



JOE ORR, INC.
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TX Surveying Firm no. 100544-00 / Engineering Firm no. F-433

Final Report - City of College Station 1994 GPS Control Monument Upgrade Project

Thursday, August 4, 2011

City of College Station
attn: Alan Gibbs, P.E.

Beginning in March 2009, Joe Orr, Inc. provided consultation to the City of College Station, regarding replacement and possible upgrading of the datum (horizontal and/or vertical) of the 1994 GPS control monument network. The City desired elevation benchmarks to use as physical references for the upcoming FEMA floodplain maps.

After including Bob Gaines of CDS/Muery Services, in the discussions, it was decided that the best solution would be to set a limited number of new, very stable monuments, and determine coordinates and elevations on them, using the most current datums. Joe Orr developed a sketch of eleven desirable monument locations, based on a maximum distance of 6 miles between each. This distance is based on the GPS “rule of thumb” maximum for insignificant atmospheric influence in baseline processing.

In late 2009, Muery began reconnaissance for monument sites and a few of the locations were adjusted, after review by Joe Orr, Inc. in early 2010. The eleven deep rod monuments were installed, and static GPS observation sets were recorded, during the last week of April 2010, by Muery. The final reported coordinates were based on NAD83(CORS) and NAVD88 elevation datums.

In January 2011, Joe Orr was contracted to determine coordinates and elevations, with GPS methods, on all of the existing 1994 monuments, based on the results of the new Muery “primary” monuments. As proposed, the locations would be determined by averaging at least three Real-Time Kinematic (RTK) GPS observations at each monument. More observations would be recorded, if the initial ones did not agree within accepted tolerance (about 0.1 ft). The first round of observations began on April 5th, with Israel Koite, of the City staff, and Kim Mayo of Joe Orr, and utilized the City’s Leica 530 GPS rover unit. The remaining observations were performed by Kim and Henry Mayo, with the final ones on May 13th. Two GPS rovers were utilized, each with fixed 2 meter poles and bipods. Henry used a Leica 1200 rover, with a cell-phone modem receiving corrections from the City of College Station GPS base (CORS). Kim used a Leica 530 rover, receiving corrections via a radio modem, from a Leica 530 base unit, set on one of the Muery primary monuments (usually the nearest one).

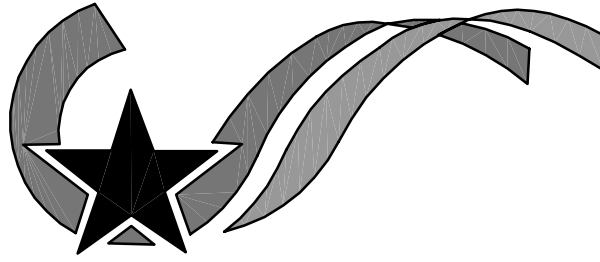
Digital photographs of the monuments were taken for the new data sheets. It was feared that the gusty winds, during April, would adversely affect the results, but the consistency of most observations sets were within expected tolerance. The wind actually caused more problems with the photographs than the GPS results, as evident in many photos where the sign would not stay in place on the lathe stake.

Initially, the RTK observations were processed to Texas State Plane, Central Zone, NAD83 coordinates, utilizing Geoid 09 for orthometric elevation determinations. By simply shifting the processed vectors of each observation set, to the Muery-determined N,E,Z of the base station location (City CORS, or other primary monument). The multiple point locations at each monument were manually averaged in 3d. Besides included primary monuments in each observation set, new coordinates for four of the 1994 monuments had been included in Muery's final report. During the fieldwork, it was not known which of the monuments had been updated by Muery, so this created a 'blind' test of Joe Orr's results.

The results were compared to Muery's and also to the original 1994 determined coordinates. The average horizontal results seemed good, but the elevations seemed to always fall below Muery's results, instead of the expected random high and low results. After consultation with Bob Gaines, Henry Mayo created a coordinate system model, in the Leica software, which resulted in much better matches to Muery's elevations. The reprocessing of the RTK observations also made a slight change (0.03 ft.) to most of the horizontal location, which also more closely matched Muery's coordinates.

The final data sheets were generated and delivered to the City on August 4, 2011. The NAD83(CORS) coordinates are about 2.5 feet 'off' of the NAD83(86) coordinates, when compared directly, and the NAVD88 elevations are generally 0.05 ft. to 0.10 ft. higher than the NVGD29 elevations. Relative to each other, the monument coordinates give insignificant differences in distance and bearing calculations. There is more ambiguity in scaling of the state plain coordinates to surface location, than there is in the datum difference. It needs to be noted that **all projects referenced to the 1994 "secondary" monuments, shall specify if the updated coordinates/elevations or the original ones are being used.** With only 2.5 feet of difference, it will not be obvious in most cases, but very important when infrastructure is being constructed from the coordinates given on plans.

Henry Mayo, RPLS



CITY OF COLLEGE STATION

GPS CONTROL MONUMENT UPGRADE PROJECT AUGUST 2011



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CITY OF COLLEGE STATION 1994 MONUMENT UPGRADE - MEAN LOCATIONS OF RTK OBSERVATIONS OF APRIL/MAY 2011									
{ based on results of CDS/Muery Services 2010 deep rod monument project - NAD83(CORS) / NAVD88 }									
POINT	MEAN X	MEAN Y	MEAN ELEV	OBSV's	SPREAD HORIZ	SPREAD VERT	COMMENTS	TO SHIFTED 1994 MON's *	CULLED
CoCS(CORS)	3564901.9500	10207131.2100	283.10				HELD FIXED TO MUERY COORD'S		
1	3554539.3695	10203667.6396	308.89	3h / 3v	0.053	0.07	N89E-0.031h / +0.02v TO MUERY		0h / 0v
MON1	3554539.403	10203667.641	308.913				FROM MUERY DATA SHEETS		
2	3530514.4575	10190067.1945	275.75	4h / 4v	0.129	0.11	S57E-0.027h / -0.01v TO MUERY		0h / 0v
MON2	3530514.478	10190067.183	275.741				FROM MUERY DATA SHEETS		
3	3551408.1489	10176625.2234	222.31	6h / 6v	0.106	0.26	N30E-0.042h / +0.07v TO MUERY		0h / 0v
MON3	3551408.169	10176625.263	222.381				FROM MUERY DATA SHEETS		
4	3567536.9195	10171031.9790	286.54	4h / 4v	0.160	0.12	N27E-0.068h / +0.02v TO MUERY		0h / 0v
MON4	3567536.952	10171032.038	286.558				FROM MUERY DATA SHEETS		
5	3598634.4904	10172144.5189	202.68	5h / 5v	0.136	0.17	S3W-0.009h / +0.04v TO MUERY		0h / 0v
MON5	3598634.493	10172144.509	202.726				FROM MUERY DATA SHEETS		
6	3601664.7066	10190245.4549	199.29	6h / 3v	0.135	0.24 (0.54)	N14E-0.057h / -0.02v OFF MUERY		0h / 3v
MON6	3601664.723	10190245.511	199.261				FROM MUERY DATA SHEETS		
7	3595535.5092	10213503.4513	230.47	4h / 4v	0.117	0.20	N21E-0.031h / +0.04v TO MUERY		0h / 0v
MON7	3595535.521	10213503.475	230.518				FROM MUERY DATA SHEETS		
8	3566373.6137	10219921.9765	264.27	4h / 4v	0.157	0.08	S32E-0.031h / +0.02 TO MUERY		0h / 0v
MON8	3566373.632	10219921.949	264.288				FROM MUERY DATA SHEETS		
9	3580149.7413	10198966.9849	269.54	4h / 4v	0.067	0.14	S22E-0.073h / -0.02v TO MUERY		0h / 0v
MON9	3580149.790	10198966.934	269.520				FROM MUERY DATA SHEETS		
10	3560554.9529	10194022.8936	308.36	5h / 5v	0.082	0.11	S39W-0.005h / +0.02v TO MUERY		0h / 0v
MON10	3560554.954	10194022.889	308.385				FROM MUERY DATA SHEETS		
11	3581934.1080	10188165.4269	283.65	5h / 5v	0.053	0.12	N31W-0.015h / +0.01v TO MUERY		0h / 0v
MON11	3581934.102	10188165.438	283.664				FROM MUERY DATA SHEETS		
101	3538410.6485	10185797.0860	287.22	4h / 4v	0.147	0.15	N21E-0.004h / +0.10 TO MUERY	N20W-0.031h / +0.10v	0h / 0v
101 MUERY	3538410.647	10185797.086	287.32				FROM MUERY REPORT	N26W-0.028h / +0.00v	
102	3537150.2557	10190530.5745	298.10	4h / 4v	0.104	0.09		N34W-0.183h / -0.23v	0h / 0v
202	3537636.5713	10192585.5411	292.45	3h / 3v	0.111	0.18	UNDER TREE CANOPY	S28E-0.081h / +0.29v	0h / 0v
103	3536131.0684	10196124.3830	309.80	4h / 4v	0.101	0.21		N46W-0.031h / +0.11v	0h / 0v
203	3538693.2580	10199181.4831	311.15	4h / 4v	0.051	0.17		N1E-0.036h / +0.02v	0h / 0v
104							PAVED OVER		
204	3532324.9444	10200570.0444	278.70	4h / 4v	0.115	0.07		N47E-0.037h / -0.02v	0h / 0v
105	3531996.2760	10207654.8228	266.45	4h / 3v	0.088	0.14 (.31)	dropped elev. on #288- poor DOP	S42E-0.042h / +0.06v	0h / 1v
205	3533471.5272	10209526.5193	295.20	4h / 3v	0.162	0.14 (.14)	dropped elev. on #289- poor DOP	N80E-0.057h / +0.18v	0h / 1v
106	3537706.9644	10211333.3779	265.99	4h / 4v	0.098	0.09		N85E-0.054h / +0.10v	0h / 0v
206	3538332.4927	10211789.2030	272.86	4h / 4v	0.209	0.18	UNDER TREE CANOPY	N60E-0.086h / +0.26v	0h / 0v
107	3539745.7100	10216858.8536	341.67	4h / 4v	0.104	0.06	S50E-0.066h / -0.06v TO MUERY	S45E-0.076h / -0.04v	0h / 0v
107 MUERY	3539745.760	10216858.811	341.61				FROM MUERY REPORT	S20E-0.011h / +0.02v	
108							TAKEN OUT BY STREET CONSTRUCTION		
109							TAKEN OUT BY WALK(?) CONSTRUCTION		

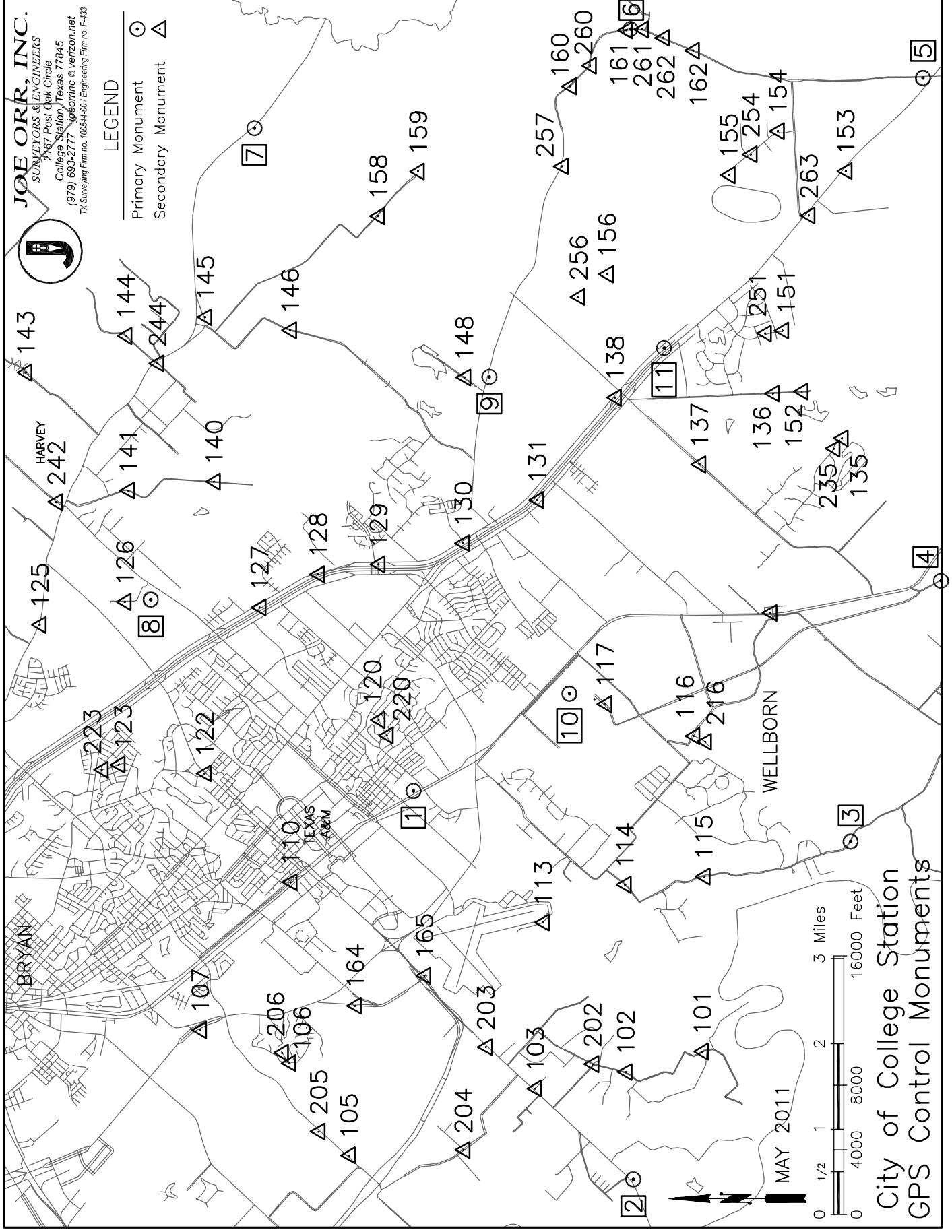
110	3548882.9806	10211269.2311	345.87	3h / 3v	0.079	0.11		S85W-0.042h / +0.10v	0h / 0v
111							TAKEN OUT BY STREET CONSTRUCTION		
112							TAKEN OUT BY STREET CONSTRUCTION		
113	3546395.9848	10195638.8015	290.26	3h / 3v	0.024	0.07		N5W-0.046h / +0.03v	0h / 0v
114	3548737.4710	10190585.7608	330.54	5h / 5v	0.080	0.15		N14W-0.034h / +0.10v	0h / 0v
115	3549241.6118	10185704.9678	309.62	4h / 4v	0.080	0.10		N88E-0.062h / +0.10v	0h / 0v
116	3557936.9982	10186336.8900	267.46	5h / 4v	0.108	0.11 (.15)	dropped elev.on #571- poor DOP	S80E-0.021h / -0.04v	0h / 1v
216	3557578.3222	10185615.3422	260.56	5h / 4v	0.087	0.23 (.23)	dropped elev.on #572- poor DOP	N66E-0.069h / -0.01v	0h / 1v
117	3559913.4576	10191793.1438	321.95	3h / 3v	0.035	0.04		S70E-0.072h / +0.02v	0h / 0v
118							TAKEN OUT BY STREET CONSTRUCTION		
218							TAKEN OUT BY STREET CONSTRUCTION		
119							TAKEN OUT BY STREET CONSTRUCTION		
120	3558925.2426	10205814.2813	301.41	3h / 3v	0.053	0.04		N60W-0.018h / +0.06v	0h / 0v
220	3557969.4856	10205296.9732	312.32	3h / 3v	0.029	0.06		N0E-0.020h / +0.08v	0h / 0v
121							DUG OUT BY WALK CONSTRUCTION		
122	3555622.6551	10216575.3101	329.62	3h / 3v	0.078	0.01	NOW UNDER COVER IN SIDEWALK	N64W-0.096h / +0.08v	0h / 0v
123	3556157.6984	10221906.4354	293.56	3h / 3v	0.071	0.13		S24W-0.089h / +0.11v	0h / 0v
223	3555847.5356	10222939.6244	311.89	3h / 3v	0.122	0.06		N2W-0.068h / -0.01v	0h / 0v
124							DUG OUT IN 2007		
125	3564804.4340	10226775.6693	289.85	3h / 2v	0.044	0.03 (.13)	dropped elev. on #520- poor DOP	S15E-0.068h / +0.25v	0h / 1v
126	3566228.0814	10221519.2212	286.21	3h / 3v	0.057	0.02		N49E-0.042h / +0.16v	0h / 0v
127	3565890.1669	10213187.1037	258.97	3h / 3v	0.069	0.07		S37W-0.037h / +0.24v	0h / 0v
128	3567933.1672	10209557.3201	265.71	3h / 3v	0.051	0.01		N54E-0.087h / +0.14v	0h / 0v
129	3568553.0775	10205822.9451	260.92	2h / 2v	0.044	0.03	checks within 0.1'(3d) with 2007 ties	S32W-0.102h / +0.14v	0h / 0v
130	3569863.0229	10200590.8018	303.62	3h / 3v	0.071	0.13		S88E-0.035h / +0.09v	0h / 0v
131	3572534.0548	10196004.1568	279.55	3h / 3v	0.047	0.05		N22W-0.038h / +0.01v	0h / 0v
132							DUG OUT BY HIGHWAY CONST.		
133							DISTURBED IN 1999, DUG OUT IN 2010		
134	3565553.0002	10181578.0876	323.53	3h / 3v	0.083	0.06		N90E-0.037h / +0.00v	0h / 0v
234							DUG OUT BY HIGHWAY CONST.		
135	3576349.9283	10177162.3383	278.22	5h / 5v	0.118	0.13	N69W-0.020h / +0.09v TO MUERY	N32W-0.070h / +0.11v	0h / 0v
135 MUERY	3576349.947	10177162.331	278.31				FROM MUERY REPORT	N40W-0.087h / +0.01v	
235	3575709.3813	10177662.5451	283.46	4h / 4v	0.167	0.16	UNDER TREE CANOPY	N14W-0.164h / +0.04v	0h / 0v
136	3579117.3789	10181430.6806	277.95	4h / 4v	0.072	0.06		N26E-0.065h / +0.09v	0h / 0v
137	3574741.1893	10185974.8638	333.09	4h / 4v	0.127	0.07		S1E-0.036h / +0.02v	0h / 0v
138	3578873.3646	10191189.1733	297.79	3h / 3v	0.052	0.01		S11W-0.031h / -0.10v	0h / 0v
139							DUG OUT IN 2001		
140	3573670.8321	10215999.9537	293.58	3h / 3v	0.035	0.08		N44E-0.061h / +0.04v	0h / 0v
141	3573117.2178	10221303.5805	324.39	3h / 3v	0.080	0.02	RELOCATED BY STRONG SURVEYING	N80E-0.052h / +0.19v	0h / 0v
142							COULD NOT FIND SINCE 2004		
242	3572403.1333	10225758.9480	321.35	3h / 3v	0.088	0.18	N88E-0.047h / +0.06v TO MUERY	S64E-0.133h / +0.01v	0h / 0v
242 MUERY	3572403.180	10225758.949	321.41				FROM MUERY REPORT	N51E-0.094h / -0.04v	
143	3580416.0147	10227651.3831	252.40	3h / 3v	0.046	0.06		N84E-0.131h / +0.22v	0h / 0v

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LEGEND

- Primary Monument ○
- Secondary Monument △



City of College Station
 GPS Control Monuments



**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**



Point Location Description:

Aluminum cap in concrete, flush with ground. Located 0.9' west of the barbed-wire fence on the northeast side of River Road, 49' east of a wood power pole and 300' north of the centerline of Dogwood Trail at River Road.

