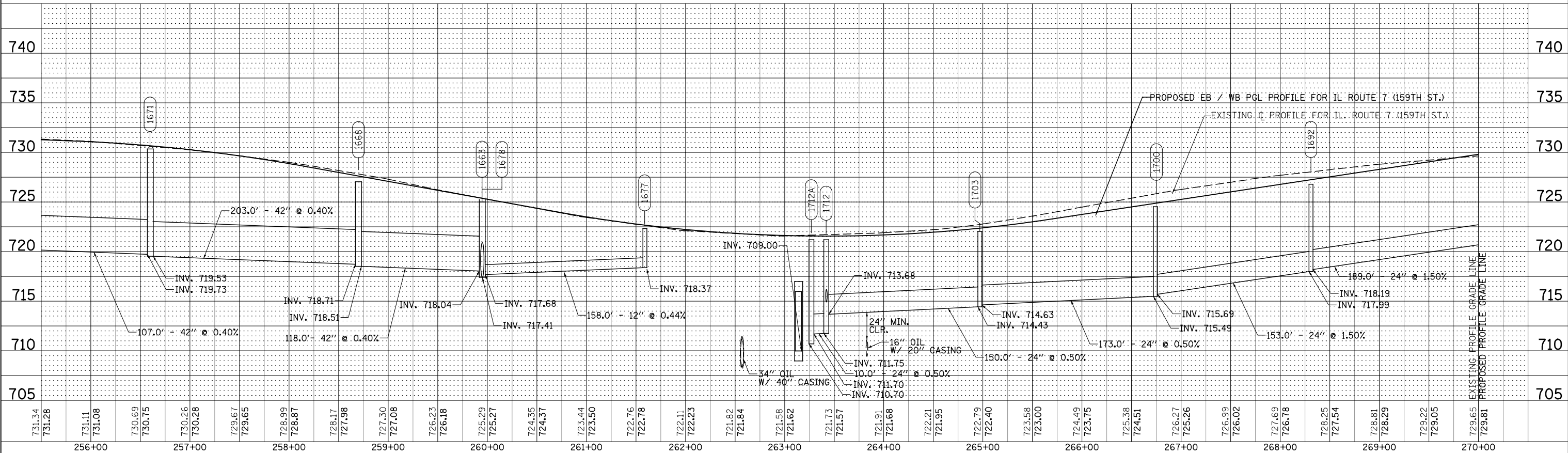
PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. 1	



- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA



PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. 1	



FILE NAME = D:\6071\shc\drain_18.dwg

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

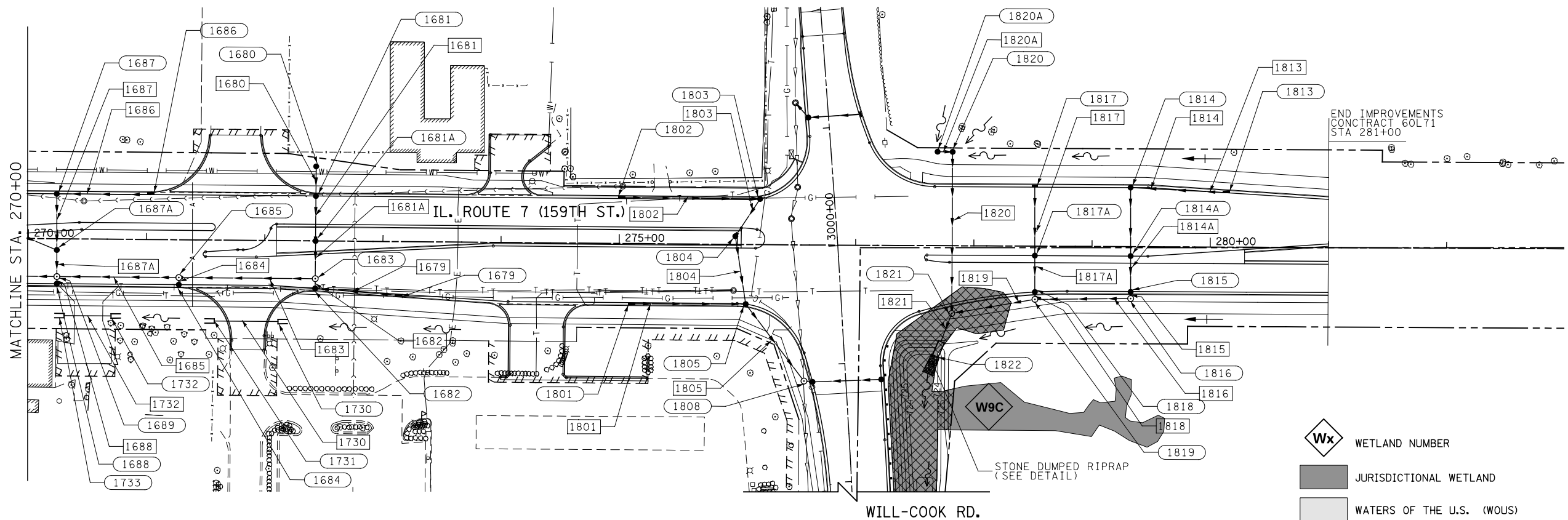
PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			
SCALE: 1" = 50'	SHEET NO. 18 OF 26 SHEETS	STA. 255+50 TO STA. 270+00	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	461
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

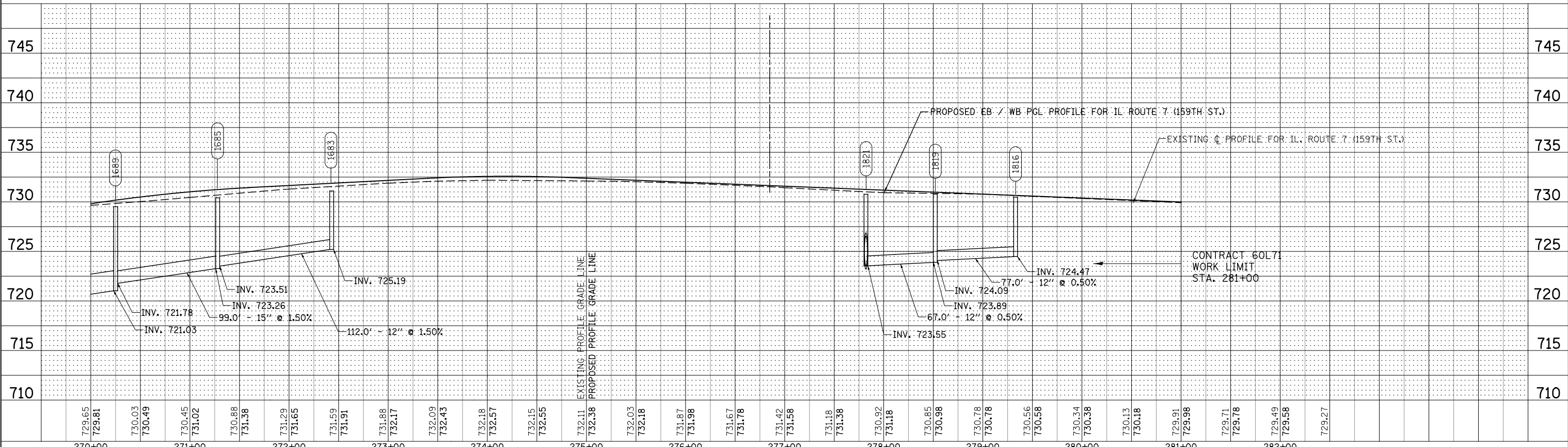
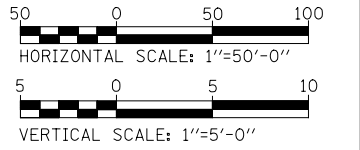
PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	ALIGNED	
	FILED	
NOTE BOOK NO.	FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	STRUCTURE	
NOTE BOOK NO.	NOTATION	

FILE NAME = D:\60L71\sh14\plan_19.dgn



- WETLAND NUMBER
- JURISDICTIONAL WETLAND
- WATERS OF THE U.S. (WOUS)
- PERMANENT IMPACT AREA



USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1:99,998	DRAWN - SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED - PJO	REVISED -
	DATE = 10/21/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

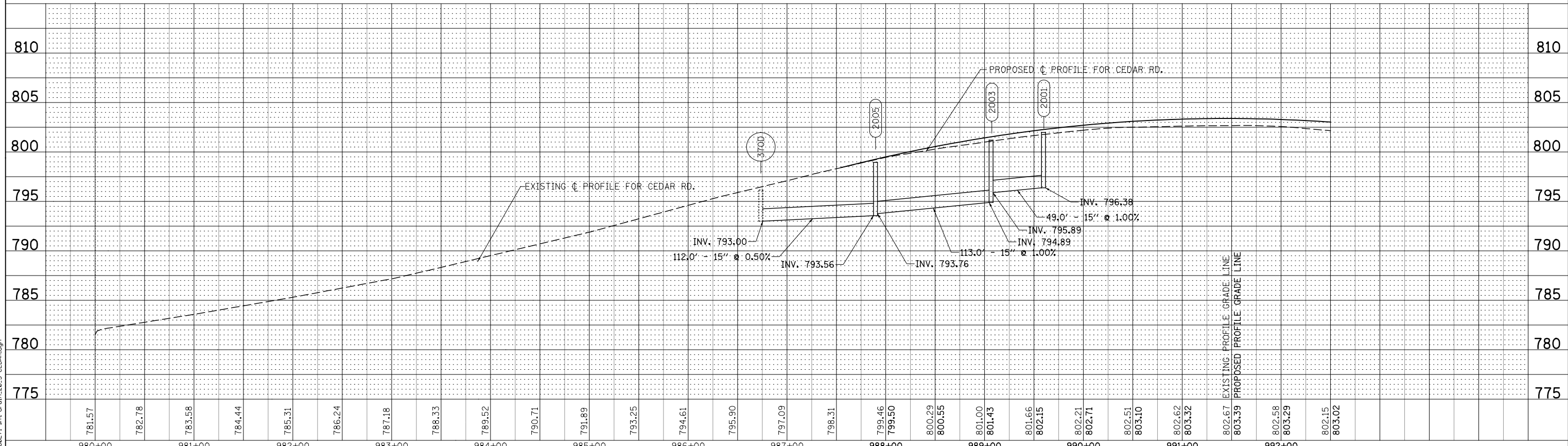
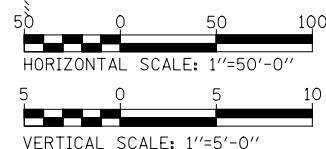
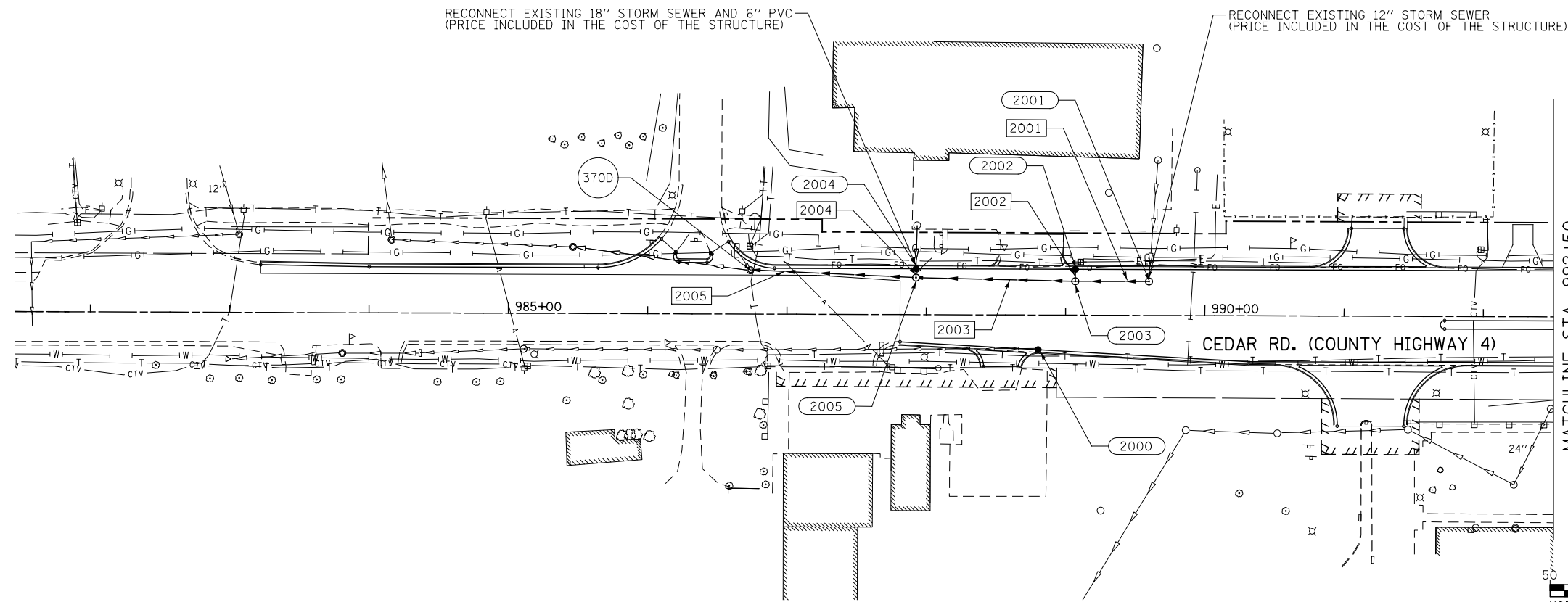
PROPOSED DRAINAGE PLAN & PROFILE - IL. ROUTE 7			
SCALE: 1" = 50'	SHEET NO. 19 OF 26 SHEETS	STA. 270+00 TO STA. 282+45	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	462
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		
	NO.		

FILE NAME = D:\60L71\sh-t\sh-t\sh-t\20.S CEDAR.dgn



USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1:99,9998	CHECKED - PJO	REVISED -
PLOT DATE = 11/7/2014	DATE - 11/07/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE
PLAN AND PROFILE- CEDAR RD.

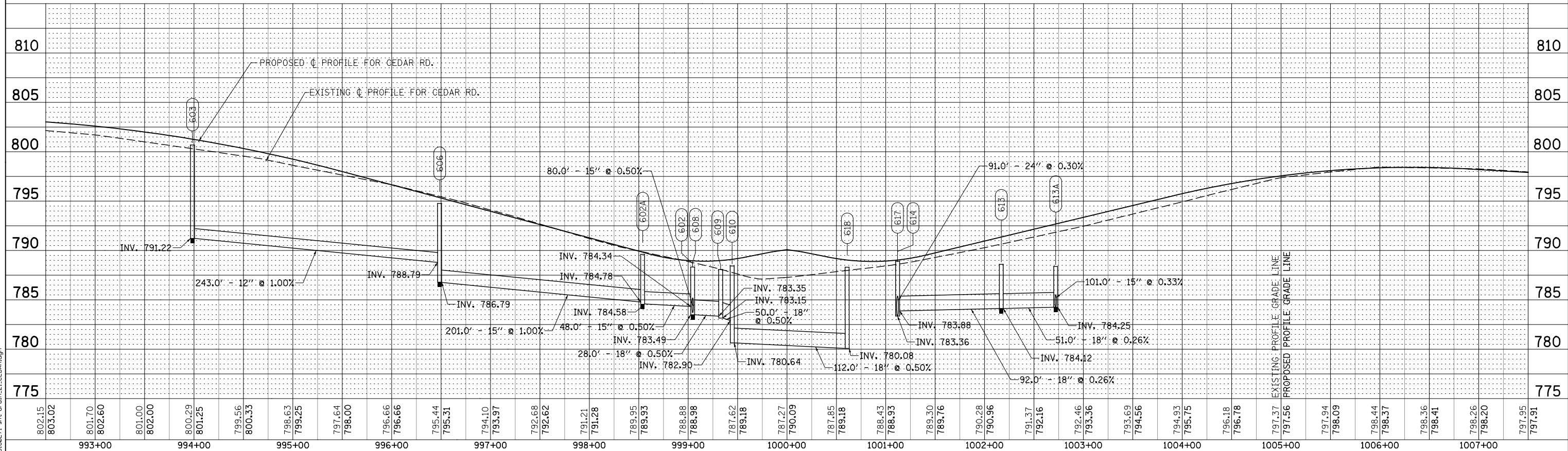
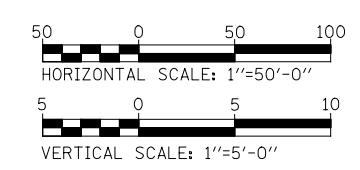
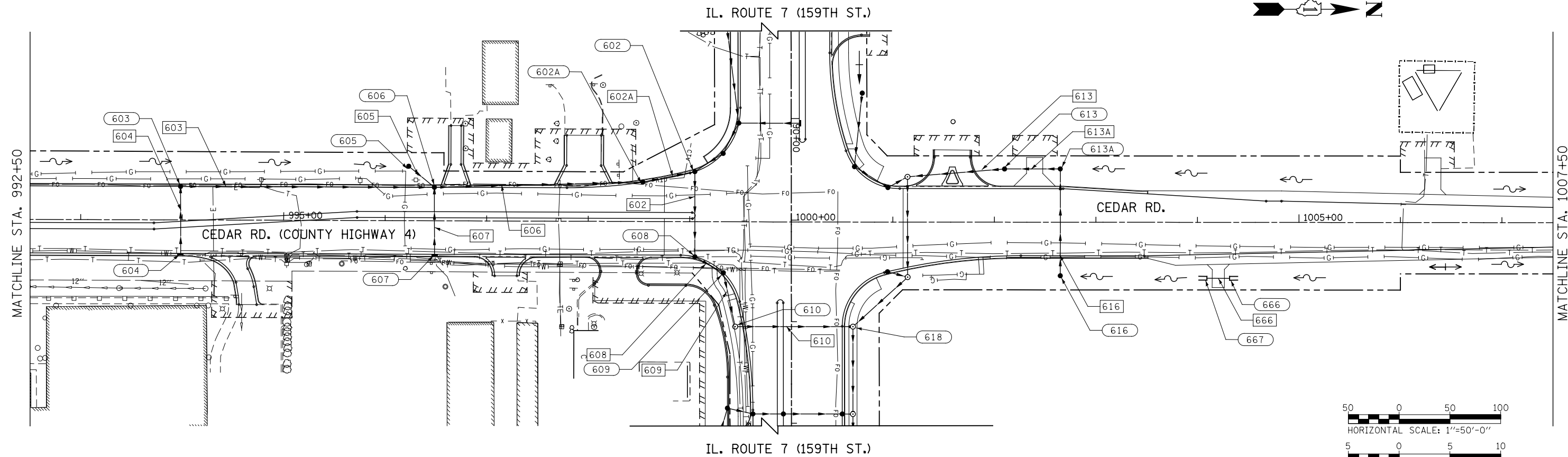
SCALE: 1" = 50' SHEET NO. 20 OF 26 SHEETS STA. 982+78 TO STA. 992+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	463
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATION		

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USER NAME =	mmaestra	DESIGNED -	SAN	REVISED -	
PLOT SCALE =	1:99,998	DRAWN -	SAN	REVISED -	
PLOT DATE =	11/7/2014	CHECKED -	PJO	REVISED -	
		DATE -	11/07/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

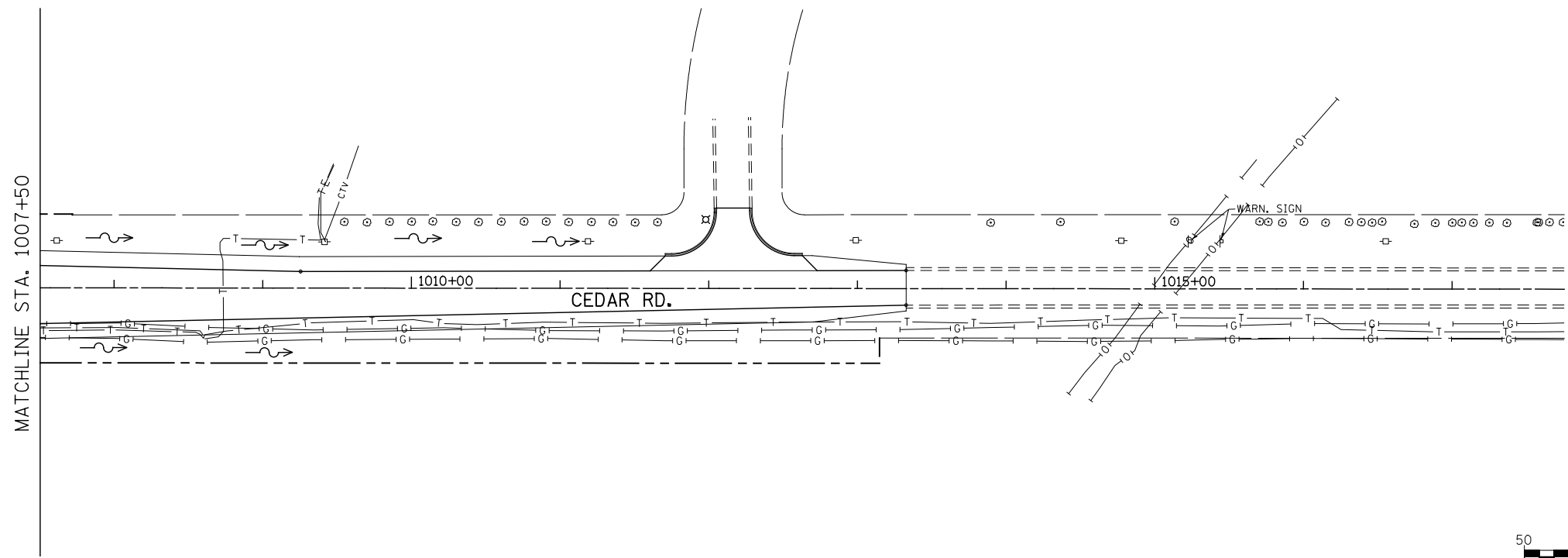
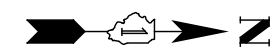
PROPOSED DRAINAGE PLAN AND PROFILE- CEDAR RD.			
SCALE: 1" = 50'	SHEET NO. 21 OF 26 SHEETS	STA. 992+50	TO STA. 1007+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	464
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

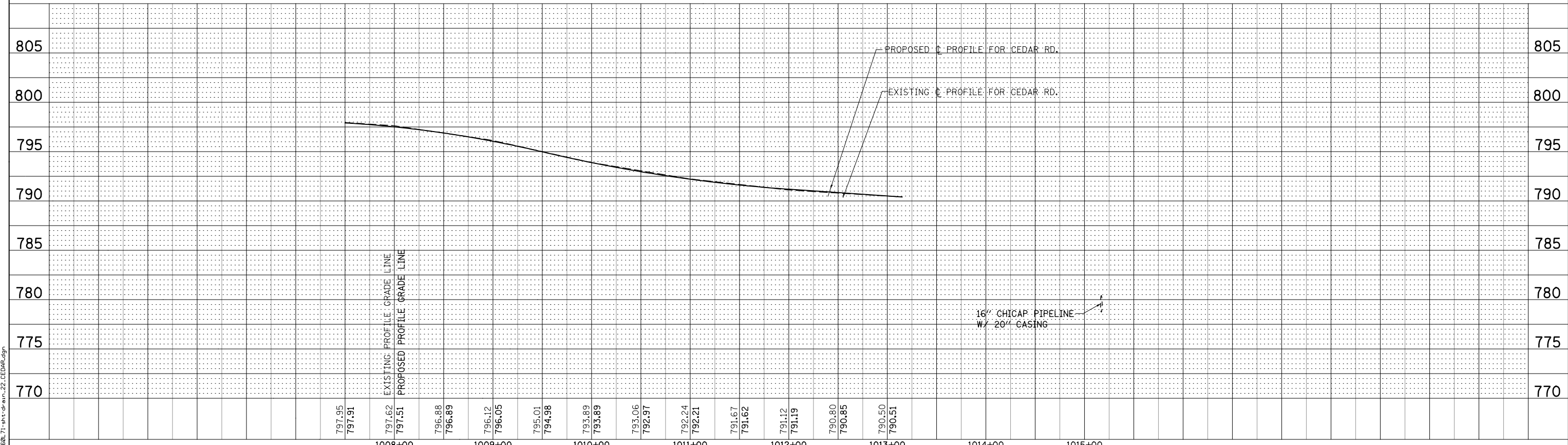
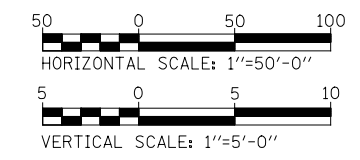
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PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	NOTATED		
	NO.		

FILE NAME = D:\BOL71\ht\c\p\m\22_CEDAR.dgn



NOTES:
1. DRIVEWAY AND GEOMETRIC MATERIAL WILL BE IN ACCORDANCE WITH ROADWAY DETAILS.



USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1:99.9998	DRAWN - SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED - PJO	REVISED -
	DATE - 10/21/2014	REVISED -

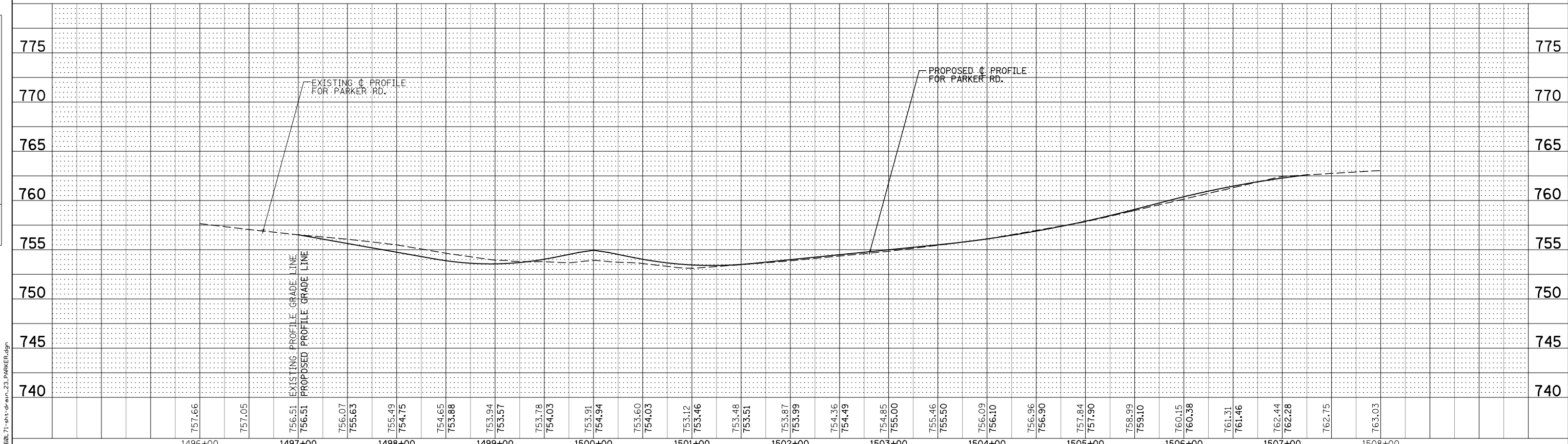
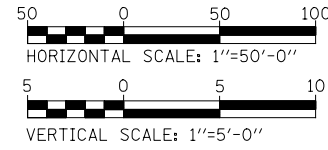
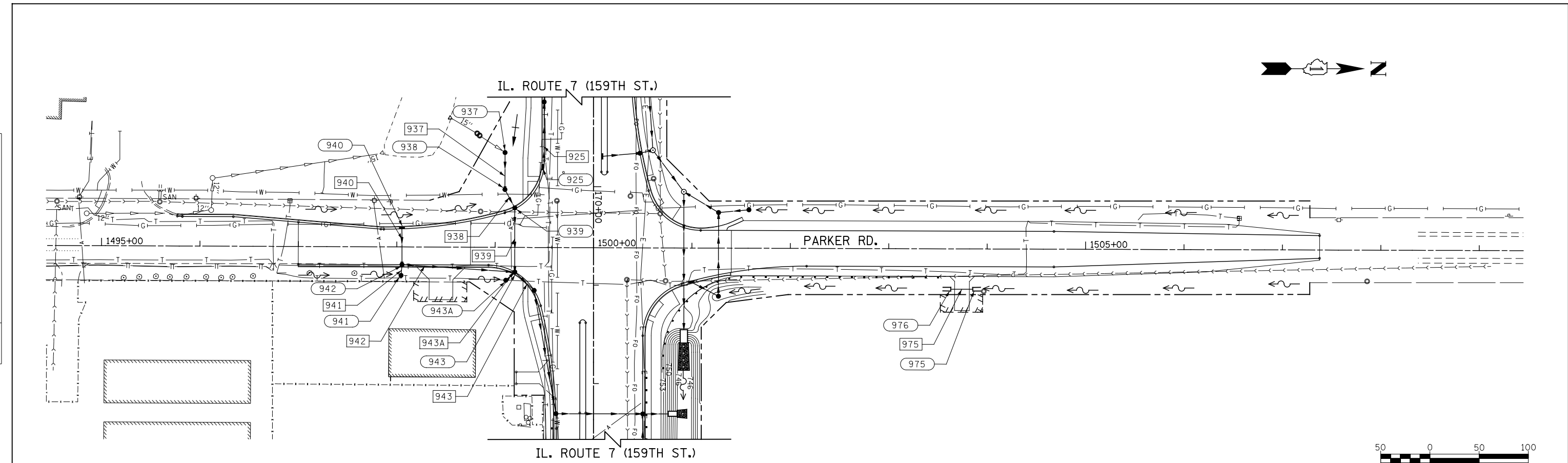
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PROPOSED DRAINAGE
PLAN AND PROFILE - CEDAR RD.**
SCALE: 1" = 50' SHEET NO. 22 OF 26 SHEETS STA. 1007+50 TO STA. 1013+15

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	465
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOT AT THIS CHKD		
	NO.		



