



City of Hutto

Agenda

Planning and Zoning Commission Friday, November 8, 2024 at 5:30 PM Council Chambers

In accordance with the Texas Open Meetings Act this meeting agenda is posted for public information, continuously, for at least 72 hours prior to the scheduled time of the meeting on the bulletin board located on the exterior wall of the City Hall building at 500 West Live Oak, Hutto, Texas. This meeting agenda is also accessible via the Internet at huttotx.gov

1. CALL SESSION TO ORDER

2. ROLL CALL

3. PUBLIC COMMENT

Please fill out required registration form before meeting. Public comment is limited to 3 minutes. City Council can not talk about any items not on the agenda per state law. Written comments for this meeting may also be sent to comments@huttotx.gov PRIOR to 4:00 pm on November 8, 2024. The email must include name, address, phone # and email to be recognized properly. Written comments will be provided to Council.

4. AGENDA ITEMS

- 4.1. Consideration and possible action to approve with conditions the proposed Cottonwood Creek Phase 6 Final Plat, 36.373 acres, more or less, of land, 120 residential lots and three open space/drainage lots, located south of CR 132 and North of FM 1660 South.
- 4.2. Consideration and possible action to approve with conditions the proposed Cottonwood Creek Phase 7 Final Plat, 140.409 acres, more or less, of land, 171 residential lots and one open space/drainage lots, and three open space lots, located south of CR 132 and North of FM 1660 South.

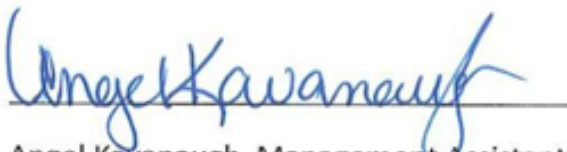
5. DEVELOPMENT SERVICES DIRECTOR REPORT

6. ADJOURNMENT

7. CERTIFICATION

I certify that this notice of the November 8, 2024 Special Called Planning and Zoning Commission meeting was posted on the City of Hutto website and the City Hall bulletin board of the City of Hutto on November 5, 2024 before 5:00 P.M.




Angel Kavanaugh, Management Assistant

The City of Hutto is committed to comply with the Americans Disability Act. The Hutto City Council Chamber is wheelchair accessible. Request for reasonable special accommodations must be made

48 hours prior to the meeting. Please email the City Secretary's office at City.Secretary@huttox.gov or call (512) 759-4033 for assistance.

AGENDA ITEM REPORT

4.1.



To: Planning and Zoning Commission
Subject: Consideration and possible action to approve with conditions the proposed Cottonwood Creek Phase 6 Final Plat, 36.373 acres, more or less, of land, 120 residential lots and three open space/drainage lots, located south of CR 132 and North of FM 1660 South.
Meeting: Friday, November 8, 2024
Department: Development Services
Staff Contact:

BACKGROUND INFORMATION:

The Cottonwood Creek Preliminary Plat is approved with 987 single-family lots, 2 amenity lots and 22 open space lots on 370.33 acres of land. This Final Plat is the sixth phase of the development, south of Phase 5, which was approved at the April 2024 Planning and Zoning Commission meeting. This phase is generally located south of the Carl Stern Drive extension, within the developing neighborhood and only gaining access from prior phases of development. The residential lots range from 50ft to 70ft in width.

WEST: PUD Cottonwood Creek
NORTH: ETJ, Vacant and Residential
EAST: ETJ, Vacant Pastureland
SOUTH: PUD Cottonwood Creek

SUMMARY OF REQUEST:

This property is part of the Cottonwood Creek PUD approved in April 2018. Phases 1-5 have been approved. This tract will gain access through the construction of 6,660 linear feet of new residential roadways, connecting to prior phases and providing access to future phases as well. There are two sidewalk notes on the plat indicating sidewalks and street tree placement throughout the neighborhood (Plat Notes 8 and 9). The property will be served by Hutto water and wastewater and each residential lot will be subject to the Traffic Impact Fee.

This plat is subject to 212.009 Approval Procedure of the Texas Local Government Code and must be approved, approved with conditions, or disapproved within 30 days of the filing of a complete application. Conditional approval or disapproval requires the condition or denial be directly related to the platting requirements and include a code citation.

STAFF REVIEW:

This plat is subject to the shot clock and is recommended for approval with conditions per state law. The attached document is the review staff completed that shows the remaining comments.

AGENDA ITEM REPORT

4.1.



FISCAL NOTES:

POLICY IMPLICATIONS:

ATTACHMENTS:

1. CottonwoodPh6FP-U3-Comlssued(10-8-24)



October 8, 2024

BGE Inc
Stacy Mulholland
1701 Directors Boulevard #1000
Austin, TX 78744
smulholland@bgeinc.com - *communication provided via email*

**RE: Cottonwood Phase 6 Final Plat, Hutto, TX 78634
Final Plat Review – Cottonwood Phase 6 Final Plat - Comment Report to Update #3 Submittal (received 9-17-24)
Project No.: 2009-PLAT**

Ms. Mulholland,

Upon review of the above referenced final plat Update #3 application submitted on September 17, 2024, the following comments are required to be resolved.

Please provide **Update #4** addressing all comments. With your updated plat, please provide a comment response letter detailing how each comment was addressed in digital format only. If the plat contains more than one sheet, please combine all sheets into one document file. Send digital update files to: planning@huttotx.gov, reference project number, project name and update number and upload to GovWell permit.

Planning Review – John Byrum, Planning Manager (512) 759-5974 – john.byrum@huttotx.gov

1. Please see markups.

Engineering Review – Sydnee Best, Plan Review Engineer (512) 759-5960 – sydnee.best@huttotx.gov

2. Please see markups.

Fire Prevention Review – Eric Woods, Fire Marshal. WCESD #3 - (512) 759-2616 – ewoods@huttofirerescue.org

3. No comments.

This review is based only on the information provided. Please note that plats remain subject to additional staff comments throughout the duration of the review period. This review in no way alleviates the responsibility of the developer to comply with all ordinances adopted by the City of Hutto, or state and federal laws and codes. No code violations are approved by this department.

If you have specific questions regarding any of the comments in this report, please contact the department reviewer noted at the top of the corresponding section.

Sincerely,
Development Services Department

#2009-PLAT- Cottonwood Ph 6 FP - Update #3

10/8/2024

Attendees

Sydnee (sydnee.best@huttotx.gov)

jbyrum (john.byrum@huttotx.gov)

Eric Woods (ewoods@huttofirerescue.org)

Documents

CottonwoodPh6FP-U3-Plat(9-17-24).pdf

\\leginc\data\TVC\Projects\Kerner\9936-00-Cottonwood-Phase-8_Update.dwg, 9/10/2024, 4:09 PM, Imorreco, 1:0

R – RESIDENTIAL

O.S.D. – OPEN SPACE/DRAINAGE

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
26	FF	100,149	O.S.D.
30	FF	9,897	R
31	FF	7,972	R
32	FF	7,222	R
33	FF	6,624	R
34	FF	6,342	R
35	FF	6,250	R
36	FF	6,250	R
37	FF	6,250	R
38	FF	6,250	R
39	FF	6,250	R
40	FF	6,250	R
41	FF	6,250	R
42	FF	6,250	R
43	FF	6,250	R
44	FF	6,250	R
45	FF	6,250	R
46	FF	6,250	R
47	FF	5,838	R
48	FF	12,450	R
49	FF	12,041	R
50	FF	7,250	R
51	FF	7,250	R
52	FF	7,250	R
53	FF	8,652	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
26	GG	6,251	R
27	GG	7,945	R
28	GG	7,503	R
29	GG	6,277	R
30	GG	6,539	R
31	GG	6,698	R
32	GG	7,005	R
33	GG	7,465	R
34	GG	8,439	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
4	HH	5,750	R
5	HH	7,713	R
6	HH	7,179	R
7	HH	6,482	R
8	HH	6,500	R
9	HH	7,800	R
10	HH	7,338	R
11	HH	6,500	R
12	HH	6,500	R
13	HH	6,500	R
14	HH	6,500	R
15	HH	9,169	R
16	HH	7,741	R
17	HH	6,002	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	JJ	8,652	R
2	JJ	7,250	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	LL	13,118	R
2	LL	13,947	R
3	LL	16,581	R
4	LL	16,170	R
5	LL	8,400	R
6	LL	8,400	R
7	LL	9,552	R
8	LL	9,552	R
9	LL	8,400	R
10	LL	8,343	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	MM	13,366	R
2	MM	8,347	R
3	MM	8,400	R
4	MM	8,400	R
5	MM	8,400	R
6	MM	9,552	R
7	MM	9,552	R
8	MM	8,400	R
9	MM	8,400	R
10	MM	8,400	R
11	MM	8,400	R
12	MM	8,233	O.S.D.

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	PP	8,399	R
2	PP	8,397	R
3	PP	8,395	R
4	PP	8,480	R
5	PP	8,946	R
6	PP	8,943	R
7	PP	8,945	R
8	PP	8,915	R
9	PP	8,400	R
10	PP	8,400	R
11	PP	8,400	R
42	PP	7,446	R
43	PP	6,250	R

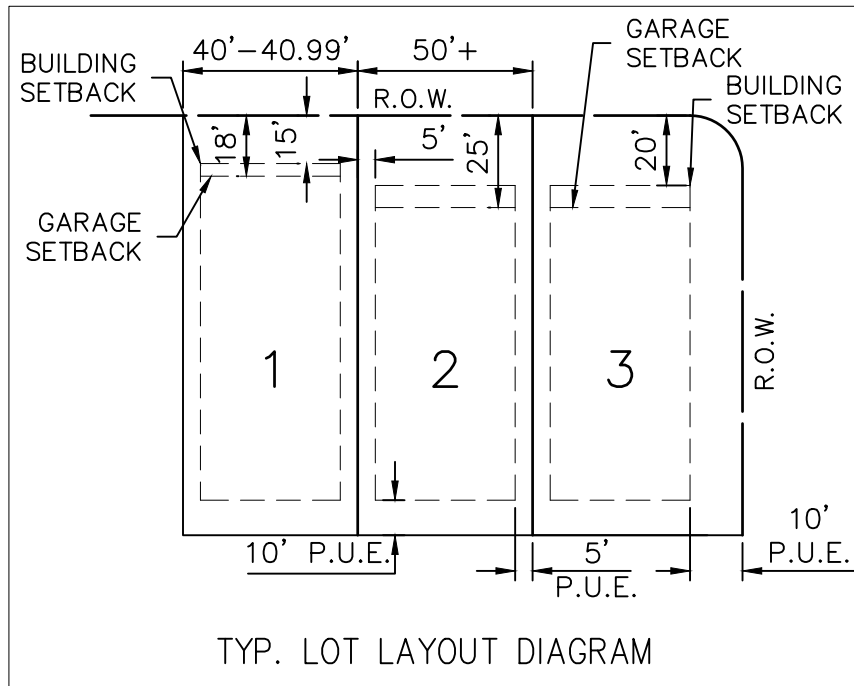
LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	Y	138,963	O.S.D.
2	Y	11,198	R
3	Y	9,100	R
4	Y	9,100	R
5	Y	9,100	R
6	Y	8,760	R
7	Y	16,224	R
8	Y	7,855	R
9	Y	8,400	R
10	Y	8,400	R
11	Y	8,400	R
12	Y	8,400	R
13	Y	9,600	R

CURVE DATA					
NUMBER	RADIUS	DELTA ANGLE	ARC DISTANCE	CHORD BEARING	CHORD DISTANCE
C1	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C2	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C3	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C4	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C5	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C6	15.00'	86°58'59"	22.77'	S 81°45'48" W	20.65'
C7	840.00'	26°56'17"	394.93'	S 68°12'51" E	391.30'
C8	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C9	15.00'	90°00'00"	23.56'	S 6°43'42" E	21.21'
C10	275.00'	12°38'29"	60.67'	S 58°02'56" E	60.55'
C11	15.00'	39°42'54"	10.40'	S 84°13'38" E	10.19'
C12	50.00'	152°07'01"	132.75'	N 28°01'35" W	97.05'
C13	15.00'	39°42'54"	10.40'	S 28°10'28" W	10.19'
C14	15.00'	90°00'00"	23.56'	S 36°40'59" E	21.21'
C15	15.00'	90°00'00"	23.56'	N 53°19'01" E	21.21'
C16	15.00'	90°00'00"	23.56'	S 36°40'59" E	21.21'
C17	525.00'	17°18'48"	158.64'	N 73°01'35" W	158.04'
C18	15.00'	39°42'54"	10.40'	S 84°13'38" E	10.19'
C19	50.00'	151°39'01"	132.34'	N 28°15'35" W	96.96'
C20	15.00'	39°42'54"	10.40'	S 27°42'28" W	10.19'
C21	15.00'	90°00'00"	23.56'	S 37°08'59" E	21.21'
C22	15.00'	90°00'00"	23.56'	S 52°51'01" W	21.21'
C23	15.00'	90°00'08"	23.56'	N 37°09'03" W	21.21'
C24	330.00'	17°46'56"	102.42'	S 73°15'39" E	102.01'
C25	970.00'	1°31'0"20"	223.00'	N 70°57'21" W	222.51'
C26	15.00'	94°08'28"	24.65'	S 55°23'15" W	21.97'
C27	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C28	530.00'	29°57'18"	277.09'	S 23°17'39" W	273.95'
C29	15.00'	90°00'00"	23.56'	S 83°16'18" W	21.21'
C30	325.00'	12°38'29"	71.71'	S 58°02'56" E	71.56'
C31	15.00'	90°00'00"	23.56'	N 19°22'11" W	21.21'
C32	525.00'	17°18'48"	158.64'	S 16°58'25" W	158.04'
C33	15.00'	90°00'00"	23.56'	N 53°19'01" E	21.21'
C34	15.00'	90°00'00"	23.56'	S 36°40'59" E	21.21'
C35	470.00'	29°57'18"	245.72'	S 23°17'39" W	242.93'
C36	525.00'	4°08'57"	38.02'	S 23°33'20" W	38.01'
C37	525.00'	7°26'25"	68.17'	S 17°45'39" W	68.13'
C38	525.00'	5°43'28"	52.45'	S 11°10'44" W	52.43'
C39	470.00'	6°37'26"	54.34'	S 11°37'43" W	54.31'
C40	270.00'	17°46'59"	83.80'	S 73°15'40" E	83.46'
C41	470.00'	11°31'31"	94.54'	S 29°24'14" W	94.38'
C42	470.00'	3°06'19"	25.47'	S 36°43'09" W	25.47'
C43	15.00'	90°00'00"	23.56'	S 70°37'49" W	21.21'
C44	25.00'	72°41'12"	31.72'	N 28°01'35" W	29.63'
C45	15.00'	90°00'00"	23.56'	N 53°19'01" E	21.21'
C46	15.00'	90°00'00"	23.56'	S 36°40'59" E	21.21'
C47	475.00'	17°18'48"	143.53'	S 16°58'25" W	142.99'
C48	475.00'	6°27'11"	53.50'	S 11°32'36" W	53.47'
C49	475.00'	10°51'38"	90.04'	S 20°12'00" W	89.90'
C50	530.00'	1°04'53"	10.00'	S 37°43'52" W	10.00'

LAND USE SCHEDULE		
DESCRIPTION	NO.	ACREAGE
RESIDENTIAL	120	21.737 AC.
OPEN SPACE/DRAINAGE	3	5.582 AC.
RIGHT-OF-WAY	–	8.238 AC.
FM 1660 R.O.W. DEDICATION	–	0.816 AC.
TOTAL LOTS	123	36.373 AC.
TOTAL BLOCKS	9	--

CURVE DATA					
NUMBER	RADIUS	DELTA ANGLE	ARC DISTANCE	CHORD BEARING	CHORD DISTANCE
C51	530.00'	7°18'01"	67.53'	S 33°32'25" W	67.48'
C52	530.00'	7°17'38"	67.47'	S 26°14'36" W	67.43'
C53	530.00'	7°17'55"	67.51'	S 18°56'50" W	67.47'
C54	530.00'	6°58'52"	64.58'	S 11°48'26" W	64.54'
C55	50.00'	37°11'44"	32.46'	N 85°29'13" W	31.89'
C56	50.00'	61°33'38"	53.72'	N 36°06'32" W	51.17'
C57	50.00'	53°21'38"	46.57'	N 21°21'06" E	44.90'
C58	525.00'	0°36'23"	5.56'	N 81°22'48" W	5.56'
C59	525.00'	5°15'15"	48.14'	N 78°26'59" W	48.13'
C60	525.00'	5°15'28"	48.18'	N 73°11'38" W	48.16'
C61	525.00'	1°34'30"	14.43'	N 69°46'39" W	14.43'
C62	525.00'	4°37'13"	42.34'	N 66°40'47" W	42.32'
C63	50.00'	42°42'20"	37.27'	N 82°43'55" W	36.41'
C64	50.00'	45°24'36"	39.63'	N 38°40'28" W	38.60'
C65	50.00'	63°32'05"	55.44'	N 15°47'53" E	52.65'
C66	15.00'	33°21'50"	8.73'	S 30°53'01" W	8.61'
C67	15.00'	6°21'05"	1.66'	S 11°01'33" W	1.66'
C68	475.00'	7°18'29"	60.59'	N 78°01'45" W	60.55'
C69	475.00'	8°55'09"	73.94'	N 69°54'56" W	73.87'
C70	1030.00'	0°15'18"	4.58'	N 64°29'50" W	4.58'
C71	1030.02'	2°43'43"	49.05'	N 65°59'20" W	49.05'
C72	1030.03'	2°43'43"	49.05'	N 68°43'03" W	49.05'
C73	1029.92'	2°43'44"	49.05'	N 71°26'46" W	49.05'
C74	1030.04'	2°43'43"	49.05'	N 74°10'30" W	49.05'
C75	1030.04'	2°35'00"	46.44'	N 76°49'51" W	46.44'
C76	1030.00'	3°33'38"	64.01'	N 79°54'11" W	64.00'
C77	970.00'	5°53'25"	99.72'	N 74°35'49" W	99.68'
C78	970.00'	4°28'28"	75.75'	N 69°24'52" W	75.73'
C79	475.00'	1°05'10"	9.01'	N 64°54'46" W	9.01'
C80	15.00'	89°59'49"	23.56'	N 52°50'56" E	21.21'
C81	25.00'	72°13'12"	31.51'	N 28°15'35" W	29.47'
C82	475.00'	17°18'48"	143.53'	N 73°01'35" W	142.99'
C83	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C84	15.00'	90°00'00"	23.56'	S 36°40'59" E	21.21'
C85	970.00'	2°48'27"	47.53'	N 65°46'24" W	47.52'
C86	470.00'	8°42'03"	71.37'	S 19°17'28" W	71.30'

MINIMUM FINISHED FLOOR ELEVATIONS			
BLOCK	LOT	BFE	MIN. FFE
PP	1	618.0	620.0
PP	2	618.1	620.1
PP	3	618.0	620.0
PP	4	617.4	619.4
PP	5	618.0	620.0
PP	6	617.2	619.2
PP	7	617.0	619.0
PP	8	616.6	618.6
PP	9	616.4	618.4
PP	10	616.0	618.0
PP	11	615.3	617.3



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

FINAL PLAT COTTONWOOD PHASE 6

A SUBDIVISION OF 36.373 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

\\geinc\data\TWC\Projects\Verona\9936-00-Cottonwood-Phase 8_Update.dwg, 9/10/2024, 4:09 PM, Imorreco, 1:0

LEGAL DESCRIPTION

FIELD NOTES FOR A 36.373 ACRE TRACT OF LAND IN THE WILLIAM GATLIN SURVEY, ABSTRACT NO. 271 AND THE JAMES HICKMAN SURVEY, ABSTRACT NO. 291, WILLIAMSON COUNTY, TEXAS; BEING OUT OF A CALLED 118.889 ACRE TRACT (TRACT 1) OF LAND AND A CALLED 66.402 ACRE TRACT (TRACT 2) OF LAND AS CONVEYED UNTO KW-HIS LOT OPTION POOL 01, LLC IN DOCUMENT NUMBER 2023104896 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; SAID 36.373 ACRE TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING AT A 1/2-INCH IRON ROD WITH CAP STAMPED 'BASELINE INC' FOUND ON THE SOUTH LINE OF A CALLED 67.71 ACRE TRACT OF LAND AS CONVEYED UNTO LARRY W. LESCHNER IN VOLUME 2430, PAGE 332 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AT THE NORTHWEST CORNER OF A CALLED 143.6 ACRE TRACT OF LAND AS CONVEYED UNTO LPL INVESTMENTS, LP IN DOCUMENT NUMBER 2010007468 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND AT AN EASTERLY CORNER OF SAID 118.889 ACRE TRACT; THENCE, S 7°01'01" W A DISTANCE OF 1,771.67 FEET TO A 1/2-INCH IRON ROD WITH CAP STAMPED "BGE INC" SET FOR THE NORTHEAST CORNER AND POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT;

THENCE, COINCIDENT WITH THE COMMON LINE OF SAID 143.6 ACRE TRACT AND SAID 118.889-ACRE TRACT, S 07°01'01" W, A DISTANCE OF 466.86 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET AT THE SOUTHEAST CORNER OF SAID 118.889-ACRE TRACT, AND THE NORTHEAST CORNER OF THE AFOREMENTIONED 66.402-ACRE TRACT, FOR THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT, FROM WHICH A 1/2-INCH IRON ROD WITH CAP STAMPED 'BASELINE INC' FOUND AT THE COMMON CORNER OF SAID 66.402-ACRE TRACT AND A CALLED 67.634-ACRE TRACT OF LAND AS CONVEYED UNTO MB HUTTO LLC, IN DOCUMENT NUMBER 2021066633, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, BEARS S 07°01'01" W, A DISTANCE OF 1,101.67 FEET;

THENCE, DEPARTING SAID COMMON LINE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, N 82° 06' 59" W, A DISTANCE OF 70.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, S 07° 01' 01" W, A DISTANCE OF 110.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHEASTERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 82°08'59" W, A DISTANCE OF 196.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 82°07'54" W, A DISTANCE OF 120.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, S 07°01'01" W, A DISTANCE OF 9.44 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 84°22'11" W, A DISTANCE OF 546.16 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 06°19'01" E, A DISTANCE OF 18.24 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 81°40'59" W, A DISTANCE OF 115.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 06°19'01" E, A DISTANCE OF 14.61 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 81°40'59" E, A DISTANCE OF 175.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, AND OVER AND ACROSS SAID 118.889-ACRE TRACT, N 06°19'01" E, A DISTANCE OF 108.95 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, N 81°40'59" W, A DISTANCE OF 206.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF CURVATURE TO THE LEFT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF S 53°19'01" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH ROD WITH A CAP STAMPED "BGE INC" SET AT THE END OF THIS CURVE FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 66.402-ACRE TRACT, N 81°40'59" E A DISTANCE OF 60.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET AT THE BEGINNING OF A TON-TANGENT CURVE FOR A CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID LBNAR 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF S 36°40'59" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF TANGENCY OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, N 81°40'59" W A DISTANCE OF 210.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF CURVATURE TO THE LEFT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF S 53°19'01" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH ROD WITH A CAP STAMPED "BGE INC" SET AT THE END OF THIS CURVE FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 66.402-ACRE TRACT, N 81°40'59" E A DISTANCE OF 60.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET AT THE BEGINNING OF A TON-TANGENT CURVE FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF N 36°40'59" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF TANGENCY IN THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, N 81°40'59" W, A DISTANCE OF 210.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF CURVATURE OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND THE SAID 66.402-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF S 53°19'01" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH ROD WITH A CAP STAMPED "BGE INC" SET AT THE END OF THIS CURVE FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, N 81°40'59" W A DISTANCE OF 60.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, N 81°19'01" E, A DISTANCE OF 27.76 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHERLY INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, N 81°40'59" E, A DISTANCE OF 120.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A SOUTHWESTERLY CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, N 06°19'01" E, A DISTANCE OF 210.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 66.402-ACRE TRACT, N 11°40'42" E, PASSING AT 47.85 FEET THE COMMON CORNER OF THE 118.889-ACRE TRACT AND CALLED 130.141-ACRE TRACT OF LAND AS CONVEYED UNTO LBNAR HOMES OF TEXAS LAND AND CONSTRUCTION IN DOCUMENT NUMBER 2019104719 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND CONTINUING ON FOR A TOTAL DISTANCE OF 82.12 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 130.141-ACRE TRACT, N 16°56'36" E, A DISTANCE OF 82.73 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 130.141-ACRE TRACT, N 26°14'30" E, A DISTANCE OF 82.73 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 130.141-ACRE TRACT, N 33°32'20" E, A DISTANCE OF 82.73 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT AND SAID 130.141-ACRE TRACT, N 36°14'53" E, A DISTANCE OF 261.67 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, S 51°43'42" E, A DISTANCE OF 120.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, N 36°16'18" E A DISTANCE OF 196.29 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR THE MOST NORTHERLY CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 51°43'42" E, A DISTANCE OF 60.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET AT THE BEGINNING OF A NON-TANGENT CURVE FOR A CORNER AND A POINT OF CURVATURE TO THE RIGHT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, CURVING TO THE LEFT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.77 FEET, A CENTRAL ANGLE OF 86°58' 59", A CHORD BEARING OF S 81°46'46" W, AND A CHORD DISTANCE OF 20.66 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF REVERSE CURVATURE OF THE HEREIN DESCRIBED TRACT;

THENCE, OVER AND ACROSS SAID 118.889-ACRE TRACT, CURVING TO THE RIGHT, WITH A RADIUS OF 840.00 FEET, AN ARC LENGTH OF 384.93 FEET, A CENTRAL ANGLE OF 26°56'17", A CHORD BEARING OF S 66°12'51" E, AND A CHORD DISTANCE OF 361.30 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF TANGENCY OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 81°40'59" E, A DISTANCE OF 96.27 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF CURVATURE TO THE RIGHT OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, CURVING TO THE RIGHT, WITH A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.96 FEET, A CENTRAL ANGLE OF 90°00'00", A CHORD BEARING OF N 36°40'59" W, AND A CHORD DISTANCE OF 21.21 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR A POINT OF TANGENCY OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 06°19'01" W, A DISTANCE OF 63.32 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 81°40'59" E, A DISTANCE OF 60.00 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN EXTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 06°19'01" W, A DISTANCE OF 17.33 FEET TO A 1/2-INCH IRON ROD WITH A CAP STAMPED "BGE INC" SET FOR AN INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, CONTINUING OVER AND ACROSS SAID 118.889-ACRE TRACT, S 64°51'23" E, A DISTANCE OF 1,170.57 FEET TO THE POINT OF BEGINNING AND CONTAINING 36.373 ACRES OF LAND, MORE OR LESS.

