CITY OF CELINA
ENGINEERING DEPARTMENT
RELEASED FOR CONSTRUCTION

DATE _____ BY _____

PRIOR TO CONSTRUCTION, THE OWNER OR THEIR REPRESENTATIVE SHALL NOTIFY THE CITY OF CELINA ENGINEERING DEPARTMENT AT 972-382-2682 x1081. CONSTRUCTION DRAWINGS STAMPED BY THE CITY OF CELINA SHALL BE ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION. THE CITY OF CELINA STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL TAKE PRECEDENCE OVER THESE PLANS WHENEVER IN CONFLICT THEREWITH. DISCLAIMER: ALL NECESSARY APPROVALS AND PERMITS SHALL BE ACQUIRED PRIOR TO CONSTRUCTION.

ENGINEERING PLANS FOR THE CONSTRUCTION OF

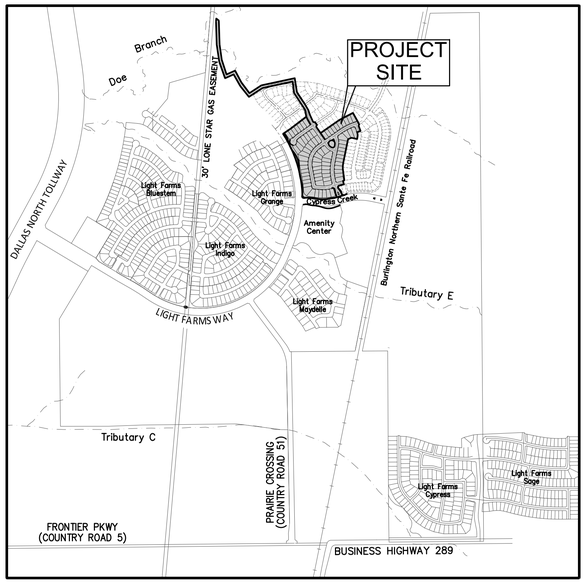
PHASE 4

THE GRAHAM NEIGHBORHOOD

AT

LIGHT FARMS

COLLIN COUNTY, TEXAS



LOCATION MAP
N.T.S.

NORTH

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SHEET ID	DESCRIPTION	REV #	DATE
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00-02	GENERAL NOTES		
00-03	TCEQ GENERAL NOTES		
	PLAT		
01-01	CONSTRUCTION PLAT		
01-02	CONSTRUCTION PLAT		
	GRADING		
02-01	GRADING PLAN		
02-02	GRADING PLAN		
02-03	GRADING PLAN		
02-04	GRADING PLAN		
02-05	GRADING PLAN		
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02-07	RETAINING WALL DETAIL - REGULAR		
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	PAVING		
03-01	PAVING PLAN & PROFILE - CUSHMAN ROAD		
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03-04	PAVING PLAN & PROFILE - MERIDIAN AVENUE		
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03-06	PAVING PLAN & PROFILE - BRADFORD STREET		
	EROSION CONTROL		
04-01	EROSION CONTROL PLAN		
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09-01	STREET SIGN DETAILS		
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09-03	CITY OF CELINA STANDARD DETAILS - PAVING		
09-04	CITY OF CELINA STANDARD DETAILS - PAVING		
09-05	CITY OF CELINA STANDARD DETAILS - PAVING		
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09-07	CITY OF CELINA STANDARD DETAILS - PAVING		
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09-12	CITY OF CELINA STANDARD DETAILS - WATER DISTRIBUTION SYSTEM		
09-13	CITY OF CELINA STANDARD DETAILS - WATER DISTRIBUTION SYSTEM		
09-14	CITY OF CELINA STANDARD DETAILS - SANITARY SEWER SYSTEM		
	TxDOT DETAILS		
BC(10)-07	TxDOT DETAILS - BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD		

RECORD DRAWING:

THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

Guarantor:

LFC DEVCO GRAHAM, LLC.
& LFC LAND COMPANY, LLC.

8401 North Central Expressway Suite 350
Dallas, Texas 75252
Phone: 214-292-3410 Fax 214-292-3411

Prepared For:

COLLIN COUNTY MUNICIPAL
UTILITY DISTRICT NO. 1

C/O Republic Property Group
8401 North Central Expressway Suite 350
Dallas, Texas 75252
Phone: 214-292-3410 Fax 214-292-3411

Prepared By:

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15
Huitt-Zollars, Inc.
Firm Registration No. F-761

CITY PROJECT NO.: P201405-06

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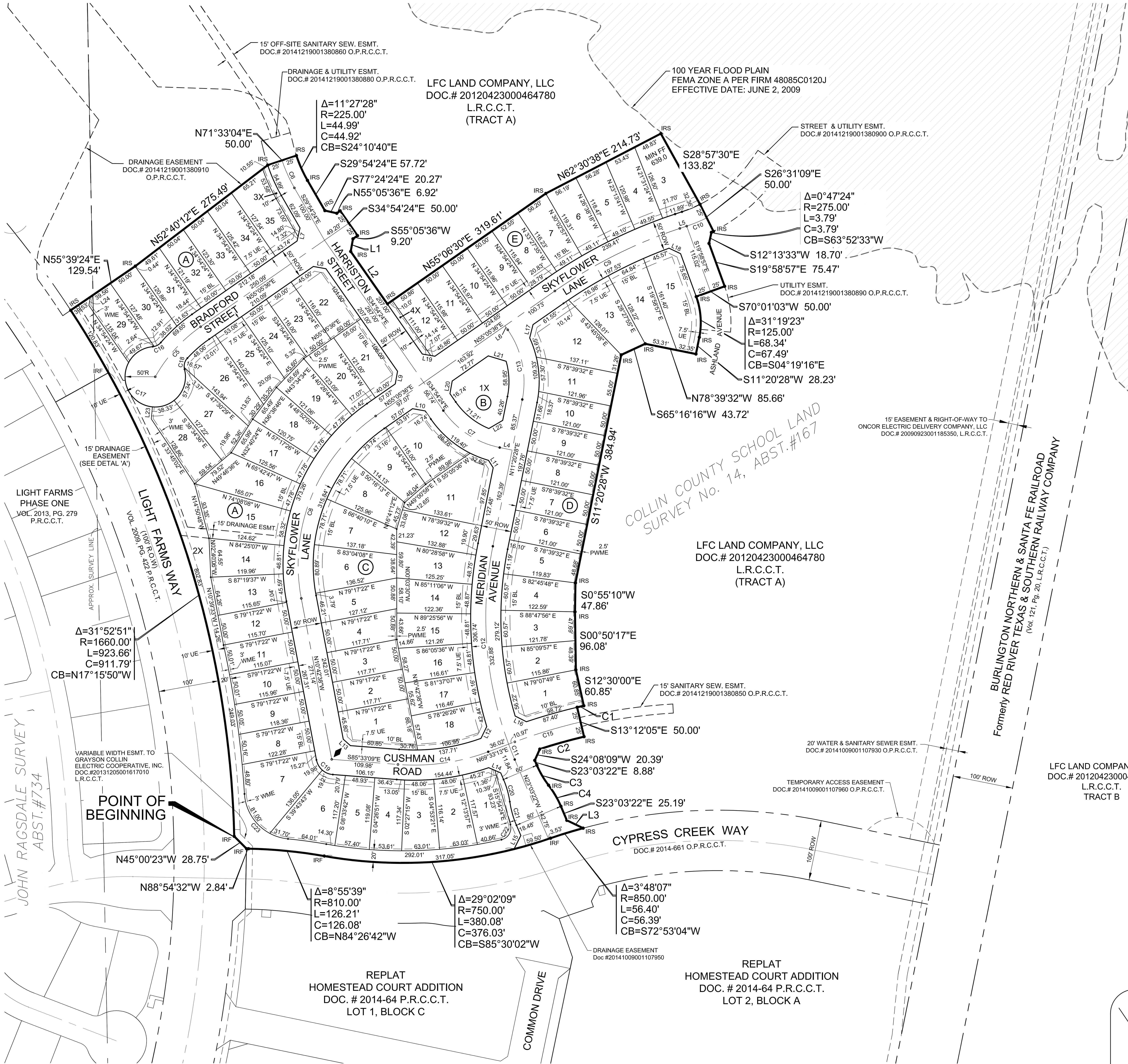
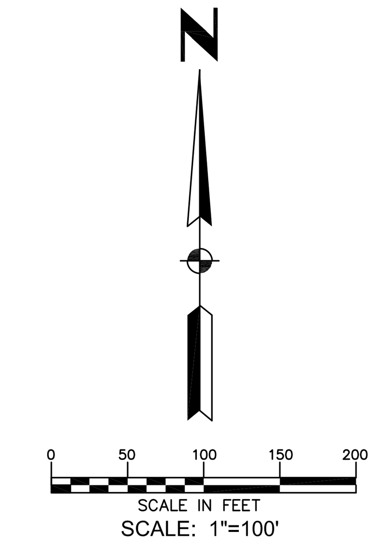
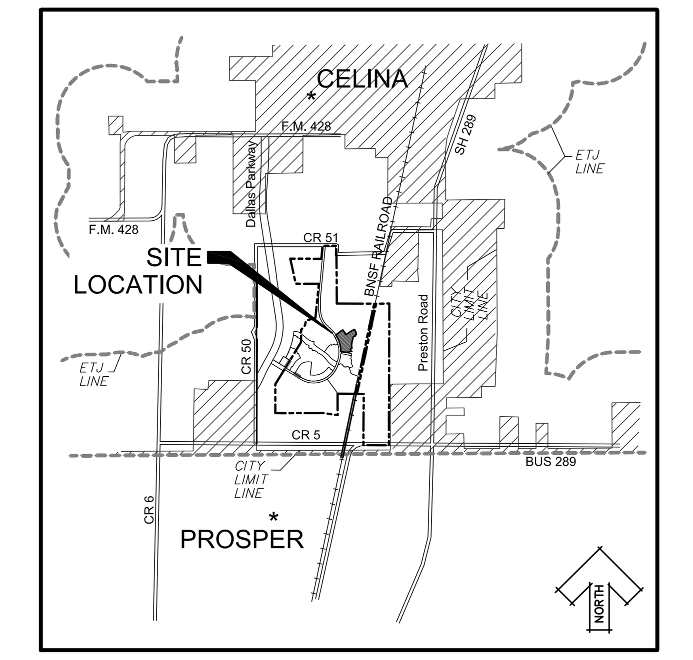




LEGEND

- IRF — 5/8" IRON ROD FOUND WITH PLASTIC CAP STAMPED "HUITT-ZOLLARS"
- IRS — 5/8" IRON ROD SET WITH PLASTIC CAP STAMPED "HUITT-ZOLLARS"
- MIN. FF — MINIMUM FINISH FLOOR
- WME — WALL MAINTENANCE EASEMENT
- PWME — PRIVATE WALL MAINTENANCE EASEMENT
- UE — UTILITY EASEMENT
- B.L. — BUILDING LINE
- ◆ — DENOTES STREET NAME CHANGE
- L.R.C.C.T. — LAND RECORDS, COLLIN COUNTY, TEXAS
- P.R.C.C.T. — PLAT RECORDS, COLLIN COUNTY, TEXAS
- O.P.R.C.C.T. — OFFICIAL PUBLIC RECORDS, COLLIN COUNTY, TEXAS
- OS — OPEN SPACE

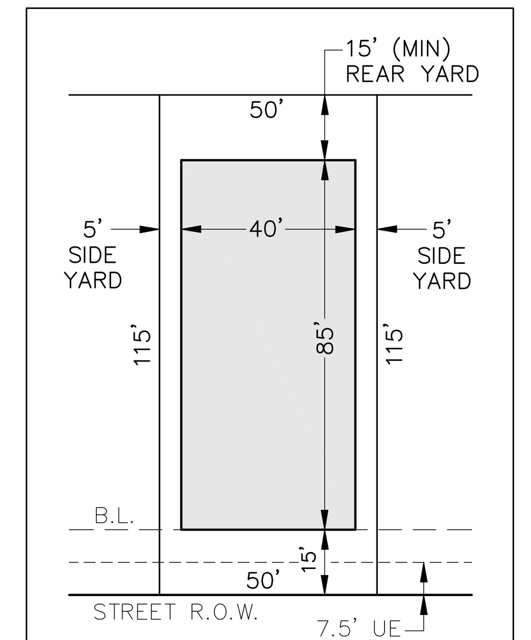


VICINITY MAP

BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE NAD 1983 TIED TO THE TEXAS STATE PLANE COORDINATE SYSTEM OF 1983, NORTH CENTRAL TEXAS ZONE (4202).

COURSE	DIRECTION	DISTANCE
L1	S10°05'36"W	21.21'
L2	S34°54'24"E	106.00'
L3	S64°10'08"E	29.82'
L4	S78°33'17"E	21.04'
L5	N71°43'14"E	11.89'
L6	N34°54'24"W	8.10'
L7	S 12°35'36" W	22.12'
L8	S 79°54'24" E	21.21'
L9	S 10°05'36" W	21.21'
L10	S 79°54'24" E	21.21'
L11	S 32°08'35" E	14.51'
L12	N 26°06'35" E	21.76'
L13	S 48°07'54" E	15.88'
L14	S 66°32'49" E	21.75'
L15	S 26°30'40" W	25.08'
L16	S63°08'58"E	20.87'
L17	N14°05'57"E	22.64'
L18	S64°51'55"E	21.26'
L19	S79°54'24"E	21.21'
L20	N10°05'36"E	21.21'
L21	S73°13'05"E	30.93'
L22	N59°34'12"E	26.61'
L23	S05°21'03"W	20.16'
L24	N10°22'30"E	14.69'

CURVE	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
C1	0°42'05"	925.00'	11.32'	11.32'	S77°08'57"W
C2	4°58'47"	875.00'	76.05'	76.02'	S74°18'31"W
C3	14°36'16"	150.00'	38.23'	38.13'	S30°21'30"E
C4	14°36'16"	159.50'	40.66'	40.55'	S30°21'30"E
C5	25°50'31"	250.00'	112.76'	111.80'	N42°10'21"E
C6	11°27'28"	250.00'	49.99'	49.91'	S24°10'40"E
C7	43°38'53"	150.00'	114.27'	111.53'	S56°43'50"E
C8	65°48'14"	300.00'	344.55'	325.92'	N22°11'29"E
C9	16°37'37"	800.00'	232.16'	231.34'	N63°24'25"E
C10	8°14'23"	250.00'	35.95'	35.92'	N67°36'02"E
C11	2°36'35"	600.00'	27.33'	27.33'	N21°45'05"W
C12	31°47'15"	600.00'	332.88'	328.63'	N04°33'10"W
C13	46°14'52"	150.00'	121.08'	117.82'	N11°46'58"W
C14	24°53'38"	350.00'	152.07'	150.88'	N82°00'02"E
C15	7°14'42"	900.00'	113.80'	113.73'	N73°10'34"E
C16	44°33'50"	20.00'	15.56'	15.17'	S62°51'52"W
C17	279°25'33"	50.00'	243.85'	64.66'	S54°34'00"E
C18	57°08'01"	20.00'	19.94'	19.13'	N14°17'14"E
C19	74°50'31"	30.00'	39.19'	36.46'	S48°07'54"E
C20	14°36'16"	150.00'	38.23'	38.13'	S15°45'14"E
C21	14°36'16"	159.50'	40.66'	40.55'	S15°45'14"E
C22	92°59'09"	20.00'	32.46'	29.01'	N30°35'11"E
C23	80°43'01"	80.00'	112.70'	103.61'	S44°03'45"E



TYPICAL LOT & SETBACK LINE DETAIL (50' WIDE LOT)

LOT SUMMARY

BLOCK A	
LOT 1	6,780 Sq Ft
LOT 2	6,477 Sq Ft
LOT 3	6,470 Sq Ft
LOT 4	6,103 Sq Ft
LOT 5	6,296 Sq Ft
LOT 6	8,900 Sq Ft
LOT 7	10,759 Sq Ft
LOT 8	6,010 Sq Ft
LOT 9	5,852 Sq Ft
LOT 10	5,770 Sq Ft
LOT 11	5,763 Sq Ft
LOT 12	5,784 Sq Ft
LOT 13	6,535 Sq Ft
LOT 14	6,753 Sq Ft
LOT 15	10,189 Sq Ft
LOT 16	8,408 Sq Ft
LOT 17	6,945 Sq Ft
LOT 18	6,798 Sq Ft

BLOCK A	
LOT 19	6,875 Sq Ft
LOT 20	6,605 Sq Ft
LOT 21	6,542 Sq Ft
LOT 22	6,847 Sq Ft
LOT 23	5,800 Sq Ft
LOT 24	6,003 Sq Ft
LOT 25	6,999 Sq Ft
LOT 26	8,561 Sq Ft
LOT 27	7,960 Sq Ft
LOT 28	7,166 Sq Ft
LOT 29	6,049 Sq Ft
LOT 30	6,262 Sq Ft
LOT 31	6,026 Sq Ft
LOT 32	6,112 Sq Ft
LOT 33	6,218 Sq Ft
LOT 34	6,324 Sq Ft
LOT 35	7,075 Sq Ft
OS 2-X	37,988 sq.ft.
OS 3-X	1,215 sq.ft.