Station Name:

CS94 - 101

Established by: George W. Muery Services, Inc.

Date Established: 1994

Upgrade Survey by: CDS/Muery Services
(in network w/ 2010 primary monuments)

RTK Observation Quality for this point:

spread of horizontal observations: n/a

spread of vertical observations: n/a

Upgraded Location: U.S. Survey Feet

Northing (State Plane Grid): 10185797.09

Easting (State Plane Grid): 3538410.65

Elevation: (1929 / 1988*) 287.22 / 287.32

Latitude: N 30° 33' 00.01906"

Longitude: W 96° 23' 14.23604"

Geoid 09 Height (separation): -87.73

Ellipsoid Height: 199.49

Grid Scale Factor: 0.99991257

Elevation Scale Factor: 0.99999048

Combined Scale Factor: 0.99990305

Convergence Angle: 2° 01' 57"

Upgrade Datums: NGVD1929/NAVD1988*—vertical
NAD83(CORS) TX Central zone — horizontal

*NGVD 1929 elevations were determined with
baseline / network computations. NAVD 1988
elevations were determined w/VERTCON factors.

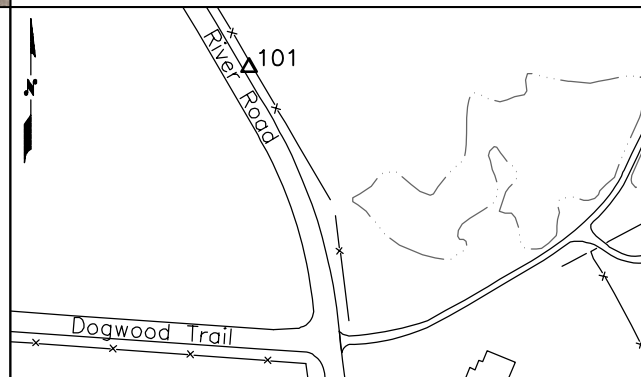
Note:

Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.

Nearest City of College Station Monuments:

2010 Mon 2 NW 1.7 miles

CS94 - 102 NW 0.9 miles



Disclaimer: No expressed or implied warranties are made for the accuracy, completeness, reliability, usability, or suitability of the point data. The City of College Station, CDS/Muery Services, and Joe Orr, Inc. assume no responsibility for incorrect results or damages resulting from the use of data.



**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**



Point Location Description:

Aluminum cap in concrete, 1" above grade. Located 1.5' north of a fence corner post on the southeast side of River Road and the side of an oil well entrance road, 0.4 miles south of Lightsey Lane at River Rd.

Station Name:

CS94 - 102

Established by: George W. Muery Services, Inc.

Date Established: 1994

Upgrade Survey by: Joe Orr, Inc.
(using average of multiple RTK observations)

RTK Observation Quality for this point:

spread of 4 horizontal observations: 0.10 ft.

spread of 4 vertical observations: 0.09 ft.

Upgraded Location: U.S. Survey Feet

Northing (State Plane Grid): 10190530.57

Easting (State Plane Grid): 3537150.26

Elevation: (NAVD 1988) 298.10

Latitude: N 30° 33' 47.28687"

Longitude: W 96° 23' 26.72379"

Geoid 09 Height (separation): -87.64

Ellipsoid Height: 210.46

Grid Scale Factor: 0.99991081

Elevation Scale Factor: 0.99998993

Combined Scale Factor: 0.99990073

Convergence Angle: 2° 01' 51"

Upgrade Datums*: NAVD 1988 – vertical
NAD83(CORS) TX Central zone – horizontal

*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station

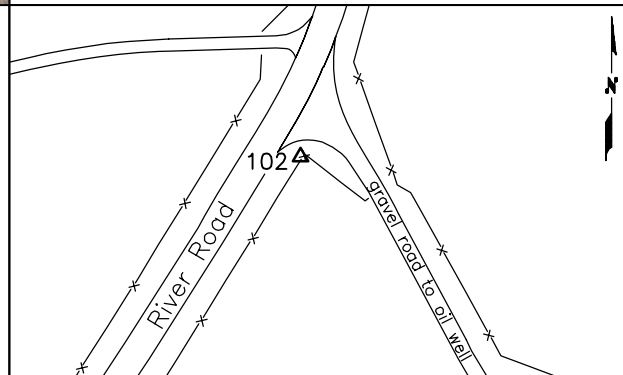
Note:

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Nearest City of College Station Monuments:

2010 Mon 2 W 1.3 miles

CS94 - 202 N 13°18'52"E-2111.7 feet



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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**



Point Location Description:

Aluminum cap in concrete, flush with ground. Located 1.6' north of a fence corner post and 1.0' northwest of a concrete R.O.W. marker, in the southeast line of F.M. 60 and the southwest line of Oak Hill Circle.

Station Name:

CS94 - 103

Established by: George W. Muery Services, Inc.

Date Established: 1994

Upgrade Survey by: Joe Orr, Inc.
(using average of multiple RTK observations)

RTK Observation Quality for this point:

spread of 4 horizontal observations: 0.10 ft.

spread of 4 vertical observations: 0.21 ft.

Upgraded Location: U.S. Survey Feet

Northing (State Plane Grid): 10196124.38

Easting (State Plane Grid): 3536131.07

Elevation: (NAVD 1988) 309.80

Latitude: N 30° 34' 42.98043"

Longitude: W 96° 23' 36.10875"

Geoid 09 Height (separation): -87.55

Ellipsoid Height: 222.25

Grid Scale Factor: 0.99990879

Elevation Scale Factor: 0.99998936

Combined Scale Factor: 0.99989815

Convergence Angle: 2° 01' 46"

Upgrade Datums*: NAVD 1988 – vertical
NAD83(CORS) TX Central zone – horizontal

*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station

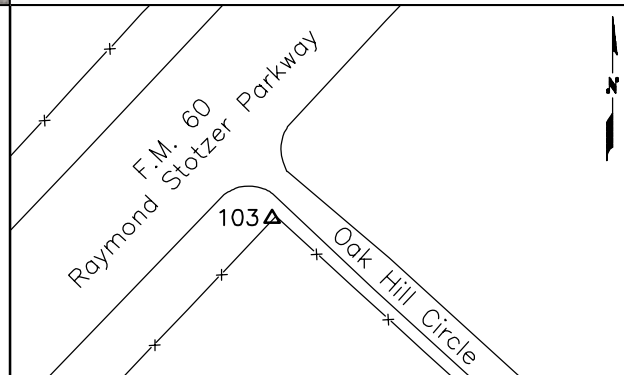
Note:

Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.

Nearest City of College Station Monuments:

2010 Mon 2 SW 1.6 miles



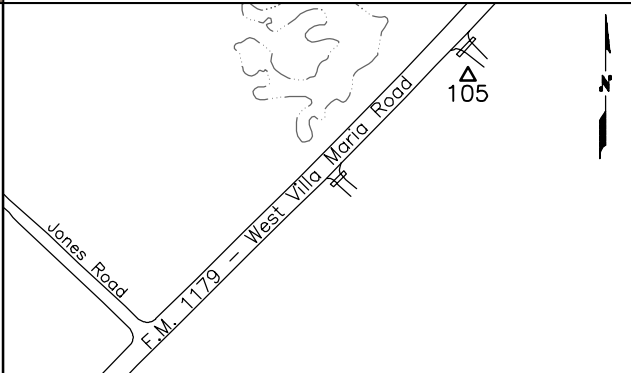
CS94 – 203 N 39°58'00"E–3988.8 feet



Disclaimer: No expressed or implied warranties are made for the accuracy, completeness, reliability, usability, or suitability of the point data. The City of College Station, CDS/Muery Services, and Joe Orr, Inc. assume no responsibility for incorrect results or damages resulting from the use of data.



**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 105</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of of 4 horizontal observations: 0.09 ft. spread of of 3 vertical observations: 0.14 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table> <tr><td>Northing (State Plane Grid):</td><td>10207654.82</td></tr> <tr><td>Easting (State Plane Grid):</td><td>3531996.28</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td>266.45</td></tr> <tr><td>Latitude:</td><td>N 30° 36' 38.49149"</td></tr> <tr><td>Longitude:</td><td>W 96° 24' 18.72584"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td>-87.34</td></tr> <tr><td>Ellipsoid Height:</td><td>179.11</td></tr> <tr><td>Grid Scale Factor:</td><td>0.99990484</td></tr> <tr><td>Elevation Scale Factor:</td><td>0.99999143</td></tr> <tr><td>Combined Scale Factor:</td><td>0.99989627</td></tr> <tr><td>Convergence Angle:</td><td>2° 01' 24"</td></tr> </table>	Northing (State Plane Grid):	10207654.82	Easting (State Plane Grid):	3531996.28	Elevation: (NAVD 1988)	266.45	Latitude:	N 30° 36' 38.49149"	Longitude:	W 96° 24' 18.72584"	Geoid 09 Height (separation):	-87.34	Ellipsoid Height:	179.11	Grid Scale Factor:	0.99990484	Elevation Scale Factor:	0.99999143	Combined Scale Factor:	0.99989627	Convergence Angle:	2° 01' 24"
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Convergence Angle:	2° 01' 24"																						
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table> <tr><td>2010 Mon 2</td><td>S 3.3 miles</td></tr> <tr><td>CS94 – 205</td><td>N 38°14'41"E-2383.2 feet</td></tr> </table>	2010 Mon 2	S 3.3 miles	CS94 – 205	N 38°14'41"E-2383.2 feet																		
2010 Mon 2	S 3.3 miles																						
CS94 – 205	N 38°14'41"E-2383.2 feet																						
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 2.9' southeast of a wood power pole on the southeast side of West Villa Maria Road, 870' northeast of Jones Road and 0.4 miles northeast of Highway 47 (Q).</p>																							

Disclaimer: No expressed or implied warranties are made for the accuracy, completeness, reliability, usability, or suitability of the point data. The City of College Station, CDS/Muery Services, and Joe Orr, Inc. assume no responsibility for incorrect results or damages resulting from the use of data.





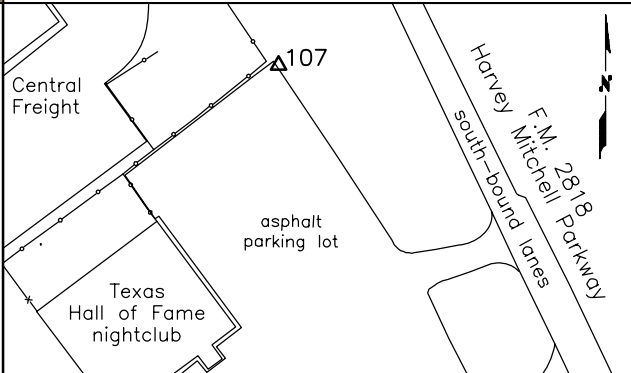
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 106</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.10 ft. spread of 4 vertical observations: 0.09 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10211333.38 Easting (State Plane Grid): 3537706.96 Elevation: (NAVD 1988) 265.99 Latitude: N 30° 37' 12.88083" Longitude: W 96° 23' 11.91932" Geoid 09 Height (separation): -87.34 Ellipsoid Height: 178.65 Grid Scale Factor: 0.99990373 Elevation Scale Factor: 0.99999145 Combined Scale Factor: 0.99989518 Convergence Angle: 2° 01' 58"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 2 SW 4.3 miles CS94 – 206 N 53°55'08"E-774.0 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 0.7' north of Lorito Circle curb, 3.6' west of a storm drain inlet lid \odot, and 80' west of the \odot of Westwood Main Drive.</p>	

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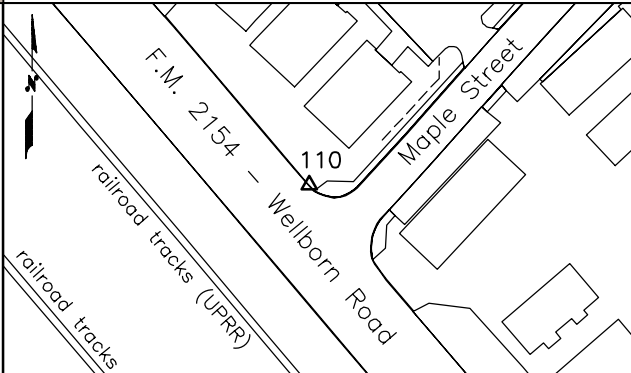
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 107</i></p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of horizontal observations: n/a spread of vertical observations: n/a</p>				
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10216858.81 Easting (State Plane Grid): 3539745.76 Elevation: (1929 / 1988*) 341.50 / 341.61 Latitude: N 30° 38' 06.82387" Longitude: W 96° 22' 46.35207" Geoid 09 Height (separation): -87.29 Ellipsoid Height: 254.22 Grid Scale Factor: 0.99990204 Elevation Scale Factor: 0.99998786 Combined Scale Factor: 0.99988990 Convergence Angle: 2° 02' 11"</p> <p><u>Upgrade Datums:</u> NGVD1929/NAVD1988*—vertical NAD83(CORS) TX Central zone — horizontal</p> <p>*NGVD 1929 elevations were determined with baseline / network computations. NAVD 1988 elevations were determined w/VERTCON factors.</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>				
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1'± northeast from edge of pavement of the parking lot at the Texas Hall of Fame, 10.5' west of a wood power pole, 12.4' east of a chain-link fence corner post, in the southwest line of F.M. 2818, near the north corner of the Texas Hall of Fame property.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <table> <tr> <td>2010 Mon 8</td> <td>E 5.1 miles</td> </tr> <tr> <td>CS94 - 206</td> <td>SW 1.0 miles</td> </tr> </table> 	2010 Mon 8	E 5.1 miles	CS94 - 206	SW 1.0 miles
2010 Mon 8	E 5.1 miles				
CS94 - 206	SW 1.0 miles				

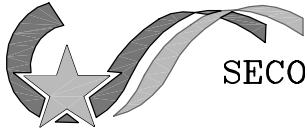
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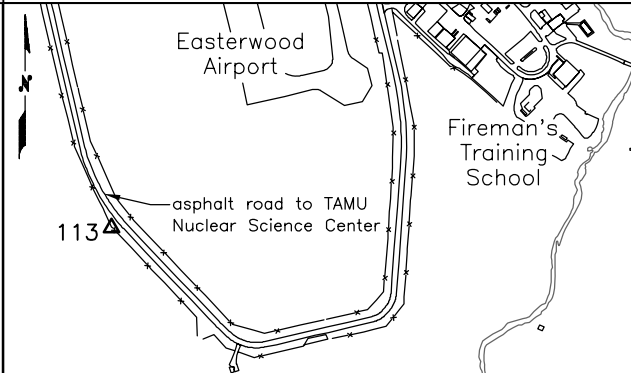
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 110</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.08 ft. spread of 3 vertical observations: 0.11 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1-1/2" below grade. Located 4.5' northeast of Wellborn Road curb, 2.6' southwest of light pole w/conc. base (Q), and 39' northwest of the Q of Maple Street.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10211269.23 Easting (State Plane Grid): 3548882.98 Elevation: (NAVD 1988) 345.87 Latitude: N 30° 37' 08.30455" Longitude: W 96° 21' 04.11408" Geoid 09 Height (separation): -87.45 Ellipsoid Height: 258.42 Grid Scale Factor: 0.99990388 Elevation Scale Factor: 0.99998763 Combined Scale Factor: 0.99989151 Convergence Angle: 2° 03' 04"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 SE 1.8 miles CS94 – 164 SW 1.6 miles</p>
	