FILE NAME = D:\BTL71\sh-t\c\p\m\23_PARKER.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
PLOT SCALE = 1:99.9998	DRAWN - SAN	REVISED -
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -
	DATE - 8/15/2014	REVISED -

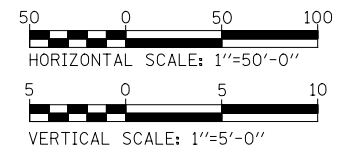
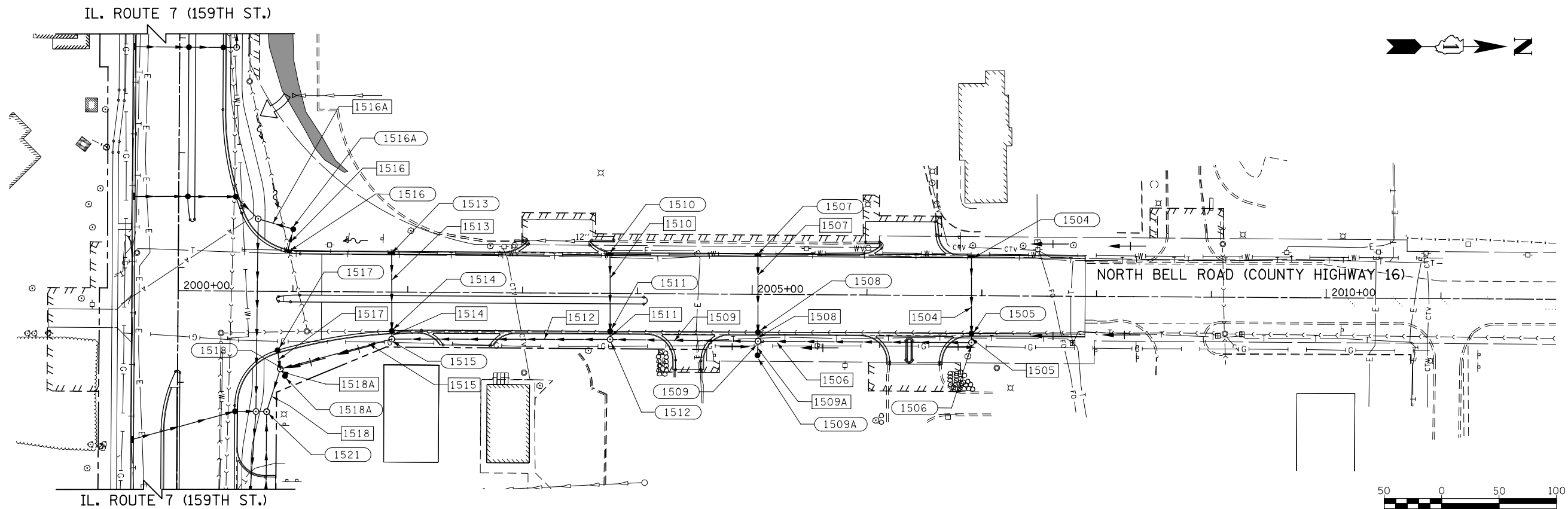
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE
PLAN AND PROFILE - PARKER RD.

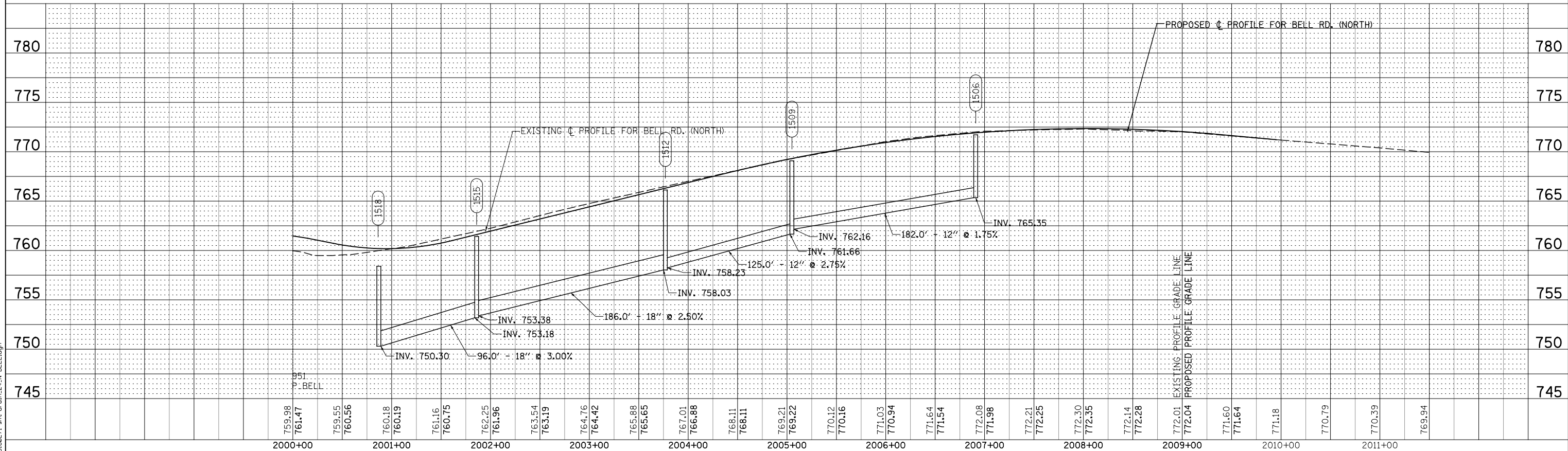
SCALE: 1" = 50' SHEET NO. 23 OF 26 SHEETS STA. 1497+00 TO STA. 1507+28

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	466
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		
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PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOT THIS CHRD		
	NO.		



FILE NAME = D:\60L71\sh\c\p\m\24-N_BELL.dgn

USER NAME = mmaestra	DESIGNED - SAN	REVISED -
	DRAWN - SAN	REVISED -
PLOT SCALE = 1:99,9998	CHECKED - PJO	REVISED -
PLOT DATE = 8/15/2014	DATE - 8/15/2014	REVISED -

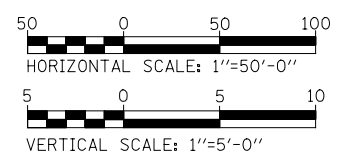
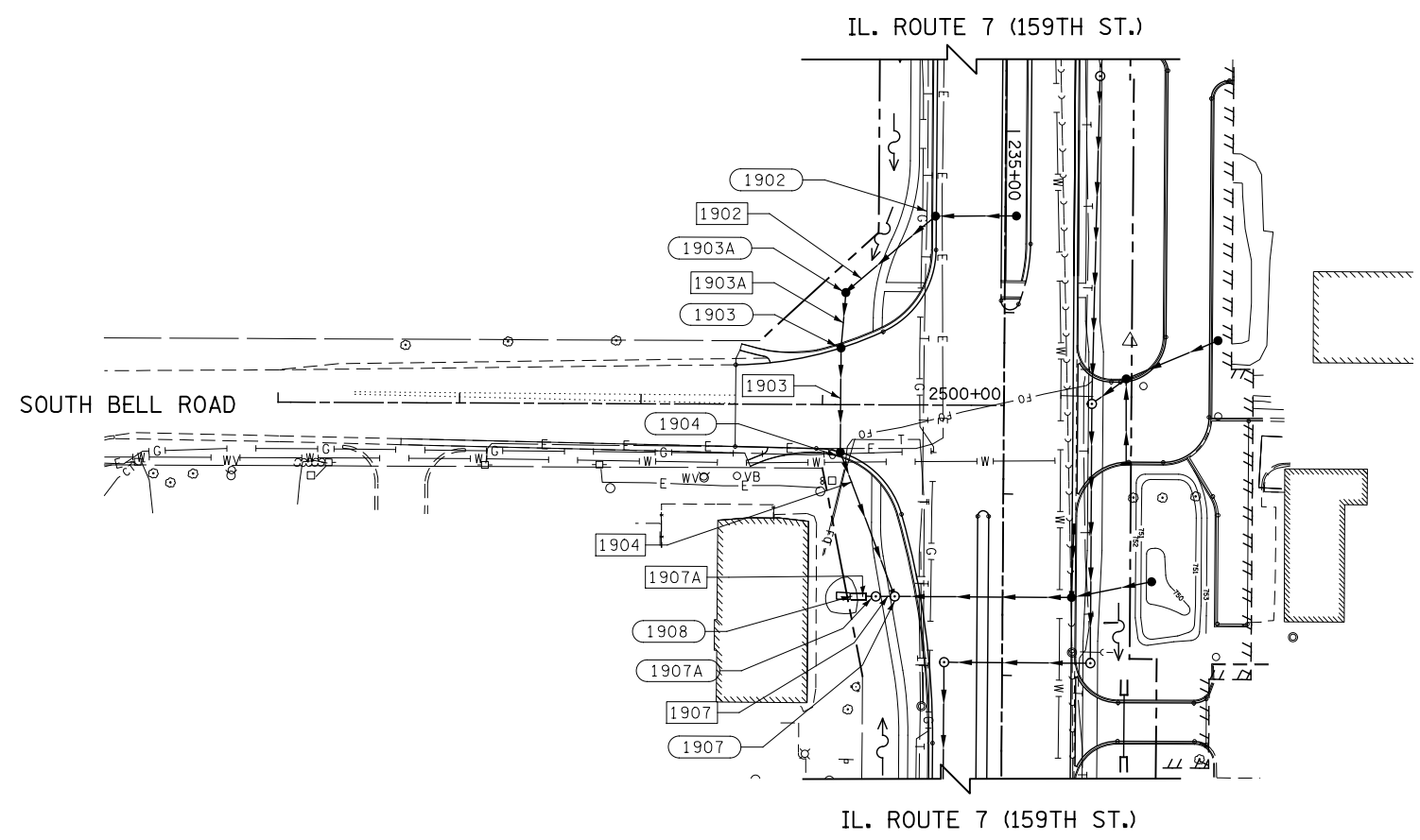
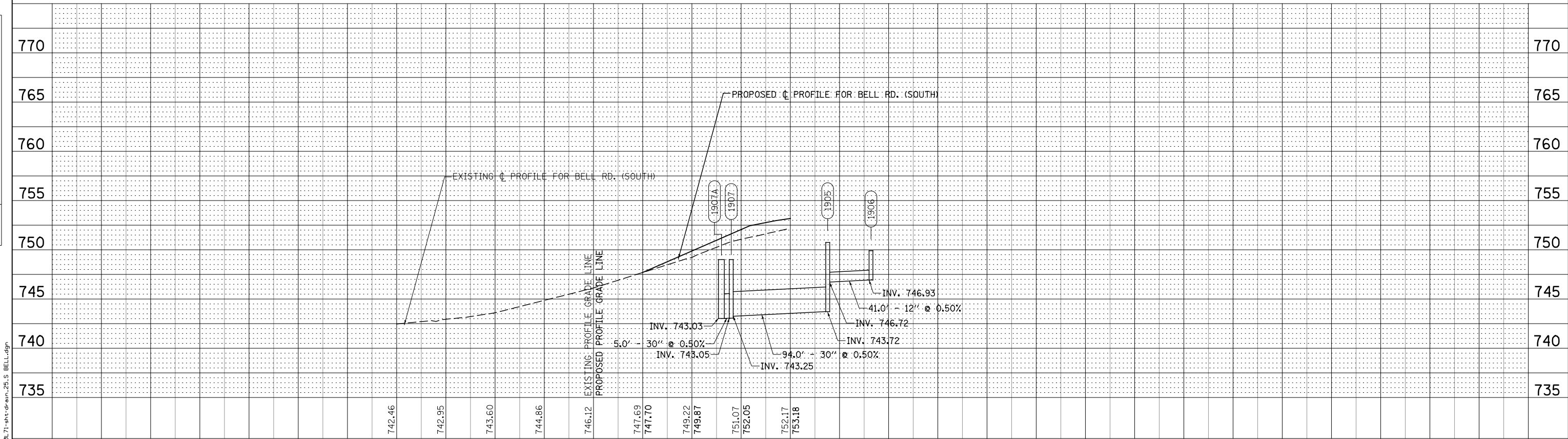
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED DRAINAGE PLAN AND PROFILE - N. BELL RD.			
SCALE: 1" = 50'	SHEET NO. 24 OF 26 SHEETS	STA. 2000+00 TO STA. 2009+95	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	467
CONTRACT NO. 60L71				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	FILE NAME		





PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	FILE NAME		

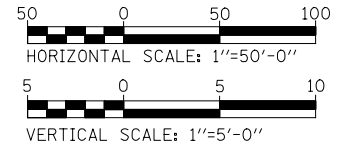
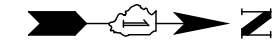
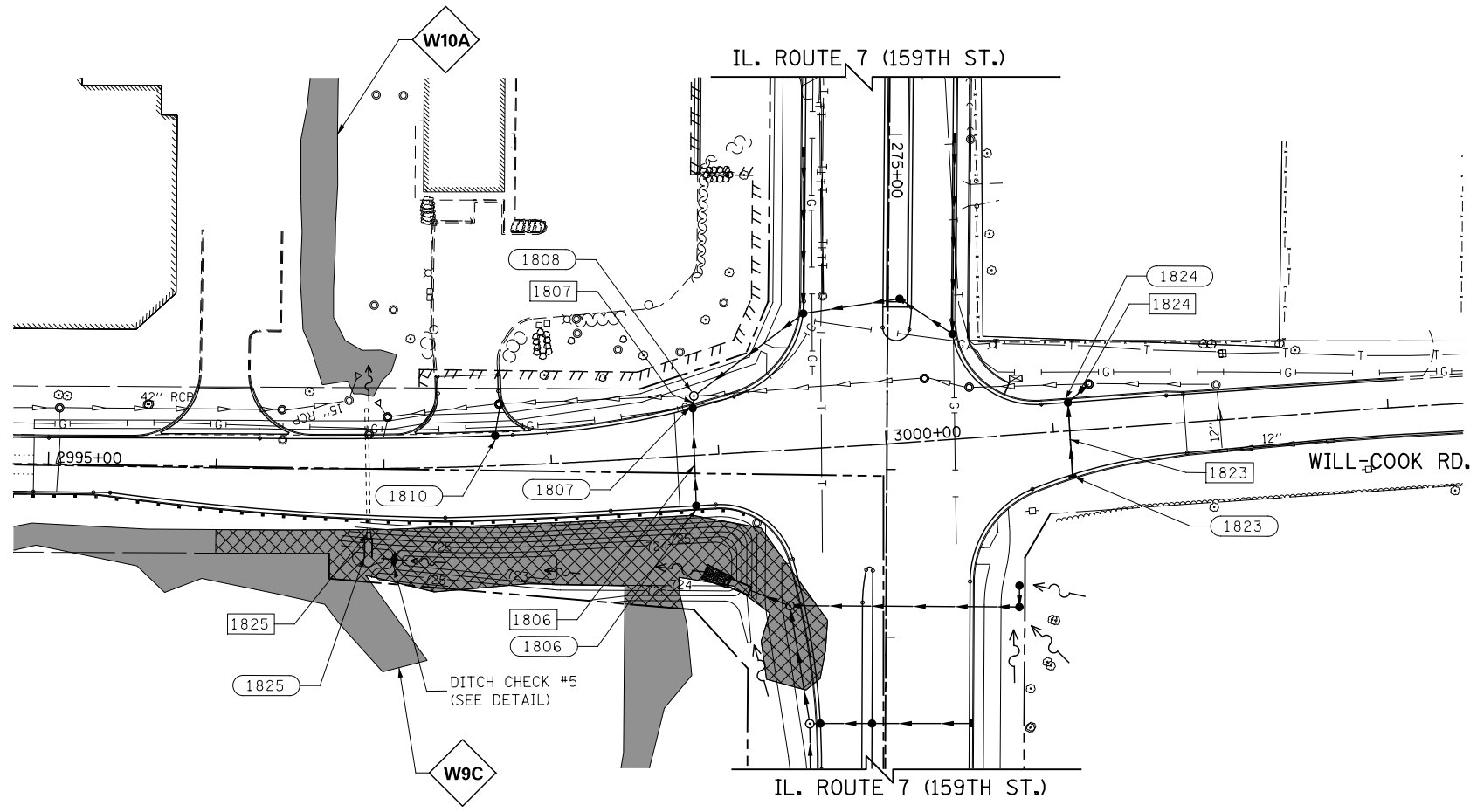


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PLOT SCALE = 1:99,9998	DRAWN - SAN	REVISED -		SCALE: 1" = 50'	SHEET NO. 25 OF 26 SHEETS	STA. 2498+52 TO STA. 2500+00	351	536-R-1	WILL	1232	468
PLOT DATE = 8/15/2014	CHECKED - PJO	REVISED -					CONTRACT NO. 60L71				
	DATE - 8/15/2014	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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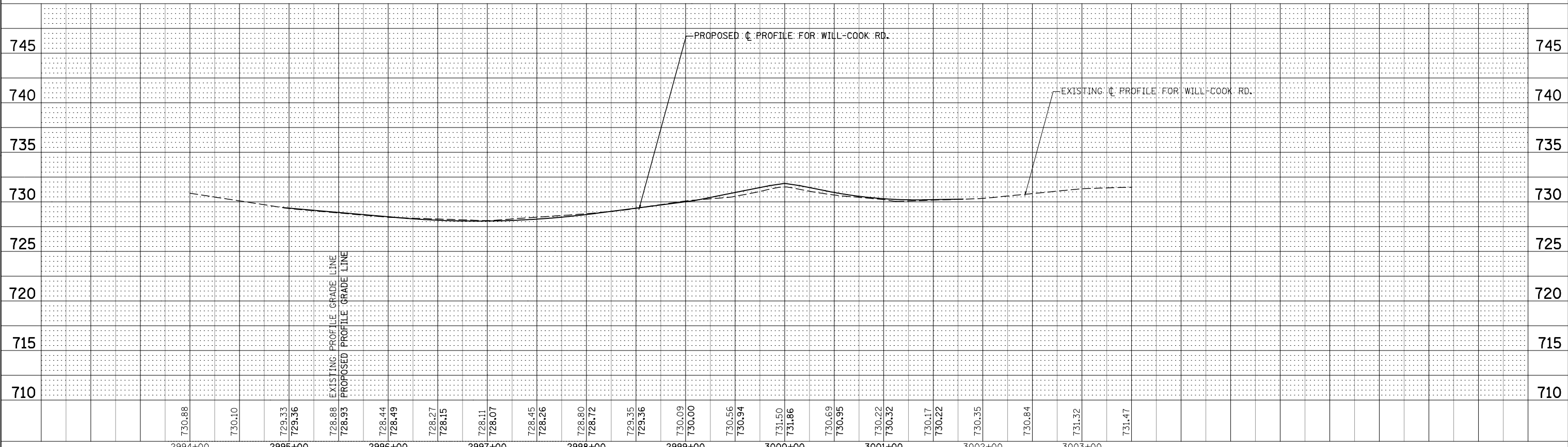
TOTAL WETLAND AREA, SITE W10A - 0.10 AC.
 NO IMPACTS
 TOTAL WETLAND AREA, SITE W9C - 0.57 AC.
 PERMANENT IMPACT AREA - 0.31 AC.

-  WETLAND NUMBER
-  JURISDICTIONAL WETLAND
-  WATERS OF THE U.S. (WOUS)
-  PERMANENT IMPACT AREA



PLAN	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	CHECKED		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK NO.	GRADES CHECKED		
	STRUCTURE		
	NOTATIONS		



FILE NAME = D:\6071\shc\plan\26-WILL-COOK.dgn

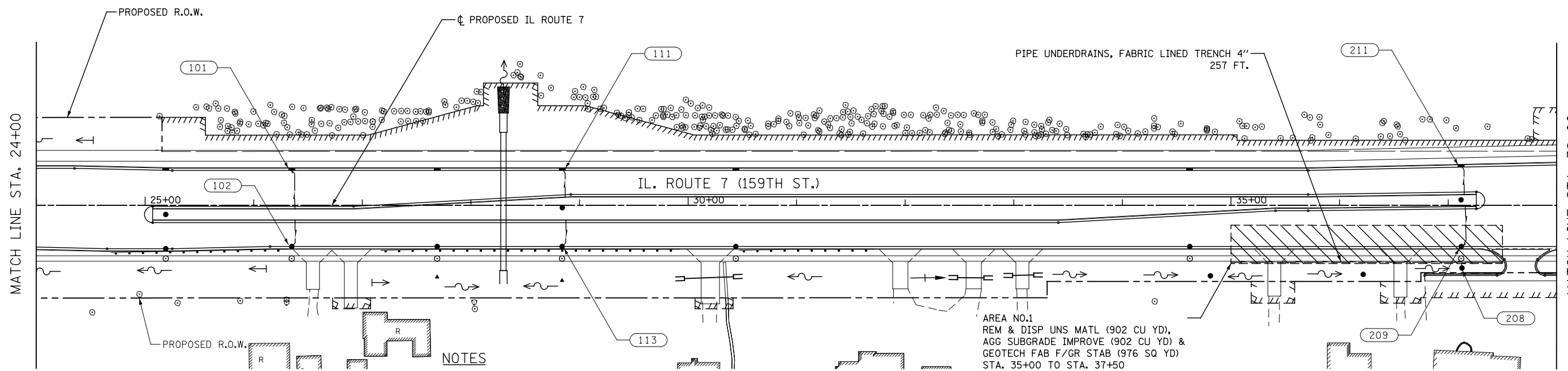
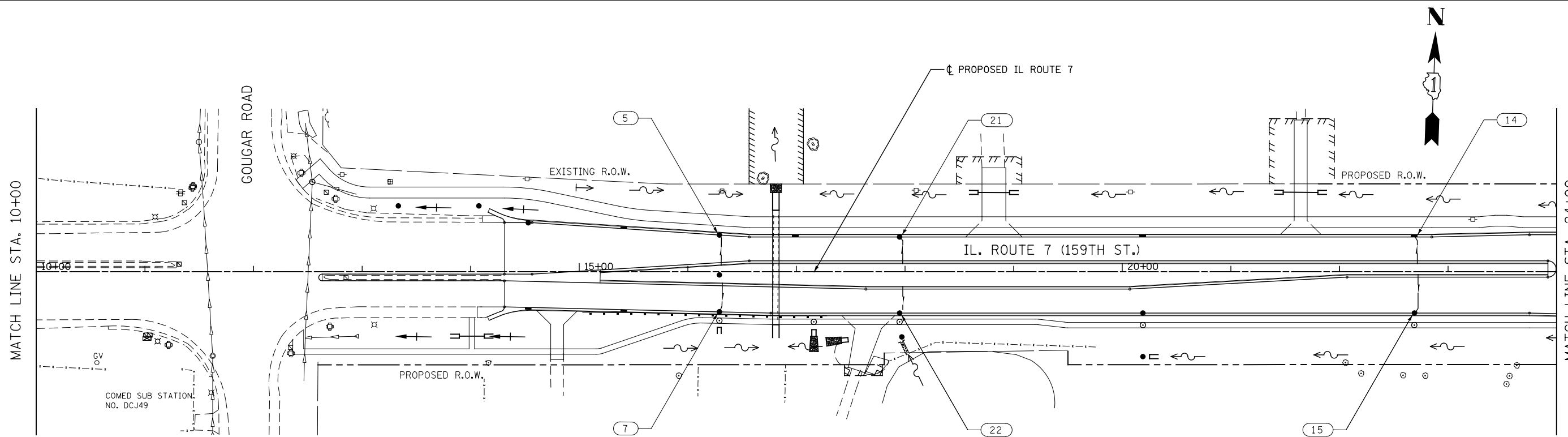
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	DATE - 10/21/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED DRAINAGE
 PLAN & PROFILE - WILL-COOK RD.**

SCALE: 1" = 50' SHEET NO. 26 OF 26 SHEETS STA. 2994+92 TO STA. 3001+80

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	469
CONTRACT NO. 60L71				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



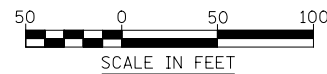
AREA NO.1
 REM & DISP UNS MATL (902 CU YD),
 AGG SUBGRADE IMPROVE (902 CU YD) &
 GEOTECH FAB F/GR STAB (976 SQ YD)
 STA. 35+00 TO STA. 37+50
 (SEE NOTES 2 & 3)

NOTES

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/ OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAIL AND CROSS SECTIONS FOR DETAILS.

PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT



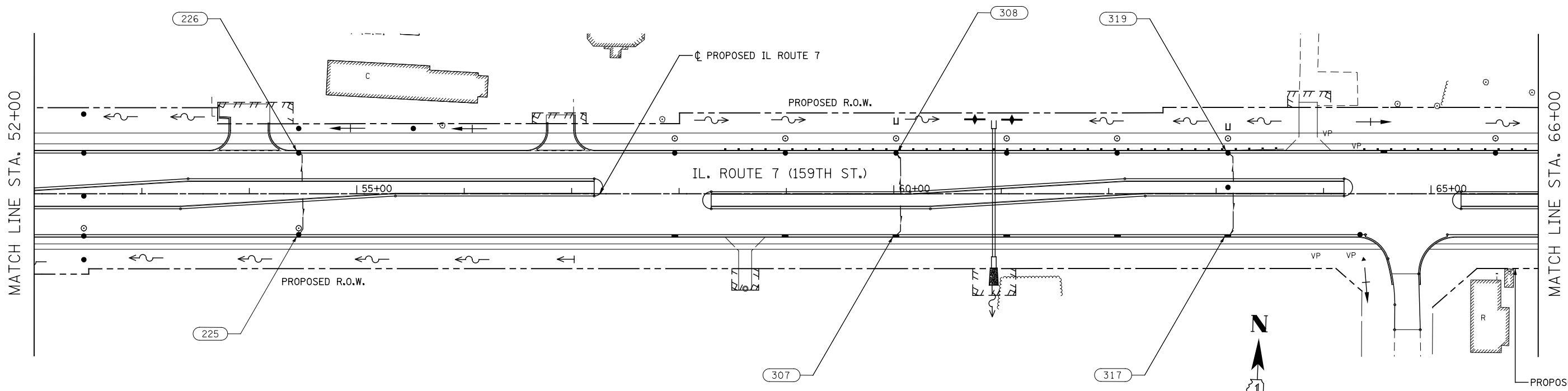
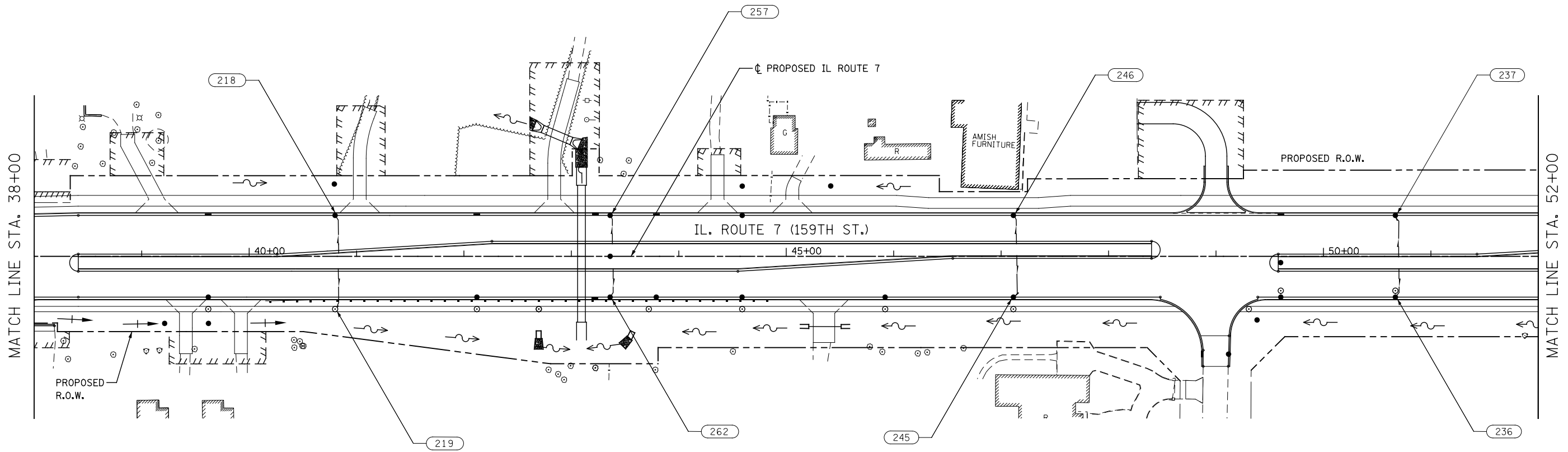
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DRAWN NAV	REVISED -	
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PIPE UNDERDRAINS AND UNDERCUT PLANS	
ILLINOIS ROUTE 7	
SCALE: AS SHOWN	SHEET NO. 1 OF 10 SHEETS
STA. 10+00	TO STA. 38+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	470
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT

NOTE

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.