BLOCK C	
LOT 1	8,382 Sq Ft
LOT 2	5,886 Sq Ft
LOT 3	5,886 Sq Ft
LOT 4	6,121 Sq Ft
LOT 5	6,591 Sq Ft
LOT 6	8,220 Sq Ft
LOT 7	7,923 Sq Ft
LOT 8	7,438 Sq Ft
LOT 9	7,101 Sq Ft
LOT 10	8,382 Sq Ft
LOT 11	10,529 Sq Ft
LOT 12	6,975 Sq Ft
LOT 13	6,952 Sq Ft
LOT 14	6,597 Sq Ft
LOT 15	6,563 Sq Ft
LOT 16	6,335 Sq Ft
LOT 17	6,086 Sq Ft
LOT 18	7,131 Sq Ft

BLOCK D	
LOT 1	7,374 Sq Ft
LOT 2	6,474 Sq Ft
LOT 3	6,634 Sq Ft
LOT 4	6,588 Sq Ft
LOT 5	6,395 Sq Ft
LOT 6	6,050 Sq Ft
LOT 7	6,050 Sq Ft
LOT 8	6,050 Sq Ft
LOT 9	6,050 Sq Ft
LOT 10	6,056 Sq Ft
LOT 11	7,035 Sq Ft
LOT 12	10,584 Sq Ft
LOT 13	7,581 Sq Ft
LOT 14	7,856 Sq Ft
LOT 15	9,514 Sq Ft

BLOCK B	
OS 1-X	8,059 Sq Ft

BLOCK E	
LOT 3	7,477 Sq Ft
LOT 4	6,345 Sq Ft
LOT 5	6,290 Sq Ft
LOT 6	6,244 Sq Ft
LOT 7	6,181 Sq Ft
LOT 8	5,925 Sq Ft
LOT 9	5,798 Sq Ft
LOT 10	5,798 Sq Ft
LOT 11	5,799 Sq Ft
LOT 12	5,887 Sq Ft
OS 4-X	1,057 Sq Ft

NOTES:

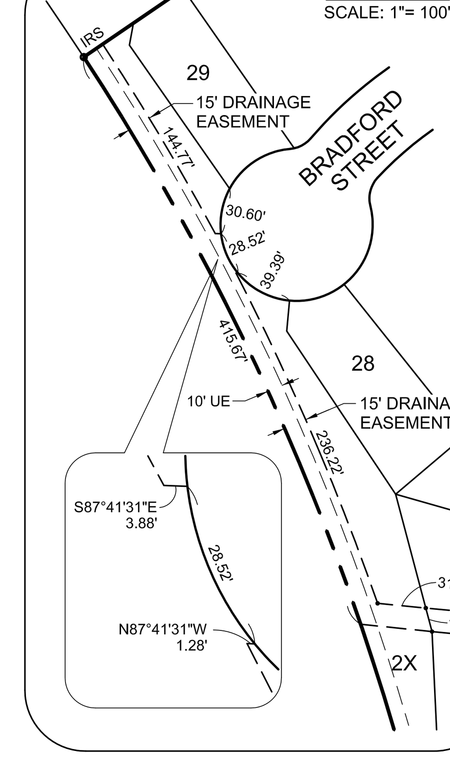
1. SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF CITY ORDINANCE AND STATE LAW, AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.

2. THE CARE AND MAINTENANCE OF ALL COMMON AREA LOTS 1-X, 2-X, 3X, 4X IS THE RESPONSIBILITY OF THE H.O.A.

3. NO STREET PARKING ALONG THE CURB OF COMMON AREA 1X. NO PARKING TO BE DESIGNATED BY PAINTED CURB.

4. ALL LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION USING A 5/8 INCH REBAR WITH A YELLOW PLASTIC CAP STAMPED "HUITT-ZOLLARS" IN AREAS WHERE IT IS NOT PHYSICALLY POSSIBLE TO SET REBAR, AN X CUT OR P.K. NAIL WILL BE UTILIZED. THE CENTERLINE OF THE STREET RIGHT-OF-WAY WILL BE MONUMENTED WITH A SCRIBED "X" IN CONCRETE AT P.C.'S, P.T.'S AND INTERSECTION POINTS.

DETAIL 'A'
SCALE: 1"= 100'



FINAL PLAT
LIGHT FARMS
PHASE FOUR
THE GRAHAM NEIGHBORHOOD
CONTAINING
78 RESIDENTIAL LOTS, & 4 OPEN SPACES
TOTALING 17.70 ACRES
SITUATED IN THE
JOHN RAGSDALE SURVEY, ABST. No. 734
COLLIN COUNTY SCHOOL LAND SURVEY No. 14, ABST. No. 167
COLLIN COUNTY, TEXAS
JANUARY, 2015

OWNER/DEVELOPER
LFC LAND COMPANY, LLC.
8401 North Central Expressway, Suite 350, Dallas, TX 75225
Phone 214-292-3410 Fax 214-292-3411

PREPARED BY:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400, Dallas, TX 75202
Phone (214) 871-3311 Fax (214) 871-0757

CITY FILE No. SHEET 1 of 2

COUNTY RECORDING INFORMATION
CAD FILE PATH: i:\proj\01390501\01390541_par_5_6\08_designcad\final plat\lf-4_the graham-final plat.dwg

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DATE: Jan 29, 2015 3:54pm XREFS: LF-4_THE GRAHAM-BASE

PROJECT NUMBER: 01-3905-40
P-201405-06

OWNER'S CERTIFICATE
STATE OF TEXAS
COUNTY OF COLLIN

WHEREAS, LFC LAND COMPANY, LLC is the owner of a tract of land situated in the John Ragsdale Survey, Abstract No. 734 and in the Collin County School Land Survey No. 14, Abstract No. 167, Collin County, Texas, and being a portion of the 597.17 acres of land described as Tract A in instrument recorded under Document No. 20120423000464780 of Official Public Records of Collin County, Texas, and being more particularly described as follows:

BEGINNING at a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars" on the easterly right-of-way line of Light Farms Way (a 100 foot wide right-of-way at this point) as recorded in Volume 2009, Page 422 of the Plat Records of Collin County, Texas at the northerly corner of corner clip of Cypress Creek Way (a 100 foot wide right-of-way), as recorded in Volume 2014, Page 661 of the Plat Records of Collin County, Texas and being the beginning of a non-tangent curve to the left having a central angle of 31 degrees 52 minutes 51 seconds, a radius of 1,660.00 feet and being subtended by a 911.79 foot chord which bears North 17 degrees 15 minutes 50 seconds West;

THENCE along the easterly right-of-way line of said Light Farms Way and an extension thereof, passing a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars" at the most northerly corner of said Light Farms Way right-of-way, at an arc distance of 802.83 feet and continuing along said arc for a total distance of 923.66 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE North 55 degrees 39 minutes 24 seconds East a distance of 129.54 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE North 52 degrees 40 minutes 12 seconds East a distance of 275.49 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE North 71 degrees 33 minutes 04 seconds East a distance of 50.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner, said point being the beginning of a non-tangent curve to the left having a central angle of 11 degrees 27 minutes 28 seconds, a radius of 225.00 feet and being subtended by a 44.92 foot chord which bears South 24 degrees 10 minutes 40 seconds East;

THENCE southeasterly along said curve to the left, an arc distance of 44.99 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE South 29 degrees 54 minutes 24 seconds East a distance of 57.72 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 77 degrees 24 minutes 24 seconds East a distance of 20.27 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE North 55 degrees 05 minutes 36 seconds East a distance of 6.92 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 34 degrees 54 minutes 24 seconds East a distance of 50.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 55 degrees 05 minutes 36 seconds West a distance of 9.20 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 55 degrees 05 minutes 36 seconds West a distance of 9.20 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 10 degrees 05 minutes 36 seconds West a distance of 21.21 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 34 degrees 54 minutes 24 seconds East a distance of 106.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE North 55 degrees 06 minutes 30 seconds East a distance of 319.61 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE North 62 degrees 30 minutes 38 seconds East a distance of 214.73 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 28 degrees 57 minutes 30 seconds East a distance of 133.82 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 26 degrees 31 minutes 09 seconds East a distance of 50.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner, said point being the beginning of a non-tangent curve to the right having a central angle of 0 degrees 47 minutes 24 seconds, a radius of 275.00 feet and being subtended by a 3.79 foot chord which bears South 63 degrees 52 minutes 33 seconds West;

THENCE southwesterly along said curve to right, an arc distance of 3.79 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 12 degrees 13 minutes 33 seconds West a distance of 18.70 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 19 degrees 58 minutes 57 seconds East a distance of 75.47 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner;

THENCE South 70 degrees 01 minute 03 seconds West a distance of 50.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner, said point being the beginning of a non-tangent curve to the right having a central angle of 31 degrees 19 minutes 23 seconds, a radius of 125.00 feet and being subtended by a 67.49 foot chord which bears South 04 degrees 19 minutes 16 seconds East;

THENCE southerly along said curve to the right, an arc distance of 68.34 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE South 11 degrees 20 minutes 28 seconds West a distance of 28.23 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE North 78 degrees 39 minutes 32 seconds West a distance of 85.66 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 65 degrees 16 minutes 16 seconds West a distance of 43.72 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 11 degrees 20 minutes 28 seconds West a distance of 384.94 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 00 degrees 55 minutes 10 seconds West a distance of 47.86 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 00 degrees 50 minutes 17 seconds East a distance of 96.08 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 12 degrees 30 minutes 00 seconds East a distance of 60.85 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner, said point being the beginning of a non-tangent curve to the left having a central angle of 0 degrees 42 minutes 05 seconds, a radius of 925.00 feet and being subtended by a 11.32 foot chord which bears South 77 degrees 08 minutes 57 seconds West;

THENCE southwesterly along said curve to the left, an arc distance of 11.32 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE South 13 degrees 12 minutes 05 seconds East a distance of 50.00 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" for a corner, said point being the beginning of a non-tangent curve to the left having a central angle of 4 degrees 58 minutes 47 seconds, a radius of 875.00 feet and being subtended by a 76.02 foot chord which bears South 74 degrees 18 minutes 31 seconds West;

THENCE southwesterly along said curve to the left, an arc distance of 76.05 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE South 24 degrees 08 minutes 09 seconds West a distance of 20.39 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 23 degrees 03 minutes 22 seconds East a distance of 8.88 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the beginning of a curve to the left having a central angle of 14 degrees 36 minutes 16 seconds, a radius of 150.00 feet and being subtended by a 38.13 foot chord which bears South 30 degrees 21 minutes 30 seconds East;

THENCE southerly along said curve to the left, an arc distance of 38.23 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the point of reverse curvature of a curve to the right having a central angle of 14 degrees 36 minutes 16 seconds, a radius of 159.50 feet and being subtended by a 40.55 foot chord which bears South 30 degrees 21 minutes 30 seconds East;

THENCE southerly along said curve to the right an arc distance of 40.66 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at the end of said curve;

THENCE South 23 degrees 03 minutes 22 seconds East a distance of 25.19 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" at an angle point;

THENCE South 64 degrees 10 minutes 08 seconds East a distance of 29.82 feet to a 5/8 inch iron rod set with plastic cap stamped "Huitt-Zollars" on the northerly Right-of-Way line of said Cypress Creek Way, said point being the beginning of a non-tangent curve to the left having a central angle of 3 degrees 48 minutes 07 seconds, a radius of 850.00 feet and being subtended by a 56.39 foot chord which bears South 72 degrees 53 minutes 04 seconds West;

THENCE westerly along said curve to the left and northerly Right-of-Way line of said Cypress Creek Way, an arc distance of 56.40 feet to a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars" at the point of reverse curvature of a curve to the right having a central angle of 29 degrees 02 minutes 09 seconds, a radius of 750.00 feet and being subtended by a 376.03 foot chord which bears South 85 degrees 30 minutes 02 seconds West;

THENCE westerly along said curve to the right and northerly Right-of-Way line of said Cypress Creek Way, an arc distance of 380.08 feet to a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars" at the end of said curve, and the beginning of a curve to the left having a central angle of 8 degrees 55 minutes 39 seconds, a radius of 810.00 feet and being subtended by a 126.08 foot chord which bears North 84 degrees 26 minutes 42 seconds West;

THENCE westerly continuing along the northerly Right-of-Way line of said Cypress Creek Way and said curve to the left, an arc distance of 126.21 feet to a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars", at the end of said curve;

THENCE North 88 degrees 54 minutes 32 seconds West continuing along the northerly Right-of-Way line of said Cypress Creek Way, a distance of 2.84 feet to a 5/8 inch iron rod found with plastic cap stamped "Huitt-Zollars" on the easterly right-of-way line of said Light Farms Way;

THENCE North 45 degrees 00 minutes 23 seconds West the easterly right-of-way line of said Light Farms Way, a distance of 28.75 feet to the POINT OF BEGINNING and containing 17.70 acres of land, more or less.

