NOTES:

180 — EXISTING MAJOR CONTOURS

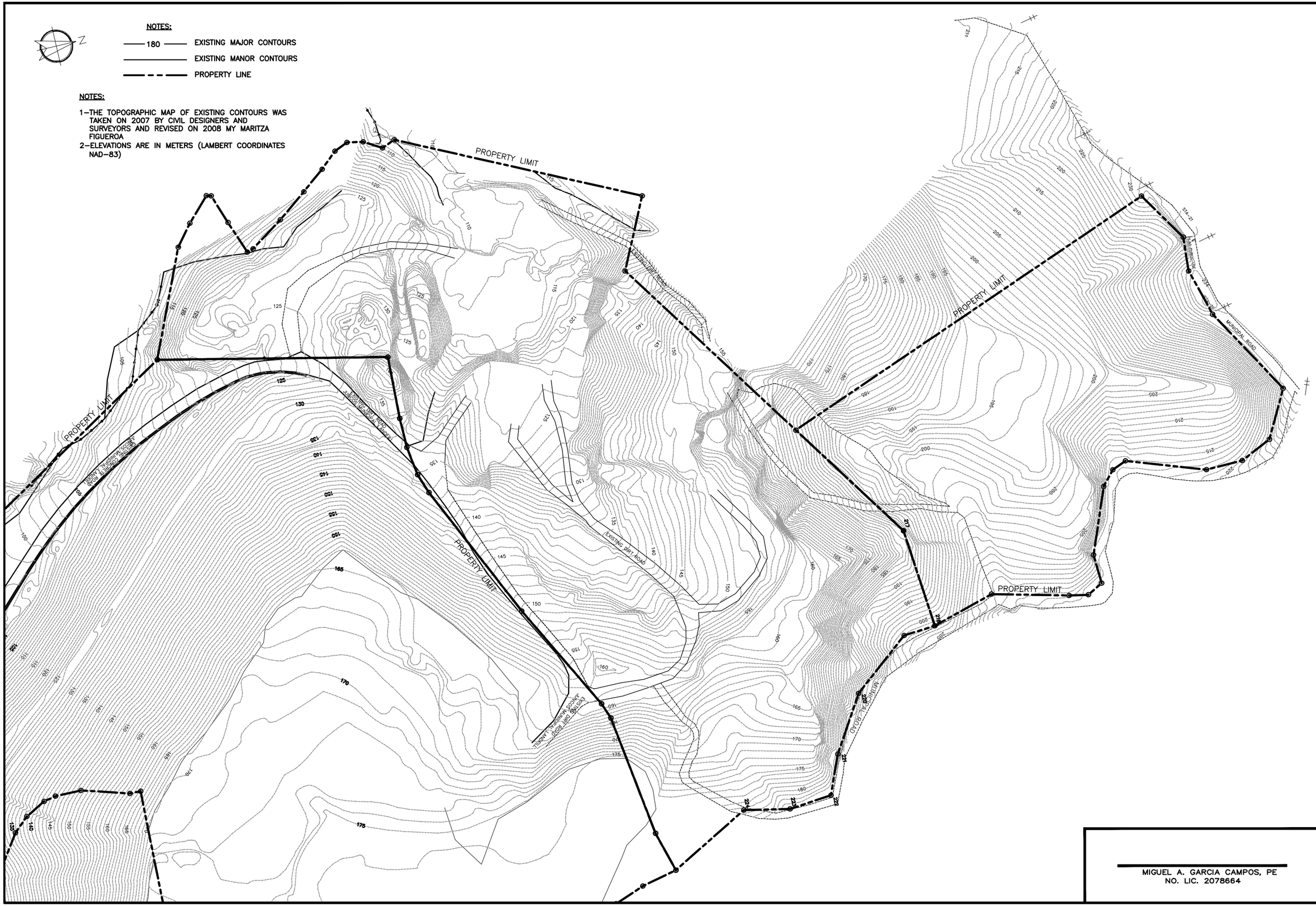
EXISTING MANOR CONTOURS

PROPERTY LINE

NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIL DESIGNERS AND SURVEYORS AND REVISED ON 2008 MY MARITZA FIGUEROA

2–ELEVATIONS ARE IN METERS (LAMBERT COORDINATES NAD–83)



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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROSOS
JUNCOS, PUERTO RICO

SCALE=1:1000

DATE: March 11, 2009

NO.	REVISION	DATE

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PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: EXISTING CONDITIONS

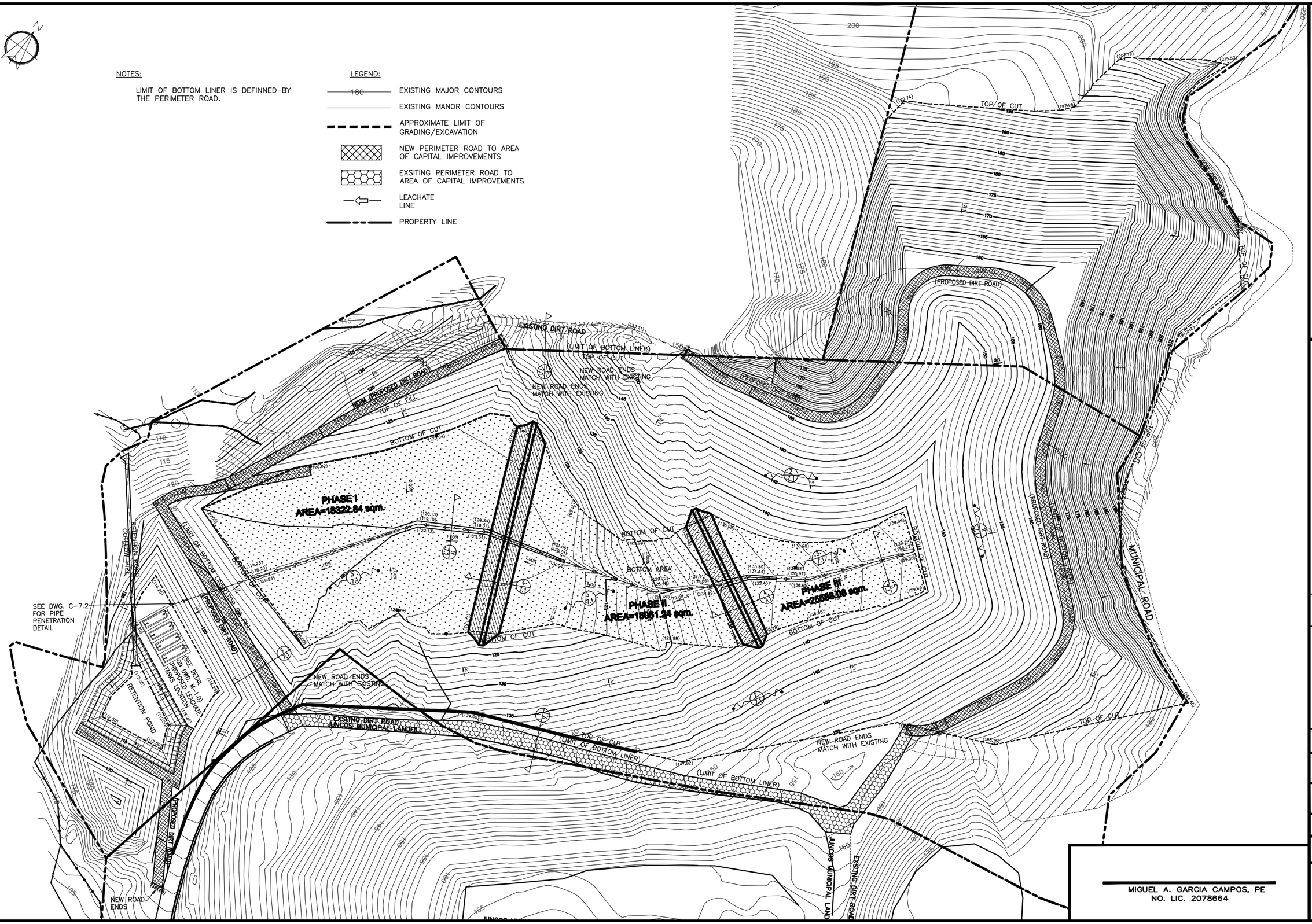
SHEET: C-1.0

NOTES:

LIMIT OF BOTTOM LINER IS DEFINNED BY THE PERIMETER ROAD.

LEGEND:

- EXISTING MAJOR CONTOURS
- EXISTING MANOR CONTOURS
- APPROXIMATE LIMIT OF GRADING/EXCAVATION
- NEW PERIMETER ROAD TO AREA OF CAPITAL IMPROVEMENTS
- EXSITING PERIMETER ROAD TO AREA OF CAPITAL IMPROVEMENTS
- LEACHATE LINE
- PROPERTY LINE



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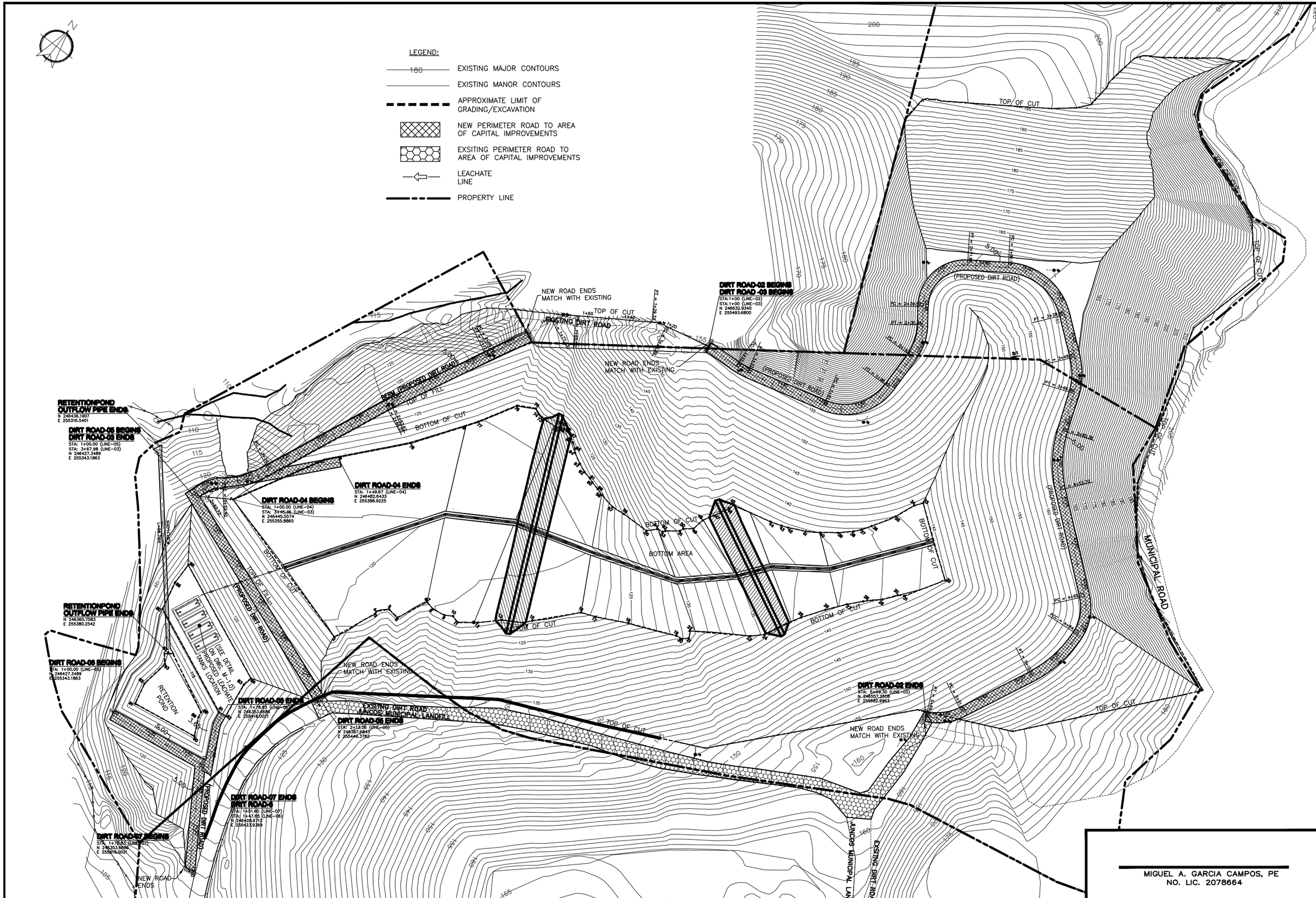
DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: PROPOSED SITE PLAN

SHEET: **C-1.1**



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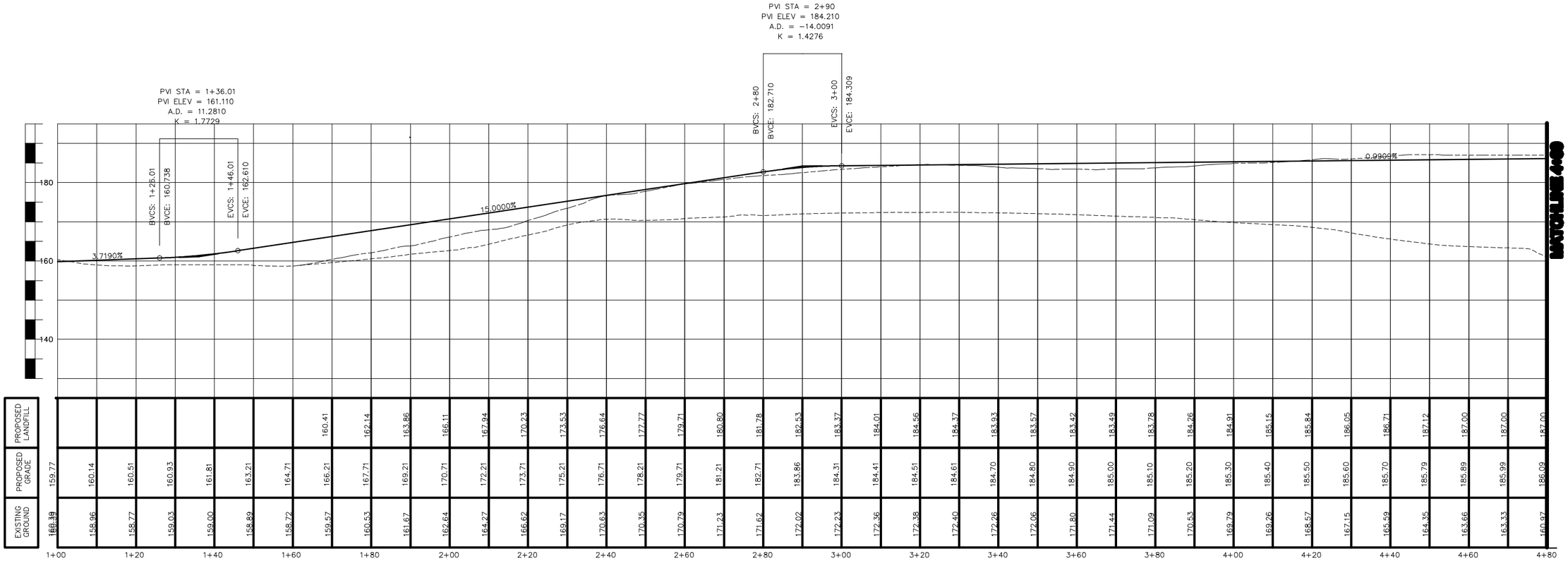
PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

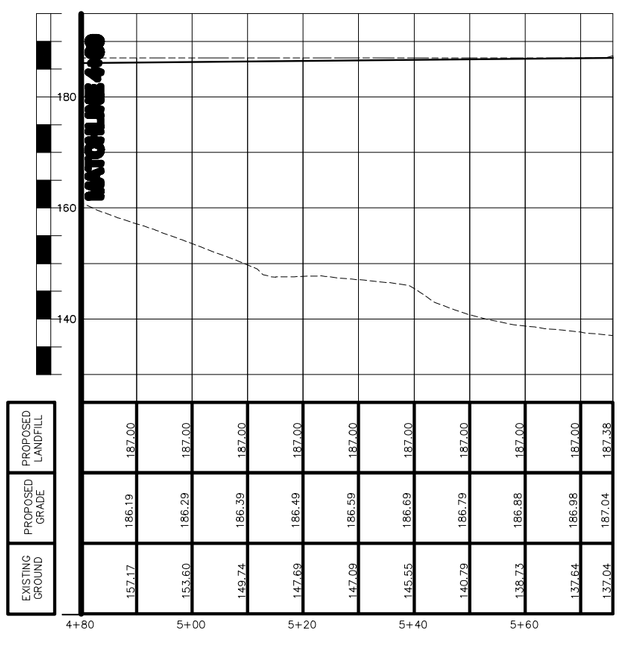
DRAWING TITLE: GEOMETRICAL LAYOUT PLAN

SHEET: **C-2.0**



DIRT ROAD-1 PROFILE

SCALE= 1:500



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DRAWING TITLE: PROFILES–PART 1

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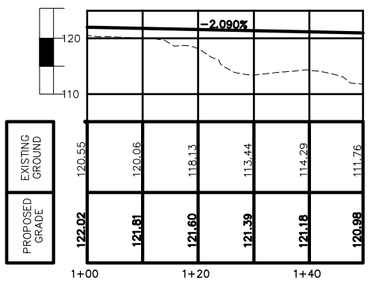
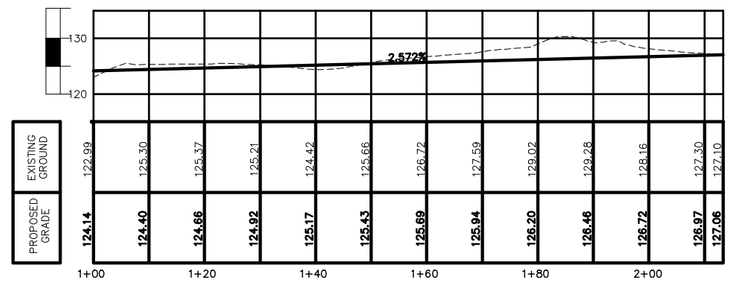
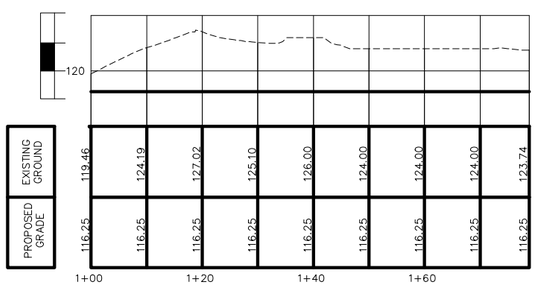


LINE-04 PROFILE
SCALE= 1:500



DIRT ROAD-5 PROFILE
SCALE= 1:500



LINE-06 PROFILE
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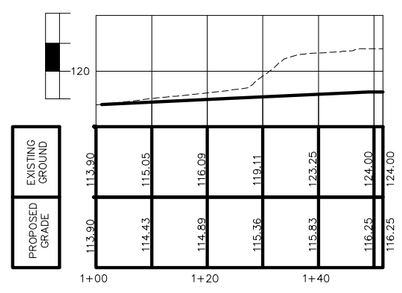

