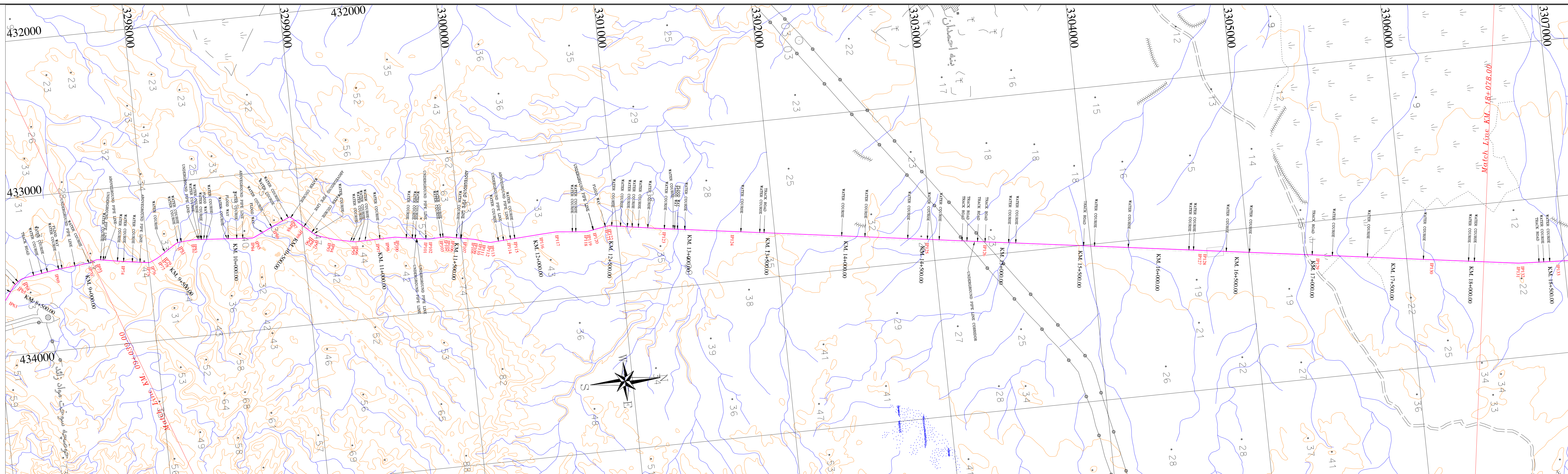




REFERENCE DOCUMENTS		
	TITLE	DOC. No.
1	GEOTECHNICAL INVESTIGATION REPORT FOR PIPELINES	BK-PI-PEDD 320-GT-R001
2	PIPELINE STANDARD DRAWING FOR LINE MARKER	BK-GNRAI-PEDD000-PI-DM-0001
3	STANDARD DRAWING FOR UNDER GROUND PIPELINE CONSTRUCTION LOW	BK-GNRAI-PEDD000-PI-DM-0001
4	STANDARD DRAWING FOR GAS PIPELINE ROAD CROSSING	BK-GNRAI-PEDD000-PI-DM-0005
5	STANDARD DRAWING FOR EXISTING PIPELINE CROSSING	BK-GNRAI-PEDD000-PI-DM-0006
6	PIPELINE STANDARD DRAWING FOR WATER - WAST CROSSING	BK-GNRAI-PEDD000-PI-DM-0008
7	PIPELINE STANDARD DRAWING FOR RIVER CROSSING	BK-GNRAI-PEDD000-PI-DM-0014
8	TYPICAL DRAWING FOR MAJOR FLOWLINE CROSSING	BK-GNRAI-PEDD000-CV-DM-0012

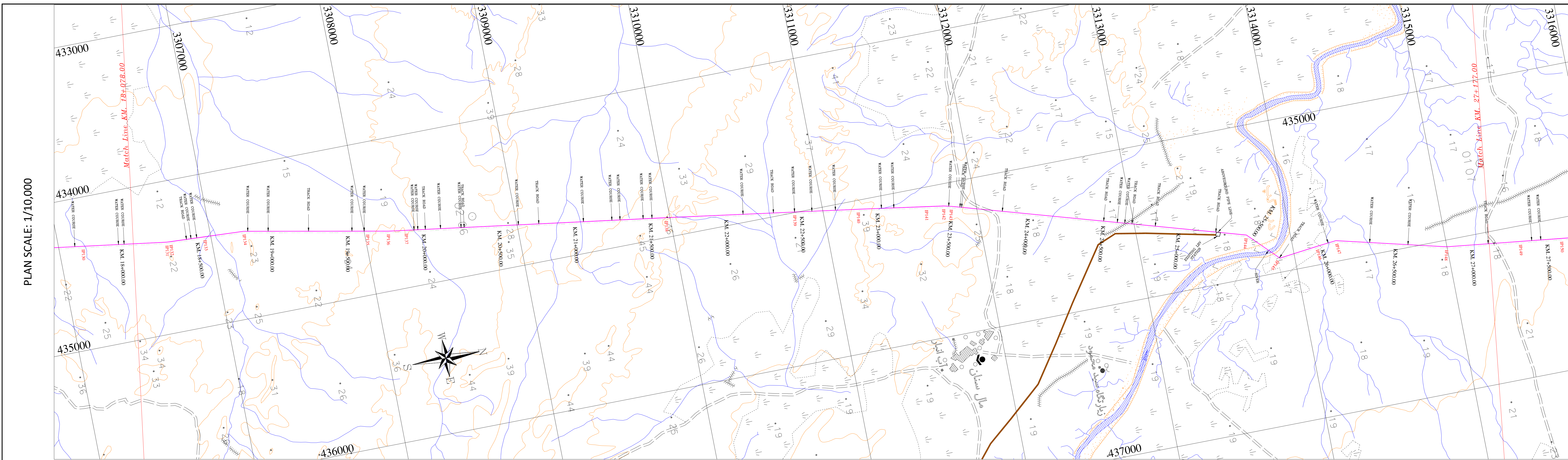
NOTES:

- 1- THE LATEST IPF STANDARD NO. IPF-C-11-140 IS THE PROJECT SPECIFICATION FOR PIPELINE CONSTRUCTION AND IT SHALL BE FULLY FOLLOWED.
- 2- ALL DATA TO BE OBTAINED FROM THE CONTRACTOR'S EXISTING TYPELOGATION AND ETC.) SHALL BE CHECKED BY THE CONTRACTOR BEFORE CONSTRUCTION AND DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- 3- THE PIPE WINDING ROAD (EXCEPT AT CROSSINGS) SHALL BE AS FOLLOWS:
 - a- 100% GRAVEL OR EQUIVALENT MATERIAL.
 - b- 10' WIDE.
 - c- 10' HIGH.
- 4- IT IS NOT REQUIRED FOR TRENCHING AND HEAVY TRENCHERS ARE ADEQUATE:
 - 10cm for ROCKY LANDS, HEAVY BLEASTING OR JACK HAMMER IS REQUIRED FOR TRENCHING (HEAVY TRENCHING IS NOT REQUIRED FOR SPECIFICATION).
 - 40cm for CULTIVATED LANDS.
- 5- THE FOLLOWING TRENCHING INCLUDING TRENCH UNDESIRABLE, SECONDARY ASHPSHED ROADS, WATER COURSES, FLOODWAYS, EXISTING UNDERGROUND PIPES/CABLES, ETC. SHALL NOT BE CALCULATED AS FOR THE PROJECT PIPESLAINITY DRAINAGE.
- 6- THE TYPE AND SIZE OF SHIELDING SHALL BE AS FOLLOWS:
 - a- 100% GRAVEL OR EQUIVALENT MATERIAL.
 - b- 10' WIDE.
 - c- 10' HIGH.
- 7- GEODETIC PARAMETERS FOR COORDINATES ARE AS BELOW:
 - a- 100% GRAVEL OR EQUIVALENT MATERIAL.
 - b- 10' WIDE.
 - c- 10' HIGH.

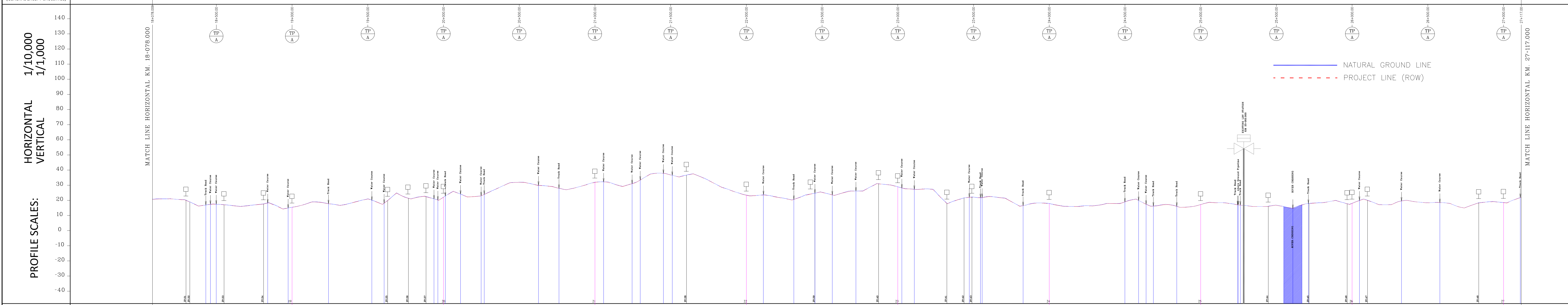
COORDINATES OF INTERSECTION POINTS (IP)			
IP Label	IP Station	Northing	Easting
IP7	0+057.74	3297628.064	334843.943
IP72	0+073.78	3297617.623	334843.943
IP73	0+082.88	3297622.792	334843.943
IP74	0+244.61	3297824.102	334375.597
IP75	0+407.10	3298002.796	334369.068
IP76	0+438.82	3298017.530	334369.527
IP77	0+466.17	3298027.644	334369.527
IP78	0+500.63	3298070.636	334364.903
IP79	0+508.60	3298093.302	334365.079
IP80	0+533.66	3298149.090	334365.079
IP81	0+533.25	3298159.158	334365.079
IP82	0+724.35	3298296.903	333388.787
IP83	0+741.44	3298307.980	333388.037
IP84	0+103.86	3298009.675	334365.065
IP85	0+123.87	3298009.719	334365.065
IP86	0+253.16	3298006.689	334333.728
IP87	0+384.98	3298097.130	334330.310
IP88	0+425.70	3298088.763	334330.310
IP89	0+500.20	3299053.488	333343.043
IP90	0+573.05	3299068.987	334342.830
IP91	0+592.06	3299068.773	334345.775
IP92	0+609.67	3299068.675	334345.803
IP93	0+629.49	3299127.273	334346.002
IP94	0+710.95	3299316.517	334347.419
IP95	0+833.48	3299322.002	334301.407
IP96	0+833.47	3299333.830	334301.407
IP97	0+964.24	3299464.627	334309.720
IP98	0+1064.00	3299523.858	334309.775
IP99	0+1100.19	3299562.611	334308.437
IP100	0+1317.22	3299999.616	333346.643
IP101	0+1317.27	3299797.830	333346.643
IP102	0+1327.28	3299807.051	333532.513
IP103	0+1393.44	3299897.383	333530.583
IP104	0+1423.48	3299909.633	333530.583
IP105	0+1445.50	3299954.953	333531.270
IP106	0+1474.16	3299951.057	333533.853
IP107	0+1552.64	3300001.180	333553.508
IP108	0+1605.51	3300001.893	333553.508
IP109	0+1625.85	3300013.651	333553.508
IP110	0+1654.86	3300125.275	333577.876
IP111	0+1679.16	3300312.293	333585.309
IP112	0+1713.18	3300313.793	333585.309
IP113	0+1721.80	3300313.734	333589.211
IP114	0+1829.42	3300313.128	333575.568
IP115	0+1872.65	3300344.295	333538.328
IP116	0+2008.73	3300350.087	333538.328
IP117	0+2198.76	3300351.086	333538.328
IP118	0+2329.87	3300381.381	333588.887
IP119	0+2343.87	3300381.748	333577.782
IP120	0+2380.66	3300380.862	333577.782
IP121	0+2435.15	3300377.764	333563.253
IP122	0+2481.00	3300349.499	333566.047
IP123	0+2583.63	3300310.848	333621.086
IP124	0+2727.58	3300372.792	333621.086
IP125	0+3149.63	3302905.963	333603.188
IP126	0+3487.87	3303311.007	333594.499
IP127	0+3626.84	3303600.260	333594.499
IP128	0+3755.91	3304754.504	334431.374
IP129	0+7015.09	3306454.540	342134.774
IP130	0+7453.92	3306155.998	342132.919