Approved for preparation of final plat following construction of all public improvements (or appropriate sureties thereof) necessary for the subdivision shown on the plat.

RECOMMENDED BY: Planning and Zoning Commission, City of Celina, Texas

Signature of Chairperson — Date of Recommendation

APPROVED BY: City Council, City of Celina, Texas

Signature of Mayor — Date of Approval

ATTEST: City Council, City of Celina, Texas

City Secretary — Date

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That LFC LAND COMPANY, LLC , acting herein by and through their respective duly authorized officer(s), do hereby adopt this plat designating the herein described property as **Light Farms Phase Four, THE GRAHAM NEIGHBORHOOD**, an addition to Collin County, within the extra-territorial jurisdiction of the City of Celina, Texas. Company does hereby dedicate, in fee simple, to the Collin County Municipal Utility District No. 1 ("District") forever, the easements and public use areas, streets, rights-of-way, and public improvements contained therein. District does hereby dedicate for the public use forever, the easements and public use areas, the streets, rights-of-way, and public improvements contained therein. The streets and alleys, if any, are dedicated for street purposes. The easements and public use areas, as shown, are dedicated, for the public use forever, for the purposes indicated on this plat. Notwithstanding the foregoing, the District does hereby dedicate to the City of Celina all water and sanitary sewer improvements contained in the right-of-way and easements as shown on this plat in consideration for the City of Celina's agreement to utilize such improvements to serve property within the District. 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 placed in landscape easements. In addition, utility easements may also be used for the mutual use and accommodation of all public utilities desiring to use or using the same unless the easements limit the use to particular utilities, said use by public utilities being subordinate to the public's, District's and City of Celina's use thereof. The City of Celina, District and public utility entities shall have the right to remove and keep removed all or parts of any buildings, fences, trees, shrubs or other improvements or growths which may in any way endanger or interfere with the construction, maintenance, or efficiency of their respective systems in said rights-of- way and easements. The City of Celina, District and public utility entities shall at all times have the full right of ingress and egress to or from their respective rights-of-way and easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining, reading meters, and adding to or removing all or parts of their respective systems without the necessity at any time procuring permission from anyone.

This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Celina, Texas,

WITNESS, my hand, this the _____ day of _____ , 2015.

LFC Land Company, LLC

By: RJM/Celina III, L.P., manager

By: RJM/Celina III GP, Inc., general partner

_____
Tony Ruggeri, President

STATE OF TEXAS
COUNTY OF DALLAS
Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared Tony Ruggeri, Owner, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this _____ day of _____,2015.

_____
Notary Public in and for the State of Texas

_____
My Commission Expires On:

WITNESS, my hand, this the _____ day of _____ , 2015.

By:

_____
Keller Webster, President Collin County Municipal Utility District No. 1

STATE OF TEXAS
COUNTY OF DALLAS
Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared Keller Webster, Owner, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this_____day of _____,2015.

_____
Notary Public in and for the State of Texas

_____
My Commission Expires On:

KNOW ALL MEN BY THESE PRESENTS:

THAT, I, Eric J. Yahoudy do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the subdivision regulations of the City of Celina, Texas.

_____
Eric J. Yahoudy, Registered Professional Land Surveyor
Texas Registration No. 4862
Firm Registration No. 10025600

Date _____

STATE OF TEXAS
COUNTY OF DALLAS

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared Eric J. Yahoudy, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this _____ day of_____ , 2015.

Notary Public in and for the State of Texas _____

My Commission Expires On: _____

PROPERTY LOCATION STATEMENT
This property is located in the extraterritorial jurisdiction of the City of Celina, Collin County, Texas.

_____ Signature of Mayor — _____ Date of approval

ATTEST:

_____ City Secretary — _____ Date

FINAL PLAT

LIGHT FARMS

PHASE FOUR

THE GRAHAM NEIGHBORHOOD

CONTAINING
78 RESIDENTIAL LOTS, & 4 OPEN SPACES
TOTALING 17.70 ACRES
SITUATED IN THE
JOHN RAGSDALE SURVEY, ABST. No. 734
COLLIN COUNTY SCHOOL LAND SURVEY No. 14, ABST. No. 167
COLLIN COUNTY, TEXAS
JANUARY, 2015

OWNER/DEVELOPER
LFC LAND COMPANY, LLC.
8401 North Central Expressway, Suite 350, Dallas, TX 75225
Phone 214-292-3410 Fax 214-292-3411

PREPARED BY:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400, Dallas, TX 75202
Phone (214) 871-3311 Fax (214) 871-0757

CITY FILE No. SHEET 2 of 2

COUNTY RECORDING INFORMATION

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\FINAL PLAT\LF-4_THE GRAHAM-FINAL PLAT.dwg USER: akoefel
DATE: Feb 02, 2015 12:15pm XREFS: LF-4_THE GRAHAM-BASE
CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\cad\final plat\lf-4_the graham-final plat.dwg
PROJECT NUMBER: 01-3905-40
P-201405-06

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION INCLUDING THE STANDARD DRAWINGS THEREIN AND THE CITY OF CELINA'S ADDENDUM THERETO. CONTRACTOR SHALL HAVE ATLEAST ONCE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES. SEE SUPPLEMENTARY CONDITIONS, SC-3.02.

2. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A CONSTRUCTION SEQUENCE SCHEDULE. THE CONSTRUCTION SCHEDULE SHALL BE SUCH THAT THERE IS THE MINIMUM INTERFERENCE WITH TRAFFIC ALONG OR ADJACENT TO THE PROJECT.

3. CONSTRUCTION MAY NOT BEGIN EARLIER THAN 7:00 A.M. ON WEEKDAYS NOR CONTINUE AFTER DARK WITHOUT PERMISSION FROM THE CITY OF CELINA. CONSTRUCTION ON HOLIDAYS AND SATURDAY MUST BE APPROVED TWO DAYS IN ADVANCE, A FEE OF $300.00 A DAY FOR WORKING ON HOLIDAYS AND SATURDAY WILL BE ASSESSED PAYABLE TO THE CITY BEFORE WORK IS PREFORMED. WORK MAY NOT BE BEGIN BEFORE 8:00 A.M. AND WORK ON SUNDAY IS PROHIBITED WITHOUT SPECIAL PERMISSION AND PAYMENT OF FEES.

4. UTILITIES SHOWN ON THE PLANS WERE TAKEN FROM FIELD SURVEYS AND INFORMATION PROVIDED BY THE UTILITY COMPANIES. THE COMPLETENESS AND THE ACCURACY OF THIS DATA IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND PROTECTING THEM FROM DAMAGE DURING CONSTRUCTION. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATION PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.

DIG TESS	800-DIG-TESS	GCEC-TELECOM	903-482-7274
GCEC-ELECTRIC	903-821-3007	AT&T	972-569-3013
ATMOS ENERGY	972-881-4161	ATMOS ENERGY	214-341-9900
CROSSTEX ENERGY	817-570-6753	ONEOK	903-257-6594
COSERV-ELEC	940-321-7800	COSERV-GAS	940-321-7800
CITY OF CELINA	972-382-2682	TOWN OF PROSPER	972-347-9969
MARILEE SUD	972-382-3222	GRANDE	972-410-0583
SUDDEN LINK	469-853-0486		

5. WORK MAY NOT BE BACKFILLED OR COVERED UNTIL THE CITY AND/OR RPR HAS INSPECTED IT.

6. THE OWNER WILL PAY FOR FIRST TIME MATERIAL TESTING. ANY RETESTING WILL BE AT CONTRACTOR'S EXPENSE. MATERIAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY OF OWNER'S CHOICE. THE FOLLOWING MATERIAL TESTS SHALL BE PROVIDED BY THE CONTRACTOR:
   - 6.A. EMBANKMENT – ONE SOIL DENSITY TEST SHALL BE PERFORMED AT EACH LOCATION FOR EACH 500 C.Y. OF BACKFILL PLACED.
   - 6.B. PAVEMENT SUB GRADE – ONE GRADATION TEST (WHERE LIME STABILIZED) AND ONE SOIL DENSITY TEST SHALL BE PERFORMED FOR EACH 300 LINEAR FEET OF PAVEMENT UNLESS OTHERWISE NOTED. GRADATIONS MUST PASS 100% THROUGH A 1¾" SIEVE AND 60% THROUGH A #4 SIEVE.
   - 6.C. UTILITY TRENCH BACKFILL – ONE SOIL DENSITY TEST SHALL BE PERFORMED AT 300 FEET INTERVALS OR AS DIRECTED BY THE INSPECTOR.
   - 6.D. CONCRETE TESTS:
     - 6.D.1. COMPRESSIVE STRENGTH – FOUR TEST CYLINDERS SHALL BE TAKEN FROM A REPRESENTATIVE PORTION OF THE CONCRETE BEING PLACED FOR EVERY 150-CUBIC YARDS OF CONCRETE PAVEMENT PLACED, BUT IN NO CASE SHALL LESS THAN 2 SETS OF CYLINDERS BE TAKEN FROM ANY ONE DAY'S PLACEMENT.
     - 6.D.2. AIR, SLUMP, AND TEMPERATURE TESTS SHALL BE TAKEN FOR EVERY SET OF CYLINDERS MADE. CONCRETE WITH A TEMPERATURE ABOVE 95°F WILL BE REJECTED.
     - 6.D.3. ADDITIONAL CYLINDERS AND/OR TESTS MAY BE REQUIRED AT THE INSPECTOR'S DISCRETION.
   - 6.E. THE CITY SHALL SELECT THE LOCATION AND DEPTH OF EACH SOIL DENSITY TEST, UNLESS OTHERWISE DIRECTED.

7. ALL EXCAVATION ON THE PROJECT IS UNCLASSIFIED.

8. TEMPORARY EROSION CONTROL SHALL BE USED TO MINIMIZE THE SPREAD OF SILT AND MUD FROM THE PROJECT ON TO EXISTING STREETS, ALLEYS, DRAINAGE WAYS AND PUBLIC AND PRIVATE PROPERTY. TEMPORARY EROSION CONTROLS MAY INCLUDE SILT FENCES, ROCK CHECK DAMS, STABILIZED CONSTRUCTION ENTRANCES, STRAW BALES, BERMS, DIKES, SWALES, STRIPS OF UNDISTURBED VEGETATION, CHECK DAMS AND OTHER METHODS AS REQUIRED BY THE CITY MANAGER OR HIS REPRESENTATIVE AND SHALL CONFORM TO THE STORM WATER QUALITY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES AS PUBLISHED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AND THE CITY OF CELINA EROSION AND SEDIMENT CONTROL MANUAL.

9. FINISHED SLOPES ON PUBLIC RIGHTS-OF-WAY AND EASEMENTS SHALL NOT BE STEEPER THAN 4:1. ALL SLOPES STEEPER THAN 6:1 SHALL BE COVERED WITH EROSION CONTROL MATTING AND ARE HYDRO MULCHED AND MAINTAINED BY THE CONTRACTOR UNTIL GRASS COVERS ALL PARTS OF THE SLOPE.

10. THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES ALONG THE PROJECT.

11. REMOVE, SALVAGE AND REPLACE ALL STREET AND TRAFFIC CONTROL SIGNS, WHICH MAY BE DAMAGED BY THE CONSTRUCTION OF THE PROJECT.

12. ALL TRENCHING AND EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH OSHA STANDARDS. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUBMIT A TRENCH SAFETY DESIGN APPROVED BY A PROFESSIONAL ENGINEER TO THE CITY FOR REVIEW PRIOR TO THE START OF ANY UNDERGROUND UTILITY CONSTRUCTION.

13. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, AND OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.

14. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, AND LICENSES, ETC.

15. IN THE EVENT AN ITEM IS NOT COVERED IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AN ALTERNATIVE TO THE OWNER AND ENGINEER. THE ENGINEER SHALL REVIEW AND APPROVE CONSTRUCTION MATERIALS, SHOP DRAWINGS AND SPECIFICATIONS.

16. CONSTRUCTION OBSERVATION WILL BE PERFORMED BY REPRESENTATIVES OF THE OWNER, ENGINEER, DISTRICT, GEOTECHNICAL ENGINEER, AND REVIEWING AUTHORITIES AND AGENCIES. UNRESTRICTED ACCESS SHALL BE PROVIDED TO THEM AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING AND SCHEDULING REQUIRED INSPECTIONS.

17. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS ONTO DEVELOPED OR UNDEVELOPED AREAS WILL BE ALLOWED, UNLESS SPECIFICALLY NOTED ON PLANS. ANY DAMAGE RESULTING THERE FROM SHALL BE CONTRACTOR'S RESPONSIBILITY TO REPAIR.

18. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.

19. CONSTRUCTION STAKING WILL BE PERFORMED BY OWNER'S ENGINEER. SEE SUPPLEMENTARY CONDITIONS, SC-4.05.

20. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.

21. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATIONS AND WORKING AROUND EXISTING UTILITIES AND IMPROVEMENTS. SEE SUPPLEMENTARY CONDITIONS, SC-4.02 AND SC-6.13.

22. TRAFFIC CONTROL MEASURES SHALL BE INSTALLED FOR ANY WORK ACTIVITY THAT TAKES PLACE ON OR ADJACENT TO ANY PUBLIC STREET OR ROADWAY. TRAFFIC CONTROL MEASURES SHALL CONFORM TO PART IV OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

23. THE CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN AND BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO HIS WORK.

24. ALL PIPE PRICES SHALL INCLUDE REQUIRED EMBEDMENT PER PLANS AND SPECIFICATIONS.

GRADING NOTES

1. HAUL ROADS ARE SUBSIDIARY TO THIS CONTRACT.

2. TOPSOIL STRIPPING & REPLACEMENT: THIS CONTRACT REQUIRES THAT A NOMINAL 3-INCH DEPTH OF TOPSOIL BE STRIPPED FROM ALL CLEARED AND GRUBBED AREAS. TOPSOIL STRIPPINGS SHALL BE INCORPORATED INTO LANDSCAPE AREAS OUTSIDE OVERBUILT PADS. IN STREET PARKWAYS, MEDIANS, OPEN SPACE, EARTHEN DRAINAGE DITCHES AND SWALES FOR ALL SUBDIVISIONS, A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED IN ADVANCE OF GRASSING OPERATIONS. THE GRADING OPERATIONS SHALL ACCOMMODATE TOPSOIL TO BE PLACED IN THESE DESIGNATED AREAS. STOCKPILED TOP SOIL SHALL BE PROTECTED FROM EROSION WITH APPROPRIATE EROSION CONTROL MEASURES AT ALL TIMES. ONCE THE EXCESS MATERIAL HAS BEEN PLACED AND COMPACTED THE TOP SOIL SHALL BE EVENLY REDISTRIBUTED ON TOP OF THE PLACED FILL BEFORE BEING REVEGETATED.

