COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R92

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE 1

(1A) CONSTRUCT MAINLINE (US60) EASTBOUND FROM STA 101+02.58 TO STA 259+00 AND WESTBOUND FROM STA 101+02.58 TO STA 266+00, WHILE TRAFFIC IS USING EXISTING US60 AND EXISTING ROADS IN CONJUNCTION WITH TIEMS B-5.

(1B) CONSTRUCT US60 WEST CONNECTOR. CLOSE TO TRAFFIC UNTILL ML IS OPEN TO TRAFFIC.

(1C) CLOSE AND BARRICADE GOLDEN MEADOW LANE RIGHT AND LEFT OF STA 118+00.

(1D) CONSTRUCT THE REQUIRED CUL-DE-SACS ON GOLDEN MEADOW LANE THROUGH FINAL SURFACE.

(1E) CONSTRUCT GOLDEN MEADOW LANE AND BALL PARK LOOP THROUGH THE FINAL SURFACE COURSE TO THE LIMITS OF ML SURFACING.

(1F) PROVIDE TEMPORARY SURFACE ACROSS ML UNTIL ML SURFACE IS COMPLETE

* ITEM E ABOVE WILL HAVE TO BE CONSTRUCTED UNDER TRAFFIC USING PART WIDTH CONSTRUCTION PRACTICES.

* ITEMS B-F ABOVE MAY BE CONSTRUCTED CONCURRENTLY WITH ML CONSTRUCTION.

* NORMAL CONSIDERATION WILL HAVE TO BE PROVIDED FOR PROPERTY OWNER ACCESS TO ALL PARCELS DURING ALL PHASES OF CONSTRUCTION.

= CONSTRUCT THIS PHASE

= LOCATION OF TRAFFIC

PAVEMENT EDGE DROP-OFFS

Difference In Elevation for Travel Lanes

A pavement edge that traffic is expected to cross in a lane change situation should not have an elevation difference greater than one and one-half inches. This may be increased to two inches for low speed situations. Warning signs should be placed in advance and throughout the drop-off area.

Pavement Drop-Off

Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:

Less Than Two Inches - No protection required. Warning signs should be placed in advance and throughout the drop-off area.

Two to Four Inches - Place plastic drums, vertical panels or barricades every 100 feet on tangent sections for speeds of 50 miles per hour or greater. Cones may be used in place of plastic drums, panels and barricades during daylight hours. For tangent sections with speeds less than 50 miles per hour and for curves, devices should be placed every 50 feet. Spacing for tapers should be in accordance with the "Manual on Uniform Traffic Control Devices".

Greater Than Four Inches - Positive separation or wedge with 3:1 or flatter slope needed. If there is eight feet or more distance between the edge of pavement and drop-off drums, panels or barricades may be used. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations.

For temporary conditions, drop-offs greater than four inches may be protected with plastic drums, vertical panels or barricades for short distances during daylight hours while work is being done in the drop-off area.

Lesser treatments than those described above may be considered for low-volume local streets.

Payment will be allowed for the DGA material used for wedging.

US 60

US 60 WEST CONNECTOR

GOLDEN MEADOW LANE

BALL PARK LOOP

00+01

00+00

110+00

120+00

125+00

130+00

20+00

LIMITS OF ML PAVEMENT (BACK OF ML RADIUS)

TY III BARRICADE WITH R11-2 (ROAD CLOSED)

R11-4 ROAD CLOSED LOCAL TRAFFIC ONLY

W20-1 (ROAD WORK AHEAD) G20-1 (SIDE ROAD)

W20-1 (ROAD WORK AHEAD) G20-1 (NEXT 4 MILES)

S20-2A END ROAD WORK

= CONSTRUCT THIS PHASE

= LOCATION OF TRAFFIC

TYPE III BARRICADE

SIGN

CHANNELIZING DEVICE

RIGHT OF WAY PLANS

SHEET 1 OF 6

MAINTENANCE OF TRAFFIC
PHASE 1

SCALE: 1"= 100'

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R092MOT.dgn
USER: gchilders
DATE PLOTTED: January 21, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R93

RIGHT OF WAY PLANS

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE I

(IG) CLOSE AND BARRICADE SHEILA DRIVE RIGHT AND LEFT OF STA 145+50.

(IH) CONSTRUCT THE REQUIRED CUL-DE-SAC AND HAMMERHEAD TURN- A- ROUND ON SHEILA DRIVE THROUGH FINAL SURFACE.

(II) CONSTRUCT ERWIN EXTENSION CONNECTOR AND RUDD SPEES ROAD THROUGH THE FINAL SURFACE COURSE TO THE LIMITS OF ML SURFACING.

(IJ) PROVIDE TEMPORARY PAVEMENT ACROSS ML UNTIL ML SURFACE IS COMPLETE.

(IK) CONSTRUCT KELLY DRIVE

* ITEMS G-K ABOVE MAY BE CONSTRUCTED CONCURRENTLY WITH ML CONSTRUCTION

* ITEM I ABOVE WILL HAVE TO BE CONSTRUCTED UNDER TRAFFIC USING PART WIDTH CONSTRUCTION PRACTICES.

MAINTENANCE OF TRAFFIC
PHASE I

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R94

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE 1

(1L) CONSTRUCT MUD DRAG LANE. RIGHT AND LEFT TO THE LIMITS OF ML PAVEMENT THROUGH FINAL SURFACE COURSE.

(1M) PROVIDE TEMPORARY SURFACE FOR MUD DRAG LANE. ACROSS ML UNTIL ML IS COMPLETE AND OPEN TO TRAFFIC.

* ITEMS L-M MAY BE CONSTRUCTED CONCURRENTLY WITH ML CONSTRUCTION.

* ITEM L WILL HAVE TO BE CONSTRUCTED UNDER PART WIDTH CONSTRUCTION PRACTICES.

RIGHT OF WAY PLANS

SHEET 3 OF 6

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC PHASE 1

MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R95

RIGHT OF WAY PLANS

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE 1

(1N) CONSTRUCT CONNECTOR LT STA 211+88.8.

(10) CLOSE AND BARRICADE CODY COOPER ROAD RIGHT AND LEFT OF STA 227+25.

(1P) CONSTRUCT CODY COOPER ROAD RIGHT AND LEFT TO THE LIMITS OF ML PAVEMENT, CONSTRUCTION WILL HAVE TO BE COMPLETED UNDER TRAFFIC USING PART WIDTH CONSTRUCTION TECHNIQUES.

(1Q) PROVIDE TMEPORARY SURFACE ACROSS ML UNTILL ML SURFACE IS COMPLETE

* EXISTING TRAFFIC SOUTH OF ML WILL HAVE TO USE OTHER ROUTES FOR INGRESS AND EGRESS. RUDD SPEES ROAD AT STA 243+50 AND CODY COOPER ROAD CANNOT BE CLOSED AT THE SAME TIME.

* ITEM N MAY BE CONSTRUCTED CONCURRENTLY WITH ML CONSTRUCTION.

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC
PHASE 1

SHEET 4 OF 6

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R96

MAINTENANCE OF TRAFFIC AND
PHASING NOTES - PHASE 1

(1R) CONSTRUCT FRONTAGE ROAD EAST THROUGH THE FINAL SURFACE COURSE FROM RUDD SPEES ROAD TO HODGE LANDING ROAD. TIE-INS WILL NEED TO BE CONSTRUCTED UNDER TRAFFIC.

* DETOUR NORTHBOUND RUDD SPEES ROAD TRAFFIC TO US60 VIA FRONTAGE ROAD EAST AND HODGE LANDING ROAD.

(1S) CONSTRUCT EAST CONNECTOR BETWEEN FRONTAGE ROAD EAST AND US60, UNDER TRAFIC OF US60.

(1T) CONSTRUCT DIVERSION. PORTIONS OF DIVERSION AT THE END WILL HAVE TO BE CONSTRUCTED UNDER TRAFFIC.

* AFTER COMPLETION OF 1T ABOVE, CLOSE AND BARRICADE HODGE LANDING ROAD BETWEEN EXISTING US 60 AND FRONTAGE ROAD EAST.

SCALE: 1"= 100

RIGHT OF WAY
PLANS

MAINTENANCE OF TRAFFIC
PHASE 1

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R97

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE 1

(IV) CONSTRUCT DIVERSION

- SIGN EAST END OF DIVERSION IN ACCORDANCE WITH STANDARD DWG NO. TTC-150 (ROAD CLOSURE WITH DIVERSION)

RIGHT OF WAY PLANS

SHEET 6 OF 6

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC PLANS
PHASE 1

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R98

MAINTENANCE OF TRAFFIC AND
PHASING NOTES - PHASE 3
(SHEET 1 OF 2)

- (3A) SHIFT EASTBOUND AND WESTBOUND US 60 TRAFFIC TO THE NEWLY CONSTRUCTED LANES ON ML (VIA EAST CONNECTOR)
- (3B) REMOVE DIVERSION AND COMPLETE THE PROPOSED ML CONSTRUCTION THROUGH THE TOP BASE COURSE
- (3C) SHIFT THE TRAFFIC TO THE NEWLY CONSTRUCTED US 60
- (3D) CONSTRUCT NEW RADIUS ON EXISTING SURFACE OF RUDD SPEES ROAD
- (3E) CONSTRUCT ANITA DRIVE, UNDER TRAFFIC
- (3F) CONSTRUCT APPROACH TO US 60, LEFT STA 258+00

RIGHT OF WAY PLANS

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC
PHASE 3

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R99

MAINTENANCE OF TRAFFIC AND PHASING NOTES - PHASE 2

(2A) SHIFT US 60 TRAFFIC TO THE DIVERSION, SIGN BOTH ENDS IN ACCORDANCE WITH STANDARD DRAWING NO. TTC-150 (ROAD CONSTRUCTION WITH DIVERSION). CONSTRUCT 2 LANES OF ML THROUGH THE TOP BASE COURSE FROM 266+00 TO THE END OF THE PROJECT

RIGHT OF WAY PLANS

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC
PHASE 2

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R100

MAINTENANCE OF TRAFFIC AND
PHASING NOTES - PHASE 3
(SHEET 2 OF 2)

3A SHIFT WESTBOUND US 60 TRAFFIC TO THE NEWLY CONSTRUCTED LANES ON ML

3B REMOVE DIVERSION AND COMPLETE THE PROPOSED ML CONSTRUCTION THROUGH THE TOP BASE COURSE

3C SHIFT THE TRAFFIC TO THE NEWLY CONSTRUCTED US 60

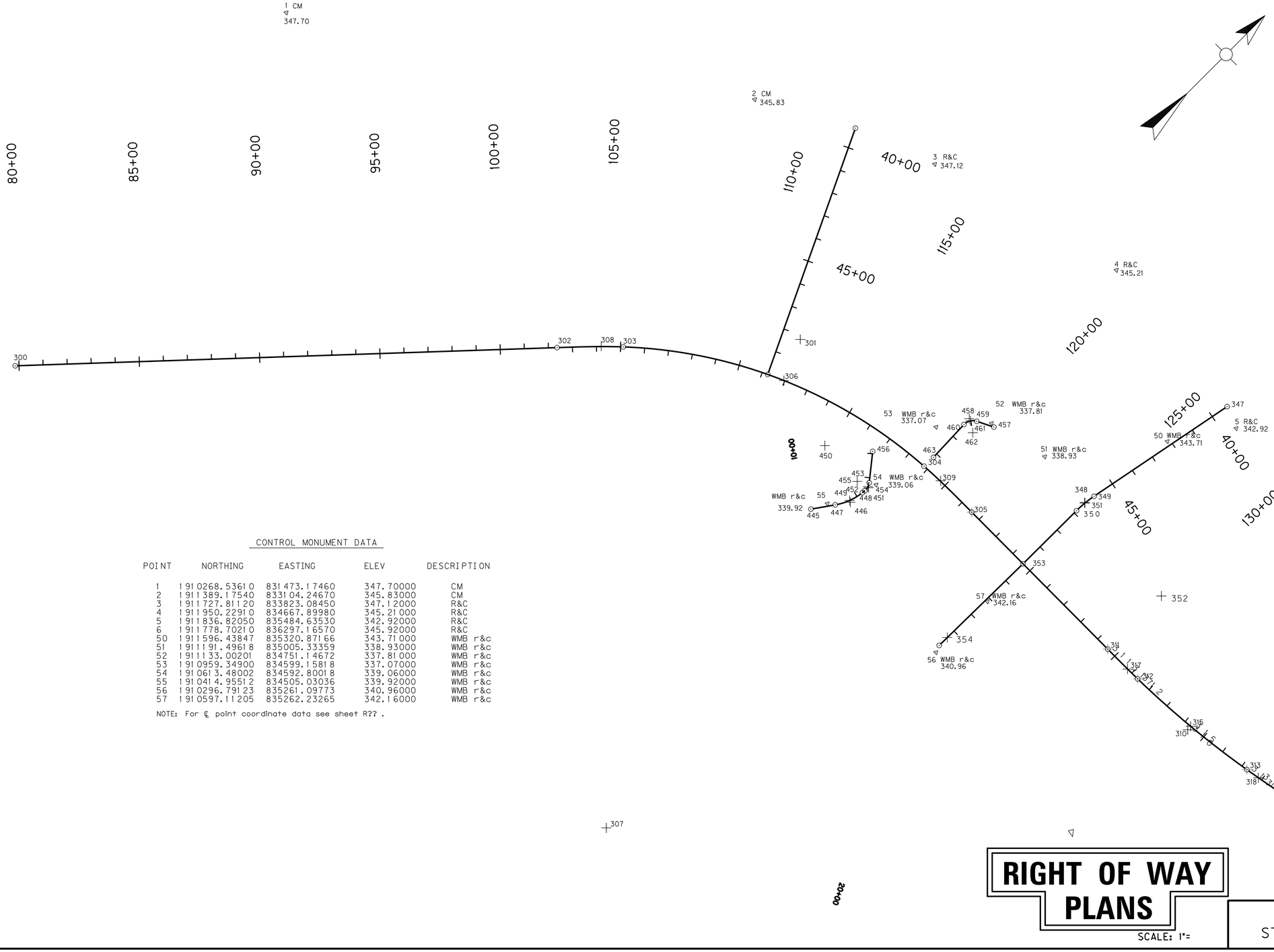
3D PAVE ML THROUGH THE FINAL SURFACE COURSE (UNDER TRAFFIC)

RIGHT OF WAY PLANS

SCALE: 1"= 100

MAINTENANCE OF TRAFFIC
PHASE 3

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RIOI



CONTROL MONUMENT DATA

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
1	1910268.53610	831473.17460	347.70000	CM
2	1911389.17540	833104.24670	345.83000	CM
3	1911727.81120	833823.08450	347.12000	R&C
4	1911950.22910	834667.89980	345.21000	R&C
5	1911836.82050	835484.63530	342.92000	R&C
6	1911778.70210	836297.16570	345.92000	R&C
50	1911596.43847	835320.87166	343.71000	WMB r&c
51	1911191.49618	835005.33359	338.93000	WMB r&c
52	1911133.00201	834751.14672	337.81000	WMB r&c
53	1910959.34900	834599.15818	337.07000	WMB r&c
54	1910613.48002	834592.80018	339.06000	WMB r&c
55	1910414.95512	834505.03036	339.92000	WMB r&c
56	1910296.79123	835261.09773	340.96000	WMB r&c
57	1910597.11205	835262.23265	342.16000	WMB r&c

NOTE: For ℄ point coordinate data see sheet R?? .

RIGHT OF WAY PLANS

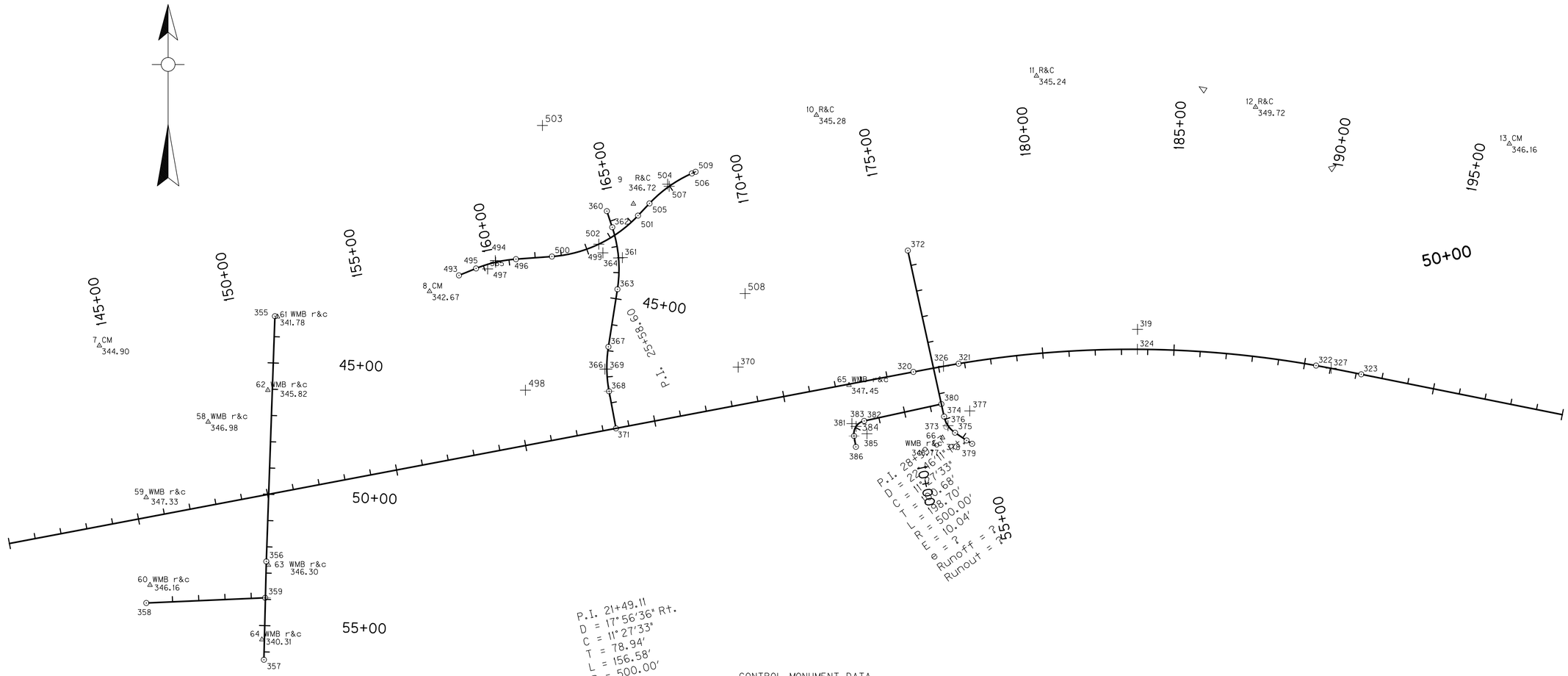
SCALE: 1"=

SCALE: 1" = 200'

REFERENCE DATA
STA. 80+00 TO STA. 140+00

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RIOIOOCC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI02



CONTROL MONUMENT DATA

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
7	1911668.27670	837131.61930	344.90000	CM
8	1911874.54570	838388.45050	342.67000	CM
9	1912207.69210	839164.21870	346.72000	R&C
10	1912545.39680	839860.83730	345.28000	R&C
11	1912694.55350	840698.40910	345.24000	R&C
12	1912575.92760	841532.45570	349.72000	R&C
13	1912436.16840	842498.32000	346.16000	CM
58	1911377.88295	837545.72336	346.98000	WMB r&c
59	1911090.68511	837309.70973	347.33000	WMB r&c
60	1910757.26416	837324.29019	346.16000	WMB r&c
61	1911778.25627	837809.60230	341.78000	WMB r&c
62	1911498.87242	837772.92901	345.82000	WMB r&c
63	1910833.70412	837775.09777	346.30000	WMB r&c
64	1910550.03033	837750.25944	340.31000	WMB r&c
65	1911518.28064	839984.97604	347.45000	WMB r&c
66	1911318.15489	840341.08950	345.77000	WMB r&c

NOTE: For ℄ point coordinate data see sheet R?? .

RIGHT OF WAY PLANS

SCALE: 1" = 200'

REFERENCE DATA
STA 140+00 TO STA. 200+00

SCALE: 1"=

MicroStation v8.11.9.292
E-SHEET NAME:
USER: gchilders
DATE PLOTTED: January 2, 2014
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI0200CC.DGN

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R103

CONTROL MONUMENT DATA

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
13	1912436.16840	842498.32000	346.16000	CM
14	1912192.64320	843629.03090	353.18000	CM
15	1912094.99350	844426.89840	351.91000	R&C
16	1911935.66830	845294.27190	347.17000	R&C
17	1911885.86840	846129.80160	347.86000	R&C
18	1911774.10290	846925.72190	348.25000	PK Nail & Disk
19	1911764.07930	847704.54930	347.10000	R&C
66	1911318.15489	840341.08950	345.77000	WMB r&c
67	1911373.57312	845373.28713	348.65000	WMB r&c
68	1911134.20377	845382.37509	349.65000	WMB r&c
69	1910837.82220	845394.99081	353.12000	WMB r&c
70	1910442.31334	845475.47221	348.57000	WMB r&c
71	1911167.06329	846985.93051	346.34000	WMB r&c
72	1911323.29348	847029.73616	347.53000	WMB r&c
73	1911722.37076	847136.76031	347.73000	WMB r&c
75	1911729.87462	848530.89224	346.59000	WMB r&c

NOTE: For ℄ point coordinate data see sheet R?? .

