

**P**ROFESSIONAL  
**E**NGINEERING  
**C**ONSULTANTS  
PROFESSIONAL ASSOCIATION

SURVEY NOTES  
FOR  
LATERAL 28, MAIN 12  
OF THE  
SOUTHWEST INTERCEPTOR SEWER  
(ECHO HILLS)  
CITY OF WICHITA PROJ NO. 468-76-245-82105-000-000-001

303 S. TOPEKA  
WICHITA, KANSAS 67202  
(316) 262-2691  
FAX (316) 262-3003



END.  
 \*RDY\*  
 OLD EKOTWO  
 \*RDY-EXB\*

U

ECHO HILLS

12-28-79

LNH	N	E
1001	1	1000.000000
1002	2	3369.437600
1003	3	3529.739078
1004	4	1133.956825
1005	5	1097.787404
1006	6	1392.770261
1007	7	1386.525181
1008	8	1091.542324
1009	9	1079.010243
1010	10	1088.117651
1011	11	1254.010243
1012	12	1354.010243
1013	13	1068.355763
1014	14	3372.524668
1015	15	1184.052819
1016	16	1179.089885
1017	17	1186.765389
1018	18	1326.575672
1019	19	1326.575672
1020	20	1326.575672
1021	21	1250.678662
1022	22	2006.575672
1023	23	2064.575672
1024	24	2006.575672
1025	25	2064.575672
1026	26	2424.575672
1027	27	2424.575673
1028	28	2796.617883
1029	29	2946.329805
1030	30	2745.956816
1031	31	2895.668138
1032	32	3069.023976
1033	33	2907.091322
1034	34	3172.091322
1035	35	3132.091322
1036	36	2655.504801
1037	37	2064.575672
1038	38	2424.575673
1039	39	2064.575672
1040	40	2424.575672
1041	41	2555.977815
1042	42	2705.699137
1043	43	2505.316748
1044	44	2655.028070
1045	45	2006.575672
1046	46	2006.575672
1047	47	1259.019067
1048	48	1262.354296
1049	49	2424.575672
1050	50	2584.755408
1051	51	2489.765908
1052	52	2560.038569
353	53	2149.386884
1054	54	2219.659525
1055	55	1274.861403
1056	56	1965.148720
1057	57	1832.487386

PLS 8-9-86

(2)

1058	58	1832.487306	2048.000000
1059	59	2046.213682	1883.012013
1060	60	1995.552615	1922.121276 ✓
1061	61	1832.487306	1842.000000 ✓
1062	62	2168.998458	2146.803007
1063	63	1278.196631	1842.000000
1064	64	1299.823504	2257.000000
1065	65	2026.248647	2257.000000
1066	66	1115.573829	2257.000000
1067	67	1906.871664	2257.000000
1068	68	1906.871664	1907.000000
1069	69	2120.744981	2104.052710
1070	70	1284.450185	1962.000000
1071	71	1874.742423	1962.000000
1072	72	2070.943972	2216.160602
1073	73	1404.823504	2257.000000
1074	74	1513.871663	2257.000000 ✓
1075	75	1577.871663	2257.000000 ✓
1076	76	1545.871663	2103.581255
1077	77	1577.871663	2142.000000
1078	78	1513.871663	2142.000000
1079	79	1697.871663	2257.000000
1080	80	1802.871663	2257.000000 ✓
1081	81	1866.871663	2257.000000 ✓
1082	82	1813.201170	2118.078621
1083	83	1866.871663	2162.000000
1084	84	1802.871663	2167.000000
1085	85	3109.354374	1504.264484
1086	86	3284.317614	1730.912859
1087	87	3181.136899	1597.251974
1088	88	2745.768354	1933.338616
1089	89	3294.723043	1899.445404
1090	90	3308.580424	2123.887816
1091	91	3312.154617	2181.777584
1092	92	3441.907543	2173.766461
1093	93	3438.333350	2115.876694
1094	94	3252.905919	2260.706346
1095	95	3209.328855	2199.047232
1096	96	2259.989922	2159.938968
1097	97	2337.778200	2260.706346
1098	98	3058.693307	1543.372748
1099	99	2868.714306	1690.028737
1100	100	2822.802714	1725.470601
1101	101	2889.439463	2198.088071
1102	102	2416.883710	2099.706346
1103	103	2416.883710	2260.706346
1104	104	2901.634417	2260.706346
1105	105	2901.634417	2140.706346
1106	106	2901.634417	1827.589638
1107	107	2863.701827	1778.451544
1108	108	2719.634417	1889.665669
1109	109	2901.634417	1889.665669
1110	110	2959.634417	1889.665669
1111	111	2909.613419	1743.009680
1112	112	2238.778396	2237.196335
1113	113	2416.883710	2324.706346
1114	114	3256.857366	2324.706346
1115	115	3130.475832	1636.360238
1116	116	3230.844679	1903.389342
1117	117	2959.634417	2260.706346
1118	118	3369.437600	1000.000000
1119	119	4691.286397	965.786661

1120	120	6013.135194	931.573222
1121	121	3529.739078	3596.338418
1122	122	4846.225002	3610.762577
1123	123	6162.710927	3625.186736
1124	124	6135.265972	3130.943155
1125	125	4817.272302	3116.507477
1126	126	5936.547765	995.247608
1127	127	6030.271055	2412.786112
1128	128	6051.881238	2711.492980
1129	129	6102.581908	3624.527929
1130	130	5714.011861	969.325562
1131	131	4693.041678	995.751276
1132	132	6075.136953	3130.289348
1133	133	1813.823504	2323.000000 ✓
1134	134	1877.823504	2323.000000 ✓
1135	135	1877.823504	2703.000000
1136	136	1877.823504	2973.000000
1137	137	2012.823504	2739.173141
1138	138	1980.823504	2794.598767
1139	139	2116.746552	2799.173141
1140	140	3271.675292	2564.706346
1141	141	2252.116020	2564.706346
1142	142	2197.267744	2659.706346
1143	143	2361.812571	2754.706346
1144	144	2361.812571	2564.706346
1145	145	2172.172178	2831.173141
1146	146	2252.693370	2691.706346
1147	147	2361.812571	2628.706346
1148	148	3275.626739	2628.706346
1149	149	3035.626739	2628.706346
1150	150	2971.626739	2628.706346
1151	151	2971.626739	2812.706346
1152	152	3035.626739	2812.706346
1153	153	2915.626739	2812.706346
1154	154	2915.626739	2932.706346
1155	155	3035.626739	2932.706346
1156	156	2705.626739	2932.706346
1157	157	2647.626739	2932.706346
1158	158	2647.626739	3172.706346
1159	159	2705.626739	3172.706346
1160	160	2915.626739	2868.706346
1161	161	2237.181596	2868.706346
1162	162	2312.248006	2868.706346
1163	163	2312.248006	2588.554690
1164	164	2172.172178	2831.173141
1165	165	2140.172178	2886.598767
1166	166	2312.248006	2932.706346
1167	167	2312.248006	3172.706346
1168	168	2020.172178	3094.444864
1169	169	3309.214039	3172.706346
1170	170	3265.617439	2790.521700
1171	171	2926.301643	2812.706346
1172	172	2926.301643	3172.706346
1173	173	1795.005573	2964.444864
1174	174	1877.823504	2821.000000
1175	175	1877.823504	2767.000000
1176	176	1676.292761	2767.000000
1177	177	1950.823504	2867.765371
1178	178	1795.397878	2835.765371
1179	179	1739.579673	2932.444864
1180	180	1652.962868	2882.436470
1181	181	1739.579947	2932.444864

TAN 90  
103

263 30

251 82

1182	182	1548.839674	3262.815077
1183	183	1552.952206	3381.353245
1184	184	3349.495803	2786.577763
1185	185	2926.301643	3236.706346
1186	186	2312.248006	3236.706346
1187	187	1707.579947	2987.870490
1188	188	1476.622444	2944.539047
1189	189	1151.220696	2941.030860
1190	190	1127.845000	2876.775125
1191	191	1121.599920	2756.937739
1192	192	1141.638318	2757.153775
1193	193	3503.223445	3166.875398
1194	194	3507.167382	3230.753761
1195	195	3248.872485	3087.806382
1196	196	3352.381844	3176.168564
1197	197	3429.000930	3171.457997
1198	198	3417.292366	2981.819105
1199	199	3293.980558	3126.367359
1200	200	3432.944868	3235.336361
1201	201	3252.443949	3175.057297
1202	202	3203.639990	3133.423420
1203	203	3349.495803	2786.577763
1204	204	1844.014466	3578.164461
1205	205	1988.172178	3149.870490
1206	206	1552.261942	2945.354523
1207	207	1550.968286	3065.347550
1208	208	1157.478129	3061.105296
1209	209	2106.422390	3356.706346
1210	210	3514.943867	3356.706346
1211	211	1647.579947	3091.793538
1212	212	1167.907185	3261.229355
1213	213	1548.151851	3265.328808
1214	214	1174.425344	3386.306892
1215	215	1177.449770	3444.342869
1216	216	1776.837644	3397.300612
1217	217	1466.268245	3564.463446
1218	218	1469.502395	3264.483881
1219	219	1616.268245	3304.655826
1220	220	1468.154827	3389.473617
1221	221	1467.529560	3447.470247
1222	222	1524.768245	3463.138475
1223	223	1553.768245	3412.909002
1224	224	1618.720150	3450.409002
1225	225	1632.463570	3525.316481
1226	226	1657.463570	3482.015131
1227	227	1119.013294	2323.000000
1228	228	1235.733829	2257.000000 ✓
1229	229	1271.216502	2323.000000
1230	230	1813.823504	2568.000000
1231	231	1618.823504	2568.000000
1232	232	1618.823504	2632.000000
1233	233	1813.823504	2632.000000
1234	234	1580.404759	2600.000000
1235	235	1267.291511	2593.570868
1236	236	1317.223762	2590.968901
1237	237	1250.812570	2546.364465
1238	238	1239.173085	2323.000000 ✓
1239	239	1303.259920	2323.000000
1240	240	1813.823504	2448.000000
1241	241	1309.773662	2448.000000
1242	242	1419.773662	2448.000000
1243	243	1481.579000	2760.818707

1244	244	1419.773662	2760.152378
1245	245	1799.359479	2839.394528
1246	246	1813.823504	2767.000000
1247	247	1693.823504	2632.000000
1248	248	1693.823504	2767.463305
1249	249	1926.575672	1474.000000
1250	250	1350.575672	1474.000000
1251	251 ✓	2006.575672	1354.000000
1252	252	1252.765514	1354.000000
1253	253	1931.575672	1234.000000
1254	254	1337.575672	1234.000000
1255	255	1337.575672	1354.000000
1256	256	1350.575672	1594.000000
1257	257	1931.575672	1170.000000
1265	265	1231.050290	2167.121947
1266	266	1111.215461	2173.366894
1267	267	1190.459613	1388.173819
1268	268	1070.622441	1394.423887
1269	269	1073.777352	1323.174067
1270	270	1196.017638	1259.456958
1271	271	1269.306577	1182.249264
1272	272	1225.037112	1213.615764
1273	273	1086.411589	1217.025077
1274	274	1221.228041	1075.000000
1275	275	1326.575672	1056.858643
1276	276	1961.575672	1050.000000
1277	277	1395.575672	1050.000000
1278	278	1395.575672	1170.000000
1279	279	2464.827402	1171.701101
1280	280	2523.822889	1160.598226
1281	281 ✓	2581.503142	1196.972045
1282	282	2671.516203	1240.099545
1283	283	2714.803022	1170.000000
1284	284 ✓	3052.091322	1050.000000
1285	285	3172.091322	1372.456501
1286	286	3172.091322	1200.000000
1287	287	3170.639887	1269.949322
1288	288	3148.465754	3151.629034
1289	289	3098.727030	1425.283895
1290	290	3041.318706	1473.407591
1291	291	3052.091322	1307.957586
1292	292	3052.091322	1257.490502
1293	293	2992.433376	1410.081257
1294	294	2897.443846	1483.409251
1295	295	2887.091322	1200.000000
1296	296	3052.091322	1200.000000
1297	297	2937.091322	1200.000000
1298	298	2923.865655	1168.123039
1299	299	2965.311801	1374.947814
1300	300	3009.947914	1340.490567
1301	301	2920.272363	1239.403456
1302	302	2887.091322	1050.000000
1303	303	2887.091322	1152.000000
1304	304	2845.803213	1416.125022
1305	305	2900.913755	1373.350358
1306	306	2891.111646	1251.838108
1307	307	2848.672577	1170.000000
1308	308	2797.190490	1170.000000
1309	309	2797.190490	1317.704045
1310	310 ✓	2671.516203	1240.099545
1311	311	2818.672577	1170.000000
1312	312	2759.107663	1174.993908

1313	313	2709.078152	1199.159957
1314	314	2622.152711	1082.212690
1315	315 ✓	2633.562952	1050.000000
1316	316	2725.752489	1050.000000
1317	317	2818.672577	1050.000000
1318	318	2799.651685	1356.772204
1319	319	2893.839115	1282.649292
1322	322	2399.575672	1170.000000
1323	323	2399.575672	1050.000000
1324	324 ✓	2064.575672	1354.000000
1325	325	2424.575672	1354.000000
1326	326	2800.678638	1659.171843
1327	327	2669.299314	1488.982322
1328	328	2574.309813	1562.310316
1329	329	2534.393883	1515.517227
1330	330 ✓	2617.266296	1421.578455
1331	331	2483.278092	1494.725965
1332	332	2624.059132	1234.000000
1333	333	2139.575672	1234.000000
1334	334	2139.575672	1354.000000
1335	335	2328.575672	1354.000000
1336	336	2328.575672	1234.000000
1337	337	2398.575672	1354.000000
1338	338	2398.575672	1234.000000
1339	339	2758.178148	1407.738535
1340	340	2663.188648	1481.066530
1341	341	2478.416600	1237.585842
1342	342	2560.876097	1257.562823
1343	343	2637.383138	1294.241439
1344	344	2704.596542	1346.019877
1345	345	2624.141940	1430.485203
1346	346 ✓	2462.840989	1354.000000
1347	347	2517.916142	1378.101579
1348	348	2571.371218	1401.494192
1349	349	2522.782992	1380.231374
1350	350	1342.354296	1538.000000
1351	351	1342.354296	1658.000000
1352	352	1268.607849	1658.000000
1355	355	2392.354296	1658.000000
1356	356	2392.354296	1538.000000
1357	357	2554.202078	1640.997538
1358	358	2459.212577	1714.325532
1359	359	2415.731580	1658.000000
1360	360	2510.721079	1564.672006
1361	361	1354.861403	1778.000000
1362	362	1354.861403	1658.000000
1363	363	1774.861403	1778.000000
1364	364	1844.957072	1778.283503
1365	365	1903.997808	1787.642077
1366	366	1959.621669	1809.805009
1367	367	2040.646183	1658.000000
1368	368	1939.605597	1658.000000
1369	369	1890.373526	1658.000000
1370	370	1774.861403	1658.000000
1371	371	2069.948203	1913.757946 ✓
1372	372	2216.671094	1964.722475
1373	373	2137.232433	1861.817183 ✓
1374	374	2207.505094	1952.848788
1375	375	2195.151883	1838.514220 ✓
1376	376	2188.276742	1774.884548 ✓
1377	377	2098.124189	1811.156116 ✓
1378	378	2029.910056	1863.814611 ✓

