



City of University Park Control Monument Network

prepared for

City of University Park

by

RLG Consulting Engineers

July 2003

Revised November 2005

Revised December 2012

Revised November 2022



[Handwritten signature]
12/14/2022

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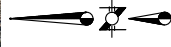
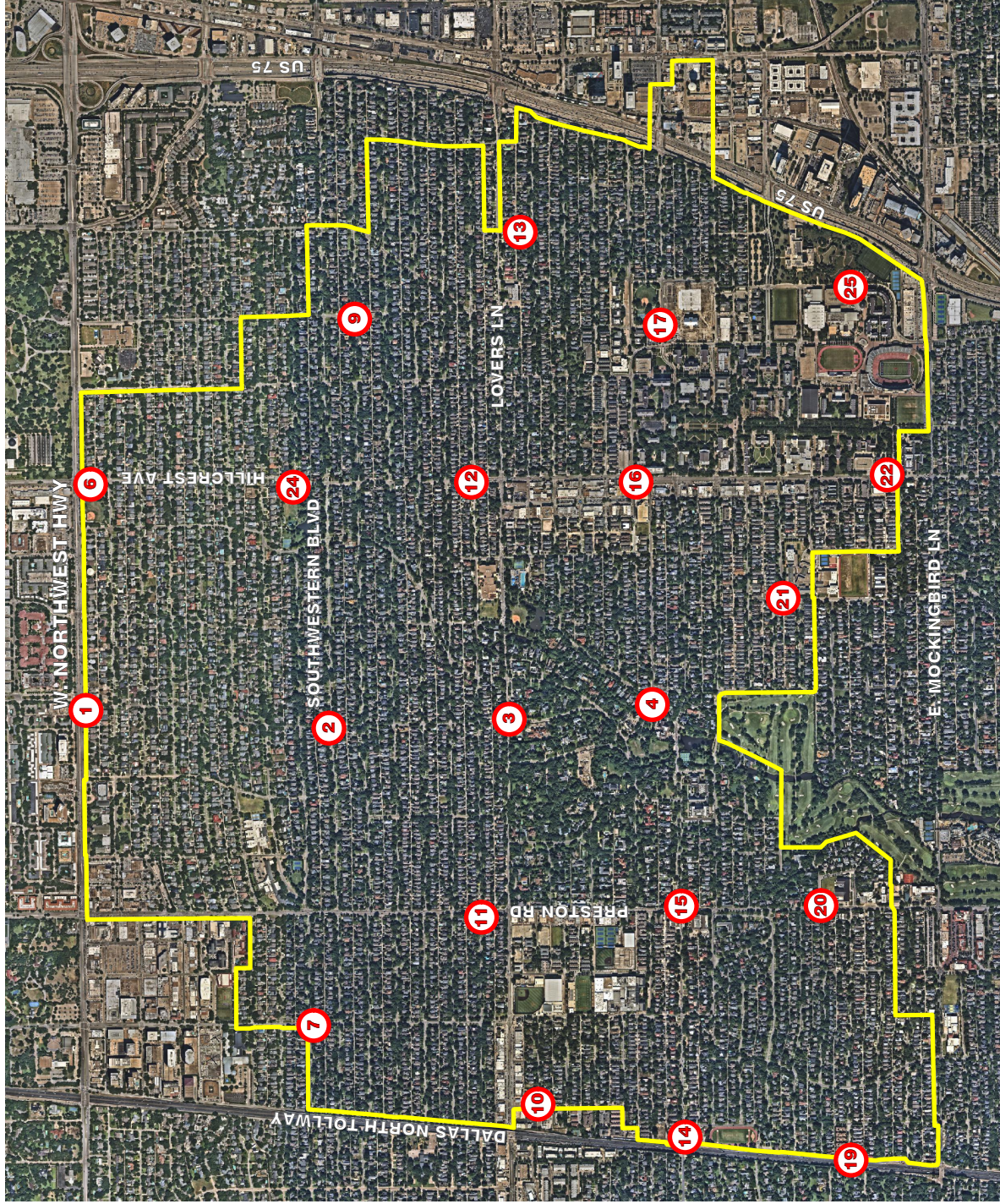
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I. INTRODUCTION

In March of 2003, RLG, was authorized by the City of University Park to re-establish State Plane Coordinates on an existing network of 21 control monuments located throughout the city. Global Positioning System observations were performed in May, June and July of 2003.

All monuments were previously set by Albert H. Halff Associates, Inc. in 1991, except U.P. #5 and U.P. #18, which were never set. Several monuments had been destroyed by construction in the intervening years. The following monuments were replaced by RLG in 2003.

- Control monument – U.P. #21
- Azimuth Monument – U.P. #3
- Azimuth Monument – U.P. #4
- Azimuth Monument – U.P. #10
- Azimuth Monument – U.P. #13
- Azimuth Monument – U.P. #19
- Azimuth Monument – U.P. #20
- Azimuth Monument – U.P. #23
- Reference Monument #1 – U.P. #3
- Reference Monument #1 – U.P. #4
- Reference Monument #1 – U.P. #6
- Reference Monument #2 – U.P. #9
- Reference Monument #1 – U.P. #15
- Reference Monument #2 – U.P. #15
- Reference Monument #2 – U.P. #16
- Control Monument – U.P. #8



CITY OF UNIVERSITY PARK MONUMENT MAP



CITY OF UNIVERSITY PARK MONUMENT TABLE			
MONUMENT	AZIMUTH	REFERENCE MARKER 1	REFERENCE MARKER 2
U.P. #1	AZ #1	U.P. #1 RM1	U.P. #1 RM2
U.P. #2	AZ #2	U.P. #2 RM1	U.P. #2 RM2
U.P. #3	AZ #3	U.P. #3 RM1	U.P. #3 RM2
U.P. #4	AZ #4	U.P. #4 RM1	U.P. #4 RM2
U.P. #5	AZ #5	U.P. #5 RM1	U.P. #5 RM2
U.P. #6	AZ #6	U.P. #6 RM1	U.P. #6 RM2
U.P. #7	AZ #7 & #11	U.P. #7 RM1	U.P. #7 RM2
U.P. #8	AZ #8	U.P. #8 RM1	U.P. #8 RM2
U.P. #9	AZ #9	U.P. #9 RM1	U.P. #9 RM2
U.P. #10	AZ #10	U.P. #10 RM1	U.P. #10 RM2
U.P. #11	AZ #7 & #11	U.P. #11 RM1	U.P. #11 RM2
U.P. #12	AZ #12	U.P. #12 RM1	U.P. #12 RM2
U.P. #13	AZ #13	U.P. #13 RM1	U.P. #13 RM2
U.P. #14	AZ #14 & #15	U.P. #14 RM1	U.P. #14 RM2
U.P. #15	AZ #14 & #15	U.P. #15 RM1	U.P. #15 RM2
U.P. #16	AZ #16, #21, & #22	U.P. #16 RM1	U.P. #16 RM2
U.P. #17	AZ #17	U.P. #17 RM1	U.P. #17 RM2
U.P. #19	AZ #19	U.P. #19 RM1	U.P. #19 RM2
U.P. #20	AZ #20	U.P. #20 RM1	U.P. #20 RM2
U.P. #21	AZ #16, #21, & #22	U.P. #21 RM1	U.P. #21 RM2
U.P. #22	AZ #16, #21, & #22	U.P. #22 RM1	U.P. #22 RM2
U.P. #23	AZ #23	U.P. #23 RM1	U.P. #23 RM2
U.P. #24	AZ #24	U.P. #24 RM1	U.P. #24 RM2
U.P. #25	AZ #25	U.P. #25 RM1	U.P. #25 RM2

RESET IN 2022



NEW



ABANDONED



In November 2005, RLG was authorized by the City of University Park to replace Control Monument UP #8 with UP #24. In December 2012, RLG was authorized by the City of University Park to replace Azimuth Monument UP #3.

In 2022, RLG was authorized by the City of University Park to review the condition of all control monuments, reference markers, and azimuth monuments and repair or replace damaged or missing monuments. The authorization included re-establishing State Plan Coordinates on the network. As a part of this work control monument #23 was replaced with control monument #25. In Addition the following monuments were reset:

- Control Monument – U.P. #6
- Control Monument – U.P. #20
- Control Monument – U.P. #21
- Azimuth Monument – U.P. #2
- Azimuth Monument – U.P. #7
- Azimuth Monument – U.P. #9
- Azimuth Monument – U.P. #10
- Azimuth Monument – U.P. #11
- Azimuth Monument – U.P. #16
- Azimuth Monument – U.P. #17
- Azimuth Monument – U.P. #19
- Azimuth Monument – U.P. #21
- Azimuth Monument – U.P. #22
- Reference Monument #1 – U.P. #6
- Reference Monument #1 – U.P. #7
- Reference Monument #1 – U.P. #9
- Reference Monument #1 – U.P. #13
- Reference Monument #1 – U.P. #19
- Reference Monument #1 – U.P. #20
- Reference Monument #2 – U.P. #1
- Reference Monument #2 – U.P. #6
- Reference Monument #2 – U.P. #13
- Reference Monument #2 – U.P. #16
- Reference Monument #2 – U.P. #20

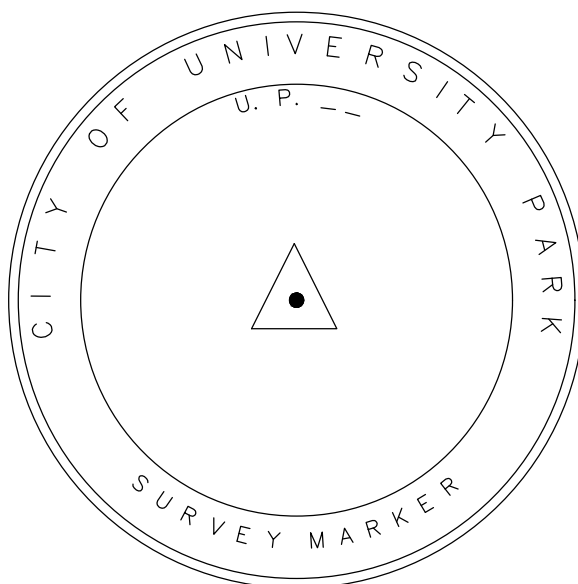
II. MONUMENT CONSTRUCTION

The Control Monument, unless otherwise noted on the data sheets which follow, is a 3-1/4 inch diameter aluminum compression-fit cap (Figure 1) on a 3/4 inch diameter sectional rod with stainless steel thread inserts and aluminum driving point. The rods were driven to refusal. Monuments are centered in a three foot section of sand-filled 6 inch diameter PVC pipe, which is covered by an aluminum access cover. (Figure 2)

The Reference Monuments and Azimuth Monuments are 3-1/4 inch diameter aluminum discs (Figures 1 & 1A) grouted or epoxied into drilled holes on concrete surfaces such as curbs, storm sewer inlets, or bridges.

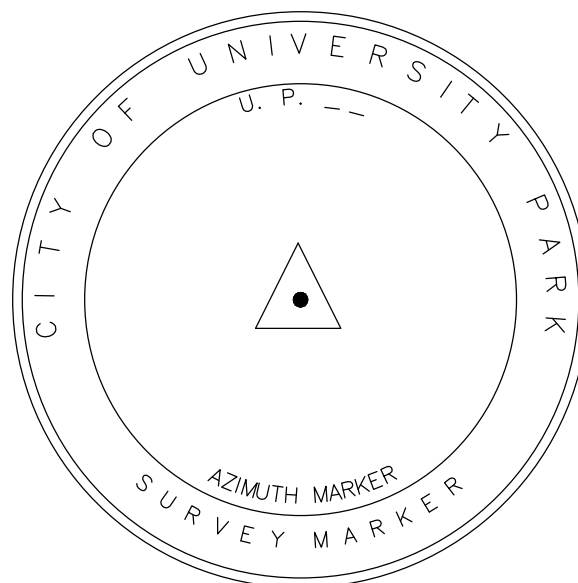
Two Reference Monuments are set within 100 feet of each Control Monument to assist in the retrieval of the Control Monument (NOTE: THESE REFERENCE MONUMENTS ARE TO BE USED TO HELP LOCATE THE CONTROL MONUMENT, AND NOT INTENDED TO BE USED FOR RESETTING ANY DESTROYED CONTROL MONUMENT). One Azimuth Monument is set 750 feet to 2500 feet away to serve as directional control.

CONTROL MONUMENT



STANDARD 3-1/4 INCH DIAMETER ALUMINUM DISK SET FOR GPS STATION MARK.

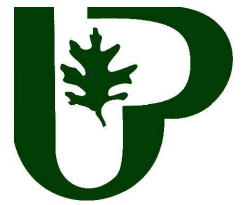
AZIMUTH MONUMENT



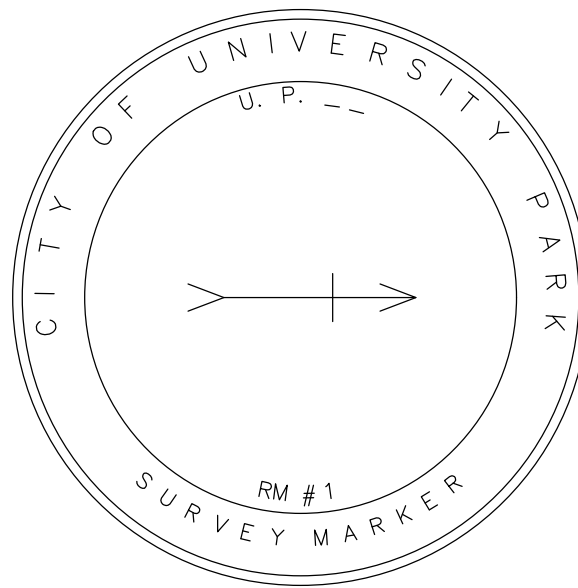
STANDARD 3-1/4 INCH DIAMETER ALUMINUM DISK SET FOR AZIMUTH MARK TO STATION.

FIGURE 1

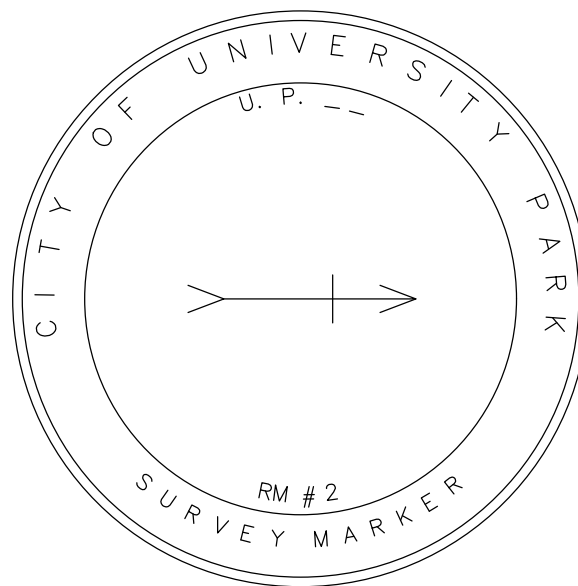
 RLG CONSULTING ENGINEERS 12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243 WWW.RLGINC.COM TBPELS REG #100341-00					
DETAILS					
MONUMENT CONSTRUCTION					
 CITY OF UNIVERSITY PARK					
REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	II-1



REFERENCE MONUMENT



STANDARD 3-1/4 INCH DIAMETER ALUMINUM DISK SET FOR REFERENCE MARK TO STATION.



STANDARD 3-1/4 INCH DIAMETER ALUMINUM DISK SET FOR REFERENCE MARK TO STATION.

FIGURE 1A



RLG CONSULTING ENGINEERS
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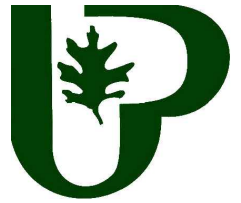
DETAILS

MONUMENT CONSTRUCTION



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	II-2



TYPICAL STATION INSTALLATION

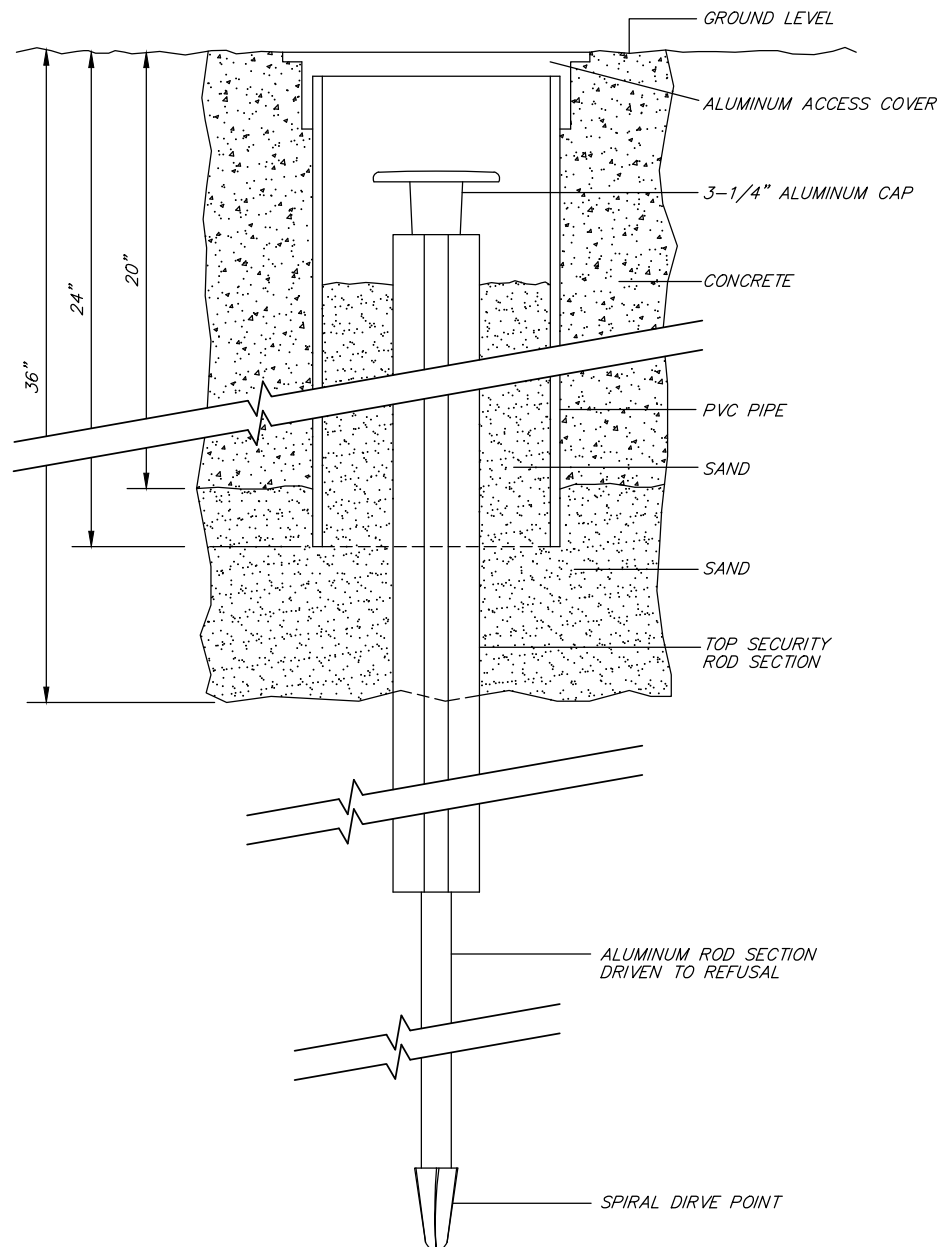


FIGURE 2



RLG CONSULTING ENGINEERS
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DETAILS

MONUMENT CONSTRUCTION



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	II-3

III. GLOBAL POSITIONING SURVEY

A. HORIZONTAL DATA

Trimble R10-2, R12, & R12i GNSS Receivers were used to collect multiple sets of GPS data. A minimum of six satellites were observed for each static occupation.

