## REVISED PRELIMINARY PLAN FOR

## PFLUGERVILLE COMMUNITY DEVELOPMENT CORPORATION

## SH 130 COMMERCE CENTER-PHASE III (FORMERLY KNOWN AS RENEWABLE ENERGY PARK)

LEGAL DESCRIPTION:

DESCRIPTION OF A 41.648 ACRE (1,814,171 SQUARE FOOT), TRACT OF LAND SITUATED IN THE WILLIAM CALDWELL SURVEY ABSTRACT NO. 162, IN TRAVIS COUNTY TEXAS. BEING ALL OF LOT 3F OF REPLAT OF LOT 3C - RENEWABLE ENERGY PARK ACCORDING TO THE PLAT THEREOF RECORDED IN DOCUMENT NO. 201300274 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, SAID 41.648 ACRE (1,814,171 SQUARE FOOT) TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES

BEING IN THE EASTERLY BOUNDARY LINE OF THAT CALLED 17.800 REMNANT TRACT OF LAND CONVEYED TO TRAVIS COUNTY BY INSTRUMENT RECORDED IN DOCUMENT NO. 1999122493 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, SAME BEING THE SOUTHWESTERLY CORNER OF SAID LOT 3C, SAME BEING THE NORTHWESTERLY CORNER OF SAID LOT 3F, FOR THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT, AND FROM WHICH A CAPPED IRON ROD FOUND MARKED "DODD". BEING IN THE EASTERLY BOUNDARY LINE OF SAID REMNANT OF THE 17,800 ACRE TRACT, SAME BEING THE SOUTHWESTERLY CORNER OF LOT 3G OF THE AMENDED PLAT OF LOTS 3A AND 3B REPLAT OF LOT 3, RENEWABLE ENERGY PARK SUBDIVISION, RECORDED IN DOCUMENT NO. 201500231 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, BEARS N 28°18'09" E AT A DISTANCE OF 643.80 FEET;

THENCE, DEPARTING THE EASTERLY BOUNDARY LINE OF SAID REMNANT OF THE 17.800 ACRE TRACT, WITH THE COMMON BOUNDARY LINE OF SAID LOT 3C AND LOT

2) S 71°58'40" E FOR A DISTANCE OF 34.65 FEET TO A CAPPED IRON ROD FOUND MARKED DODD" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT: 7) S 31°57'01" E FOR A DISTANCE OF 65.69 FEET TO A CAPPED IRON ROD FOUND MARKED "ACS" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

1) S 50"18'29" E FOR A DISTANCE OF 79.71 FEET TO A CAPPED IRON ROD SET MARKED "INLAND 4933" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT; 14)S 50°23'55"E FOR A DISTANCE OF 50.36 FFET TO A CAPPED IRON ROD FOUND MARKED "DODD" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT 15) S 58°46'17" E FOR A DISTANCE OF 90.51 FEET TO A CAPPED IRON ROD FOUND MARKED "DODD" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT; 16)S 45°29'37"E FOR A DISTANCE OF 266.82 FEET TO A CAPPED IRON ROD FOUND MARKED 'DODD" FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THE HEREIN DESCRIBED TRACT: FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT, BEING THE SOUTHWESTERLY CORNER OF THE EXISTING SOUTHERLY RIGHT-OF-WAY LINE OF IMPACT WAY (80' RIGHT-OF-WAY WIDTH), SAME BEING THE NORTHWESTERLY CORNER OF SAID PROPOSED IMPACT WAY;

9) THENCE, DEPARTING SAID LOT 3C, WITH SAID EXISTING AND PROPOSED ROW LINE OF SAID IMPACT WAY, N 76'40'17" CAPPED IRON ROD FOUND MARKED "INLAND 4933", BEING IN THE WESTERLY BOUNDARY LINE OF LOT 3E OF SAID REPLAT OF LOT 3C, SAME BEING THE SOUTHEASTERLY CORNER OF SAID EXISTING IMPACT WAY, ALSO BEING THE NORTHEASTERLY CORNER OF SAID PROPOSED IMPACT WAY: 20) THENCE, WITH THE COMMON BOUNDARY LINE OF SAID LOT 3E AND THE PROPOSED ROW LINE OF SAID IMPACT WAY, S 13º19'43" E FOR A DISTANCE OF 387.87

FEET TO A CAPPED IRON ROD FOUND MARKED "INLAND 4933". BEING IN THE EXISTING WESTERLY ROW LINE OF S.H 130 (RIGHT-OF-WAY WIDTH VARIES), SAME BEING THE SOUTHEASTERLY CORNER OF SAID LOT 3E, ALSO BEING THE NORTHEASTERLY CORNER OF SAID LOT 3H, FOR THE NORTHEASTERLY CORNER OF THE HEREIN DESCRIBED TRACT:

HENCE, WITH SAID EXISTING ROW LINE, SAME BEING THE EASTERLY BOUNDARY LINE OF SAID LOT 3H THE FOLLOWING THREE (3) COURSES:

22) S 14°09'21" E FOR A DISTANCE OF 355.30 FEET TO A CAPPED IRON ROD FOUND MARKED "G&R", FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT 23) S 19\*38'49" E FOR A DISTANCE OF 511.89 FEET TO CAPPED IRON ROD FOUND MARKED "TXDOT", FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT; 24) S 26°55'22" W FOR A DISTANCE OF 236.74 FEET TO A CAPPED IRON ROD FOUND MARKED "TXDOT". IN THE NORTHERLY BOUNDARY LINE OF THAT CALLED 17.693 ACRE TRACT OF LAND CONVEYED TO THE STATE OF TEXAS BY INSTRUMENT RECORDED IN DOCUMENT NO. 2004188029 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY TEXAS, BEING THE MOST SOUTHEASTERLY CORNER OF SAID LOT 3H, FOR THE MOST SOUTHEASTERLY CORNER OF THE HEREIN DESCRIBED TRACT; 25) THENCE, DEPARTING THE EXISTING WESTERLY RIGHT—OF-WAY LINE OF SAID S.H. 130, WITH THE NORTHERLY BOUNDARY LINE OF SAID 17.693 ACRE TRACT, SAME BEING THE SOUTHERLY BOUNDARY LINE OF SAID LOT 3H, N 62°05'24" W, PASSING AT A DISTANCE OF 897.73 FEET TO A CAPPED IRON ROD SET MARKED "INLAND 4933", BEING THE SOUTHWESTERLY CORNER OF SAID LOT 3H AND SAID PROPOSED IMPACT WAY, PASSING AT A DISTANCE OF 1,002.58 FEET FOR THE CALCULATED NORTHWESTERLY CORNER OF SAID 17.693 ACRE TRACT, SAME BEING THE MOST NORTHEASTERLY CORNER OF THAT CALLED 339.82 ACRE TRACT OF LAND CONVEYED TO TRAVIS COUNTY, TEXAS BY INSTRUMENT RECORDED IN VOLUME 13131, PAGE 3751 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY. TEXAS. PASSING AT A DISTANCE OF 1004.11 FEET TO A CAPPED IRON ROD SET MARKED "INLAND 4933". BEING THE SOUTHEASTERLY CORNER OF SAID LOT 3F AND SAID PROPOSED IMPACT WAY, CONTINUING FOR A TOTAL DISTANCE OF 2,972.04 FEET TO A CAPPED IRON ROD FOUND MARKED "TRAVIS COUNTY", BEING THE SOUTHEASTERLY CORNER OF SAID 17.800 REMNANT TRACT, SAME BEING THE EASTERLY RIGHT-OF-WAY LINE OF SAID SUN LIGHT NEAR WAY, BEING THE MOST SOUTHWESTERLY CORNER OF SAID LOT 3F, FOR THE MOST SOUTHWESTERLY CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE EASTERLY BOUNDARY LINE OF SAID REMNANT TRACT, BEING SAID EASTERLY RIGHT—OF—WAY LINE, SAME BEING THE WESTERLY BOUNDARY LINE OF SAID LOT 3F, THE FOLLOWING TWO (2) COURSES:

26) N 17°07'22" W FOR A DISTANCE OF 563.65 FEET, TO A CAPPED IRON ROD SET MARKED "INLAND 4933", FOR AN ANGLE POINT IN THE HEREIN DESCRIBED TRACT; 27) N 28'18'09" E FOR A DISTANCE OF 387.07 FEET TO THE POINT OF BEGINNING, CONTAINING 41.648 ACRES (1.814.171 SQUARE FEET) OF LAND. MORE OR LESS.

KNOW ALL MEN BY THESE PRESENTS: COUNTY OF WILLIAMSON:

THAT I, M. STEPHEN TRUESDALE, DO HEREBY CERTIFY THAT I PREPARED THIS PLAN FROM AN ACTUAL AND ACCURATE ON—THE—GROUND SURVEY OF THE LAND. AND THAT THE CORNER MONUMENTS SHOWN THEREON MARKING THE BOUNDARY OF THE PROPOSED SUBDIVISION. BUT NOT INTERIOR LOT LINES, WERE PROPERLY PLACED UNDER MY PERSONAL SUPERVISION, IN ACCORDANCE WITH ALL CITY OF PFLUGERVILLE, TEXAS CODES AND ORDINANCES AND THAT ALL KNOWN EASEMENTS WITHIN THE BOUNDARY OF THE PLAT ARE SHOWN HERON.

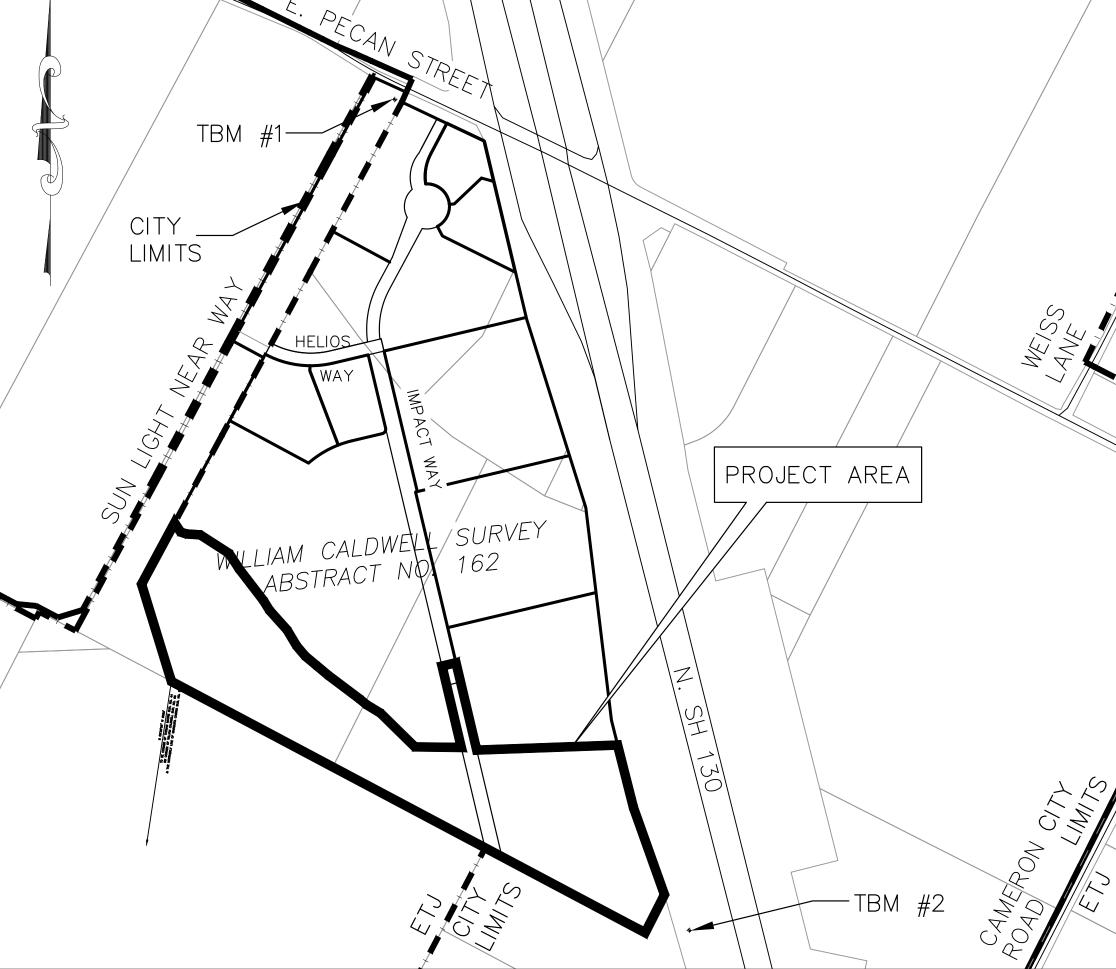
Registered Professional Land Surveyor No. 4933 Licensed State Land Surveyor





