



May 2, 2024
AVO 37449.004

Ms. Ramie Hammonds
Development Services Director/Building Official
City of Sanger
201 Bolivar Street
P.O. Box 1729
Sanger, Texas 76266

Re: Lane Ranch Phase 1 Preliminary Plat -Review #3

Dear Ms. Hammonds,

Halff Associates, Inc. was requested by the City of Sanger to review the Preliminary Plat for Lane Ranch Phase 1. The submittal was prepared by Middleton and Associates, LLC and was dated February 2, 2024.

We have completed our review and offer the following comments:

Please address comments on attached markups and provide annotated responses on markups. Please note, not all comments are written on letter since some comments are easier to show and explain on the markups. Please annotate markup with responses.

Preliminary Plat Comments

1. Verify drainage easement boundaries.
2. Provide a drainage easement by separate instrument for the culvert grading and headwall.
3. The PD Ordinance called out is for Sanger Circle. Revise.
4. A more thorough review if the plat is pending the PD approval.

Final Plat Comments

1. Define side setbacks on the final plat.
2. Provide a Closure report per ordinance 10.104(d)(10).
3. The PD Ordinance called out is for Sanger Circle. Revise.
4. Easements were added to the preliminary plat based on the 2nd submittal comments. The final plat does not reflect these changes. Reconcile.
5. Show centerline of existing street. Dimensions from centerline to edges of existing and proposed right-of-way on both sides of the centerline per ordinance 10.104(d)(10)(H).
6. Replace with Final Plat approval per ordinance 10.104(d)(10)(X).
7. Add 3" x 3" recording box at the lower right-hand corner 10.104(d)(10)(N).

Paving Plan Comments

1. Verify that elevations match in the plan and profile at Butterfield Drive. and Indian Lane.
2. Show 455 at Butterfield culvert crossing in the profile.
3. Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4). Reconcile throughout.
4. A TxDOT permit is required for the proposed driveway and culvert on FM 455. This comment will remain throughout the review process.

Grading Plan/Grading Details Comments

1. Explain pattern on sheets G3 and G4.
2. Provide HGL, flow, velocity data, etc. Demonstrate that the channel meets requirements per ordinance 10.106(d)(9)(B).
3. Provide agreement for grading on adjacent property and separate instrument for drainage easement.

Erosion Control Plan Comments

1. The 100-yr WSEL is above the headwall. How will erosion be prevented above the wall?
2. Specify construction entrance size.

Drainage Area Map Existing Conditions Comments

1. Revise drainage area boundary to match contour patterns.
2. Remove proposed data from the existing drainage area map for clarity.
3. Provide an overall drainage area map that covers the entirety of phase one including relevant offsite areas.
4. Clearly define the entry and exit points in both the existing and proposed conditions.
5. Clear comparison of existing vs. proposed peak flows are needed at design points to prove no adverse impacts.

Drainage Area Map Proposed Conditions Comments

1. Revise drainage area boundaries 3 and 28.
2. Provide a drainage area map for the proposed culvert including the design discharge for the offsite pond.
3. Show proposed contours.

Drainage Calculation Comments

1. Show calculations for the culverts. Plan set will be provided for future record requests and this information needs to be available on plan sheets without the drainage study.
2. Provide the data taken from the Sanger High School plans. Needs to be available in the plans for future reference.

Ms. Ramie Hammonds
May 2, 2024
Page 3 of 3

3. For clarity, it is suggested to match the inlet No. with the naming convention in the plan view and on the hydraulic calculations.
4. HGL elevations do not match the profile and are below the pipe flow line. Profile and calculation elevations should match. Recalculate and revise.
5. Provide hydraulic calculations for proposed culverts.
6. Revise HGL calculations to include losses and hydraulic data at manholes. Recalculate lines 2, 6, and 7.
7. Intensities do not match those defined in Chapter 10 - appendix A of the ordinance.

Storm Drain Plan and Profiles Comments

1. The 100-yr WSEL is above the headwall. How will erosion be prevented above the wall?
2. HGL does not account for energy losses through manholes. Reconcile.
3. Remove errant linework throughout.

Sanitary Sewer Plan and Profiles Comments

1. Specify the method to be used to ensure water and sewer crossings are TCEQ compliant.

If you have any questions or need additional information, please do not hesitate to call me at (214) 937-3928.

Sincerely,

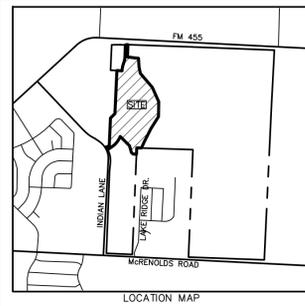


Jamie Akomer, PE, PMP

HALFF

Firm No. 0312

Attachments: Plan markups



Verify easement boundaries

Verify boundary does not appear to cover the entire floodplain

SANGER ISD VOL. 1841, PG. 662

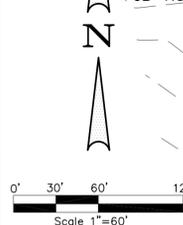
MARION PROPERTY HOLDING LLC DOC. NO. 2022-123676

$R=530.00'$
 $\Delta=33^{\circ}53'25''$
 $L=313.49'$
 $CD=308.94'$
 $CB=S39^{\circ}06'05''W$

$R=550.39'$
 $\Delta=7^{\circ}35'43''$
 $L=72.96'$
 $CD=72.91'$
 $CB=N31^{\circ}39'53''W$

DE by separate instrument for grading and headwall

OWNER - DEVELOPER:
 SANGER TOWN CENTER LLC
 MARION PROPERTY HOLDING LLC
 101 FOREST BEND DRIVE
 COPPELL, TEXAS 75019
 JONATHAN WANG
 214-316-2256



LEGEND

IRS	IRON ROD SET
IRS	IRON ROD FOUND
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
F.E.	FRANCHISE EASEMENT
S.B.	SETBACK
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
D.R.D.C.T.	DEED RECORDS OF DENTON COUNTY, TEXAS
DOC. NO.	DOCUMENT NUMBER
MFF	MIN. FINISHED FLOOR

NOTE:
 1. LOTS NUMBERED WITH AN "X" DESIGNATOR ARE LOTS DEDICATED TO THE HOME OWNERS ASSOCIATION.
 2. ALL EASEMENTS ARE DEDICATED BY THIS PLAT UNLESS NOTED AS BY SEP. INST.

PLAT NOTES
 All lots comply with the minimum size requirements of PD Ord. 09-25-21.
 1. This property may be subject to charges related to impact fees and the applicant should contact the City regarding any applicable fees due.
 2. All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/POA. Any common area within the City's right-of-way will require a facilities agreement, to be reviewed and approved by the City.
 3. Notice - selling a portion of this addition by metes and bounds is a violation of City ordinance and State Law and is subject to fines and withholding of utilities and building permits.
 4. This plat does not alter or remove existing deed restrictions, if any, on this property.
 5. Minimum finished floor elevations are at least 2 feet above the 100 year flood plain.
 6. The subject property lies within 100-year floodplain Zone A according to Community Panel No. 48121C0210G, dated APRIL 18 2011, of the National Flood Insurance Rate Maps for Denton County, Texas.
 7. The purpose of this plat is subdivide the property into single family residential lots.
 8. Bearings are based on the State Plane Coordinate System, Texas North Central Zone (4202), North American Datum of 1983 (NAD '83).

PD Ord. called out is for Sanger Circle. The PD approval for Lane Ranch is required for plat acceptance

No.	DATE	REVISION	APPROVAL

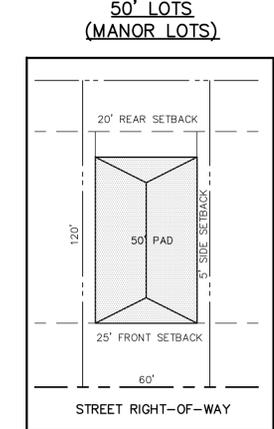
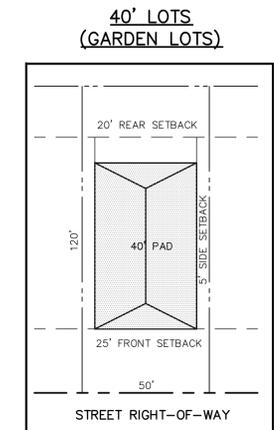
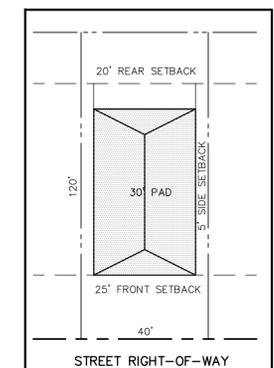
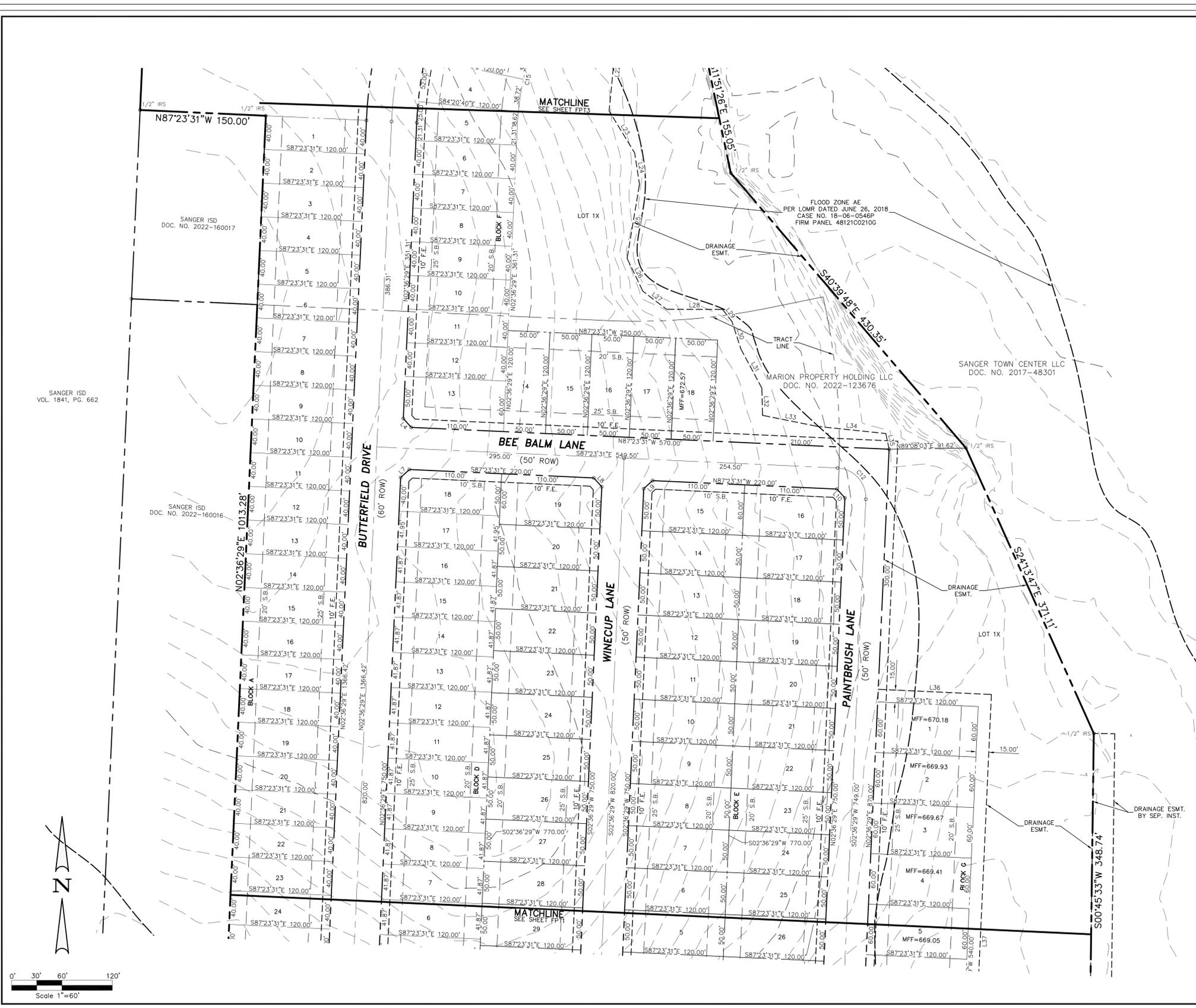
Middleton & Assoc, LLC
 CONSULTING CIVIL ENGINEERS & LAND PLANNERS
 TBPE #1-10900
 2785 ROCKBROOK DRIVE, SUITE 105
 LEWISVILLE, TEXAS 75067 (972) 393-9800

JOHN COWAN & ASSOCIATES, INC.
 SURVEYOR
 10147 CR 135 FULT, TEXAS 75762 PH: (803) 584-2238
 WWW.TXASURVEYS.COM
 FIRM REGISTRATION CERTIFICATION NO. 10025500

PRELIMINARY PLAT - LANE RANCH, PHASE 1
 43.821 ACRES 143 RES. LOTS
 1 COMMERCIAL LOT - 5 HOA LOTS
 7,259 AC. RIGHT-OF-WAY DEDICATION
 REUBEN BIBBEE SURVEY, ABST. NO. 29
 CITY OF SANGER, DENTON COUNTY, TEXAS

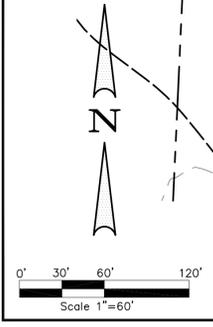
Date: 4-15-24
 Dwg Scale: 1"=60'
 Dwg File: 0001043FPT1.DWG
 Project No. 0001043

PPT1



LEGEND

- IRS IRON ROD SET
- IRF IRON ROD FOUND
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- F.E. FRANCHISE EASEMENT
- S.B. SETBACK
- O.P.R.C.C.T. OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
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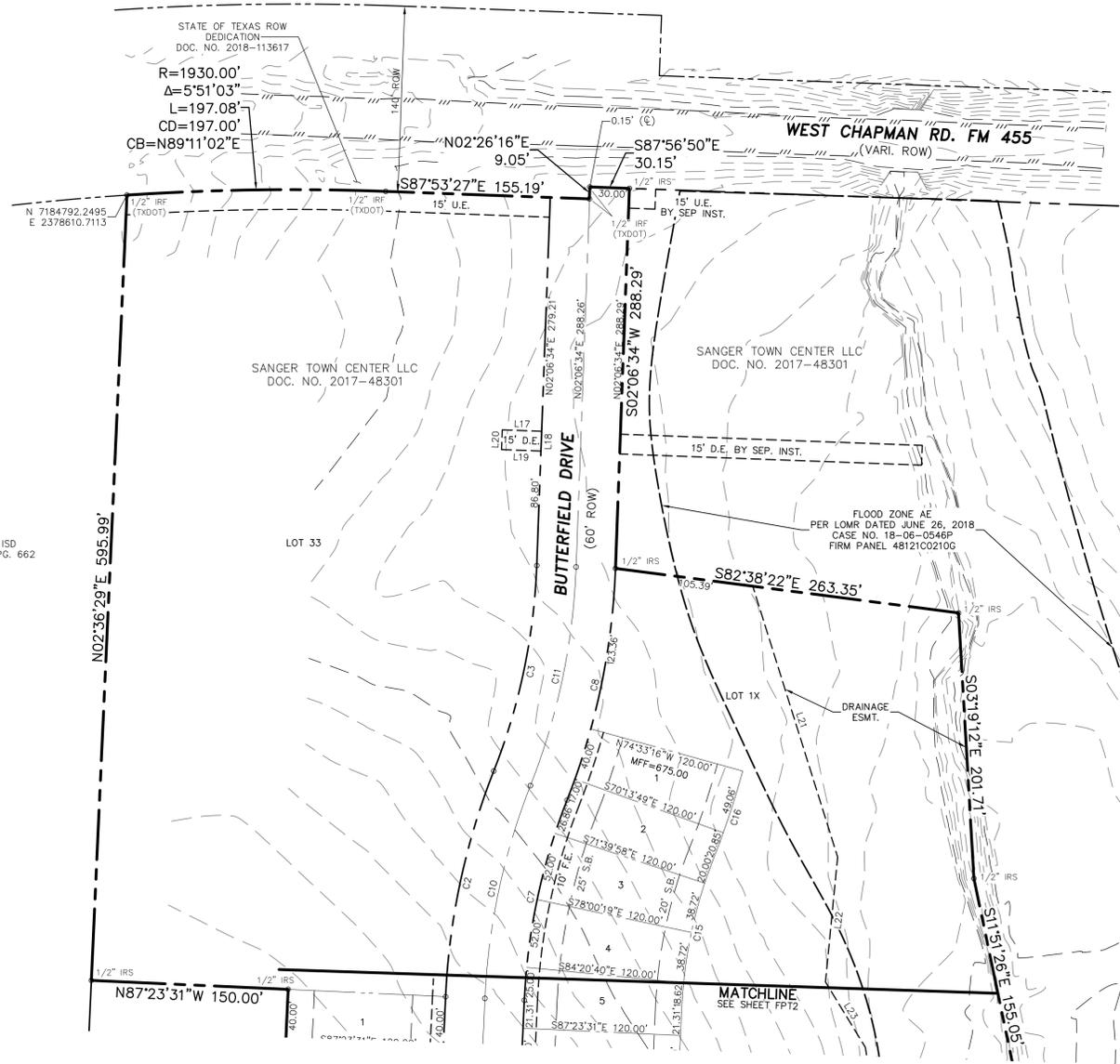
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 Project No. 0001043

PPT2

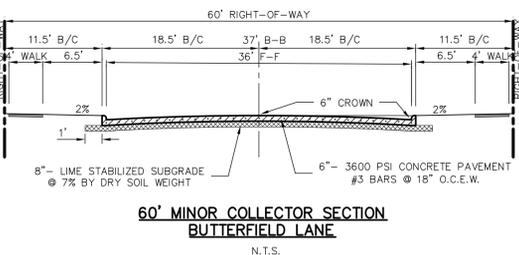
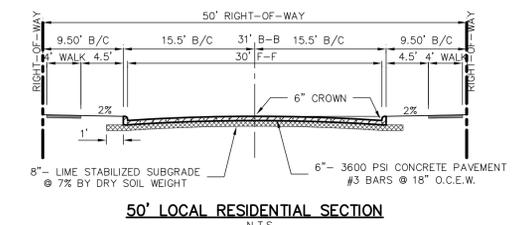
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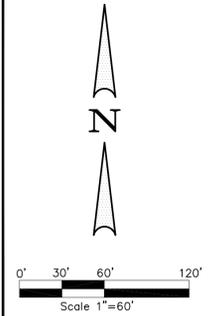
Curve Table					
No.	Delta	Radius	Length	Ch. Dist.	Bearing
C1	53°26'19"	470.00'	438.36'	422.64'	N29°19'38"E
C2	18°59'59"	530.00'	175.75'	174.95'	N12°06'28"E
C3	19°29'53"	470.00'	159.94'	159.17'	N11°51'31"E
C4	53°26'19"	530.00'	494.32'	476.60'	N29°19'38"E
C5	26°00'20"	50.00'	226.90'	76.60'	N52°36'19"E
C6	80°00'20"	10.50'	14.66'	13.50'	N37°23'41"W
C7	18°59'59"	470.00'	155.86'	155.14'	N12°06'28"E
C8	19°29'53"	530.00'	180.36'	179.49'	N11°51'31"E
C9	53°26'19"	500.00'	466.34'	449.62'	N29°19'38"E
C10	18°59'59"	500.00'	165.80'	165.04'	N12°06'28"E
C11	19°29'53"	500.00'	170.15'	169.33'	N11°51'31"E
C12	90°00'00"	35.50'	55.76'	50.20'	S42°23'31"E
C13	90°00'00"	35.50'	55.76'	50.20'	S47°36'29"W
C14	45°31'30"	83.50'	66.35'	64.61'	S20°09'16"E
C15	18°59'59"	350.00'	116.06'	115.53'	N12°06'28"E
C16	6°09'43"	650.00'	69.91'	69.87'	N18°31'36"E