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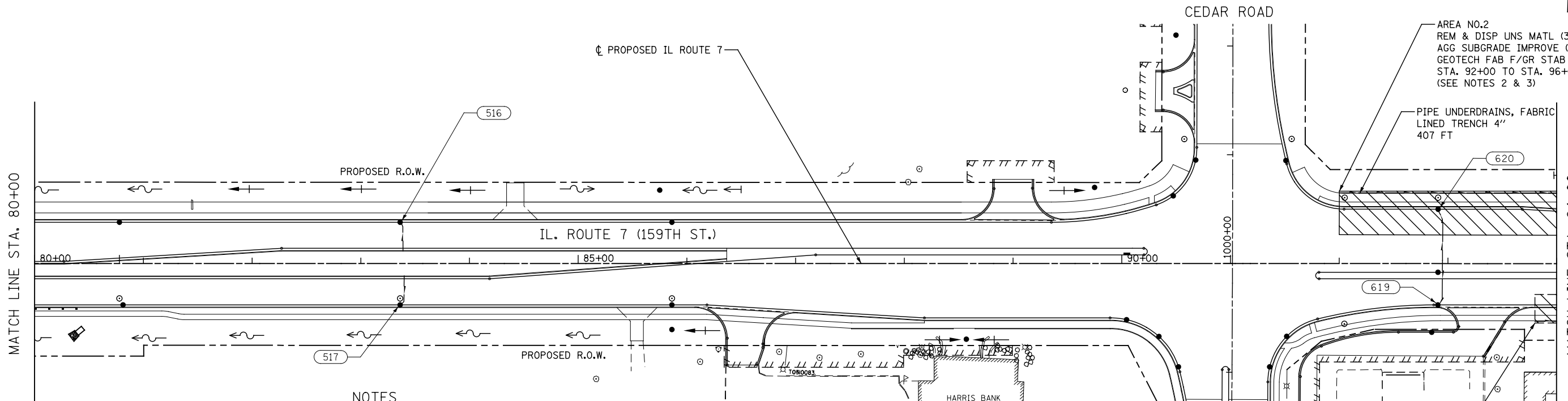
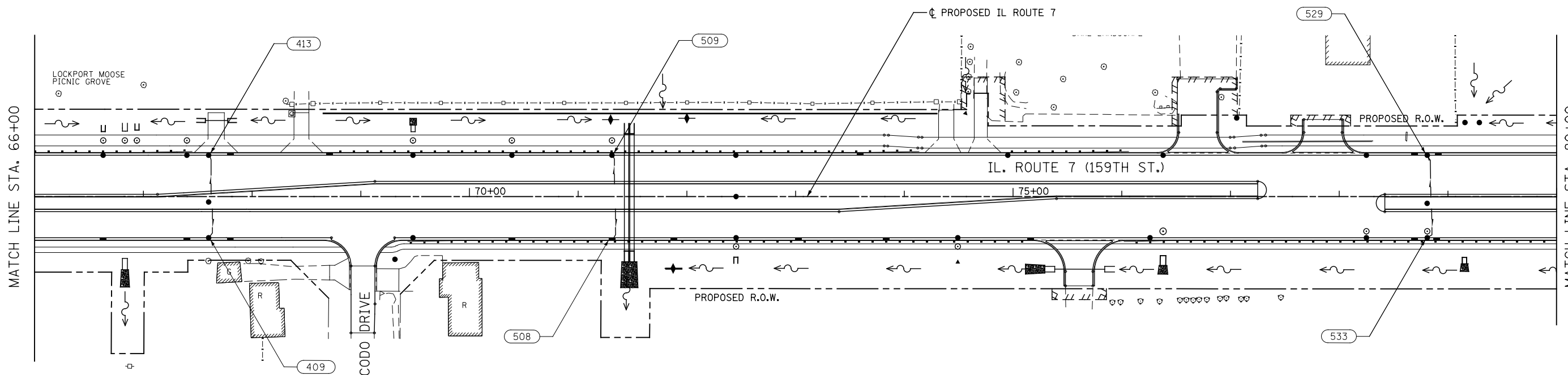
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DRAWN NAV	REVISED -	
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN SHEET NO. 2 OF 10 SHEETS STA. 38+00 TO STA. 66+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	471
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



NOTES

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/ OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAIL AND CROSS SECTIONS FOR DETAILS.

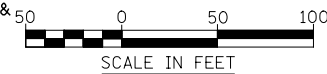
PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT

AREA NO.2
 REM & DISP UNS MATL (3299 CU YD),
 AGG SUBGRADE IMPROVE (3299 CU YD) &
 GEOTECH FAB F/GR STAB (1742 SQ YD)
 STA. 92+00 TO STA. 96+00
 (SEE NOTES 2 & 3)

PIPE UNDERDRAINS, FABRIC
 LINED TRENCH 4"
 407 FT

AREA NO.3
 REM & DISP UNS MATL (1087 CU YD),
 AGG SUBGRADE IMPROVE (1087 CU YD) &
 GEOTECH FAB F/GR STAB (652 SQ YD)
 STA. 93+80 TO STA. 96+00
 (SEE NOTES 2 & 3)



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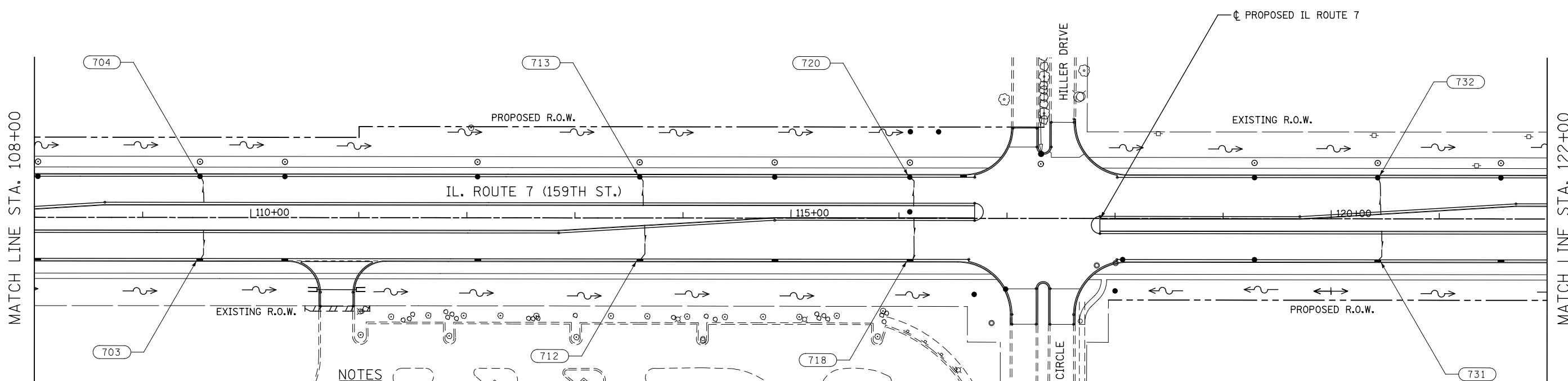
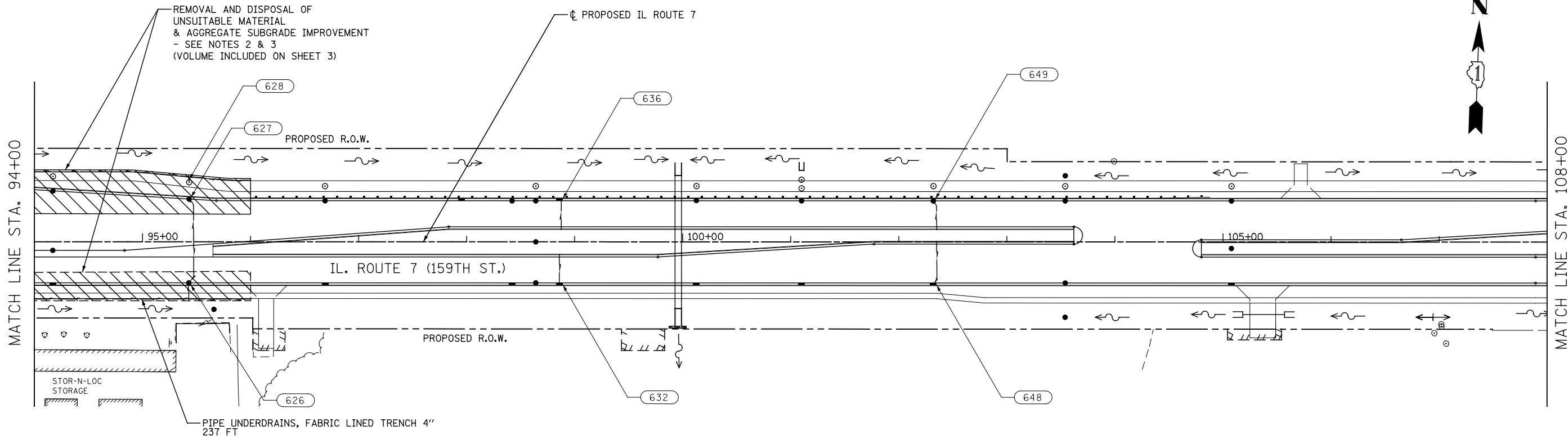
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
 ILLINOIS ROUTE 7**

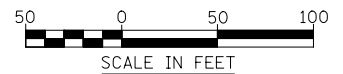
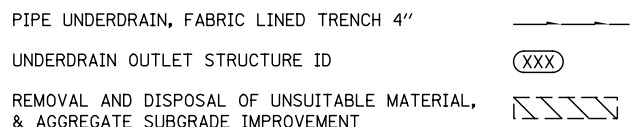
SCALE: AS SHOWN SHEET NO. 3 OF 10 SHEETS STA. 66+00 TO STA. 94+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	472
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- NOTES**
1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
 2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
 3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
 4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAILS AND CROSS SECTIONS FOR DETAILS.

PROPOSED DRAINAGE LEGEND



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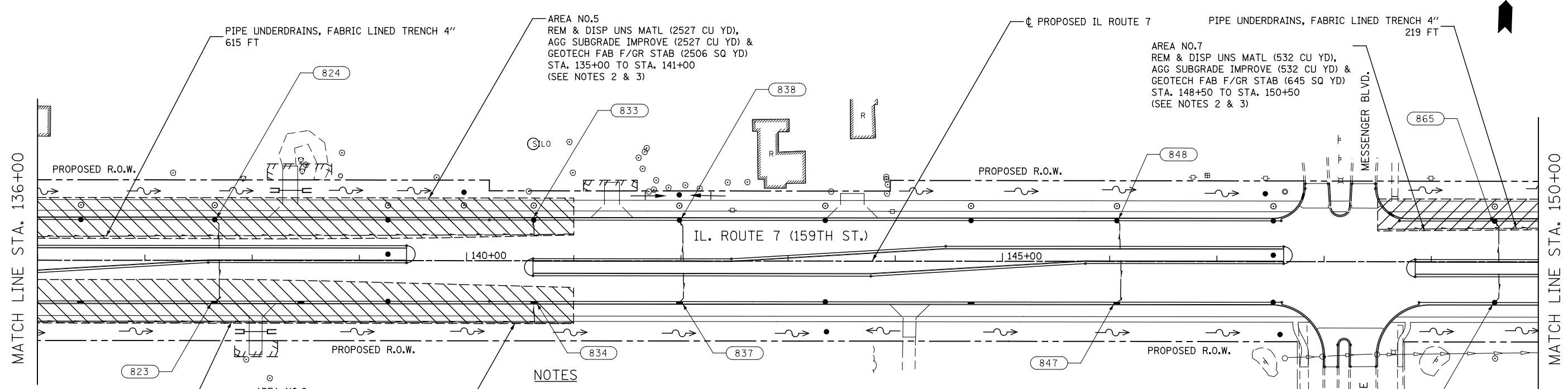
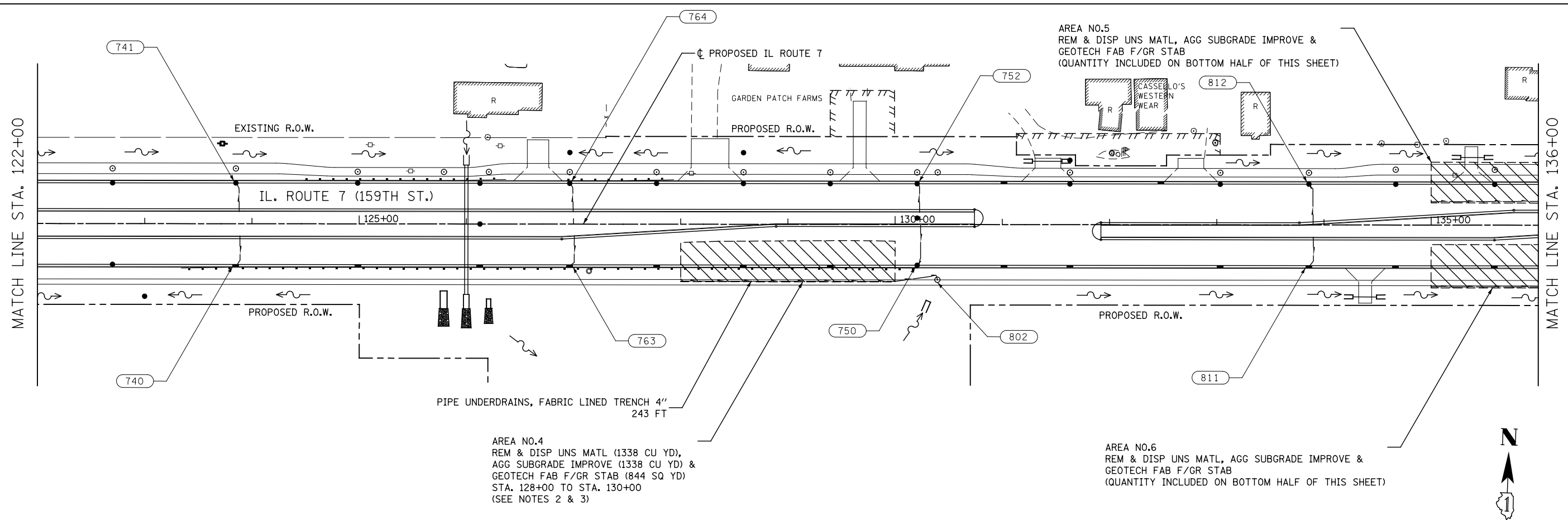
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN SHEET NO. 4 OF 10 SHEETS STA. 94+00 TO STA. 122+00

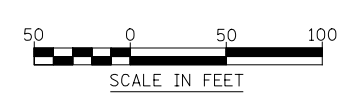
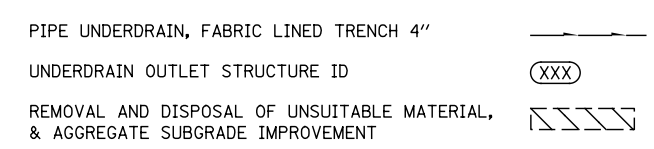
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	473
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



NOTES

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/ OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAIL AND CROSS SECTION FOR DETAILS.

PROPOSED DRAINAGE LEGEND



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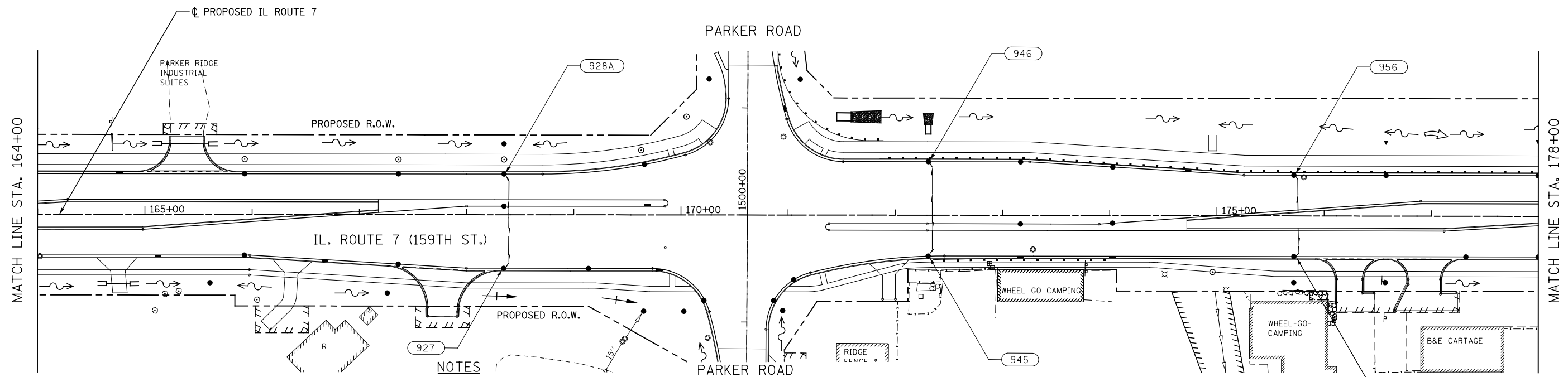
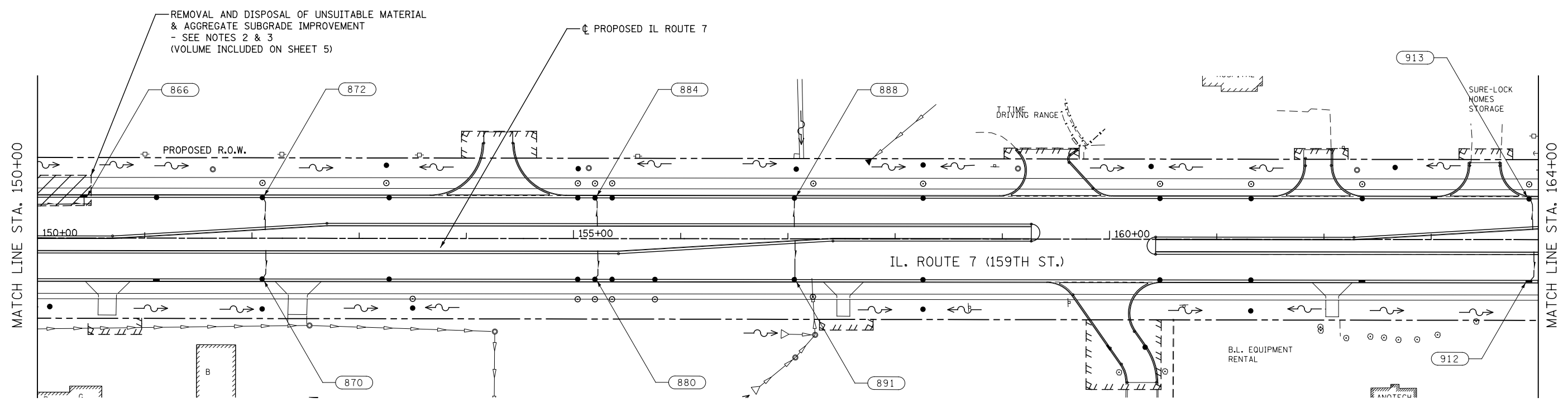
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN | SHEET NO. 5 OF 10 SHEETS | STA. 122+00 TO STA. 150+00

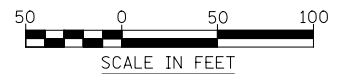
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	474
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- NOTES**
1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
 2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/ OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
 3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
 4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAIL AND CROSS SECTIONS FOR DETAILS.

PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT



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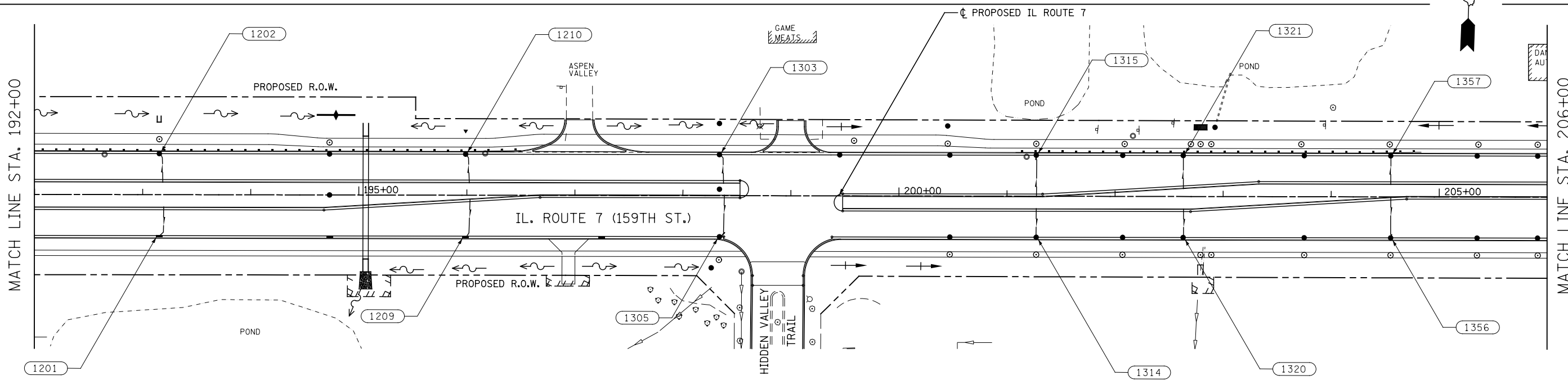
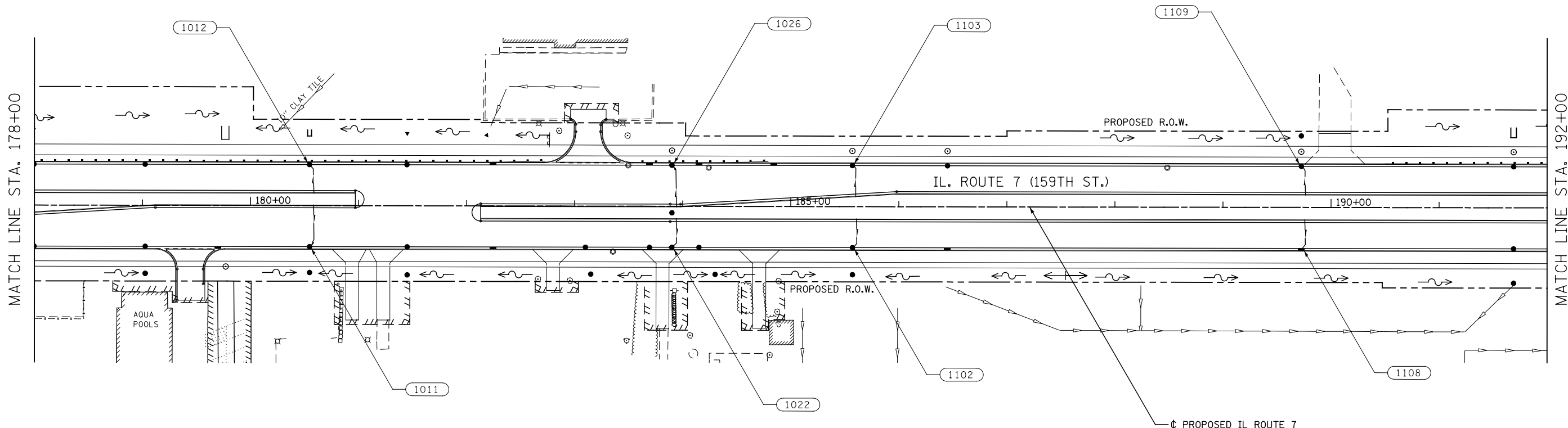
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN SHEET NO. 6 OF 10 SHEETS STA. 150+00 TO STA. 178+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	475
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

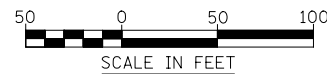


PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT

NOTE

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND. QUANTITY.



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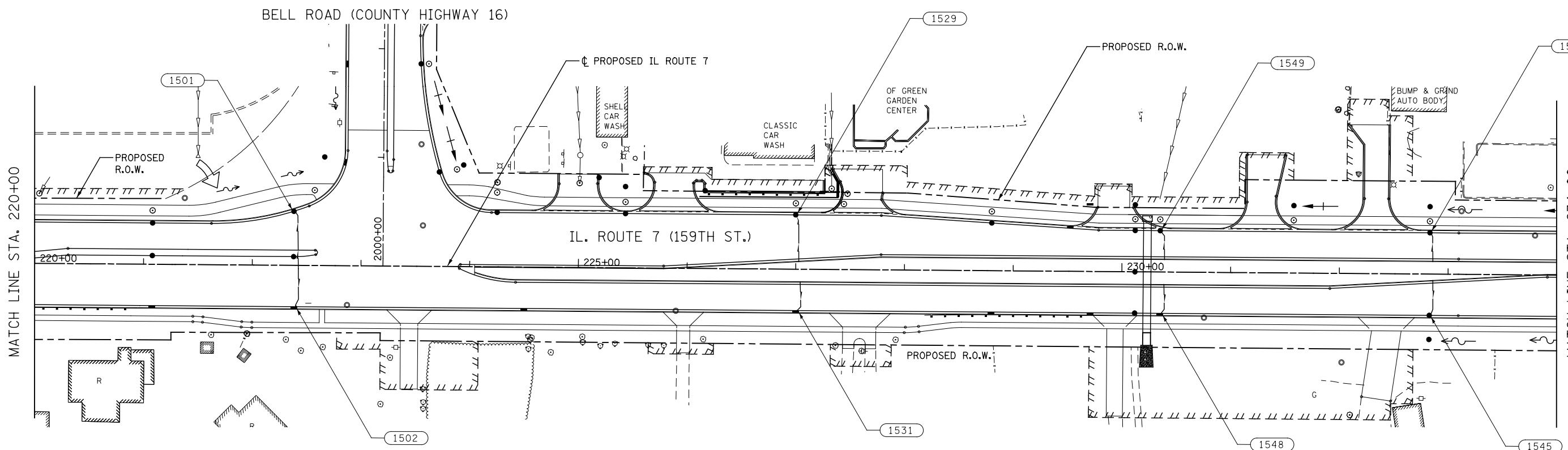
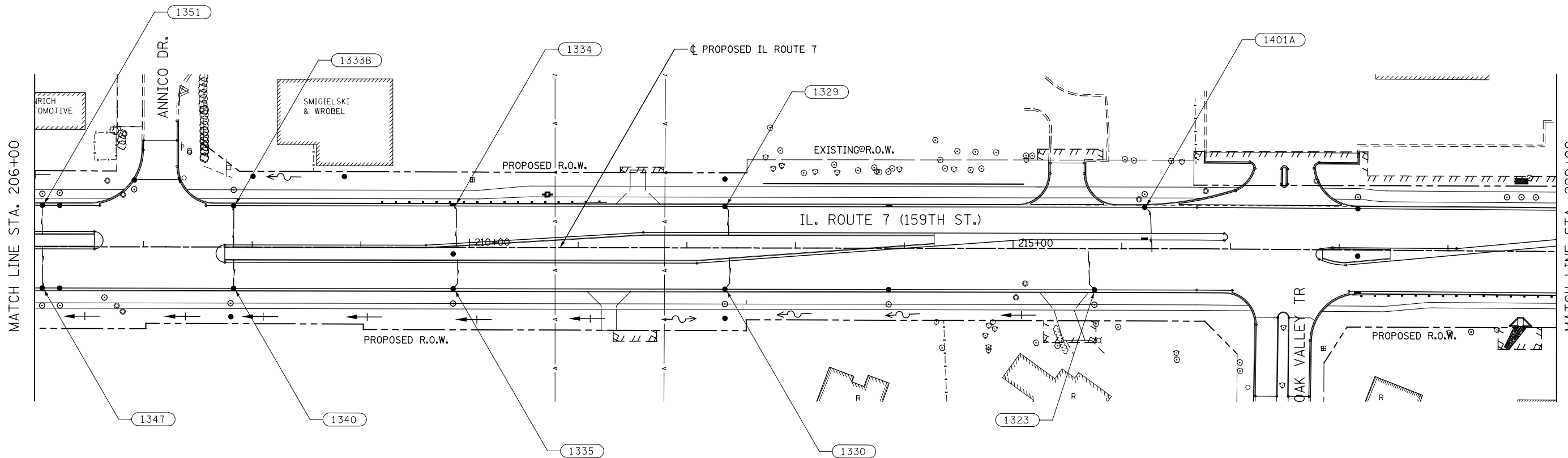
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN | SHEET NO. 7 OF 10 SHEETS | STA. 178+00 TO STA. 206+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	476
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT

NOTE

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.

