

Drawing Name: computations
 Project Name: 04-0401
 Project Path: S:\Projects\2004\04-0401\
 Username: maurym

105 33 7354.846
 7364.226

Number	Northing	Easting	Elevation	Raw Desc	Full Desc
1	10000.0000	10000.0000	0.00		
2	10000.0000	2077.6282	.		
3	10851.6724	8680.0556	.		
4	10297.1204	8679.5774	.		
5	9988.9192	4565.0317	.		
6	10000.0000	8679.3212	.		
7	10000.0000	7358.6424	.		
8	10000.0000	4718.1353	.		
9	9988.2375	4718.0620	.		
10	49964.0281	42027.3313	.	3844-43J1?	3844-43J1?SP1
11	49956.9570	42035.7696	.	3844-43J1?	3844-43J1?1"
12	49957.2815	42039.0184	.	J1?RRSPK	J1?RRSPK
13	49959.0111	39988.4984	.	3844-43J13	3844-43J13?1.
14	49949.1025	37976.9028	.	3844-43RP	3844-43RP
15	49959.5967	39367.4287	.	3844-43I1?	3844-43I1?
16	48809.6979	37970.9755	.	3844-44RP	3844-44RP
17	49943.7759	34721.5222	.	3844-44RP	3844-44RP
18	49961.5877	37357.3386	.	3844-44I13	3844-44I13
19	49961.7599	36631.1075	.	3844-44NAI1	3844-44NAI1
20	49950.7379	33091.5370	.	3844-44rp	3844-44rp
21	49958.1636	33945.0355	.	3844-44I1?	3844-44I1?
22	49963.9367	34720.9151	.	3844-44H13	3844-44H13
23	48002.5967	37980.2926	.	3844-45(38	3844-45(3833-
24	46070.1910	38025.5299	.	3844-45(38	3844-45(3833-
25	45385.5264	31063.7783	.	3844-45RP	3844-45RP
26	49966.2377	32084.1913	.	3844-47g13	3844-47g13
27	49965.5427	31248.6615	.	3844-47g13	3844-47g13
28	49965.1902	30736.5516	.	3844-47fci	3844-47fci
29	49965.1296	30765.9217	.	3844-47fci	3844-47fci
30	49965.0407	30780.0918	.	3844-47FIS	3844-47FIS
31	48381.3495	34662.6529	.	3844-48RP	3844-48RP
32	48429.3206	33946.4777	.	3844-48WAG	3844-48WAG T
33	47107.1884	33947.3264	.	3844-48FC	3844-48FC
34	46664.1762	33190.2074	.	3844-48RP	3844-48RP
35	45061.1387	32786.5441	.	3833-49-23	3833-49-23
36	47029.1806	21642.6328	.	3844-49RP	3844-49RP
37	49849.8900	26051.7424	.	3844-49RP	3844-49RP
38	49954.3236	25887.7404	.	3844-50D-1	3844-50D-1
39	49877.3813	27477.4674	.	3844-50RP	3844-50RP
40	49957.5286	26809.3474	.	3844-50E13	3844-50E13
41	49875.7681	28485.0661	.	3844-50RP	3844-50RP
42	50146.3229	29206.6092	.	3844-51RP	3844-51RP
43	49963.6535	28550.8188	.	3844-51E1FC	3844-51E1FC
44	49964.6912	29446.3748	.	3844-51F13	3844-51F13
45	47967.9772	21272.8191	.	3844-52RP	3844-52RP
46	48929.7546	21465.5090	.	3844-52RP	3844-52RP
47	49944.0510	21547.9352	.	3844-53C13	3844-53C13
48	49952.2190	21572.5771	.	3844-53RP	3844-53RP
49	48631.6269	23806.7854	.	3844-53RP	3844-53RP
50	48928.6155	23685.5517	.	3844-54RP	3844-54RP
51	49685.7810	23688.1589	.	3844-54RP	3844-54RP
52	49940.7107	23777.4350	.	3844-55RP	3844-55RP
53	49948.0852	24180.1925	.	3844-55D13	3844-55D13
54	49991.4837	23247.4917	.	3844-56RP	3844-56RP
55	49944.9653	23224.0410	.	3844-56C1	3844-56C1
56	49985.1707	21065.9075	.	3844-57RP	3844-57RP
57	49981.4565	20754.4096	.	3844-57RP	3844-57RP
58	49995.4093	20005.1695	.	3844-58RP	3844-58RP
59	49956.6097	20613.9910	.	3844-58INT	3844-58INT FI

Number	Northing	Easting	Elevation	Raw Desc	Full Desc
60	49900.4088	19797.4423	.	3844-58RP	3844-58RP
61	49947.7066	20018.0842	.	3844-58FNCI	3844-58FNCPSI
62	50046.2696	19333.4172	.	3844-59RP	3844-59RP
63	49955.5946	19151.1681	.	3844-59A-1	3844-59A-13
64	8915.1636	9986.5312	.	.	.
100	10000.0000	4565.0317	.	.	.
101	9988.2373	4718.1020	.	.	.
106	9997.0589	8679.3187	.	.	.
107	9994.1177	7358.6366	.	.	.
108	9988.2373	4718.1020	.	.	.
200	49962.2370	36628.5399	.	TRIAL	TRIAL
201	11313.8085	9673.5857	.	.	.
202	11349.3041	8601.0329	.	.	.
203	10490.8303	8909.8322	.	.	.
204	11819.6390	8008.5789	.	.	.
205	12180.5028	7641.5028	.	.	.
206	12630.2908	6546.7078	.	.	.
207	12638.4016	2287.0555	.	.	.
208	11404.6251	2574.8154	.	.	.
209	10197.5066	3126.0145	.	.	.
210	9827.8358	3284.9019	.	.	.
211	9951.8751	2714.0219	.	.	.
212	9932.4645	3630.2608	.	.	.
213	9969.6313	2093.6160	.	.	.
215	10624.2721	8696.6644	.	.	.
216	10645.8675	8582.6007	.	.	.
217	10397.3210	8188.8192	.	.	.
218	10262.6673	7843.3969	.	.	.
219	10141.4606	7656.9040	.	.	.
220	9888.1057	3757.4895	.	.	.
221	9904.2396	4484.8906	.	.	.
222	9988.2379	4718.1047	.	.	.
225	6669.2296	4717.0307	.	.	.
226	7332.9460	4420.9868	.	.	.
227	7343.4476	2488.2653	.	.	.
228	7374.9661	2076.2892	.	.	.
229	6100.7293	4965.3080	.	.	.
230	5260.3375	5188.7936	.	.	.
231	4732.1258	4714.9684	.	.	.
232	4808.0238	3808.2310	.	.	.
233	4352.5448	3382.9168	.	.	.
234	4627.5854	2687.2757	.	.	.
235	4767.3010	2505.4444	.	.	.
236	4732.4560	2086.0294	.	.	.
237	7375.7781	850.2944	.	.	.
238	7376.7383	-556.8653	.	.	.
239	8915.1636	9986.5312	.	.	.
240	8348.8460	3957.0749	.	.	.
241	9347.6319	3509.8721	.	.	.
255	49947.4849	23224.1310	.	3844-56C1	3844-56C1
262	49974.4275	45257.6457	.	L-13STONE	L-13STONE
263	49988.8809	47351.9958	.	L-1	L-1
301	48002.5967	37980.2926	0.00	.	.
302	46661.4228	38971.9084	0.00	.	.
303	46070.2877	38025.5281	0.00	.	.
304	46736.3540	38009.9355	0.00	.	.
305	46859.5720	36645.7388	0.00	.	.
306	46722.8315	38041.8052	0.00	.	.
307	46736.0730	38004.9673	0.00	.	.
308	46739.0739	37971.9931	0.00	.	.
309	44086.9915	38022.5808	0.00	.	.
310	43969.0617	39361.1526	0.00	.	.
311	43230.3841	31965.3036	.	3839-76RP	3839-76RP