Difficult to read the text on the legal description.



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

FINAL PLAT
COTTONWOOD PHASE 6

A SUBDIVISION OF 36.373 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

STATE OF _____ §
COUNTY OF _____ §

KNOW ALL MEN BY THESE PRESENTS:

THAT KW-HS LOT OPTION POOL 01, LLC, A DELAWARE LIMITED LIABILITY COMPANY, ACTING HEREIN BY AND THROUGH STEVEN C. PORATH, AUTHORIZED PERSON, BEING THE OWNER OF A CALLED 118.569 ACRES (TRACT 1) OF LAND AND A CALLED 65.402 ACRES (TRACT 2) AS CONVEYED TO IT BY SPECIAL WARRANTY DEED RECORDED IN DOCUMENT NUMBER 2023104556 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, ALL OUT OF THE WILLIAM GATLIN SURVEY A-271, AND THE JAMES HICKMAN SURVEY, A-291, WILLIAMSON COUNTY, TEXAS DOES HEREBY SUBDIVIDE SAID 36.373 ACRES OF LAND IN ACCORDANCE WITH THE PLAT SHOWN HEREON, TO BE KNOWN AS:

COTTONWOOD PHASE 6

AND DOES HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS AND EASEMENTS SHOWN HEREON, SUBJECT TO ANY EASEMENTS AND/OR RESTRICTIONS HERETOFORE GRANTED AND NOT RELEASED.

WITNESS MY HAND, THIS THE _____ DAY OF _____, 20____, A.D.

KW-HS LOT OPTION POOL 01, LLC
A DELAWARE LIMITED LIABILITY COMPANY

BY: HEARTHSTONE, INC.,
A CALIFORNIA CORPORATION,
ITS SOLE MEMBER MANAGER

BY: _____
STEVEN C. PORATH
AUTHORIZED PERSON

STATE OF CALIFORNIA
COUNTY OF _____)

ON _____ BEFORE ME, _____
(INSERT NAME AND TITLE OF THE OFFICER)

PERSONALLY APPEARED _____
WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND AND OFFICIAL SEAL.

SIGNATURE _____ (SEAL)

I, STACY MULHOLLAND, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF ENGINEERING, AND DO HEREBY CERTIFY THAT THIS PLAT IS FEASIBLE FROM AN ENGINEERING STANDPOINT, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

PRELIMINARY, THIS DOCUMENT SHALL NOT
BE RECORDED FOR ANY PURPOSE AND
SHALL NOT BE USED OR VIEWED OR RELIED
UPON AS A FINAL SURVEY DOCUMENT

STACY MULHOLLAND, P.E.
LICENSED PROFESSIONAL ENGINEER NO. 146417
BGE, INC.
7330 SAN PEDRO AVE, SUITE 202
SAN ANTONIO, TEXAS 78216

DATE

I, DION P. ALBERTSON, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF LAND SURVEYING, AND DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND WAS PREPARED FROM AN ACTUAL ON THE GROUND SURVEY OF THE PROPERTY UNDER MY SUPERVISION IN AUGUST 2019.

PRELIMINARY, THIS DOCUMENT SHALL NOT
BE RECORDED FOR ANY PURPOSE AND
SHALL NOT BE USED OR VIEWED OR RELIED
UPON AS A FINAL SURVEY DOCUMENT

DION P. ALBERTSON, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4963
BGE, INC.
7330 SAN PEDRO AVE, SUITE 202
SAN ANTONIO, TEXAS 78216

DATE

GENERAL NOTES:

1. BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. COMBINED SCALE FACTOR = 0.99989025
2. NO BUILDING, FENCING, LANDSCAPING OR STRUCTURES ARE ALLOWED WITHIN ANY DRAINAGE OR WASTEWATER EASEMENT UNLESS EXPRESSLY PERMITTED BY THE CITY OF HUTTO.
3. BUILDING SETBACKS SHALL CONFORM TO THE AMENDED PUD 0-19-11-21-8B
4. A TEN (10) FOOT PUBLIC UTILITY EASEMENT (PUE) IS HEREBY DEDICATED ALONG AND ADJACENT TO ALL STREET SIDE PROPERTY LINES.
5. A FIVE (5) FOOT PUBLIC UTILITY EASEMENT (PUE) IS HEREBY DEDICATED ON EACH SIDE OF ALL REAR LOT LINES.
6. IF PARKING IS DESIRED ON BOTH SIDES OF THE STREET THEN THE STREETS MUST BE A MINIMUM OF 33 FEET WIDE. IF THE STREETS ARE LESS THAN 33 FEET IN WIDTH FIRE LANE SIGNAGE IS REQUIRED. (2018 IFC APPENDIX D SEC. 103.6 - D103.6.2)
7. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO PUBLIC WATER AND WASTEWATER UTILITIES.
8. SIDEWALKS AND TREES SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS WITHIN THIS SUBDIVISION.
9. SIDEWALKS AND TREES SHALL BE PROVIDED ALONG ALL STREETS BOUNDING THIS SUBDIVISION.
10. AN ARTERIAL FENCE SHALL BE CONSTRUCTED ALONG F.M. 1660 PER UDC REQUIREMENTS, AS AMENDED.
11. ALL FENCING THAT IS NOT ON A PRIVATE LOT TO BE MAINTAINED BY THE HOA.
12. STREET LIGHTING SHALL BE PROVIDED BY THE DEVELOPER IN CONFORMANCE WITH THE UDC REQUIREMENTS, AS AMENDED.
13. THIS TRACT IS WITHIN WATER CCN SERVICE AREA 10321. WATER AND WASTEWATER WILL BE AVAILABLE THROUGH THE CITY OF HUTTO AFTER THE APPROPRIATE WATER AND WASTEWATER SYSTEMS ARE INSTALLED TO THIS SITE. THE CITY OF HUTTO ASSUMES NO OBLIGATIONS FOR INSTALLING ANY WATER AND WASTEWATER IMPROVEMENTS REQUIRED TO SERVE THIS SITE.
14. FLOODPLAIN BOUNDARIES SHOWN HEREON ARE APPROXIMATE PER CLOMR NO. 15-06-4386C AND ARE NOT DEPICTED AS A RESULT OF AN ON THE GROUND SURVEY.
15. IN ORDER TO PROMOTE DRAINAGE AWAY FROM A STRUCTURE, THE SLAB ELEVATIONS SHALL BE BUILT AT LEAST ONE (1) FOOT ABOVE THE SURROUNDING GROUND AND SHOULD BE GRADED AWAY FROM THE STRUCTURE AT A SLOPE OF ½" PER FOOT FOR A DISTANCE OF AT LEAST TEN (10) FEET.
16. ALL SUBDIVISION CONSTRUCTION SHALL CONFORM TO THE CITY OF HUTTO UNIFIED DEVELOPMENT CODE AS AMENDED, CONSTRUCTION STANDARDS, AND GENERALLY ACCEPTED ENGINEERING PRACTICES.
17. ON-SITE STORMWATER DETENTION FACILITIES WILL BE PROVIDED TO REDUCE POST-DEVELOPMENT PEAK RATES OF DISCHARGE OF THE 2, 10, 25 AND 100-YEAR STORM EVENTS.
18. ALL EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR HIS OR HER ASSIGNS.
19. ALL DRAINAGE LOTS, OPEN SPACE LOTS, AND AMENITY LOTS SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
20. THIS SUBDIVISION IS ZONED PUD 0-19-11-21-8B.
21. ALL LOTS IN THIS SUBDIVISION ARE RESTRICTED TO SINGLE FAMILY RESIDENTIAL USE, UNLESS OTHERWISE INDICATED.
22. THE MAXIMUM IMPERVIOUS COVERAGE PER RESIDENTIAL LOT IS 75%.
24. UTILITY PROVIDERS FOR THIS DEVELOPMENT ARE:
WATER: CITY OF HUTTO
WASTEWATER: CITY OF HUTTO
ELECTRIC: ONCOR
25. FINISH FLOOR ELEVATION FOR RESIDENTIAL LOTS ADJACENT TO THE PROPOSED/EXISTING 100-YEAR FLOODPLAIN SHALL BE A MINIMUM OF TWO (2) FEET ABOVE THE ULTIMATE 100-YEAR FLOODPLAIN OR 100-YEAR WATER SURFACE ELEVATION, WHICHEVER IS GREATER.
26. NO DIRECT VEHICULAR ACCESS FROM FM 1660.
27. THIS PROPERTY IS SUBJECT TO TRANSPORTATION IMPACT FEE (TIF) BASED ON ORDINANCE 2021-041

PLANNING AND ZONING COMMISSION CHAIR:

THIS PLAT WAS APPROVED FOR RECORDING BY THE PLANNING AND ZONING COMMISSION CHAIR ON THE _____ DAY OF _____, 20____.

SUSANNA BOYER
PLANNING AND ZONING COMMISSION CHAIR

DATE

CITY DEVELOPMENT SERVICES:

THIS SUBDIVISION IS LOCATED WITHIN THE CITY LIMITS OF HUTTO, THIS THE _____ DAY OF _____, 20____.

ASHLEY BAILEY, DEVELOPMENT SERVICES EXECUTIVE DIRECTOR

DATE

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF WILLIAMSON §

THAT I, NANCY E. RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATION OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE ____DAY OF _____, 20__ A.D., AT _____ O'CLOCK ____M. AND DULY RECORDED ON THE ____DAY OF _____, 20__ A.D., AT _____ O'CLOCK ____M. IN THE PLAT RECORDS OF SAID COUNTY, IN DOCUMENT NO. _____

WITNESS MY HAND AND SEAL OF THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST ABOVE WRITTEN.

NANCY E. RISTER, CLERK, COUNTY COURT
WILLIAMSON COUNTY, TEXAS

BY: _____
DEPUTY



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

AGENDA ITEM REPORT

4.2.



To: Planning and Zoning Commission
Subject: Consideration and possible action to approve with conditions the proposed Cottonwood Creek Phase 7 Final Plat, 140.409 acres, more or less, of land, 171 residential lots and one open space/drainage lots, and three open space lots, located south of CR 132 and North of FM 1660 South.
Meeting: Friday, November 8, 2024
Department: Development Services
Staff Contact:

BACKGROUND INFORMATION:

The Cottonwood Creek Preliminary Plat is approved with 987 single-family lots, 2 amenity lots and 22 open space lots on 370.33 acres of land. This Final Plat is the seventh phase of the development, south of Phase 6, which is currently in review with staff. This phase is generally located south of the Carl Stern Drive extension, within the developing neighborhood and only gaining access from prior phases of development. The residential lots range from 50ft to 70ft in width.

WEST: PUD Cottonwood Creek
NORTH: ETJ, Vacant and Residential
EAST: ETJ, Vacant Pastureland
SOUTH: PUD Cottonwood Creek

SUMMARY OF REQUEST:

This property is part of the Cottonwood Creek PUD approved in April 2018. Phases 1-5 have been approved. Phase 6 is currently be reviewed. This tract will gain access through the construction of 6,660 linear feet of new residential roadways, connecting to prior phases and providing access to future phases as well. There are two sidewalk notes on the plat indicating sidewalks and street tree placement throughout the neighborhood (Plat Notes 8 and 9). The property will be served by Hutto water and wastewater and each residential lot will be subject to the Traffic Impact Fee.

This plat is subject to 212.009 Approval Procedure of the Texas Local Government Code and must be approved, approved with conditions, or disapproved within 30 days of the filing of a complete application. Conditional approval or disapproval requires the condition or denial be directly related to the platting requirements and include a code citation.

STAFF REVIEW:

This plat is subject to the shot clock and is recommended for approval with conditions per state law. The attached document is the review staff completed that shows the remaining comments.

FISCAL NOTES:

AGENDA ITEM REPORT

4.2.



POLICY IMPLICATIONS:

ATTACHMENTS:

1. Cottonwood Phase 7 FP - STAFFCOMMENTS

Cottonwood Phase 7 FP - U1

9/18/2024

Attendees

Sydnee (sydnee.best@huttotx.gov)
jbyrum (john.byrum@huttotx.gov)
Eric Woods (ewoods@huttofirerescue.org)

Documents

CottonwoodPh7FP-U1-HydraulicSdy(8-27-22).pdf
CottonwoodPh7FP-U1-ComResp(8-27-22).pdf
CottonwoodPh7FP-U1-Plat(8-27-22).pdf

Cottonwood Subdivision

Phase VII

Lennar Corporation

Drainage Impact Analysis Cottonwood Creek

Williamson County, Texas



08-20-2024

BGE, Inc.
TBPE Registration No. F-1046

BGE Project No. 10376-00
August 2024



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Appendices

Appendix A:

- Location Map
- Drainage Area Delineations (Overall Pre- and Post-Development)
- Existing Conditions Basin (HEC-HMS)
- Proposed Conditions Basin (HEC-HMS)

Appendix B:

- Existing and Proposed Curve Number Summary

Appendix C:

- Time of Concentration Calculations

Appendix D:

- HEC-HMS Model (Electronic Files)

Appendix E:

- Pre-Development vs. Post-Development HEC-HMS Result Comparison @ POI-7
- Pre-Development vs. Post-Development HEC-HMS Result Comparison @ POI-6
- Pre-Development vs. Post-Development HEC-HMS Results Comparison @ POI-5
- Pre-Development vs. Post-Development HEC-HMS Result Comparison @ POI-4
- Pre-Development vs. Post-Development HEC-HMS Result Comparison @ POI-4 and POI-7 Confluence

Appendix F:

- FEMA FIRM Panel

Appendix G:

- SOILS REPORT

Section 1

Introduction

1.1 General

Cottonwood Creek is a proposed single-family subdivision located within Williamson County and the City of Hutto city limits. A **Location Map** is presented in **Appendix A** of this report. The overall project proposes 987 lots and 49,856 linear feet of public roadways within 370.33 acres

Based on the preliminary Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel No. 48491C0520F dated December 20, 2019, Cottonwood Creek is designated as a Zone AE (1-percent annual chance flood with base flood elevation determined) floodplain. This flood designation begins in the City of Hutto and conveys drainage south, across US 79 before crossing the southwest side of the Cottonwood Subdivision and continuing south.

This report presents the results of a hydrologic analysis to define the drainage impact at five outfall locations along the Cottonwood Creek southern property boundary following the development of Phase VII. As a phased development, for the purpose of this report, the existing hydrologic model assumes no prior development on the property and the land use being agricultural. The post-development hydrologic model assumes Phases I – VII are all fully developed.

The results of the study for POI-7 and POI-4 & POI-7 confluence, as shown in Section 3, indicate that in the post-development conditions, a detention facility is not required to reduce the post-development flows to the pre-development values. This is due to the impact of peak flow timing within the large contributing watershed draining to the analysis point. In addition to POI-7, POI-4, POI-5 and POI-6 do not trigger a need for a detention pond either, due to the decrease in the size of the drainage area flowing towards it.

Section 2 Methodology

2.1 Hydrology

The HEC-HMS 4.2.1 computer program developed by the Hydrologic Engineering Center of the U. S. Army Corps of Engineers (USACE) is used in this analysis to estimate peak flow rates along the Cottonwood Creek where it leaves the subject property at the most southern boundary. Peak flow rates are computed along the watercourse for the existing and proposed conditions 50%, 10%, 4%, and 1% annual chance (2-, 10-, 25-, and 100-year) storm events. This section describes the input parameters used in this study. The existing and proposed conditions HEC-HMS models are included in **Appendix D** of this report

2.1.1 Precipitation

The precipitation depths for each frequency design storm are taken from Round Rock Rainfall Application Instructions for Hydrologic Analyses and Designs Manual (NOAA Atlas 14 Brushy Creek Watershed Centroid Rainfall Depth for selected Durations and Frequencies table). **Table 1** presents the cumulative storm depths for selected durations for the various storms used in this study. Each of these precipitation depths has been input into HEC-HMS as a 1-day frequency storm event.

Table 1: NOAA Atlas 14 Brushy Creek Watershed Centroid Rainfall Depth for selected Durations and Frequencies (inches); AC = Annual Chance

Duration	1-yr	2-yr	5-yr	10-yr	25-yr (4% AC)	50-yr	100-yr (1% AC)	200-yr	500-yr	1000-yr
5-min	0.438	0.520	0.650	0.761	0.921	1.05	1.18	1.32	1.50	1.65
10-min	0.697	0.829	1.040	1.22	1.47	1.68	1.90	2.11	2.38	2.59
15-min	0.879	1.04	1.30	1.52	1.83	2.09	2.35	2.61	2.98	3.25
30-min	1.24	1.47	1.82	2.12	2.55	2.90	3.25	3.63	4.15	4.57
60-min	1.61	1.91	2.39	2.80	3.39	3.85	4.35	4.89	5.66	6.28
2-hr	1.93	2.35	2.99	3.57	4.41	5.11	5.87	6.73	7.99	9.03
3-hr	2.10	2.61	3.36	4.05	5.08	5.94	6.91	8.02	9.65	11.0
6-hr	2.40	3.05	3.98	4.86	6.19	7.32	8.62	10.1	12.3	14.2
12-hr	2.73	3.49	4.58	5.61	7.18	8.53	10.1	11.9	14.6	17.0
24-hr	3.10	3.97	5.20	6.38	8.17	9.70	11.5	13.5	16.7	19.3

2.1.2 Drainage Area

The Cottonwood Creek watershed (for the portion upstream of the subject property is delineated using five-foot contour interval topography data generated from LIDAR mapping technology provided by the Capital Area Council of Governments (CAPCOG). The portions of the drainage areas running through the proposed subdivision were supplemented with collected one-foot survey data. See **Appendix A** for the illustration of the drainage area delineation. **Appendix A** also includes the **Existing** and **Proposed Conditions Basins** used in the HEC-HMS models.

2.1.3 Infiltration Losses

The U.S. Department of Agriculture Natural Resource Conservation Service (NRCS, formerly the Soil Conservation Service, SCS) has developed a rainfall runoff index, the runoff curve number (CN), which takes into account such factors as soil characteristics, land use/land condition, and antecedent soil moisture to derive a generalized rainfall runoff relationship for a given area. A description of these components and the equations for calculating runoff depth from rainfall are provided below.

The NRCS classifies soils into four hydrologic soil groups: A, B, C and D. These groups indicate the runoff potential of a soil, ranging from a low runoff potential (group A) to a high runoff potential (group D). The CN is estimated for each drainage area based on the information provided in the soil survey of Williamson County, Texas.

The NRCS provides runoff curve numbers for three Antecedent Runoff Conditions (ARC): I, II and III. ARC I represents dry soil conditions and ARC III represents saturated soil conditions. ARC II, which represents average soil moisture conditions, is assumed for this analysis. Runoff curve numbers vary from 0 to 100, with the smaller values representing lower runoff potential and the larger values representing higher runoff potential. Impervious cover values are entered separately from CN values into the HEC-HMS model.

There are two factors that play a significant role in the determination of curve numbers, one being the “hydrologic soil group” and the other one being the “land use”. For determination of the hydrologic soil group, a soil survey was completed on the United States Department of Agriculture Natural Resources Conservation Service’s website. Most of the soils within the drainage areas fall into the NRCS Soil Group D classification. The remaining soils consist of Soil Group B and C. Land uses were determined based on an aerial image dated 1/13/2018 taken from Google Earth. The pre-development drainage area incorporates undeveloped land consisting of brushes, tall grasses and farmland. As stated previously, the pre-development condition assumes no prior development on the property due to the phased nature of the project. In the post-development conditions, the drainage areas incorporating the Cottonwood Subdivision proposed developments were assumed to contain residential lots with lots 1/8 to 1/4-acre lot sizes. Phases I – VII are considered fully developed in the post-development condition. ARC II is assumed for this analysis. The existing and proposed curve number calculations are included in **Appendix B**.

It is assumed that 100 percent runoff is generated from impervious areas, while runoff from pervious areas is estimated using the selected CN value and the following equations:

$$Q = (P - 0.2 \times S)^2 / (P + 0.8 \times S) \quad \text{Equation 1}$$

And

$$CN = 1000 / (10 + S) \quad \text{Equation 2}$$

Where:

- Q = depth of runoff (in),
- P = depth of precipitation (in),
- S = potential maximum retention after runoff begins, and
- CN = runoff curve number.

2.1.4 Unit Hydrograph Method

A rainfall/runoff transformation is required to convert rainfall excess (total rainfall minus infiltration losses) into runoff from a particular subarea. The SCS Storm in HEC-HMS is used in this analysis to generate runoff hydrographs for each area within the POI-4, POI-5, POI-6 and POI-7 watersheds. This method requires only one input parameter, lag time (T_{LAG}).

The dimensionless unit hydrograph developed by the NRCS (**Figure 1**) was developed by Victor Mockus and presented in *National Engineering Handbook, Section 4, Hydrology*, published by the U. S. Natural Resource Conservation Service. The dimensionless unit hydrograph has its ordinate values expressed in a dimensionless ratio, q/q_p , and its abscissa values as t/T_p . This unit hydrograph has a point of inflection approximately 1.7 times the time-to-peak (T_p), and the time-to-peak 0.2 of the time-of-base (T_b) (NRCS 1985).

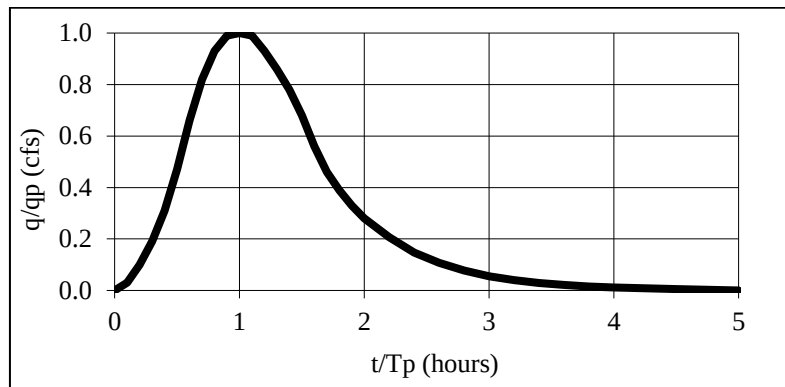


Figure 1. NRCS Unit Hydrograph

Input data for this method consists of a single parameter, T_{LAG} , which is equal to the time (hours) between the center of mass of rainfall excess and the peak of the unit hydrograph (NRCS 1985).