Static data was post-processed against the National Geodetic Survey's Continuously Operating Reference Stations (CORS). The following TXDOT CORS stations were used:

ID	SITE NAME
TXDA	DALLAS
TXDE	DENTON
TXSG	SAGINAW

These stations were constrained during the final processing to eliminate rotational error.

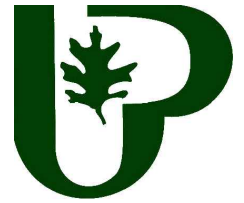
B. VERTICAL DATA

Elevations were transferred using a Sokkisha B1 Automatic Level.

Elevations on control monuments were established utilizing published elevations from TxDOT North 98 and TxDOT South 99.

3-Wire observations were taken with readings to 0.001' of a U.S. Survey Foot.

TxDOT CORS STATION TXDA



NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202

LATITUDE	32°47'59.92737" N	
LONGITUDE	96°40'22.45323" W	
NORTH (Y) GRID	2,127,160.817 METERS	6,978,860.113 U.S. SURVEY FEET
EAST (X) GRID	771,103.474 METERS	2,529,861.980 U.S. SURVEY FEET
CONVERGENCE ANGLE	0°59'47"	
METERS TO U.S. SURVEY FEET CONVERSION FACTOR	(39.37÷12) X METERS	



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TxDOT CORS STATION

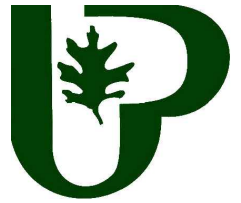
MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	III-1

TxDOT CORS STATION TXDE



NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202

LATITUDE	33°12'37.61283" N	
LONGITUDE	97°09'45.97036" W	
NORTH (Y) GRID	2,171,983.326 METERS	7,125,915.296 U.S. SURVEY FEET
EAST (X) GRID	724,652.193 METERS	2,377,463.071 U.S. SURVEY FEET
CONVERGENCE ANGLE	0°43'46"	
METERS TO U.S. SURVEY FEET CONVERSION FACTOR	(39.37÷12) X METERS	



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TxDOT CORS STATION

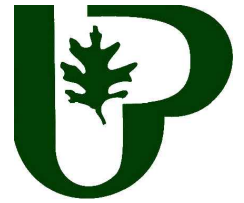
MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	III-2

TxDOT CORS STATION TXSG



NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202

LATITUDE	32°51'20.55598" N	
LONGITUDE	97°20'38.98460" W	
NORTH (Y) GRID	2,132,447.782 METERS	6,996,205.766 U.S. SURVEY FEET
EAST (X) GRID	708,176.882 METERS	2,323,410.322 U.S. SURVEY FEET
CONVERGENCE ANGLE	0°37'49"	
METERS TO U.S. SURVEY FEET CONVERSION FACTOR	(39.37÷12) X METERS	



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TxDOT CORS STATION

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	III-3

IV. CITY OF UNIVERSITY PARK CONTROL MONUMENT DATA SHEETS

For every control monument there is a location sketch sheet and a data sheet.
The data sheets contain the following information:

CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
{MONUMENT NAME}

NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202

LATITUDE _____
LONGITUDE _____
NORTH (Y) (GRID) _____ METERS _____ FEET _____
EAST (X) (GRID) _____ METERS _____ FEET _____
CONVERGENCE FACTOR _____
PROJECT CSF (COMBINED SCALE FACTOR) - _____
METERS TO FEET CONVERSION FACTOR -- ($39.37 \div 12$) _____

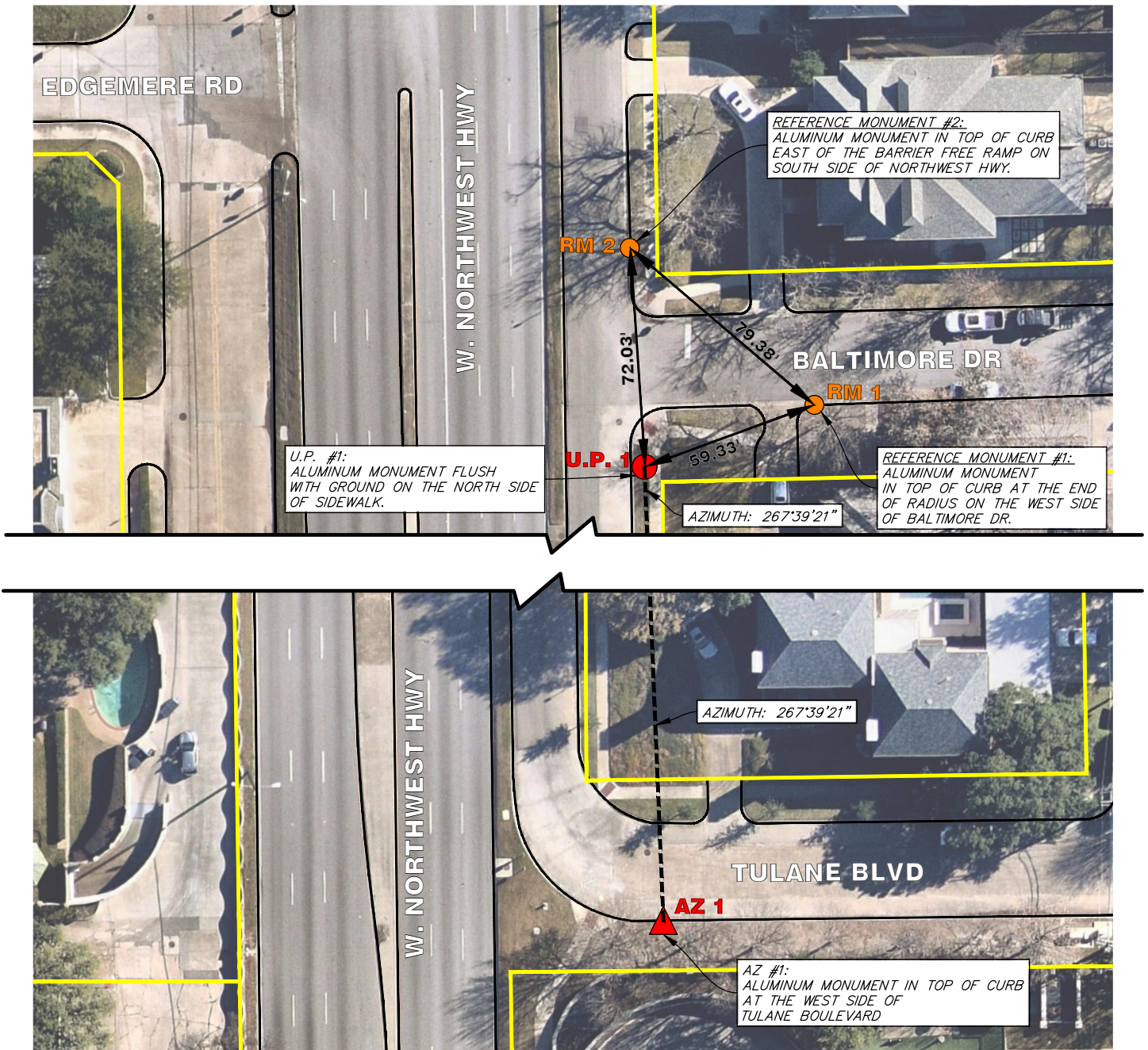
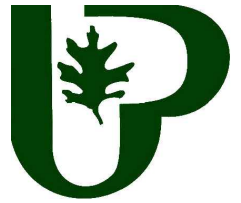
GRID AZIMUTH (NAD 83)
{AZIMUTH}

NORTH AMERICAN VERTICAL DATUM – 1988

MEAN SEA LEVEL _____ METERS _____ FEET _____



0 25 50 100
(FEET)
1 inch = 50 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #1 MAP

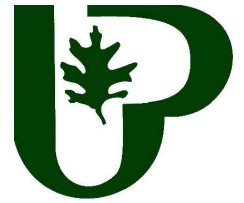
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-1

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #1**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'55.25805" N</i>	
<i>LONGITUDE</i>	<i>96°47'45.23932" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,134,214.998 METERS</i>	<i>7,002,003.705 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>759,468.630 METERS</i>	<i>2,491,689.997 U.S. SURVEY FEET</i>
<i>CONVERGENCE ANGLE</i>	<i>0°55'46"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.1–U.P.1 AZ=267°39'21"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>179.11 METERS</i>	<i>587.62 U.S. SURVEY FEET</i>
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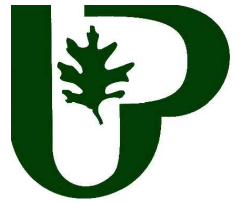
U.P. #1 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-2



LEGEND

-  REFERENCE AZIMUTH
 CONTROL MONUMENT
 REFERENCE MONUMENT
 PARCEL



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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #2 MAP

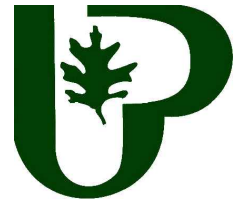
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-3

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #2**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'25.61155" N</i>	
<i>LONGITUDE</i>	<i>96°47'48.42731" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,133,300.592 METERS</i>	<i>6,999,003.692 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>759,400.573 METERS</i>	<i>2,491,466.712 U.S. SURVEY FEET</i>
<i>CONVERGENCE ANGLE</i>	<i>0°55'44"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.2–U.P.2 AZ=266°17'36"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>173.88 METERS</i>	<i>570.48 U.S. SURVEY FEET</i>
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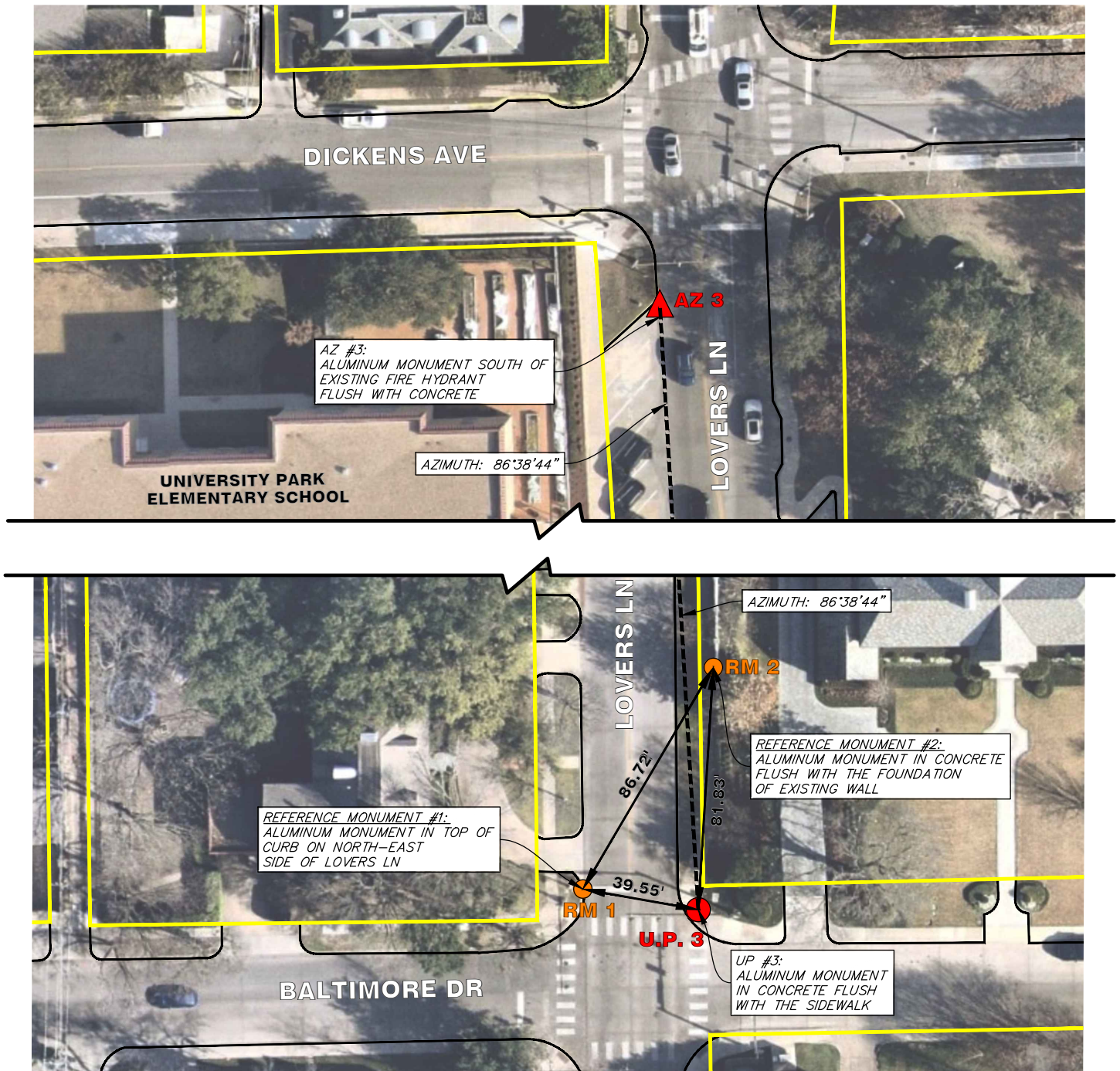
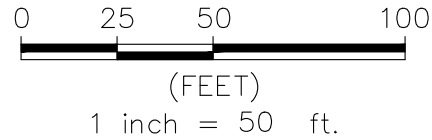
U.P. #2 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-4



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #3 MAP

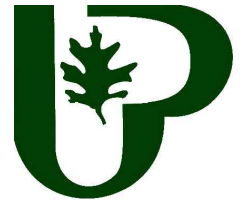
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-5

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #3**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'03.64898" N</i>	
<i>LONGITUDE</i>	<i>96°47'47.59074" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,624.535 METERS</i>	<i>6,996,785.662 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>759,433.287 METERS</i>	<i>2,491,574.044 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'45"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.3–U.P.3 AZ=86°38'44"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>169.43 METERS</i>	<i>555.88 U.S. SURVEY FEET</i>
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RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #3 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-6



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #4 MAP

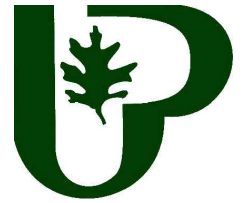
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-7

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #4**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'46.17440"N</i>	
<i>LONGITUDE</i>	<i>96°47'46.34145"W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,086.875 METERS</i>	<i>6,995,021.690 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>759,474.494 METERS</i>	<i>2,491,709.235 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'45"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.4–U.P.4 AZ=90°05'06"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>165.01 METERS</i>	<i>541.36 U.S. SURVEY FEET</i>
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U.P. #4 GEODETIC DATA