Line Table		
Line #	Bearing	Distance
L1	N47°36'29"E	14.14
L2	S42°23'31"E	14.14
L3	N47°36'29"E	14.14
L4	N42°23'31"W	14.14
L5	N42°23'31"W	14.14
L6	S47°36'29"W	14.14
L7	N47°36'29"E	14.14
L8	S42°23'31"E	14.14
L9	S47°36'29"W	14.14
L10	N42°23'31"W	14.14
L11	S42°23'31"E	14.14
L12	N47°36'29"E	14.14
L13	N63°30'13"W	37.31
L14	S47°36'29"W	56.61
L15	N12°57'46"W	17.22
L16	N47°36'29"E	54.04
L17	S87°53'26"E	30.00
L18	S2°06'34"W	15.00
L19	N87°53'26"W	30.00
L20	N2°06'34"E	15.00
L21	S17°28'09"E	215.21
L22	S5°35'43"W	95.13
L23	S31°28'26"E	58.17
L24	S8°50'24"E	37.80
L25	S9°30'40"W	89.14
L26	S25°43'55"E	43.15
L27	S52°43'10"E	35.42
L28	S89°50'36"E	66.88
L29	S37°30'26"E	18.51
L30	S18°04'52"E	33.95

Line Table		
Line #	Bearing	Distance
L31	S28°18'43"E	52.71
L32	S1°24'50"E	32.26
L33	S78°38'11"E	66.50
L34	S84°03'45"E	82.18
L35	S11°48'36"E	19.01
L36	S87°23'31"E	135.00
L37	S2°36'29"W	570.00
L38	N87°23'31"W	116.16
L39	S2°36'29"W	58.91
L40	S14°06'25"W	96.61
L41	S28°52'25"W	173.99
L42	S39°22'35"W	54.43
L43	S2°36'29"W	141.79
L44	N87°23'31"W	53.15
L45	S2°36'29"W	81.61
L46	N88°11'55"W	183.26
L47	N12°57'46"W	153.01
L48	N14°02'23"W	92.98
L49	N76°36'38"W	49.75
L50	N47°14'10"W	10.36
L51	N21°10'53"W	19.66
L52	N62°42'09"W	63.12
L53	N27°53'47"W	53.85
L54	N80°43'07"W	23.21



No. _____ DATE _____ REVISION _____ APPROV. _____	Middleton & Assoc, LLC CONSULTING CIVIL ENGINEERS & LAND PLANNERS TBE #1-10900 © Copyright 2024 2785 ROCKBROOK DRIVE, SUITE 105 LEWISVILLE, TEXAS 75067 (972) 393-9800
PRELIMINARY PLAT - LANE RANCH, PHASE 1 43.821 ACRES 143 RES. LOTS 1 COMMERCIAL LOT - 5 HOA LOTS 7,259 AC. RIGHT-OF-WAY DEDICATION REUBEN BEBEE SURVEY, ABST. NO. 29 CITY OF SANGER, DENTON COUNTY, TEXAS	
Date: 4-15-24 Dwg Scale: 1"=60' Dwg File: 0001043FPT.DWG Project No. 0001043	PPT3



LEGAL DESCRIPTION

All that certain lot, tract, or parcel of land, being part of the Rueben Bebee Survey, Abstract No. 29, Denton County, Texas, and being a part of that certain called 127.61 acre tract described in a deed from E.M.J. Lane, Inc. to Sanger Town Center, LLC on April 20, 2017, recorded in Document No. 2017-48301 of the Official Public Records of Denton, County, Texas (OPRDCT), and being a part of that certain called 25.00 acre tract of land described in a deed from Marion Hills Apartments, LLC to Marion Property Holding, LLC on August 23, 2022, recorded in Document No. 2022-123676, OPRDCT, and being more completely described as follows, to-wit:

BEGINNING at a 1/2" iron rod (set) for the westerly Southwest corner of the above mentioned 25.00 acre tract, in the westerly North line of the above mentioned 127.61 acre tract, in the South line of the Sanger ISD 35,000 acre tract described in Volume 1841, Page 662 of the Deed Records, Denton County, Texas, in the East right of way of Indian Lane;

THENCE South 88°03'30" East with the South line of the 35.00 acre tract, a distance of 21.92 feet to a 1/2" iron rod (set) for the Southeast corner of same, an ell corner of the 25.00, the Southwest corner of the Sanger Independent School District 3.728 acre tract described in Document No. 2022-160016, OPRDCT;

THENCE northerly and easterly with the East line of the 3.278 acre tract, the East line of the Sanger Independent School District 0.772 acre tract, as follows:

North 56°02'48" East a distance of 62.25 feet to a 1/2" iron rod (set) for corner,
 North 02°36'29" East a distance of 643.72 feet to a 1/2" iron rod (set) for corner,
 North 45°05'54" East a distance of 148.05 feet to a 1/2" iron rod (set) for corner,
 and North 02°36'29" East a distance of 1013.28 feet to a 1/2" iron rod (set) the Northeast corner of the 0.772 acre tract;

THENCE North 87°23'31" West a distance of 150.00 feet a 1/2" iron rod (set) the East line of the 35.00 acre tract;

THENCE northerly with the east line of the 35.00 acre tract North 02°36'29" East a distance of 595.99 feet to a 1/2" iron rod (found) the northeast corner of the 35.00 acre tract and the South right of way of West Chapman Road F.M. 455;

THENCE Easterly with the South right of way of West Chapman Road F.M. 455 as follows:

along a curve to the right, having a radius of 1930.00 feet, a chord of North 89° 11' 02" East - 197.00 feet, a distance of 197.08 feet to a 1/2" iron rod (found) for corner;
 South 87°53'27" East a distance of 155.19 feet to a 1/2" iron rod (found) for corner;
 North 02°26'16" East a distance of 9.05 feet to a 1/2" iron rod (found) for corner;
 South 87°56'50" East a distance of 30.15 feet to a 1/2" iron rod (set) for corner;

THENCE South 02°06'34" West a distance of 288.29 feet to a 1/2" iron rod (set) for corner;

THENCE South 82°38'22" East a distance of 263.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 3°19'12" East a distance of 201.71 feet to a 1/2" iron rod (set) for corner;

THENCE South 11°51'26" East a distance of 155.05 feet to a 1/2" iron rod (set) for corner;

THENCE South 40°39'48" East a distance of 430.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°13'47" East a distance of 371.11 feet to a 1/2" iron rod (set) for corner;

THENCE South 0°45'33" West a distance of 348.74 feet to a 1/2" iron rod (set) for corner;

THENCE South 32°24'46" West a distance of 333.84 feet to a 1/2" iron rod (set) for corner;

THENCE South 27°00'44" West a distance of 346.28 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°21'53" West a distance of 163.17 feet to a 1/2" iron rod (set) for corner in the easterly South line of the 127.61 acre tract, the North line of the Marion Hills Apartments, LLC tract described in Document No. 2017-92008, OPRDCT;

THENCE North 88°11'55" West with the North line of the Marion Hills Apartments, LLC tract, the easterly South line of the 127.61 acre tract, a distance of 109.93 feet to a 2" pipe found for an ell corner of same, the Northwest corner of the Marion Hills Apartments, LLC tract;

THENCE South 2°25'03" West with the west line of the Marion Hills Apartments, LLC tract, the southerly East line of the 127.61 acre tract, a distance of 149.43 feet to a 1/2" iron rod (set) for corner;

THENCE North 87°34'57" West a distance of 76.30 feet to a 1/2" iron rod (set) for corner;

THENCE North 52°47'15" West a distance of 53.75 feet to a 1/2" iron rod (set) for corner;

THENCE North 15°47'38" West a distance of 171.25 feet to a 1/2" iron rod (set) for corner;

THENCE North 45°08'24" West a distance of 307.06 feet to a 1/2" iron rod (set) for the beginning of a non-tangent curve to the right, having a radius of 530.00 feet, a chord of South 39° 06' 05" West - 308.94 feet, a distance of 313.49 feet to a 1/2" iron rod (set) for corner at p.t. of same;

THENCE South 56°02'48" West a distance of 120.23 feet to a 1/2" iron rod (set) for corner in the southerly West line of the 127.61 acre tract, the East right-of-way of Indian Lane, in a curve to the left;

THENCE with the East right-of-way of Indian Lane, with a non-tangent curve to the left, having a radius of 550.39 feet, a chord of North 31° 39' 53" West - 72.91 feet, a distance of 72.96 feet to the place of beginning, containing 43.821 acres, or 1,908,821 square feet of land.

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS:

THAT, Jonathan Wang acting herein by and through its duly authorized officer, does hereby adopt this plat designating the hereinabove described property as LANE RANCH, PHASE 1, an addition to the City of Sanger, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parks, and watercourses, and to the public use forever easements for sidewalks, storm drainage facilities, utilities and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be installed, if approved by the City of Sanger. The City of Sanger and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

WITNESS MY HAND this _____ day of _____, 2024.

_____, Owner
 _____, Title and Company

State of Texas
 County of Denton

Before me, the undersigned authority, on this day personally appeared Jonathan Wang, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

Given under my hand and seal of office this ____ day of _____, 2024.

 Notary Public in and for the State of Texas

 Print Notary's Name

My Commission Expires _____

Preliminary Plat for Review Purposes Only
 Approved for Preparation of Final Plat
 _____ Date
 City of Sanger, TX Planning & Zoning Commission

STATE OF TEXAS
 COUNTY OF DENTON

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.



REGISTERED PUBLIC LAND SURVEYOR TEXAS R.P.L.S. NO. 5515 DATE _____

Date: 4-15-24
 Dwg Scale: 1"=60'
 Dwg File: 0001043FPT.DWG
 Project No. 0001043

PPT4

SURVEYOR
JOHN COWAN & ASSOCIATES, INC.
 10147 CR 135 FUHT, TEXAS 75762 PH: (803) 584-2238
 WWW.TXSURVEYS.COM
 FIRM REGISTRATION CERTIFICATION NO. 10025500

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REVISION APPROVAL
 No. DATE
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 CONSULTING CIVIL ENGINEERS & LAND PLANNERS
 TPE # - 10900
 2785 ROCKBROOK DRIVE, SUITE 105
 LEWISVILLE, TEXAS 75067 (972) 393-9800

CONSTRUCTION PLANS FOR PAVING, GRADING, EROSION CONTROL, STORM DRAINAGE, WATER & SANITARY SEWER

LANE RANCH, PHASE 1 CITY OF SANGER, TEXAS

PROJECT DIRECTORY

SURVEYOR
JOHN COWAN & ASSOCIATES, INC.
10147 CR 135
FLINT, TEXAS 75762
903-581-2238

OWNER - DEVELOPER:
SANGER TOWN CENTER LLC
MARION PROPERTY HOLDING LLC
101 FOREST BEND DRIVE
COPPELL, TEXAS 75019
JONATHAN WANG
214-316-2256

GEOTECHNICAL ENGINEER:
TERRADYNE ENGINEERS
1840 HUTTON DRIVE #190
CARROLLTON, TEXAS 75006
817-858-0870

HYDROLOGIST:
CARDINAL STRATEGIES
2770 CAPITAL STREET
WYLIE, TEXAS 75098
BEN McWHORTER
469-547-1281



SECOND SUBMITTAL FOR REVIEW ONLY 2-2-24

1. COVER
2. FPT1 FINAL PLAT
3. FPT2 FINAL PLAT
4. FPT3 FINAL PLAT
5. FPT4 FINAL PLAT
6. NOTE1 GENERAL CONSTRUCTION NOTES

- PAVING PLAN & PROFILES**
7. P1 BUTTERFIELD DRIVE STA. 0+00-7+00
 8. P2 BUTTERFIELD DRIVE STA. 7+00-17+00
 9. P3 BUTTERFIELD DRIVE STA. 17+00-END
 10. P4 GAILLARDIA LANE STA. 0+00-6+15
 11. P5 PAINTBRUSH LANE STA. 6+15-14+70
 12. P6 BEE BALM LANE STA. 14+20-END
 13. P7 WINECUP LANE STA. 0+00-6+00
 14. P8 WINECUP LANE STA. 6+00-END

- PAVING DETAILS**
15. DT-P1

- LOT GRADING PLANS**
16. G1
 17. G2
 18. G3
 19. G4
 20. G5

- LOT GRADING DETAILS**
21. DT-GR1

- EROSION CONTROL PLAN**
22. ERO1 EROSION CONTROL PLAN
 23. ERO2 EROSION CONTROL PLAN
 24. ERO3 EROSION CONTROL DETAILS
 25. ERO4 EROSION CONTROL DETAILS

- DRAINAGE AREA MAP & CALCULATIONS**
26. C7.2 SANGER ISD PROP. DAM
 27. DAM1 EXISTING CONDITIONS
 28. DAM2 EXISTING CONDITIONS
 29. DAM3 PROPOSED CONDITIONS
 30. DAM4 PROPOSED CONDITIONS
 31. DAM5 PROPOSED CONDITIONS
 32. CALC1 DRAINAGE AREA & INLET CALCS.
 33. CALC2 HYDRAULIC CALCS.

- STORM DRAIN PLAN & PROFILE**
34. ST-ALL OVERALL STORM DRAIN PLAN
 35. ST1 ST LINE 1
 36. ST2 ST LINE 2
 37. ST3 ST LINE 3 & 4
 38. ST4 ST LINE 5
 39. ST5 ST LINE 6
 40. ST6 ST LINE 7
 41. ST7 ST LINE 8
 42. ST8 ST LINE 9

- STORM DRAIN DETAILS**
43. DT-ST1
 44. DT-ST2
 45. DT-ST3
 46. DT-ST4
 47. DT-ST5
 48. DT-ST6

- SANITARY SEWER PLAN & PROFILE**
49. SS-ALL OVERALL SEWER PLAN
 50. SS1 SS LINE A STA. 0+00-8+00
 51. SS2 SS LINE A STA. 8+00-15+00
 52. SS3 SS LINE A STA. 15+00-END
 53. SS4 SS LINE B STA. 0+00-8+00
 54. SS5 SS LINE B STA. 8+00-END
 55. SS6 SS LINE C
 56. SS7 SS LINE D STA. 0+00-4+00
 57. SS8 SS LINE D STA. 4+00-11+00
 58. SS9 SS LINE D STA. 17+00-END

- SEWER DETAILS**
59. DT-SS1

- WATER PLAN**
60. W-ALL OVERALL WATER PLAN
 61. W1
 62. W2
 63. W3
 64. W4

- WATER DETAILS**
65. DT-W1
 66. DT-W2

- SIDEWALK PLAN**
67. WALK1

- STREET LIGHT, & SIGNAGE PLAN**
68. LT1



THE CONTRACTOR SHALL USE THE CITY OF SANGER'S STANDARD CONSTRUCTION DETAILS FOR THIS PROJECT.

CAUTION!!! UNDERGROUND UTILITIES!!!
EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. CONTACT ALL POSSIBLE UTILITY AND UNDERGROUND FACILITY OWNERS.

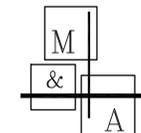


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY FLOYD E. MIDDLETON, JR., PE REGISTRATION #67449 ON 2-2-24. ANY ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

PROJECT ENGINEER:

**Middleton
& Associates, LLC.**

CONSULTING CIVIL ENGINEERS & LAND PLANNERS
TBPE #F-10900 © Copyright 2024
2785 ROCKBROOK DRIVE, SUITE 105
LEWISVILLE, TEXAS 75067 (972) 393-9800





LEGEND

IRS	IRON ROD SET
IRS	IRON ROD FOUND
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
F.E.	FRANCHISE EASEMENT
S.B.	SETBACK
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
D.R.D.C.T.	DEED RECORDS OF DENTON COUNTY, TEXAS
DOC. NO.	DOCUMENT NUMBER
MFF	MIN. FINISHED FLOOR

No.	DATE	REVISION	APPROVAL

Middleton & Assoc, LLC
 CONSULTING CIVIL ENGINEERS & LAND PLANNERS
 TBP# 1-10900
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 LEWISVILLE, TEXAS 75067 (972) 393-9800

JOHN COWAN & ASSOCIATES, INC.
 SURVEYOR
 10147 CR 135 FULT, TEXAS 75762 PH: (803) 581-2238
 WWW.TX.SURVEYS.COM
 FIRM REGISTRATION CERTIFICATION NO. 10025500

FINAL PLAT - LANE RANCH, PHASE 1
 43.820 ACRES 143 RES. LOTS
 1 COMMERCIAL LOT - 5 HOA LOTS
 7.259 AC. RIGHT-OF-WAY DEDICATION
 REUBEN BIBBEE SURVEY, ABST. NO. 29
 CITY OF SANGER, DENTON COUNTY, TEXAS

Date: 2-2-24
 Dwg Scale: 1"=60'
 Dwg File: 0001043FPT1.DWG
 Project No. 0001043

FPT1

LOCATION MAP

NOTE:
 1. LOTS NUMBERED WITH AN "X" DESIGNATOR ARE LOTS DEDICATED TO THE HOME OWNERS ASSOCIATION.

Provide Closure report per ordinance 10.104(d)(10)

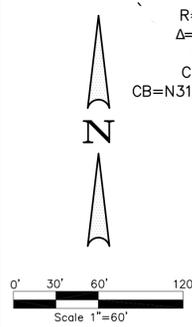
Define side setbacks

Easements were added to the preliminary plat based on the 2nd submittal comments. The final plat does not reflect these changes
 Reconcile

PD Ord. called out is for Sanger Circle. The PD approval for Lane Ranch is required for plat acceptance

- PLAT NOTES
- All lots comply with the minimum size requirements of PD Ord. 09-25-23.
 - This property may be subject to charges related to impact fees and the applicant should contact the City regarding any applicable fees due.
 - All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/POA. Any common area within the City's right-of-way will require a facilities agreement, to be reviewed and approved by the City.
 - Notice - selling a portion of this addition by metes and bounds is a violation of City ordinance and State Law and is subject to fines and withholding of utilities and building permits.
 - This plat does not alter or remove existing deed restrictions, if any, on this property.
 - Minimum finished floor elevations are at least 2 feet above the 100 year flood plain.
 - The subject property lies within a 100-year floodplain according to Community Panel No. 48121C0210G, dated APRIL 18 2011, of the National Flood Insurance Rate Maps for Denton County, Texas. It does lie within Zone A.
 - The purpose of this plat is subdivide the property into single family residential lots.
 - Bearings are based on the State Plane Coordinate System, Texas North Central Zone (4202), North American Datum of 1983 (NAD '83).

