

Sample Plan

ALIGNMENT PLAN AND TABULATION ----- NARRATIVE

References:

- Design Scene: Chapter 7 - Alignment
- Road Design Manual: Chapter 3-1 and 3-2
5-2
9-2
- Technical Memorandum: 17-11-TS-04 Superelevation and Horizontal Alignment Design
- Miscellaneous: <http://www.dot.state.mn.us/caes/cadd/pdf/mndot-cdstds-a2-pnumwt.pdf>
Point Numbering Guide
- <http://hub.metro/design/technicalguidance.html> Surveys Datum Statements for Plans

General Information:

Provide alignments for bypasses.

On the tabulation, provide columns for Point No., Point, Station, Curve Data (Delta, Degree, Radius, Tangent, Length), Coordinates, and Azimuth of the alignments.

Include all features that would require an alignment (bike paths, retaining walls, special ditches, etc.).

Check for extreme bridge skews, to ensure that skews do not necessitate an unconventional bridge design. (Do this early before construction limits are submitted.)

The Geopak software currently used by MnDOT will divide an alignment into regions whenever there are equations along that alignment. These regions will be numbered consecutively and be separated by an equation. The regions should be identified on the Alignment Plan, the Alignment Tabulations, and the Cross Sections (i.e., R 3, R 4).

Generally, equate all alignments on tangent sections so that the stationing on all alignments running parallel are the same.

Curve names rather than curve point numbers can be shown on the plan sheet as an alternative.