1379	379	2146.101672	1764.711096
1380	380	2399.827769	1658.000000
1381	381	2185.706015	1658.000000
1382	382	2197.237213	1764.724733
1383	383	2229.910653	1802.572406
1384	384	2279.056143	1793.368018
1385	385	2320.706015	1658.000000
1386	386	2256.502702	1760.230194
1387	387	2303.400192	1897.771172
1388	388	2260.463984	1842.151364
1389	389	2393.236390	1814.929281
1390	390	2012.623356	1710.502698
1391	391	1997.464288	1924.636328
1392	392	1923.329963	1863.111894
1393	393	1404.823504	1962.000000
1394	394	1295.899513	2181.702176
1395	395	1288.093164	2031.905444
1396	396	1404.823504	2025.822282
1397	397	1404.823504	2176.025826
1398	398	1519.823504	2177.000000
1399	399	1404.823504	2177.000000
1400	400	1813.823504	2177.000000
1401	401	1583.823504	2177.000000
1402	402	1404.823504	2087.000000
1403	403	1523.445927	2058.892457
1404	404	1475.300170	1962.000000
1405	405	1698.823504	1962.000000
1406	406	1628.346838	1962.000000
1407	407	1670.484856	2066.910645
1408	408	1496.213616	2097.743584
1409	409	1569.020472	2059.262718
1410	410	1748.742423	1962.000000
1411	411	1904.246395	2000.219614
1412	412	1893.496683	2103.505844
1413	413	1942.529385	2049.811616
1414	414	1967.465881	2251.714869
1415	415	1949.153331	2147.536472
1416	416	2009.746713	2136.885325
1417	417	1901.369295	1996.492602
1418	418	1832.487306	1962.000000
1419	419	1356.487306	1842.000000
1420	420	1356.487306	1962.000000
1421	421	2120.113128	2083.476673
1422	422	2025.123628	2156.804668
1423	423	2035.785935	1974.238747
1424	424	1940.796434	2047.566742
1425	425	2446.634417	2140.706346
1426	426	2446.634417	2260.706346
1427	427	2331.290190	2236.068912
1428	428	2391.148390	2140.706346
1429	429	2351.476467	2069.315112
1430	430	2781.634417	2140.706346
1431	431	2781.634417	1915.706346
1432	432	2719.897422	1804.909262
1433	433	2624.907921	1878.237256
1434	434	2574.246554	1917.345520
1435	435	2479.257353	1990.673514
1436	436	2598.689519	1949.008687
1437	437	2649.350586	1909.900423
1438	438	2878.601186	1797.549260
1439	439	2764.844520	1863.133988
1440	440	2647.496465	1959.866033

1442	442	2540.994349	2070.647969
1443	443	2691.140470	1935.469295
1444	444	2692.754928	1981.119600
1445	445	2856.597297	2009.070806
1446	446	2812.844237	1995.910771
1447	447	2680.971597	2140.706346
1448	448	2781.634417	2022.254821
1449	449	2419.888915	2036.503510
1450	450	2500.329226	2140.706346
1451	451	2595.076539	2140.706346
1452	452	2901.634417	1915.706346
1453	453	2963.703807	1616.700742
1454	454	3018.699802	1687.942868
1455	455	3113.689203	1614.614873
1456	456	3165.399988	1688.174810
1457	457	3203.367104	1769.633442
1458	458	3225.686072	1856.690172
1459	459	3064.420989	1747.170352
1460	460	3094.634417	2260.706346
1461	461	3094.634417	1877.620646
1462	462	3246.743517	2160.896403
1463	463	3232.878112	1936.324030
1464	464	3094.634417	1944.859335
1465	465	3094.634417	2170.287826
1466	466	2918.603233	1755.459074
1467	467	2949.147506	1819.496288
1468	468	2959.634417	1889.665669
1469	469	2959.634417	1961.175669
1470	470	2959.634417	2032.685669
1471	471	2959.634417	2104.195669
1472	472	2959.634417	2175.705669
1473	473	3094.634417	2175.705669
1474	474	3094.634417	1889.665669
1475	475	3072.441826	1781.801331
1476	476	3079.857362	1813.818842
1477	477	2886.675292	2564.706346
1478	478	2886.675292	2444.706346
1479	479	2396.675292	2444.706346
1480	480	2396.675292	2564.706346
1481	481	2326.875234	2567.946119
1482	482	2303.820702	2444.706346
1483	483	2247.371903	2444.706346
1484	484	2266.247176	2590.489248
1485	485	2189.775652	2526.052410
1486	486	2157.557233	2564.288172
1487	487	2185.242408	2605.923267
1488	488	2216.516675	2632.276355
1489	489	2154.529622	2733.730945
1490	490	2089.577717	2696.201945
1491	491	2059.266828	2678.731944
1492	492	2021.483758	2744.173141
1493	493	1877.823504	2443.000000
1494	494	1877.823504	2523.000000
1495	495	1977.823504	2523.000000
1496	496	1977.823504	2443.000000
1497	497	2188.133355	2287.968394
1498	498	2111.766094	2269.041810
1499	499	2136.331385	2386.449625
1500	500	1991.951314	2437.959664
1501	501	2151.631561	2514.640550
1502	502	2117.803339	2533.962844

1503	503	2103.108075	2571.619577
1504	504	2134.657009	2608.735666
1505	505	3186.675292	2564.706346
1506	506	3186.675292	2444.706346
1507	507	3264.266329	2444.706346
1508	508	1944.884949	2711.469756
1509	509	2306.332531	2324.706346
1510	510	2416.883710	2324.706346
1511	511	2416.883710	2399.706346
1512	512	2238.778396	2237.196335
1513	513	3176.857366	2324.706346
1514	514	3176.857366	2444.706346
1515	515	2456.857366	2324.706346
1516	516	2456.857366	2444.706346
1517	517	2388.946410	2322.706346
1518	518	2317.862381	2301.647238
1519	519	2262.583575	2263.463692
1520	520	2177.316794	2353.956560
1521	521	2370.568043	2444.706346
1522	522	2122.230247	2262.916676
1523	523	2068.837907	2290.174811
1524	524	2012.082113	2309.475789
1525	525	1953.141479	2323.418800
1526	526	2113.044571	2394.757591
1527	527	2041.088417	2420.429883
1528	528	1966.860762	2443.000000
1529	529	1906.871663	2323.000000
1530	530	2161.075378	2236.296935
1531	531	2971.626739	2748.706346
1532	532	2891.626739	2868.706346
1533	533	2891.626739	2748.706346
1534	534	2471.626739	2628.706346
1535	535	2471.626739	2748.706346
1536	536	2396.626739	2628.706346
1537	537	2396.626739	2748.706346
1538	538	2396.626739	2868.706346
1539	539	2891.626739	2868.706346
1540	540	2346.801464	2748.706346
1541	541	2278.604415	2866.688535
1542	542	2217.172178	2753.238855
1543	543	2312.434972	2808.238855
1544	544	2269.915703	2868.500297
1545	545	2647.626739	3052.706346
1546	546	2322.626739	3052.706346
1547	547	2322.626739	3172.706346
1548	548	2357.626739	2932.706346
1549	549	2357.626739	3052.706346
1550	550	1878.351858	3012.564864
1551	551	2016.915922	3092.564864
1552	552	2076.915922	2986.641816
1553	553	1938.351858	2908.641816
1554	554	2242.792492	3168.562525
1555	555	2164.258698	3153.649657
1556	556	2088.496160	3123.154791
1557	557	2132.935539	3020.984756
1558	558	2256.666184	3052.706346
1559	559	2194.844866	3036.856833
1560	560	1854.855193	2860.434994
1561	561	2292.638307	2932.147242
1562	562	2223.477082	2922.355221
1563	563	2167.294867	2900.698798
1564	564	2115.978038	2811.194339

1564	565	2179.440625	3038.016358
1566	566	2285.758369	3052.706346
1567	567	2110.363584	2869.388767
1568	568	1920.823504	2898.581815
1569	569	2050.363584	2973.311816
1570	570	3285.617439	2790.521700
1571	571	2926.301643	2812.706346
1572	572	2926.301643	3172.706346
1573	573	3281.172901	2718.535295
1574	574	3286.016784	2798.387932
1575	575	3280.327166	2878.020426
1576	576	3257.226632	2954.440785
1577	577	3217.851265	3023.890668
1578	578	3164.137536	3082.954543
1579	579	3098.727079	3128.727657
1580	580	3024.836769	3158.958897
1581	581	2946.100517	3172.161496
1582	582	2866.110512	3172.706346
1583	583	2786.110512	3172.706346
1584	584	2866.110512	3052.706346
1585	585	2786.110512	3052.706346
1586	586	2866.110512	2932.706346
1587	587	3082.911582	2994.623681
1588	588	2996.852713	2901.037208
1589	589	3028.690407	2852.913397
1590	590	2939.684850	2930.269977
1591	591	2939.520900	3052.706346
1592	592	3155.626739	2855.014476
1593	593	3035.626739	2788.706346
1594	594	3155.626739	2788.706346
1595	595	3155.626739	2828.706346
1596	596	3155.626739	2726.286686
1597	597	3155.626739	2803.578091
1598	598	3136.713027	2891.327780
1599	599	3131.816902	2900.728075
1600	600	3108.807574	2944.904739
1601	601	3035.939441	3013.650484
1602	602	2988.907019	3032.701714
1603	603	2962.809654	3043.272866
1604	604	3129.848171	3184.653669
1605	605	3070.663468	3211.373706
1606	606	3008.092642	3228.742681
1607	607	2943.603344	3236.353193
1608	608	2868.831643	3236.706346
1609	609	2868.831643	3356.706346
1610	610	2343.831643	3236.706346
1611	611	2343.831643	3356.706346
1612	612	2268.859789	3235.252480
1613	613	2199.409867	3228.808655
1614	614	2131.274621	3210.928535
1615	615	2065.247895	3187.797140
1616	616	2002.098966	3157.683974
1617	617	1941.363505	3122.845490
1618	618	1881.363505	3226.768538
1619	619	1820.119948	3052.845490
1620	620	1760.119949	3156.768538
1621	621	1675.252761	3107.793538
1622	622	1735.292760	3003.870490
1623	623	1650.814412	2962.158958
1624	624	1567.062040	2945.859463
1625	625	1487.075730	2944.651744
1626	626	1485.782074	3064.644771

1627	627	1247.089677	2942.064432
1628	628	1245.796021	3062.057459
1629	629	1560.174413	3065.661635
1630	630	1612.270351	3075.800303
1631	631	1944.565804	3263.258402
1632	632	2016.924143	3305.034509
1633	633	2091.406373	3348.036844
1634	634	2176.445005	3356.706346
1635	635	2260.711213	3356.706346
1636	636	2348.518556	3356.706346
1637	637	2033.249762	3356.706346
1638	638	3123.290011	3356.706346
1639	639	2224.003238	3356.706346
1640	640	3440.438418	3356.706346
1641	641	3432.944868	3235.336361
1642	642	3391.484323	3234.504571
1643	643	3323.864568	3218.012345
1644	644	3270.222389	3188.909476
1645	645	3152.256305	3298.694122
1646	646	3269.003238	3356.706346
1647	647	3379.003238	3356.706346
1648	648	3479.248732	2778.566640
1649	649	3446.896120	2254.564437
1650	650	3317.143191	2262.575560
1651	651	3349.495803	2786.577763
1652	652	3348.035715	2856.482735
1653	653	3335.106971	2925.197250
1654	654	3311.061156	2990.852682
1655	655	3484.936751	2870.693190
1656	656	3490.949573	2968.083436
1657	657	3494.596083	3027.141477
1658	658	3401.810356	3032.870194
1659	659	3413.368494	3171.778583
1660	660	3314.607118	3141.680732
1661	661	3388.468314	3026.692735
1662	662	3416.256260	3031.978284
1663	663	3238.091322	1242.251779
1664	664	3238.091322	1050.000000
1665	665	3238.091322	1135.000000
1666	666	3238.091322	1215.000000
1667	667	3382.711993	1215.000000
1668	668	3377.772684	1135.000000
1669	669	3235.334477	1284.883121
1670	670	3219.072966	1352.834119
1671	671	3188.910303	1415.857832
1672	672	3403.266013	1547.905180
1673	673	3395.073716	1415.217836
1674	674	3388.252895	1304.743756
1675	675	3164.350370	1575.506609
1676	676	3290.273183	1478.299367
1677	677	3205.798827	1631.888846
1678	678	3240.340962	1692.718717
1679	679	3265.882575	1757.441008
1680	680	3284.994314	1825.008731
1681	681	3294.383191	1894.328867
1682	682	3299.213585	1972.176910
1683	683	3303.835387	2047.034367
1684	684	3433.588313	2039.023244
1685	685	3423.965512	1964.165787
1686	686	3424.085270	1885.106285
1687	687	3418.716111	1798.144174
1688	688	3413.154692	1766.068118

1689	689	3407.194961	1611.540763
1690	690	3367.544316	1525.899909
1700	700	1733.823504	2323.000000
1701	701	1383.819920	2323.000000
1702	702	1429.773662	2448.000000
1703	703	1733.823504	2568.000000
1704	704	1593.823504	2551.834273
1705	705	1593.823504	2323.000000
1706	706	1593.823504	2448.000000
1707	707	1546.448614	2563.298771
1708	708	1530.404759	2600.000000
1709	709	1554.226714	2642.599413
1710	710	1419.773662	2600.000000
1711	711	1813.823504	2722.000000
1712	712	1693.823504	2722.000000
1713	713	1419.773662	2518.000000
1714	714	1419.773662	2588.000000
1715	715	1399.774824	2759.936769
1716	716	1211.634250	2757.903408
1717	717	1135.211617	2633.831238
1718	718	1243.076027	2397.898378
1719	719	1123.241881	2404.142916
1720	720	1250.361519	2537.708684
1721	721	1314.910625	2608.816195
1722	722	1251.252569	2640.923574
1723	723	1298.438823	2632.694100
1724	724	1313.421357	2518.000000
1725	725	1671.371244	2901.550241
1726	726	1603.394761	2855.257164
1727	727	1462.766193	2880.365942
1728	728	1532.762125	2881.140574
1729	729	1464.049709	2761.333546
1730	730	1534.041618	2762.746119
1731	731	1620.745868	2765.175512
1732	732	1713.079212	2778.580593
1733	733	1419.773662	2600.000000
1734	734	1327.441053	3445.959940
1735	735	1397.436986	3446.714572
1736	736	1396.371827	3573.335150
1737	737	1256.080013	3571.825684
1738	738	1463.360127	3574.060591
1739	739	1497.109289	3451.670266
1740	740	1652.323767	3576.097825
1741	741	1810.599491	3488.229333
1742	742	1707.555612	3357.360612
1743	743	1652.750347	3536.530452
1744	744	1703.286464	3487.072381
1745	745	1672.655147	3440.435997
1746	746	1566.753626	3420.409002
1747	747	1497.226101	3392.314084
1748	748	1264.420114	3387.277134
1749	749	1344.415465	3388.139571
1750	750	1602.871663	2162.000000
1751	751	1865.066539	2131.351471
1752	752	1862.764731	2111.486704
1753	753	1862.752587	2111.390029
1754	754	1831.541774	2071.563868
1755	755	1794.115315	2071.864661
1756	756	1698.129788	2177.000416
1757	757	1766.134778	2101.200942
1758	758	1593.837988	2089.465970
1759	759	1474.823504	1962.000000





WICHITA WATER SUPPLY  
CONTRACTOR'S INSTALLATION REPORT

Contractor: UTILITY  
 W.O. No. 90734 Date: Started 10-7-90 Completed 11-15-90  
 Description 8" WC 1W Judith From PARKRIDGE to B.O.