3. REGRADING WORK SHALL BE CLOSELY COORDINATED WITH THE OWNER AND ENGINEER BEFORE AND AS THE WORK IS BEING ACCOMPLISHED. ONCE STARTED, THIS WORK SHALL BE PROSECUTED WITH DILIGENCE UNTIL COMPLETE.

4. ALL NEW WORK SHALL SLOPE UNIFORMLY BETWEEN SPOT ELEVATIONS UNLESS NOTED OTHERWISE. PROVIDE POSITIVE DRAINAGE ON ALL FINISH GRADES.

5. MASS GRADING: MASS GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE RECOMMENDATIONS IN THE PRELIMINARY GEOTECHNICAL INVESTIGATIONS AS PROVIDED IN CONTRACT DOCUMENTS. COMPACTION OF ALL FILL MATERIAL SHALL BE A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D 698 OR AS REQUIRED IN THE PRELIMINARY GEOTECHNICAL INVESTIGATION. THE MOISTURE CONTENT OF ALL FILL MATERIAL SHALL BE NEAR ITS OPTIMUM MOISTURE CONTENT (ASTM D 69B); DRY SOILS SHALL HAVE WATER ADDED AND WET SOILS SHALL BE AERATED, SO THAT ALL SOIL PLACEMENT WILL MEET DENSITY REQUIREMENTS.

6. CLEARING AREAS TO BE FILLED: IN AREAS TO BE FILLED, ALL TREES, STUMPS, BRUSH, ABANDONED STRUCTURES, ROOTS, TOPSOIL, VEGETATION, SEDIMENTS, LARGE ROCK FRAGMENTS, RUBBISH, AND ANY OTHER UNDESIRABLE OR DELETERIOUS MATTER SHOULD BE PROPERLY REMOVED AND DISPOSED OF. ALL TOPSOIL, ROOTS, OTHER VEGETATION AND LOOSE OR SOFT SOILS SHOULD BE STRIPPED TO A DEPTH OF 6 INCHES AND THE EXPOSED SURFACE SHOULD BE SCARIFIED TO AN ADDITIONAL DEPTH OF AT LEAST 6 INCHES. TO THE EXTENT PRACTICAL, IT IS RECOMMENDED THAT TREES SCHEDULED FOR REMOVAL IN THE VICINITY OF PROPOSED SLAB-ON-GRADE FOUNDATIONS BE REMOVED AS FAR IN ADVANCE OF SLAB CONSTRUCTION AS POSSIBLE. THIS WILL TEND TO RESTORE A MORE FAVORABLE SOIL MOISTURE EQUILIBRIUM WHICH WILL, IN TURN, TEND TO MINIMIZE THE POTENTIAL FOR GREATER THAN ANTICIPATED POST-CONSTRUCTION GROUND MOVEMENTS. TREES SHOULD BE EXCAVATED TO BELOW THEIR ROOT BALLS. THEN THE EXCAVATION SHOULD BE FILLED WITH SOIL SIMILAR TO THE SURROUNDING SOIL. THE FILL SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN THE PRELIMINARY GEOTECHNICAL INVESTIGATION.

7. WATERING: WATERING OF EARTHWORK PLACED IN FILL AREAS MAY BE NECESSARY TO ACHIEVE THE SPECIFIED MOISTURE DENSITY REQUIREMENT, AND TO GERMINATE/SUSTAIN GRASS COVER IN AREAS TO RECEIVE A VEGETATIVE COVER AFTER GRADING IS COMPLETE. THE CONTRACTOR MAY REQUEST A FIRE HYDRANT METER FROM THE CITY OF CELINA FOR CONSTRUCTION WATER USE OR OBTAIN WATER FROM AN ALTERNATE SOURCE. NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR WATER.

8. SWALE AND FINE GRADING OF LOTS: THE TOLERANCE FOR FINE GRADING OF THE LOT PADS AND OTHER AREAS UNDER THIS CONTRACT IS PLUS OR MINUS 0.30 FEET. SURFACES SHALL BE GRADED STRAIGHT AND SMOOTH BETWEEN CONTROL POINTS OR GRADES, WITHOUT BULGES OR DEPRESSIONS, AS DETAILED ON THE DRAWINGS. SEE REQUIREMENTS FOR TOPSOIL PLACEMENT IN NOTE #1 ABOVE.

9. SWALES ARE TO BE GRADED AS SHOWN ON THE GRADING PLANS. FINE GRADING CONSISTS OF CREATING A SMOOTH FINISHED LEVEL HOUSE PAD WITH A UNIFORM TRANSITION TO SIDE YARD SWALES AND FRONT YARD SLOPES TO THE RIGHT-OF-WAY AND CURB.

10. CONTRACTOR IS HEREBY DIRECTED TO ENSURE THAT ALL SWALES, AS SHOWN ON THE GRADING PLANS, ARE PROPERLY INSTALLED. AT LOCATIONS WHERE RETAINING WALLS EXIST AND/OR ARE PROPOSED BEHIND, BESIDE OR BETWEEN LOTS, SWALES MUST BE CREATED ON THE UPPER LOT DIRECTLY BEHIND THE WALL AND ON THE LOWER LOT ADJACENT TO THE WALL WHERE SHOWN TO CONVEY SURFACE DRAINAGE IN THE DIRECTION SHOWN ON THE GRADING PLAN.

11. REESTABLISHMENT OF VEGETATION: ESTABLISHMENT OF VEGETATION SHALL BE INITIATED IMMEDIATELY AFTER COMPLETING GRADING AND IN NO CASE LATER THAN 14 DAYS AFTER COMPLETION OF GRADING. THE CONTRACTOR WILL BE REQUIRED TO BROADCAST SEED AND FERTILIZER ON FINISHED LOTS. TILLING WILL NOT BE REQUIRED. THE SEED MIX SHALL BE 50% UNHULLED BERMUDA AND 50% FOXTAIL MILLET-GERMAN STRAIN R APPLIED AT A RATE OF 10 LBS. PER ACRE. 10-10-10 FERTILIZER SHALL BE APPLIED AT THE RATE OF 200 LBS. PER ACRE OR AS RECOMMENDED BY THE FERTILIZER MANUFACTURER. THE UNIT PRICE BID FOR "REVEGETATION OF GRADED LOTS" SHALL INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND SPREADING SEED AND FERTILIZER. THE VEGETATION MUST ACHIEVE A COVER THAT IS 70 PERCENT OF THE NATIVE BACKGROUND VEGETATIVE COVER TO BE CONSIDERED FINAL STABILIZATION.

WATER AND WASTEWATER NOTES

1. SPECIFICATIONS AND DETAILS ARE NOT MEANT TO EXCLUDE ANY MANUFACTURER. ANY SPECIFICATION OR DETAIL MAY BE REPLACED WITH AN APPROVED EQUAL UPON APPROVAL BY THE CITY OF CELINA.

2. WATER MAINS SHALL BE AWWA C-900 PVC OR 905 PVC CLASS 200 UNLESS OTHERWISE NOTED. MINIMUM COVER FOR WATERLINES IS 48" BELOW TOP OF CURB, 60" WHERE NO CURBED STREET IS PRESENT OR AS REQUIRED TO CLEAR EXISTING UTILITIES, WHICHEVER IS GREATER. CLASS "B+" EMBEDMENT UNLESS OTHERWISE NOTED. CAST IRON FITTINGS, EMBEDMENT, AND THRUST BLOCKING ARE SUBSIDIARY TO THE UNIT PRICE.

3. ALL UTILITY TRENCH BACKFILL SHALL BE PERFORMED IN 12" LOOSE LIFTS AND MECHANICALLY COMPACTED WITH APPROVED VIBRATORY METHODS. WATER JETTING IS PROHIBITED.

4. MARKING TAPE SHALL BE INSTALLED ONE FOOT ABOVE AND OVER PVC WATER LINES.

5. FITTINGS FOR PVC WATER LINES SHALL BE DUCTILE IRON AND BE ENCASED IN A POLYETHYLENE SHEATH, AND ARE SUBSIDIARY TO THE UNIT PRICE FOR WATER LINE.

6. ALL MECHANICAL JOINTS WILL BE RESTRAINED. (MEGA-LUG, ETC.)

7. VALVES, INCLUDING TAPPING VALVES SHALL BE RESILIENT SEAT GATE VALVES, UNLESS OTHERWISE NOTED.

8. ALL DIRECT BURIAL VALVES SHALL BE PROVIDED WITH CAST IRON VALVE BOXES WITH PVC STACKS. VALVE STACKS SHALL BE VERTICAL AND CONCENTRIC WITH THE VALVE STEM. STAINLESS STEEL VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES WHERE THE OPERATING NUT IS GREATER THAN 4 FEET BELOW FINISHED GRADE.

9. FIRE HYDRANTS SHALL BE WATEROUS OR EQUAL AS DIRECTED OR APPROVED BY THE CITY OF CELINA ON A CASE BY CASE BASIS AND FIELD PAINTED SILVER WITH BONNET AND CAPS COLOR-CODED TO PIPE SIZE.
   - 9.A. SIX INCH LINE- SILVER BODY WITH RED BONNET AND CAPS.
   - 9.B. EIGHT INCH LINE- SILVER BODY WITH BLUE BONNET AND CAPS.
   - 9.C. TEN INCH LINE- SILVER BODY WITH GREEN BONNET AND CAPS.
   - 9.D. TWELVE INCH AND LARGER- SILVER BODY WITH YELLOW BONNET AND CAPS.

10. ALL EXPOSED BOLTING ON ANY BURIED EQUIPMENT OR MATERIAL SHALL BE STAINLESS STEEL. INCLUDED ARE:
   - 10.A. BONNET AND STUFFING BOX BOLTS ON VALVES.
   - 10.B. SHOE BOLTS ON FIRE HYDRANTS.
   - 10.C. FLANGE BOLTS.
   - 10.D. "COR-TEN" MECHANICAL JOINT "T" BOLTS ARE ACCEPTABLE FOR DIRECT BURIAL SERVICE.

11. DEPENDING ON METER SIZE; METER BOXES SHALL BE DFW37C-12-1SAF, DFW38C-14-1SAF, DFW65C-14-1SAF, OR APPROVED EQUAL, AND SHALL INCORPORATE THE CELINA LOGO IN THE LID.

12. ONE SAMPLE STATION SHALL BE PROVIDED FOR EVERY 250 CONNECTIONS.

13. FIRE HYDRANT ASSEMBLY: FIRE HYDRANT ASSEMBLY SHALL INCLUDE A 6" PVC LEAD, 6" VALVE, FITTINGS, CONCRETE BLOCKING, AND THE FIRE HYDRANT.

14. WATER METERS: WATER METERS WILL BE SET AT A LATER DATE BY OTHERS. UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR MAKING THE TAP, INSTALLING THE COPPER SERVICE LINE PER NCTCOG STANDARD DETAILS, PROVIDING THE CURB STOP AND DEADHEAD VALVES, AND PROPERLY PLACING A METER BOX. LOCATOR PADS SHALL BE PLACED AT ALL VALVE LOCATIONS. THE LOCATOR PAD SHALL BECOME THE PROPERTY OF THE CITY. THE TERM 'WATER METER BOX' AND 'WATER METER CAN' ARE USED INTERCHANGEABLY.

15. WASTEWATER MAINS SHALL BE DR 35 PVC. EMBEDMENT SHALL BE CLASS H UNLESS OTHERWISE NOTED.
   - 15.A. THE CONTRACTOR SHALL INSTALL AND MAINTAIN WATERTIGHT PLUGS IN ALL CONNECTIONS TO THE CITY'S SANITARY SEWER SYSTEM UNTIL THE CITY ACCEPTS THE PROJECT.
   - 15.B. ALL SANITARY SEWER LINES AND MANHOLES SHALL BE LEAK TESTED BEFORE THE PROJECT IS ACCEPTED. DEFLECTION TESTING OF PVC SEWER LINES IS REQUIRED. DEFLECTION SHALL BE TESTED WITH A MANDREL FOR 5% DEFLECTION.
   - 15.C. ALL SEWER LINES SHALL BE VIDEO INSPECTED WITH A COPY OF THE VIDEO AND STATION REPORT SUBMITTED TO THE INSPECTOR.
   - 15.D. MANDREL, AIR TEST, AND VIDEO INSPECTION SHALL NOT BE PERFORMED UNTIL ALL UTILITIES ARE COMPLETE, IN PLACE, AND BACKFILLED.

16. SANITARY SEWER STUB-OUTS FROM MANHOLES SHALL BE FITTED WITH WATER TIGHT STOPPER OR CAP.

17. STUB-OUTS FROM MANHOLES SHALL BE A MINIMUM OF 5-FT LONG WITH CONCRETE CRADLE (FROM SAME POUR) UNDER THE ENTIRE LENGTH PER NCTCOG STANDARD DRAWING NO. 5020 AND 5030, DATED OCTOBER 2004, AND NCTCOG STANDARD DRAWING NO. 3010 CLASS "A" EMBEDMENT, DATED OCTOBER 2004.

18. ALL VALVES, FIRE HYDRANTS, METER BOXES, SEWER SERVICES, SEWER MANHOLES, AND SEWER CLEANOUTS REQUIRE CURB MARKS PER CITY STANDARDS.

19. ALL PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW-G) AS REQUIRED.

20. THIS PROJECT SHALL COMPLY WITH CHANGES TO THE SAFE DRINKING WATER ACT THAT REDUCES MAXIMUM ALLOWABLE LEAD CONTENT IN PIPES, PIPE FITTINGS, PLUMBING FITTINGS AND FIXTURES TO 0.25 PERCENT.

21. THE SYSTEM SHALL BE PROVIDED WITH SUFFICIENT VALVES AND BLOWOFFS SO THAT NECESSARY REPAIRS CAN BE MADE WITHOUT UNDUE INTERRUPTION OF SERVICE OVER ANY CONSIDERABLE AREA AND FOR FLUSHING THE SYSTEM WHEN REQUIRED.

22. NEW MAINS SHALL BE THOROUGHLY DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSHED AND SAMPLED BEFORE BEING PLACED IN SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE. SAMPLING SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1000 FT OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING BEYOND 1000 FT AS DESIGNATED BY THE DESIGN ENGINEER AS REQUIRED.

23. HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE SHALL NOT EXCEED AMOUNT ALLOWED OR RECOMMENDED BY AWWA FORMULA:
    Q=(LD(P^0.5))/148,000
    WHERE Q=QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR; L=LENGTH OF THE PIPE SECTION BEING TESTED; D=NOMINAL DIAMETER OF THE PIPE IN INCHES; AND P=AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

STORM DRAINAGE CONSTRUCTION NOTES

1. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III UNLESS OTHERWISE NOTED.

2. ALL STRUCTURAL CONCRETE SHALL BE CLASS "C" (3600 PSI COMPRESSIVE STRENGTH AT 28 DAYS), AIR ENTRAINED.

3. THE CONTRACTOR SHALL INSTALL PLUGS IN STORM SEWER LINES OR OTHERWISE PREVENT MUD FROM ENTERING THE STORM SEWER SYSTEM DURING CONSTRUCTION.