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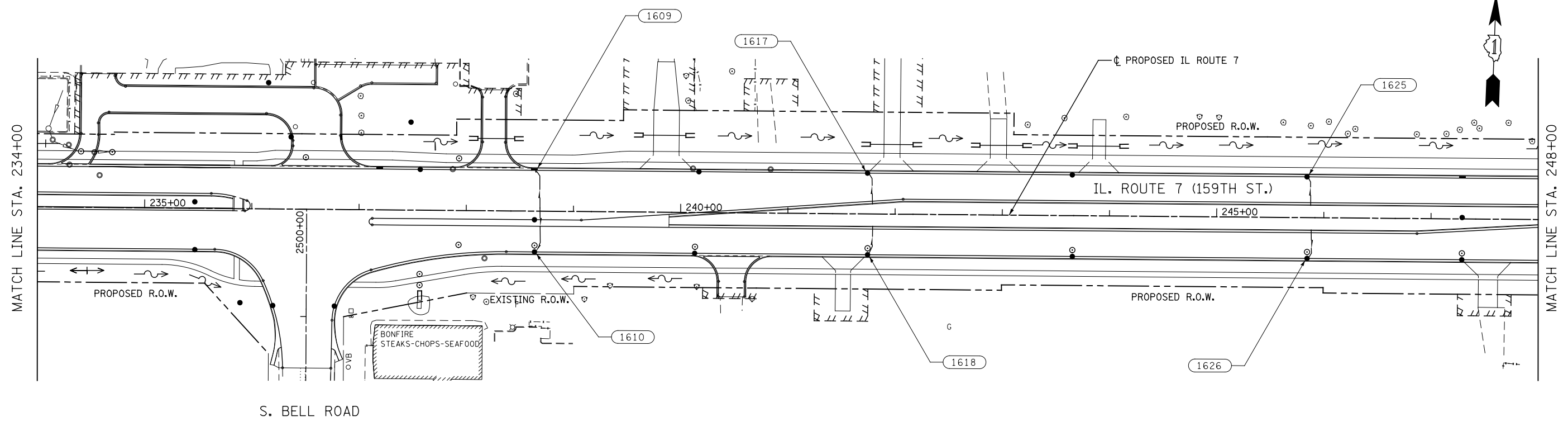
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DRAWN NAV	REVISED -	
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

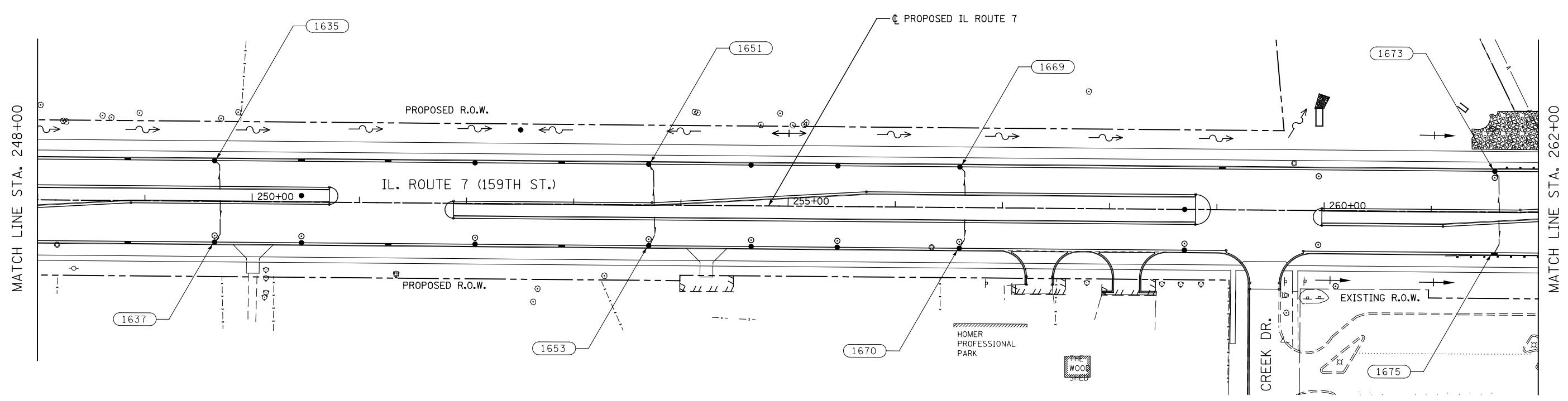
**PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7**

SCALE: AS SHOWN SHEET NO. 8 OF 10 SHEETS STA. 206+00 TO STA. 234+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	477
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



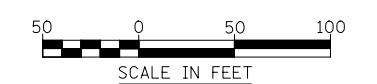
S. BELL ROAD



PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT

NOTE
 1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.



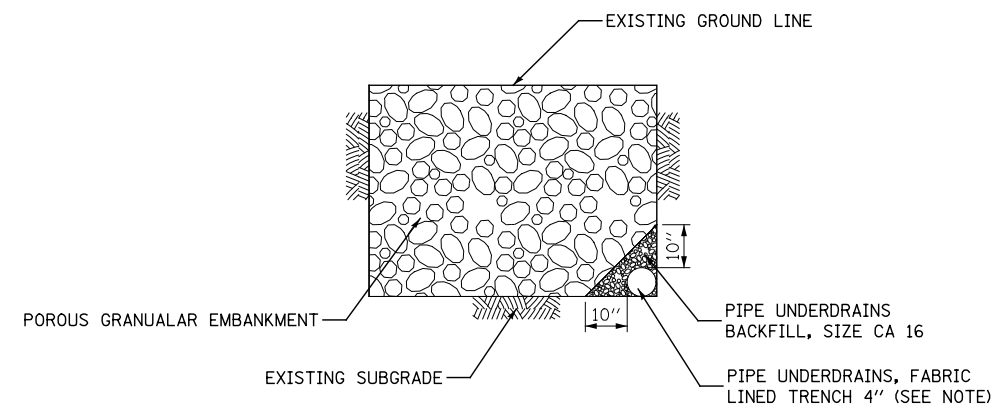
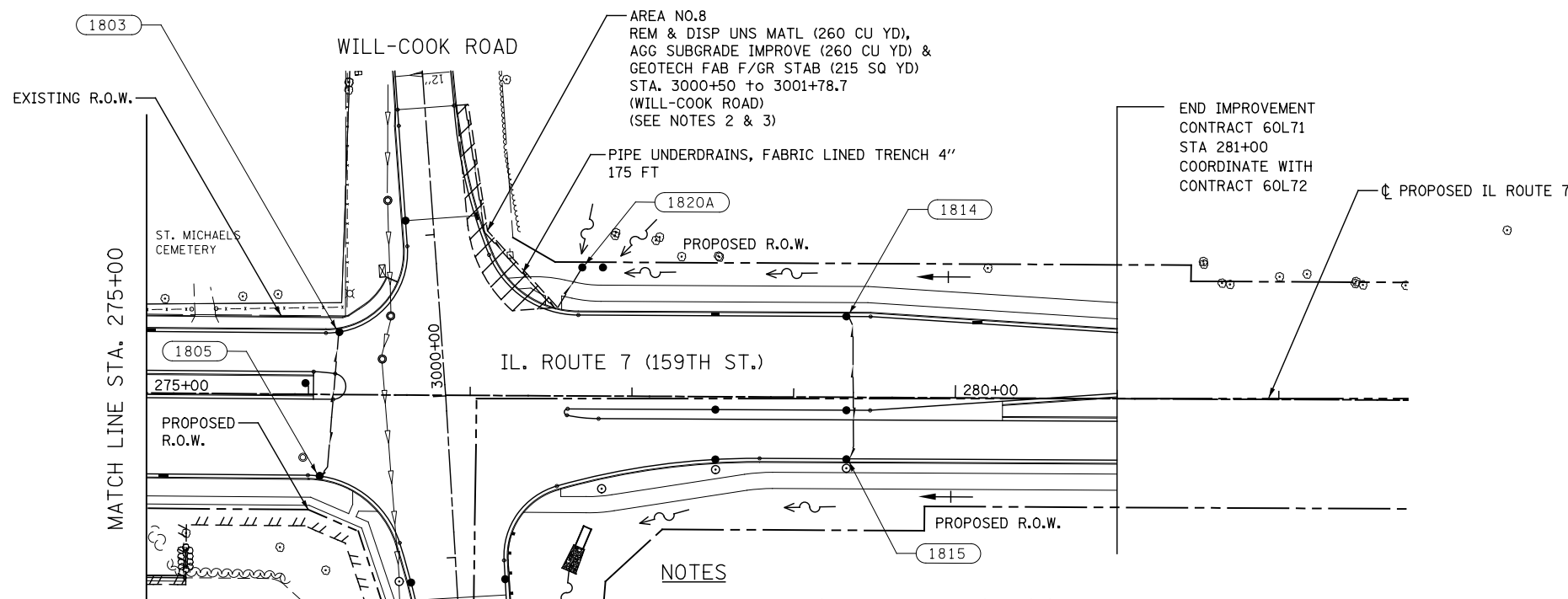
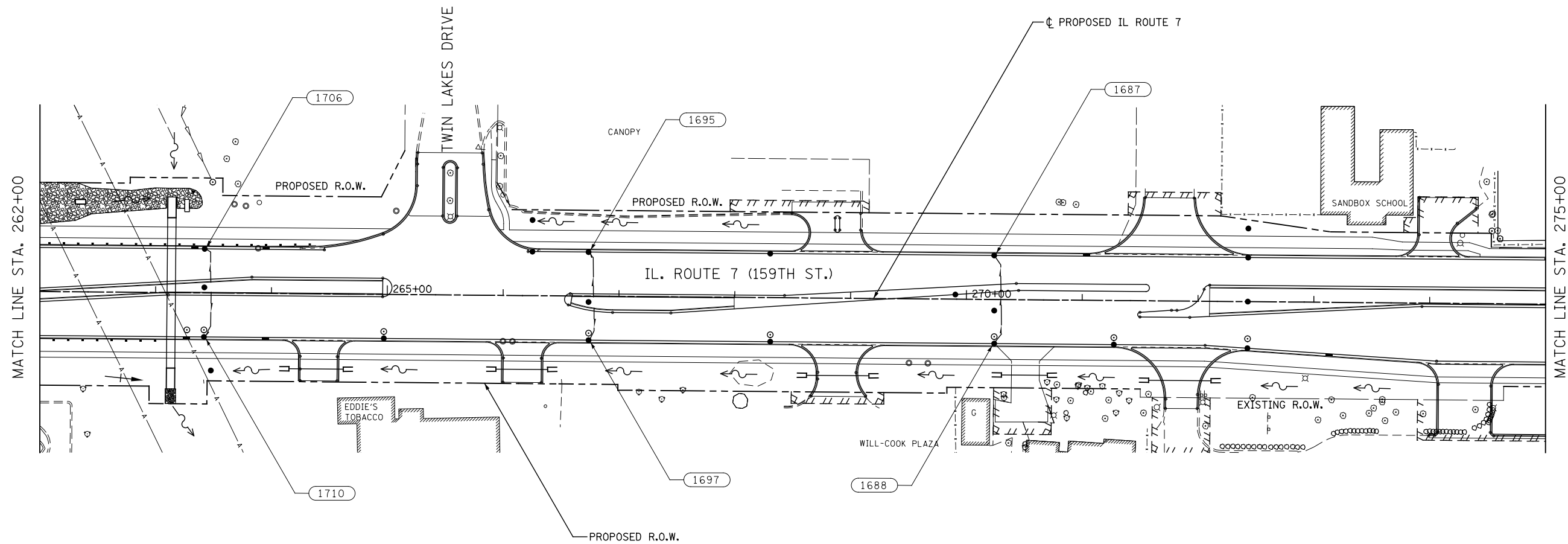
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PLOT SCALE = 1:100.001	CHECKED PJO	REVISED -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAINS AND UNDERCUT PLANS
 ILLINOIS ROUTE 7**
 SCALE: AS SHOWN SHEET NO. 9 OF 10 SHEETS STA. 234+00 TO STA. 262+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	478
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



UNDERCUT UNDERDRAIN DETAIL

NOTE

1. UNDERDRAIN SHALL BE WRAPPED IN GEOTECHNICAL FABRIC. INSTALLATION SHALL BE ACCORDING TO SECTION 601.06 OF THE STANDARD SPECIFICATIONS. SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.

NOTES

1. SEE DRAINAGE NOTES AND LEGENDS FOR PROPOSED DRAINAGE LEGEND.
2. AGGREGATE SUBGRADE IMPROVEMENT HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR THE SOILS THAT TEND TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR AGGREGATE SUBGRADE IMPROVEMENT WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE AND PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE STANDARD SPECIFICATIONS AND THE UNDERCUT GUIDELINES IN THE IDOT SUBGRADE STABILITY MANUAL. IF THE UNSTABLE AND/ OR UNSUITABLE MATERIAL IS NOT ENCOUNTERED AT THE TIME OF CONSTRUCTION, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
3. SEE EARTHWORK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING QUANTITY.
4. PIPE UNDERDRAIN, FABRIC LINED TRENCH 4" SHALL BE INSTALLED IN THE UNDERCUT AREAS WHERE POROUS GRANULAR BACKFILL IS USED. SEE UNDERCUT UNDERDRAIN DETAIL AND CROSS SECTIONS FOR DETAILS.

PROPOSED DRAINAGE LEGEND

- PIPE UNDERDRAIN, FABRIC LINED TRENCH 4"
- UNDERDRAIN OUTLET STRUCTURE ID
- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, & AGGREGATE SUBGRADE IMPROVEMENT



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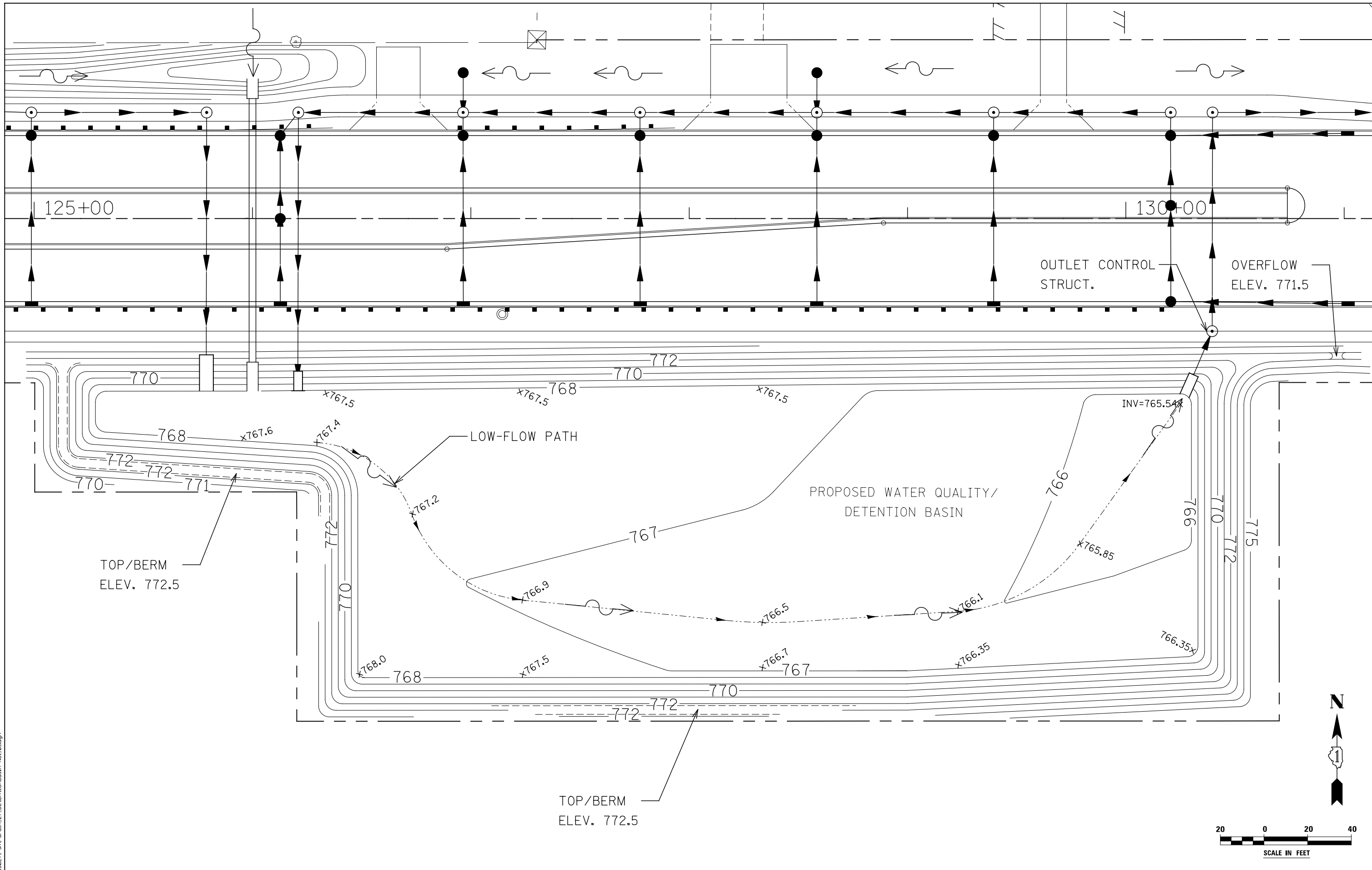
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIPE UNDERDRAINS AND UNDERCUT PLANS
ILLINOIS ROUTE 7

SCALE: AS SHOWN SHEET NO. 10 OF 10 SHEETS STA. 262+00 TO STA. 281+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	479
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



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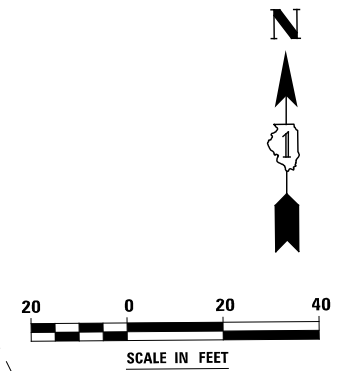
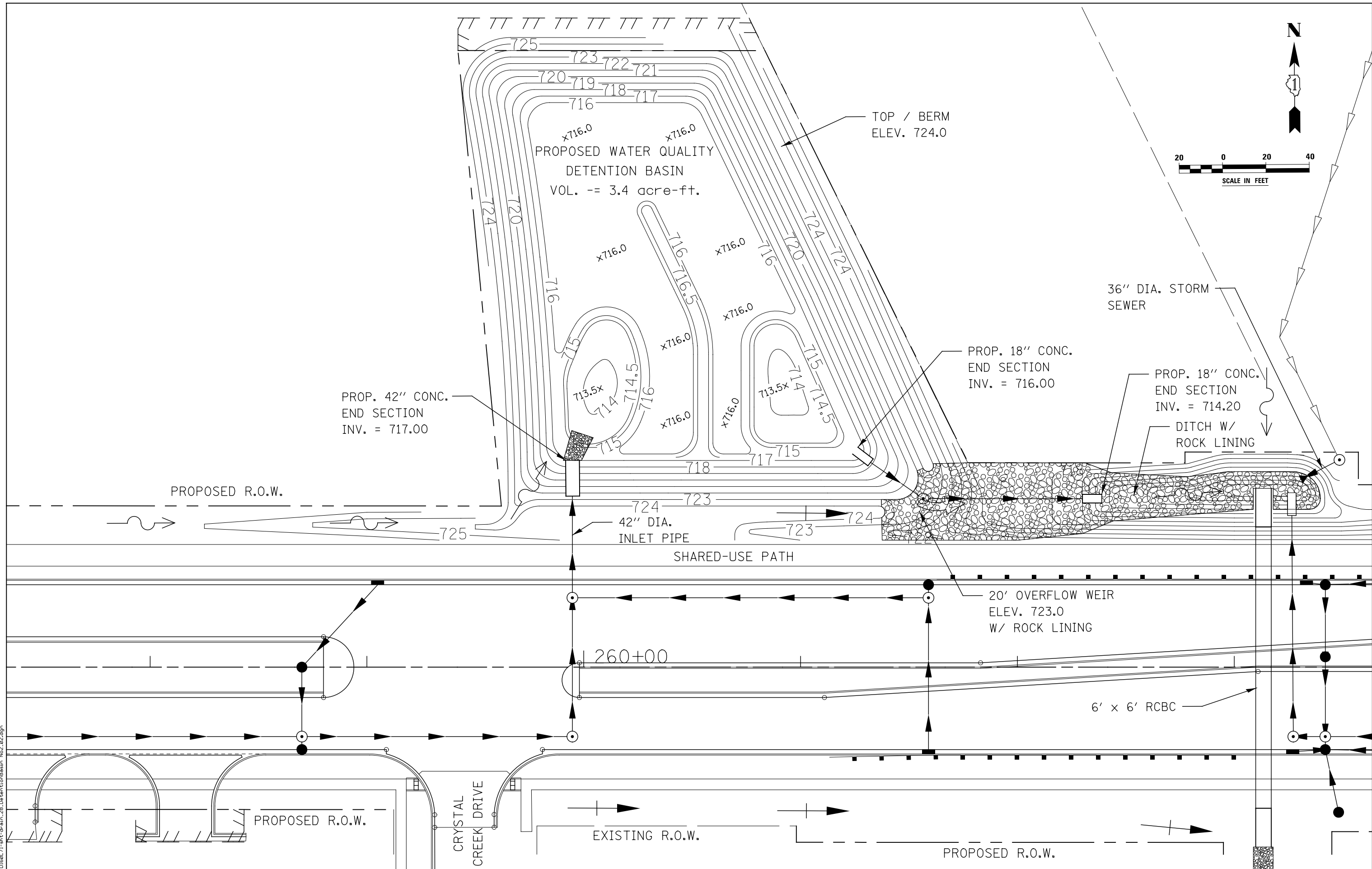
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GRADING PLAN - WATER QUALITY DETENTION BASIN	
SCALE: AS SHOWN	SHEET NO. 1 OF 14 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	480
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

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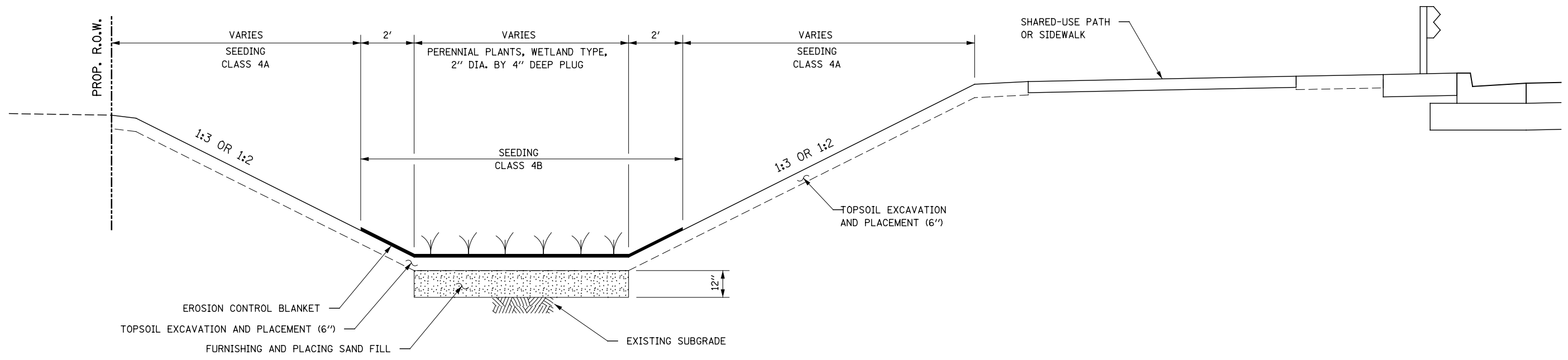
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GRADING PLAN - WATER QUALITY DETENTION BASIN

SCALE: AS SHOWN SHEET NO. 2 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	481
CONTRACT NO. 60L71				

ILLINOIS FED. AID PROJECT



TYPICAL SECTION - WATER QUALITY DITCH
SCALE=N.T.S.

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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

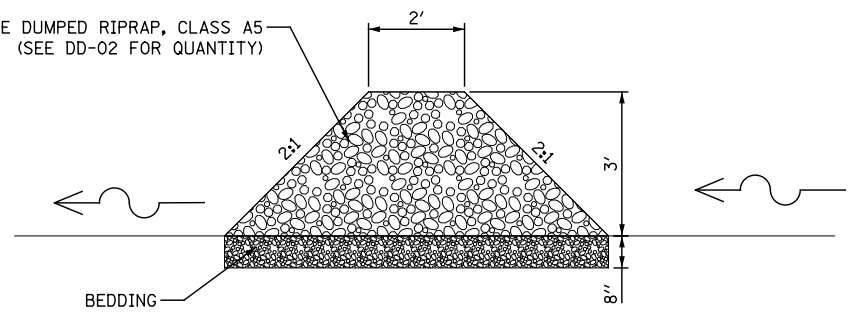
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WATER QUALITY DITCH DETAILS

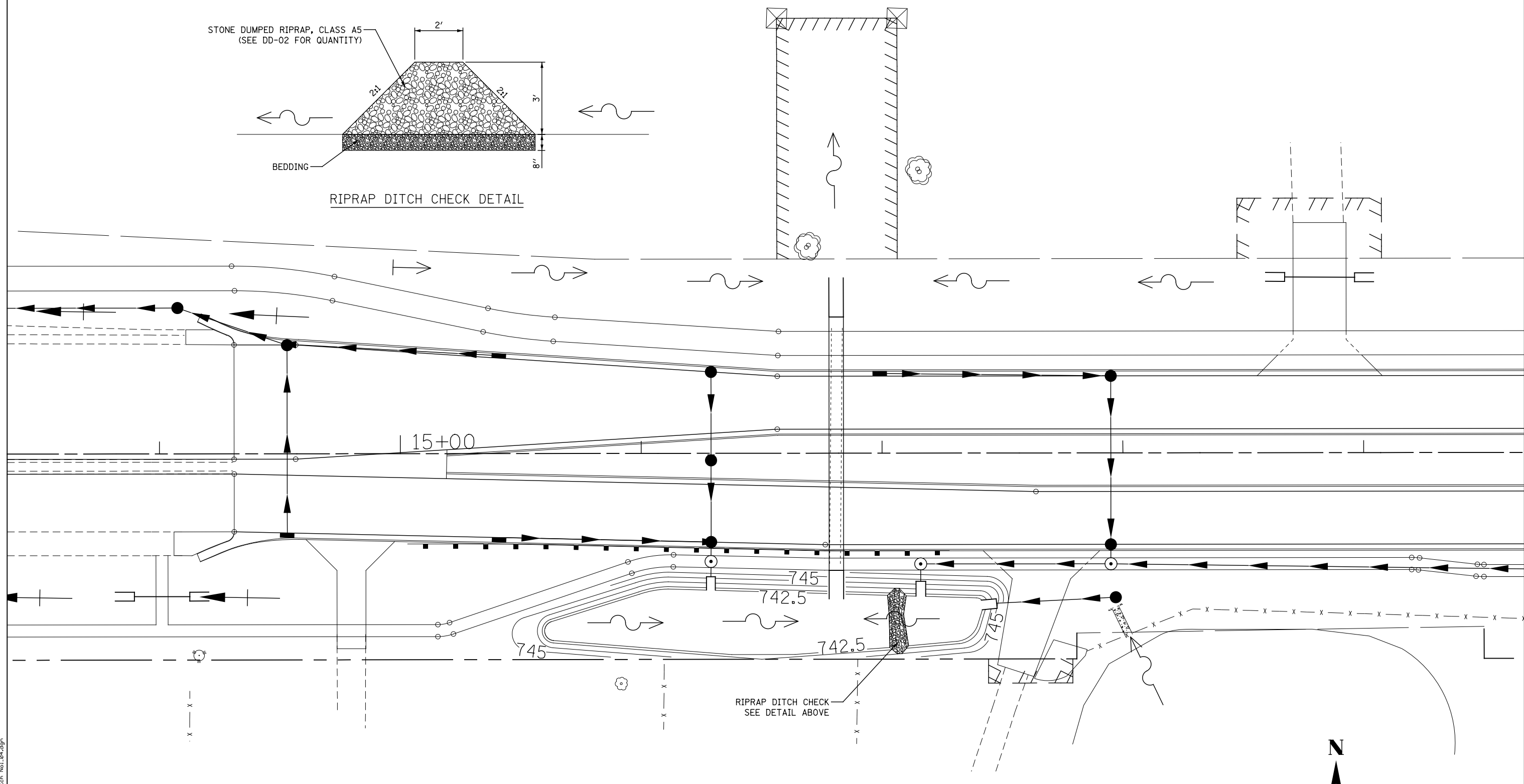
SCALE: AS SHOWN SHEET NO. 3 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	482
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

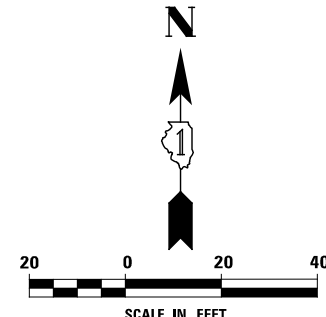
STONE DUMPED RIPRAP, CLASS A5
(SEE DD-02 FOR QUANTITY)



RIPRAP DITCH CHECK DETAIL



NOTE
1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".