Number	Northing	Easting	Elevation	Raw Desc	Full Desc
312	42466.5284	32129.9855	.	1839-76POL	1839-76POL
313	45939.0905	38870.4894	0.00		
314	46610.6748	39364.4821	0.00		
315	46612.5740	39364.1888	0.00		
316	43949.7612	39361.2408	0.00		
317	44206.8383	36660.4436	0.00		
318	44434.8063	34270.1096	0.00		
319	41811.0997	34100.3999	0.00		
320	44453.5221	33949.2454	0.00		
321	44852.4128	33189.7715	0.00		
322	41785.8602	33961.9721	0.00		
323	45061.1387	32786.5441	0.00		
324	44075.4691	32441.8391	0.00		
325	43180.8137	32158.4134	0.00		
326	41756.9034	32101.7443	0.00		
327	40491.7867	31705.4502	0.00		
328	41917.0623	32539.6981	0.00		
329	41766.7493	31297.8445	0.00		
330	41773.2467	32152.5826	0.00		
331	41772.6933	32167.5775	0.00		
332	41808.7992	32170.8980	0.00		
333	42102.0176	32160.9752	0.00		
334	39086.6651	31200.3842	0.00		
335	39101.9703	32130.1764	0.00		
336	39089.4589	31322.8314	0.00		
337	39113.4632	33973.9567	0.00		
338	38741.1320	37821.3038	0.00		
339	38860.8376	36659.7627	0.00		
340	40343.6746	38027.9378	0.00		
341	38621.5717	39357.5986	0.00		
342	41526.9540	38026.2440	0.00		
343	41285.1563	39363.2967	0.00		
344	42709.4024	38024.5518	0.00		
345	41543.8944	36630.4669	0.00		
346	41411.7273	38038.3449	0.00		
347	43101.9164	32122.8303	.	3839-76FNC	3839-76FNC
348	42139.8779	33989.3196	0.00		
349	41791.3382	33992.0164	0.00		
350	42124.2756	33960.8215	0.00		
351	42432.1612	32138.6451	-5.73	CL	CL
352	42094.9158	32128.8983	-0.43	CL	CL
353	43100.1050	31892.3391	.	3839-77FIP	3839-77FIP
354	42195.9603	32477.9523	.	ROW	ROW
355	42254.6821	32359.7299	.	ROW	ROW
356	42278.7414	32311.2944	.	SCI	SCI
357	42431.1661	32609.7769	.	3841-45-57I	3841-45-57RP
358	42441.4699	32628.9716	.		
359	42442.6119	33156.1825	.	3841-45-59I	3841-45-59RP
360	42447.2476	33291.5372	.	FIB	FIB
361	42439.9639	33778.1889	.	3841-45-61I	3841-45-61RP
362	42453.7123	33959.8087	.	FIP	FIP
363	42124.2897	33961.7806	.	FIB	FIB
364	43097.0283	31577.5212	.	3839-77FCI	3839-77FCI
365	43093.0141	31290.3737	.	3839-78FCI	3839-78FCI
366	44420.3532	31277.3991	.	3839-78F3	3839-78F3
367	43775.1200	32346.6883	.	3839-78POL	3839-78POL
368	43750.1161	32314.3473	.	3839-79FNC	3839-79FNC
369	43771.9578	32326.8594	.	3839-79FCP	3839-79FCP
370	43852.2395	31978.1100	.	3839-79FCP	3839-79FCP
371	43995.3469	31463.5224	.	3839-79RP	3839-79RP
372	43997.3221	31277.7928	.	3839-79FNC	3839-79FNC
401	47055.7636	25913.6851	.	3814-05D2	3814-05D2
402	45353.0494	25263.7302	.	3814-01RP	3814-01RP

Number	Northing	Easting	Elevation	Raw Desc	Full Desc
403	45342.4871	27857.2556	.	3814-01	3814-01
404	45375.0997	28616.8105	.	3814-01	3814-01
405	46395.1622	28570.7939	.	3814-02RP	3814-02RP
406	46211.4299	28579.0828	.	3814-02RP	3814-02RP
407	44415.5471	28587.2517	.	3814-02	3814-02
408	45361.0781	28580.0971	.	3814-02FIP	3814-02FIP
409	46257.5099	27614.6103	.	3814-02RP	3814-02RP
410	47071.3623	28567.0542	.	3814-02	3814-02
411	47065.6691	27578.1709	.	3814-03FCP	3814-03FCP
412	44386.8905	25937.6300	.	3814-06-21	3814-06-21D3
421	44852.4301	33189.7386	.	3844-48-21	3844-48-21
439	8915.1636	9986.5312	.	.	.
440	8498.3204	10401.6658	.	.	.
451	7360.7165	9994.9662	.	.	.
541	9471.3051	3463.2041	.	.	.
542	9340.5235	4584.1507	.	.	.
543	8355.4068	4723.9438	.	.	.
545	7375.7131	4727.4728	.	.	.
546	4738.2114	-546.2243	.	.	.
547	7368.2316	7355.3299	.	.	.
548	4729.4793	7352.0071	.	.	.
549	4721.2180	9989.8141	.	.	.

PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
 UNITS: U.S. SURVEY FOOT

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New Cogo File
 File Name: untitled
 Size: 100
 Created: 09-07-2004
 Last Edited: 09-07-2004
 Project No.:
 Description:

Using North Azimuths

Self Test - Passed

INSTRUMENT SETUP

Instrument point: 1 10000.0000 10000.0000 G-11
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	1	201	N 45°00'00.0" W	1353.750	10957.2458	9042.7542
TRAV	201	203	S 60°50'53.0" W	1073.140	10434.4900	8105.5478

INSTRUMENT SETUP

Instrument point: 201 10957.2458 9042.7542
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: S 45°00'00.0" E Distance: 1353.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	201	203	S 11°48'54.0" W	1122.770	9858.2630	8812.8644

INSTRUMENT SETUP

Instrument point: 201 10957.2458 9042.7542
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: S 45°00'00.0" E Distance: 1353.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	201	202	S 60°50'53.0" W	1073.140	10434.4900	8105.5478
TRAV	202	204	N 82°36'08.0" W	756.450	10531.8883	7355.3944
TRAV	204	205	N 76°32'11.0" W	514.750	10651.7364	6854.7908
TRAV	205	206	S 81°17'15.0" W	1183.590	10472.4504	5684.8584
TRAV	206	207	S 59°03'42.0" W	4259.660	8282.4943	2031.2580

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TRAV	207	208	S 44°10'34.0" E	1266.890	7373.8793	2914.1107
TRAV	208	209	S 55°35'24.0" E	1327.010	6623.9713	4008.9137
TRAV	209	210	S 54°18'21.0" E	402.370	6389.2051	4335.6956
SIDE	210	211	S 71°12'40.0" W	584.200	6201.0447	3782.6266
TRAV	210	212	N 42°05'53.0" E	360.860	6656.9627	4577.6167
TRAV	212	220	N 78°10'26.0" E	134.740	6684.5766	4709.4967
TRAV	220	221	N 57°40'55.0" E	727.580	7073.5545	5324.3698

INSTRUMENT SETUP

Instrument point: 211 6201.0447 3782.6266
 Backsight point: 210 6389.2051 4335.6956
 Backsight Bearing: N 71°12'40.0" E Distance: 584.200
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	211	213	S 60°35'31.0" W	620.660	5896.2844	3241.9419
TRAV	213	2	N 58°48'44.0" W	34.320	5914.0568	3212.5820
INV	2	1	N 58°57'09.3" E	7922.372	10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644
 Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
SIDE	203	3	N 63°32'08.0" W	427.790	10048.9044	8429.9021
SIDE	203	4	S 18°52'45.0" W	300.900	9573.5505	8715.5012

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644
 Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
SIDE	203	215	N 89°00'04.0" W	251.490	9862.6472	8561.4127
SIDE	203	216	S 09°30'38.0" E	116.090	9743.7687	8832.0459
SIDE	203	217	S 31°09'54.0" E	465.660	9459.8068	9053.8455

TYPE	POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
DELETE	215	9862.6472	8561.4127		
DELETE	216	9743.7687	8832.0459		
DELETE	217	9459.8068	9053.8455		
DELETE	218	-	-		

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644

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Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	203	215	N 89°00'04.0" W	251.490	9862.6472	8561.4127
TRAV	215	216	S 69°40'24.0" W	116.090	9822.3208	8452.5519
TRAV	216	217	S 26°41'36.0" W	465.660	9406.2892	8243.3704
TRAV	217	218	S 37°39'20.0" W	370.740	9112.7752	8016.8805
TRAV	218	219	S 25°55'54.0" W	222.000	8913.1270	7919.8001

INSTRUMENT SETUP

Instrument point: 218 9112.7752 8016.8805
 Backsight point: 217 9406.2892 8243.3704
 Backsight Bearing: N 37°39'20.0" E Distance: 370.740
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	218	219	S 25°55'54.0" W	222.420	8912.7492	7919.6165

INSTRUMENT SETUP

Instrument point: 221 7073.5545 5324.3698
 Backsight point: 220 6684.5766 4709.4967
 Backsight Bearing: S 57°40'55.0" W Distance: 727.580
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	221	5	N 12°22'31.0" E	116.590	7187.4355	5349.3566

COORDINATE ROTATION-TRANSLATION

Rotation point: 1 10000.0000 10000.0000 G-11
 Destination point: 1 10000.0000 10000.0000 G-11
 Rotation: 31°02'50.7" Right
 Translation: 0.000 North 0.000 East 0.000 Down

TYPE	FROM	TO	NORTHING	EASTING	ELEV.
ROTATE	1 ->	1	10000.0000 10000.0000	10000.0000 10000.0000	
ROTATE	2 ->	2	5914.0568 10000.0000	3212.5820 2077.6282	
ROTATE	3 ->	3	10048.9044 10851.6724	8429.9021 8680.0556	
ROTATE	4 ->	4	9573.5505 10297.1204	8715.5012 8679.5774	
ROTATE	5 ->	5	7187.4355 9988.9192	5349.3566 4565.0317	

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ROTATE	201 ->	201	10957.2458 11313.8085	9042.7542 9673.5857
ROTATE	202 ->	202	10434.4900 11349.3041	8105.5478 8601.0329
ROTATE	203 ->	203	9858.2630 10490.8303	8812.8644 8909.8322
ROTATE	204 ->	204	10531.8883 11819.6390	7355.3944 8008.5789
ROTATE	205 ->	205	10651.7364 12180.5028	6854.7908 7641.5028
ROTATE	206 ->	206	10472.4504 12630.2908	5684.8584 6546.7078
ROTATE	207 ->	207	8282.4943 12638.4016	2031.2580 2287.0555
ROTATE	208 ->	208	7373.8793 11404.6251	2914.1107 2574.8154
ROTATE	209 ->	209	6623.9713 10197.5066	4008.9137 3126.0145
ROTATE	210 ->	210	6389.2051 9827.8359	4335.6956 3284.9019
ROTATE	211 ->	211	6201.0447 9951.8752	3782.6266 2714.0219
ROTATE	212 ->	212	6656.9627 9932.4645	4577.6167 3630.2608
ROTATE	213 ->	213	5896.2844 9969.6314	3241.9419 2093.6160
ROTATE	215 ->	215	9862.6472 10624.2721	8561.4127 8696.6644
ROTATE	216 ->	216	9822.3208 10645.8675	8452.5519 8582.6007
ROTATE	217 ->	217	9406.2892 10397.3210	8243.3704 8188.8191
ROTATE	218 ->	218	9112.7752 10262.6673	8016.8805 7843.3969
ROTATE	219 ->	219	8912.7492 10141.4606	7919.6165 7656.9040
ROTATE	220 ->	220	6684.5766	4709.4967

PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
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		9888.1057	3757.4895
ROTATE	221 -> 221	7073.5545	5324.3698
		9904.2396	4484.8906

INSTRUMENT SETUP

Instrument point:	1	10000.0000	10000.0000	G-11
Backsight point:	1	10000.0000	10000.0000	G-11
Backsight Bearing:	N 00°00'00.0" E		Distance: 0.000	
Remarks:				

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	1	201	N 13°57'09.3" W	1353.750	11313.8085	9673.5857
INV	201	202	N 88°06'16.3" W	1073.140	11349.3041	8601.0329
INV	202	204	N 51°33'17.3" W	756.450	11819.6390	8008.5789
INV	204	205	N 45°29'20.3" W	514.750	12180.5028	7641.5028
INV	205	206	N 67°39'54.3" W	1183.590	12630.2908	6546.7078
INV	206	207	N 89°53'27.3" W	4259.660	12638.4016	2287.0555
INV	207	208	S 13°07'43.3" E	1266.890	11404.6251	2574.8154
INV	208	209	S 24°32'33.3" E	1327.010	10197.5066	3126.0145
INV	209	210	S 23°15'30.3" E	402.370	9827.8359	3284.9019
INV	210	211	N 77°44'29.3" W	584.200	9951.8752	2714.0219
INV	211	213	N 88°21'38.3" W	620.660	9969.6314	2093.6160
INV	213	2	N 27°45'53.3" W	34.320	10000.0000	2077.6282
INV	2	212	S 87°30'33.7" E	1554.101	9932.4645	3630.2608
INV	212	220	S 70°46'43.3" E	134.740	9888.1057	3757.4895
INV	220	221	N 88°43'45.7" E	727.580	9904.2396	4484.8906
INV	221	203	N 82°26'55.1" E	4463.653	10490.8303	8909.8322
INV	203	215	N 57°57'13.3" W	251.490	10624.2721	8696.6644
INV	215	216	N 79°16'45.3" W	116.090	10645.8675	8582.6007
INV	216	217	S 57°44'26.7" W	465.660	10397.3210	8188.8191
INV	217	218	S 68°42'10.7" W	370.740	10262.6673	7843.3969
INV	218	219	S 56°58'44.7" W	222.420	10141.4606	7656.9040
INV	219	220	S 86°16'57.3" W	3907.636	9888.1057	3757.4895
INV	220	3	N 78°55'28.9" E	5015.986	10851.6724	8680.0556
INV	3	4	S 00°02'57.9" W	554.552	10297.1204	8679.5774
INV	4	5	S 85°42'58.5" W	4126.072	9988.9192	4565.0317
INV	5	1	N 89°52'59.5" E	5434.980	10000.0000	10000.0000
INV	1	2	S 90°00'00.0" W	7922.372	10000.0000	2077.6282
BB	Bearing-Bearing intersection at point 6					
		3			10851.6724	8680.0556
	3	6	S 00°02'57.9" W	851.673	10000.0000	8679.3212
	6	1	N 90°00'00.0" E	1320.679	10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point:	1	10000.0000	10000.0000	G-11
Backsight point:	2	10000.0000	2077.6282	
Backsight Bearing:	S 90°00'00.0" W		Distance: 7922.372	
Remarks:				

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
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PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
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INV 1 6 S 90°00'00.0" W 1320.679 10000.0000 8679.3212

INSTRUMENT SETUP

Instrument point: 6 10000.0000 8679.3212
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: S 90°00'00.0" W Distance: 6601.693
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	6	7	S 90°00'00.0" W	1320.679	10000.0000	7358.6424
TRAV	7	8	S 90°00'00.0" W	2640.507	10000.0000	4718.1353
BB	Bearing-Bearing intersection at point 100					
	5				9988.9192	4565.0317
	5	100	N 00°00'00.0" E	11.081	10000.0000	4565.0317
	100	2	S 90°00'00.0" W	2487.404	10000.0000	2077.6282

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	2	101	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
INV	101	1	N 89°52'20.7" E	5281.911	10000.0000	10000.0000
INV	1	5	S 89°52'59.5" W	5434.980	9988.9192	4565.0317
INV	5	2	N 89°44'41.1" W	2487.428	10000.0000	2077.6282

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	2	108			-	-
INV	2	5	S 89°44'41.1" E	2487.428	9988.9192	4565.0317

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	2	108	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
BB	Bearing-Bearing intersection at point 106					
	3				10851.6724	8680.0556

PROJECT: 04-0401
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3	106	S 00°02'57.9" W	854.614	9997.0589	8679.3187
106	1	N 89°52'20.7" E	1320.685	10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point:	1	10000.0000	10000.0000	G-11
Backsight point:	1	10000.0000	10000.0000	G-11
Backsight Bearing:	N 00°00'00.0" E	Distance:	0.000	
Remarks:				

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	1	107	S 89°52'20.7" W	2641.370	9994.1177	7358.6365
INV	107	108	S 89°52'20.7" W	2640.541	9988.2373	4718.1020
INV	108	1	N 89°52'20.7" E	5281.911	10000.0000	10000.0000
INV	1	108	S 89°52'20.7" W	5281.911	9988.2373	4718.1020
INV	108	107	N 89°52'20.7" E	2640.541	9994.1177	7358.6365
INV	107	106	N 89°52'20.7" E	1320.685	9997.0589	8679.3187
INV	106	1	N 89°52'20.7" E	1320.685	10000.0000	10000.0000
INV	1	2	S 90°00'00.0" W	7922.372	10000.0000	2077.6282
INV	2	108	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
INV	108	2	N 89°44'41.1" W	2640.500	10000.0000	2077.6282
INV	2	5	S 89°44'41.1" E	2487.428	9988.9192	4565.0317