4. INLET BLOCKOUTS, VARIABLE CURB, AND INLET TOP WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY FOLLOWING PAVING OPERATIONS. INLET BLOCKOUTS SHALL BE PLACED 3.5 FEET FROM BACK OF CURB FOR A DISTANCE OF TEN (10) FEET UPSTREAM (BOTH SIDES IN SAG CONDITIONS) AND FIVE (5) FEET DOWNSTREAM OF THE INSIDE FACE OF INLET. UNLESS OTHERWISE NOTED IN CONSTRUCTION PLANS.

5. STORM DRAINAGE PIPE AND HEADWALLS: UNLESS NOTED OTHERWISE ON THE PLANS, ALL STORM DRAINAGE PIPE SHALL BE CLASS III AND EMBEDMENT SHALL BE CLASS "C" PER NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, STANDARD DRAWING NO. 3040. THE UNIT PRICE SUPPLIED FOR THE CONSTRUCTION OF THE STORM HEADWALLS SHALL INCLUDE VALUE FOR THE NECESSARY EXCAVATION/GRADE-TO-DRAIN ACTIVITY CONSIDERED SUBSIDIARY TO THE INSTALLATION OF THE STORM OUTFALL STRUCTURES. THE EXCAVATED CHANNEL SHALL HAVE A MINIMUM 1% LONGITUDINAL SLOPE AND MINIMUM BOTTOM WIDTH OF TWICE THE WIDTH OF THE OUTFALLING PIPE OR BOX, UNLESS OTHERWISE NOTED, AND SHALL HAVE THE EMBANKMENTS SLOPED BACK AT A 3:1 SLOPE.

6. INLET BOTTOM CONSTRUCTION: WITHIN 24 HOURS OF THE COMPLETION OF THE CONSTRUCTED INLET BOTTOM, EROSION CONTROL MEASURES SHALL BE EMPLOYED AS SHOWN IN THE NCTCOG EROSION CONTROL DETAILS. INTERIM EROSION CONTROL MEASURES SHALL BE EMPLOYED UNTIL THE CONCRETE FOR THE INLET BASE HAS SET AND THE REQUIRED EROSION CONTROL MEASURES INSTALLED.

7. ROCK RIP RAP: THE PLACEMENT OF ROCK RIP-RAP AT STORM DRAINAGE OUTFALLS WILL BE DELAYED UNTIL THE COMPLETION OF ALL UTILITY WORK. THE ROCK RIP-RAP MAY ALSO BE DESIGNATED FOR PLACEMENT ON THE FRESH EMBANKMENTS TO STABILIZE THE SLOPES.

UTILITY SEPARATION NOTES

1. SEPARATION DISTANCES BETWEEN PUBLIC WATER SUPPLY PIPES AND SANITARY SEWER COLLECTION SYSTEMS OR MANHOLES MUST COMPLY WITH 30 TAC 217.53(D) AND 30TAC 290.44(E).

2. COLLECTION SYSTEM PIPES MUST BE INSTALLED IN TRENCHES SEPARATE FROM PUBLIC WATER SUPPLY TRENCHES.

3. COLLECTION SYSTEM PIPES MUST BE NO CLOSER THAN NINE FEET IN ANY DIRECTION TO A PUBLIC WATER SUPPLY LINE.

4. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING CRITERIA SHALL APPLY.
   - 4.A. A MINIMUM SANITARY SEWER PIPE SEGMENT LENGTH SHALL BE AT LEAST 18-FEET WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED.
   - 4.B. WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING, NON-PRESSURE RATED SANITARY SEWER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE SANITARY SEWER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST TWO FEET ABOVE THE SANITARY SEWER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE SANITARY SEWER MAIN OR LATERAL. IF THE EXISTING SANITARY SEWER MAIN OR LATERAL IS DISTURBED OR SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.
   - 4.C. WHERE A NEW POTABLE WATERLINE CROSSES A NEW, NON-PRESSURE RATED SANITARY SEWER MAIN OR LATERAL AND THE STANDARD PIPE SEGMENT LENGTH OF THE SANITARY SEWER MAIN OR LATERAL IS AT LEAST 18 FEET, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE SANITARY SEWER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST TWO FEET ABOVE THE SANITARY SEWER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE SANITARY SEWER MAIN OR LATERAL. THE SANITARY SEWER PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE SANITARY SEWER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END. WHERE SHOWN, THE SANITARY SEWER LINE SHALL BE CONSTRUCTED OF 150 PSI PRESSURE RATED PIPE.
   - 4.D. WHERE CEMENT STABILIZED SAND BEDDING IS REQUIRED, THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE SANITARY SEWER MAIN OR LATERAL.
   - 4.E. WHEN A NEW WATERLINE CROSSES UNDER A SANITARY SEWER MAIN OR LATERAL, ALL SECTIONS OF WATERLINE WITHIN NINE FEET HORIZONTALLY OF THE SANITARY SEWER MAIN OR LATERAL SHALL BE ENCASED IN AN 18-FOOT (OR LONGER) SECTION OF PIPE. FLEXIBLE ENCASING PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE ENCASING PIPE SHALL BE CENTERED ON THE WATERLINE AND SHALL BE AT LEAST TWO NOMINAL PIPE DIAMETERS LARGER THAN THE SANITARY SEWER MAIN OR LATERAL. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT (OR LESS) INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. EACH END OF THE CASING SHALL BE SEALED WITH WATERTIGHT NON-SHRINK CEMENT GROUT OR A MANUFACTURED WATERTIGHT SEAL. IN LIEU OF THE ENCASEMENT, THE WATERLINE CAN ALSO BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATERLINE AND THE SANITARY SEWER MAIN OR LATERAL SHALL BE PROVIDED.
   - 4.F. WATERLINE AND SANITARY SEWER MAIN OR LATERAL MANHOLE OR CLEANOUT SEPARATION: THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A SANITARY SEWER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
   - 4.G. LOCATION OF FIRE HYDRANTS: FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY SANITARY SEWER MAIN, SANITARY SEWER LATERAL, OR SANITARY SEWER SERVICE LINE REGARDLESS OF CONSTRUCTION.

PAVING NOTES

1. ALL EMBANKMENTS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

2. ALL STREETS AND ALLEYS SHALL BE PLACED ON LIME STABILIZED SUB GRADE WITH A LIME CONTENT NOT LESS THAN 7.5% OR AS APPROVED BY THE CITY ENGINEER.

3. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE STREET PAVING SHALL NOT BE LESS THAN 3600 PSI AND SHALL BE AIR ENTRAINED. WATER MAY NOT BE APPLIED TO THE SURFACE OF CONCRETE PAVING TO IMPROVE WORKABILITY.

4. ALL CURB AND GUTTER SHALL BE INTEGRAL WITH THE PAVEMENT.

5. PARABOLIC CROWNS ARE REQUIRED ON ALL STREET PAVEMENTS EXCEPT ON MAJOR THOROUGHFARES WHERE STRAIGHT SECTIONS ARE REQUIRED.

6. STREETS AND ALLEYS SHALL BE CONSTRUCTED WITH PROVISIONS FOR SIDEWALK RAMPS AT ALL INTERSECTIONS.

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

LIGHT FARMS

GENERAL NOTES

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
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SCALE

DATE
1-30-2015

SHEET No.
00-02

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_DesignCAD\C3D\SHEETS\01390541-C002.dwg USER: aloeffel
DATE: Jan 29, 2015 3:55pm XREFS: 01390541-C-BD-A

CAD FILE PATH: i:\proj\01390501\01390541_par_5_6\08_designcad\c3d\sheets\01390541-c002.dwg

TCEQ WATER DISTRIBUTION GENERAL NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIROMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.

2. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).

3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD61-G AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).

4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL(NSF PW-G) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).

5. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).

6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 25 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4).

7. PURSUANT TO 30 TAC §290.44(A)(5). THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
   THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;
   WHERE:

   $$[LD(P^{0.5})]/148,000$$

   Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
   L=THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
   D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
   P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

   THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;
   WHERE:

   $$[SD(P^{0.5})]/148,000$$

   L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
   S =THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
   D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
   P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

8. PROJECTS CONSTRUCTED ON OR AFTER JANUARY 1, 2014 MUST COMPLY WITH THE CHANGES TO THE SAFE DRINKING WATER ACT THAT REDUCE THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.

9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(D).

10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).

11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.

12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.

13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION

14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(1-4) OF THE CURRENT RULES.

15. PURSUANT TO 30 TAC §290.44(E) (5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED O THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.

16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.

17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.

18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS.

19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.

20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.

21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

LIGHT FARMS

TCEQ GENERAL NOTES

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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SCALE
DATE 1-30-2015
SHEET No. 00-03

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\cad\c3d\sheets\01390541-c003.dwg

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DATE: Jan 29, 2015 3:56pm XREFS: 01390541-C-BD-A

SEE SHEET 02-02

CONSTRUCT STD CONCRETE SIDEWALK PER LANDSCAPE ARCHITECT DETAILS.

SKYFLOWER LANE

LIGHT FARMS WAY (EX. CONC. PVMT.)

MERIDIAN AVE

CUSHMAN ROAD

CYPRESS CREEK WAY (PROP. PVMT. BY OTHERS)

FUTURE GRAHAM NEIGHBORHOOD

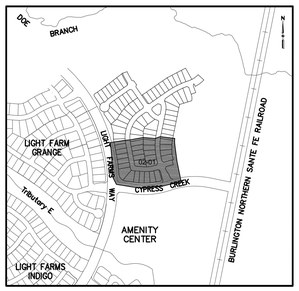
FUTURE GRAHAM NEIGHBORHOOD

TEMPORARY SWALE

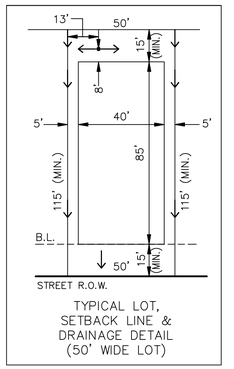
15' SS. ESMT

EX. DRAINAGE ESMT.

CONSTRUCT PICTURE FRAME SIDEWALK PER LANDSCAPE ARCHITECT DETAILS.



KEY MAP
N.T.S.



TYPICAL LOT, SETBACK LINE & DRAINAGE DETAIL (50' WIDE LOT)

LEGEND

- SWALE
- RETAINING WALL BY DEVELOPER
- EXPOSED BEAM
- 540.4 TP — PROPOSED TOP OF PVMT. ELEV.
- 540.4 TC — PROPOSED TOP OF CURB ELEV.
- 540.4 — PROPOSED SPOT ELEV.
- 335 — EXISTING CONTOUR
- 340 — PROPOSED CONTOUR
- FLOW DIRECTION
- FP = 500.0 — FINISHED PAD ELEV.
- TW 520.1 / BW 515.5 — TOP OF WALL/BOTTOM OF WALL ELEV.
- STREET NAME CHANGE
- 100 YR FLOODPLAIN

NOTE TO GRADING CONTRACTOR:
WORK SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY REED ENGINEERING GROUP, ENTITLED "GEOTECHNICAL INVESTIGATION, LIGHT FARMS PARCELS 5, 6 AND 7, LIGHT FARMS WAY, NORTH OF CYPRESS CREEK WAY, CELINA, TEXAS", DATED MARCH 31, 2014

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of LIght Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
95145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

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4. RETAINING WALL DETAILS LOCATED ON SHEETS 02-07 AND 02-08.

LIGHT FARMS

GRADING PLAN

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
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HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE 1" = 30'
DATE 1-30-2015
SHEET No. 02-01

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

P-201405-06

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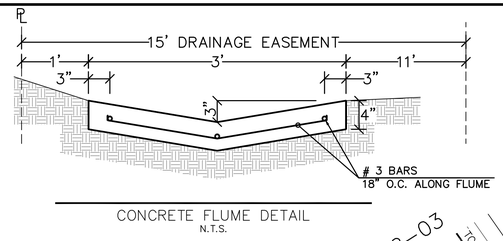
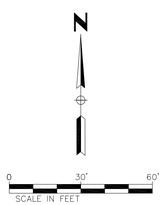
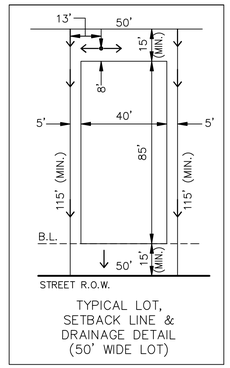
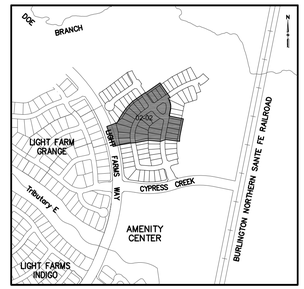


CONCRETE FLUME DETAIL
N.T.S.





TYPICAL LOT, SETBACK LINE & DRAINAGE DETAIL (50' WIDE LOT)



KEY MAP
N.T.S.

LEGEND

	SWALE
	RETAINING WALL BY DEVELOPER
	EXPOSED BEAM
540.4 TP	PROPOSED TOP OF PVMT. ELEV.
540.4 TC	PROPOSED TOP OF CURB ELEV.
540.4	PROPOSED SPOT ELEV.
335	EXISTING CONTOUR
340	PROPOSED CONTOUR
	FLOW DIRECTION
FP = 500.0	FINISHED PAD ELEV.
TW 520.1 BW 515.5	TOP OF WALL/BOTTOM OF WALL ELEV.
	STREET NAME CHANGE
	100 YR FLOODPLAIN

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BENCHMARKS:

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N=7152197.409
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Elev.=632.00

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STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15
Huitt-Zollars, Inc.
Firm Registration No. F-761

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LIGHT FARMS

GRADING PLAN

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Phone (214) 871-3311 Fax (214) 871-0757

SCALE 1" = 30'
DATE 1-30-2015
SHEET No. 02-02

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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01390541-C-KM-A 01390541-C-GP-A 01390541-C-ST-A OFFSITE GRADING-all 01390541_DTL_GRAD 01390541_LG_GRAD 01390541_NT_GRAD
BASE-STORM Cypress Creek LF_EX-CONTOUR 01390541_PROP_CONTOUR 01390541-C-BD-A BASE Cypress Creek

P-201405-06

SEE SHEET 02-05
FOR DETENTION POND GRADING

VARIABLE WIDTH
TEMPORARY DRNG. ESMT.

TEMPORARY CHANNEL

FUTURE
GRAHAM
NEIGHBORHOOD

50' UTIL. ESMT.

REMOVE AND DISPOSE
OF 325 SY OF
EX. CONC. PVMT.

INSTALL 112 SY OF 6"
THICK NON-GROUTED
ROCK RIP-RAP
TYPE 'A' PER NCTCOG

LIGHT FARMS WAY
(FUTURE PVMT.)

42 LF OF FULL DEPTH
SAWCUT & INSTALL
TYPE III BARRICADE

15' DRNG.
ESMT

CONSTRUCT STD. CONCRETE
SIDEWALK PER LANDSCAPE
ARCHITECT DETAILS.