LINE-07 PROFILE
SCALE= 1:500

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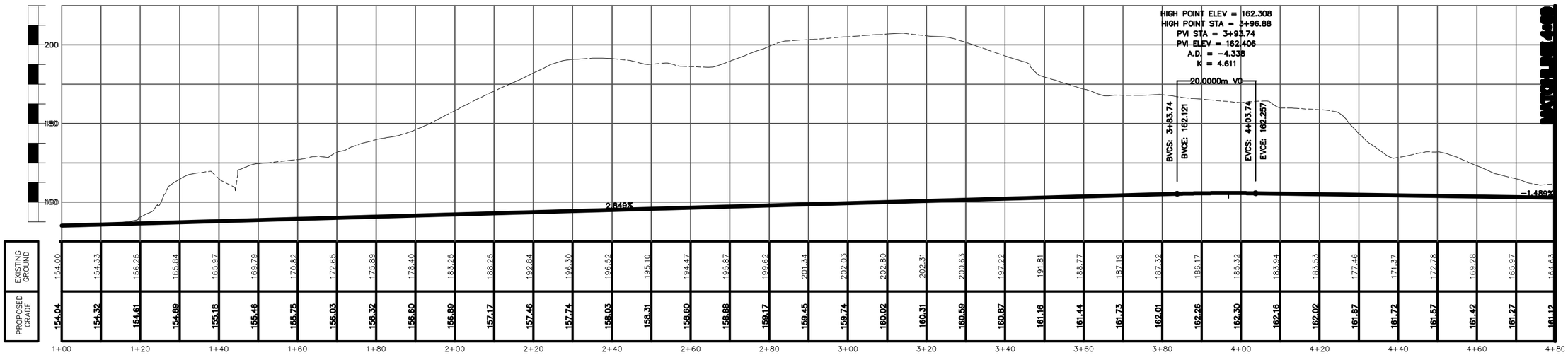
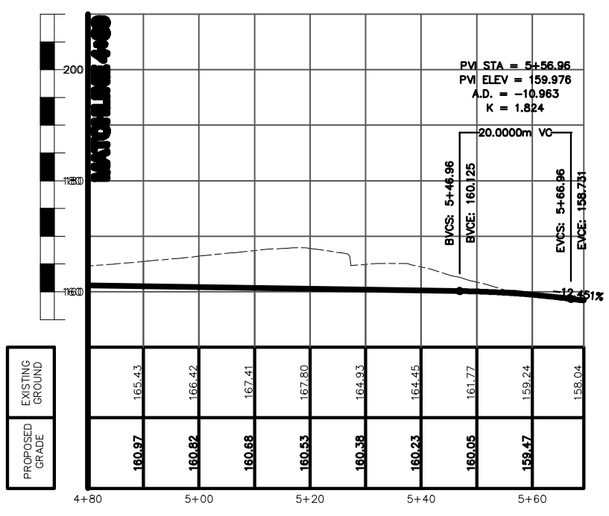
DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: PROFIULE–PART 2

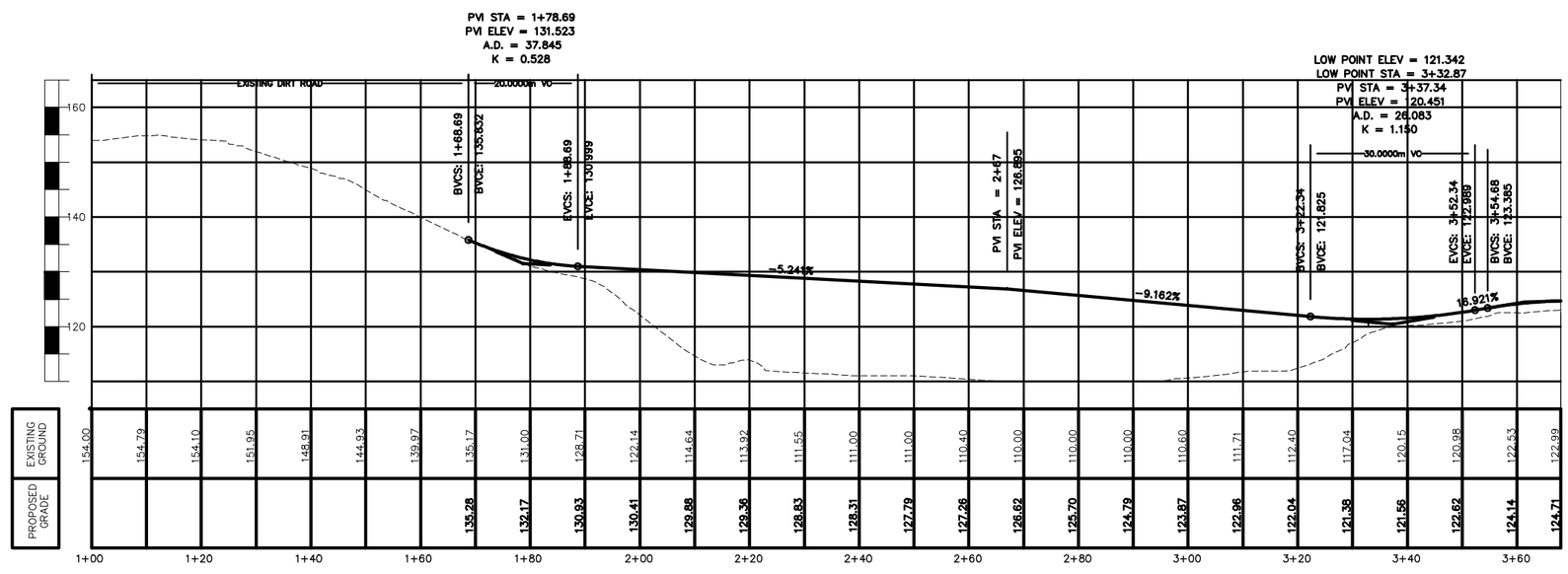
SHEET: C-2.2



DIRT ROAD-2 PROFILE
SCALE= 1:500



DIRT ROAD-2 PROFILE
SCALE= 1:500



DIRT ROAD-3 PROFILE
SCALE= 1:500

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SCALE=1:750

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PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: PROFILES–PART 3

SHEET: **C-2.3**

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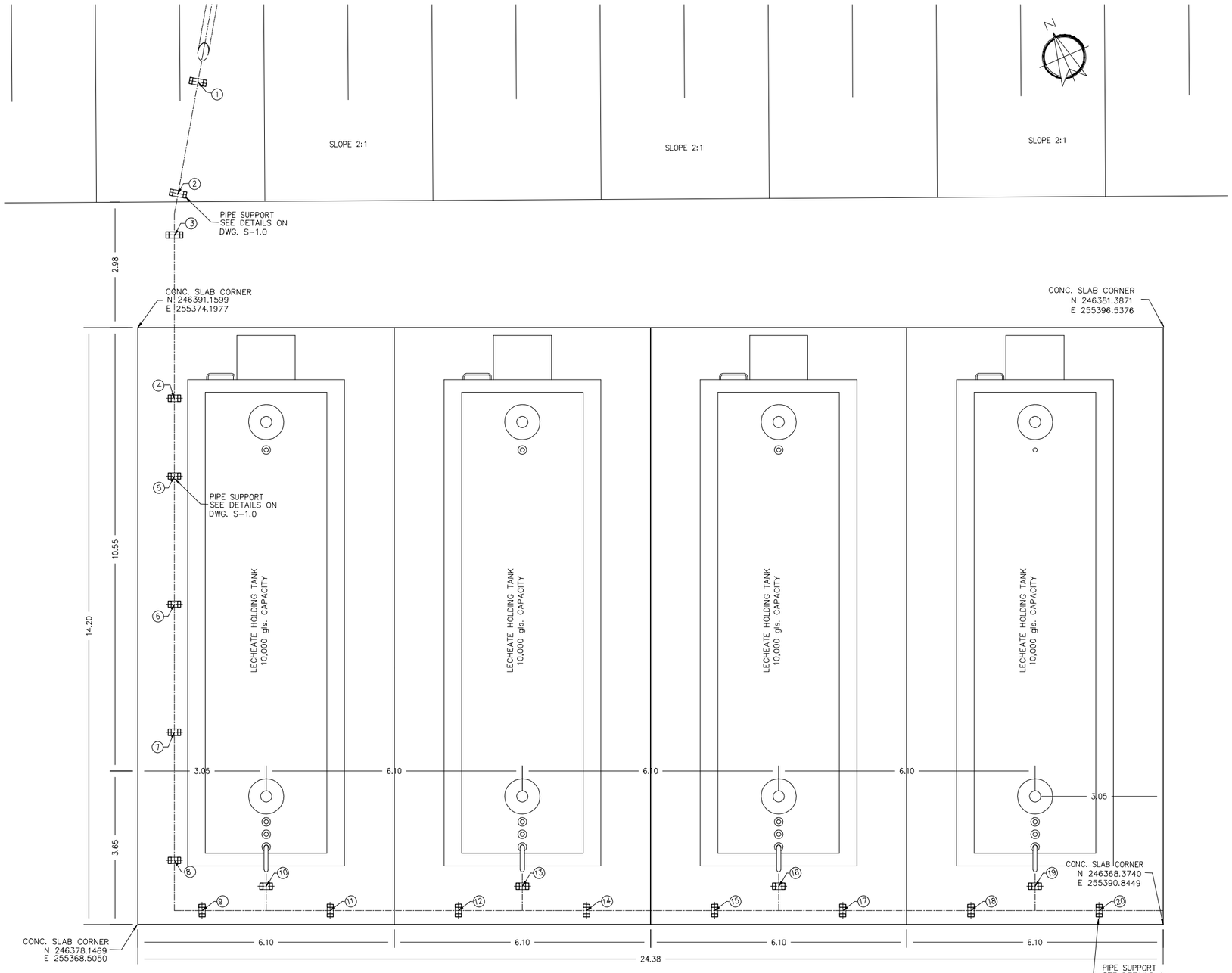

GEOMETRIC PLAN
SCALE 1:50

PIPE CONCRETE BASES		
POINT No.	NORTHING	EASTING
1	246395.9439	255377.8467
2	246393.6967	255376.3506
3	246392.8334	255375.8749
4	246389.2707	255374.3165
5	246387.5737	255373.5741
6	246384.7808	255372.3525
7	246381.9887	255371.1309
8	246379.1959	255369.9091
9	246377.8380	255370.0329
10	246377.7551	255371.6650
11	246376.6160	255372.8257
12	246375.3944	255375.6181
13	246375.3136	255377.2462
14	246374.1728	255378.4106
15	246372.9512	255381.2031
16	246372.8687	255382.8350
17	246371.7296	255383.9956
18	246370.5080	255386.7881
19	246370.4271	255388.4162
20	246369.2864	255389.5806

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DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: TANK GEOMETRICAL LOCATION

SHEET: C-2.4

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 1				
PC/STA.1+00.00(1)						246566.3981	255693.5141	–	--------	LINE 1 BEGINS
V1 [R] (1)	39°42'26"	78.942	28.505	4.989	54.709	246541.1440	255680.2952	S 27°37'45" W	28.505	VERTEX
PT–V1						246513.2704	255686.2596	–		STA.1+54.71(1)
PC–V2						246406.5927	255709.5244	–		STA.2+63.89(1)
V2 [L] (1)	31°05'50"	42.500	11.825	1.614	23.067	246395.0391	255712.0441	S 12°15'36" E	149.515	VERTEX
PT–V2						246383.8444	255708.2343	–		STA.2+86.96(1)
PC–V3						246361.0837	255700.4884	–		STA.3+11.00(1)
V3 [L] (1)	145°48'05"	32.500	105.648	78.033	82.703	246261.0693	255666.4513	S 18°47'40" W	141.515	VERTEX
PT–V3						246362.9218	255638.3888	–		STA.3+93.71(1)
PC–V4						246460.2180	255611.5815	–		STA.4+94.63(1)
V4 [R] (1)	18°01'43"	102.500	16.261	1.282	32.253	246475.8946	255607.2622	N 15°24'15" W	222.830	VERTEX
PT–V4						246489.4646	255598.3033	–		STA.5+26.88(1)
STA.5+61.92(1)						246518.7050	255578.9989	N 33°25'58" W	51.299	LINE 1 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 2				
STA.1+00.00(2)						246632.9345	255493.6795	–	--------	LINE 2 BEGINS
PC–V1						246633.5867	255509.5680	–		STA.1+15.90(2)
V1 [R] (2)	12°14'16"	30.000	3.216	0.172	6.408	246633.7186	255512.7814	N 87°38'57" E	19.118	VERTEX
PT–V1						246634.5287	255515.8937	–		STA.1+22.31(2)
PC–V2						246644.4454	255553.9960	–		STA.1+61.68(2)
V2 [R] (2)	76°37'35"	26.000	20.543	7.136	34.772	246649.6198	255573.8769	N 75°24'41" E	63.131	VERTEX
PT–V2						246670.1584	255573.4413	–		STA.1+96.45(2)
PC–V3						246688.3259	255573.0561	–		STA.2+14.62(2)
V3 [R] (2)	35°44'33"	26.000	8.383	1.318	16.219	246696.7073	255572.8783	N 01°12'53" W	47.098	VERTEX
PT–V3						246703.4064	255567.8381	–		STA.2+30.84(2)
PC–V4						246710.3385	255562.6224	–		STA.2+39.52(2)
V4 [L] (2)	92°42'12"	20.000	20.967	8.976	32.360	246727.0925	255550.0169	N 36°57'27" W	38.025	VERTEX
PT–V4						246738.8939	255567.3468	–		STA.2+71.88(2)
PC–V5						246749.7606	255583.3042	–		STA.2+91.18(2)
V5 [L] (2)	72°46'42"	29.504	21.744	7.147	37.477	246761.9994	255601.2764	N 55°44'45" E	62.016	VERTEX
PT–V5						246748.4564	255618.2874	–		STA.3+28.66(2)
PC–V6						246735.5913	255634.4406	–		STA.3+49.31(2)
V6 [L] (2)	30°51'10"	32.583	8.991	1.218	17.545	246729.9913	255641.4747	S 51°28'17" E	51.385	VERTEX
PT–V6						246721.5765	255644.6415	–		STA.3+66.86(2)
PC–V7						246704.2568	255651.1595	–		STA.3+85.36(2)
V7 [R] (2)	29°58'51"	54.151	14.500	1.908	28.335	246690.6860	255656.2666	S 20°37'23" E	41.997	VERTEX
PT–V7						246681.4831	255667.4719	–		STA.4+13.70(2)
PC–V8						246648.4750	255707.6622	–		STA.4+65.71(2)
V8 [L] (2)	46°06'14"	23.666	10.071	2.054	19.043	246642.0831	255715.4448	S 50°36'14" E	76.579	VERTEX
PCC–V8/V9						246632.0431	255716.2350	–		STA.4+84.75(2)
V9 [L] (2)	29°51'02"	58.263	15.530	2.034	30.354	246616.5620	255717.4662	S 04°31'43" E	25.601	VERTEX
PT–V9						246602.5219	255710.8286	–		STA.5+15.10(2)
PC–V10						246569.2553	255695.1012	–		STA.5+51.90(2)
V10 [L] (2)	39°52'15"	25.000	9.067	1.594	17.397	246561.0578	255691.2257	S 25°18'12" W	61.394	VERTEX
PT/STA.5+69.30(2)						246557.2508	255682.9963	S 65°10'27" W	9.067	LINE 2 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 3				
STA.1+00.00(3)						246632.9345	255493.6795	–	--------	LINE 3 BEGINS
PC–V1						246628.4271	255472.1684	–		STA.1+21.98(3)
V1 [R] (3)	20°49'34"	20.000	3.675	0.335	7.270	246627.6733	255468.5712	S 78°09'56" W	25.654	VERTEX
PT–V1						246625.6898	255465.4769	–		STA.1+29.25(3)
PC–V2						246606.1697	255435.0252	–		STA.1+65.42(3)
V2 [R] (3)	34°10'37"	20.000	6.148	0.924	11.930	246602.8517	255429.8489	S 57°20'22" W	45.995	VERTEX
PT–V2						246597.1989	255427.4305	–		STA.1+77.35(3)
PC–V3						246567.2712	255414.6267	–		STA.2+09.90(3)
V3 [L] (3)	3°19'57"	50.000	1.455	0.021	2.908	246565.9339	255414.0546	S 23°09'45" W	40.154	VERTEX
PT–V3						246564.6322	255413.4057	–		STA.2+12.81(3)
PC–V4						246519.2315	255390.7747	–		STA.2+63.54(3)
V4 [R] (3)	2°57'03"	50.000	1.288	0.017	2.575	246518.0789	255390.2001	S 26°29'42" W	53.471	VERTEX
PT–V4						246516.8983	255389.6857	–		STA.2+66.11(3)
PC–V5						246458.8426	255364.3891	–		STA.3+29.44(3)
V5 [L] (3)	26°13'02"	50.000	11.643	1.338	22.879	246448.1686	255359.7381	S 23°32'39" W	76.259	VERTEX
PCT–V5/V6						246440.6473	255350.8500	–		STA.3+52.32(3)
V6 [R] (3)	29°35'40"	20.000	5.283	0.686	10.330	246437.2346	255346.8171	S 49°45'41" W	16.926	VERTEX
PT–V6						246432.2753	255344.9956	–		STA.3+62.65(3)
STA.3+67.90(3)						246427.3489	255343.1863	S 20°10'02" W	10.531	LINE 3 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 4				
STA.1+00.00(4)						246445.5574	255355.8865	–	--------	LINE 4 BEGINS
POT–V1 (4)						246482.6433	255388.9225	N 41°41'40" E	49.666	VERTEX/STA.1+49.67(4)
STA.1+49.87(4)										LINE 4 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 1				
STA.1+00.00(5)						246427.3489	255343.1863	–	--------	LINE 5 BEGINS
POT–V1 (5)						246387.6843	255449.3782	S 69°31'06" E	113.358	VERTEX/STA.2+13.36(1)
STA.2+13.35 (5)										LINE 6 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 1				
STA.1+00.00(6)						246321.3196	255376.8525	–	--------	LINE 6 BEGINS
POT–V1 (6)						246329.3683	255428.4016	N 81°07'33" E	52.174	VERTEX/STA.1+52.17(6)
POT–V2 (6)						246348.2851	255418.7855	N 26°56'45" W	21.221	VERTEX/STA.1+73.39(6)
STA.1+78.83(6)						246353.6686	255418.0021	N 08°16'47" W	5.440	LINE 6 ENDS

VERTEX DATA

VERTEX	CURVE ELEMENTS Δ	R	T	E	L	COORDINATES Y	X	BEARING	DISTANCE VERTEX TO VERTEX	REMARKS
						LINE 1				
STA.1+00.00(7)						246284.9699	255451.3806	–	--------	LINE 7 BEGINS
POT–V1 (7)						246328.6712	255423.9369	N 32°07'41" W	51.604	VERTEX/STA.1+51.60(7)
STA.1+51.60(7)										LINE 7 ENDS

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DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: GEOMETRIC TABLES

SHEET: C-2.5

TANK AREA GEOMETRICAL DATA

POINT	BEARING	DISTANCE	NORTH COORDINATE	EAST COORDINATE	REMARKS
87			246362.7398	255378.0398	
	S 66d50'3.77" E	35.1906			
88			246348.8962	255410.3930	
	S 9d50'25.28" E	3.1620			
89			246345.7807	255410.9334	
	S 25d47'32.17" E	10.3738			
90			246336.4404	255415.4472	
	S 81d7'40.21" W	34.4425			
91			246331.1284	255381.4168	
	N 12d30'37.72" W	11.6692			
92			246342.5205	255378.8890	
	N 9d44'26.94" E	11.4111			
93			246353.7671	255380.8197	
	N 17d12'49.69" W	9.3935			
80			246362.7398	255378.0398	

AREA = 705.2699 SQ.M. = 0.179440 CDAS.