OWNER - DEVELOPER:
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 MARION PROPERTY HOLDING LLC
 101 FOREST BEND DRIVE
 COPPELL, TEXAS 75019
 JONATHAN WANG
 214-316-2256



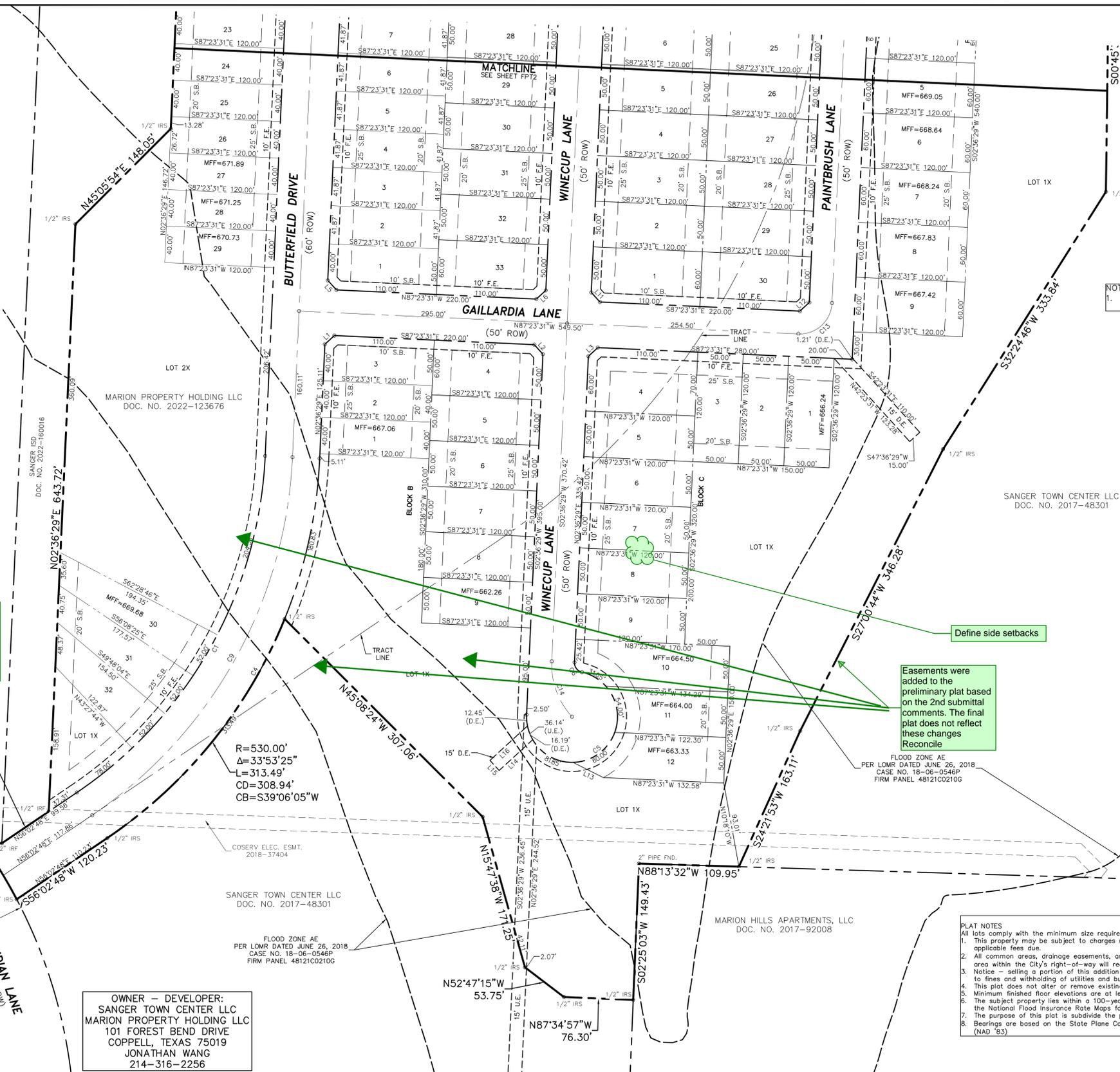
Show centerline of existing street. Dimensions from centerline to edges of existing and proposed right-of-way on both sides of the centerline per ordinance 10.104(d)(10)(H) TYP

POINT OF BEGINNING
 R=550.39'
 Δ=7°35'43"
 L=72.96'
 CD=72.91'
 CB=N31°39'53"W

R=530.00'
 Δ=33°53'25"
 L=313.49'
 CD=308.94'
 CB=S39°06'05"W

FLOOD ZONE AE
 PER LOMR DATED JUNE 26, 2018
 CASE NO. 18-06-0546P
 FIRM PANEL 48121C0210G

FLOOD ZONE AE
 PER LOMR DATED JUNE 26, 2018
 CASE NO. 18-06-0546P
 FIRM PANEL 48121C0210G



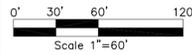
SANGER ISD
 VOL. 1841, PG. 662

MARION PROPERTY HOLDING LLC
 DOC. NO. 2022-123676

SANGER TOWN CENTER LLC
 DOC. NO. 2017-48301

MARION HILLS APARTMENTS, LLC
 DOC. NO. 2017-92008

COSERV ELEC. ESMT.
 2018-37404



SANGER ISD
VOL. 1841, PG. 662



LEGEND

IRS	IRON ROD SET
IRF	IRON ROD FOUND
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
F.E.	FRANCHISE EASEMENT
S.B.	SETBACK
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
D.R.D.C.T.	DEED RECORDS OF DENTON COUNTY, TEXAS
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FIRM REGISTRATION CERTIFICATION NO. 10025500

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REUBEN BEEBE SURVEY, ABST. NO. 29
CITY OF SANGER, DENTON COUNTY, TEXAS

Date: 2-2-24
Dwg Scale: 1"=60'
Dwg File: 0001043FPT1.DWG
Project No. 0001043

FPT2

LEGEND

IRS	IRON ROD SET
IRF	IRON ROD FOUND
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
F.E.	FRANCHISE EASEMENT
S.B.	SETBACK
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
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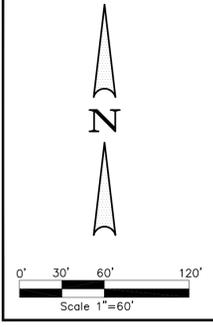
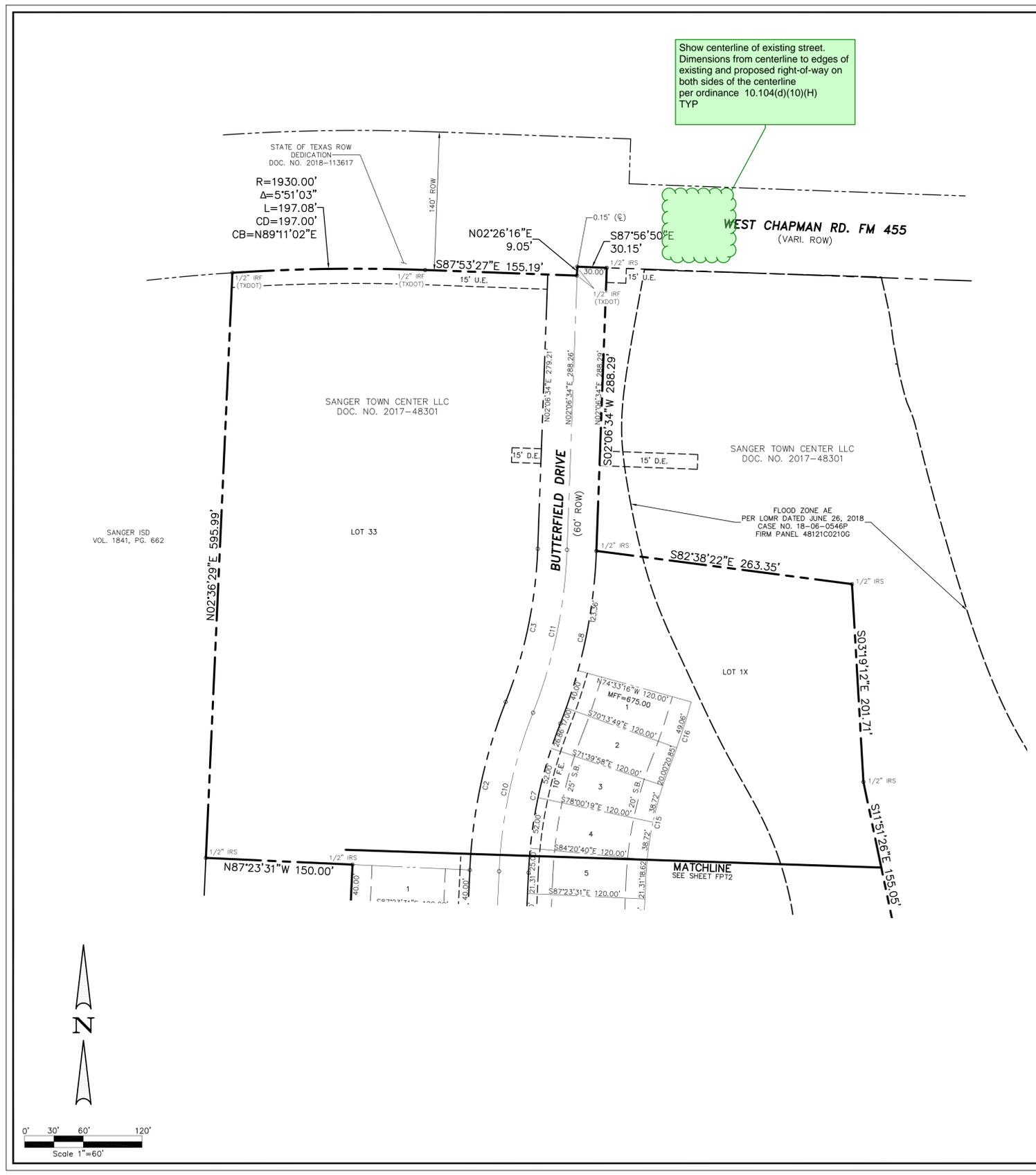
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FPT3

No.	Delta	Radius	Length	Ch. Dist.	Bearing
C1	53°26'19"	470.00'	438.36'	422.64'	N29°19'38"E
C2	18°59'59"	530.00'	175.75'	174.95'	N12°06'28"E
C3	19°29'53"	470.00'	159.94'	159.17'	N11°51'31"E
C4	53°26'19"	530.00'	494.32'	476.60'	N29°19'38"E
C5	260°00'20"	50.00'	226.90'	76.60'	N52°36'19"E
C6	80°00'20"	10.50'	14.66'	13.50'	N37°23'41"W
C7	18°59'59"	470.00'	155.86'	155.14'	N12°06'28"E
C8	19°29'53"	530.00'	180.36'	179.49'	N11°51'31"E
C9	53°26'19"	500.00'	466.34'	449.62'	N29°19'38"E
C10	18°59'59"	500.00'	165.80'	165.04'	N12°06'28"E
C11	19°29'53"	500.00'	170.15'	169.33'	N11°51'31"E
C12	90°00'00"	35.50'	55.76'	50.20'	S42°23'31"E
C13	90°00'00"	35.50'	55.76'	50.20'	S47°36'29"W
C14	45°31'30"	83.50'	66.35'	64.61'	S20°09'16"E
C15	18°59'59"	350.00'	116.06'	115.53'	N12°06'28"E
C16	6°09'43"	650.00'	69.91'	69.87'	N18°31'36"E

Line #	Bearing	Distance
L1	N47°36'29"E	14.14
L2	S42°23'31"E	14.14
L3	N47°36'29"E	14.14
L4	N42°23'31"W	14.14
L5	N42°23'31"W	14.14
L6	S47°36'29"W	14.14
L7	N47°36'29"E	14.14
L8	S42°23'31"E	14.14
L9	S47°36'29"W	14.14
L10	N42°23'31"W	14.14
L11	S42°23'31"E	14.14
L12	N47°36'29"E	14.14
L13	N63°30'13"W	37.31
L14	S47°36'29"W	50.00
L15	N42°23'31"W	15.00
L16	N47°36'29"E	55.90



LEGAL DESCRIPTION

All that certain lot, tract, or parcel of land, being part of the Rueben Bebee Survey, Abstract No. 29, Denton County, Texas, and being a part of that certain called 127.61 acre tract described in a deed from E.M.J. Lane, Inc. to Sanger Town Center, LLC on April 20, 2017, recorded in Document No. 2017-48301 of the Official Public Records of Denton County, Texas (OPRDCT), and being a part of that certain called 25.00 acre tract of land described in a deed from Marion Hills Apartments, LLC to Marion Property Holding, LLC on August 23, 2022, recorded in Document No. 2022-123676, OPRDCT, and being more completely described as follows, to-wit:

BEGINNING at a 1/2" iron rod (set) for the westerly Southwest corner of the above mentioned 25.00 acre tract, in the westerly North line of the above mentioned 127.61 acre tract, in the South line of the Sanger ISD 35,000 acre tract described in Volume 1841, Page 662 of the Deed Records, Denton County, Texas, in the East right of way of Indian Lane;

THENCE South 88°03'30" East with the South line of the 35.00 acre tract, a distance of 21.92 feet to a 1/2" iron rod (set) for the Southeast corner of same, an ell corner of the 25.00, the Southwest corner of the Sanger Independent School District 3.728 acre tract described in Document No. 2022-160016, OPRDCT;

THENCE northerly and easterly with the East line of the 3.278 acre tract, the East line of the Sanger Independent School District 0.772 acre tract, as follows:

North 56°02'48" East a distance of 62.25 feet to a 1/2" iron rod (set) for corner,
 North 02°36'29" East a distance of 643.72 feet to a 1/2" iron rod (set) for corner,
 North 45°05'54" East a distance of 148.05 feet to a 1/2" iron rod (set) for corner,
 and North 02°36'29" East a distance of 1013.28 feet to a 1/2" iron rod (set) the Northeast corner of the 0.772 acre tract;

THENCE North 87°23'31" West a distance of 150.00 feet a 1/2" iron rod (set) the East line of the 35.00 acre tract;

THENCE northerly with the east line of the 35.00 acre tract North 02°36'29" East a distance of 595.99 feet to a 1/2" iron rod (found) the northeast corner of the 35.00 acre tract and the South right of way of West Chapman Road F.M. 455;

THENCE Easterly with the South right of way of West Chapman Road F.M. 455 as follows:

along a curve to the right, having a radius of 1930.00 feet, a chord of North 89° 11' 02" East - 197.00 feet, a distance of 197.08 feet to a 1/2" iron rod (found) for corner;
 South 87°53'27" East a distance of 155.19 feet to a 1/2" iron rod (found) for corner;
 North 02°26'16" East a distance of 9.05 feet to a 1/2" iron rod (found) for corner;
 South 87°56'50" East a distance of 30.15 feet to a 1/2" iron rod (set) for corner;

THENCE South 02°06'34" West a distance of 288.29 feet to a 1/2" iron rod (set) for corner;

THENCE South 82°38'22" East a distance of 263.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 3°19'12" East a distance of 201.71 feet to a 1/2" iron rod (set) for corner;

THENCE South 11°51'26" East a distance of 155.05 feet to a 1/2" iron rod (set) for corner;

THENCE South 40°39'48" East a distance of 430.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°13'47" East a distance of 371.11 feet to a 1/2" iron rod (set) for corner;

THENCE South 0°45'33" West a distance of 348.74 feet to a 1/2" iron rod (set) for corner;

THENCE South 32°24'46" West a distance of 333.84 feet to a 1/2" iron rod (set) for corner;

THENCE South 27°00'44" West a distance of 346.28 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°21'53" West a distance of 163.11 feet to a 1/2" iron rod (set) for corner in the corner in the easterly South line of the 127.61 acre tract, the North line of the Marion Hills Apartments, LLC tract described in Document No. 2017-92008, OPRDCT;

THENCE North 88°13'32" West with the North line of the Marion Hills Apartments, LLC tract, the easterly South line of the 127.61 acre tract, a distance of 109.95 feet to a 2" pipe found for an ell corner of same, the Northwest corner of the Marion Hills Apartments, LLC tract;

THENCE South 2°25'03" West with the west line of the Marion Hills Apartments, LLC tract, the southerly East line of the 127.61 acre tract, a distance of 149.43 feet to a 1/2" iron rod (set) for corner;

THENCE North 87°34'57" West a distance of 76.30 feet to a 1/2" iron rod (set) for corner;

THENCE North 52°47'15" West a distance of 53.75 feet to a 1/2" iron rod (set) for corner;

THENCE North 15°47'38" West a distance of 171.25 feet to a 1/2" iron rod (set) for corner;

THENCE North 45°08'24" West a distance of 307.06 feet to a 1/2" iron rod (set) for the beginning of a non-tangent curve to the right, having a radius of 530.00 feet, a chord of South 39° 06' 05" West - 308.94 feet, a distance of 313.49 feet to a 1/2" iron rod (set) for corner at p.t. of same;

THENCE South 56°02'48" West a distance of 120.23 feet to a 1/2" iron rod (set) for corner in the southerly West line of the 127.61 acre tract, the East right-of-way of Indian Lane, in a curve to the left;

THENCE with the East right-of-way of Indian Lane, with a non-tangent curve to the left, having a radius of 550.39 feet, a chord of North 31° 39' 53" West - 72.91 feet, a distance of 72.96 feet to the place of beginning, containing 43.820 acres, or 1,908,818 square feet of land.

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS:

THAT, Jonathan Wang acting herein by and through its duly authorized officer, does hereby adopt this plat designating the hereinabove described property as LANE RANCH, PHASE 1, an addition to the City of Sanger, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parks, and watercourses, and to the public use forever easements for sidewalks, storm drainage facilities, utilities and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be installed, if approved by the City of Sanger. The City of Sanger and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

WITNESS MY HAND this _____ day of _____, 2024.

_____, Owner
 _____, Title and Company

State of Texas
 County of Denton

Before me, the undersigned authority, on this day personally appeared, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

Given under my hand and seal of office this _____ day of _____, 2024.

Notary Public in and for the State of Texas

Print Notary's Name _____
 My Commission Expires _____

Preliminary Plat for Review Purposes Only
 Approved for Preparation of Final Plat
 City of Sanger, TX
 Planning & Zoning Commission

Replace with Final Plat approval per ordinance 10.104(d)(10)(X)

STATE OF TEXAS
 COUNTY OF DENTON

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.



REGISTERED PUBLIC LAND SURVEYOR TEXAS R.P.L.S. NO. 5515 DATE _____

Date: 2-2-24
 Dwg Scale: 1"=60'
 Dwg File: 0001043FPT.DWG
 Project No. 0001043

FPT4

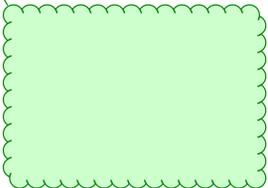
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REVISION APPROVAL
 No. DATE

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 TPE #1-10900
 2785 ROCKBROOK DRIVE, SUITE 105
 LEWISVILLE, TEXAS 75067 (972) 393-9800

Add 3" x 3" recording box at the lower right hand corner. 10.104(d)(10)(N)

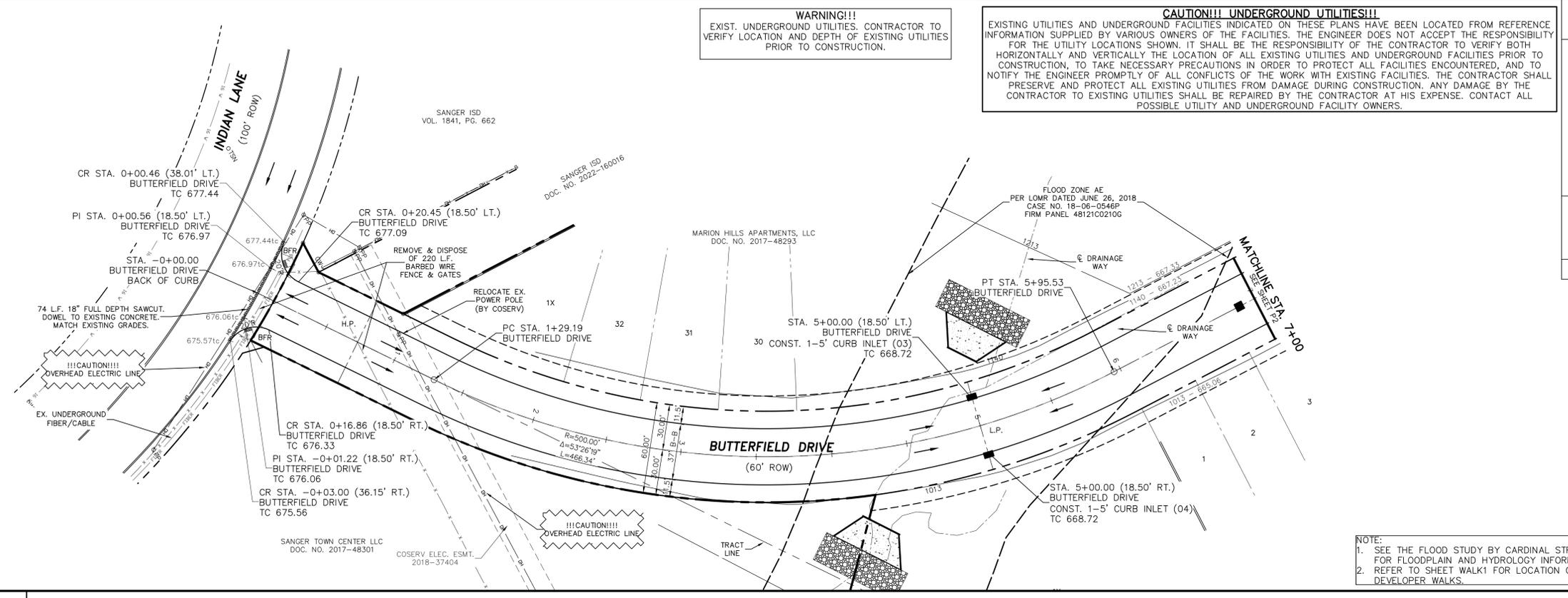
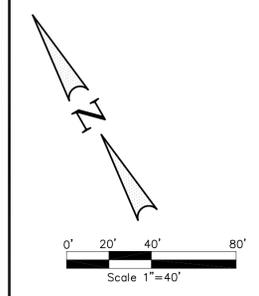