INSTALL 255 SY OF 7"
GRADE 'A' OR GRADE 'E'
FLEXBASE MATERIAL
ROADWAY INCLUDING 6"
SCARIFIED SUBGRADE
COMPACTED TO 95%
PROCTOR DENSITY
FOR EMERGENCY ACCESS

LIGHT FARMS WAY
(EX. CONC. PVMT.)

BRADFORD STREET
(FUTURE PVMT.)

HARRISTON STREET

FUTURE
GRAHAM
NEIGHBORHOOD

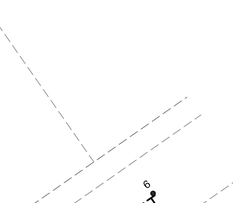
SEE SHEET 02-04

SEE SHEET 02-02

7" THICK GRADE 'A' OR
'E' FLEXIBLE PLACED AT
PROPOSE D GRADE.

6" SCARIFIED SUBGRADE
COMPACTED TO 95%
PROCTOR DENSITY

GRAVEL SECTION
SCALE: N.T.S.



TYPICAL LOT,
SETBACK LINE &
DRAINAGE DETAIL
(50' WIDE LOT)

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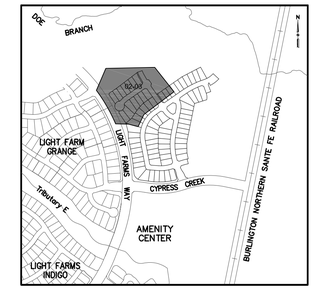

KEY MAP
N.T.S.

N

0 30' 60'
SCALE IN FEET

LEGEND

- SWALE
- RETAINING WALL BY DEVELOPER
- EXPOSED BEAM
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STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
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LIGHT FARMS

GRADING PLAN

PHASE FOUR
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COLLIN COUNTY, TEXAS

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Dallas, Texas 75202-1236
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SCALE 1" = 30'
DATE 1-30-2015
SHEET No. 02-03

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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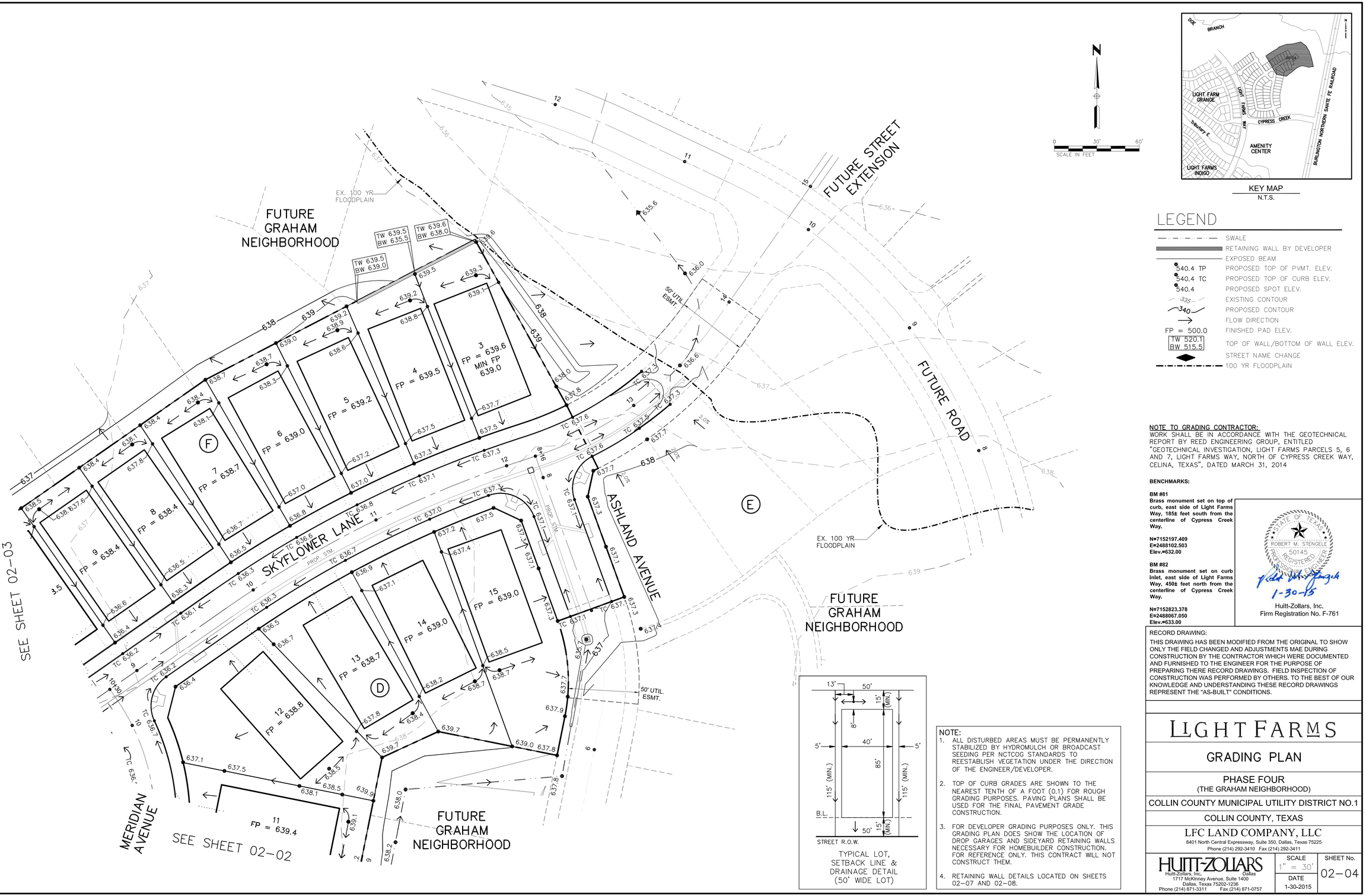
P-201405-06



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SCALE	SHEET No.
1" = 30'	02-04
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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P-201405-06

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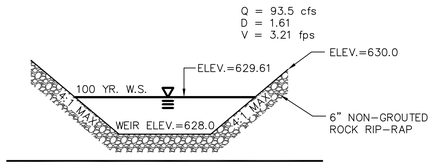
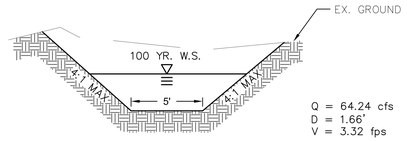
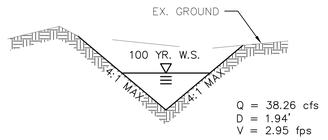


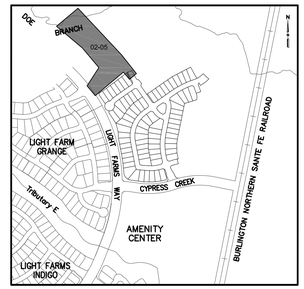
SECTION B–B
NTS



SECTION C–C
NTS



SECTION D–D
NTS



KEY MAP
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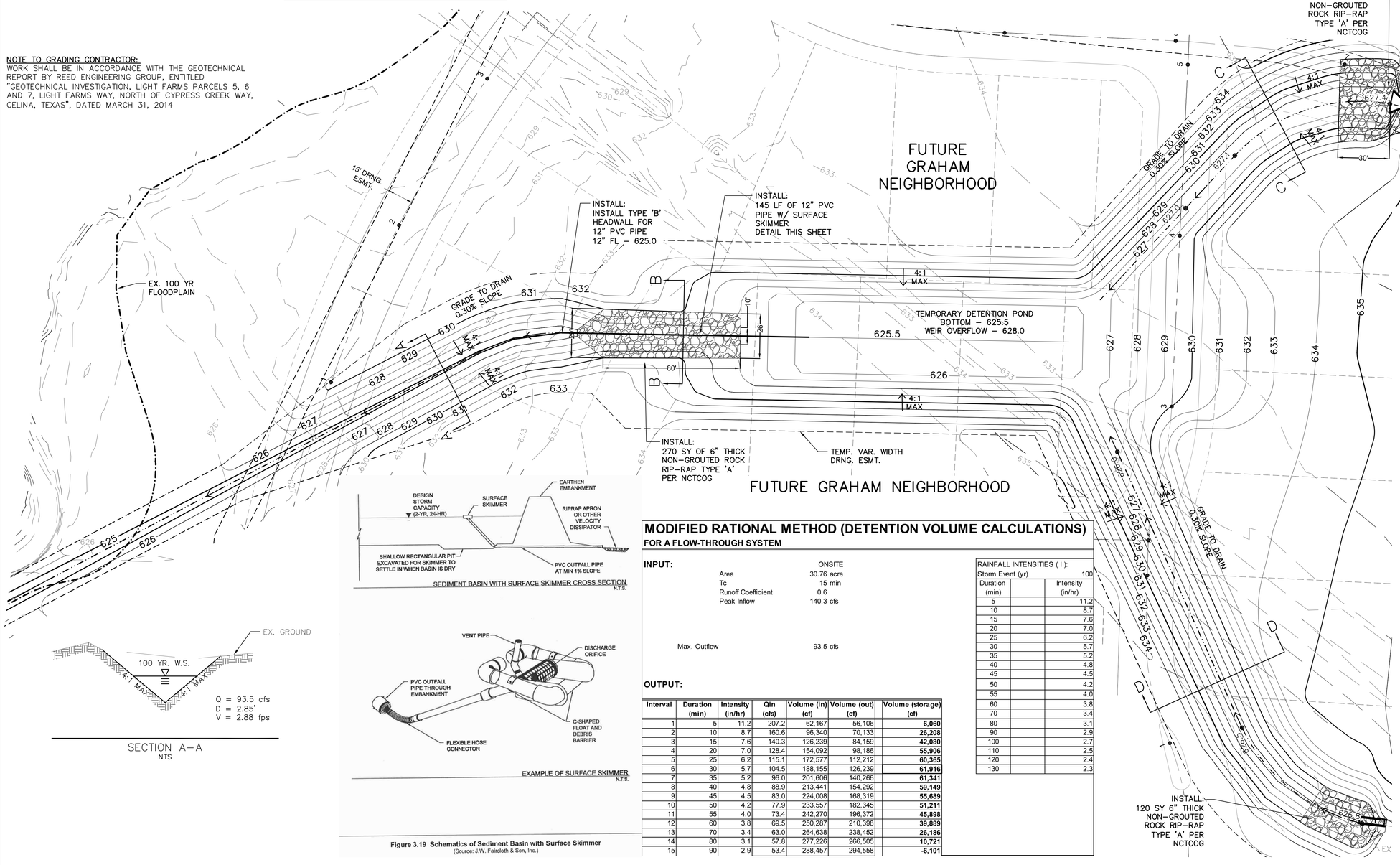

SEDIMENT BASIN WITH SURFACE SKIMMER CROSS SECTION
N.T.S.

EXAMPLE OF SURFACE SKIMMER
N.T.S.

Figure 3.19 Schematics of Sediment Basin with Surface Skimmer
(Source: J.W. Fairclotth & Son, Inc.)

SECTION A–A
NTS

MODIFIED RATIONAL METHOD (DETENTION VOLUME CALCULATIONS)

FOR A FLOW-THROUGH SYSTEM

INPUT:

	ONSITE
Area	30.76 acre
Tc	15 min
Runoff Coefficient	0.6
Peak Inflow	140.3 cfs
Max. Outflow	93.5 cfs

OUTPUT:

Interval	Duration (min)	Intensity (in/hr)	Qin (cfs)	Volume (in) (cf)	Volume (out) (cf)	Volume (storage) (cf)
1	5	11.2	207.2	62,167	56,106	**6,060**
2	10	8.7	160.6	96,340	70,133	**26,208**
3	15	7.6	140.3	126,239	84,159	**42,080**
4	20	7.0	128.4	154,092	98,186	**55,906**
5	25	6.2	115.1	172,577	112,212	**60,365**
6	30	5.7	104.5	188,155	126,239	**61,916**
7	35	5.2	96.0	201,606	140,266	**61,341**
8	40	4.8	88.9	213,441	154,292	**59,149**
9	45	4.5	83.0	224,008	168,319	**55,689**
10	50	4.2	77.9	233,557	182,345	**51,211**
11	55	4.0	73.4	242,270	196,372	**45,898**
12	60	3.8	69.5	250,287	210,398	**39,889**
13	70	3.4	63.0	264,638	238,452	**26,186**
14	80	3.1	57.8	277,226	266,505	**10,721**
15	90	2.9	53.4	288,457	294,558	**-6,101**

RAINFALL INTENSITIES (I):
Storm Event (yr) 100

Duration (min)	Intensity (in/hr)
5	11.2
10	8.7
15	7.6
20	7.0
25	6.2
30	5.7
35	5.2
40	4.8
45	4.5
50	4.2
55	4.0
60	3.8
70	3.4
80	3.1
90	2.9
100	2.7
110	2.5
120	2.4
130	2.3

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
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LIGHT FARMS

GRADING PLAN

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE	SHEET No.
1" = 30'	02–05
DATE 1-30-2015	

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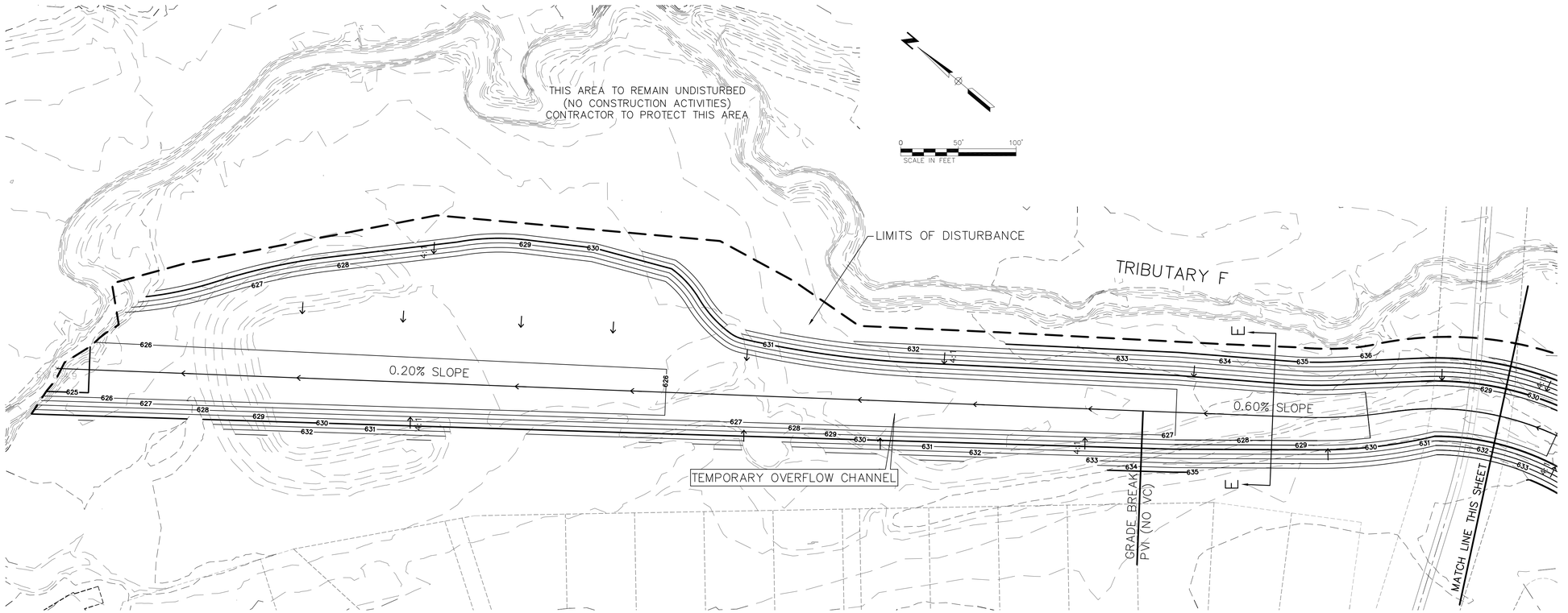
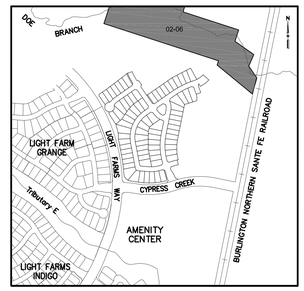
P-201405-06