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Open Cogo File

File Name: 04-0401.cgo

Size: 221

Created: 09-07-2004

Last Edited: 09-07-2004

Project No.: 04-0401

Description: Ingham County Remonumentation

Using North Azimuths

INSTRUMENT SETUP

Instrument point:	221	9904.2396	4484.8906
Backsight point:	220	9888.1057	3757.4895
Backsight Bearing:	S 88°43'45.7" W	Distance:	727.580
Remarks:			

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	221	222	N 70°11'31.7" E	247.880	9988.2379	4718.1047
INV	222	108	S 77°00'05.7" W	0.003	9988.2373	4718.1020

INSTRUMENT SETUP

Instrument point:	210	9827.8359	3284.9019
Backsight point:	209	10197.5066	3126.0145
Backsight Bearing:	N 23°15'30.3" W	Distance:	402.370

PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
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Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	210	226	S 24°28'58.3" E	2741.380	7332.9460	4420.9868
TRAV	226	227	N 89°41'19.3" W	1932.750	7343.4476	2488.2653
TRAV	227	228	N 85°37'30.3" W	413.180	7374.9661	2076.2892

INSTRUMENT SETUP

Instrument point: 226 7332.9460 4420.9868
 Backsight point: 210 9827.8359 3284.9019
 Backsight Bearing: N 24°28'58.3" W Distance: 2741.380
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	226	229	S 23°41'06.3" E	620.350	6764.8498	4670.1871
TRAV	229	230	S 14°59'06.3" E	869.600	5924.8220	4895.0372
TRAV	230	231	S 41°48'00.7" W	709.590	5395.8414	4422.0705

INSTRUMENT SETUP

Instrument point: 230 5924.8220 4895.0372
 Backsight point: 229 6764.8498 4670.1871
 Backsight Bearing: N 14°59'06.3" W Distance: 869.600
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	230	232	S 71°45'59.7" W	1452.770	5470.2667	3515.2111
TRAV	232	233	S 42°56'43.7" W	623.180	5014.0976	3090.6372
TRAV	233	234	N 68°31'13.3" W	748.040	5288.0080	2394.5503
TRAV	234	235	N 52°33'18.3" W	229.310	5427.4281	2212.4924
TRAV	235	236	S 85°09'27.7" W	420.860	5391.9019	1793.1345

INSTRUMENT SETUP

Instrument point: 227 7343.4476 2488.2653
 Backsight point: 226 7332.9460 4420.9868
 Backsight Bearing: S 89°41'19.3" E Distance: 1932.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	227	237	N 88°52'09.3" W	1638.290	7375.7781	850.2944
TRAV	237	238	N 89°57'39.3" W	1407.160	7376.7383	-556.8653

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
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PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
 UNITS: U.S. SURVEY FOOT

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INV	2	213	S 27°45'53.3" E	34.320	9969.6314	2093.6160
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INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 236 5391.9019 1793.1345
 Backsight Bearing: S 03°31'58.2" W Distance: 4616.872
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	2	228	S 00°01'45.2" W	2625.034	7374.9661	2076.2892
INV	228	238	N 89°57'41.2" W	2633.155	7376.7383	-556.8653
INV	238	228	S 89°57'41.2" E	2633.155	7374.9661	2076.2892
INV	228	2	N 00°01'45.2" E	2625.034	10000.0000	2077.6282
INV	2	228	S 00°01'45.2" W	2625.034	7374.9661	2076.2892
INV	228	236	S 08°07'34.1" W	2003.178	5391.9019	1793.1345
INV	236	231	N 89°54'50.9" E	2628.939	5395.8414	4422.0705
INV	231	108	N 03°41'17.7" E	4601.927	9988.2373	4718.1020
INV	108	209	N 82°30'42.4" W	1605.782	10197.5066	3126.0145
INV	209	210	S 23°15'30.3" E	402.370	9827.8359	3284.9019

TYPE	POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
DELETE	226	7332.9460	4420.9868		
DELETE	227	7343.4476	2488.2653		
DELETE	228	7374.9661	2076.2892		
DELETE	229	6764.8498	4670.1871		
DELETE	237	7375.7781	850.2944		
DELETE	238	7376.7383	-556.8653		
DELETE	239	-	-		
DELETE	230	5924.8220	4895.0372		
DELETE	231	5395.8414	4422.0705		
DELETE	232	5470.2667	3515.2111		
DELETE	233	5014.0976	3090.6372		
DELETE	234	5288.0080	2394.5503		
DELETE	236	5391.9019	1793.1345		
DELETE	235	5427.4281	2212.4924		

INSTRUMENT SETUP

Instrument point: 210 9827.8359 3284.9019
 Backsight point: 209 10197.5066 3126.0145
 Backsight Bearing: N 23°15'30.3" W Distance: 402.370
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	210	225			-	-
INV	210	179			-	-
INV	210	3468			-	-

INSTRUMENT SETUP

Instrument point: 209 10197.5066 3126.0145

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Backsight point: 210 9827.8359 3284.9019
 Backsight Bearing: S 23°15'30.3" E Distance: 402.370
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	209	225	N 24°23'23.3" W	3468.110	13356.1129	1693.8857

INSTRUMENT SETUP

Instrument point: 210 9827.8359 3284.9019
 Backsight point: 209 10197.5066 3126.0145
 Backsight Bearing: N 23°15'30.3" W Distance: 402.370
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	210	225	S 24°23'23.3" E	3468.110	6669.2295	4717.0307

INSTRUMENT SETUP

Instrument point: 210 9827.8359 3284.9019
 Backsight point: 209 10197.5066 3126.0145
 Backsight Bearing: N 23°15'30.3" W Distance: 402.370
 Remarks: 226

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	210	226	S 24°28'58.3" E	2741.380	7332.9460	4420.9868
TRAV	226	227	N 89°41'19.3" W	1932.750	7343.4476	2488.2653
TRAV	227	228	N 85°37'30.3" W	413.180	7374.9661	2076.2892

INSTRUMENT SETUP

Instrument point: 225 6669.2295 4717.0307
 Backsight point: 210 9827.8359 3284.9019
 Backsight Bearing: N 24°23'23.3" W Distance: 3468.110
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	225	229	S 23°35'31.3" E	620.350	6100.7293	4965.3080
TRAV	229	230	S 14°53'31.3" E	869.600	5260.3375	5188.7936
TRAV	230	231	S 41°53'35.7" W	709.590	4732.1258	4714.9684