The time-to-peak is computed using the following equation:

$$T_{PEAK} = \Delta t/2 + T_{LAG} \quad \text{Equation 3}$$

Where:

- T_{PEAK} = time to peak of the unitgraph (hrs)

$$\begin{aligned}\Delta t &= \text{computation interval / duration of unit excess (hrs)} \\ T_{LAG} &= \text{watershed lag (hrs)}\end{aligned}$$

The peak flow rate of the unit graph is computed using the following equation:

$$qp = 484A/T_{PEAK} \quad \text{Equation 4}$$

Where:

$$\begin{aligned}qp &= \text{peak flow rate of the unitgraph (cfs/in)} \\ A &= \text{watershed area (sq mi)}\end{aligned}$$

2.1.5 Time of Concentration

The NRCS method assumes that the lag time of a watershed is 60 percent of the watershed's time of concentration. The time of concentration is the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed (NRCS 1985). The time of concentration may be estimated by calculating and summing the travel time for each sub-reach defined by the flow type: sheet flow, shallow concentrated flow, and channelized flow (including roadways and storm sewers). The methods prescribed in the NRCS' Technical Release 55 (TR55) are used to determine the times of concentration for each flow segment in this analysis. **Appendix C** shows the existing and proposed conditions time of concentrations calculations for this analysis utilizing each typical flow segment presented below.

2.1.5.1 Sheet Flow (<100 feet)

Sheet flow is flow over plane surfaces. It usually occurs in the headwater of streams. With sheet flow, the friction value (Manning's n) is an effective roughness coefficient that includes the effect of raindrop impact, drag over the plane surface, obstacles such as litter, crop ridges, and rocks, and erosion and transportation of sediment. These n values are for very shallow flow depths of approximately 0.1 foot. Assuming sheet flow of less than 100 feet, travel time is computed as follows:

$$Tt = (0.007 \times (n \times L)^{0.8}) / (P_2^{0.5} \times s^{0.4}) \quad \text{Equation 5}$$

Where:

$$\begin{aligned}Tt &= \text{travel time (hr),} \\ n &= \text{Manning's roughness coefficient,} \\ L &= \text{flow length (ft),} \\ P_2 &= \text{2-year, 24-hour rainfall (in), and} \\ s &= \text{slope of ground (ft/ft).}\end{aligned}$$

2.1.5.2 Shallow Concentrated Flow

After a maximum of 100 feet, sheet flow usually becomes shallow concentrated flow. The average velocity for this flow can be determined from the following figure (**Figure 2**) in which average velocity is a function of watercourse slope and type of channel.

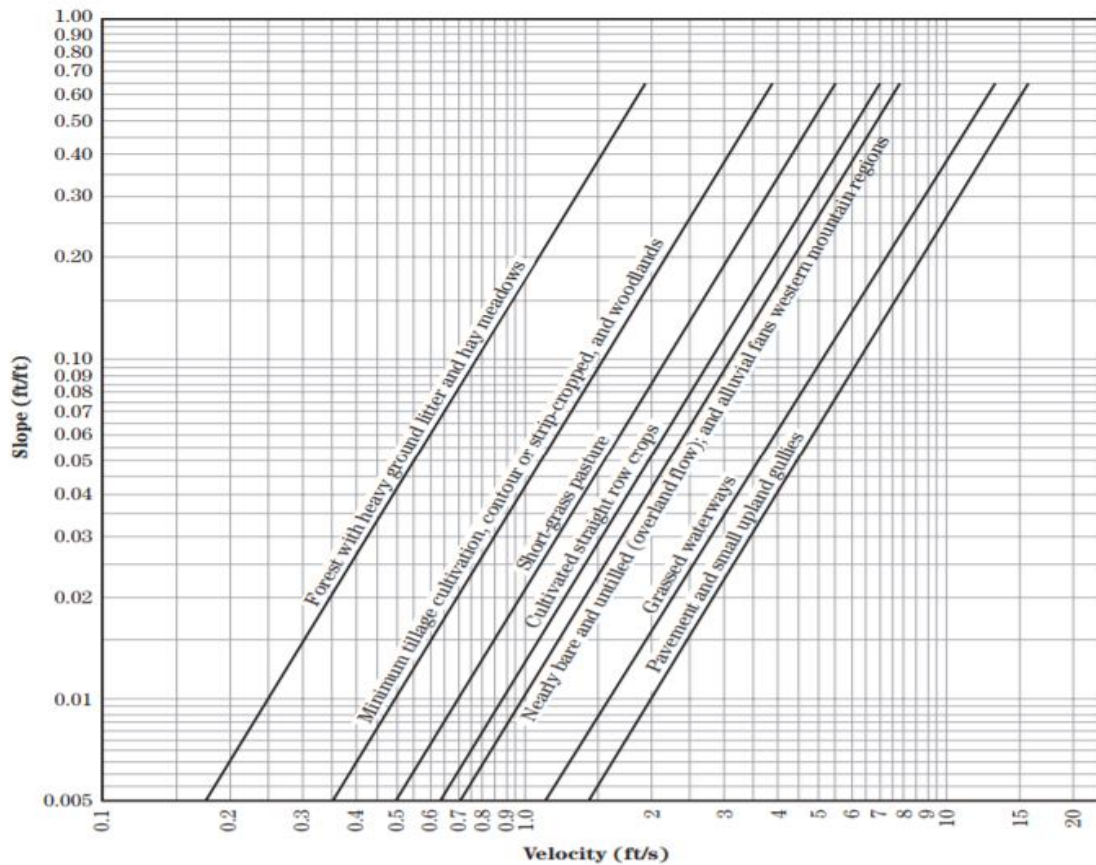


Figure 1: Average Velocities for Estimating Travel Time in Shallow Conc. Flow Segments

After determining the average velocity, the following equation is used to compute travel time:

$$Tt = L / (3600 \times VM \times s^{0.5}) \quad \text{Equation 6}$$

Where:

- Tt = travel time (hr),
- L = flow length (ft),
- s = slope of the ground (ft/ft), and
- 3,600 = conversion factor from minutes to hours.
- VM = velocity multiplier (see table below- table was obtained from Part 630 Hydrology National Engineering Handbook Chapter 15 Time of Concentration-Table 15-3)

Table 3. Velocity Multiplier Based on Land Cover

Flow type	Depth (ft)	Manning's <i>n</i>	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$

2.1.5.3 Channel Flow

Channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle maps.

Channel and pipe flow durations equal to:

$$T_{channel} = L / (3600 * V) \quad \text{Equation 7}$$

Where:

$$\begin{aligned} V &= \text{average velocity (ft/sec),} \\ L &= \text{channel flow length (ft),} \end{aligned}$$

It should be noted significant drainage including area OV-OFF 1 is routed through the Cottonwood site via man-made channel. This channel was constructed with the previous phases of this subdivision and has been sized to accommodate the flows generated from the ultimate-development conditions of the Cottonwood Subdivision.

Section 3

Hydrologic Results

Table 4 below compares the computed flow rates at POI-7 along Cottonwood Creek (southern property boundary).

Table 4. Flow Rates (cfs) at POI-7

	Pre-Dev	Post-Dev No Pond	Difference
2yr	3597.5	3588.1	-9.4
10yr	6277.8	6262.7	-15.1
25yr	8161.6	8142.3	-19.3
100yr	11443.1	11417.8	-25.3

Table 5 below compares the computed flow rates at POI-INT just upstream of the confluence of Cottonwood Creek and the drainage way carrying the developed flows.

Table 5. Flow Rates (cfs) at POI-INT

	Pre-Dev	Post-Dev No Pond	Difference
2yr	878.2	867.8	-10.4
10yr	1507.3	1494.9	-12.4
25yr	1943.0	1934.0	-9.0
100yr	2696.1	2695.7	-0.4

Table 6 below compares the computed flow rates at POI-4 along the southeastern property boundary.

Table 6. Flow Rates (cfs) at POI-4

	Pre-Dev	Post-Dev No Pond	Difference
2yr	180.0	184.4	+4.4
10yr	296.1	292.3	-3.8
25yr	372.0	361.8	-10.2
100yr	495.7	474.8	-20.9

Table 7 below compares the computed flow rates approximately 1000 feet downstream of POI-7 where POI-4 flows into Cottonwood Creek.

Table 7. Flow Rates (cfs) at POI-4 & POI-7 Confluence

	Pre-Dev	Post-Dev No Pond	Difference
2yr	3631.5	3600.4	-31.1
10yr	6342.0	6286.5	-55.5
25yr	8249.4	8175.7	-73.7
100yr	11575.8	11470.3	-105.5

Table 8. Flow Rates (cfs) at POI-5

	Pre-Dev	Post-Dev No Pond	Difference
2yr	35.8	37.7	+1.9
10yr	58.5	58.8	+0.3
25yr	73.1	72.3	-0.8
100yr	97.0	94.3	-2.7

Table 9. Flow Rates (cfs) at POI-6

	Pre-Dev	Post-Dev No Pond	Difference
2yr	82.8	82.2	-0.6
10yr	135.7	135.0	-0.7
25yr	170.1	169.3	-0.8
100yr	226.3	225.3	-1.0

As shown in **Tables 4 thru 9**, the proposed Cottonwood Phase VII will not have an adverse impact on the neighboring properties. Therefore, no ponds have been proposed for any of the outfall locations.

HEC-HMS results representing the flows at “POI-7”, “POI-4”, “POI-INT”, “POI-4 & POI-7 Confluence”, “POI-5” and “POI-6” for each storm event mentioned above are placed in **Appendix E**.

Section 4

Conclusion

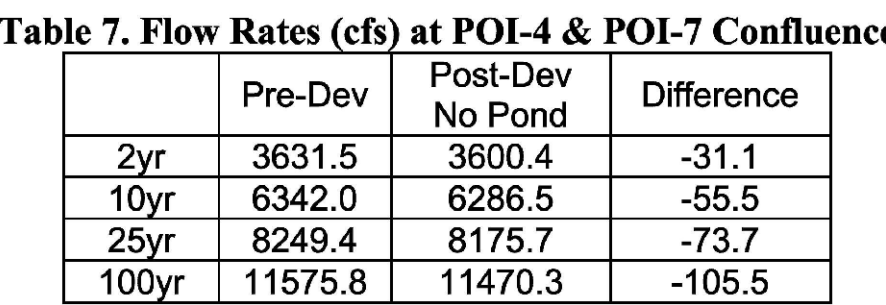
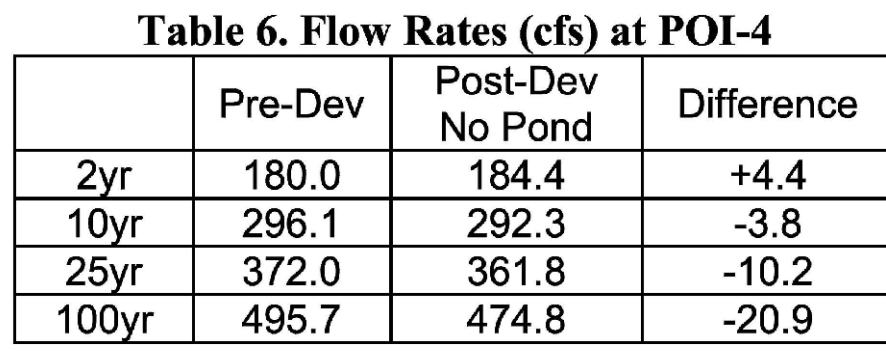
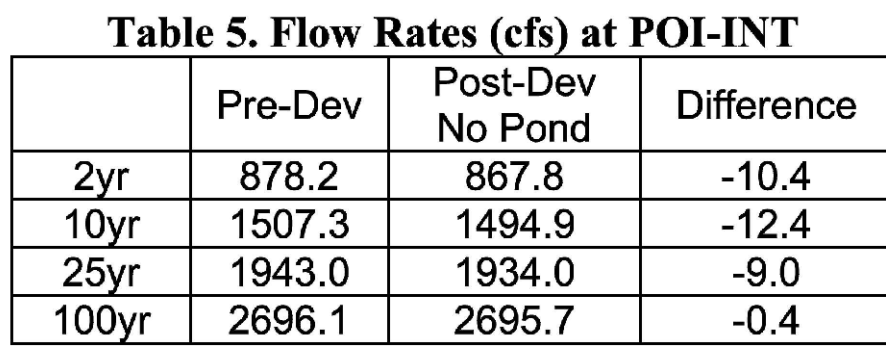
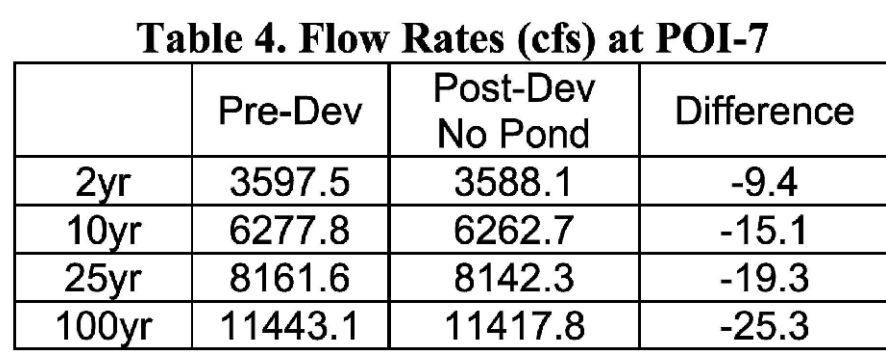
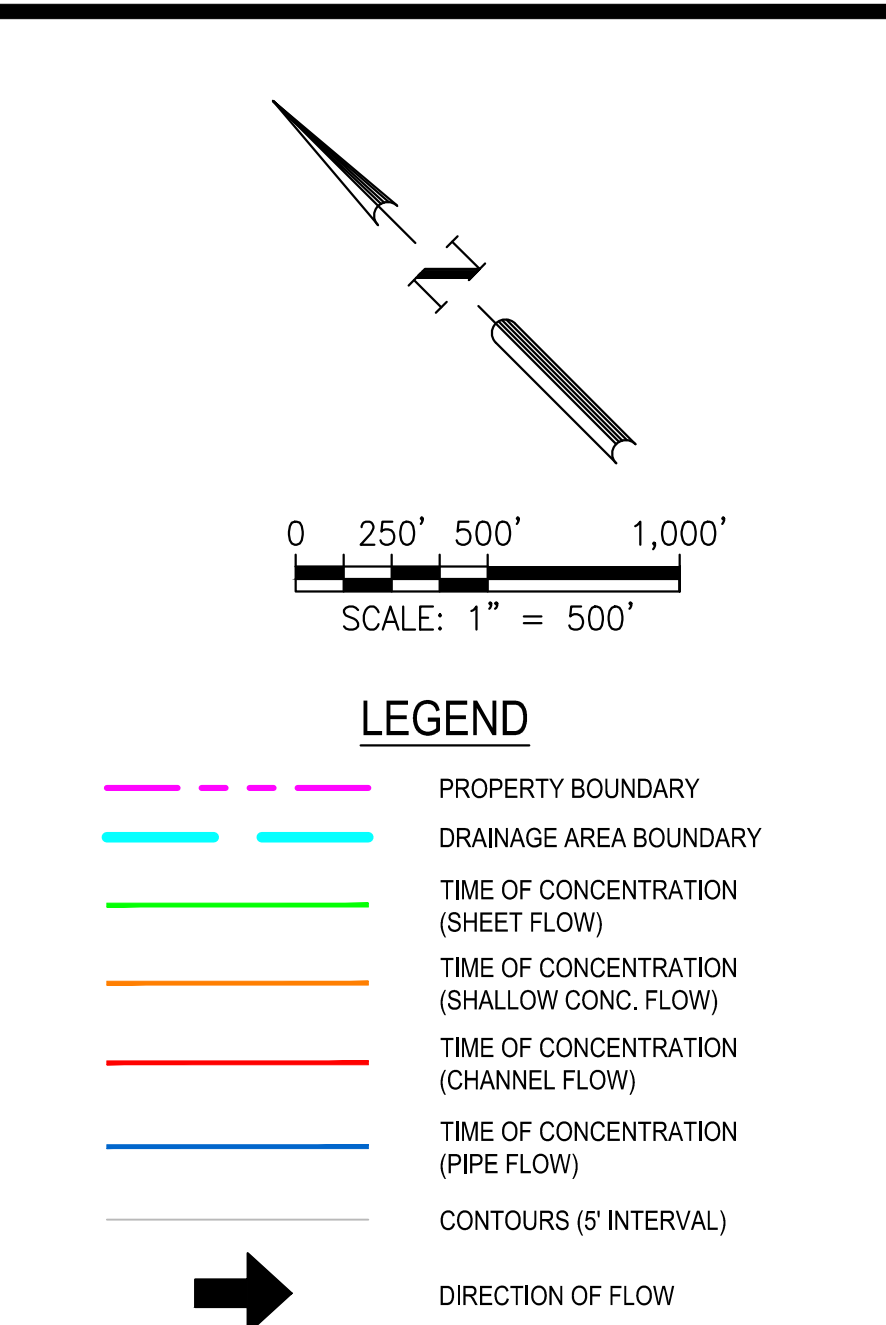
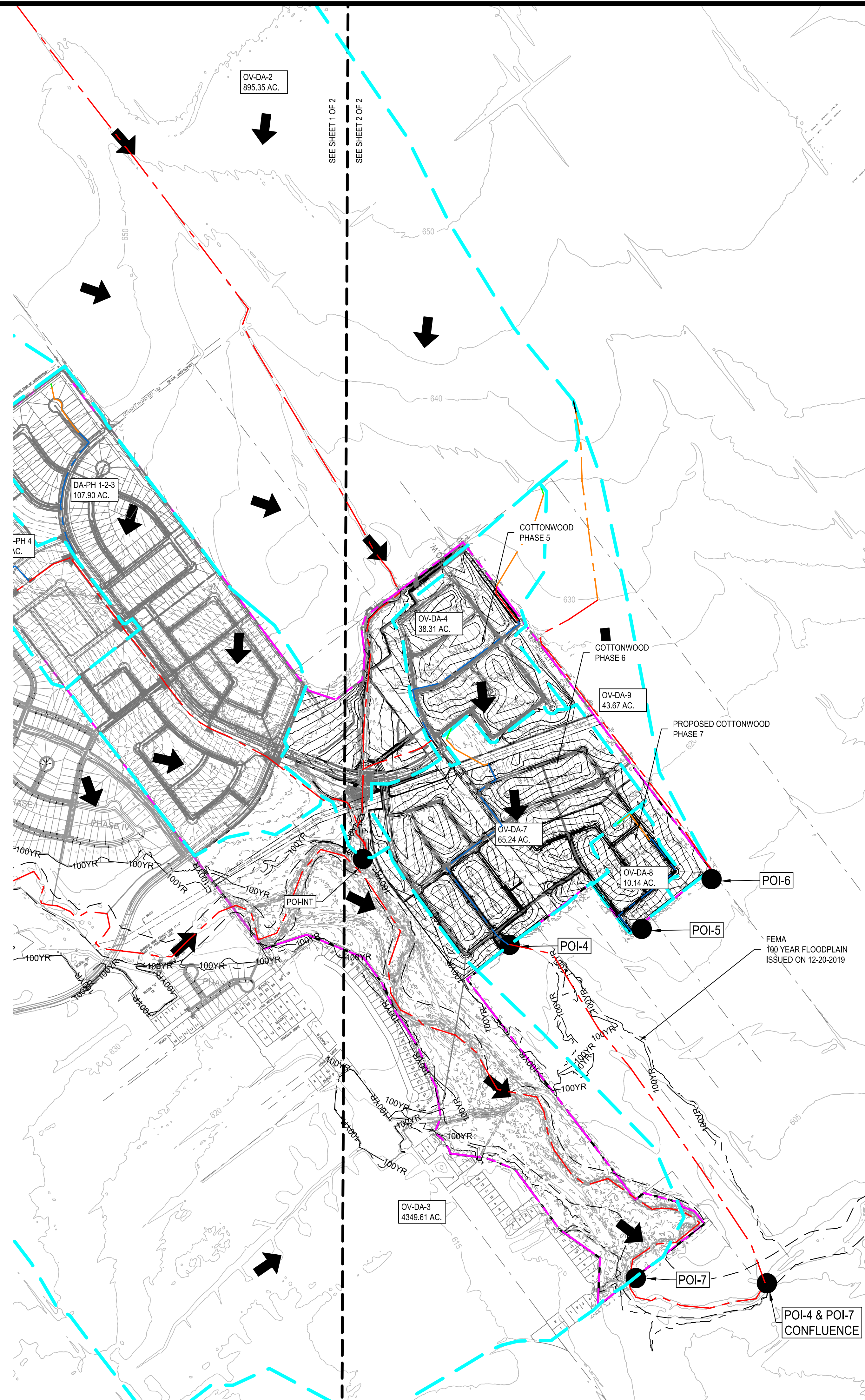
The hydrologic results presented in Section 3 indicate that the 25-yr and 100-yr peak discharges, at POI-7, POI-4, POI-INT, POI-4 & POI-7 confluence, POI-5 and POI-6 from the site in all design storm events do not exceed the pre-development flows, therefore, no additional adverse flooding impacts will occur as a result of the proposed improvements of Phase VII of the Cottonwood Creek Subdivision.

Due to the considerable contributing watershed of over 4,300 acres of Cottonwood Creek and the adjacency of the project to discharge directly into the creek, detention is not being proposed. This is typical for projects of this nature due to the post development flows from the project reaching the analysis point quicker than before development, thus exiting before the peak flows from upstream reach the discharge point.

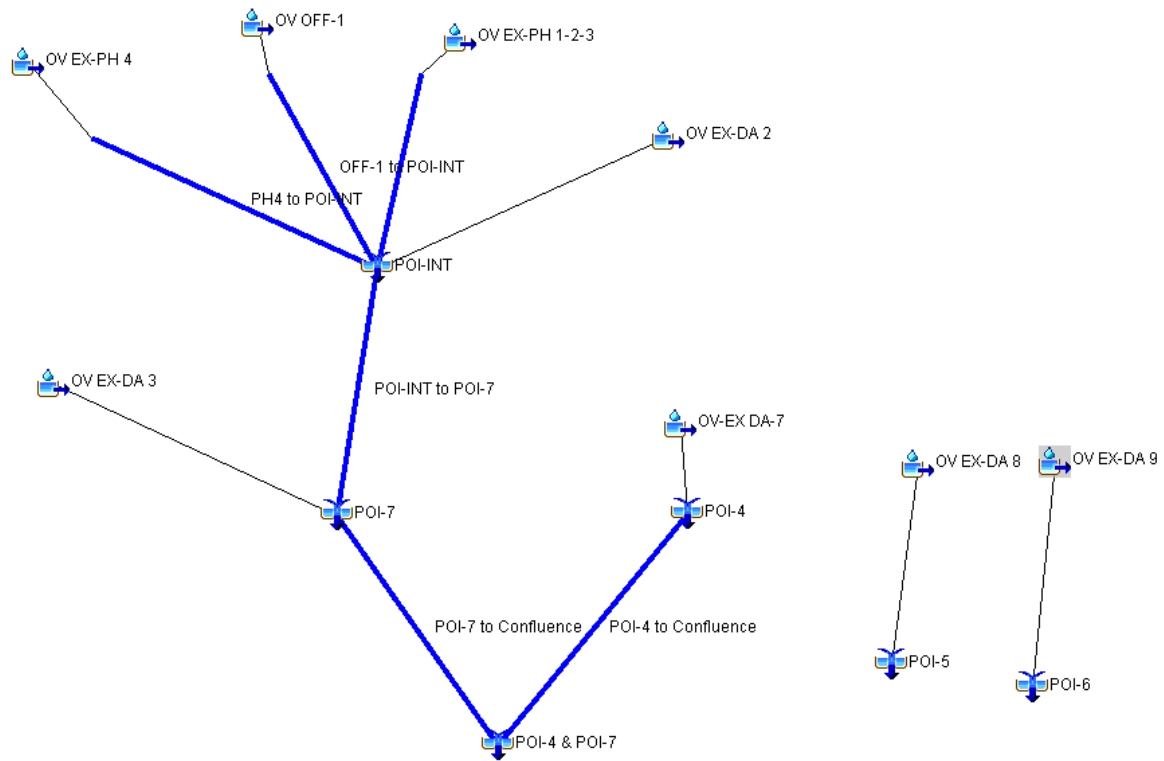
Additional analyses were run at other outfall locations labeled as POI-4, POI-5 and POI-6 throughout this report. Due to the decrease in the size of the drainage areas draining towards these outfall locations, no detention ponds are required to bring the post-development flows below the pre-development ones.