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BILL OF MATERIALS						SYMBOLS AND ABBREVIATIONS						KEY MAP						LEGEND						CROSSINGS ABBREVIATIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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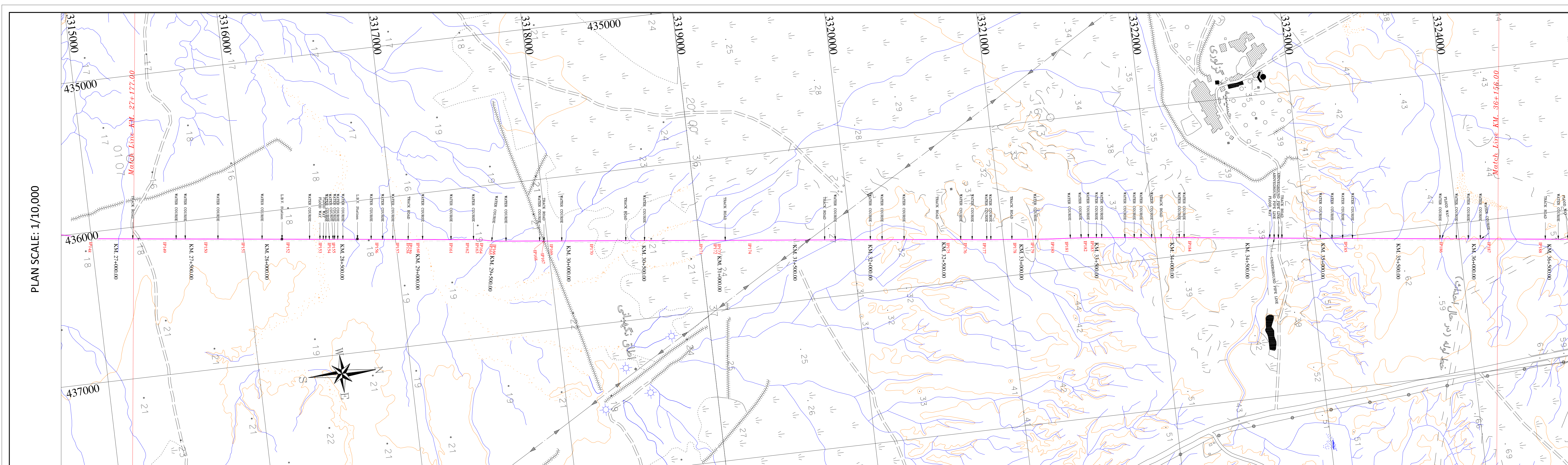


HORIZONTAL KILOMETERS		19	20	21	22	23	24	25	26	27
PROGRESSIVE HORIZONTAL KILOMETERS	N.D. SPEC.	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
	W.T. (mm)	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
PIPE CHARACTERISTICS	LENGTH (m)	20	20	20	20	20	20	20	20	20
		20	20	20	20	20	20	20	20	20
PIPELINE CROSSINGS TYPE & NUMBERING		W-C-1	W-C-2	W-C-3	W-C-4	W-C-5	W-C-6	W-C-7	W-C-8	W-C-9
MECH. FACILITIES (VALVES, STATIONS & ETC.)										
CATHODIC PROTECTION		TP-A	TP-A	TP-A	TP-A	TP-A	TP-A	TP-A	TP-A	TP-A
LINE MARKERS										
PIPE EXTERNAL PROTECTION										
PIPE MINIMUM COVER (GENERAL EXCEPT CROSSINGS)										

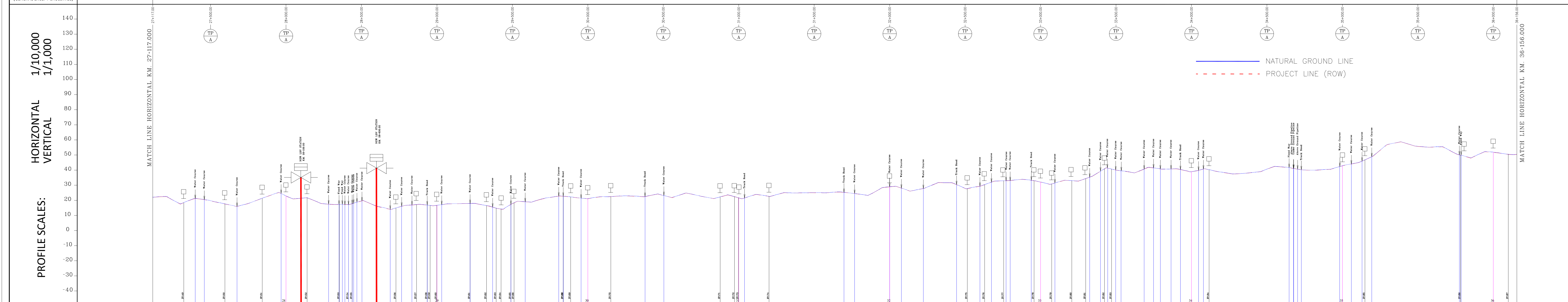


HORIZONTAL KILOMETERS		19	20	21	22	23	24	25	26	27
PROJECT LINE (ROW) ELEVATIONS (m)	NATURAL GROUND ELEVATIONS (m)	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
		18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
PARTIAL HORIZONTAL DISTANCES (m)	PROGRESSIVE HORIZONTAL KILOMETERS	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
		18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
SURVEY REFERENCES	PLANTING SCOPES DISTANCES (m)	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
		18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
HORIZONTAL DIRECTION CHANGES (GRAD)	SOIL CONDITION	18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
		18+078.000	18+080.000	18+082.000	18+084.000	18+086.000	18+088.000	18+090.000	18+092.000	18+094.000
GROUND USAGE DESCRIPTION										

BILL OF MATERIALS					SYMBOLS AND ABBREVIATIONS					KEY MAP					LEGEND					CROSSINGS ABBREVIATIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
1	LINE MARKER TEST POINT TYPE-A	18 No.	17		 PIPE LINE ROUTE AND SURVEY REFERENCE	C	CASING PIPE	 CATHODIC PROTECTION STATION	 INDEX KEY MAP	 LEGEND	 CROSSINGS ABBREVIATIONS	 SOIL CONDITION INFORMATION	 PROJECT INFORMATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
2	NORMAL LINE MARKER	24 No.	18			RC	REINFORCED COATING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</