RETENTION POND GEOMETRICAL DATA

POINT	BEARING	DISTANCE	NORTH COORDINATE	EAST COORDINATE	REMARKS
87			246361.1010	255379.6682	
	S 66d35'54.31" E	32.5062			
88			246348.1904	255409.5005	
	S 9d50'25.28" E	2.7592			
89			246345.4718	255409.9721	
	S 25d47'32.17" E	9.1644			
90			246337.2203	255413.9596	
	S 81d7'40.21" W	32.1546			
91			246332.2611	255382.1897	
	N 12d30'37.72" W	10.5341			
92			246342.5451	255379.9079	
	N 8d21'44.24" E	13.3915			
93			246355.7942	255381.8554	
	N 22d23'58.49" W	5.7399			
87			246361.1010	255379.6682	

AREA = 596.0253 SQ.M. = 0.151645 CDAS.

LANDFILL BOTTOM AREA GEOMETRICAL DATA

POINT	BEARING	DISTANCE	NORTH COORDINATE	EAST COORDINATE	REMARKS
1			246437.3872	255359.6323	
	S 74d6'7.34" E	81.0872			
2			246415.1754	255437.6180	
	N 22d30'56.27" E	22.3799			
3			246435.8494	255446.1880	
	N 8d27'5.05" W	1.1476			
4			246436.9845	255446.0194	
	N 42d34'44.98" E	6.0247			
5			246441.4208	255450.0957	
	S 84d40'0.26" E	5.6630			
6			246440.8944	255455.7342	
	N 24d44'25.59" E	15.7866			
7			246455.2320	255462.3410	
	S 78d2'15.15" E	4.5480			
8			246454.2893	255466.7902	
	N 79d59'0.12" E	5.9400			
9			246455.3225	255472.6397	
	N 58d7'29.61" E	4.1313			
10			246457.5041	255476.1481	
	S 73d39'35.09" E	3.6492			
11			246456.4775	255479.6499	
	N 53d1'15.03" E	9.6340			
12			246462.2725	255487.3460	
	N 46d9'14.67" E	11.4301			
13			246470.1904	255495.5895	
	N 59d10'13.42" E	10.2899			
14			246475.4639	255504.4253	
	N 40d5'58.24" E	4.3838			
15			246478.8171	255507.2490	
	N 42d44'59.98" E	23.4743			
16			246496.0548	255523.1834	
	N 66d38'1.82" E	7.2296			
17			246498.6888	255529.9161	
	N 83d16'12.64" E	15.9493			
18			246505.8625	255544.1610	
	N 67d3'1.08" E	23.4074			
19			246514.9896	255565.7156	
	N 80d52'51.25" E	3.1162			
20			246515.4834	255568.7924	
	N 46d29'57.82" E	3.1890			
21			246517.6786	255571.1056	
	N 30d16'47.14" W	3.4836			
22			246520.6870	255569.3491	
	N 57d2'5.69" E	28.9709			
23			246536.4509	255593.6557	
	N 46d16'8.55" E	6.7340			
24			246541.1059	255598.5217	
	N 27d8'22.70" E	19.0912			
25			246558.0951	255607.2303	
	N 34d42'53.79" E	12.1354			
26			246568.0704	255614.1414	
	N 38d5'42.55" E	10.6309			
27			246576.4368	255620.7003	
	N 41d41'59.25" E	7.7882			
28			246582.2518	255625.8813	
	N 46d52'55.10" E	9.1145			
29			246588.4816	255632.5344	
	N 36d17'47.71" E	7.5657			
30			246594.5793	255637.0130	
	N 59d37'39.49" E	3.0870			
31			246596.1401	255639.6764	
	N 31d41'31.77" E	20.9634			
32			246613.9775	255650.6896	
	N 53d47'6.36" W	38.2223			
33			246636.5599	255619.8516	
	S 36d54'1.57" W	4.3558			
34			246633.0766	255617.2362	
	S 21d40'31.90" W	10.3139			
35			246623.4920	255613.4268	
	S 30d39'46.82" W	12.1735			
36			246613.0206	255607.2185	
	S 32d29'59.97" W	5.2510			
37			246608.5919	255604.3971	
	S 40d12'31.95" W	3.8019			
38			246605.6884	255601.9427	
	S 47d1'42.33" W	7.2922			
39			246600.7178	255596.6071	
	S 53d1'37.02" W	9.1001			
40			246595.2447	255589.3368	
	S 57d10'28.18" W	6.3557			
41			246591.7994	255583.9959	
	S 64d30'19.10" W	8.4483			
42			246588.1630	255576.3703	
	S 68d20'8.92" W	3.3783			
43			246586.9158	255573.2306	
	S 72d2'11.12" W	5.4792			
44			246585.2259	255568.0184	
	S 76d4'49.74" W	19.3280			
45			246580.5764	255549.2581	
	S 17d16'18.04" W	2.4909			
46			246578.1978	255548.5185	
	S 28d42'18.42" W	7.9076			
47			246571.1338	255544.9648	
	S 29d46'34.26" W	5.9128			
48			246566.0033	255542.0255	
	S 9d36'48.46" W	5.8799			
49			246560.2060	255541.0436	
	S 51d58'44.46" W	4.8404			
50			246557.2246	255537.2304	
	S 20d12'9.77" W	1.9121			
51			246555.4301	255536.5701	
	S 51d56'48.24" W	7.0056			
52			246551.1119	255531.0536	
	S 31d11'41.07" W	1.2916			
53			246550.0071	255530.3846	
	S 80d12'16.10" W	2.8933			
54			246549.5149	255527.5335	
	S 43d23'17.02" W	5.1465			
55			246545.7748	255523.9962	
	S 88d52'20.99" W	13.4869			
56			246545.5094	255510.5140	
	S 84d6'23.75" W	6.2430			
57			246544.8684	255504.3039	
	N 79d16'10.12" W	7.6828			
58			246546.2989	255496.7554	
	N 72d44'52.37" W	3.3859			
59			246547.3031	255493.5218	
	N 76d55'33.86" W	4.0752			
60			246548.2249	255489.5522	
	N 68d13'14.84" W	2.3199			
61			246549.0857	255487.3979	
	N 78d20'18.57" W	3.7677			
62			246549.8473	255483.7060	
	N 67d17'41.87" W	4.6108			
63			246551.6270	255479.4545	
	N 61d41'36.69" W	5.6042			
64			246554.2844	255474.5204	
	N 35d47'37.67" W	1.9779			
65			246555.8887	255473.3636	
	N 58d58'3.73" W	4.0966			
66			246558.0006	255469.8533	
	N 52d6'59.11" W	2.2380			
67			246559.3749	255468.0869	
	N 77d1'25.17" W	3.2222			
68			246560.0964	255464.9470	
	N 81d39'59.64" W	1.5434			
69			246560.3221	255463.4200	
	S 85d30'36.49" W	2.0019			
70			246560.1654	255461.4242	

LANDFILL BOTTOM AREA GEOMETRICAL DATA

POINT	BEARING	DISTANCE	NORTH COORDINATE	EAST COORDINATE	REMARKS
70			246560.1654	255461.4242	
	S 33d4'56.58" W	2.0046			
71			246558.4858	255460.3300	
	S 85d23'46.68" W	3.4457			
72			246558.2092	255456.8954	
	S 87d7'51.19" W	4.9636			
73			246557.9606	255451.9380	
	N 81d40'3.25" W	2.2619			
74			246558.2885	255449.7000	
	N 85d16'8.40" W	3.0035			
75			246559.5451	255446.9720	
	S 61d16'17.38" W	8.9431			
76			246555.2465	255439.1297	
	S 29d45'39.89" W	20.0523			
77			246537.8391	255429.1761	
	S 34d47'47.57" W	33.4316			
78			246510.3856	255410.0979	
	S 41d22'19.35" W	41.8118			
79			246479.0087	255382.46269	
	S 28d44'44.50" W	47.4718			
1			246437.3872	255359.6323	

AREA = 20305.7908 SQ.M. = 5.166348 CDAS.

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY: MAG
DRAW BY: AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: GEOMETRIC TABLES

SHEET: C-2.6

LEGEND:

- 180 — EXISTING MAJOR CONTOURS
- EXISTING MANOR CONTOURS
- APPROXIMATE LIMIT OF GRADING/EXCAVATION
- NEW PERIMETER ROAD TO AREA OF CAPITAL IMPROVEMENTS
- EXSITING PERIMETER ROAD TO AREA OF CAPITAL IMPROVEMENTS
- DIRECTION AND DEGREE OF SLOPE
- LEACHATE LINE
- PROPERTY LINE
- 180 — PROPOSED MAJOR CONTOURS
- PROPOSED MANOR CONTOURS

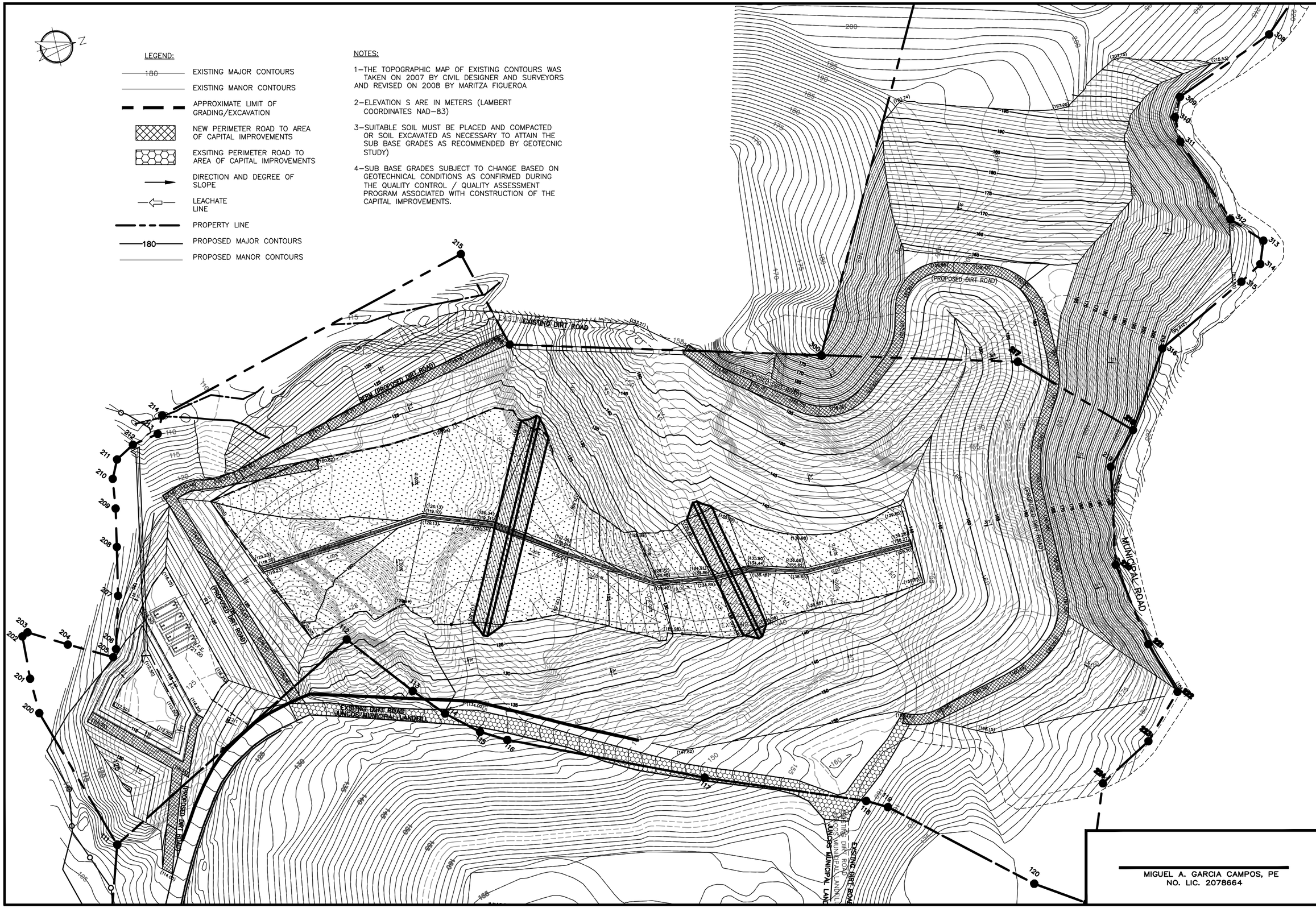
NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIL DESIGNER AND SURVEYORS AND REVISED ON 2008 BY MARITZA FIGUEROA

2–ELEVATION S ARE IN METERS (LAMBERT COORDINATES NAD–83)

3–SUITABLE SOIL MUST BE PLACED AND COMPACTED OR SOIL EXCAVATED AS NECESSARY TO ATTAIN THE SUB BASE GRADES AS RECOMMENDED BY GEOTECNIC STUDY)

4–SUB BASE GRADES SUBJECT TO CHANGE BASED ON GEOTECHNICAL CONDITIONS AS CONFIRMED DURING THE QUALITY CONTROL / QUALITY ASSESSMENT PROGRAM ASSOCIATED WITH CONSTRUCTION OF THE CAPITAL IMPROVEMENTS.



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DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SUBBASE GRADING PLAN

SHEET: **C-3.0**

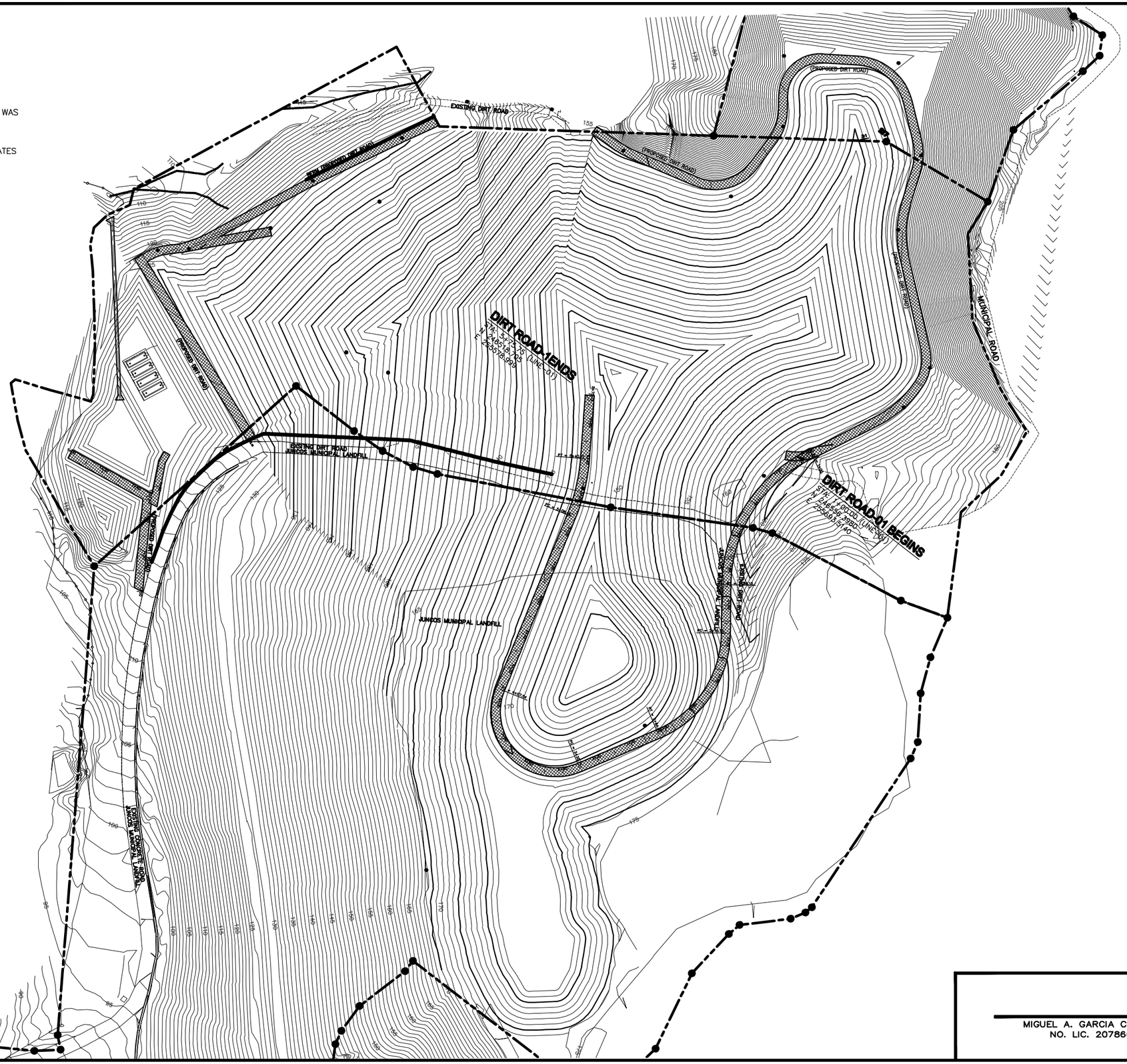
NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIOL DESIGNER AND SURVEYORS AND REVISED IN 2008 BY MARITAZ FIGUEROA

2–ELEVATIONS ARE IN METERS (LAMBERT COORDINATES NA–83)

NOTES:

180	EXISTING MAJOR CONTOURS
	EXISTING MANOR CONTOURS
	APPROXIMATE LIMIT OF GRADING/EXCAVATION
180	PROPOSED MAJOR CONTOURS
	PROPOSED MANOR CONTOURS
	DIRECTION AND DEGREE OF SLOPE
	ACCESS ROAD TO AREA OF CAPITAL IMPROVEMENTS
	PROPERTY LINE



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JUNCOS, PUERTO RICO

DATE: March 11, 2009

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NO.	REVISION	DATE

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MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: PROPOSED TOP CONTOURS