Appendix A

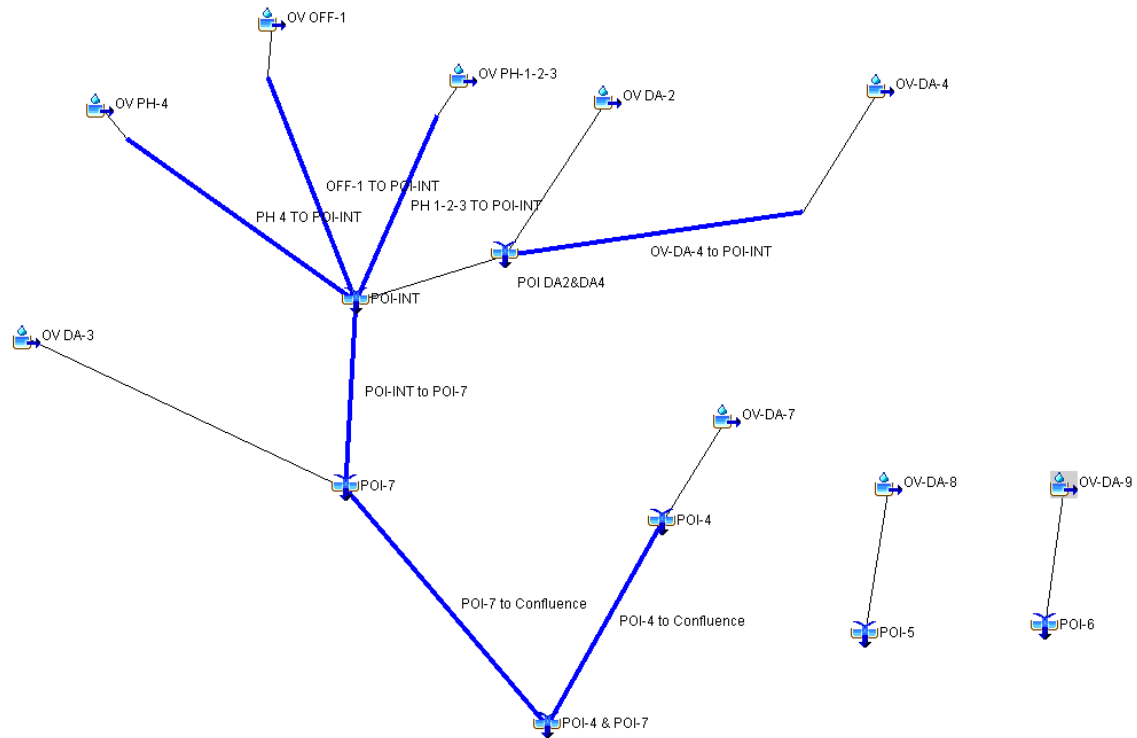
Exhibits



Pre-Development HEC-HMS Basin



Post-Development HEC-HMS Basin



Appendix B

Curve Number and Impervious Cover Summary

Pre-Development Curve Number Tables

Pre-Development OV-OFF 1				
Soil Name and Hydrologic	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-55		
D	Row Crops (Good)	89	83.970	7473.33
		Totals	83.97	7473.33
		Composite CN		89.00

Pre-Development OV-EX-PH 1-2-3				
Soil Name and Hydrologic	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-55		
C	Row Crops (Good)	85	32.500	2762.50
D	Row Crops (Good)	89	54.920	4887.88
		Totals	87.42	7650.38
		Composite CN		87.51

Pre-Development OV-EX-DA-PH 4				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Row Crops (Good)	89	31.820	2831.98
D	Residential District (1/4-1/8-acre lots)	92	5.140	472.88
		Totals	36.96	3304.86
		Composite CN		89.42

Pre-Development OV-EX DA-2				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Impervious Cover	98	37.590	3683.82
D	Residential Lots (1-2 Acre Lots)	84	10.150	852.60
D	Pasture	84	12.050	1012.20
D	Row Crops (Good)	89	802.560	71427.84
D	Woods	79	3.670	289.93
C	Residential Dist. (1/2-acre lots)	79	0.500	39.50
C	Row Crops (Good)	85	27.700	2354.50
		Totals	894.22	79660.39
		Composite CN		89.08

Pre-Development OV-EX DA-3				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
C	Residential District (1-acre lots)	79	21.590	1705.61
C	Residential District (1/4-1/8-acre lots)	90	73.030	6572.70
C	Row Crops (Good)	85	422.500	35912.50
C	Pasture	79	21.100	1666.90
B	Row Crops (Good)	78	5.120	399.36
B	Residential District (1/4-1/8-acre lots)	85	9.520	809.20
B	Pasture	69	20.780	1433.82
D	Residential District (1-acre lots)	84	121.760	10227.84
D	Pasture(fair)	84	369.100	31004.40
D	Woods(fair)	79	62.860	4965.94
D	Residential District (1/4-acre lots)	87	55.060	4790.22
D	Residential District (1/4-1/8-acre lots)	92	641.310	59000.52
D	Row Crops (Good)	89	2400.230	213620.47
B-C-D	Impervious Cover	98	140.040	13723.92
		Totals	4364.00	385833.40
		Composite CN		88.41

Pre-Development EX DA-7				
Soil Name and Hydrologic	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-55		
D	Row Crops (Good)	89	105.240	9366.36
		Totals	105.24	9366.36
		Composite CN		89.00

Pre-Development OV-EX DA-8				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Row Crops (Good)	89	15.790	1405.31
		Totals	15.79	1405.31
		Composite CN		89.00

Pre-Development OV-EX DA-9				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Row Crops (Good)	89	43.830	3900.87
		Totals	43.83	3900.87
		Composite CN		89.00

Post-Development Curve Number Tables

Post-Development DA-PH 4				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Residential Lots (1/8-1/4 Lots	92	31.160	2866.72
D	Open Space	80	5.800	464.00
		Totals	36.96	3330.72
		Composite CN		90.12

Post-Development DA-PH 1-2-3				
Soil Name and Hydrologi c Group	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Residential Lots (1/8-1/4 Lots	92	58.660	5396.72
D	Open Space	84	5.500	462.00
D	Row Crops	89	2.720	242.08
D	Amenity Center	92	1.580	145.36
D	Amenity Center	90	0.600	54.00
C	Residential Lots (1/8-1/4 Lots	90	35.61	3204.90
C	Open Space	79	3.230	255.17
		Totals	107.90	9760.23
		Composite CN		90.46

Post-Development OV-OFF-1				
Soil Name and Hydrologic	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-55		
D	Row Crops (Good)	89	83.97	7473.33
		Totals	83.97	7473.33
		Composite CN		89.00

Post-Development OV-DA-2				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Impervious Cover	98	37.590	3683.82
D	Residential Lots (1-2 Acre Lot	84	10.150	852.60
D	Pasture	84	12.050	1012.20
D	Open Space	84	27.360	2298.24
D	Woods	79	3.670	289.93
D	Row Crops (Good)	89	777.560	69202.84
C	Row Crops (Good)	85	25.970	2207.45
C	Residential Lots (1/2 Acre Lot	79	0.500	39.50
C	Residential Lots (1/8-1/4 Lots	90	0.500	45.00
		Totals	895.35	79631.58
		Composite CN		88.94

Post-Development OV-DA-3				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
C	Residential District (1-acre lo	79	21.590	1705.61
C	Residential District (1/4-1/8-a	90	71.520	6436.80
C	Row Crops (Good)	85	415.760	35339.60
C	Pasture	79	21.100	1666.90
B	Row Crops (Good)	78	5.120	399.36
B	Residential District (1/4-1/8-a	85	9.520	809.20
B	Pasture	69	20.780	1433.82
D	Residential District (1-acre lo	84	121.760	10227.84
D	Pasture(fair)	84	365.170	30674.28
D	Woods(fair)	79	62.860	4965.94
D	Residential District (1/4-acre	87	55.060	4790.22
D	Residential District (1/4-1/8-a	92	641.210	58991.32
D	Row Crops (Good)	89	2398.120	213432.68
B-C-D	Impervious Cover	98	140.040	13723.92
		Totals	4349.61	384597.49
		Composite CN		88.42

Post-Development OV-DA-4				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Open Space	84	0.000	0.00
D	Row Crops (Good)	89	8.740	777.86
D	Residential Lots (1/8-1/4 Lots	92	29.570	2720.44
		Totals	38.31	3498.30
		Composite CN		91.32

Post-Development OV-DA-7				
Soil Name and Hydrologic Group (Appendix A)	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-55		
D	Amenity Center (1/2-acre lot equivalent IC)	85	0.35	29.75
D	Open Space	84	8.84	742.56
D	Residential Lots (1/8-1/4 Lots)	92	56.050	5156.60
		Totals	64.89	5899.16
		Composite CN		90.91

Post-Development OV-DA-8				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Residential Lots (1/8-1/4 Lots	92	10.140	932.88
		Totals	10.14	932.88
		Composite CN		92.00

Post-Development OV-DA-9				
Soil Name and Hydrologi	Cover Description	CN	Area (Acres)	Product of CN x Area
		CN values obtained from TR-		
D	Row Crops (Good)	89	41.72	3713.08
D	Grass	84	1.550	130.20
D	Impervious Cover	98.0	0.400	39.20
		Totals	43.67	3882.48
		Composite CN		88.90

Appendix C

Time of Concentration Calculations

Pre-Development Times of Concentration

Pre-Dev Time of Concentration Calculation - OV-DA OFF-1	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	665
Watercourse Low Elevation (ft)	664
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1941
Watercourse High Elevation (ft)	664
Watercourse Low Elevation (ft)	645
Watercourse slope, s (ft/ft)	0.0098
Average Velocity, V (fps)	1.6
$T_t = L / (3600V) \text{ (hr)} =$	0.34
Total (Tc) =	0.55
Lag Time (min) =	19.83
HEC-HMS Rt. OV-OFF1 to POI-INT	
Segment ID	5
Flow Length, L (ft)	5133
Average Velocity, V (fps)	3.60
$T_t = L / (3600V) \text{ (hr)} =$	0.40
Lag Time (min) =	14.26

Pre-Dev Time of Concentration Calculation - OV-DA PH-1-2-3	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	652.5
Watercourse Low Elevation (ft)	652
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1802
Watercourse High Elevation (ft)	652
Watercourse Low Elevation (ft)	635
Watercourse slope, s (ft/ft)	0.0094
Average Velocity, V (fps)	1.57
$T_t = L / (3600V) \text{ (hr)} =$	0.32
Channel Flow	
Segment ID	4
Flow Length, L (ft)	1872
Average Velocity, V (fps)	4.10
$T_t = L / (3600V) \text{ (hr)} =$	0.13
Total (Tc) =	0.73
Lag Time (min) =	26.20
HEC-HMS Rt. OV-PH 1-2-3 to POI-INT	
Segment ID	5
Flow Length, L (ft)	1286
Average Velocity, V (fps)	4.10
$T_t = L / (3600V) \text{ (hr)} =$	0.09
Lag Time (min) =	3.14

Pre-Dev Time of Concentration Calculation - OV-DA PH-4	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	650
Watercourse Low Elevation (ft)	649.5
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4})$ (hr) =	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1016
Watercourse High Elevation (ft)	649.5
Watercourse Low Elevation (ft)	640
Watercourse slope, s (ft/ft)	0.0094
Average Velocity, V (fps)	1.56
$T_t = L / (3600V)$ (hr) =	0.18
Channel Flow	
Segment ID	4
Flow Length, L (ft)	957
Average Velocity, V (fps)	3.11
$T_t = L / (3600V)$ (hr) =	0.09
Total (Tc) =	0.55
Lag Time (min) =	19.75
HEC-HMS Rt. OV-PH-4 to POI-INT	
Segment ID	5
Flow Length, L (ft)	3147
Average Velocity, V (fps)	4.10
$T_t = L / (3600V)$ (hr) =	0.21
Lag Time (min) =	7.68

Pre-Dev Time of Concentration Calculation - OV-DA EX-2	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	687.5
Watercourse Low Elevation (ft)	686.5
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1679
Watercourse High Elevation (ft)	686.5
Watercourse Low Elevation (ft)	678.1
Watercourse slope, s (ft/ft)	0.0050
Average Velocity, V (fps)	1.14
$T_t = L / (3600V) \text{ (hr)} =$	0.41
Channel Flow	
Segment ID	4
Flow Length, L (ft)	17639
Average Velocity, V (fps)	2.70
$T_t = L / (3600V) \text{ (hr)} =$	1.81
Total (Tc) =	2.44
Lag Time (min) =	87.76
HEC-HMS Routing POI-INT to POI-7	
Segment ID	5
Flow Length, L (ft)	4519
Average Velocity, V (fps)	4.40
$T_t = L / (3600V) \text{ (hr)} =$	0.29
Lag Time (min) =	10.27

Pre-Dev Time of Concentration Calculation - OV-DA EX-3	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	846
Watercourse Low Elevation (ft)	845
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8}/(P^{0.5}s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1342
Watercourse High Elevation (ft)	845
Watercourse Low Elevation (ft)	816
Watercourse slope, s (ft/ft)	0.0216
Average Velocity, V (fps)	2.37
$T_t = L/(3600V) \text{ (hr)} =$	0.16
Channel Flow	
Segment ID	4
Flow Length, L (ft)	49644
Average Velocity, V (fps)	4.40
$T_t = L/(3600V) \text{ (hr)} =$	3.13
Total (Tc) =	3.51
Lag Time (min) =	126.19
HEC-HMS Routing POI-7 to POI-4 & POI-7 Confluence	
Segment ID	5
Flow Length, L (ft)	1315
Average Velocity, V (fps)	4.40
$T_t = L/(3600V) \text{ (hr)} =$	0.08
Lag Time (min) =	2.99

Pre-Dev Time of Concentration Calculation - DA EX-7	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	635
Watercourse Low Elevation (ft)	634.5
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	2089
Watercourse High Elevation (ft)	634.5
Watercourse Low Elevation (ft)	621.5
Watercourse slope, s (ft/ft)	0.0062
Average Velocity, V (fps)	1.27
$T_t = L / (3600V) \text{ (hr)} =$	0.46
Channel Flow	
Segment ID	4
Flow Length, L (ft)	1906
Average Velocity, V (fps)	2.70
$T_t = L / (3600V) \text{ (hr)} =$	0.20
Total (Tc) =	0.94
Lag Time (min) =	33.67
HEC-HMS Routing POI-4 to POI-4 &	
Segment ID	5
Flow Length, L (ft)	3589
Average Velocity, V (fps)	2.70
$T_t = L / (3600V) \text{ (hr)} =$	0.37
Lag Time (min) =	13.29

Pre-Dev Time of Concentration Calculation - DA EX-8	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	625
Watercourse Low Elevation (ft)	624
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1323
Watercourse High Elevation (ft)	624
Watercourse Low Elevation (ft)	616
Watercourse slope, s (ft/ft)	0.0060
Average Velocity, V (fps)	1.25
$T_t = L / (3600V) \text{ (hr)} =$	0.29
Channel Flow	
Segment ID	4
Flow Length, L (ft)	1000
Average Velocity, V (fps)	4.00
$T_t = L / (3600V) \text{ (hr)} =$	0.07
Total (Tc) =	0.58
Lag Time (min) =	20.78

Pre-Dev Time of Concentration Calculation - DA EX-9	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	642
Watercourse Low Elevation (ft)	641.5
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1550
Watercourse High Elevation (ft)	641.5
Watercourse Low Elevation (ft)	630
Watercourse slope, s (ft/ft)	0.0074
Average Velocity, V (fps)	1.39
$T_t = L / (3600V) \text{ (hr)} =$	0.31
Channel Flow	
Segment ID	4
Flow Length, L (ft)	2937
Average Velocity, V (fps)	4.00
$T_t = L / (3600V) \text{ (hr)} =$	0.20
Total (Tc) =	0.80
Lag Time (min) =	28.65

Post-Development Times of Concentration

Post-Dev Time of Concentration Calculation OV-DA-OFF 1	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	665
Watercourse Low Elevation (ft)	664
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1941
Watercourse High Elevation (ft)	664
Watercourse Low Elevation (ft)	645
Watercourse slope, s (ft/ft)	0.0098
Average Velocity, V (fps)	1.6
$T_t = L / (3600V) \text{ (hr)} =$	0.34
Total (Tc) =	0.55
Lag Time (min) =	19.83
HEC-HMS Rt. OV-OFF1 to POI-INT	
Segment ID	6
Flow Length, L (ft)	5560
Average Velocity, V (fps)	5.80
$T_t = L / (3600V) \text{ (hr)} =$	0.27
Lag Time (min) =	9.59

Post-Dev Time of Concentration Calculation OV-DA-2	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	687.5
Watercourse Low Elevation (ft)	686.5
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1679
Watercourse High Elevation (ft)	686.5
Watercourse Low Elevation (ft)	678.1
Watercourse slope, s (ft/ft)	0.0050
Average Velocity, V (fps)	1.14
$T_t = L / (3600V) \text{ (hr)} =$	0.41
Channel Flow	
Segment ID	4
Flow Length, L (ft)	17639
Average Velocity, V (fps)	2.70
$T_t = L / (3600V) \text{ (hr)} =$	1.81
Total (Tc) =	2.44
Lag Time (min) =	87.76
HEC-HMS Routing POI-INT to POI-7	
Segment ID	5
Flow Length, L (ft)	4519
Average Velocity, V (fps)	4.40
$T_t = L / (3600V) \text{ (hr)} =$	0.29
Lag Time (min) =	10.27

Post-Dev Time of Concentration Calculation OV-DA-4	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil(w residue)
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	635
Watercourse Low Elevation (ft)	634.5
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5}s^{0.4}) \text{ (hr)} =$	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	853
Watercourse High Elevation (ft)	634.5
Watercourse Low Elevation (ft)	621.5
Watercourse slope, s (ft/ft)	0.0152
Average Velocity, V (fps)	1.99
$T_t = L / (3600V) \text{ (hr)} =$	0.12
Channel Flow	
Segment ID	4
Flow Length, L (ft)	345
Average Velocity, V (fps)	2.99
$T_t = L / (3600V) \text{ (hr)} =$	0.03
Pipe Flow	
Segment ID	5
Flow Length, L (ft)	1529
Average Velocity, V (fps)	9.00
$T_t = L / (3600V) \text{ (hr)} =$	0.05
Total (Tc) =	0.48
Lag Time (min) =	17.30
HEC-HMS Routing DA-4 to POI-INT	
Segment ID	5
Flow Length, L (ft)	619
Average Velocity, V (fps)	4.30
$T_t = L / (3600V) \text{ (hr)} =$	0.04
Lag Time (min) =	1.44

Post-Dev Time of Concentration Calculation - OV-DA-3	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	846
Watercourse Low Elevation (ft)	845
Watercourse slope, s (ft/ft)	0.0100
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.21
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1342
Watercourse High Elevation (ft)	845
Watercourse Low Elevation (ft)	816
Watercourse slope, s (ft/ft)	0.0216
Average Velocity, V (fps)	2.37
$T_t = L / (3600V) \text{ (hr)} =$	0.16
Channel Flow	
Segment ID	4
Flow Length, L (ft)	49644
Average Velocity, V (fps)	4.40
$T_t = L / (3600V) \text{ (hr)} =$	3.13
Total (Tc) =	3.51
Lag Time (min) =	126.19
HEC-HMS Routing POI-7 to POI-4 & POI-7	
Segment ID	5
Flow Length, L (ft)	1315
Average Velocity, V (fps)	4.40
$T_t = L / (3600V) \text{ (hr)} =$	0.08
Lag Time (min) =	2.99

Post-Dev Time of Concentration Calculation DA-PH-1&2&3	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Short Grass
Mannings "n"	0.2
Flow Length, L (ft)	30
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	653.3
Watercourse Low Elevation (ft)	652.8
Watercourse slope, s (ft/ft)	0.0167
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.08
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	102
Watercourse High Elevation (ft)	652.8
Watercourse Low Elevation (ft)	651.5
Watercourse slope, s (ft/ft)	0.0127
Average Velocity, V (fps)	1.82
$T_t = L / (3600V) \text{ (hr)} =$	0.02
Shallow Concentrated Flow	
Segment ID	3
Surface Description (paved or unpaved)	paved
Flow Length, L (ft)	359
Watercourse High Elevation (ft)	651.5
Watercourse Low Elevation (ft)	649
Watercourse slope, s (ft/ft)	0.0070
Average Velocity, V (fps)	1.7
$T_t = L / (3600V) \text{ (hr)} =$	0.06
Channel Flow	
Segment ID	4
Flow Length, L (ft)	2903
Average Velocity, V (fps)	5.80
$T_t = L / (3600V) \text{ (hr)} =$	0.14
Pipe Flow	
Segment ID	5
Flow Length, L (ft)	1153
Average Velocity, V (fps)	9.00
$T_t = L / (3600V) \text{ (hr)} =$	0.04
Total (Tc) =	0.32
Lag Time (min) =	11.69
HEC-HMS Routing DA-PH1&2&3 to to POI-INT	
Segment ID	5
Flow Length, L (ft)	710
Average Velocity, V (fps)	5.80
$T_t = L / (3600V) \text{ (hr)} =$	0.03
Lag Time (min) =	1.22

Post-Dev Time of Concentration Calculation DA-PH-4	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Short Grass
Mannings "n"	0.2
Flow Length, L (ft)	30
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	650.05
Watercourse Low Elevation (ft)	649.5
Watercourse slope, s (ft/ft)	0.0183
$T_t = 0.007(nL)^{0.8} / (P^{0.5} S^{0.4}) \text{ (hr)} =$	0.07
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	100
Watercourse High Elevation (ft)	649.5
Watercourse Low Elevation (ft)	648.22
Watercourse slope, s (ft/ft)	0.0128
Average Velocity, V (fps)	1.83
$T_t = L / (3600V) \text{ (hr)} =$	0.02
Shallow Concentrated Flow	
Segment ID	3
Surface Description (paved or unpaved)	paved
Flow Length, L (ft)	228
Watercourse High Elevation (ft)	648.22
Watercourse Low Elevation (ft)	644.7
Watercourse slope, s (ft/ft)	0.0154
Average Velocity, V (fps)	2.53
$T_t = L / (3600V) \text{ (hr)} =$	0.03
Pipe Flow	
Segment ID	4
Flow Length, L (ft)	1254
Average Velocity, V (fps)	9.00
$T_t = L / (3600V) \text{ (hr)} =$	0.04
Channel Flow	
Segment ID	5
Flow Length, L (ft)	1203
Average Velocity, V (fps)	5.80
$T_t = L / (3600V) \text{ (hr)} =$	0.06
Total (Tc) =	0.21
Lag Time (min) =	7.54
HEC-HMS Routing DA-PH-4 to to POI-INT	
Segment ID	5
Flow Length, L (ft)	2747
Average Velocity, V (fps)	5.80
$T_t = L / (3600V) \text{ (hr)} =$	0.13
Lag Time (min) =	4.74

Post-Dev Time of Concentration Calculation OV DA-7	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Grass
Mannings "n"	0.24
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	622
Watercourse Low Elevation (ft)	620.7
Watercourse slope, s (ft/ft)	0.0130
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.25
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	420
Watercourse High Elevation (ft)	620.7
Watercourse Low Elevation (ft)	618.6
Watercourse slope, s (ft/ft)	0.0050
Average Velocity, V (fps)	1.14
$T_t = L / (3600V) \text{ (hr)} =$	0.10
Pipe Flow	
Segment ID	4
Flow Length, L (ft)	2073
Average Velocity, V (fps)	9.00
$T_t = L / (3600V) \text{ (hr)} =$	0.06
Total (Tc) =	0.42
Lag Time (min) =	15.12
HEC-HMS Routing POI-4 to POI-4 & POI-7 Confluence	
Segment ID	5
Flow Length, L (ft)	3589
Average Velocity, V (fps)	2.70
$T_t = L / (3600V) \text{ (hr)} =$	0.37
Lag Time (min) =	13.29