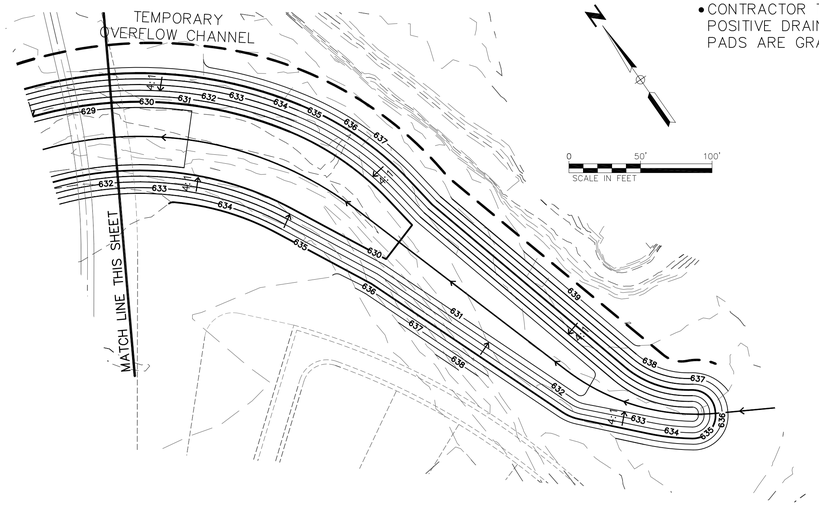




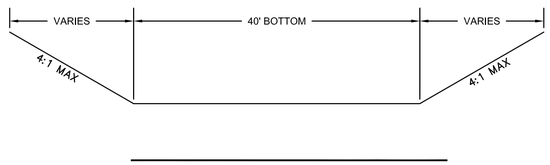
KEY MAP
N.T.S.

LEGEND

	SWALE
	RETAINING WALL BY DEVELOPER
	EXPOSED BEAM
540.4 TP	PROPOSED TOP OF PVMT. ELEV.
540.4 TC	PROPOSED TOP OF CURB ELEV.
540.4	PROPOSED SPOT ELEV.
335	EXISTING CONTOUR
340	PROPOSED CONTOUR
	FLOW DIRECTION
FP = 500.0	FINISHED PAD ELEV.
TW 520.1 / BW 515.5	TOP OF WALL/BOTTOM OF WALL ELEV.
	STREET NAME CHANGE
	100 YR FLOODPLAIN
	LIMITS OF DISTURBANCE



NOTE:
- CONTRACTOR TO ONLY EXCAVATE AS NEEDED TO COMPLETE THE SUBDIVISION.
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AFTER PADS ARE GRADED.



SECTION E–E
NTS

NOTE:
1. ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER/DEVELOPER.
2. TOP OF CURB GRADES ARE SHOWN TO THE NEAREST TENTH OF A FOOT (0.1) FOR ROUGH GRADING PURPOSES. PAVING PLANS SHALL BE USED FOR THE FINAL PAVEMENT GRADE CONSTRUCTION.
3. FOR DEVELOPER GRADING PURPOSES ONLY. THIS GRADING PLAN DOES SHOW THE LOCATION OF DROP GARAGES AND SIDEYARD RETAINING WALLS NECESSARY FOR HOMEBUILDER CONSTRUCTION. FOR REFERENCE ONLY. THIS CONTRACT WILL NOT CONSTRUCT THEM.
4. RETAINING WALL DETAILS LOCATED ON SHEETS 02–07 AND 02–08.

NOTE TO GRADING CONTRACTOR:
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BENCHMARKS:

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Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

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Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
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Elev.=633.00

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LIGHT FARMS

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SCALE	SHEET No.
1" = 30'	02–06
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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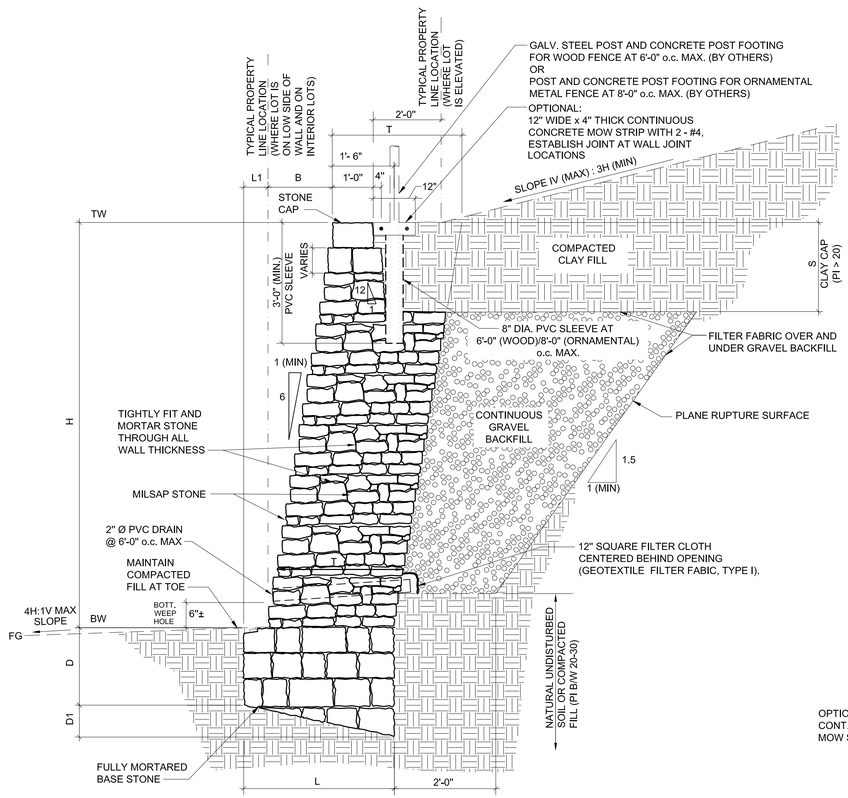
P-201405-06



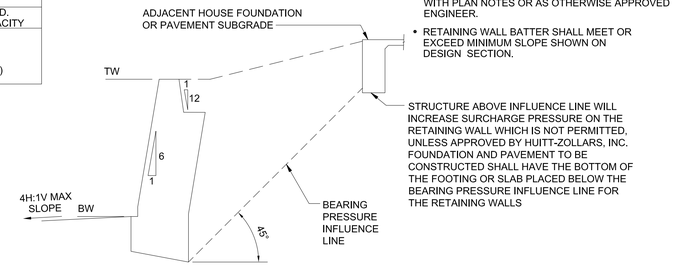
1 RETAINING WALL DESIGN SECTION

SCALE: N.T.S.

MASONRY WALL SCHEDULE (SUBGRADE BEARING: STIFF NATIVE SOIL OR COMPACTED & TESTED SOIL)									
H	B	L	L1	T	D	D1	S	WALL/BASE CONSTRUCTION	MIN. REQ'D. BEARING CAPACITY
2'-0"	0'-4"	1'-7"	0'-1"	1'-6"	0'-9"	0'-6"	1'-0"	FULLY MORTARED	1500 psf (CONFIRM)
3'-0"	0'-6"	1'-10"	0'-2"	1'-8"	0'-9"	0'-7"	1'-0"	FULLY MORTARED	
4'-0"	0'-8"	2'-3"	0'-3"	2'-0"	1'-0"	0'-8"	1'-0"	FULLY MORTARED	

2 RETAINING WALL DESIGN SCHEDULE

SCALE: N.T.S.



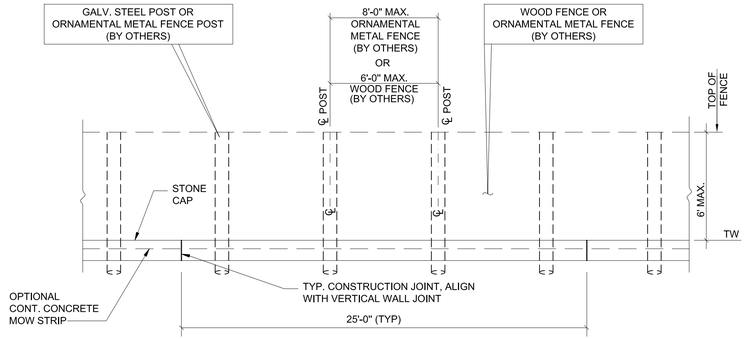
NOTE:

- RETAINING WALL SHALL HAVE OWNER FENCE PLACED AS SHOWN INSIDE FRONT FACE OF STONE CAP AT TOP OF WALL.
- RETAINING WALL SHALL NOT HAVE ADDITIONAL LIVE LOAD SURCHARGE PLACED BEHIND WALL EXCEPT AS PERMITTED WITH PLAN NOTES OR AS OTHERWISE APPROVED ENGINEER.
- RETAINING WALL BATTER SHALL MEET OR EXCEED MINIMUM SLOPE SHOWN ON DESIGN SECTION.

STRUCTURE ABOVE INFLUENCE LINE WILL INCREASE SURCHARGE PRESSURE ON THE RETAINING WALL WHICH IS NOT PERMITTED, UNLESS APPROVED BY HUITT-ZOLLARS, INC. FOUNDATION AND PAVEMENT TO BE CONSTRUCTED SHALL HAVE THE BOTTOM OF THE FOOTING OR SLAB PLACED BELOW THE BEARING PRESSURE INFLUENCE LINE FOR THE RETAINING WALLS

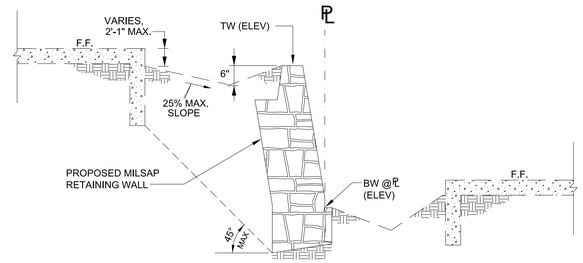
3 TYPICAL WALL SECTION WITH NOTED DESIGN CONSTRAINTS

SCALE: N.T.S.



4 SCHEMATIC DETAIL - WOOD FENCE/ORNAMENTAL METAL FENCE

SCALE: N.T.S. (TYP. CONSTRUCTION JOINT LOCATIONS)



TYPICAL SECTION
SIDE YARD RETAINING WALL SWALE

6 SCALE: N.T.S.

PLAN NOTES:

DESIGN AND CONSTRUCTION CODE:

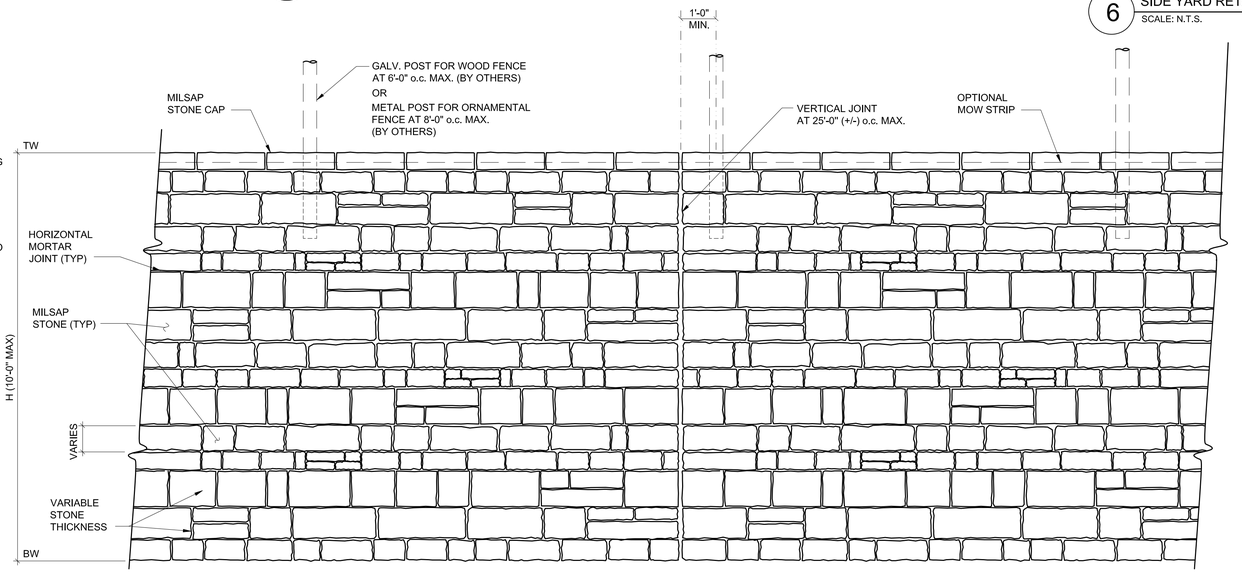
1. INTERNATIONAL BUILDING CODE, 2009 EDITION - SECTION 1610.