INSTRUMENT SETUP

Instrument point: 230 5260.3375 5188.7936
 Backsight point: 229 6100.7293 4965.3080
 Backsight Bearing: N 14°53'31.3" W Distance: 869.600
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	230	232	S 71°51'34.7" W	1452.770	4808.0238	3808.2310
TRAV	232	233	S 43°02'18.7" W	623.180	4352.5448	3382.9168

PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
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TRAV	233	234	N 68°25'38.3" W	748.040	4627.5854	2687.2757
TRAV	234	235	N 52°27'43.3" W	229.310	4767.3010	2505.4444
TRAV	235	236	S 85°15'02.7" W	420.860	4732.4560	2086.0294

INSTRUMENT SETUP

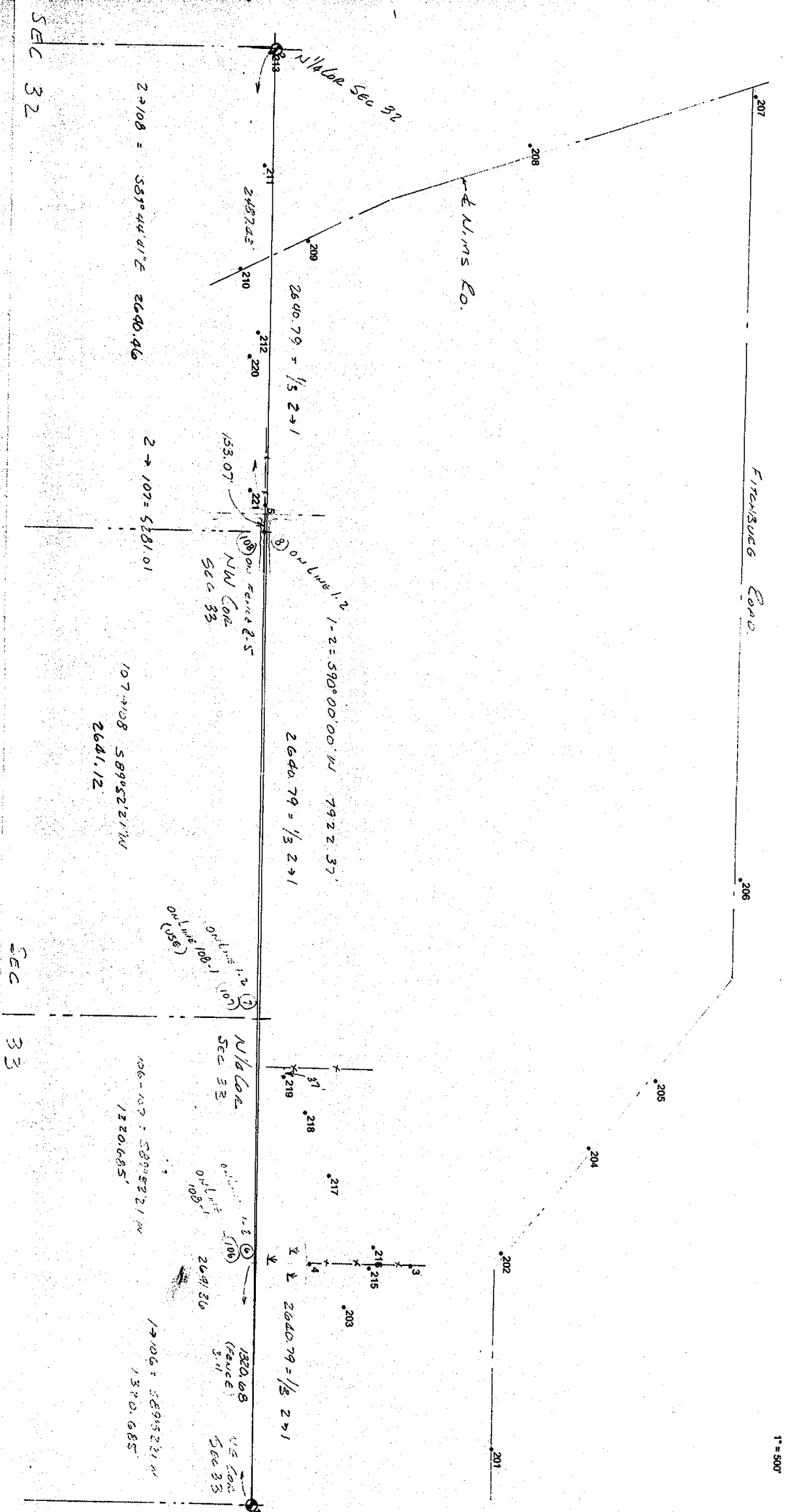
Instrument point: 227 7343.4476 2488.2653
 Backsight point: 226 7332.9460 4420.9868
 Backsight Bearing: S 89°41'19.3" E Distance: 1932.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	227	237	N 88°52'09.3" W	1638.290	7375.7781	850.2944
TRAV	237	238	N 89°57'39.3" W	1407.160	7376.7383	-556.8653
INV	238	2	N 45°07'20.6" E	3717.803	10000.0000	2077.6282
INV	2	228	S 00°01'45.2" W	2625.034	7374.9661	2076.2892
INV	228	238	N 89°57'41.2" W	2633.155	7376.7383	-556.8653
INV	238	228	S 89°57'41.2" E	2633.155	7374.9661	2076.2892
INV	228	236	S 00°12'40.3" E	2642.528	4732.4560	2086.0294
INV	236	2	N 00°05'29.0" W	5267.551	10000.0000	2077.6282
INV	2	108	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
INV	108	231	S 00°02'03.0" W	5256.112	4732.1258	4714.9684

INSTRUMENT SETUP

Instrument point: 210 9827.8359 3284.9019
 Backsight point: 209 10197.5066 3126.0145
 Backsight Bearing: N 23°15'30.3" W Distance: 402.370
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
SIDE	210	240	S 24°26'27.3" E	1624.570	8348.8460	3957.0749
SIDE	210	241	S 25°06'09.3" E	530.290	9347.6319	3509.8721



PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
 UNITS: U.S. SURVEY FOOT

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New Cogo File
 File Name: untitled
 Size: 100
 Created: 09-07-2004
 Last Edited: 09-07-2004
 Project No.:
 Description:

Using North Azimuths

Self Test - Passed

INSTRUMENT SETUP

Instrument point: 1 10000.0000 10000.0000 G-11
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	1	201	N 45°00'00.0" W	1353.750	10957.2458	9042.7542
TRAV	201	203	S 60°50'53.0" W	1073.140	10434.4900	8105.5478