Main Installed (Total Measured Length)		
Size	Feet	Along From To
8"	335'	Judith From PARKRIDGE to B.O.
8"	12' CIRC	

Location (1) Main, (2) End of Main, (3) Fittings, (4) Hydrant, (5) Valves

I.D. No.	Loc.	Description
	(1)	8" WC STARTING AT 9'x9" Tee 6' EW 00 PARKRIDGE & 8" SNA Judith Going W on Judith 8" SNA to B.O.
		277' W x 8' S NWPC Judith & PARKRIDGE
(3)		8" CIWT 45° bend 22' S + 1' W SEC CATCH BASIN
(3)		8" CIWT 45° bend 22' S + 3' W SEC CATCH BASIN
(3)		8" CIWT 45° bend 22' S + 9' W SEC CATCH BASIN
(3)		8" CIWT 45° bend 22' S + 10' W SEC CATCH BASIN
19212	(5)	2" B.O. Assy 277' W x 8' S NWPC Judith & PARKRIDGE.
19211	(5)	8" K WT 6' 0" NEWLY PARKRIDGE & SNA Judith 6' W

Permit Type \_\_\_\_\_ Cut Permit No. \_\_\_\_\_  
 Trench Depth: Max. \_\_\_\_\_ Min. \_\_\_\_\_ Avg. 5' Soil Type Clay  
 Excavation (Lin. Ft.) Trencher W Hand \_\_\_\_\_ Equip. or Tunnel \_\_\_\_\_  
 Add'l. info. (Attach sketch & add'l. sheets if required) CATCH BASIN IS ON NWC  
Judith & PARKRIDGE



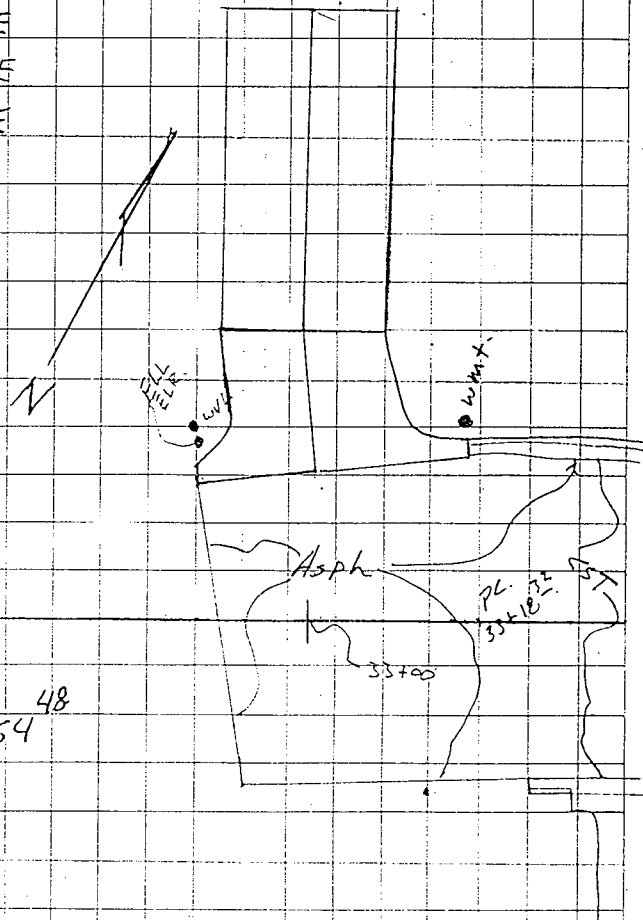
TITLE Verify Topo 11 and Judith

PEC

32+87	20 <sup>s</sup>		WVL
+ 38	13 <sup>s</sup>		ELL, ELR
32+88 <sup>s</sup>	14		TOC PE NE (end drive approach hammer head)
32+99	30 <sup>s</sup>		AHC, 18, 14 <sup>s</sup> , 10, 1 <sup>s</sup> = DRC, PE, NW, 18
32+88 <sup>s</sup>	11 <sup>s</sup>		EPA, PE, NE = <del>DRC PE</del>
33+00	63 <sup>s</sup>		DRC, PE, SE, 18
33+01 <sup>s</sup>	15 <sup>s</sup>		ctr approach @ FLC
33+17	21 <sup>s</sup>		wmt
33+17 <sup>s</sup>	17 <sup>s</sup>		CST, PE, NE
33+47	8 <sup>s</sup>	57	DRC, PE, NW, 18
33+47		32	AHC, 18, 14 <sup>s</sup> , 10, 1 <sup>s</sup> = DRC, PE, SE, 18
33+47		16 <sup>s</sup>	ctr approach @ FLC
33+27 <sup>s</sup>		17 <sup>s</sup>	CST, PE, NE
33+32		17 <sup>s</sup>	CST, PE, SE
32+93 <sup>s</sup>		17 <sup>s</sup>	EPA, PE, NE
32+91		3 <sup>s</sup>	CRA, PE, NE

↗ Tan Ahd. Judith St.

B.P.I.  
Ahd 32+54 48



TITLE Utility pick up				PEC	
Bm # EH-1	16B <sup>66</sup>	Arkla	6" steel	N-S along E R/W	119 <sup>th</sup> St W
40+55	22 <sup>S</sup> RT 167°	44 1/2" probe	Top pipe = 162 <sup>29</sup>	163, 29	
40+54 <sup>S</sup>	25 LT	GLN OT N-S, 6"			
40+55°	39 <sup>S</sup> RT	GLN OT N-S, 6"			

Topo	Bk	7	E side	119 <sup>th</sup> St N	
B (50+87)		4 <sup>S</sup>		GLN, OT, N-S, Arkla	
B (51+24)		4°		GLN, OT, N-S, Arkla	
B (51+00)	35'			CST, OT, N-S	
B (51+26)	17 <sup>S</sup>			TRD, 1, 3	
B (51+35)	18 <sup>S</sup>			TRD, 1, 3	
B (51+44)	17			PIN, 2, 3	
B (51+54)	17 <sup>S</sup>			PIN, 2, 3	
B (51+54)	28 <sup>S</sup>			TLB, OT, N-S	
• 51+59		4°		GLN, OT, N-S, Arkla	
51+62 <sup>S</sup>	17°			PIN, 2, 3	
• 51+73	16°			PIN, 2, 3	
51+85 <sup>S</sup>	17°			PIN, 2, 4	
51+95		4°		GLN, OT, N-S, Arkla	
51+98	17°			PIN, 2, 4	
52+09	17°			TRD, 1, 3	
52+00	35 <sup>B</sup>			CST, OT, N-S	
52+15 <sup>S</sup>	20 <sup>S</sup>			TRD, 1, 2	
52+40	23 <sup>S</sup>			TRD, 2, 3	
52+47	27 <sup>S</sup>			TLB, OT, N-S	
52+48 <sup>S</sup>		4 <sup>S</sup>		GLN, OT, N-S, Arkla	
52+56	26°			TRD, 1, 3	
52+73	30 <sup>S</sup>			SGN (R)	
53+00	36 <sup>3</sup>			CST, OT, N-S	
53+06		4°		GLN, OT, N-S, Arkla	
53+48	28 <sup>S</sup>			TLB, OT, N-S	
53+58	19			PIN, 2, 3	

TITLE Utility pick up			PEC
Topo Blk 7 along 119 <sup>th</sup> St W			
53+79 <sup>5</sup>	18°		PIN, 1, 3
53+91	17		PIN, 2, 4
54+00	35 <sup>7</sup>		CST, OT, N-S
54+04 <sup>5</sup>	16 <sup>5</sup>		PIN, 2, 3
54+09		6 <sup>5</sup>	GLN, OT, N-S, Arkla
54+13	23 <sup>5</sup>		TLB, OT, N-S
54+18		2 <sup>5</sup>	TLX
54+23 <sup>5</sup>	19		TRD, 2, 3 (CYP)
54+25 <sup>5</sup>		1 <sup>5</sup>	TLB, OT, N-S
54+47	20		TRD, 1, 2
54+50		1°	TLB, OT, N-S
54+62	23		TRD, 1, 2
54+80		1°	TLB, OT, N-S
54+86	28		TLB, OT, N-S
55+00		1 <sup>5</sup>	TLB, OT, N-S
• 55+00	35 <sup>9</sup>		CST, OT, N-S
• 55+55		7°	GLN, OT, N-S, Arkla
• 55+15		9 <sup>5</sup>	GLN, OT, N-S, Arkla
55+23	30°		SGN, speed
55+28	27 <sup>5</sup>		TLB, OT, N-S
55+29		2°	TLB, OT, N-S
55+50		1°	TLB, OT, N-S
55+64		0 <sup>5</sup>	TLB, OT, N-S
55+71 <sup>5</sup>		1 <sup>5</sup>	TLB, PI, S, E
55+73		14 <sup>5</sup>	TLB, OT, E-W
55+69 <sup>5</sup>		10°	GLN, Arkla
A (55+81 <sup>5</sup> )		7°	<del>GTX</del> TVX
55+73	29		EST TLB,
55+74	36°		CST, OT, N-S

TITLE Utility Pick-up

PEC

Blk 14 Topo				
9+00		13	ELB, OT, N-S	
9+00		10	TLB, OT, N-S	
9+08		17	TLB, PI, NNW-S (Drop line)	
9+06		13	ELB, OT, N-S	
9+08		9	TLB, OT, N-S	
± 9+07 <sup>S</sup>		8 <sup>S</sup>	MAN #5 rebar Armstrong	
9+10 <sup>S</sup>		6 <sup>O</sup>	T.V.K	
9+12		13	ELX, ctr 3 <sup>S</sup> x 3 <sup>S</sup> # TS 45331	
9+13		16	EMT, Temp	} MAINTAINED ON 4x4 POSTS - 1 per meter
9+14		11	EMT, Temp	
9+17		21	KGE stub out	
9+17 <sup>S</sup>		15 <sup>S</sup>	TLB, PI, NW-SSE	
9+22 <sup>S</sup>		10 <sup>S</sup>	TLX # 1455	
9+28		12	ELB, PI, W, N, S	
9+29	44		ELR	
9+29	42 <sup>S</sup>		BHD, PI, W, N	
9+76	41		BHD, PI, W, S	
9+66	42 <sup>S</sup>		BHD, PI, S, NE	
9+14	44 <sup>S</sup>		BHD, PI, W, S	
8+66	44 <sup>S</sup>		BHD, PI, W, N	
9+15	<del>53</del>	53	BHD, E, N	} Basement only
9+23		42	BHD, PI, E, N	
9+47		42	BHD, PI, E, S	
9+64		59 <sup>S</sup>	BHD, PI, E, S	
9+85		10 <sup>S</sup>	ELB, PE, S	
10+00		0	SSM #Z	

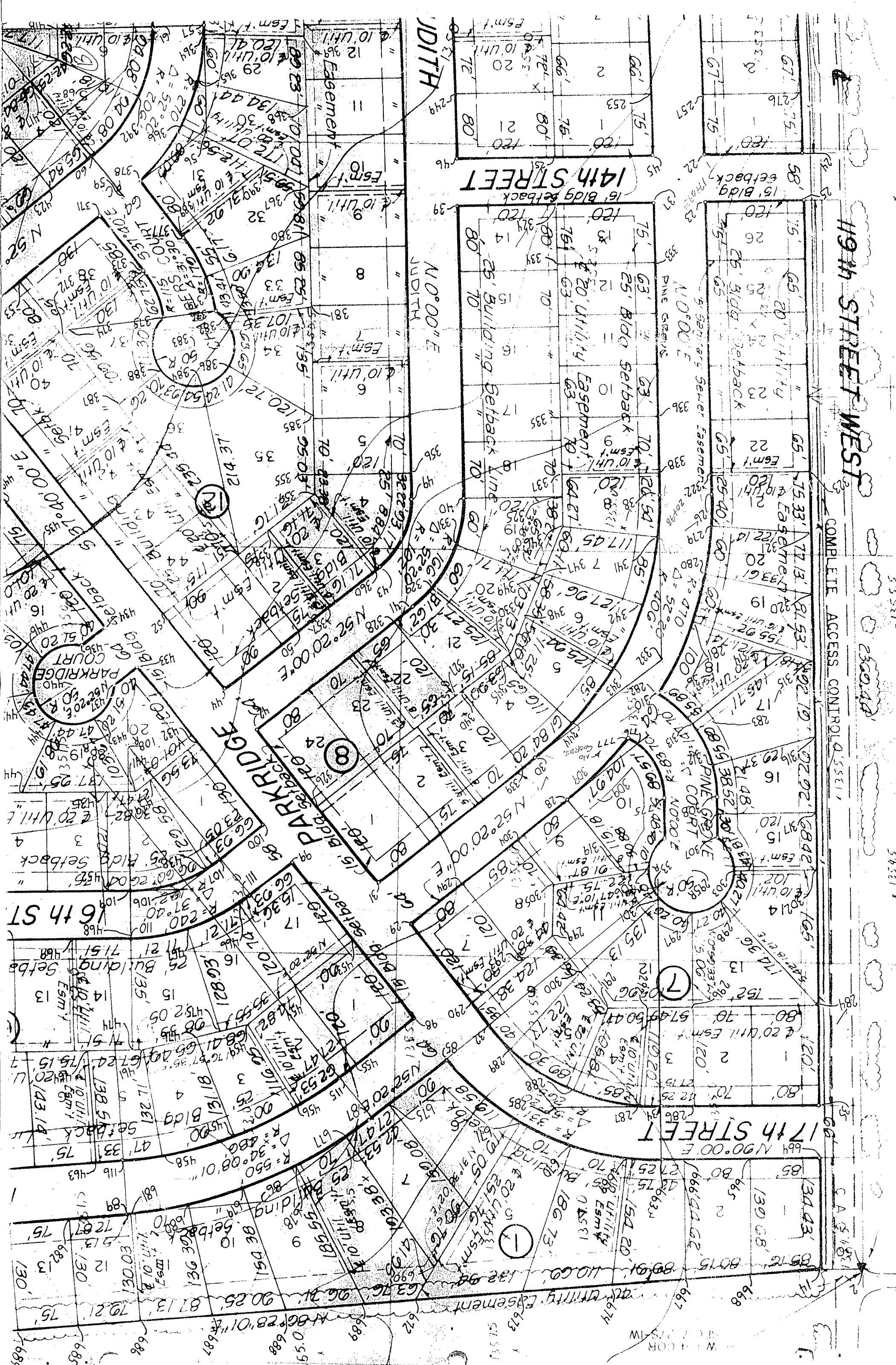
TITLE Utility Pick-up			PEC
TOPD	BIK	14	
15+50		2°	TLB, OT, N-S
15+50	5°		ELB, OT, N-S
15+83		2°	TLB, PI, S, NNE
15+87	5°		ELB, PI, S, NNE
16+00	5°		ELB, OT, SSW, NNE
16+00		2°	TLB, OT, SSW, NNE
16+50		3°	TLB, OT, SSW, NNE
17+00		2°	TLB, OT, SSW, NNE
17+00	6°		ELB, OT, SSW, NNE
17+37		2°	TLB, OT, SSW, NNE
17+48		9°	KGE, stub-out
17+56		7°	KGE, stub-out
17+56 <sup>35</sup>	0		PI, B, SSW, E = FWD, PI, SSW, E, G
17+57	0		KG ELB, OT, NNW, SSE
17+60		3°	TLX - no # case missing
17+65		3°	TLB, OT, E-W
17+67 <sup>5</sup>	3°		ELB, OT, E-W
17+73	4°		ELX, ctr 3° x 3° # TS 42819
17+67 <sup>5</sup>	0		FWD, PI, W, NNW, G
17+56 <sup>35</sup>	0		