0-1	REV. NO.	DATE	DESCRIPTION	APPROVED	PROJECT MANAGER:	WAM
140					DESIGNED BY:	JTH
REFERENCES: Z: \Projects 1					CHECKED BY:	WAM
FERE Pro					DRAWN BY:	SMB
- REI						
RNAI						
EXTERNAL FILENAME:					DCS PROJECT NO:	20101452

PRELIMINARY PLAN ONLY - NOT FOR RECORDATION



OWNERS PFLUGERVILLE COMMUNITY DEVELOPMENT CORPORATION 3801 HELIOS WAY, SUITE 130 PFLUGERVILLE, TX 78660

UTILITY PROVIDERS **ONCOR** JIM KRUMNOW 350 TEXAS AVE ROUND ROCK, TX 78664 512-244-5692

ATMOS MIDTX DAVID ROSEMA 3110 N I-35 ROUND ROCK, TX 78681 817-307-6069

**MARCH 2021** 

**ENGINEERING, LLC** 

1101 S. Capital of Texas Highway, Building G-100 Austin, Texas 78746 Phone (512) 614-6171 T.B.P.E. FIRM NO. F-13162

TOTAL NUMBER OF LOTS: 2 TOTAL ACREAGE: 41.6 LINEAR FEET WIDTH (FT) ACRES EXISTING IMPACT WAY 3008 6.370 IMPACT WAY EXTENSION 560 0.617

SCALE 1":500'

WIDTH (FT) ACRES LINEAR FEET 24.393 2185 1000 675 15.494 R.O.W. 959 80 1.761

**DRAWING INDEX** 

SERIES 000 - GENERAL 00G-01 COVER SHEET

<u>SERIES 100 - PRELIMINARY PLAN</u>

01C-02 EXISTING CONDITIONS, PROPOSED GRADING PLAN, DEMOLITION PLAN, AND TREE SURVEY

01C-03 WATER & WASTEWATER UTILITY PLAN 01C-04 EXISTING OVERALL DRAINAGE AREA MAP AND CALCULATIONS

01C-05 STORM SEWER CALCULATIONS 01C-06 PROPOSED OVERALL DRAINAGE AREA MAP AND CALCULATIONS

01C-07 PROPOSED SUB-DRAINAGE AREA MAP AND CALCULATIONS 01C-08 PRELIMINARY ILLUMINATION PLAN

THESE PLANS ARE IN ACCORDANCE WITH THE FOLLOWING STUDIES/REPORTS

**AUTHOR** ENGINEERING AND DCS ENGINEERING, LLC MARCH 2021 DRAINAGE REPORT TRAFFIC IMPACT ANALYSIS DECEMBER 15, 2016

THIS PLAN LIES WITHIN THE CITY OF PFLUGERVILLE FULL PURPOSE JURISDICTION

2. WATER AND WASTEWATER SHALL BE PROVIDED BY CITY OF PFLUGERVILLE. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO WATER AND WASTEWATER FACILITIES.

3. A 10-FT PUBLIC UTILITY EASEMENT (P.U.E.) SHALL BE DEDICATED ALONG ALL STREET FRONTAGE(S) CONDITIONS OF THE ENGINEERING DESIGN MANUAL, AS AMENDED. THE GRANTOR [PROPERTY OWNER(S)], HEIRS, SUCCESSORS AND ASSIGNS SHALL RETAIN THE OBLIGATION TO MAINTAIN THE SURFACE OF THE EASEMENT

SURFACE OF THE EASEMENT PROPERTY FREE OF LITTER, DEBRIS, AND TRASH NO IMPROVEMENTS INCLUDING BUT NOT LIMITED TO STRUCTURES, FENCES, OR LANDSCAPING SHALL BE ALLOWE

IN A PUBLIC EASEMENT, EXCEPT AS APPROVED BY THE CITY. THE PROPERTY OWNER SHALL PROVIDE ACCESS TO DRAINAGE AND UTILITY EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS FOR THE PLACEMENT, CONSTRUCTION, INSTALLATION, REPLACEMENT, REPAIR MAINTENANCE, RELOCATION, REMOVAL, OPERATION AND INSPECTION OF SUCH DRAINAGE AND UTILITY FACILITIES,

7. A SIX (6) FOOT WIDE SIDEWALK SHALL BE PROVIDED ON BOTH SIDES OF THE STREE 8. STREETLIGHTS SHALL BE INSTALLED AND IN FULL WORKING ORDER WITH THE PUBLIC IMPROVEMENTS. ALL

STREETLIGHTS SHALL BE IN CONFORMANCE WITH ALL CITY OF PFLUGERVILLE ORDINANCES INCLUDING BUT NOT LIMITED TO BEING DOWNCAST AND FULL CUT OFF TYPE

9. THIS SUBDIVISION IS SUBJECT TO ALL CITY OF PFLUGERVILLE ORDINANCES OR TECHNICAL MANUALS RELATED TO TREE PRESERVATION PER CITY ORDINANCE # 1203-15-02-24 AND CITY RESOLUTION # 1224-09-08-25-8A. 10. THE COMMUNITY IMPACT FEE RATE FOR WATER AND WASTEWATER WILL BE ASSESSED AT THE TIME OF FINAL

11. ON-SITE STORM WATER FACILITIES SHALL BE PROVIDED TO MITIGATE POST-DEVELOPMENT PEAK RUNOFF RATES

FOR THE 2 YEAR, 25 YEAR AND 100 YEAR STORM EVENTS. 12. ALL ELECTRIC UTILITY INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO TELEPHONE, CABLE TELEVISION, ELECTRI UTILITY LATERAL AND SERVICE LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PFLUGERVILLE

13. THE OWNER OF THIS SUBDIVISION, AND HIS OR HER SUCCESSORS AND ASSIGNS, ASSUMES RESPONSIBILITY FOR PLANS FOR CONSTRUCTION OF SUBDIVISION IMPROVEMENTS WHICH COMPLY WITH APPLICABLE CODES AND REQUIREMENTS OF THE CITY OF PFLUGERVILLE.