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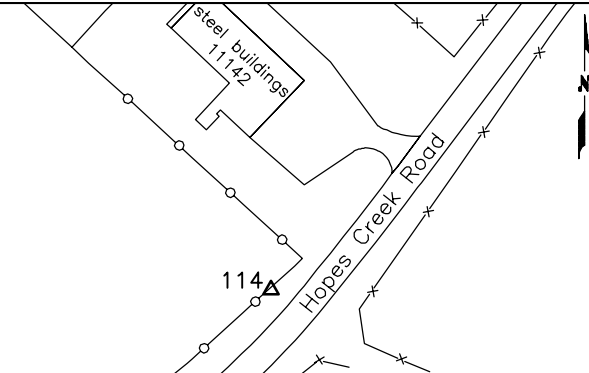
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 113</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.02 ft. spread of 3 vertical observations: 0.07 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10195638.80 Easting (State Plane Grid): 3546395.98 Elevation: (NAVD 1988) 290.26 Latitude: N 30° 34' 34.56399" Longitude: W 96° 21' 38.94718" Geoid 09 Height (separation): -87.65 Ellipsoid Height: 202.61 Grid Scale Factor: 0.99990909 Elevation Scale Factor: 0.99999030 Combined Scale Factor: 0.99989939 Convergence Angle: 2° 02' 46"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 NE 2.2 miles CS94 – 114 SE 1.1 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.9' east of a fence angle post, 46' southwest of the centerline of the road around south end of Easterwood Airport runways, and 1.5 miles from F.M. 2347 (George Bush Drive).</p>	

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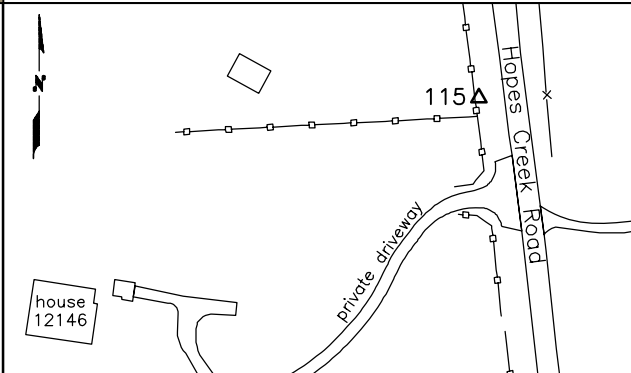
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 114</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.08 ft. spread of 5 vertical observations: 0.15 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 0.4' south of a woven wire fence on the northwest side of Hopes Creek Road, 28.8' southwest of a pipe fence corner post, and 1/4 mile southwest of Dowling Road.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10190585.76 Easting (State Plane Grid): 3548737.47 Elevation: (NAVD 1988) 330.54 Latitude: N 30° 33' 43.74961" Longitude: W 96° 21' 14.24490" Geoid 09 Height (separation): -87.75 Ellipsoid Height: 242.79 Grid Scale Factor: 0.99991094 Elevation Scale Factor: 0.99998838 Combined Scale Factor: 0.99989932 Convergence Angle: 2° 02' 59"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 10 NE 2.3 miles CS94 – 115 S 0.9 miles</p> 

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CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 115</p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.08 ft. spread of 4 vertical observations: 0.10 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10185704.97 Easting (State Plane Grid): 3549241.61 Elevation: (NAVD 1988) 309.62 Latitude: N 30° 32' 55.28893" Longitude: W 96° 21' 10.47923" Geoid 09 Height (separation): -87.83 Ellipsoid Height: 221.79 Grid Scale Factor: 0.99991275 Elevation Scale Factor: 0.99998938 Combined Scale Factor: 0.99990214 Convergence Angle: 2° 03' 01"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 3 SE 1.8 miles CS94 – 114 N 0.9 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 6.6' east of a white, plastic-rail fence on the west side of Hopes Creek Road, 19' north of a tee intersection in the fence, 4' south of an aerial powerline crossing, and 95'± north of the driveway (Q) to home at 12146 Hopes Creek Road.</p>	

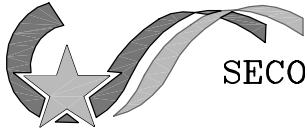
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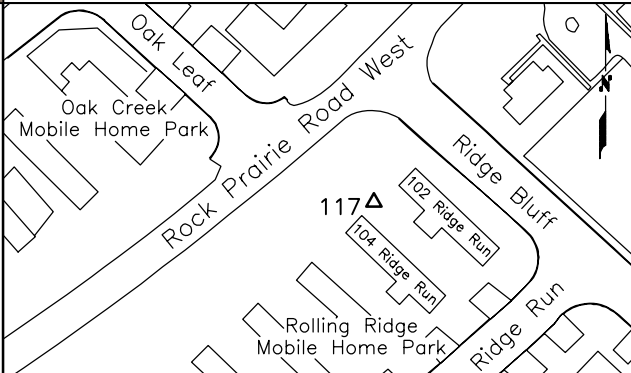
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 116</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.8' east of a fence corner post, at the intersection of the northwest R.O.W. line of Country Meadows Lane and the southwest R.O.W. line of South Dowling Road.</p>	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.11 ft. spread of 4 vertical observations: 0.11 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10186336.89 Easting (State Plane Grid): 3557937.00 Elevation: (NAVD 1988) 267.46 Latitude: N 30° 32' 58.45018" Longitude: W 96° 19' 30.83561" Geoid 09 Height (separation): -87.91 Ellipsoid Height: 179.55 Grid Scale Factor: 0.99991263 Elevation Scale Factor: 0.99999141 Combined Scale Factor: 0.99990404 Convergence Angle: 2° 03' 52"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 10 NE 1.5 miles CS94 – 216 S 26°25'54"W-805.8 feet</p>

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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 117</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.04 ft. spread of 3 vertical observations: 0.04 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10191793.14 Easting (State Plane Grid): 3559913.46 Elevation: (NAVD 1988) 321.95 Latitude: N 30° 33' 51.71906" Longitude: W 96° 19' 05.99385" Geoid 09 Height (separation): -87.85 Ellipsoid Height: 234.10 Grid Scale Factor: 0.99991064 Elevation Scale Factor: 0.99998879 Combined Scale Factor: 0.99989944 Convergence Angle: 2° 04' 05"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 10 NE 0.4 miles CS94 – 116 SW 1.1 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 14.8' south of electric meter pole for mobile home at 102 Ridge Run, 1.8' northwest of guy anchors, 68' southeast of the ¢ of Rock Prairie Road West and 70'± southwest of the ¢ of Ridge Bluff, between the north end of mobile homes at 102 and 104 Ridge Run.</p>	

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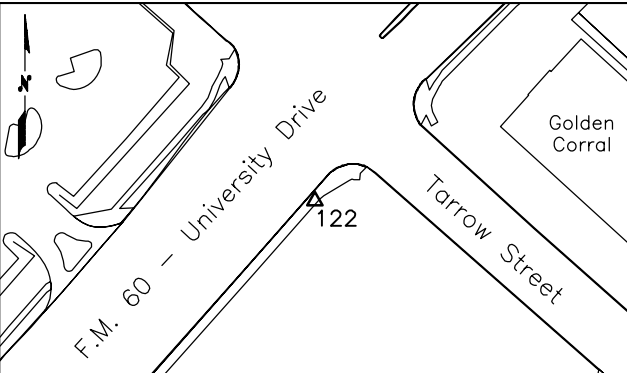
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 120</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.05 ft. spread of 3 vertical observations: 0.04 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10205814.28 Easting (State Plane Grid): 3558925.24 Elevation: (NAVD 1988) 301.41 Latitude: N 30° 36' 10.77138" Longitude: W 96° 19' 11.50518" Geoid 09 Height (separation): -87.64 Ellipsoid Height: 213.77 Grid Scale Factor: 0.99990576 Elevation Scale Factor: 0.99998977 Combined Scale Factor: 0.99989553 Convergence Angle: 2° 04' 02"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with sidewalk. Located 1.2' north of Haines Drive north curb, at corner of sidewalk and ramp, on the east side of Langford Street, across from the driveway at 1220 Haines Drive.</p>	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 SW 0.9 miles CS94 – 220 S 61°34'31"W-1086.8 feet</p> 

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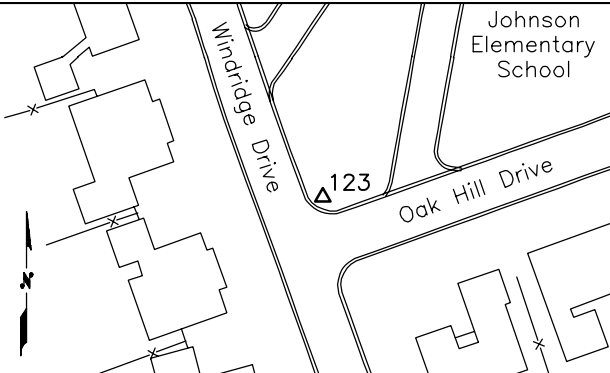
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> CS94 - 122</p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.08 ft. spread of 3 vertical observations: 0.01 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table style="width: 100%;"> <tr> <td>Northing (State Plane Grid):</td> <td style="text-align: right;">10216575.31</td> </tr> <tr> <td>Easting (State Plane Grid):</td> <td style="text-align: right;">3555622.66</td> </tr> <tr> <td>Elevation: (NAVD 1988)</td> <td style="text-align: right;">329.62</td> </tr> <tr> <td>Latitude:</td> <td style="text-align: right;">N 30° 37' 58.39917"</td> </tr> <tr> <td>Longitude:</td> <td style="text-align: right;">W 96° 19' 44.84158"</td> </tr> <tr> <td>Geoid 09 Height (separation):</td> <td style="text-align: right;">-87.45</td> </tr> <tr> <td>Ellipsoid Height:</td> <td style="text-align: right;">242.17</td> </tr> <tr> <td>Grid Scale Factor:</td> <td style="text-align: right;">0.99990230</td> </tr> <tr> <td>Elevation Scale Factor:</td> <td style="text-align: right;">0.99998841</td> </tr> <tr> <td>Combined Scale Factor:</td> <td style="text-align: right;">0.99989071</td> </tr> <tr> <td>Convergence Angle:</td> <td style="text-align: right;">2° 03' 45"</td> </tr> </table> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table style="width: 100%;"> <tr> <td>2010 Mon 8</td> <td style="text-align: right;">NE 2.1 miles</td> </tr> <tr> <td>CS94 – 123</td> <td style="text-align: right;">N 1.0 miles</td> </tr> </table>	Northing (State Plane Grid):	10216575.31	Easting (State Plane Grid):	3555622.66	Elevation: (NAVD 1988)	329.62	Latitude:	N 30° 37' 58.39917"	Longitude:	W 96° 19' 44.84158"	Geoid 09 Height (separation):	-87.45	Ellipsoid Height:	242.17	Grid Scale Factor:	0.99990230	Elevation Scale Factor:	0.99998841	Combined Scale Factor:	0.99989071	Convergence Angle:	2° 03' 45"	2010 Mon 8	NE 2.1 miles	CS94 – 123	N 1.0 miles
Northing (State Plane Grid):	10216575.31																										
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Convergence Angle:	2° 03' 45"																										
2010 Mon 8	NE 2.1 miles																										
CS94 – 123	N 1.0 miles																										
	<p><u>Point Location Description:</u> Aluminum cap in conc., under steel lid in walk. Located 4.2' southeast of curb on University Drive, 17' southwest of the traffic signal pole at the south corner of the intersection of Tarrow Street and University Drive.</p>																										
																											

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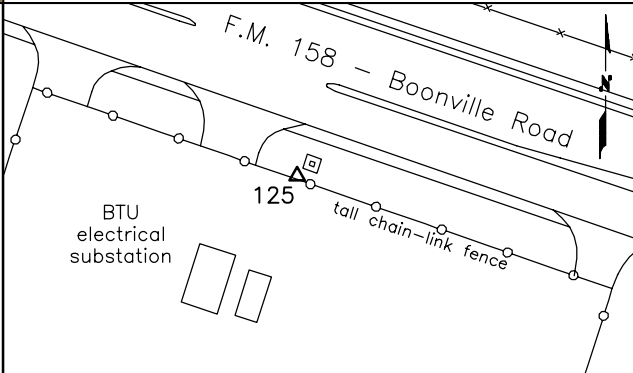
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 123</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.07 ft. spread of 3 vertical observations: 0.13 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 26' east of the \mathcal{C} of Windridge Drive, 27' north of the \mathcal{C} of Oak Hill Drive, south of Johnson Elementary School in Bryan.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10221906.44 Easting (State Plane Grid): 3556157.70 Elevation: (NAVD 1988) 293.56 Latitude: N 30° 38' 50.94493" Longitude: W 96° 19' 36.52357" Geoid 09 Height (separation): -87.39 Ellipsoid Height: 206.17 Grid Scale Factor: 0.99990070 Elevation Scale Factor: 0.99999013 Combined Scale Factor: 0.99989083 Convergence Angle: 2° 03' 49"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 SE 2.0 miles CS94 – 223 N 16°42'35"W-1078.7 feet</p> 

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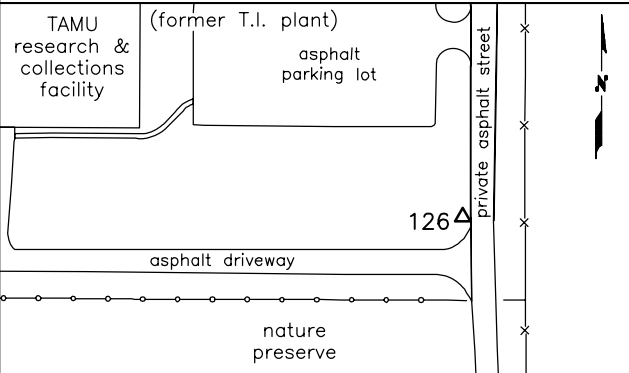
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 125</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.04 ft. spread of 2 vertical observations: 0.03 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10226775.67 Easting (State Plane Grid): 3564804.43 Elevation: (NAVD 1988) 289.85 Latitude: N 30° 39' 36.01919" Longitude: W 96° 17' 55.57430" Geoid 09 Height (separation): -87.42 Ellipsoid Height: 202.43 Grid Scale Factor: 0.99989938 Elevation Scale Factor: 0.99999031 Combined Scale Factor: 0.99988970 Convergence Angle: 2° 04' 41"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 SE 1.3 miles CS94 – 126 SE 1.0 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 8" below grade. Located 46' southeast of the middle gate (C) and 1.5' north of the concrete footing under the chain-link fence around the BTU electrical substation on F.M. 158, 1/4 mile southeast of Copperfield Drive and 3/4 mile northwest of F.M. 60 (University Drive East).</p>	

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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 126</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.06 ft. spread of 3 vertical observations: 0.02 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10221519.22 Easting (State Plane Grid): 3566228.08 Elevation: (NAVD 1988) 286.21 Latitude: N 30° 38' 43.51081" Longitude: W 96° 17' 41.46869" Geoid 09 Height (separation): -87.51 Ellipsoid Height: 198.70 Grid Scale Factor: 0.99990092 Elevation Scale Factor: 0.99999049 Combined Scale Factor: 0.99989141 Convergence Angle: 2° 04' 48"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 S 0.3 miles CS94 – 125 NW 1.0 miles</p>
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 4.5' west of and 7.5' from curb end, on private asphalt street for former Texas Instruments factory, 0.3 miles from F.M. 60 (University Drive East), 80'± north of gates across street, at entrance to nature preserve.</p>
	

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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 127</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 2" below grade. Located on the northeast R.O.W. line of Highway 6, under a powerline, in front of Academy Sporting Goods, 49' south of a conc. power pole and 51' west of the south corner (curb) of Academy's parking lot.</p>	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.07 ft. spread of 3 vertical observations: 0.07 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10213187.10 Easting (State Plane Grid): 3565890.17 Elevation: (NAVD 1988) 258.97 Latitude: N 30° 37' 21.21027" Longitude: W 96° 17' 48.79518" Geoid 09 Height (separation): -87.62 Ellipsoid Height: 171.35 Grid Scale Factor: 0.99990346 Elevation Scale Factor: 0.99999180 Combined Scale Factor: 0.99989526 Convergence Angle: 2° 04' 44"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station <u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 N 1.3 miles CS94 – 128 SE 0.8 miles</p>

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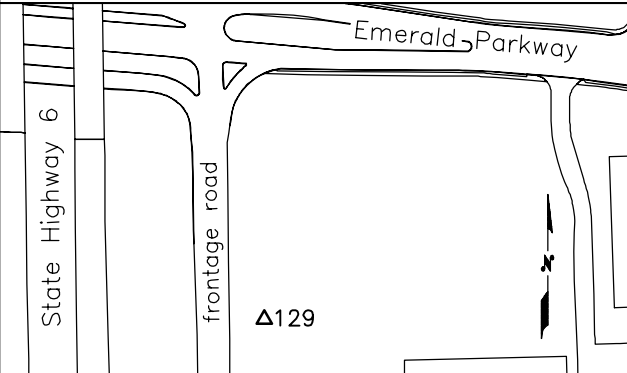
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 128</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.05 ft. spread of 3 vertical observations: 0.01 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10209557.32 Easting (State Plane Grid): 3567933.17 Elevation: (NAVD 1988) 265.71 Latitude: N 30° 36' 44.57000" Longitude: W 96° 17' 26.93662" Geoid 09 Height (separation): -87.69 Ellipsoid Height: 178.02 Grid Scale Factor: 0.99990464 Elevation Scale Factor: 0.99999148 Combined Scale Factor: 0.99989612 Convergence Angle: 2° 04' 56"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 N 2.0 miles CS94 - 129 S 9°25'31"E-3785.5 feet</p>
<p><u>Point Location Description:</u> Aluminum cap, flush in concrete driveway apron. Located 0.6' west from edge of concrete and 1.8' north from top edge of sloped culvert headwall, on the east side of Highway 6 (frontage road) and south of the conc. driveway along the north side of the St. Thomas Aquinas church property. Point is 53.9' due west of a large wood power pole.</p>	