HORIZONTAL KILOMETERS				28		29		30		31		32		33		34		35		36	
R.D. PROGRESSIVE HORIZONTAL KILOMETERS				127+552.139 127+548.548 127+545.326		127+550.125 127+547.370 127+544.320		127+542.320 127+539.640 128+100.000 128+138.554 128+181.840 128+220.000 128+258.554 128+297.000 128+335.554 128+374.000 128+412.554 128+451.000 128+489.554 128+528.000 128+566.554 129+005.000 129+043.554 129+082.000 129+120.554 129+159.000 129+197.554 129+236.000 129+274.554 129+313.000 129+351.554 129+390.000 129+428.554 129+467.000 129+505.554 129+544.000 129+582.554 130+021.000 130+059.554 130+098.000 130+136.554 130+175.000 130+213.554 130+252.000 130+290.554 130+329.000 130+367.554 130+406.000 130+444.554 130+483.000 130+521.554 130+560.000 130+598.554 131+037.000 131+075.554 131+114.000 131+152.554 131+191.000 131+229.554 131+268.000 131+306.554 131+345.000 131+383.554 131+422.000 131+460.554 131+499.000 131+537.554 131+576.000 131+614.554 131+653.000 131+691.554 131+730.000 131+768.554 131+807.000 131+845.554 131+884.000 131+922.554 131+961.000 132+000.000 132+038.554 132+077.000 132+115.554 132+154.000 132+192.554 132+231.000 132+269.554 132+308.000 132+346.554 132+385.000 132+423.554 132+462.000 132+500.554 132+539.000 132+577.554 132+616.000 132+654.554 132+693.000 132+731.554 132+770.000 132+808.554 132+847.000 132+885.554 132+924.000 132+962.554 133+001.000 133+039.554 133+078.000 133+116.554 133+155.000 133+193.554 133+232.000 133+270.554 133+309.000 133+347.554 133+386.000 133+424.554 133+463.000 133+501.554 133+540.000 133+578.554 133+617.000 133+655.554 133+694.000 133+732.554 133+771.000 133+809.554 133+848.000 133+886.554 133+925.000 133+963.554 134+002.000 134+040.554 134+079.000 134+117.554 134+156.000 134+194.554 134+233.000 134+271.554 134+310.000 134+348.554 134+387.000 134+425.554 134+464.000 134+502.554 134+541.000 134+579.554 134+618.000 134+656.554 134+695.000 134+733.554 134+772.000 134+810.554 134+849.000 134+887.554 134+926.000 134+964.554 135+003.000 135+041.554 135+080.000 135+118.554 135+157.000 135+195.554 135+234.000 135+272.554 135+311.000 135+349.554 135+388.000 135+426.554 135+465.000 135+503.554 135+542.000 135+580.554 135+619.000 135+657.554 135+696.000 135+734.554 135+773.000 135+811.554 135+850.000 135+888.554 135+927.000 135+965.554 136+004.000 136+042.554 136+081.000 136+119.554 136+158.000 136+196.554 136+235.000 136+273.554 136+312.000 136+350.554 136+389.000 136+427.554 136+466.000 136+504.554 136+543.000 136+581.554 136+620.000 136+658.554 136+697.000 136+735.554 136+774.000 136+812.554 136+851.000 136+889.554 136+928.000 136+966.554 137+005.000 137+043.554 137+082.000 137+120.554 137+159.000 137+197.554 137+236.000 137+274.554 137+313.000 137+351.554 137+390.000 137+428.554 137+467.000 137+505.554 137+544.000 137+582.554 137+621.000 137+659.554 137+698.000 137+736.554 137+775.000 137+813.554 137+852.000 137+890.554 137+929.000 137+967.554 138+006.000 138+044.554 138+083.000 138+121.554 138+160.000 138+198.554 138+237.000 138+275.554 138+314.000 138+352.554 138+391.000 138+429.554 138+468.000 138+506.554 138+545.000 138+583.554 138+622.000 138+660.554 138+699.000 138+737.554 138+776.000 138+814.554 138+853.000 138+891.554 138+930.000 138+968.554 139+007.000 139+045.554 139+084.000 139+122.554 139+161.000 139+199.554 139+238.000 139+276.554 139+315.000 139+353.554 139+392.000 139+430.554 139+469.000 139+507.554 139+546.000 139+584.554 139+623.000 139+661.554 139+700.000 139+738.554 139+777.000 139+815.554 139+854.000 139+892.554 139+931.000 139+969.554 140+008.000 140+046.554 140+085.000 140+123.554 140+162.000 140+200.554 140+239.000 140+277.554 140+316.000 140+354.554 140+393.000 140+431.554 140+470.000 140+508.554 140+547.000 140+585.554 140+624.000 140+662.554 140+701.000 140+739.554 140+778.000 140+816.554 140+855.000 140+893.554 140+932.000 140+970.554 141+009.000 141+047.554 141+086.000 141+124.554 141+163.000 141+201.554 141+240.000 141+278.554 141+317.000 141+355.554 141+394.000 141+432.554 141+471.000 141+509.554 141+548.000 141+586.554 141+625.000 141+663.554 141+702.000 141+740.554 141+779.000 141+817.554 141+856.000 141+894.554 141+933.000 141+971.554 142+010.000 142+048.554 142+087.000 142+125.554 142+164.000 142+202.554 142+241.000 142+279.554 142+318.000 142+356.554 142+395.000 142+433.554 142+472.000 142+510.554 142+549.000 142+587.554 142+626.000 142+664.554 142+703.000 142+741.554 142+780.000 142+818.554 142+857.000 142+895.554 142+934.000 142+972.554 143+011.000 143+049.554 143+088.000 143+126.554 143+165.000 143+203.554 143+242.000 143+280.554 143+319.000 143+357.554 143+396.000 143+434.554 143+473.000 143+511.554 143+550.000 143+588.554 143+627.000 143+665.554 143+704.000 143+742.554 143+781.000 143+819.554 143+858.000 143+896.554 143+935.000 143+973.554 144+012.000 144+050.554 144+089.000 144+127.554 144+166.000 144+204.554 144+243.000 144+281.554 144+320.000 144+358.554 144+397.000 144+435.554 144+474.000 144+512.554 144+551.000 144+589.554 144+628.000 144+666.554 144+705.000 144+743.554 144+782.000 144+820.554 144+859.000 144+897.554 144+936.000 144+974.554 145+013.000 145+051.554 145+090.000 145+128.554 145+167.000 145+205.554 145+244.000 145+282.554 145+321.000 145+359.554 145+398.000 145+436.554 145+475.000 145+513.554 145+552.000 145+590.554 145+629.000 145+667.554 145+706.000 145+744.554 145+783.000 145+821.554 145+860.000 145+898.554 145+937.000 145+975.554 146+014.000 146+052.554 146+091.000 146+129.554 146+168.000 146+206.554 146+245.000 146+283.554 146+322.000 146+360.554 146+399.000 146+437.554 146+476.000 146+514.554 146+553.000 146+591.554 146+630.000 146+668.554 146+707.000 146+745.554 146+784.000 146+822.554 146+861.000 146+899.554 146+938.000 146+976.554 147+015.000 147+053.554 147+092.000 147+130.554 147+169.000 147+207.554 147+246.000 147+284.554 147+323.000 147+361.554 147+400.000 147+438.554 147+477.000 147+515.554 147+554.000 147+592.554 147+631.000 147+669.554 147+708.000 147+746.554 147+785.000 147+823.554 147+862.000 147+900.554 147+939.000 147+977.554 148+016.000 148+054.554 148+093.000 148+131.554 148+170.000 148+208.554 148+247.000 148+285.554 148+324.000 148+362.554 148+401.000 148+439.554 148+478.000 148+516.554 148+555.000 148+593.554 148+632.000 148+670.554 148+709.000 148+747.554 148+786.000 148+824.554 148+863.000 148+901.554 148+940.000 148+978.554 149+017.000 149+055.554 149+094.000 149+132.554 149+171.000 149+209.554 149+248.000 149+286.554 149+325.000 149+363.554 149+402.000 149+440.554 149+479.000 149+517.554 149+556.000 149+594.554 149+633.000 149+671.554 149+710.000 149+748.554 149+787.000 149+825.554 149+864.000 149+902.554 149+941.000 149+979.554 150+018.000 150+056.554 150+095.000 150+133.554 150+172.000 150+210.554 150+249.000 150+287.554 150+326.000 150+364.554 150+403.000 150+441.554 150+480.000 150+518.554 150+557.000 150+595.554 150+634.000 150+672.554 150+711.000 150+749.554 150+788.000 150+826.554 150+865.000 150+903.554 150+942.000 150+980.554 151+019.000 151+057.554 151+096.000 151+134.554 151+173.000 151+211.554 151+250.000 151+288.554 151+327.000 151+365.554 151+404.000 151+442.554 151+481.000 151+519.554 151+558.000 151+596.554 151+635.000 151+673.554 151+712.000 151+750.554 151+789.000 151+827.554 151+866.000 151+904.554 151+943.000 151+981.554 152+020.000 152+058.554 152+097.000 152+135.554 152+174.000 152+212.554 152+251.000 152+289.554 152+328.000 152+366.554 152+405.000 152+443.554 152+482.000 152+520.554 152+559.000 152+597.554 152+636.000 152+674.554 152+713.000 152+751.554 152+790.000 152+828.554 152+867.000 152+905.554 152+944.000 152+982.554 153+021.000 153+059.554 153+098.000 153+136.554 153+175.000 153+213.554 153+252.000 153+290.554 153+329.000 153+367.554 153+406.000 153+444.554 153+483.000 153+521.554 153+560.000 153+598.554 153+637.000 153+675.554 153+714.000 153+752.554 153+791.000 153+829.554 153+868.000 153+906.554 153+945.000 153+983.554 154+022.000 154+060.554 154+099.000 154+137.554 154+176.000 154+214.554 154+253.000 154+291.554 154+330.000 154+368.554 154+407.000 154+445.554 154+484.000 154+522.554 154+561.000 154+599.554 154+638.000 154+676.554 154+715.000 154+753.554 154+792.000 154+830.554 154+869.000 154+907.554 154+946.000 154+984.554 155+023.000 155+061.554 155+100.000 155+138.554 155+177.000 155+215.554 155+254.000 155+292.554 155+331.000 155+369.554 155+408.000 155+446.554 155+485.000 155+523.554 155+562.000 155+600.554 155+639.000 155+677.554 155+716.000 155+754.554 155+793.000 155+831.554 155+870.000 155+908.554 155+947.000 155+985.554 156+024.000 156+062.554 156+101.000 156+139.554 156+178.000 156+216.554 156+255.000 156+293.554 156+332.000 156+370.554 156+409.000 156+447.554 156+486.000 156+524.554 156+563.000 156+601.554 156+640.000 156+678.554 156+717.000 156+755.554 156+794.000 156+832.554 156+871.000 156+909.554 156+948.000 156+986.554 157+025.000 157+063.554 157+102.000 157+140.554 157+179.000 157+217.554 157+256.000 157+294.554 157+333.000 157+371.554 157+410.000 157+448.554 157+487.000 157+525.554 157+564.000 157+602.554 157+641.000 157+679.554 157+718.000 157+756.554 157+795.000 157+833.554 157+872.000 157+910.554 157+949.000 157+987.554 158+026.000 158+064.554 158+103.000 158+141.554 158+180.000 158+218.554 158+257.000 158+295.554 158+334.000 158+372.554 158+411.000 158+449.554 158+488.000 158+526.554 158+565.000 158+603.554 158+642.000 158+680.554 158+719.000 158+757.554 158+796.000 158+834.554 158+873.000 158+911.554 158+950.000 158+988.554 159+027.000 159+065.554 159+104.000 159+142.554 159+181.000 159+219.554 159+258.000 159+296.554 159+335.000 159+373.554 159+412.000 159+450.554 159+489.000 159+527.554 159+566.000 159+604.554 159+643.000 159+681.554 159+720.000 159+758.554 159+797.000 159+835.554 159+874.000 159+912.554 159+951.000 159+989.554 160+028.000 160+066.554 160+105.000 160+143.554 160+182.000 160+220.554 160+259.000 160+297.554 160+336.000 160+374.554 160+413.000 160+451.554 160+490.000 160+528.554 160+567.000 160+605.554 160+644.000 160+682.554 160+721.000 160+759.554 160+798.000 160+836.554 160+875.000 160+913.554 160+952.000 160+990.554 161+029.000 161+067.554 161+106.000 161+144.554 161+183.000 161+221.554 161+260.000 161+298.554 161+337.000 161+375.554 161+414.000 161+452.554 161+491.000 161+529.554 161+568.000 161+606.554 161+645.000 161+683.554 161+722.000 161+760.554 161+799.000 161+837.554 161+876.000 161+914.554 161+953.000 161+991.554 162+030.000 162+068.554 162+107.000 162+145.554 162+184.000 162+222.554 162+261.000 162+299.554 162+338.000 162+376.554 162+415.000 162+453.554 162+492.000 162+530.554 162+569.000 162+607.554 162+646.000 162+684.554 162+723.000 162+761.554 162+800.000 162+838.554 162+877.000 162+915.554 162+954.000 162+992.554 163+031.000 163+069.554 163+108.000 163+146.554 163+185.000 163+223.554 163+262.000 163+300.554 163+339.000 163+377.554 163+416.000 163+454.554 163+493.000 163+531.554 163+570.000 163+608.554 163+647.000 163+685.554 163+724.000 163+762.554 163+801.000 163+839.554 163+878.000 163+916.554 163+955.000 163+993.554 164+032.000 164+070.554 164+109.000 164+147.554 164+186.000 164+224.554 164+263.000 164+301.554 164+340.000 164+378.554 164+417.000 164+455.554 164+494.000 164+532.554 164+571.000 164+609.554 164+648.000 164+686.554 164+725.000 164+763.554 164+802.000 164+840.554 164+879.000 164+917.554 164+956.000 164+994.554 165+033.000 165+071.554 165+110.000 165+148.554 1													