Could not find Water Valve or water line  
 Blow off Valve were said to be @ N end  
 Pine Grove F near Pine Grove Court

19th STREET WEST

COMPLETE ACCESS CONTROL

C.A. 54821



119th STREET WEST

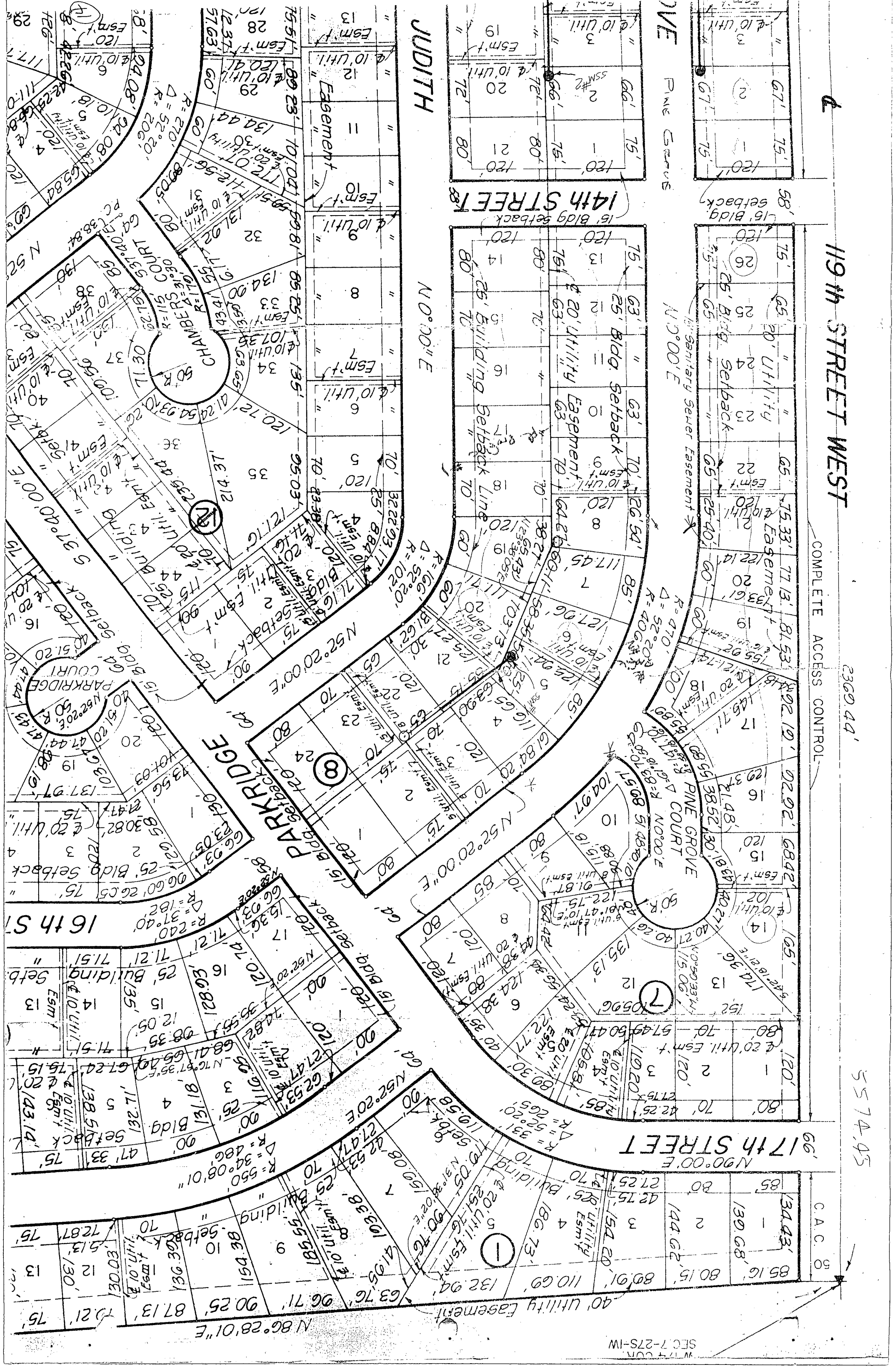
COMPLETE ACCESS CONTROL

2369.44'

5574.95'

C.A.C. 50

SECTION 7-275-1W



JOB NAME	ECHO HILLS SAN. SEWER	CREW	SLW, TG <sup>1</sup> , RTF	DATE	5/10/91	1	4
JOB NO.	60-9/226-2	WEATHER	CLOUDY, MILD, CALM	TEMP.	65°		15
SEC.	7 T. 27S. R. 1W. 6th P.M.	INST.	F2 <sup>3</sup> DM-52, PRISM POLE (U.N.O.)	BAR.			PPM
TITLE	RADIAL LAYOUT OF SAN. SEWER @ P.I.'S & END PTS. / SAN. SEWER MH, DATA						

PT.#	STA.	HORIZ. X	HORIZ. D.	CALC. X	CALC. D.	COMMENTS
						26 @ E. COR. 2/7 BS. N.P.C. 4/8
30	N. P.C. 4/8	34-37-27	390 <sup>585</sup>	34-37-27	390 <sup>549</sup>	FND. 3/4" Ø I.P. (PEC)
310	NE.P.C. 18/7	15-50-44	256 <sup>725</sup>	15-50-52	256 <sup>720</sup>	FND. 3/4" Ø I.P. (PEC)
33	W. P.C. 8/8	89-56-56	64 <sup>000</sup>	90-00-00	64 <sup>000</sup>	FND. 3/4" Ø I.P. (PEC)
284	NW. COR. 13/7	349-16-32	638 <sup>90</sup>	349-10-26	638 <sup>81</sup>	SET SPK. & LATH
315	SW. COR. 17/7	330-08-10	240 <sup>99</sup>	330-08-08	240 <sup>99</sup>	SET SPK. & LATH
281	SE. COR. 13/7	09-45-03	159 <sup>21</sup>	09-45-09	159 <sup>23</sup>	SET SPK. & LATH
330	N. COR. 20/8	52-35-48	316 <sup>42</sup>	52-33-02	316 <sup>83</sup>	COR FALLS IN 4"X4" FC POST LATHE ON W. SIDE FC. P.S.
346	SE. COR. 7/8	78-15-14	187 <sup>92</sup>	78-15-07	187 <sup>94</sup>	SET SPIKE & LATHE
324	SE. COR. 13/8	152-55-39	404 <sup>31</sup>	152-55-41	404 <sup>30</sup>	SET SPIKE & LATHE
251	NE. COR. 14/14	156-14-22	456 <sup>72</sup>	156-14-29	456 <sup>71</sup>	SET SPIKE & LATHE
0	SSM. #1	53-31-50	300 <sup>24</sup>			CTR. MH.
0	SSM. #2	161-58-22	577 <sup>91</sup>			CTR. MH.
0	SSM. #3	181-00-42	556 <sup>68</sup>			CTR. MH.
310	NE. P.C. 18/7	15-50-47	256 <sup>725</sup>			CHECK BS.

STA	IN/OUT DIRECTION	SIZE & TYPE	FE INVERT	FE ELEV.	COMMENTS
SSM. #1	IN W.	8" Ø VCP	9 <sup>87</sup>	156 <sup>23</sup>	(TOP OF RIM)
	OUT NE.	8" Ø VCP	10 <sup>23</sup>	155 <sup>82</sup>	CONC. PRECAST MH. WITH BRICK RISER [12' R-R]
					MH. IS 02' S.G. (166 <sup>10</sup> )
					LINE TO W. APPEARS TO RUN @ 9' OFF SW. COR. HSE. IN LOT 5, BLK. 8
SSM. #2	IN N.	8" Ø PVC	11 <sup>60</sup>	152 <sup>70</sup>	CONC. PRECAST MH. WITH BRICK RISER [10' R-R]
	OUT S.	8" Ø PVC	11 <sup>61</sup>	152 <sup>69</sup>	MH. IS 05' A.G. (164 <sup>30</sup> )
SSM. #3	IN N.	8" Ø PVC	10 <sup>41</sup>	152 <sup>99</sup>	CONC. PRECAST MH. WITH BRICK RISER [12' R-R]
	OUT S.	8" Ø PVC	10 <sup>44</sup>	152 <sup>96</sup>	MH IS @ GRD. (163 <sup>40</sup> )

JOB NAME ECHO HILLS SAN. SEWER  
 CREW SLW, TGY, RTF  
 DATE 5/10/91 2 4  
 JOB NO. 60-91226-2  
 WEATHER CLOUDY, MILD, CALM  
 TEMP. 70° 16  
 SEC. 7 T. 275. R. 1W. 6th P.M. INST. ZEISS NI-2, LEIKER ROD, 200' CHAIN  
 BAR. PPM

TITLE X-SECTIONS TOPO ALONG NLY. MID-BLK. RE OF BLKS. # 8 & 14

STA.	10' Lt.	10' Rt.	STA.	10' Lt.	10' Rt.
12+30	4 <sup>2</sup> 164 <sup>1</sup>	3 <sup>2</sup>	15+50	6 <sup>2</sup> 165 <sup>2</sup>	5 <sup>2</sup>

(6<sup>2</sup>)  
 ROD INDEX

T.P.#1 165<sup>2</sup> P-BOB

15+21<sup>2</sup> 5' RT. 165<sup>2</sup> ELX TLX

15+30, 4' Lt. 165<sup>2</sup> FLX ELX

PEC D. Hollingsworth  
 5-29-91

11+89<sup>40</sup> 3<sup>2</sup> 163<sup>2</sup> 3<sup>2</sup>  
 N.P.W

15+00 5<sup>2</sup> 165<sup>2</sup> 5<sup>2</sup>

11+31<sup>40</sup> 3<sup>2</sup> 163<sup>2</sup> 3<sup>2</sup>  
 S.K.W

14+50 5<sup>2</sup> 165<sup>2</sup> 5<sup>2</sup>

11+00 3<sup>2</sup> 163<sup>1</sup> 2<sup>2</sup>

14+00 5<sup>2</sup> 165<sup>1</sup> 5<sup>2</sup>

10+50 3<sup>2</sup> 164<sup>2</sup> 4<sup>2</sup>

13+50 5<sup>2</sup> 164<sup>2</sup> 4<sup>2</sup>

10+00 4<sup>2</sup> 164<sup>30</sup> 3<sup>2</sup>  
 EXIST. MH. 5511<sup>2</sup> N. TOP RIM

13+00 4<sup>2</sup> 164<sup>6</sup> 4<sup>2</sup>

9+96, 11' RT. 163<sup>2</sup> ELR

9+50 3<sup>2</sup> 163<sup>2</sup> 3<sup>6</sup>

12+50 4<sup>2</sup> 164<sup>2</sup> 4<sup>2</sup>

(3<sup>2</sup>)  
 ROD INDEX

BM. # EH-2 161<sup>23</sup>

10' Lt. 10' Rt.

JOB NAME ECHO HILLS SAN. SEWER CREW SLW, TGY, RTF DATE 5/10/91 3  
 JOB NO. 60-91226-2 WEATHER CLOUDY, MILD, CALM TEMP. 75° 17  
 SEC. 7 T. 275 R. 1W 6th P.M. INST. ZEISS NI-2, LENKER ROD, ZOO' CHAIN BAR. PPM  
 TITLE X-SECTION SET TO PO ALONG NLY. MID-BLK. R OF BLK. #8 (CONST.) PE

X-SECT. STA. 10'LT. @ 10'RT.

BM, #EH-3 16415 1/2 (+0.00)

17456<sup>35</sup> 6<sup>3</sup> 166<sup>3</sup> 6<sup>3</sup>  
 P.I. @ R. F.I. FE.

17413<sup>2</sup>, 3'RT. 166<sup>2</sup> SGN, TELE. CABLE ALONG R

17439 6<sup>2</sup> 166<sup>2</sup> 6<sup>2</sup>  
 EXIST. MH. 5'4" L.I. (12 GRD.)  
 N. TOP RIM

17408<sup>2</sup>, 2'RT. 166<sup>2</sup> TLX  
 17406<sup>2</sup>, @ 166<sup>2</sup> FWD, F.I. N.W. N.N.E. 6'

17400 6<sup>2</sup> 166<sup>2</sup> 6<sup>2</sup>

16451, 4'LT. 166<sup>3</sup> ELR

16450 6<sup>2</sup> 166<sup>3</sup> 6<sup>2</sup>

16425 6<sup>2</sup> 166<sup>2</sup> 5<sup>2</sup>

15493, 3'RT. 166<sup>2</sup> TLX

15487<sup>2L</sup> 6<sup>3</sup> 166<sup>2</sup> 6<sup>2</sup>  
 P.I. @ R. FOR COR.

10'LT. @ 10'RT.