14. CONSTRUCTION PLANS AND SPECIFICATIONS FOR ALL SUBDIVISION IMPROVEMENTS SHALL BE REVIEWED AND

APPROVED BY THE CITY OF PFLUGERVILLE PRIOR TO ANY CONSTRUCTION WITHIN THE SUBDIVISION. 15. SITE DEVELOPMENT CONSTRUCTION PLANS SHALL BE REVIEWED AND APPROVED BY THE CITY OF PFLUGERVILLE PRIOR TO ANY CONSTRUCTION.

16. NO PORTION OF THIS TRACT IS WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP PANEL # 48453C0290J FOR TRAVIS COUNTY, EFFECTIVE AUGUST 18, 2014.

17. ALL PROPOSED FENCES AND WALLS ADJACENT TO INTERSECTING PUBLIC ROADWAY RIGHT-OF-WAY OR ADJACENT TO PRIVATE ACCESS DRIVES SHALL BE IN COMPLIANCE WITH THE SIGHT DISTANCE REQUIREMENTS OF THE CITY OF PFLUGERVILLE ENGINEERING DESIGN MANUAL, AS AMENDED.

18. WASTEWATER AND WATER SYSTEMS SHALL CONFORM TO TCEQ (TEXAS COMMISSION ON ENVIRONMENTAL QUALITY) AND STATE BOARD OF INSURANCE REQUIREMENTS. THE OWNER UNDERSTANDS AND ACKNOWLEDGES THAT PLAT VACATION OR RE-PLATTING MAY BE REQUIRED AT THE OWNER'S SOLE EXPENSE IF PLANS TO DEVELOP THIS

SUBDIVISION DO NOT COMPLY WITH SUCH CODES AND REQUIREMENTS. 19. THESE PLANS HAVE BEEN DESIGNED WITH CONSIDERATION TO THE MOU EXECUTED SEPTEMBER 26, 2017. 20. ANY RESIDENTIAL DEVELOPMENT PROPOSED WITHIN THIS SUBDIVISION SHALL BE SUBJECT TO THE PUBLIC

PARKLAND DEDICATION AND PARK DEVELOPMENT FEES PER CITY ORDINANCE NO. 1203-15-02-24. 21. THE ROADWAY IMPACT FEE WILL BE ASSESSED AND ESTABLISHED AT TIME OF FINAL PLAT IN ACCORDANCE WITH THE CITY OF PHLUGERVILLE ORDINANCE NO. 1470-20-11-24. ROADWAY IMPACT FEES WILL BE PAID PRIOR TO THE ISSUANCE OF ANY BUILDING PERMIT ISSUED AFTER 12/31/2021.

**BENCHMARK NOTES:** 

 TBM #1 (SURFACE COORDINATES) SQUARE CUT ON WEST END OF HEADWALL

ELEV=653.11', N=10129748.85, E=3161201.22 TBM #2 (SURFACE COORDINATES)

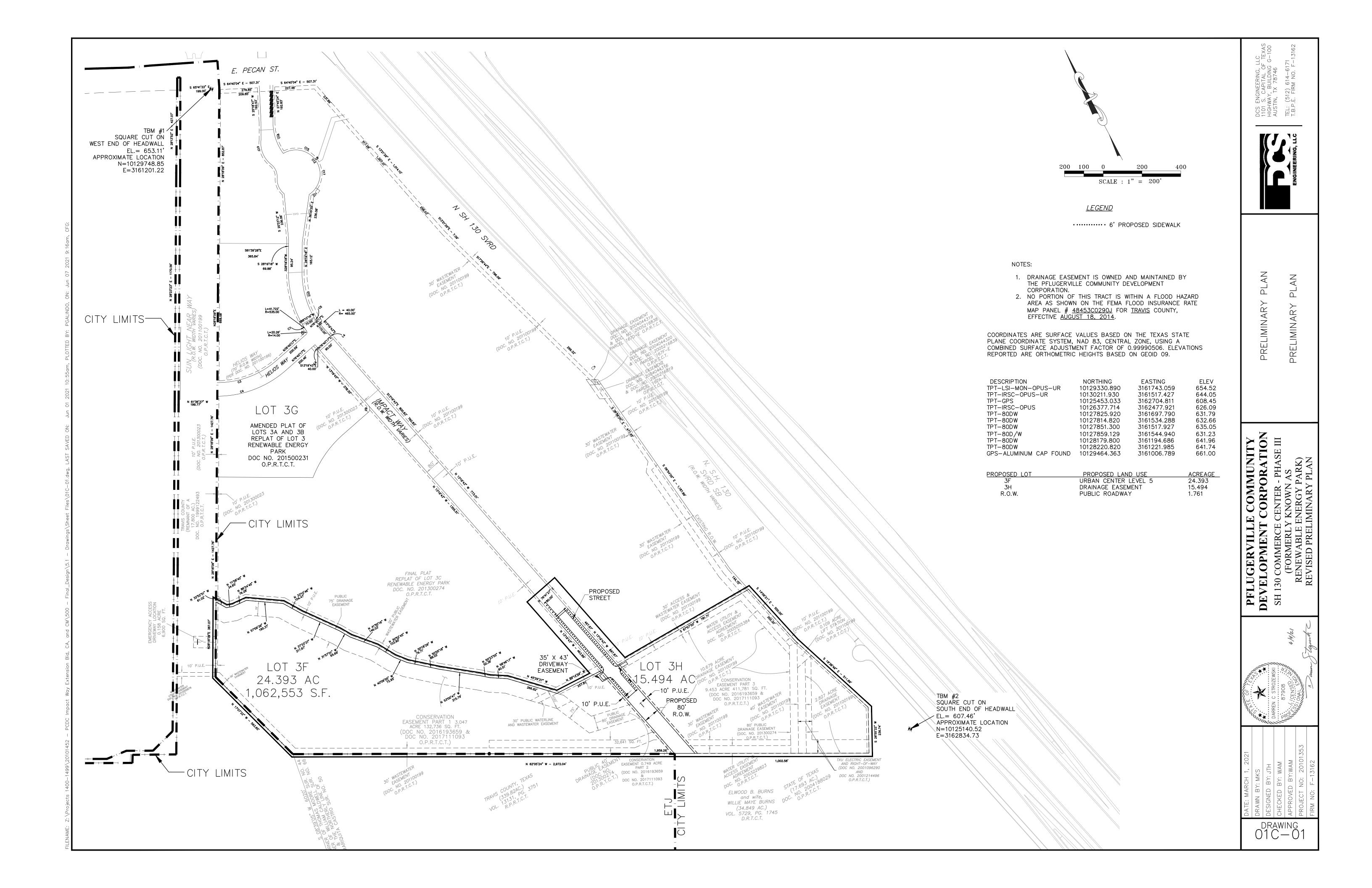
SQUARE CUT ON SOUTH END OF HEADWAL ELEV=607.46', N=10125140.52, E=3162834.73