HORIZONTAL KILOMETERS																																	
NATURAL GROUND ELEVATIONS (m)																																	
PROJECT LINE (ROW)																																	
PARTIAL HORIZONTAL DISTANCES (m)				205.439	272.69	247.40	297.13	213.93	80.35	289.82	136.49	70.70	220.78	108.84	94.16	355.88	200.33	724.56	94.07	202.66	1313.76	118.60	126.42	201.20	117.03	133.23	91.98	124.60	646.14	1033.00	633.09	316.69	340.90
PROGRESSIVE HORIZONTAL KILOMETERS		27.113.004	#70	#71	#72	#73	#74	#75	#76	#77	#78	#79	#80	#81	#82	#83	#84	#85	#86	#87	#88	#89	#90	#91	#92	#93	#94	#95	#96	#97	#98	#99	
SURVEY REFERENCES		#70	#71	#72	#73	#74	#75	#76	#77	#78	#79	#80	#81	#82	#83	#84	#85	#86	#87	#88	#89	#90	#91	#92	#93	#94	#95	#96	#97	#98	#99		
PARTIAL SLOPE DISTANCES (m)		105.440	272.70	247.41	297.15	213.94	80.36	289.83	136.49	70.71	220.79	108.84	94.17	355.89	200.34	724.59	94.07	202.67	1313.83	118.61	126.43	201.21	117.04	133.24	91.99	124.60	646.17	1033.05	633.12	316.71	340.91		
HORIZONTAL DIRECTION CHANGES (GRAD)		N7.6307E	N7.5789E	N7.5823E	N7.5960E	N7.6211E	N7.6396E	N7.6591E	N7.6801E	N7.7021E	N7.7259E	N7.7507E	N7.7765E	N7.8032E	N7.8310E	N7.8598E	N7.8896E	N7.9204E	N7.9522E	N7.9850E	N8.0188E	N8.0536E	N8.0894E	N8.1262E	N8.1640E	N8.2028E	N8.2426E	N8.2834E	N8.3252E	N8.3680E	N8.4118E	N8.4566E	
SOIL CONDITION		Zone 1 CL & CL-MI	Zone 2 CL & CL-MI				Zone 3 CL & CL-MI				Zone 2 CL & CL-MI				Zone 3 CL & CL-MI				Zone 4 SC, SM & ML				Zone 4 CL & CL-MI				Zone 4 SC, SM & ML						
GROUND USAGE DESCRIPTION		WASTE LAND (UNUSED)																CULTIVATION AREA										WASTE LAND (UNUSED)					