MONUMENT DATA SHEET

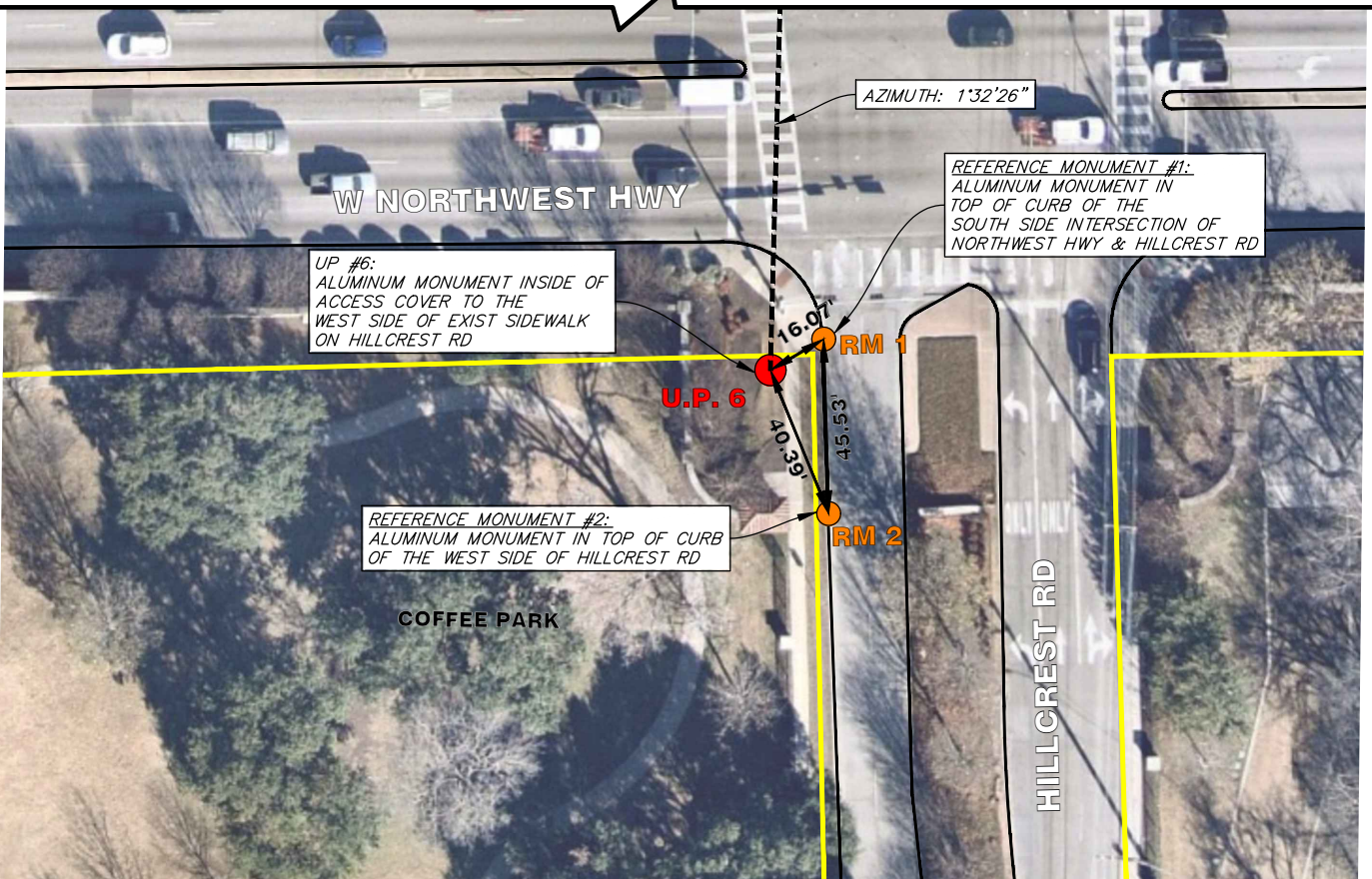
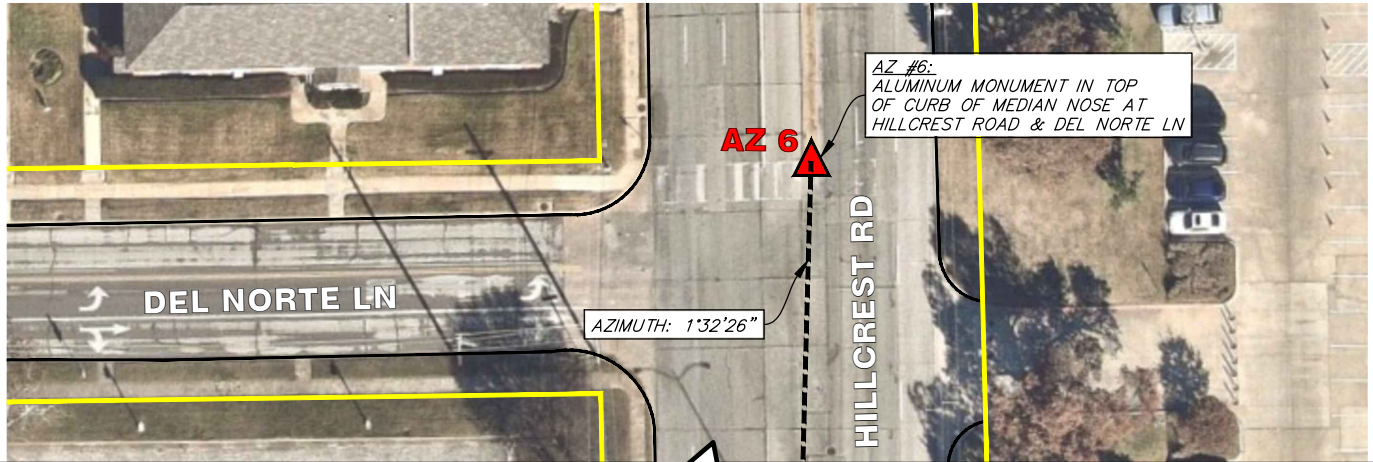
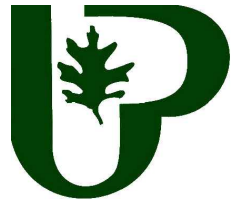


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-8



0 25 50 100
(FEET)
1 inch = 50 ft.



LEGEND



REFERENCE AZIMUTH



CONTROL MONUMENT



REFERENCE MONUMENT



PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #6 MAP

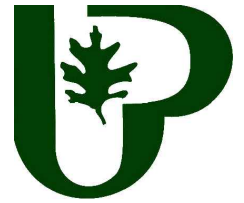
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-9

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #6**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'55.17924" N</i>	
<i>LONGITUDE</i>	<i>–96°47'12.88455" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,134,226.249 METERS</i>	<i>7,002,040.619 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,309.634 METERS</i>	<i>249,4449.191 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'04"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.6–U.P.6 AZ=1°32'26"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>184.68 METERS</i>	<i>605.90 U.S. SURVEY FEET</i>
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WWW.RLGINC.COM TBPELS REG #100341-00

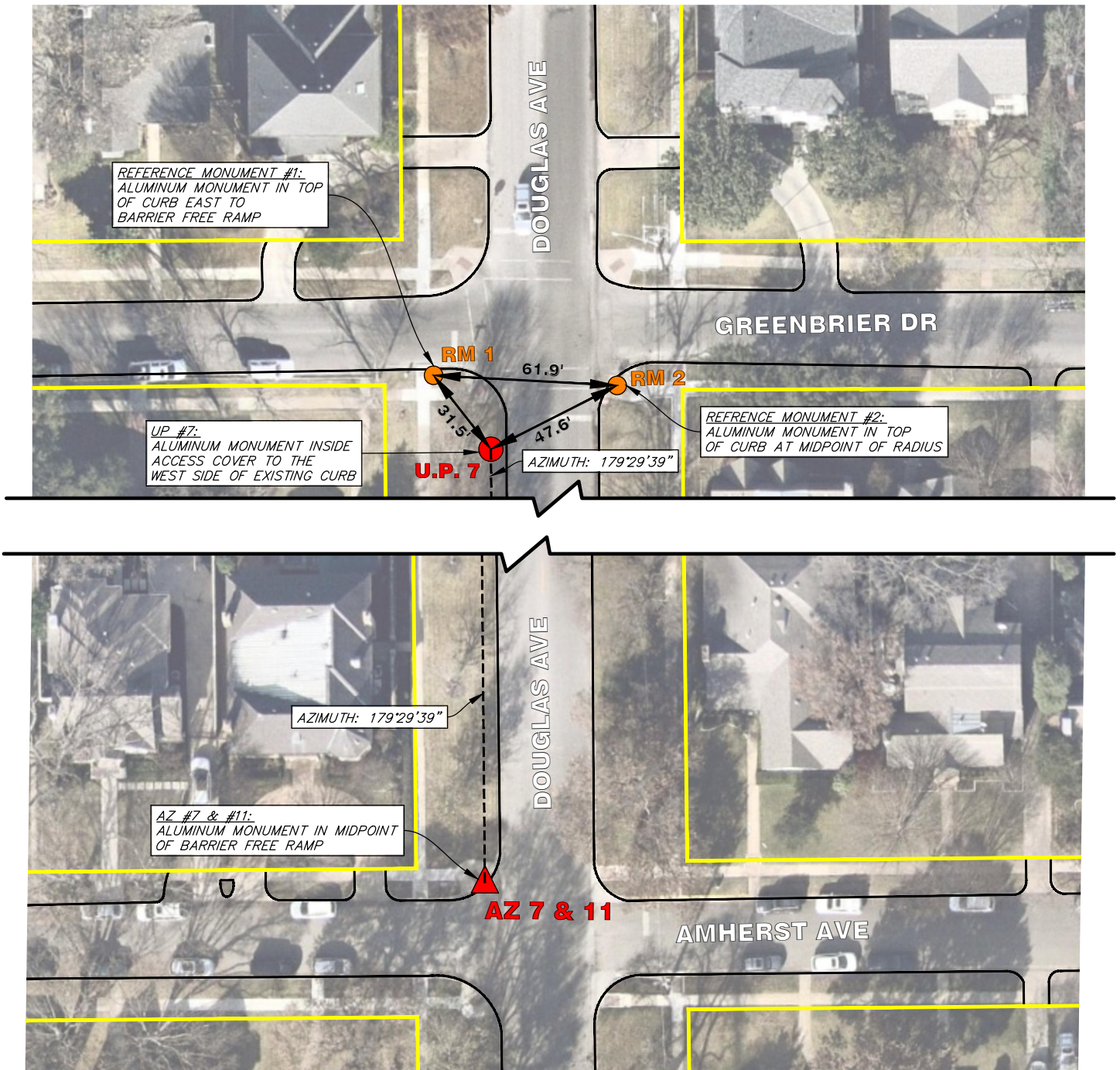
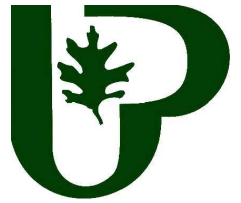
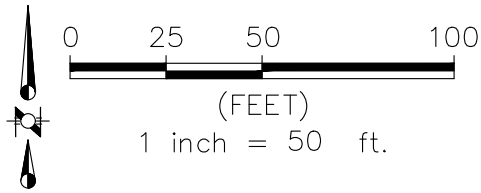
U.P. #6 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-10



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #7 MAP

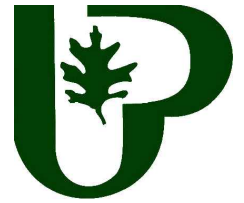
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-11

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #7**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'28.08270" N</i>	
<i>LONGITUDE</i>	<i>96°48'31.30389" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,133,358.691 METERS</i>	<i>6,999,194.305 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>758,284.795 METERS</i>	<i>2,487,806.031 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'21"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P. 7–U.P. 7 AZ=179°29'39"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>174.19 METERS</i>	<i>571.48 U.S. SURVEY FEET</i>
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WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #7 GEODETIC DATA

MONUMENT DATA SHEET

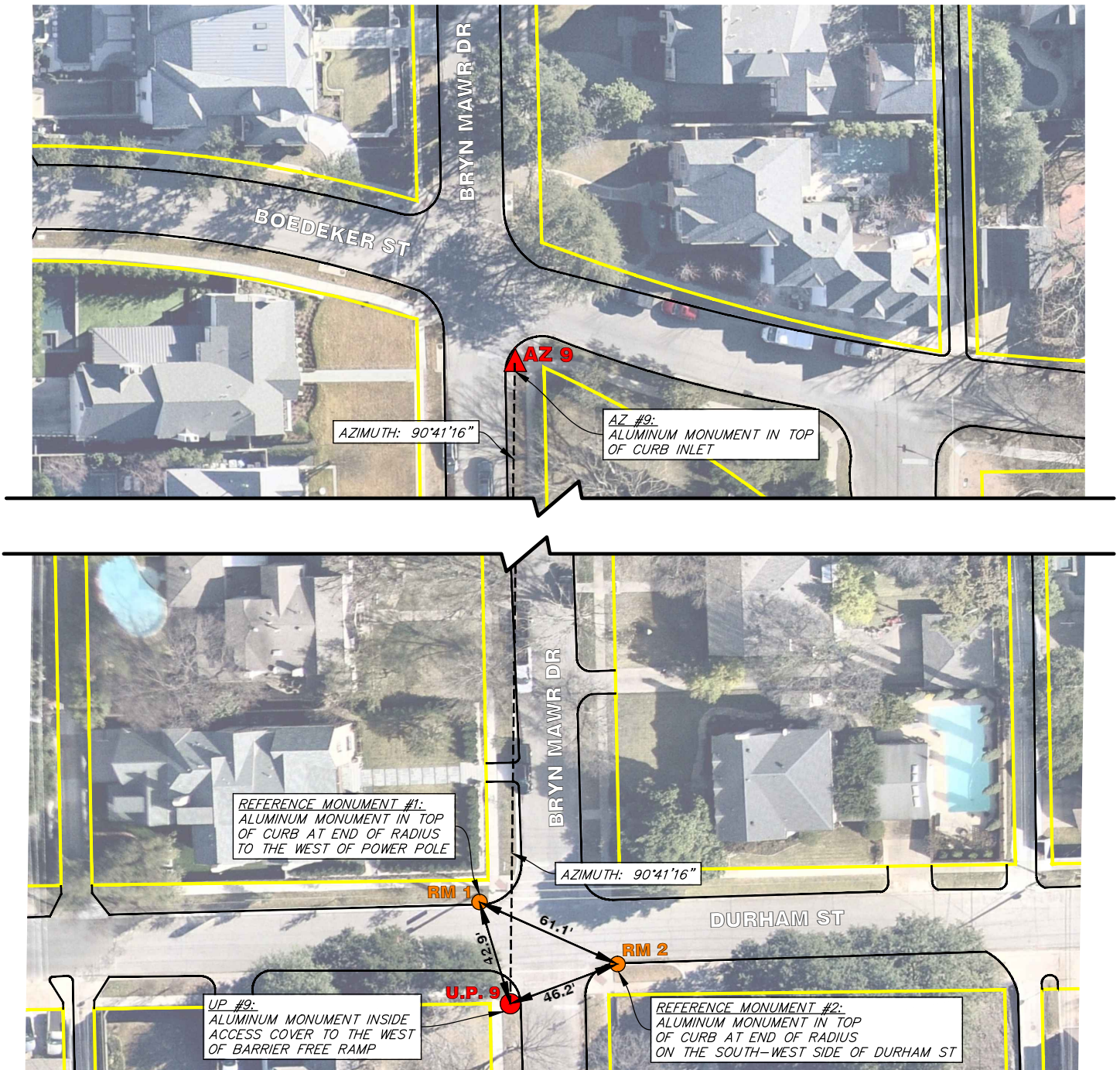
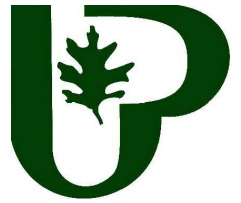


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-12



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #9 MAP

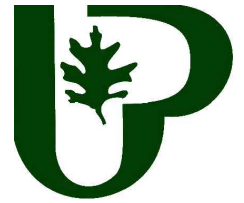
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-13

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #9**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'21.78488" N</i>	
<i>LONGITUDE</i>	<i>96°46'49.24081" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,133,207.804 METERS</i>	<i>6,998,699.269 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,941.018 METERS</i>	<i>2,496,520.657 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'16"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.9–U.P.9 AZ=90°41'16"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>185.30 METERS</i>	<i>607.95 U.S. SURVEY FEET</i>
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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #9 GEODETIC DATA

MONUMENT DATA SHEET

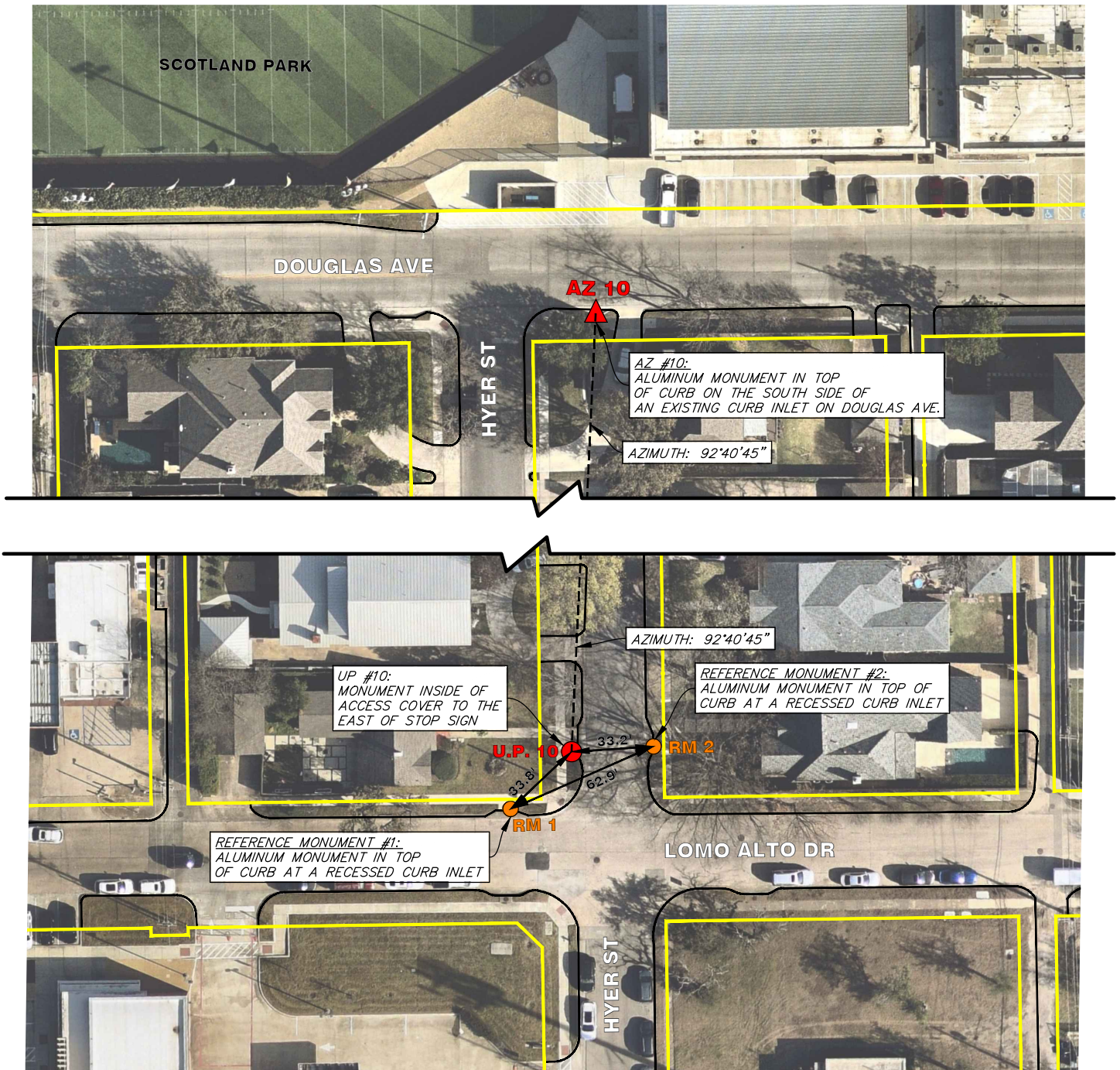
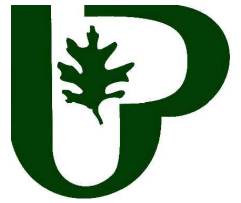


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-14



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #10 MAP

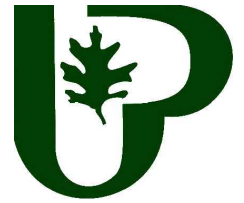
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-15

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #10**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'00.96349" N</i>	
<i>LONGITUDE</i>	<i>96°48'43.07473" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,518.542 METERS</i>	<i>6,996,437.917 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>757,992.242 METERS</i>	<i>2,486,846.215 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'14"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.10–U.P.10 AZ=92°40'45"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>172.45 METERS</i>	<i>565.79 U.S. SURVEY FEET</i>
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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #10 GEODETIC DATA
MONUMENT DATA SHEET*