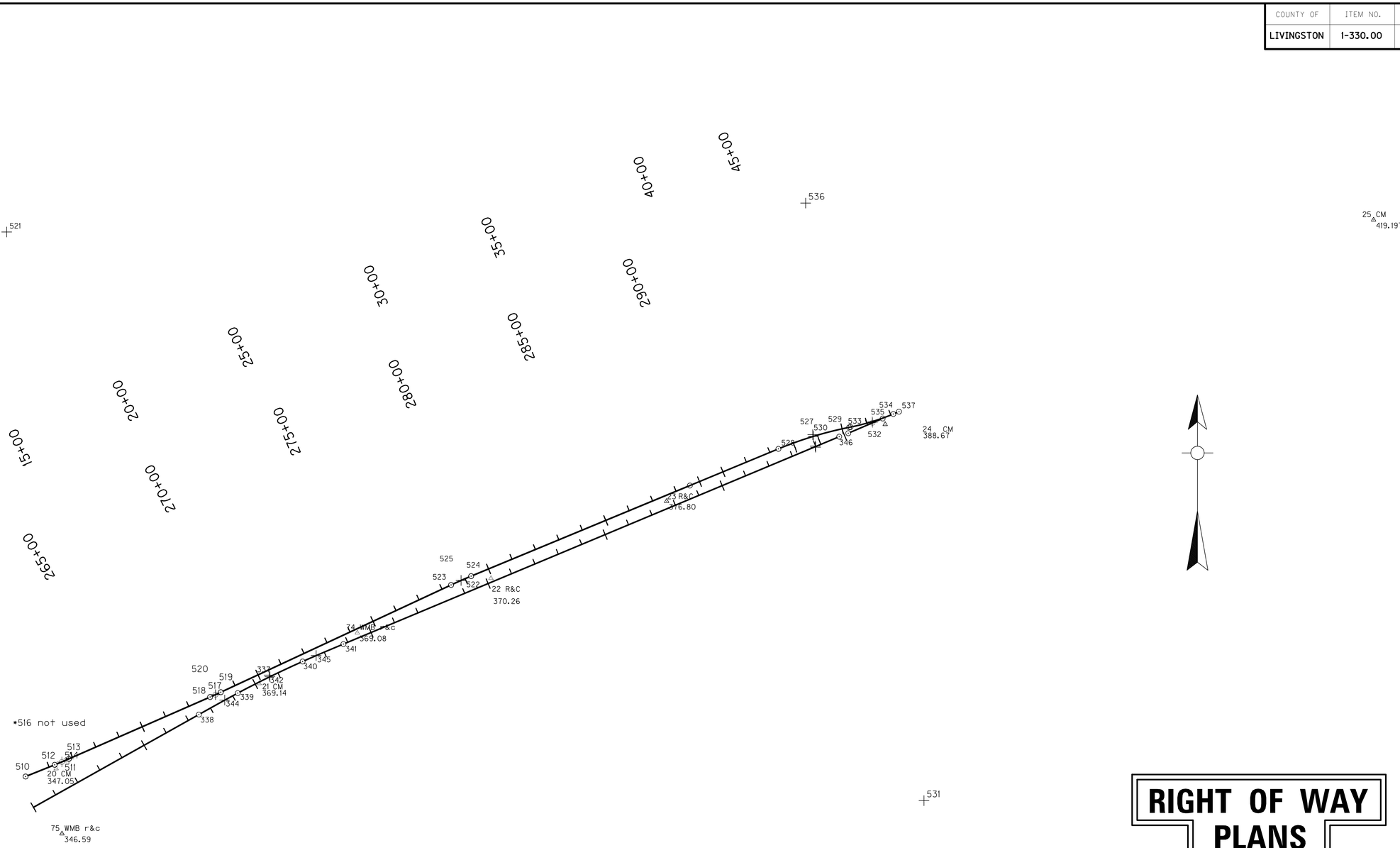
RIGHT OF WAY PLANS

SCALE: 1" = 200'

SCALE: 1"=

REFERENCE DATA
STA. 200+00 TO STA. 260+00

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R104



CONTROL MONUMENT DATA

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
20	1911986.30620	848508.11410	347.05000	CM
21	1912321.77480	849308.14480	369.14000	CM
22	1912736.10590	850221.93600	370.26000	R&C
23	1913039.98160	850914.12930	376.80000	R&C
24	1913342.77420	851775.63450	388.67000	CM
25	1914148.30520	853700.72370	419.19700	CM
75	1911729.87462	848530.89224	346.59000	WMB r&c

NOTE: For ℄ point coordinate data see sheet R?? .

RIGHT OF WAY PLANS

SCALE: 1" = 200'

REFERENCE DATA
STA. 260+00 TO STA. 295+00

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI05

US 60
Centerline No. 1 -- P.I.s defined by Coordinates

P.O.T.	79+84.2500	N 43^04'28.55" E	831714.6158	1908434.5043	300
P.I.	112+47.0582		833942.9506	1910817.8719	301
T.S.	102+36.1529	N 43^04'28.55" E	833252.5529	1910079.4409	302
S.C.	105+11.1529	N 47^00'49.26" E	833444.8773	1910275.9213	303
C.S.	118+81.9985	N 86^17'07.85" E	834678.9555	1910808.6868	304
S.T.	121+56.9985	S 89^46'31.44" E	834953.8481	1910813.9092	305
M.O.C.	111+96.5757		834015.8181	1910649.0844	306
Rad Pt			834808.5246	1908812.8882	307
Spiral PI In			833377.7914	1910213.3926	308
Spiral PI Out			834770.4708	1910814.6280	309

P.I. = 112+47.0582
Delta = 47^09'00.01" Right
C = 2^51'53.24"
Ts = 1010.9053
Ls = 275.0000
Lc = 1370.8456
Theta = 3^56'20.71"
L.T. = 183.3787
S.T. = 91.7080
R = 2000.0000
Es = 183.8448

x = 274.8700
y = 6.3000
k = 137.4783
p = 1.5753

P.I.	134+30.8684		836227.7082	1910808.9156	310
T.S.	129+59.3155	S 89^46'31.44" E	835756.1589	1910810.7641	311
S.C.	131+34.3155	N 88^58'16.52" E	835931.1542	1910811.3541	312
C.S.	137+25.0160	N 80^30'36.33" E	836518.8336	1910865.4507	313
S.T.	139+00.0160	N 79^15'24.29" E	836690.9959	1910896.8170	314
M.O.C.	134+29.6658		836225.9929	1910827.5493	315
Rad Pt			835859.3381	1914810.7094	316
Spiral PI In			835872.8276	1910810.3067	317
Spiral PI Out			836576.3712	1910875.0688	318

P.I. = 134+30.8684
Delta = 10^58'04.27" Left
C = 1^25'56.62"
Ts = 471.5529
Ls = 175.0000
Lc = 590.7006
Theta = 1^15'12.04"
L.T. = 116.6696
S.T. = 58.3360
R = 4000.0000
Es = 18.7125

x = 174.9916
y = 1.2760
k = 87.4986
p = .3190

P.I.	183+70.5184		841083.1409	1911730.1559	319
T.S.	175+02.1082	N 79^15'24.29" E	840229.9519	1911568.2770	320
S.C.	176+77.1082	N 80^30'36.33" E	840402.1142	1911599.6433	321
C.S.	190+44.4107	S 79^54'17.07" E	841762.7507	1911592.4554	322
S.T.	192+19.4107	S 78^39'05.03" E	841934.5719	1911559.2720	323
M.O.C.	183+60.7595		841082.7403	1911654.3288	324
Rad Pt			841061.6097	1907654.3847	325
Spiral PI In			840344.5765	1911590.0252	326
Spiral PI Out			841820.1835	1911582.2300	327

P.I. = 183+70.5184
Delta = 22^05'30.68" Right
C = 1^25'56.62"
Ts = 868.4102
Ls = 175.0000
Lc = 1367.3025
Theta = 1^15'12.04"
L.T. = 116.6696
S.T. = 58.3360
R = 4000.0000
Es = 75.8281

x = 174.9916
y = 1.2760
k = 87.4986
p = .3190

P.I.	237+21.0043		846348.1508	1910673.4578	328
T.S.	224+97.9310	S 78^39'05.03" E	845148.9908	1910914.1316	329
S.C.	227+22.9310	S 80^47'59.96" E	845370.1140	1910872.6200	330
C.S.	246+24.7706	N 62^52'39.18" E	847217.4392	1911163.9260	331
S.T.	248+49.7706	N 60^43'44.25" E	847415.0579	1911271.4693	332
M.O.C.	236+73.8508		846317.0559	1910870.6468	333
Rad Pt			845849.7582	1913834.0287	334
Spiral PI In			845296.0689	1910884.6128	335
Spiral PI Out			847284.2007	1911198.1226	336

P.I. = 237+21.0043
Delta = 40^37'10.72" Left
C = 1^54'35.49"
Ts = 1223.0734
Ls = 225.0000
Lc = 1901.8397
Theta = 2^08'54.93"
L.T. = 150.0111
S.T. = 75.0100
R = 3000.0000
Es = 199.6256

x = 224.9684
y = 2.8122
k = 112.4947
p = .7031

P.I.	270+64.9811		849347.4225	1912354.5779	337
T.S.	267+47.5310	N 60^43'44.25" E	849070.5055	1912199.3634	338
S.C.	269+22.5310	N 61^58'56.29" E	849223.7775	1912283.8110	339
C.S.	272+06.8919	N 66^03'19.70" E	849479.3466	1912408.3561	340
S.T.	273+81.8919	N 67^18'31.74" E	849640.3012	1912477.0388	341
M.O.C.	270+64.7114		849350.4552	1912348.3548	342
Rad Pt			851102.7545	1908752.6008	343
Spiral PI In			849172.2783	1912256.4080	344
Spiral PI Out			849532.6621	1912432.0319	345

P.I. = 270+64.9811
Delta = 6^34'47.50" Right
C = 1^25'56.62"
Ts = 317.4501
Ls = 175.0000
Lc = 284.3609
Theta = 1^15'12.04"
L.T. = 116.6696
S.T. = 58.3360
R = 4000.0000
Es = 6.9227

x = 174.9916
y = 1.2760
k = 87.4986
p = .3190

P.O.T.	303+20.3834	N 67^18'31.74" E	852351.3457	1913610.6031	346

Golden Meadow Lane
Centerline No. 2 -- P.I.s defined by Coordinates

P.O.T.	39+25.4416	S 11^00'53.16" W	835393.8810	1911874.1288	347
P.I.	46+39.3251		835257.4850	1911173.3964	348
P.C.	45+91.9098	S 11^00'53.16" W	835266.5443	1911219.9383	349
P.T.	46+86.4578	S 0^10'49.31" W	835257.3357	1911125.9813	350
M.O.C.	46+39.1838		835259.7175	1911173.1776	351
Rad Pt			835757.3332	1911124.4073	352

P.I. = 46+39.3251
Delta = 10^50'03.85" Left
C = 11^27'32.96"
T = 47.4154
L = 94.5480
R = 500.0000
E = 2.2432

P.I.	49+99.7172	S 0^47'04.83" W	835256.3496	1910812.7234	353

P.I. = 49+99.7172
Delta = 0^36'15.52" Right

P.O.T.	54+38.8641	S 0^47'04.83" W	835250.3356	1910373.6177	354

Rudd Spees Road
Centerline No. 3 -- P.I.s defined by Coordinates

P.O.T.	43+21.9900	S 2^00'35.20" W	837799.8059	1911780.2732	355
P.I.	52+55.7579	S 1^24'12.38" W	837767.0586	1910847.0797	356

P.I. = 52+55.7579
Delta = 0^36'22.83" Left

P.O.T.	56+29.8163	S 1^24'12.38" W	837757.8971	1910473.1335	357

Erwin Extension
Centerline No. 4 -- P.I.s defined by Coordinates

P.O.T.	20+00.0000	N 87^30'17.37" E	837310.2944	1910689.0649	358
P.O.T.	24+53.8072	N 87^30'17.37" E	837763.6713	1910708.8215	359

RIGHT OF WAY PLANS

NOTE: Coordinate sequence is Easting and Northing

SCALE: 1"=

℄ COORDINATE DATA

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R106

Kelly Drive Connector
Centerline No. 5 -- P.I.s defined by Coordinates

P.O.T.	41+59.8512	S 18^28'53.96" E	839063.2623	1912180.0148	360
P.I.	43+46.3485		839122.3821	1912003.1361	361
P.C.	42+24.5026	S 18^28'53.96" E	839083.7569	1912118.6978	362
P.T.	44+63.5353	S 8^54'34.11" W	839103.5114	1911882.7604	363
M.O.C.	43+44.0190		839107.8008	1912001.9152	364
Rad Pt			838609.5443	1911960.1973	365

P.I. = 43+46.3485
Delta = 27^23'28.07" Right
C = 11^27'32.96"
T = 121.8459
L = 239.0327
R = 500.0000
E = 14.6323

P.I.	47+71.0250		839055.8893	1911578.9808	366
P.C.	46+85.1216	S 8^54'34.11" W	839069.1935	1911663.8477	367
P.T.	48+55.2672	S 10^35'15.97" E	839071.6733	1911494.5401	368
M.O.C.	47+70.1944		839063.2143	1911579.0881	369
Rad Pt			839563.1606	1911586.4108	370

P.I. = 47+71.0250
Delta = 19^29'50.07" Left
C = 11^27'32.96"
T = 85.9033
L = 170.1455
R = 500.0000
E = 7.3257

P.O.T.	49+98.7359	S 10^35'15.97" E	839098.0345	1911353.5139	371

Mud Drag Lane
Centerline No. 6 -- P.I.s defined by Coordinates

P.O.T.	45+42.1874	S 12^19'59.65" E	840208.7865	1912030.0139	372
P.I.	52+28.5956		840355.4013	1911359.4467	373
P.C.	51+88.4661	S 12^19'59.65" E	840346.8298	1911398.6501	374
P.T.	52+64.7906	S 56^03'50.17" E	840388.6952	1911337.0437	375
M.O.C.	52+26.6284		840361.8125	1911363.8035	376
Rad Pt			840444.5220	1911420.0098	377

P.I. = 52+28.5956
Delta = 43^43'50.52" Left
C = 57^17'44.81"
T = 40.1295
L = 76.3245
R = 100.0000
E = 7.7515

P.I.	53+17.7178	S 58^46'54.25" E	840432.6069	1911307.4961	378

P.I. = 53+17.7178
Delta = 2^43'04.08" Left

P.O.T.	53+42.1533	S 58^46'54.25" E	840453.5041	1911294.8312	379

Varvel Entrance
Centerline No. 7 -- P.I.s defined by Coordinates

P.O.T.	8+56.7369	S 77^40'00.36" W	840336.4775	1911445.9977	380
P.I.	12+05.1606		839996.0947	1911371.5754	381
P.C.	11+57.4245	S 77^40'00.36" W	840042.7292	1911381.7717	382
P.T.	12+33.6484	S 9^40'46.02" E	840004.1209	1911324.5188	383
M.O.C.	11+95.5364		840011.9541	1911360.8807	384
Rad Pt			840053.4091	1911332.9256	385

P.I. = 12+05.1606
Delta = 87^20'46.38" Left
C = 114^35'29.61"
T = 47.7362
L = 76.2240
R = 50.0000
E = 19.1284

P.O.T.	12+75.4331	S 9^40'46.02" E	840011.1464	1911283.3290	386

Connector Left 211+88.78
Centerline No. 8 -- P.I.s defined by Coordinates

P.O.T.	40+12.2602	S 7^59'55.18" W	844002.8733	1912149.8754	387
P.O.T.	50+00.0542	S 7^59'55.18" W	843865.4218	1911171.6913	388

Cody Cooper Road
Centerline No. 9 -- P.I.s defined by Coordinates

P.O.T.	46+59.2200	S 2^06'56.78" E	845369.1703	1911211.0882	389
P.I.	48+57.3818	S 2^33'26.31" E	845376.4862	1911013.0615	390

Delta = 0^26'29.53" Left

P.I.	51+25.0408		845388.4288	1910745.6691	391
P.C.	50+28.3100	S 2^33'26.31" E	845384.1128	1910842.3035	392
P.T.	52+21.1714	S 13^36'26.83" E	845411.1865	1910651.6536	393
M.O.C.	51+24.7407		845393.0499	1910746.3253	394
Rad Pt			846383.1169	1910886.9221	395

P.I. = 51+25.0408
Delta = 11^03'00.52" Left
C = 5^43'46.48"
T = 96.7307
L = 192.8614
R = 1000.0000
E = 4.6675

P.O.T.	54+00.0000	S 13^36'26.83" E	845453.2592	1910477.8447	396

East Connector
Centerline No. 10 -- P.I.s defined by Coordinates

P.O.T.	39+00.0000	S 84^39'24.27" E	846767.6315	1911804.1190	397
P.I.	46+95.7324		847559.9061	1911730.0186	398
P.C.	45+38.2822	S 84^39'24.27" E	847403.1402	1911744.6807	399
P.T.	48+28.2722	S 29^16'21.81" E	847636.8941	1911592.6745	400
M.O.C.	46+83.2772		847538.7500	1911697.4848	401
Rad Pt			847375.2035	1911445.9843	402

P.I. = 46+95.7324
Delta = 55^23'02.47" Right
C = 19^05'54.94"
T = 157.4502
L = 289.9900
R = 300.0000
E = 38.8075

P.O.T.	53+48.8838	S 29^16'21.81" E	847891.4561	1911138.5439	403

Anita Lane
Centerline No. 11 -- P.I.s defined by Coordinates

P.O.T.	37+27.8738	S 6^48'51.43" E	847579.0136	1911956.4772	404
P.I.	38+88.4519		847598.0664	1911797.0334	405
P.C.	38+35.0043	S 6^48'51.43" E	847591.7248	1911850.1034	406
P.T.	39+37.6917	S 32^24'33.79" W	847569.4204	1911751.9109	407
M.O.C.	38+86.3480		847589.0582	1911799.0796	408
Rad Pt			847442.7844	1911832.3057	409

P.I. = 38+88.4519
Delta = 39^13'25.23" Right
C = 38^11'49.87"
T = 53.4475
L = 102.6873
R = 150.0000
E = 9.2377

P.O.T.	40+00.0606	S 32^24'33.79" W	847535.9929	1911699.2566	410

RIGHT OF WAY PLANS

NOTE: Coordinate sequence is Easting Northing

SCALE: 1"=

℄ COORDINATE DATA

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RIO7

Frontage East
Centerline No. 12 -- P.I.s defined by Coordinates

P.O.T.	7+68.4447	N 15^51'11.10" E	846840.3188	1910630.5035	411
P.I.	9+58.0287		846892.1077	1910812.8767	412
P.C.	8+68.4447	N 15^51'11.10" E	846867.6360	1910726.7000	413
P.T.	10+29.9580	N 77^32'47.75" E	846979.5839	1910832.1950	414
M.O.C.	9+49.2014		846909.0577	1910794.8899	415
Rad Pt			847011.9308	1910685.7243	416

P.I. = 9+58.0287
Delta = 61^41'36.65" Right
C = 38^11'49.87"
T = 89.5839
L = 161.5132
R = 150.0000
E = 24.7149

P.I.	16+51.1764		847586.1861	1910966.1580	417
P.C.	15+31.6156	N 77^32'47.75" E	847469.4384	1910940.3753	418
P.T.	17+68.9803	N 60^32'47.79" E	847690.2943	1911024.9479	419
M.O.C.	16+50.2979		847583.0088	1910974.4554	420
Rad Pt			847296.9220	1911721.5526	421

P.I. = 16+51.1764
Delta = 16^59'59.96" Left
C = 7^09'43.10"
T = 119.5607
L = 237.3646
R = 800.0000
E = 8.8849

P.I.	22+65.3917		848122.5475	1911269.0410	422
P.C.	21+52.2133	N 60^32'47.79" E	848023.9968	1911213.3894	423
P.T.	23+68.6643	N 19^12'27.07" E	848159.7821	1911375.9191	424
M.O.C.	22+60.4388		848106.7087	1911282.2735	425
Rad Pt			847876.4822	1911474.6162	426

P.I. = 22+65.3917
Delta = 41^20'20.72" Left
C = 19^05'54.94"
T = 113.1784
L = 216.4510
R = 300.0000
E = 20.6390

P.I.	25+88.2302		848232.0172	1911583.2624	427
P.C.	24+45.8083	N 19^12'27.07" E	848185.1618	1911448.7687	428
P.T.	27+11.7498	N 69^59'54.97" E	848365.8488	1911631.9768	429
M.O.C.	25+78.7790		848254.8652	1911560.7289	430
Rad Pt			848468.4617	1911350.0715	431

P.I. = 25+88.2302
Delta = 50^47'27.90" Right
C = 19^05'54.94"
T = 142.4219
L = 265.9415
R = 300.0000
E = 32.0903

P.O.T.	28+26.5680	N 69^59'54.97" E	848473.7417	1911671.2496	432

RECC Entrance
Centerline No. 13 -- P.I.s defined by Coordinates

P.O.T.	19+50.3631	N 73^24'34.11" E	848108.4051	1911862.4518	433
P.I.	20+94.7754		848246.8055	1911903.6858	434
P.C.	20+02.6391	N 73^24'34.11" E	848158.5048	1911877.3782	435
P.T.	21+79.1889	N 32^56'50.09" E	848296.9153	1911981.0040	436
M.O.C.	20+90.9140		848236.9539	1911916.8443	437
Rad Pt			848087.1224	1912116.9706	438

P.I. = 20+94.7754
Delta = 40^27'44.02" Left
C = 22^55'05.92"
T = 92.1363
L = 176.5498
R = 250.0000
E = 16.4378

P.I.	22+09.6750		848313.4957	1912006.5870	439
P.C.	21+81.2063	N 32^56'50.09" E	848298.0125	1911982.6969	440
P.T.	22+36.6762	N 64^43'45.07" E	848339.2399	1912018.7403	441
M.O.C.	22+08.9413		848316.1109	1912003.5957	442
Rad Pt			848381.9297	1911928.3102	443

P.I. = 22+09.6750
Delta = 31^46'54.98" Right
C = 57^17'44.81"
T = 28.4687
L = 55.4699
R = 100.0000
E = 3.9734

P.O.T.	22+66.3399	N 64^43'45.07" E	848366.0648	1912031.4036	444

Cul de Sac #1
Centerline No. 14 -- P.I.s defined by Coordinates

P.O.T.	10+00.0000	N 35^05'25.24" E	834472.8134	1910350.4715	445
P.I.	11+66.3850		834568.4627	1910486.6154	446
P.C.	11+02.3855	N 35^05'25.24" E	834531.6715	1910434.2481	447
P.T.	12+27.6934	N 6^22'18.83" E	834575.5654	1910550.2195	448
M.O.C.	11+65.0394		834560.9228	1910489.4692	449
Rad Pt			834327.1098	1910577.9649	450

P.I. = 11+66.3850
Delta = 28^43'06.41" Left
C = 22^55'05.92"
T = 63.9995
L = 125.3079
R = 250.0000
E = 8.0619

P.I.	12+60.7746		834579.2368	1910583.0965	451
P.C.	12+40.0764	N 6^22'18.83" E	834576.9397	1910562.5261	452
P.T.	12+79.3251	N 38^36'13.71" W	834566.3225	1910599.2717	453
M.O.C.	12+59.7007		834575.2837	1910581.9542	454
Rad Pt			834527.2486	1910568.0751	455

P.I. = 12+60.7746
Delta = 44^58'32.54" Left
C = 114^35'29.61"
T = 20.6983
L = 39.2487
R = 50.0000
E = 4.1149

P.O.T.	14+10.2757	N 38^36'13.71" W	834484.6183	1910701.6069	456

Cul de Sac #2
Centerline No. 15 -- P.I.s defined by Coordinates

P.O.T.	20+00.0000	S 63^38'56.70" W	834769.0810	1911128.8635	457
P.I.	21+07.9014		834672.3914	1911080.9696	458
P.C.	20+75.5778	S 63^38'56.70" W	834701.3564	1911095.3170	459
P.T.	21+32.9669	S 2^06'50.42" E	834673.5838	1911048.6680	460
M.O.C.	21+04.2723		834680.5872	1911076.0902	461
Rad Pt			834723.5497	1911050.5124	462

P.I. = 21+07.9014
Delta = 65^45'47.13" Left
C = 114^35'29.61"
T = 32.3236
L = 57.3891
R = 50.0000
E = 9.5384