JOB NAME ECHO HILLS SAN. SEWER  
 CREW SLW, TGY, RTF  
 DATE 5/10/91  
 JOB NO. 60-91226-2  
 WEATHER CLOUDY, WARM, 10 MPH. SW, TEMP. 75°  
 SEC. 7 T. 27S. R. 1W. 6th P.M. INST. ZEISS NI-2, LEIKER ROD, ZOO' CHAIN  
 BAR. PPM

TITLE X-SECTIONS & TOPO ALONG R IN BLK. #7

				55+73, 18° Lt. 165 <sup>B</sup>	SWB, OC, SSW, NNE				
	10' Lt.	8°	168 <sup>B</sup>	10' Rt.	7°	55+73, 14° Lt. 166 <sup>B</sup>	TRD, 2, 4		
52+50						56+25	6 <sup>B</sup>	166 <sup>B</sup>	
							10' Lt.	8°	
							10' Rt.	6 <sup>B</sup>	
52+50 <sup>S</sup> , 11° Lt.	167 <sup>B</sup>	TRD, 1, 2		55+74 <sup>0</sup> , 166 <sup>B</sup>					
52+50, 16° Lt.	166 <sup>B</sup>	SWB, RC, SSE, NNW		55+59, 15° Lt.	TRD, 2, 3				
52+00, 4° Lt.	167 <sup>B</sup>	SWB, OC, SSE, NNW		55+58 <sup>S</sup> , 5° Rt.	166 <sup>B</sup>	TLX			
52+00	7 <sup>B</sup>	167 <sup>B</sup>	6 <sup>B</sup>	55+50	7 <sup>B</sup>	167 <sup>B</sup>	6 <sup>B</sup>		
50+79 <sup>S</sup> , 2° Lt.	167 <sup>B</sup>	SWB, OC, S, NNW		55+48, 20° Lt.	165 <sup>B</sup>	SWB, OC, S, NNE			
51+57, 4° Lt.	167 <sup>B</sup>	SWB, OC, SSW, N		55+18 <sup>S</sup> , 13° Lt.	167 <sup>B</sup>	TRD, 2, 4			
51+56 <sup>S</sup> , 2° Lt.	167 <sup>B</sup>	ELH, OT, N, S ELP, ELD		55+48, 14° Lt.	167 <sup>B</sup>	TRD, 2, 4			
51+56(BK.)	7 <sup>B</sup>	167 <sup>B</sup>	7 <sup>B</sup>	55+00	7 <sup>B</sup>	166 <sup>B</sup>	6 <sup>B</sup>		
				55+00, 18° Lt.	166 <sup>B</sup>	SWB, OC, SSE, N			
				55+00, 14° Lt.	177 <sup>B</sup>	TRD, 1, 3			
51+00	7 <sup>B</sup>	167 <sup>B</sup>	7 <sup>B</sup>	54+50	6 <sup>B</sup>	167 <sup>B</sup>	6 <sup>B</sup>		
<p>NOTE - "SWB" OR "SWC"        THIS PAGE IS        BACK OF 4' CONC. WALK</p>									
50+50	7 <sup>B</sup>	167 <sup>B</sup>	7 <sup>B</sup>	54+56, 12° Lt.	166 <sup>B</sup>	SWC, RC, SSE, NNW			
				54+00	6 <sup>B</sup>	7 <sup>B</sup>	167 <sup>B</sup>	8 <sup>B</sup>	
								5 <sup>B</sup>	
				54+84, 12° Lt.	167 <sup>B</sup>	TRD, 1, 3			
				54+18, 2° Lt.	167 <sup>B</sup>	ELR			
50+00	7 <sup>B</sup>	166 <sup>B</sup>	6 <sup>B</sup>	54+09 <sup>S</sup> , 1° Lt.	167 <sup>B</sup>	ELH, OT, N, S ELP, ELD			
				53+50	6 <sup>B</sup>	167 <sup>B</sup>	7 <sup>B</sup>		
				53+95, 5° Lt.	166 <sup>B</sup>	SWC, OC, SSW, NNW			
				53+50, 12° Lt.	166 <sup>B</sup>	SWC, RC, SSW, NNE			
49+50	6 <sup>B</sup>	166 <sup>B</sup>	6 <sup>B</sup>	53+24, 15° Lt.	167 <sup>B</sup>	TRD, 1, 3			
				53+00	8 <sup>B</sup>	167 <sup>B</sup>	7 <sup>B</sup>		
						10' Lt.	8°	10' Rt.	
				53+10, 16° Lt.	167 <sup>B</sup>	TRD, 1, 2			
B.M. # EH-4	165 <sup>B</sup>			52+97, 21° Lt.	166 <sup>B</sup>	SWB, OC, SSE, N			
				52+91, 16° Lt.	167 <sup>B</sup>	TRD, 1, 2			
				52+73, 16° Lt.	167 <sup>B</sup>	TRD, 1, 0			







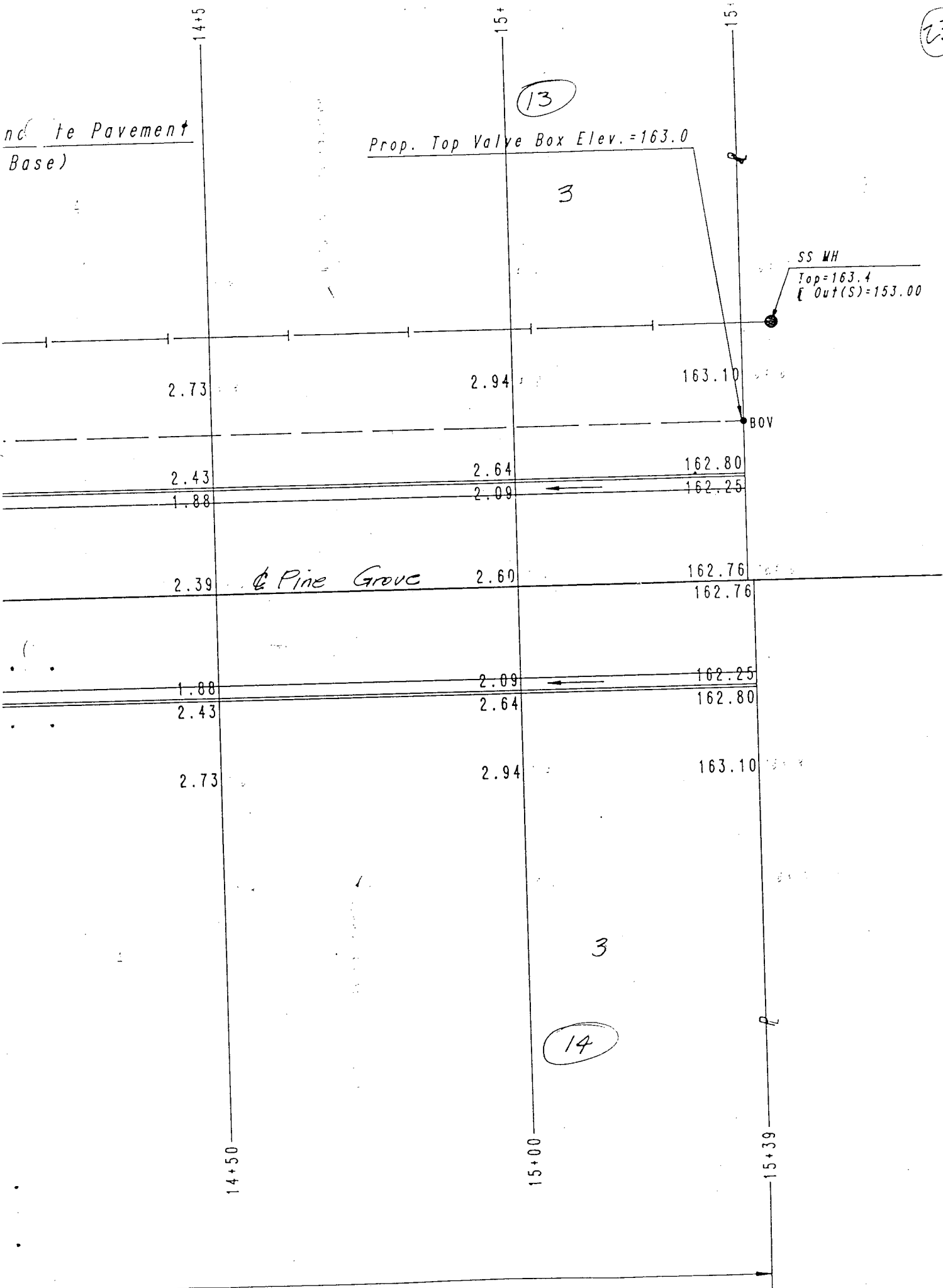


23

nd te Pavement  
Base)

Prop. Top Valve Box Elev. = 163.0

SS MH  
Top = 163.4  
Out(S) = 153.00



13

14

(24)

14

7" Asphaltic Concrete Pavement  
(5" Bituminous Base)

Prop. Top Valv  
Prop. FH Bury

19

25+50

26+00

26+25.93

1.26

1.42

161.50

0.96

1.12

161.20

0.41

0.57

160.65

0.92

1.08

161.16

@ Judith

0.41

0.57

161.13TC  
160.58E

0.96

1.12

1.26

1.42

161.43

13

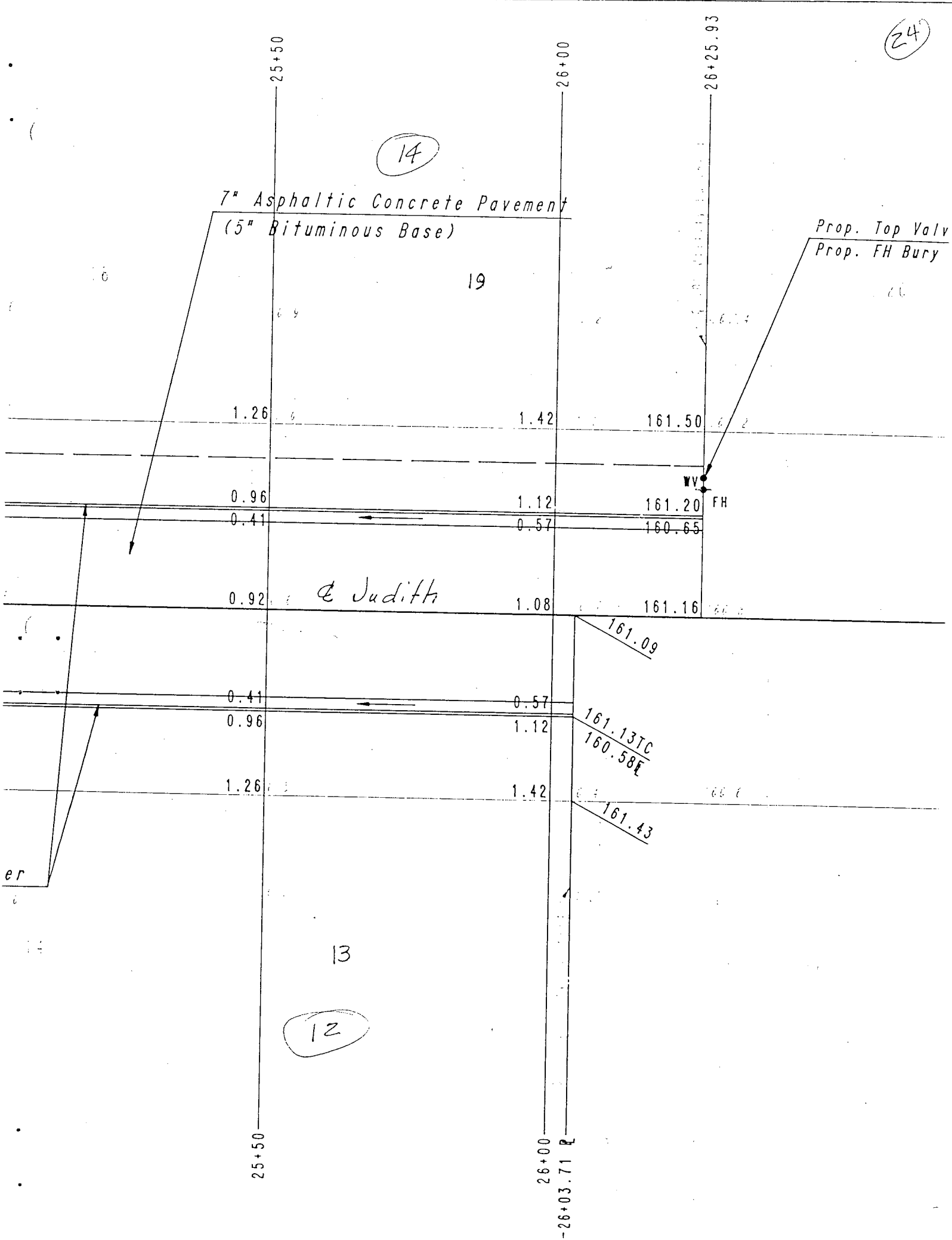
12

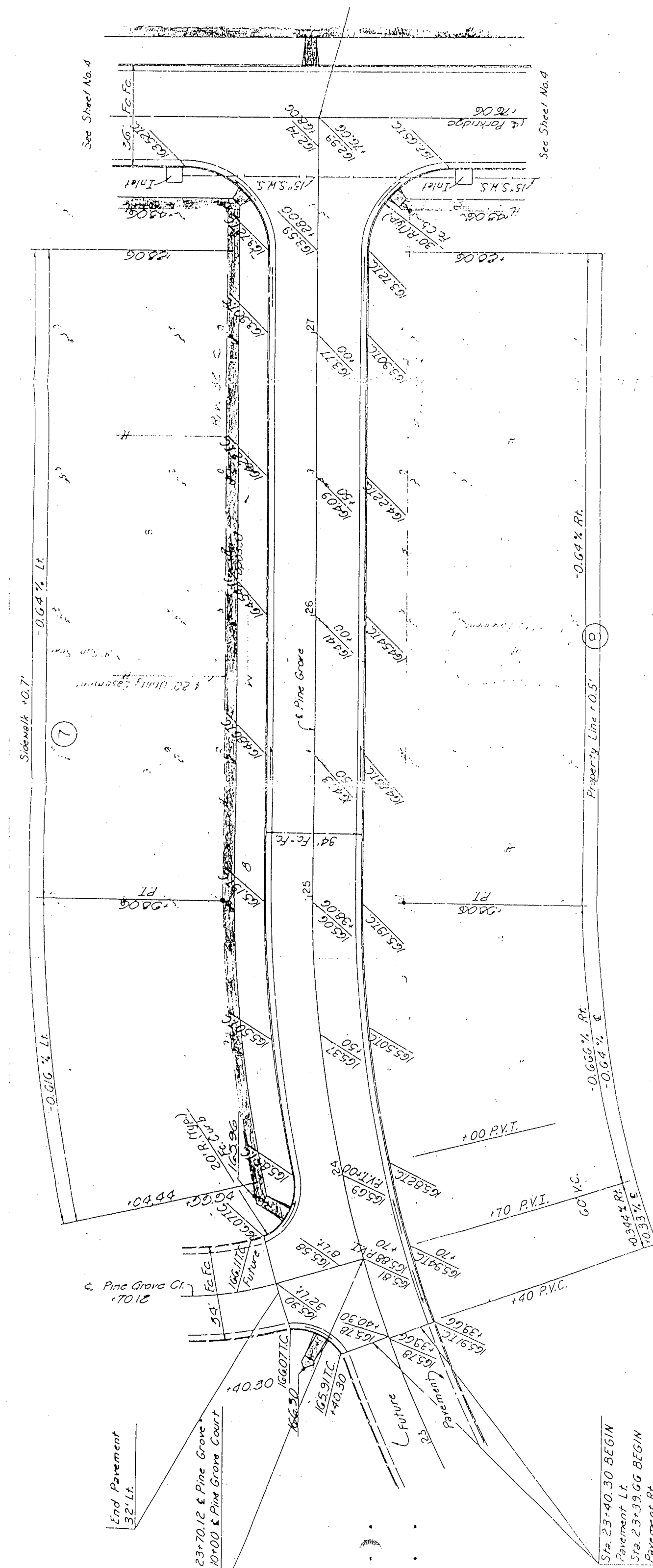
25+50

26+00

-26+03.71 R

er





CURVE DATA BASED ON  $\epsilon$  RADIUS  $\Delta/2 + 2\epsilon = 1000'$

STATION	CHORD LENGTH		DEFLECTION ANGLE		TOTAL DEFLECTION
	ARC	FACE CURVE	FACE CURVE	FACE CURVE	
23+38.00					0°00'00"

Curve Data  
 $\Delta = 52^{\circ}20'00''$   
 $D = 13^{\circ}04'52''$   
 $R = 1000'$