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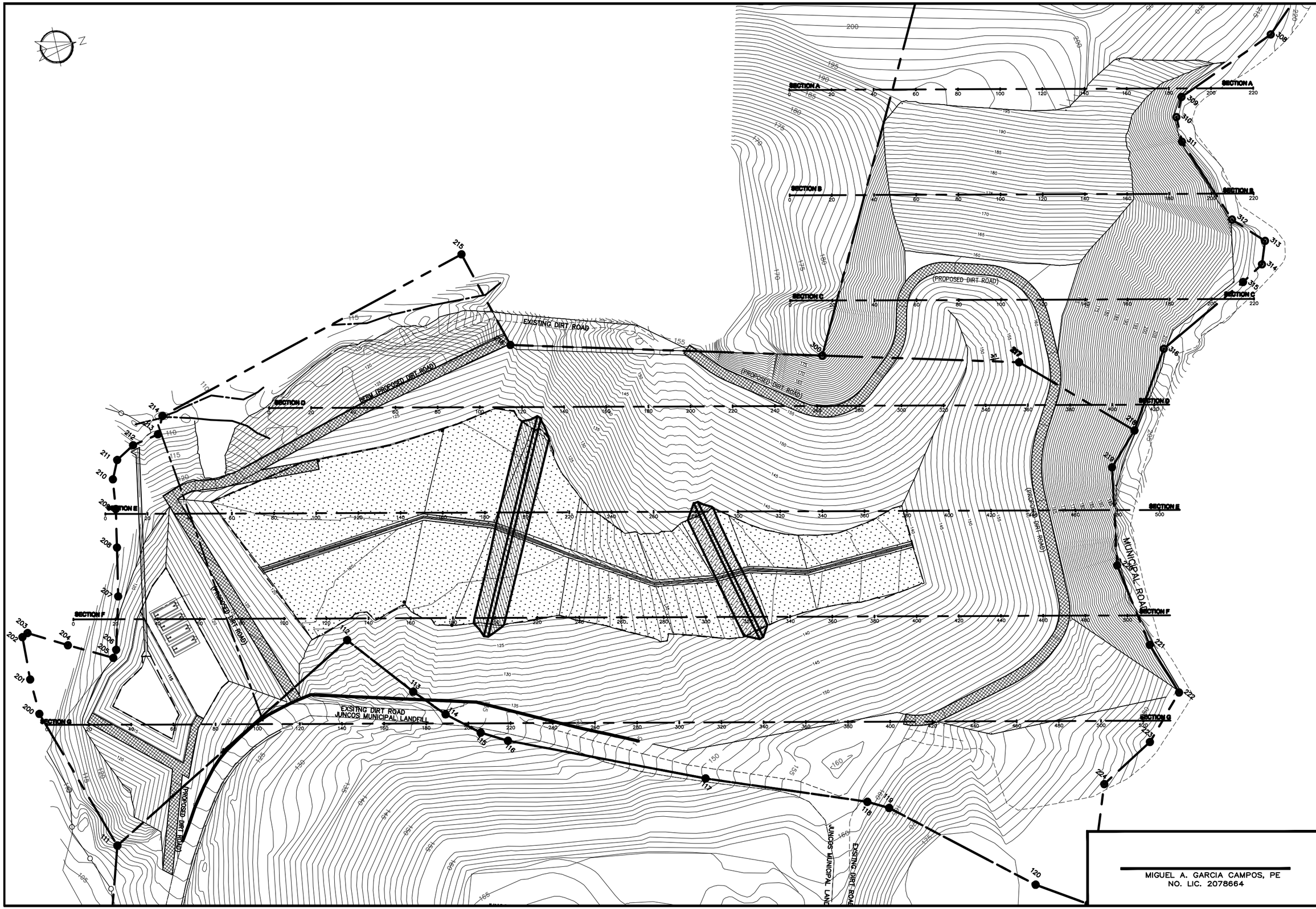

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JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SITE VERT. SECTIONS

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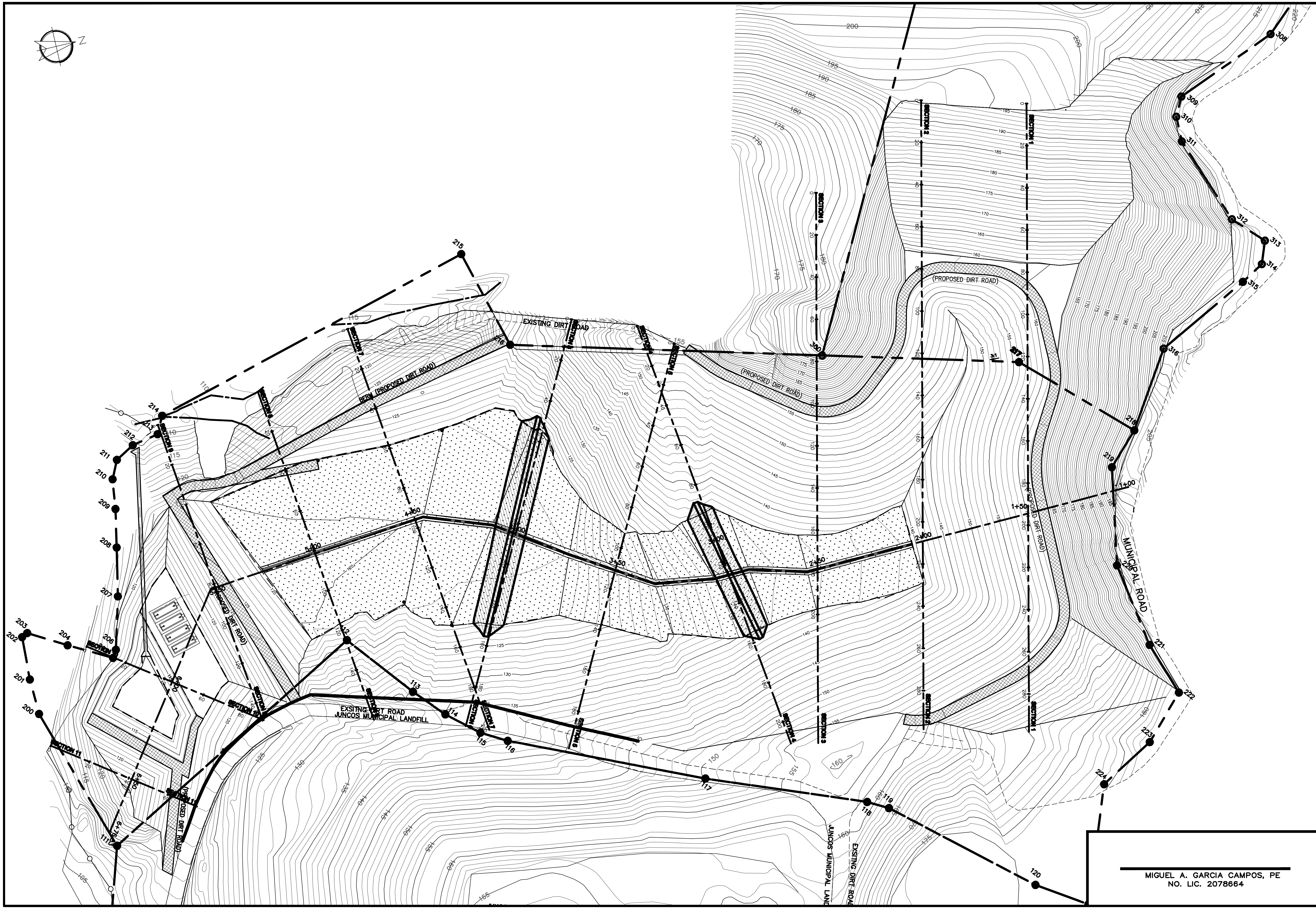

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JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1: 750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SITE HOR. SECTIONS

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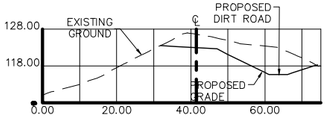

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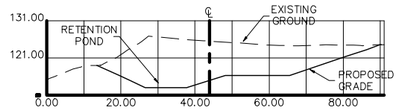

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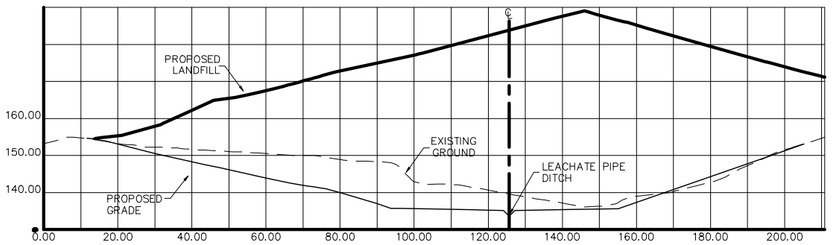

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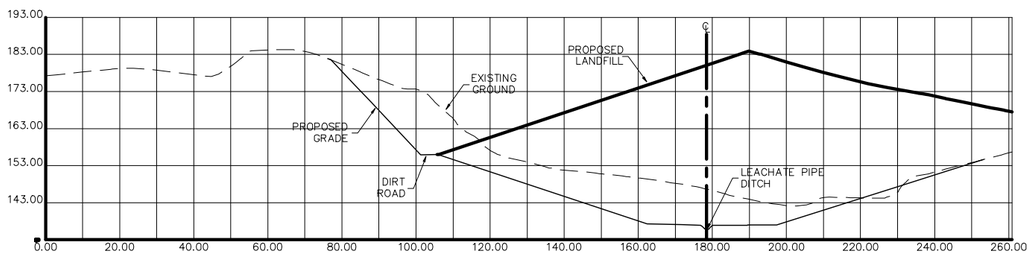

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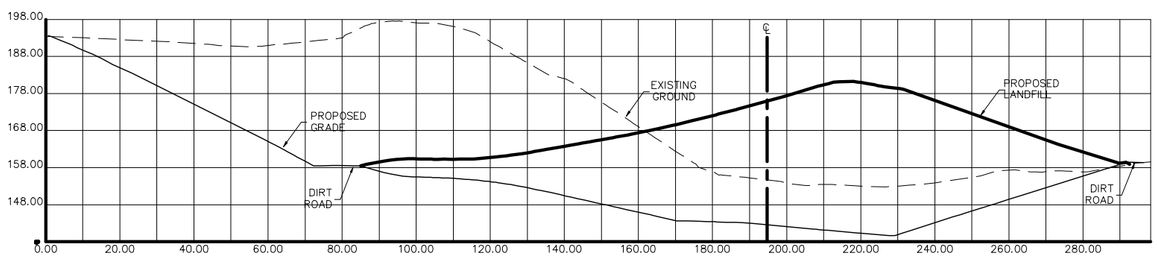

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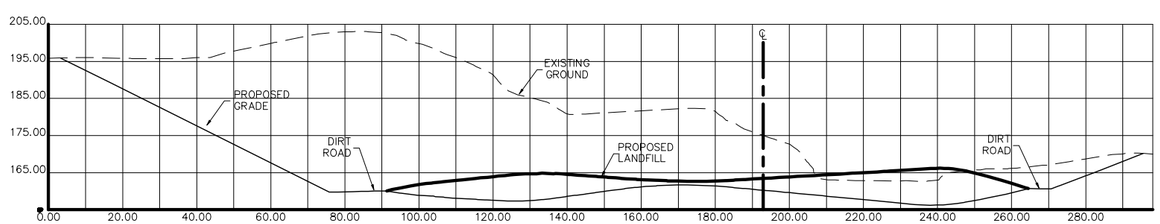

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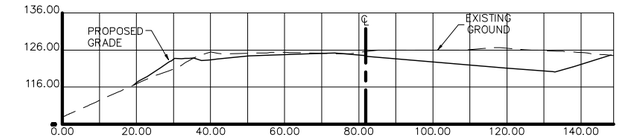

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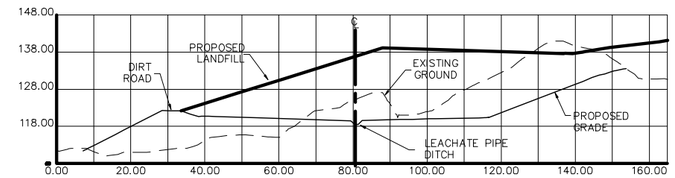

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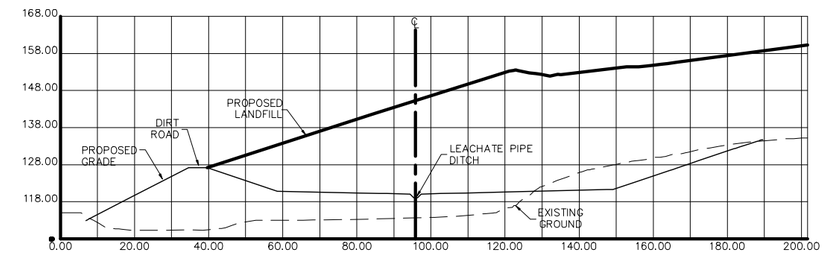

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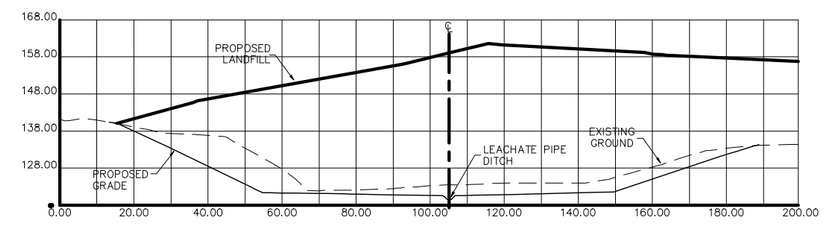

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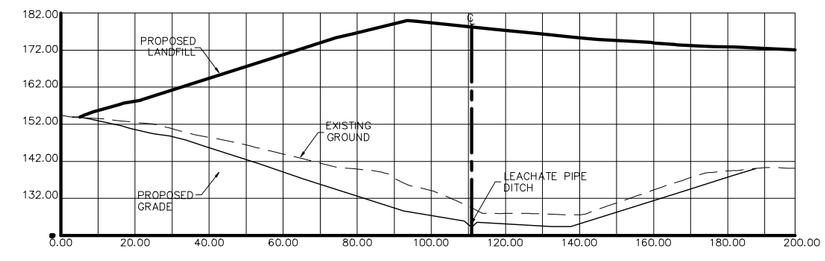

SECTION 5
SCALE=1:750

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SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROSOS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

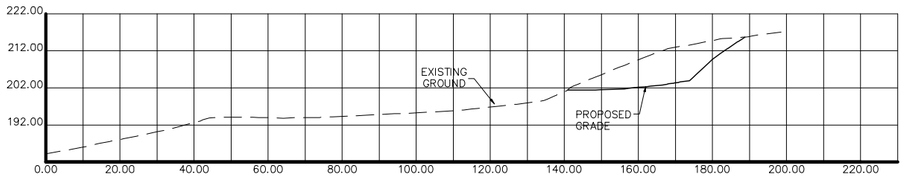
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SECTIONS–PART 1

SHEET: **C-4.2**



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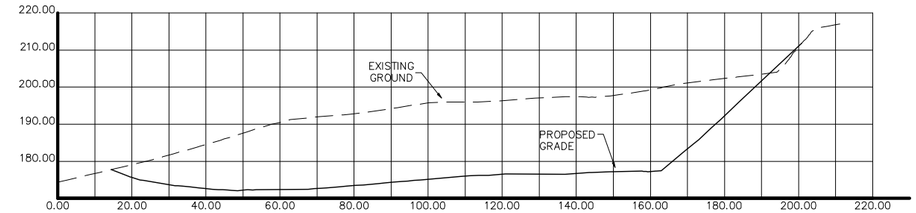

SECTION B
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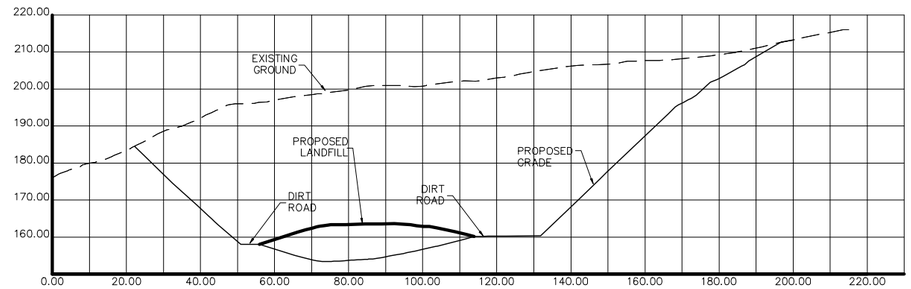

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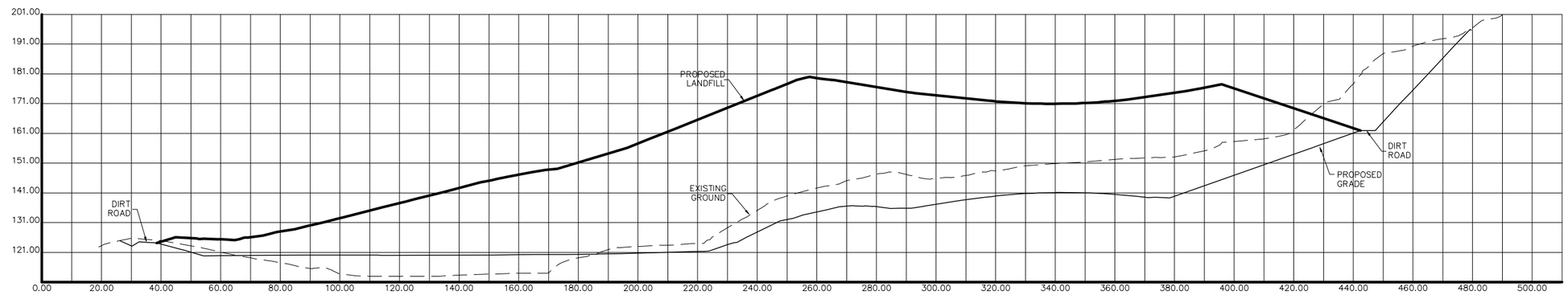

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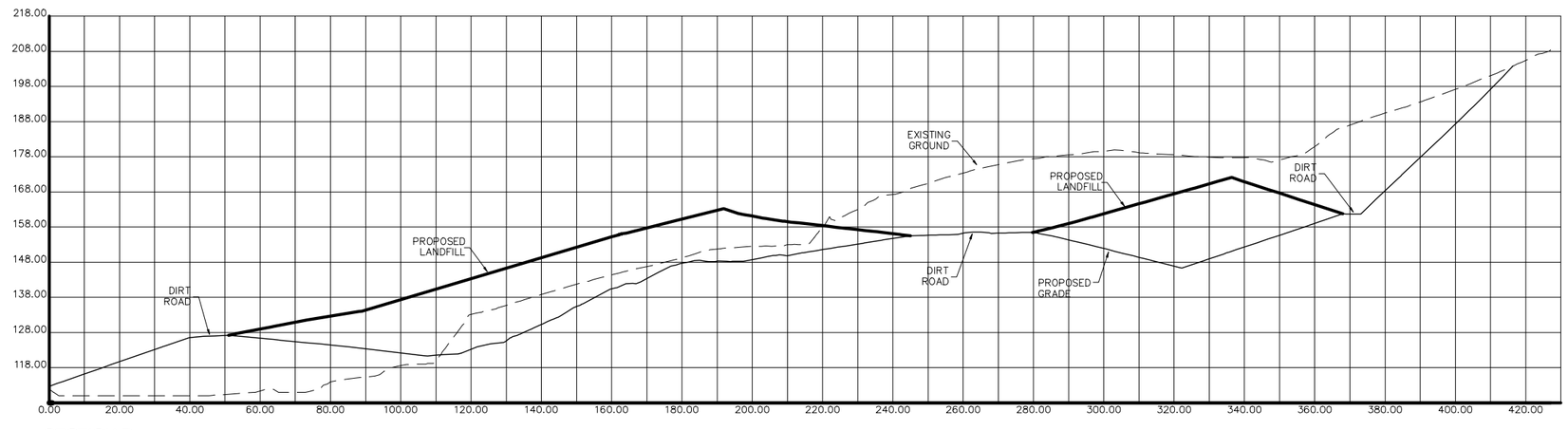