P.O.T.	23+19.0040	S 2^06'50.42" E	834680.4463	1910862.7575	463

RIGHT OF WAY PLANS

NOTE: Coordinate sequence is Easting and Northing

SCALE: 1"=

℄ COORDINATE DATA

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI08

Cul de Sac #3
Centerline No. 16 -- P.I.s defined by Coordinates

P.O.T.	20+00.0000	N 88^01'39.94" W	837445.6919	1911356.2621	464
P.I.	21+18.7400		837327.0223	1911360.3486	465
P.C.	20+27.8590	N 88^01'39.94" W	837417.8494	1911357.2209	466
P.T.	21+70.1073	S 1^24'51.01" W	837324.7794	1911269.4953	467
M.O.C.	20+98.9832		837353.0206	1911332.7664	468
Rad Pt			837414.7520	1911267.2742	469

P.I. = 21+18.7400
Delta = 90^33'29.04" Left
C = 63^39'43.12"
T = 90.8809
L = 142.2483
R = 90.0000
E = 37.9036

P.I.	21+92.2678		837324.2325	1911247.3416	470
P.C.	21+77.7735	S 1^24'51.01" W	837324.5902	1911261.8315	471
P.T.	22+05.9888	S 33^44'47.84" W	837316.1805	1911235.2895	472
M.O.C.	21+91.8811		837322.2701	1911247.9633	473
Rad Pt			837274.6054	1911263.0655	474

P.I. = 21+92.2678
Delta = 32^19'56.83" Right
C = 114^35'29.61"
T = 14.4944
L = 28.2154
R = 50.0000
E = 2.0585

P.O.T.	23+86.1957	S 33^44'47.84" W	837216.0718	1911085.4470	475

Kelly Drive Diversion #1
Centerline No. 18 -- P.I.s defined by Coordinates

P.O.T.	20+00.0000	N 67^55'03.15" E	838500.3967	1911935.6766	493
P.I.	21+49.1099		838638.5685	1911991.7331	494
P.C.	20+70.1713	N 67^55'03.15" E	838565.4205	1911962.0568	495
P.T.	22+26.7561	N 85^51'39.02" E	838717.3012	1911997.4308	496
M.O.C.	21+48.4637		838639.9733	1911985.7016	497
Rad Pt			838753.3908	1911498.7350	498

P.I. = 21+49.1099
Delta = 17^56'35.87" Right
C = 11^27'32.96"
T = 78.9386
L = 156.5848
R = 500.0000
E = 6.1930

P.I.	25+58.6028		839048.2823	1912021.3832	499
P.C.	23+63.9302	N 85^51'39.02" E	838854.1175	1912007.3319	500
P.T.	27+35.2177	N 43^18'51.95" E	839181.8280	1912163.0269	501
M.O.C.	25+49.5740		839032.5930	1912054.4064	502
Rad Pt			838818.0280	1912506.0278	503

P.I. = 25+58.6028
Delta = 42^32'47.08" Left
C = 11^27'32.96"
T = 194.6725
L = 371.2875
R = 500.0000
E = 36.5607

P.I.	28+99.6716		839294.6436	1912282.6836	504
P.C.	27+98.9912	N 43^18'51.95" E	839225.5767	1912209.4286	505
P.T.	29+97.6948	N 66^05'03.07" E	839386.6798	1912323.4988	506
M.O.C.	28+98.3430		839300.4430	1912274.4931	507
Rad Pt			839589.3767	1911866.4277	508

P.I. = 28+99.6716
Delta = 22^46'11.12" Right
C = 11^27'32.96"
T = 100.6804
L = 198.7036
R = 500.0000
E = 10.0358

P.O.T.	30+13.3695	N 66^05'03.07" E	839401.0086	1912329.8532	509

*510 - 516 not used

US 60 Diversion #2
Centerline No. 19 -- P.I.s defined by Coordinates

P.O.T.	10+00.0000	N 68^06'14.51" E	848387.4491	1911955.1960	517
P.I.	11+54.1012		848530.4338	1912012.6638	518
P.C.	11+23.7833	N 68^06'14.51" E	848502.3030	1912001.3576	519
P.T.	11+84.4144	N 66^22'01.48" E	848558.2090	1912024.8175	520
M.O.C.	11+54.0989		848530.3449	1912012.8757	521
Rad Pt			847756.4580	1913857.0826	522

P.I. = 11+54.1012
Delta = 1^44'13.03" Left
C = 2^51'53.24"
T = 30.3178
L = 60.6310
R = 2000.0000
E = .2298

P.I.	18+15.1027		849136.0031	1912277.6450	523
P.C.	17+91.8884	N 66^22'01.48" E	849114.7357	1912268.3389	524
P.T.	18+38.3150	N 65^02'13.39" E	849157.0488	1912287.4422	525
M.O.C.	18+15.1017		849135.9477	1912277.7678	526
Rad Pt			848312.9846	1914100.6040	527

Delta = 1^19'48.09" Left
P.I. = 18+15.1027
C = 2^51'53.24"
T = 23.2144
L = 46.4267
R = 2000.0000
E = .1347

P.I.	28+82.5972		850103.7751	1912728.1628	528
P.C.	28+39.4534	N 65^02'13.39" E	850064.6617	1912709.9547	529
P.T.	29+25.7277	N 67^30'31.06" E	850143.6373	1912744.6672	530
M.O.C.	28+82.5905		850103.9623	1912727.7368	531
Rad Pt			850908.7259	1910896.7929	532

P.I. = 28+82.5972
Delta = 2^28'17.67" Right
C = 2^51'53.24"
T = 43.1438
L = 86.2743
R = 2000.0000
E = .4653

P.I.	43+83.0498		851490.1113	1913302.1575	533
P.C.	42+36.5170	N 67^30'31.06" E	851354.7242	1913246.1022	534
P.T.	45+28.6556	N 78^40'03.01" E	851633.7872	1913330.9515	535
M.O.C.	43+82.5863		851492.1884	1913295.3260	536
Rad Pt			851928.5407	1911860.1965	537

P.I. = 43+83.0498
Delta = 11^09'31.95" Right
C = 3^49'10.99"
T = 146.5328
L = 292.1387
R = 1500.0000
E = 7.1403

P.I.	46+22.5444		851725.8455	1913349.4009	538
P.C.	45+33.9195	N 78^40'03.01" E	851638.9484	1913331.9859	539
P.T.	47+10.5998	N 67^25'10.85" E	851807.6767	1913383.4310	540
M.O.C.	46+22.2596		851724.5760	1913353.5647	541
Rad Pt			851462.0963	1914214.4389	542

P.I. = 46+22.5444
Delta = 11^14'52.16" Left
C = 6^21'58.31"
T = 88.6250
L = 176.6804
R = 900.0000
E = 4.3530

P.O.T.	47+34.7708	N 67^25'10.85" E	851829.9948	1913392.7121	543

Existing West Connector
Centerline No. 20 -- P.I.s defined by Coordinates

P.O.T.	39+13.5115	S 25^24'57.19" E	833483.8488	1911600.6552	347
P.O.T.	50+00.0000	S 25^24'57.19" E	833950.1540	1910619.3211	348

NOTE: Coordinate sequence is Easting and Northing

RIGHT OF WAY PLANS

SCALE: 1"=

℄ COORDINATE DATA

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R109

EROSION CONTROL GENERAL NOTES

All Erosion Control Devices Are To Be Constructed As Detailed In The Standard Specifications And Installed As Instructed In The Erosion Control General Notes Or As Directed By The Engineer.

Silt Fences Are To Be Installed Prior To Disturbing Any Area.

Silt Checks And Traps Are To Be Installed Immediately After Ditch Construction.

All Ditches That Are To Be Lined should Be Done So As Soon As Possible After Construction.

All Disturbed Areas Are To Be Seeded As Soon As Possible.

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
101+02.58	Rt	II	36	0.40
105+00	Lt	II	52	0.27
108+00	Lt	II	52	0.16
110+00	Median	II (mod)	30	1.33

*Total Disturbed Area After Previous Silt Check

SILT FENCE		
STA. - STA.	ELEV.	AREA(ac)
Rt 103+05 - 109+50	Varies	1.1

EROSION CONTROL LEGEND

SILT FENCE ——— SF ———

SILT TRAP TYPE B

SILT CHECK TYPE II OR

SILT CHECK TYPE II (MODIFIED)

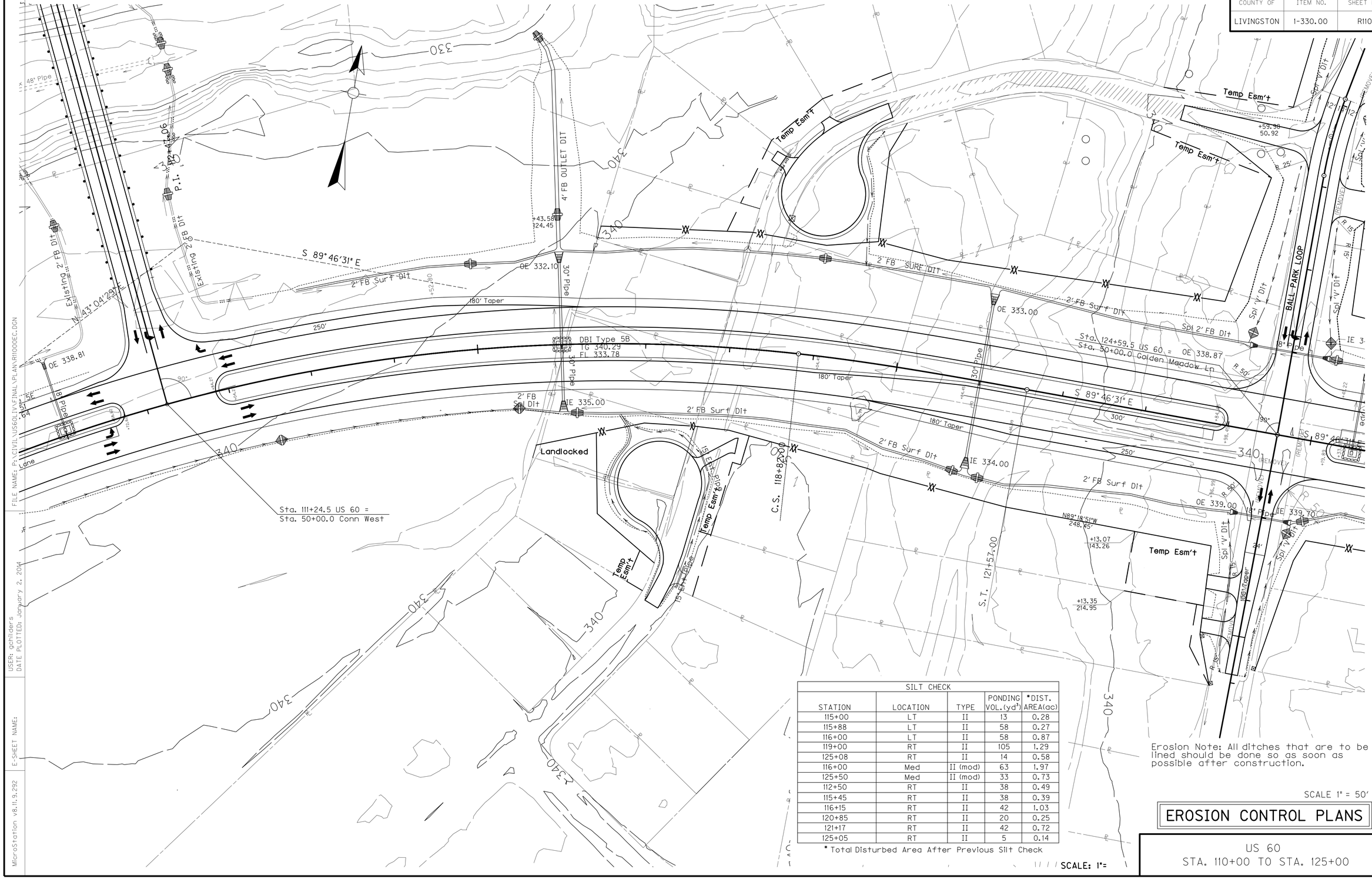
SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 101+02.58 TO STA. 110+00

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R110



SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
115+00	LT	II	13	0.28
115+88	LT	II	58	0.27
116+00	LT	II	58	0.87
119+00	RT	II	105	1.29
125+08	RT	II	14	0.58
116+00	Med	II (mod)	63	1.97
125+50	Med	II (mod)	33	0.73
112+50	RT	II	38	0.49
115+45	RT	II	38	0.39
116+15	RT	II	42	1.03
120+85	RT	II	20	0.25
121+17	RT	II	42	0.72
125+05	RT	II	5	0.14

* Total Disturbed Area After Previous Silt Check

Erosion Note: All ditches that are to be lined should be done so as soon as possible after construction.

SCALE: 1"=

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 110+00 TO STA. 125+00

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R111

P.I. 134+30.87
Δ = 10°58'05" Lt.
C = 1°25'57"
Ts = 471.56'
Ls = 175.00'
Lc = 590.71'
θ = 1°15'12"
L.T.= 116.67'
S.T.= 58.34'
R = 4000.00'
Es = 18.71'
e = 4%
Runoff = 87.5'
Runout = 175'

SILT FENCE		
STA. - STA.	ELEV.	AREA(ac)
127+00 - 133+00	Varies	1.1

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
133+55	LT	II	42	0.25
135+70	LT	II	42	0.46
137+45	LT	II	146	1.17
135+50	MED	II (Mod)	35	1.04
138+50	MED	II (Mod)	35	1.38
128+50	RT	II	42	0.49
134+75	RT	II	146	0.97
135+34	RT	II	42	0.39
137+55	RT	II	42	0.69

*Total Disturbed Area After Previous Silt Check

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 125+00 TO STA. 140+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIVF1\PLAN\R111OOEC.DGN
USER: gehilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R112

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
146+86	LT	II	21	0.30
147+14	LT	II	42	0.32
142+00	MED	II	50	0.73
148+50	MED	II (Mod)	35	0.38
140+50	RT	II	38	0.69
146+00	RT	II	42	0.17
147+00	RT	II	42	0.24
147+76	RT	II	10	0.32
154+00	RT	II	42	0.56

*Total Disturbed Area After Previous Silt Check

140+00

145+00

150+00

SHEILA DRIVE

Temp Esm't

Spl 'V' Dit

2' FB Surf Dit

25 PR COPPER

50 PR COPPER

SAN MH 11C3
TG 346.18
FL 335.28

SAN MH 11C2

SAN MH 11C1

SAN MH 11E1
TG 346.83
FL 330.98

SAN MH 11E4
TG 344.39
FL 333.67

SAN MH 11E3

SAN MH 11E2
TG 346.17
FL 331.52

SAN MH 11F1

SAN MH 11A1
TG 341.98
FL 328.68

SAN MH11A2
TG 343.43

IE 341.73

DBI Type 5D
TG 348.23
FL 345.45

OE 343.77

OE 338.27

OE 338.67

IE 338.90

N 79°15'24" E

N 87°30'17" E

S 2°00'35" W

180' Taper

250' RIGHT TURN LANE

300' LEFT TURN LANE

P.I. 52+55.76

Sta. 150+04.4 US 60 =
Sta. 50+00.0 Rudd Speed Surf Dit

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 140+00 TO STA. 155+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIVFINAL\PLAN\R1200EC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R113

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
157+00	LT	II	42	0.48
160+17	LT	II	42	0.54
164+10	LT	II	42	0.65
167+00	LT	II	42	0.51
158+00	MED	II (Mod)	84	1.97
165+00	MED	II (Mod)	35	0.85
170+00	MED	II	50	0.78
159+89	RT	II	88	0.83
160+09	RT	II	88	0.72
164+00	RT	II	21	0.48
167+00	RT	II	10	0.40

*Total Disturbed Area After Previous Silt Check

SILT TRAP TYPE B			
STATION	LOCATION	PONDING VOL.(yd^3)	*DIST. AREA(ac)
158+84	LT	20	0.51

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 155+00 TO STA. 170+00

SCALE: 1"=

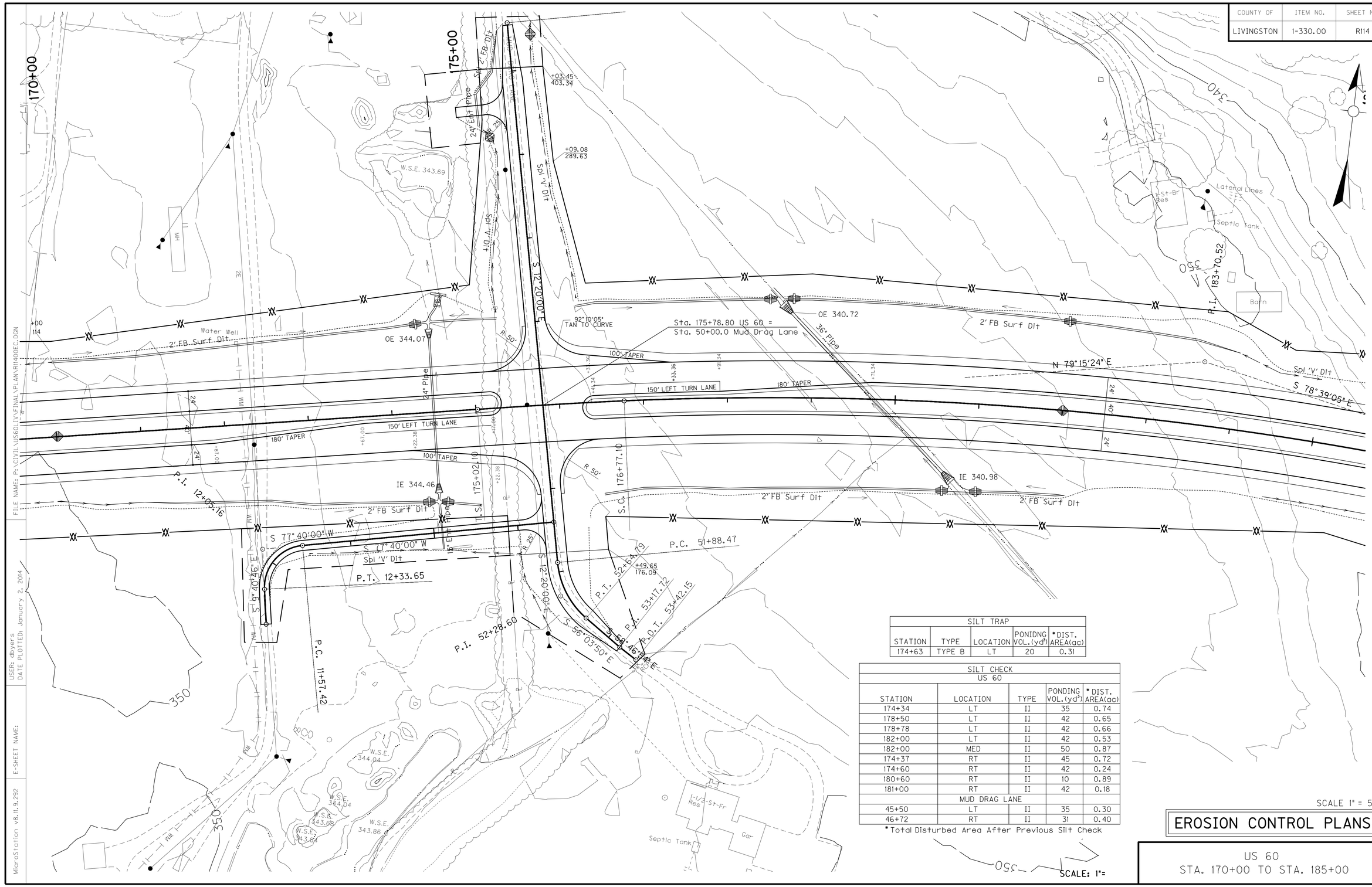
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R11300EC.DGN

USER: gchilders
DATE PLOTTED: January 2, 2014

E-SHEET NAME:

MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R114



SILT TRAP				
STATION	TYPE	LOCATION	PONDNG VOL.(yd³)	*DIST. AREA(ac)
174+63	TYPE B	LT	20	0.31

SILT CHECK US 60				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
174+34	LT	II	35	0.74
178+50	LT	II	42	0.65
178+78	LT	II	42	0.66
182+00	LT	II	42	0.53
182+00	MED	II	50	0.87
174+37	RT	II	45	0.72
174+60	RT	II	42	0.24
180+60	RT	II	10	0.89
181+00	RT	II	42	0.18
	MUD DRAG LANE			
45+50	LT	II	35	0.30
46+72	RT	II	31	0.40

*Total Disturbed Area After Previous Silt Check

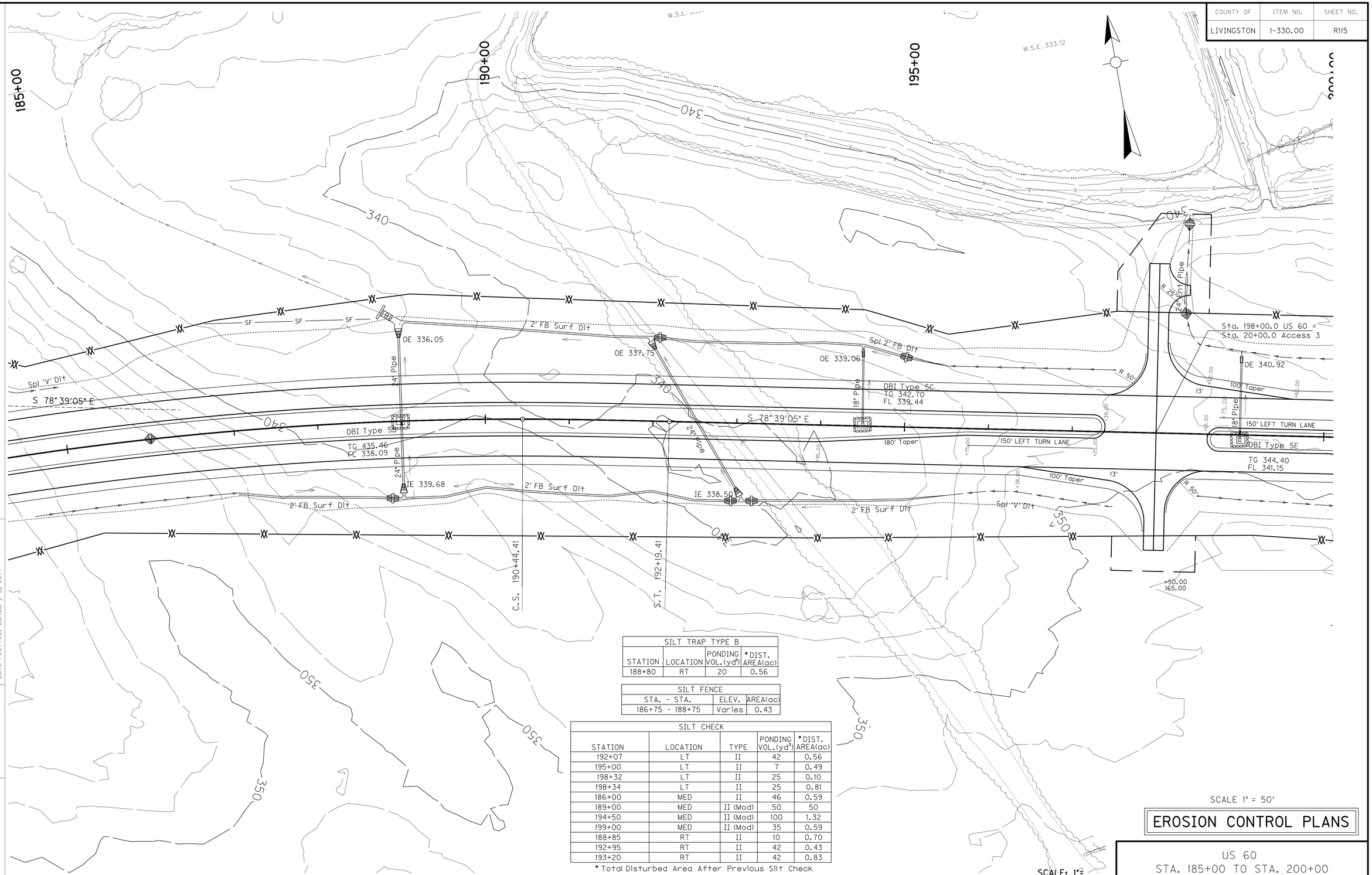
SCALE: 1"= 50'