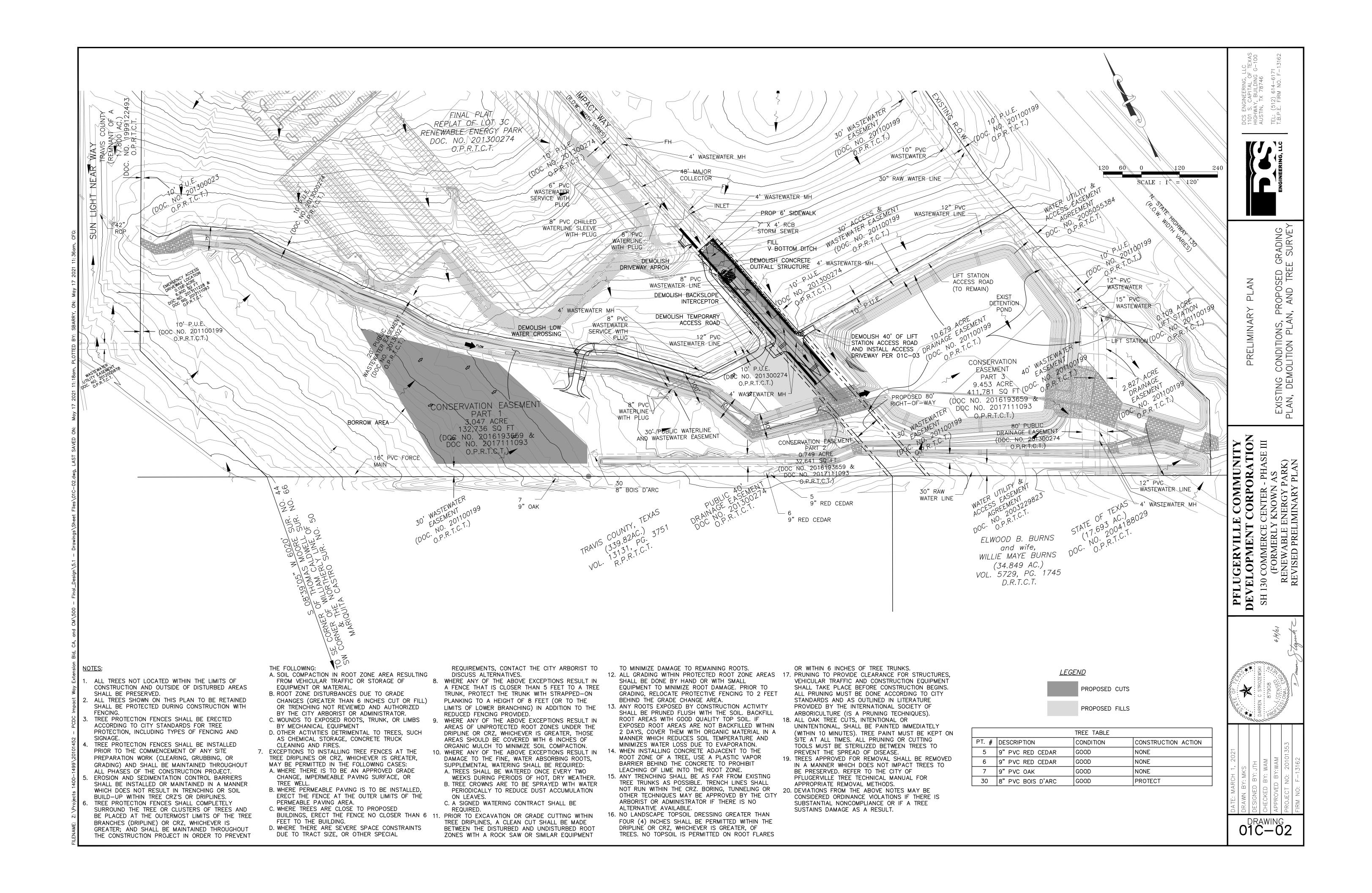
COORDINATES ARE SURFACE VALUES BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD 83, CENTRAL ZONE, USING A COMBINED SURFACE ADJUSTMENT FACTOR OF 0.99990506. ELEVATIONS REPORTED ARE ORTHOMETRIC HEIGHTS BASED ON GEOID 09.