Post-Dev Time of Concentration Calculation OV DA-8	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Grass
Mannings "n"	0.24
Flow Length, L (ft)	50
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	621.5
Watercourse Low Elevation (ft)	620.85
Watercourse slope, s (ft/ft)	0.0130
$T_t = 0.007(nL)^{0.8} / (P^{0.5} s^{0.4}) \text{ (hr)} =$	0.15
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	80
Watercourse High Elevation (ft)	620.85
Watercourse Low Elevation (ft)	619.8
Watercourse slope, s (ft/ft)	0.0131
Average Velocity, V (fps)	1.85
$T_t = L / (3600V) \text{ (hr)} =$	0.01
Shallow Concentrated Flow	
Segment ID	3
Surface Description (paved or unpaved)	paved
Flow Length, L (ft)	272
Watercourse High Elevation (ft)	619.8
Watercourse Low Elevation (ft)	618.45
Watercourse slope, s (ft/ft)	0.0050
Average Velocity, V (fps)	1.43
$T_t = L / (3600V) \text{ (hr)} =$	0.05
Pipe Flow	
Segment ID	4
Flow Length, L (ft)	1113
Average Velocity, V (fps)	9.00
$T_t = L / (3600V) \text{ (hr)} =$	0.03
Total (Tc) =	0.24
Lag Time (min) =	8.82

Post-Dev Time of Concentration Calculation OV DA-9	
Sheet Flow (Applicable to Tc only)	
Segment ID	1
Surface Description	Cultivated Soil
Mannings "n"	0.17
Flow Length, L (ft)	100
24-hour rainfall, P (in)	3.97
Watercourse High Elevation (ft)	642
Watercourse Low Elevation (ft)	641.5
Watercourse slope, s (ft/ft)	0.0050
$T_t = 0.007(nL)^{0.8} / (P^{0.5}s^{0.4}) \text{ (hr)} =$	0.28
Shallow Concentrated Flow	
Segment ID	2
Surface Description (paved or unpaved)	unpaved
Flow Length, L (ft)	1550
Watercourse High Elevation (ft)	641.5
Watercourse Low Elevation (ft)	630
Watercourse slope, s (ft/ft)	0.0074
Average Velocity, V (fps)	1.39
$T_t = L / (3600V) \text{ (hr)} =$	0.31
Channel Flow	
Segment ID	3
Flow Length, L (ft)	2937
Average Velocity, V (fps)	4.00
$T_t = L / (3600V) \text{ (hr)} =$	0.20
Total (Tc) =	0.80
Lag Time (min) =	28.65

Appendix D

HEC-HMS Model (Electronic)

Appendix E

Pre-Development vs. Post-Development HEC-HMS Results Comparison @ POI-7, POI-4, POI-INT, POI-4 & POI-7 Confluence, POI-5 and POI-6

2-yr

Global Summary Results for Run "Pre 2-yr"

Project: Cottonwood_PH7_v1_FrncSimulation Run: Pre 2-yr

Start of Run: 26Jan2022, 00:00

End of Run: 27Jan2022, 04:00

Compute Time:12Jun2024, 09:49:16

Basin Model: Pre-Dev

Meteorologic Model: 2-yr

Control Specifications:Control 1

Show Elements:Initial Selection

Volume Units: ☒ IN ☐ AC-FT

Sorting: Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV EX-DA 3	6.8187500	2836.3	26Jan2022, 14:16	2.70
OV EX-DA 2	1.3972000	795.5	26Jan2022, 13:35	2.79
OV EX-PH 1-2-3	0.1365900	166.0	26Jan2022, 12:29	2.66
PH 1-2-3 to POI-INT	0.1365900	166.0	26Jan2022, 12:32	2.66
OV OFF-1	0.1312000	195.4	26Jan2022, 12:22	2.79
OFF-1 to POI-INT	0.1312000	195.4	26Jan2022, 12:36	2.79
OV EX-PH 4	0.0577500	87.3	26Jan2022, 12:22	2.83
PH4 to POI-INT	0.0577500	87.3	26Jan2022, 12:29	2.83
POI-INT	1.7227400	878.2	26Jan2022, 13:26	2.78
POI-INT to POI-7	1.7227400	878.2	26Jan2022, 13:36	2.78
POI-7	8.5414900	3597.5	26Jan2022, 14:05	2.72
POI-7 to Confluence	8.5414900	3597.5	26Jan2022, 14:07	2.72
OV EX-DA-7	0.1644380	180.0	26Jan2022, 12:37	2.79
POI-4	0.1644380	180.0	26Jan2022, 12:37	2.79
POI-4 to Confluence	0.1644380	180.0	26Jan2022, 12:50	2.79
POI-4 & POI-7	8.7059280	3631.5	26Jan2022, 14:06	2.72
OV EX-DA 8	0.0246719	35.8	26Jan2022, 12:23	2.79
POI-5	0.0246719	35.8	26Jan2022, 12:23	2.79
OV EX-DA 9	0.0684844	82.8	26Jan2022, 12:31	2.79
POI-6	0.0684844	82.8	26Jan2022, 12:31	2.79

Global Summary Results for Run "Post 2-yr"

Project: Cottonwood_PH7_v1_FrncSimulation Run: Post 2-yr

Start of Run: 26Jan2022, 00:00

End of Run: 27Jan2022, 04:00

Compute Time:12Jun2024, 10:14:36

Basin Model: Post-Dev

Meteorologic Model: 2-yr

Control Specifications:Control 1

Show Elements:Initial Selection

Volume Units: ☒ IN ☐ AC-FT

Sorting: Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV DA-3	6.7960000	2828.1	26Jan2022, 14:16	2.70
OV DA-2	1.3989840	793.0	26Jan2022, 13:35	2.78
OV DA-4	0.0598590	102.4	26Jan2022, 12:19	3.02
OV DA-4 to POI-INT	0.0598590	102.4	26Jan2022, 12:20	3.02
POI DA2&DA4	1.4588430	803.4	26Jan2022, 13:34	2.79
OV PH-1-2-3	0.1685900	340.8	26Jan2022, 12:13	2.93
PH 1-2-3 TO POI-INT	0.1685900	340.8	26Jan2022, 12:14	2.93
OV OFF-1	0.1312000	195.4	26Jan2022, 12:22	2.79
OFF-1 TO POI-INT	0.1312000	195.4	26Jan2022, 12:31	2.79
OV PH-4	0.0577500	130.9	26Jan2022, 12:09	2.70
PH 4 TO POI-INT	0.0577500	130.9	26Jan2022, 12:13	2.70
POI-INT	1.8163830	867.8	26Jan2022, 13:30	2.80
POI-INT to POI-7	1.8163830	867.8	26Jan2022, 13:40	2.80
POI-7	8.6123830	3588.1	26Jan2022, 14:06	2.72
POI-7 to Confluence	8.6123830	3588.1	26Jan2022, 14:08	2.72
OV DA-7	0.1019375	184.4	26Jan2022, 12:17	2.98
POI-4	0.1019375	184.4	26Jan2022, 12:17	2.98
POI-4 to Confluence	0.1019375	184.4	26Jan2022, 12:30	2.98
POI-4 & POI-7	8.7143205	3600.4	26Jan2022, 14:07	2.73
OV DA-8	0.0158458	37.7	26Jan2022, 12:10	3.09
POI-5	0.0158458	37.7	26Jan2022, 12:10	3.09
OV DA-9	0.0682300	82.2	26Jan2022, 12:31	2.79
POI-6	0.0682300	82.2	26Jan2022, 12:31	2.79

10-yr

Global Summary Results for Run "Pre 10-yr"									
Project: Cottonwood_PH7_v1_Frnc Simulation Run: Pre 10-yr									
Start of Run: 26Jan2022, 00:00 Basin Model: Post-Dev									
End of Run: 27Jan2022, 04:00 Meteorologic Model: 10-yr									
Compute Time: 12Jun2024, 09:48:43 Control Specifications: Control 1									
Show Elements: Initial Selection Volume Units: ☒ IN ☐ AC-FT Sorting: Hydrologic									
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)					
OV EX-DA 3	6.8187500	4958.9	26Jan2022, 14:15	4.97					
OV EX-DA 2	1.3972000	1352.5	26Jan2022, 13:34	5.10					
OV EX-PH 1-2-3	0.1365900	277.6	26Jan2022, 12:28	4.94					
PH 1-2-3 to POI-INT	0.1365900	277.6	26Jan2022, 12:31	4.94					
OV OFF-1	0.1312000	318.6	26Jan2022, 12:21	5.10					
OFF-1 to POI-INT	0.1312000	318.6	26Jan2022, 12:25	5.10					
OV EX-PH 4	0.0577500	141.6	26Jan2022, 12:21	5.15					
PH4 to POI-INT	0.0577500	141.6	26Jan2022, 12:28	5.15					
POI-INT	1.7227400	1507.3	26Jan2022, 13:24	5.09					
POI-INT to POI-7	1.7227400	1507.3	26Jan2022, 13:34	5.09					
POI-7	8.5414900	6277.8	26Jan2022, 14:04	5.00					
POI-7 to Confluence	8.5414900	6277.8	26Jan2022, 14:06	5.00					
OV EX-DA-7	0.1644380	296.1	26Jan2022, 12:36	5.10					
POI-4	0.1644380	296.1	26Jan2022, 12:36	5.10					
POI-4 to Confluence	0.1644380	296.1	26Jan2022, 12:49	5.10					
POI-4 & POI-7	8.7059280	6942.0	26Jan2022, 14:04	5.00					
OV EX-DA 8	0.0246719	58.5	26Jan2022, 12:22	5.10					
POI-5	0.0246719	58.5	26Jan2022, 12:22	5.10					
OV EX-DA 9	0.0684844	135.7	26Jan2022, 12:31	5.10					
POI-6	0.0684844	135.7	26Jan2022, 12:31	5.10					

Global Summary Results for Run "Post 10-yr"									
Project: Cottonwood_PH7_v1_Frnc Simulation Run: Post 10-yr									
Start of Run: 26Jan2022, 00:00 Basin Model: Post-Dev									
End of Run: 27Jan2022, 04:00 Meteorologic Model: 10-yr									
Compute Time: 12Jun2024, 09:47:47 Control Specifications: Control 1									
Show Elements: Initial Selection Volume Units: ☒ IN ☐ AC-FT Sorting: Hydrologic									
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)					
OV DA-3	6.7960000	4943.7	26Jan2022, 14:15	4.98					
OV DA-2	1.3989840	1350.8	26Jan2022, 13:34	5.08					
OV DA-4	0.0598590	161.7	26Jan2022, 12:19	5.37					
OV DA-4 to POI-INT	0.0598590	161.7	26Jan2022, 12:20	5.37					
POI DA28DA4	1.4588430	1370.7	26Jan2022, 13:33	5.10					
OV PH-1-2-3	0.1685900	542.7	26Jan2022, 12:13	5.27					
PH 1-2-3 TO POI-INT	0.1685900	542.7	26Jan2022, 12:14	5.27					
OV OFF-1	0.1312000	318.6	26Jan2022, 12:21	5.10					
OFF-1 TO POI-INT	0.1312000	318.6	26Jan2022, 12:30	5.10					
OV PH-4	0.0577500	214.8	26Jan2022, 12:09	4.99					
PH 4 TO POI-INT	0.0577500	214.8	26Jan2022, 12:13	4.99					
POI-INT	1.8163830	1494.9	26Jan2022, 13:28	5.11					
POI-INT to POI-7	1.8163830	1494.9	26Jan2022, 13:38	5.11					
POI-7	8.6123830	6262.7	26Jan2022, 14:04	5.00					
POI-7 to Confluence	8.6123830	6262.7	26Jan2022, 14:06	5.00					
OV DA-7	0.1019375	292.3	26Jan2022, 12:16	5.31					
POI-4	0.1019375	292.3	26Jan2022, 12:16	5.31					
POI-4 to Confluence	0.1019375	292.3	26Jan2022, 12:29	5.31					
POI-4 & POI-7	8.7143205	6286.5	26Jan2022, 14:05	5.01					
OV DA-8	0.0158438	58.8	26Jan2022, 12:10	5.44					
POI-5	0.0158438	58.8	26Jan2022, 12:10	5.44					
OV DA-9	0.0682300	135.0	26Jan2022, 12:31	5.09					
POI-6	0.0682300	135.0	26Jan2022, 12:31	5.09					

25-yr

Global Summary Results for Run "Pre 25-yr"

Project: Cottonwood_PH7_v1_F1NcSimulation Run: Pre 25-yr

Start of Run: 26Jan2022, 00:00Basin Model: Pre-Dev
End of Run: 27Jan2022, 04:00Meteorologic Model: 25-yr
Compute Time: 12Jun2024, 09:49:28Control Specifications: Control 1

Show Elements: Initial SelectionVolume Units: ☒ IN ☐ AC-FTSorting: Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV EX-DA 3	6.8187500	6430.1	26Jan2022, 14:15	6.70
OV EX-DA 2	1.3972000	1733.9	26Jan2022, 13:33	6.85
OV EX-PH 1-2-3	0.1365900	350.5	26Jan2022, 12:28	6.67
PH 1-2-3 to POI-INT	0.1365900	350.5	26Jan2022, 12:31	6.67
OV OFF-1	0.1312000	398.4	26Jan2022, 12:21	6.85
OFF-1 to POI-INT	0.1312000	398.4	26Jan2022, 12:35	6.85
OV EX-PH 4	0.0577500	176.7	26Jan2022, 12:21	6.90
PH4 to POI-INT	0.0577500	176.7	26Jan2022, 12:28	6.90
POI-INT	1.7227400	1943.0	26Jan2022, 13:24	6.83
POI-INT to POI-7	1.7227400	1943.0	26Jan2022, 13:34	6.83
POI-7	8.5414900	8161.6	26Jan2022, 14:03	6.73
POI-7 to Confluence	8.5414900	8161.6	26Jan2022, 14:05	6.73
OV EX-DA-7	0.1644380	372.0	26Jan2022, 12:36	6.85
POI-4	0.1644380	372.0	26Jan2022, 12:36	6.85
POI-4 to Confluence	0.1644380	372.0	26Jan2022, 12:49	6.85
POI-4 & POI-7	8.7059280	8249.4	26Jan2022, 14:04	6.73
OV EX-DA 8	0.0246719	73.1	26Jan2022, 12:22	6.85
POI-5	0.0246719	73.1	26Jan2022, 12:22	6.85
OV EX-DA 9	0.0684844	170.1	26Jan2022, 12:30	6.85
POI-6	0.0684844	170.1	26Jan2022, 12:30	6.85

Global Summary Results for Run "Post 25-yr"

Project: Cottonwood_PH7_v1_F1NcSimulation Run: Post 25-yr

Start of Run: 26Jan2022, 00:00Basin Model: Post-Dev
End of Run: 27Jan2022, 04:00Meteorologic Model: 25-yr
Compute Time: 12Jun2024, 09:48:22Control Specifications: Control 1

Show Elements: Initial SelectionVolume Units: ☒ IN ☐ AC-FTSorting: Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV DA-3	6.7960000	6430.0	26Jan2022, 14:15	6.70
OV DA-2	1.9888400	1733.0	26Jan2022, 13:33	6.83
OV DA-4	0.0598590	199.7	26Jan2022, 12:19	7.13
OV DA-4 to POI-INT	0.0598590	199.7	26Jan2022, 12:20	7.13
POI DA3&DA4	1.4588430	1760.7	26Jan2022, 13:33	6.84
OV PH-1-2-3	0.1685900	671.8	26Jan2022, 12:13	7.03
PH 1-2-3 to POI-INT	0.1685900	671.8	26Jan2022, 12:14	7.03
OV OFF-1	0.1312000	398.4	26Jan2022, 12:21	6.85
OFF-1 TO POI-INT	0.1312000	398.4	26Jan2022, 12:30	6.85
OV PH-4	0.0577500	268.7	26Jan2022, 12:09	6.73
PH 4 TO POI-INT	0.0577500	268.7	26Jan2022, 12:13	6.73
POI-INT	1.8163830	1934.0	26Jan2022, 13:27	6.86
POI-INT to POI-7	1.8163830	1934.0	26Jan2022, 13:37	6.86
POI-7	8.6123830	8142.3	26Jan2022, 14:03	6.73
POI-7 to Confluence	8.6123830	8142.3	26Jan2022, 14:05	6.73
OV DA-7	0.1019375	361.8	26Jan2022, 12:16	7.08
POI-4	0.1019375	361.8	26Jan2022, 12:16	7.08
POI-4 to Confluence	0.1019375	361.8	26Jan2022, 12:29	7.08
POI-4 & POI-7	8.7143205	8175.7	26Jan2022, 14:05	6.74
OV DA-8	0.0158438	72.3	26Jan2022, 12:10	7.21
POI-5	0.0158438	72.3	26Jan2022, 12:10	7.21
OV DA-9	0.0682300	169.3	26Jan2022, 12:31	6.84
POI-6	0.0682300	169.3	26Jan2022, 12:31	6.84

Global Summary Results for Run "Pre 25-yr"

Project: Cottonwood_PH7_v1_F1NcSimulation Run: Pre 25-yr

Start of Run: 26Jan2022, 00:00Basin Model: Pre-Dev
End of Run: 27Jan2022, 04:00Meteorologic Model: 25-yr
Compute Time: 12Jun2024, 09:49:28Control Specifications: Control 1

Show Elements:Initial Selection

Volume Units: ☒ IN ☐ AC-FT

Sorting:Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV-EX-DA 3	6.8187500	6450.1	26Jan2022, 14:15	6.70
OV-EX-DA 2	1.3972000	1733.9	26Jan2022, 13:33	6.85
OV-EX-PH 1-2-3	0.1365900	350.5	26Jan2022, 12:28	6.67
PH 1-2-3 to POI-INT	0.1365900	350.5	26Jan2022, 12:31	6.67
OV-OFF-1	0.1312000	398.4	26Jan2022, 12:21	6.85
OFF-1 to POI-INT	0.1312000	398.4	26Jan2022, 12:35	6.85
OV-EX-PH 4	0.0577500	176.7	26Jan2022, 12:21	6.90
PH-4 to POI-INT	0.0577500	176.7	26Jan2022, 12:28	6.90
POI-INT	1.7227400	1943.0	26Jan2022, 13:24	6.83
POI-INT to POI-7	1.7227400	1943.0	26Jan2022, 13:34	6.83
POI-7	8.5414900	8161.6	26Jan2022, 14:03	6.73
POI-7 to Confluence	8.5414900	8161.6	26Jan2022, 14:05	6.73
OV-EX-DA-7	0.1644380	372.0	26Jan2022, 12:36	6.85
POI-4	0.1644380	372.0	26Jan2022, 12:36	6.85
POI-4 to Confluence	0.1644380	372.0	26Jan2022, 12:49	6.85
POI-4 & POI-7	8.7059280	8248.4	26Jan2022, 14:04	6.73
OV-EX-DA 8	0.0246719	73.1	26Jan2022, 12:22	6.85
POI-5	0.0246719	73.1	26Jan2022, 12:22	6.85
OV-EX-DA 9	0.0684844	170.1	26Jan2022, 12:30	6.85
POI-6	0.0684844	170.1	26Jan2022, 12:30	6.85

100-yr

Global Summary Results for Run "Pre 100-yr"

Project: Cottonwood_PH7_v1_FNNC

Simulation Run: Pre 100-yr

Start of Run: 26-Jan-2022, 00:00

Basin Model: Pre-Dev

End of Run: 27-Jan-2022, 04:00

Meteorologic Model: 100-yr

Compute Time: 12-Jun-2024, 10:00:58

Control Specifications: Control 1

Show Elements: All Elements

Volume Units: ☒ IN ☐ AC-FT

Sorting: Hydrologic

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV-EX-DA-3	6.8187500	9049.7	26-Jan-2022, 14:14	9.95
OV-EX-DA-2	1.3972000	2383.7	26-Jan-2022, 13:33	10.13
OV-EX-PH 1-2-3	0.1365900	469.0	26-Jan-2022, 12:28	9.95
PH 1-2-3 to POI-INT	0.1365900	469.0	26-Jan-2022, 12:31	9.95
OV-OFF-1	0.1312000	528.0	26-Jan-2022, 12:35	10.14
OFF-1 to POI-INT	0.1312000	528.0	26-Jan-2022, 12:35	10.14
OV-EX-PH 4	0.0577500	233.7	26-Jan-2022, 12:21	10.19
PH 4 to POI-INT	0.0577500	233.7	26-Jan-2022, 12:28	10.19
POI-INT	1.7227400	2696.1	26-Jan-2022, 13:23	10.11
POI-INT to POI-7	1.7227400	2696.1	26-Jan-2022, 13:33	10.11
POI-7	8.5414900	11443.1	26-Jan-2022, 14:03	9.98
POI-7 to Confluence	8.5414900	11443.1	26-Jan-2022, 14:03	9.98
OV-EX-DA-7	0.1644380	495.7	26-Jan-2022, 12:35	10.14
POI-4	0.1644380	495.7	26-Jan-2022, 12:35	10.14
POI-4 to Confluence	0.1644380	495.7	26-Jan-2022, 12:35	10.14
POI-4 & POI-7	8.7059280	11575.8	26-Jan-2022, 14:03	9.98
OV-EX-DA-8	0.0246719	97.0	26-Jan-2022, 12:22	10.14
POI-5	0.0246719	97.0	26-Jan-2022, 12:22	10.14
OV-EX-DA 9	0.0684944	226.3	26-Jan-2022, 12:30	10.14
POI-6	0.0684944	226.3	26-Jan-2022, 12:30	10.14

Global Summary Results for Run "Post 100-yr"