SECTION D
SCALE=1: 750

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1: 750

NO.	REVISION	DATE

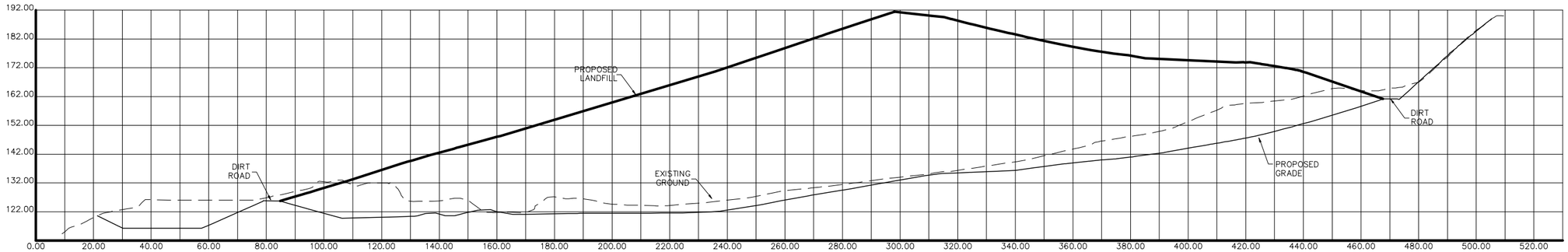
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SECTIONS–PART 2

SHEET: **C-4.3**



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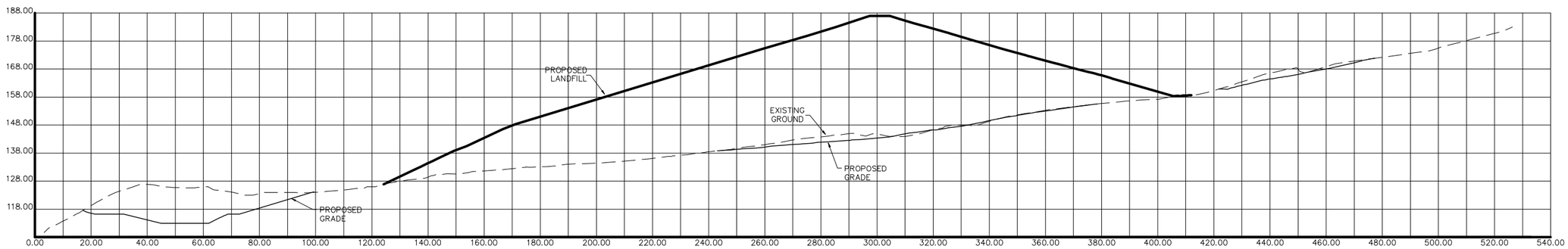

SECTION G
SCALE=1:750

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SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROSOS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR:
MUNICIPIO DE JUNCOS

DRAWING TYPE:
FOR CONSTRUCTION

DRAWING TITLE:
SECTIONS–PART 3

SHEET:
C-4.4

MIGUEL A. GARCIA CAMPOS, PE
NO. LIC. 2078664

NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIL DESINERS AND SURVEYORS AND REVISED ON 2008 BY MARITZA FIGUEROA

2–ELEVATIONS ARE IN METERS (LAMBERT COORDINATES NAD–83)

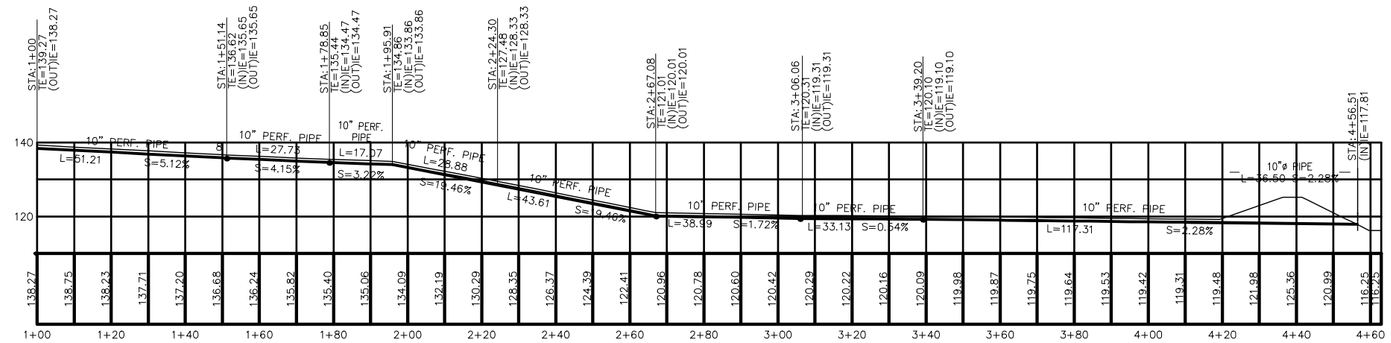
3–THE LEACHATE COLLECTION HEADER SHALL HAVE A MINIMUM SLOPE OF 2.0% IN THE DIRECTION OF THE LEACHATE RAMP

4–THE LENGTH OF THE LEACHATE COLLECTION MAYBE ADJUSTED BASED UPON THE FINDINGS OF THE QUALITY CONTROL ASSESSMENT ASSOCIATED WITH THE CONSTRUCTION OF THE AREA FOR CAPITOL IMPROVEMENTS.

5–THE LEACHATE SHALL BE RESIRCULATED IN TO THE AREA FOR CAPITAL IMPROVEMENTS. A TUCK OR SIMILAR EQUIPMENT WILL LOAD LEACHATE FROM THE LEACHATE STORAGE TANK AND DISTRIBUTE IT OVER THE SOLID WASTE DISPOSED OF IN THE AREA FOR CAPITAL IMPROVEMENTS.

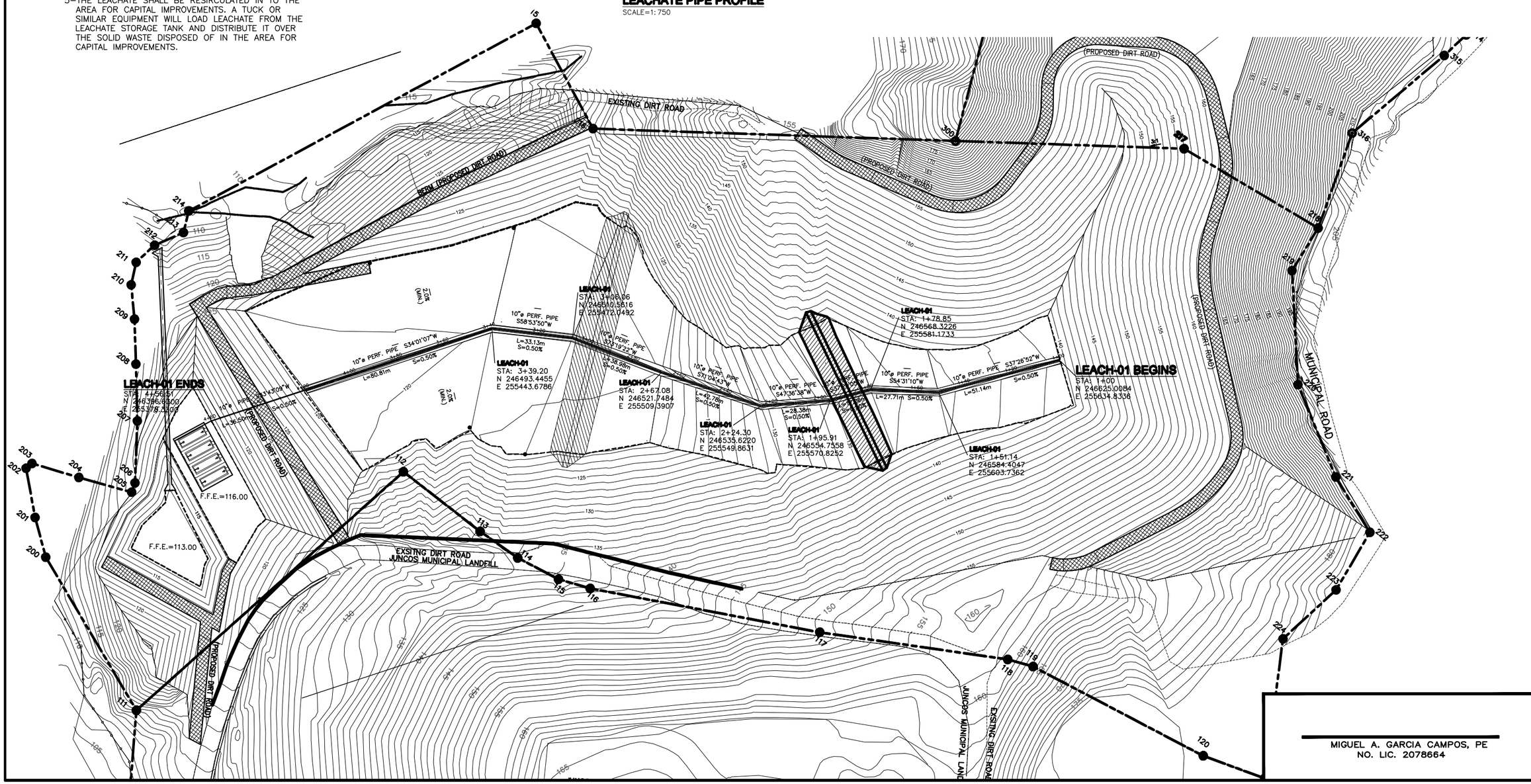
NOTES:

- 180 — EXISTING MAJOR CONTOURS
- EXISTING MANOR CONTOURS
- APPROXIMATE LIMIT OF GRADING/EXCAVATION
- 180 — PROPOSED MAJOR CONTOURS
- PROPOSED MANOR CONTOURS
- LEACHATE COLLECTION LINE



LEACHATE PIPE PROFILE

SCALE=1:750



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[redacted]

DATE: March 11, 2009

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NO.	REVISION	DATE

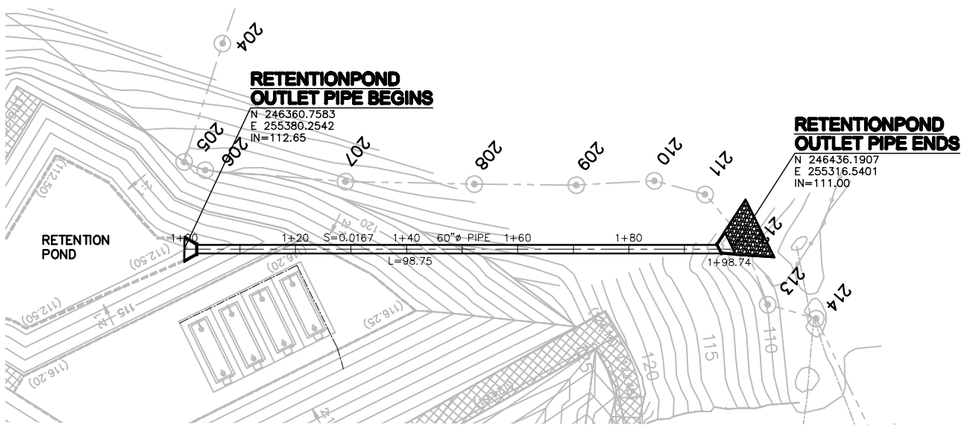
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

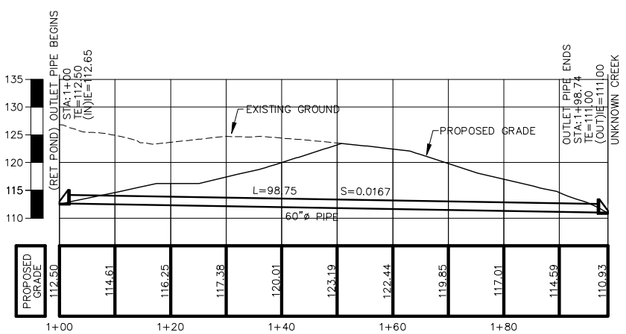
DRAWING TITLE: LEACHATE MANAGEMENT SYSTEM LAYOUT

SHEET: **C-5.0**



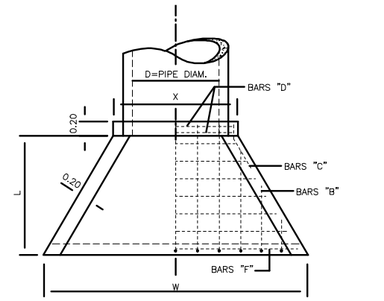
POND OUTLET PIPE - LAYOUT

SCALE=1:500

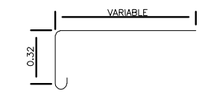


POND OUTLET PIPE - PROFILE

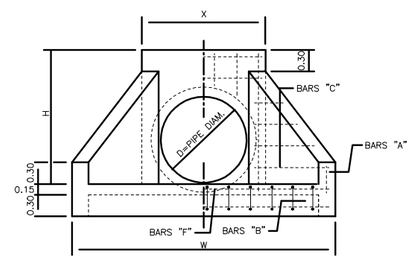
SCALE=1:500



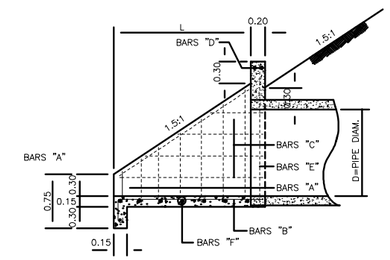
PLAN VIEW



"B" BAR BENDING DETAIL



ELEVATION

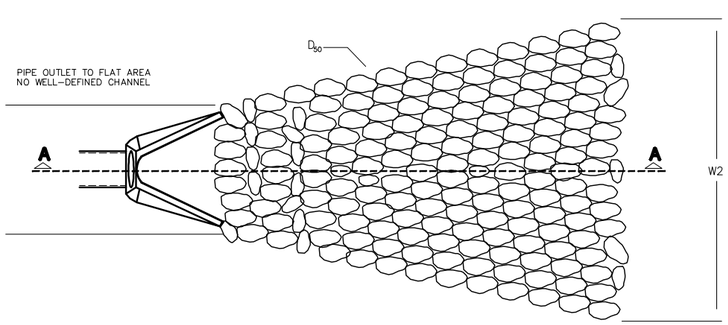


SECTION

TABLE OF DIMENSIONS AND QUANTITIES FOR TYPE "B" HEADWALLS																							
NO. OF PIPES	DIAMETER	TABLE OF DIMENSIONS				BILL OF REINFORCING STEEL & QUANTITIES FOR ONE HEADWALL																	
						5/8" BARS "A" @ 0.30m C/C						3/8" BARS "B" @ 0.45m C/C				3/8" BARS "C" @ 0.30 C/C		3/8"ø BARS "D"		3/8"ø BARS "F"	QUANTITIES		
		W	X	H	L	NO.	LENGTH	LENGTH	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	LENGTH	STEEL Lbs.	CONCRETE M^3	UNCL. EXCAV.
1	18"	1.49	0.93	0.91	0.48	EA.	2.03	2.08		3	0.99			2	0.81	2	0.81	2	0.97	1.37	31	0.40	1
1	24"	1.91	1.08	1.07	0.71	EA.	2.46	2.51	2.56	4	1.22			2	0.91	2	0.97	2	1.12	1.80	46	0.61	1
1	30"	2.31	1.23	1.22	0.94	EA.	2.87	2.92	2.97	5	1.45			4	0.91	2	1.12	2	1.27	2.21	59	0.84	1
1	36"	2.73	1.38	1.37	1.17	EA.	3.30 3.35	3.40	3.45	4	1.68	2	0.64	4	0.91	2	1.27	2	1.42	2.61	77	1.11	2
1	42"	3.16	1.54	1.52	1.48	EA.	3.71 3.76	3.81	3.86	4	1.91	2	1.02	6	0.91	2	1.42	2	1.58	3.05	90	1.40	2
1	60"	3.42	1.92	1.90	1.48	EA.	3.71 3.76	4.21	4.26	4	2.21	2	1.42	6	0.91	2	1.62	2	1.68	3.35	110	1.70	2

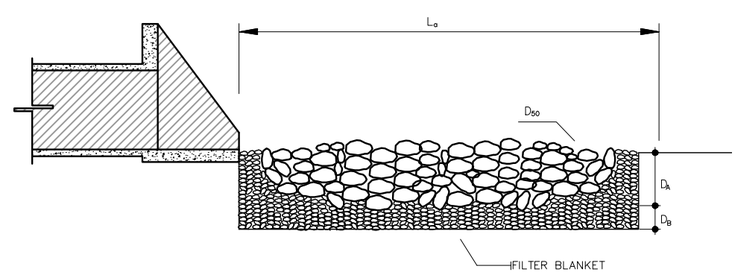
REINFORCED CONCRETE HEADWALL TYPE "B"

NOT-TO-SCALE



PLAN VIEW

NOT TO SCALE



SECTION A-A

NOT TO SCALE

LEGEND:

D_{50}=MEDIAND RIPRAP DIAMETER
L_A=APRON LENGTH
D_A=RIPRAP DEPTH
D_B=FILTER BLANKET
W1=APRON WIDTH UPSTREAM
W2=APRON WIDTH DOWNSTREAM

NOTES:

1. D= 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
2. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

RIPRAP PARAMETERS						
ø Pipe	L_a (m)	D_{50} (m)	D_A (m)	D_B (m)	w1 (m)	w2 (m)
60"ø	6.096	0.60	.45	.15	3.42	11.70

RIP-RAP APRON DETAIL FOR OUTLET PIPES

NOT TO SCALE

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

NO.	REVISION	DATE

CHECKED BY: MAG
DRAW BY: AMC
PREPARE FOR: MUNICIPIO DE JUNCOS
DRAWING TYPE: FOR CONSTRUCTION
DRAWING TITLE: RETENTION POND OUTLET PIPE
SHEET: C-5.1

NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIL DESIGNERS AND SURVEYORS AND REVISED ON 2008 BY MARITZA FIGUEROA

2–ELEVATIONS ARE IN METERS (LAMBERT COORDINATES NAD–83)

3–SOLID WASTE SHALL BE PLACED TO DEPTH OF THREE METERS IN PHASE I PRIOR TO THE DISPOSAL OF SOLID WASTE IN PHASE II. SOLID WASTE SHALL BE PLACED TO DEPTH OF THREE METERS IN PHASE II PRIOR TO THE DISPOSAL OF SOLID WASTE IN PHASE III.