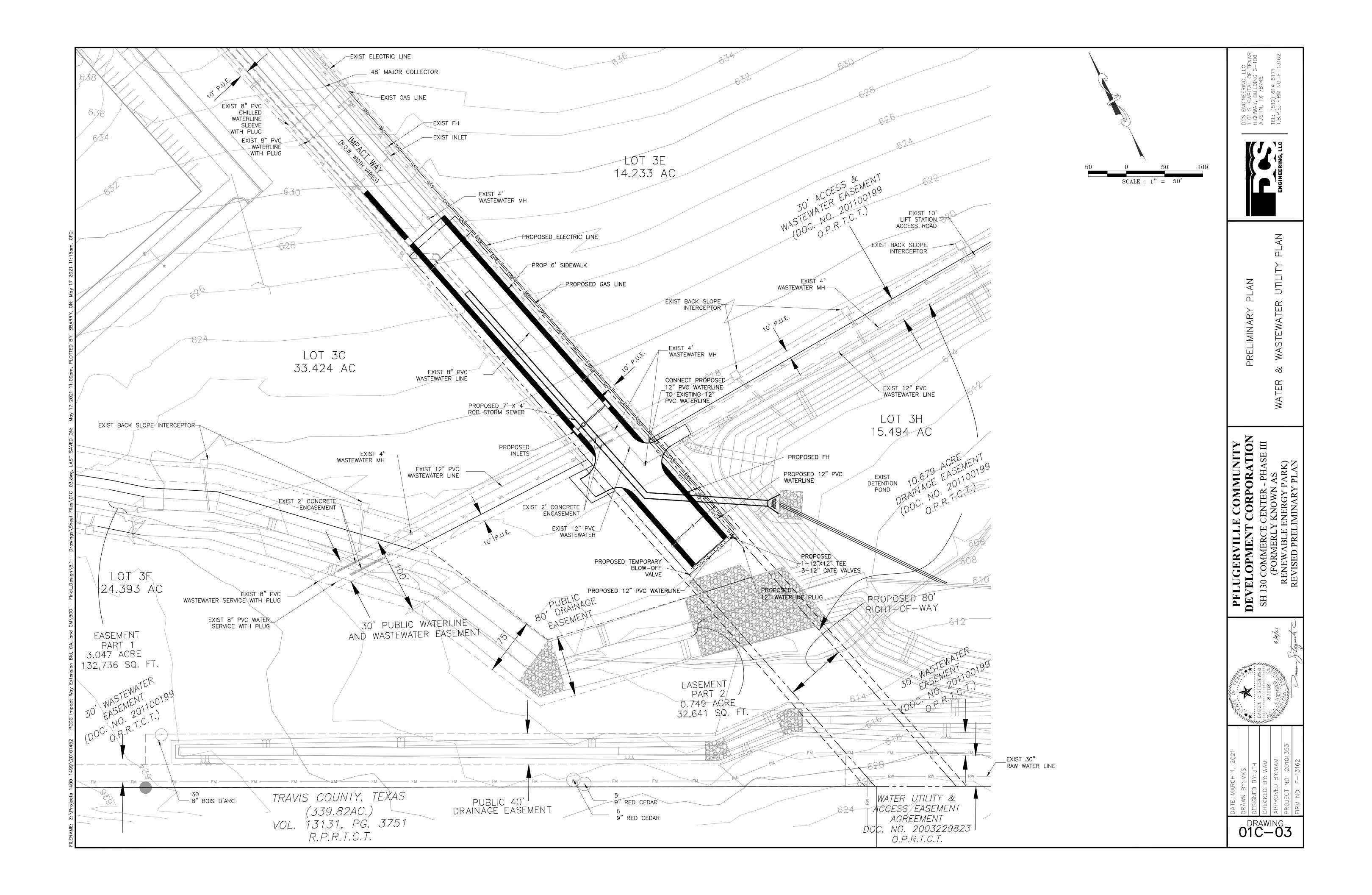
ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF PFLUGERVILLE MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN

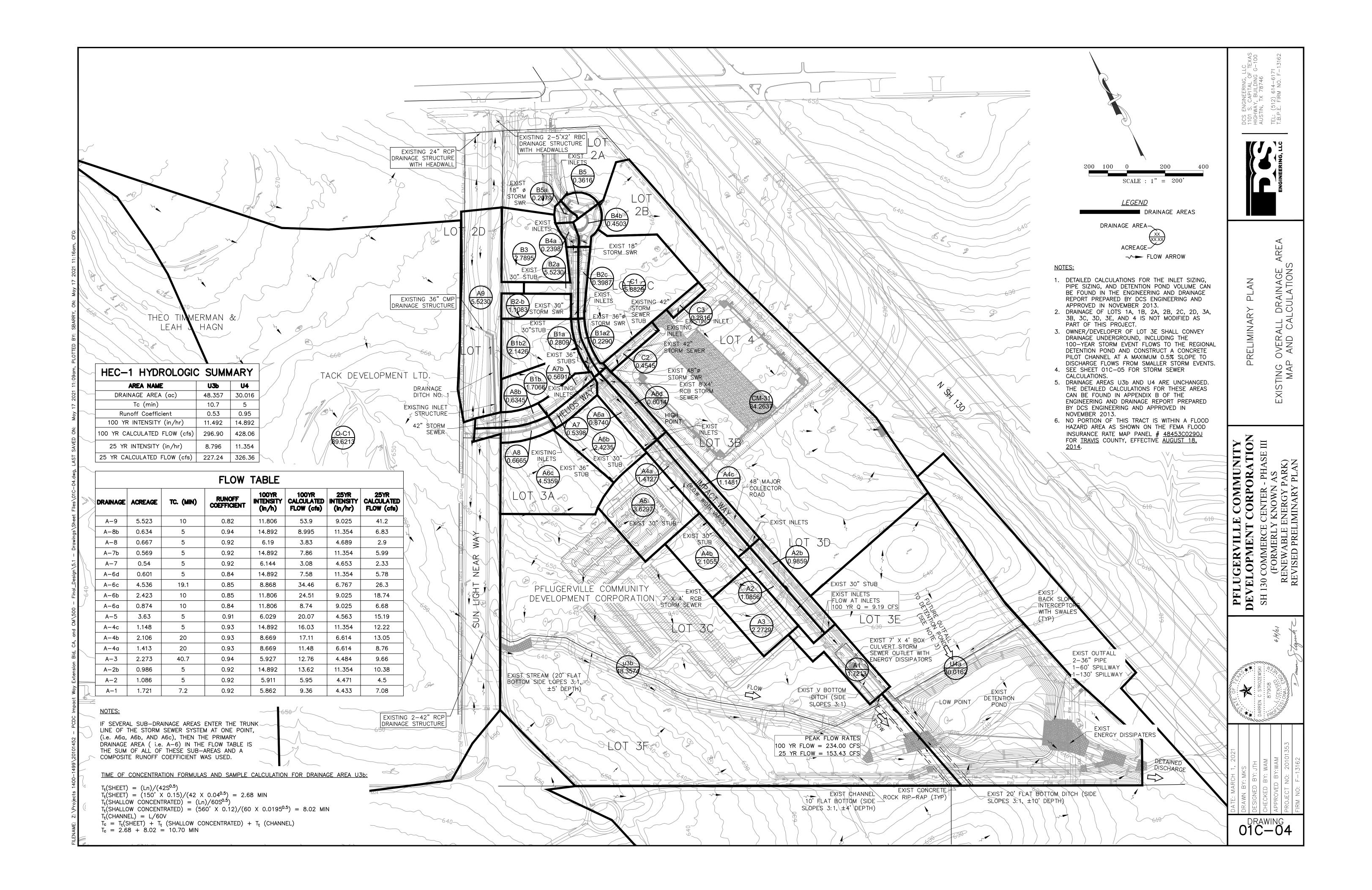
DARREN STROZEWSKI

DARREN C STROZEWSI 87908









ER DESIGN CURB HEIGHT (inches):

PROJECT NAME: PCDC 130 Commerce Center - Phase III

DCS JOB NO: 20101446

T-A1A

5/15/2021 DATE PRINTED:

DATE REVISED: 5/12/2021 BY: M. BUCKEL

LECT STORM EVENT FREQUENCY: 100-YR ELECT APPROPRIATE LAND USE: COMMERCIAL

Label	Upstream Structure	Downstream Structure	Length (Scaled) (ft)	Diameter (in)	Span (ft)	Number of Barrels	Material	Slope (Calculated) (ft/ft)	System Flow Time (min)	Flow (cfs)	Capacity (Design) (cfs)	System Rational Flow (cfs)	Velocity (ft/s)	Friction Slope (ft/ft)	Upstream Structure Headloss Coefficient	Upstream Structure Headloss (ft)	Headloss (ft)	Exit Loss (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Depth (Normal) (ft)	Depth (Critical) (ft)	Invert (Start) (ft)	Invert (Stop) (ft)	Depth (In) (ft)	Depth (Out) (ft)
42in Culvert Helios	H-6	MH-I-1	75.8	42		1	Concrete	0.011	12.023	50	40.63	50	5.2	0.002	0.5	0.21	0.16	0.17	656.26	656.11	1.71	2.21	652.6	651.92	3.66	4.19
42in I1-I2	MH-I-1	MH-I-2	291.1	42		1	Concrete	0.013	12.229	49.64	113.83	49.64	11.43	0.013	1.372	1.29	3.77	0.21	654.12	650.76	1.62	2.2	651.92	648.2	2.2	2.56
42in I2-I3	MH-I-2	MH-AI-3	286.4	42		1	Concrete	0.028	37.739	32.42	168.09	32.42	13.5	0.026	0.612	0.42	7.29	0.09	649.96	643.15	1.04	1.76	648.2	640.3	1.76	2.85
42in I3	MH-AI-3	MH-AI-4	65.7	42		1	Concrete	0.029	38.23	37.21	171.18	37.21	14.22	0.008	0.422	0.32	0.5	0.09	642.19	642.23	1.11	1.89	640.3	638.4	1.89	3.83
42in C3-C2	MH-C3	MH-C2	173.3	18		1	Concrete	0.01	5.025	3.88	10.41	3.88	5.46	0.007	0.801	0.24	1.13	0.03	644.75	643.84	0.63	0.75	644	642.3	0.75	1.54
36in C2-C1	MH-C2	MH-C1	97.6	36		1	Concrete	0.027	5.553	9.87	109.05	9.87	9.58	0.013	0.639	0.23	1.24	0.01	643.29	642.38	0.61	0.99	642.3	639.68	0.99	2.7
42in C1-Jun	MH-C1	MH-AI-4	249.5	42		1	Concrete	0.005	5.723	9.78	71.99	9.78	5.23	0	0.2	0	0.02	0.01	642.37	642.36	0.87	0.95	639.68	638.4	2.69	3.96
18in B5-B4	MH-B5	MH-B4	215.5	18		1	Concrete	0.005	5.106	8.03	7.68	8.03	4.54	0.006	0.788	0.25	1.04	0.13	660.31	659.27	1.3	1.1	656.49	655.54	3.82	3.73
18in B4-B3	MH-B4	MH-B3	209.4	18		1	Concrete	0.02	6.39	14.51	14.67	14.51	8.21	0.019	0.55	0.58	3.89	0.42	657.84	653.95	1.21	1.39	655.54	651.56	2.3	2.39
30in B3-B2	MH-B3	MH-B2	171.4	30		1	Concrete	0.02	6.804	45.49	58.59	45.49	9.27	0.012	0.67	0.89	2.12	0.53	652.35	650.23	1.66	2.23	649.56	646.05	2.79	4.18
36in-B2-B1	MH-B2	MH-B1a	122.1	36		1	Concrete	0.015	7.61	63.62	81.24	63.62	9	0.009	0.29	0.37	1.11	0.5	649.41	648.3	2	2.56	644.61	642.8	4.8	5.5
42in	MH-B1a	8X8 BOX	57.6	42		1	Concrete	0.017	7.836	86.43	131.79	86.43	8.98	0.007	0.401	0.5	0.6	0.5	647.3	646.7	2.07	2.89	642.8	641.41	4.5	5.29
48in	8X8 BOX	MH-B1	70.7	48		1	Concrete	0.021	7.986	85.85	209.94	85.85	6.83	0.004	0.2	0.15	0.16	0.29	646.58	646.42	1.78	2.81	640.91	639.97	5.67	6.45
48in B1-A1	MH-B1	MH-AI-4	74.5	48		1	Concrete	0.021	8.093	131.78	207.82	131.78	17.51	0.032	0.686	1.41	2.4	0.69	643.4	641.02	2.31	3.43	639.97	638.4	3.43	2.62
8x4a	MH-AI-4	T-14	120.3		8	1	Concrete	0.009	38.307	104.6	425.4	104.6	10.57	0.001	0.505	0.09	0.06	0.07	642.09	642.05	1.24	1.75	638.3	637.24	3.79	4.81
7x4a	T-14	MH-A7	136.7		7	1	Concrete	0.005	38.488	104.32	258.9	104.32	3.73	0.001	0.2	0.04	0.11	0.09	641.89	641.78	1.72	1.9	637.24	636.59	4.65	5.19
7x4b	MH-A7	MH-A6	201.3		7	1	Concrete	0.004	39.101	103.39	252.03	103.39	3.69	0.001	0.369	0.08	0.15	0.08	641.62	641.47	1.74	1.89	636.59	635.72	5.03	5.75
7x4 A6-A5	MH-A6	MH-A5	273.7		7	1	Concrete	0.006	39.974	146.74	285.42	146.74	10.28	0.002	3.411	1.5	0.41	0.17	639.67	639.26	2.04	2.39	635.72	634.14	3.95	5.12
7x4 A5-A4	MH-A5	MH-A4	472.6		7	1	Concrete	0.006	40.419	165.63	302.81	165.63	5.92	0.002	1.16	0.63	0.92	0.22	638.35	637.43	2.13	2.59	634.12	631.05	4.23	6.38
7x4-A4-A3	MH-A4	MH-A3	413.8		7	1	Concrete	0.017	41.751	192.51	497.05	192.51	16.42	0.012	1.68	2.41	4.85	0.29	633.91	629.76	1.67	2.86	631.05	623.81	2.86	5.95
7x4 A3-A2	MH-A3	MH-A2	191.8		7	1	Concrete	0.017	42.172	203.91	496.47	203.91	16.71	0.004	1.297	1.93	0.78	0.33	626.79	626.67	1.74	2.98	623.81	620.53	2.98	6.14
7x4 A2-A1	MH-A2	MH-A1	427.6		7	1	Concrete	0.018	42.359	214.11	497.47	214.11	16.98	0.011	1.317	2.02	4.95	0.36	623.61	619.28	1.8	3.08	620.53	612.98	3.08	6.3
7x4 Future	MH-A1	T-A1A	121.9		7	1	Concrete	0.017	42.782	229.84	484.84	229.84	17.04	0.013	1.248	2.01	1.55	0.42	616.2	615.22	1.93	3.22	612.98	610.95	3.22	4.27