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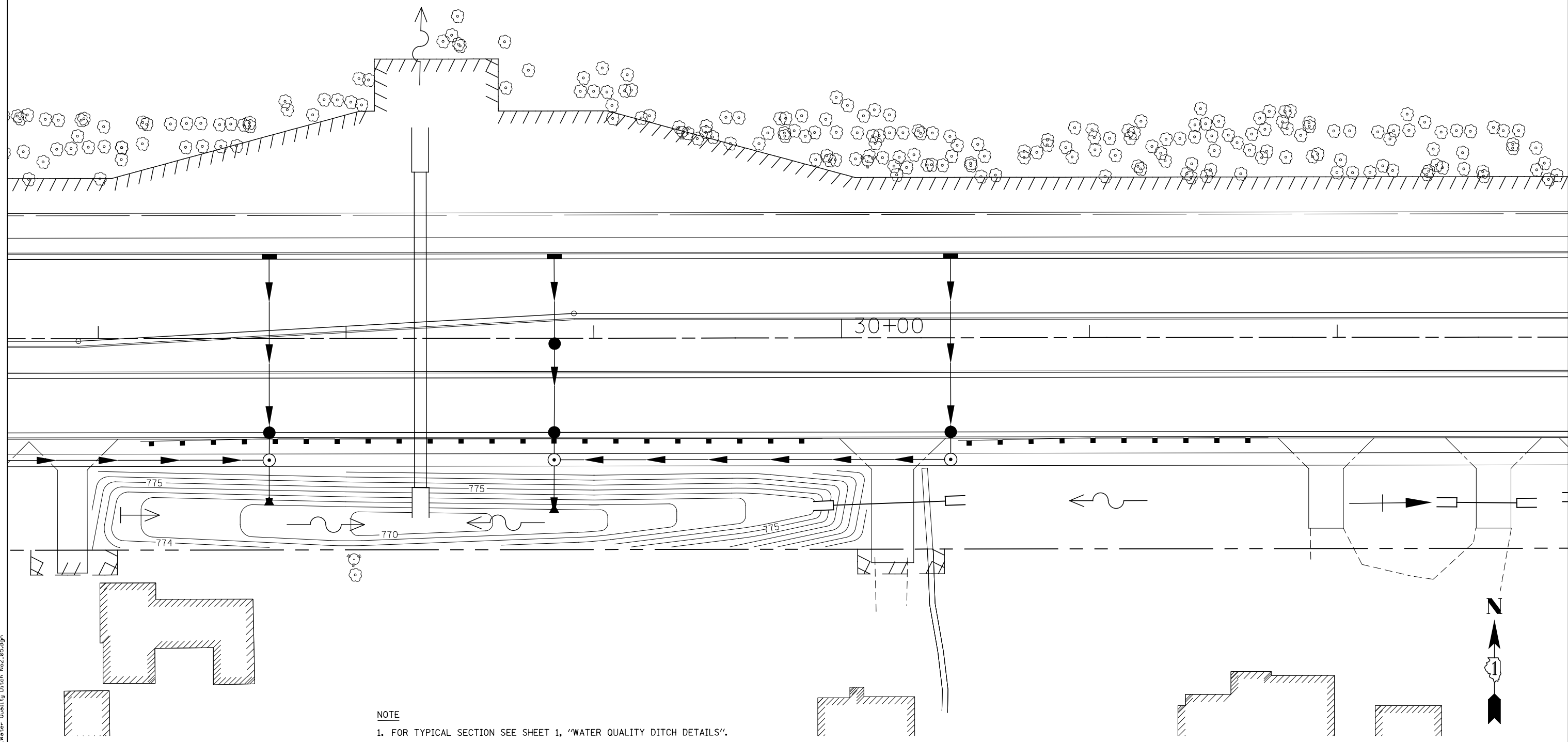
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

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DEPARTMENT OF TRANSPORTATION**

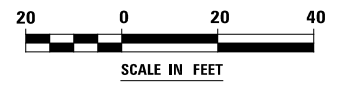
PLAN DETAIL - WATER QUALITY DITCH NO. 1
SCALE: AS SHOWN SHEET NO. 4 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	483
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME = D:\60L71\shd-drain_31\Water Quality Ditch No2_05.dgn



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".



USER NAME = mmaestra	DESIGNED DGB	REVISED -
DRAWN DGB		REVISED -
PLOT SCALE = 1:40.0003	CHECKED PJO	REVISED -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

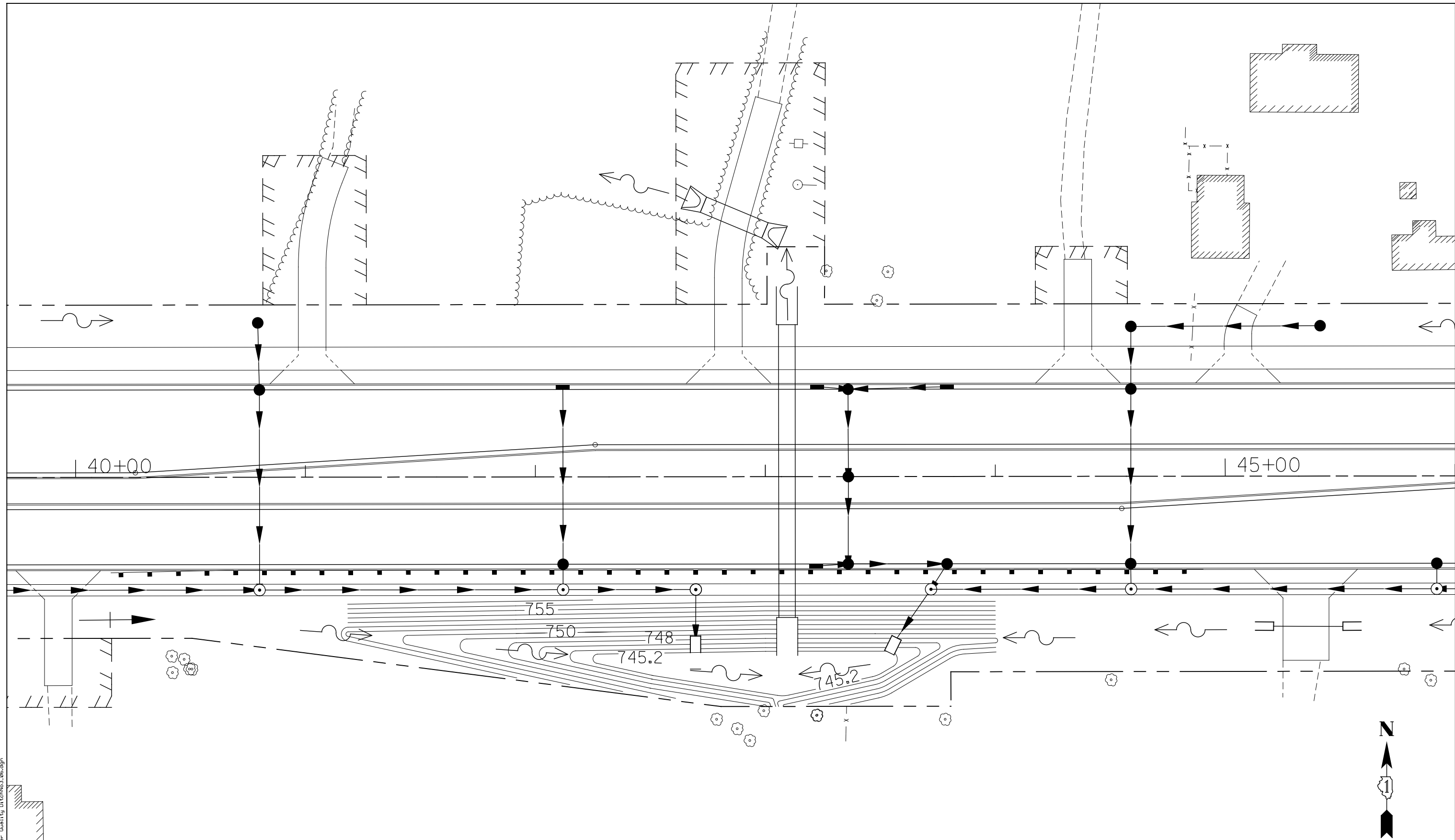
PLAN DETAIL - WATER QUALITY DITCH NO. 2

SCALE: AS SHOWN | SHEET NO. 5 OF 14 SHEETS | STA. TO STA.

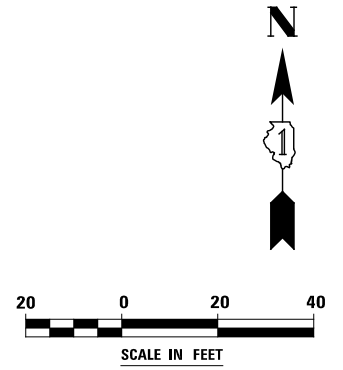
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	484
CONTRACT NO. 60L71				

ILLINOIS FED. AID PROJECT

FILE NAME : D:\60L71-shr-drain_32-Water Quality DitchNo3.dwg



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".



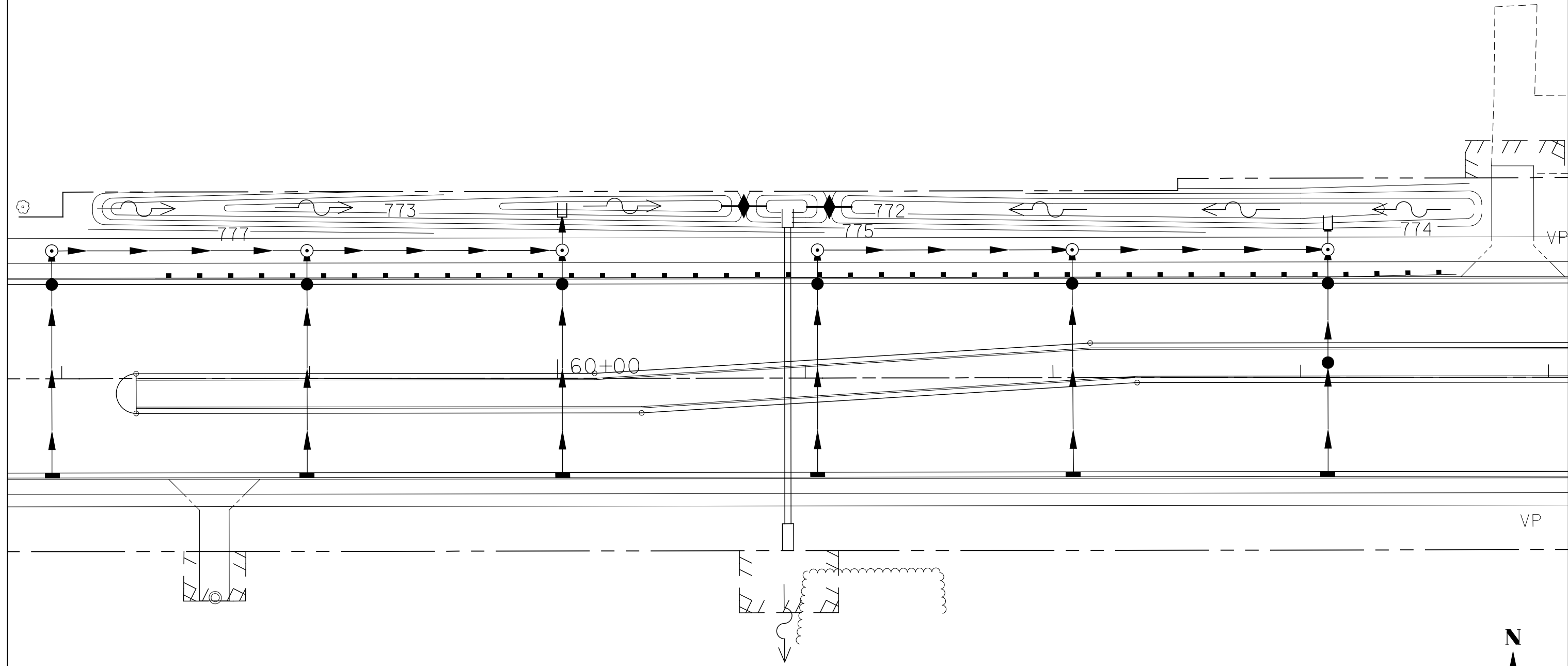
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

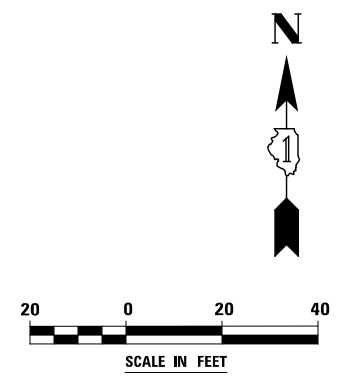
PLAN DETAIL - WATER QUALITY DITCH NO. 3
 SCALE: AS SHOWN | SHEET NO. 6 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	485
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME : D:\60L71-shit-drain_33.Water Quality Ditch No4.dgn



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".



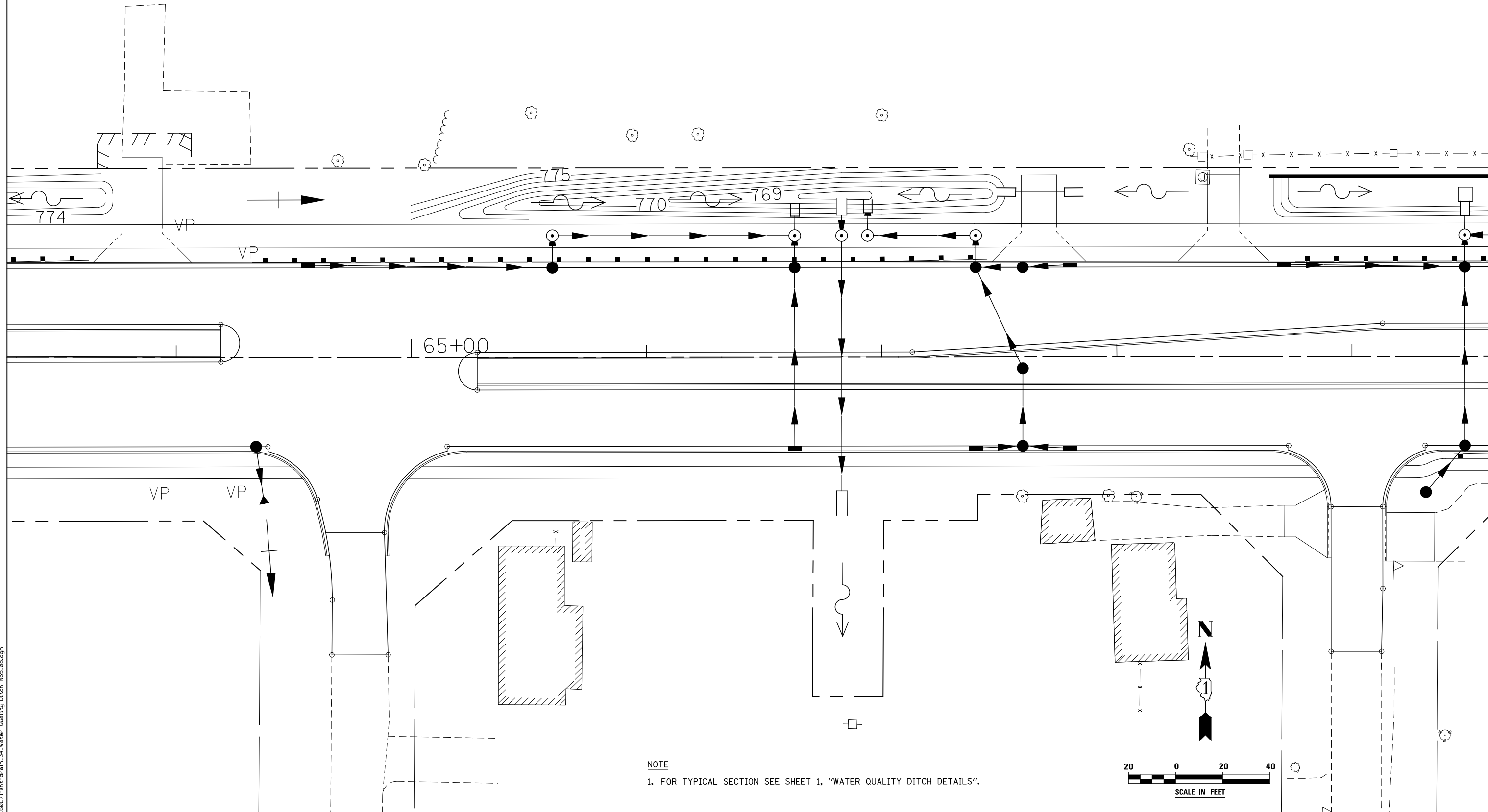
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN DETAIL - WATER QUALITY DITCH NO. 4
 SCALE: AS SHOWN | SHEET NO. 7 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	486
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME = D:\68071-shr-drain_34-Water Quality Ditch No5.dgn



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".

USER NAME = mmaestra	DESIGNED DGB	REVISED -
DRAWN DGB		REVISED -
PLOT SCALE = 1:40.0003	CHECKED PJO	REVISED -
PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

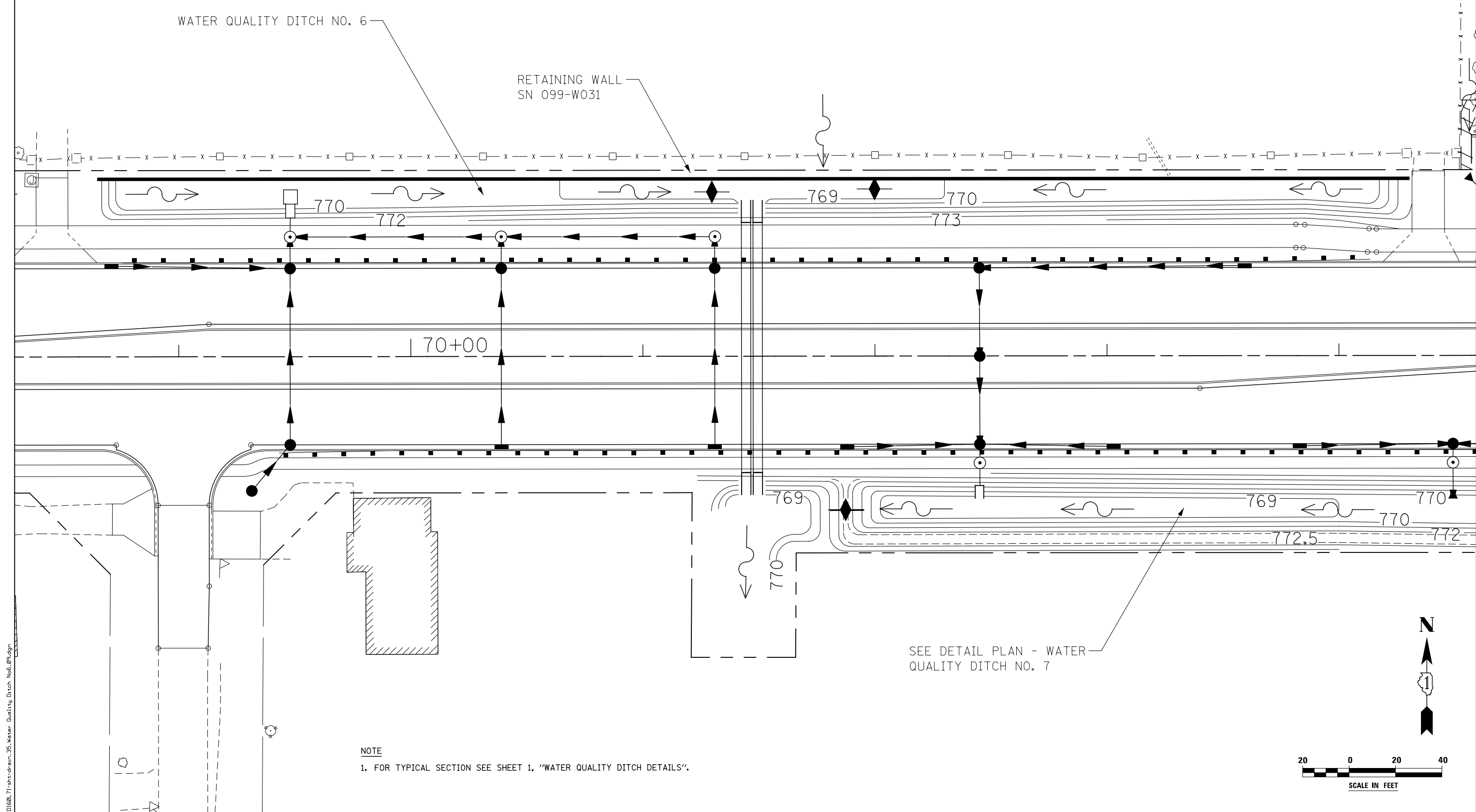
PLAN DETAIL - WATER QUALITY DITCH NO. 5
 SCALE: AS SHOWN | SHEET NO. 8 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	487
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME : D:\68071-shr-drain_35-Water Quality Ditch No.6.dgn

WATER QUALITY DITCH NO. 6

RETAINING WALL
SN 099-W031



NOTE
1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".

SEE DETAIL PLAN - WATER
QUALITY DITCH NO. 7



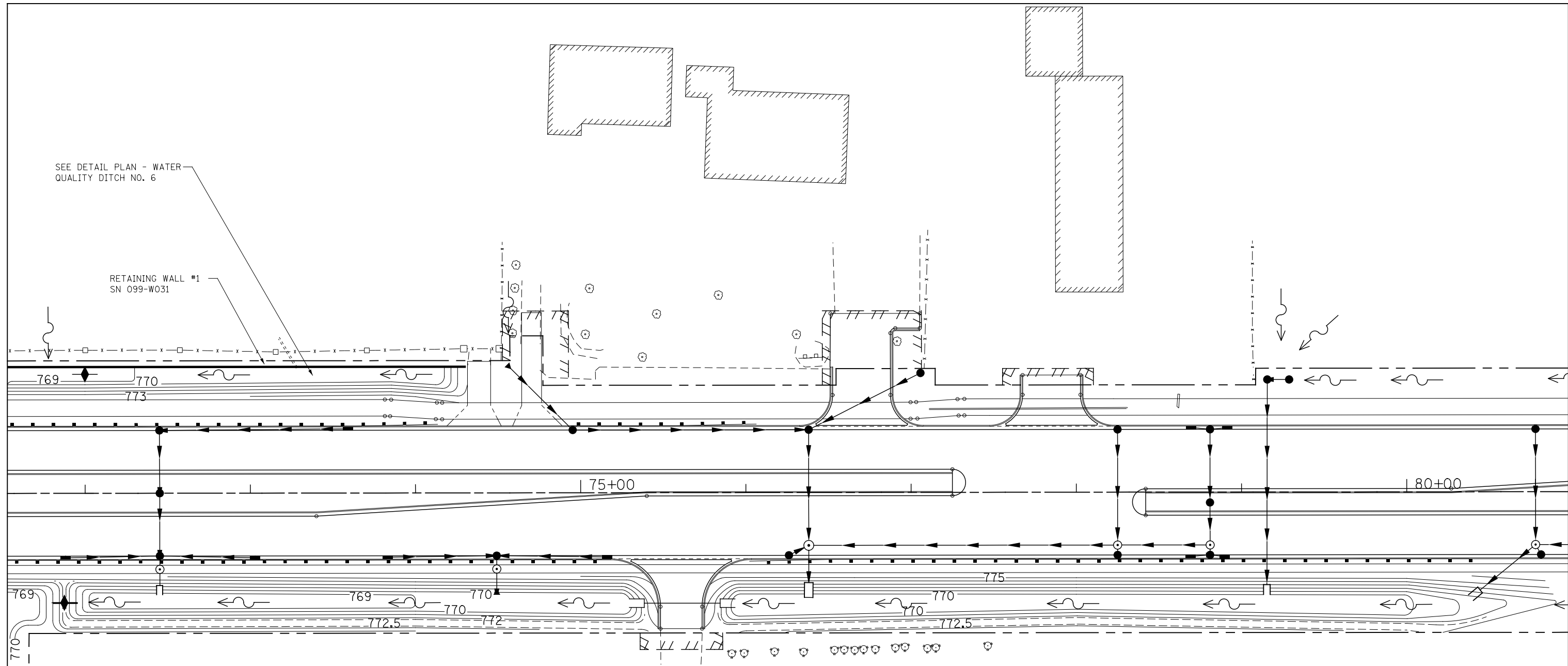
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

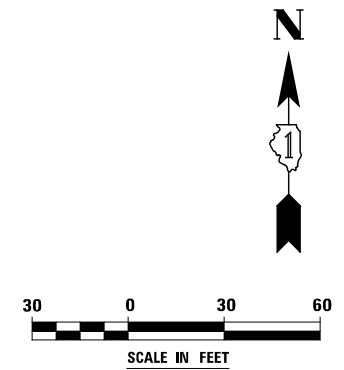
PLAN DETAIL - WATER QUALITY DITCH NO. 6

SCALE: AS SHOWN SHEET NO. 9 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	488
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".



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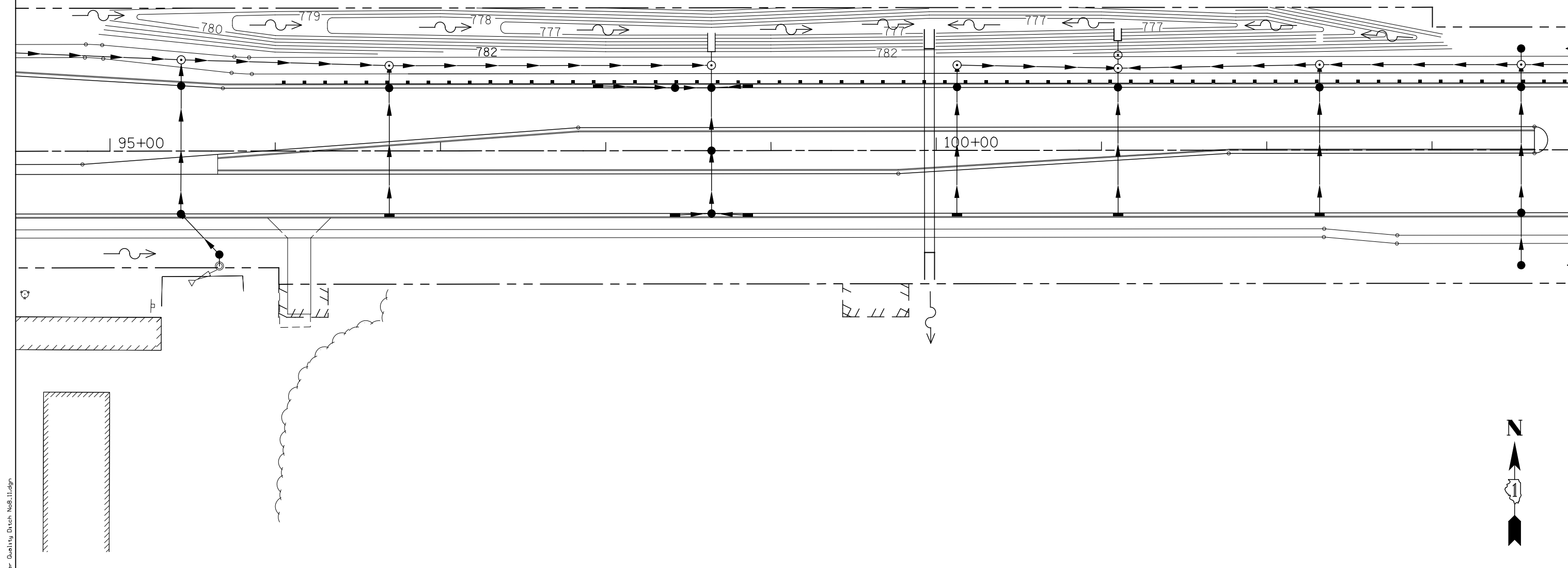
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN DETAIL - WATER QUALITY DITCH NO. 7

SCALE: AS SHOWN | SHEET NO. 10 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	489
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME = D:\60L71-shit-drain_37-Water Quality Ditch No8.11.dgn



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".

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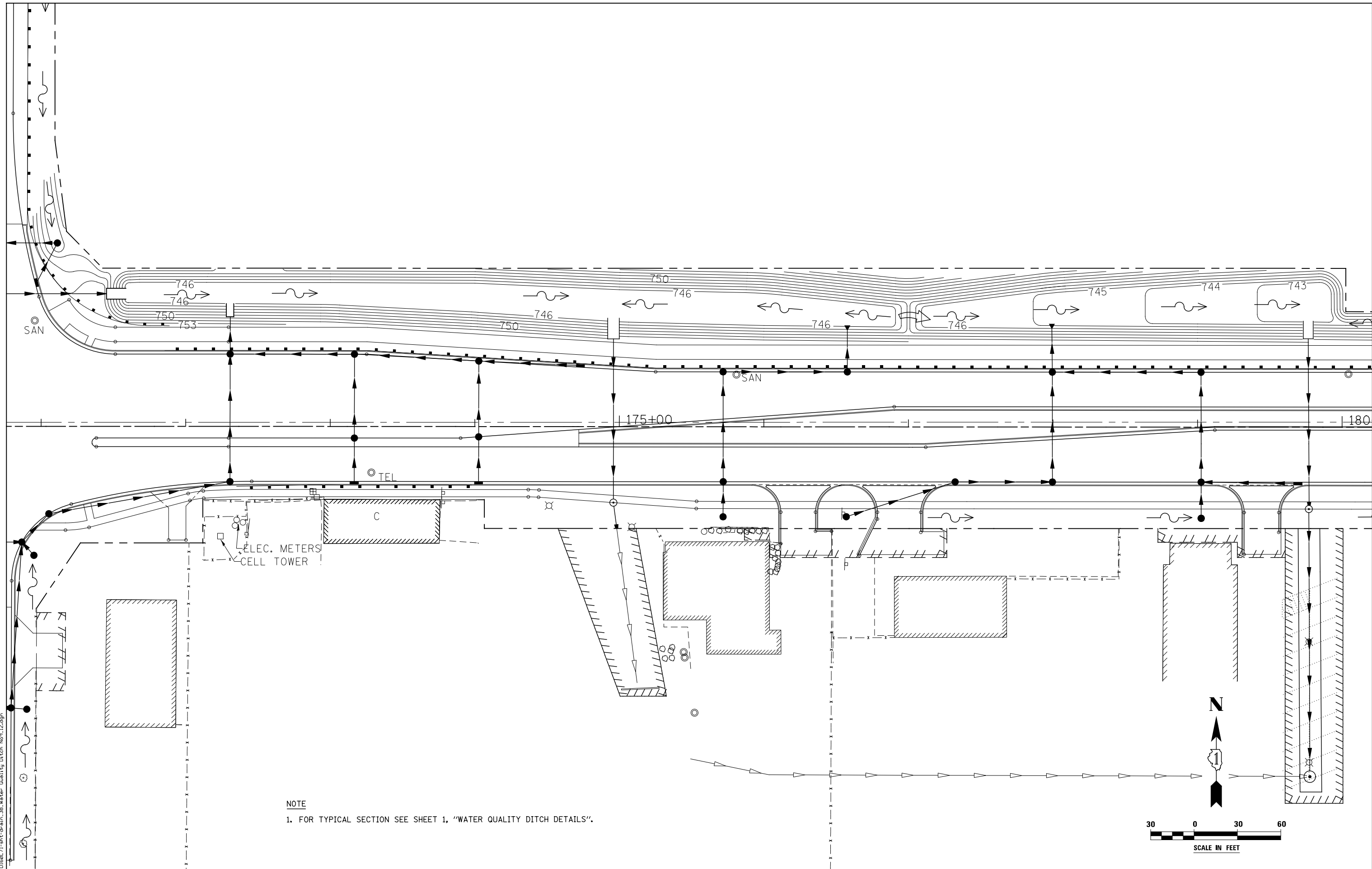
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN DETAIL - WATER QUALITY DITCH NO. 8

SCALE: AS SHOWN | SHEET NO. 11 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	490
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

FILE NAME = D:\60L71-shr-drain_38-Water Quality Ditch No9_12.dgn



NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".