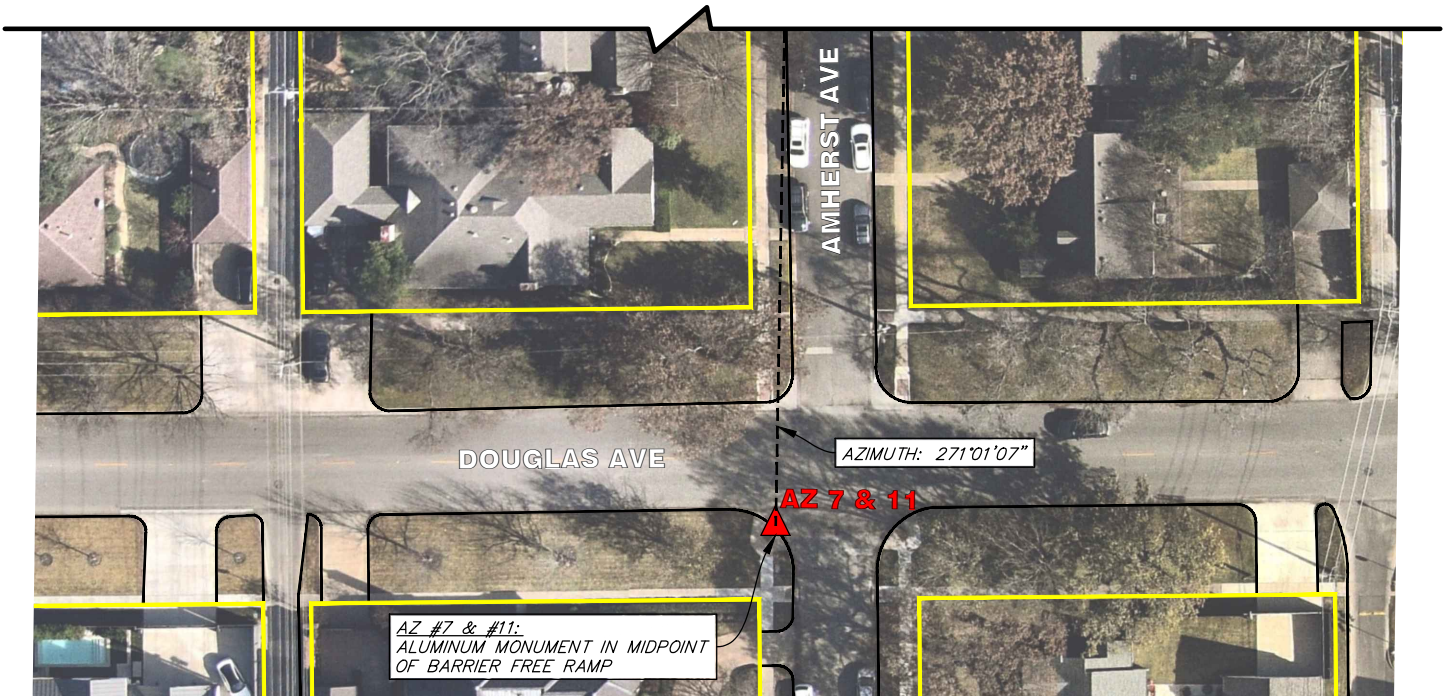
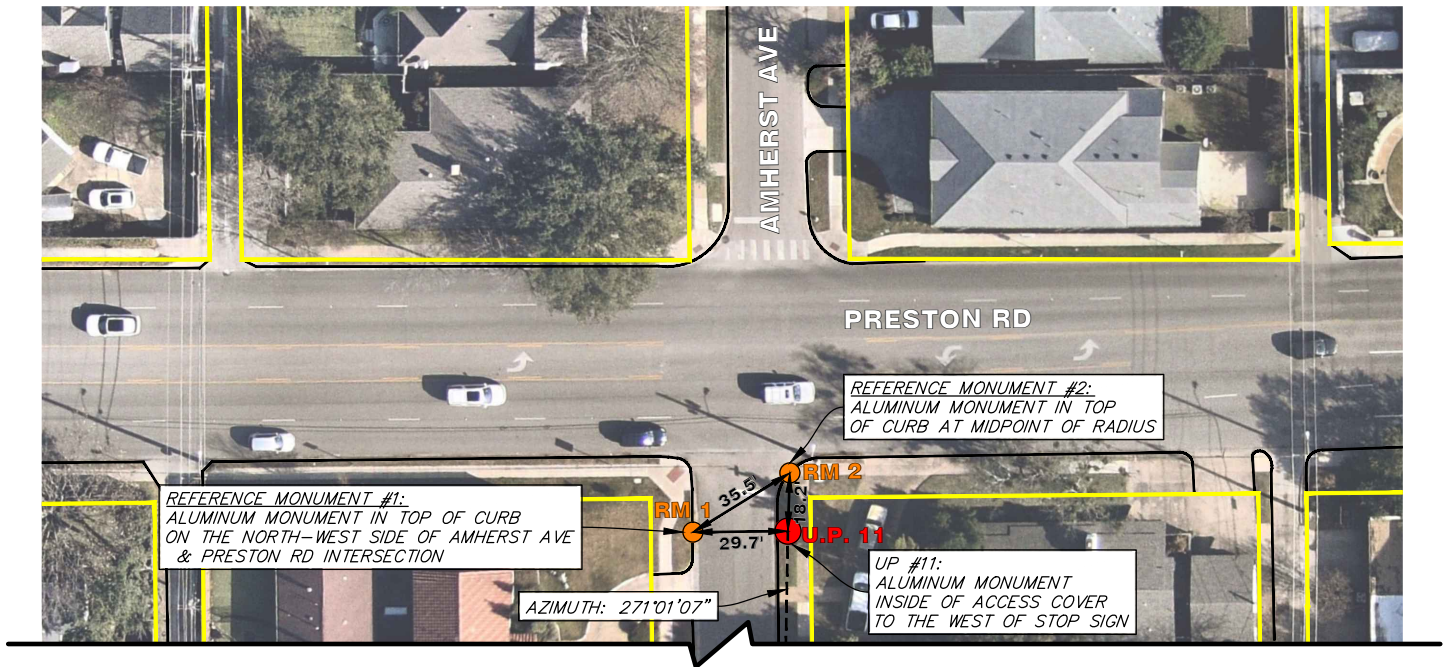
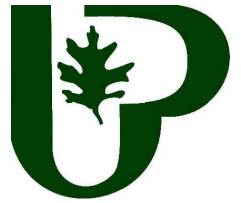


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-16



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #11 MAP

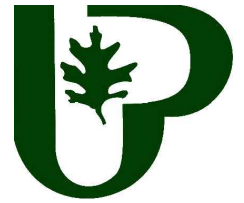
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-17

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #11**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'07.37585" N</i>	
<i>LONGITUDE</i>	<i>96°48'15.96813" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,727.381 METERS</i>	<i>6,997,123.083 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>758,693.730 METERS</i>	<i>2,489,147.680 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'29"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.11–U.P.11 AZ=271°01'07"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>173.85 METERS</i>	<i>570.36 U.S. SURVEY FEET</i>
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RLG CONSULTING ENGINEERS
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WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #11 GEODETIC DATA
MONUMENT DATA SHEET*

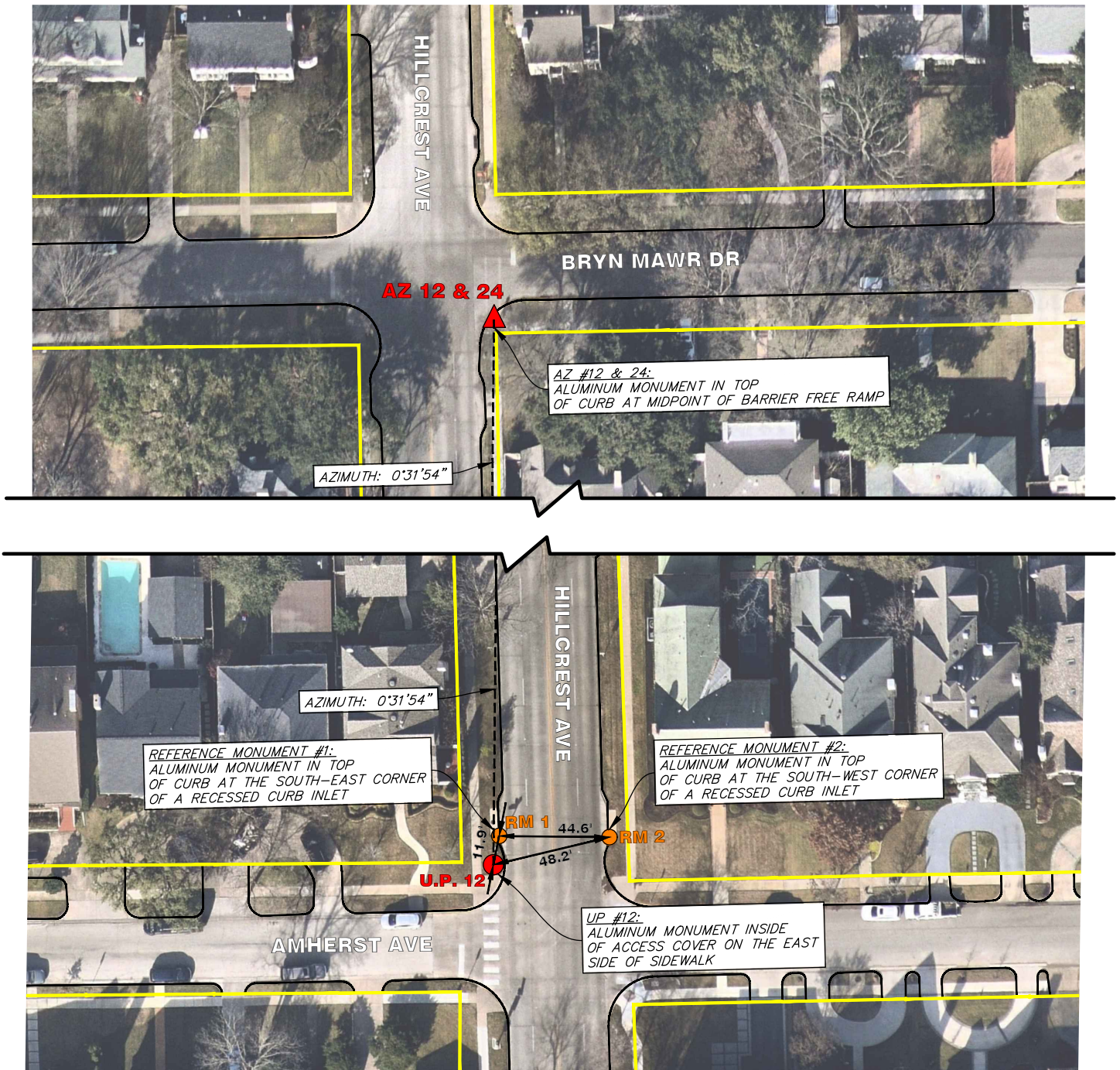
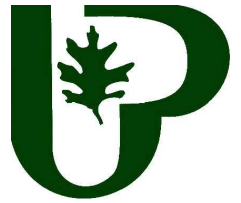


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-18



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #12 MAP

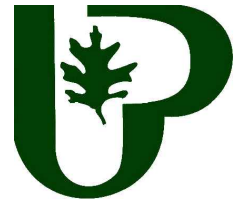
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-19

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #12**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'07.75590" N</i>	
<i>LONGITUDE</i>	<i>96°47'13.24613" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,765.540 METERS</i>	<i>6,997,248.276 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,324.054 METERS</i>	<i>2,494,496.499 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'03"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.12–U.P.12 AZ=0°31'54"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>173.83 METERS</i>	<i>570.32 U.S. SURVEY FEET</i>
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12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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*U.P. #12 GEODETIC DATA
MONUMENT DATA SHEET*

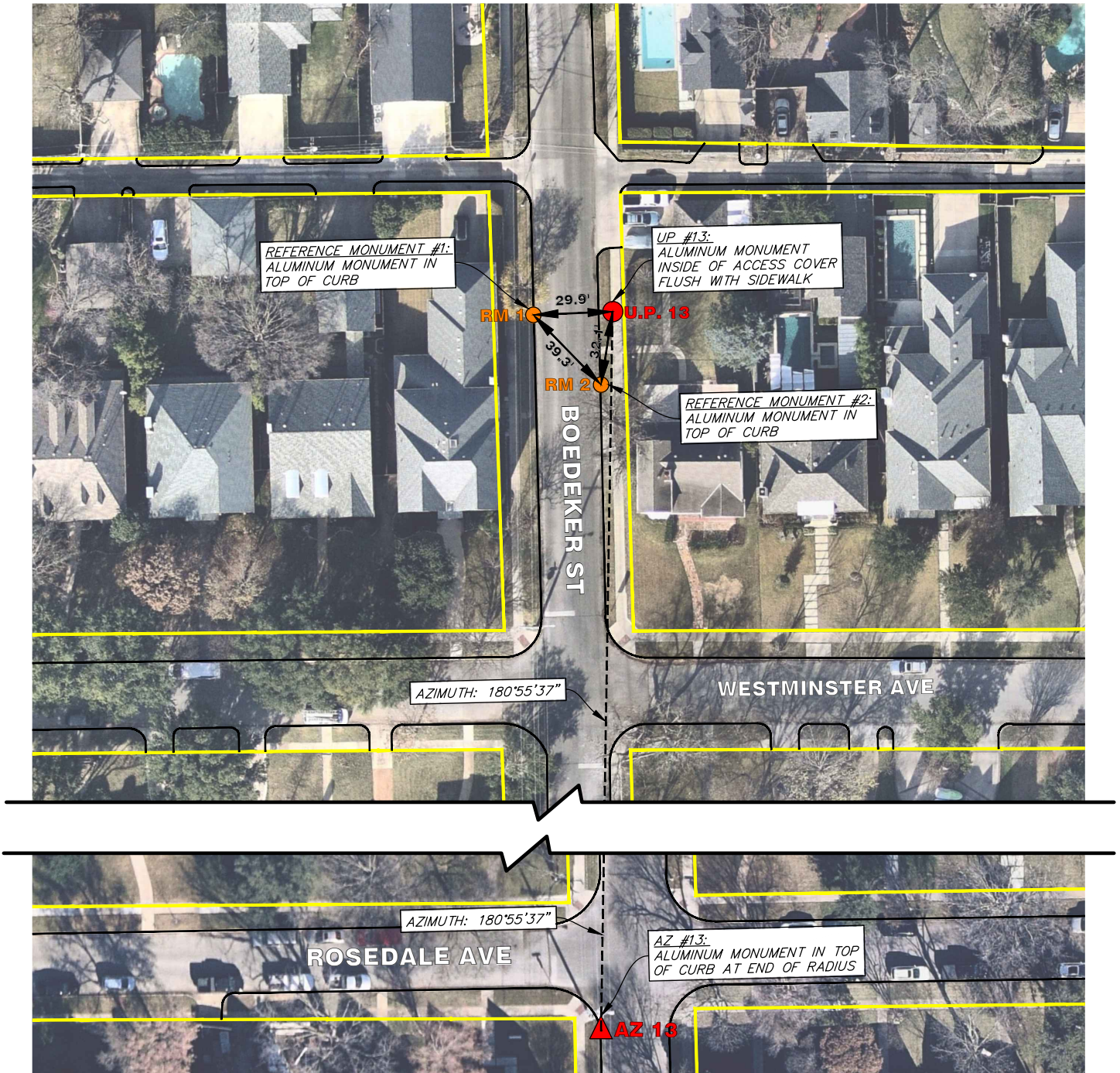
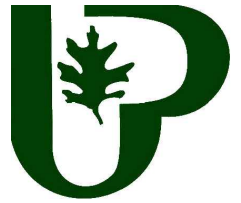


CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-20</i>



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #13 MAP

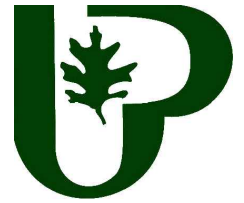
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-21