4.1 0.001

42.901 | 229.47 | 907.04 | 229.47 |

## Notes:

7x4 Future2

1. This spreadsheet has been developed using the City of Austin criteria outlined in the March 2012 Drainage Criteria Manual, except as noted. The Rational Method has been used to calculate flows, and Manning's Equation for pipes flowing full has been used to calculate velocities.

Concrete

0.015

- 2. Pipe grades are initially calculated to achieve a minimum full pipe flow velocity of 3 fps. The user may input other pipe slopes as necessary for the given
- 3. This spreadsheet uses the full pipe cross-sectional area to calculate the "Actual Velocity" based on the flow in the system. This approximation will generally result in a slower velocity. The actual flow velocity of pipes flowing partially full should be checked before finalizing any design.
- 4. The "Time of Concentration" (TC) is calculated assuming per the method outlined in the City of Austin Drainage Criteria Manual (DCM). Per the DCM, overland flow distance is limited to 150 feet in developed areas and the minimum TC is 5 minutes. The Manning's roughness coefficients used in the TC calculations are as provided in the DCM.
- 5. Junction losses are calculated omitting increased flow velocity in the downstream pipe (i.e,  $V_1 = V_2$ )
- 6. Land use "SFR" represents Single-Family Residential development. Land use "MFR" represents Multi-Family Residential development.

203.8

- 7. Design flow and velocity are based entirely on pipe grade and represent the condition when pipe is flowing full with the hydraulic grade line equal to the pipe grade, and are used to demonstrate that the pipe slopes used in the calculations are adiquate.
- 8. The "Junction Loss" is applied to the downstream HGL of a pipe to correct for any losses through the downstream manhole and used the velocity of the See Figures below for a summary of loss coefficients (k).
- 9. Rational method "C" values are from Table 2-1 from the City of Austin Drainage Criteria Manual and are for general analysis onlly. Detail coefficient weighting may be more applicable to many projects.

Runoff Coefficient Table	
Land Use	С
SFR (0-2% Impervious)	0.4
SFR (2-7% Impervious)	0.6
SFR (7+% Impervious)	0.66
MFR (0-2% Impervious)	0.65
MFR (2-7% Impervious)	0.76
MFR (7+% Impervious)	0.79
Commercial and General Office (0-2% Impervious)	0.8
Commercial and General Office (2-7% Impervious)	0.85
Commercial and General Office (7+% Impervious)	0.87
Commercial Services (0-2% Impervious)	0.95
Commercial Services (2-7% Impervious)	0.94
Commercial Services (7+% Impervious)	0.94
Land Use Varies / Other	ENTER

0.19

615.37 615.18 1.25

0.826

Pipe	Mannings	
Material	"n" Value	Pipe Description
CLAY	0.012	Extra Strength Vitrified Clay Pipe
CMP	0.024	Corrugated Metal Pipe
CMPSI	0.013	CMP w/ Smooth Interior
HDPE	0.010	High Density Polyethylene Pipe
PVC	0.010	Polyvinyl Chloride Pipe
RCA	0.012	Reinforced Concrete Arch Pipe
RCB	0.012	Reinforced Concrete Box Culvert
RCE	0.012	Reinforced Concrete Elliptical Pipe
RCP	0.012	Reinforced Concrete Pipe

Runott Surface	Mannings
Type	"n" Value
Concrete	0.016
Asphalt	0.02
0-50% Veg.	0.1
50-90% Veg.	0.2
100% Medium Veg.	0.3
100% Heavy Veg.	0.6

2.03 | 610.95 | 607.98 | 4.42 | 7.2

1, 2021 KS JTH WAM ::WAM			*:		ı	1	Г
DATE: MARCH DRAWN BY: MI DESIGNED BY: CHECKED BY: APPROVED BY PROJECT NO:	DATE: MARCH 1, 2021	DRAWN BY: MKS	DESIGNED BY: JTH	CHECKED BY: WAM	APPROVED BY:WAM	PROJECT NO: 20101353	

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