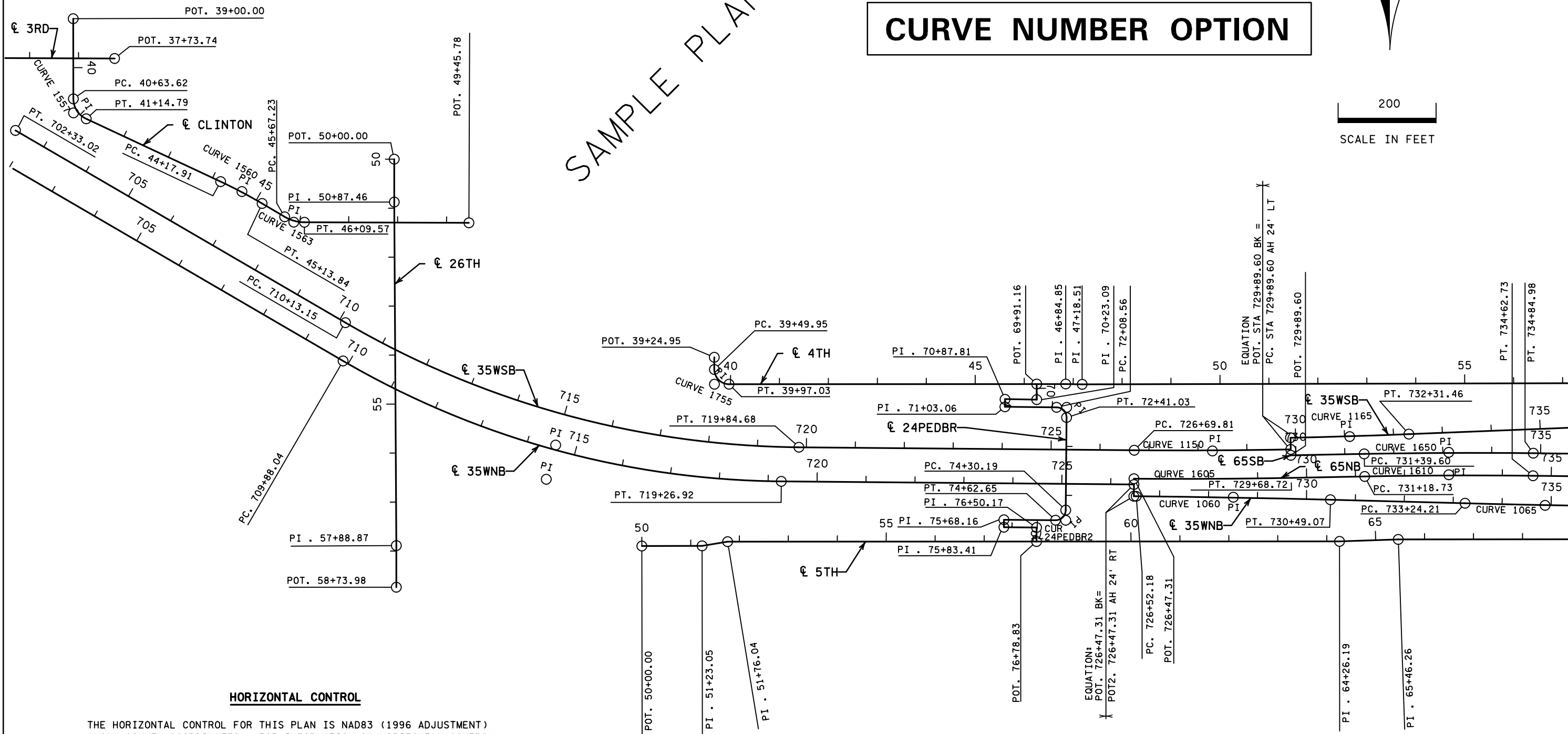
Sample Plan

ALIGNMENT PLAN AND TABULATION ----- CHECKLIST

- ___ 1. Alignment point numbers and/or curve names
- ___ 2. North arrow
- ___ 3. Alignment name
- ___ 4. Horizontal control note on the first alignment plan sheet
- ___ 5. Alignment coordinates
- ___ 6. Bar Scale
- ___ 7. Noise Walls
- ___ 8. Retaining Walls
- ___ 9. Bike and Pedestrian Paths
- ___ 10. Drainage channels, if appropriate
- ___ 11. Drawn by: and Checked by: Initials and Engineer's signature

REVISION DATE 05/30/18
PLOTTED/REVISED: 16-OCT-2019

DISTRICT #: Metro
PLOT NAME: allplan
FILENAME: Projects\DM_ROS\Win_Proj\Design\SamplePlan\English\allplan.dgn



CURVE NUMBER OPTION

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PLAN IS NAD83 (1996 ADJUSTMENT) ANOKA COUNTY COORDINATES. FOR INFORMATION ON HORIZONTAL CONTROL POINTS CONTACT MNDOT'S OFFICE OF LAND MANAGEMENT OR THE METRO DISTRICT SURVEYS OFFICE.