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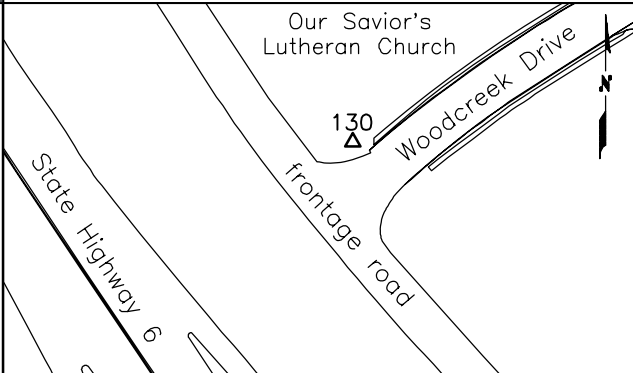
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 129</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 2 horizontal observations: 0.04 ft. spread of 2 vertical observations: 0.03 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10205822.95 Easting (State Plane Grid): 3568553.08 Elevation: (NAVD 1988) 260.92 Latitude: N 30° 36' 07.40634" Longitude: W 96° 17' 21.40014" Geoid 09 Height (separation): -87.75 Ellipsoid Height: 173.17 Grid Scale Factor: 0.99990588 Elevation Scale Factor: 0.99999171 Combined Scale Factor: 0.99989759 Convergence Angle: 2° 04' 59"</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 21.5' west of and in line with the concrete sign base for 3001 Earl Rudder Freeway S (Highway 6), near the east R.O.W. line of Highway 6, 385' south of the \angle of Emerald Parkway.</p>	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 9 SE 2.6 miles CS94 - 128 N 9°25'31"W-3785.5 feet</p> 

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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 130</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.07 ft. spread of 3 vertical observations: 0.13 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10200590.80 Easting (State Plane Grid): 3569863.02 Elevation: (NAVD 1988) 303.62 Latitude: N 30° 35' 15.17817" Longitude: W 96° 17' 08.59814" Geoid 09 Height (separation): -87.83 Ellipsoid Height: 215.79 Grid Scale Factor: 0.99990766 Elevation Scale Factor: 0.99998967 Combined Scale Factor: 0.99989733 Convergence Angle: 2° 05' 05"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 9 E 2.0 miles CS94 – 131 SE 1.0 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1' north of a conc. R.O.W. marker at the north corner of Highway 6 (frontage road) and Woodcreek Drive, 18' northwest of the end of curb, on Woodcreek Drive.</p>	

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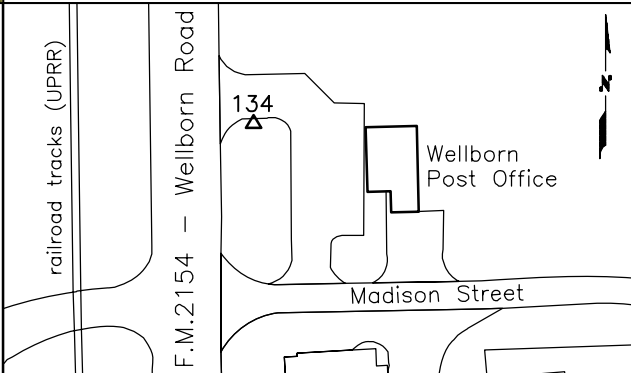
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 131</p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.05 ft. spread of 3 vertical observations: 0.05 ft.</p>				
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10196004.16 Easting (State Plane Grid): 3572534.05 Elevation: (NAVD 1988) 279.55 Latitude: N 30° 34' 28.84411" Longitude: W 96° 16' 39.97071" Geoid 09 Height (separation): -87.93 Ellipsoid Height: 191.62 Grid Scale Factor: 0.99990930 Elevation Scale Factor: 0.99999083 Combined Scale Factor: 0.99990012 Convergence Angle: 2° 05' 20"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>				
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 3.4' northwest of conc. valley gutter, under a powerline, running along the southwest R.O.W. line of Highway 6. Point is southeast of the driveway into Stylecraft Homes, and 250± northwest of the \angle of Eagle Avenue.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <table> <tr> <td>2010 Mon 9</td> <td>NE 1.5 miles</td> </tr> <tr> <td>CS94 - 130</td> <td>NW 1.0 miles</td> </tr> </table> <hr/>	2010 Mon 9	NE 1.5 miles	CS94 - 130	NW 1.0 miles
2010 Mon 9	NE 1.5 miles				
CS94 - 130	NW 1.0 miles				

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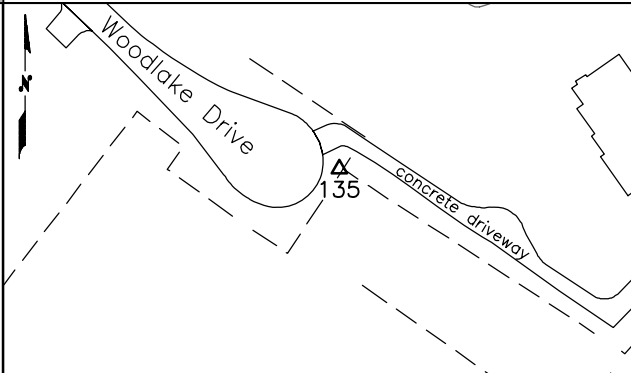
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 134</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.08 ft. spread of 3 vertical observations: 0.06 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10181578.09 Easting (State Plane Grid): 3565553.00 Elevation: 323.53 Latitude: N 30° 32' 08.65167" Longitude: W 96° 18' 05.76110" Geoid 09 Height (separation): -88.06 ft. Ellipsoid Height: 235.47 Grid Scale Factor: 0.99991455 Elevation Scale Factor: 0.99998873 Combined Scale Factor: 0.99990328 Convergence Angle: 2° 04' 36"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station <u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 4 SE 2.0 miles CS94 – 216 NW 1.7 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" below grade. Located 0.7' south of curb end and 22.5' east of culvert headwall, on the south side of the Wellborn Post Office driveway on F.M. 2154. Point is located 123' east of railroad C.</p>	

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CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 135</p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of horizontal observations: n/a spread of vertical observations: n/a</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10177162.33 Easting (State Plane Grid): 3576349.95 Elevation: (1929 / 1988*) 278.22 / 278.31 Latitude: N 30° 31' 21.08188" Longitude: W 96° 16' 04.22215" Geoid 09 Height (separation): -88.25 Ellipsoid Height: 189.97 Grid Scale Factor: 0.99991644 Elevation Scale Factor: 0.99999090 Combined Scale Factor: 0.99990734 Convergence Angle: 2° 05' 38"</p> <hr/> <p><u>Upgrade Datums:</u> NGVD1929/NAVD1988*—vertical NAD83(CORS) TX Central zone — horizontal</p> <p>*NGVD 1929 elevations were determined with baseline / network computations. NAVD 1988 elevations were determined w/VERTCON factors.</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 4 SW 2.0 miles CS94 - 235 N 52°00'50"W—812.7 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1/2" below grade. Located 1.8' north of a 10" fence post at tee in a wood rail fence at the end (cul-de-sac) of Woodlake Drive.</p>	

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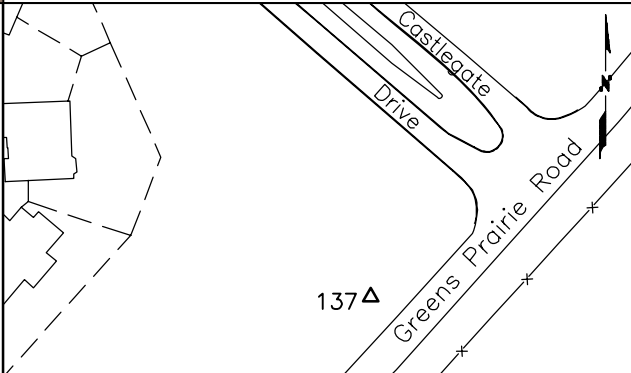
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 136</i></p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.07 ft. spread of 4 vertical observations: 0.06 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10181430.68 Easting (State Plane Grid): 3579117.38 Elevation: (NAVD 1988) 277.95 Latitude: N 30° 32' 02.30231" Longitude: W 96° 15' 30.81400" Geoid 09 Height (separation): -88.22 Ellipsoid Height: 189.73 Grid Scale Factor: 0.99991480 Elevation Scale Factor: 0.99999092 Combined Scale Factor: 0.99990572 Convergence Angle: 2° 05' 56"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 NE 1.4 miles CS94 - 152 S 3°59'13"E-1800.2 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 2' east of a steel pipe/cable fence on the west side of Arrington Road, across from mailbox at 2277 Arrington Rd, 0.8 miles south of the intersection of Nantucket Drive with Arrington Road.</p>	

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**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 137</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.13 ft. spread of 4 vertical observations: 0.07 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10185974.86 Easting (State Plane Grid): 3574741.19 Elevation: (NAVD 1988) 333.09 Latitude: N 30° 32' 48.83716" Longitude: W 96° 16' 18.92607" Geoid 09 Height (separation): -88.10 Ellipsoid Height: 244.99 Grid Scale Factor: 0.99991300 Elevation Scale Factor: 0.99998827 Combined Scale Factor: 0.99990127 Convergence Angle: 2° 05' 31"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 NE 1.4 miles CS94 – 136 SE 1.2 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 1.6 south of a guy anchor and 14' southeast of a wood power pole, 32'± northwest of the center of Greens Prairie Road, and 130' southwest of Castlegate Drive centerline.</p>	

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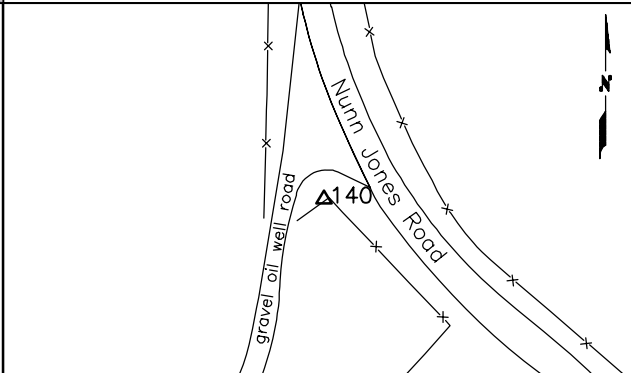
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 138</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.05 ft. spread of 3 vertical observations: 0.01 ft.</p>				
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10191189.17 Easting (State Plane Grid): 3578873.36 Elevation: (NAVD 1988) 297.79 Latitude: N 30° 33' 38.92155" Longitude: W 96° 15' 29.51548" Geoid 09 Height (separation): -88.08 Ellipsoid Height: 209.71 Grid Scale Factor: 0.99991111 Elevation Scale Factor: 0.99998996 Combined Scale Factor: 0.99990108 Convergence Angle: 2° 05' 56"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>				
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 60'± northeast of the center of the north-bound frontage road of Highway 6, 500' northeast of the center of Wm. D. Fitch Parkway,</p>	<p><u>Nearest City of College Station Monuments:</u></p> <table> <tr> <td>2010 Mon 11</td> <td>SE 0.8 miles</td> </tr> <tr> <td>CS94 - 149</td> <td>NE 1.2 miles</td> </tr> </table> <hr/>	2010 Mon 11	SE 0.8 miles	CS94 - 149	NE 1.2 miles
2010 Mon 11	SE 0.8 miles				
CS94 - 149	NE 1.2 miles				

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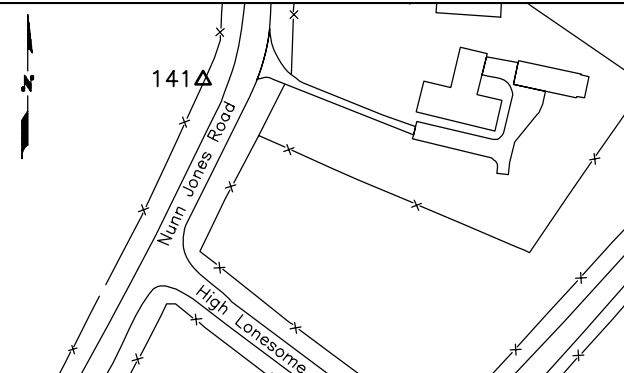
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 140</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.04 ft. spread of 3 vertical observations: 0.08 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10215999.95 Easting (State Plane Grid): 3573670.83 Elevation: (NAVD 1988) 293.58 Latitude: N 30° 37' 46.23242" Longitude: W 96° 16' 18.62472" Geoid 09 Height (separation): -87.67 Ellipsoid Height: 205.91 Grid Scale Factor: 0.99990267 Elevation Scale Factor: 0.99999014 Combined Scale Factor: 0.99989282 Convergence Angle: 2° 05' 31"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 NW 1.6 miles CS94 – 141 N 1.0 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 3'± north of a fence corner post on the west side of Nunn Jones Road and the south fence leading to a cattle guard on a gravel, oil well access road, 1.9 miles south of the intersection of Nunn Jones Road and Highway 30.</p>	

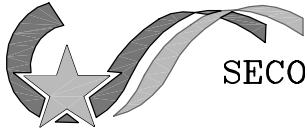
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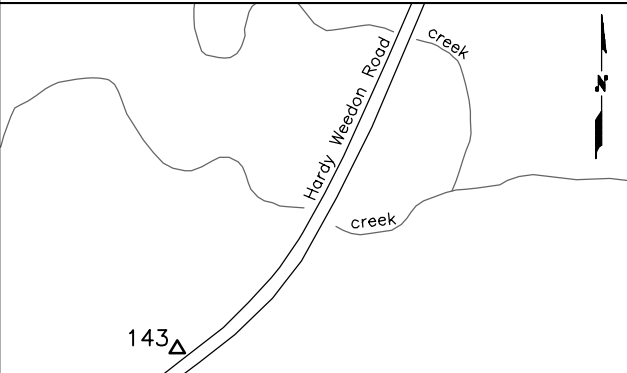
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 141</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.08 ft. spread of 3 vertical observations: 0.02 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10221303.58 Easting (State Plane Grid): 3573117.22 Elevation: (NAVD 1988) 324.39 Latitude: N 30° 38' 38.89588" Longitude: W 96° 16' 22.74206" Geoid 09 Height (separation): -87.59 Ellipsoid Height: 236.80 Grid Scale Factor: 0.99990106 Elevation Scale Factor: 0.99998867 Combined Scale Factor: 0.99988973 Convergence Angle: 2° 05' 29"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 SW 1.3 miles CS94 – 242 N 0.9 miles</p>
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.5'± northwest of barbed-wire fence, on the northwest side of Nunn Jones Road, 28'± southwest of the fence angle post and 165' northeast of High Lonesome (Q).</p> <p><u>Note:</u> This monument was relocated 16' northwest, by Strong Surveying, prior to road realignment in the late 1990's.</p>
	

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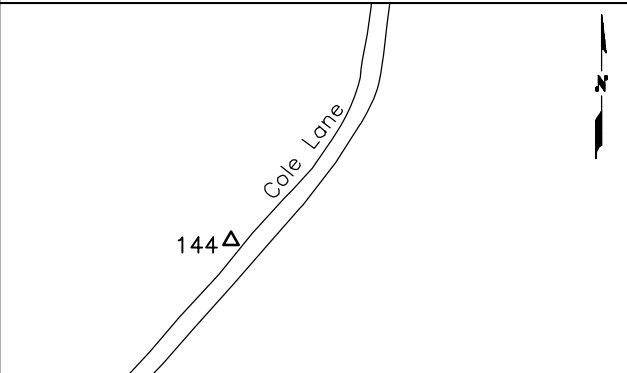
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 143</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.05 ft. spread of 3 vertical observations: 0.06 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table style="width: 100%;"> <tr><td>Northing (State Plane Grid):</td><td style="text-align: right;">10227651.38</td></tr> <tr><td>Easting (State Plane Grid):</td><td style="text-align: right;">3580416.01</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td style="text-align: right;">252.40</td></tr> <tr><td>Latitude:</td><td style="text-align: right;">N 30° 39' 39.04378"</td></tr> <tr><td>Longitude:</td><td style="text-align: right;">W 96° 14' 56.57275"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td style="text-align: right;">-87.59</td></tr> <tr><td>Ellipsoid Height:</td><td style="text-align: right;">164.81</td></tr> <tr><td>Grid Scale Factor:</td><td style="text-align: right;">0.99989930</td></tr> <tr><td>Elevation Scale Factor:</td><td style="text-align: right;">0.99999211</td></tr> <tr><td>Combined Scale Factor:</td><td style="text-align: right;">0.99989141</td></tr> <tr><td>Convergence Angle:</td><td style="text-align: right;">2° 06' 13"</td></tr> </table> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table style="width: 100%;"> <tr><td>2010 Mon 8</td><td style="text-align: right;">SW 3.0 miles</td></tr> <tr><td>CS94 - 144</td><td style="text-align: right;">SE 1.2 miles</td></tr> </table>	Northing (State Plane Grid):	10227651.38	Easting (State Plane Grid):	3580416.01	Elevation: (NAVD 1988)	252.40	Latitude:	N 30° 39' 39.04378"	Longitude:	W 96° 14' 56.57275"	Geoid 09 Height (separation):	-87.59	Ellipsoid Height:	164.81	Grid Scale Factor:	0.99989930	Elevation Scale Factor:	0.99999211	Combined Scale Factor:	0.99989141	Convergence Angle:	2° 06' 13"	2010 Mon 8	SW 3.0 miles	CS94 - 144	SE 1.2 miles
Northing (State Plane Grid):	10227651.38																										
Easting (State Plane Grid):	3580416.01																										
Elevation: (NAVD 1988)	252.40																										
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Convergence Angle:	2° 06' 13"																										
2010 Mon 8	SW 3.0 miles																										
CS94 - 144	SE 1.2 miles																										
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.3' south of a barbed-wire fence on the northwest side of Hardy Weedon Road, 36'± northwest from the center of the road, 400'± south of the first (south) creek branch, 1.1 miles northeast from the intersection of Highway 30 with Hardy Weedon Road.</p>																										
																											