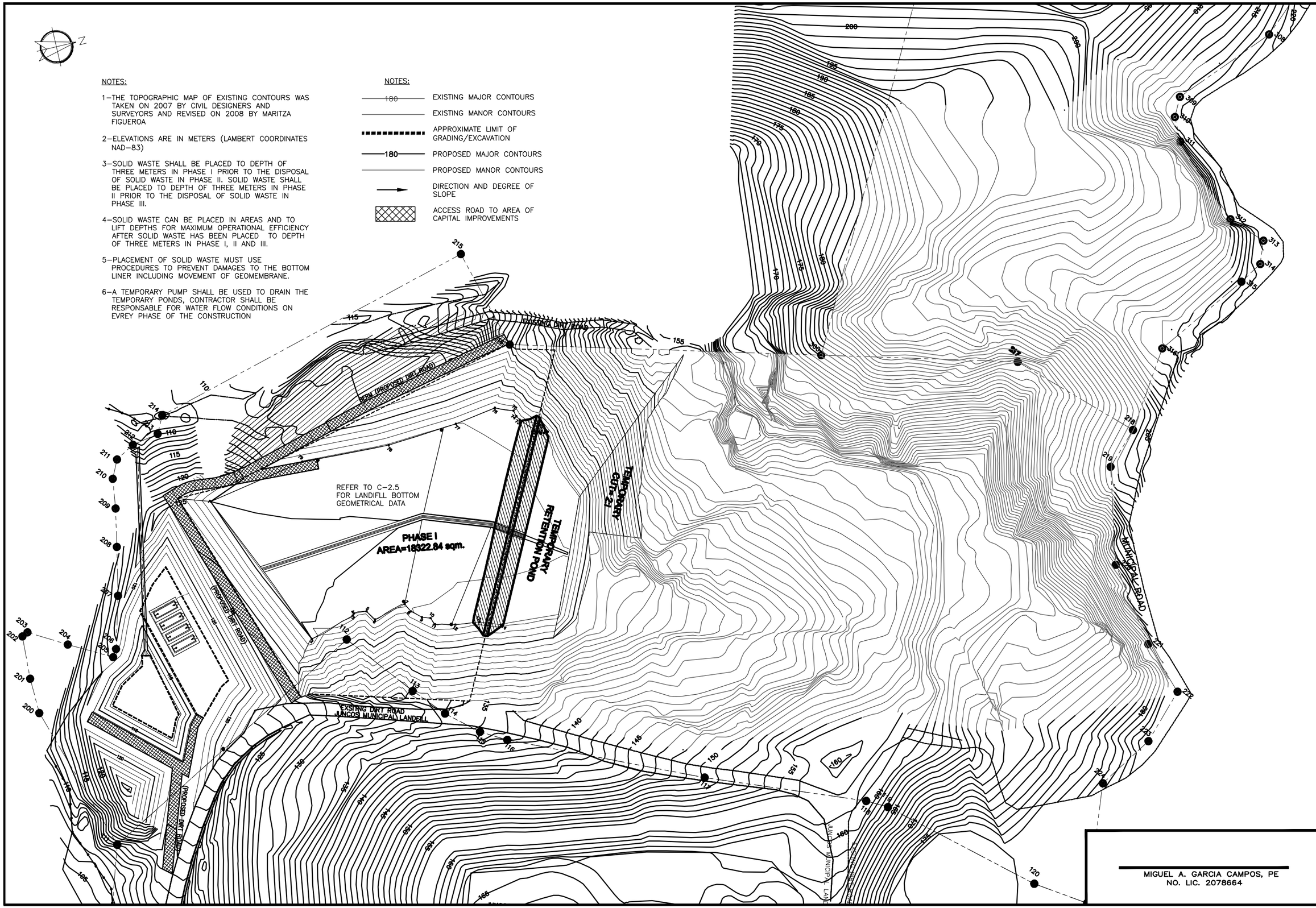
4–SOLID WASTE CAN BE PLACED IN AREAS AND TO LIFT DEPTHS FOR MAXIMUM OPERATIONAL EFFICIENCY AFTER SOLID WASTE HAS BEEN PLACED TO DEPTH OF THREE METERS IN PHASE I, II AND III.

5–PLACEMENT OF SOLID WASTE MUST USE PROCEDURES TO PREVENT DAMAGES TO THE BOTTOM LINER INCLUDING MOVEMENT OF GEOMEMBRANE.

6–A TEMPORARY PUMP SHALL BE USED TO DRAIN THE TEMPORARY PONDS, CONTRACTOR SHALL BE RESPONSABLE FOR WATER FLOW CONDITIONS ON EVREY PHASE OF THE CONSTRUCTION

NOTES:

180	EXISTING MAJOR CONTOURS
	EXISTING MANOR CONTOURS
	APPROXIMATE LIMIT OF GRADING/EXCAVATION
180	PROPOSED MAJOR CONTOURS
	PROPOSED MANOR CONTOURS
	DIRECTION AND DEGREE OF SLOPE
	ACCESS ROAD TO AREA OF CAPITAL IMPROVEMENTS



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SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SOLID WASTE SEQUENCE DURING OPERATION–PHASE 1

SHEET: **C-6.0**

NOTES:

1–THE TOPOGRAPHIC MAP OF EXISTING CONTOURS WAS TAKEN ON 2007 BY CIVIL DESIGNERS AND SURVEYORS AND REVISED ON 2008 BY MARITZA FIGUEROA

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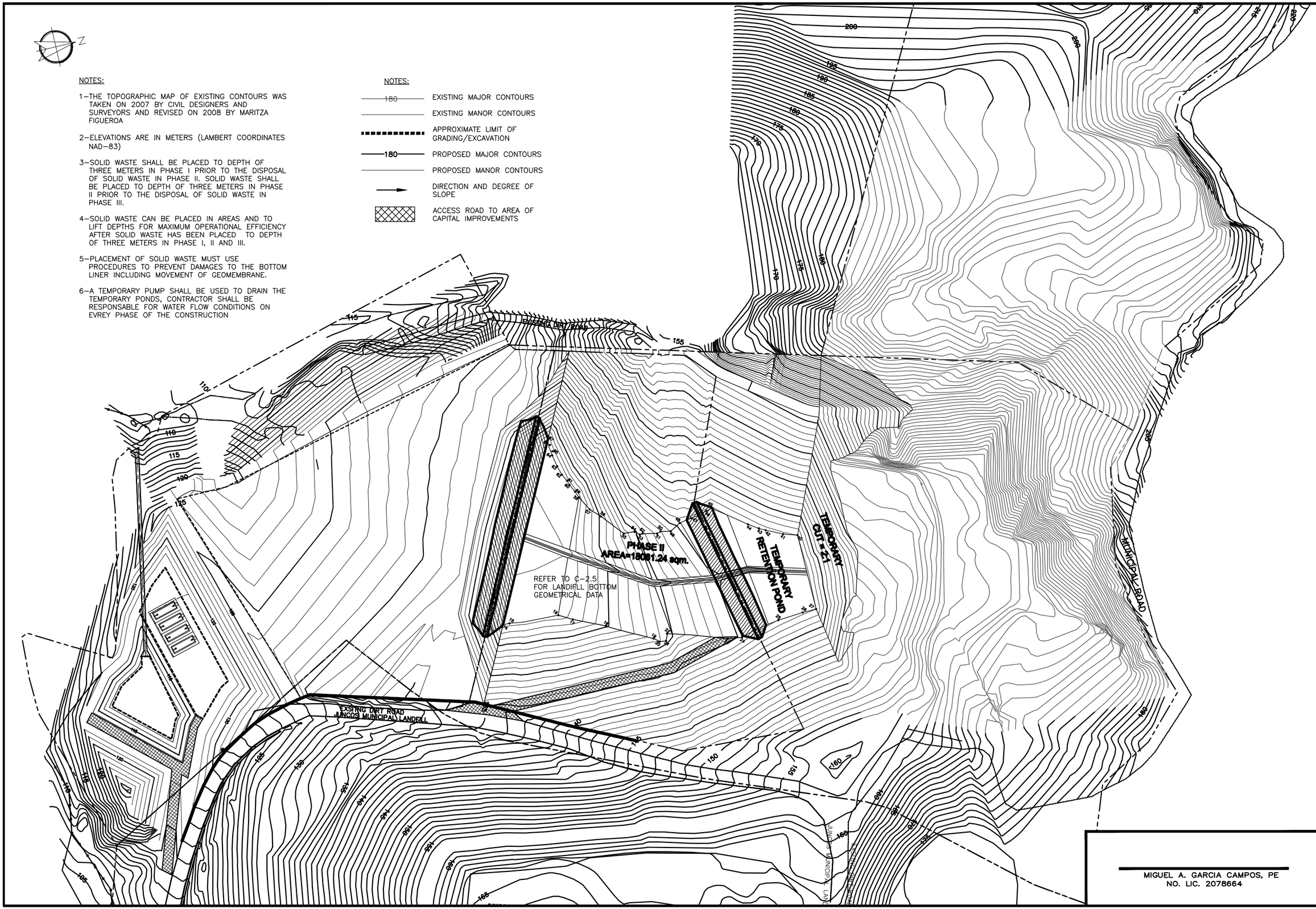
	PROPOSED MANOR CONTOURS
	DIRECTION AND DEGREE OF SLOPE
	ACCESS ROAD TO AREA OF CAPITAL IMPROVEMENTS



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JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=1:750

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SOLID WASTE SEQUENCE DURING OPERATION–PHASE 2

SHEET: **C-6.1**

NOTES:

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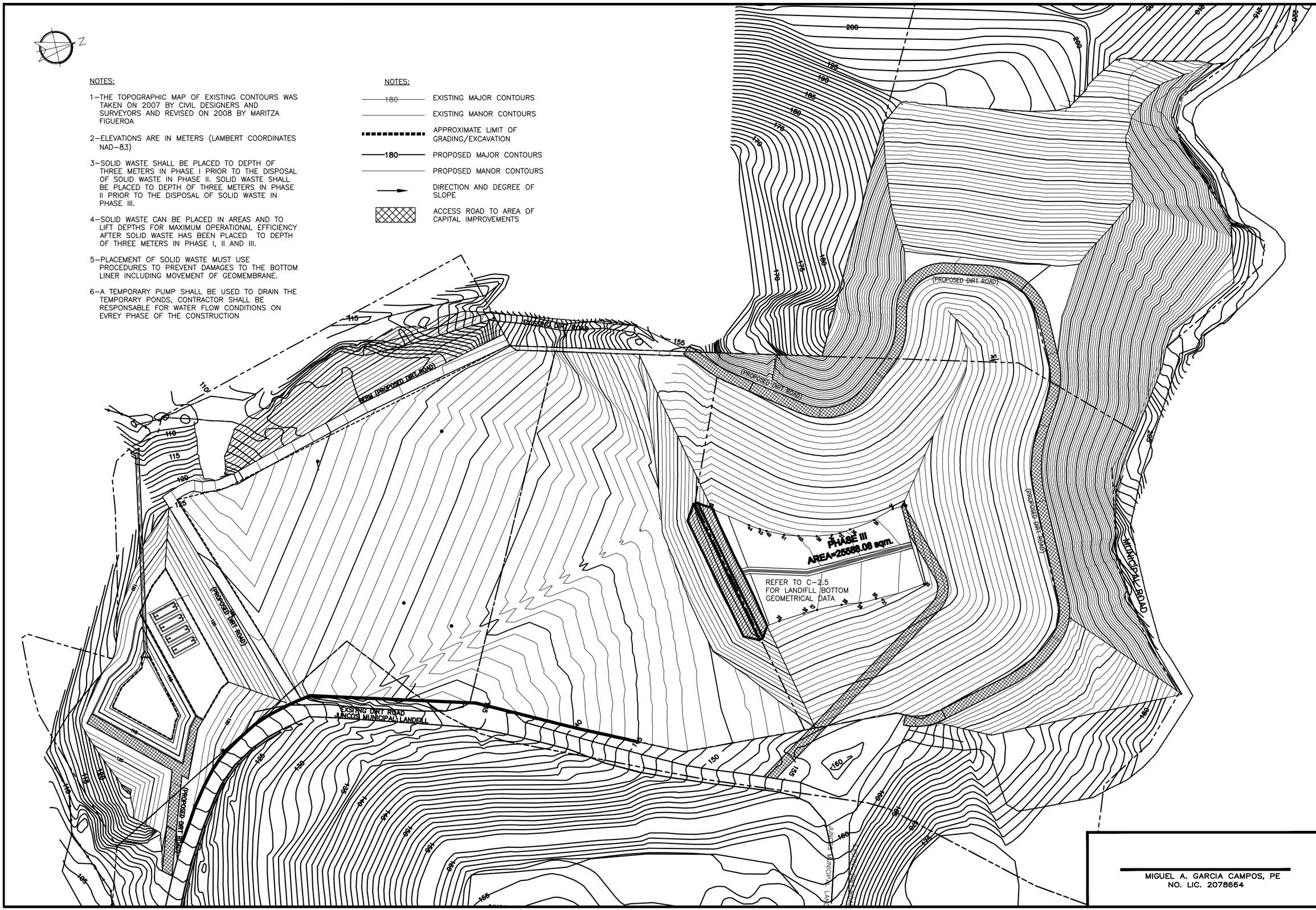
NOTES:

180	EXISTING MAJOR CONTOURS
	EXISTING MANOR CONTOURS
	APPROXIMATE LIMIT OF GRADING/EXCAVATION
180	PROPOSED MAJOR CONTOURS
	PROPOSED MANOR CONTOURS
	DIRECTION AND DEGREE OF SLOPE
	ACCESS ROAD TO AREA OF CAPITAL IMPROVEMENTS



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SCALE=1: 750

DATE: March 11, 2009

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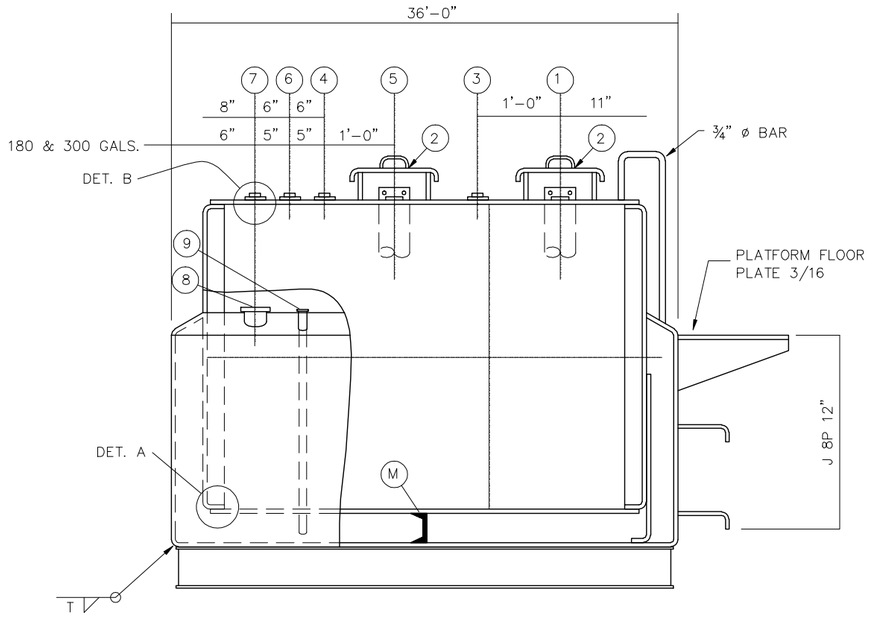
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

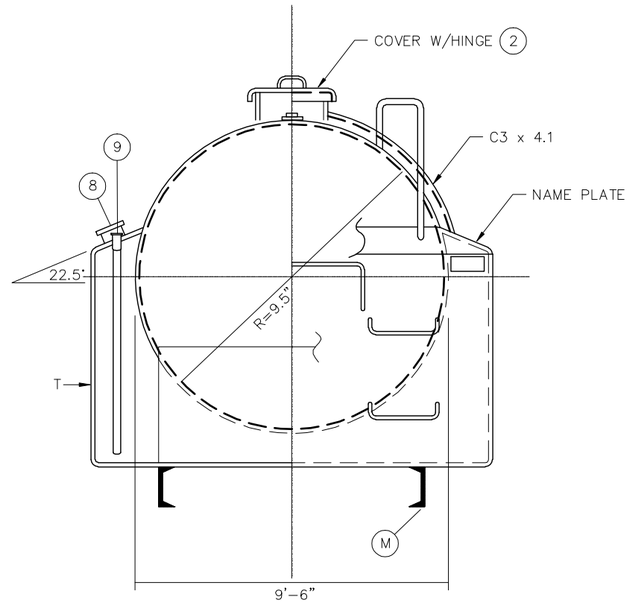
DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: SOLID WASTE SEQUENCE DURING OPERATION PHASE 3

SHEET: **C-6.2**



ELEVATION
NOT TO SCALE



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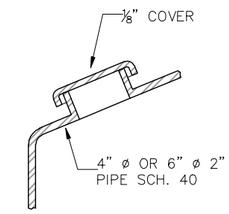
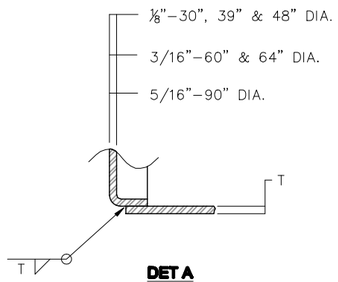
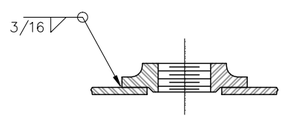


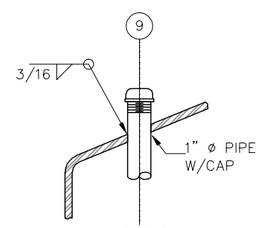
8 INSPECTION PORT & EMERG. VENT



DET A



DET B
FORGED STEEL



DET C

LEGEND

1. INLET
2. SPILL
3. LEVEL GAGE
4. NORMAL VENT
5. EMERG. VENT
6. SUCTION
7. RETURN
8. INSPECTION & EMERG. VENT
9. DRAIN W/CAP

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TEL (787) 768-1085

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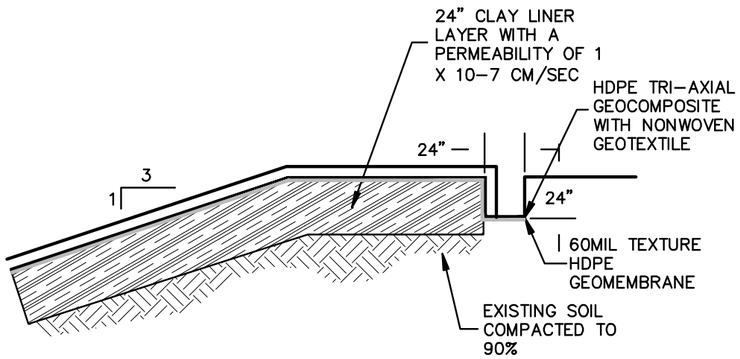
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