LEGEND

PP	Power Pole
GW	Guy Wire
MH	Manhole
WV	Water Valve
TP	Telephone Pedestal
WM	Water Meter
FH	Fire Hydrant
LP	Light Pole
IV	Irrigation Valve
SN	Sign
RF	Iron Rod Found
IRS	Iron Rod Set

LEGEND

TC	TOP OF CURB
TP	TOP OF PAVEMENT
CR	CURB RETURN
FL	FLOW LINE
VG	VALLEY GUTTER
H.P.	HIGH POINT
L.P.	LOW POINT
2	STREET STATION
BFR	HC RAMP
→	FLOW ARROWS
1140-667.57	FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT
—x—x—	EX. OVERHEAD UTILITY
—x—x—	EX. FENCE
◆	STREET NAME CHANGE



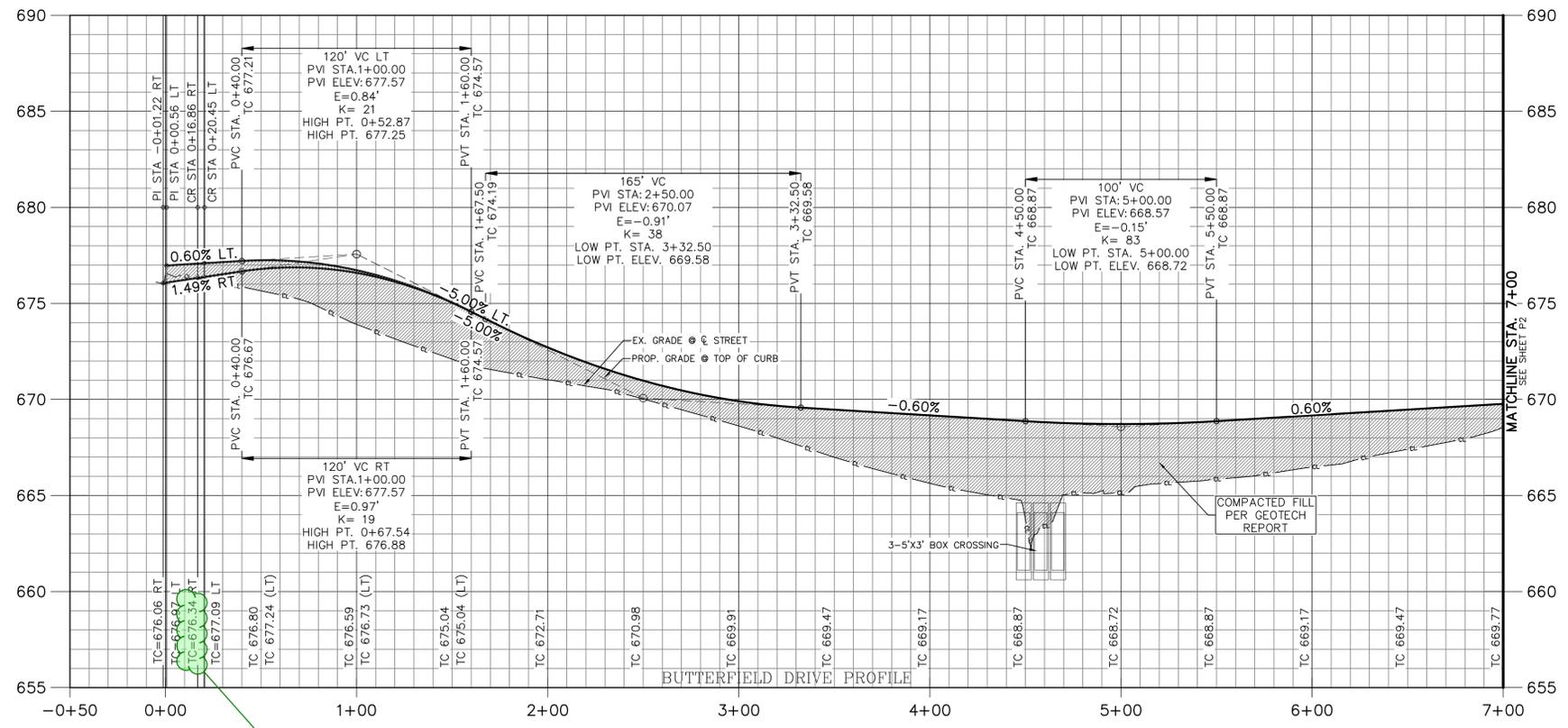
WARNING!!!
EXIST. UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

CAUTION!!! UNDERGROUND UTILITIES!!!
EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. CONTACT ALL POSSIBLE UTILITY AND UNDERGROUND FACILITY OWNERS.

NOTE:
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.

BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07



Does not Match Plan view

APPROV.	
REVISION	
DATE	
No.	

Middleton & Assoc, LLC
 CONSULTING CIVIL ENGINEERS & LAND PLANNERS
 TSPE #F-19900 © Copyright 2024
 2785 ROCKBROOK DRIVE, SUITE 105
 LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.

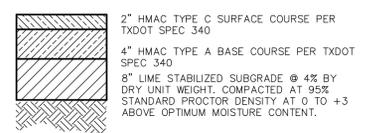
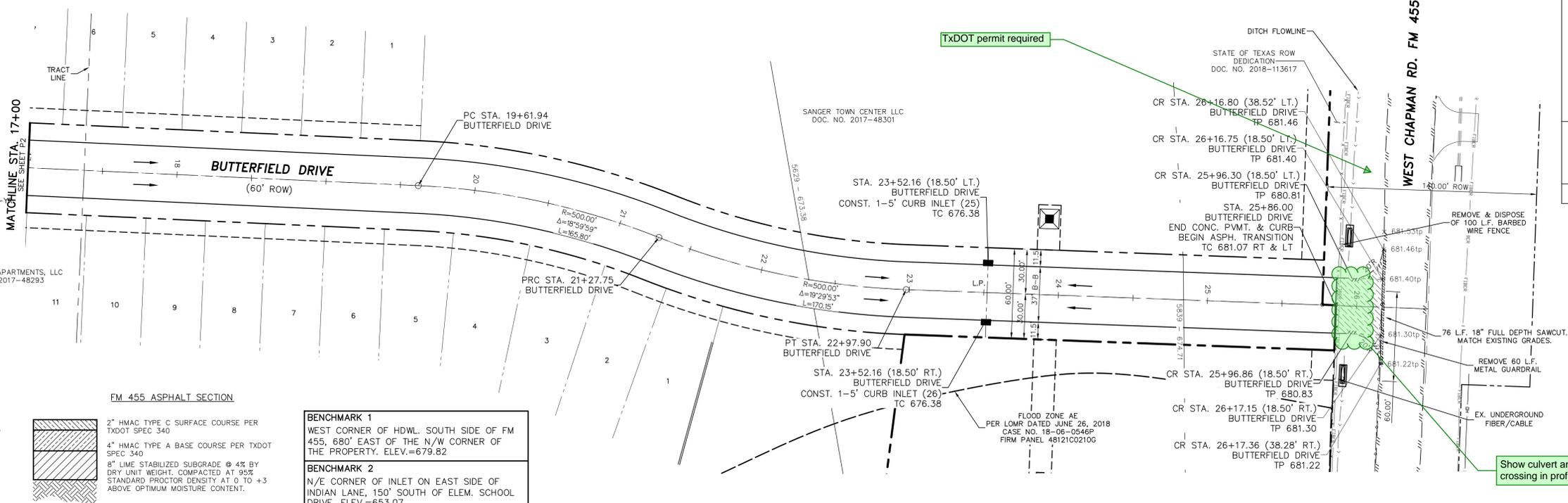
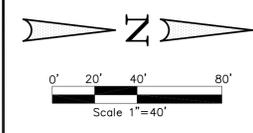
LANE RANCH, PHASE 1
 CITY OF SANGER
 DENTON COUNTY, TEXAS
 SANGER TOWN CENTER LLC &
 MARION PROPERTY HOLDING LLC
 10000 FM 1975, SUITE 105
 COOPER, TEXAS 75018
 JONATHAN WANG - 214-316-2256

PAVING PLAN & PROFILE
BUTTERFIELD DRIVE
STA. 0+00 - 7+00
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 0001043PAV.DWG
Project No. 0001043

P1

- LEGEND**
- PP Power Pole
 - GW Guy Wire
 - MH Manhole
 - WV Water Valve
 - TP Telephone Pedestal
 - WM Water Meter
 - FH Fire Hydrant
 - LP Light Pole
 - IV Irrigation Valve
 - SN Sign
 - RF Iron Rod Found
 - IRS Iron Rod Set
- LEGEND**
- TC TOP OF CURB
 - TP TOP OF PAVEMENT
 - CR CURB RETURN
 - FL FLOW LINE
 - VG VALLEY GUTTER
 - H.P. HIGH POINT
 - L.P. LOW POINT
 - STREET STATION
 - HC RAMP
 - FLOW ARROWS
 - FLOOD CROSS SECTION & 100-
ELEV. PER FLOOD REPORT
 - EX. OVERHEAD UTILITY
 - EX. FENCE
 - STREET NAME CHANGE



BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

NOTE:
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.

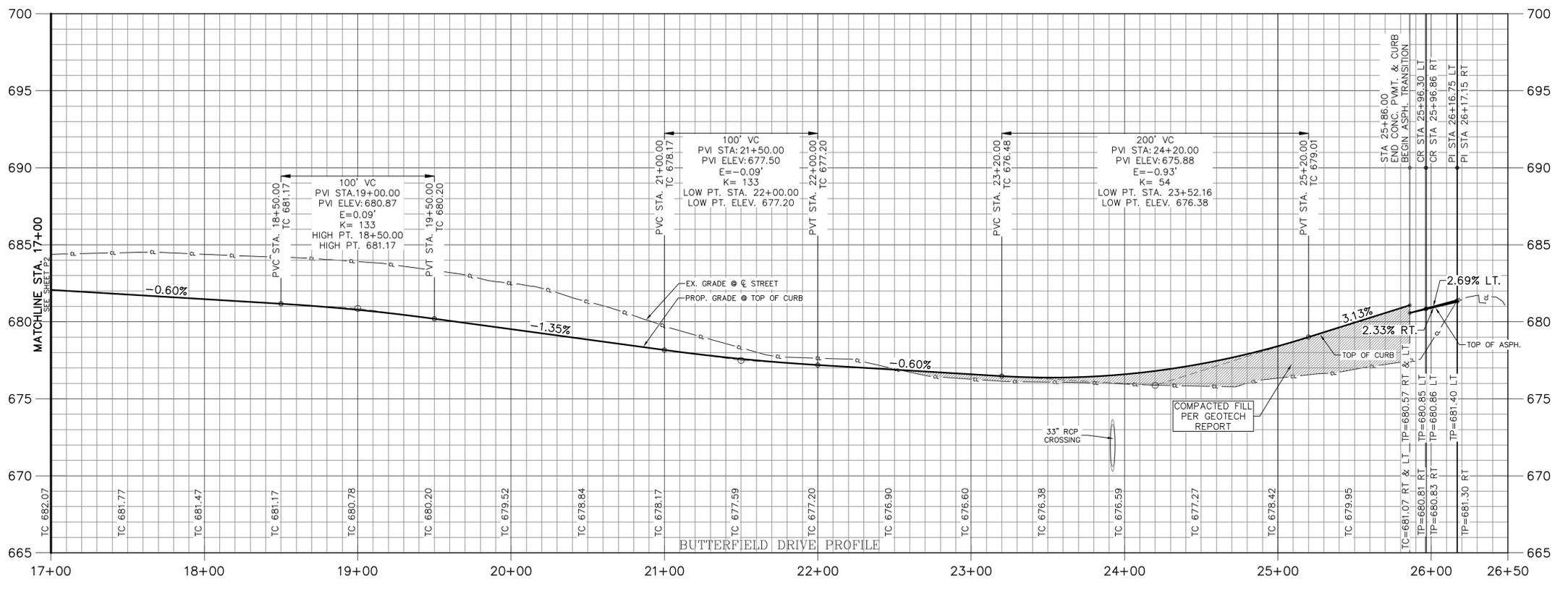
WARNING!!!
EXIST. UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROV.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67489.

Middleton & Assoc, LLC
CONSULTING CIVIL ENGINEERS & LAND PLANNERS
TSPE #119900
2785 ROCKBROOK DRIVE, SUITE 105
LEWISVILLE, TEXAS 75067-3933-9800

LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
10001 PINEAPPLE LANE
LOPPLE, TEXAS 75019
JONATHAN WANG - 214-316-2256

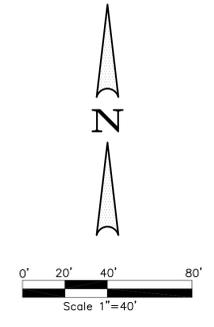


PAVING PLAN & PROFILE
BUTTERFIELD DRIVE
STA. 17+00 - END
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 0001043PAV.DWG
Project No. 0001043

LEGEND	
PP	Power Pole
GW	Guy Wire
MH	Manhole
WV	Water Valve
TP	Telephone Pedestal
WM	Water Meter
FH	Fire Hydrant
LP	Light Pole
IV	Irrigation Valve
SN	Sign
RF	Iron Rod Found
IRS	Iron Rod Set

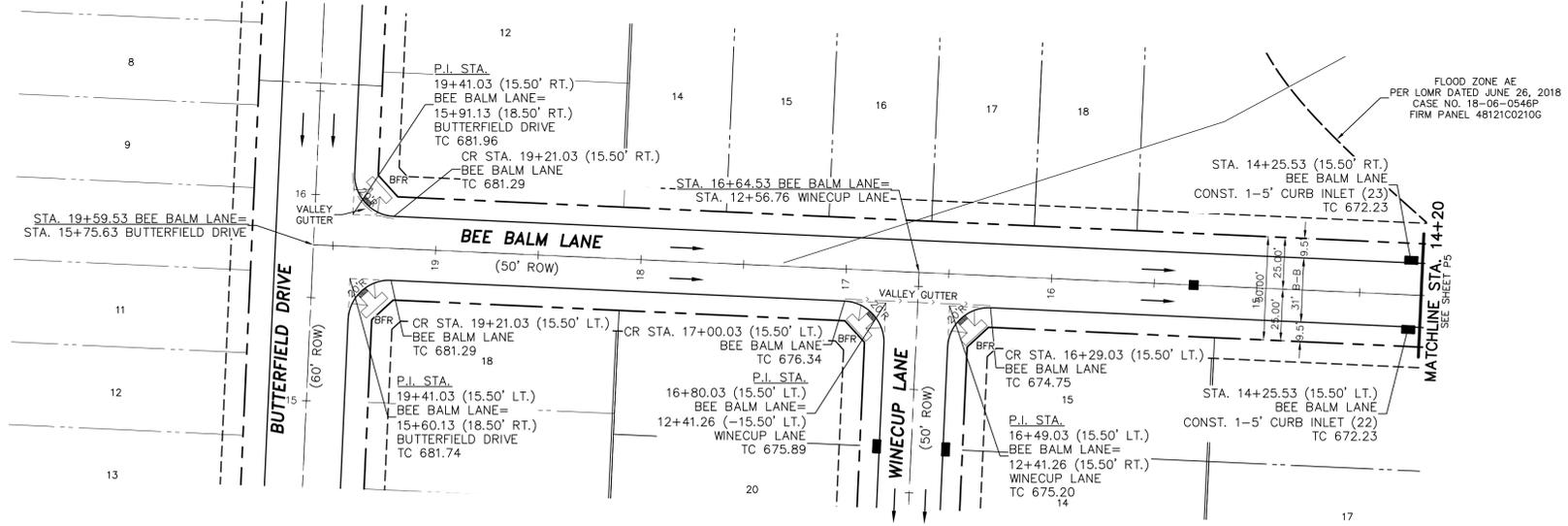
LEGEND	
TC	TOP OF CURB
TP	TOP OF PAVEMENT
CR	CURB RETURN
FL	FLOW LINE
VG	VALLEY GUTTER
H.P.	HIGH POINT
L.P.	LOW POINT
2	STREET STATION
BFR	HC RAMP
→	FLOW ARROWS
1140-667.57	FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT
—BH—	EX. OVERHEAD UTILITY
-x-x-	EX. FENCE
◆	STREET NAME CHANGE



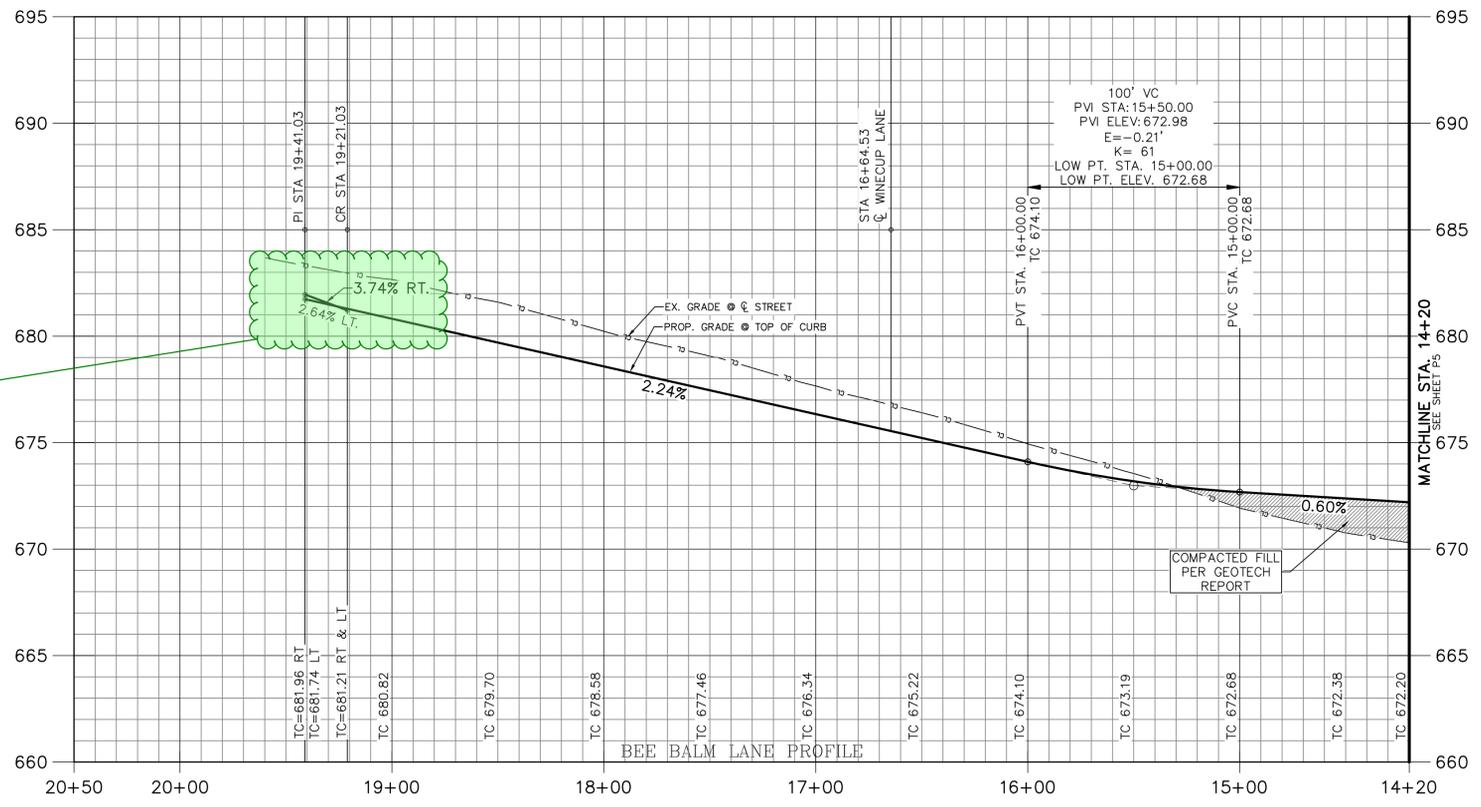
BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4).