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #13**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'01.29785" N</i>	
<i>LONGITUDE</i>	<i>96°46'37.03102" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,582.041 METERS</i>	<i>6,996,646.246 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>761,268.757 METERS</i>	<i>2,497,595.914 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'23"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.13–U.P.13 AZ=180°55'37"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>184.36 METERS</i>	<i>604.85 U.S. SURVEY FEET</i>
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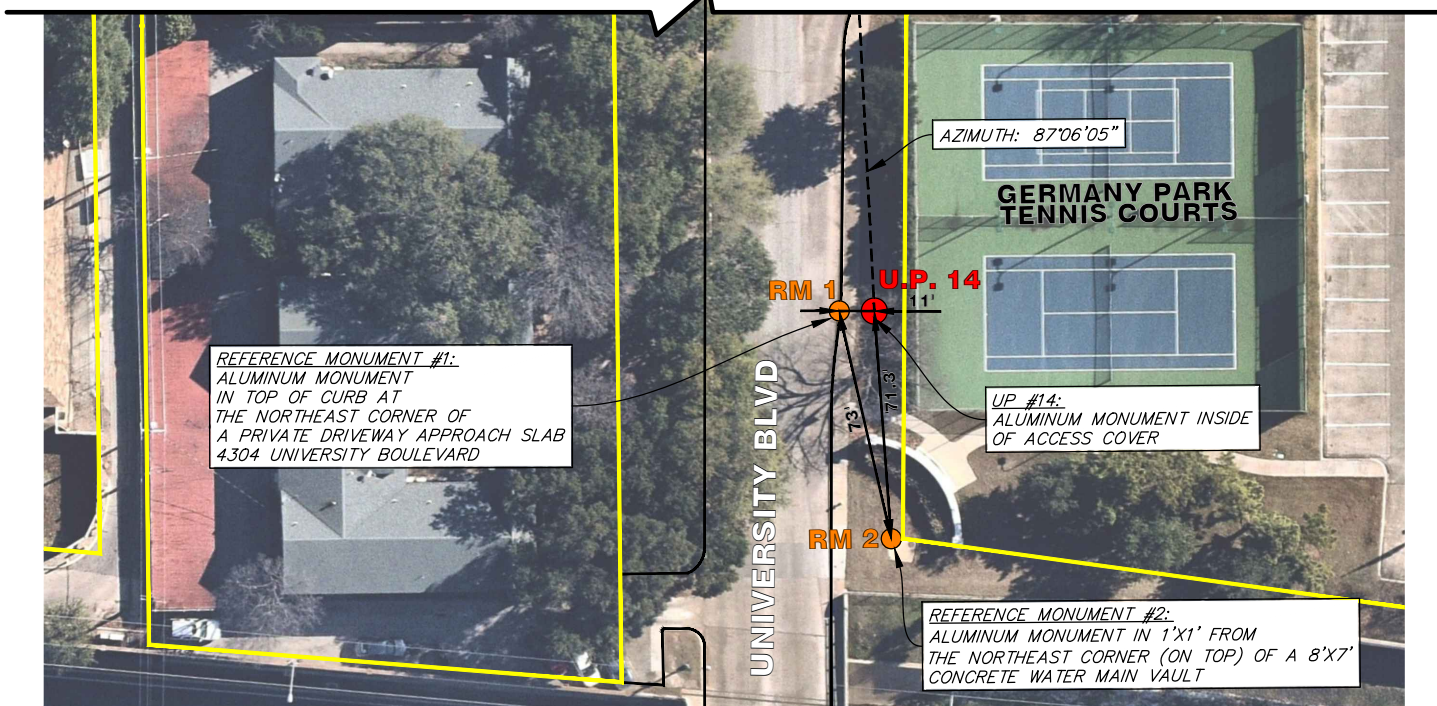
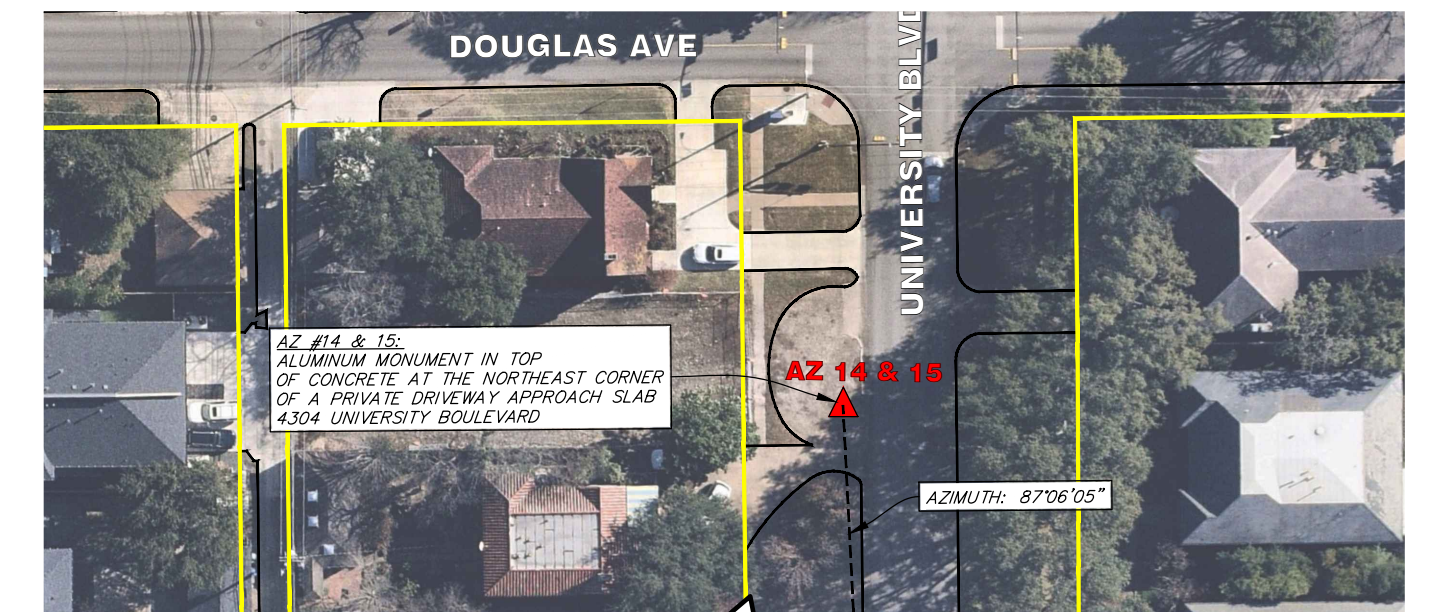
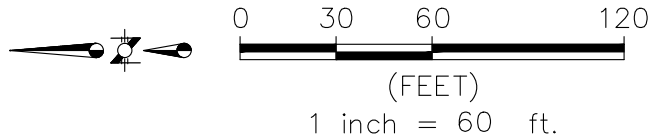
RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #13 GEODETIC DATA
MONUMENT DATA SHEET*



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-22



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #14 MAP

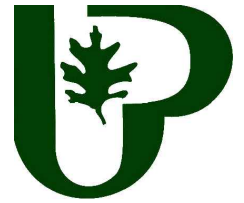
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-23

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #14**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'42.92158" N</i>	
<i>LONGITUDE</i>	<i>96°48'48.16030" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,960.758 METERS</i>	<i>6,994,607.919 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>757,868.957 METERS</i>	<i>2,486,441.737 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'12"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.14–U.P.14 AZ=87°06'05"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>169.57 METERS</i>	<i>556.32 U.S. SURVEY FEET</i>
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RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

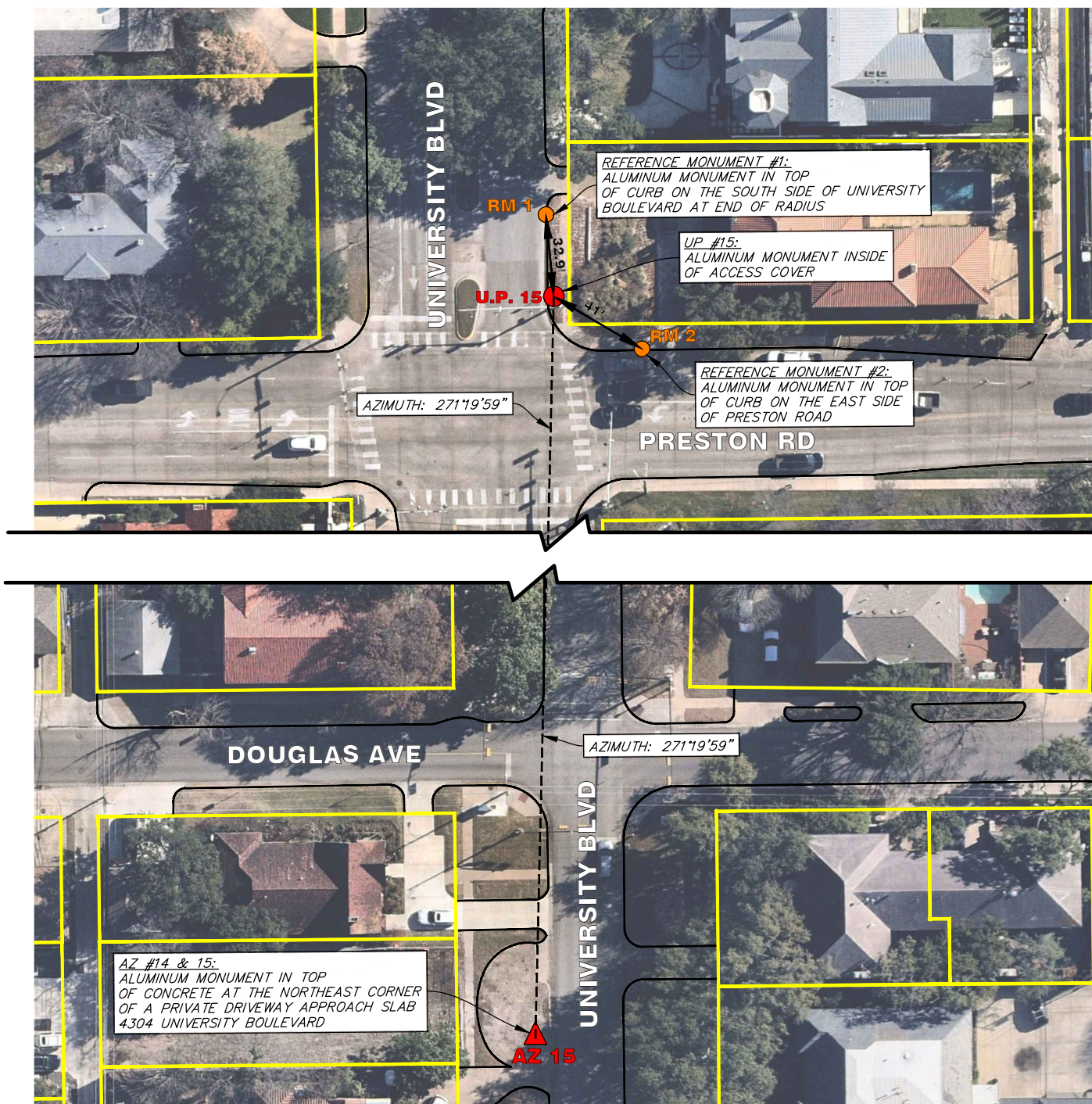
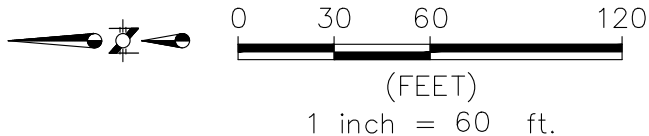
U.P. #14 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-24



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #15 MAP

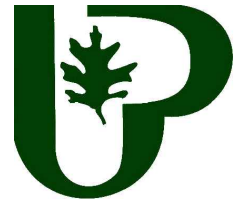
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-25

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #15**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'42.81551" N</i>	
<i>LONGITUDE</i>	<i>96°48'14.90562" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,971.410 METERS</i>	<i>6,994,642.868 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>758,733.563 METERS</i>	<i>2,489,278.365 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'30"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.15–U.P.15 AZ=271°19'59"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>166.77 METERS</i>	<i>547.15 U.S. SURVEY FEET</i>
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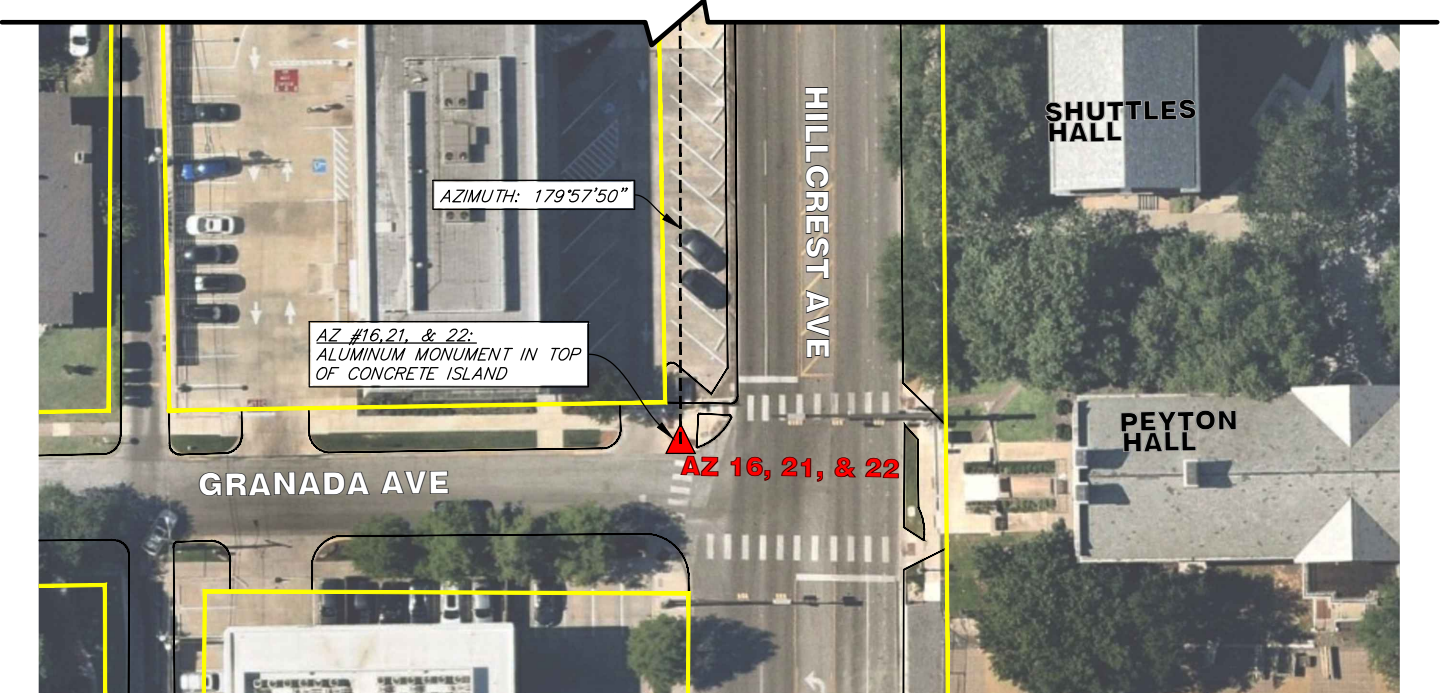
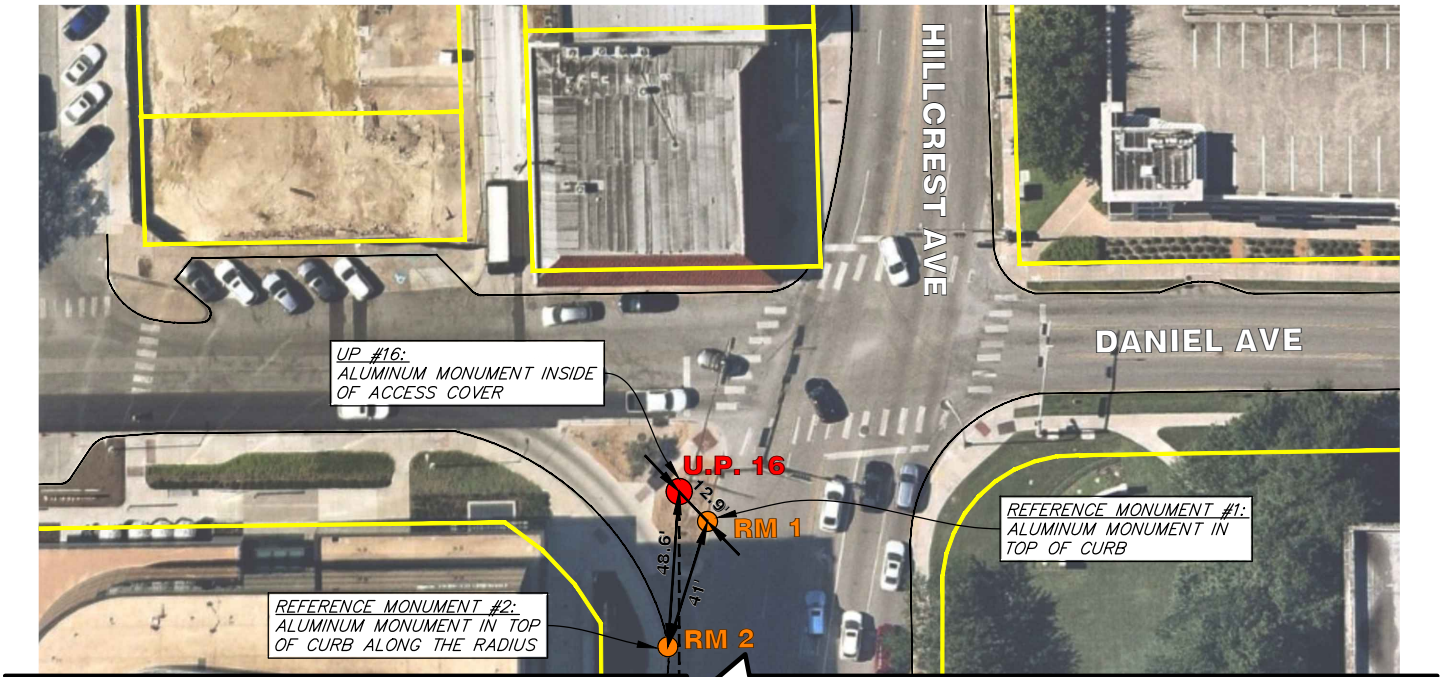
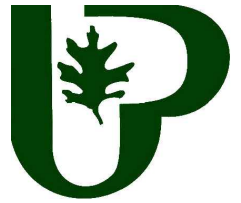
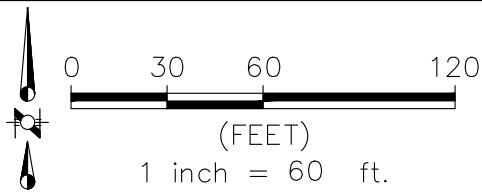
RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #15 GEODETIC DATA
MONUMENT DATA SHEET*



CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-26</i>



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #16 MAP

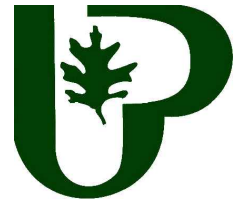
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-27

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #16**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

LATITUDE	32°50'47.69169" N	
LONGITUDE	96°47'13.62049" W	
NORTH (Y) GRID	2,132,147.439 METERS	6,995,220.391 U.S. SURVEY FEET
EAST (X) GRID	760,324.398 METERS	2,494,497.629 U.S. SURVEY FEET
CONVERGENCE FACTOR	0°56'03"	
PROJECT CSF	0.999855549	
METERS TO U.S. SURVEY FEET CONVERSION FACTOR		(39.37÷12) X METERS

GRID AZIMUTH (NAD 83)
U.P.16–U.P.16 AZ=179°57'50"