End Pavement 32.1 Lt.  
 23+70.12  $\epsilon$  Pine Grove  
 24+10+00  $\epsilon$  Pine Grove Court  
 25+40.30  
 26+66.30  
 27+91.70  
 29+17.10  
 30+42.50  
 31+67.90  
 32+93.30  
 34+18.70  
 35+44.10  
 36+69.50  
 37+94.90  
 39+20.30  
 40+45.70  
 41+71.10  
 42+96.50  
 44+21.90  
 45+47.30  
 46+72.70  
 47+98.10  
 49+23.50  
 50+48.90  
 51+74.30  
 52+99.70  
 54+25.10  
 55+50.50  
 56+75.90  
 57+101.30  
 58+26.70  
 59+52.10  
 60+77.50  
 61+102.90  
 62+128.30  
 63+153.70  
 64+179.10  
 65+204.50  
 66+229.90  
 67+255.30  
 68+280.70  
 69+306.10  
 70+331.50  
 71+356.90  
 72+382.30  
 73+407.70  
 74+433.10  
 75+458.50  
 76+483.90  
 77+509.30  
 78+534.70  
 79+560.10  
 80+585.50  
 81+610.90  
 82+636.30  
 83+661.70  
 84+687.10  
 85+712.50  
 86+737.90  
 87+763.30  
 88+788.70  
 89+814.10  
 90+839.50  
 91+864.90  
 92+890.30  
 93+915.70  
 94+941.10  
 95+966.50  
 96+991.90  
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 99+1068.10  
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 101+1118.90  
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 104+1195.10  
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 107+1271.30  
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 111+1372.90  
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 113+1423.70  
 114+1449.10  
 115+1474.50  
 116+1500.00  
 117+1525.40  
 118+1550.80  
 119+1576.20  
 120+1601.60  
 121+1627.00  
 122+1652.40  
 123+1677.80  
 124+1703.20  
 125+1728.60  
 126+1754.00  
 127+1779.40  
 128+1804.80  
 129+1830.20  
 130+1855.60  
 131+1881.00  
 132+1906.40  
 133+1931.80  
 134+1957.20  
 135+1982.60  
 136+2008.00  
 137+2033.40  
 138+2058.80  
 139+2084.20  
 140+2109.60  
 141+2135.00  
 142+2160.40  
 143+2185.80  
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 146+2262.00  
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 161+2643.00  
 162+2668.40  
 163+2693.80  
 164+2719.20  
 165+2744.60  
 166+2770.00  
 167+2795.40  
 168+2820.80  
 169+2846.20  
 170+2871.60  
 171+2897.00  
 172+2922.40  
 173+2947.80  
 174+2973.20  
 175+2998.60  
 176+3024.00  
 177+3049.40  
 178+3074.80  
 179+3100.20  
 180+3125.60  
 181+3151.00  
 182+3176.40  
 183+3201.80  
 184+3227.20  
 185+3252.60  
 186+3278.00  
 187+3303.40  
 188+3328.80  
 189+3354.20  
 190+3379.60  
 191+3405.00  
 192+3430.40  
 193+3455.80  
 194+3481.20  
 195+3506.60  
 196+3532.00  
 197+3557.40  
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 199+3608.20  
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 201+3659.00  
 202+3684.40  
 203+3709.80  
 204+3735.20  
 205+3760.60  
 206+3786.00  
 207+3811.40  
 208+3836.80  
 209+3862.20  
 210+3887.60  
 211+3913.00  
 212+3938.40  
 213+3963.80  
 214+3989.20  
 215+4014.60  
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 218+4090.80  
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 221+4167.00  
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 249+4878.20  
 250+4903.60  
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 252+4954.40  
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 255+5030.60  
 256+5056.00  
 257+5081.40  
 258+5106.80  
 259+5132.20  
 260+5157.60  
 261+5183.00  
 262+5208.40  
 263+5233.80  
 264+5259.20  
 265+5284.60  
 266+5310.00  
 267+5335.40  
 268+5360.80  
 269+5386.20  
 270+5411.60  
 271+5437.00  
 272+5462.40  
 273+5487.80  
 274+5513.20  
 275+5538.60  
 276+5564.00  
 277+5589.40  
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 280+5665.60  
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 613+14127.00  
 614+14152.40  
 615+14177.80  
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 618+14254.00  
 619+14279.40  
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 622+14355.60  
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 672+15625.60  
 673+15651.00  
 674+15676.40  
 675+15701.80  
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 686+15981.20  
 687+16006.60  
 688+16032.00  
 689+16057.40  
 690+16082.80  
 691+16108.20  
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 706+16489.20  
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 710+16590.80  
 711+16616.20  
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 713+16667.00  
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 719+16819.40  
 720+16844.80  
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 722+16895.60  
 723+16921.00  
 724+16946.40  
 725+16971.80  
 726+16997.20  
 727+17022.60  
 728+17048.00  
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 730+17098.80  
 731+17124.20  
 732+17149.60  
 733+17175.00  
 734+17200.40  
 735+17225.80  
 736+17251.20  
 737+17276.60  
 738+17302.00  
 739+17327.40  
 740+17352.80  
 741+17378.20  
 742+17403.60  
 743+17429.00  
 744+17454.40  
 745+17479.80  
 746+17505.20  
 747+17530.60  
 748+17556.00  
 749+17581.40  
 750+17606.80  
 751+1763



JOB NAME Echo Hills Streets	CREW DH, SC, MG	DATE 5-9-91	1
JOB NO. 91226-042	WEATHER cloudy calm	TEMP. 70°	26
SEC. SW 7 T. 275 R. 1W 6th P.M.	INST.	BAR.	PPM 27

TITLE street sta. & layout PEC

Judith St & Sta.		Pine Grove St & Sta.	
25+50		15+00	
26+03 <sup>71</sup>	N R 13/12	15+50	
26+50		16+00	
27+00		16+50	
27+50		16+75 <sup>04</sup>	
27+72 <sup>83</sup>		17+09 <sup>04</sup>	ctr 14 <sup>th</sup>
28+06 <sup>93</sup>	ctr intersect 14 <sup>th</sup>	17+43 <sup>04</sup>	
28+40 <sup>93</sup>		18+00	
28+50		18+50	
29+00		19+00	
29+50		19+50	
30+00		20+00	
30+50		20+50	
31+00		20+98 <sup>00</sup>	PC
31+50		21+50	
31+95 <sup>83</sup>	PC	22+00	
32+50	PT Ahead 32+52 <sup>48</sup>	22+50	
33+00	PT Back 32+61 <sup>77</sup>	23+00	
33+18 <sup>32</sup>	PT	23+50	
<hr/>		23+70 <sup>12</sup>	ctr. ct.
14 <sup>th</sup> St & Sta		24+00	
40+00	ctr 119 <sup>th</sup> St W	24+50	
40+50		24+98 <sup>06</sup>	PT
41		Pine Grove Court St & Sta	
41+50		10+00	
41+65		10+32	
42+02	ctr Pine Grove	10+40 <sup>59</sup>	PC
42+39		10+50	
42+50		11+00	
43		11+50 <sup>83</sup>	PT
43+50		12+00	
44		12+40 <sup>73</sup>	ctr court
44+5		A - G	
44+69			
117.1			

JOB NAME *Echo Hills Streets* CREW *DH, SC, MG* DATE *5-9-91* 2  
 JOB NO. *91226-042* WEATHER *cloudy calm* TEMP. *70°* 28  
 SEC. *SW7* T. *275* R. *1W* 6th P.M. INST. *T2-C2* BAR. PPM

TITLE *Street sta. & lay out* PEC

<i>Pine Grove st &amp; sta.</i>											
<i>Rad 438 Δ 52-20-00 Tan 215.21</i>											
<i>π</i>	<i>&amp; st</i>	<i>PC</i>	<i>sta</i>	<i>20</i>	<i>+98<sup>00</sup></i>	<i>BS</i>	<i>100-00-00</i>	<i>&amp; st</i>	<i>sta</i>	<i>24+98<sup>06</sup></i>	<i>PT</i>
<i>sta</i>	<i>X</i>		<i>LC</i>		<i>SC</i>						
<i>21+50</i>	<i>337-14-05</i>		<i>51.97</i>								
<i>22+0</i>	<i>340-30-18</i>		<i>101.77</i>		<i>49.97</i>						
<i>22+50</i>	<i>343-46-31</i>		<i>151.24</i>		<i>49.97</i>						
<i>23+0</i>	<i>347-02-44</i>		<i>200.21</i>		<i>49.97</i>						
<i>23+50</i>	<i>350-18-57</i>		<i>248.54</i>		<i>49.97</i>						
<i>23+70<sup>12</sup></i>	<i>351-37-55</i>		<i>267.76</i>		<i>20.12</i>			<i>ct inter</i>	<i>Pine Grove Court</i>		
<i>24+0</i>	<i>353-35-11</i>		<i>296.05</i>		<i>29.87</i>						
<i>24+50</i>	<i>356-51-24</i>		<i>342.60</i>		<i>49.97</i>						
<i>24+98<sup>06</sup></i>	<i>00-00-00</i>		<i>386.29</i>		<i>48.04</i>						

*PI Tan A Head 22+82<sup>85</sup> Tan Back 23+13<sup>21</sup>*

JOB NAME Echo Hills streets	CREW $\Phi$ $\bar{\pi}$ $\Phi$ DH, CB, MG	DATE 5-10-91	1
JOB NO. 91226-04C	WEATHER Cloudy calm	TEMP. 70	29
SEC. SW 7 T. 275 R. 1W 6th P.M.	INST. Leica 27346 2 std $\Phi$	BAR.	PPM
TITLE Bm Run			PEC

EH-4				165.13	set chis "H" B/L @ PC Lot 4 Blk B 1704 Pine Grove
EH-3				164.15	set chis "D" B/L @ PC Lot 12 Blk B 1609 Judith
EH-2				161.03	set chis "D" B/L N end drive way return Lot 13 Blk 12 1456 Judith
EH-1				168.66	End RR spk w side H&P NE cor 14 <sup>th</sup> st W of 119 <sup>th</sup> st W
EH-1	1.39				
EH-2		-7.63	9 <sup>42</sup>		
EH-2	7.42				
EH-3		3.12	4 <sup>30</sup>		
EH-3	6.96				
EH-4		0.98	5.98		
EH-4	6.33				
①	5.82		4 <sup>41</sup>		
EH-1		3.54			
			4.20		
		70.01			

$\frac{72.15}{5.82} = 12.41$   
 $\frac{27.93}{1.48} = 18.87$   
 $\frac{1.91}{1.57} = 1.21$

B  
A  
φ

JOB NAME Echo Hills Streets	CREW DH, CB, MB	DATE 5-10-91	C
JOB NO. 91226-04Z	WEATHER cloudy calm	TEMP. 70	30
SÉC. SW 7 T. 275 R. 1W 6th P.M.	INST. Leitz 27346 lensker	BAR.	PPM
TITLE Judith Street Top & X-section.			PEC

27+50							
			162 <sup>0</sup>	162 <sup>0</sup>	161 <sup>7</sup>	161 <sup>3</sup>	161 <sup>0</sup>
			50	32	0	32	50

27+00							
			161 <sup>5</sup>	161 <sup>8</sup>	161 <sup>3</sup>	161 <sup>1</sup>	160 <sup>9</sup>
			50	32	0	32	50

26+50							
			161 <sup>3</sup>	161 <sup>3</sup>	160 <sup>7</sup>	160 <sup>6</sup>	160 <sup>3</sup>
			50	32	0	32	50

26+03		21 <sup>5</sup>	161 <sup>4</sup>	WMT			
26+26	22 <sup>5</sup>		161 <sup>63</sup>	WFH. @ Flange			
26+26	24 <sup>5</sup>		161 <sup>38</sup>	WVL.			
26+27	24 <sup>5</sup>		161 <sup>1</sup>	WLN. PE S. stab = 3 <sup>5</sup> = 150.0			

26+27 <sup>0</sup>							
			62 <sup>5</sup>	61 <sup>5</sup>	24 <sup>89</sup>	60 <sup>75</sup>	160 <sup>98</sup>
			52	32	17 <sup>5</sup>	16 <sup>5</sup>	15
							0
							TOL FLL HEC CFC

26+03 <sup>71</sup>	End Existing Pavmt Rt.						
			160 <sup>91</sup>	60 <sup>60</sup>	60 <sup>54</sup>	61 <sup>13</sup>	60 <sup>6</sup>
			0	15 <sup>5</sup>	16 <sup>5</sup>	17 <sup>5</sup>	32 <sup>5</sup>
							CRA HEC FLL TOL

25+68							
			62 <sup>5</sup>	62 <sup>1</sup>	61 <sup>24</sup>	60 <sup>49</sup>	160 <sup>55</sup>
			52	32	17 <sup>5</sup>	16 <sup>5</sup>	15
							0
							15
							16 <sup>5</sup>
							17 <sup>5</sup>
							32 <sup>5</sup>
							TOL FLL HEC CRA HEC FLL TOL TOL

a     $\frac{\square}{\wedge}$      $\phi$

JOB NAME <i>Echo Hills Streets</i>	CREW <i>DH, CB, MG</i>	DATE <i>5-10-91</i>	<i>3</i>
JOB NO. <i>91226-042</i>	WEATHER <i>cloudy calm</i>	TEMP. <i>70°</i>	<i>31</i>
SEC. <i>SW 7 T. 27S R. 1W</i> 6th P.M.	INST. <i>Leitz</i> <i>leaker</i>	BAR.	PFM
TITLE <i>x-sect Judith</i>			PEC

<i>30+00</i>					<i>163<sup>6</sup></i>	<i>163<sup>6</sup></i>	<i>163<sup>2</sup></i>	<i>162<sup>8</sup></i>	<i>162<sup>5</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>29+50</i>					<i>163<sup>3</sup></i>	<i>163<sup>4</sup></i>	<i>163<sup>0</sup></i>	<i>162<sup>6</sup></i>	<i>162<sup>3</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>29+00</i>					<i>162<sup>9</sup></i>	<i>163<sup>0</sup></i>	<i>162<sup>6</sup></i>	<i>162<sup>3</sup></i>	<i>162<sup>0</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>28+50</i>					<i>162<sup>6</sup></i>	<i>162<sup>7</sup></i>	<i>162<sup>3</sup></i>	<i>161<sup>9</sup></i>	<i>161<sup>6</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>28+40.93</i>					<i>162<sup>6</sup></i>	<i>162<sup>7</sup></i>	<i>162<sup>3</sup></i>	<i>161<sup>9</sup></i>	<i>161<sup>6</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>28+06.93</i>					<i>162<sup>4</sup></i>	<i>162<sup>3</sup></i>	<i>162<sup>0</sup></i>	<i>161<sup>8</sup></i>	<i>161<sup>3</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>
<i>0</i>				<i>150</i>					
<i>27+72.93</i>					<i>162<sup>1</sup></i>	<i>162<sup>3</sup></i>	<i>161<sup>8</sup></i>	<i>161<sup>6</sup></i>	<i>161<sup>3</sup></i>
					<i>50</i>	<i>32</i>	<i>0</i>	<i>32</i>	<i>50</i>

JOB NAME	Echo Hills Streets	CREW	DH, CB, MG	DATE	5-10-91	4
JOB NO.	91226-042	WEATHER	cloudy calm	TEMP.	70	32
SEC.	SW7 T. 275 R. 1W 6th P.M.	INST.	Lutz	BAR.		PPM