Project: Cottonwood_PH7_v1_FNNC

Simulation Run: Post 100-yr

Start of Run: 26-Jan-2022, 00:00

Basin Model: Post-Dev

End of Run: 27-Jan-2022, 04:00

Meteorologic Model: 100-yr

Compute Time: 12-Jun-2024, 09:47:55

Control Specifications: Control 1

Show Elements: Initial Selection

Volume Units: ☒ IN ☐ AC-FT

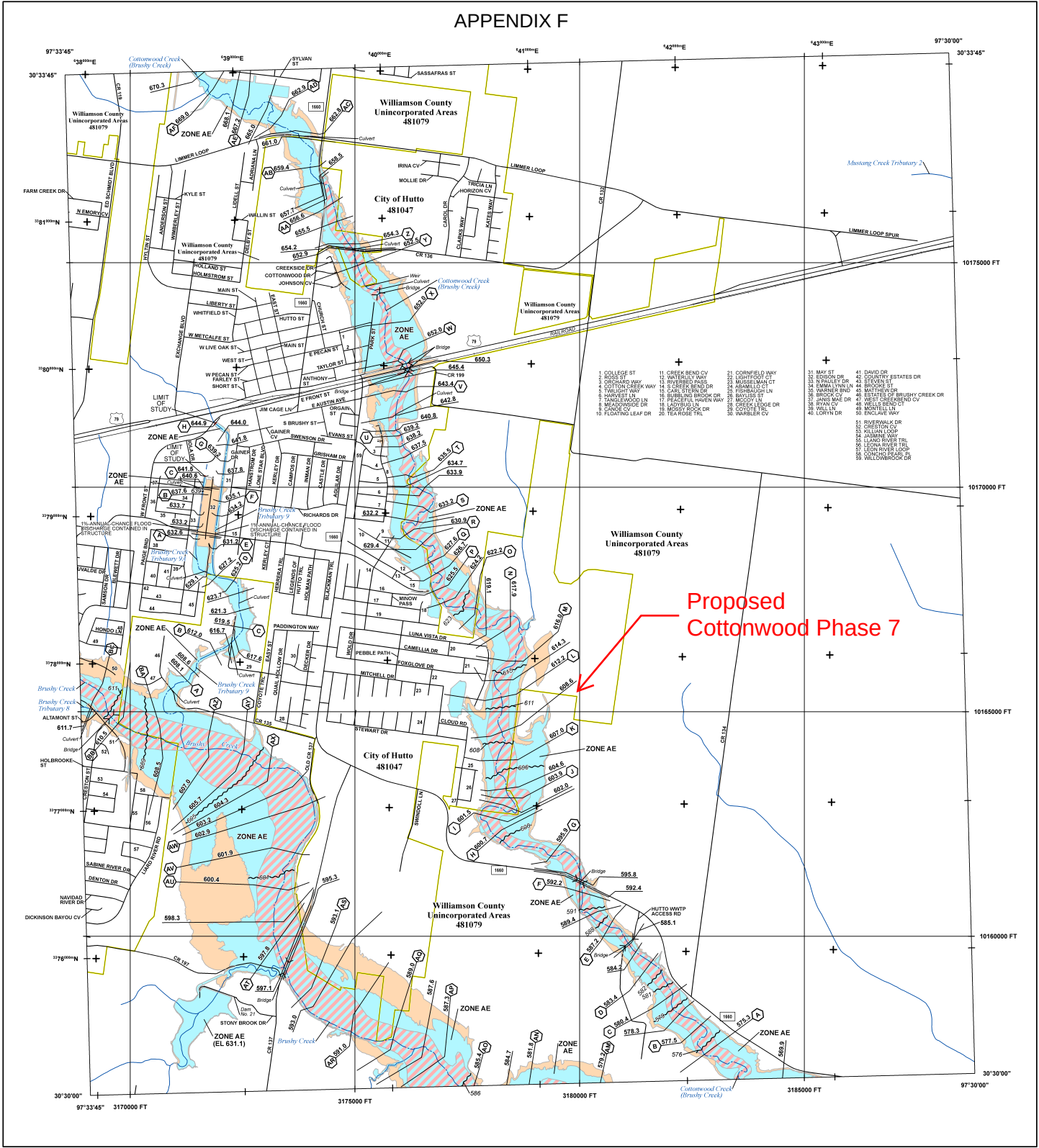
Sorting: Hydrologic

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OV-DA-3	6.7960000	9021.0	26-Jan-2022, 14:14	9.95
OV-DA-2	1.3989840	2384.2	26-Jan-2022, 13:33	10.11
OV-DA-4	0.0598590	261.7	26-Jan-2022, 12:19	10.43
OV-DA-4 to POI-INT	0.0598590	261.7	26-Jan-2022, 12:20	10.43
POI-DA-2&DA-4	1.4588430	2427.1	26-Jan-2022, 13:32	10.12
OV-PH 1-2-3	0.1685900	882.2	26-Jan-2022, 12:13	10.32
PH 1-2-3 to POI-INT	0.1685900	882.2	26-Jan-2022, 12:14	10.32
OV-OFF-1	0.1312000	528.0	26-Jan-2022, 12:31	10.14
OFF-1 to POI-INT	0.1312000	528.0	26-Jan-2022, 12:30	10.14
OV-PH-4	0.0577500	356.2	26-Jan-2022, 12:09	10.01
PH 4 to POI-INT	0.0577500	356.2	26-Jan-2022, 12:13	10.01
POI-INT	1.8163830	2695.7	26-Jan-2022, 13:26	10.14
POI-INT to POI-7	1.8163830	2695.7	26-Jan-2022, 13:36	10.14
POI-7	8.6123830	11417.8	26-Jan-2022, 14:03	9.99
POI-7 to Confluence	8.6123830	11417.8	26-Jan-2022, 14:05	9.99
OV-DA-7	0.1019375	474.8	26-Jan-2022, 12:16	10.37
POI-4	0.1019375	474.8	26-Jan-2022, 12:16	10.37
POI-4 to Confluence	0.1019375	474.8	26-Jan-2022, 12:29	10.37
POI-4 & POI-7	8.7143205	11470.3	26-Jan-2022, 14:04	9.99
OV-DA-8	0.0158438	94.3	26-Jan-2022, 12:10	10.52
POI-5	0.0158438	94.3	26-Jan-2022, 12:10	10.52
OV-DA-9	0.0682300	225.3	26-Jan-2022, 12:30	10.13
POI-6	0.0682300	225.3	26-Jan-2022, 12:30	10.13

Appendix F

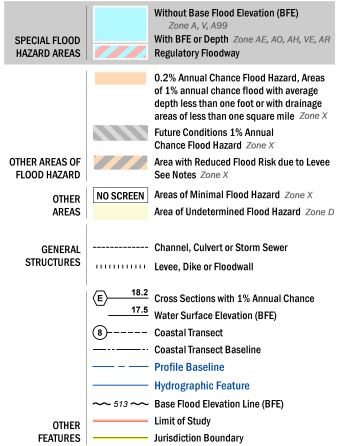
FEMA FIRM Map

APPENDIX F



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)



NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Flood Information Exchange at 1-877-FEMA-4MAP (1-877-368-6277) or visit the FEMA Flood Map Service Center website at <https://nims.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

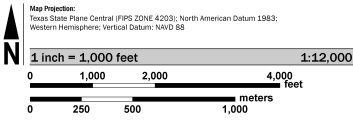
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

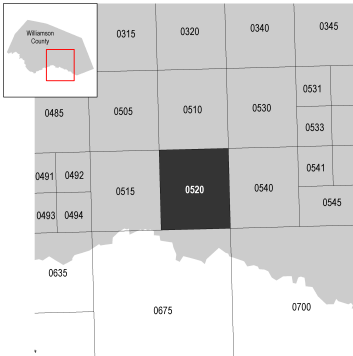
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital data obtained from Texas Natural Resource Information Systems (TNRIS), dated 2000; United States Census Bureau, dated 2010; United States Geological Survey, dated 2003; and the Williamson County Geographic Information Systems (GIS) Department, dated 2014 and 2017.

SCALE



PANEL LOCATOR



FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

WILLIAMSON COUNTY, TEXAS
and Incorporated Areas
PANEL 520 OF 750

Panel Contains:
COMMUNITY
HUTTO, CITY OF
WILLIAMSON COUNTY

NUMBER PANEL SUFFIX
481047 0520 F
481079 0520 F

VERSION NUMBER
2.3.3.3
MAP NUMBER
48491C0520F
MAP REVISED
11/05/2019

Appendix G

Soils Survey



United States
Department of
Agriculture

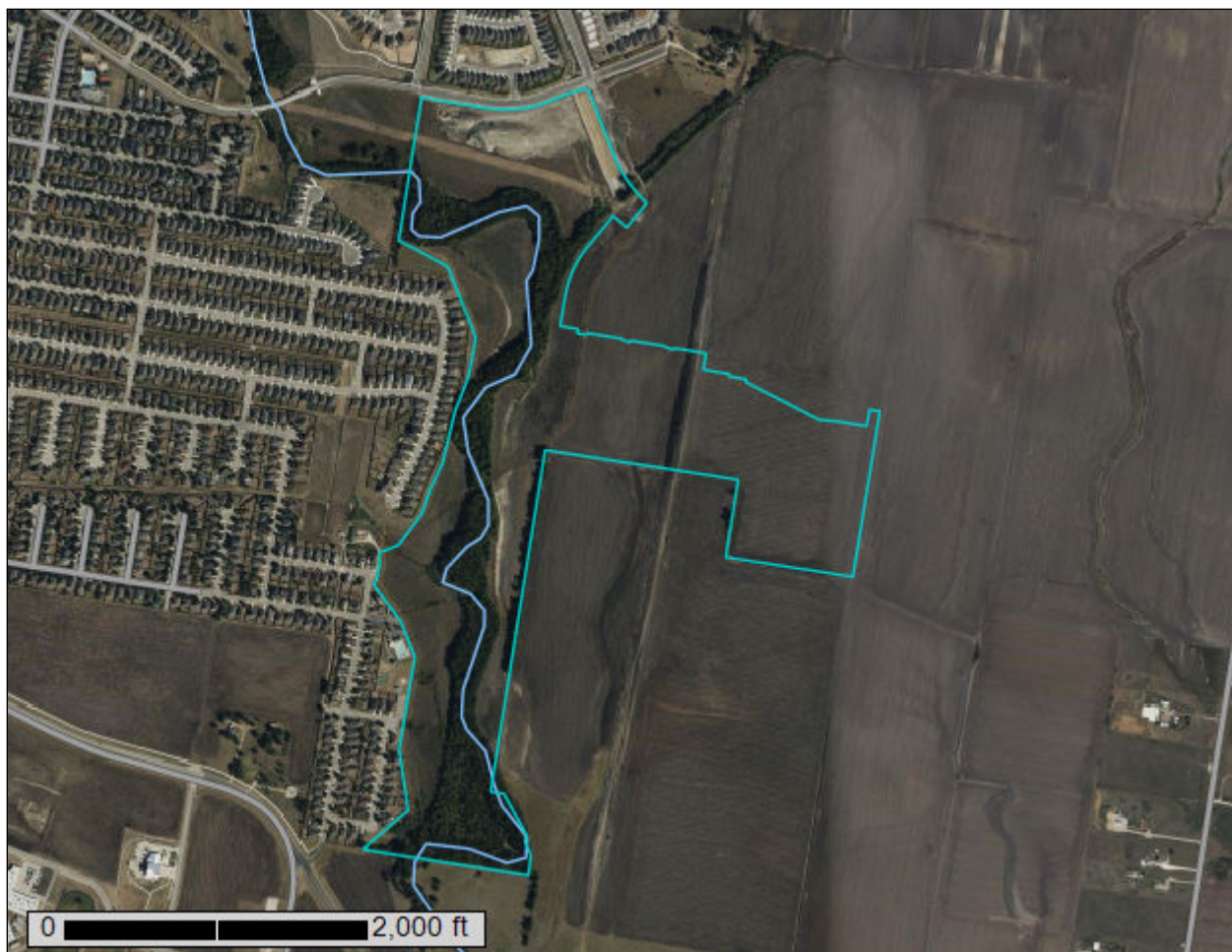
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Williamson County, Texas**

Cottonwood Phase 7



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 24, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 2, 2022—Oct 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrA	Branyon clay, 0 to 1 percent slopes	46.0	32.8%
BrB	Branyon clay, 1 to 3 percent slopes	24.2	17.3%
BrkB	Branyon-Krum complex, 1 to 3 percent slopes	9.0	6.4%
LekB	Lewisville-Krum complex, 1 to 3 percent slopes	4.1	2.9%
TcA	Tinn clay, 0 to 1 percent slopes, occasionally flooded	5.3	3.8%
TnA	Tinn clay, 0 to 1 percent slopes, frequently flooded	51.8	36.9%
Totals for Area of Interest		140.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Williamson County, Texas

BrA—Branyon clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2shgv
Elevation: 290 to 1,050 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 65 to 70 degrees F
Frost-free period: 238 to 288 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Branyon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Branyon

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone of pleistocene age

Typical profile

Ap - 0 to 12 inches: clay
Bkss - 12 to 72 inches: clay
BCKss - 72 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 7.0
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Minor Components

Houston black

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Lewisville

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Burleson

Percent of map unit: 5 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

BrB—Branyon clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2shgw
Elevation: 290 to 1,040 feet
Mean annual precipitation: 33 to 39 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 243 to 288 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Branyon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Branyon

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Microfeatures of landform position: Circular gilgai

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Calcareous clayey alluvium derived from mudstone of pleistocene age

Typical profile

Ap - 0 to 12 inches: clay

Bkss - 12 to 72 inches: clay

BCKss - 72 to 80 inches: clay

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 7.0

Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: D

Ecological site: R086AY011TX - Southern Blackland

Hydric soil rating: No

Minor Components

Houston black

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Microfeatures of landform position: Circular gilgai

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R086AY011TX - Southern Blackland

Hydric soil rating: No

Lewisville

Percent of map unit: 5 percent

Landform: Stream terraces

Landform position (three-dimensional): Riser

Custom Soil Resource Report

Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Burleson

Percent of map unit: 5 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

BrkB—Branyon-Krum complex, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2s1rw
Elevation: 420 to 730 feet
Mean annual precipitation: 34 to 37 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 255 to 266 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Branyon and similar soils: 44 percent
Krum and similar soils: 36 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Branyon

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone

Typical profile

Ap - 0 to 12 inches: clay
Bkss - 12 to 72 inches: clay
BCKss - 72 to 80 inches: clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high

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Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 7.0

Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: D

Ecological site: R086AY011TX - Southern Blackland

Hydric soil rating: No

Description of Krum

Setting

Landform: Stream terraces

Landform position (three-dimensional): Riser

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Calcareous silty and clayey alluvium derived from limestone

Typical profile

Ap - 0 to 7 inches: silty clay

A - 7 to 26 inches: silty clay

Bk - 26 to 50 inches: silty clay

Ck - 50 to 80 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 50 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 3.0

Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: R086AY007TX - Southern Clay Loam

Hydric soil rating: No

Minor Components

Lewisville

Percent of map unit: 15 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Altoga

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

LekB—Lewisville-Krum complex, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2s1s2
Elevation: 350 to 670 feet
Mean annual precipitation: 34 to 37 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 255 to 266 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Krum and similar soils: 50 percent
Lewisville and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Krum

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous silty and clayey alluvium derived from limestone

Typical profile

Ap - 0 to 7 inches: silty clay
A - 7 to 26 inches: silty clay
Bk - 26 to 50 inches: silty clay

Ck - 50 to 80 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 50 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Description of Lewisville

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone

Typical profile

Ap - 0 to 15 inches: silty clay
Bk1 - 15 to 38 inches: silty clay
Bk2 - 38 to 69 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.7 to 1.1 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: R086AY007TX - Southern Clay Loam

Hydric soil rating: No

Minor Components

Sunev

Percent of map unit: 10 percent
Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Branyon

Percent of map unit: 5 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

TcA—Tinn clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2sshf
Elevation: 260 to 1,310 feet
Mean annual precipitation: 27 to 47 inches
Mean annual air temperature: 63 to 71 degrees F
Frost-free period: 224 to 279 days
Farmland classification: Not prime farmland

Map Unit Composition

Tinn and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tinn

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Calcareous clayey alluvium

Typical profile

Ap - 0 to 28 inches: clay

Custom Soil Resource Report

Bss - 28 to 60 inches: clay
Bkssy - 60 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: R086AY013TX - Clayey Bottomland
Hydric soil rating: No

Minor Components

Whitesboro

Percent of map unit: 10 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R086AY012TX - Loamy Bottomland
Hydric soil rating: No

Gladewater

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R086AY013TX - Clayey Bottomland
Hydric soil rating: Yes

TnA—Tinn clay, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2vtgr
Elevation: 330 to 750 feet
Mean annual precipitation: 35 to 47 inches
Mean annual air temperature: 63 to 68 degrees F

Custom Soil Resource Report

Frost-free period: 226 to 263 days

Farmland classification: Not prime farmland

Map Unit Composition

Tinn and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tinn

Setting

Landform: Flood plains

Landform position (three-dimensional): Tread

Microfeatures of landform position: Circular gilgai

Down-slope shape: Linear

Across-slope shape: Concave

Parent material: Calcareous clayey alluvium

Typical profile

A - 0 to 17 inches: clay

Bss - 17 to 57 inches: clay

Bkssy - 57 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Gypsum, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 2.0

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D

Ecological site: R086AY013TX - Clayey Bottomland

Hydric soil rating: No

Minor Components

Whitesboro

Percent of map unit: 10 percent

Landform: Flood plains

Microfeatures of landform position: Circular gilgai

Down-slope shape: Linear

Across-slope shape: Concave

Ecological site: R086AY012TX - Loamy Bottomland

Hydric soil rating: No

Gladewater

Percent of map unit: 5 percent

Landform: Flood plains

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R086AY013TX - Clayey Bottomland

Hydric soil rating: Yes

References

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



August 20, 2024

City of Hutto
500 W. Live Oak Street
Hutto, TX 78634

RE: Cottonwood Phase 7 Final Plat, Hutto, TX 78634
Final Plat Review – Cottonwood Phase 7 Final Plat - Comment Report to Initial Submittal
(received 6-8- 22)
Project No.: 1980-PLAT

We have reviewed the comments for the above referenced project and have our responses below in red:

Planning Review

1. There are lots shown in the 100-year flood plain. We need an approved LOMR to allow these lots to be platted.
The floodplain will be revised once the LOMR is approved. The approved LOMR will be provided prior to recordation.
2. Parkland dedication requires approval by the Parks Board. Please coordinate with Jeff White at the City to arrange the meeting time.
We have been coordinating parkland dedication with Jeff White. We intend to dedicate parkland. Final parks decision is pending.
3. Complete note 23
Note 23 has been completed.
4. Show all locations of areas subject to flooding, especially in the 100-yr flood plain, shown as drainage easement.
The floodplain and drainage areas have been noted as drainage easements.
5. Include Riparian setback per 10.403.4.3 of the UDC
The riparian setback will be added to the plat with the updated floodplain once the LOMR is approved, prior to recordation.
6. ADD NOTE - Finish floor elevation for residential lots adjacent to the proposed/existing ponds, proposed/existing channels or existing 100-yr floodplain shall be a minimum of two (2) feet above the ultimate 100-year floodplain or 100-year water surface elevation, whichever is greater.
This note was added as note 34 of the plat.

Engineer Review

7. See attached third party review.
Noted.

Fire Prevention Review – Eric Woods

8. Please pay the required fee of \$150.00 and make the check payable to WCESD#3. Payment can be mailed to Hutto Fire Rescue PO Box 175 Hutto TX 78634 or dropped off at the office located at 210 E US 79 Ste.#103 Hutto TX. No online or credit card payments accepted.
The plans have been submitted to Eric Woods for review and the review fee has been paid.

Third Party Review Comments

General

1. Provide a large index map on the first sheet of the plat.
A sheet legend map was added to the plat.
2. Label acreage of all non-rectangular lots.
The lot area tables show the area values for every lot.
3. Lots along Goodwood and Cornich Circle are duplicated. Make view window smaller to not duplicate half of sheet 2.
The plat was revised to not duplicate half the sheet.
4. The approved preliminary plat shows lots 26 and 25 in Block BB being an open space lot. Revise to match.
There is no Block BB In phase 7. The phase 7 plat complies with the preliminary plat.
5. Show building setback lines on plat.
Setback lines are shown in the typical lot layout diagram on page 6 of the plat.
6. Provide public utility easements (PUE) as determined in review of Public Improvement Construction Plans, being completed by others.
PUE lines are shown in the typical lot layout diagram on page 6 of the plat.

Transportation

1. Show existing FM 1660 ROW linework.
There is no existing FM 1660 ROW.
2. Label acreage and width of FM 1660 ROW to be dedicated.
Acreage and width of the future FM 1660 ROW have been labeled.

Drainage and Stormwater

1. Provide further justification for post developed CN's composites all being between 87-89.
The CN values were revised to reflect the 1/8-acre residential value from the TR-55 for each soil type that is in accordance with the RRDCM Table 2-3 Note 1. The model was also revised accordingly.
2. Provide a soils map.
A soils report was added to the drainage report.
3. Provide missing flow arrows on Sheets 21 & 23.
Flow arrows have been added to these sheets.
4. Provide appropriate Calc tables on Sheet 21 and 23. Tables provided are duplicated.
The tables on sheets 21 and 23 are summary tables for the pre/post flows. We deliberately show them on both sheets for ease of review.
5. Provide impervious cover assumptions clearly stated within the drainage report.
Runoff assumptions due to impervious cover are discussed in section 2.1.3 of the report.
6. Add to notes:
 - a. RE drainage per City of Round Rock Drainage Criteria Manual.
 - b. That major streams shall not be modified without consent of applicable state and federal agencies, and with authorization from the City Engineer.
 - c. That Section 8.3.4 of the Round Rock Drainage Criteria Manual shall apply for all stormwater management facilities, including water quality facilities and stormwater management infrastructure.
 - d. Major streams shall not be modified without consent of applicable state and federal agencies, and with authorization from the City Engineer.
 - e. Floodplain Certification.
 - f. Encroachments are prohibited, including fill, new construction, substantial improvements and other development in the adopted regulatory floodway unless hydrologic and hydraulic analyses proves the proposed encroachment would not result in increase in flood levels in the community during the occurrence of the base flood discharge.
 - g. Development standards for the subdivision shall comply with the Meadows at Cottonwood Creek PUD.

These notes were added to sheet 8.

7. Modify note #16 to add (at end): ...except as specifically noted in the Meadows at Cottonwood Creek PUD
This note (now note 29) was revised to reference the Meadows at Cottonwood Creek PUD.

Water & Wastewater

1. Add to Notes:
 - a. All water and wastewater systems shall be designed in accordance with the City of Hutto Utility Design Criteria Manual, City of Hutto Standard Details, and TCEQ Design Criteria in the Texas Administrative Code, as amended.
 - b. Water and wastewater systems shall be constructed in accordance with the City of Georgetown Specifications and City of Hutto Standard Details.
 - c. Where a City of Hutto detail does not exist, use the applicable Georgetown detail.
 - d. If there is a conflict between Hutto city ordinance and manual content, Hutto ordinances will prevail.

These notes were added to the plat.

Sincerely,



Daniel A. Monroe, PE
Project Engineer
BGE, Inc.

FINAL SUBDIVISION PLAT.
OF GLENWOOD, PHASE 5
DOC. 3 2015064417
O.P.R.W.C.

DOC.	DOCUMENT
D.R.W.C.	DEED RECORDS OF WILLIAMSON COUNTY
ELEC.	ELECTRIC
ESMT.	EASEMENT
NO.	NUMBER
NOS.	NUMBERS
O.S.	OPEN SPACE
O.P.R.W.C.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY
O.R.W.C.	OFFICIAL RECORDS OF WILLIAMSON COUNTY
PG.	PAGE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT
R.O.W.	RIGHT-OF-WAY
VOL.	VOLUME
●	FOUND 1/2" IRON ROD
○	SET 1/2" IRON ROD W/CAP STAMPED "BGE INC"
Δ	CALCULATED POINT
	SCALE BREAK SYMBOL
	BUILDING SETBACK LINE (SEE DETAIL SHEET 6)
	LOT WITH MINIMUM FINISHED FLOOR ELEVATION (SEE TABLE ON SHEET 6)

99.732 AC.
OPEN SPACE/DRAINAGE
EASEMENT LOT

STM. S.E. & D.E.
DOC. NO. 2015031666
O.P.R.W.C.

WILLIAM
GATLIN
SURVEY,
ABSTRACT
NO. 271

— APPROXIMATE 100 YEAR —
FLOODPLAIN ZONE "AE" PER FEMA MAP NO.
PER FEMA MAP NO. 48491C0520F
REVISED: DECEMBER 20, 2019

MATCHLINE SHEET 2
MATCHLINE SHEET 3

— APPROXIMATE REGULATORY FLOODWAY
PER FEMA MAP NO. 48491C0520F
REVISED: DECEMBER 20, 2019

LENNAR HOMES OF
TEXAS LAND AND
CONSTRUCTION, LTD.
CALLED 130.141 ACRES
DOC. NO. 2019104719
O.P.R.W.C.

WILLIAM GATLIN
SURVEY, A-271

JAMES HICKMAN
SURVEY, A-291

COTTONWOOD PHASE 6
DOC. NO. _____
O.P.R.W.C.

100' PIPELINE ESMT.
VOL. 476, PG. 259 D.R.W.C.
DOC. NO. 2006052806
O.P.R.W.C.

LAGONDA DRIVE 60' R.O.W.

100' PIPELINE ESMT.
476, PG. 259 D.R.W.C.
DOC. NO. 2006052806
O.P.R.W.C.

N 08719

MATCHLINE SHEET 2

MATCHLINE SHEET 5

100' PIPE
VOL. 476, PG
DOC. NO.
O.P.

JAMES
HICKMAN
SURVEY,
ABSTRACT
NO. 291

AVULA HOLDINGS LLC
AND VD INVESTMENTS &
MANAGEMENT LLC
DOC. NO. 2021190479
O.P.R.W.C.

BGE, Inc.