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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

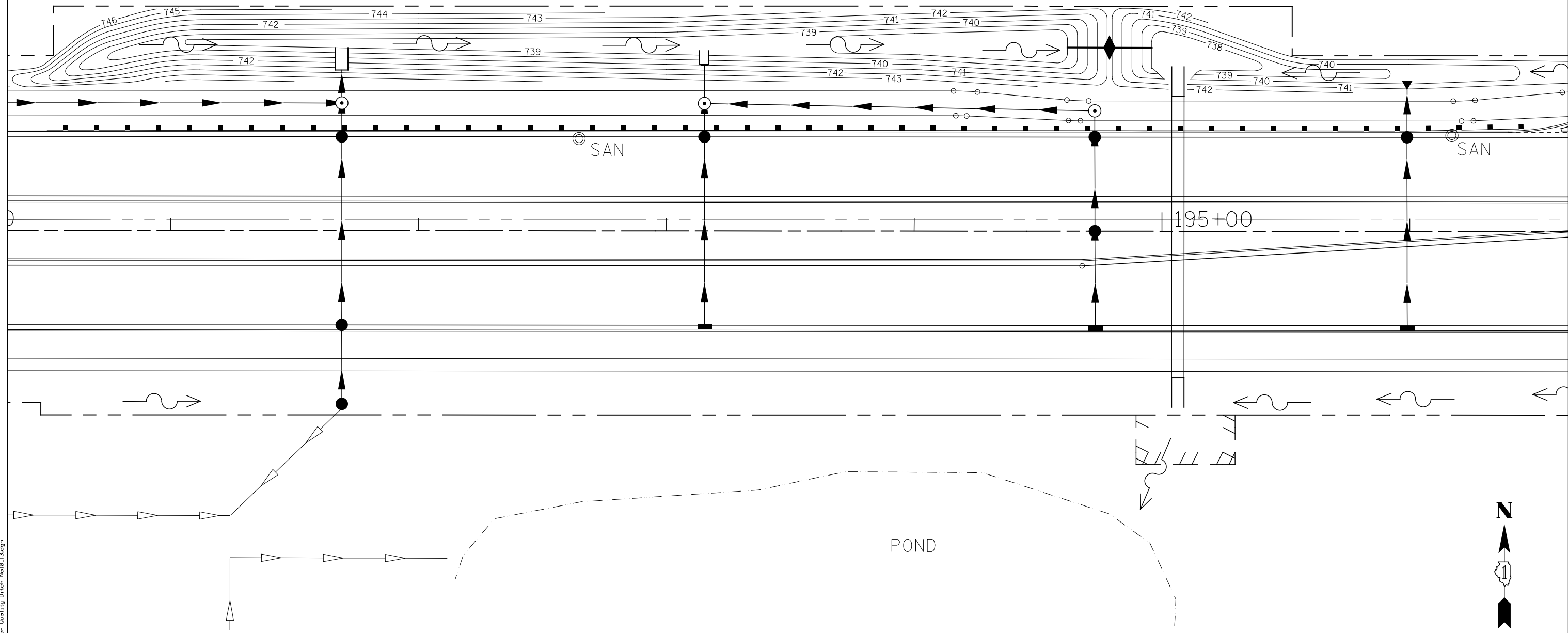
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN DETAIL - WATER QUALITY DITCH NO. 9

SCALE: AS SHOWN SHEET NO. 12 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	491
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

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NOTE
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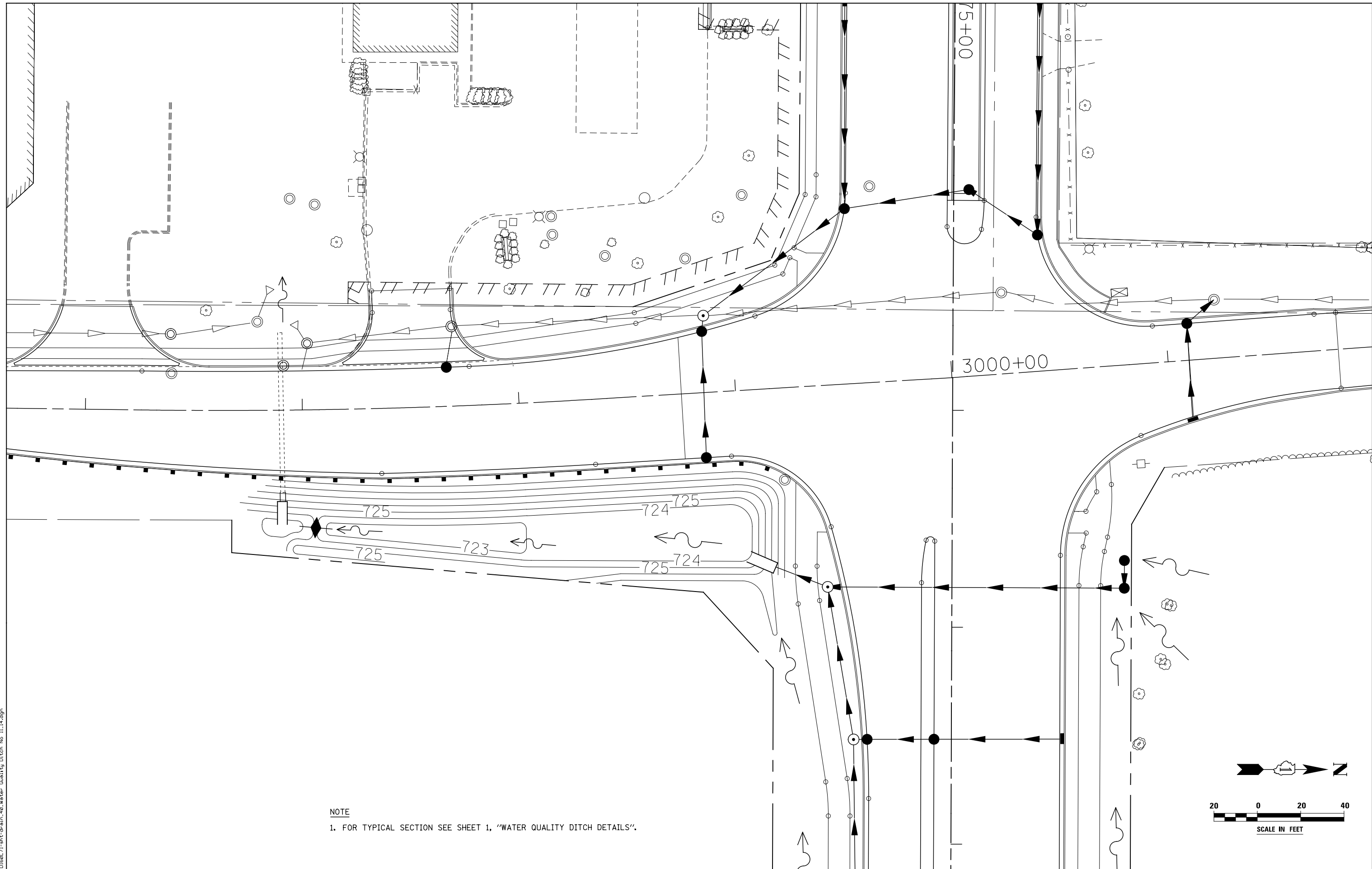
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PLOT DATE = 8/15/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN DETAIL - WATER QUALITY DITCH NO. 10
 SCALE: AS SHOWN | SHEET NO. 13 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	492
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				

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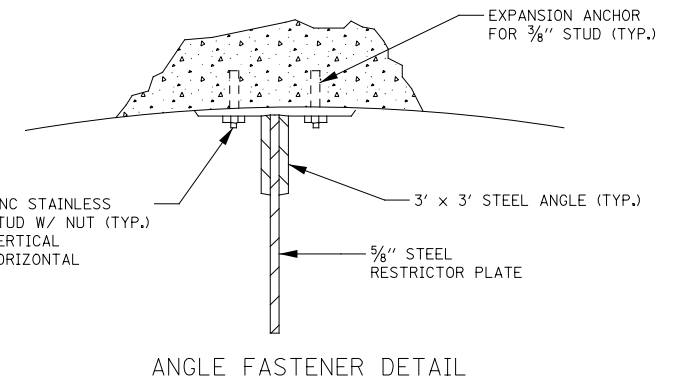
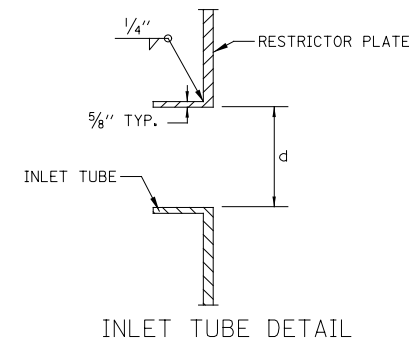
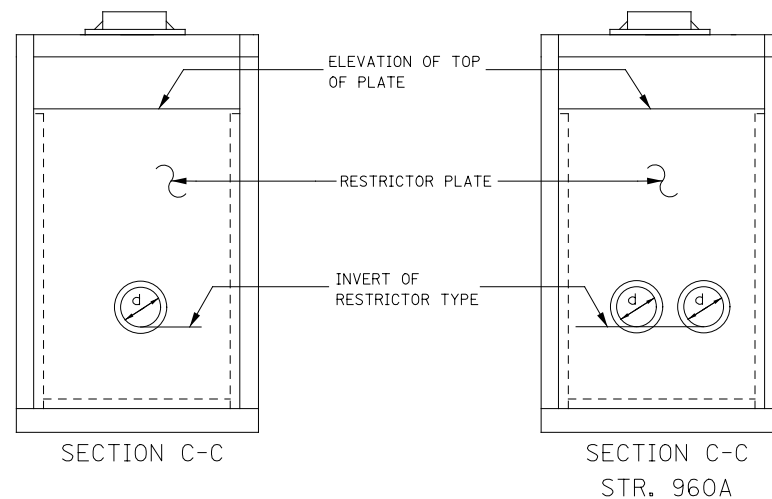
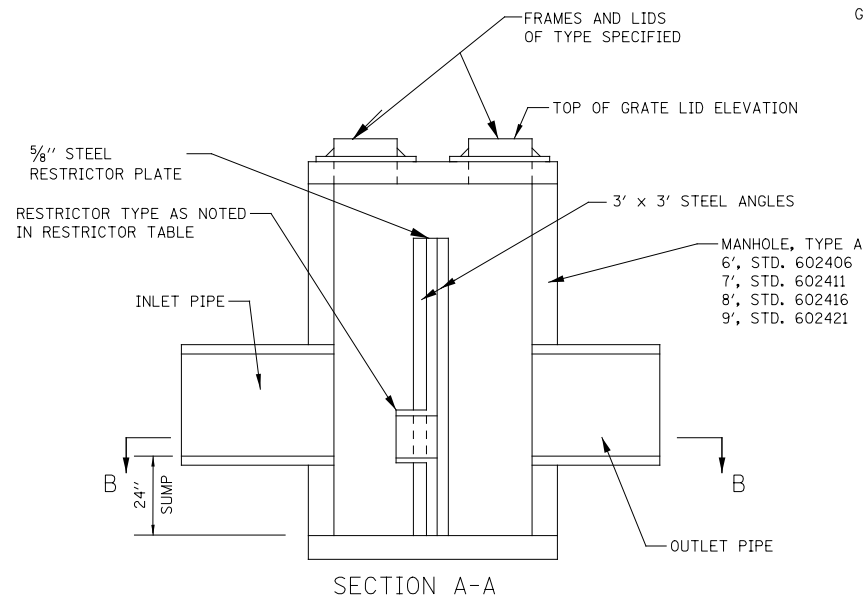
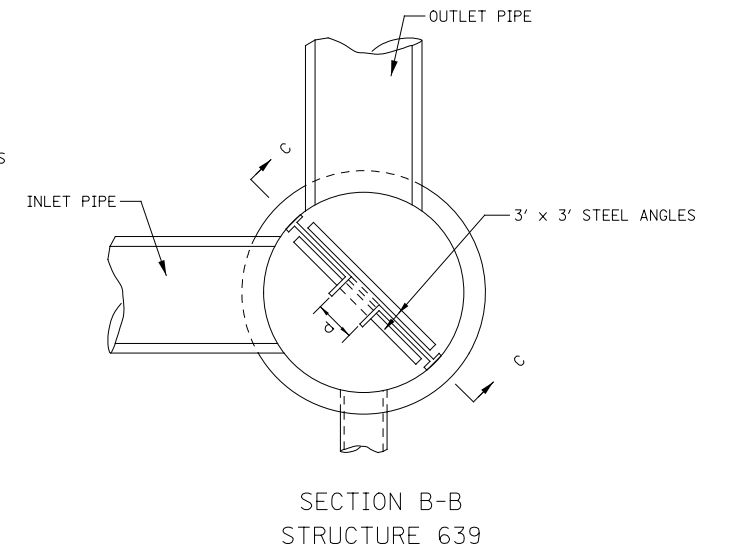
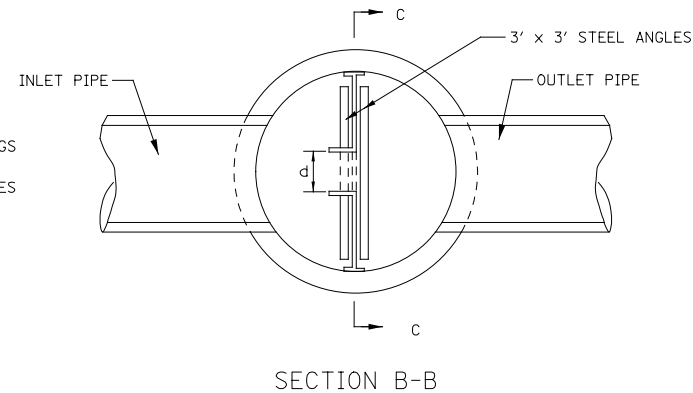
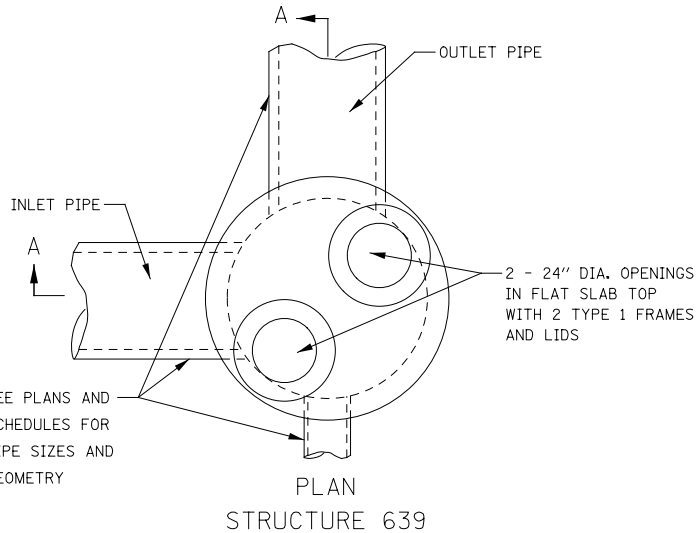
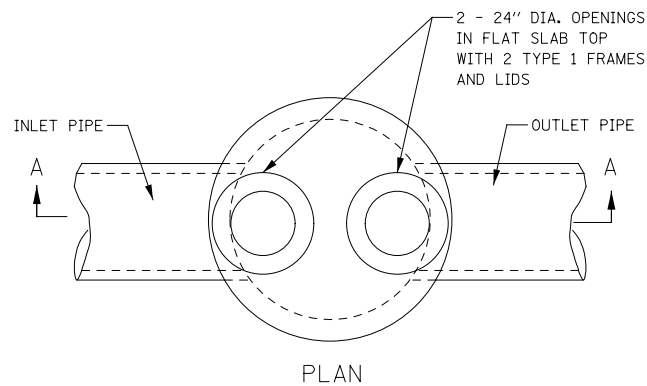
NOTE
 1. FOR TYPICAL SECTION SEE SHEET 1, "WATER QUALITY DITCH DETAILS".

USER NAME = mmaestra	DESIGNED DGB	REVISED -
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PLOT DATE = 10/20/2014	DATE 10/21/2014	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

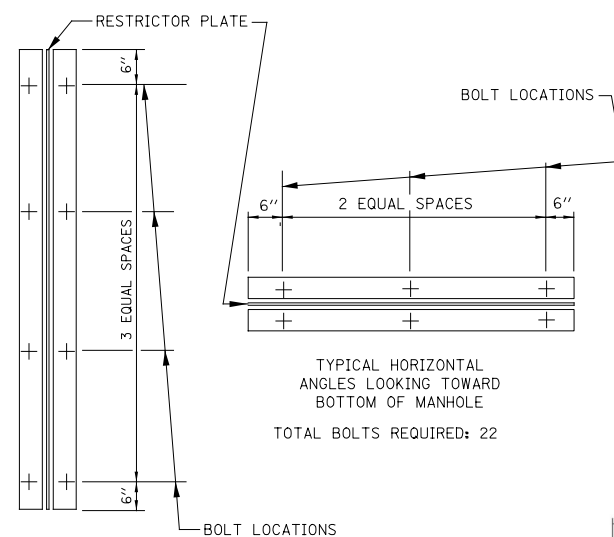
PLAN DETAIL - WATER QUALITY DITCH NO. 11
 SCALE: AS SHOWN | SHEET NO. 14 OF 14 SHEETS | STA. TO STA.

F.A.P. RTE. 351	SECTION 536-R-1	COUNTY WILL	TOTAL SHEETS 1232	SHEET NO. 493
CONTRACT NO. 60L71				
ILLINOIS FED. AID PROJECT				



- NOTES:
1. VERTICAL ANGLES SHOULD EXTEND FROM THE BOTTOM OF THE RESTRICTOR PLATE TO THE TOP.
 2. HORIZONTAL ANGLES SHOULD EXTEND FROM VERTICAL ANGLE TO VERTICAL ANGLE.
 3. ALL STEEL ANGLES AND PLATES TO BE GALVANIZED AFTER FABRICATION.
 4. BASIS OF PAYMENT: "MANHOLES, WITH RESTRICTOR PLATE" WILL BE PAID FOR AS EACH. THE PAY ITEM SHALL INCLUDE THE CONCRETE MANHOLE, THE FRAMES AND LIDS, THE RESTRICTOR PLATE AND ALL ANGLES AND HARDWARE SHOWN IN THIS DRAWING.

STR NO.*	PAY ITEM	MANHOLE DIAMETER	FRAME AND LID	RESTRICTOR TYPE	RESTRICTOR DIAMETER (d)	INVERT OF RESTRICTOR	ELEVATION OF TOP OF PLATE OVERFLOW
264	MANHOLE W/RESTRICT PLT	7'	T1-OL	2	12.25"	747.24	752.00
419	MANHOLE W/RESTRICT PLT	6'	T1-OL	2	9.0"	767.70	769.80
639	MANHOLE W/RESTRICT PLT	9'	T1-OL	2	20.0"	776.39	780.14
660	MANHOLE W/RESTRICT PLT	6'	T1-OL	2	10.0"	776.62	779.86
802	MANHOLE W/RESTRICT PLT	6'	SEE DETAIL	2	14.0"	765.50	771.26
960A	MANHOLE W/RESTRICT PLT	9'	T1-CL	2	2 x 23.5"	744.89	748.00
1030A	MANHOLE W/RESTRICT PLT	8'	T1-CL	2	14.0"	741.27	747.30
1361A	MANHOLE W/RESTRICT PLT	6'	T1-MANHOLE	2	13.0'	730.80	733.71
1364B	MANHOLE W/RESTRICT PLT	6'	T1-OL	2	13.0"	730.71	733.59
1407	MANHOLE W/RESTRICT PLT	6'	T1-CL	2	6.0"	758.03	761.63
1411	MANHOLE W/RESTRICT PLT	6'	T1-CL	2	6.0"	758.03	761.63
1907A	MANHOLE W/RESTRICT PLT	6"	T1-OL	2	12.5"	743.03	746.22

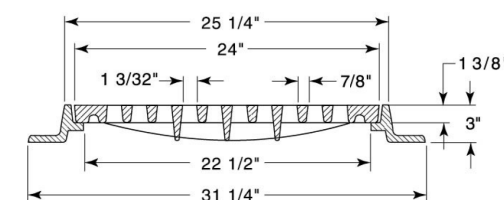


TYPICAL VERTICAL ANGLES LOOKING TOWARD MANHOLE WALL
TYPICAL HORIZONTAL ANGLES LOOKING TOWARD BOTTOM OF MANHOLE
TOTAL BOLTS REQUIRED: 22

STR. 802 FRAME AND LID SHALL MEET THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF A TYPE 1 FRAME AND LID AS SPECIFIED IN SECTION 604 OF THE STANDARD SPECIFICATIONS.

1	2	3	4	5	6
RE-ENTRANT TUBE	SHARP EDGES	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED
LENGTH 1/2 TO 1 DIA.		LENGTH 1 TO 2 DIA.	LENGTH 2-1/2 DIA.	LENGTH 2-1/2 DIA.	
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98

VALUES OF "C" FOR CIRCULAR AND SQUARE ORIFICES



STR. 802 FRAME AND LID DETAIL



- * REFER TO PROPOSED STRUCTURE SCHEDULE FOR STRUCTURE STATION, OFFSET, RIM ELEVATION, AND INVERTS.
- ** REMOVAL OF EXISTING STORM SEWER FOR RESTRICTOR MANHOLE PLACEMENT TO BE INCLUDED IN THE COST OF "MANHOLE WITH RESTRICTOR PLATE"
- *** ALL UNDERDRAIN OUTLETING TO "MANHOLE WITH RESTRICTOR PLATE" SHALL BE CONNCTED DOWNSTREAM OF RESTRICTOR.

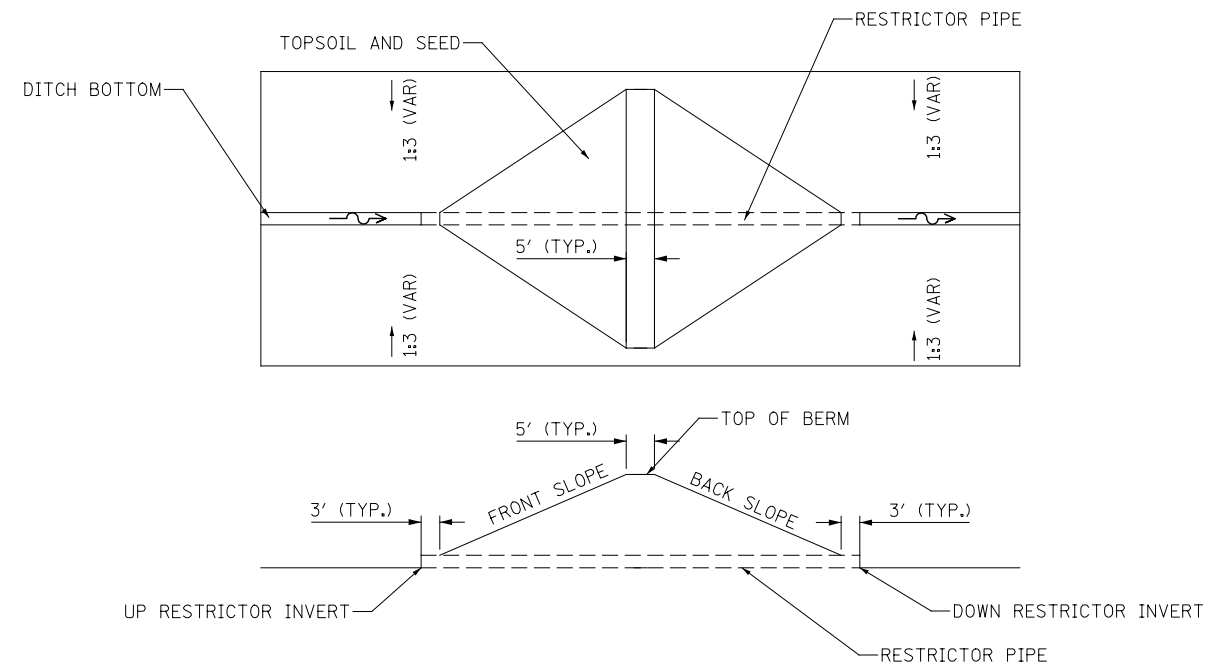
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PLOT SCALE = 1:40.0003	DRAWN SAN	REVISED -
PLOT DATE = 8/15/2014	CHECKED PJO	REVISED -
	DATE 8/15/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS MANHOLES, WITH RESTRICTOR PLATE	
SCALE: AS SHOWN	SHEET NO. 1 OF 2 SHEETS
STA.	TO STA.