NOTE:
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.



NO.	DATE	REVISION	APPROV.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.



LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
1000 PINE HILL
COOPER, TEXAS 75019
JONATHAN WANG - 214-316-2256

PAVING PLAN & PROFILE
BEE BALM LANE
STA. 14+20 - END
LANE RANCH, PHASE 1

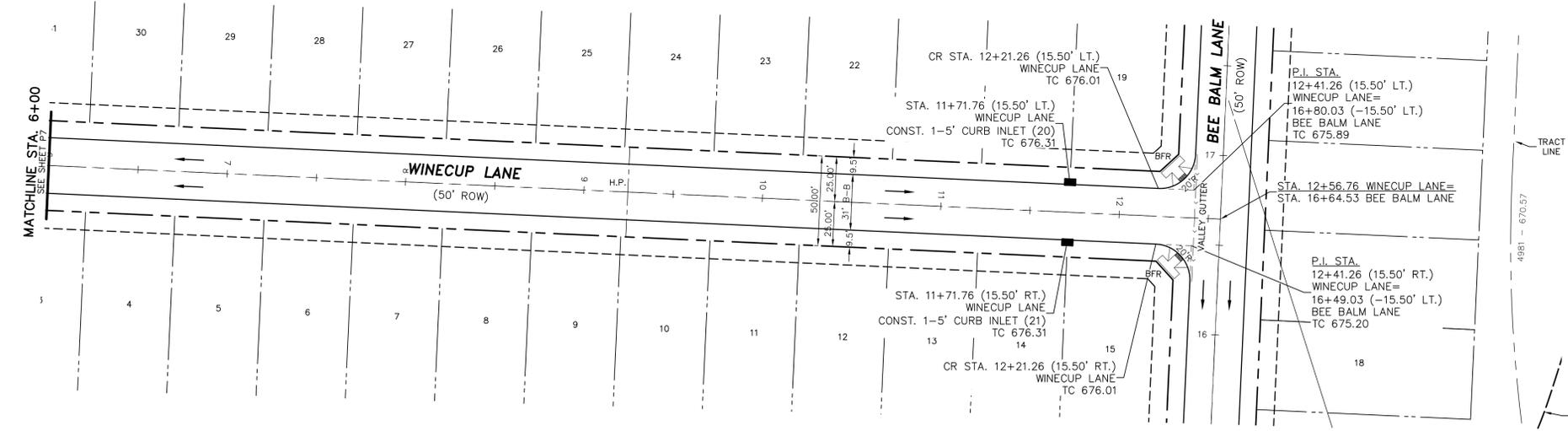
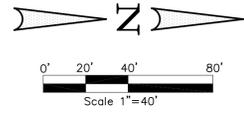
Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 0001043PAV.DWG
Project No. 0001043

LEGEND

PP	Power Pole
CW	Guy Wire
MH	Manhole
WV	Water Valve
TP	Telephone Pedestal
WM	Water Meter
FH	Fire Hydrant
LP	Light Pole
IV	Irrigation Valve
SN	Sign
RF	Iron Rod Found
IRS	Iron Rod Set

LEGEND

TC	TOP OF CURB
TP	TOP OF PAVEMENT
CR	CURB RETURN
FL	FLOW LINE
VG	VALLEY GUTTER
H.P.	HIGH POINT
L.P.	LOW POINT
2	STREET STATION
BFR	HC RAMP
→	FLOW ARROWS
1140-667.57	FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT
—x—x—	EX. OVERHEAD UTILITY
—x—x—	EX. FENCE
◆	STREET NAME CHANGE



FLOOD ZONE AE
PER LOMR DATED JUNE 26, 2018
CASE NO. 18-06-0546P
FIRM PANEL 48121C0210G

NOTE:
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.

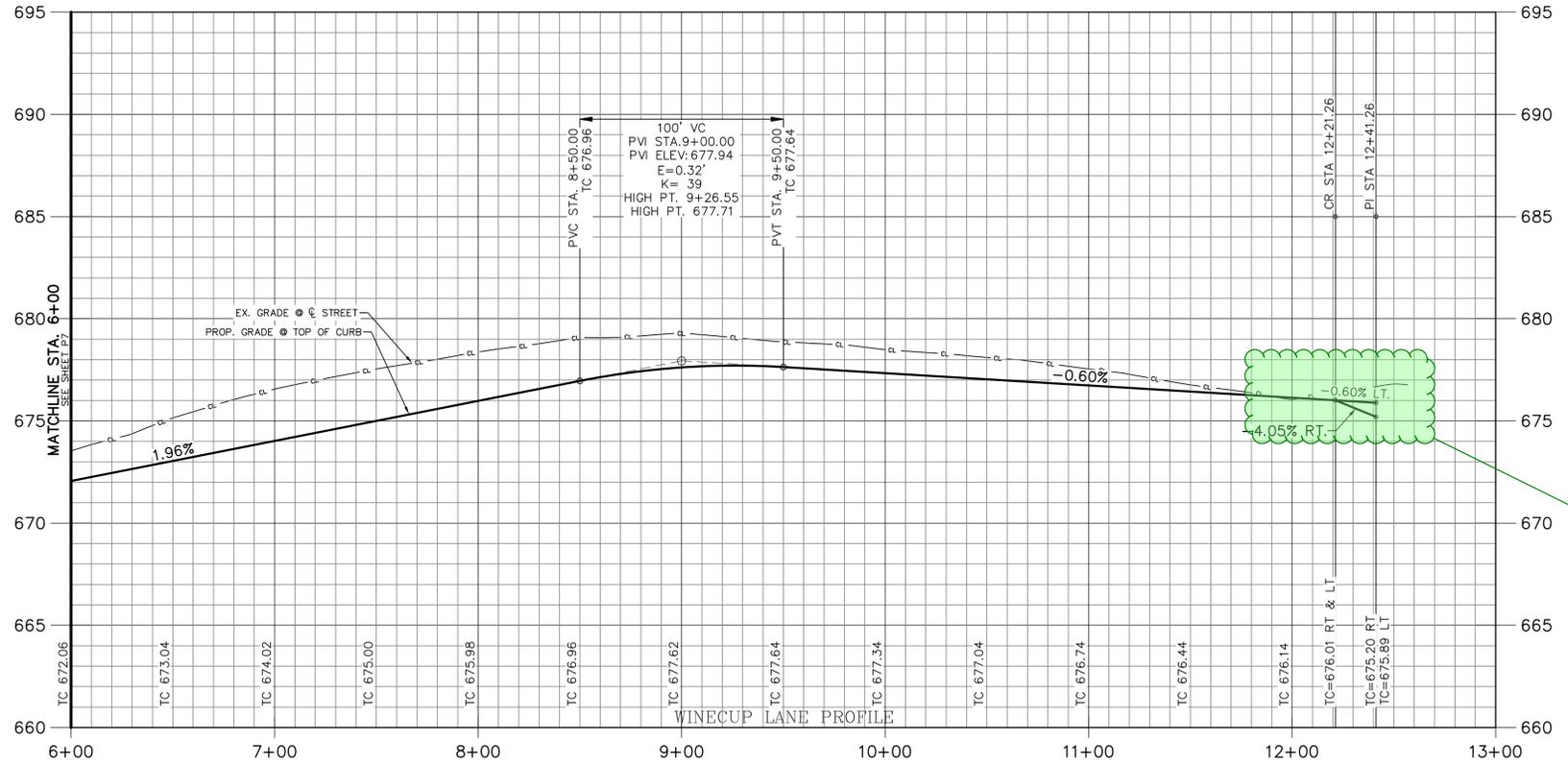


LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
10000 PINE TREE
COOPER, TEXAS 75018
JONATHAN WANG — 214-316-2256

No.	DATE	REVISION	APPROV.

BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

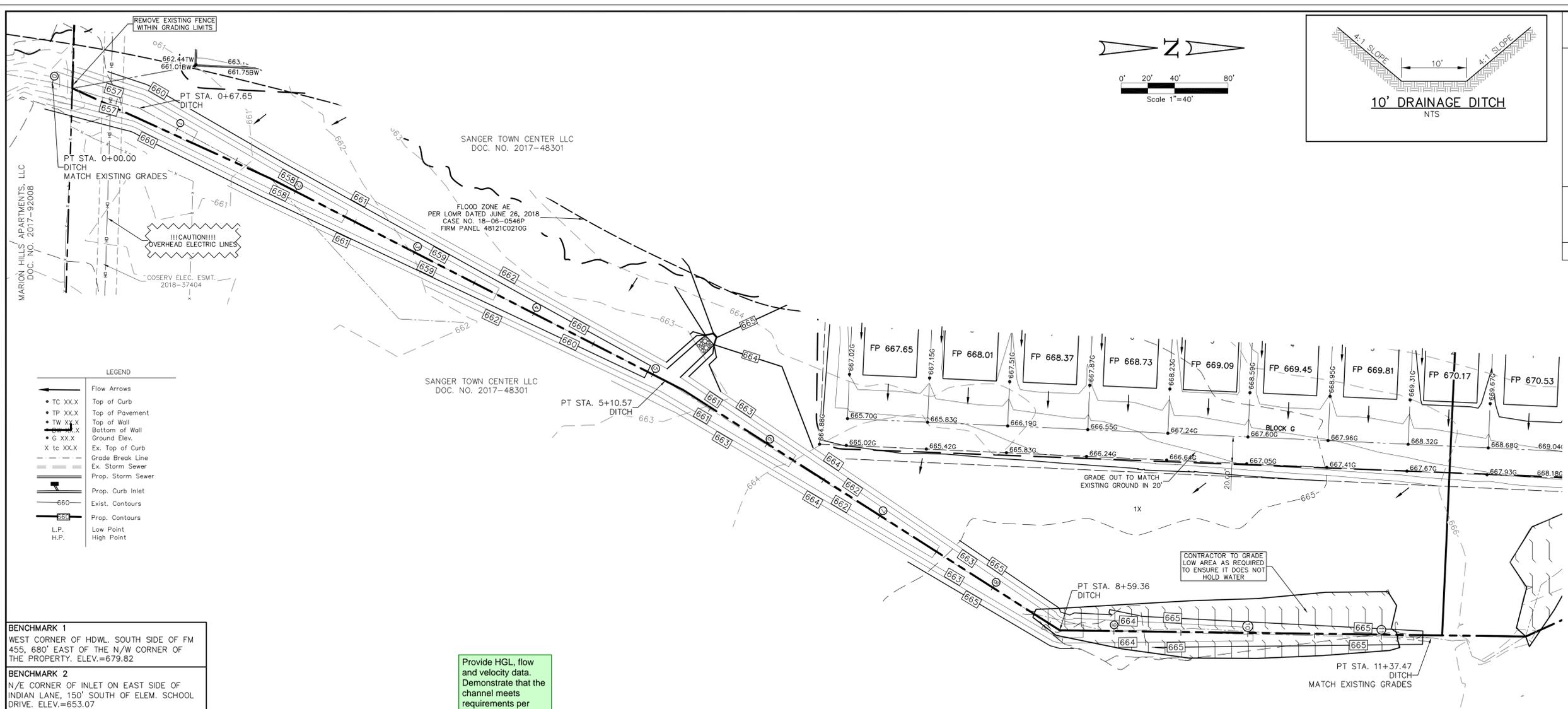
BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07



Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4).

PAVING PLAN & PROFILE
WINECUP LANE
STA. 6+00 - END
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 0001043PAV.DWG
Project No. 0001043



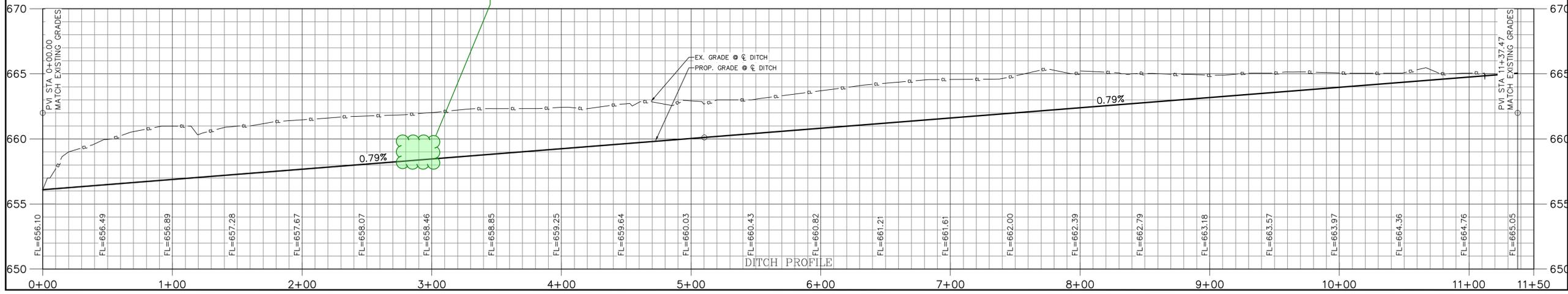
LEGEND

- Flow Arrows
- TC XX.X Top of Curb
- TP XX.X Top of Pavement
- TW XX.X Top of Wall
- BW XX.X Bottom of Wall
- G XX.X Ground Elev.
- X to XX.X Ex. Top of Curb
- Grade Break Line
- - - Ex. Storm Sewer
- Prop. Storm Sewer
- Prop. Curb Inlet
- 660 Exist. Contours
- 660 Prop. Contours
- L.P. Low Point
- H.P. High Point

BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Provide HGL, flow and velocity data. Demonstrate that the channel meets requirements per ordinance 10.106(d)(9)(B)



APPROV.	
REVISION	
DATE	
No.	

Middleton & Assoc, LLC
CONSULTING CIVIL ENGINEERS & LAND PLANNERS
CSPE #119900
2785 ROCKBROOK DRIVE, SUITE 105
LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.

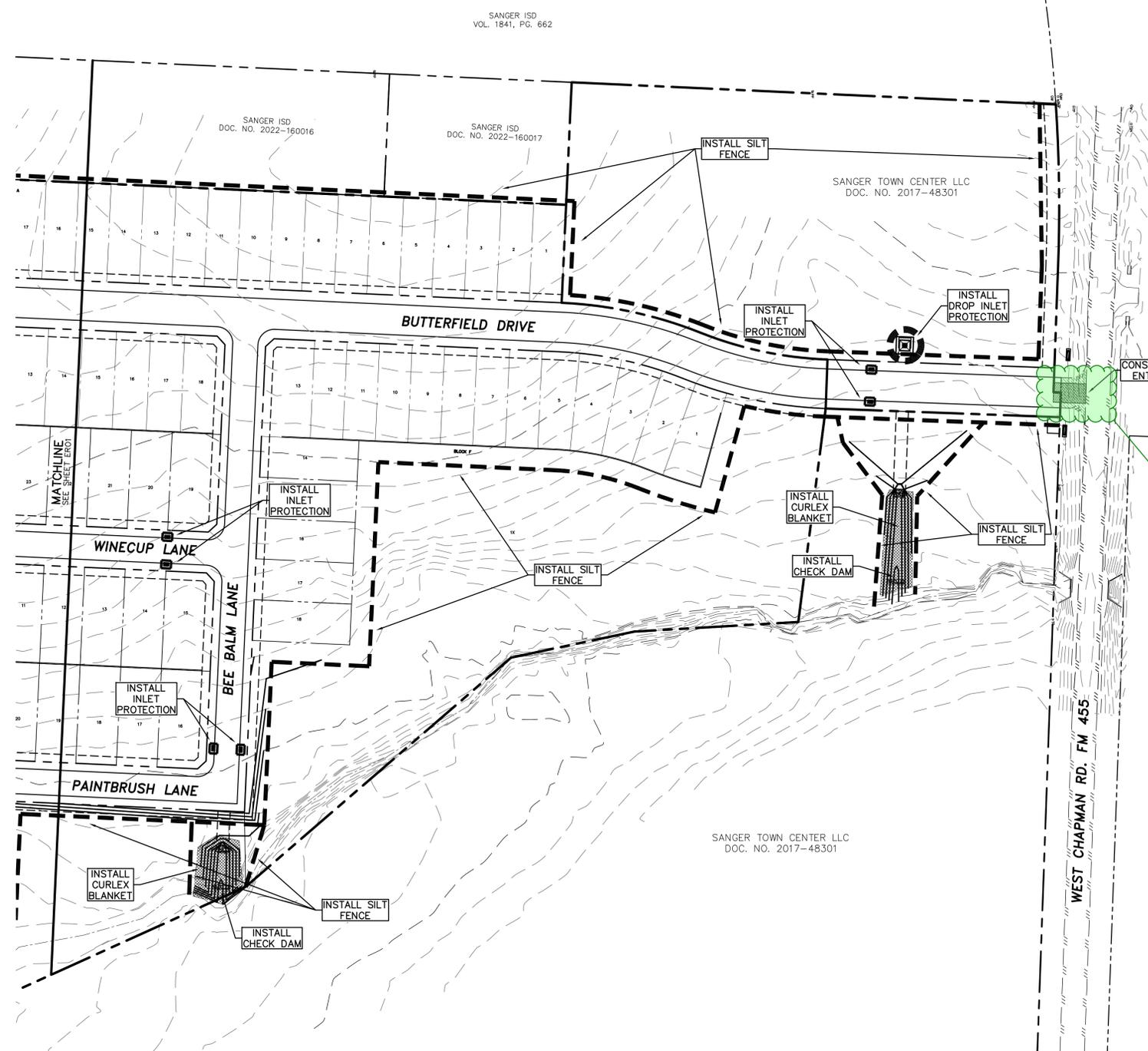
LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
1000 COPPEL DRIVE
SANGER, TEXAS 75018
JONATHAN WANG - 214-316-2256

LOT GRADING PLAN

LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert.
Dwg File: 0001043SITE.DWG
Project No. 0001043

G5



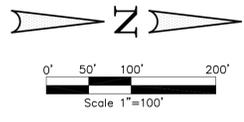
- EROSION CONTROL GENERAL NOTES:**
1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
 2. ALL SEEDING AND FERTILIZATION OF DISTURBED AREAS WILL BE THE RESPONSIBILITY OF THE EROSION CONTROL CONTRACTOR. SEEDING WILL BE DONE PRIOR TO ANY EROSION CONTROL BLANKET INSTALLATIONS.
 3. EROSION PROTECTION WILL BE DELETED OR ADDED PER THE COUNTY.
 4. THE SWPPP INSPECTOR SHALL MAKE INSPECTIONS OF THE EROSION CONTROL DEVICES EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN DEPTH.
 5. THE EROSION CONTROL CONTRACTOR SHALL SEED, WATER, AND FERTILIZE ALL DISTURBED AREAS BY THE 14TH DAY AFTER THE LAST DISTURBANCE (EXCEPT THOSE WITHIN LANDSCAPED AREAS) UNTIL SUFFICIENT GRASS GROWTH HAS BEEN PROVIDED TO STOP EROSION. SILT FENCES SHALL REMAIN IN GOOD WORKING CONDITION UNTIL GRASS HAS BEEN ESTABLISHED.
 6. THE POST DEVELOPMENT RUNOFF COEFFICIENT IS 0.55.
 7. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGE WAYS OR BORROW DITCHES AT RISK OF CONTRACTOR.
 8. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE.
 9. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGE WAYS OR BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.
 10. SILT FENCES SHALL BE MRF1 100 X OR APPROVED EQUAL AND INSTALLED PER MANUFACTURER RECOMMENDATIONS.
 11. EROSION CONTROL BLANKETS SHALL BE CURLEX I OR APPROVED EQUAL FOR ALL SLOPES FROM 4:1 TO FLATTER. ALL OTHER SLOPES FROM 4:1 OR GREATER SHALL BE CURLEX II OR APPROVED EQUAL. ALL AREAS REQUIRING EROSION CONTROL BLANKETS SHALL BE SEED AND FERTILIZED PRIOR TO EROSION CONTROL BLANKET INSTALLATION.
 12. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES ALREADY IN PLACE. CONTRACTOR SHALL REMOVE AND REPLACE EROSION CONTROL AS NEEDED FOR CONSTRUCTION OR ACCESS. ALL EROSION CONTROL MUST BE IN PLACE AT THE END OF EACH DAY.
 13. ALL PERIMETER PROTECTION SHALL BE INSTALLED PRIOR TO EXTENSIVE ON-SITE GRADING.
 14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE WHATEVER MEANS ARE NECESSARY TO CONTROL AND LIMIT SILT AND SEDIMENT LEAVING THE SITE. SPECIFICALLY, THE CONTRACTOR SHALL PROTECT ALL PUBLIC STREETS, ALLEYS, STREAMS, STORM DRAIN SYSTEMS AND INLETS FROM EROSION DEPOSITS.
 15. USE OF ON-SITE FUEL STORAGE TANKS IS DISCOURAGED. HOWEVER, IF USED, THE PREVENTION OF HAZARDS TO THE GROUND WATER IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR UTILIZING SAID STORAGE. SEE NCTCOG CONSTRUCTION BMP MANUAL SECTION 4 HAZARDOUS WASTE MANAGEMENT.
 16. A CENTRALIZED PIT/WASH BASIN SHALL BE CONSTRUCTED ON-SITE FOR THE PURPOSE OF CONCRETE TRUCK WASHING. SEE NCTCOG CONSTRUCTION BMP MANUAL SECTION 4 HAZARDOUS WASTE MANAGEMENT.
 17. "SEDIMENT BARRIER" INDICATES SILT FENCE OR CHECK DAM (OR A COMBINATION OF THE TWO), AS SELECTED BY THE CONTRACTOR AND APPROVED BY THE CONSULTANT ENGINEER.
 18. CONTRACTORS SHALL PARK, STORE EQUIPMENT AND MATERIALS, AND SERVICE VEHICLES AT THE "PARKING AND STORAGE AREA". THE LOCATION OF SAID AREA IS TO BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE.
 19. CONSTRUCTION ENTRANCES ARE TO BE INSTALLED AT ALL POINTS WHERE EQUIPMENT ENTERS OR LEAVES THE SITE. THE LOCATION OF SAME IS TO BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE.