INSTRUMENT SETUP

Instrument point: 201 10957.2458 9042.7542
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: S 45°00'00.0" E Distance: 1353.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	201	203	S 11°48'54.0" W	1122.770	9858.2630	8812.8644

INSTRUMENT SETUP

Instrument point: 201 10957.2458 9042.7542
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: S 45°00'00.0" E Distance: 1353.750
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	201	202	S 60°50'53.0" W	1073.140	10434.4900	8105.5478
TRAV	202	204	N 82°36'08.0" W	756.450	10531.8883	7355.3944
TRAV	204	205	N 76°32'11.0" W	514.750	10651.7364	6854.7908
TRAV	205	206	S 81°17'15.0" W	1183.590	10472.4504	5684.8584
TRAV	206	207	S 59°03'42.0" W	4259.660	8282.4943	2031.2580

PROJECT: 04-0401
 DESCRIPTION: Ingham County Remonumentation
 FILE: 04-0401.cgo
 UNITS: U.S. SURVEY FOOT

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TRAV	207	208	S 44°10'34.0" E	1266.890	7373.8793	2914.1107
TRAV	208	209	S 55°35'24.0" E	1327.010	6623.9713	4008.9137
TRAV	209	210	S 54°18'21.0" E	402.370	6389.2051	4335.6956
SIDE	210	211	S 71°12'40.0" W	584.200	6201.0447	3782.6266
TRAV	210	212	N 42°05'53.0" E	360.860	6656.9627	4577.6167
TRAV	212	220	N 78°10'26.0" E	134.740	6684.5766	4709.4967
TRAV	220	221	N 57°40'55.0" E	727.580	7073.5545	5324.3698

INSTRUMENT SETUP

Instrument point: 211 6201.0447 3782.6266
 Backsight point: 210 6389.2051 4335.6956
 Backsight Bearing: N 71°12'40.0" E Distance: 584.200
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	211	213	S 60°35'31.0" W	620.660	5896.2844	3241.9419
TRAV	213	2	N 58°48'44.0" W	34.320	5914.0568	3212.5820
INV	2	1	N 58°57'09.3" E	7922.372	10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644
 Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
SIDE	203	3	N 63°32'08.0" W	427.790	10048.9044	8429.9021
SIDE	203	4	S 18°52'45.0" W	300.900	9573.5505	8715.5012

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644
 Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
SIDE	203	215	N 89°00'04.0" W	251.490	9862.6472	8561.4127
SIDE	203	216	S 09°30'38.0" E	116.090	9743.7687	8832.0459
SIDE	203	217	S 31°09'54.0" E	465.660	9459.8068	9053.8455

TYPE	POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
DELETE	215	9862.6472	8561.4127		
DELETE	216	9743.7687	8832.0459		
DELETE	217	9459.8068	9053.8455		
DELETE	218	-	-		

INSTRUMENT SETUP

Instrument point: 203 9858.2630 8812.8644

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Backsight point: 201 10957.2458 9042.7542
 Backsight Bearing: N 11°48'54.0" E Distance: 1122.770
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	203	215	N 89°00'04.0" W	251.490	9862.6472	8561.4127
TRAV	215	216	S 69°40'24.0" W	116.090	9822.3208	8452.5519
TRAV	216	217	S 26°41'36.0" W	465.660	9406.2892	8243.3704
TRAV	217	218	S 37°39'20.0" W	370.740	9112.7752	8016.8805
TRAV	218	219	S 25°55'54.0" W	222.000	8913.1270	7919.8001

INSTRUMENT SETUP

Instrument point: 218 9112.7752 8016.8805
 Backsight point: 217 9406.2892 8243.3704
 Backsight Bearing: N 37°39'20.0" E Distance: 370.740
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	218	219	S 25°55'54.0" W	222.420	8912.7492	7919.6165

INSTRUMENT SETUP

Instrument point: 221 7073.5545 5324.3698
 Backsight point: 220 6684.5766 4709.4967
 Backsight Bearing: S 57°40'55.0" W Distance: 727.580
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	221	5	N 12°22'31.0" E	116.590	7187.4355	5349.3566

COORDINATE ROTATION-TRANSLATION

Rotation point: 1 10000.0000 10000.0000
 Destination point: 1 10000.0000 10000.0000
 Rotation: 31°02'50.7" Right
 Translation: 0.000 North 0.000 East 0.000 Down

TYPE	FROM	TO	NORTHING	EASTING	ELEV.
ROTATE	1 ->	1	10000.0000 10000.0000	10000.0000 10000.0000	
ROTATE	2 ->	2	5914.0568 10000.0000	3212.5820 2077.6282	
ROTATE	3 ->	3	10048.9044 10851.6724	8429.9021 8680.0556	
ROTATE	4 ->	4	9573.5505 10297.1204	8715.5012 8679.5774	
ROTATE	5 ->	5	7187.4355 9988.9192	5349.3566 4565.0317	

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ROTATE	201 ->	201	10957.2458 11313.8085	9042.7542 9673.5857
ROTATE	202 ->	202	10434.4900 11349.3041	8105.5478 8601.0329
ROTATE	203 ->	203	9858.2630 10490.8303	8812.8644 8909.8322
ROTATE	204 ->	204	10531.8883 11819.6390	7355.3944 8008.5789
ROTATE	205 ->	205	10651.7364 12180.5028	6854.7908 7641.5028
ROTATE	206 ->	206	10472.4504 12630.2908	5684.8584 6546.7078
ROTATE	207 ->	207	8282.4943 12638.4016	2031.2580 2287.0555
ROTATE	208 ->	208	7373.8793 11404.6251	2914.1107 2574.8154
ROTATE	209 ->	209	6623.9713 10197.5066	4008.9137 3126.0145
ROTATE	210 ->	210	6389.2051 9827.8359	4335.6956 3284.9019
ROTATE	211 ->	211	6201.0447 9951.8752	3782.6266 2714.0219
ROTATE	212 ->	212	6656.9627 9932.4645	4577.6167 3630.2608
ROTATE	213 ->	213	5896.2844 9969.6314	3241.9419 2093.6160
ROTATE	215 ->	215	9862.6472 10624.2721	8561.4127 8696.6644
ROTATE	216 ->	216	9822.3208 10645.8675	8452.5519 8582.6007
ROTATE	217 ->	217	9406.2892 10397.3210	8243.3704 8188.8191
ROTATE	218 ->	218	9112.7752 10262.6673	8016.8805 7843.3969
ROTATE	219 ->	219	8912.7492 10141.4606	7919.6165 7656.9040
ROTATE	220 ->	220	6684.5766	4709.4967