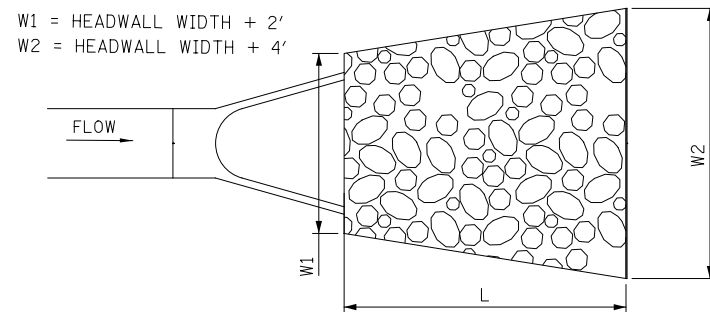
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	494
DD-01			CONTRACT NO. 60L71	
ILLINOIS FED. AID PROJECT				

FILE NAME = D:\60L71\sh-t-dra\in_41_DISTANDARD-B012.dgn



DITCH CHECK #	STATION	PAY ITEM	RESTRICTOR PIPE DIAMETER	UP RESTRICTOR INVERT	DOWN RESTRICTOR INVERT	ELEVATION OF TOP OF BERM	FRONT SLOPE	BACK SLOPE	PIPE LENGTH
1	60+76	STORM SEW CL A 1 12"	12"	771.05	771.03	773.50	1:4	1:4	29'
2	61+10	STORM SEW CL A 1 12"	12"	771.05	771.03	773.50	1:4	1:4	30'
3	71+84	STORM SEW CL A 1 18"	18"	768.78	768.73	772.50	1:4	1:4	30'
4	194+94	STORM SEW CL A 1 15"	15"	737.55	737.50	742.00	1:4	1:4	44'
5	2997+06	STORM SEW CL A 1 12"	12"	723.00	722.60	724.85	1:4	1:4	21'
6	71+30	STORM SEW CL A 1 10"	10"	768.97	768.90	770.44	1:4	1:4	17'
7	72+00	STORM SEW CL A 1 10"	10"	768.95	768.88	770.41	1:4	1:4	17'

DITCH CHECK WITH RESTRICTOR PIPE



STONE DUMPED RIPRAP

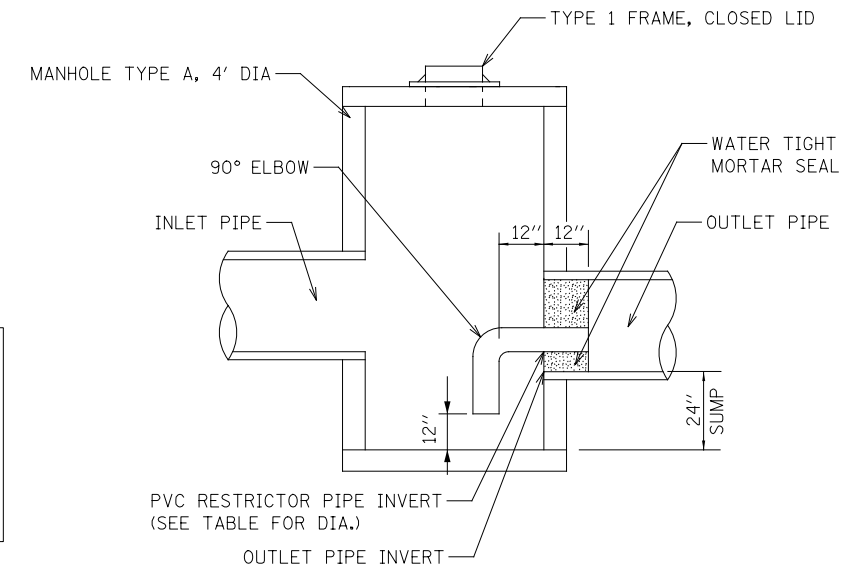
STONE DUMPED RIPRAP, CLASS A5

STRUCTURE NUMBER	CULVERT SIZE	W1 (FEET)	W2 (FEET)	L (FEET)	RIP RAP (SQ YD)	FILTER FABRIC (SQ YD)
25	18	6	8	14	11	11
29	18	6	8	14	11	11
224A	24	7	9	10	8	8
265	24	7	9	10	8	8
325	24	7	9	16	13	13
420	24	7	9	16	13	13
511	18	6	8	6	3	3
522	24	7	9	7	6	6
526	18	6	8	7	5	5
544	30	7	9	8	7	7
559	30	7	9	18	16	16
770	18	6	8	14	11	11
776	30	7	9	18	16	16
954	30	7	9	10	9	9
1822	30	7	9	16	15	15
WATER QUALITY DITCH NO. 1					-	20
TOTAL					172	172

STONE DUMPED RIPRAP, CLASS A7

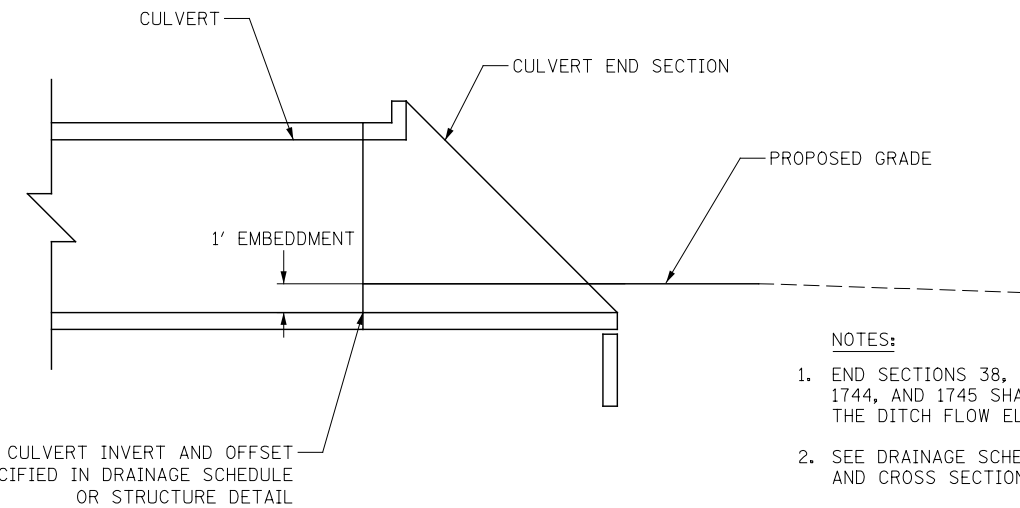
STRUCTURE NUMBER	CULVERT SIZE	W1 (FEET)	W2 (FEET)	L (FEET)	RIP RAP (SQ YD)	FILTER FABRIC (SQ YD)
39	5' X 3'	10	12	8	9	9
117	48	9	11	24	26	26
267	72	SEE PLANS			29	29
269	72	SEE PLANS			6	6
561	2 3' X 2'	14	16	24	40	40
669	5' X 3'	SEE PLANS			4	4
747	48	8	10	7	17	17
936	54	10	12	28	33	33
1213	4' X 3'	10	12	16	19	19
1553A	6' X 3'	11	13	20	26	26
1664	42	8	10	14	13	13
1745	6' X 6'	SEE PLANS			13	13
TOTAL					235	235

STR. No.	PVC RESTRICTOR PIPE DIAMETER	PVC RESTRICTOR PIPE INVERT
1520	4"	750.44
1527A	2"	747.50



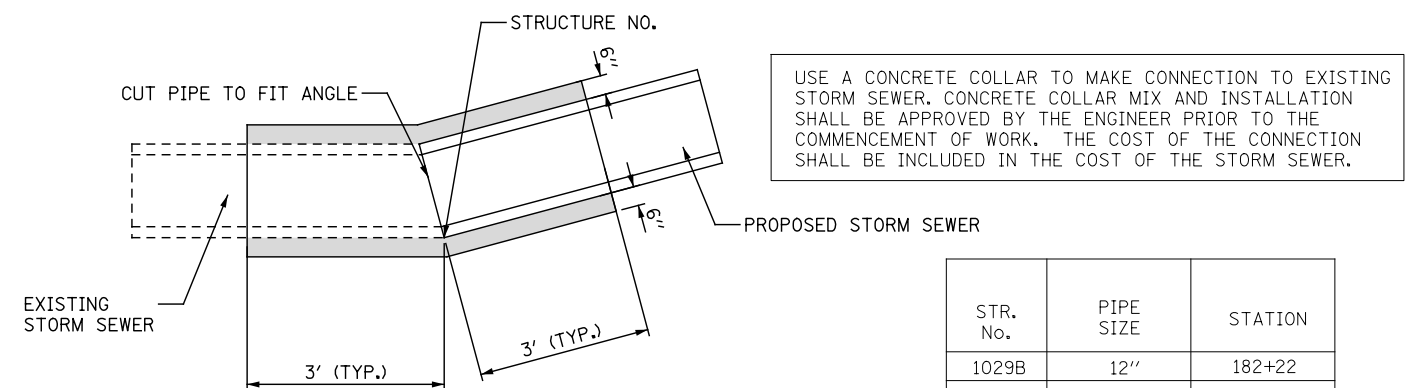
USE PVC PIPE AND 90 DEGREE ELBOW TO CONSTRUCT RESTRICTOR PIPE AS SHOWN IN DETAIL. MORTAR THE RESTRICTOR PIPE INTO THE OUTLET PIPE CREATING A WATER TIGHT SEAL. ALL MATERIALS INCLUDING PVC PIPE AND MORTAR MIX SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTING THE RESTRICTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE MANHOLE.

PVC RESTRICTOR PIPE



EMBEDDED CULVERTS

- NOTES:
1. END SECTIONS 38, 39, 116, 117, 266, 267, 268, 269, 1744, AND 1745 SHALL BE EMBEDDED 1 FOOT BELOW THE DITCH FLOW ELEVATION.
 2. SEE DRAINAGE SCHEDULES, STRUCTURE DETAILS, AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.
 3. DETAIL APPLIES TO BOTH PIPE AND BOX CULVERT END SECTIONS.



STR. No.	PIPE SIZE	STATION
1029B	12"	182+22
1367	12"	202+94
1551	24"	230+35

CONCRETE PIPE COLLAR

FILE NAME = D:\60L71\sh-t-drain_42_DITCH CHECK DETAIL.dgn

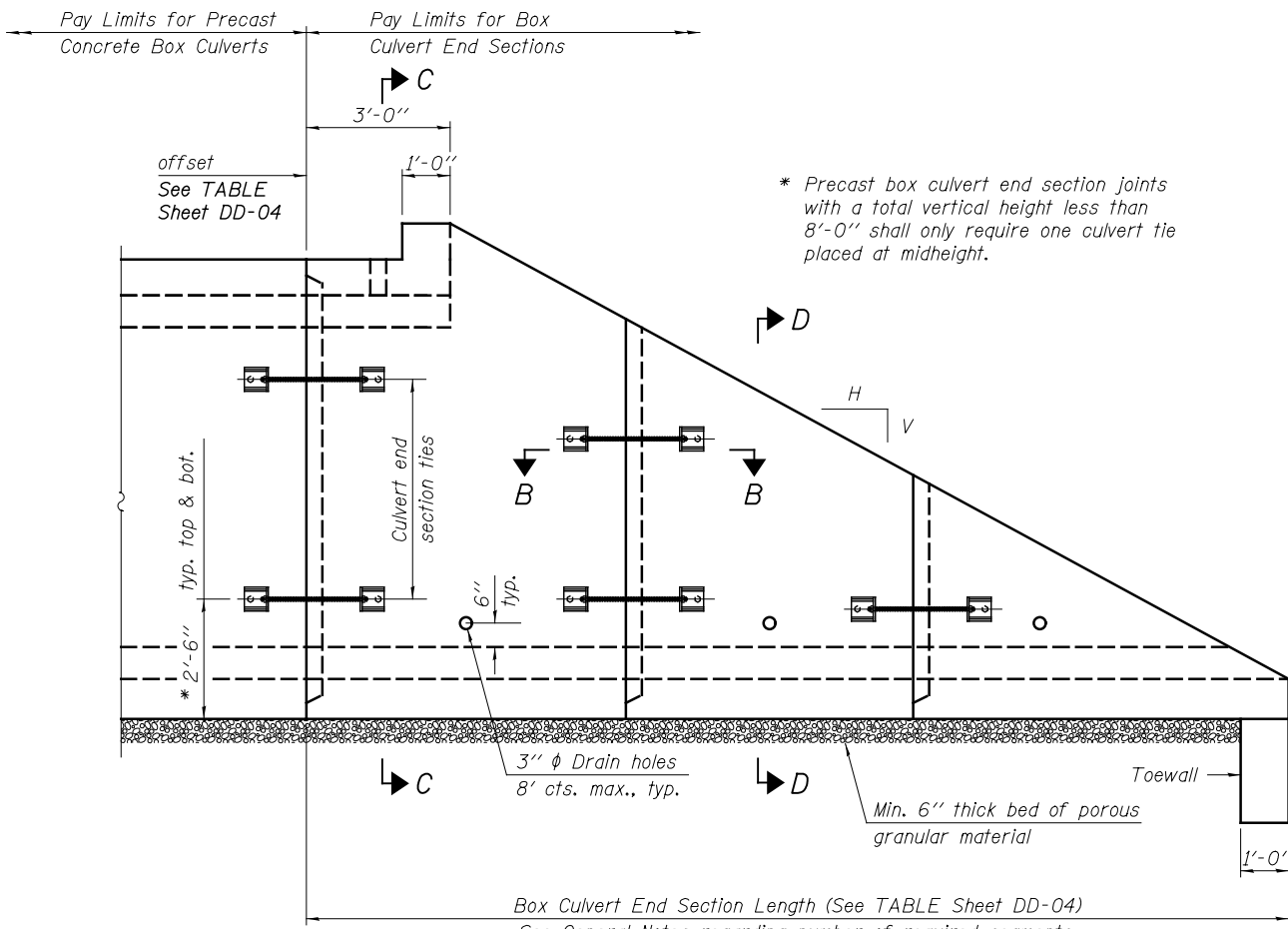
USER NAME = mmaestro	DESIGNED SAN	REVISED -
PLOT SCALE = 1:40.0003	DRAWN SAN	REVISED -
PLOT DATE = 10/20/2014	CHECKED PJO	REVISED -
	DATE 10/21/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS

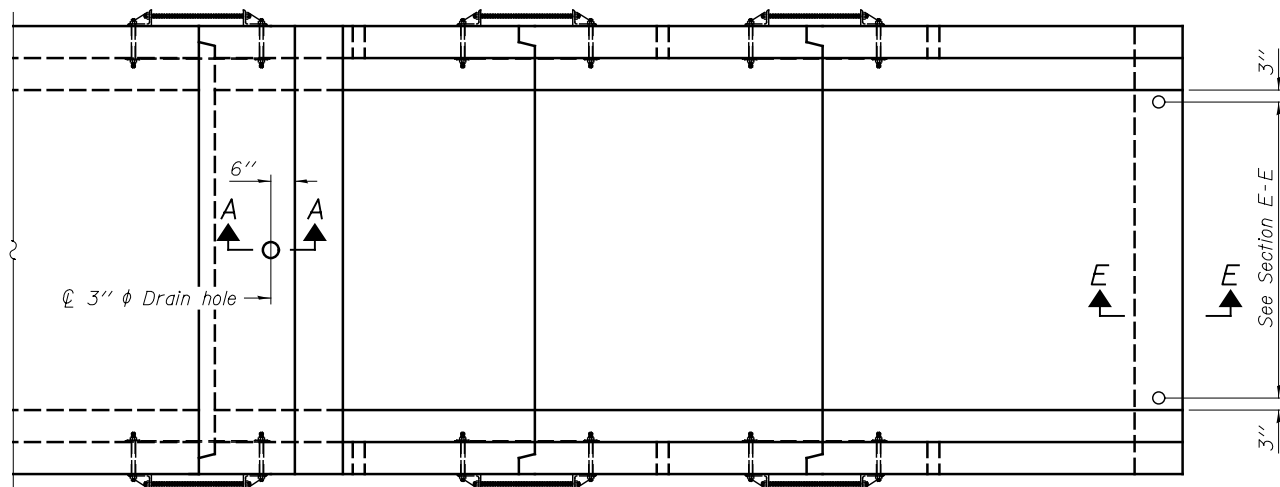
SCALE: AS SHOWN SHEET NO. 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	495
DD-02			CONTRACT NO. 60L71	
ILLINOIS FED. AID PROJECT				

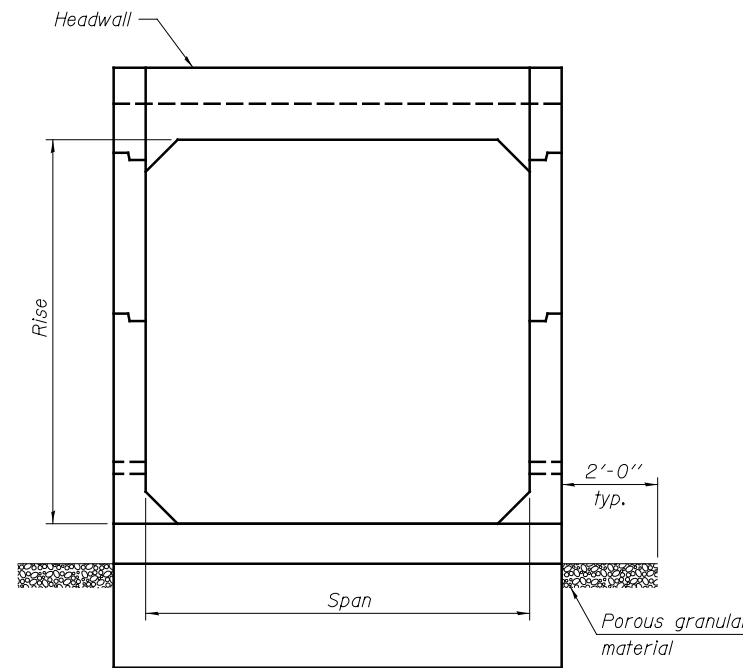


ELEVATION

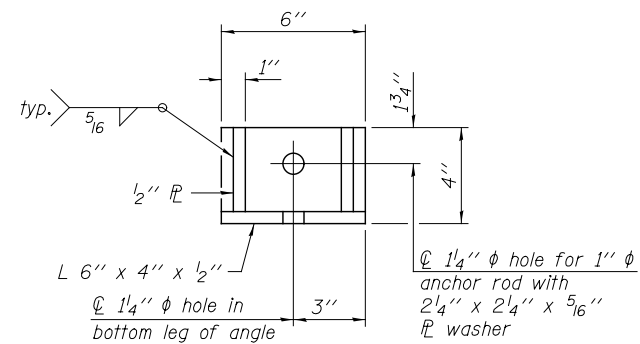
Box Culvert End Section Length (See TABLE Sheet DD-04)
See General Notes regarding number of required segments.



PLAN



END VIEW



RESTRAINT ANGLE DETAIL

12" x 12" x 6" block of CA5, CA7, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.

3" φ PVC drain cast with the concrete (Adjust location to clear reinforcement).

1/2" Square foam blockout around PVC drain (to be removed with formwork)

SECTION A-A

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each as indicated in the TABLE on Sheet DD-04. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See the TABLE on Sheet DD-04 for embankment slope (V:H).

1" φ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

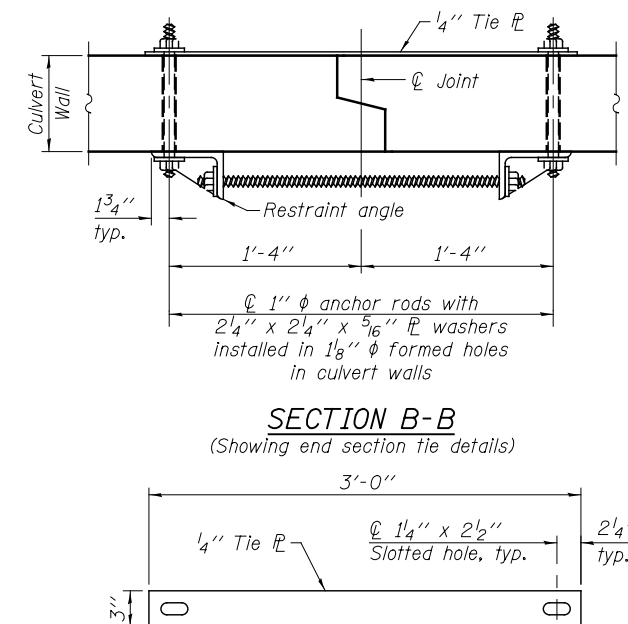
All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Reinforcement bars designated (E) shall be epoxy coated.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..

For end sections with traversable pipe grate systems, see grate detail on Sheet DD-07 for required modifications.



TIE PLATE DETAIL

USER NAME = mmaestra	DESIGNED TB	REVISED -
	DRAWN SMA	REVISED -
PLOT SCALE = 1:2.000001	CHECKED WPM	REVISED -
PLOT DATE = 8/18/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE DETAILS
SINGLE CELL BOX CULVERT TAPERED END SECTIONS**

SCALE: AS SHOWN SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	496
DD-03		CONTRACT NO. 60L71		
ILLINOIS FED. AID PROJECT				

A _{slm} REINFORCEMENT											
(in. ² /ft)											
Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
4	0.19	0.17									
5	0.26	0.21	0.18								
6	0.22	0.26	0.23	0.22							
7	0.25	0.33	0.29	0.27	0.28						
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40				
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48			
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56		
11	0.52	0.45	0.54		0.46		0.41		0.50	0.65	
12	0.55	0.49	0.58		0.50		0.45		0.46		0.75

(A_{slm} reinforcement based upon welded wire fabric conforming to AASHTO M 55 or M 221).

Notes:

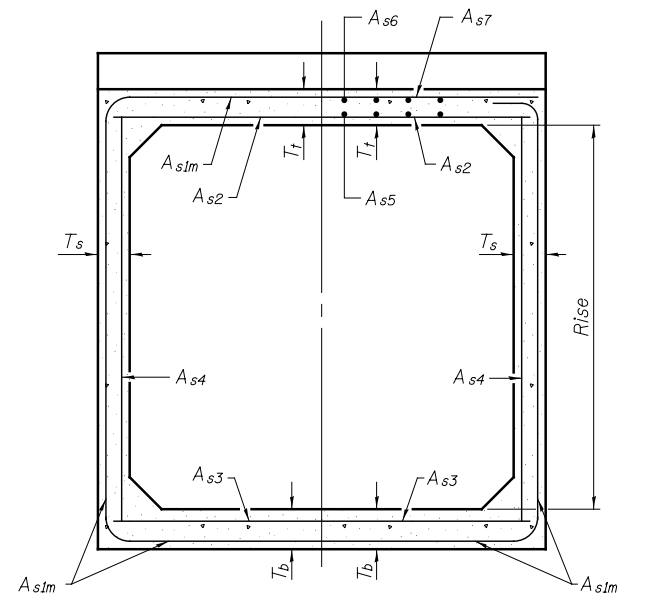
Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

The size and spacing of the v₂(E) bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(A_{slm}). v₂(E) bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

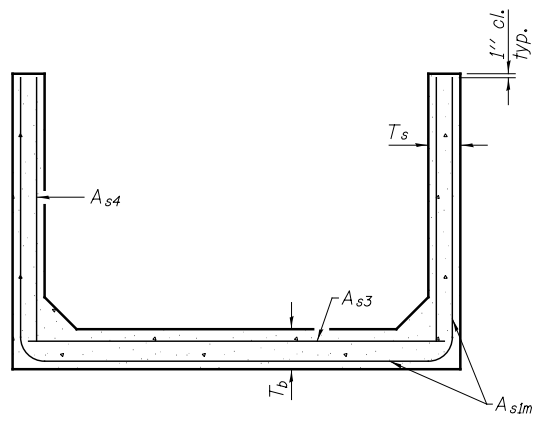
l₁ DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

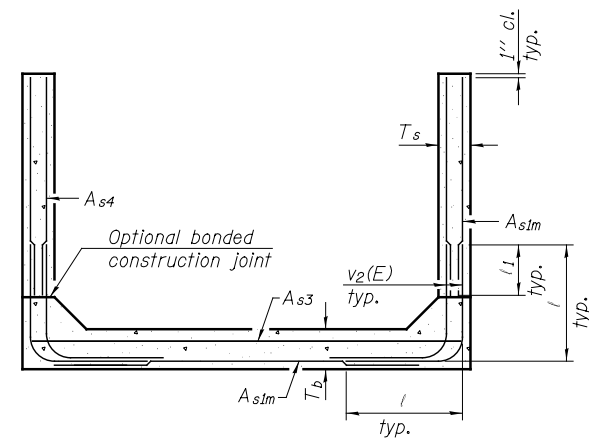


(Design Earth Cover ≥ 2 ft) (Design Earth Cover < 2 ft)

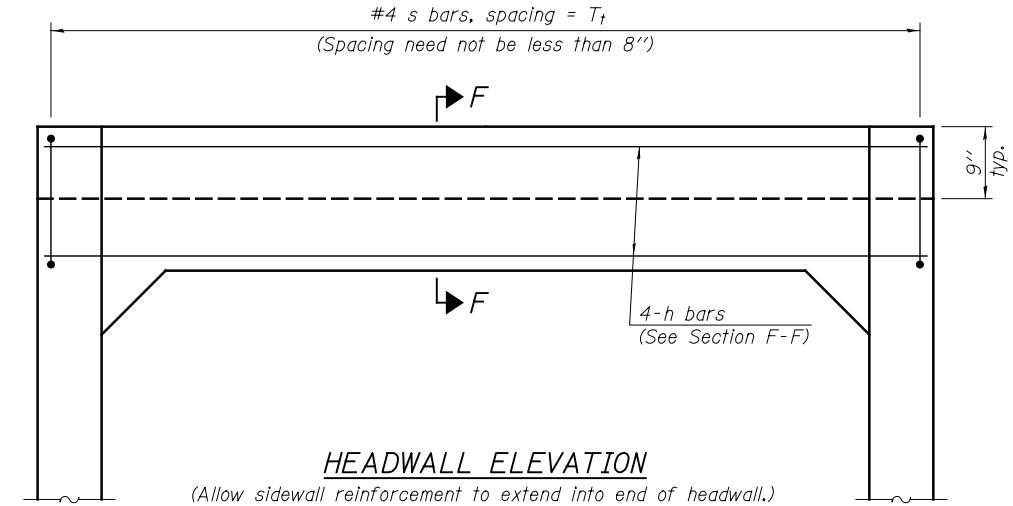
SECTION C-C



SECTION D-D



ALTERNATE SECTION D-D



HEADWALL ELEVATION

(Allow sidewall reinforcement to extend into end of headwall.)

SINGLE CELL BOX CULVERT END SECTIONS TABLE

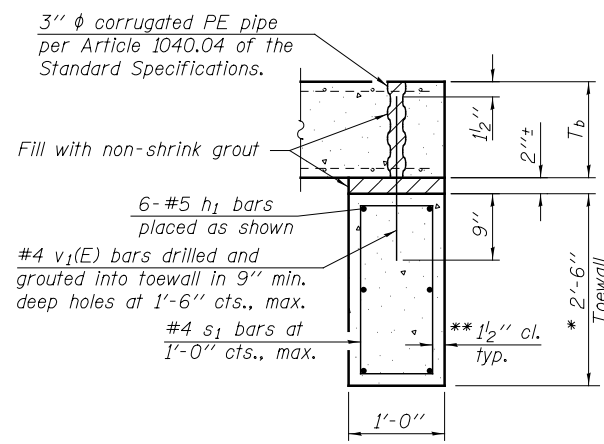
ITEM	UNIT	QUANTITY	DRAINAGE STRUCTURES			SPAN X RISE	SLOPE (V:H)	LENGTH	
			NO.	STATION	OFFSET				INVERT
Box Culvert End Sections, Culvert No. 1	Each	1	38	16+81	49' RT	741.50	5 x 3	1:2	11'-10"
Box Culvert End Sections, Culvert No. 2	Each	1	39	16+81	57' LT	741.30	5 x 3	1:3	16'-3"
Box Culvert End Sections, Culvert No. 5	Each	1	668	99+96	62' LT	776.00	5 x 3	1:2	11'-10"
Box Culvert End Sections, Culvert No. 6	Each	1	669	99+96	62' RT	775.50	5 x 3	1:3	16'-3"
Box Culvert End Sections, Culvert No. 7	Each	1	1212	195+06	55' LT	737.50	4 x 3	1:2	11'-10"
Box Culvert End Sections, Culvert No. 8	Each	1	1213	195+06	59' RT	737.10	4 x 3	1:2	11'-10"
Box Culvert End Sections, Culvert No. 9	Each	1	1553A	230+23	56' RT	740.99	6 x 3	1:2	11'-10"
Box Culvert End Sections, Culvert No. 10	Each	1	1744	263+13	65' LT	709.20	6 x 6	1:2	17'-10"
Box Culvert End Sections, Culvert No. 11	Each	1	1745	263+13	65' RT	709.00	6 x 6	1:2	17'-10"

TOEWALL CONSTRUCTION SEQUENCE

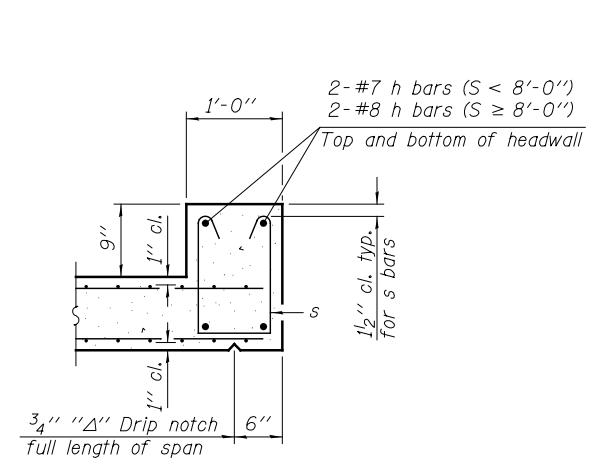
1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling the method.