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CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 144</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.09 ft. spread of 4 vertical observations: 0.17 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table style="width: 100%;"> <tr><td>Northing (State Plane Grid):</td><td>10221464.67</td></tr> <tr><td>Easting (State Plane Grid):</td><td>3582676.48</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td>269.53</td></tr> <tr><td>Latitude:</td><td>N 30° 38' 37.02346"</td></tr> <tr><td>Longitude:</td><td>W 96° 14' 33.31194"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td>-87.71</td></tr> <tr><td>Ellipsoid Height:</td><td>181.82</td></tr> <tr><td>Grid Scale Factor:</td><td>0.99990112</td></tr> <tr><td>Elevation Scale Factor:</td><td>0.99999130</td></tr> <tr><td>Combined Scale Factor:</td><td>0.99989241</td></tr> <tr><td>Convergence Angle:</td><td>2° 06' 25"</td></tr> </table> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table style="width: 100%;"> <tr><td>2010 Mon 7</td><td>SE 2.9 miles</td></tr> <tr><td>CS94 – 244</td><td>S 40°46'14"W–2587.1 feet</td></tr> </table>	Northing (State Plane Grid):	10221464.67	Easting (State Plane Grid):	3582676.48	Elevation: (NAVD 1988)	269.53	Latitude:	N 30° 38' 37.02346"	Longitude:	W 96° 14' 33.31194"	Geoid 09 Height (separation):	-87.71	Ellipsoid Height:	181.82	Grid Scale Factor:	0.99990112	Elevation Scale Factor:	0.99999130	Combined Scale Factor:	0.99989241	Convergence Angle:	2° 06' 25"	2010 Mon 7	SE 2.9 miles	CS94 – 244	S 40°46'14"W–2587.1 feet
Northing (State Plane Grid):	10221464.67																										
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Convergence Angle:	2° 06' 25"																										
2010 Mon 7	SE 2.9 miles																										
CS94 – 244	S 40°46'14"W–2587.1 feet																										
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 28'± northwest of the center of Cole Lane, 1/2 mile from Highway 30, between homes at 5001 and 5033 Cole Lane, 9.7' southeast of a 6" Live Oak tree near a property corner.</p>																										
																											

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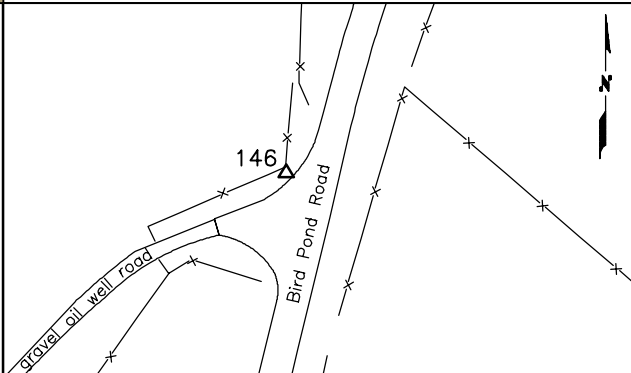
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 145</p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.08 ft. spread of 3 vertical observations: 0.08 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10216537.61 Easting (State Plane Grid): 3583848.43 Elevation: (NAVD 1988) 295.13 Latitude: N 30° 37' 47.85879" Longitude: W 96° 14' 21.97972" Geoid 09 Height (separation): -87.79 Ellipsoid Height: 207.34 Grid Scale Factor: 0.99990262 Elevation Scale Factor: 0.99999008 Combined Scale Factor: 0.99989270 Convergence Angle: 2° 06' 31"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 3.5' north of the barbed-wire fence on the original south R.O.W. line of Highway 30, 550' east of the intersection (C) with Bird Pond Road, 4.5' west of a cedar tree, and 32' east of a conc. R.O.W. marker in fenceline.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <p>2010 Mon 7 SE 2.3 miles CS94 – 244 NW 0.8 miles</p> <hr/>

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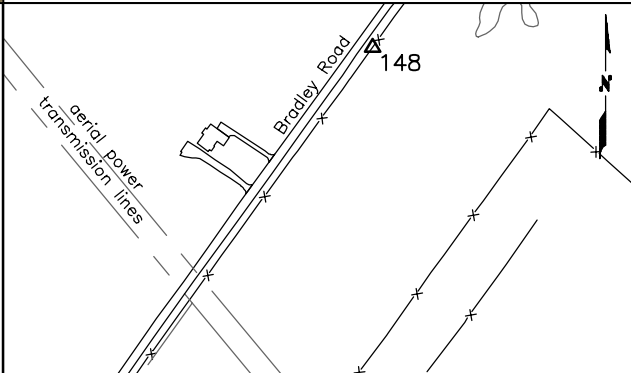
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 146</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.09 ft. spread of 4 vertical observations: 0.07 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10211292.97 Easting (State Plane Grid): 3583030.63 Elevation: (NAVD 1988) 284.17 Latitude: N 30° 36' 56.27713" Longitude: W 96° 14' 33.54148" Geoid 09 Height (separation): -87.86 Ellipsoid Height: 196.31 Grid Scale Factor: 0.99990426 Elevation Scale Factor: 0.99999060 Combined Scale Factor: 0.99989487 Convergence Angle: 2° 06' 25"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 9 SW 2.4 miles CS94 – 145 N 1.0 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 2" below grade. Located 4.2' south of a fence angle post on the east side of Bird Pond Road, at an gravel oil well road, 1.4 mi. south of the intersection of Bird Pond Road with Highway 30.</p>	

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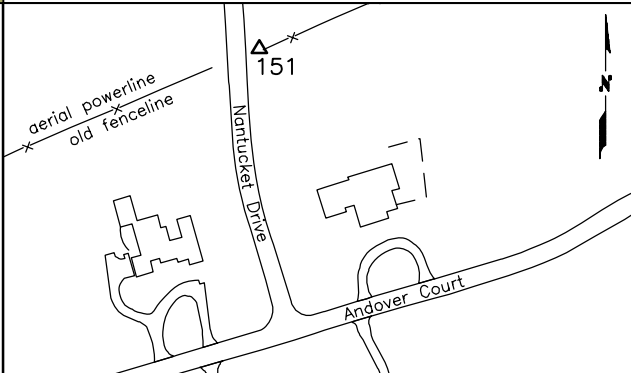
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 148</p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.07 ft. spread of 3 vertical observations: 0.03 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10200516.49 Easting (State Plane Grid): 3580111.93 Elevation: (NAVD 1988) 266.20 Latitude: N 30° 35' 10.73773" Longitude: W 96° 15' 11.44563" Geoid 09 Height (separation): -87.96 Ellipsoid Height: 178.24 Grid Scale Factor: 0.99990781 Elevation Scale Factor: 0.99999147 Combined Scale Factor: 0.99989928 Convergence Angle: 2° 06' 05"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 9 S 1°23'58"E-1550.0 feet CS94 - 256 SE 1.6 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.5' northwest of the barbed-wire fence on the southeast side of Bradley Road, 0.3 miles northeast of Rock Prairie Road, 675' northeast of the Entergy aerial power transmission line, 10'± southwest of a gate.</p>	

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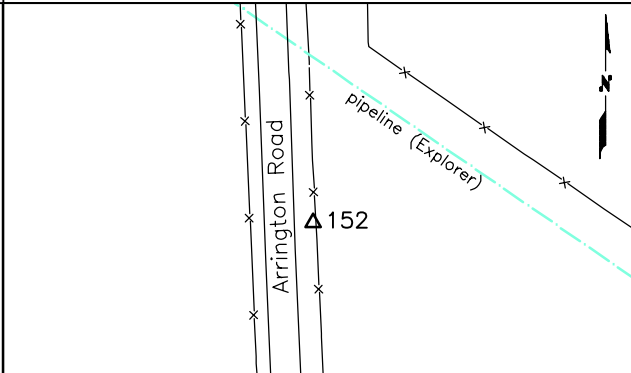
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 151</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.05 ft. spread of 4 vertical observations: 0.09 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10180838.86 Easting (State Plane Grid): 3583011.75 Elevation: (NAVD 1988) 302.76 Latitude: N 30° 31' 55.03416" Longitude: W 96° 14' 46.56012" Geoid 09 Height (separation): -88.28 Ellipsoid Height: 214.48 Grid Scale Factor: 0.99991508 Elevation Scale Factor: 0.99998973 Combined Scale Factor: 0.99990482 Convergence Angle: 2° 06' 18"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station <u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 N 1.4 miles CS94 – 251 N 9°40'06"W–1078.0 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 35'± east of Nantucket Drive (Q), 375' north of the intersection with Andover Court, on the north side of an old fenceline, and under an aerial powerline.</p>	

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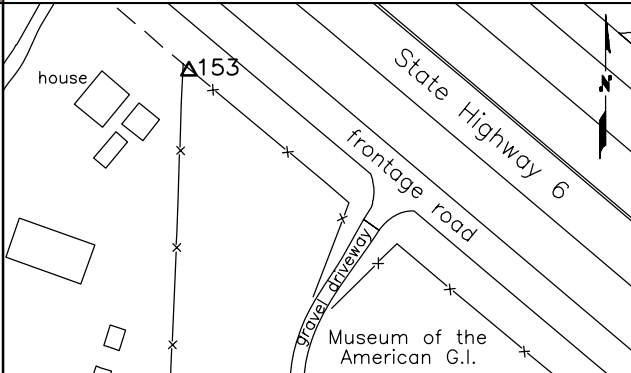
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 152</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.10 ft. spread of 5 vertical observations: 0.15 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10179634.82 Easting (State Plane Grid): 3579242.54 Elevation: (NAVD 1988) 286.39 Latitude: N 30° 31' 44.49229" Longitude: W 96° 15' 30.13579" Geoid 09 Height (separation): -88.25 Ellipsoid Height: 198.14 Grid Scale Factor: 0.99991550 Elevation Scale Factor: 0.99999052 Combined Scale Factor: 0.99990602 Convergence Angle: 2° 05' 56"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 NE 1.7 miles CS94 – 136 N 3°59'13"W–1800.2 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 0.6' west of a barbed-wire fence on the east side of Arrington Road, 114' south of Explorer Pipeline sign in the east fenceline, and 57' north of a 16" Oak tree in the same fence. Point is 0.8 miles south of the intersection of Harpers Ferry Road with Arrington Road.</p>	

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CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 153</p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.06 ft. spread of 3 vertical observations: 0.14 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10176927.45 Easting (State Plane Grid): 3592877.45 Elevation: (NAVD 1988) 243.18 Latitude: N 30° 31' 12.74225" Longitude: W 96° 12' 55.47981" Geoid 09 Height (separation): -88.47 Ellipsoid Height: 154.71 Grid Scale Factor: 0.99991677 Elevation Scale Factor: 0.99999259 Combined Scale Factor: 0.99990937 Convergence Angle: 2° 07' 16"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 5 SE 1.4 miles CS94 – 263 NW 0.7 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.3' northeast of a barbed-wire fence, 8.8' southeast of a fence corner post (3-way), on the southwest R.O.W. line of Highway 6, 1.2 miles southeast of the overpass to Texas World Speedway.</p>	

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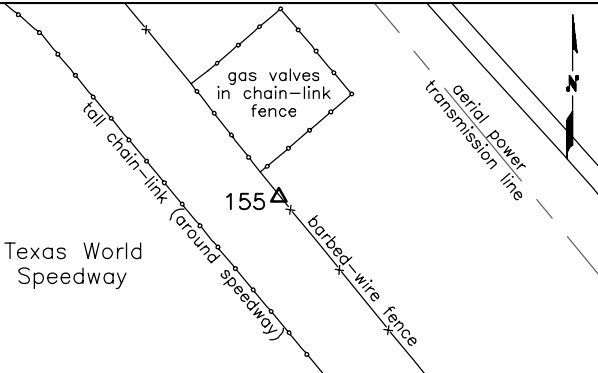
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 154</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 35' northeast of the Entergy power transmission line, on the east side of Pipeline Road. The point is 36' west of a power pole at an angle point in a distribution powerline.</p>	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.11 ft. spread of 5 vertical observations: 0.22 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10181118.34 Easting (State Plane Grid): 3595354.29 Elevation: (NAVD 1988) Poor Average! 252.7± Latitude: N 30° 31' 53.28952" Longitude: W 96° 12' 25.40349" Geoid 09 Height (separation): -88.45 Ellipsoid Height: 164.20 Grid Scale Factor: 0.99991515 Elevation Scale Factor: 0.99999214 Combined Scale Factor: 0.99990729 Convergence Angle: 2° 07' 31"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 5 NW 1.8 miles CS94 – 254 N 40°33'52"W-2211.3 feet</p>

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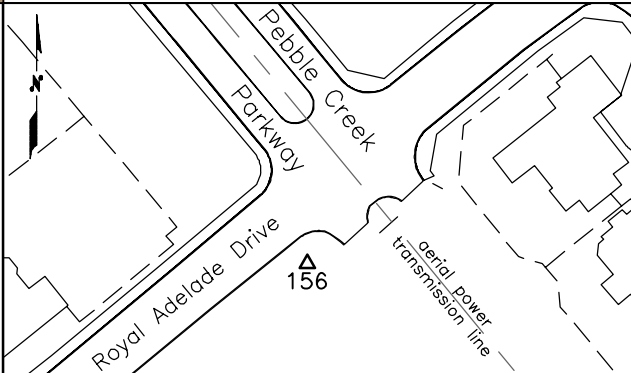
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 155</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.10 ft. spread of 5 vertical observations: 0.17 ft.</p>																						
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table border="0"> <tr><td>Northing (State Plane Grid):</td><td>10184147.13</td></tr> <tr><td>Easting (State Plane Grid):</td><td>3592631.36</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td>303.54</td></tr> <tr><td>Latitude:</td><td>N 30° 32' 24.24832"</td></tr> <tr><td>Longitude:</td><td>W 96° 12' 55.23648"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td>-88.37</td></tr> <tr><td>Ellipsoid Height:</td><td>215.17</td></tr> <tr><td>Grid Scale Factor:</td><td>0.99991394</td></tr> <tr><td>Elevation Scale Factor:</td><td>0.99998970</td></tr> <tr><td>Combined Scale Factor:</td><td>0.99990364</td></tr> <tr><td>Convergence Angle:</td><td>2° 07' 16"</td></tr> </table> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>	Northing (State Plane Grid):	10184147.13	Easting (State Plane Grid):	3592631.36	Elevation: (NAVD 1988)	303.54	Latitude:	N 30° 32' 24.24832"	Longitude:	W 96° 12' 55.23648"	Geoid 09 Height (separation):	-88.37	Ellipsoid Height:	215.17	Grid Scale Factor:	0.99991394	Elevation Scale Factor:	0.99998970	Combined Scale Factor:	0.99990364	Convergence Angle:	2° 07' 16"
Northing (State Plane Grid):	10184147.13																						
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Combined Scale Factor:	0.99990364																						
Convergence Angle:	2° 07' 16"																						
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located on the northeast edge of the Texas World Speedway property, 1.0' southwest of a barbed-wire fence and 21' southeast of the south fence corner (chain-link post) of a fenced area with exposed gas valves.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <table border="0"> <tr><td>2010 Mon 6</td><td>NE 2.1 miles</td></tr> <tr><td>CS94 - 254</td><td>S 43°36'28"E-1862.9 feet</td></tr> </table> 	2010 Mon 6	NE 2.1 miles	CS94 - 254	S 43°36'28"E-1862.9 feet																		
2010 Mon 6	NE 2.1 miles																						
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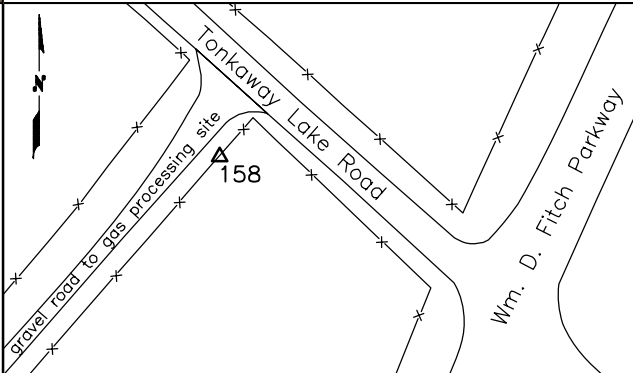
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 156</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.03 ft. spread of 3 vertical observations: 0.07 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10191681.91 Easting (State Plane Grid): 3586489.16 Elevation: (NAVD 1988) 259.11 Latitude: N 30° 33' 41.02647" Longitude: W 96° 14' 02.25531" Geoid 09 Height (separation): -88.17 Ellipsoid Height: 170.94 Grid Scale Factor: 0.99991104 Elevation Scale Factor: 0.99999182 Combined Scale Factor: 0.99990285 Convergence Angle: 2° 06' 41"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 SW 1.1 miles CS94 – 256 N 38°16'05"W-2255.1 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 6" below grade. Located at the south corner of Pebble Creek Parkway and Royal Adelaide Drive, 15.7' south-east of Royal Adelaide curb, 22.2' southwest of Pebble Creek Pkwy. curb, and 9.3' south of a concrete power pole.</p>	