EROSION CONTROL PLANS

US 60
STA. 170+00 TO STA. 185+00

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RH1400EC.DGN
USER: dbyers
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R115



SILT TRAP TYPE B			
STATION	LOCATION	PONDING VOL.(yd³)	*DIST. AREA(ac)
188+80	RT	20	0.56

SILT FENCE		
STA. - STA.	ELEV.	AREA(ac)
186+75 - 188+75	Varies	0.43

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
192+07	LT	II	42	0.56
195+00	LT	II	7	0.49
198+32	LT	II	25	0.10
198+34	LT	II	25	0.81
186+00	MED	II	46	0.59
189+00	MED	II (Mod)	50	50
194+50	MED	II (Mod)	100	1.32
199+00	MED	II (Mod)	35	0.59
188+85	RT	II	10	0.70
192+95	RT	II	42	0.43
193+20	RT	II	42	0.83

* Total Disturbed Area After Previous Silt Check

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 185+00 TO STA. 200+00

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI15ODEC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R116

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
40+93	Lt	II	4	0.12
44+00	Lt	II	4	0.22
45+74	Lt	II	13	0.15
48+84	Lt	II	10	0.21
41+30	Rt	II	4	0.18
43+90	Rt	II	4	0.23
45+74	Rt	II	31	0.43

*Disturbed Area After Previous Silt Check

Scale 1" = 50'

EROSION CONTROL PLANS

CONNECTOR LT. 211+88+80
STA. 40+22 to STA. 50+00

SCALE: 1"=

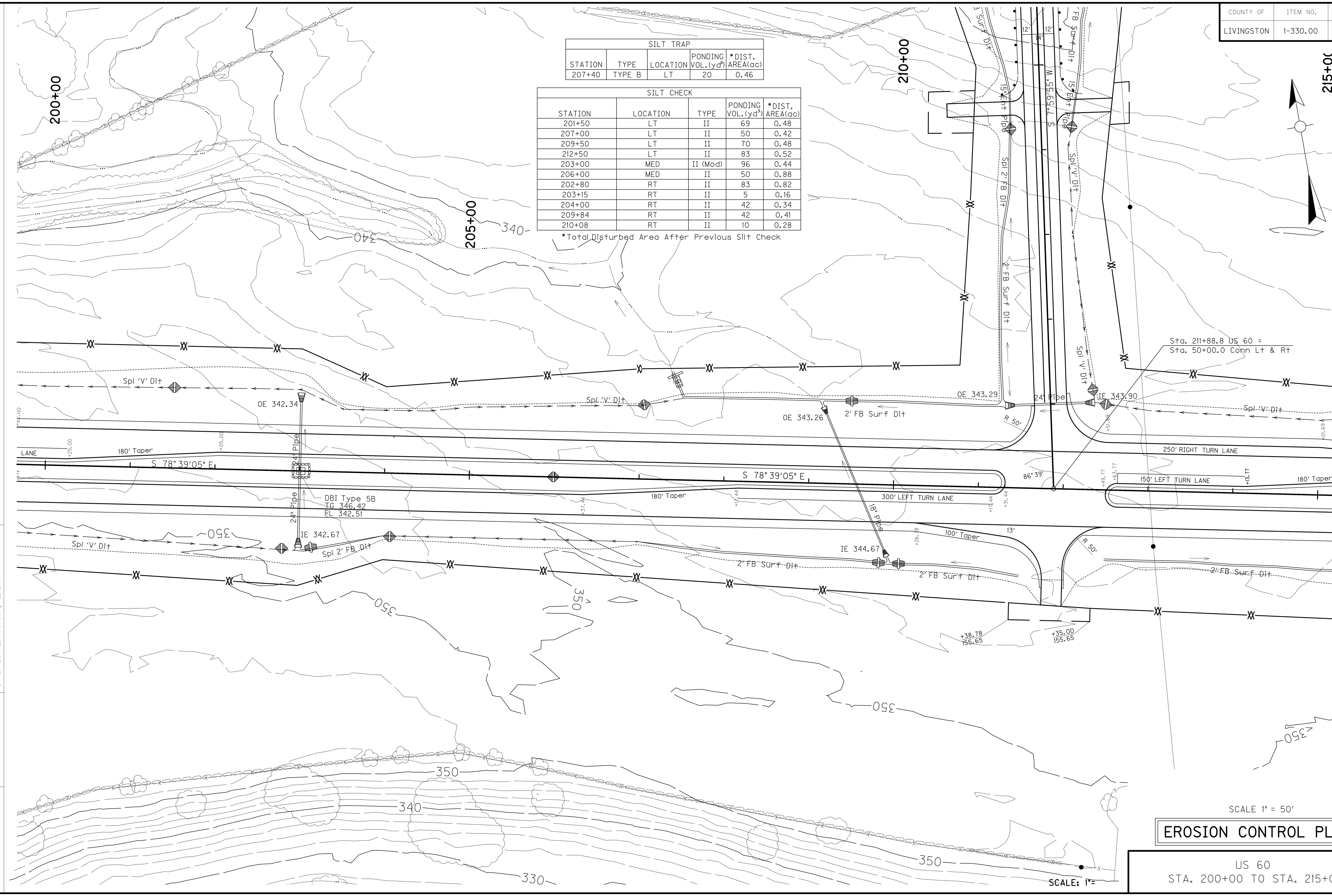
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R116006EC.DGN
USER: ghilders
DATE PLOTTED: January 2, 2014
SHEET NAME: I-51-Br-Res
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R117

SILT TRAP				
STATION	TYPE	LOCATION	PONDING VOL.(yd³)	*DIST. AREA(ac)
207+40	TYPE B	LT	20	0.46

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
201+50	LT	II	69	0.48
207+00	LT	II	50	0.42
209+50	LT	II	70	0.48
212+50	LT	II	83	0.52
203+00	MED	II (Mod)	96	0.44
206+00	MED	II	50	0.88
202+80	RT	II	83	0.82
203+15	RT	II	5	0.16
204+00	RT	II	42	0.34
209+84	RT	II	42	0.41
210+08	RT	II	10	0.28

*Total Disturbed Area After Previous Silt Check



SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 200+00 TO STA. 215+00

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R118

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
215+50	LT	II	69	0.27
220+00	LT	II	42	0.30
220+60	LT	II	3	0.10
223+05	LT	II	3	0.20
224+50	LT	II	42	0.78
227+75	LT	II	83	0.92
	MED	II (Mod)	0	0
	MED	II (Mod)	0	0
	MED	II (Mod)	0	0
	MED	II (Mod)	0	0
228+50	MED	II (Mod)	0	0
216+00	RT	II	59	0.64
219+00	RT	II	59	0.55
220+60	RT	II	3	0.32
223+18	RT	II	3	0.28
224+50	RT	II	83	0.77
228+36	RT	II	83	1.37
CODY COOPER DRIVE				
48+00	LT	II	5	0.09
49+00	LT	II	3	0.08
51+80	LT	II	3	0.11
51+60	RT	II	31	0.12

*Total Disturbed Area After Previous Silt Check

215+00 45+00 220+00 225+00 230+00

HICKS LANE

CODY COOPER ROAD

DBI TYPE 5B TG 345.69 Inv 342.77

DBI TYPE 5B TG 344.51 Inv 341.60

DBI TYPE 5D TG 344.28 Inv 341.30

DBI TYPE 5D TG 345.71 Inv 342.70

DBI Type 5E TG 347.18 FL 344.39

MH3E1 TG 349.86 FL 342.30

MH3E2 TG 355.03 FL 347.25

MH 304 TG 349.03 FL 344.30

OE 337.00

OE 342.35

OE 343.47

OE 341.72

OE 341.32

OE 342.10

Sta. 227+35.69 US 60 =
Sta. 50+00.0 Cody Cooper Rd

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 215+00 TO STA. 230+00

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R119

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
235+00	LT	II	83	0.53
239+11	LT	II	70	1.11
244+90	LT	II	5	0.12
232+50	MED	II	46	0.54
236+15	MED	II (Mod)	46	0.80
245+00	MED	II (Mod)	46	0.52
238+24	RT	II	50	0.38
238+57	RT	II	105	0.75
FRONTAGE ROAD EAST				
10+00	RT	II	5	0.06

*Total Disturbed Area After Previous Silt Check

SILT TRAP				
STATION	TYPE	LOCATION	PONDING VOL.(yd³)	*DIST. AREA(ac)
236+25	TYPE B	LT	20	0.21

SILT FENCE		
STA. - STA.	ELEV.	AREA(ac)
LT 236+40 - 238+75	Varies	0.43
FRONTAGE ROAD EAST		
RT 10+00 - 12+50	Varies	0.20

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 230+00 TO STA. 245+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R119OEC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R120

SILT TRAP TYPE B			
STATION	LOCATION	PONDING VOL.(yd³)	*DIST. AREA(ac)
258+44	LT	40	0.41

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
245+12	LT	II	105	0.99
251+40	LT	II	10	0.28
258+00	LT	II	100	1.13
259+00	LT	II	100	0.96
250+50	MED	II (MOD)	50	1.03
255+00	MED	II (Mod)	50	1.62
248+12	RT	II	45	0.77
257+00	RT	II	100	0.97
258+50	RT	II	100	1.03

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
CONNECTOR ROAD EAST				
45+44	LT	II	30	0.24
43+60	RT	II	20	0.15
45+33	RT	II	20	0.18
48+71	RT	II	83	0.41
53+00	RT	II	30	0.15
ANITA DRIVE				
38+73	LT	II	20	0.22
39+12	RT	II	20	0.06

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
FRONTAGE ROAD EAST				
12+85	LT	II	10	0.14
12+94	LT	II	50	0.37
13+15	LT	II	10	0.12
15+85	LT	II	25	0.10
15+95	LT	II	50	0.37
16+15	LT	II	25	0.38
26+50	LT	II	105	0.60
13+00	RT	II	50	0.03
16+00	RT	II	50	0.09
24+85	RT	II	42	0.27
25+50	RT	II	20	0.17

SILT FENCE		
STA. - STA.	ELEV.	AREA(ac)
FRONTAGE ROAD EAST		
RT 12+50 - 22+50	Varies	0.90

*Total Disturbed Area After Previous Silt Check

Sta. 53+48.9 Conn. East =
Sta. 20+00.0 Front. East

Sta. 252+00.0 US 60
Sta. 50+00.0 Conn. East

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 245+00 TO STA. 260+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R120000EC.DGN
USER: ghilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R121

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
264+59	Lt	II	8	0.60
267+00	Lt	II	12	0.51
270+00	Lt	II	13	0.84
264+84	Med	II (Mod)	28	0.92
262+00	Rt	II	50	0.66
264+63	Rt	II	6	0.79
267+00	Rt	II	35	0.68
270+00	Rt	II	19	0.64
273+37	Rt	II	10	0.20

* Total Disturbed Area After Previous Silt Check

SCALE: 1"=

SCALE 1" = 50'

EROSION CONTROL PLANS

US 60
STA. 260+00 TO STA. 275+00

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R122

SILT TRAP TYPE B			
STATION	LOCATION	PONDING VOL.(yd³)	*DIST. AREA(ac)
275+90	RT	40	0.74

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
275+88	Lt	II	30	0.27
276+11	Lt	II	23	0.28
278+25	Lt	II	10	0.46
281+00	Lt	II	105	0.25
282+89	Lt	II	5	0.25
284+00	Lt	II	15	0.26
285+50 - 288+50	Lt @ 150' O. C.	II	63	0.85
279+80	Rt	II	26	0.54
283+05	Rt	II	9	0.41
284+00	Rt	II	30	0.21
285+50	Rt	II	21	0.20
287+00 - 288+50	Rt @ 150' O. C.	II	42	0.35

* Total Disturbed Area After Previous Silt Check

SCALE 1" = 50'

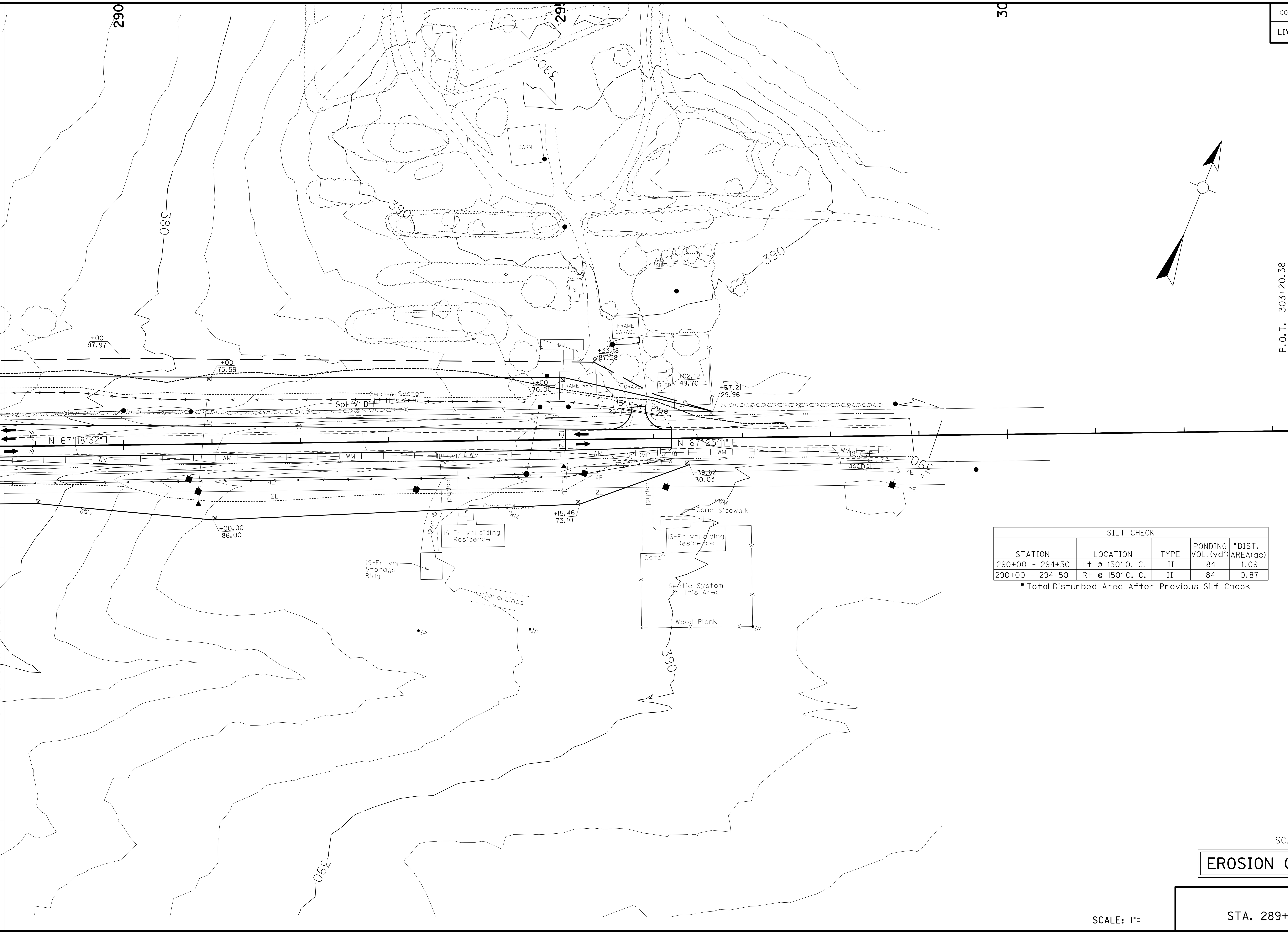
EROSION CONTROL PLANS

US 60
STA. 275+00 TO STA. 289+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1220EC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R123



SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
290+00 - 294+50	Lt @ 150' O. C.	II	84	1.09
290+00 - 294+50	Rt @ 150' O. C.	II	84	0.87

* Total Disturbed Area After Previous Silf Check

SCALE 1" = 50'

EROSION CONTROL PLANS

SCALE: 1"=

US 60
STA. 289+00 TO STA. 296+20

FILE NAME: P:\CIVIL\...DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R124

BEGIN CONSTRUCTION
STA 39+24.92
WEST CONNECTOR

END CONSTRUCTION
STA. 49+56
WEST CONNECTOR

STA. 50+00 WEST CONNECTOR =
STA. 111+24.5 US 60

P.I. 112+47.06

S 89°46'31" E

N 13°04'29" E

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
41+00	Lt	II	36	0.14
44+20	Lt	II	6	0.20
45+83	Lt	II	5	0.13
46+15	Lt	II	5	0.13
47+60	Lt	II	52	0.31
41+00	Rt	II	36	0.14
44+15	Rt	II	6	0.21
45+77	Rt	II	5	0.12
46+03	Rt	II	5	0.13
47+60	Rt	II	52	0.26

*Total Disturbed Area After Previous Silt Check

Scale: 1" = 50'

EROSION CONTROL PLANS

WEST CONNECTOR
STA. 35+25 TO STA. 50+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1240EC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R125

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
39+50	Lt	II	3	0.06
39+70	LT	II	3	0.19
41+70	Lt	II	3	0.09
43+93	Lt	II	6	0.18
44+79	Lt	II	30	0.12
46+00	Lt	II	6	0.08
48+80	Lt	II	6	0.20
51+13	Lt	II	12	0.08
39+62	Rt	II	4	0.10
40+50	Rt	II	13	0.25
44+54	Rt	II	3	0.14
44+76	Rt	II	10	0.14
48+85	Rt	II	8	0.26

*Disturbed Area After Previous Silt Check

P.O.T. 39+25.44

S 11° 00' 53" W

125+00

120+00

Sta 124+60 US 60 =
Sta 50+00 Golden Meadow Lane

End Golden Meadow Lane Sta 52+90

S 89° 46' 31" E

Scale 1" = 50'

EROSION CONTROL PLANS

Golden Meadow Lane
STA. 39+36 to STA. 54+90

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R126

SILT CHECK - RUDD SPEES RD				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
43+71	Lt	II	42	0.08
44+40	Lt	II (Mod)	5	0.06
45+05	Lt	II	4	0.11
46+50	Lt	II	31	0.26
52+50	Lt	II	26	0.22
54+72	Lt	II	25	0.24
55+00	Lt	II	12	0.08
44+40	Rt	II (Mod)	5	0.09
45+10	Rt	II	31	0.33
48+00	Rt	II	31	0.38
53+42	Rt	II	8	0.25
55+00	Rt	II	50	0.21

* Disturbed Area After Previous Silt Check

SILT CHECK - ERWIN EXT.				
STATION	LOCATION	TYPE	PONDING VOL.(yd³)	*DIST. AREA(ac)
22+75	Lt	II	42	0.19
23+00	Lt	II	52	0.15
23+00	Rt	II	7	0.23

* Disturbed Area After Previous Silt Check

Scale 1" = 50'

EROSION CONTROL PLANS

RUDD SPEES RD & ERWIN EXT.
STA. 43+71 to STA. 56+00

SCALE: 1"=

FILE NAME: P:\CIVIL\US60_LIV\FINAL\PLAN\R126OEC.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R127

SILT CHECK				
STATION	LOCATION	TYPE	PONDING VOL.(yd^3)	*DIST. AREA(ac)
42+20	Lt	II	52	0.27
47+00	Lt	II	24	0.15
48+25	Lt	II	24	0.13
42+16	Rt	II	55	0.33
47+00	Rt	II	24	0.19
48+85	Rt	II	4	0.10

* Disturbed Area After Previous Silt Check

Scale 1" = 50'

EROSION CONTROL PLANS

KELLY DRIVE
STA. 41+70 to STA. 50+00

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R128

	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 30 Inch (L.F.)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5E (Each)	30" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
	Med	9		162	1		2	10			1710
	Med	6		75		1		5	12	1.5	

-420 -390 -360 -330 -300 -270 -240 -210 -180 -150

340 330 MATCH LINE 0.5%

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	9.1	340.37
CHECK	100	11.1	340.47

GRATE CONTROL

℄ Const Drop Box Inlet Type 5B (Sag)

343.36 340.79 343.36

TG 340.29 VARIES 6:1

98.11' Lt Const 30" S&F Box Inlet-Outlet

Outlet 332.10

0.5%

Const 4' FB Outlet Ditch w/ 3:1 Cut Slopes

Const Channel Lining Class II (d=1.5', t=1.25', 10 Ton)

S = 1.74% Const 96' - 30" Pipe

FL 333.78

S = 1.74% Const 66' - 30" Pipe

Limits of Flowable Fill

67.75' Rt Const 30" S&F Box Inlet-Outlet

Inlet 335.00

CQ 100YR HW

DQ 25YR HW

REGULATED HIGH WATER ELEV. 339.00

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	12.1	336.65
CHECK	100	15.7	336.93

116+00
US 60
0° SKEW

345.99 ADJUSTED GP 343.04 345.59 345.23 ADJUSTED GP

6.0' Lt Const Drop Box Inlet Type 5E (Sag)

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	6.0	342.91
CHECK	100	7.3	343.01

GRATE CONTROL

83.5' Lt Const 18" Sloped & Parallel Headwall

Outlet 338.81

TG 342.51

3:1 3:1 3.0% 6.6%

S = 1.1% Const 75' - 18" Pipe

FL 339.64

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 5 Ton)