[illegible]

REFERENCE DOCUMENTS		
	TITLE	DOC. No.
	1. GEOTECHNICAL INVESTIGATION REPORT FOR PIPELINES	BK-PL-PEDCO-320-CT-RT-0001
2	PIPELINE STANDARD DRAWING FOR LINE MARKER	BK-GENERAL-PEDCO-000-PL-DW-0001
3	STANDARD DRAWING FOR UNDER GROUND PIPELINE CONSTRUCTION IN CLW	BK-GENERAL-PEDCO-000-PL-DW-0003
4	STANDARD DRAWING FOR A/LG PIPELINE ROAD CROSSING	BK-GENERAL-PEDCO-000-PL-DW-0005
5	STANDARD DRAWING FOR EXISTING PIPELINE CROSSING	BK-GENERAL-PEDCO-000-PL-DW-0006
6	PIPELINE STANDARD DRAWINGS FOR WATER - WAY CROSSING	BK-GENERAL-PEDCO-000-PL-DW-0008
7	PIPELINE STANDARD DRAWING FOR RIVER CROSSING	BK-GENERAL-PEDCO-000-PL-DW-0014
	TYPE 1. STANDARD DRAWING FOR MAJOR FLOODWAY CROSSING	BK-GENERAL-PEDCO-000-CVJW-0012

NOTES:

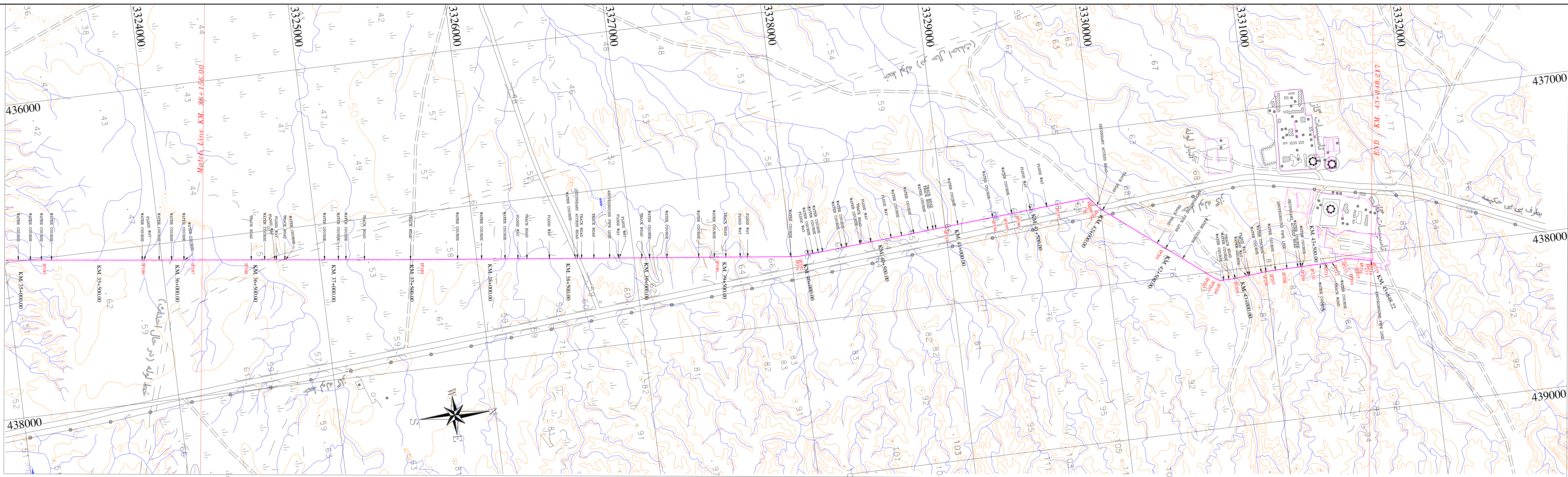
1. THE LATEST IPB STANDARD NO. IPB-C-1P-140 IS THE PRIORITY SPECIFICATION FOR PILING CONSTRUCTION AND IT SHALL BE FULLY FOLLOWED.
2. ALL DATA (COORDINATES, DIMENSIONS, DISTANCES, CROSSINGS, TYPOGRAPHICATION AND ETC.) SHALL BE CHECKED BY THE CONTRACTOR BEFORE CONSTRUCTION AND DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
3. THE PILE MINIMUM COVER (EXCEPT AT CROSSINGS) SHALL BE AS FOLLOWS:
 - a. 90cm FOR ROCK LAYER
 - b. 120cm FOR UNGRAVELLED OR SLIGHTLY GRAVELLED JACK HAMMERSIS NOT REQUIRED FOR TRENCING AND HATCH TRENCES ARE ADEQUATE.
4. 90cm FOR ROCK LAYER AND 120cm FOR UNGRAVELLED OR SLIGHTLY GRAVELLED JACK HAMMERS FOR TRENCING (HATCH TRENCES ARE NOT SUITABLE FOR RECAVATION).
5. 120cm FOR CLAY/LIME LAYER.
6. THE PILING PROCESSING SHALL BE USING TRUCK, UNRAINED, SECONDARY ASPHALT RAILS, WATER COURSES, FLOODWAYS, KESTING UNDER PILES/CABLES, RIVER CROSSINGS TO BE EXCEPTED.
7. THE TOTAL WIDTH OF RIGHT OF WAY IS 11m (3m-8m).
8. GEODETIC PARAMETERS FOR COORDINATES ARE AS BELOW:

COORDINATE SYSTEM	UTM
PROJECTION	U.T.M.
UNIT OF MEASURE	METER
SPHEROID	WGS 84
SPHEROID SEMI-MAJOR AXIS	6378137.0
SPHEROID FLATTENING	1/298.257223563

PI Label	PI23224	Northing	Easting
PI149	273122.42	3315841.859	436102.260
PI150	275955.13	3315752.617	436134.646
PI151	278482.52	3315998.266	436164.042
PI152	281139.66	3316293.286	436199.365
PI153	283553.59	3316505.688	436224.915
PI154	284113.94	3316565.440	436233.369
PI155	284338.59	3316590.066	436234.574
PI156	287728.41	3316877.801	436269.265
PI157	288694.00	3317013.315	436285.540
PI158	289335.63	3317083.398	436295.107
PI159	289584.80	3317102.221	436298.715
PI160	289898.99	3317146.322	436301.637
PI161	291919.77	3317385.494	436328.225
PI162	293238.61	3317473.463	436340.780
PI163	293932.76	3317500.000	436347.889
PI164	294215.12	3317569.093	436354.248
PI165	294930.32	3317632.640	436368.834
PI166	295110.03	3317653.005	436372.568
PI167	298836.90	3317976.808	436409.270
PI168	298837.63	3317976.772	436409.990
PI169	298860.01	3318024.819	436415.269
PI170	301152.34	3318289.487	436444.980
PI171	306766.90	3319009.383	436527.028
PI172	307197.57	3319103.450	436537.605
PI173	309098.16	3319129.804	436541.281
PI174	311200.82	3319321.212	436563.680
PI175	321514.58	3320636.554	436712.245
PI176	324219.18	3320750.254	436726.588
PI177	327355.61	3320875.689	436742.370
PI178	329586.81	33210075.75	436758.993
PI179	330737.84	33211182.867	436776.493
PI180	332007.07	33212324.634	436789.927
PI181	332997.05	33214116.360	436796.710
PI182	334223.64	33215450.522	436807.097
PI183	334707.57	3321587.182	436812.083
PI184	341116.71	3322228.831	436888.122
PI185	351497.71	3323254.242	437013.128
PI186	355782.79	3323882.627	437090.143
PI187	360994.49	3324197.075	437127.785

CROSSINGS LIST					
Name	Station	Ref. Typ.	Name	Station	Ref. Typ.
		DWG			DWG
WATER COURSE	27-104.34	8	TRACK ROAD	28+953.63	4
WATER COURSE	27-045.53	8	TRACK ROAD	29+836.90	4
WATER COURSE	27-027.17	8	TRACK ROAD	30+379.21	4
WATER COURSE	27-067.64	8	TRACK ROAD	31+038.19	4
WATER COURSE	28-182.48	8	TRACK ROAD	31+697.37	4
WATER COURSE	28-182.98	8	TRACK ROAD	32+443.41	4
WATER COURSE	28-113.96	8	TRACK ROAD	32+938.34	4
WATER COURSE	28-84.95	8	TRACK ROAD	33+927.06	4
WATER COURSE	28-648.02	8	TRACK ROAD	34+729.44	4
WATER COURSE	28-640.45	8	Name	Station	Ref. Typ.
WATER COURSE	28-620.38	8			DWG
WATER COURSE	28-605.57	8	FLOODWAY	28+351.28	8
WATER COURSE	28-765.56	8	FLOODWAY	28+373.17	8
WATER COURSE	28-841.11	8	FLOODWAY	28+647.14	8
WATER COURSE	28-641.65	8	FLOODWAY	35+786.95	8
WATER COURSE	29-123.27	8	FLOODWAY	35+786.95	8
WATER COURSE	29-160.04	8	Name	Station	Ref. Typ.
WATER COURSE	29-040.32	8			DWG
WATER COURSE	29-040.32	8	UNDERGROUND PIPELINE	34+473.43	5
WATER COURSE	29-041.98	8	UNDERGROUND PIPELINE	34+703.16	5
WATER COURSE	29-082.44	8	Name	Station	Ref. Typ.
WATER COURSE	29-055.33	8			DWG
WATER COURSE	29-055.33	8	UNDERGROUND PIPELINE	34+677.39	5
WATER COURSE	29-157.744	8			
WATER COURSE	31-99.86	8			
WATER COURSE	32-077.74	8			
WATER COURSE	32-273.35	8			
WATER COURSE	32-104.44	8			
WATER COURSE	32-474.48	8			
WATER COURSE	32-771.60	8			
WATER COURSE	32-795.59	8			
WATER COURSE	33-059.35	8			
WATER COURSE	33-125.31	8			
WATER COURSE	33-207.29	8			
WATER COURSE	33-444.82	8			
WATER COURSE	33-677.98	8			
WATER COURSE	33-533.29	8			
WATER COURSE	33-646.55	8			
WATER COURSE	33-747.72	8			
WATER COURSE	33-793.98	8			
WATER COURSE	33-864.52	8			
WATER COURSE	34-066.01	8			
WATER COURSE	34-079.37	8			
WATER COURSE	34-082.02	8			
WATER COURSE	35-059.63	8			
WATER COURSE	35-102.10	8			
WATER COURSE	35-184.83	8			
WATER COURSE	35-775.09	8			