Provide dimensions

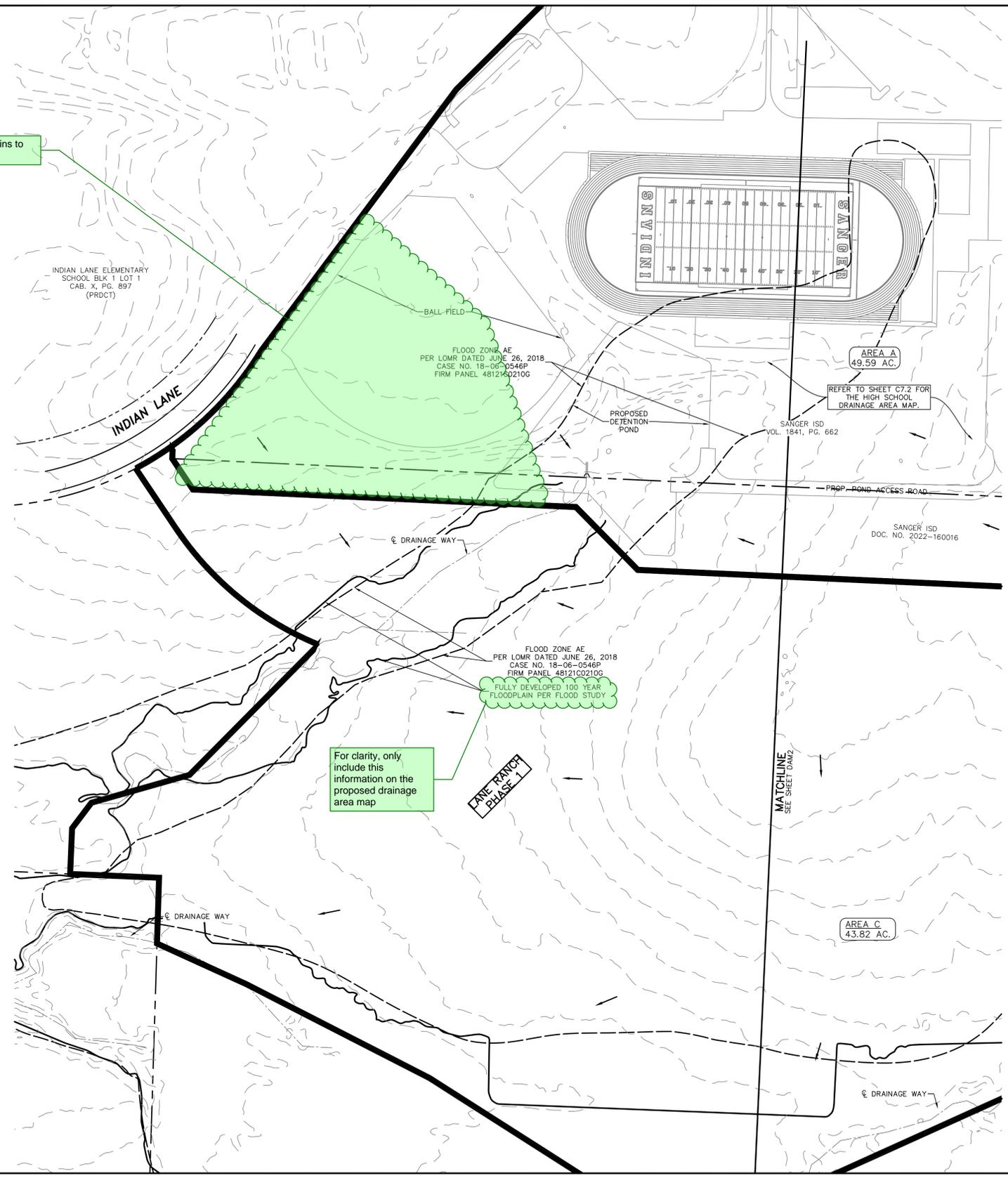
LEGEND

	Ex. Storm Sewer
	Prop. Storm Sewer
	Prop. Curb Inlet
	Exist. Contours
	Prop. Contours
	Prop. Silt Fence
	Prop. Curb Inlet Protection
	Prop. Drop Inlet Protection
	Prop. Construction Entrance
	Prop. Curlex & Grass Seed
	Prop. Rock Check Dam

DATE	REVISION	APPROV.
Middleton & Assoc., LLC CONSULTING CIVIL ENGINEERS & LAND PLANNERS TSPE #F-10900 © Copyright 2024 2785 ROCKBROOK DRIVE, SUITE 105 LEWISVILLE, TEXAS 75067 (972) 393-9800		
THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.		
EROSION CONTROL PLAN LANE RANCH, PHASE 1 CITY OF SANGER, TEXAS SANGER TOWN CENTER LLC & MARION PROPERTY HOLDING LLC 1000 WEST CHAPMAN RD. COPPELL, TEXAS 75019 JONATHAN WANG - 214-316-2256		
Date: 2-2-24 Dwg Scale: Hor. 1"=80' Vert. 0001043ERO.DWG Dwg File: 0001043ERO.DWG Project No. 0001043		
ERO2		



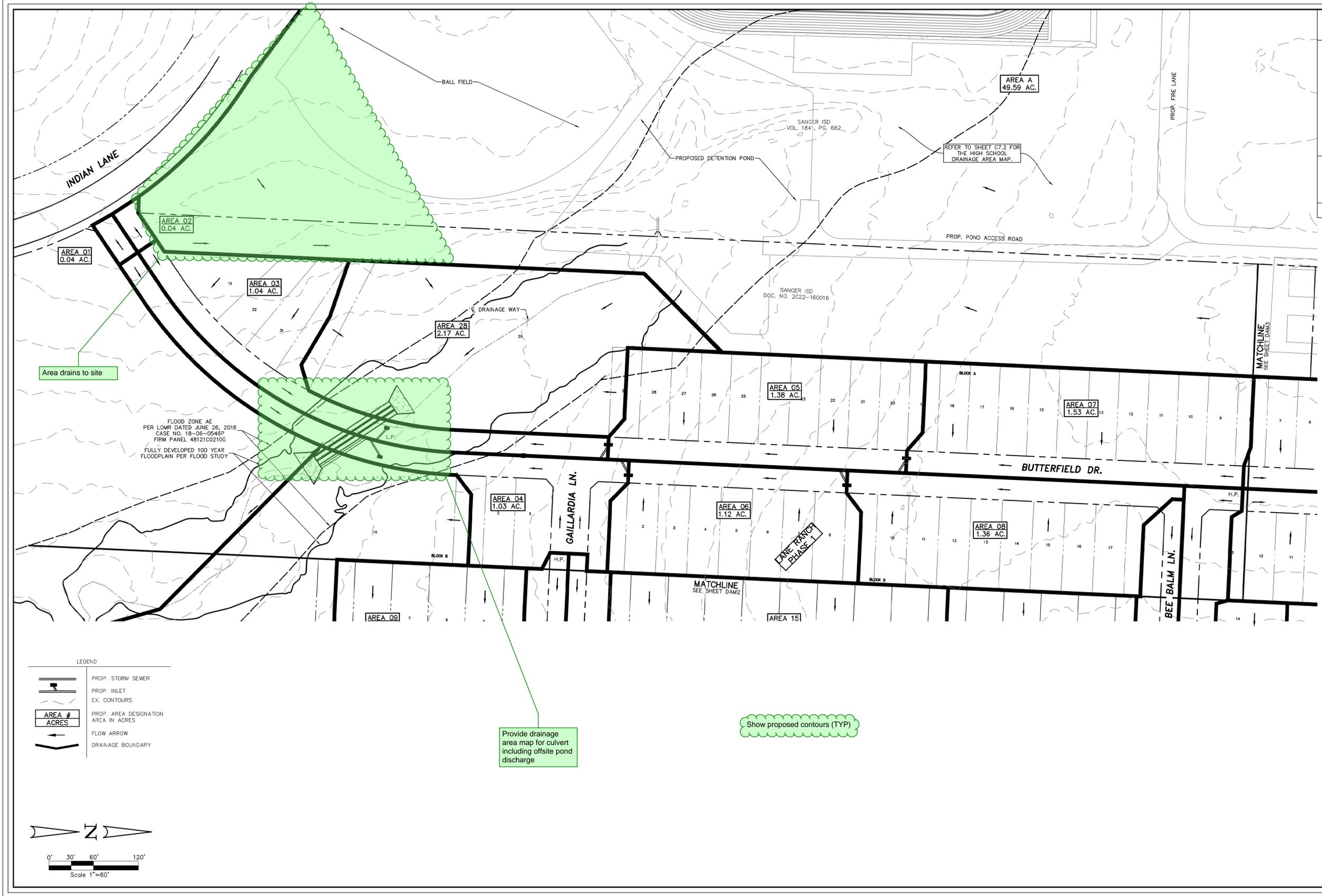
This area drains to the site



LEGEND

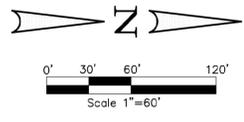
	EX. CONTOURS
	EX. AREA DESIGNATION AREA IN ACRES
	FLOW ARROW
	DRAINAGE BOUNDARY

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.			
DATE	REVISION	APPROV.	
No.			
LANE RANCH, PHASE 1 CITY OF SANGER DENTON COUNTY, TEXAS SANGER TOWN CENTER LLC & MARION PROPERTY HOLDING LLC 1000 WEST 10TH STREET COPPELL, TEXAS 75018 JONATHAN WANG — 214-316-2256		Middleton & Assoc, LLC CONSULTING CIVIL ENGINEERS & LAND PLANNERS TSPE #1-10900 2785 ROCKBROOK DRIVE, SUITE 105 LEWISVILLE, TEXAS 75067 (972) 393-9800	
DRAINAGE AREA MAP EXISTING CONDITIONS		LANE RANCH, PHASE 1	
Date:	2-2-24		
Dwg Scale:	Hor. 1"=100'		
	Vert.		
Dwg File:	0001043DAM.DWG		
Project No.:	0001043		
DAM1			



LEGEND

	PROP. STORM SEWER
	PROP. INLET
	EX. CONTOURS
	PROP. AREA DESIGNATION AREA IN ACRES
	FLOW ARROW
	DRAINAGE BOUNDARY

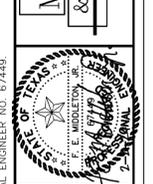


FLOOD ZONE AE
PER LOMR DATED JUNE 26, 2018
CASE NO. 18-06-0548P
FIRM PANEL 4812100210G
FULLY DEVELOPED 100 YEAR
FLOODPLAIN PER FLOOD STUDY

Provide drainage
area map for culvert
including offsite pond
discharge

Show proposed contours (TYP)

No.	DATE	REVISION	APPROV.



LANE RANCH, PHASE 1
CITY OF SANGER
DENON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
1000 COPPEL LN., SUITE 100
SANGER, TEXAS 75018
JONATHAN WANG — 214-316-2256

**DRAINAGE AREA MAP
PROPOSED CONDITIONS**
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=60'
Vert. 1"=60'
Dwg File: 0001043DAM.DWG
Project No. 0001043

DAM3

Middleton & Assoc, LLC
CONSULTING CIVIL ENGINEERS & LAND PLANNERS
CSPE #119900
2785 ROCKBROOK DRIVE, SUITE 105
LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE
RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR.,
REGISTERED PROFESSIONAL ENGINEER NO. 67449.

MATCHLINE
SEE SHEET DAM3

MATCHLINE
SEE SHEET DAM2

REFER TO SHEET C7.2 FOR
THE HIGH SCHOOL
DRAINAGE AREA MAP.

SANGER ISD
DOC. NO. 2022-160016

SANGER ISD
VOL. 1841, PG. 662

BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

BUTTERFIELD DR.

GAILLARDIA LN.

BEE BALM LN.

LANE RANCH
PHASE 1

MATCHLINE
SEE SHEET DAM3

MATCHLINE
SEE SHEET DAM2

REFER TO SHEET C7.2 FOR
THE HIGH SCHOOL
DRAINAGE AREA MAP.

SANGER ISD
DOC. NO. 2022-160016

SANGER ISD
VOL. 1841, PG. 662

BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

BUTTERFIELD DR.

GAILLARDIA LN.

BEE BALM LN.

LANE RANCH
PHASE 1

MATCHLINE
SEE SHEET DAM3

MATCHLINE
SEE SHEET DAM2

REFER TO SHEET C7.2 FOR
THE HIGH SCHOOL
DRAINAGE AREA MAP.

SANGER ISD
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SANGER ISD
VOL. 1841, PG. 662

BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

BUTTERFIELD DR.

GAILLARDIA LN.

BEE BALM LN.

LANE RANCH
PHASE 1

MATCHLINE
SEE SHEET DAM3

MATCHLINE
SEE SHEET DAM2

REFER TO SHEET C7.2 FOR
THE HIGH SCHOOL
DRAINAGE AREA MAP.

SANGER ISD
DOC. NO. 2022-160016

SANGER ISD
VOL. 1841, PG. 662

BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

BUTTERFIELD DR.

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LANE RANCH
PHASE 1

MATCHLINE
SEE SHEET DAM3

MATCHLINE
SEE SHEET DAM2

REFER TO SHEET C7.2 FOR
THE HIGH SCHOOL
DRAINAGE AREA MAP.

SANGER ISD
DOC. NO. 2022-160016

SANGER ISD
VOL. 1841, PG. 662

BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

BUTTERFIELD DR.

GAILLARDIA LN.

BEE BALM LN.

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BALL FIELD

PROP. FIRE LANE

PROP. POND ACCESS ROAD

Provide this data

**DRAINAGE AREA CALCULATIONS
EXISTING CONDITIONS
SANGER RESIDENTIAL PHASE 1**

Drainage Area	Area (ac)	Runoff Coefficient	Time of Concentration (min)	Intensity 10 Year (in/hr)	Intensity 100 Year (in/hr)	Q 10 Year (cfs)	Q 100 Year (cfs)
A							
B							
C	43.82	0.30	15	6.60	9.60	88.76	126.20
D	0.44	0.90	15	6.60	9.60	2.61	3.80

**DRAINAGE AREA CALCULATIONS
DEVELOPED CONDITIONS
SANGER RESIDENTIAL PHASE 1**

Drainage Area	Area (ac)	Runoff Coefficient "C"	Time of Concentration (min)	Intensity 10 Year (in/hr)	Intensity 100 Year (in/hr)	Q 10 Year (cfs)	Q 100 Year (cfs)
1	0.04	0.90	15	6.60	9.60	0.24	0.35
2	0.04	0.90	15	6.60	9.60	0.24	0.35
3	1.04	0.55	15	6.60	9.60	3.78	5.49
4	1.03	0.55	15	6.60	9.60	3.74	5.44
5	1.38	0.55	15	6.60	9.60	5.01	7.29
6	1.12	0.55	15	6.60	9.60	4.07	5.91
7	1.53	0.55	15	6.60	9.60	5.55	8.08
8	1.36	0.55	15	6.60	9.60	4.94	7.18
9	1.27	0.55	15	6.60	9.60	4.61	6.71
10	0.59	0.55	15	6.60	9.60	2.14	3.12
11	0.74	0.55	15	6.60	9.60	2.69	3.91
12	0.33	0.55	15	6.60	9.60	1.20	1.74
13	0.93	0.55	15	6.60	9.60	3.38	4.91
14	1.49	0.55	15	6.60	9.60	5.41	7.87
15	1.46	0.55	15	6.60	9.60	5.30	7.71
16	1.46	0.55	15	6.60	9.60	5.30	7.71
17	1.56	0.55	15	6.60	9.60	5.66	8.24
18	0.41	0.55	15	6.60	9.60	1.49	2.16
19	1.19	0.55	15	6.60	9.60	4.32	6.28
20	0.84	0.55	15	6.60	9.60	3.05	4.44
21	0.84	0.55	15	6.60	9.60	3.05	4.44
22	0.68	0.55	15	6.60	9.60	2.47	3.59
23	0.59	0.55	15	6.60	9.60	2.14	3.12
24	0.55	0.55	15	6.60	9.60	2.00	2.90
25	1.41	0.55	15	6.60	9.60	5.12	7.44
26	2.02	0.55	15	6.60	9.60	7.33	10.67
27	4.34	0.90	10	6.60	9.60	25.78	37.50
28	2.17	0.30	10	6.60	9.60	4.30	6.25
OS-1	0.74	0.70	10	6.60	9.60	3.42	4.97
OS-2	0.44	0.90	10	6.60	9.60	2.61	3.80
OS-3	0.28	0.90	10	6.60	9.60	1.66	2.42
OS-4	11.38	0.30	10	6.60	9.60	22.53	32.77

Show calculations for the culverts. Plan set will be provided for future record requests and this information needs to be available.