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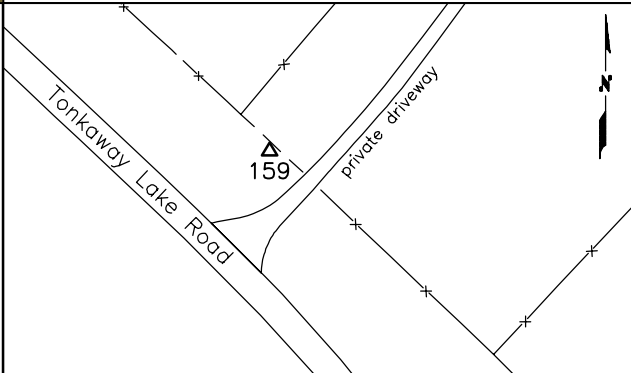
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 158</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.11 ft. spread of 3 vertical observations: 0.12 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table> <tr><td>Northing (State Plane Grid):</td><td>10205844.85</td></tr> <tr><td>Easting (State Plane Grid):</td><td>3590098.50</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td>252.20</td></tr> <tr><td>Latitude:</td><td>N 30° 35' 59.80600"</td></tr> <tr><td>Longitude:</td><td>W 96° 13' 15.01094"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td>-88.02</td></tr> <tr><td>Ellipsoid Height:</td><td>164.18</td></tr> <tr><td>Grid Scale Factor:</td><td>0.99990613</td></tr> <tr><td>Elevation Scale Factor:</td><td>0.99999214</td></tr> <tr><td>Combined Scale Factor:</td><td>0.99989827</td></tr> <tr><td>Convergence Angle:</td><td>2° 07' 05"</td></tr> </table>	Northing (State Plane Grid):	10205844.85	Easting (State Plane Grid):	3590098.50	Elevation: (NAVD 1988)	252.20	Latitude:	N 30° 35' 59.80600"	Longitude:	W 96° 13' 15.01094"	Geoid 09 Height (separation):	-88.02	Ellipsoid Height:	164.18	Grid Scale Factor:	0.99990613	Elevation Scale Factor:	0.99999214	Combined Scale Factor:	0.99989827	Convergence Angle:	2° 07' 05"
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	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table> <tr><td>2010 Mon 7</td><td>NE 1.8 miles</td></tr> <tr><td>CS94 – 159</td><td>SE 0.7 miles</td></tr> </table>	2010 Mon 7	NE 1.8 miles	CS94 – 159	SE 0.7 miles																		
2010 Mon 7	NE 1.8 miles																						
CS94 – 159	SE 0.7 miles																						
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 0.8' northwest of a barbed-wire fence, along the southeast side of a gated roadway to a gas processing site, and 31' southwest of the fence corner in the southwest fenceline of Tonkaway Lake Road. This roadway is 220' north of the \odot of Wm. D. Fitch Parkway at Tonkaway Lake Road.</p>																							

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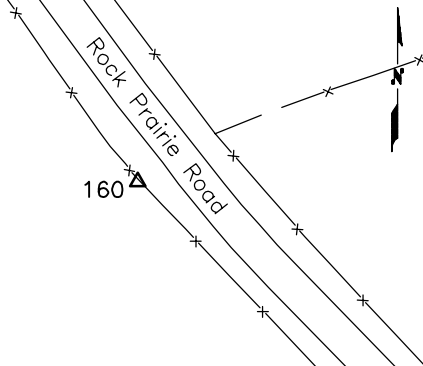
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 159</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.10 ft. spread of 3 vertical observations: 0.04 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10203377.05 Easting (State Plane Grid): 3592854.50 Elevation: (NAVD 1988) 246.97 Latitude: N 30° 35' 34.38553" Longitude: W 96° 12' 44.54167" Geoid 09 Height (separation): -88.09 Ellipsoid Height: 158.88 Grid Scale Factor: 0.99990700 Elevation Scale Factor: 0.99999240 Combined Scale Factor: 0.99989939 Convergence Angle: 2° 07' 21"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 7 NE 2.0 miles CS94 – 159 NW 0.7 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above ground. Located 1.0' southwest of a wood-rail fence, 30'± northwest of the driveway and cattle guard (C) at 16305 Tonkaway Lake Road, and 0.6 miles southeast of Wm. D. Fitch Parkway.</p>	

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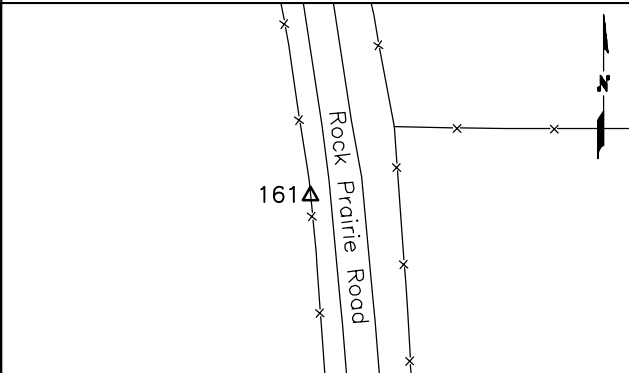
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 160</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.10 ft. spread of 5 vertical observations: 0.20 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10193980.98 Easting (State Plane Grid): 3598124.66 Elevation: (NAVD 1988) 211.20 Latitude: N 30° 33' 59.50583" Longitude: W 96° 11' 48.27864" Geoid 09 Height (separation): -88.30 Ellipsoid Height: 122.90 Grid Scale Factor: 0.99991036 Elevation Scale Factor: 0.99999412 Combined Scale Factor: 0.99990447 Convergence Angle: 2° 07' 50"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above ground. Located 1.2'± east of the barbed-wire fence on the southwest side of Rock Prairie Road, 18'± south of a gate (Q), 1-1/4 miles north of the intersection with Sulphur Springs Road.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <p>2010 Mon 6 SE 1.0 miles CS94 - 260 S 45°35'39"E-1782.5 feet</p> 

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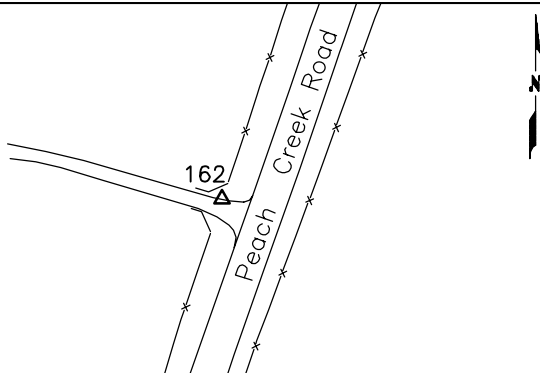
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 161</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.14 ft. spread of 3 vertical observations: 0.14 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.5'± east of a fence post, at a slight angle point in the barbed-wire fence on the west side of Rock Prairie Road, 1/4 mile north of the intersection of Sulphur Springs Rd.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10190506.73 Easting (State Plane Grid): 3601592.87 Elevation: (NAVD 1988) 201.81 Latitude: N 30° 33' 23.86141" Longitude: W 96° 11' 10.11478" Geoid 09 Height (separation): -88.40 Ellipsoid Height: 113.41 Grid Scale Factor: 0.99991167 Elevation Scale Factor: 0.99999457 Combined Scale Factor: 0.99990625 Convergence Angle: 2° 08' 10"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 6 S 15°23'E–270.9 feet CS94 – 261 S 3°05'15"E–997.2 feet</p>
	

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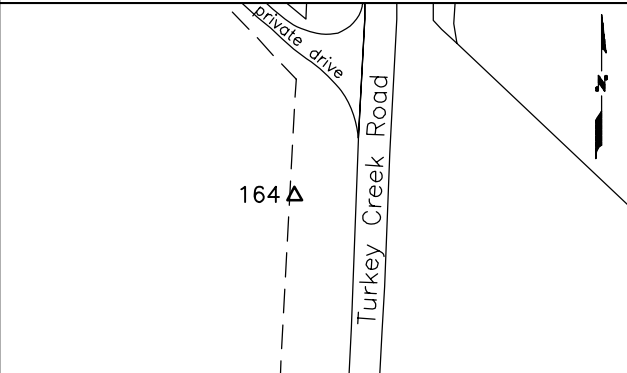
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 162</p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.12 ft. spread of 4 vertical observations: 0.14 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10186353.96 Easting (State Plane Grid): 3600326.84 Elevation: (NAVD 1988) 213.19 Latitude: N 30° 32' 43.25015" Longitude: W 96° 11' 26.35376" Geoid 09 Height (separation): -88.44 Ellipsoid Height: 124.75 Grid Scale Factor: 0.99991321 Elevation Scale Factor: 0.99999403 Combined Scale Factor: 0.99990724 Convergence Angle: 2° 08' 01"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 3" below grade. Located in the north edge of the gravel driveway at 2647 Peach Creek Road. The point is 20.3' east of a cattle guard \mathbb{Q}, 8.4' south of a fence corner post, and 1/4 mile southwest of the Sulphur Springs Road / Rock Prairie Road intersection.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <p>2010 Mon 6 NE 0.8 miles CS94 - 262 N 23°05'44"E-2016.5 feet</p> 

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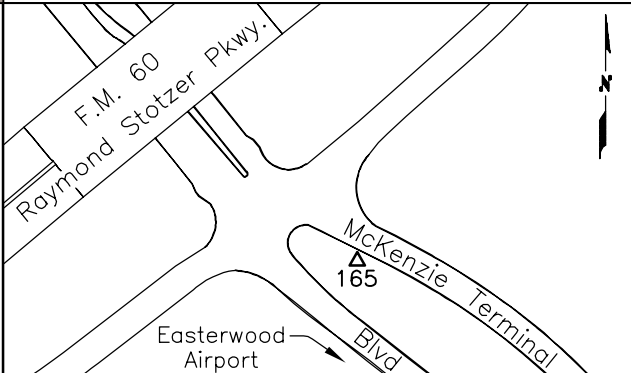
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<u>Station Name:</u> <i>CS94 - 164</i>
	<u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994 <u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.09 ft. spread of 4 vertical observations: 0.13 ft.
	<u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10207269.05 Easting (State Plane Grid): 3541253.11 Elevation: (NAVD 1988) 344.70 Latitude: N 30° 36' 31.42829" Longitude: W 96° 22' 33.01261" Geoid 09 Height (separation): -87.43 Ellipsoid Height: 257.27 Grid Scale Factor: 0.99990508 Elevation Scale Factor: 0.99998769 Combined Scale Factor: 0.99989276 Convergence Angle: 2° 02' 18" <u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station <u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.
<u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.5'± east of a wood rail fence, along the west right-of-way of Turkey Creek Road (F.M. 2513), 1/4 mile north from the intersection with F&B Road.	<u>Nearest City of College Station Monuments:</u> 2010 Mon 1 SE 2.6 miles CS94 – 165 SE 0.9 miles 

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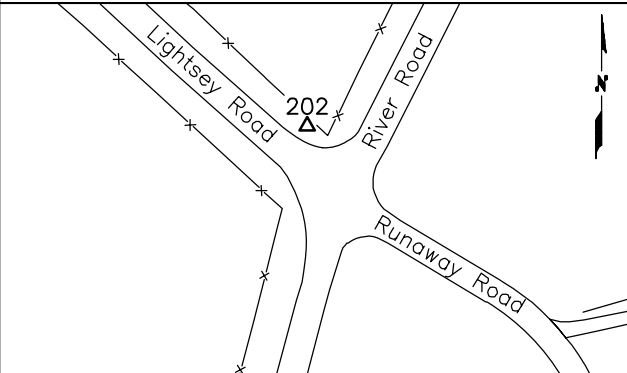
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 165</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.10 ft. spread of 3 vertical observations: 0.05 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located in the median of McKenzie Terminal Boulevard, 10'± northeast of the Easterwood Airport entrance sign, on the south side of Raymond Stotzer Parkway at the Turkey Creek Road overpass.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10202981.02 Easting (State Plane Grid): 3543114.99 Elevation: (NAVD 1988) 322.45 Latitude: N 30° 35' 48.35370" Longitude: W 96° 22' 13.46663" Geoid 09 Height (separation): -87.51 Ellipsoid Height: 234.94 Grid Scale Factor: 0.99990652 Elevation Scale Factor: 0.99998875 Combined Scale Factor: 0.99989527 Convergence Angle: 2° 02' 28"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 E 2.2 miles CS94 – 164 NW 0.9 miles</p>
	

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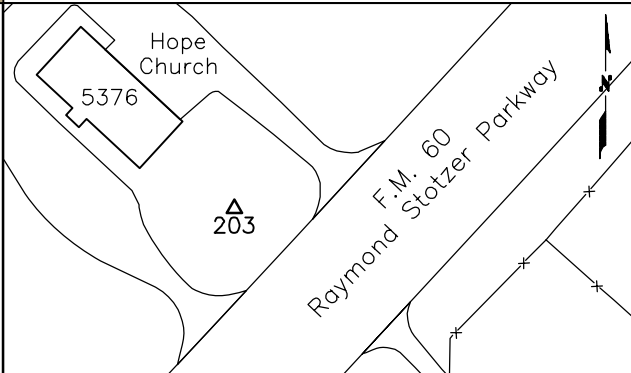
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 202</p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.11 ft. spread of 3 vertical observations: 0.18 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10192585.54 Easting (State Plane Grid): 3537636.57 Elevation: (NAVD 1988) Poor Average! 292.5± Latitude: N 30° 34' 07.44480" Longitude: W 96° 23' 20.33125" Geoid 09 Height (separation): -87.62 Ellipsoid Height: 204.83 Grid Scale Factor: 0.99991007 Elevation Scale Factor: 0.99999020 Combined Scale Factor: 0.99990026 Convergence Angle: 2° 01' 54"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.5' southwest of a barbed-wire fence on the northeast side of Lightsey Road, 15'± northwest from the fence corner at River Road, and 7' northwest of a 30" Post Oak tree.</p>	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 2 SW 1.4 miles CS94 – 102 S 13°18'52"W-2111.7 feet</p> 

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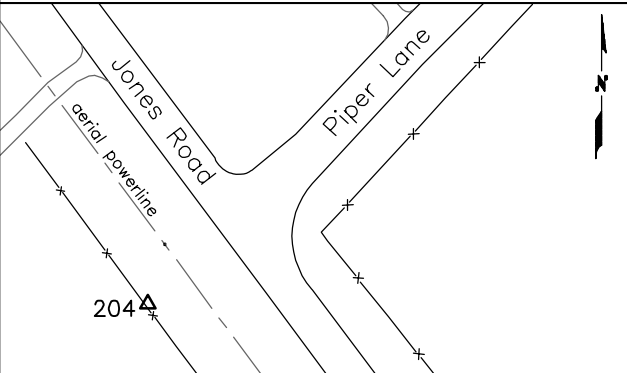
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 203</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.05 ft. spread of 4 vertical observations: 0.17 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 10' east of the sign base for Hope Evangelical Free Church at 5376 Raymond Stotzer Parkway (F.M. 60), on the northwest R.O.W. line of F.M. 60, 1/2 mile northeast of Jones Road.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10199181.48 Easting (State Plane Grid): 3538693.26 Elevation: (NAVD 1988) 311.15 Latitude: N 30° 35' 12.32339" Longitude: W 96° 23' 05.57359" Geoid 09 Height (separation): -87.52 Ellipsoid Height: 223.63 Grid Scale Factor: 0.99990776 Elevation Scale Factor: 0.99998930 Combined Scale Factor: 0.99989706 Convergence Angle: 2° 02' 01"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 2 SW 2.3 miles CS94 – 103 S 39°58'00"W–3988.8 feet</p>
	

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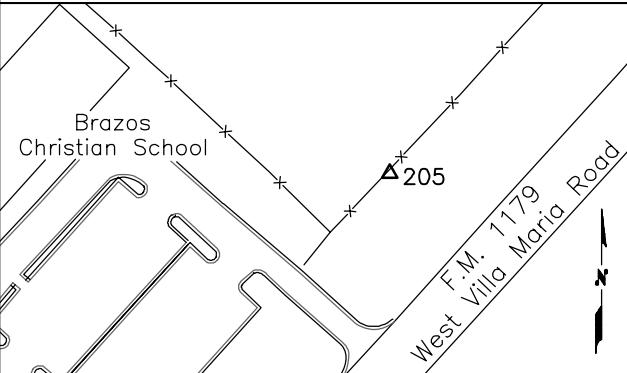
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 204</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.11 ft. spread of 4 vertical observations: 0.07 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10200570.04 Easting (State Plane Grid): 3532324.94 Elevation: (NAVD 1988) 278.70 Latitude: N 30° 35' 28.29093" Longitude: W 96° 24' 17.82949" Geoid 09 Height (separation): -87.45 Ellipsoid Height: 191.25 Grid Scale Factor: 0.99990721 Elevation Scale Factor: 0.99999085 Combined Scale Factor: 0.99989805 Convergence Angle: 2° 01' 24"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 2 S 2.0 miles CS94 – 103 SE 1.1 miles</p>
	<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 1.5' northeast of a barbed-wire fence on the southwest side of Jones Road, across from the intersection of Piper Lane, 33' south of a wood power pole.</p>
	

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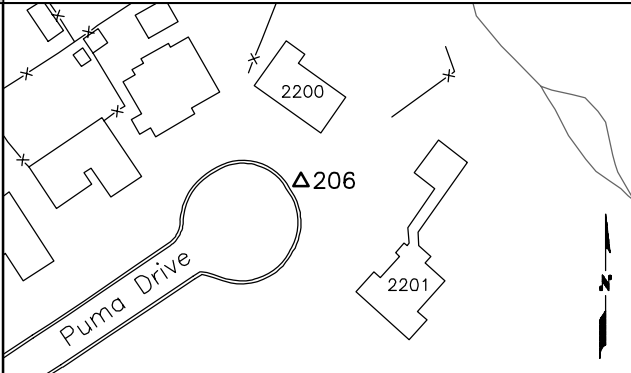
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 205</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.16 ft. spread of 3 vertical observations: 0.14 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10209526.52 Easting (State Plane Grid): 3533471.53 Elevation: (NAVD 1988) 295.20 Latitude: N 30° 36' 56.49123" Longitude: W 96° 24' 01.09612" Geoid 09 Height (separation): -87.33 Ellipsoid Height: 207.87 Grid Scale Factor: 0.99990426 Elevation Scale Factor: 0.99999005 Combined Scale Factor: 0.99989431 Convergence Angle: 2° 01' 33"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 2 S 3.7 miles CS94 – 105 S 38°14'41"W-2383.2 feet</p>
	<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 0.7' south of the wire fence on the northwest R.O.W. line of West Villa Maria Road, 3.1' south of wood power pole, 100'± northeast of Brazos Christian School north driveway (Q), and 0.9 miles northeast of Highway 47 (Q).</p>
	