110+00
US 60
0° SKEW

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

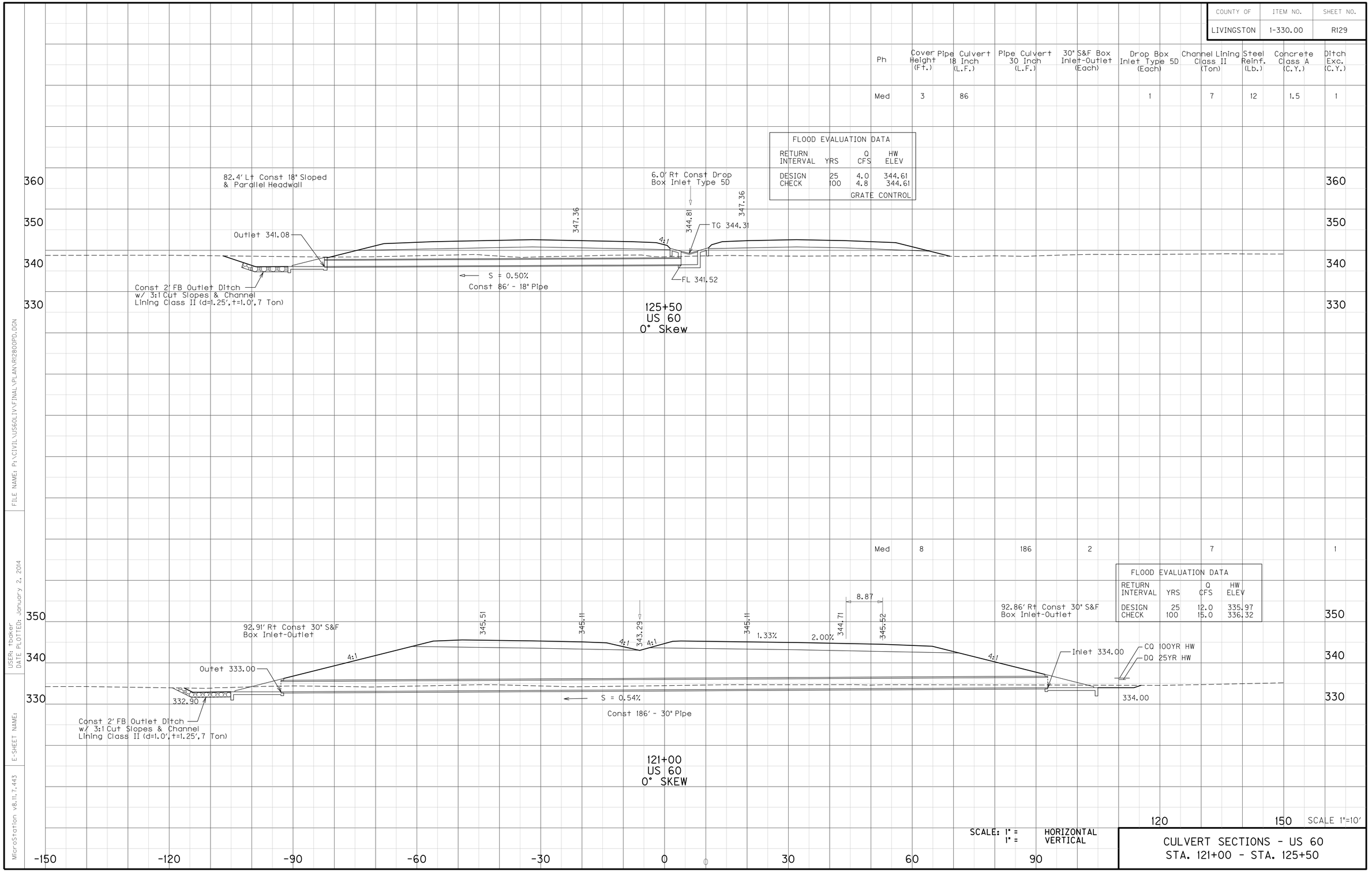
SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60
STA. 110+00 - STA. 116+00

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R128OOPD.DGN
USER: tbaker
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R129

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 30 Inch (L.F.)	30" S&F Box Inlet-Outlet (Each)	Drop Box Inlet Type 5D (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	3	86			1	7	12	1.5	1
Med	8		186	2		7			1



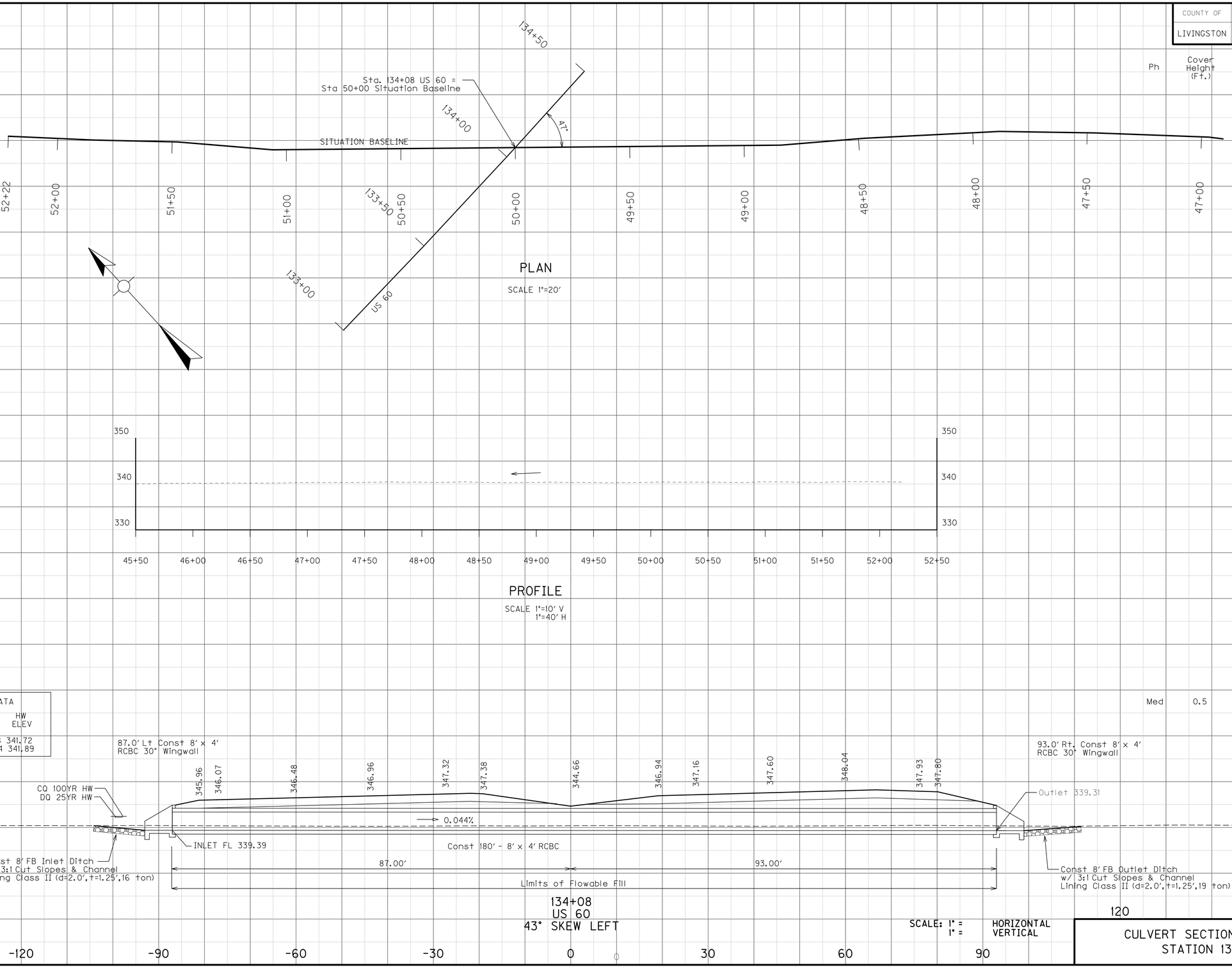
SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60
STA. 121+00 - STA. 125+50

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R129OOPD.DGN
USER: tbaker
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI30

Ph	Cover Height (Ft.)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
Med	0.5	35	2



PLAN

SCALE 1"=20'

PROFILE

SCALE 1"=10' V
1"=40' H

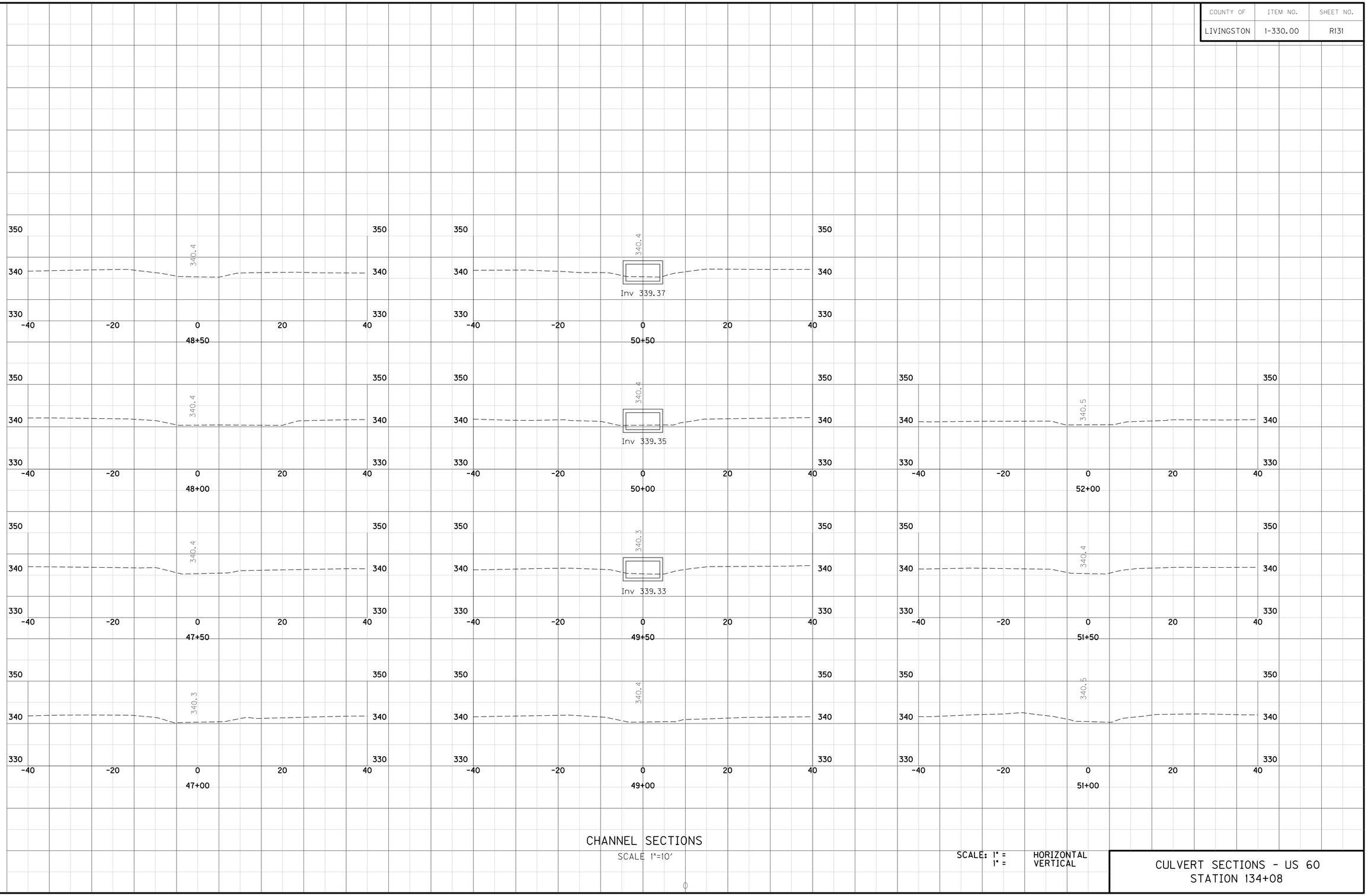
FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	17.48	341.72
CHECK	100	22.34	341.89

134+08
US 60
43° SKEW LEFT

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60 STATION 134+08

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R131



CHANNEL SECTIONS

SCALE 1"=10'

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60
STATION 134+08

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI32

	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	Drop Box Inlet Type 5E (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
	Med	8	178		2			7			2
	Med	4	68				1	7	12	1.5	1
	Med	4		145		2	1	7			8

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	4.1	343.08
CHECK	100	5.2	343.29

85.9' Lt Const 18" S&F Box Inlet-Outelt

351.60 351.60 349.53 351.60 351.12

4:1 4:1 5:1 4:1

91.6' Rt Const 18" S&F Box Inlet-Outlet

DQ 25YR HW
CQ 100YR HW

341.75

INLET FL 341.73

S = 0.82%
Const 178' - 18" Pipe

OUTLET FL 340.27

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

147+00
US 60
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	6.8	345.18
CHECK	100	8.2	345.28
GRATE CONTROL			

6.0' Rt Const Drop Box Inlet Type 5E (Sag)

347.85

76.07' Rt Const 18" Sloped & Parallel Headwall

1.2 347.47

345.28 TG 344.78 348.23

6:1 4:1 3:1 3:1 4:1

Outlet 341.05

342.00

S = 0.50%
Const 68' - 18" Pipe

FL 341.40

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

138+50
US 60
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	9.9	342.65
CHECK	100	12.3	342.92

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	4.9	344.08
CHECK	100	6.0	344.18
GRATE CONTROL			

70.79' Lt Const 24" S&F Box Inlet-Outlet

6.0' Lt Const Drop Box Inlet Type 5E (Sag)

346.90 346.90

1.20

78.33' Rt Const 24" S&F Box Inlet-Outlet

Inlet 340.46

CQ 100YR HW
DQ 25YR HW

344.31 TG 343.78

Outlet 340.03

S = 0.29%
Const 63' - 24" Pipe

FL 340.27

S = 0.29%
Const 82' - 24" Pipe

Limits of Flowable Fill

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

135+50
US 60
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

SCALE 1"=10'

CULVERT SECTIONS - US 60
STA. 135+50 - STA. 138+50 - STA. 147+00

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI33

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 42 Inch (L.F.)	Metal End Sect. TY. 3 - 42 Inch (Each)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5B (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	2		148	2			13			2
Med	4	74				1	7	12	1.5	1
Med	3	80			1		7	12	1.5	

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	29.4	343.38
CHECK	100	37.5	343.86

75.0' Lt Const Metal End Sect. TY. 3 - 42 Inch

73.22' Rt Const Metal End Sect. TY. 3 - 42 Inch

Outlet 340.00

347.67 | 345.06 | 347.67

4:1

Inlet 340.50

CQ 100YR HW

DQ 25YR HW

S = 0.34%

Const 148' - 42" Pipe

Limits of Flowable Fill

Const 4' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 14 Ton)

160+00
US 60
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	9.3	344.16
CHECK	100	11.3	344.26

GRATE CONTROL

℄ Const Drop Box Inlet Type 5B (Sag)

75.73' Lt Const 18" Sloped & Parallel Headwall

347.12 | 344.06 | 347.12

TG 343.56

339.75

S = 1.19%

Const 74' - 18" Pipe

FL 340.64

OUTLET ELEV. 339.76

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

158+00
US 60
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	2.6	348.43
CHECK	100	3.2	348.53

GRATE CONTROL

6.0' Lt Const Drop Box Inlet Type 5D (Sag)

76.43' Rt Const 18" Sloped & Parallel Headwall

351.32 | 348.78 | 351.32

TG 348.23

345.32

S =2.09%

Const 80' - 18" Pipe

FL 345.45

OUTLET ELEV 343.77

342.90

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

148+50
US 60
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

SCALE 1"=10'

CULVERT SECTIONS - US 60
STA. 148+50 - STA. 158+00 - STA. 160+00

FILE NAME: P:\CIVIL\US60LIVVFINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI34

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 36 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	36" S&F Box Inlet-Outlet (Each)	Drop Box Inlet Type 5D (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	9			263		2		9			1

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	15.8	343.40
CHECK	100	20.0	343.81

101.73' Lt Sta 178+76 Const 36" S&F Box Inlet-Outlet

354.69 354.71 353.57 353.36 360.58 353.54 353.43 352.35 351.81

84.30' Rt Sta 180+61 Const 36" S&F Box Inlet-Outlet

CQ 100YR HW
DQ 25YR HW

OUTLET ELEVATION 340.72

Const Channel Lining Class II (d=1.5', t=1.25', 9 Ton)

Const 4' FB Outlet Ditch w/ 3:1 Cut Slopes

S = 0.10%

Const 263' - 36" Pipe

INLET ELEV. 340.98

179+74
US 60
45° SKEW LEFT

Med	7	175	2	7

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	6.5	346.12
CHECK	100	8.2	346.41

89.16' Lt Const 24" S&F Box Inlet-Outlet

355.10 352.83 355.10 10.31

86.22' Rt Const 24" S&F Box Inlet-Outlet

4:1 4:1

CQ 100YR HW
DQ 25YR HW

OUTLET ELEV 344.07

S = 0.22%

Const 175' - 24" Pipe

344.50

INLET ELEV. 344.46

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

174+50
US 60
0° SKEW

Med	3	93	1	5	12	1.5

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	8.0	347.90
CHECK	100	9.7	348.00
		GRATE CONTROL	

89.3' Lt Const 18" Sloped & Parallel Headwall

350.09 350.33 350.33 350.33

6.0' Rt Const Drop Box Inlet Type 5D (Sag)

TG 347.40

347.92

6:1 6:1 4:1 4:1

343.86

OUTLET ELEV. 343.90

S = 0.78%

Const 93' - 18" Pipe

FL 344.63

345.00

Const 2' FB Outlet Ditch w/ 3:1 Cut Slopes & Channel Lining Class II (d=1.0', t=1.25', 5 Ton)

165+00
US 60
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

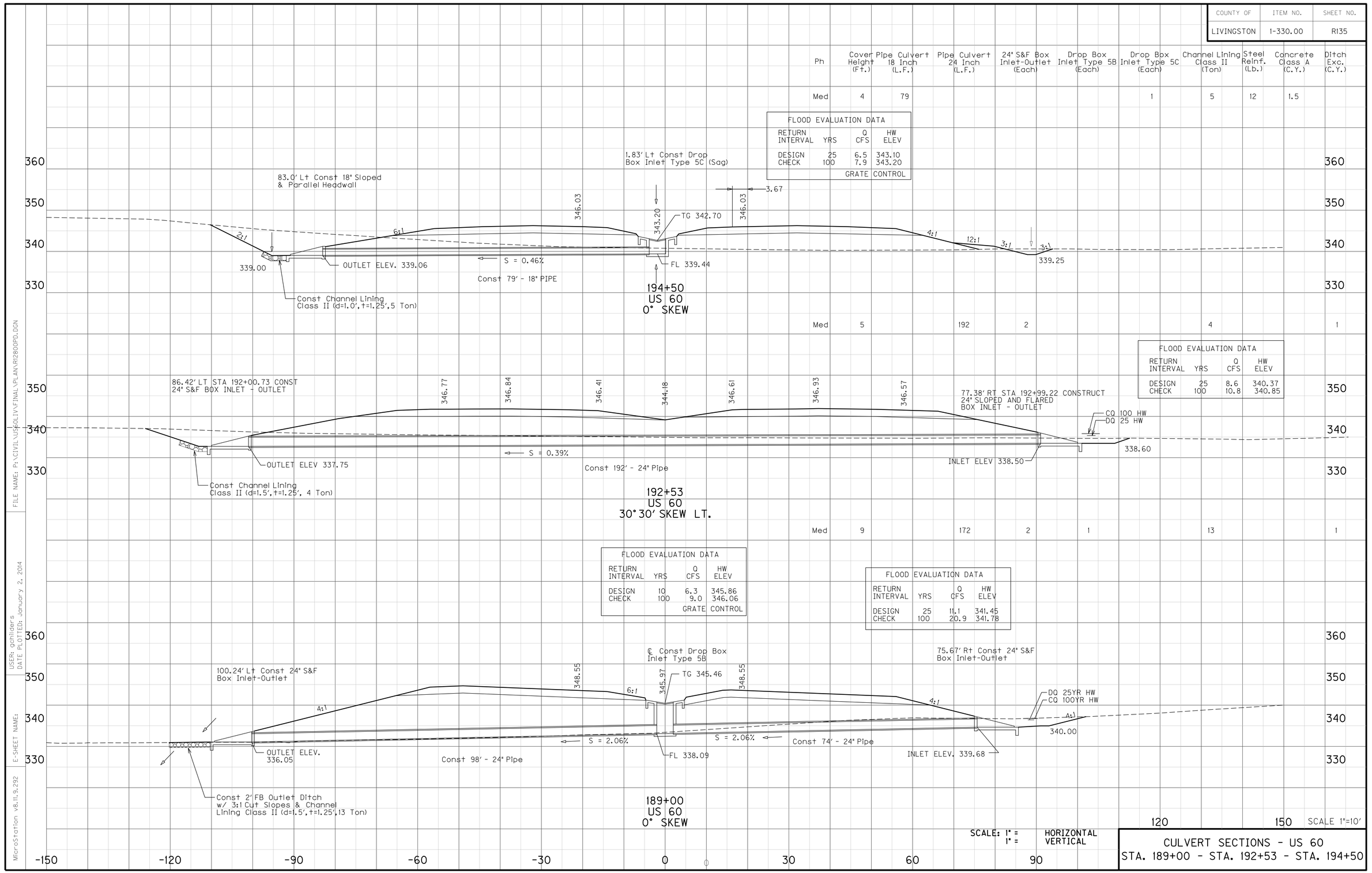
SCALE 1"=10'

CULVERT SECTIONS - US 60
STA. 165+00 - STA. 174+50 - STA. 179+74

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI35

	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5C (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
	Med	4	79				1	5	12	1.5	
	Med	5		192	2			4			1
	Med	9		172	2	1		13			1