ALIGNMENT PLAN

DRAWN BY: LS

CHECKED BY: SR

CERTIFIED BY

Will D. Zine
LICENSED PROFESSIONAL ENGINEER

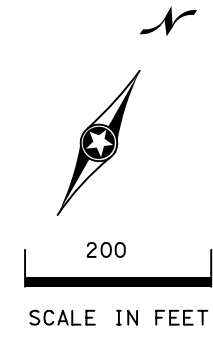
LIC. NO. 00000 DATE 5/27/16

STATE PROJ. NO. 0000-00 (T.H. 00) SHEET NO. 32 OF 84 SHEETS

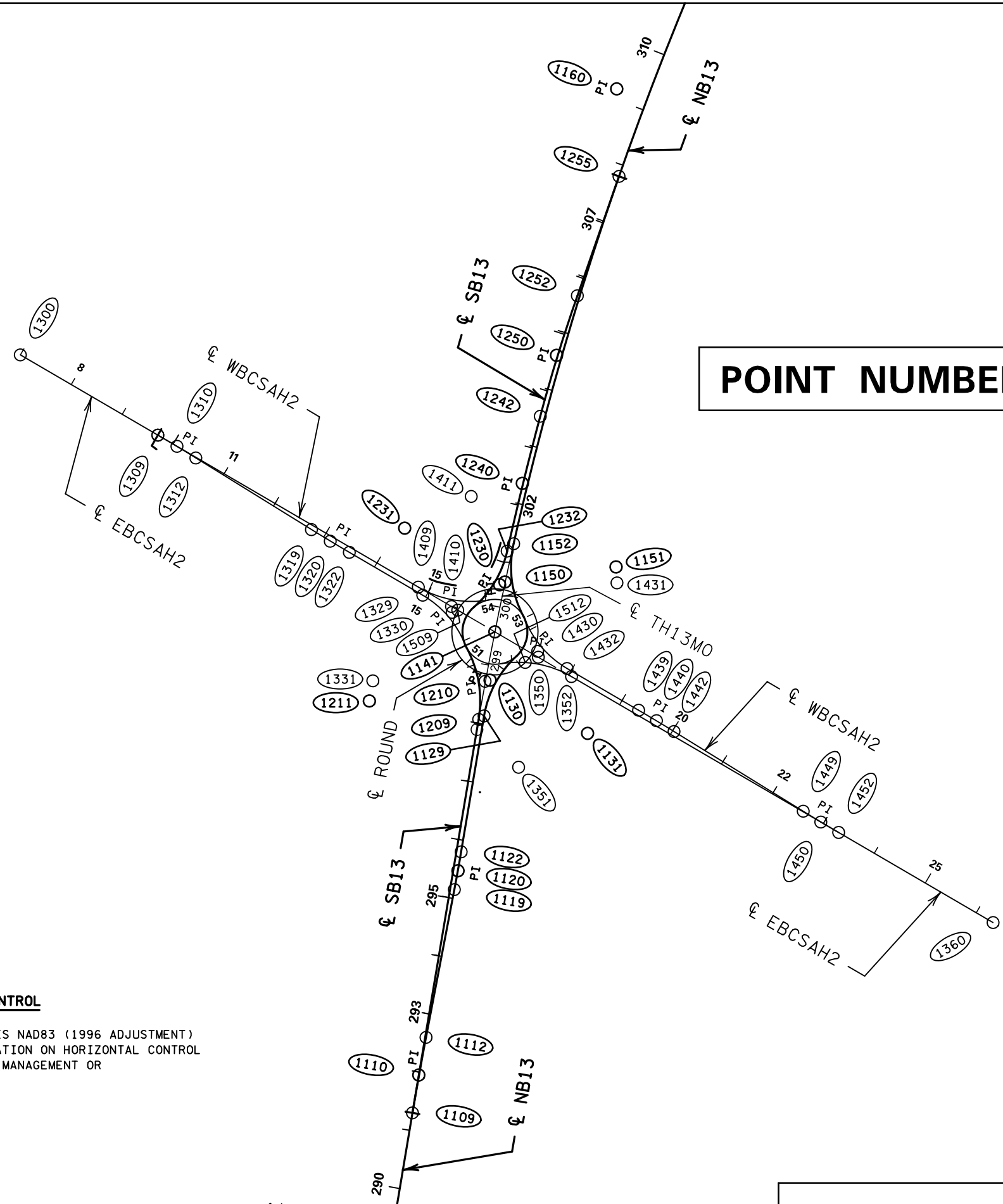
REVISION DATE 05/29/18
PLOTTED/REVISED: 16-OCT-2019

DISTRICT #: Metro
PLOT NAME: allplan
FILENAME: Projects\DM_ROS\Wor_Proj\Design\SamplePlan\English\allplan.dgn

SAMPLE PLAN



POINT NUMBER OPTION



HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PLAN IS NAD83 (1996 ADJUSTMENT) SCOTT COUNTY COORDINATES. FOR INFORMATION ON HORIZONTAL CONTROL POINTS CONTACT MNDOT'S OFFICE OF LAND MANAGEMENT OR THE METRO DISTRICT SURVEYS OFFICE.

ALIGNMENT PLAN

DRAWN BY: MS

CHECKED BY: HS

CERTIFIED BY

Will D. Zine
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 00000 DATE 1/28/17

STATE PROJ. NO. 0000-00 (T.H. 00) SHEET NO. 33 OF 84 SHEETS

REVISION DATE 05/08/18
PLOTTED/REVISED: 16-OCT-2019

DISTRICT #: Metro
PLOT NAME: allplan
FILENAME: Projects\DM_R05\W01\Project\Design\SamplePlan\English\ailplan.dgn