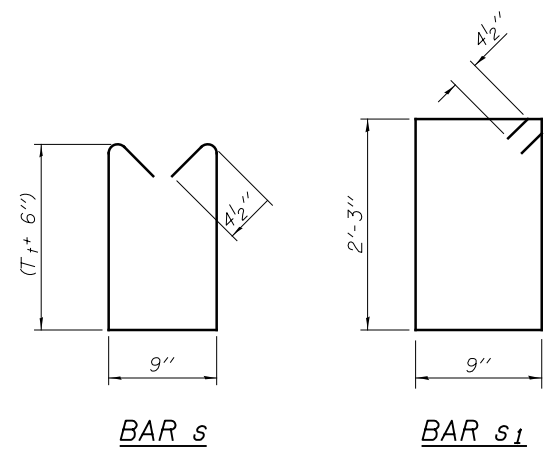
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION E-E



SECTION F-F



BAR s

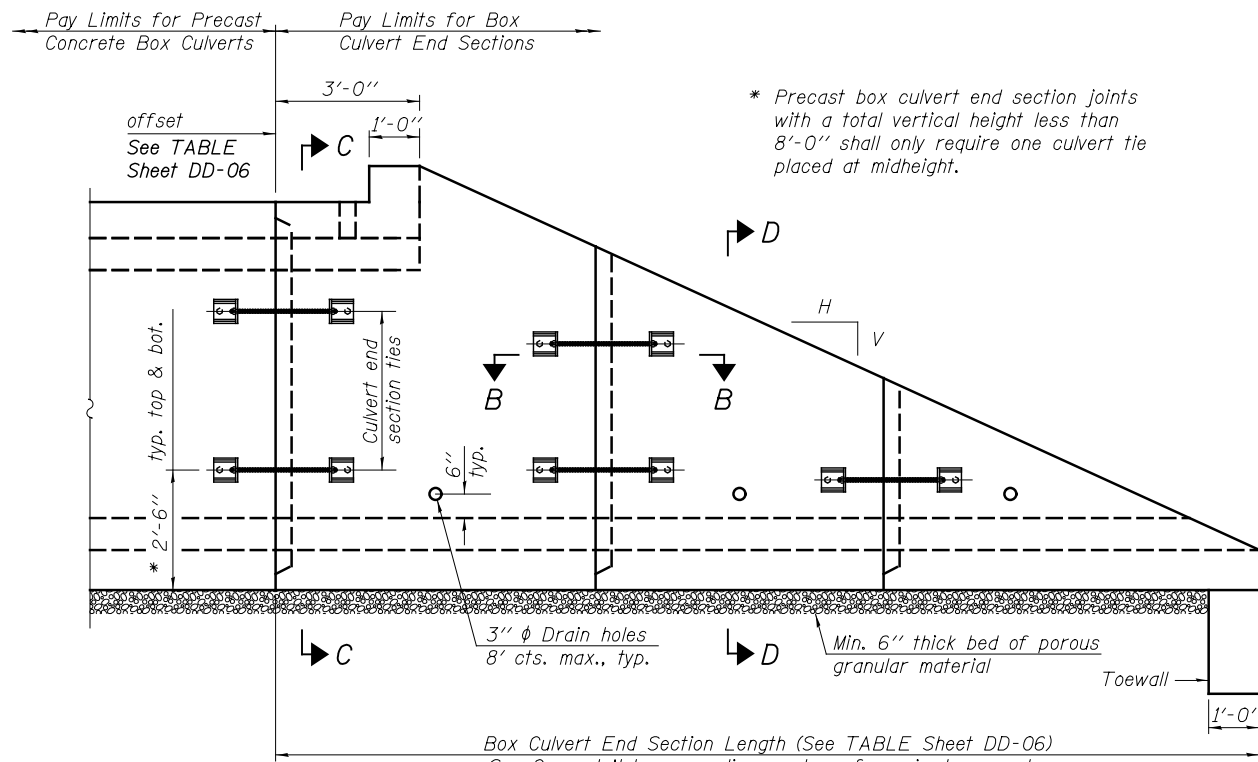
BAR s1

USER NAME = mmaestra	DESIGNED TB	REVISED -
DRAWN SMA	REVISOR SMA	REVISED -
PLOT SCALE = 1:2.00001	CHECKED WPM	REVISED -
PLOT DATE = 8/18/2014	DATE 8/15/2014	REVISED -

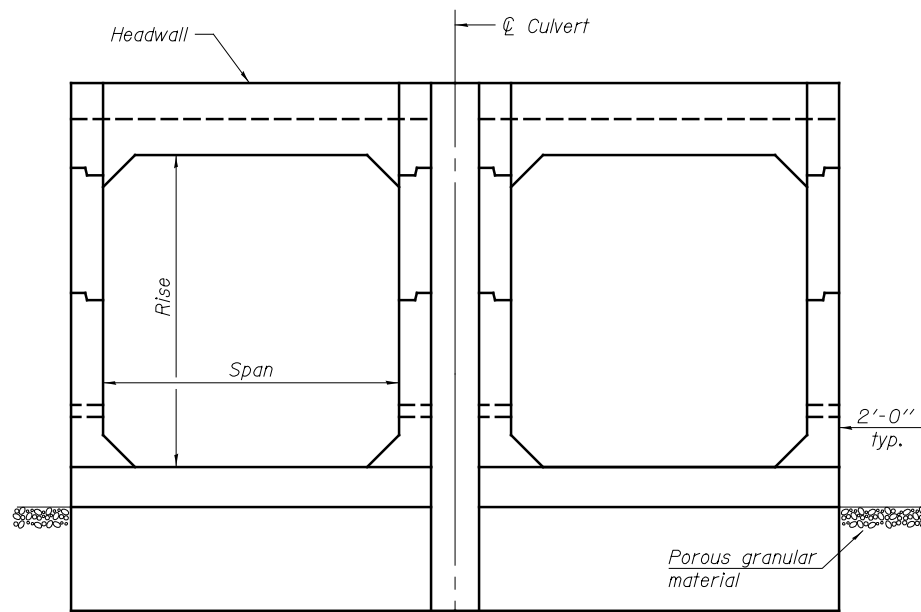
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS	
SINGLE CELL BOX CULVERT TAPERED END SECTIONS	
SCALE: AS SHOWN	SHEET NO. 2 OF 2 SHEETS
STA. TO STA.	

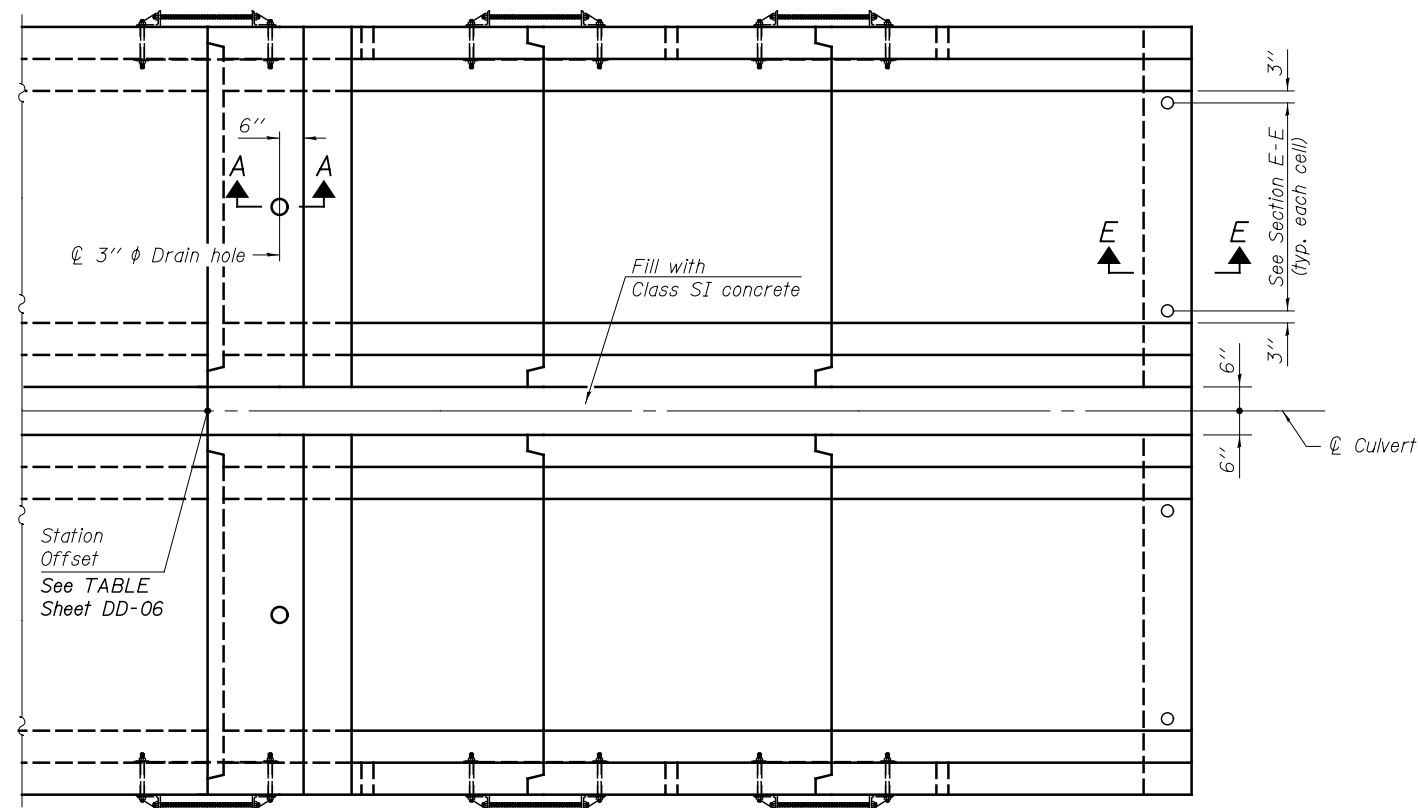
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	497
DD-04		CONTRACT NO. 60L71		
ILLINOIS FED. AID PROJECT				



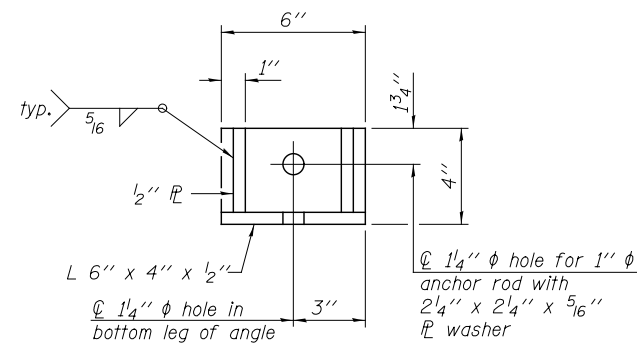
ELEVATION



END VIEW



PLAN



RESTRAINT ANGLE DETAIL

12" x 12" x 6" block of CA5, CA7, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.

3" ϕ PVC drain cast with the concrete (Adjust location to clear reinforcement).

1/2" Square foam blockout around PVC drain (to be removed with formwork)

SECTION A-A

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each as indicated in the TABLE on Sheet DD-06. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See the TABLE on Sheet DD-06 for embankment slope (V:H).

1" ϕ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

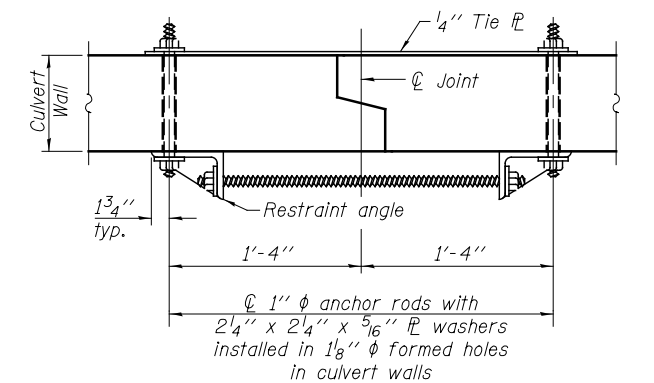
All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Reinforcement bars designated (E) shall be epoxy coated.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

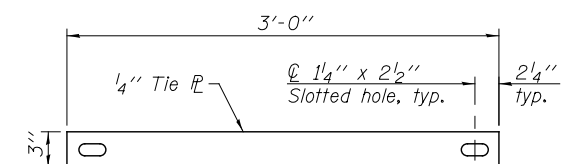
Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd.

The 1'-0" nominal space between adjacent end sections shall be filled with Class SI concrete in accordance with Article 540.06 of the Standard Specifications. Cost included with Box Culvert End Sections.



SECTION B-B

(Showing end section tie details)



TIE PLATE DETAIL

USER NAME = mmaestra	DESIGNED TB	REVISED -
	DRAWN SMA	REVISED -
PLOT SCALE = 1:2.00001	CHECKED WPM	REVISED -
PLOT DATE = 8/18/2014	DATE 8/15/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE DETAILS
MULTI-CELL BOX CULVERT TAPERED END SECTIONS**

SCALE: AS SHOWN SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	498
DD-05			CONTRACT NO. 60L71	
ILLINOIS FED. AID PROJECT				

A _{slm} REINFORCEMENT											
(in. ² /ft)											
Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
4	0.19	0.17									
5	0.26	0.21	0.18								
6	0.22	0.26	0.23	0.22							
7	0.25	0.33	0.59	0.27	0.28						
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40				
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48			
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56		
11	0.52	0.45	0.54		0.46		0.41		0.50	0.65	
12	0.55	0.49	0.58		0.50		0.45		0.46		0.75

(A_{slm} reinforcement based upon welded wire fabric conforming to AASHTO M 55 or M 221).

Notes:

Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

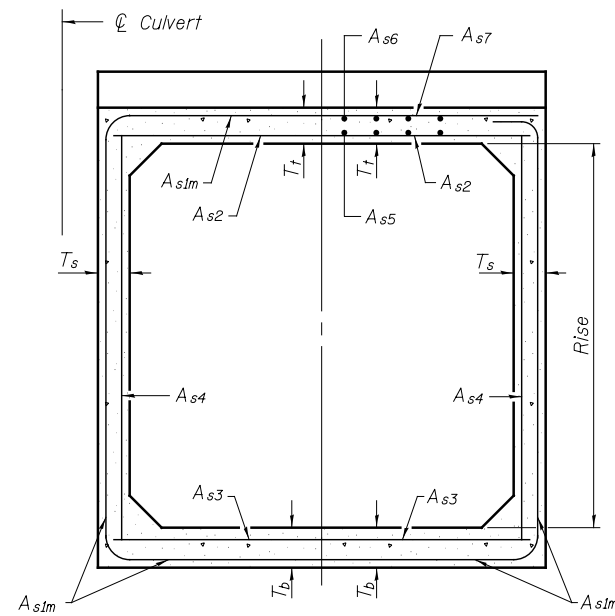
The size and spacing of the v₂(E) bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(A_{slm}). v₂(E) bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

Sections C-C, D-D, and Headwall Elevation are symmetric about ϕ culvert through 180° rotation.

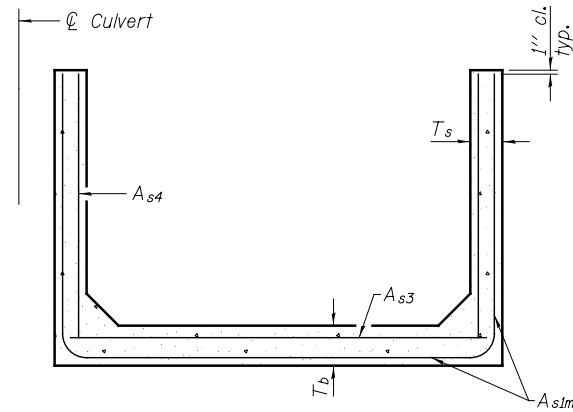
l₁ DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

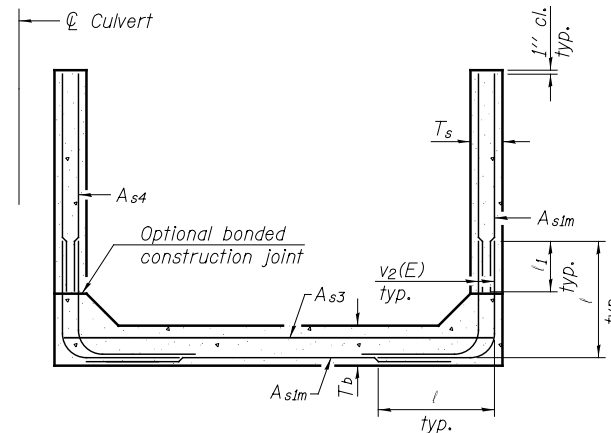


(Design Earth Cover < 2 ft)

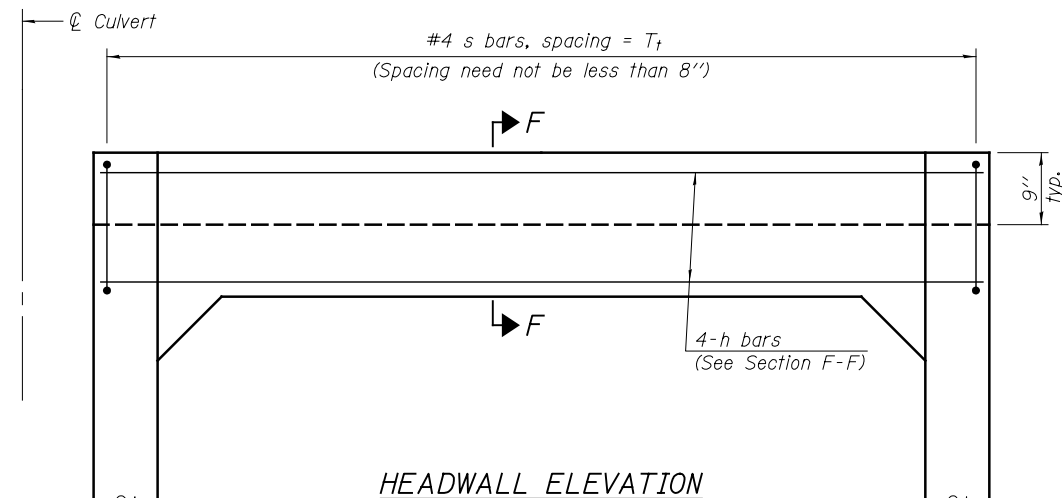
SECTION C-C



SECTION D-D



ALTERNATE SECTION D-D



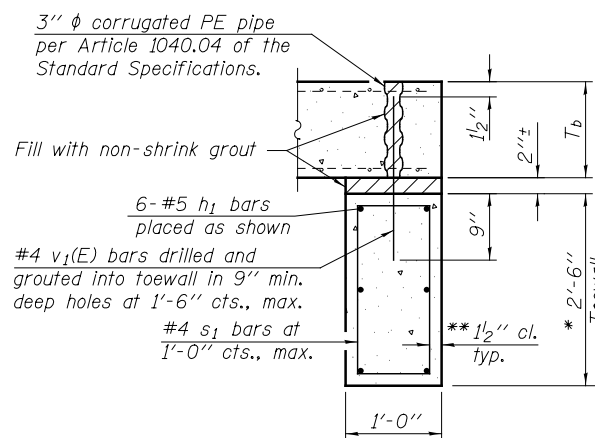
(Allow sidewall reinforcement to extend into end of headwall.)

TOEWALL CONSTRUCTION SEQUENCE

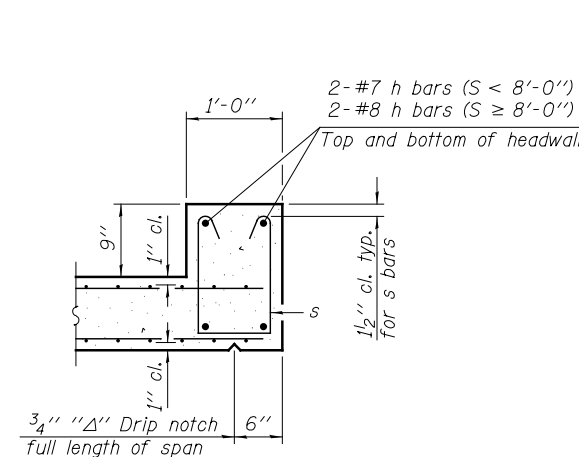
1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

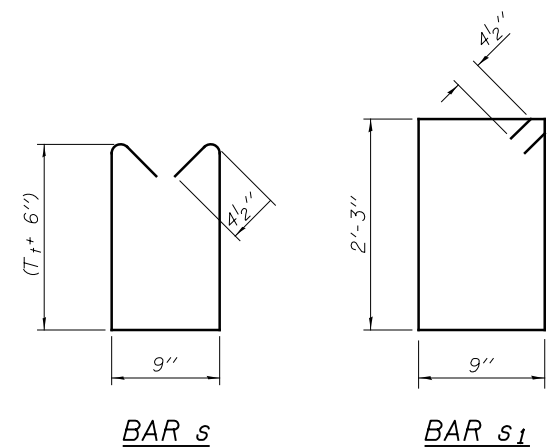
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION E-E



SECTION F-F



MULTI-CELL BOX CULVERT END SECTIONS TABLE

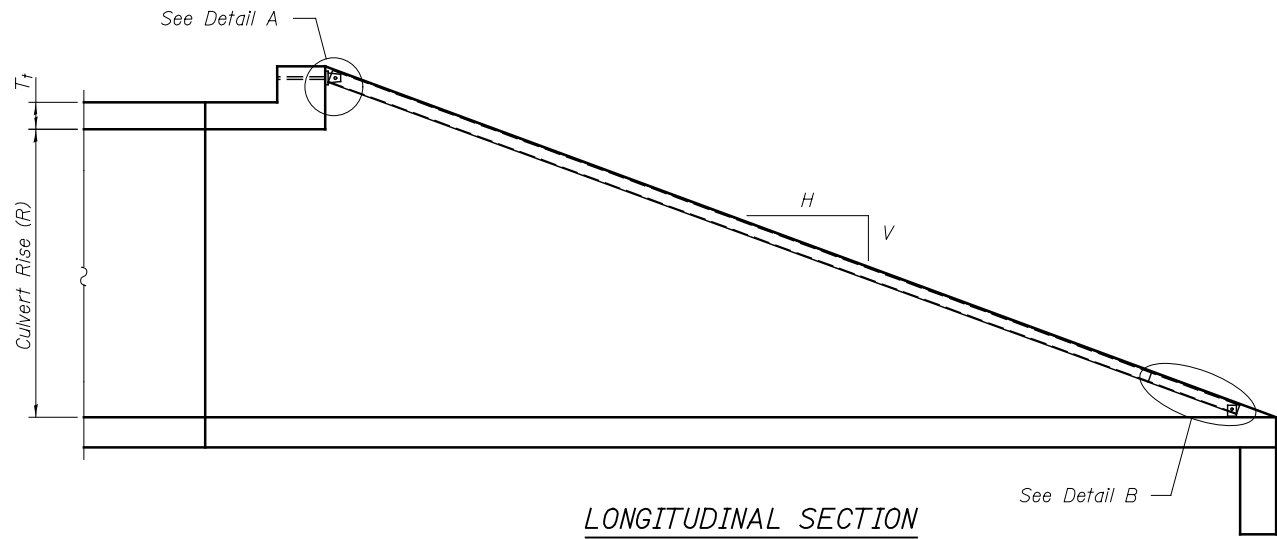
ITEM	UNIT	QUANTITY	DRAINAGE STRUCTURES			SPAN X RISE	SLOPE (V:H)	LENGTH	
			NO.	STATION	OFFSET				INVERT
Box Culvert End Sections, Culvert No. 3	Each	1	560	71+47	57.5' LT	768.80	3 x 2	1:2	9'-8"
Box Culvert End Sections, Culvert No. 4	Each	1	561	71+47	50.5' RT	768.70	3 x 2	1:2	9'-8"

USER NAME = mmaestra	DESIGNED TB	REVISED -
	DRAWN SMA	REVISED -
PLOT SCALE = 1:2,000,001	CHECKED WPM	REVISED -
PLOT DATE = 8/18/2014	DATE 8/15/2014	REVISED -

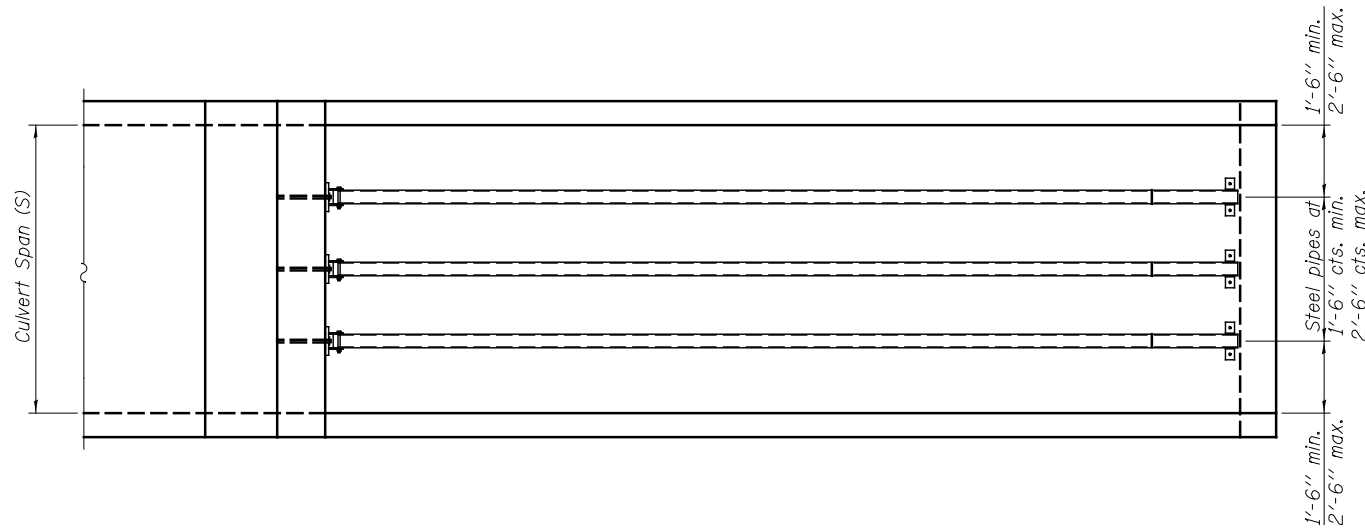
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DRAINAGE DETAILS	
MULTI-CELL BOX CULVERT TAPERED END SECTIONS	
SCALE: AS SHOWN	SHEET NO. 2 OF 2 SHEETS
STA.	TO STA.

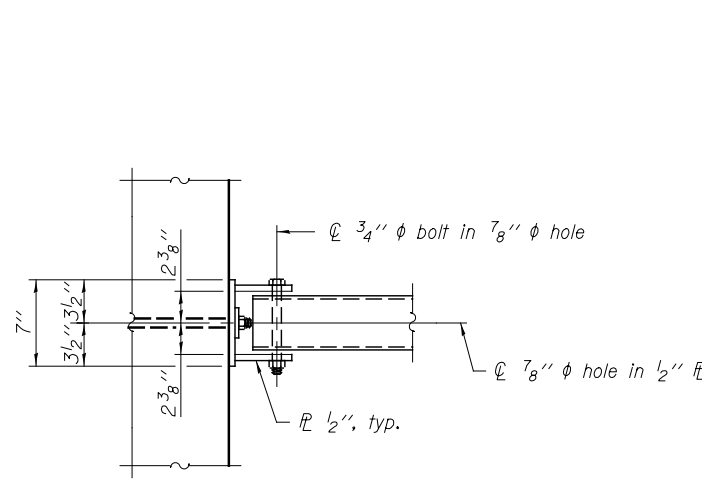
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	499
DD-06		CONTRACT NO. 60L71		
ILLINOIS FED. AID PROJECT				



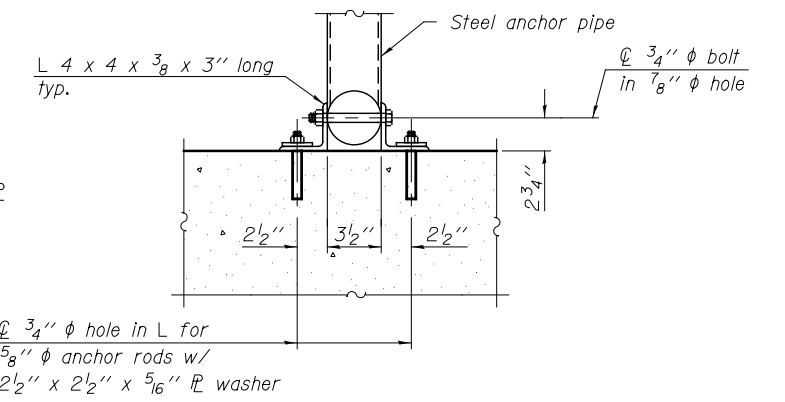
LONGITUDINAL SECTION



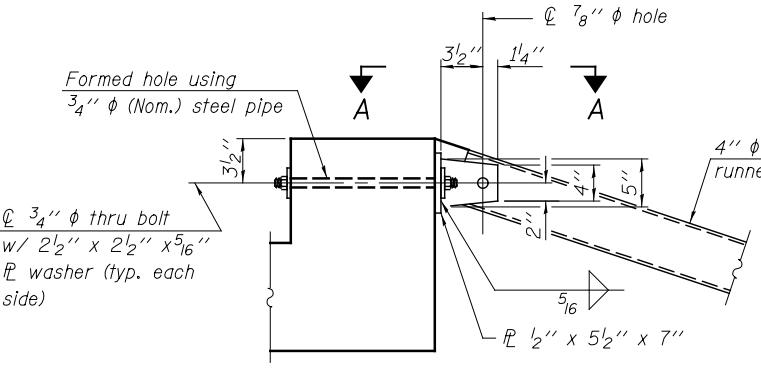
PLAN VIEW



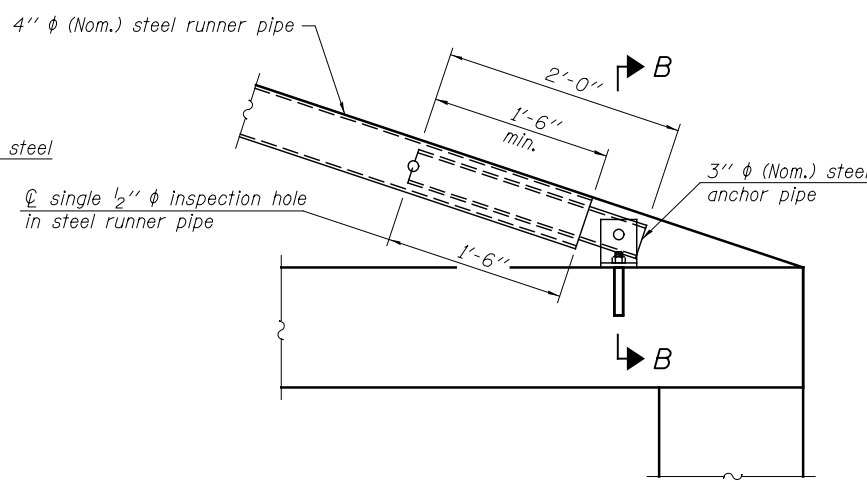
VIEW A-A



SECTION B-B



DETAIL A



DETAIL B

GENERAL NOTES

The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2" unless noted otherwise.

The Contractor may install the thru bolts using core bits for drilling and grouting in lieu of providing a formed hole using steel pipe. Installation shall be in accordance with Article 509.06 using a method that results in the annulus surrounding the bolt being completed filled with adhesive. The method of drilling shall not result in spalled concrete at the exit face. Epoxy grouted thru bolts shall be snug tightened followed by an additional 1/3 turn on the interior nut at final installation. Cost included with Traversable Pipe Grate.

See Drainage Schedules for locations and quantities of Traversable Pipe Grate.

USER NAME = mmaestra	DESIGNED TB	REVISED -
DRAWN SMA	REVISOR	REVISED -
PLOT SCALE = 1:2.000001	CHECKED WPM	REVISED -
PLOT DATE = 8/18/2014	DATE 8/15/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS	
TRAVERSABLE PIPE GRATE FOR BOX CULVERTS	
SCALE: AS SHOWN	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	536-R-1	WILL	1232	500
DD-07		CONTRACT NO. 60L71		
ILLINOIS FED. AID PROJECT				