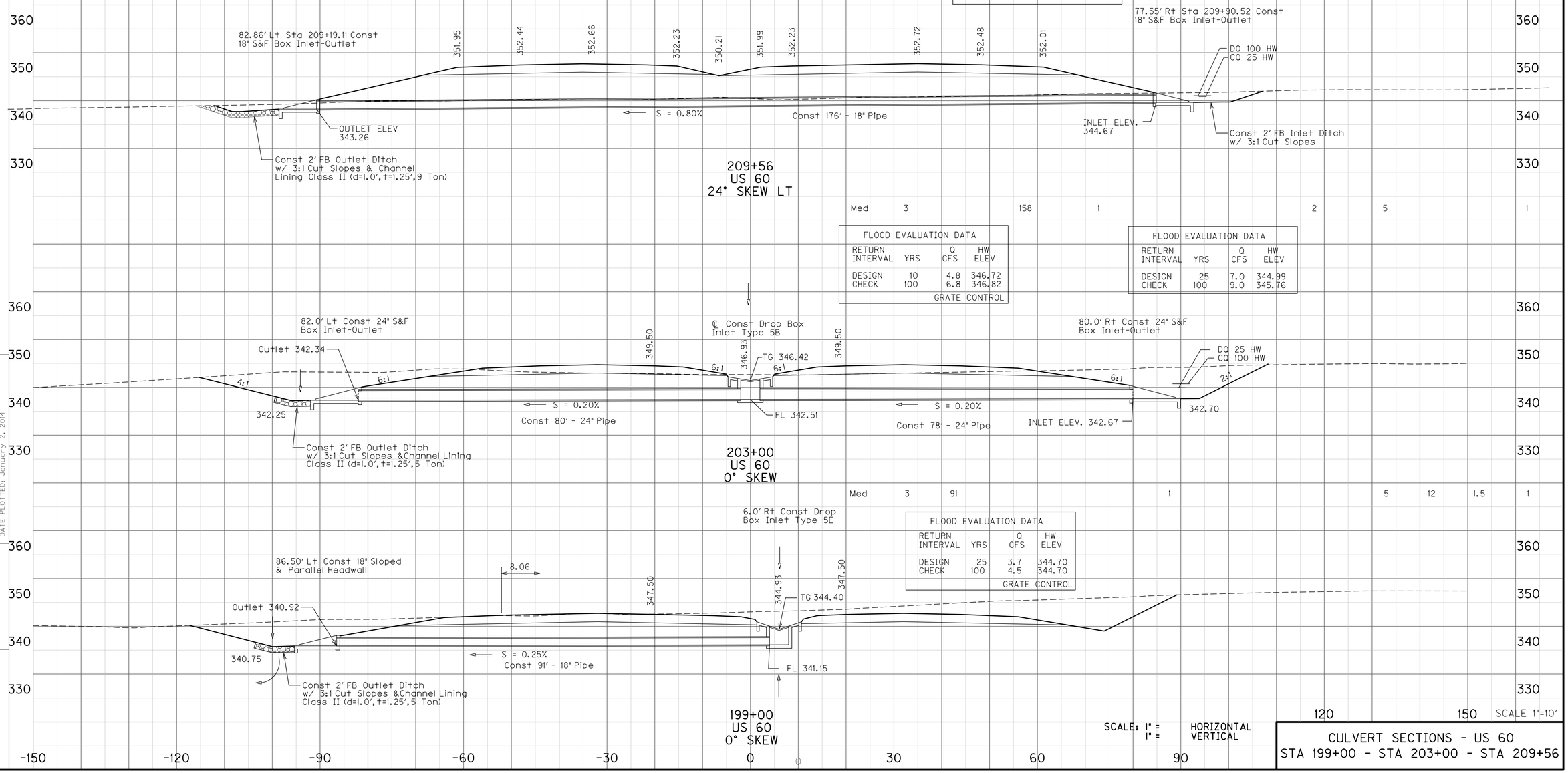


SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60
STA. 189+00 - STA. 192+53 - STA. 194+50

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R136

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5E (Each)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	5	176				2		9			2



Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5E (Each)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	3		158	1			2	5			1

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	10	4.8	346.72
CHECK	100	6.8	346.82

GRATE CONTROL

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	7.0	344.99
CHECK	100	9.0	345.76

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5E (Each)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	3	91			1			5	12	1.5	1

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	3.7	344.70
CHECK	100	4.5	344.70

GRATE CONTROL

SCALE: 1" = HORIZONTAL
1" = VERTICAL

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

CULVERT SECTIONS - US 60
STA 199+00 - STA 203+00 - STA 209+56

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI37

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	10	1.8	344.48
CHECK	100	2.6	344.48

GRATE CONTROL

3.86' Lt Const Drop Box Inlet Type 5D

85.6' Lt Const 15" S&F Headwall

TG 344.28

344.78

4:1

4:1

3:1

3:1

Outlet 337.00

WSEL 336.6

S = 5.39%

Inv 341.30

Const 80' -15" Pipe

222+80
US 60
0° SKEW

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5B (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	8	80		1			7	0.75	

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	10	1.7	344.71
CHECK	100	2.4	344.71

GRATE CONTROL

℄ Const Drop Box Inlet Type 5B

345.01

TG 344.51

6:1

6:1

3:1

3:1

85.6' Rt Const 15" S&F Headwall

Outlet 337.00

WSEL 336.6

Inv 341.60

S = 5.5%

Const 84' - 15" Pipe

221+20
US 60
0° SKEW

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5B (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	7	84			1		7	0.75	

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	10	4.7	346.09
CHECK	100	6.8	346.19

GRATE CONTROL

℄ Const Drop Box Inlet Type 5B

346.19

TG 345.69

6:1

6:1

6:1

3:1

Outlet 342.35

Inv 342.77

S = 0.50%

Const 83' - 18" Pipe

Const Channel Lining Class II (d=1.0', t=1.25', 4 Ton)

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5B (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	4		84		1	4	12	1.50	1

84.5' Rt Const 18" Sloped & Parallel Headwall

218+45
US 60
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

SCALE 1"=10'

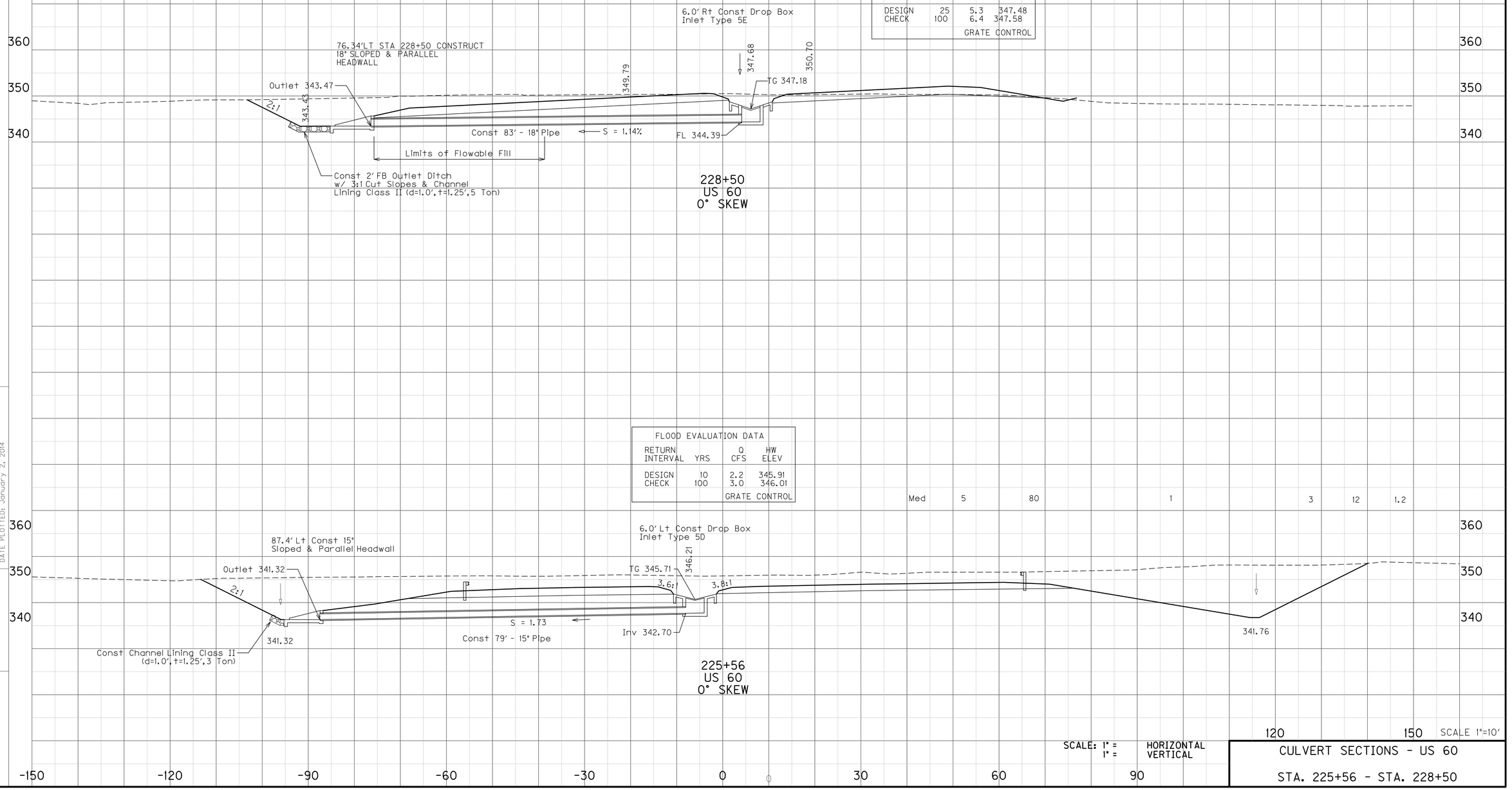
CULVERT SECTIONS - US 60
STA. 218+45 - STA. 221+20
STA. 222+80

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	RI38

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5E (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	3		83		1	5	12	1.5	1

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	5.3	347.48
CHECK	100	6.4	347.58
		GRATE CONTROL	



FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	10	2.2	345.91
CHECK	100	3.0	346.01
		GRATE CONTROL	

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5E (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	5	80		1		3	12	1.2	

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60

STA. 225+56 - STA. 228+50

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R139

Station	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 48 Inch Equiv. (L.F.)	24" S&F Box Inlet-Outlet (Each)	Metal End Sect. TY. 3 - 48 Inch (Each)	Drop Box Inlet Type 5C (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
245+00	Med	8		167		2		1	6			2
238+69	Med	8			198		2		17			2
236+15	Med	3	77					1	7	12	1.5	

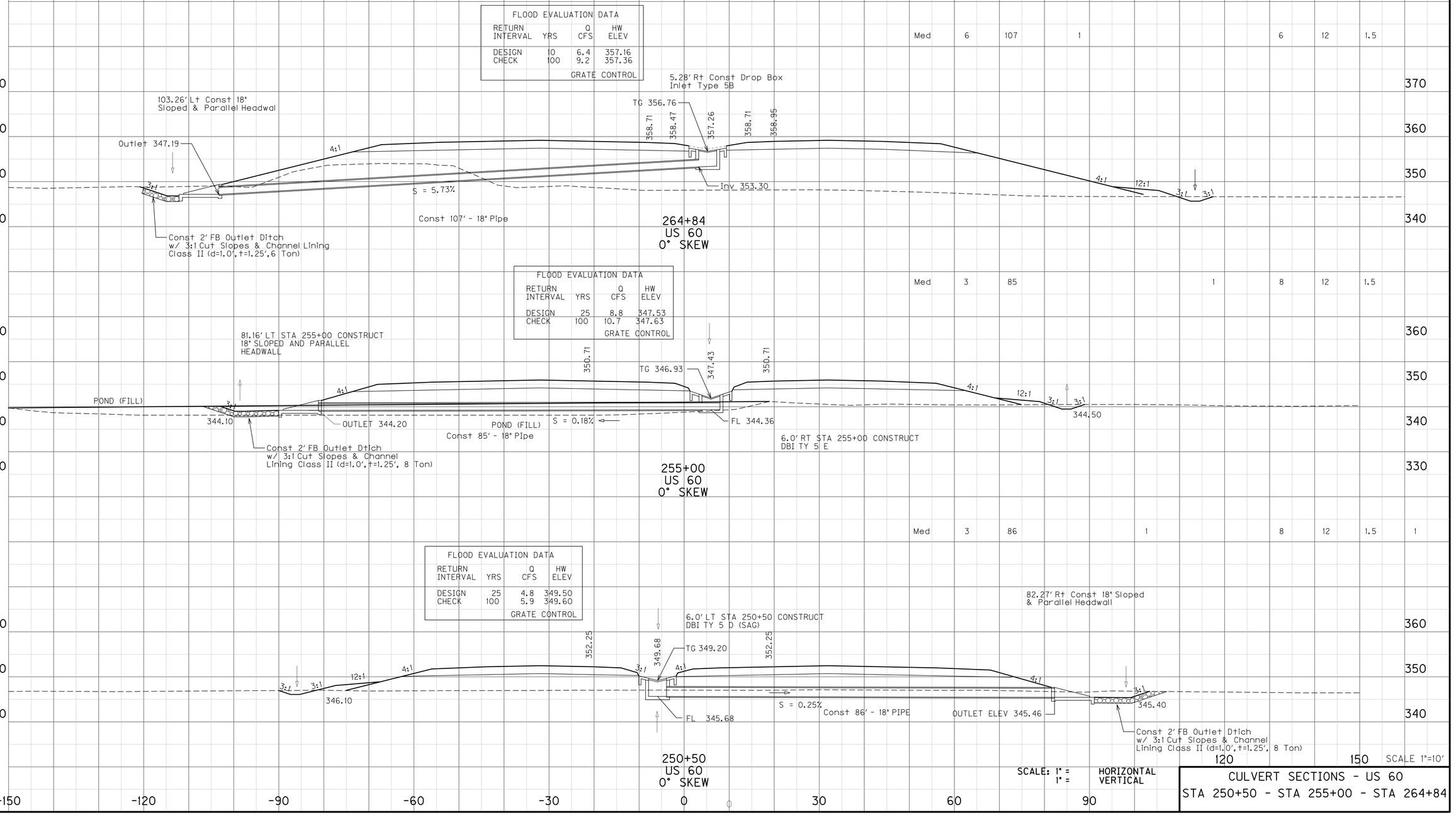
SCALE: 1" = HORIZONTAL
1" = VERTICAL
SCALE 1"=10'

CULVERT SECTIONS - US 60
STA 236+15 - STA 238+69 - STA 245+00

MicroStation v8.11.9.292 E-SHEET NAME: USER: gchilders DATE PLOTTED: January 2, 2014 FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R12800PD.DGN

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R140

Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Drop Box Inlet Type 5B (Each)	Drop Box Inlet Type 5D (Each)	Drop Box Inlet Type 5E (Each)	Channel Lining Class II (Ton)	Steel Reinf. (Lb.)	Concrete Class A (C.Y.)	Ditch Exc. (C.Y.)
Med	6	107	1			6	12	1.5	
Med	3	85			1	8	12	1.5	
Med	3	86			1	8	12	1.5	1

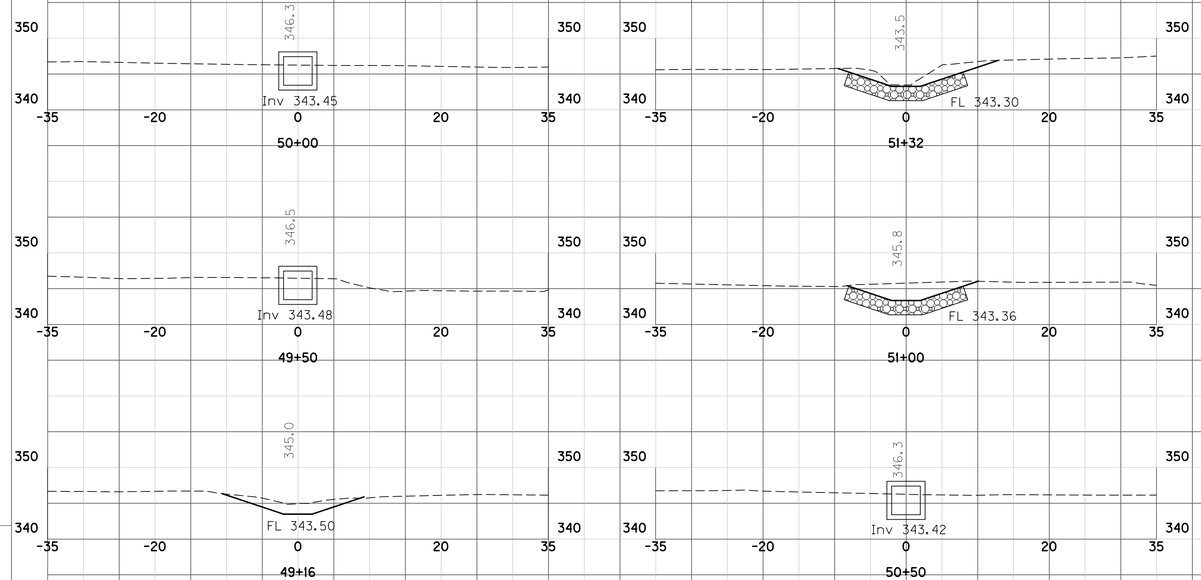


CULVERT SECTIONS - US 60
STA 250+50 - STA 255+00 - STA 264+84

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

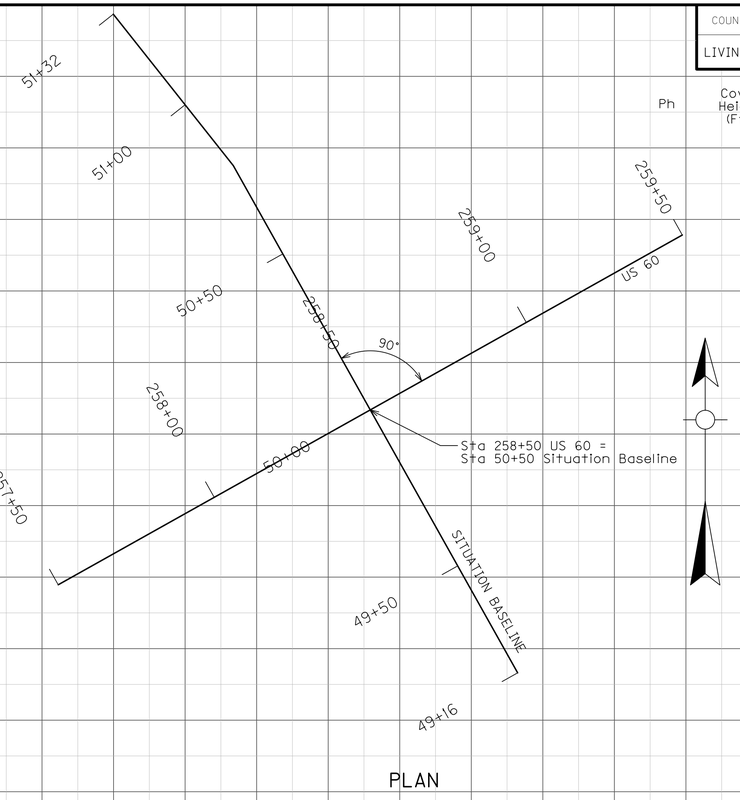
COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	R141

Ph	Cover Height (Ft.)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
Med	4	63	38



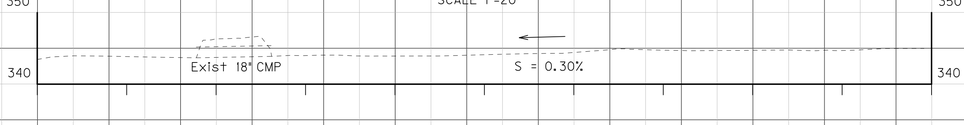
CHANNEL SECTIONS

SCALE 1"=10'



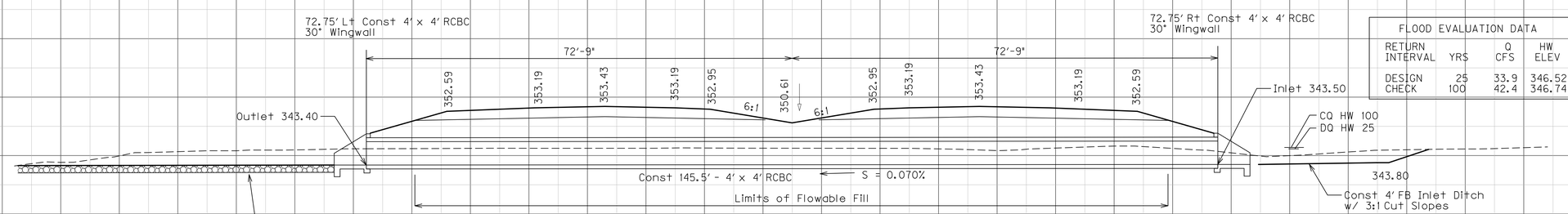
PLAN

SCALE 1"=20'



PROFILE

SCALE 1"=10' V
1"=40' H



FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	33.9	346.52
CHECK	100	42.4	346.74

258+50
US 60
0° SKEW

SCALE 1"=10'

SCALE: 1" = HORIZONTAL
1" = VERTICAL

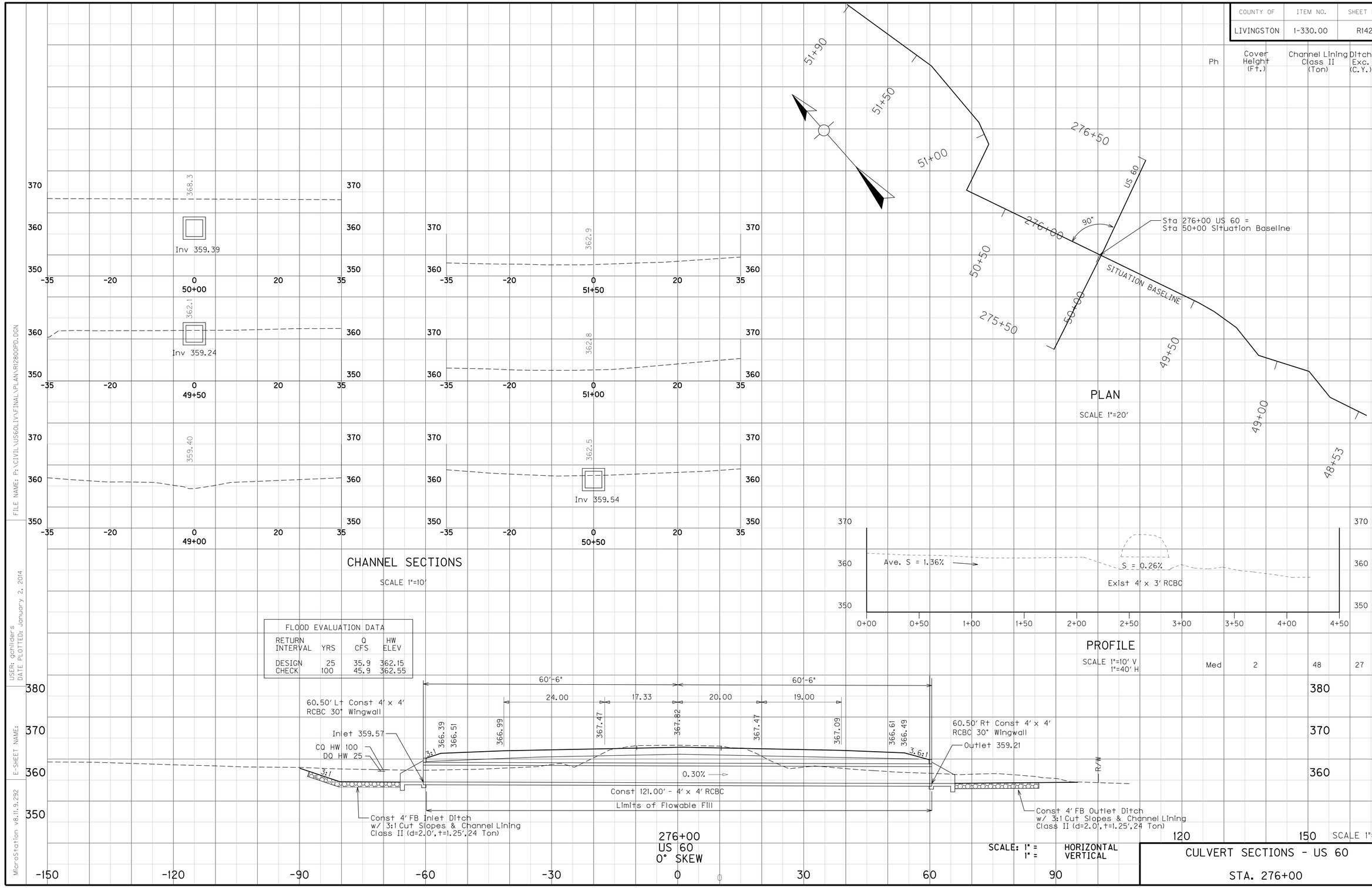
CULVERT SECTIONS - US 60

STA. 258+50

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI42

Ph	Cover Height (Ft.)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)