TITLE x-sect / Topo Judith PEC

STATION	LT	RT	make fit	ELEV	DESCRIPTION
33+00	(35)			164 <sup>71</sup>	AHC, 18, 14 <sup>5</sup> , 10, 1 <sup>5</sup> = DRC, PE, N, 13 <sup>1</sup>
32+96		17 <sup>5</sup>		163 <sup>92</sup>	EPA, PI, N, E. - No curb & gutter
32+92		3		164 <sup>25</sup>	CRA, PE, E.
32+90	12'			163 <sup>73</sup>	HEL, PR, E.
32+90	13 <sup>5</sup>			163 <sup>68</sup>	FLC, PE, E.
32+90	14 <sup>5</sup>			164 <sup>27</sup>	TOC. @ w-end. Driveway Return.
32+91	18 <sup>5</sup>				ELL, ELR
32+89	20 <sup>5</sup>			164 <sup>5</sup>	WLN PE, E. stab = 4 <sup>3</sup>
32+82.43	= PI - Ahd. Sta		sta	+ offset a/c on Ahd Tan. Sta.	
BM EH-3				164 <sup>15</sup>	
32+50				165 <sup>2</sup>	165 <sup>7</sup> 165 <sup>1</sup> 164 <sup>8</sup> 164 <sup>4</sup>
				50	32 0 32 50
31+95.93	PC			165 <sup>4</sup>	165 <sup>1</sup> 164 <sup>8</sup> 164 <sup>3</sup> 163 <sup>9</sup>
				50	32 0 32 50
31+50				164 <sup>6</sup>	164 <sup>7</sup> 164 <sup>2</sup> 163 <sup>7</sup> 163 <sup>5</sup>
				50	32 0 32 50
31+00				164 <sup>5</sup>	164 <sup>4</sup> 164 <sup>0</sup> 163 <sup>7</sup> 163 <sup>3</sup>
				50	32 0 32 50
30+50				164 <sup>0</sup>	163 <sup>8</sup> 163 <sup>5</sup> 163 <sup>0</sup> 162 <sup>7</sup>
				50	32 0 32 50

JOB NAME Echo Hills Streets	CREW DH, CB, MG	DATE 5-10-91	5
JOB NO. 91226-042	WEATHER cloudy calm	TEMP. 70	33
SEC. SW 7 T. 27S R. 1W 6th P.M.	INST. Leitz linker	BAR.	PPM
TITLE x-sect / Topo Judith 9 14 <sup>th</sup> St N			PEC

40+39	56	167 <sup>16</sup>	SWC, OC, N-S, 4	
40+42 <sup>S</sup>	24 <sup>S</sup>	166 <sup>84</sup>	SWC, PE, N, 4	
40+42	14		WCR, T <sup>S</sup> , 4, 10, N	
40+40	31	6 <sup>9</sup>	WLN, OT, N-S, 12" slab 4 <sup>3</sup>	
40+40	29	6 <sup>8</sup>	WLN, OT, N-S, 12" slab 4 <sup>7</sup>	
40+42	50	6 <sup>79</sup>	SWC, OC, N, S, 4	
40+43	24 <sup>S</sup>	6 <sup>83</sup>	SWC, PE, S, 4	
40+42	14 <sup>S</sup> RT		WCR, T <sup>S</sup> , 4, 10, S	
40+14 <sup>S</sup>		6 <sup>84</sup>	6 <sup>52</sup>	6 <sup>14</sup> 581
TOC		100	43 <sup>S</sup>	44 <sup>S</sup> 100
		OT	PC	PC OT
		N-S		N-S
40+13 <sup>S</sup>		6 <sup>38</sup>	6 <sup>07</sup>	5 <sup>99</sup> 5 <sup>67</sup> 5 <sup>37</sup>
FLL OT N-S		100	43 <sup>S</sup>	0 44 <sup>S</sup> 100
40+12		6 <sup>54</sup>	6 <sup>22</sup>	6 <sup>05</sup> 5 <sup>81</sup> 5 <sup>51</sup>
HEC OT N-S		100	43 <sup>S</sup>	0 44 <sup>S</sup> 100
40+100 dr 119 <sup>th</sup> St		6 <sup>78</sup>	6 <sup>54</sup>	166 <sup>35</sup> 6 <sup>12</sup> 5 <sup>83</sup>
		100	50	0 50 100
CRA OT N-S 14 <sup>th</sup> St N				
EH-1 168.66				

33+26 <sup>B</sup>		66 <sup>3</sup>	64 <sup>2</sup>	64 <sup>03</sup>	63 <sup>49</sup>	63 <sup>56</sup>	163 <sup>89</sup>	63 <sup>55</sup>	63 <sup>49</sup>	164 <sup>02</sup>	16
		50	32	12 <sup>S</sup>	16 <sup>S</sup>	15	0	15	16 <sup>S</sup>	17 <sup>S</sup>	3
				TOC	FLL	HEC	CRA	HEC	FLL	TOC	
								PE	PE	PE	
								E	E	E	
33+18	22'	164 <sup>40</sup>	WMT								164
											50
Judith St											



②  
 2 π φ

JOB NAME Echo Hills sheets	CREW DH, CB, TY	DATE 5-13-91	1
JOB NO. 91226-04Z	WEATHER partly cloudy calm	TEMP. 90	35
SEC. SW 7 T. 275 R. 1W 6th P.M.	INST. Leitz 27346 lensker	BAR.	PPM

TITLE Pine Grove x-section / Topo

17+09 <sup>04</sup>	6 <sup>2</sup> 5 <sup>T</sup> 5 <sup>4</sup> 4 <sup>8</sup> 4 <sup>5</sup>	19+50	6 <sup>8</sup> 6 <sup>6</sup> 6 <sup>3</sup> 6 <sup>0</sup> 6 <sup>0</sup>
	52 32 0 32 52		52 32 0 32 52
		0651	
16+75 <sup>04</sup>	6 <sup>4</sup> 5 <sup>T</sup> 5 <sup>T</sup> 4 <sup>T</sup> 4 <sup>4</sup>	19+100	6 <sup>8</sup> 6 <sup>5</sup> 6 <sup>1</sup> 5 <sup>9</sup> 5 <sup>8</sup>
	52 32 0 32 52		52 32 0 32 52
16+50	5 <sup>6</sup> 5 <sup>3</sup> 5 <sup>2</sup> 4 <sup>5</sup> 4 <sup>2</sup>	18+50	6 <sup>6</sup> 6 <sup>5</sup> 6 <sup>0</sup> 5 <sup>8</sup> 5 <sup>5</sup>
	52 32 0 32 52		52 32 0 32 52
16+00	5 <sup>1</sup> 4 <sup>9</sup> 3 <sup>8</sup> 3 <sup>4</sup> 3 <sup>2</sup> 4 <sup>0</sup> 4 <sup>0</sup>	18+00	6 <sup>5</sup> 6 <sup>2</sup> 5 <sup>8</sup> 5 <sup>6</sup> 5 <sup>3</sup>
	52 32 20 0 20 32 52		52 32 0 32 52
15+50	4 <sup>0</sup> 3 <sup>T</sup> 3 <sup>3</sup> 2 <sup>T</sup> 2 <sup>9</sup> 3 <sup>T</sup> 3 <sup>T</sup>	17+43 <sup>04</sup>	6 <sup>3</sup> 6 <sup>0</sup> 5 <sup>5</sup> 5 <sup>3</sup> 4 <sup>8</sup>
	52 32 20 0 20 32 56		52 32 0 32 52
15+39	PVMT end	3 <sup>5</sup> 3 <sup>1</sup> 2 <sup>88</sup> 2 <sup>33</sup> 2 <sup>38</sup> 16 <sup>68</sup> 2 <sup>29</sup> 2 <sup>25</sup> 2 <sup>80</sup> 3 <sup>5</sup> 4 <sup>5</sup>	
		52 32 17 <sup>5</sup> 16 <sup>5</sup> 15 0 15 16 <sup>5</sup> 17 <sup>5</sup> 32 52	
		R TOL FLC HEC CRA HEC FLC TOL R	
15+47	21 <sup>5</sup>	GLN PE 51	
15+40	42	16.3 <sup>40</sup> rim = ground 55m #3	
15+37	26 <sup>5</sup>	16.3 <sup>0</sup> WLN, slab 40 WLN, PE, 5 Top = 159°	
15+00	23 <sup>5</sup>	GLN, OT, N-5	
15+00	27 <sup>5</sup>	WLN, OT, N-5	
15+21 <sup>5</sup>	32 RT	AHC, 18, 14 <sup>5</sup> , 10, 1 <sup>5</sup> = DRC PE E 18	
15+00		3 <sup>5</sup> 2 <sup>9</sup> 2 <sup>67</sup> 2 <sup>12</sup> 2 <sup>0</sup> 16 <sup>62</sup> 2 <sup>12</sup> 2 <sup>07</sup> 2 <sup>62</sup> 3 <sup>2</sup> 4 <sup>2</sup>	
		52 32 17 <sup>5</sup> 16 <sup>5</sup> 15 0 15 16 <sup>5</sup> 17 <sup>5</sup> 32 52	
		R TOL FLC HEC CRA HEC FLC TOL R	
EH-1	11211		



E   T   P  
Q   A   P

JOB NAME <i>Echo Hills streets</i>	CREW <i>DH, CB, TY</i>	DATE <i>5-13-91</i>	3
JOB NO. <i>91226-042</i>	WEATHER <i>partly cloudy</i>	TEMP. <i>90</i>	37
SEC. <i>SW 7 T. 275 R. 1W</i> 6th P.M.	INST. <i>Leica 27346</i>	BAR.	PPM

TITLE *Topo Pine Grove & Pine Grove Court intersection* PE

			<i>165<sup>50</sup></i>		<i>HEC</i>	
			<i>165<sup>41</sup></i>		<i>FLC</i>	} CST
<i>23+37</i>	<i>12</i>		<i>166<sup>01</sup></i>		<i>TOC</i>	
<i>23+32</i>	<i>0</i>		<i>166<sup>11</sup></i>		<i>SWC, PE, E</i>	
<i>23+44</i>	<i>4</i>				<i>WCR 6, 9, 4, W</i>	
			<i>165<sup>64</sup></i>		<i>HEC</i>	} CST
			<i>165<sup>54</sup></i>		<i>FLC</i>	
<i>23+46<sup>5</sup></i>	<i>4<sup>5</sup></i>		<i>166<sup>10</sup></i>		<i>TOC, PE, SSW</i>	
<i>23+42<sup>5</sup></i>	<i>11<sup>5</sup></i>		<i>165<sup>82</sup></i>		<i>CRA, PE, SE</i>	
			<i>165<sup>82</sup></i>		<i>HEC, PE, SE</i>	} CST
			<i>165<sup>78</sup></i>		<i>FLC, PE, SE</i>	
<i>23+79</i>	<i>16</i>		<i>166<sup>30</sup></i>		<i>TOC, PE, SE</i>	
<i>23+85</i>	<i>12</i>				<i>MBX, community</i>	
<i>23+87</i>	<i>8<sup>5</sup></i>				<i>WCR, 6, 9, 4, N</i>	
<i>23+90</i>	<i>19<sup>5</sup></i>		<i>166<sup>55</sup></i>		<i>BSW, PE, NW</i>	
<i>23+93<sup>5</sup></i>	<i>16</i>		<i>166<sup>55</sup></i>		<i>FSW, PE, NE</i>	
<i>24+00</i>	<i>21<sup>5</sup></i>		<i>166<sup>66</sup></i>		<i>BSW, OC, NE, SW</i>	
<i>24+00</i>	<i>17<sup>5</sup></i>		<i>166<sup>55</sup></i>		<i>FSW, OC, NE, SW</i>	
<i>24+01</i>	<i>12</i>		<i>166<sup>18</sup></i>		<i>WVL</i>	
<i>24+01</i>	<i>10<sup>0</sup></i>		<i>166<sup>15</sup></i>	<i>Flange</i>	<i>WFH</i>	
<i>24+02</i>	<i>4<sup>5</sup></i>		<i>165<sup>42</sup></i>		<i>HEC</i>	} CST
<i>24+02</i>	<i>6<sup>0</sup></i>		<i>165<sup>35</sup></i>		<i>FLC</i>	
<i>24+02</i>	<i>7<sup>0</sup></i>		<i>165<sup>85</sup></i>		<i>TOC, PRC, NE, WNW</i>	
<i>24+00</i>	<i>10<sup>5</sup></i>		<i>165<sup>66</sup></i>		<i>CRA, OC, NE, SW</i>	
<i>24+00</i>	<i>27<sup>0</sup></i>		<i>165<sup>32</sup></i>		<i>HEC, OC</i>	} CST
<i>24+00</i>	<i>28<sup>5</sup></i>		<i>165<sup>24</sup></i>		<i>FLC, OC</i>	
<i>24+00</i>	<i>29<sup>5</sup></i>		<i>165<sup>78</sup></i>		<i>TOC, OC</i>	
<i>23+70</i>	<i>53</i>		<i>166<sup>55</sup></i>		<i>AHC, 18, 14<sup>5</sup>, 10, 1<sup>5</sup> = DRC, PE, SE, 18</i>	
<i>23+42<sup>5</sup></i>	<i>28</i>		<i>165<sup>82</sup></i>		<i>CRA, PE, NE</i>	
<i>23+52</i>	<i>50</i>				<i>ELL, ELR</i>	
<i>23+49</i>	<i>42<sup>5</sup></i>		<i>165<sup>38</sup></i>		<i>HEC, PE, NE</i>	
<i>23+49</i>	<i>44</i>		<i>165<sup>31</sup></i>		<i>FLC, PE, NE</i>	
<i>23+49</i>	<i>45</i>		<i>165<sup>83</sup></i>		<i>TOC, PE, NE</i>	
<i>23+40</i>	<i>5</i>		<i>165<sup>93</sup></i>		<i>WLN, PE, ENE, slab 475</i>	
<i>sta</i>	<i>L+</i>	<i>R+</i>	<i>clew</i>		<i>Description</i>	

*Topo on ahead Tan PI sta. 22+82<sup>85</sup>*  
*DT 11 2206*

E T φ

JOB NAME <i>Echo Hills Streets</i>	CREW <i>DH, CB, TY</i>	DATE <i>5-13-91</i>	4
JOB NO. <i>91226-042</i>	WEATHER <i>partly cloudy 15 S</i>	TEMP. <i>90</i>	38
SEC. <i>SW 7 T. 275 R. 1W</i> 6th P.M.	INST. <i>Leitz</i> <i>lenker</i>	BAR.	PPM
TITLE <i>Topo Pine Grove Court</i>			PEC

12+31	31	GAR, PI, E, S
12+31	50	FWD, PI, S, E = GAR, PI S, W
12+16	47	FWD, PI, SW, N, G = GAR PI, SW, N
12+00	33	FWD, PI, S, NE, G = GAR, PI, N, NE
11+50	33	FWD PI N, SE, G
11+24	49	FWD, PI, NW, NE, G

*Topo on, Ahead Tan PI sta 10+91<sup>12</sup>*

JOB NAME Echo Hills Streets	CREW DH, CB, MG	DATE 5-22-91	1
JOB NO. 91226-042	WEATHER cloudy 155	TEMP. 70°	<del>38</del>
SEC SW 7 T. 275 R. 1W 6th P.M.	INST.	BAR.	PPM 39

TITLE Pick up work PEC

K PL 8" steel gas line N-S @ 14" ST N

40+43<sup>S</sup> 25<sup>RT</sup> 166<sup>EB</sup> 31" slab Top pipe = 164<sup>3</sup>  
 40+43<sup>S</sup> 25<sup>LT</sup>

Judit st S end  
 26+25, 26<sup>S</sup> LT WL N 161<sup>Z</sup> slab 3<sup>G</sup> Top pipe 157<sup>G</sup>

House	}	House on 12/12
start on 20/14		" " 13/12
House on 19/14		" " 14/12
House on 18/14		

Pine Grove st S end  
 WVL is in line w/WLN

House on 3/14	Empty lot 3/13
House on 4/14	Empty 4/13
House on 5/14	House on 5/13

Pine Grove st N  
 House on 3/12 House on 21/12  
 " 2/12 " " 22/12

Judith st N  
 House on 10/7  
 9/7  
 5/8  
 4/8  
 3/8

ECHO HILLS

5-22-91

UTILITY LOCATES

1) CTV - No locates required.