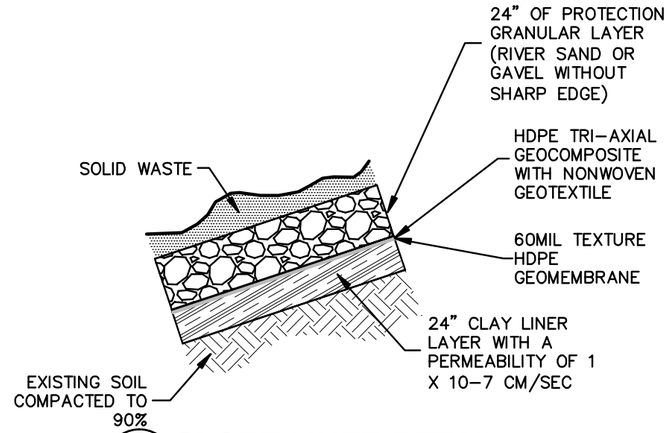
DRAWING TITLE: TANK DETAILS

SHEET: **C-7.0**



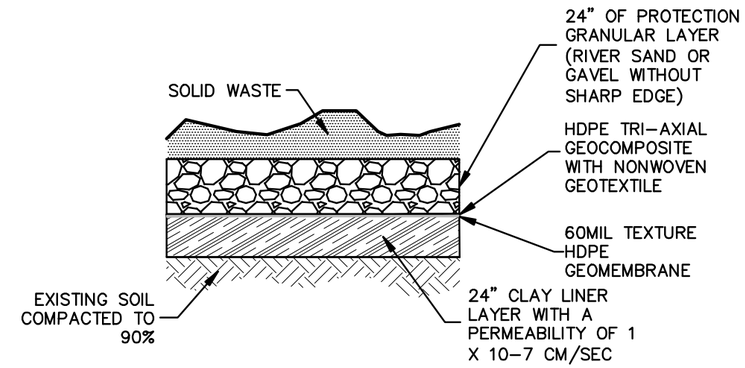
1 / C-7.1 LINER ANCHOR DETEAILS

NOT TO SCALE



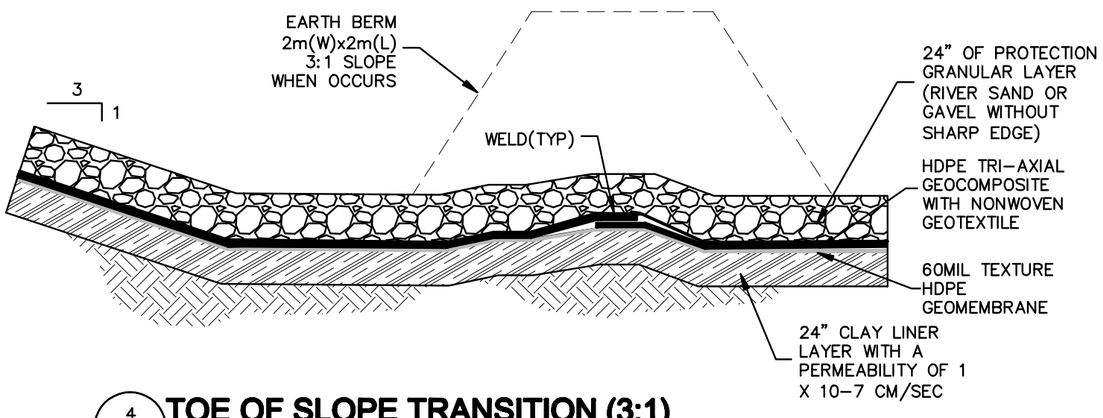
2 / C-7.1 SLOPE LINER DETAIL

NOT TO SCALE



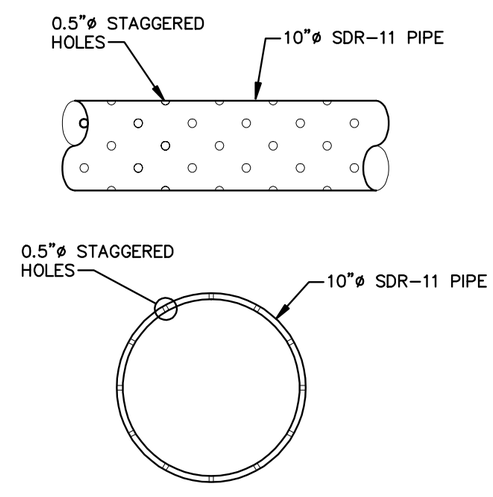
3 / C-7.1 BOTTOM LINER DETAIL

NOT TO SCALE



4 / C-7.1 TOE OF SLOPE TRANSITION (3:1)

(DOUBLE LINER W/ DRAINAGE LAYER & CUSHION GEOTEXTILE)
NOT TO SCALE



LEACHATE PIPE DETAIL

NOT TO SCALE

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

NO.	REVISION	DATE

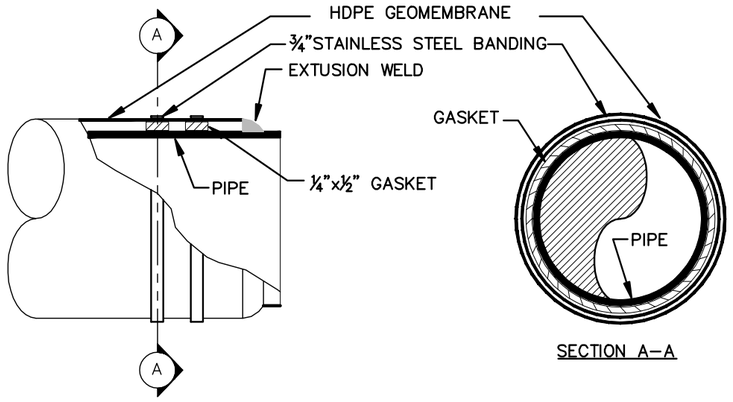
CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

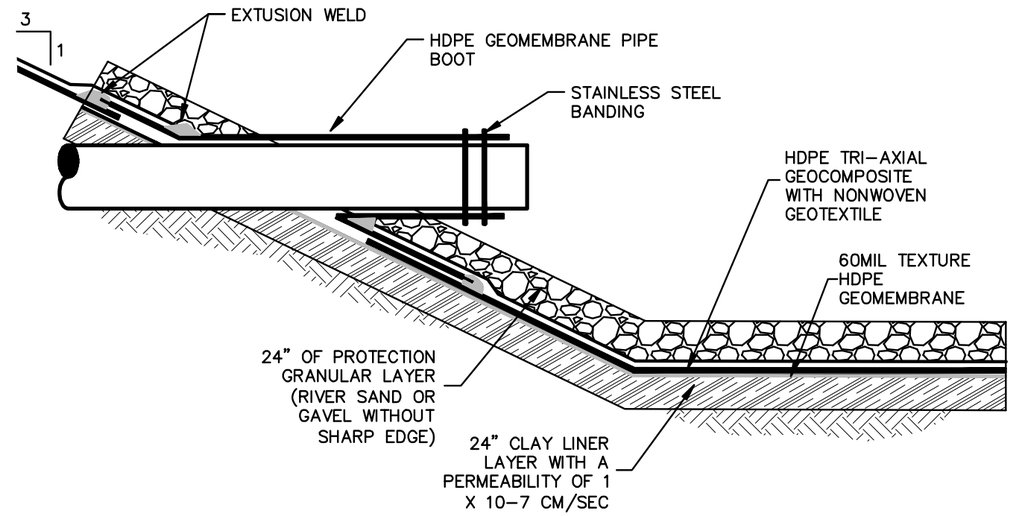
DRAWING TITLE: TYPICAL DETAILS–PART 1

SHEET: **C-7.1**



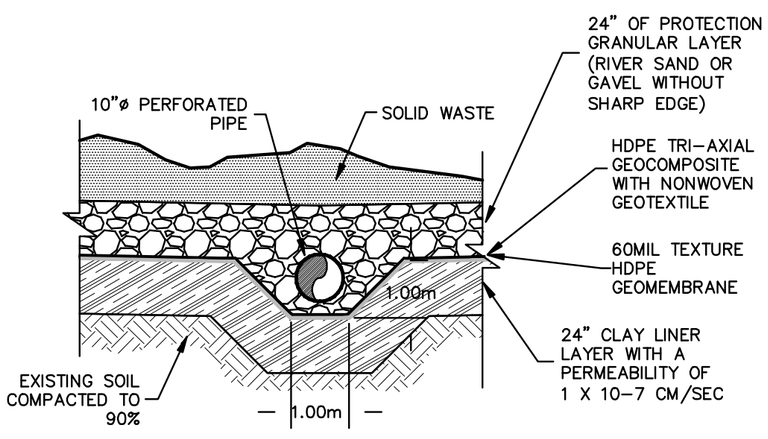
PIPE PENETRATION SEAL

NOT TO SCALE



PIPE PENETRATION (3:1)

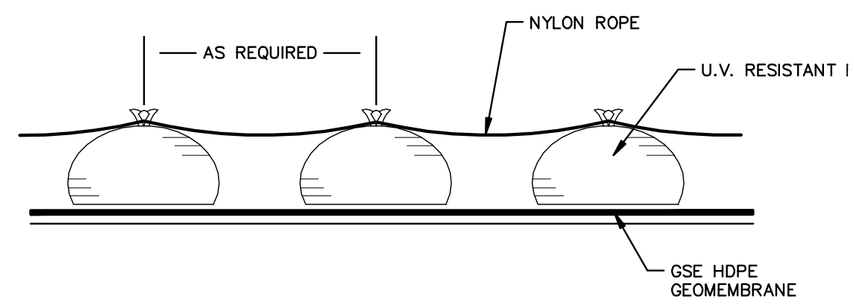
(SINGLE LINER W/ CUSHION GEOTEXTILE)
NOT TO SCALE



5
C–7.2

LEACHATE PIPELINE TRENCH DETAIL

NOT TO SCALE



TYPICAL BALLAST DETAILS

NOT TO SCALE

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: TYPICAL DETAILS–PART 2

SHEET: **C-7.2**

Diseño Esquemático

Expansión Lateral
Sistema de Rellenos Sanitarios
Municipio de Juncos

Juncos, Puerto Rico

Preparado por:

Ing. Miguel Antonio García Campos, PE
Designer and Consultant

Para:

Srta. Glenda Viera
Municipio de Juncos

Agosto 2007

Tabla de Contenido

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Introducción 3
Movimiento de tierra 3
Diseño del Revestimiento compuesto 4
Sistema de Recolección de Lixiviados 4
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Introducción

El Municipio de Juncos desea viabilizar La Expansión Lateral del Sistema de Rellenos Sanitario del Municipio de Juncos. Este proyecto se realizará en dos predio de terrenos colindantes entre si y al noroeste del actual Sistema de Rellenos Sanitarios de dicho Municipio.

Luego de revisar la topografía realizada por CIVIL DESIGNERS AND SURVEYORS y entregado por la Srta. Viera, se desprende de los mismos que la cabida total de dichos terrenos es 30.67.

Según lo establece el Reglamento para el Manejo de los Desperdicios Sólidos No Peligrosos es promulgado bajo la autoridad conferida a la Junta de Calidad Ambiental de Puerto Rico mediante la Ley sobre Política Pública Ambiental, Ley Número 9 del 18 de junio de 1970, según enmendada (12 L.P.R.A. §1121 *et seq.*), la Ley de Manejo de Neumáticos, Ley Número 171 del 31 de agosto de 1996, y la Ley para el Manejo Adecuado de Aceite Usado en Puerto Rico, Ley Número 172 del 31 de agosto de 1996. Toda expansiones laterales de un SRS existentes deberán, al construirse, contar con una capa inicial de un revestimiento compuesto o material geosintético (liner) de una conductividad hidráulica no mayor de 1 x 10-7 cm./SEC y un sistema de recolección de lixiviados diseñado para que los jugos de lixiviación corran sobre el revestimiento

Tomando en consideración el reglamento arriba mencionado, el área, la geometría del terreno y la topografía existente se preparó el siguiente diseño Esquemático.

Movimiento de tierra

Se estima un movimiento de tierra total de aproximadamente 600,000_m^3. Esto incluye corte y relleno, el cual será balanceado, pero faltaran cerca de 50,000_m^3 para nivelar las pendientes. Las pendientes se mantendrán a un máximo de 33% o 3H en 1V a menos que el estudio de suelo provea otra recomendación. Se esta proponiendo dividir el área en 5 celdas y un área para los tanques de lixiviados y la charca de retención. La cabida de cada área se enumera a continuación:

1. Celda 1: 6_Cuerdas aprox.
2. Celda 2: 6_Cuerdas aprox.
3. Celda 3: 7.5_Cuerdas aprox.
4. Celda 4: 4_Cuerdas aprox.
5. Celda 5: 5_Cuerdas aprox.
6. Área 1: 2_Cuerdas aprox.

Se estima que la expansión añadirá un aproximado de 27 años de vida útil al SRS.

Diseño del Revestimiento compuesto

Este sistema constará de una geomembrana de polietileno de alta densidad (HPDE) y un revestimiento de arcilla geosintética (GCL). Esta combinación proveerá una protección mayor a la requerida por las agencias estatales y federales.

Sistema de Recolección de Lixiviados

Este sistema consistirá de una geomalla compuesta con una tubería principal protegida por una capa de gravilla que a su vez protegerá el sistema de revestimiento compuesto. Para determinar el tamaño de la tubería y las pendientes de sistema se correrá el modelo de generación de lixiviados HELP creado por el Cuerpo de Ingenieros de los Estados Unidos. El sistema de lixiviados trabajara por gravedad y se almacenara en tanque de doble contención, construidos en polietileno de alta densidad (HDPE). Los jugos de lixiviados serán recirculados en la celda activa del SRS.

Control de Escorrentías

Todas las aguas de lluvia serán dirigidas a una charca de sedimentación según lo establezca el Estudio H-H y de esta manera evitar el contacto con los desperdicios. Se evitará en lo posible el uso de tuberías para controlar las escorrentías.

Caminos de Accesos

Se diseñara un camino periferal a las nuevas celdas de donde saldrán todos los accesos a las áreas activas del SRS. Todos los caminos serán temporeros exceptuando el camino periferal y serán diseñados en como “Dirt-Roads”.

Plano Esquemático

Se preparo un plano esquemático en tamaño 11” X 17”. Este se encuentra anejado a este documento

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CALLE REINA #124
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TEL. (787) 787-647-4338 FAX. (787) 883-1305

EXPANSION LATERAL SISTEMA DE RELLENO SANITARIO MUNICIPIO DE JUNCOS

PROJECT NO. –

DATE: –

NO.	REVISION	DATE

SCALE:

CHECKED BY: PMG

DRAW BY:

PREPARE FOR:
SRTA. GLENDA VIERA
MUNICIPIO DE JUNCOS

DRAWING TYPE:
ESQUEMÁTICO

SHEET: 1 OF 1

SRTA. GLENDA VIERA

GENERAL NOTES

1. THE METRIC SYSTEM HAS BEEN USED THROUGHOUT THE PROJECT UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS ARE REFERRED TO MEAN SEA LEVEL AND GIVEN IN METERS
3. ALL COORDINATES USED THE LAMBERT SYSTEM, NAD 83.
4. THE NORTH INDICATOR POINTS TO TRUE NORTH.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING FIELD CONDITIONS PRIOR TO ACTUAL CONSTRUCTION OR INSTALLATION. IN CASE OF ANY DISCREPANCY WITH CONSTRUCTION DOCUMENTS, OR DOUN=BTS AS TO THE INTERPRETATION OF SAID DOCUMENTS, THE DESIGNER SHALL BE IMMEDIATELY NOTIFIED AND CONSULTED FOR CLARIFICATION PRIOR TO CONSTRUCTION OR INSTALLATION.
6. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE INFLICTED TO THE OWNER'S PROPERTY OR OTHER AREAS DURING THE EXECUTION OF THE WORK.
7. THE CONTRACTOR SHALL SUBMIT TO THE DESIGNER ALL SHOP DRAWINGS FOR APPROVAL PRIOR TO COMMENCEMENT OF THE WORK.
8. ALL MATERIALS AND CONSTRUCTION METHOD USED MUST COMPLY WITH ALL GOVERNING REGULATION AS SET FORTH BY THE UNITED STATE ENVIRONMENTAL PROTECTION AGENCY AND/OR THE PUERTO RICO ENVIRONMENTAL QUALITY BOARD AND ALL OTHER CONCERNED REGULATORY AGENCIES.
9. THE LOCATION OF ALL KNOWN UNDERGROUND UTILIITES SHOWN IS APPROXIMATE. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
10. PRIOR TO ORDERING ANY MATERIALS OR BEGINING ANY CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES WHICH WILL OR COULD IMPACT THE CONTRACTOR'S WORK WHETHER OR NOT SHOWN ON THE PLANS. IF THERE IF THERE IS ANY DISCREPANCY BETWEEN THE PLANS AND THE ACTUAL FIELD CONDITIONS, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH ANY WORK AND BEFORE ORDERING ANY MATERIALS AFFECTED BY THE DISCREPANCY. LOCATIONS OF ISOLATION VALVES, FITTINGS, AND CONNECTIONS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH OWNER AND ENGINEER FOR THE FINAL LOCATION OF ISOLATION VALVES, FITTINGS, CONNECTIONS, ETC. PRIOR TO ORDERING ANY MATERIALS OR BEGINING ANY CONSTRUCTION, AND SHALL NOTE FINAL LOCATIONS ON RECORD DRAWINGS.
11. SHORING SHALL BE USED IN OPEN TRENCHES WITHIN 1.5 METERS (ANY DIRECTION) OF LIGHT OR POWER POLES, 7.0 METERS OF TOWERS, AND WITHIN 45° BEARING SPLAY OF ANY STRUCTURE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL DESIGN THE SHORING TO ACCOUNT FOR ADDITIONAL SURCHARGE LOADS OF THE POLE, TOWER, OR STRUCTURE FOUNDATIONS ACTING ON THE SHORING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING ALL SHORING AND FOR PROTECTING ALL ELECTRICAL POLES AND TOWERS.
12. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE DNER, NSF, EQB, AWWA AND ARPE STANDARDS FOR INSTALLING STORM SEWER PIPELINES.
13. THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR AND ABIDE BY APPLICABLE STORMWATER RUNOFF AND/OR DISCHARGE REQUIREMENTS. CONTRACTOR SHALL MINIMIZE AND CONTROL SOIL EROSION AND SEDIMENT RUNOFF FROM THE DISTURBED AREAS. DISTURBED SURFACES SHALL BE RESTORED PER APPLICABLE REQUIREMENTS AS SPECIFIED, AND AS SHOWN IN THE DRAWINGS AND IN ACCORDANCE WITH PLAN.
14. UPON COMPLETION OF CONSTRUCTION, FINISHED GRADES WILL BE BROUGHT BACK TO PRE–CONSTRUCTION CONDITIONS UNLESS APPROVED BY THE PROPERTY OWNER OR NOTED ON THE PLANS. FENCES, GATES, ROADWAYS, DRIVES, GROUND SURFACES, ETC., SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT FOUND BEFORE CONSTRUCTION. COORDINATE WITH THE PROPERTY OWNERS.
15. ALL FENCES SHALL BE REINSTALLED IN ORIGINAL LOCATION AND OF SAME TYPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

GENERAL NOTES (CONT.)

16. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY WHEN ENCOUNTERING PUBLIC OR PRIVATE ROAD REMOVAL AND REPLACEMENT, CULVERT REMOVAL AND REPLACEMENT, AND REMOVAL AND REPLACEMENT OF UTILITIES FOR THIS PROJECT.
17. CONTRACTOR SHALL MANTAIN SANITARY AND AND POTABLE WATER SERVICE AT ALL TIME DURING CONSTRUCTION.
18. IF CONTRACTOR ENCOUNTERS WET OR SEEPING SOIL CONDITIONS IN TRENCH OR CONDITONS INDICATING THE POSSIBLE LOCATION OF SINKHOLE, CONTRACTOR SHALL NOTIFY ENGINEER AND NOT PROCEED WITH PIPE INSTALLATION IN THIS AREA UNTIL DIRECTION ON HOW TO PROCEED IS RECEIVED FROM THE ENGINEER. IF GROUNDWATER IS ENCOUNTERED, CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND TO NOT PROMOTE THE MIGRATION OF THE GROUNDWATER IN THE TRENCH EXCAVATION AND PIPE EMBEDMENT ZONE.
19. CONTRACTOR SHALL PROVIDE ALL MAINTENANCE AND PROTECTION OF TRAFFIC DURING THE EXECUTION OF THE CONTRACTOR'S WORK. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS AND MANUAL DE DISPOSITIVOS UNIFORMES PARA EL CONTROL DEL TRANSITO EN LAS VIAS PUBLICAS DE PUERTO RICO (MUTCD), AND PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OF THE FEDERAL HIGHWAY ADMINISTRATION.
20. TRAFFIC SIGNS AND LIGHTING SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN VISIBILITY TO SIGNS AND TEMPORARILY RELOCATE SIGNS NECESSARY FOR THE PIPELINE INSTALLATION AS SHOWN ON THE PLANS. COORDINATE TEMPORARY LOCATIONS WITH FIELD ENGINEER. REINSTALL ALL SIGNS AND LIGHTS AT ORIGINAL LOCATION AND PER NTA STANDARD MODELS FOLLOWING CONSTRUCTION, UNLESS DIRECTED OTHERWISE.
21. CONTRACTOR SHALL PROVIDE ACCESS TO ALL PROPERTIES AT ALL TIME DURING CONSTRUCTION.
22. ALL THE CONSTRUCTION SHALL BE DONE ACCORDING TO THE P.R.A.S.A.'S RULES AND REGULATIONS FOR THE DESIGN STANDARDS, P.R. HIGHWAY AUTHORITY'S AND REGULATIONS FOR THE DESIGN STANDARDS, P.R. HIGHWAY AUTHORITY'S STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, P.R. PLANNING BOARD'S SPECIFICATION AND A.C.I.
23. IN THE EVENT OF DOUBTS TO ARISE OR MAJOR CHANGES MIGHT DEEM TO BE CONSIDERED ON FOUNDATIONS RECOMMENDATIONS, THE DESIGNER SHALL BE NOTIFIED IN WRITTEN WITH SUFFICIENT TIME TO MAKE A SOUND EVALUATION AND AUTHORIZE THE NECESSARY CHANGES IF ANY.
24. CONTINUOUS MAINTENANCE SHALL BE KEPT FOR ALL PERMANENT AND PROVISIONAL DRAINS DURING THE CONSTRUCTION OF BASE COURSE. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRANAIGE DURING CONSTRUCTION.
25. PRIOR TO BIDDING AND CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER HIS COMMENTS OR QUESTIONS REGARDING CONFLICTS, DISCREPANCIES, PERMIT CLEARENCES ETC, THAT MAY CAUSE UNSCHEDULED DELAYS TO THE CONTRACTOR.
26. ANY UTILITY DAMAGES OCCURRING THAT ARE NOT SCHEDULED IN THE PLANS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
27. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES INDICATED AS EXISTING. DESIGNER IS NOT RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THE DRAWNGS, WHILE CONSTRUCTING THE PUMP STATION OR INSTALLING THE PIPING. CONTRACTOR IS RESPONSIBLE OF VERIFYING UTILITIES LOCATION.
28. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING FACILITIES. CONTRACTOR SHALL NOTIFY THE OCCURRENCE OF ANY CHANGES ON THE PIPING HORIZONTAL OR VERTICAL ALIGNMENT, OR TO THE PUMP STATION TO THE DESIGNER PRIOR TO MAKING THEM.
29. MANHOLES No.1, No.2, AND No.4 WILL USE A WATERTIGHT COVER AS PER FIBRELITE, PAWCATUCK, CT WEBSITE: WWW.FIBRELITE.COM, OR APPROVED EQUAL.
30. THE CONSTRUCTION SITE SHALL BE MANTAINED REASONABLY NEAT AND FREE FROM EXCESSIVE ACCUMULATION OF TRASH AND DEBRIS. ALL TRASH, DEBRIS, RUBBISH, ETC. SHALL BE PROMPTLY REMOVED FROM SITE AND DISPOSE OF IN A LEGAL MANNER.

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

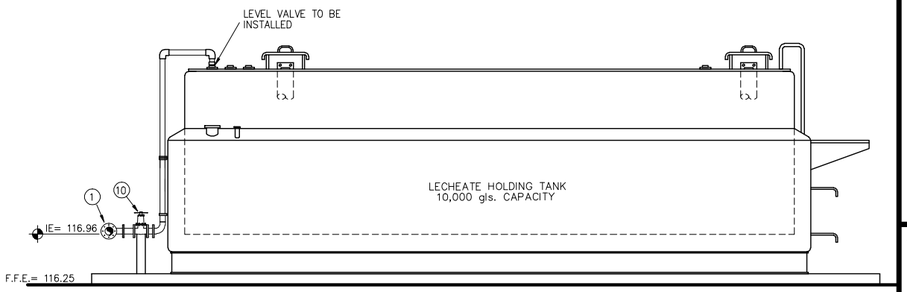
DRAWING TITLE: GENERAL NOTES

SHEET: **G-1.0**

PLAN
SCALE 1:50

LEGEND:

1. 6"x 4" TEE
2. 4" HDPE STAINLESS STEEL PIPE
3. CONCRETE BASE
4. 6"-90° ELBOW
5. 10"x 6" CONCENTRIC REDUCER
6. 10" HDPE STAINLESS STEEL PIPE
7. 10"-11.25° ELBOW
8. 10" HDPE S.S. GATE VALVE
9. 10"-45° ELBOW
10. 4" HDPE S.S. GATE VALVE
11. 6" HDPE S.S. GATE VALVE



A / M-2 SECTION
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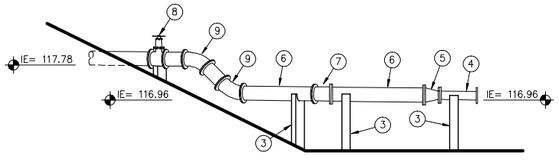

B / M-2 SECTION
SCALE= 1:50

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SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

SCALE=AS NOTED

DATE: March 11, 2009

NO.	REVISION	DATE

CHECKED BY:	DRAW BY:
MAG	AMC

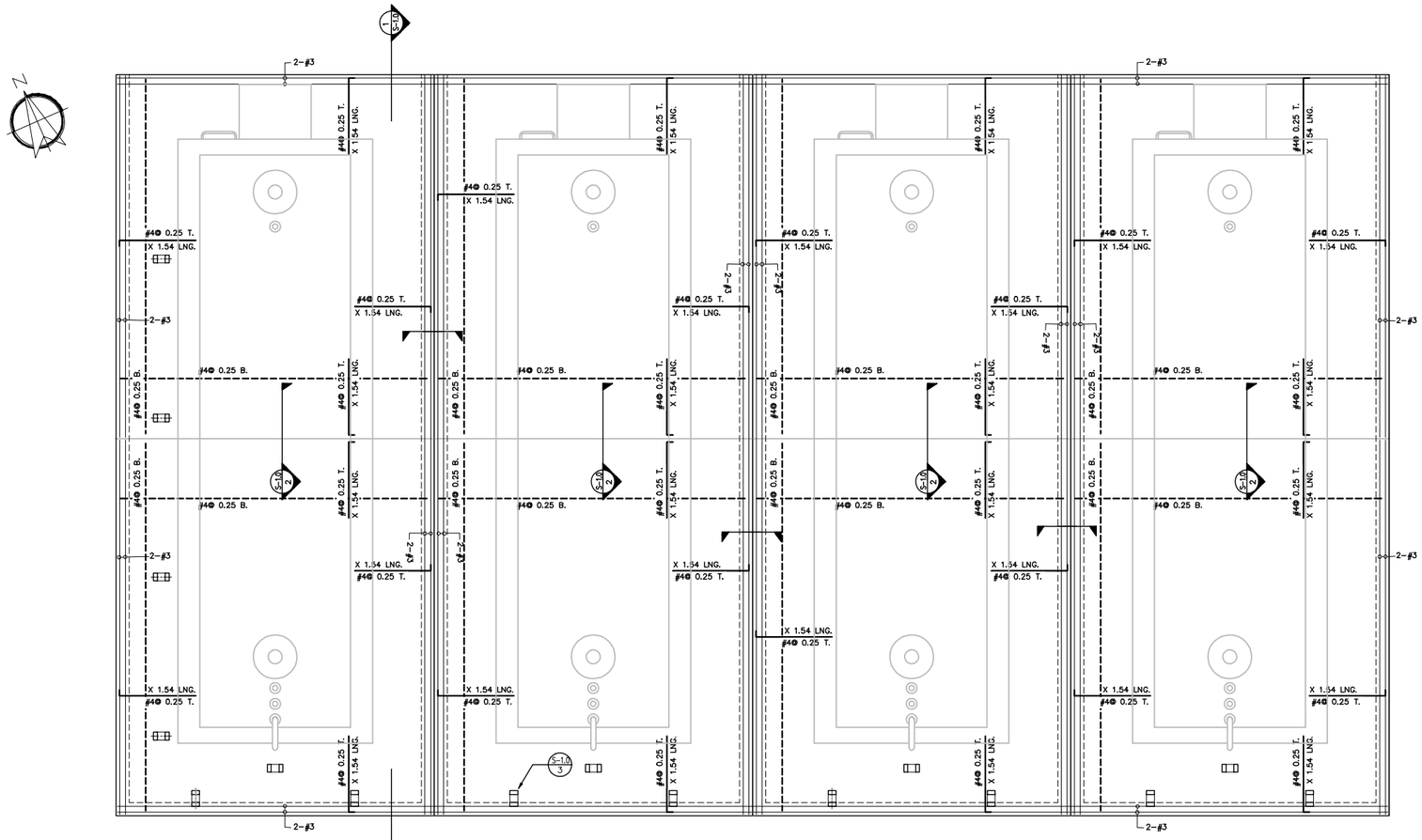
PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

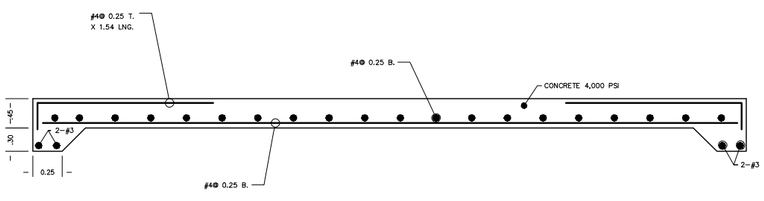
DRAWING TITLE: TANK MECHANICAL LAYOUT

SHEET: **M-1.0**

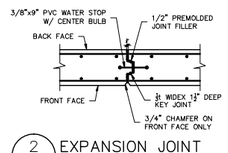
MIGUEL A. GARCIA CAMPOS, PE
NO. LIC. 2078664



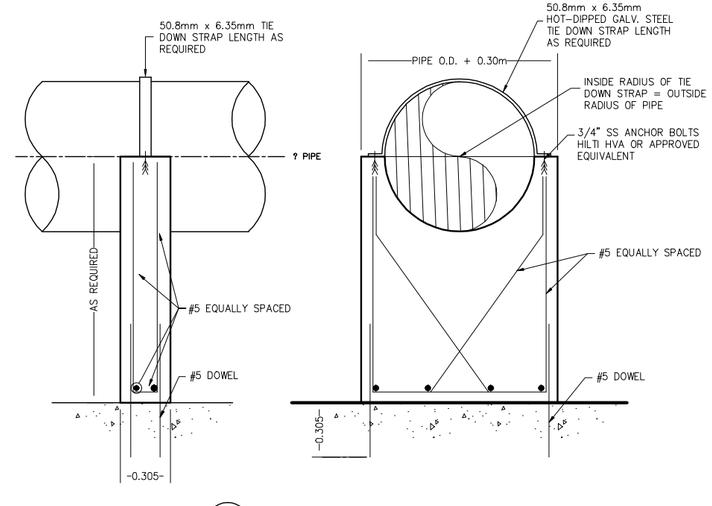
STRUCTURAL FLOOR
SCALE 1:50



1 S-1.0 FLOOR SECTION
SCALE: 1:20



2 S-1.0 EXPANSION JOINT
SCALE: 1:20



3 S-1.0 PIPE SUPPORT
NOT TO SCALE

GENERAL STRUCTURAL NOTES

DESIGN CODES AND STANDARDS:

ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS AND PROVISIONS OF THE FOLLOWING:

1. UNIFORM BUILDING CODE (UBC-97)
2. AMERICAN CONCRETE INSTITUTE 318-99 (ACI)
3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
4. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
5. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
6. AMERICAN CONCRETE INSTITUTE 350-06 (ACI)

GENERAL:

1. WHERE OWNER IS MENTIONED IN PLANS IT IS TO BE UNDERSTOOD EITHER OWNER OR HIS AUTHORIZED REPRESENTATIVE.

2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION. IF ANY DISCREPANCY ARISES IN THE STRUCTURAL AND ARCHITECTURAL PLANS, THE ARCHITECTS AND ENGINEERS SHALL BE NOTIFIED IMMEDIATELY.

3. IN CASE OF DOUBT IN THE INTERPRETATION OF ANY ASPECT OF THESE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS, THE DESIGNER SHALL BE CONSULTED.

4 CONTRACTOR MUST VERIFY ALL DIMENSIONS ON STRUCTURAL PLANS AGAINST THE DIMENSIONS ON ARCHITECTURAL PLANS BEFORE LAYING OUT THE WORK.

CONCRETE:

1. ALL SYMBOLS AND STRESSES AS WELL AS CONCRETE WORK SHALL CONFORM TO THE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE ACI 318-99 & ACI 350-06.

2. CONCRETE 28-DAY ULTIMATE STRENGTH SHALL BE AS FOLLOWS:
- PUMP STATION F'c= 4,000 PSI MAX W/C RATIO= 0.385
- MISCELLANEOUS STRUCTURES F'C= 3,000 PSI MAX W/C RATIO= 0.60
- FLOOD WALL F'c= 4,000 PSI MAX W/C RATIO = 0.45

3. ALL REINFORCING BARS SHALL BE HIGH TENSILE STRENGTH DEFORMED TYPE MEETING ASTM A-615 GRADE 60.

4. ALL LAPPING, BENDING AND PLACING OF REINFORCEMENT SHALL BE DONE IN ACCORDANCE WITH ACI STANDARD BUILDING CODE. UNLESS OTHERWISE SHOWN ON DRAWING TENSION SPLICES & DEVELOPMENTS LENGTHS SHALL BE AS PER SCHEDULES INCLUDED ON THESE DWGS.

5. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS:
- CAST AGAINST EARTH .....3"
- EXPOSED TO EARTH OR WEATHER
  - #6 BARS AND LARGER.....2"
  - #5 BARS AND SMALLER.....2"
- NOT EXPOSED TO WEATHER
  - SLABS AND WALLS #11 BARS AND SMALLER.....2"
  - BEAMS AND COLUMNS.....2"

6. THERE SHALL BE NO HORIZONTAL OR VERTICAL JOINTS IN STRUCTURAL MEMBERS UNLESS A VERTICAL BULKHEAD, KEY JOINT & WATER STOP IS PROVIDED.

7. ALL TESTS FOR PROPERTIES OF CONCRETE AGGREGATES, CEMENT, CONCRETE STRENGTH BY CYLINDERS, SLUMP TESTS AND VIBRATION OF CONCRETE AND OTHER TESTS REQUIRED FOR CONCRETE IN THE SPECIFICATIONS, SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED TESTING LABORATORY TO BE APPROVED BY THE OWNER AND ARCHITECTS/ENGINEERS.

8. POURING OF CONCRETE SHALL NOT BE STARTED UNTIL REINFORCEMENT HAS BEEN PLACED AND APPROVED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

9. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES; IN SUCH CASES, HOPPERS OR VERTICAL CHUTES OR TRUNKS SHALL BE USED. FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 4'-0".

10. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150. PROVIDE TYPE II CEMENT FOR WET PIT & TYPE I FOR OTHER STRUCTURES.

FOUNDATIONS:

1. FOUNDATIONS HAVE BEEN DESIGNED FOLLOWING THE RECOMMENDATIONS STATED IN THE SOILS REPORT PREPARED BY GEOENGINEERING LABORATORIES

ALLOWABLE SOIL BEARING PRESSURE FOR WET PIT . . . . 3,000 PSF
ALLOWABLE SOIL BEARING PRESSURE FOR FLOOD WALL . . . .1,000 PSF

2. ALL BACKFILL OR REPLACEMENT FILL SHALL BE A-2-4 MATERIAL OR BETTER. BACKFILL SHALL BE PLACED AND COMPACTED IN 8 INCH LAYERS TO A MINIMUM COMPACTION OF 95% OF THE FILL MATERIAL MAXIMUM DRY DENSITY AS OBTAINED FROM THE MODIFIED PROCTOR TEST.

3. SOIL REPORT IS CONSIDERED PART OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL CONSIDER AND IMPLEMENT ALL THE RECOMMENDATIONS STATED IN THE SOIL REPORT.

4. FOR EXCAVATION AND DEWATERING RECOMENDATIONS REFER TO SOIL REPORT.

ABREVIATIONS

ADD . . .ADDITIONAL
ALT. . . .ALTERNATE
B. . . . .BOTTOM
C.C. . . .CENTER TO CENTER
CL. . . . CLEAR
COL. . . .COLUMN
CONC. . .CONCRETE
CONST. . CONSTRUCTION
CONT. . .CONTINUOUS
DTL. . . .DETAIL
DWG. . . DRAWING
EA. . . . EACH
ELEV. . .ELEVATION
E.W. . . .EACH WAY
EXIST. . . . EXISTING
F.B.E. . .FOOTING BOTTOM ELEVATION
F.F.E. . .FINISH FLOOR ELEVATION
FT. . . . FEET
GALV. . . .GALVANIZED
L.L. . . . LOWER LAYER
LD. . . .TENSION DEVELOPMENT LENGTH
LT2. . . TENSION LAP SPLICE LENGTH
MAX. . . MAXIMUM
MECH. . .MECHANICAL
MISC. . . .MISCELLANEOUS
MIN. . . .MINIMUM
REINF. . .REINFORCEMENT
SPECS. . SPECIFICATION
STD. . . .STANDARD
STL. . . .STEEL
SUP. . . .SUPPLEMENTARY
T. . . . TOP
TYP. . . .TYPICAL

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EXPANSIÓN LATERAL DEL SISTEMA DE RELLENO SANITARIO MUNICIPAL DE JUNCOS
SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROS
JUNCOS, PUERTO RICO

DATE: March 11, 2009

SCALE=AS NOTED

NO.	REVISION	DATE

CHECKED BY: MAG
DRAW BY: AMC

PREPARE FOR: MUNICIPIO DE JUNCOS

DRAWING TYPE: FOR CONSTRUCTION

DRAWING TITLE: TANK STRUCTURAL PLAN

SHEET: **S-1.0**

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SISTEMA INTEGRADO PARA EL MANEJO Y DISPOSICIÓN DE DESPERDICIOS SÓLIDOS NO PELIGROSOS
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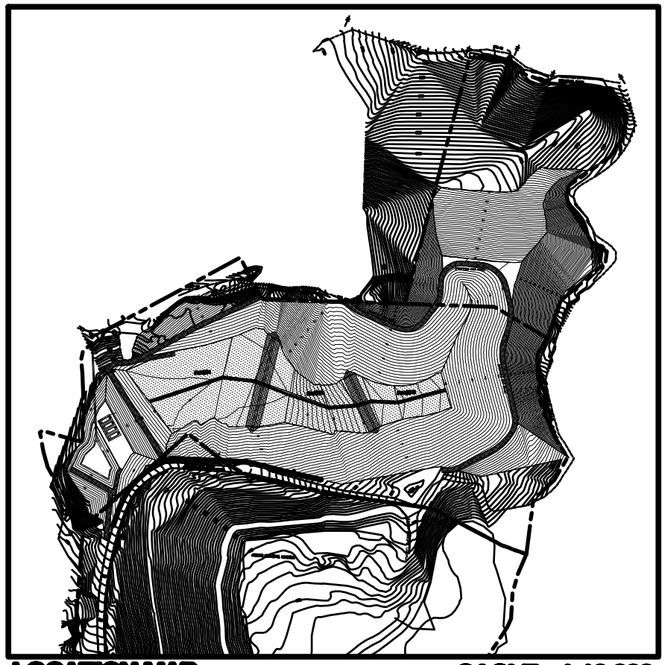

LOCATION MAP

SCALE= 1:10,000

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SHEET: **T-1.0**

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