PLAN

SCALE 1"=20'

CHANNEL SECTIONS

SCALE 1"=10'

PROFILE

SCALE 1"=10' V
1"=40' H

Med	2	48	27	

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	35.9	362.15
CHECK	100	45.9	362.55

276+00
US 60
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS - US 60

STA. 276+00

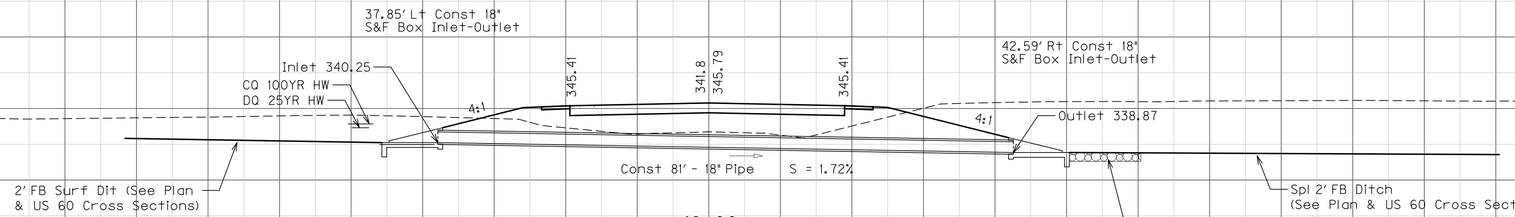
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R143

	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	24" Sloped Box Outlet Type 1 (Each)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
49+00 Golden Meadow Lane 0° SKEW	Med	3	81		2			7	
44+65 Golden Meadow Lane 0° SKEW	Med	1		46		1	1	3	
39+58 Golden Meadow Lane 5°20' SKEW LT	Med	2	70		2			49	66

FLOOD EVALUATION DATA

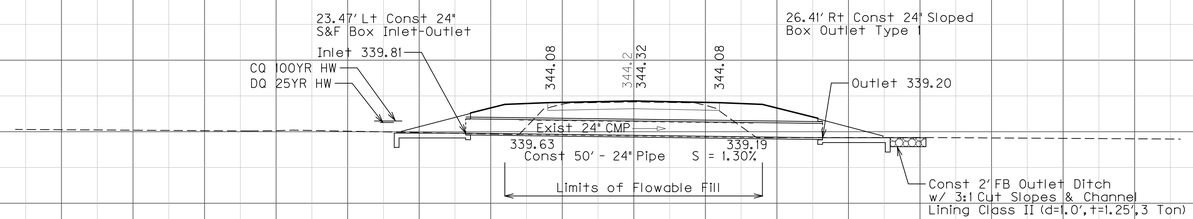
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	7.9	342.33
CHECK	100	9.6	342.86



49+00
Golden Meadow Lane
0° SKEW

FLOOD EVALUATION DATA

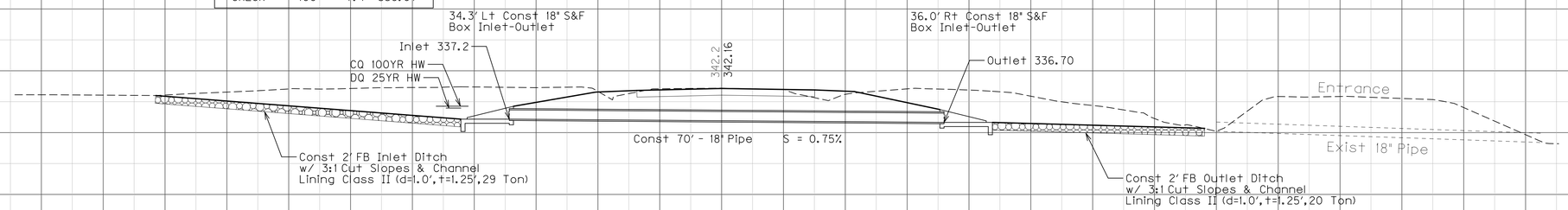
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	8.6	341.32
CHECK	100	10.5	341.53



44+65
Golden Meadow Lane
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	5.9	338.88
CHECK	100	7.4	339.07



39+58
Golden Meadow Lane
5°20' SKEW LT

SCALE: 1" = HORIZONTAL
1" = VERTICAL

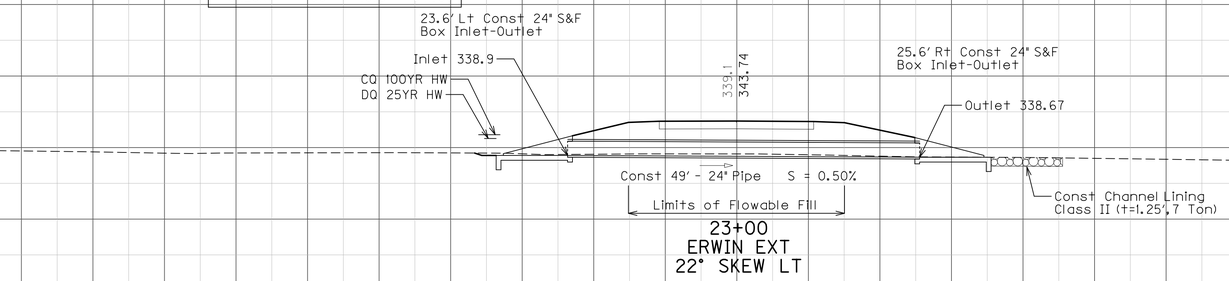
CULVERT SECTIONS
GOLDEN MEADOW LANE
STA. 39+58 - STA. 44+65 - STA. 49+00

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI44

	Ph	Cover Height (Ft.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 18 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	18" S&F Box Inlet-Outlet (Each)	18" Sloped Box Outlet Type 1 (Each)	Channel Lining Ditch Class II (Ton)	Exc. (C.Y.)
23+00 ERWIN EXT 22° SKEW LT	Med	2	49		2			7	
54+85 Rudd Spees Road 0° SKEW	Med	1		47		2		3	10
51+00 Golden Meadow Lane 0° SKEW	Med	4		59		2		7	

FLOOD EVALUATION DATA

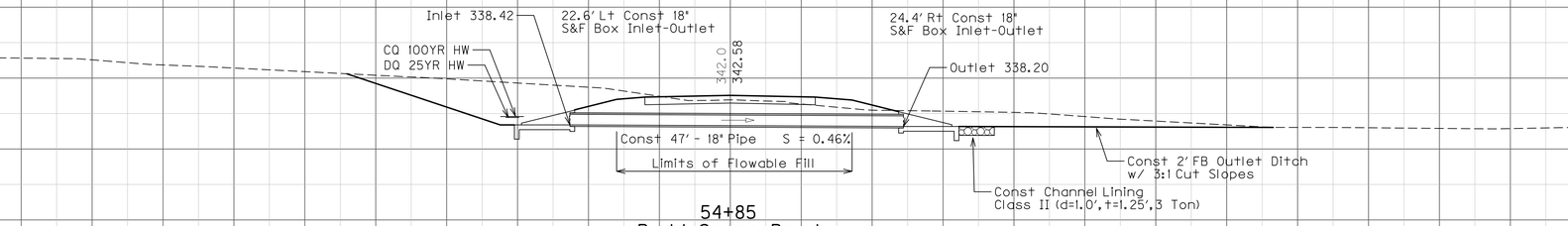
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	12.9	341.20
CHECK	100	16.0	341.80



23+00
ERWIN EXT
22° SKEW LT

FLOOD EVALUATION DATA

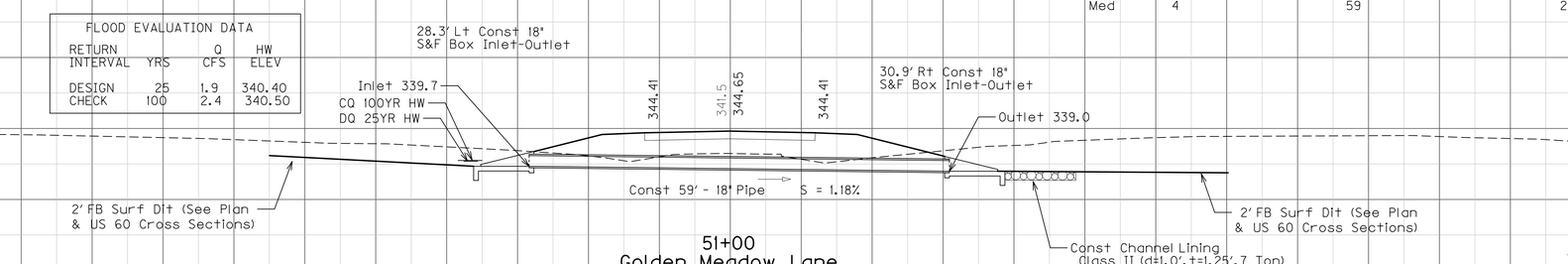
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	2.7	339.47
CHECK	100	3.3	339.60



54+85
Rudd Spees Road
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	1.9	340.40
CHECK	100	2.4	340.50



51+00
Golden Meadow Lane
0° SKEW

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

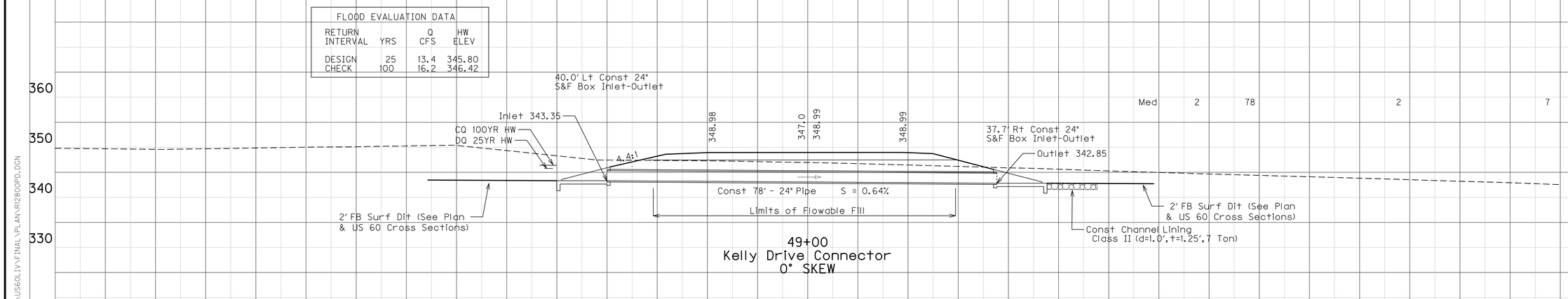
SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS STA. 51+00 GOLDEN MEADOW LN - STA. 54+85 RUDD SPEES RD 23+00 ERWIN EXT

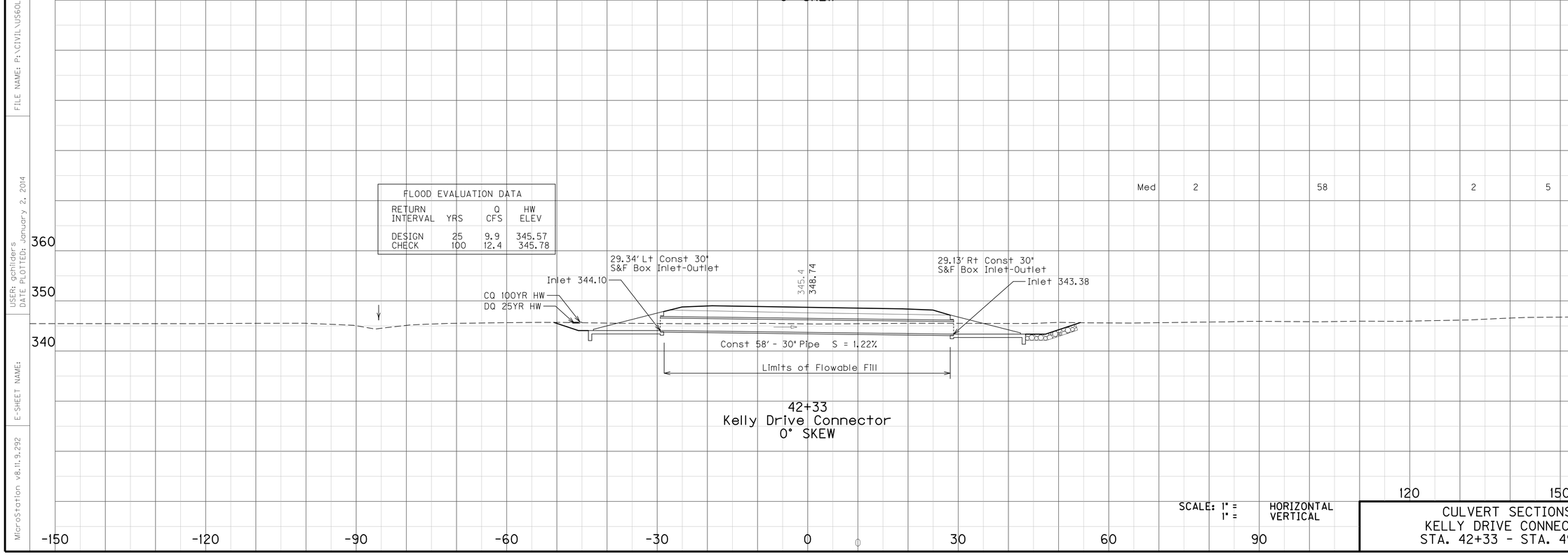
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R145

	Ph	Cover Height (Ft.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 30 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	30" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
49+00	Med	2	78		2		7	
42+33	Med	2		58		2	5	5



49+00
Kelly Drive Connector
0° SKEW



42+33
Kelly Drive Connector
0° SKEW

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS
KELLY DRIVE CONNECTOR
STA. 42+33 - STA. 49+00

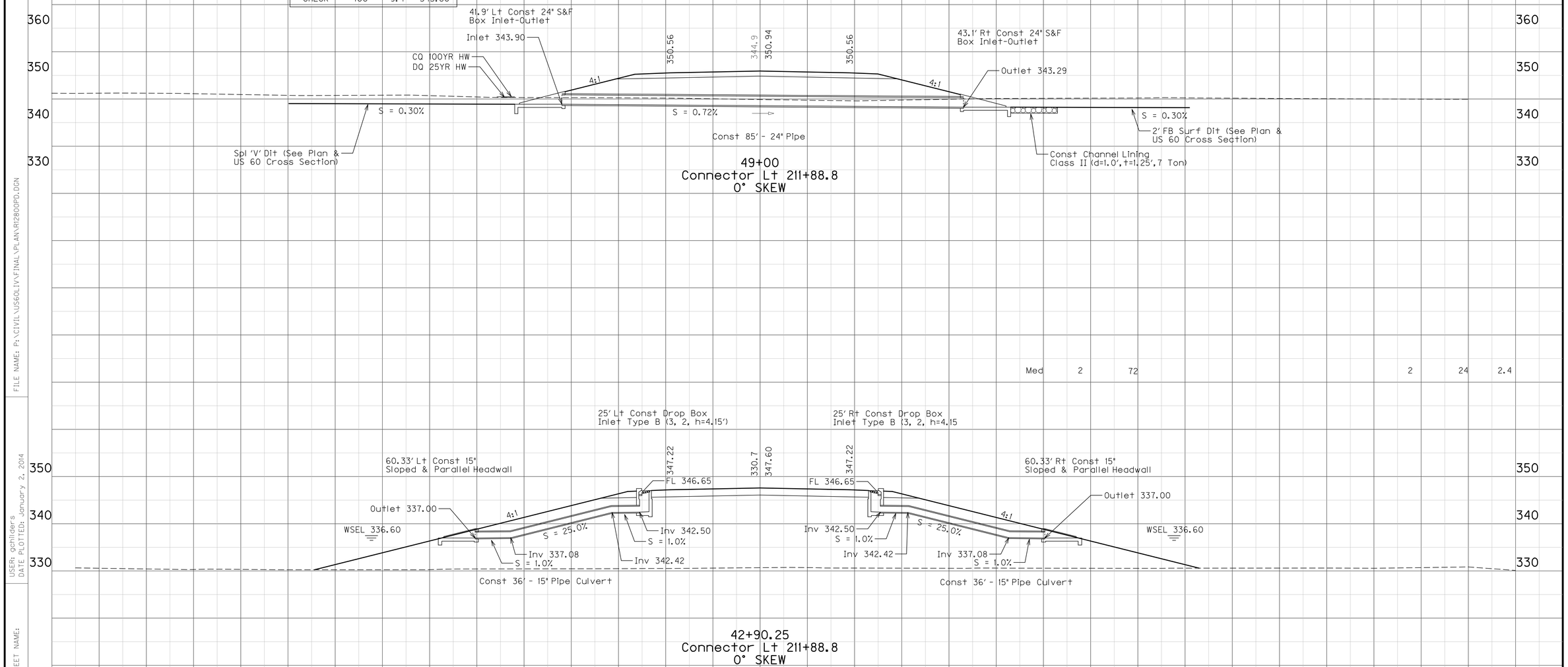
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R12800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R146

	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)	Curb Box Inlet TY B (EA)	Steel Reinf (LB)	Conc. Class A (C.Y.)
Ph								
Med	4		85	2	7			
Med	2	72				2	24	2.4

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	7.8	345.59
CHECK	100	9.4	345.80



49+00
Connector Lt 211+88.8
0° SKEW

42+90.25
Connector Lt 211+88.8
0° SKEW

SCALE: 1" = HORIZONTAL
1" = VERTICAL

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

CULVERT SECTIONS
STA. 42+90.25 - STA. 49+00
CONNECTOR LT 211+88.8 US 60

FILE NAME: P:\CIVIL\US60LIVVFINAL\PLAN\R12800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R147

	Ph	Cover Height (Ft.)	Pipe Culvert 18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 30 Inch (L.F.)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	24" Sloped Box Outlet Type 1 (Each)	30" S&F Box Inlet-Outlet (Each)	Channel Lining Class II (Ton)
48+87 CONNECTOR EAST 0° SKEW	Med	2			83				2	8
51+24 CODY COOPER ROAD 11°30' SKEW RT	Med	6		99			1	1		7
49+02 CODY COOPER ROAD 10° SKEW RT	Med	2		98		2				8

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	8.4	346.60
CHECK	100	10.2	346.78

45' Lt Const 30" S&F Box Inlet-Outlet

38.15' Lt Const 30" S&F Box Inlet-Outlet

Outlet 344.38

346.5

350.12

Inlet 344.60

CQ 100YR HW

DQ 25YR HW

S = 0.20%

S = 0.27% Const 83' - 30" Pipe

S = 2.53%

Const Channel Lining Class II (d=1.0', t=1.25', 8 Ton)

Limits of Flowable Fill

4' FB Dit (See Plan & US 60 Cross Section)

2' FB Dit (See Plan & US 60 Cross Section)

48+87
CONNECTOR EAST
0° SKEW

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q cfs	HW Elev
DESIGN	25	4.00	343.49
CHECK	100	5.13	343.66

52.7' Lt Const 24" S&F Box Inlet-Outlet

Inlet 342.30

CQ 100YR HW

DQ 25YR HW

351.0

351.70

46.28' Rt Const 24" Sloped Box Outlet Type 1

Outlet 342.10

S = 0.2%

Const 99' - 24" Pipe

2' FB Dit (See Plan & US 60 Cross Section)

Const Channel Lining Class II (d=1.0', t=1.25', 7 Ton)

2' FB Dit (See Plan & US 60 Cross Section)

51+24
CODY COOPER ROAD
11°30' SKEW RT

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	8.5	345.05
CHECK	100	10.4	345.39

38.0' Lt Const 18" S&F Box Inlet-Outlet

Inlet 343.30

CQ 100YR HW

DQ 25YR HW

351.4

347.74

60.0' Rt Const 18" S&F Box Inlet-Outlet

Outlet 341.72

S = 0.20%

S = 1.6%

Const 98' - 18" PIpe

S = 0.40%

Spl 'V' Dit (See Plan & US 60 Cross Section)

Spl 'V' Dit (See Plan & US 60 Cross Section)

Const 2' FB Outlet Ditch w/ Channel Lining Class II (d=1.5', t=1.5', 2 Ton)

49+02
CODY COOPER ROAD
10° SKEW RT

SCALE: 1" = HORIZONTAL
1" = VERTICAL

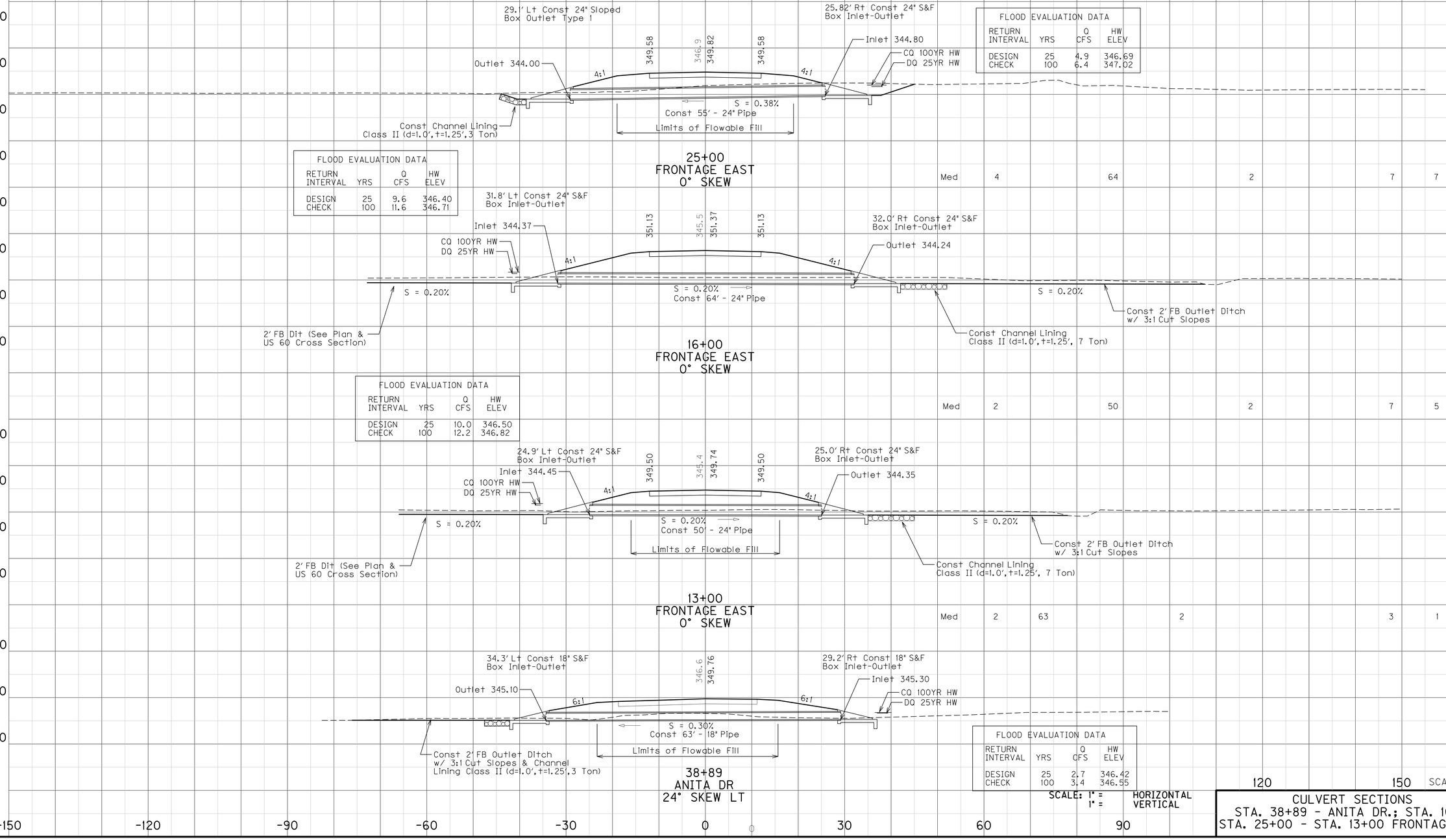
-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