7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
ELS Licensed Surveying Firm No. 10194490

SHEET 2 OF 8

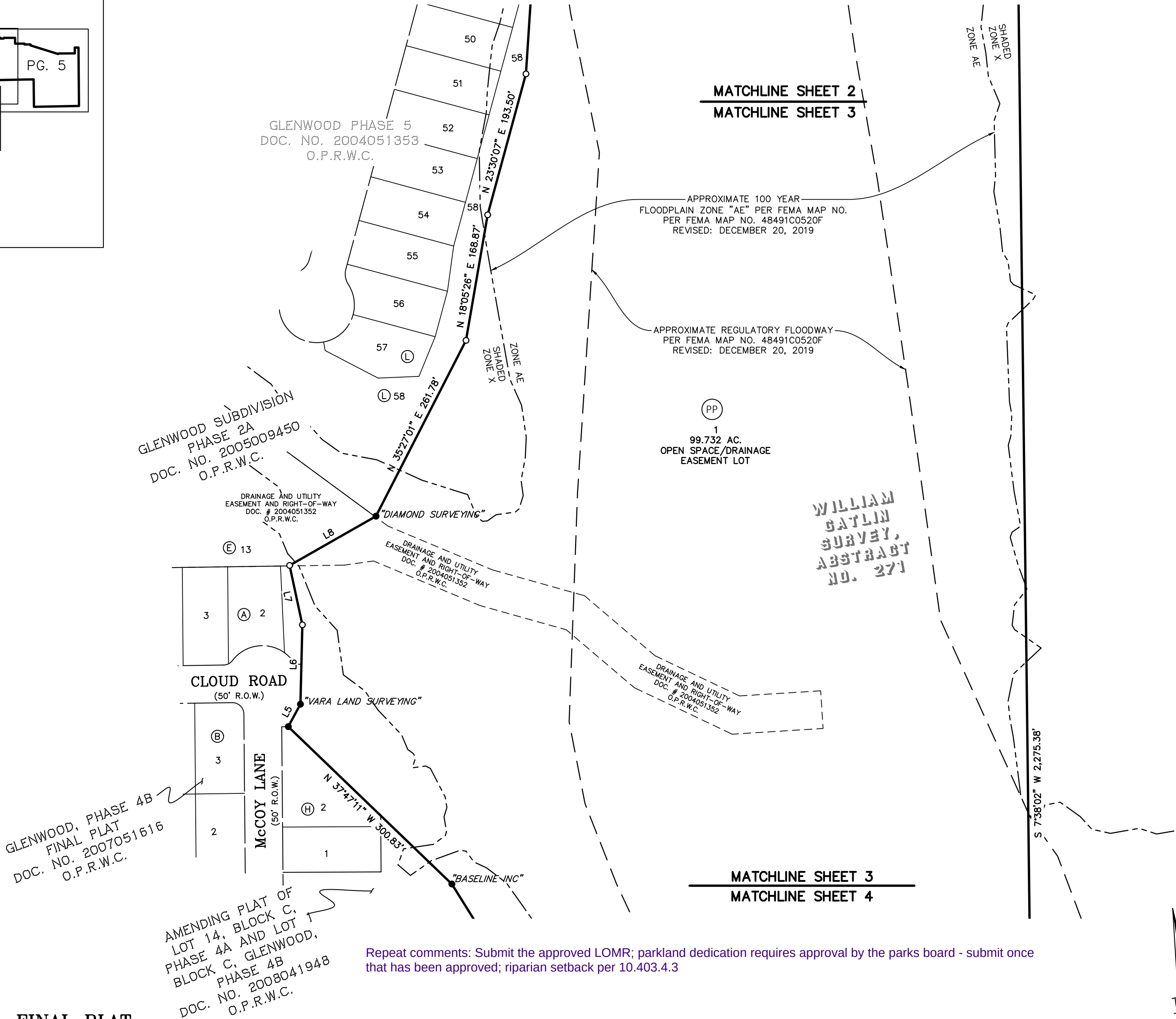
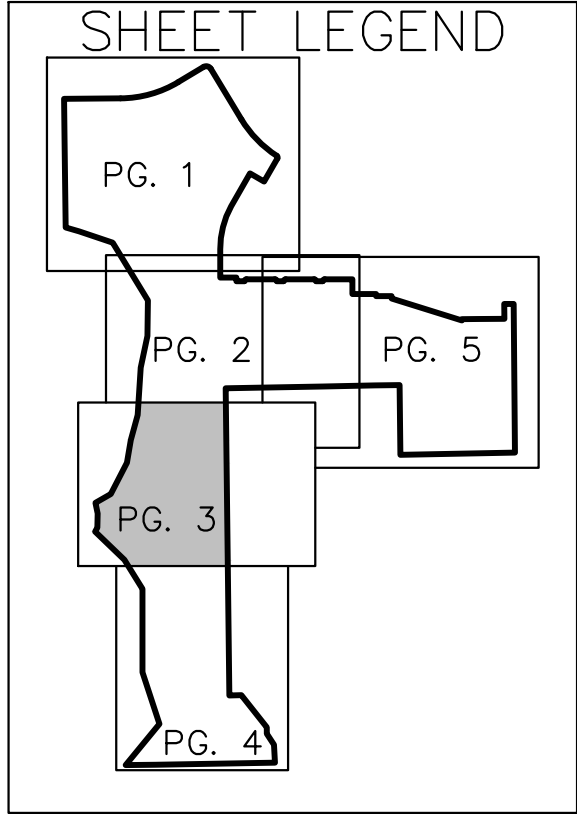
FINAL PLAT
COTTONWOOD PHASE 7

A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

Planning review by:
John Byrum
john.byrum@huttotx.gov
512-759-5974
DENIED



G:\TXC\Projects\Lemna\10376-00-Cottonwood_Phase 7.dwg, 7/22/2024 4:00 PM, mmlisak, 1:0



AVULA HOLDINGS LLC
AND VD INVESTMENTS
& MANAGEMENT LLC
DOC. NO. 2021190479
O.P.R.W.C.

WILLIAM GATLIN
SURVEY, A-271
JAMES HICKMAN
SURVEY, A-291

JAMES
HICKMAN
SURVEY,
ABSTRACT
NO. 291

LEGEND

DOC.	DOCUMENT
D.R.W.C.	DEED RECORDS OF WILLIAMSON COUNTY
ELEC.	ELECTRIC
ESMT.	EASEMENT
NO.	NUMBER
NOS.	NUMBERS
O.S.	OPEN SPACE
O.P.R.W.C.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY
O.R.W.C.	OFFICIAL RECORDS OF WILLIAMSON COUNTY
PG.	PAGE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT
R.O.W.	RIGHT-OF-WAY
VOL.	VOLUME
●	FOUND 1/2" IRON ROD
○	SET 1/2" IRON ROD W/CAP STAMPED "BGE INC"
△	CALCULATED POINT
~	SCALE BREAK SYMBOL
- - -	BUILDING SETBACK LINE (SEE DETAIL SHEET 6)
■	LOT WITH MINIMUM FINISHED FLOOR ELEVATION (SEE TABLE ON SHEET 6)

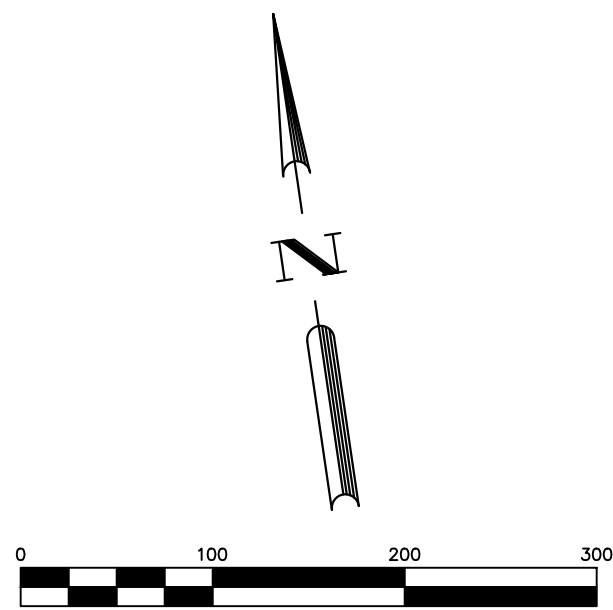
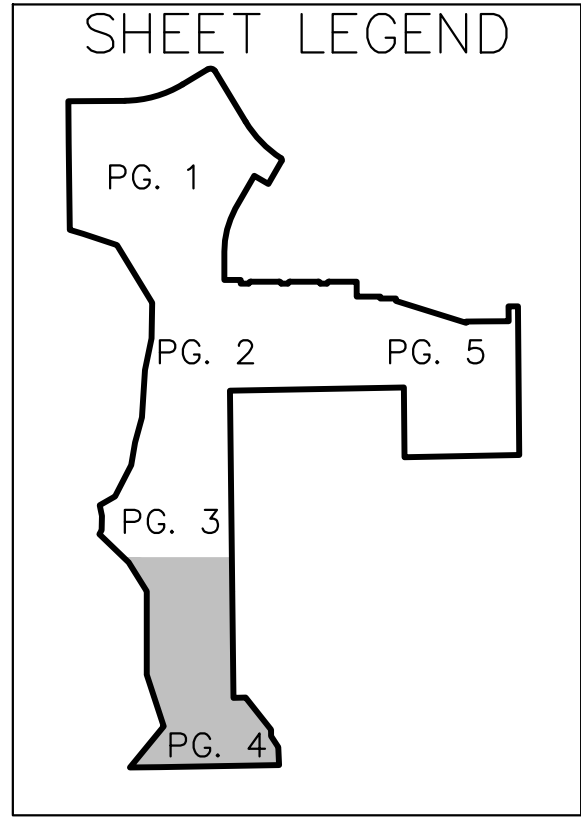
Repeat comments: Submit the approved LOMR; parkland dedication requires approval by the parks board - submit once that has been approved; riparian setback per 10.403.4.3

FINAL PLAT
COTTONWOOD PHASE 7

A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS



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7330 San Pedro Ave., Suite 202
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TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490



LEGEND	
DOC.	DOCUMENT
D.R.W.C.	DEED RECORDS OF WILLIAMSON COUNTY
ELEC.	ELECTRIC
ESMT.	EASEMENT
NO.	NUMBER
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—	SCALE BREAK SYMBOL
- - -	BUILDING SETBACK LINE (SEE DETAIL SHEET 6)
■	LOT WITH MINIMUM FINISHED FLOOR ELEVATION (SEE TABLE ON SHEET 6)

FINAL PLAT
COTTONWOOD PHASE 7
A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

AMENDING PLAT OF
LOT 14, BLOCK C,
PHASE 4A AND LOT 1
BLOCK C, GLENWOOD,
PHASE 4B
DOC. NO. 2008041948
O.P.R.W.C.

GLENWOOD PHASE 4A
DOC. NO. 2004051353
O.P.R.W.C.

GLENWOOD PHASE 4B
DOC. NO. 2004051353
O.P.R.W.C.

"MCANGUS SURVEYING"

BAYLESS ST. (50' R.O.W.)

FISHBAUGH LN.
(50' R.O.W.)

N 8°21'28" E 618.28'

"BASELINE-INC"
N 23°37'35" W 253.00'

N 6°52'27" W 402.95'

N 47°40'09" E 393.88'

N 82°25'26" W 222.64'

MATCHLINE SHEET 3
MATCHLINE SHEET 4

PP
1
99.732 AC.
OPEN SPACE/DRAINAGE
EASEMENT LOT

WILLIAM
GATLIN
SURVEY,
ABSTRACT
NO. 271

APPROXIMATE 100 YEAR
FLOODPLAIN ZONE "AE" PER FEMA MAP NO.
PER FEMA MAP NO. 48491C0520F
REVISED: DECEMBER 20, 2019

APPROXIMATE REGULATORY FLOODWAY
PER FEMA MAP NO. 48491C0520F
REVISED: DECEMBER 20, 2019

PP
1
99.732 AC.
OPEN SPACE/DRAINAGE
EASEMENT LOT

APPROX SURVEY
LINE

AVULA HOLDINGS LLC
AND VD INVESTMENTS
& MANAGEMENT LLC
DOC. NO. 2021190479
O.P.R.W.C.

CLAUDIA ANN CRISLIP
CALLED 1.54 ACRES
(TRACT C)
DOC. NO. 2018083501
O.P.R.W.C.



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

ENGINEERING REVIEW
Review is for general compliance only. Sole
responsibility for correctness remains with the
Engineer of Record.
No Exceptions Taken
Denied, Revise and Resubmit.
09/18/2024

Prior to Final Plat
recording, provide
approved LOMR.

LEGEND

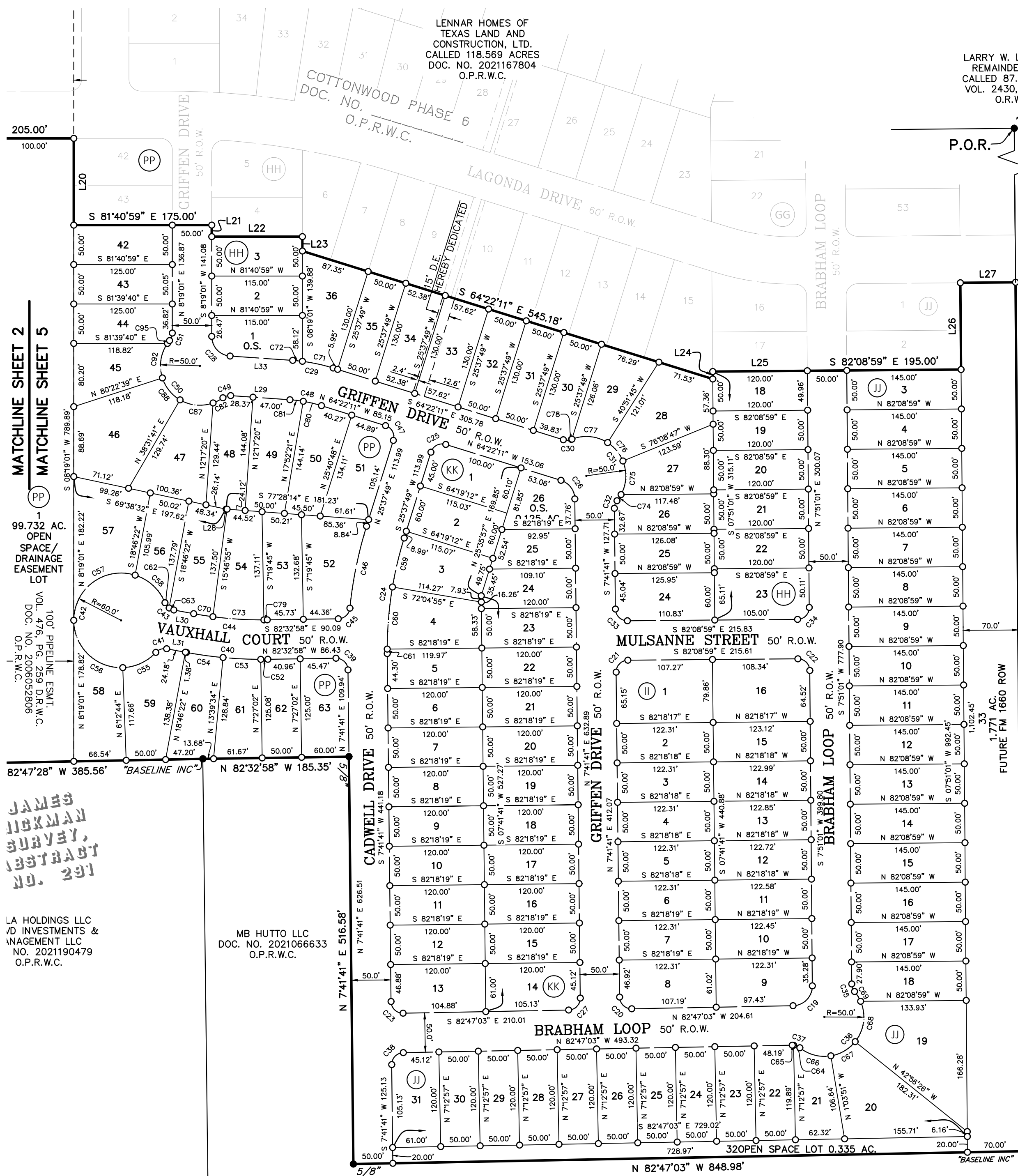
DOC. DEED RECORDS OF WILLIAMSON COUNTY
D.R.W.C. ELEC. EASEMENT
ESMT. NO. NUMBER
NOS. OPEN SPACE
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O.P.R.W.C. OFFICIAL RECORDS OF WILLIAMSON COUNTY
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CALCULATED POINT
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BUILDING SETBACK LINE (SEE DETAIL SHEET 6)
LOT WITH MINIMUM FINISHED FLOOR ELEVATION
(SEE TABLE ON SHEET 6)



FINAL PLAT

COTTONWOOD PHASE 7

A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS



MB HUTTO LLC
DOC. NO. 2021066633
O.P.R.W.C.

LARRY W. LESCHBER
REMAINDER OF A
CALLED 87.71 ACRES
VOL. 2430, PG. 332
O.R.W.C.
LPL INVESTMENTS, LP
CALLED 143.5 ACRES
DOC. NO. 2010007498 O.P.R.W.C.

BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

SHEET 5 OF 8

G:\TXC\Projects\Lemna\10376-00-Cottonwood_Ph17\SV\04_Finals\Drawings\Plat\10376-00_Cottonwood_Phase_7.dwg, 7/22/2024 4:00 PM, rmmisak, 1:0

R – RESIDENTIAL

O.S.D. – OPEN SPACE/DRAINAGE

O.S. – OPEN SPACE

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	HH	6,073	O.S.D.
2	HH	5,750	R
3	HH	5,750	R
18	HH	5,998	R
19	HH	6,000	R
20	HH	6,000	R
21	HH	6,000	R
22	HH	6,000	R
23	HH	7,765	R
24	HH	7,504	R
25	HH	6,301	R
26	HH	6,249	R
27	HH	7,435	R
28	HH	9,757	R
29	HH	7,091	R
30	HH	6,487	R
31	HH	6,500	R
32	HH	6,500	R
33	HH	7,491	R
34	HH	6,809	R
35	HH	6,500	R
36	HH	8,771	R
LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	II	9,739	R
2	II	6,115	R
3	II	6,115	R
4	II	6,115	R
5	II	6,115	R
6	II	6,115	R
7	II	6,115	R
8	II	7,477	R
9	II	7,266	R
10	II	6,119	R
11	II	6,126	R
12	II	6,132	R
13	II	6,139	R
14	II	6,146	R
15	II	6,153	R
16	II	9,772	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
3	JJ	7,250	R
4	JJ	7,250	R
5	JJ	7,250	R
6	JJ	7,250	R
7	JJ	7,250	R
8	JJ	7,250	R
9	JJ	7,250	R
10	JJ	7,250	R
11	JJ	7,250	R
12	JJ	7,250	R
13	JJ	7,250	R
14	JJ	7,250	R
15	JJ	7,250	R
16	JJ	7,250	R
17	JJ	7,250	R
18	JJ	7,143	R
19	JJ	14,912	R
20	JJ	11,707	R
21	JJ	5,965	R
22	JJ	6,000	R
23	JJ	6,000	R
24	JJ	6,000	R
25	JJ	6,000	R
26	JJ	6,000	R
27	JJ	6,000	R
28	JJ	6,000	R
29	JJ	6,000	R
30	JJ	6,000	R
31	JJ	7,213	R
32	JJ	14,580	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	KK	6,858	R
2	KK	6,903	R
3	KK	7,452	R
4	KK	8,082	R
5	KK	6,000	R
6	KK	6,000	R
7	KK	6,000	R
8	KK	6,000	R
9	KK	6,000	R
10	KK	6,000	R
11	KK	6,000	R
12	KK	6,000	R
13	KK	7,331	R
14	KK	7,213	R
15	KK	6,000	R
16	KK	6,000	R
17	KK	6,000	R
18	KK	6,000	R
19	KK	6,000	R
20	KK	6,000	R
21	KK	6,000	R
22	KK	6,000	R
23	KK	6,000	R
24	KK	5,816	R
25	KK	5,051	R
26	KK	5,454	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	NN	9,558	R
2	NN	9,000	R
3	NN	9,000	R
4	NN	9,000	R
5	NN	9,000	R
6	NN	9,000	R
7	NN	9,000	R
8	NN	9,877	R
9	NN	9,693	R
10	NN	9,000	R
11	NN	9,000	R
12	NN	9,000	R
13	NN	9,000	R
14	NN	9,000	R
15	NN	9,000	R
16	NN	9,558	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
1	OO	9,485	R
2	OO	8,400	R
3	OO	9,000	R
4	OO	9,000	R
5	OO	9,000	R
6	OO	9,000	R
7	OO	9,000	R
8	OO	9,967	R
9	OO	9,611	R
10	OO	9,000	R
11	OO	9,000	R
12	OO	9,000	R
13	OO	9,000	R
14	OO	9,000	R
15	OO	8,400	R
16	OO	9,485	R

LOT AREA TABLE			
LOT	BLOCK	SQ. FT.	TYPE
13	PP	8,400	O.S.D.
14	PP	8,400	R
15	PP	8,400	R
16	PP	8,400	R
17	PP	8,400	R
18	PP	8,400	R
19	PP	8,400	R
20	PP	8,400	R
21	PP	8,315	R
22	PP	14,800	R
23	PP	12,176	R
24	PP	8,312	R
25	PP	8,400	R
26	PP	8,400	R
27	PP	8,400	R
28	PP	8,400	R
29	PP	8,838	R
30	PP	12,693	R
31	PP	8,396	R
32	PP	8,400	R
33	PP	8,400	R
34	PP	8,400	R
35	PP	8,400	O.S.D.
36	PP	8,400	R
37	PP	8,400	R
38	PP	9,541	R
42	PP	6,250	R
43	PP	6,253	R
44	PP	6,222	R
45	PP	6,954	R
46	PP	12,255	R
47	PP	8,773	R
48	PP	7,051	R
49	PP	8,222	R
50	PP	7,587	R
51	PP	7,572	R
52	PP	8,894	R
53	PP	6,745	R
54	PP	7,529	R
55	PP	7,339	R
56	PP	5,861	R
57	PP	10,698	R
58	PP	8,381	R
59	PP	8,418	R
60	PP	7,211	R
61	PP	6,918	R
62	PP	6,250	R
63	PP	7,485	R

CURVE DATA					
NUMBER	RADIUS	DELTA ANGLE	ARC DISTANCE	CHORD BEARING	CHORD DISTANCE
C1	840.00'	30°43'53"	450.55'	N 82°32'44" E	445.17'
C2	40.00'	90°00'00"	62.83'	S 67°49'12" E	56.57'
C3	840.00'	25°53'28"	379.59'	S 35°45'56" E	376.36'
C4	15.00'	86°58'59"	22.77'	N 51°31'1" W	20.65'
C5	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C6	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C7	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C8	15.00'	90°00'00"	23.56'	N 36°40'59" W	21.21'
C9	15.00'	90°00'00"	23.56'	S 53°19'01" W	21.21'
C9	15.00'	91°06'29"	23.85'	S 37°14'14" E	21.42'
C10	25.00'	88°53'31"	38.79'	N 52°45'46" E	35.01'
C11	15.00'	39°42'54"	10.40'	S 11°32'27" E	10.19'
C12	50.00'	168°19'20"	146.89'	N 52°45'46" E	99.48'
C13	15.00'	39°42'54"	10.40'	N 62°56'01" W	10.19'
C14	15.00'	39°42'54"	10.40'	S 77°21'04" W	10.19'
C15	50.00'	163°01'39"	142.27'	S 40°59'33" E	98.91'
C16	15.00'	32°12'15"	8.43'	N 24°25'08" E	8.32'
C17	25.00'	91°06'29"	39.75'	S 37°14'14" E	35.70'
C18	15.00'	88°53'31"	23.27'	N 52°45'46" E	21.01'
C19	25.00'	89°21'56"	38.99'	N 52°31'59" E	35.16'
C20	15.00'	90°28'44"	23.69'	S 37°32'41" E	21.30'
C21	15.00'	90°09'20"	23.60'	S 52°46'21" W	21.24'
C22	15.00'	90°00'00"	23.56'	N 37°08'59" W	21.21'
C23	15.00'	90°28'44"	23.69'	S 37°32'41" E	21.30'
C24	475.00'	17°56'08"	148.69'	S 16°39'45" W	148.09'
C25	15.00'	90°00'00"	23.56'	S 70°37'49" W	21.21'
C26	25.00'	72°03'52"	31.44'	N 28°20'15" W	29.41'
C27	15.00'	89°31'16"	23.44'	N 52°27'19" E	21.12'
C28	25.00'	86°01'40"	37.54'	S 34°41'49" E	34.11'
C29	225.00'	13°20'29"	52.39'	N 71°02'25" W	52.27'
C30	15.00'	39°42'54"	10.40'	S 84°13'38" E	10.19'
C31	50.00'	151°29'41"	132.20'	N 28°20'15" W	96.92'
C32	15.00'	39°42'54"	10.40'	S 27°33'08" W	10.19'
C33	15.00'	89°50'40"	23.52'	S 37°13'39" E	21.18'
C34	15.00'	90°00'00"	23.56'	N 52°51'01" E	21.21'
C35	15.00'	39°42'54"	10.40'	S 12°00'26" E	10.19'
C36	50.00'	168°47'45"	147.30'	N 52°31'59" E	99.52'
C37	15.00'	39°42'54"	10.40'	N 62°55'36" W	10.19'
C38	15.00'	89°31'16"	23.44'	S 52°27'19" W	21.12'
C39	15.00'	90°14'39"	23.63'	N 37°25'39" W	21.26'
C40	525.00'	11°19'21"	103.75'	S 76°53'18" E	103.58'
C41	15.00'	57°46'09"	15.12'	S 79°53'18" W	14.49'
C42	60.00'	295°32'17"	309.49'	S 18°46'22" W	64.00'
C43	15.00'	57°46'09"	15.12'	S 42°20'33" E	14.49'
C44	475.00'	11°19'21"	93.87'	S 76°53'18" E	93.71'
C45	15.00'	83°23'55"	21.83'	N 55°45'04" E	19.96'
C46	525.00'	11°34'42"	106.09'	S 19°50'28" W	105.91'
C47	15.00'	90°00'00"	23.56'	N 19°22'11" W	21.21'
C48	175.00'	13°20'29"	40.75'	N 71°02'25" W	40.66'
C49	15.00'	39°42'54"	10.40'	S 82°25'53" W	10.19'

LAND USE SCHEDULE		
DESCRIPTION	NO.	ACREAGE
RESIDENTIAL	171	30.119 AC.
OPEN SPACE/DRAINAGE LOT	1	99.732 AC.
OPEN SPACE LOT	3	0.599 AC.
RIGHT-OF-WAY	—	8.188 AC.
FUTURE FM 1660 ROW DEDICATION	1	1.771 AC.
TOTAL LOTS	176	140.409
TOTAL BLOCKS	7	--

STREET NAMES				
STREET	R.O.W. WIDTH	CENTERLINE LENGTH	SIDEWALK WIDTH	STREET CLASSIFICATION
BRABHAM LOOP	50 FT.	1,414 FT.	5'	LOCAL
CADWELL DRIVE	50 FT.	957 FT.	5'	LOCAL
CORNICHE CIRCLE	VARIES	1,824 FT.	5'	LOCAL
GOODWOOD STREET	50 FT.	620 FT.	5'	LOCAL
GRIFFEN DRIVE	60 FT.	1,424 FT.	5'	LOCAL
MULSANNE STREET	50 FT.	296 FT.	5'	LOCAL
VAUXHALL COURT	50 FT.	315 FT.	5'	LOCAL
TOTAL LINEAR FEET		6,850 FT.		