ON GRADE INLET CALCULATIONS

Inlet No.	Location	DRAINAGE AREA				Gutter Slope S (ft/ft)	Street Section (type)	Pavement Cross Slope Sx (ft/ft)	Cross Slope of Gutter sx (ft/ft)	Mannings Coefficient for pavement (n)	100 Year Intensity (in./hr.)	100 Year Runoff (cfs)	100 Year Carryover Flow (cfs)	100 Year Total Flow Q (cfs)	Street Capacity Half Section (cfs)	Right of Way Capacity Half Section (cfs)	Design Storm of Inlet	Depth of Flow at Inlet for 100 Year Y (ft)	Spread of Flow for 100 Year T (ft)	Pick up per Foot Qo/Lo (cfs/ft)	Length of Inlet Required Lo (ft)	Length of Inlet Provided L (ft)	L/Lo	Q/Go	Inlet Capacity Q (cfs)	100 Year Carryover Flow (cfs)	Comments	
		Area (Ac.)	Runoff Coefficient C	Time of Concentration (min.)																								
1																												
5	8+01.94 Butterfield Drive (Lt.)	5	1.38	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	7.29	0.00	7.29	14.45	39.78	100 Yr	0.387	13.93	0.85	8.56	10	1.17	1.17	8.52	0.00	Curb Inlet	
6	8+30.63 Butterfield Drive (Rt.)	6	1.12	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.91	0.00	5.91	14.45	39.78	100 Yr	0.358	12.88	0.82	7.21	10	1.39	1.39	8.20	0.00	Curb Inlet	
7	12+01.94 Butterfield Drive (Lt.)	7	1.53	0.55	15 min.	0.0070	straight crown	0.0278	0.267	0.017	9.60	8.08	0.00	8.08	15.61	42.97	100 Yr	0.391	14.06	0.86	9.44	10	1.06	1.06	8.56	0.00	Curb Inlet	
8	11+23.72 Butterfield Drive (Rt.)	8	1.36	0.55	15 min.	0.0070	straight crown	0.0278	0.267	0.017	9.60	7.18	0.00	7.18	15.61	42.97	100 Yr	0.374	13.46	0.84	8.57	10	1.17	1.17	8.38	0.00	Curb Inlet	
10	0+91.76 Winecup Lane (Rt.)	10	0.59	0.55	15 min.	0.0096	straight crown	0.0333	0.267	0.017	9.60	3.12	0.00	3.12	24.71	50.32	100 Yr	0.276	8.29	0.73	4.24	5	1.18	1.18	3.67	0.00	Curb Inlet	
15	5+21.76 Winecup Lane (Lt.)	15	1.46	0.55	15 min.	0.0176	straight crown	0.0333	0.267	0.017	9.60	7.71	0.00	7.71	20.57	39.50	100 Yr	0.346	10.39	0.81	9.55	10	1.05	1.05	8.08	0.00	Curb Inlet	
16	5+21.76 Winecup Lane (Rt.)	16	1.46	0.55	15 min.	0.0176	straight crown	0.0333	0.267	0.017	9.60	7.71	0.00	7.71	20.57	39.50	100 Yr	0.346	10.39	0.81	9.55	10	1.05	1.05	8.08	0.00	Curb Inlet	
17	9+04.76 Paintbrush Lane (Lt.)	17	1.56	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	8.24	0.38	8.62	12.01	23.06	100 Yr	0.441	13.25	0.91	9.47	10	1.06	1.06	9.11	0.00	Curb Inlet	
18	9+34.76 Paintbrush Lane (Rt.)	18	0.41	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	2.16	0.00	2.16	12.01	23.06	100 Yr	0.263	7.90	0.72	3.00	5	1.67	1.67	3.61	0.00	Curb Inlet	
20	11+71.76 Winecup Lane (Lt.)	20	0.84	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.44	0.00	4.44	12.01	23.06	100 Yr	0.344	10.33	0.81	5.51	5	0.91	0.91	4.03	0.41	Curb Inlet	
21	11+71.76 Winecup Lane (Rt.)	21	0.84	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.44	0.00	4.44	12.01	23.06	100 Yr	0.344	10.33	0.81	5.51	5	0.91	0.91	4.03	0.41	Curb Inlet	
22	14+25.53 Bee Balm Lane (Lt.)	22	0.68	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	3.59	0.82	4.41	12.01	23.06	100 Yr	0.343	10.30	0.80	5.48	5	0.91	0.91	4.02	0.38	Curb Inlet	
23	14+25.53 Bee Balm Lane (Rt.)	23	0.59	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	3.12	0.00	3.12	12.01	23.06	100 Yr	0.301	9.05	0.76	4.09	5	1.22	1.22	3.81	0.00	Curb Inlet	

For clarity, it is suggested to match the inlet No. with the naming convention in the plan view and on the hydraulic calculations.

NOTES:
1) THE PAVEMENT SECTION IS 30' F-F WITH A 6" CURB AND 6" CROWN EXCEPT FOR BUTTERFIELD WHICH IS 36' F-F.

SUMP INLET CALCULATIONS

Inlet No.	Location	DRAINAGE AREA				Minimum Incoming Gutter Slope S (ft/ft)	Street Section (type)	Pavement Cross Slope Sx (ft/ft)	Cross Slope of Gutter sx (ft/ft)	Mannings Coefficient for pavement (n)	100 Year Intensity (in./hr.)	100 Year Runoff (cfs)	100 Year Carryover Flow (cfs)	100 Year Total Flow Q (cfs)	Street Capacity Half Section (cfs)	Right of Way Capacity Half Section (cfs)	Design Storm of Inlet	Depth of Gutter Flow for 100 Year Yo (ft)	Depth of Depression a (ft)	Depth of Flow at Opening Y (ft)	Capacity of Inlet per Foot Q/L (cfs/ft)	Length of Inlet Required Lo (ft)	Length of Inlet Provided L (ft)	Inlet Capacity Q (cfs)	100 Year Carryover Flow (cfs)	Comments	
		Area (Ac.)	Runoff Coefficient C	Time of Concentration (min.)																							
3	5+00.00 Butterfield Drive (Lt.)	3	1.04	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.49	0.00	5.49	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.07	5	13.24	0.00	Curb Inlet	
4	5+00.00 Butterfield Drive (Rt.)	4	1.03	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.44	0.00	5.44	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.05	5	13.24	0.00	Curb Inlet	
9	0+00.00 Winecup Lane (Lt.)	9	1.27	0.55	15 min.	0.0096	straight crown	0.0333	0.267	0.017	9.60	6.71	0.00	6.71	15.19	29.17	100 Yr	0.500	0.420	0.920	2.65	2.53	5	13.24	0.00	Curb Inlet	
13	4+90.00 Galliardia Lane (Rt.)	13	0.93	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.91	0.00	4.91	12.01	23.06	100 Yr	0.500	0.420	0.920	2.65	1.85	5	13.24	0.00	Curb Inlet	
14	4+90.00 Galliardia Lane (Lt.)	14	1.49	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	7.87	0.00	7.87	12.01	23.06	100 Yr	0.500	0.420	0.920	2.65	2.97	5	13.24	0.00	Curb Inlet	
25	23+52.16 Butterfield Drive (Lt.)	25	1.41	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	7.44	0.00	7.44	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.81	5	13.24	0.00	Curb Inlet	
26	23+52.16 Butterfield Drive (Rt.)	26	2.02	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	10.67	0.00	10.67	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	4.03	5	13.24	0.00	Curb Inlet	
27	23+92.20 Butterfield Drive (Lt.)	27	OS-1	5.08	0.85	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	41.45	0.00	41.45			100 Yr	0.500	0.420	1.000	3.00	13.82	16	48.00	0.00	**Y* Type Inlet

NOTES:
1) THE PAVEMENT SECTION IS 30' F-F WITH A 6" CURB AND 6" CROWN EXCEPT FOR BUTTERFIELD WHICH IS 36' F-F.
2) STANDARD INLET DEPRESSION IS 5".

No.	DATE	REVISION	APPROV.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.



LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
SANGER PROPERTY HOLDING LLC
MARION PRESLEY
1 COPPEL, TEXAS 75019
JONATHAN WANG - 214-316-2256

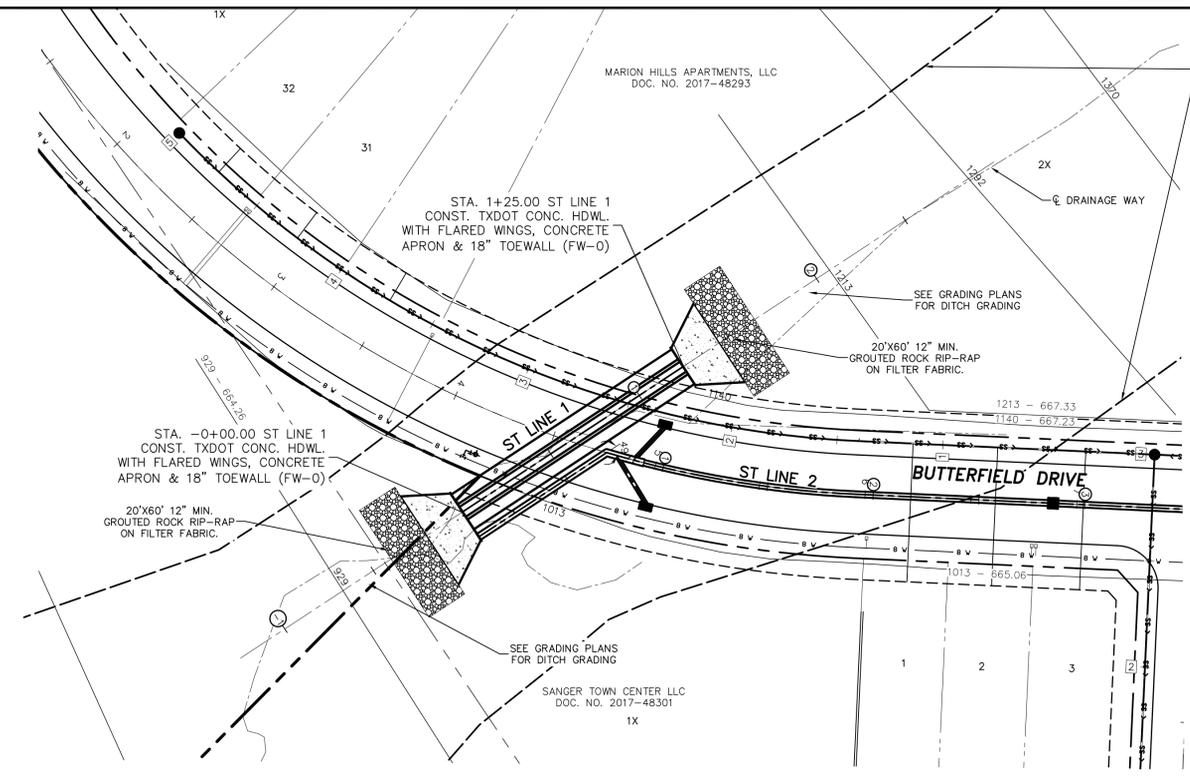
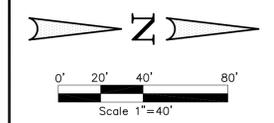
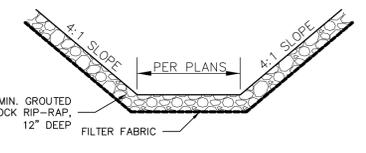
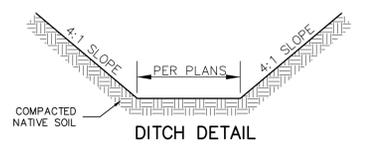
**DRAINAGE AREA &
INLET CALCULATIONS**

LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. NTS
Ver.
Dwg File: 0001043CALC.DWG
Project No. 0001043

STORM SEWER HYDRAULIC CALCULATIONS

From	To	Design Point	Pipe Length (ft)	Drainage Area			Runoff "C"	Incr. CA	Total CA	Time of Concentration			10 Yr Intensity (in/hr)	100 Yr Intensity (in/hr)	Q10 Runoff (cfs)	Q100 Runoff (cfs)	Total Carryover (cfs)	Q Pipe (cfs)	Pipe Size (in)	Pipe Coefficient "n"	Friction Slope Sf (ft/ft)	HGL		HEAD LOSS CALCULATIONS										U/S T/C Elev. (ft)	COMMENTS
				No.	Area (ac)	Total Area (ac)				Inlet (min)	Travel (min)	Total (min)										D/S (elev)	U/S (elev)	V1 IN (UPSTREAM) (fps)	V2 OUT (PIPE) (fps)	V1 ² /2G (ft)	V2 ² /2G (ft)	K _f	K _v V1 ² /2G	H _L	Design HGL (elev)	From (ft)	To (ft)		
1.00	2.00	3.00	4	5	6	7	8	9	10.00	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
LINE 2	787.46	808.83	21.37	AREA 07	1.53	1.53	0.55	0.84	0.84	15.00	0.32	15.32	5.61	8.00	4.72	6.73	0.00	6.73	18	0.013	0.0041	667.07	667.16	0.00	3.81	0.00	0.23	1.75	0.00	0.23	667.38	673.57	674.24	678.74	
709.24	787.46	78.22			1.53			0.84	15.32	1.16	16.48	5.44	7.77	4.58	6.54	0.00	6.54	18	0.013	0.0039	666.77	667.07	3.81	3.70	0.23	0.21	1.25	0.28	0.00	667.07	670.77	673.57			
416.15	709.24	293.09	LAT. 2E	1.36	2.89	0.55	0.75	1.59	16.48	4.36	20.84	4.88	7.02	7.75	11.16	0.00	11.16	24	0.013	0.0024	666.04	666.75	3.70	3.55	0.21	0.20	0.85	0.18	0.02	666.77	663.58	670.77			
387.46	416.15	28.69	LAT. 2D	1.12	4.01	0.55	0.62	2.21	20.84	0.43	21.27	4.83	6.95	10.65	15.34	0.00	15.34	30	0.013	0.0014	666.00	666.04	3.55	3.13	0.20	0.15	0.85	0.17	0.00	666.04	662.94	663.58			
85.58	387.46	301.88	LAT. 2C	1.38	5.39	0.55	0.76	2.96	21.27	4.49	25.76	4.38	6.35	12.99	18.82	0.00	18.82	30	0.013	0.0021	665.26	665.90	3.13	3.84	0.15	0.23	0.85	0.13	0.10	666.00	660.93	662.94			
77.34	85.58	8.24	LAT. 2B	1.04	6.43	0.55	0.57	3.54	25.76	0.12	25.89	4.37	6.34	15.46	22.40	0.00	22.40	36	0.013	0.0011	665.25	665.26	3.84	3.17	0.23	0.16	0.85	0.19	0.00	665.26	660.89	660.93			
72.40	77.34	4.94	LAT. 2A	1.03	7.46	0.55	0.57	4.10	25.89	0.02	25.91	4.37	6.33	17.93	25.98	0.00	25.98	36	0.013	0.0015	665.17	665.18	3.17	3.68	0.16	0.21	0.85	0.13	0.08	665.25	660.86	660.89			
0.00	72.40	72.40			7.46			4.10	25.91	0.31	26.22	4.34	6.30	17.82	25.83	0.00	25.83	36	0.013	0.0015	665.06	665.17	3.68	3.65	0.21	0.21	1.25	0.26	0.00	665.17	660.50	660.86			
LAT. 2A	0.00	26.67	26.67	AREA 04	1.03	1.03	0.55	0.57	0.57	15.00	0.16	15.16	5.64	8.03	3.19	4.55	0.00	4.55	18	0.013	0.0019	665.25	665.30	0.00	2.58	0.00	0.10	1.75	0.00	0.10	665.41	661.64	664.22	668.72	
LAT. 2B	0.00	21.23	21.23	AREA 03	1.04	1.04	0.55	0.57	0.57	15.00	0.12	15.12	5.64	8.04	3.23	4.60	0.00	4.60	18	0.013	0.0019	665.26	665.30	0.00	2.60	0.00	0.11	1.75	0.00	0.11	665.41	661.68	664.22	668.72	
LAT. 2C	0.00	21.36	21.36	AREA 05	1.38	1.38	0.55	0.76	0.76	15.00	0.13	15.13	5.64	8.04	4.28	6.10	0.00	6.10	18	0.013	0.0034	666.00	666.07	0.00	3.45	0.00	0.19	1.75	0.00	0.19	666.26	663.44	665.88	670.38	
LAT. 2D	0.00	21.36	21.36	AREA 06	1.12	1.12	0.55	0.62	0.62	15.00	0.13	15.13	5.64	8.04	3.48	4.95	0.00	4.95	18	0.013	0.0022	666.04	666.09	0.00	2.80	0.00	0.12	1.75	0.00	0.12	666.21	663.71	666.10	670.60	
LAT. 2E	0.00	21.36	21.36	AREA 08	1.36	1.36	0.55	0.75	0.75	15.00	0.13	15.13	5.64	8.04	4.22	6.01	0.00	6.01	18	0.013	0.0033	666.77	666.84	0.00	3.40	0.00	0.18	1.75	0.00	0.18	667.02	671.02	672.59	677.09	
LINE 3	109.33	170.00	60.67	AREAS 27 & OS-1	5.08	5.08	0.55	2.79	2.79	15.00	0.36	15.36	5.61	7.99	15.67	22.33	0.00	22.33	33	0.013	0.0018	674.17	674.28	0.00	3.76	0.00	0.22	1.75	0.00	0.22	674.49	670.55	670.85	676.00	
0.00	109.33	109.33	LINE 4	3.43	8.51	0.55	1.89	4.68	15.36	0.84	16.00	5.51	7.86	25.78	36.80	0.00	36.80	42	0.013	0.0013	673.98	674.13	3.76	3.83	0.22	0.23	0.85	0.19	0.04	674.17	670.03	670.55			
LINE 4	33.50	54.86	21.36	AREA 25	1.41	1.41	0.55	0.78	0.78	15.00	0.13	15.13	5.64	8.04	4.38	6.24	0.00	6.24	18	0.013	0.0035	674.32	674.39	0.00	3.53	0.00	0.19	1.75	0.00	0.19	674.59	671.39	671.88	676.38	
25.68	33.50	7.82			1.41			0.78	15.13	0.05	15.17	5.64	8.03	4.37	6.23	0.00	6.23	18	0.013	0.0035	674.29	674.32	3.53	3.53	0.19	0.19	1.25	0.24	0.00	674.32	671.30	671.39			
14.14	25.68	11.54	LAT. 4A	2.02	3.43	0.55	1.11	1.89	15.17	0.07	15.24	5.63	8.02	10.61	15.12	0.00	15.12	27	0.013	0.0024	674.20	674.23	3.53	3.80	0.19	0.22	0.85	0.16	0.06	674.29	671.24	671.30			
0.00	14.14	14.14			3.43			1.89	15.24	0.08	15.32	5.61	8.00	10.59	15.09	0.00	15.09	27	0.013	0.0024	674.17	674.20	3.80	3.80	0.22	0.22	1.25	0.28	0.00	674.20	671.17	671.24			
LAT. 4A	0.00	26.16	26.16	AREA 26	2.02	2.02	0.55	1.11	1.11	15.00	0.15	15.15	5.64	8.03	6.26	8.93	0.00	8.93	18	0.013	0.0072	674.29	674.48	0.00	5.05	0.00	0.40	1.75	0.00	0.40	674.87	671.68	671.88	676.38	
LINE 5	264.05	281.94	17.89	AREA 13	0.93	0.93	0.55	0.51	0.51	15.00	0.10	15.10	5.65	8.04	2.89	4.12	0.00	4.12	18	0.013	0.0015	664.70	664.73	0.00	2.33	0.00	0.08	1.75	0.00	0.08	664.81	662.69	663.21	666.71	
257.49	264.05	6.56			0.93			0.51	15.10	0.04	15.14	5.64	8.04	2.88	4.11	0.00	4.11	18	0.013	0.0015	664.69	664.70	2.33	2.33	0.08	0.08	1.25	0.11	0.00	664.70	662.15	662.69			
187.39	257.49	70.10	LAT. 5A	1.49	2.42	0.55	0.82	1.33	15.14	0.41	15.55	5.58	7.95	7.42	10.58	0.00	10.58	24	0.013	0.0022	664.43	664.59	2.33	3.37	0.08	0.18	0.85	0.07	0.10	664.69	661.80	662.15			
174.10	187.39	13.29			2.42			1.33	15.55	0.08	15.63	5.56	7.94	7.41	10.56	0.00	10.56	24	0.013	0.0022	664.40	664.43	3.37	3.36	0.18	0.18	1.25	0.22	0.00	664.43	660.99	661.80			
50.00	174.10	124.10	LINE 6	1.97	4.39	0.55	1.08	2.41	15.63	0.73	16.36	5.45	7.79	13.17	18.81	0.00	18.81	33	0.013	0.0013	664.24	664.40	3.36	3.17	0.18	0.16	0.85	0.15	0.01	664.40	660.37	660.99			
LAT. 5A	0.00	21.92	21.92	AREA 14	1.49	1.49	0.55	0.82	0.82	15.00	0.13	15.13	5.64	8.04	4.62	6.59	0.00	6.59	18	0.013	0.0039	664.69	664.78	0.00	3.73	0.00	0.22	1.75	0.00	0.22	664.99	662.40	663.21	666.71	
LINE 6	358.89	380.81	21.92	18	0.41	0.41	0.55	0.23	0.23	15.00	0.13	15.13	5.64	8.04	1.27	1.81	0.00	1.81	18	0.013	0.0003	665.49	665.50	0.00	1.03	0.00	0.02	1.75	0.00	0.02	665.52	664.06	664.79	669.29	
335.44	358.89	23.45			0.41			0.23	15.13	0.14	15.27	5.62	8.01	1.27	1.81	0.00	1.81	18	0.013	0.0003	665.49	665.49	1.03	1.02	0.02	0.02	1.25	0.02	0.00	665.49	663.16	664.06			
0.00	335.44	335.44	LAT. 6A	1.56	1.97	0.55	0.86	1.08	15.27	1.97	17.23	5.33	7.63	5.78	8.26	0.00	8.26	21	0.013	0.0027	664.40	665.32	1.02	3.44	0.02	0.18	0.85	0.01	0.17	665.49	661.49	663.16			
LAT. 6A	0.00	17.90	17.90	17	1.56	1.56	0.55	0.86	0.86	15.00	0.11	15.11	5.65	8.04	4.84	6.90	0.00	6.90	21	0.013	0.0019	665.49	665.52	0.00	2.87	0.00	0.13	1.75	0.00	0.13	665.65	663.16	664.61	669.11	
LINE 7	503.94	521.84	17.90	AREA 21	0.84	0.84	0.55	0.46	0.46	15.00	0.11	15.11	5.65	8.04	2.61	3.72	0.00	3.72	18	0.013	0.0013	670.53	670.55	0.00	2.10	0.00	0.07	1.75	0.00	0.07	670.62	671.39	671.81	676.31	
497.39	503.94	6.55			0.84			0.46	15.11	0.04	15.14	5.64	8.04	2.61	3.71	0.00	3.71	18	0.013	0.0012	670.52														



FLOOD ZONE AE
PER LOMR DATED JUNE 26, 2018
CASE NO. 18-06-0546P
FIRM PANEL 48121C02106

NOTE:
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.