ALIGNMENT TABULATION

POINT NO.	POINT	STATION	CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
TH 610 L EB										
2091	POT	TH610LEB 753+97.55						883,996.461	80,854.308	58° 50' 20.00"
2092	PC	768+52.86						885,241.789	81,607.351	
2093	PI	776+81.20	32° 55' 45.00" RT	2° 02' 39.27"	2,802.789'	828.340'	1,610.826'	885,950.612	82,035.972	PI
2094	CC							886,692.082	79,208.960	
2095	PT	TH610LEB 784+63.69 R 1 =						886,778.557	82,010.415	91° 46' 05.00"
	POT	TH610LEB 784+99.32 R 2								
2097	POT	TH610LEB 787+34.00						887,013.126	82,003.174	
TH 610 EB										
1298	POC	TH610LEB 782+38.57 =						886,553.512	82,008.322	87°09' 58.14"
	PC	TH610EB 782+38.57								
1299	PI	782+82.57	1° 47' 56.08" RT	2° 02' 39.27"	2,802.789'	44.003'	87.999'	886,597.461	82,010.497	PI
1300	CC							886,692.082	79,208.960	88° 57' 54.22"
1301	PCC	783+26.57						886,641.457	82,011.292	
1303	PI	786+08.89	2° 49' 21.42" RT	0° 30' 00.00"	11,459.156'	282.319'	564.523'	886,923.730	82,016.391	PI
1304	CC							886,848.434	70,554.005	
1305	PT	788+91.09						887,205.912	82,007.584	91° 47' 15.64"
1306	PC	808+17.98						889,131.866	81,947.473	
1307	PI	813+91.83	10° 29' 27.75" RT	0° 55' 00.00"	6,250.449'	573.843'	1,144.477'	889,705.429	81,929.571	PI
1308	CC							888,936.878	75,700.066	
1309	PT	819+62.46						890,266.145	81,807.534	102° 16' 43.40"
1310	PC	824+62.46						890,754.707	81,701.200	
1311	PI	828+62.62	4°00' 00.00" RT	0° 30' 00.00"	11,459.156'	400.163'	800.000'	891,145.716	81,616.098	PI
1312	CC							888,317.717	70,504.177	
1313	PT	TH610EB 832+62.46=						891,529.836	81,503.929	106° 16' 43.40"
	POT	A PT 24.00' RT TH10EB 564+00.00								
TH 610 L3 WB										
2101	POT	TH610L3WB 754+10.70						883,975.609	80,914.154	58° 50' 20.01"
2102	PC	768+52.88						885,209.707	81,660.406	
2103	PI	776+99.54	32° 55' 44.90" RT	2° 00' 00.00"	2,864.789'	846.663'	1,646.457'	885,934.209	82,098.508	PI
2104	CC							886,692.081	79,208.961	
2105	PT	784+99.34						886,780.469	82,072.386	91° 46' 04.91"
2107	POT	TH610L3WB 800+66.44						888,346.823	82,024.036	
TH 610 WB										
1334	POT	A PT 12.00' LT TH610L3WB 784+99.34 =						886,780.839	82,084.380	91° 47' 15.64"
		TH610WB 784+63.83								
1335	PC	793+36.83						887,653.417	82,057.146	
1336	PI	797+12.37	7° 30' 00.00" LT	1° 00' 00.00"	5,729.578'	375.536'	750.000'	888,028.770	82,045.431	PI
1337	CC							887,832.156	87,783.936	84° 17' 15.64"
1338	PCC	800+86.83						888,402.442	82,082.810	
1340	PI	802+28.65	2°07' 37.52" LT	0° 45' 00.00"	7,639.437'	141.822'	283.612'	888,543.560	82,096.926	PI
1341	CC							887,642.060	89,684.311	
1342	PT	803+70.44						888,684.057	82,116.270	82° 09' 38.12"
1343	PC	808+94.30						889,203.021	82,187.723	
1344	PI	817+83.04	30° 22' 25.33" RT	1° 45' 00.00"	3,274.045'	888.731'	1,735.640'	890,083.447	82,308.943	PI
1345	CC							889,649.591	78,944.277	
1346	PT	826+29.94						890,904.324	81,968.349	112° 32' 3.45"
1347	PC	834+83.22						891,692.456	81,641.341	
1348	PI	839+00.68	6° 15' 20.05" LT	0° 45' 00.00"	7,639.437'	417.453'	834.076'	892,078.036	81,481.358	PI
1349	CC							894,620.165	88,697.510	
1350	PT	TH610WB 843+17.30= A PT 24.00' LT TH10WB 573+50.00						892,478.753	81,364.342	106° 16' 43.40"