NORTH AMERICAN VERTICAL DATUM – 1988

MEAN SEA LEVEL	182.46 METERS	598.62 U.S. SURVEY FEET
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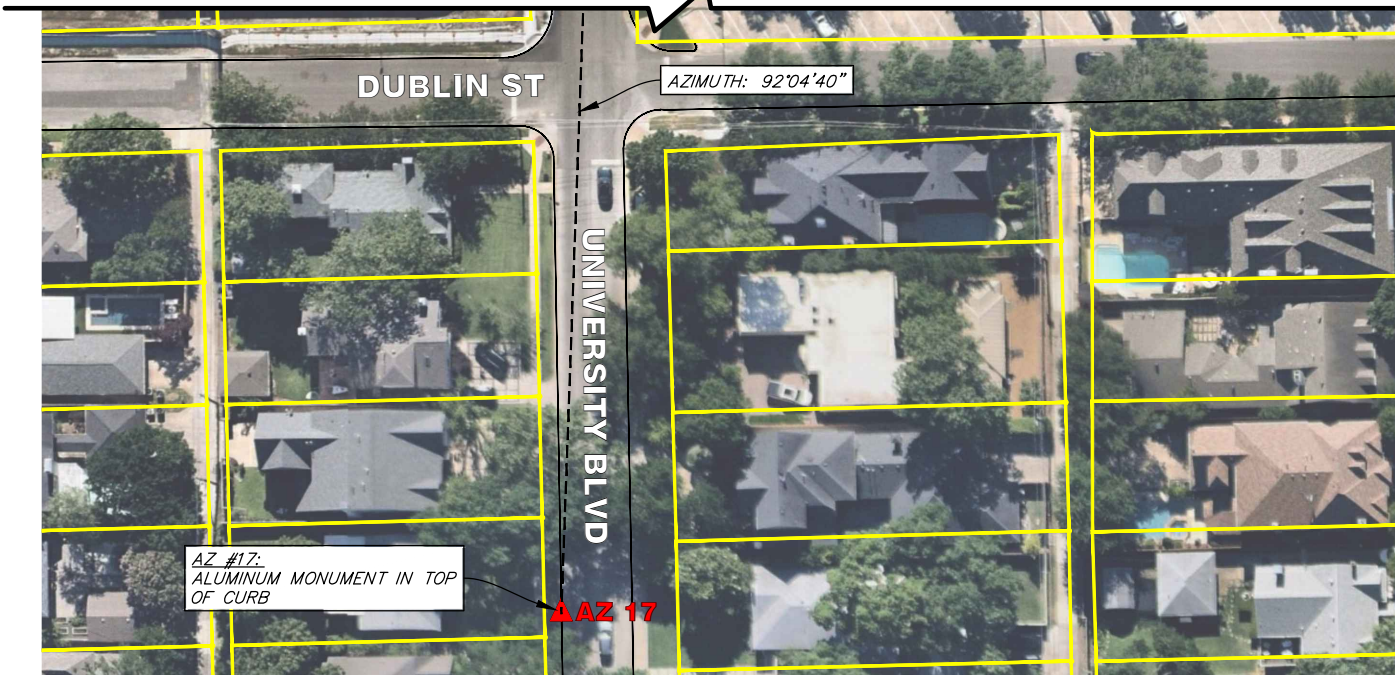
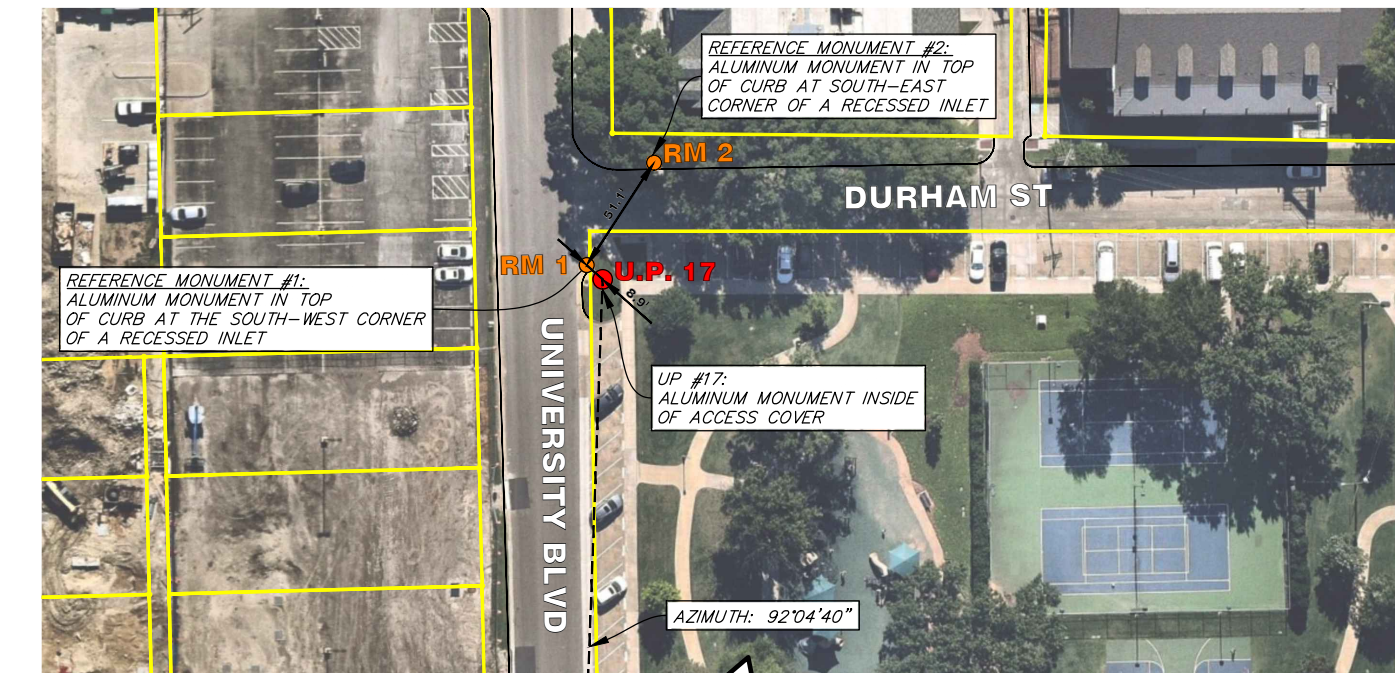
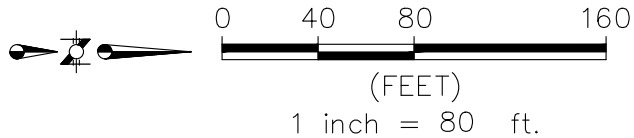
RLG CONSULTING ENGINEERS
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WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #16 GEODETIC DATA
MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-28



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #17 MAP

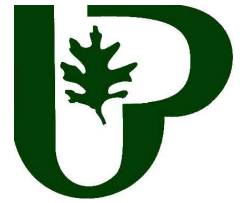
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-29

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #17**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'44.41972" N</i>	
<i>LONGITUDE</i>	<i>96°46'50.99573" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,132,056.277 METERS</i>	<i>6,994,921.303 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,914.233 METERS</i>	<i>2,496,432.781 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'15"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>		<i>(39.37÷12) X METERS</i>

GRID AZIMUTH (NAD 83)
U.P.17–U.P.17 AZ=92°04'40"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>182.38 METERS</i>	<i>598.34 U.S. SURVEY FEET</i>
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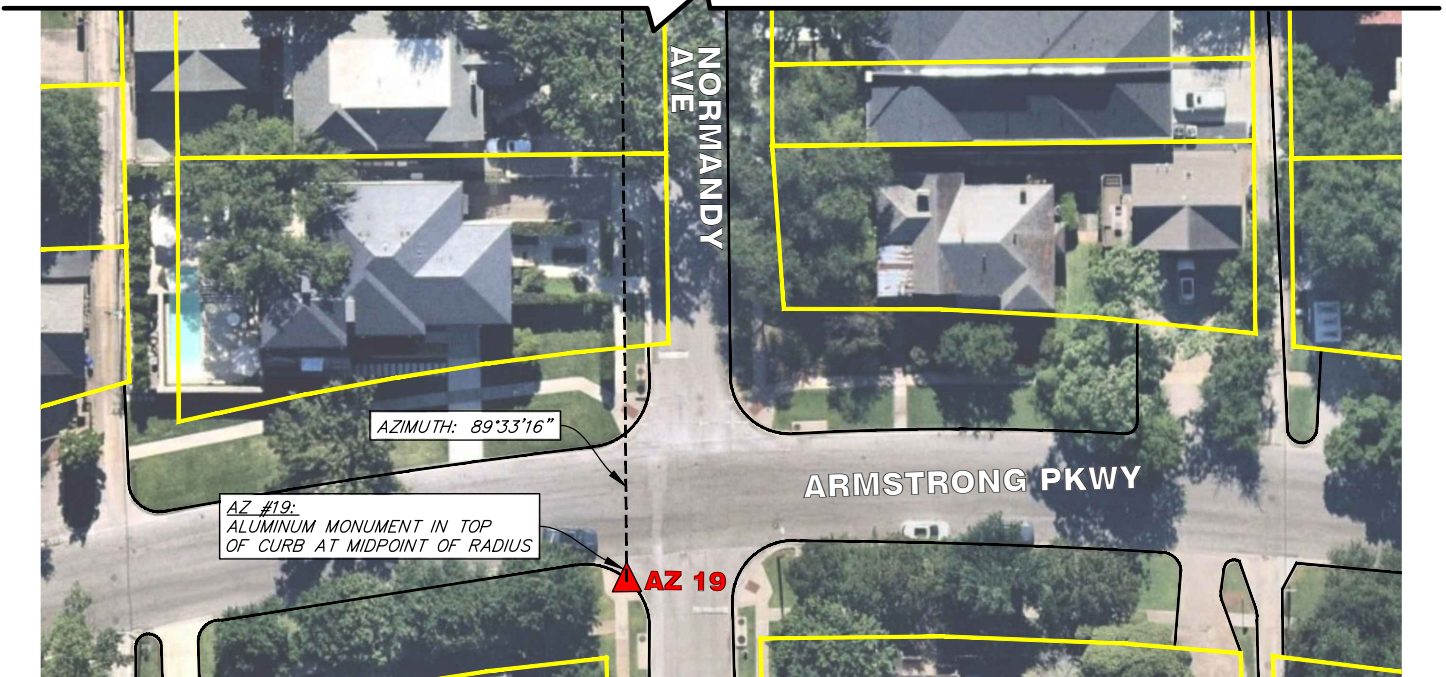
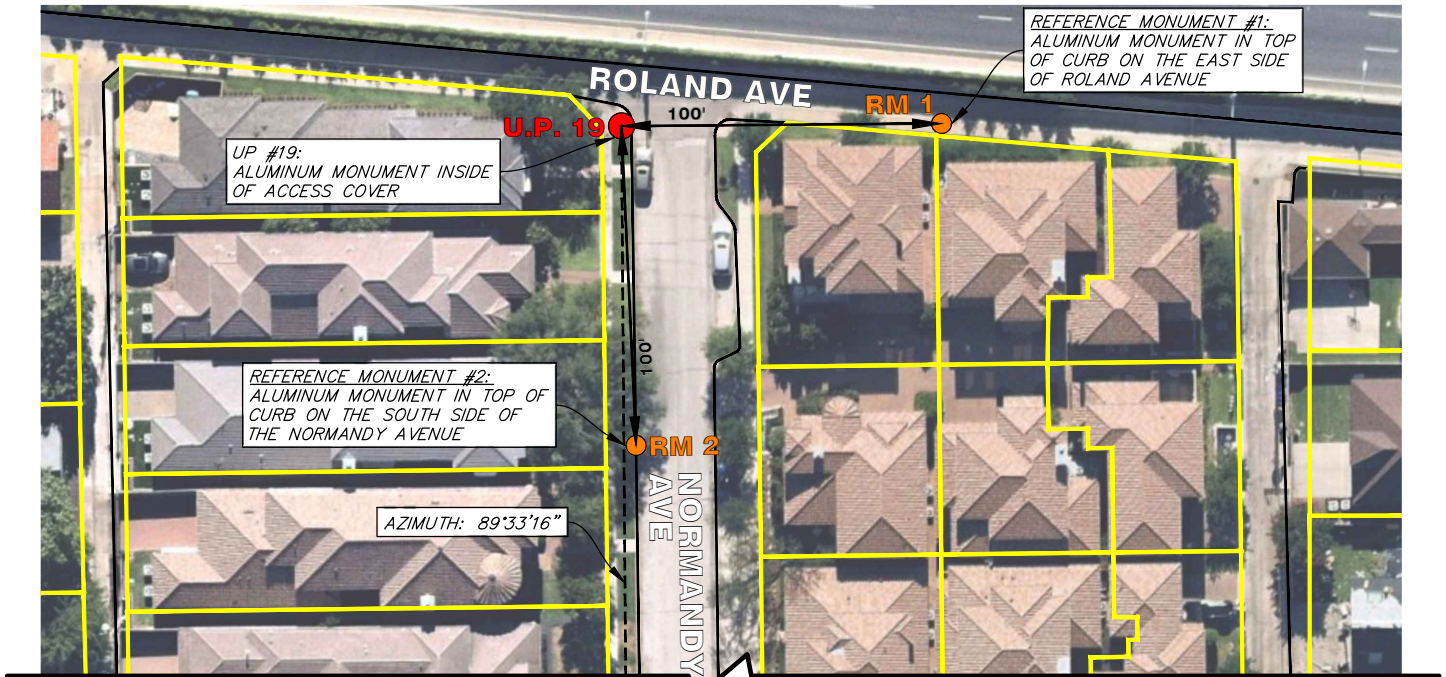
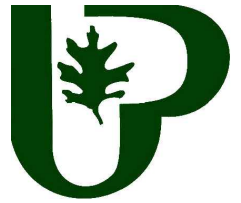
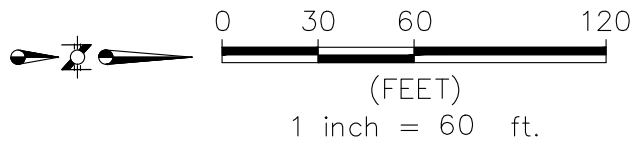
RLG CONSULTING ENGINEERS
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WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #17 GEODETIC DATA
MONUMENT DATA SHEET*



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-30



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #19 MAP

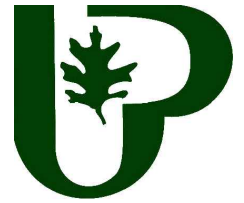
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-31

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #19**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'22.87423" N</i>	
<i>LONGITUDE</i>	<i>96°48'51.69568" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,341.857 METERS</i>	<i>6,992,577.410 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>757,786.952 METERS</i>	<i>2,486,172.692 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'10"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.19–U.P.19 AZ=89°33'16"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>165.44 METERS</i>	<i>542.77 U.S. SURVEY FEET</i>
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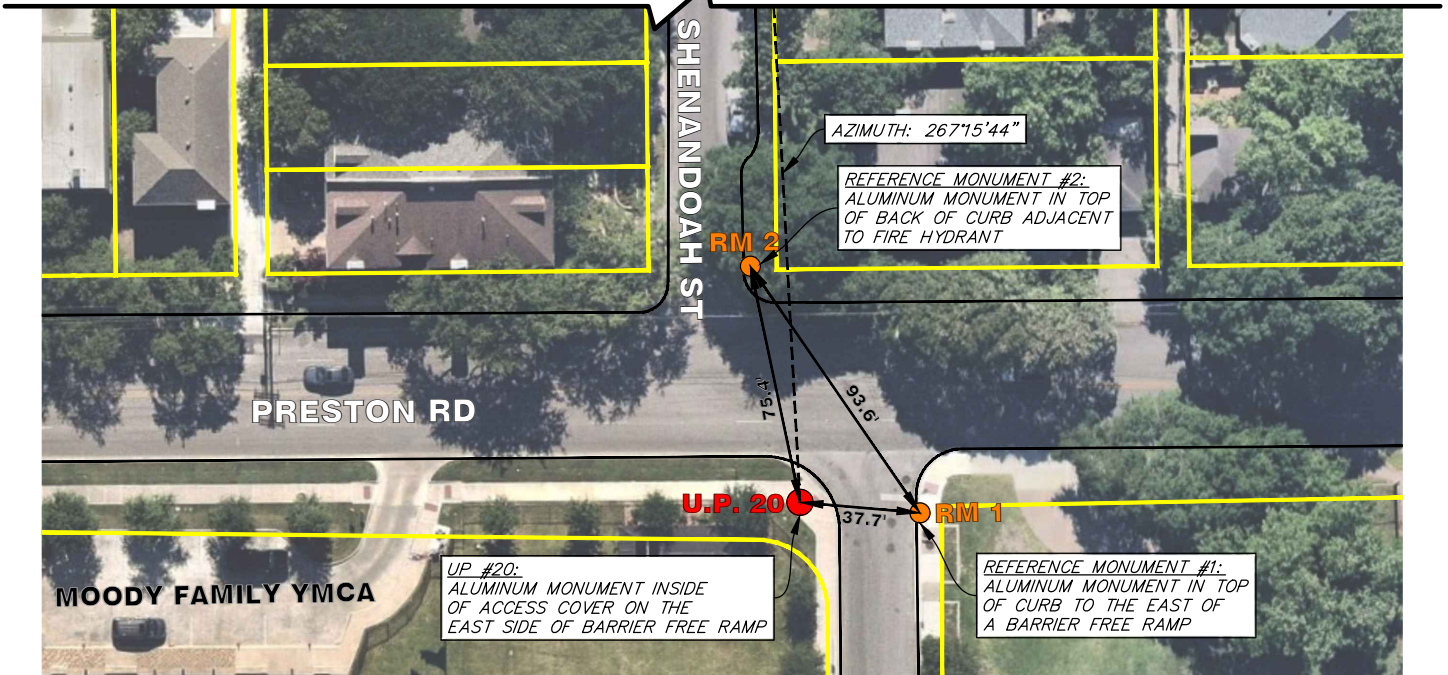
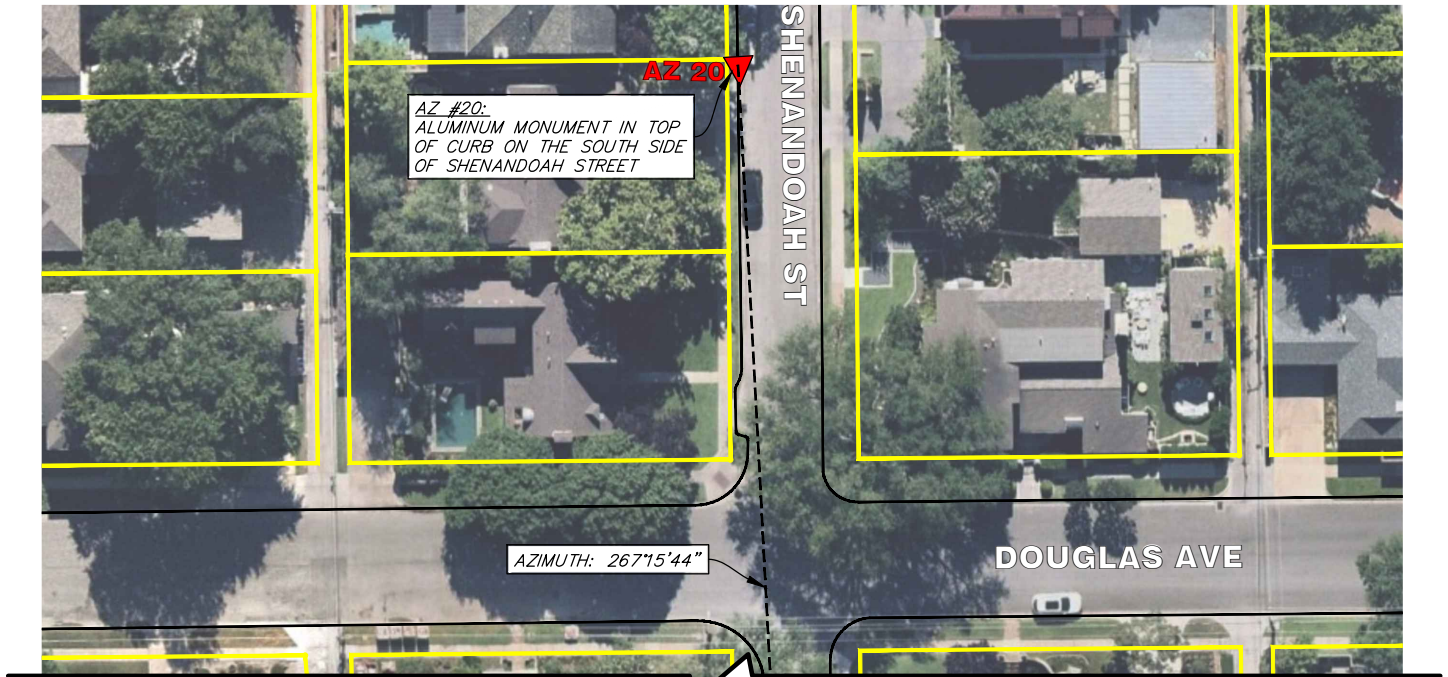
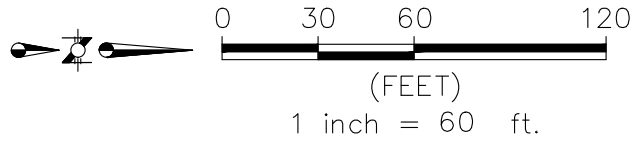
RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #19 GEODETIC DATA
MONUMENT DATA SHEET*



CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-32</i>



LEGEND

- REFERENCE AZIMUTH
- CONTROL MONUMENT
- REFERENCE MONUMENT
- PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #20 MAP

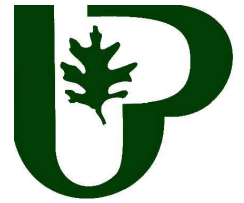
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-33

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #20**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'25.92416" N</i>	
<i>LONGITUDE</i>	<i>96°48'15.15717" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,451.080 METERS</i>	<i>6,992,935.752 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>758,735.421 METERS</i>	<i>2,489,284.462 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'30"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>		<i>(39.37÷12) X METERS</i>

GRID AZIMUTH (NAD 83)
U.P.20–U.P.20 AZ=267°15'44"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>163.92 METERS</i>	<i>537.80 U.S. SURVEY FEET</i>
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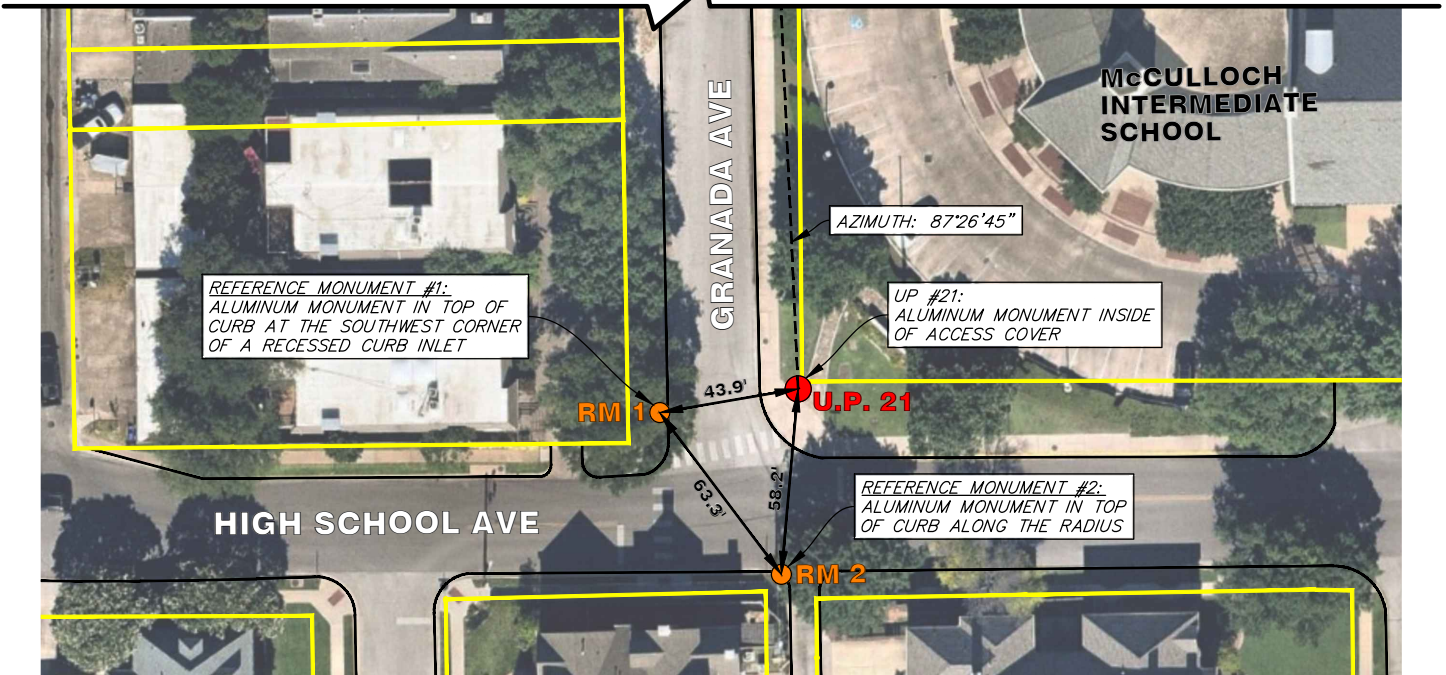
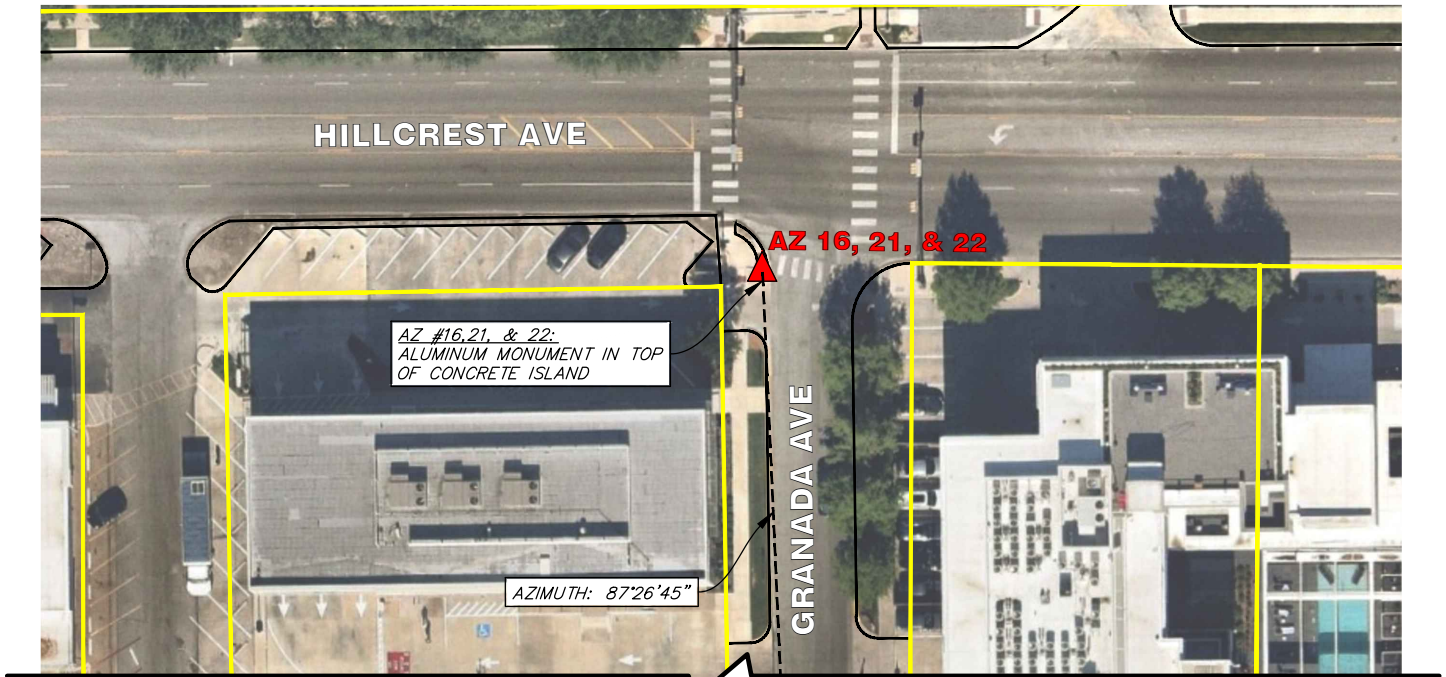
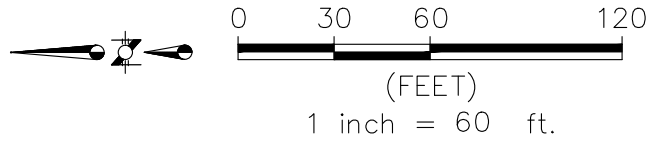
RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #20 GEODETIC DATA
MONUMENT DATA SHEET*



CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-34</i>



LEGEND

- REFERENCE AZIMUTH
- CONTROL MONUMENT
- REFERENCE MONUMENT
- PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #21 MAP

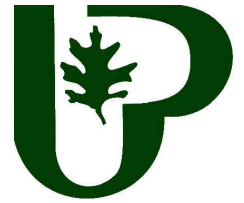
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-35

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #21**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'30.00752" N</i>	
<i>LONGITUDE</i>	<i>96°47'30.67561" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,595.578 METERS</i>	<i>6,993,409.826 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>759,889.865 METERS</i>	<i>2,493,071.998 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°55'54"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.21–U.P.21 AZ=87°26'45"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>168.75 METERS</i>	<i>553.64 U.S. SURVEY FEET</i>
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RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #21 GEODETIC DATA

MONUMENT DATA SHEET

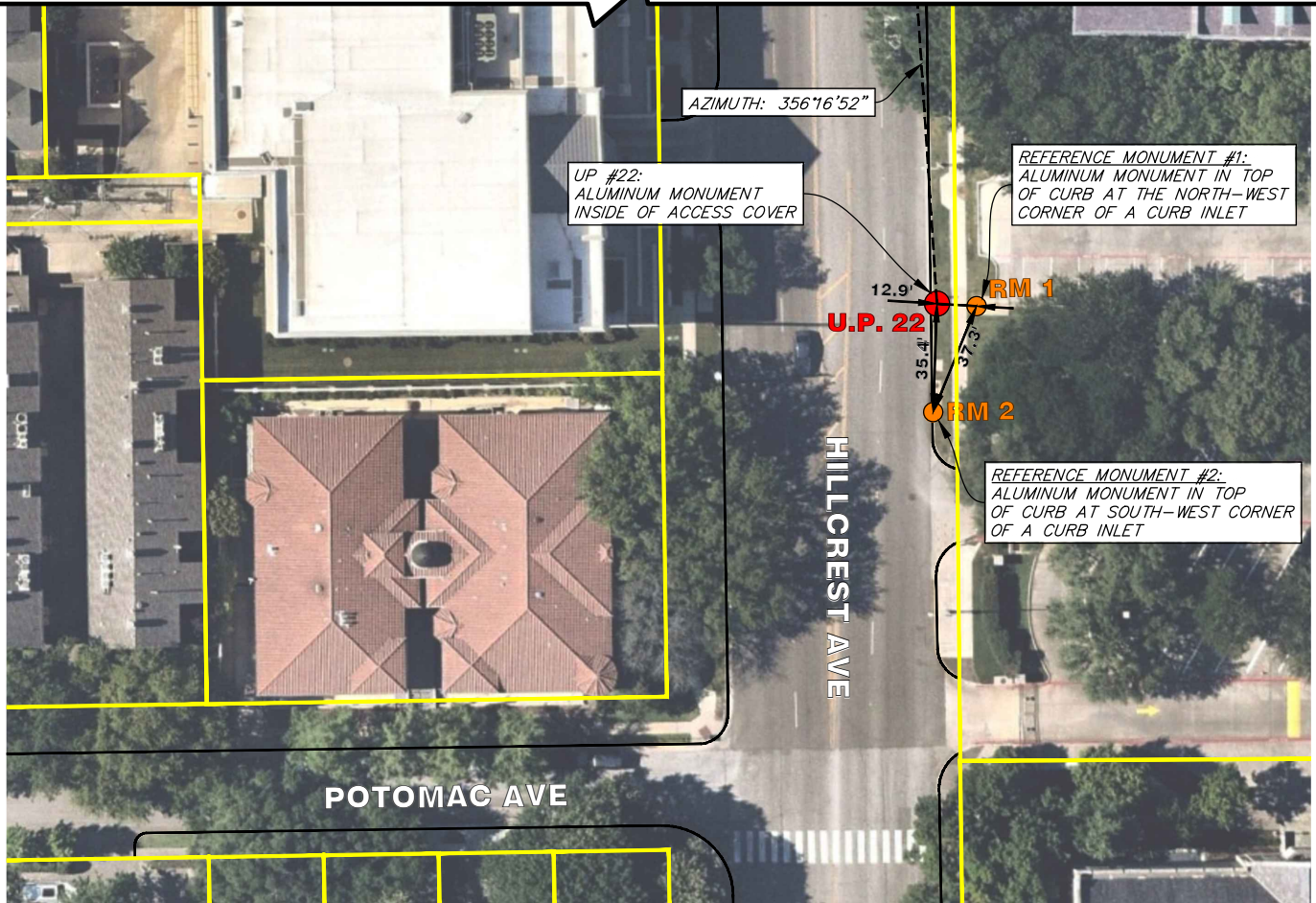
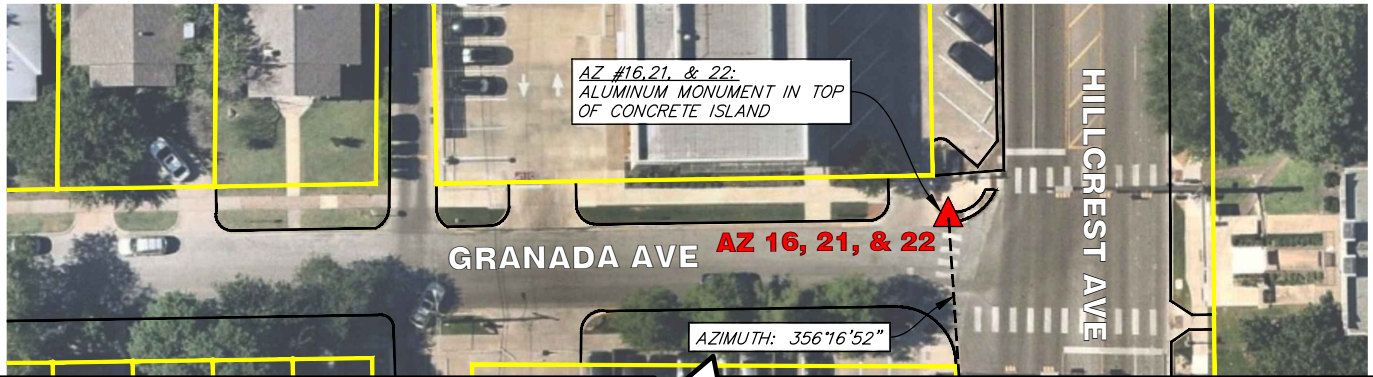


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-36



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND



REFERENCE AZIMUTH



CONTROL MONUMENT



REFERENCE MONUMENT



PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

U.P. #22 MAP

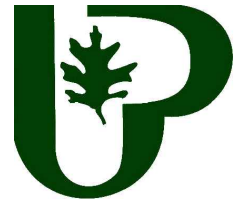
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-37

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #22**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'17.06167" N</i>	
<i>LONGITUDE</i>	<i>96°47'13.17246" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,204.280 METERS</i>	<i>6,992,126.041 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,351.430 METERS</i>	<i>2,494,586.315 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'03"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.22–U.P.22 AZ=356°16'52"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>169.67 METERS</i>	<i>556.67 U.S. SURVEY FEET</i>
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RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
WWW.RLGINC.COM TBPELS REG #100341-00