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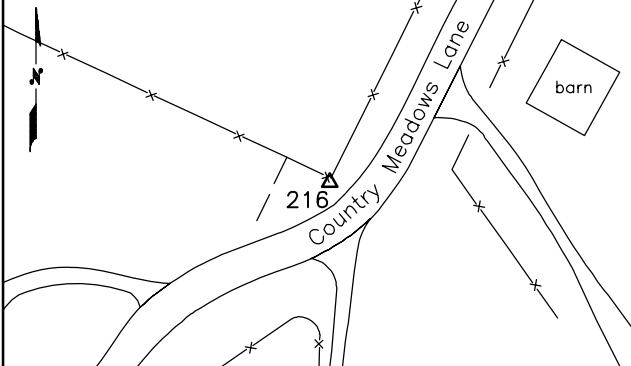
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 206</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.21 ft. spread of 4 vertical observations: 0.18 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10211789.20 Easting (State Plane Grid): 3538332.49 Elevation: (NAVD 1988) Poor Average! 272.9± Latitude: N 30° 37' 17.17032" Longitude: W 96° 23' 04.57929" Geoid 09 Height (separation): -87.34 Ellipsoid Height: 185.52 Grid Scale Factor: 0.99990359 Elevation Scale Factor: 0.99999112 Combined Scale Factor: 0.99989471 Convergence Angle: 2° 02' 02"</p> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1/2" below grade. Located 8.9' northeast of curb on Puma Drive, 4.0' southeast of edge of concrete driveway of 2200 Puma Drive, and 1.9' north of a steel phone pedestal.</p>	

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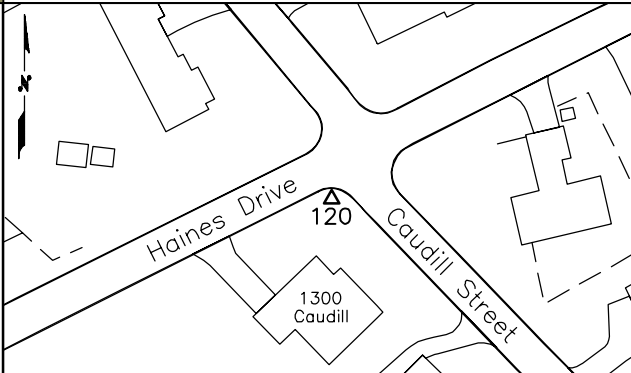
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 216</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.09 ft. spread of 4 vertical observations: 0.23 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10185615.34 Easting (State Plane Grid): 3557578.32 Elevation: (NAVD 1988) Poor Average! 260.6± Latitude: N 30° 32' 51.44037" Longitude: W 96° 19' 35.23229" Geoid 09 Height (separation): -87.92 Ellipsoid Height: 172.64 Grid Scale Factor: 0.99991290 Elevation Scale Factor: 0.99999174 Combined Scale Factor: 0.99990463 Convergence Angle: 2° 03' 50"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 10 NE 1.7 miles CS94 – 116 N 26°25'54"E–805.8 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 2.3' south of a fence corner post on the northwest side of Country Meadows Lane, 840' southwest from the \mathcal{Q} of South Dowling Road.</p>	

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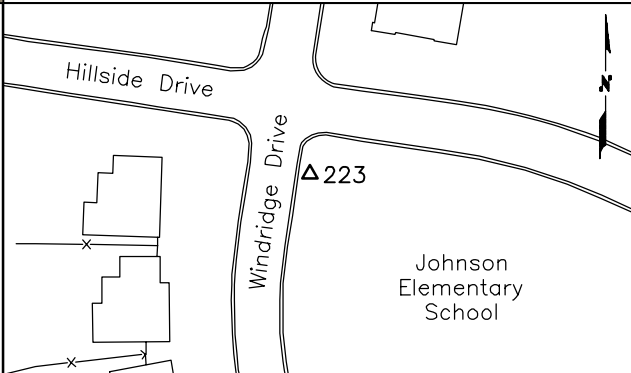
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 220</i></p> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.03 ft. spread of 3 vertical observations: 0.06 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p><u>Northing (State Plane Grid):</u> 10205296.97 <u>Easting (State Plane Grid):</u> 3557969.49 <u>Elevation: (NAVD 1988)</u> 312.32 <u>Latitude:</u> N 30° 36' 05.99521" <u>Longitude:</u> W 96° 19' 22.64845" <u>Geoid 09 Height (separation):</u> -87.63 <u>Ellipsoid Height:</u> 224.69 <u>Grid Scale Factor:</u> 0.99990592 <u>Elevation Scale Factor:</u> 0.99998925 <u>Combined Scale Factor:</u> 0.99989517 <u>Convergence Angle:</u> 2° 03' 56"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 1 SW 0.7 miles CS94 – 220 N 61°34'31"E-1086.8 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 4' south of curb (in radius) on the south quadrant of the Haines Drive / Caudill Street intersection, 11' west of the curb radius point on the west side of Caudill Street.</p>	

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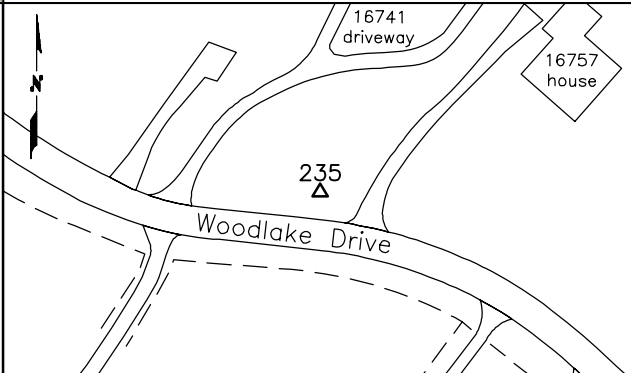
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> CS94 - 223</p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.12 ft. spread of 3 vertical observations: 0.06 ft.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.3' east of steel-picket fence, 5.4' east of sidewalk on Windridge Drive and 10.4' south of the fence corner post, within the playground of Johnson Elementary School in Bryan.</p>	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10222939.62 Easting (State Plane Grid): 3555847.54 Elevation: (NAVD 1988) 311.89 Latitude: N 30° 39' 01.27595" Longitude: W 96° 19' 39.64636" Geoid 09 Height (separation): -87.37 Ellipsoid Height: 224.52 Grid Scale Factor: 0.99990039 Elevation Scale Factor: 0.99998925 Combined Scale Factor: 0.99988965 Convergence Angle: 2° 03' 47"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 SE 2.1 miles CS94 - 123 S 16°42'35"E-1078.7 feet</p>
	

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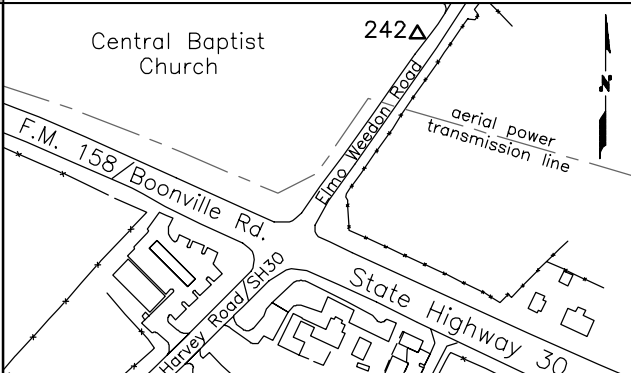
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p><u>Station Name:</u> <i>CS94 - 235</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.17 ft. spread of 4 vertical observations: 0.16 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10177662.55 Easting (State Plane Grid): 3575709.38 Elevation: (NAVD 1988) 283.46 Latitude: N 30° 31' 26.26163" Longitude: W 96° 16' 11.33244" Geoid 09 Height (separation): -88.24 Ellipsoid Height: 195.22 Grid Scale Factor: 0.99991623 Elevation Scale Factor: 0.99999066 Combined Scale Factor: 0.99990688 Convergence Angle: 2° 05' 35"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 4 SW 2.0 miles CS94 – 135 S 52°00'50"E–812.7 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 28± north of the street centerline at 16741 Woodlake Drive, 21' west of a phone pedestal, and 7.8' south of a 10" Post Oak tree.</p>	

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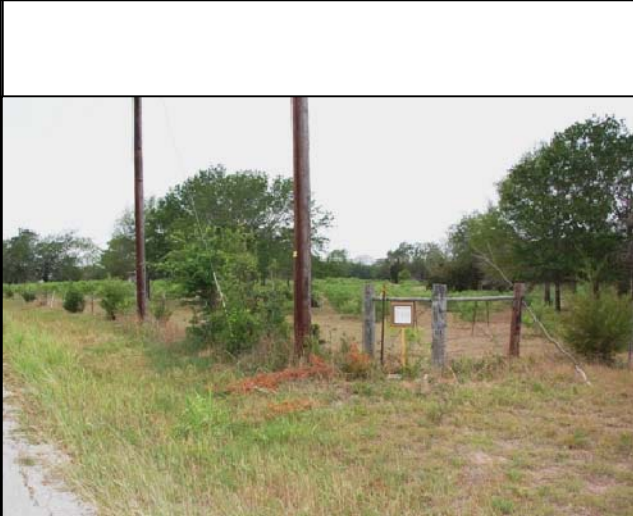
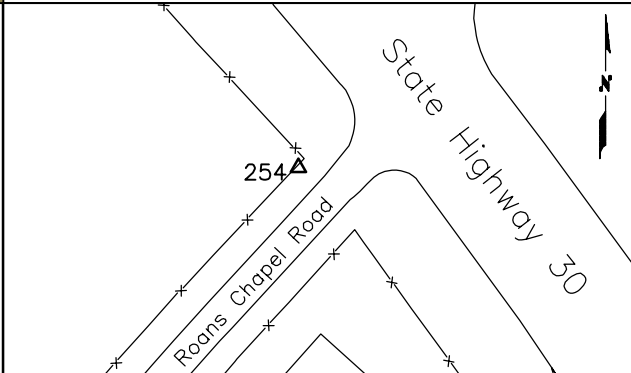
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p><u>Station Name:</u> <i>CS94 - 242</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> CDS/Muery Services (in network w/ 2010 primary monuments)</p> <p><u>RTK Observation Quality for this point:</u> spread of horizontal observations: n/a spread of vertical observations: n/a</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10225758.95 Easting (State Plane Grid): 3572403.18 Elevation: (1929 / 1988*) 321.32 / 321.41 Latitude: N 30° 39' 23.22623" Longitude: W 96° 16' 29.05054" Geoid 09 Height (separation): -87.52 Ellipsoid Height: 233.80 Grid Scale Factor: 0.99989975 Elevation Scale Factor: 0.99998884 Combined Scale Factor: 0.99988859 Convergence Angle: 2° 05' 25"</p> <p><u>Upgrade Datums:</u> NGVD1929/NAVD1988*—vertical NAD83(CORS) TX Central zone — horizontal *NGVD 1929 elevations were determined with baseline / network computations. NAVD 1988 elevations were determined w/VERTCON factors.</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 SW 1.6 miles CS94 - 141 S 0.9 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 2" above grade. Located 39'± northwest of the \odot of Elmo Weeton Road, 575' northeast of the \odot of Highway 30, 7'± south of a wood power pole.</p>	

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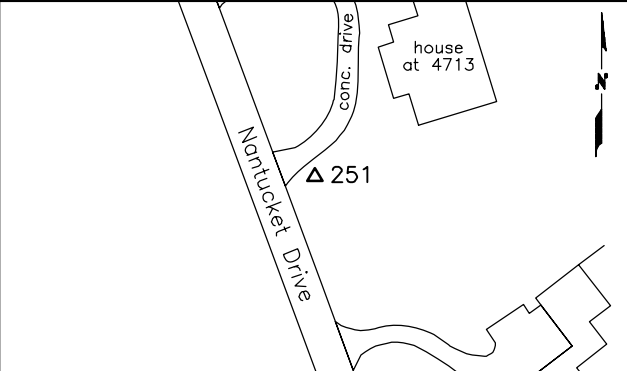
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 244</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.09 ft. spread of 5 vertical observations: 0.15 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10219505.37 Easting (State Plane Grid): 3580987.00 Elevation: (NAVD 1988) 311.04 Latitude: N 30° 38' 18.25663" Longitude: W 96° 14' 53.46380" Geoid 09 Height (separation): -87.71 Ellipsoid Height: 223.33 Grid Scale Factor: 0.99990169 Elevation Scale Factor: 0.99998931 Combined Scale Factor: 0.99989100 Convergence Angle: 2° 06' 15"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 8 W 2.8 miles CS94 – 244 N 40°46'14"E-2587.1 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1" above grade. Located 2.4' south the fence corner post at the intersection of the southwest R.O.W. line of Highway 30 with the northwest R.O.W. line of Roans Chapel Road, 6.0' northeast of a wood power pole.</p>	

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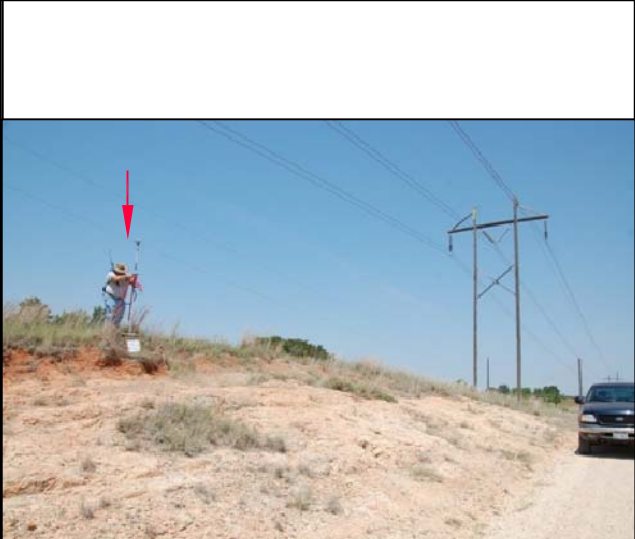
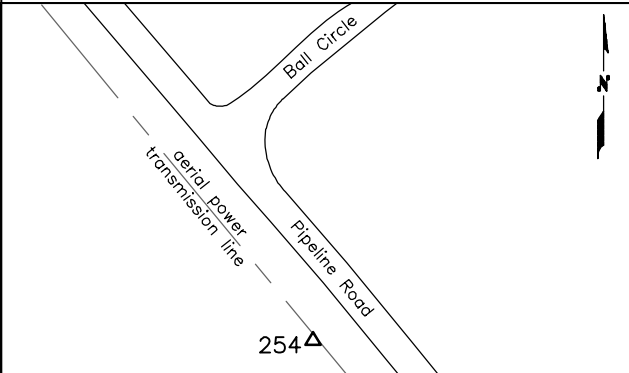
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 251</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 4 horizontal observations: 0.07 ft. spread of 4 vertical observations: 0.18 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10181901.55 Easting (State Plane Grid): 3582830.70 Elevation: (NAVD 1988) 289.99 Latitude: N 30° 32' 05.61211" Longitude: W 96° 14' 48.18265" Geoid 09 Height (separation): -88.26 Ellipsoid Height: 201.73 Grid Scale Factor: 0.99991467 Elevation Scale Factor: 0.99999034 Combined Scale Factor: 0.99990501 Convergence Angle: 2° 06' 17"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 1/2" below grade. Located at 4713 Nantucket Drive, 8.9' south of the south edge of the south driveway (loop), 8' southwest of a 14" Elm tree and 11' east of a concrete culvert.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <p>2010 Mon 11 N 1.2 miles CS94 - 151 S 9°40'06"E-1078.0 feet</p> 

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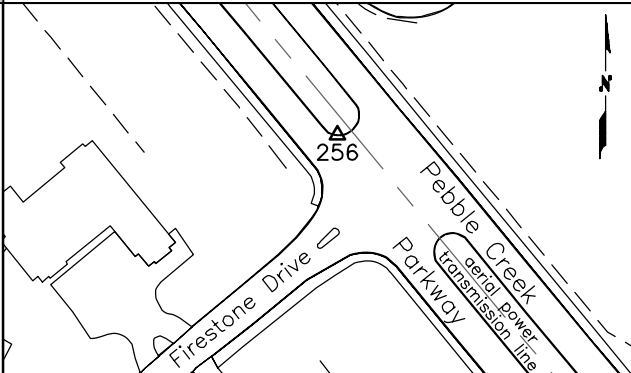
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 254</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.12 ft. spread of 4 vertical observations: 0.14 ft.</p> <p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10182798.22 Easting (State Plane Grid): 3593916.28 Elevation: (NAVD 1988) 298.01 Latitude: N 30° 32' 10.43426" Longitude: W 96° 12' 41.12421" Geoid 09 Height (separation): -88.40 Ellipsoid Height: 209.61 Grid Scale Factor: 0.99991448 Elevation Scale Factor: 0.99998997 Combined Scale Factor: 0.99990445 Convergence Angle: 2° 07' 23"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <p><u>Nearest City of College Station Monuments:</u> 2010 Mon 6 NE 2.0 miles CS94 – 155 N 43°36'28"W-1862.9 feet</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, 6"± above grade, due to severe erosion northeast of point. Located under Entergy power transmission line, 150'± south of the intersection of Pipeline Road and Ball Circle.</p>	