ALIGNMENT TABULATION

POINT NO.	POINT	STATION	CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
TH 10 EB										
1006	PI	A PT 50.00' RT TH10WB 462+50.00 =						885,004.164	88,777.752	144° 45' 28.96"
	POT	TH10EB ① 462+50.00								
1007	PC	① 509+87.27						887,737.716	84,908.713	
1008	PI	① 514+08.42	10° 29' 56.93" RT	1° 15' 00.00"	4,583.662'	421.145'	839.932'	887,980.730	84,564.754	PI
1009	CC	①						883,994.136	82,263.800	
1010	PT	① 518+27.21						888,156.998	84,182.272	155° 15' 25.89"
1011	PC	528+55.65						888,587.448	83,248.246	
1012	PI	537+98.68	44° 43' 54.92" LT	2° 30' 00.00"	2,291.831'	943.032'	1,789.277'	888,982.150	82,391.788	PI
1013	CC							890,668.879	84,207.482	
1014	PCC	546+44.93						889,865.316	82,061.141	110° 31' 30.97"
1016	PI	552+43.07	4° 14' 47.57" LT	0° 21' 18.50"	16,133.399'	598.147'	1,195.747'	890,425.492	81,851.419	PI
1017	CC							895,522.016	97,170.354	
1018	PT	558+40.67						890,999.659	81,683.752	106° 16' 43.40"
1019	PC	TH10EB 576+78.26						892,763.578	81,168.657	
TH 10 WB										
1192	POT	EQU. TH10WB 518+36.12 R 1 =						888,198.775	84,201.525	155° 15' 25.89"
	POT	① 518+27.21 R 2								
1194	PC	528+55.65						888,629.225	83,267.499	
1195	PI	538+78.62	48° 58' 42.49" LT	2° 33' 4.34"	2,245.831'	1,022.975'	1,919.816'	889,057.387	82,338.437	PI
1196	CC							890,668.879	84,207.482	
1197	PT	547+75.46						890,039.350	82,051.687	
1198	POT	558+00.41						891,023.205	81,764.384	106° 16' 43.40"
		558+40.67								
1200	PC	TH10WB 576+78.26						892,787.124	81,249.289	
TH 47 NB										
1083	POT	A PT 24.00' LT TH10WB 509+87.27=								
	POT	TH47NB ① 509+87.27						887,798.151	84,951.417	144° 45' 28.96"
1084	PC	① 518+29.08						888,283.903	84,263.889	
1085	PI	① 523+51.39	35° 23' 29.06" RT	3° 30' 00.00"	1,637.022'	522.305'	1,011.183'	888,585.289	83,837.310	PI
1086	CC	①						886,946.910	83,319.277	
1087	PT	528+40.26						888,583.927	83,315.007	180° 08' 58.02"
1088	POT	TH47NB 558+09.12						888,576.183	80,346.166	
TH 47 SB										
1218	PC	TH47SB ① 502+20.00						887,257.407	85,508.819	144° 45' 28.97"
1219	PI	① 506+68.26	8° 56' 49.06" RT	1° 00' 00.00"	5,729.578'	448.259'	894.696'	887,516.066	85,142.716	PI
1220	CC	①						882,577.931	82,202.678	
1221	PT	① 511+14.70						887,714.641	84,740.840	153° 42' 18.03"
1222	PC	522+88.50						888,234.629	83,688.494	
1223	PI	528+86.81	26° 26' 39.98" RT	2° 15' 00.00"	2,546.479'	598.313'	1,175.308'	888,499.677	83,152.091	PI
1224	CC							885,951.646	82,560.422	
1225	PT	EQU. 534+63.81 R 1 =						888,498.117	82,553.780	180° 08' 58.01"
	POT	535+92.60 R 2								
1228	POT	TH47SB 550+34.37=						888,494.356	81,112.013	
	POT	A PT 83.82' RT TH47NB 550+34.37								

① ALIGNMENT POINT IS BEYOND PROJECT LIMITS AND WILL NOT SHOW UP ON ALIGNMENT PLAN VIEW.

SAMPLE PLAN

TH610LEB
TH610EB
TH610L3WB
TH610WB
TH10EB
TH10WB
TH47NB
TH47SB

ALIGNMENT TABULATIONS