*U.P. #22 GEODETIC DATA
MONUMENT DATA SHEET*

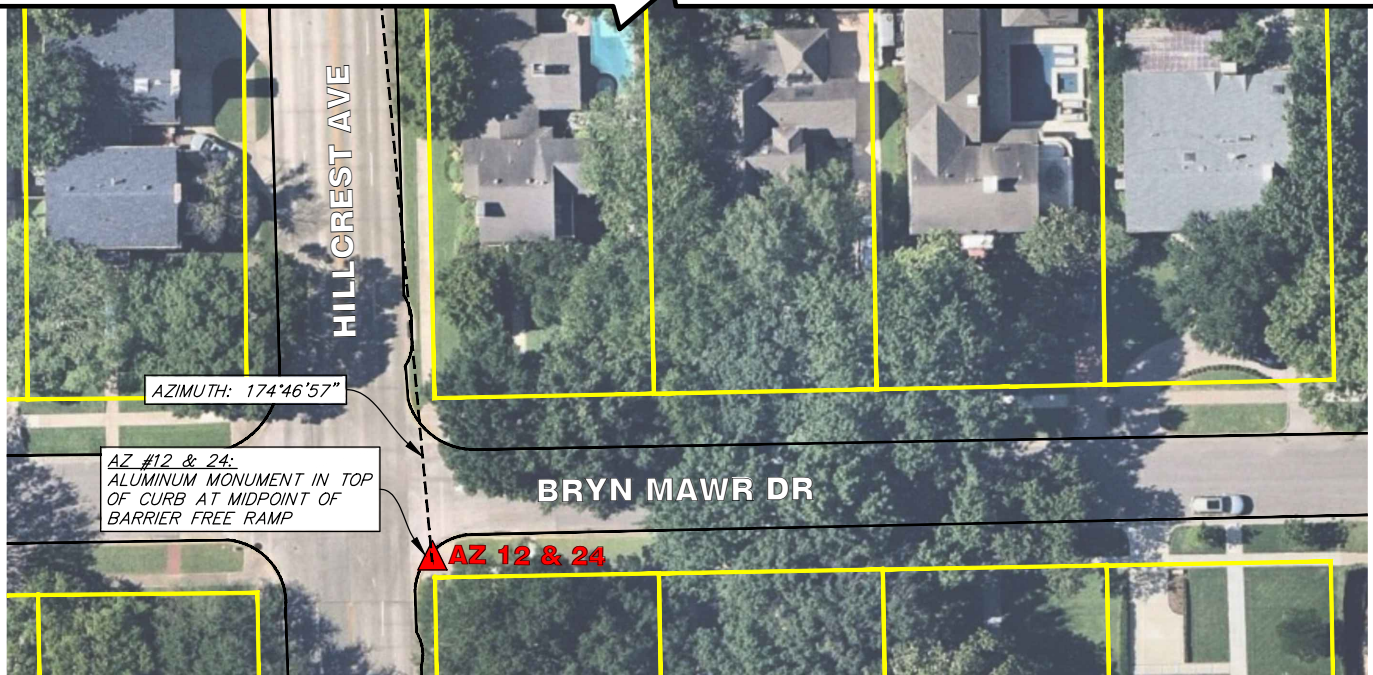
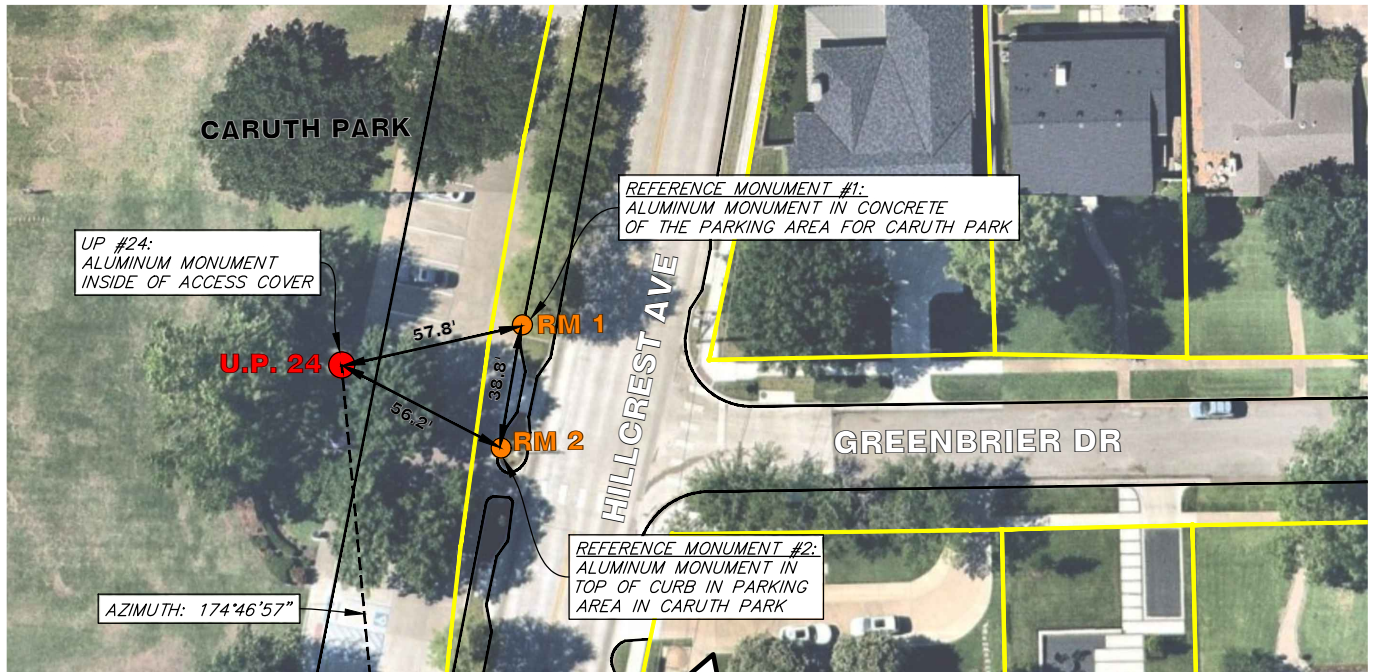
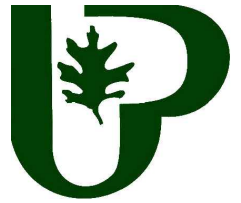


CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-38</i>



0 30 60 120
(FEET)
1 inch = 60 ft.



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



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U.P. #24 MAP

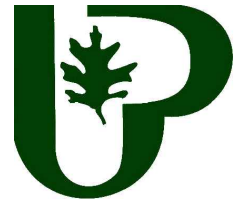
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-39

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #24**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°51'29.47353" N</i>	
<i>LONGITUDE</i>	<i>96°47'13.55324" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,133,434.275 METERS</i>	<i>6,999,442.283 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>760,305.163 METERS</i>	<i>2,494,434.523 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'03"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.24–U.P.24 AZ=174°46'57"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>176.55 METERS</i>	<i>579.23 U.S. SURVEY FEET</i>
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WWW.RLGINC.COM TBPELS REG #100341-00

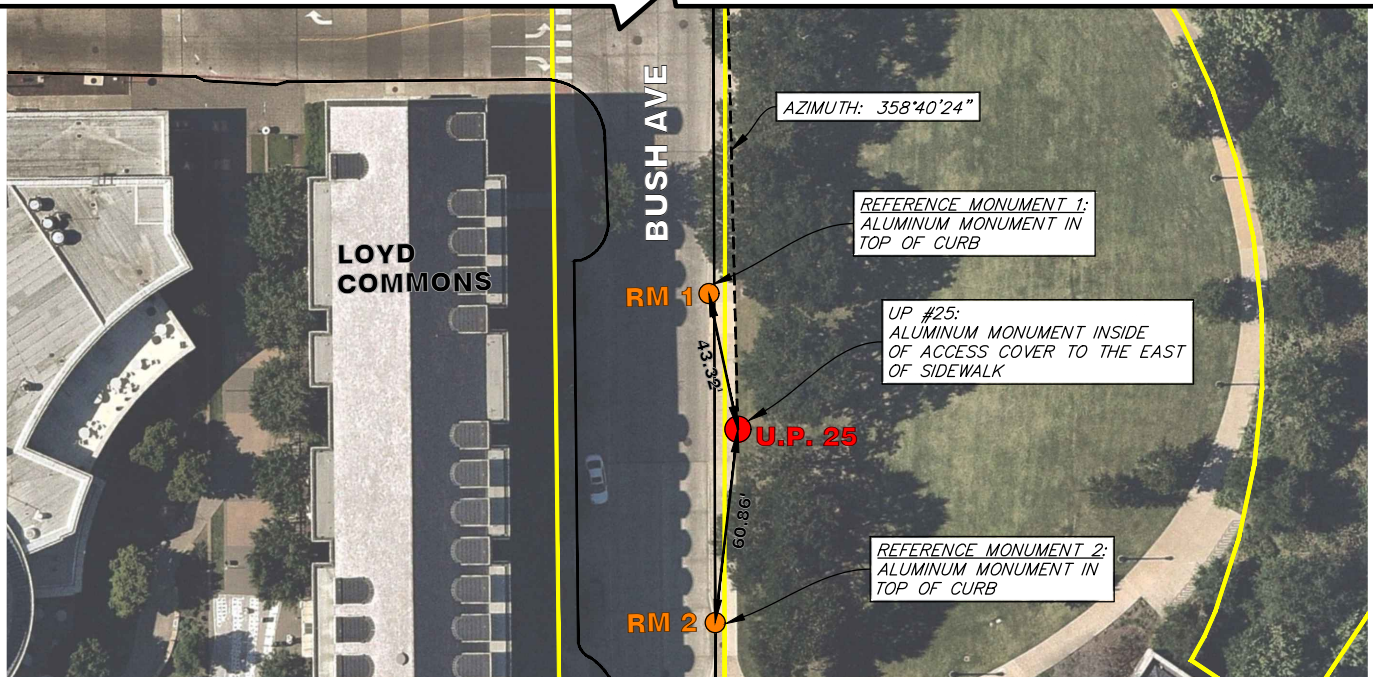
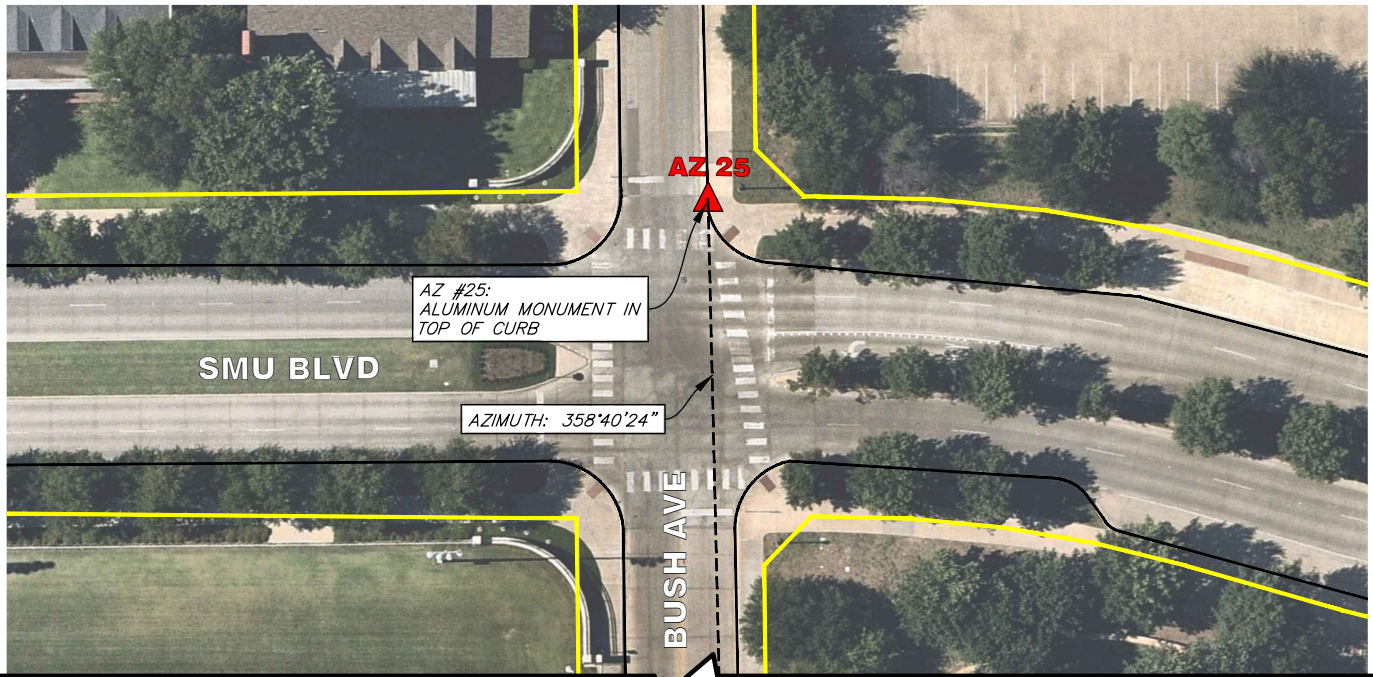
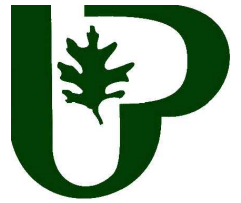
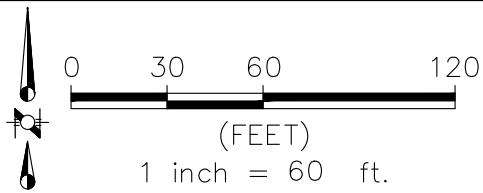
U.P. #24 GEODETIC DATA

MONUMENT DATA SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-40



LEGEND

-  REFERENCE AZIMUTH
-  CONTROL MONUMENT
-  REFERENCE MONUMENT
-  PARCEL



RLG CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY #300 DALLAS, TX 75243
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U.P. #25 MAP

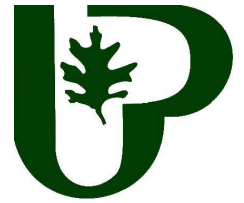
LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	IV-41

**CITY OF UNIVERSITY PARK
DALLAS COUNTY, TEXAS
GEODETIC CONTROL MONUMENT
U.P. #25**



*NORTH AMERICAN DATUM – 1983
TEXAS STATE PLANE COORDINATES
NORTH CENTRAL ZONE 4202*

<i>LATITUDE</i>	<i>32°50'20.26842" N</i>	
<i>LONGITUDE</i>	<i>96°46'45.53114" W</i>	
<i>NORTH (Y) GRID</i>	<i>2,131,314.788 METERS</i>	<i>6,992,488.599 U.S. SURVEY FEET</i>
<i>EAST (X) GRID</i>	<i>761,068.484 METERS</i>	<i>2,496,938.852 U.S. SURVEY FEET</i>
<i>CONVERGENCE FACTOR</i>	<i>0°56'18"</i>	
<i>PROJECT CSF</i>	<i>0.999855549</i>	
<i>METERS TO U.S. SURVEY FEET CONVERSION FACTOR</i>	<i>(39.37÷12) X METERS</i>	

GRID AZIMUTH (NAD 83)
U.P.25–U.P.25 AZ=358°40'24"

NORTH AMERICAN VERTICAL DATUM – 1988

<i>MEAN SEA LEVEL</i>	<i>174.96 METERS</i>	<i>574.02 U.S. SURVEY FEET</i>
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U.P. #25 GEODETIC DATA

MONUMENT DATA SHEET

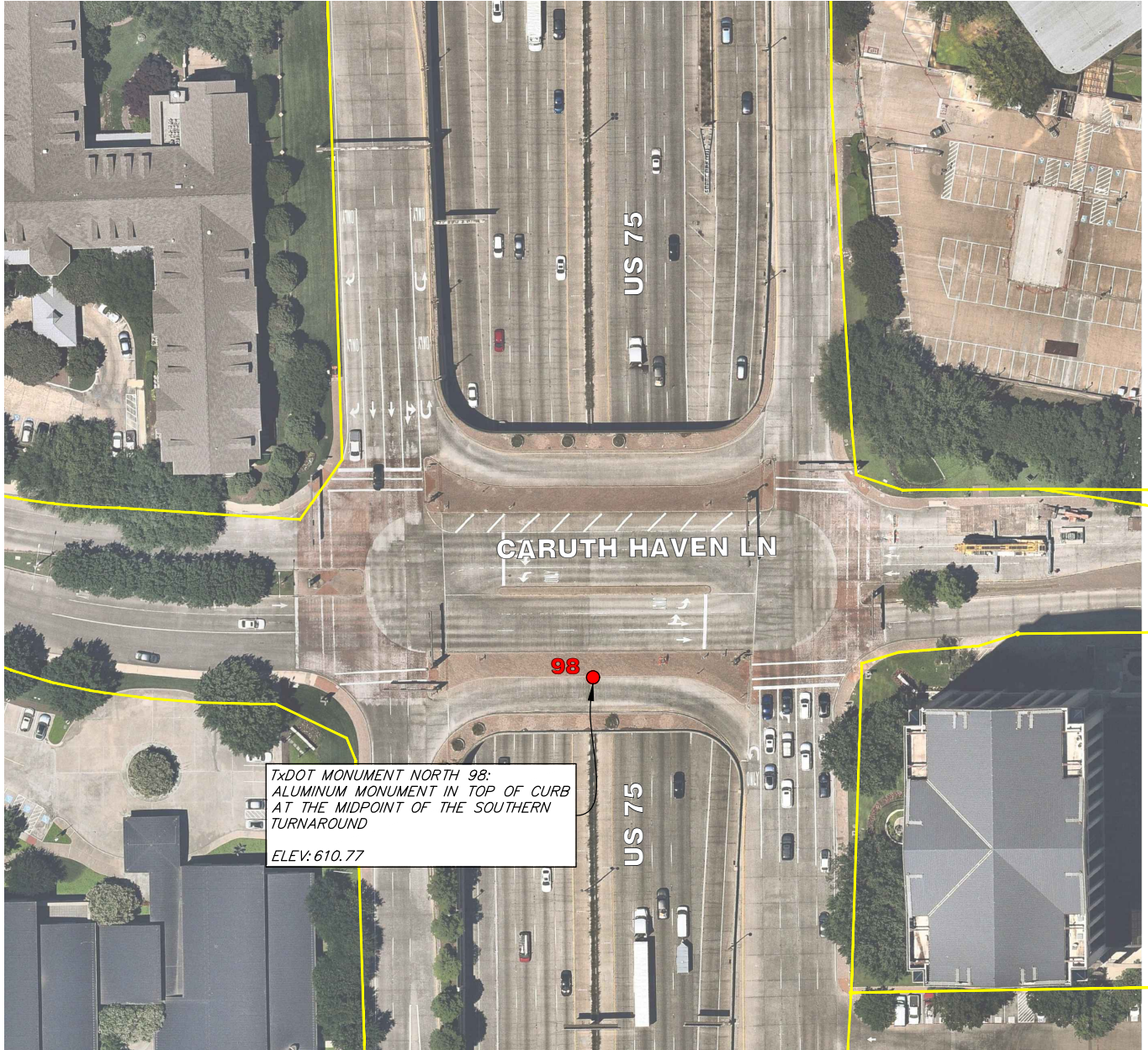
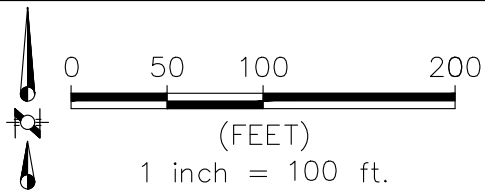


CITY OF UNIVERSITY PARK

<i>REVIEW</i>	<i>DRAWN</i>	<i>DATE</i>	<i>FILE</i>	<i>NUMBER</i>	<i>SHEET</i>
<i>RLG</i>	<i>RLG</i>	<i>2022</i>	<i>2211</i>	<i>008</i>	<i>IV-42</i>

V. TXDOT BENCHMARK LOCATION SHEETS

For every benchmark there is a location sketch sheet.



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TxDOT NORTH 98

LOCATION SHEET

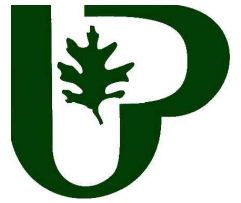


CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	V-1



0 50 100 200
(FEET)
1 inch = 100 ft.



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TxDOT SOUTH 99

LOCATION SHEET



CITY OF UNIVERSITY PARK

REVIEW	DRAWN	DATE	FILE	NUMBER	SHEET
RLG	RLG	2022	2211	008	V-2

VI. PROJECT COMBINED SCALE FACTOR

The project CSF (Combined Scale Factor) should not be used outside the city limits of University Park without verification. The individual CSF for each monument is listed below.

Control Monument	CSF
U.P. #1	0.999853921
U.P. #2	0.999855215
U.P. #3	0.999856275
U.P. #4	0.999857268
U.P. #6	0.999853037
U.P. #7	0.999855132
U.P. #9	0.999853479
U.P. #10	0.999855855
U.P. #11	0.999855524
U.P. #12	0.999855511
U.P. #13	0.999853961
U.P. #14	0.999856622
U.P. #15	0.999857056
U.P. #16	0.999854501
U.P. #17	0.999854565
U.P. #19	0.999857622
U.P. #20	0.999857799
U.P. #21	0.999856959
U.P. #22	0.999857042
U.P. #24	0.999854726
U.P. #25	0.999856151
TxDOT North 98	0.999853059
TxDOT South 99	0.999856345

TOTAL 22.99667762

AVERAGE (Project CSF) 0.999855549