CULVERT SECTIONS
STA. 49+02 - STA. 51+24 CODY COOPER RD
STA. 48+87 - CONNECTOR EAST

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R148

Ph	Cover Pipe Culvert Height (Ft.)	18 Inch (L.F.)	Pipe Culvert 24 Inch (L.F.)	18" S&F Box Inlet-Outlet (Each)	24" S&F Box Inlet-Outlet (Each)	24" Sloped Box Outlet Type 1 (Each)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
Med	2		55		1	1	3	
Med	4		64		2		7	7
Med	2		50		2		7	5
Med	2	63		2			3	1



FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	4.9	346.69
CHECK	100	6.4	347.02

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	9.6	346.40
CHECK	100	11.6	346.71

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	10.0	346.50
CHECK	100	12.2	346.82

FLOOD EVALUATION DATA

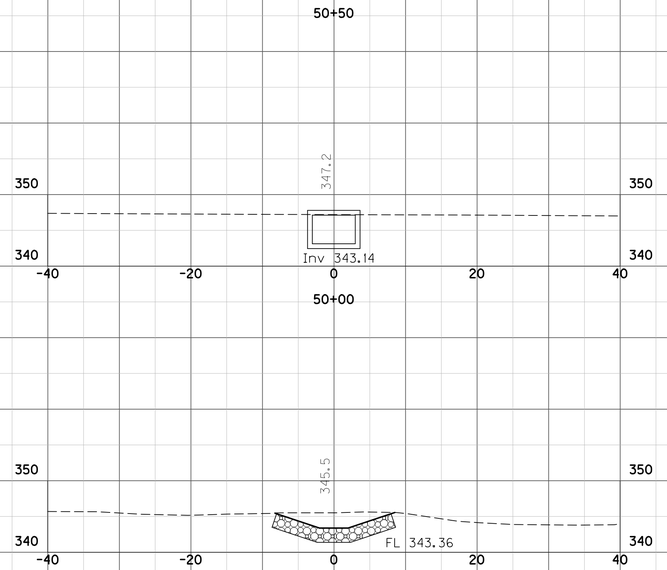
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	2.7	346.42
CHECK	100	3.4	346.55

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS
STA. 38+89 - ANITA DR.; STA. 16+00
STA. 25+00 - STA. 13+00 FRONTAGE EAST

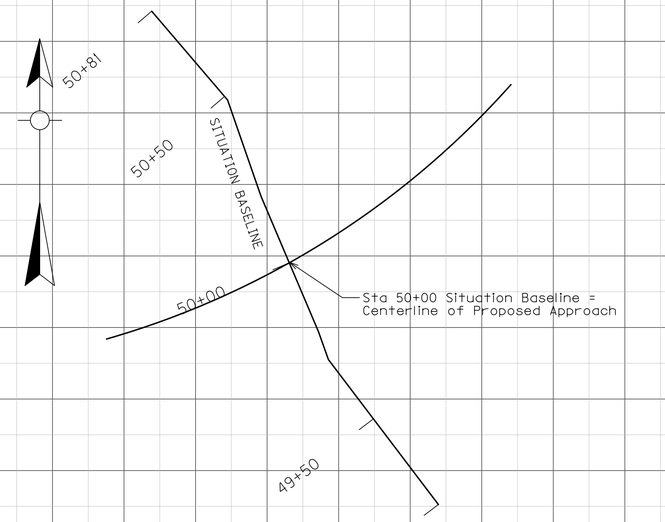
COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	I-330.00	RI49

	Ph	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
Med	16		2



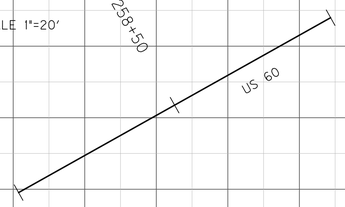
CHANNEL SECTIONS

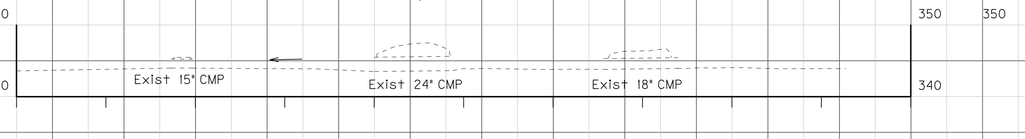
SCALE 1"=10'



PLAN

SCALE 1"=20'

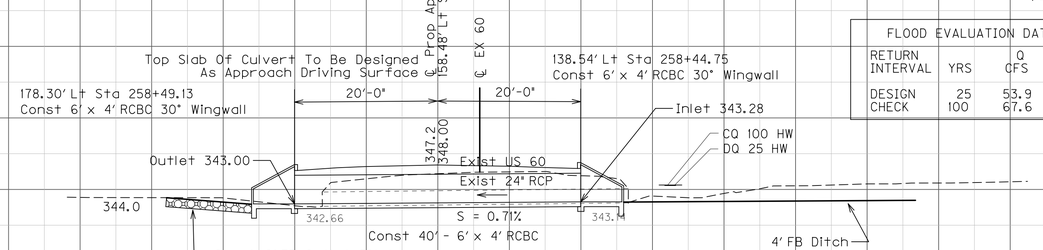




PROFILE

SCALE 1"=10' V
1"=40' H

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	53.9	346.30
CHECK	100	67.6	346.43



20+55.54
RECC APPR
6° SKEW RT

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS

20+55.54 RECC APPR

SCALE 1"=10'

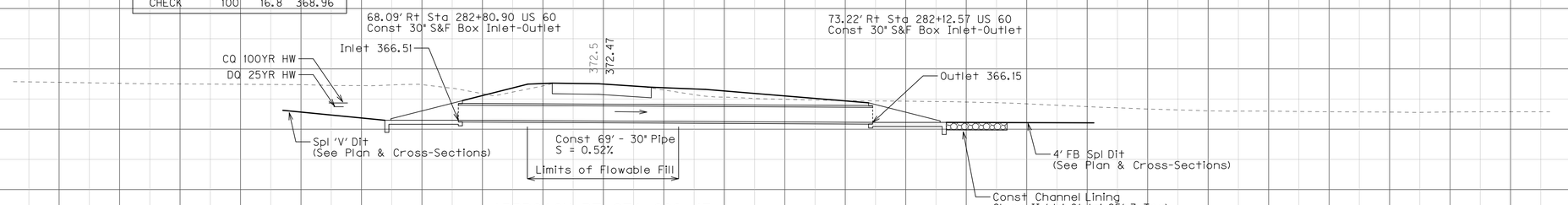
FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\RI2800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R150

Ph	Cover Height (Ft.)	Pipe Culvert 24 Inch (L.F.)	Pipe Culvert 30 Inch (L.F.)	24" S&F Box Inlet-Outlet (Each)	30" S&F Box Inlet-Outlet (Each)	24" Sloped Box Outlet Type I (Each)	Channel Lining Class II (Ton)
Med	2		69		1	1	7
Med	1	56		1		1	7

FLOOD EVALUATION DATA

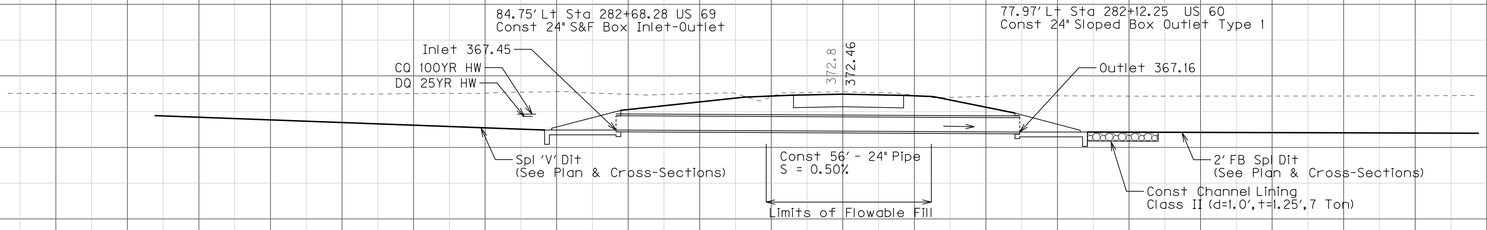
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	13.3	368.61
CHECK	100	16.8	368.96



APPROACH RT STA 282+47
FERREN ROAD
3°16' SKEW RT

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	9.4	369.36
CHECK	100	11.7	369.67



APPROACH LT STA 282+47
GILLAHAN ROAD
0°43' SKEW RT

-150 -120 -90 -60 -30 0 30 60 90 120 150 SCALE 1"=10'

SCALE: 1" = HORIZONTAL
1" = VERTICAL

CULVERT SECTIONS
APPR LT STA. 282+47 - GILLAHAN RD
APPR RT STA. 282+47 - FERREN RD

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R151

Ph	Cover Height (Ft.)	Storm Sewer 15 Inch (L.F.)	Storm Sewer 18 Inch (L.F.)	Storm Sewer 18 Inch Equiv. (L.F.)	Drop Box Inlet Type 11 (Each)	Junction Box Type B (Each)
Med	2	119	54	41	2	
Med	1			38		1
Med	1	51				1

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	2.2	342.12
CHECK	100	2.7	342.42

FLOOD EVALUATION DATA

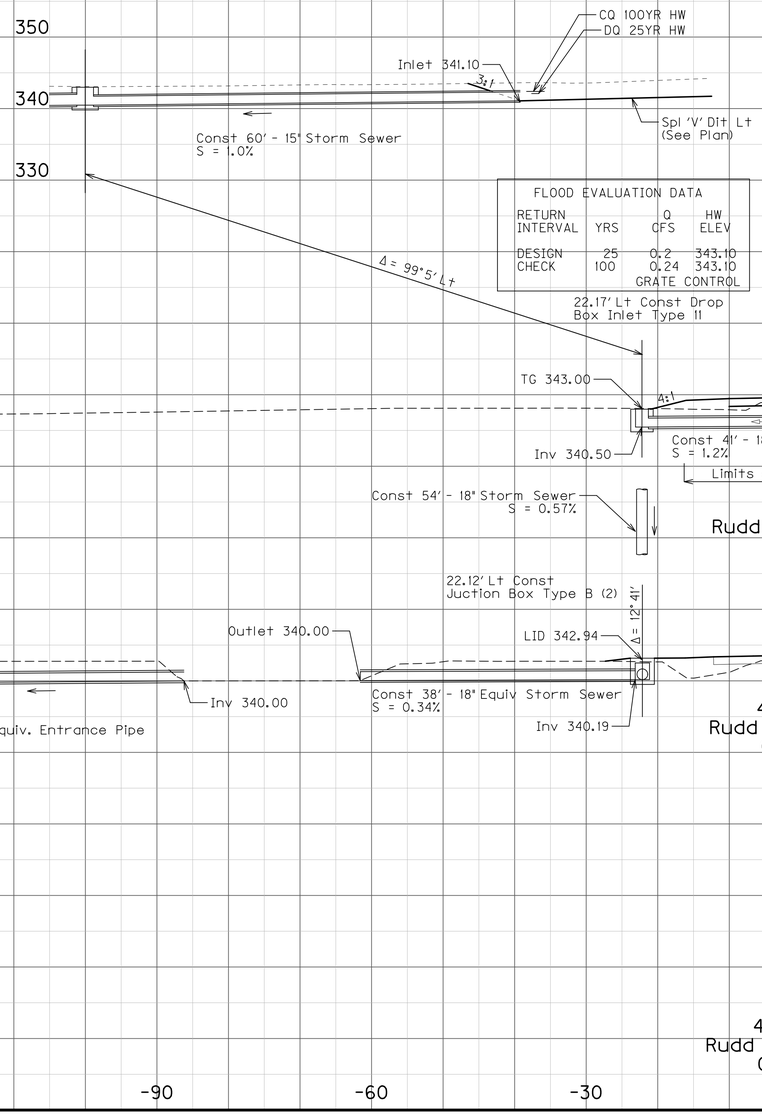
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	2.4	343.05
CHECK	100	3.0	343.21

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	0.2	343.10
CHECK	100	0.24	343.10
		GRATE CONTROL	

FLOOD EVALUATION DATA

RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	1.0	343.40
CHECK	100	1.2	343.40
		GRATE CONTROL	



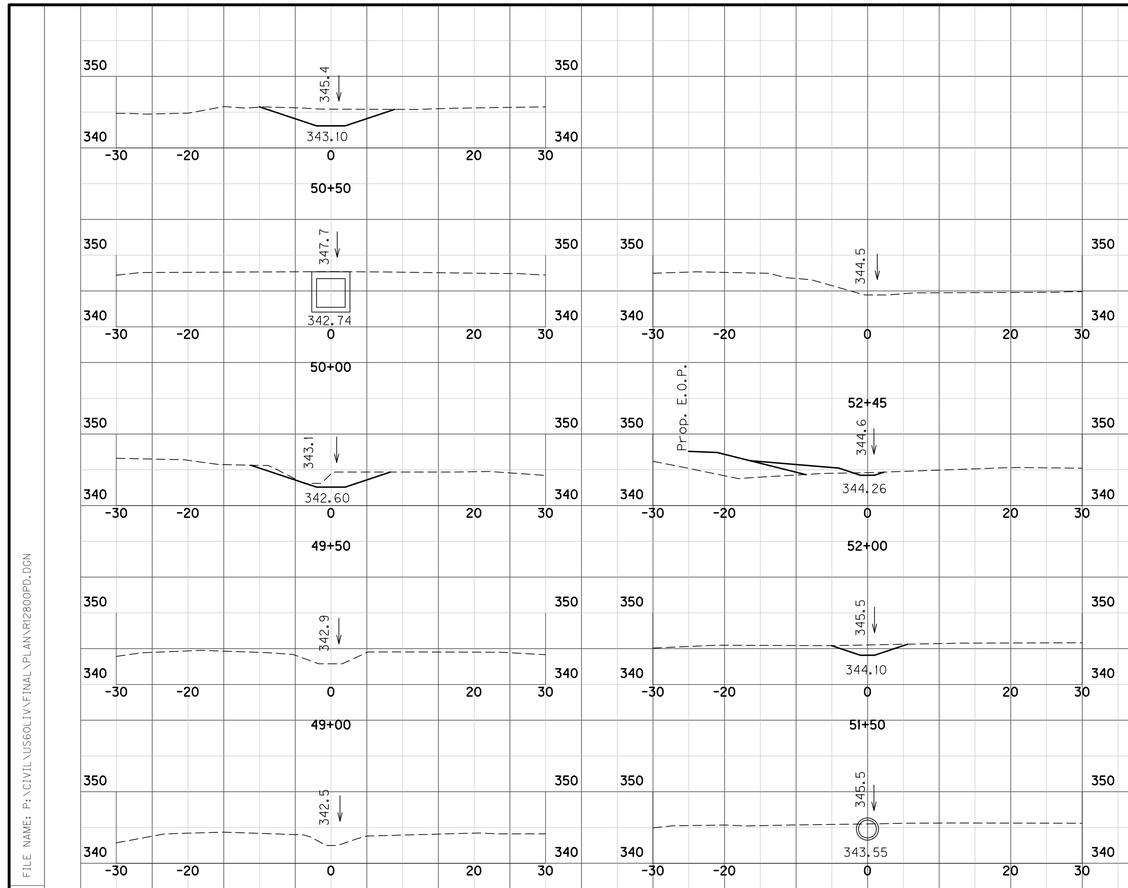
SCALE: 1" = HORIZONTAL
1" = VERTICAL

SCALE 1"=10'

CULVERT SECTIONS
STA. 43+87.67 - STA. 43+83.46
STA. 44+40 - RUDD SPEES RD

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R1280OPD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292

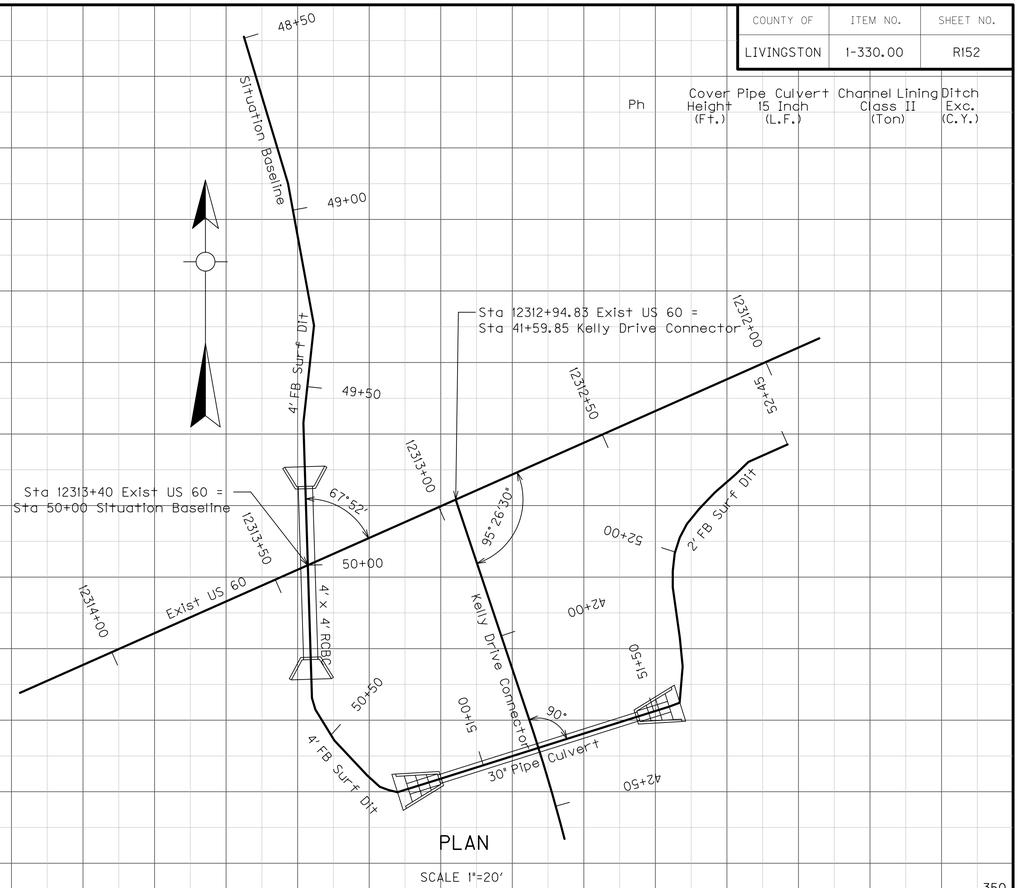
COUNTY OF	ITEM NO.	SHEET NO.
LIVINGSTON	1-330.00	R152



CHANNEL SECTIONS

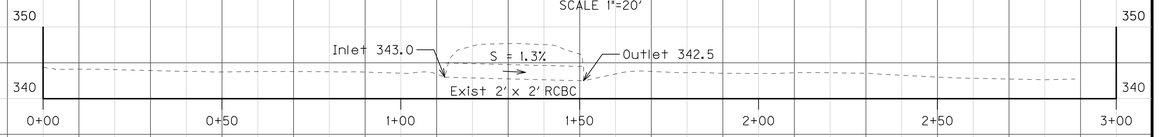
SCALE 1"=10'

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN	25	11.9	344.20
CHECK	100	14.9	344.63



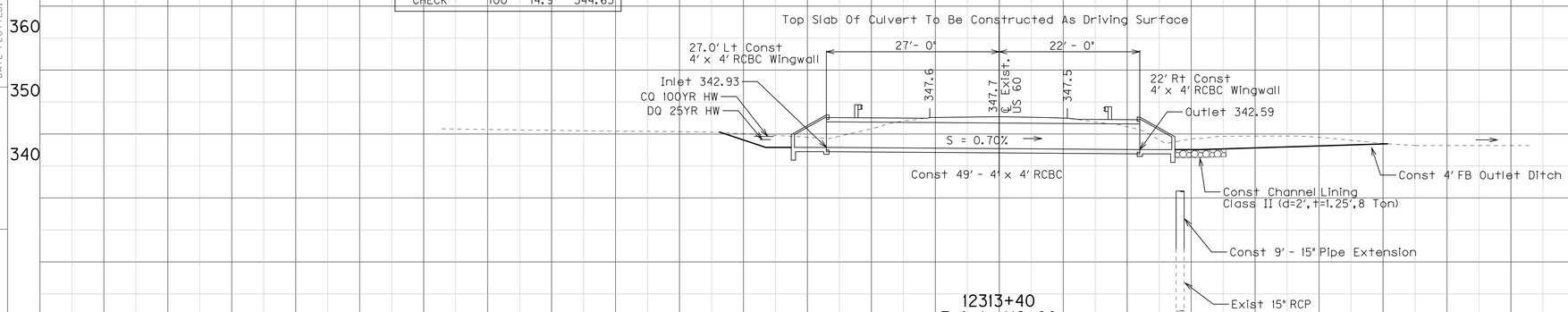
PLAN

SCALE 1"=20'



PROFILE

SCALE 1"=10' V
1"=40' H



12313+40
Exist. US 60
22°8' Skew Rt

Ph	Cover Height (Ft.)	Pipe Culvert 15 Inch (L.F.)	Channel Lining Class II (Ton)	Ditch Exc. (C.Y.)
M	N/A	9	8	13

SCALE: 1" = HORIZONTAL
1" = VERTICAL

SCALE 1"=10'

CULVERT SECTIONS
STA. 12313+40 EXIST US 60

FILE NAME: P:\CIVIL\US60LIV\FINAL\PLAN\R12800PD.DGN
USER: gchilders
DATE PLOTTED: January 2, 2014
E-SHEET NAME:
MicroStation v8.11.9.292