CURVE DATA					
NUMBER	RADIUS	DELTA ANGLE	ARC DISTANCE	CHORD BEARING	CHORD DISTANCE
C50	50.00'	165°27'29"	144.39'	S 34°41'49" E	99.20'
C51	15.00'	39°42'54"	10.40'	N 28°10'28" E	10.19'
C52	525.00'	0°59'12"	9.04'	S 82°03'22" E	9.04'
C53	525.00'	51°3'20"	47.85'	S 78°57'06" E	47.83'
C54	525.00'	50°6'49"	46.86'	S 73°47'02" E	46.84'
C55	60.00'	45°12'30"	47.34'	N 73°36'29" E	46.12'
C56	60.00'	92°06'15"	96.45'	S 37°44'09" E	86.40'
C57	60.00'	107°17'39"	112.36'	S 61°57'52" W	96.65'
C58	60.00'	50°55'49"	53.33'	N 38°55'24" W	51.60'
C59	475.00'	7°42'44"	63.94'	S 21°46'27" W	63.89'
C60	475.00'	9°32'11"	79.06'	S 13°09'00" W	78.97'
C61	475.00'	0°41'13"	5.70'	S 8°02'18" W	5.70'
C62	15.00'	32°56'27"	8.62'	S 29°55'43" E	8.51'
C63	15.00'	24°49'41"	6.50'	S 58°48'47" E	6.45'
C64	15.00'	32°48'03"	8.59'	N 59°28'10" W	8.47'
C65	15.00'	6°54'52"	1.81'	N 79°19'37" W	1.81'
C66	50.00'	48°01'57"	41.92'	S 67°05'07" E	40.70'
C67	50.00'	41°50'20"	36.51'	N 67°58'44" E	35.71'
C68	50.00'	62°04'43"	54.17'	N 16°01'13" E	51.56'
C69	50.00'	16°50'45"	14.70'	N 23°26'31" W	14.65'
C70	475.00'	2°59'27"	24.80'	S 72°43'21" E	24.79'
C71	225.00'	10°10'57"	39.99'	N 69°27'40" W	39.93'
C72	225.00'	3°09'31"	12.40'	N 76°07'54" W	12.40'
C73	475.00'	7°49'01"	64.80'	S 78°07'35" E	64.75'
C74	50.00'	10°43'55"	9.37'	N 42°02'38" E	9.35'
C75	50.00'	30°31'53"	44.10'	N 11°24'43" E	42.68'
C76	50.00'	55°17'02"	30.79'	N 11°24'44" W	30.31'
C77	50.00'	54°04'46"	47.19'	N 76°10'38" W	45.46'
C78	50.00'	0°52'04"	0.76'	S 76°20'57" W	0.76'
C79	475.00'	0°30'53"	4.27'	S 82°17'32" E	4.27'
C80	175.00'	7°45'28"	23.70'	N 68°14'55" W	23.68'
C81	175.00'	5°35'00"	17.05'	N 74°55'09" W	17.05'
C82	50.00'	16°15'41"	14.19'	N 70°42'17" E	14.14'
C83	50.00'	17°17'48"	15.09'	S 31°52'22" W	15.04'
C84	50.00'	63°57'49"	55.82'	S 8°45'26" E	52.96'
C85	50.00'	67°07'20"	58.58'	S 74°18'00" E	55.28'
C86	50.00'	14°38'43"	12.78'	N 64°48'59" E	12.75'
C87	50.00'	49°41'33"	43.36'	S 76°19'06" E	42.02'
C88	50.00'	41°50'59"	36.52'	S 30°32'50" E	35.71'
C89	50.00'	53°58'04"	47.10'	S 70°03'36" E	45.37'
C90	50.00'	44°59'05"	39.26'	N 60°27'50" E	38.26'
C91	50.00'	69°22'11"	60.54'	N 31°17'12" E	56.91'
C92	50.00'	52°29'07"	45.80'	S 16°37'13" W	44.22'
C93	15.00'	29°04'35"	7.61'	S 61°31'17" E	7.53'
C94	15.00'	10°38'20"	2.79'	S 26°04'44" E	2.78'
C95	50.00'	51°09'09"	4.51'	S 45°26'51" W	4.51'

G:\TXC\Projects\Lennar\10376-00-Cottonwood-Phase 7.dwg, 7/22/2024 4:00 PM, rmmisak, 1:0

LEGAL DESCRIPTION

FIELD NOTES FOR A 140.409 ACRE TRACT OF LAND IN THE WILLIAM GATLIN SURVEY, ABSTRACT NO. 271 AND THE JAMES HICKMAN SURVEY, ABSTRACT NO. 291, WILLIAMSON COUNTY, TEXAS; BEING OUT OF A 118.569 ACRE TRACT OF LAND AS CONVEYED UNTO LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD. IN DOCUMENT NUMBER 2021167804, AND A XX.XX ACRE TRACT OF LAND AS CONVEYED UNTO LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD. IN DOCUMENT NUMBER _____ OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; SAID 140.409 ACRE TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2-inch iron rod with cap stamped "BASELINE INC" found on the south line of a called 87.71 acre tract of land as conveyed unto Larry W. Leschber in Volume 2430, Page 332 of the Official Public Records of Williamson County, Texas, at the northwest corner of a called 143.5 acre tract of land as conveyed unto LPL Investments, LP in Document Number 2010007498 of the Official Public Records of Williamson County, Texas, and at an easterly corner of the remainder of said 367.15 acre tract; THENCE, S 7°51'01" W a distance of 1771.87 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for the northeast corner and POINT OF BEGINNING of the herein described tract;

THENCE, coincident with the common line of said 143.5 acre tract and said 118.569 acre Lennar tract, S 07°51'01" W, a distance of 496.86 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for the southeast corner of the herein described tract, from which a 1/2-inch iron rod with cap stamped "BASELINE INC" found at the common corner of said remainder of the 367.15 acre tract and a called 87.834 acre tract of land as conveyed unto MB HUTTO LLC, in Document Number 2021066633, of the Official Public Records of Williamson County, Texas, bears S 07°51'01" W, a distance of 1,101.67 feet;

THENCE departing said common line, over and across said 118.569 acre Lennar tract, N 82° 08' 59" W, a distance of 70.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an interior corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, S 07° 51' 01" W, a distance of 110.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southeasterly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 82°08'59" W, a distance of 195.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 82°07'54" W, a distance of 120.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly interior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, S 07°51'01" W, a distance of 9.44 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 64°22'11" W, a distance of 545.18 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 08°19'01" E, a distance of 18.24 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly interior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 81°40'59" W, a distance of 115.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 08°19'01" E, a distance of 14.61 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly interior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 81°40'59" E, a distance of 175.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly exterior corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, N 08°19'01" E, a distance of 109.95 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly interior corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract, N 81°40'59" W, a distance of 205.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of curvature to the left of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of S 53°19'01" W, and a chord distance of 21.21 feet to a 1/2-inch rod with a cap stamped "BGE INC" set at the end of this curve for a southerly exterior corner of the herein described tract;

THENCE, over and across said Hutto 372 367.15-acre tract, N 81°40'59" E a distance of 50.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set at the beginning of a ton-tangent curve for a corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of S 36°40'59" W, and a chord distance of 21.21 feet to a 1/2-inch rod with a cap stamped "BGE INC" set for a point of tangency of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract, N 81°40'59" W a distance of 210.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of curvature to the left of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of S 53°19'01" W, and a chord distance of 21.21 feet to a 1/2-inch rod with a cap stamped "BGE INC" set at the end of this curve for a southerly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 81°40'59" E a distance of 50.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set at the beginning of a ton-tangent curve for a southerly exterior corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of N 36°40'59" W, and a chord distance of 21.21 feet to a 1/2-inch rod with a cap stamped "BGE INC" set for a point of tangency in the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 81°40'59" W, a distance of 210.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of curvature of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of S 53°19'01" W, and a chord distance of 21.21 feet to a 1/2-inch rod with a cap stamped "BGE INC" set at the end of this curve for a southerly exterior corner of the herein described tract;

THENCE, continuing over and across said Hutto 372 367.15-acre tract, N 81°40'59" W a distance of 60.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly exterior corner of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract and the remaining portion of said Hutto 372 367.15-acre tract, N 81°19'01" E, a distance of 27.78 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southerly interior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 81°40'59" E, a distance of 120.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a southwesterly corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 08°19'01" E, a distance of 210.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 11°40'42" E, a distance of 82.12 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 18°56'38" E, a distance of 82.73 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 26°14'30" E, a distance of 82.73 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 33°32'20" E, a distance of 82.73 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an angle point of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 38°14'53" E, a distance of 281.87 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an exterior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 51°43'42" E, a distance of 120.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an interior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, N 38°16'18" E a distance of 196.29 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for the most northerly corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 51°43'42" E, a distance of 60.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set at the beginning of a non-tangent curve for a corner and a point of curvature to the right;

THENCE, over and across said Lennar 118.569-acre tract, curving to the left, with a radius of 15.00 feet, an arc length of 22.77 feet, a central angle of 86°58'59", a chord bearing of S 81°45'48" W, and a chord distance of 20.65 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of reverse curvature of the herein described tract;

THENCE, over and across said Lennar 118.569-acre tract, curving to the right, with a radius of 840.00 feet, an arc length of 394.93 feet, a central angle of 26°56'17", a chord bearing of S 68°12'51" E, and a chord distance of 391.30 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of tangency of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 81°40'59" E, a distance of 99.27 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of curvature to the right of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, curving to the right, with a radius of 15.00 feet, an arc length of 23.56 feet, a central angle of 90°00'00", a chord bearing of N 36°40'59" W, and a chord distance of 21.21 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for a point of tangency of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 08°19'01" W, a distance of 93.32 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an interior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 81°40'59" E, a distance of 60.00 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an exterior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 08°19'01" W, a distance of 17.33 feet to a 1/2-inch iron rod with a cap stamped "BGE INC" set for an interior corner of the herein described tract;

THENCE, continuing over and across said Lennar 118.569-acre tract, S 64°51'23" E, a distance of 1,170.57 feet to the POINT OF BEGINNING and containing 36.373 acres of land, more or less.



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

FINAL PLAT
COTTONWOOD PHASE 7
A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS §
COUNTY OF WILLIAMSON §

KNOW ALL MEN BY THESE PRESENTS:

THAT LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD., A TEXAS LIMITED PARTNERSHIP, ACTING HEREIN BY AND THROUGH KEN BLAKER, VICE PRESIDENT, BEING THE OWNER OF A CALLED 130.141 ACRES OF LAND CONVEYED TO IT BY SPECIAL WARRANTY DEED RECORDED IN DOCUMENT NUMBER 2019104719, 118.569 ACRES OF LAND AS CONVEYED TO IT BY SPECIAL WARRANTY DEED RECORDED IN DOCUMENT NUMBER 2021167804 AND A CALLED _____ ACRES OF LAND AS CONVEYED TO IT BY SPECIAL WARRANTY DEED RECORDED IN DOCUMENT NUMBER _____, ALL OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, ALL OUT OF THE WILLIAM GATLIN SURVEY A–271, WILLIAMSON COUNTY AND THE JAMES HICKMAN SURVEY, A–291, TEXAS DO HEREBY SUBDIVIDE SAID 140.409 ACRES OF LAND IN ACCORDANCE WITH THE PLAT SHOWN HEREON, TO BE KNOWN AS:

COTTONWOOD PHASE 7

AND DOES HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS AND EASEMENTS SHOWN HEREON, SUBJECT TO ANY EASEMENTS AND/OR RESTRICTIONS HERETOFORE GRANTED AND NOT RELEASED.

WITNESS MY HAND, THIS THE _____ DAY OF _____, 20____, A.D.

KEN BLAKER, VICE PRESIDENT
LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD.
13620 NORTH F.M. 620
BUILDING 1, SUITE 150
AUSTIN, TEXAS 78717

STATE OF TEXAS §
COUNTY OF WILLIAMSON §

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED KEVIN PAPE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

NOTARY PUBLIC, STATE OF TEXAS

PRINT NOTARY’S NAME
MY COMMISSION EXPIRES _____

I, DANIEL A. MONROE, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF ENGINEERING, AND DO HEREBY CERTIFY THAT THIS PLAT IS FEASIBLE FROM AN ENGINEERING STANDPOINT, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

PRELIMINARY, THIS DOCUMENT SHALL NOT
BE RECORDED FOR ANY PURPOSE AND
SHALL NOT BE USED OR VIEWED OR RELIED
UPON AS A FINAL SURVEY DOCUMENT

DANIEL A. MONROE, P.E.
LICENSED PROFESSIONAL ENGINEER NO. 149108
BGE, INC.
101 W. LOUIS HENNA BLVD., SUITE 400
AUSTIN, TX 78728

DATE

I, DION P. ALBERTSON, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF LAND SURVEYING, AND DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND WAS PREPARED FROM AN ACTUAL ON THE GROUND SURVEY OF THE PROPERTY UNDER MY SUPERVISION IN AUGUST 2019.

PRELIMINARY, THIS DOCUMENT SHALL NOT
BE RECORDED FOR ANY PURPOSE AND
SHALL NOT BE USED OR VIEWED OR RELIED
UPON AS A FINAL SURVEY DOCUMENT

DION P. ALBERTSON, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4963
BGE, INC.
7330 SAN PEDRO AVE, SUITE 202
SAN ANTONIO, TEXAS 78216

DATE

FINAL PLAT
COTTONWOOD PHASE 7
A SUBDIVISION OF 140.409 ACRES OF LAND
LOCATED IN THE WILLIAM GATLIN SURVEY,
ABSTRACT NO. 271 AND THE JAMES HICKMAN
SURVEY, ABSTRACT NO. 291
WILLIAMSON COUNTY, TEXAS

GENERAL NOTES:

- BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. COMBINED SCALE FACTOR = 0.99989025
- NO BUILDING, FENCING, LANDSCAPING OR STRUCTURES ARE ALLOWED WITHIN ANY DRAINAGE OR WASTEWATER EASEMENT UNLESS EXPRESSLY PERMITTED BY THE CITY OF HUTTO.
- BUILDING SETBACKS SHALL CONFORM TO THE AMENDED PUD.
- A TEN (10) FOOT PUBLIC UTILITY EASEMENT (PUE) IS HEREBY DEDICATED ALONG AND ADJACENT TO ALL STREET SIDE PROPERTY LINES.
- A TEN (10) FOOT PUBLIC UTILITY EASEMENT (PUE) IS HEREBY DEDICATED ON EACH SIDE OF ALL REAR LOT LINES.
- IF PARKING IS DESIRED ON BOTH SIDES OF THE STREET THEN THE STREETS MUST BE A MINIMUM OF 33 FEET WIDE. IF THE STREETS ARE LESS THAN 33 FEET IN WIDTH FIRE LANE SIGNAGE IS REQUIRED. (2018 IFC APPENDIX D SEC. 103.6 – D103.6.2)
- NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO PUBLIC WATER AND WASTEWATER UTILITIES.
- SIDEWALKS AND TREES SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS WITHIN THIS SUBDIVISION.
- SIDEWALKS AND TREES SHALL BE PROVIDED ALONG ALL STREETS BOUNDING THIS SUBDIVISION.
- AN ARTERIAL FENCE SHALL BE CONSTRUCTED ALONG F.M. 1660 PER UDC REQUIREMENTS, AS AMENDED.
- ALL FENCING THAT IS NOT ON A PRIVATE LOT TO BE MAINTAINED BY THE HOA.
- STREET LIGHTING SHALL BE PROVIDED BY THE DEVELOPER IN CONFORMANCE WITH THE UDC REQUIREMENTS, AS AMENDED.
- THIS TRACT IS WITHIN WATER CCN SERVICE AREA 10321. WATER AND WASTEWATER WILL BE AVAILABLE THROUGH THE CITY OF HUTTO AFTER THE APPROPRIATE WATER AND WASTEWATER SYSTEMS ARE INSTALLED TO THIS SITE. THE CITY OF HUTTO ASSUMES NO OBLIGATIONS FOR INSTALLING ANY WATER AND WASTEWATER IMPROVEMENTS REQUIRED TO SERVE THIS SITE.
- LOTS 13–22, BLOCK PP, ARE ENCROACHED BY A SPECIAL FLOOD HAZARD AREA INUNDATED BY THE 1% ANNUAL CHANCE FLOODPLAIN AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBER 48491C0520F, EFFECTIVE DATE DECEMBER 20, 2019, FOR WILLIAMSON COUNTY, TEXAS.
- IN ORDER TO PROMOTE DRAINAGE AWAY FROM A STRUCTURE, THE SLAB ELEVATIONS SHALL BE BUILT AT LEAST ONE (1) FOOT ABOVE THE SURROUNDING GROUND AND SHOULD BE GRADED AWAY FROM THE STRUCTURE AT A SLOPE OF ½” PER FOOT FOR A DISTANCE OF AT LEAST TEN (10) FEET.
- ALL SUBDIVISION CONSTRUCTION SHALL CONFORM TO THE CITY OF HUTTO UNIFIED DEVELOPMENT CODE AS AMENDED, CONSTRUCTION STANDARDS, AND GENERALLY ACCEPTED ENGINEERING PRACTICES EXCEPT AS SPECIFICALLY NOTED IN THE MEADOWS AT COTTONWOOD CREEK PUD.
- ON–SITE STORMWATER DETENTION FACILITIES WILL BE PROVIDED TO REDUCE POST–DEVELOPMENT PEAK RATES OF DISCHARGE OF THE 2, 10, 25 AND 100–YEAR STORM EVENTS.
- ALL EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR HIS OR HER ASSIGNS.
- ALL DRAINAGE LOTS, OPEN SPACE LOTS, AND AMENITY LOTS SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER’S ASSOCIATION.
- THIS SUBDIVISION IS ZONED PUD 0–19–11–221–9B.
- ALL LOTS IN THIS SUBDIVISION ARE RESTRICTED TO SINGLE FAMILY RESIDENTIAL USE, UNLESS OTHERWISE INDICATED.
- THE MAXIMUM IMPERVIOUS COVERAGE PER RESIDENTIAL LOT IS 75%.
- UTILITY PROVIDERS FOR THIS DEVELOPMENT ARE:
WATER: CITY OF HUTTO
WASTEWATER: CITY OF HUTTO
ELECTRIC: ONCOR
GAS: ATMOS
- RE DRAINAGE PER CITY OF ROUND ROCK DRAINAGE CRITERIA MANUAL.
- THAT MAJOR STREAMS SHALL NOT BE MODIFIED WITHOUT CONSENT OF APPLICABLE STATE AND FEDERAL AGENCIES, AND WITH AUTHORIZATION FROM THE CITY ENGINEER.
- THAT SECTION 8.3.4 OF THE ROUND ROCK DRAINAGE CRITERIA MANUAL SHALL APPLY FOR ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING WATER QUALITY FACILITIES AND STORMWATER MANAGEMENT INFRASTRUCTURE.
- MAJOR STREAMS SHALL NOT BE MODIFIED WITHOUT CONSENT OF APPLICABLE STATE AND FEDERAL AGENCIES, AND WITH AUTHORIZATION FROM THE CITY ENGINEER.
- ENCROACHMENTS ARE PROHIBITED, INCLUDING FILL, NEW CONSTRUCTION, SUBSTANTIAL IMPROVEMENTS AND OTHER DEVELOPMENT IN THE ADOPTED REGULATORY FLOODWAY UNLESS HYDROLOGIC AND HYDRAULIC ANALYSES PROVES THE PROPOSED ENCROACHMENT WOULD NOT RESULT IN INCREASE IN FLOOD LEVELS IN THE COMMUNITY DURING THE OCCURRENCE OF THE BASE FLOOD DISCHARGE.
- DEVELOPMENT STANDARDS FOR THE SUBDIVISION SHALL COMPLY WITH THE MEADOWS AT COTTONWOOD CREEK PUD.

- ALL WATER AND WASTEWATER SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH THE CITY OF HUTTO UTILITY DESIGN CRITERIA MANUAL, CITY OF HUTTO STANDARD DETAILS, AND TCEQ DESIGN CRITERIA IN THE TEXAS ADMINISTRATIVE CODE, AS AMENDED.
- WATER AND WASTEWATER SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF GEORGETOWN SPECIFICATIONS AND CITY OF HUTTO STANDARD DETAILS.
- WHERE A CITY OF HUTTO DETAIL DOES NOT EXIST, USE THE APPLICABLE GEORGETOWN DETAIL.
- IF THERE IS A CONFLICT BETWEEN HUTTO CITY ORDINANCE AND MANUAL CONTENT, HUTTO ORDINANCES WILL PREVAIL.
- FINISHED FLOOR ELEVATION FOR RESIDENTIAL LOTS ADJACENT TO THE PROPOSED/EXISTING PONDS, PROPOSED/EXISTING CHANNELS OR EXISTING 100–YR FLOODPLAIN SHALL BE A MINIMUM OF TWO (2) FEET ABOVE THE ULTIMATE 100–YEAR FLOODPLAIN OR 100–YEAR WATER SURFACE ELEVATION, WHICHEVER IS GREATER.

PLANNING AND ZONING COMMISSION CHAIR:

THIS PLAT WAS APPROVED FOR RECORDING BY THE PLANNING AND ZONING COMMISSION CHAIR ON THE _____ DAY OF _____, 20____.

RICHARD HUDSON

DATE

Remove Richard Hudson and
add Bryan Lee

CITY DEVELOPMENT SERVICES:

THIS SUBDIVISION IS LOCATED WITHIN THE CITY LIMITS OF HUTTO, THIS THE _____ DAY OF _____, 20____.

ASHLEY LUMPKIN, DEVELOPMENT SERVICES EXECUTIVE DIRECTOR

DATE

Change to Ashley Bailey,
Development Services Director

STATE OF TEXAS §
COUNTY OF WILLIAMSON §
KNOW ALL MEN BY THESE PRESENTS:

THAT I, NANCY RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATION OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE ____DAY OF _____, 20__ A.D., AT _____ O’CLOCK ____M. AND DULY RECORDED ON THE ____DAY OF _____, 20__ A.D., AT _____ O’CLOCK ____M. IN THE PLAT RECORDS OF SAID COUNTY, IN DOCUMENT NO. _____.

WITNESS MY HAND AND SEAL OF THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST ABOVE WRITTEN.

NANCY RISTER, CLERK, COUNTY COURT
WILLIAMSON COUNTY, TEXAS

BY: _____
DEPUTY



BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490