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9888.1057 3757.4895
 ROTATE 221 -> 221 7073.5545 5324.3698
 9904.2396 4484.8906

INSTRUMENT SETUP

Instrument point: 1 10000.0000 10000.0000 G-11
 Backsight point: 1 10000.0000 10000.0000 G-11
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	1	201	N 13°57'09.3" W	1353.750	11313.8085	9673.5857
INV	201	202	N 88°06'16.3" W	1073.140	11349.3041	8601.0329
INV	202	204	N 51°33'17.3" W	756.450	11819.6390	8008.5789
INV	204	205	N 45°29'20.3" W	514.750	12180.5028	7641.5028
INV	205	206	N 67°39'54.3" W	1183.590	12630.2908	6546.7078
INV	206	207	N 89°53'27.3" W	4259.660	12638.4016	2287.0555
INV	207	208	S 13°07'43.3" E	1266.890	11404.6251	2574.8154
INV	208	209	S 24°32'33.3" E	1327.010	10197.5066	3126.0145
INV	209	210	S 23°15'30.3" E	402.370	9827.8359	3284.9019
INV	210	211	N 77°44'29.3" W	584.200	9951.8752	2714.0219
INV	211	213	N 88°21'38.3" W	620.660	9969.6314	2093.6160
INV	213	2	N 27°45'53.3" W	34.320	10000.0000	2077.6282
INV	2	212	S 87°30'33.7" E	1554.101	9932.4645	3630.2608
INV	212	220	S 70°46'43.3" E	134.740	9888.1057	3757.4895
INV	220	221	N 88°43'45.7" E	727.580	9904.2396	4484.8906
INV	221	203	N 82°26'55.1" E	4463.653	10490.8303	8909.8322
INV	203	215	N 57°57'13.3" W	251.490	10624.2721	8696.6644
INV	215	216	N 79°16'45.3" W	116.090	10645.8675	8582.6007
INV	216	217	S 57°44'26.7" W	465.660	10397.3210	8188.8191
INV	217	218	S 68°42'10.7" W	370.740	10262.6673	7843.3969
INV	218	219	S 56°58'44.7" W	222.420	10141.4606	7656.9040
INV	219	220	S 86°16'57.3" W	3907.636	9888.1057	3757.4895
INV	220	3	N 78°55'28.9" E	5015.986	10851.6724	8680.0556
INV	3	4	S 00°02'57.9" W	554.552	10297.1204	8679.3212
INV	4	5	S 85°42'58.5" W	4126.072	9988.9192	4565.0317
INV	5	1	N 89°52'59.5" E	5434.980	10000.0000	10000.0000
INV	1	2	S 90°00'00.0" W	7922.372	10000.0000	2077.6282
BB	Bearing-Bearing intersection at point 6					
	3	6	S 00°02'57.9" W	851.673	10851.6724	8680.0556
	6	1	N 90°00'00.0" E	1320.679	10000.0000	8679.3212
					10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point: 1 10000.0000 10000.0000 G-11
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: S 90°00'00.0" W Distance: 7922.372
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
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INV 1 6 S 90°00'00.0" W 1320.679 10000.0000 8679.3212

INSTRUMENT SETUP

Instrument point: 6 10000.0000 8679.3212
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: S 90°00'00.0" W Distance: 6601.693
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	6	7	S 90°00'00.0" W	1320.679	10000.0000	7358.6424
TRAV	7	8	S 90°00'00.0" W	2640.507	10000.0000	4718.1353
BB	Bearing-Bearing intersection at point 100					
	5				9988.9192	4565.0317
	5	100	N 00°00'00.0" E	11.081	10000.0000	4565.0317
	100	2	S 90°00'00.0" W	2487.404	10000.0000	2077.6282

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	2	101	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
INV	101	1	N 89°52'20.7" E	5281.911	10000.0000	10000.0000
INV	1	5	S 89°52'59.5" W	5434.980	9988.9192	4565.0317
INV	5	2	N 89°44'41.1" W	2487.428	10000.0000	2077.6282

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
INV	2	108			-	-
INV	2	5	S 89°44'41.1" E	2487.428	9988.9192	4565.0317

INSTRUMENT SETUP

Instrument point: 2 10000.0000 2077.6282
 Backsight point: 2 10000.0000 2077.6282
 Backsight Bearing: N 00°00'00.0" E Distance: 0.000
 Remarks:

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	2	108	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
BB	Bearing-Bearing intersection at point 106					
	3				10851.6724	8680.0556

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3	106	S 00°02'57.9" W	854.614	9997.0589	8679.3187
106	1	N 89°52'20.7" E	1320.685	10000.0000	10000.0000

INSTRUMENT SETUP

Instrument point:	1	10000.0000	10000.0000	G-11
Backsight point:	1	10000.0000	10000.0000	G-11
Backsight Bearing:	N 00°00'00.0" E		Distance: 0.000	
Remarks:				

TYPE	FROM	TO	DIRECTION	DISTANCE	NORTHING	EASTING
TRAV	1	107	S 89°52'20.7" W	2641.370	9994.1177	7358.6365
INV	107	108	S 89°52'20.7" W	2640.541	9988.2373	4718.1020
INV	108	1	N 89°52'20.7" E	5281.911	10000.0000	10000.0000
INV	1	108	S 89°52'20.7" W	5281.911	9988.2373	4718.1020
INV	108	107	N 89°52'20.7" E	2640.541	9994.1177	7358.6365
INV	107	106	N 89°52'20.7" E	1320.685	9997.0589	8679.3187
INV	106	1	N 89°52'20.7" E	1320.685	10000.0000	10000.0000
INV	1	2	S 90°00'00.0" W	7922.372	10000.0000	2077.6282
INV	2	(108)	S 89°44'41.1" E	2640.500	9988.2373	4718.1020
INV	(108)	2	N 89°44'41.1" W	2640.500	10000.0000	2077.6282
INV	2	(5)	S 89°44'41.1" E	2487.428	9988.9192	4565.0317

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Open Cogo File

File Name: 04-0401.cgo
 Size: 221
 Created: 09-07-2004
 Last Edited: 09-07-2004
 Project No.: 04-0401
 Description: Ingham County Remonumentation

Using North Azimuths