		***		*****		**		***		**		***	
		REV.		DESCRIPTION		BY DATE		BY DATE		APPROVED			
DATA	REVISIONS	APP	APP	مجلس الوزراء 		CHIEF ENGINEER		CHIEF ENGINEER		APPROVED			
FACILITIES				THE ORIGINAL AND ALL COPIES OF THIS DRAWING TOGETHER WITH THE COPYRIGHT BELONG TO THE STATE PROPERTY OF									
PIPERLINES				M.S.C.O. FIELDS									
ACTION (GC)				MINAK OILFIELD DEVELOPMENT									
PETROBRAS				SURFACE FACILITIES									
DEVELOPMENT				GAS & GAS-CONDENSATE PIPERLINES									
COMPANY				DATE SCALE DRAWING BY CHECKED BY PROJECT ENG.									
				NO CONSTRUCTION PERMITTED UNLESS HIGHLY APPROVED									
				APPROVED FOR CONSTRUCTION BY DATE									
SHEET NO.	KEY	BUDGET REF.	LOCATION	TYPE	CLASS	SERIAL NO.	DATE	REVISION					
4 OF 5		03-073-0164	F	C	A	720505	4	04/05/00					



REFERENCE DOCUMENTS		
	TITLE	DOC. No.
1	GEOTECHNICAL INVESTIGATION REPORT FOR PIPELINES	BK-PIAL-PEDCO 320-GT-R001
2	PIPELINE STANDARD DRAWING FOR LINE MARKER	BK-GRNAL-PEDCO 000-PI-PLW-0001
3	STANDARD DRAWING FOR UNDER GROUND PIPELINE CONSTRUCTION I.O.W.	BK-GRNAL-PEDCO 000-PI-PLW-0003
4	STANDARD DRAWING FOR A/S PIPELINE ROAD CROSSING	BK-GRNAL-PEDCO 000-PI-PLW-0005
5	STANDARD DRAWING FOR EXISTING PIPELINE CROSSING	BK-GRNAL-PEDCO 000-PI-PLW-0006
6	PIPELINE STANDARD DRAWING FOR WATER / WARE CROSSING	BK-GRNAL-PEDCO 000-PI-PLW-0008
7	PIPELINE STANDARD DRAWING FOR RIVER CROSSING	BK-GRNAL-PEDCO 000-PI-PLW-0014
8	TYPICAL DRAWING FOR MAJOR FLOODWAY CROSSING	BK-GRNAL-PEDCO 000-CV-DW-0012

NOTES:

- 1- THE LATEST IRIS STANDARD No. IR-1-C-141-10 IS THE PROJECT SPECIFICATION FOR PIPELINE CONSTRUCTION AND IT SHALL BE FULLY COMPLIANT.
- 2- ALL DATA (COORDINATES, ELEVATIONS, DISTANCES, CROSSINGS, TOPOGRAHY, AND ETC.) SHALL BE CHECKED BY THE CONTRACTOR BEFORE CONSTRUCTION AND DISCREPANCIES (IF ANY) SHALL BE REPORTED TO THE CLIENT REPRESENTATIVE FOR PROPER DISCUSSION.
- 3- THE PIPE MINIMUM COVER (DEPTH OF COVER) SHALL BE AS FOLLOWS:
 - 90cm for UNION (WASTY LAND) SOIL, WEARING BEARING OR JACK HAMMER
 - 120cm for ROCKY (WASTY LAND) SOIL, WEARING BEARING OR JACK HAMMER
 - 150cm for ROCKY (WASTY LAND) WEARING BEARING OR JACK HAMMER IS REQUIRED FOR TRUCKING HEAVY LOADS ARE NOT SUITABLE FOR EXCAVATION
- 4- THE PIPELINE CROSSINGS INCLUDING TRUCK, UNSURFACED, SECONDARY ASPHALT ROAD, GRAVEL, GRAVEL PAVED, EXISTING UNDERGROUND, CEMENT CABLE, ROVER AND ETC. TO BE DETECTED AS FOR THE PROJECT PIPELINES TYPE, DEPTHS AND WIDTHS.
- 5- THE TYPE AND DEPTH OF BUILT UP OR EXISTING STRUCTURES SHALL BE AS FOLLOWS:
- 6- GEODETIC PARAMETERS FOR COORDINATES ARE AS BELOW:
 - 1. DATUM: WGS 84
 - 2. EPOCH: 2011
 - 3. PROJECTION: UTM
 - 4. ZONE: 48N
 - 5. UNIT: METERS
- 7- THE PIPELINE AND POINT A AND RECEIVING STATION SHALL BE LOCATED IN STRIP AREA OF THE EXISTING PROJECT TO THE NORTH SIDE OF THE PIPELINE ROUTE, AND THE EXACT LOCATION OF THE RECEIVER AND THE IN-POINT SHALL BE COORDINATED WITH THE PROJECT MANAGER AND TO BE APPROVED BY THE CLIENT BEFORE THE CONSTRUCTION OF THE LAST KILOMETER OF PIPELINE AS PER THIS DRAWING.

COORDINATES OF INTERSECTION POINTS (IP)				
PI Label	PI Station	Northing	Easting	
IP188	36+440.39	3324535.467	437169.089	
IP189	37+566.56	3325653.502	437304.210	
	39+454.09	3327528.807	437518.688	
IP190	39+965.89	3328017.245	437577.225	
IP191	39+983.51	3328054.464	437576.680	
IP192	40+926.73	3328995.291	437504.374	
IP193	41+241.50	3329309.127	437480.106	
IP194	41+317.02	3329384.457	437474.760	
IP195	41+395.62	3329462.831	437466.800	
IP196	41+655.40	3329721.803	437440.274	
IP197	41+885.85	3329951.698	437432.987	
IP198	41+903.54	3329956.625	437461.070	
IP199	42+001.62	3329996.830	437508.548	
IP200	42+442.94	3330372.033	437803.599	
IP201	42+788.63	3330643.455	438017.683	
IP202	43+831.79	3330677.527	438044.175	
IP203	44+065.07	3330706.789	438060.025	
IP204	42+959.38	3330801.063	438057.635	
IP205	43+147.21	3330908.055	438039.819	
IP206	43+192.98	3331035.734	438036.876	
IP207	43+271.82	3331112.559	438035.575	
IP208	43+391.54	3331232.280	438034.854	
IP209	43+456.29	3331296.995	438032.723	
IP210	43+543.89	3331384.500	438031.820	
IP211	43+605.37	3331445.999	438028.885	
IP212	43+654.41	3331493.824	438018.008	
IP213	43+671.19	3331510.494	438016.127	
IP214	43+764.30	3331602.162	438023.456	
IP215	43+783.87	3331621.353	438026.288	
IP216	43+824.09	3331660.214	438030.665	
IP217	43+840.97	3331676.928	438049.002	
IP218	43+842.22	3331683.811	438046.723	

[illegible][illegible]