LEGEND

	Ex. Water
	Ex. Fire Hydrant
	Ex. Sanitary Sewer
	Ex. Sewer Manhole
	Ex. Storm Sewer
	Ex. Overhead Utility
	Prop. Sanitary Sewer
	Prop. Sewer Manhole
	Prop. Water
	Prop. Fire Hydrant
	Prop. Storm Drain
	Street Stations
	Sewer Stations
	Water Stations
	Storm Stations
	FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT

NO.	DATE	REVISION	APPROV.

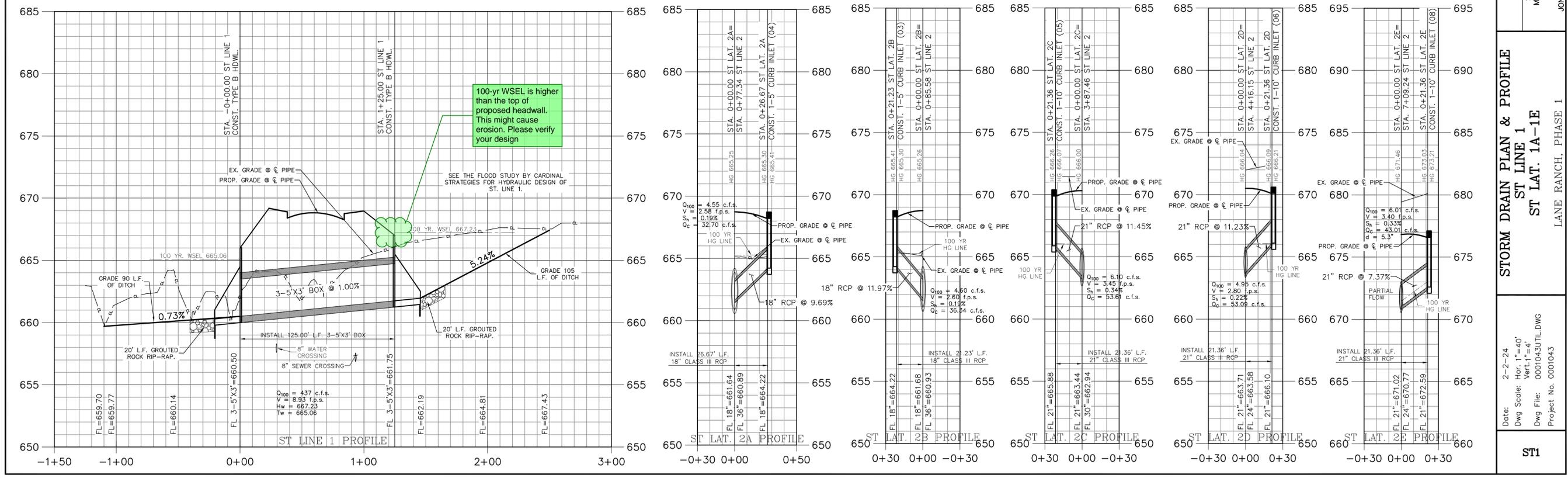
THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.



LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
1000 PINE TREE LANE
SANGER, TEXAS 75019
JONATHAN WANG - 214-316-2256

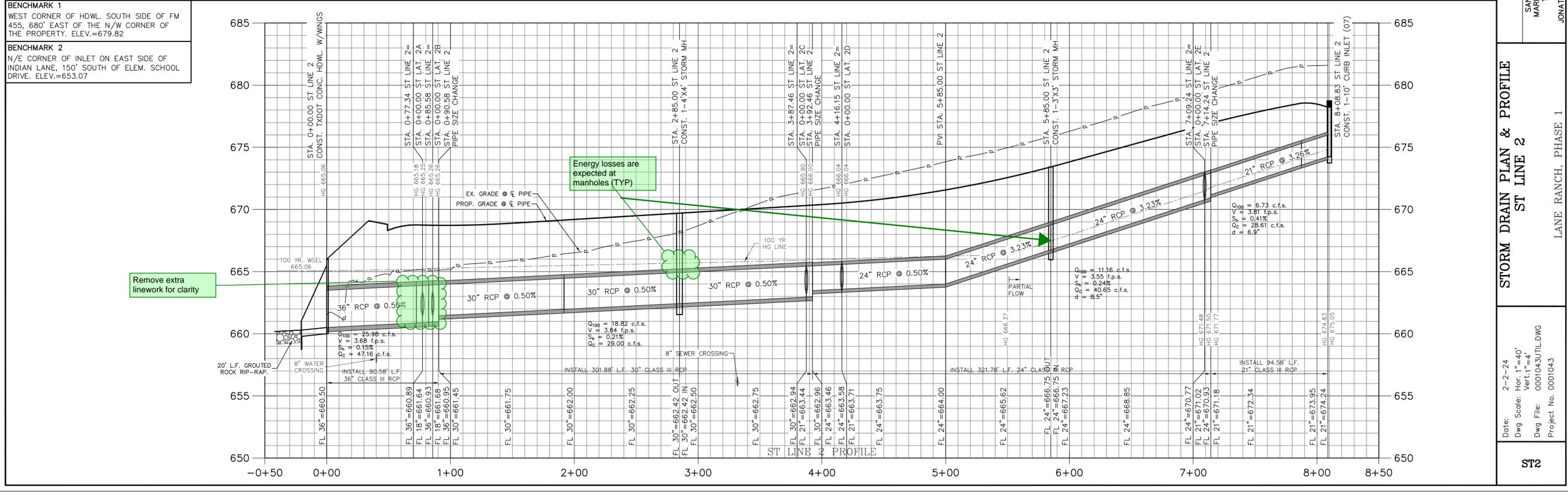
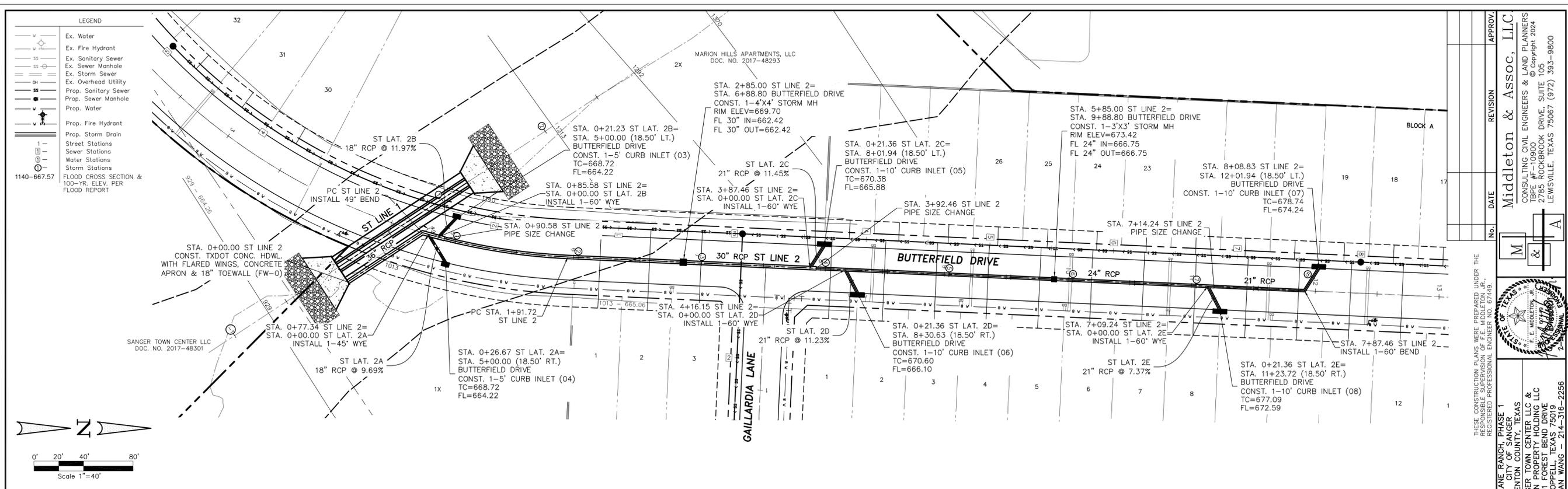
BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07



STORM DRAIN PLAN & PROFILE
ST LINE 1
ST LAT. 1A-1E
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 0001043011L.DWG
Project No. 0001043



APPROV.	REVISION	DATE	No.

Middleton & Assoc., LLC
 CONSULTING CIVIL ENGINEERS & LAND PLANNERS
 TSPE #1-19900
 2785 ROCKBROOK DRIVE, SUITE 105
 LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.

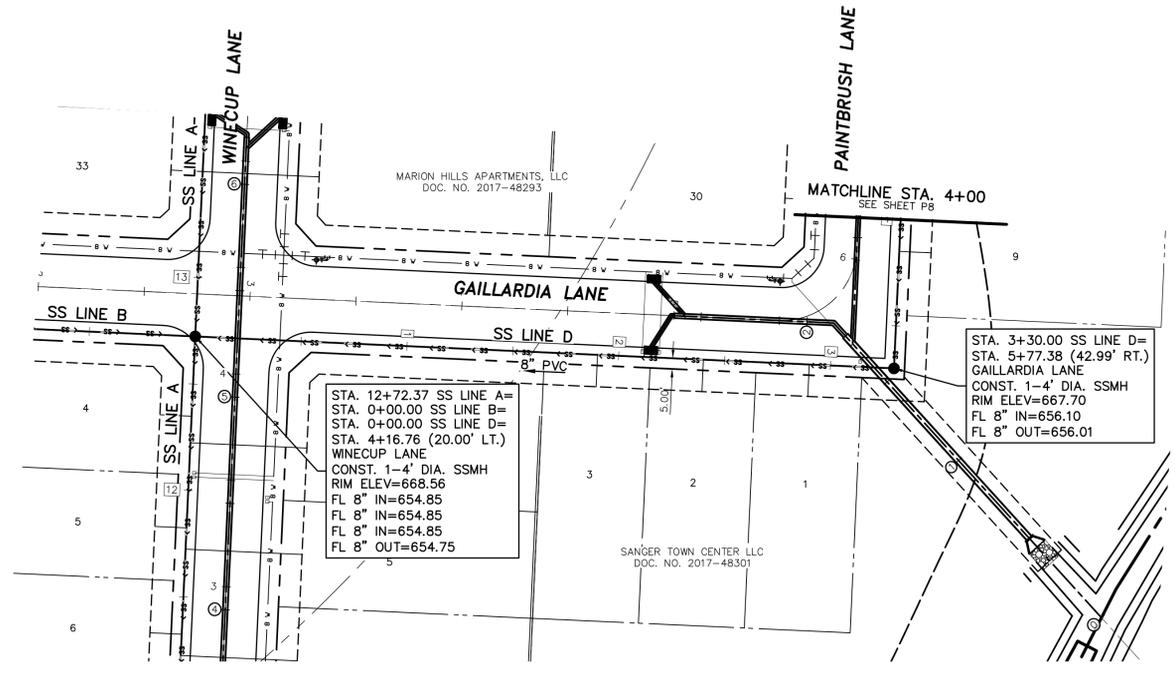
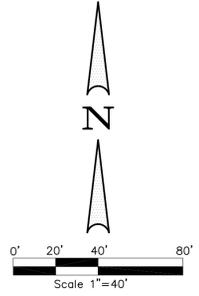
LANE RANCH, PHASE 1
 CITY OF SANGER
 DENTON COUNTY, TEXAS
 SANGER TOWN CENTER LLC &
 MARION PROPERTY HOLDING LLC
 100 COPPEL, TEXAS 75019
 JONATHAN WANG - 214-316-2256

STORM DRAIN PLAN & PROFILE
ST LINE 2
 LANE RANCH, PHASE 1

Date: 2-2-24
 Dwg Scale: Hor. 1"=40'
 Vert. 1"=4'
 Dwg File: 0001043UTL.DWG
 Project No. 0001043

512

TCEQ "CHAPTER 217 DESIGN CRITERIA FOR DOMESTIC WASTE WATER SYSTEM" TABLE C.1	
CASE	PROTECTION REQUIREMENT
CROSSING PIPES WITHIN NINE FEET, WHERE THE COLLECTION SYSTEM PIPE IS ABOVE THE WATER SUPPLY PIPE.	ENCASED IN A CASING PIPE ACCORDING TO PARAGRAPH (5)(A) OF THIS SUBSECTION - OR - CONSTRUCTED USING 150 PER SQUARE INCH (PSI) PRESSURE CLASS PIPE ACCORDING TO PARAGRAPH (5)(B) OF THIS SUBSECTION.
CROSSING PIPES WITHIN NINE FEET, WHERE THE COLLECTION SYSTEM PIPE IS BELOW THE WATER SUPPLY PIPE.	CONSTRUCTED USING 150 PSI PRESSURE CLASS PIPE ACCORDING TO PARAGRAPH (7)(A) OF THIS SUBSECTION.

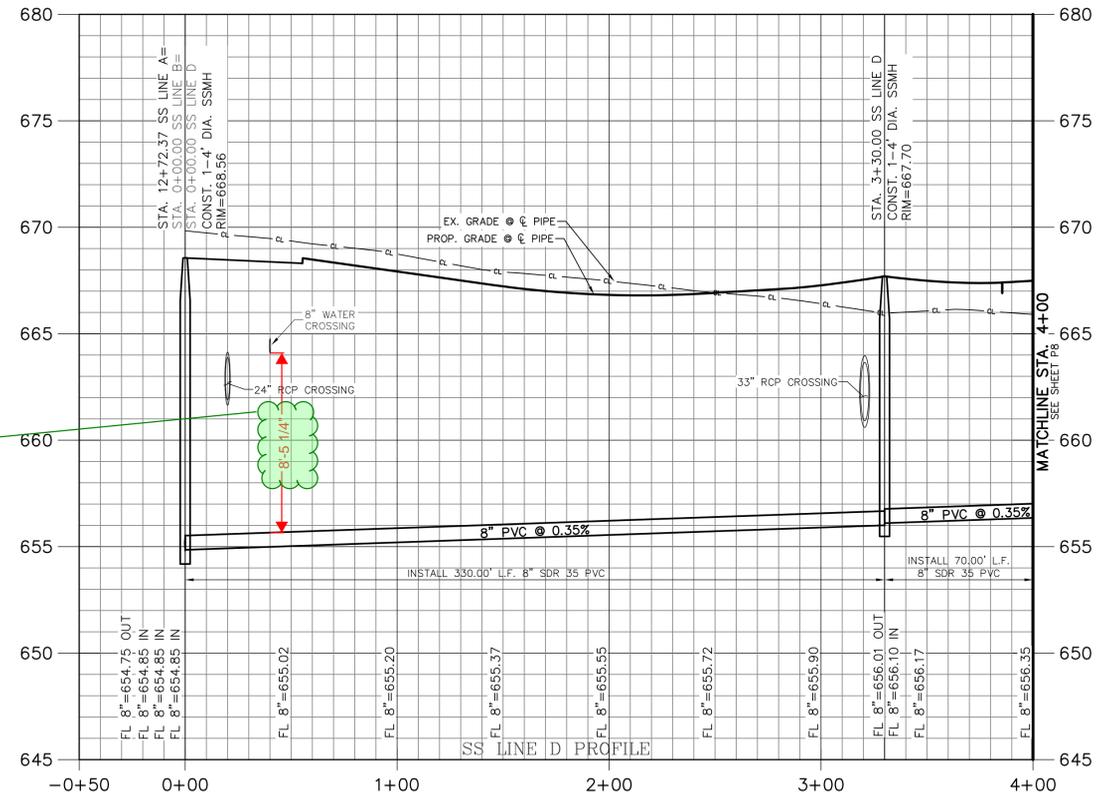


LEGEND	
	Ex. Water
	Ex. Fire Hydrant
	Ex. Sanitary Sewer
	Ex. Sewer Manhole
	Ex. Storm Sewer
	Ex. Overhead Utility
	Prop. Sanitary Sewer
	Prop. Sewer Manhole
	Prop. Water
	Prop. Fire Hydrant
	Prop. Storm Drain
	Street Stations
	Sewer Stations
	Water Stations
	Storm Stations

BENCHMARK 1
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Does now meet clearance standard for TCEQ. Per TCEQ use pressure pipe or encase sewer at crossing



NO.	DATE	REVISION	APPROV.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.

Middleton & Assoc., LLC
CONSULTING CIVIL ENGINEERS & LAND PLANNERS
CSPE #119900
TSPE #119900
2785 ROCKBROOK DRIVE, SUITE 105
LEWISVILLE, TEXAS 75067 (972) 393-9800

F.E. MIDDLETON, JR.
REGISTERED PROFESSIONAL ENGINEER NO. 07449

JONATHAN WANG - 214-316-2256

LANE RANCH, PHASE 1
CITY OF SANGER
DENTON COUNTY, TEXAS
SANGER TOWN CENTER LLC &
MARION PROPERTY HOLDING LLC
10000 WINDY HOLLOW
COOPER, TEXAS 75018

SANITARY SEWER PLAN & PROFILE
SS LINE D
STA. 0+00 - 4+00
LANE RANCH, PHASE 1

Date: 2-2-24
Dwg Scale: Hor. 1"=40'
Vert. 1"=4'
Dwg File: 00010430TLL.DWG
Project No. 0001043

SS7