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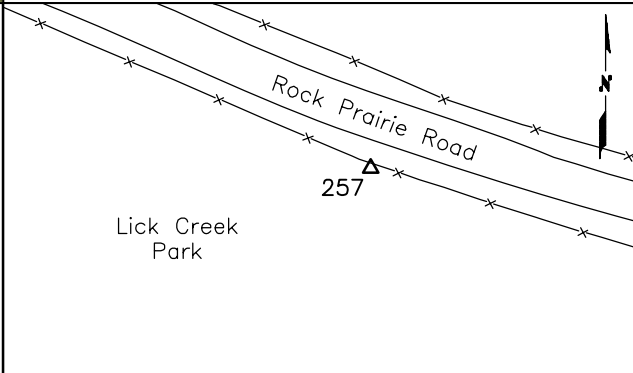
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 256</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.09 ft. spread of 3 vertical observations: 0.04 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10193452.45 Easting (State Plane Grid): 3585092.47 Elevation: (NAVD 1988) 274.91 Latitude: N 30° 33' 59.04953" Longitude: W 96° 14' 17.47493" Geoid 09 Height (separation): -88.13 Ellipsoid Height: 186.78 Grid Scale Factor: 0.99991037 Elevation Scale Factor: 0.99999106 Combined Scale Factor: 0.99990143 Convergence Angle: 2° 06' 33"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.0' north of curb, in the median of Pebble Creek Parkway, north of the Firestone Drive intersection.</p>	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 11 SW 1.2 miles CS94 – 156 S 38°16'05"E-2255.1 feet</p> 

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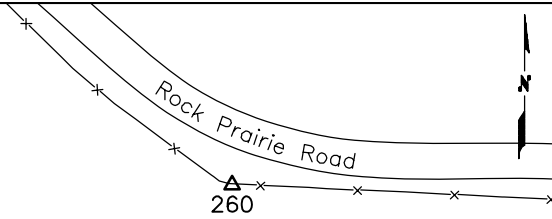
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 257</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.15 ft. spread of 5 vertical observations: 0.18 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10194481.85 Easting (State Plane Grid): 3593170.56 Elevation: (NAVD 1988) 242.68 Latitude: N 30° 34' 06.28001" Longitude: W 96° 12' 44.69734" Geoid 09 Height (separation): -88.22 Ellipsoid Height: 154.46 Grid Scale Factor: 0.99991011 Elevation Scale Factor: 0.99999261 Combined Scale Factor: 0.99990272 Convergence Angle: 2° 07' 21"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 6 SE 1.8 miles CS94 – 160 E 0.9 miles</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.3' north of the barbed-wire fence, on the southwest side of Rock Prairie Road, The point is 9.8' northwest of a fence post at an angle point, 16' north of a wood power pole and 1.6 miles southeast of Wm. D. Fitch Parkway at Rock Prairie Road .</p>	

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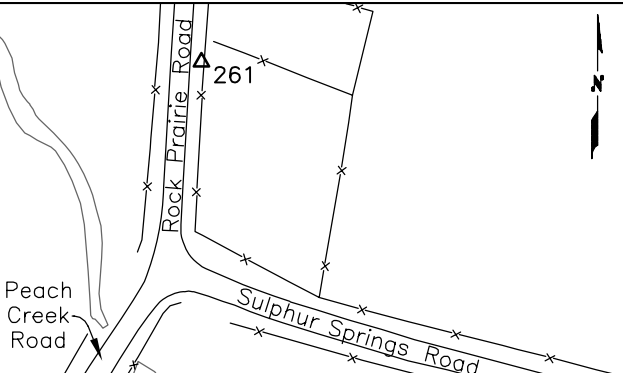
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 260</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.16 ft. spread of 5 vertical observations: 0.30 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10192733.73 Easting (State Plane Grid): 3599398.05 Elevation: (NAVD 1988) Poor Average! 202.3± Latitude: N 30° 33' 46.69945" Longitude: W 96° 11' 34.25336" Geoid 09 Height (separation): -88.34 Ellipsoid Height: 113.96 Grid Scale Factor: 0.99991083 Elevation Scale Factor: 0.99999454 Combined Scale Factor: 0.99990537 Convergence Angle: 2° 07' 57"</p>
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.3' north of the barbed-wire fence on the south side of Rock Prairie Road, 9'± east of a fence angle point, 0.9 miles north of the intersection with Sulphur Springs Road.</p>	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 6 SE 0.6 miles CS94 – 160 N 45°35'39"W-1782.5 feet</p> 

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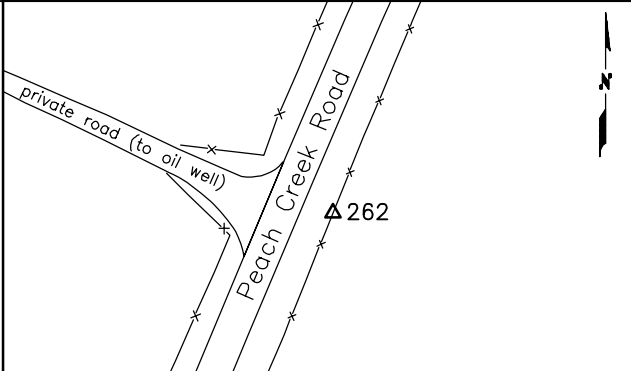
**CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011**

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 261</i></p> <hr/> <p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <hr/> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.15 ft. spread of 3 vertical observations: 0.17 ft.</p> <hr/> <p><u>Upgraded Location:</u> U.S. Survey Feet</p> <table style="width: 100%;"> <tr><td>Northing (State Plane Grid):</td><td style="text-align: right;">10189510.92</td></tr> <tr><td>Easting (State Plane Grid):</td><td style="text-align: right;">3601646.58</td></tr> <tr><td>Elevation: (NAVD 1988)</td><td style="text-align: right;">200.18</td></tr> <tr><td>Latitude:</td><td style="text-align: right;">N 30° 33' 13.99138"</td></tr> <tr><td>Longitude:</td><td style="text-align: right;">W 96° 11' 09.92538"</td></tr> <tr><td>Geoid 09 Height (separation):</td><td style="text-align: right;">-88.41</td></tr> <tr><td>Ellipsoid Height:</td><td style="text-align: right;">111.77</td></tr> <tr><td>Grid Scale Factor:</td><td style="text-align: right;">0.99991204</td></tr> <tr><td>Elevation Scale Factor:</td><td style="text-align: right;">0.99999465</td></tr> <tr><td>Combined Scale Factor:</td><td style="text-align: right;">0.99990669</td></tr> <tr><td>Convergence Angle:</td><td style="text-align: right;">2° 08' 10"</td></tr> </table> <hr/> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p> <hr/> <p><u>Nearest City of College Station Monuments:</u></p> <table style="width: 100%;"> <tr><td>2010 Mon 6</td><td style="text-align: right;">N 1°24'47"E-734.8 feet</td></tr> <tr><td>CS94 - 161</td><td style="text-align: right;">N 3°05'15"W-997.2 feet</td></tr> </table>	Northing (State Plane Grid):	10189510.92	Easting (State Plane Grid):	3601646.58	Elevation: (NAVD 1988)	200.18	Latitude:	N 30° 33' 13.99138"	Longitude:	W 96° 11' 09.92538"	Geoid 09 Height (separation):	-88.41	Ellipsoid Height:	111.77	Grid Scale Factor:	0.99991204	Elevation Scale Factor:	0.99999465	Combined Scale Factor:	0.99990669	Convergence Angle:	2° 08' 10"	2010 Mon 6	N 1°24'47"E-734.8 feet	CS94 - 161	N 3°05'15"W-997.2 feet
Northing (State Plane Grid):	10189510.92																										
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Elevation: (NAVD 1988)	200.18																										
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2010 Mon 6	N 1°24'47"E-734.8 feet																										
CS94 - 161	N 3°05'15"W-997.2 feet																										
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 1.8' west of the barbed-wire fence on the east side of Rock Prairie Road, 225'± north of the intersection (Ⓢ) of Sulphur Springs Road.</p>																										
																											

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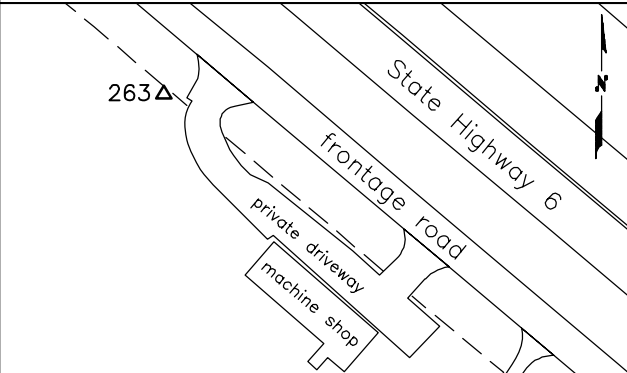
CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 262</i></p>
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p>
	<p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations) <u>RTK Observation Quality for this point:</u> spread of 5 horizontal observations: 0.18 ft. spread of 4 vertical observations: 0.09 ft.</p>
	<p><u>Upgraded Location:</u> U.S. Survey Feet Northing (State Plane Grid): 10188208.84 Easting (State Plane Grid): 3601117.83 Elevation: (NAVD 1988) 198.53 Latitude: N 30° 33' 01.30649" Longitude: W 96° 11' 16.52352" Geoid 09 Height (separation): -88.42 Ellipsoid Height: 110.11 Grid Scale Factor: 0.99991252 Elevation Scale Factor: 0.99999473 Combined Scale Factor: 0.99990725 Convergence Angle: 2° 08' 06"</p>
	<p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal *Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>
	<p><u>Nearest City of College Station Monuments:</u> 2010 Mon 6 NE 0.4 miles CS94 - 162 S 23°05'44"W-2016.5 feet</p>
	<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground. Located 0.8' northwest of barbed-wire fence, on the southeast side of Peach Creek Road, across from an oil well entrance gate, and 0.6 miles southwest of the Sulphur Springs Road / Rock Prairie Road intersection.</p> 

Disclaimer: No expressed or implied warranties are made for the accuracy, completeness, reliability, usability, or suitability of the point data. The City of College Station, CDS/Muery Services, and Joe Orr, Inc. assume no responsibility for incorrect results or damages resulting from the use of data.



CITY OF COLLEGE STATION
SECONDARY MONUMENT UPGRADE PROJECT
AUGUST 2011

	<p style="text-align: center;"><u>Station Name:</u> <i>CS94 - 263</i></p>				
	<p><u>Established by:</u> George W. Muery Services, Inc. <u>Date Established:</u> 1994</p> <p><u>Upgrade Survey by:</u> Joe Orr, Inc. (using average of multiple RTK observations)</p> <p><u>RTK Observation Quality for this point:</u> spread of 3 horizontal observations: 0.04 ft. spread of 3 vertical observations: 0.08 ft.</p>				
	<p><u>Upgraded Location:</u> U.S. Survey Feet</p> <p>Northing (State Plane Grid): 10179208.58 Easting (State Plane Grid): 3590133.63 Elevation: (NAVD 1988) 252.60 Latitude: N 30° 31' 36.31100" Longitude: W 96° 13' 25.86651" Geoid 09 Height (separation): -88.41 Ellipsoid Height: 164.19 Grid Scale Factor: 0.99991583 Elevation Scale Factor: 0.99999214 Combined Scale Factor: 0.99990797 Convergence Angle: 2° 07' 00"</p> <p><u>Upgrade Datums*:</u> NAVD 1988 – vertical NAD83(CORS) TX Central zone – horizontal</p> <p>*Based on results of the new deep rod GPS stations set and surveyed in 2010, by CDS/Muery Services for the City of College Station</p> <p><u>Note:</u> Projects requiring critical elevation determinations, such as flood plain certifications and gravity sewer projects, should be field verified from the nearest primary benchmark, through actual survey methods and not rely solely on the data presented herein.</p>				
<p><u>Point Location Description:</u> Aluminum cap in concrete, flush with ground, Located on private property (Bill Wiseman), on the southwest side of Highway 6, 1/2 mile southeast of the overpass to Texas World Speedway. Point is 2.2' southwest of the concrete footing, under a rolling, steel gate, 40'± northwest of the gate opening (Q) and a paved driveway.</p>	<p><u>Nearest City of College Station Monuments:</u></p> <table> <tr> <td>2010 Mon 5</td> <td>SE 2.1 miles</td> </tr> <tr> <td>CS94 – 153</td> <td>SE 0.7 miles</td> </tr> </table> 	2010 Mon 5	SE 2.1 miles	CS94 – 153	SE 0.7 miles
2010 Mon 5	SE 2.1 miles				
CS94 – 153	SE 0.7 miles				

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144	3582676.4785	10221464.6734	269.53	4h / 4v	0.088	0.17		N69W-0.140h / +0.34v	0h / 0v
244	3580987.0008	10219505.3689	311.04	5h / 5v	0.087	0.15		N73E-0.151h / -0.04v	0h / 0v
145	3583848.4310	10216537.6078	295.13	3h / 3v	0.084	0.08		N83E-0.085h / +0.26v	0h / 0v
146	3583030.6276	10211292.9741	284.17	4h / 4v	0.085	0.07		S79E-0.272h / -0.06v	0h / 0v
147								BURIED DEEP IN 2004	
148	3580111.9321	10200516.4918	266.20	3h / 3v	0.068	0.03		N14W-0.092h / +0.07v	0h / 0v
149								DUG OUT BY ROAD CONST.	
150								DUG OUT BY HIGHWAY CONST.	
151	3583011.7500	10180838.8585	302.76	4h / 4v	0.049	0.09		N20W-0.079h / +0.01v	0h / 0v
251	3582830.7031	10181901.5541	289.99	4h / 4v	0.071	0.18	bad location data on 1994 sheets	S10E-240.7h / +2.01v !!	0h / 0v
152	3579242.5437	10179634.8174	286.39	5h / 5v	0.104	0.15		N21W-0.069h / +0.05v	0h / 0v
153	3592877.4489	10176927.4505	243.18	3h / 3v	0.064	0.14		N16W-0.082h / +0.05v	0h / 0v
154	3595354.2870	10181118.3416	252.65	5h / 5v	0.111	0.22		N76W-0.094h / +0.29v	0h / 0v
254	3593916.2542	10182798.2288	298.01	5h / 4v	0.115	0.14 (.16)	dropped elev. on #243- poor DOP	N75W-0.151h / +0.15v	0h / 1v
155	3592631.3619	10184147.1311	303.54	5h / 5v	0.102	0.17		N24W-0.079h / +0.11v	0h / 0v
156	3586489.1604	10191681.9129	259.11	3h / 3v	0.033	0.07		N13W-0.049h / +0.12v	0h / 0v
256	3585092.4720	10193452.4482	274.91	3h / 3v	0.085	0.04		N1E-0.076h / +0.07v	0h / 0v
157							DUG OUT OR COVERED DEEP BY 1999		
257	3593170.5600	10194481.8515	242.68	5h / 5v	0.153	0.18		N33E-0.018h / +0.17v	0h / 0v
158	3590098.4988	10205844.8527	252.20	3h / 3v	0.105	0.12		N14E-0.177h / +0.08v	0h / 0v
159	3592854.5022	10203377.0454	246.97	3h / 3v	0.100	0.04		N49E-0.107h / +0.12v	0h / 0v
160	3598124.6593	10193980.9806	211.20	5h / 5v	0.100	0.20		N13E-0.081h / +0.20v	0h / 0v
260	3599398.0510	10192733.7264	202.30	5h / 5v	0.160	0.30		N1E-0.071h / +0.20v	0h / 0v
161	3601592.8659	10190506.7260	201.81	5h / 3v	0.141	0.14 (.27)	dropped elev. on #249&549- poor DOP	N15W-0.098h / +0.14v	0h / 2v
261	3601646.5787	10189510.9240	200.18	5h / 3v	0.147	0.17 (.17)	dropped elev. on #251 & 551- poor DOP	N15E-0.101h / +0.08v	0h / 2v
162	3600326.8383	10186353.9606	213.19	4h / 4v	0.123	0.14	IN EDGE OF DRIVEWAY, BUILT LATER	S53E-0.074h/ +0.36v	0h / 0h
262	3601117.8346	10188208.8356	198.53	5h / 4v	0.176	0.09 (.09)	dropped elev. on #252- poor DOP	N9E-0.041h / +0.22v	0h / 1v
163							DUG OUT BY HIGHWAY CONST.		
263	3590133.6286	10179208.5803	252.60	3h / 3v	0.044	0.08	SW OF CONC. FOOTING FOR GATE	N9W-0.081h / +0.13v	0h / 0v
164	3541253.1144	10207269.0548	344.70	4h / 4v	0.086	0.13		N63E-0.077h / +0.05v	0h / 0v
165	3543114.9930	10202981.0246	322.45	4h / 3v	0.096	0.05 (.05)	dropped elev. on #506- poor DOP	N17W-0.094h / -0.12v	0h / 1v
TAMU1935	3550620.3727	10208717.8715	345.82	2h / 2v	0.063	0.04	NGS Monument	N34E-0.070h / +0.07v	0h / 0v
HARVEY1943	3581342.4362	10233893.9972	313.39	2h / 2v	0.025	0.00	NGS Monument	N71E-0.139h / +0.19v	0h / 0v
HPM04a	3560218.5100	10192478.2335	324.72	4h / 4v	0.033	0.10	N63E-0.051h / +1.298v TO OPUS 8/11	(Joe Orr, Inc. reference rod)	
		total points used: 306 h (not all for elev.)							
* note: For comparison (movement) to 1994 monument locations, the 1994 locations were drawn as a 'rigid' frame and then shifted to the average horizontal and vertical (not tilted) location difference obtained from Muery's CORS location on the 4 old monuments (-1.6035 N / -1.8533 E / +0.135 Z).									
The results show relatively little horizontal movement on most of the monuments, and they are mostly lower in elevation now (17 years of sinking?), but part of this may be due to the 0.135 ft. vertical shift applied, mostly to compensate for the change to NAVD88 elevations.									
The movements of adjacent monuments seem to mostly be in agreement with each other, showing that movement is not isolated at each monument, except in cases of physical disturbance of the monuments, since they were installed in 1994.									
Henry Mayo 8/3/2011									