2) KG&E - RFJ delivered locate request to Lana @ KG&E 5/21/91. KG&E will advise RFJ when locate is completed. See attached map for area to be located. (Line shaded with yellow hi-liter.)

3) SWB - RFJ contacted Kansas One-Call 5/22/91 (locate # 58057). Upon confirmation call from SWB, RFJ will arrange to deliver map to SWB locate dept. w/area to be flagged shaded yellow. Copy of map attached. CLIFF  
- DONE

✓ 4) KPL/Gas Service - RFJ requested probe/locate at 14th/119th 5/20/91. Calvin @ KPL will advise RFJ when probe is scheduled. This will be a MEET ON SITE. Probe is to be taken at 6' N. of the S. R/W line of 14th. (Map attached) (6" Steel Gas pipeline)

MIKE MORTON  
KPL - 832-3138  
WILL PROBE  
5-22-91 @  
8:30 AM.

NOTIFIED D. HOLLINGSWORTH  
5-22-91 @ 7:50 AM

RFJ

5) ARKLA - RFJ requested locate/probe from Jerry Watkins @ ARKLA 5-21-91. ARKLA has a 6" steel gas main running N-S along the E. R/W of 119th St. (Approx. 52' E. of  $\epsilon$ ) ARKLA will probe @ south line of 14th, flag limits of 14th,  $\frac{1}{2}$  flag beginning 550' N. of  $\epsilon$  14th to 900' N of  $\epsilon$  14th. Jerry W. will advise RFJ when work is complete.

- c) Water - Make second attempt to locate 2 Blowoff valves. See attached map; record location information. Provide probe of  $\psi$  if Blow-off valve is found.

TOPO CLARIFICATION INFO.

- A) Locate east curb line of 119th St. along West line of lots 14-19, Block 7
- B) Clarify topo (drive approach, light pole, water meter) @ Lot 21, Block 8 (Judith St. sta. 33+00±)  
Provide sketch of area.



SWB

# PROJECT AREA



FAX #  
261-0804  
CHRIS DICKER

N 0° 00' E

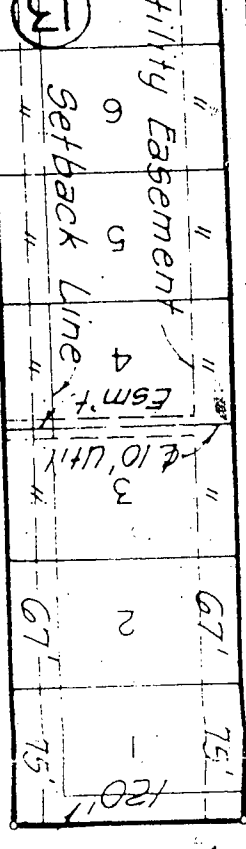
119th STREET WEST

2369' 44"

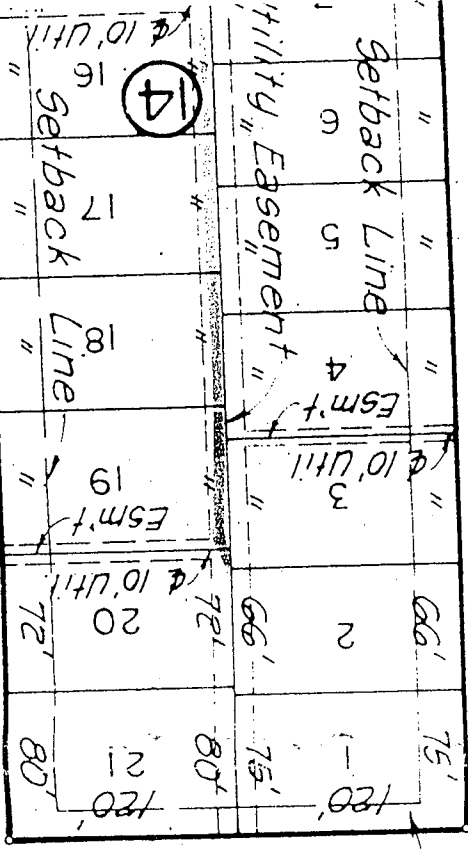
N 90° 00' E

ACCESS CONTROL

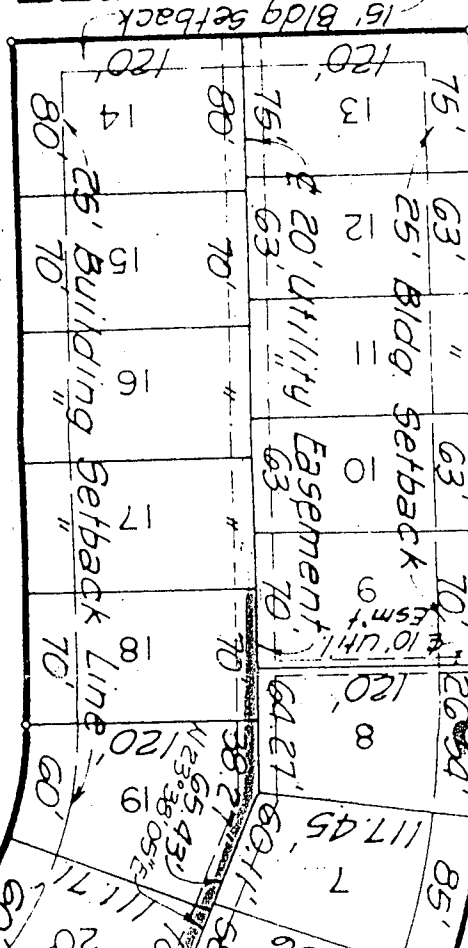
COMPLETE ACCESS CONTROL



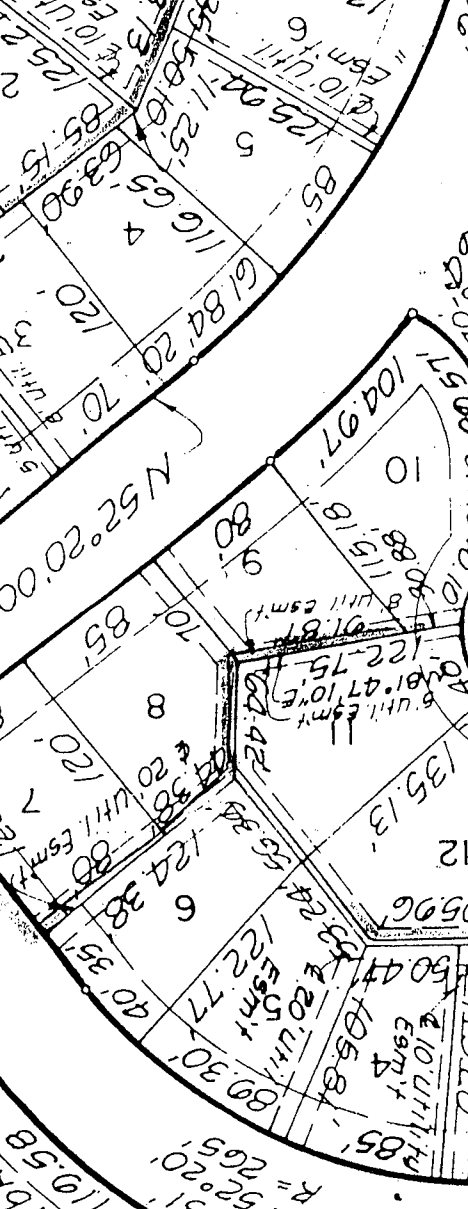
## PINE GROVE



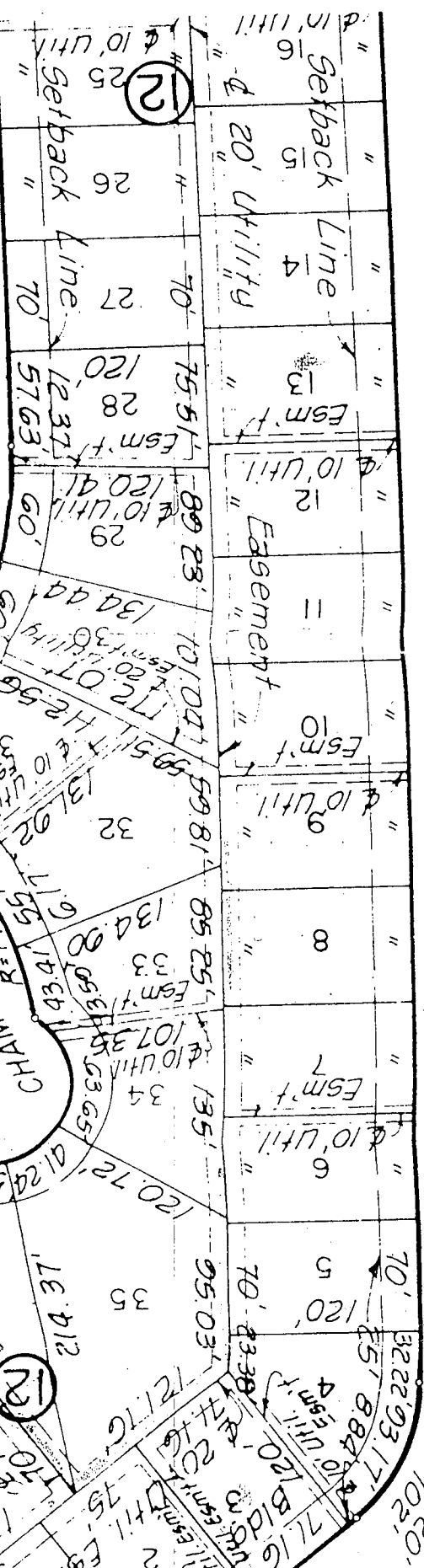
## JUDITH



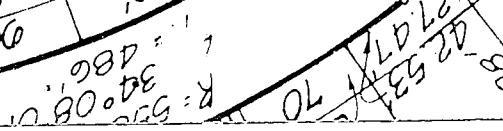
N 0° 00' E



N 52° 20' 00" E



## PARKRIDGE



N 52° 20' E

ET N 10° 00' E

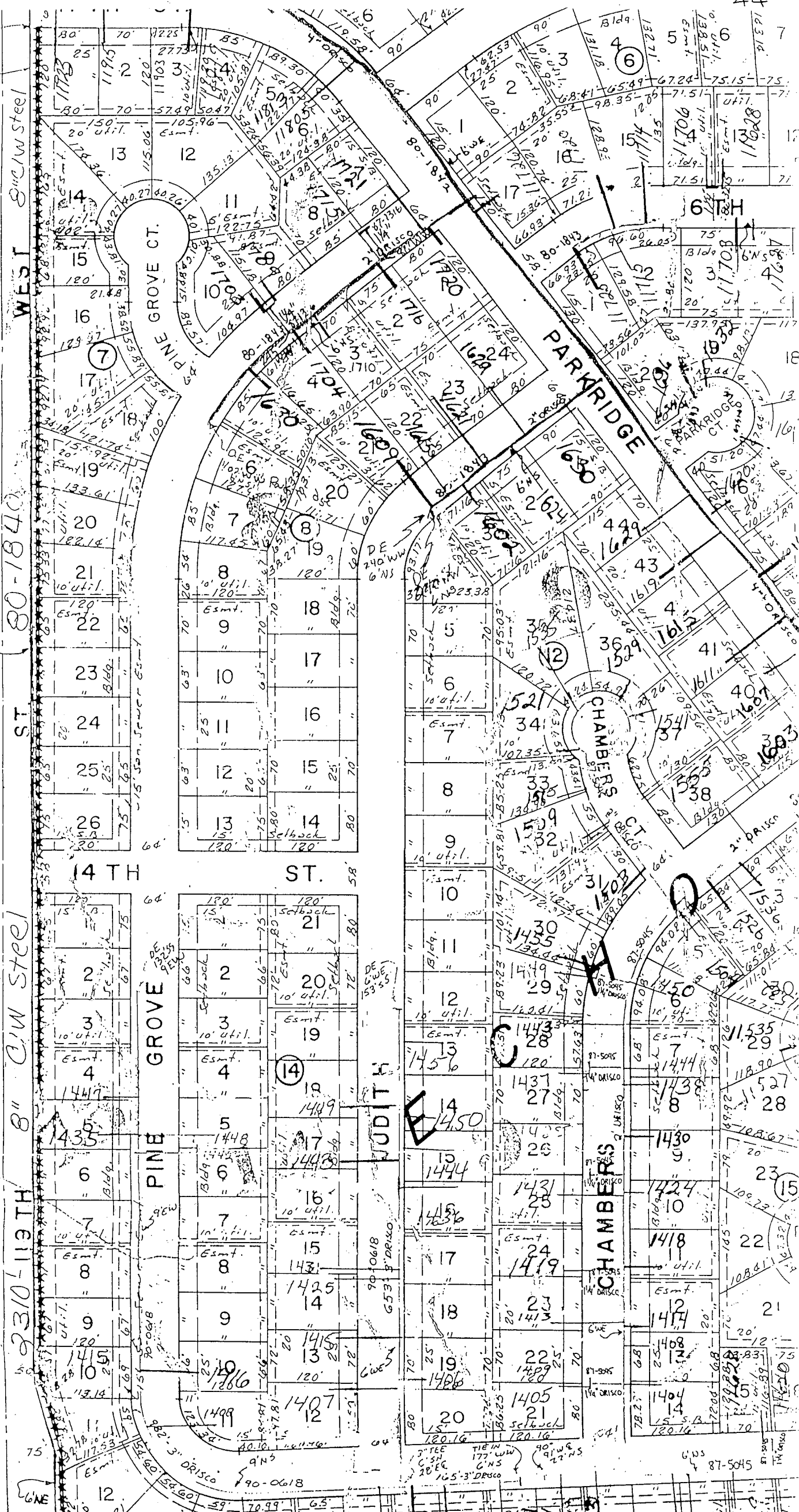
N 52° 20' 00" E

N 90° 00' E

KPL GAS

000

KPL



WEST 8" CW Steel

80-1840

ST

23/0-113TH 8" C/W Steel

ST

8" C.V. WATER

PINE GROVE

PARKRIDGE

CHAMBERS

JUDITH

CHAMBERS

6TH

ST.

14TH

6" W

3" TEE TIE IN 17" W/W C/S 20" DRISCO 16.5-3" DRISCO

6" W 87-5045