GEOTECHNICAL CRITERIA (TO BE VERIFIED BY FINAL GEOTECHNICAL REPORT, PENDING):

1. WALL FOOTING SHALL BEAR IN STIFF NATIVE UNDISTURBED SUBGRADE OR COMPACTED AND TESTED SOIL.
2. ALLOWABLE BEARING = 2500 PSF (>24"), 2000 PSF (18"-24"), AND 1500 PSF (<18") BELOW FINISH GRADE, VERIFY WITH GEOTECHNICAL ENGINEER. CONTACT HUITT-ZOLLARS FOR FURTHER WALL DESIGN AT SUBGRADE LOCATIONS WHERE BEARING CAPACITY IS LESS THAN DESIGN ALLOWABLE. PROOF-ROLL WHERE FEASIBLE TO DETECT ANY SOFT AREAS. IF SOFT AREAS DETECTED, SCARIFY AND RE-COMPACT THE SOIL TO 95% STANDARD PROCTOR NEAR OPTIMUM MOISTURE CONTENT.
3. BACKFILL SOIL PARAMETER ASSUMPTIONS:
   a. ASTM C33 (COARSE OR FINE AGGREGATE).
   b. BACKFILL SOIL SHALL BE POORLY-GRADED, CLEAN AND FREE-DRAINING SAND OR GRAVEL MATERIAL OR CRUSHED LIMESTONE GRAVEL, REMANUFACTURED CONCRETE GRAVEL OR SANDSTONE GRAVEL. GRAVEL SIZE MAY VARY FROM ½" TO 4" WITH LESS THAN 5% PASSING NO. 200 SIEVE.
   c. BACKFILL ANGLE OF INTERNAL FRICTION, PHI-I=32 DEGREES.
   d. EQUIVALENT FLUID PRESSURE (EPF) PER COULOMB THEORY IS 34 PCF WITH BACKSLOPE.
   e. UNIT WEIGHT = 125 PCF.
   f. COMPACTION FOR GRAVEL: TAMP/COMPACT AT 70% RELATIVE DENSITY, ASTM D4253/4254.
   g. COMPACTION FOR SAND/SELECT: 95% OF STANDARD PROCTOR DRY DENSITY (ASTM D698) NEAR OPTIMUM MOISTURE CONTENT.
   h. COMPACT BACKFILL IN LOOSE LIFTS NOT EXCEEDING 10-INCHES.
   i. FRICTION ANGLE BETWEEN BACK OF WALL AND BACKFILL, DELTA=21 DEGREES.
4. BASE SOIL PARAMETER ASSUMPTIONS:
   a. SOIL AT BASE SHALL BE NATURAL UNDISTURBED OR COMPACTED FILL SOILS.
   b. ANGLE OF INTERNAL FRICTION PHI-B=22 DEGREES WITH COHESIVE SUBGRADE BEARING CONDITION.
   c. COHESION BETWEEN BOTTOM OF FOOTING AND SUBGRADE, C=200 PSF.
   d. AT NON-COHESIVE BEARING CONDITION, PHI-B=24.5 DEGREES WITH ZERO COHESION (TYPICAL CONDITION FOR MAGNOLIA-PHASE F ADDITION).
   e. MASONRY FRICTION REDUCTION FACTOR, Ub=0.55, FOR COHESIVE AND NON-COHESIVE CONDITIONS.
   f. ALLOWABLE PASSIVE RESISTANCE IS 150 PSF ACTING ON VERTICAL PROJECTION OF SLOPED BASE AT FOOTING.
5. REFER GEOTECHNICAL ENGINEER FOR RECOMMENDED TECHNICAL PROVISIONS FOR THE CONSTRUCTION PRACTICE IN SHORING AND SLOPING OF EXCAVATIONS AND REQUIRED COMPACTION REQUIREMENTS.
6. MAXIMUM VERTICAL LIVE LOAD DESIGN SURCHARGE: 50 PSF WITH ACTIVE LATERAL COEFFICIENT EQUAL TO 0.5.

MATERIALS

1. CONCRETE MORTAR - A MIXTURE OF PORTLAND CEMENT (ASTM C150-TYPE I/II) AND SAND (ASTM C33) WITH MINIMUM STRENGTH OF f'c = 3000 PSI AT 28 DAYS.
2. ASSUMED DENSITY OF MASONRY STONE WALL APPROXIMATELY 140 PCF.
3. ALL RETAINING WALLS TO HAVE A COARSE PATTERN TO MATCH EXISTING RETAINING WALLS THROUGHOUT THE PROJECT.



5 RETAINING WALL ELEVATION

SCALE: N.T.S.

STATE OF TEXAS
ROBERT M. STENGELE
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LIGHT FARMS

RETAINING WALL DETAILS REGULAR

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SCALE AS SHOWN
DATE 1-30-2015
SHEET No. 02-07

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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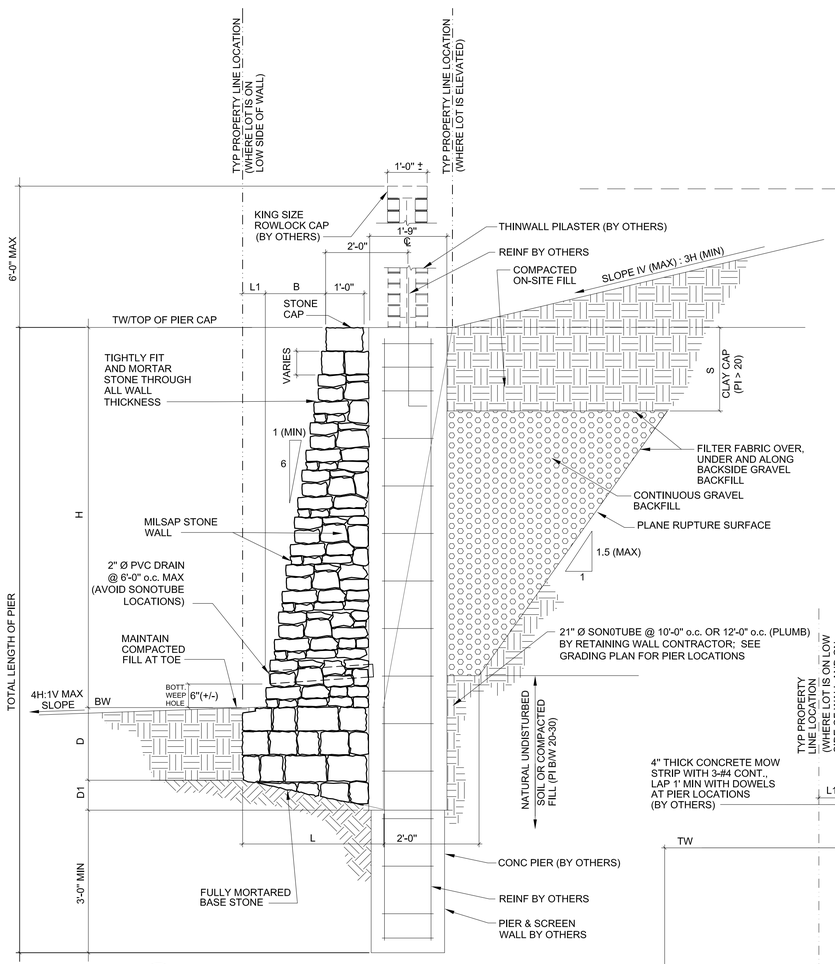
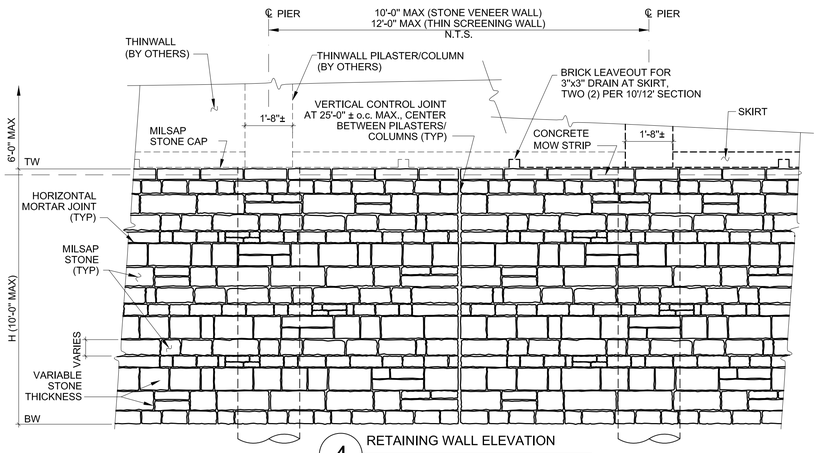


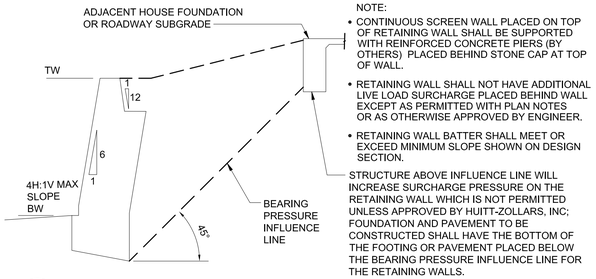
1 RETAINING WALL DESIGN SECTION AT PIER LOCATION

SCALE: N.T.S.



4 RETAINING WALL ELEVATION

SCALE: N.T.S.



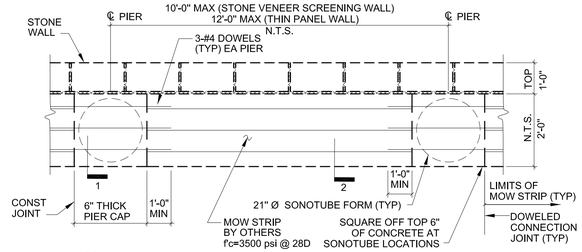
NOTE:

- CONTINUOUS SCREEN WALL PLACED ON TOP OF RETAINING WALL SHALL BE SUPPORTED WITH REINFORCED CONCRETE PIERS (BY OTHERS) PLACED BEHIND STONE CAP AT TOP OF WALL.
- RETAINING WALL SHALL NOT HAVE ADDITIONAL LIVE LOAD SURCHARGE PLACED BEHIND WALL EXCEPT AS PERMITTED WITH PLAN NOTES OR AS OTHERWISE APPROVED BY ENGINEER.
- RETAINING WALL BATTER SHALL MEET OR EXCEED MINIMUM SLOPE SHOWN ON DESIGN SECTION.

STRUCTURE ABOVE INFLUENCE LINE WILL INCREASE SURCHARGE PRESSURE ON THE RETAINING WALL WHICH IS NOT PERMITTED UNLESS APPROVED BY HUITT-ZOLLARS, INC; FOUNDATION AND PAVEMENT TO BE CONSTRUCTED SHALL HAVE THE BOTTOM OF THE FOOTING OR PAVEMENT PLACED BELOW THE BEARING PRESSURE INFLUENCE LINE FOR THE RETAINING WALLS.

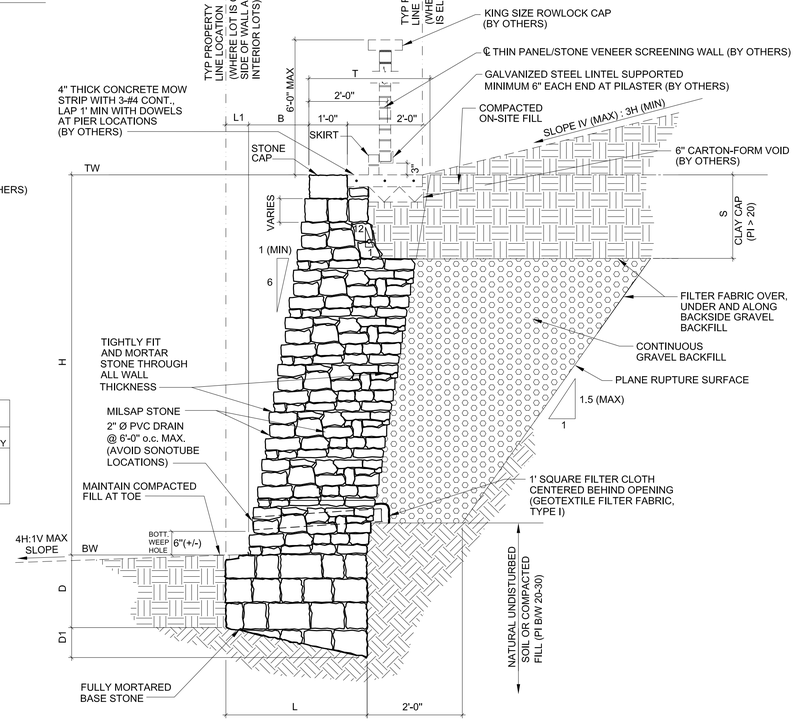
5 TYPICAL WALL SECTION WITH NOTED DESIGN CONSTRAINTS

SCALE: N.T.S.



6 PARTIAL PLAN - STONE RETAINING WALL WITH SCREEN WALL

SCALE: N.T.S.



2 RETAINING WALL DESIGN SECTION WITH SCREEN WALL

SCALE: N.T.S.

MASONRY WALL SCHEDULE

(SUBGRADE BEARING: STIFF NATIVE SOIL OR COMPACTED & TESTED SOIL)

H	B	L	L1	T	D	D1	S	WALL/BASE CONSTRUCTION	MIN. REQ'D. BEARING CAPACITY
2'-0"	0'-4"	1'-7"	0'-1"	1'-6"	0'-9"	0'-6"	1'-0"	FULLY MORTARED	1500 psf (CONFIRM)
3'-0"	0'-6"	1'-10"	0'-2"	1'-8"	0'-9"	0'-7"	1'-0"	FULLY MORTARED	
4'-0"	0'-8"	2'-3"	0'-3"	2'-0"	1'-0"	0'-8"	1'-0"	FULLY MORTARED	

3 RETAINING WALL DESIGN SCHEDULE

SCALE: N.T.S.

PLAN NOTES:

DESIGN AND CONSTRUCTION CODE:

1. INTERNATIONAL BUILDING CODE, 2009 EDITION - SECTION 1610.

GEOTECHNICAL CRITERIA (TO BE VERIFIED BY FINAL GEOTECHNICAL REPORT, PENDING):

1. WALL FOOTING SHALL BEAR IN STIFF NATIVE UNDISTURBED SUBGRADE OR COMPACTED AND TESTED SOIL.
2. 1500 PSF (<18") BELOW FINISH GRADE. VERIFY WITH GEOTECHNICAL ENGINEER. CONTACT HUITT-ZOLLARS FOR FURTHER WALL DESIGN AT SUBGRADE LOCATIONS WHERE BEARING CAPACITY IS LESS THAN DESIGN ALLOWABLE. PROOF-ROLL WHERE FEASIBLE TO DETECT ANY SOFT AREAS. IF SOFT AREAS DETECTED, SCARIFY AND RE-COMPACT THE SOIL TO 95% STANDARD PROCTOR NEAR OPTIMUM MOISTURE CONTENT.
3. BACKFILL SOIL PARAMETER ASSUMPTIONS:
   a. ASTM C33 (COARSE OR FINE AGGREGATE).
   b. BACKFILL SOIL SHALL BE POORLY-GRADED, CLEAN AND FREE-DRAINING SAND OR GRAVEL MATERIAL OR CRUSHED LIMESTONE GRAVEL, REMANUFACTURED CONCRETE GRAVEL OR SANDSTONE GRAVEL. GRAVEL SIZE MAY VARY FROM ½" TO 4" WITH LESS THAN 5% PASSING NO. 200 SIEVE.
   c. BACKFILL ANGLE OF INTERNAL FRICTION, PHI-I=32 DEGREES.
   d. EQUIVALENT FLUID PRESSURE (EPF) PER COULOMB THEORY IS 34 PCF WITH BACKSLOPE.
   e. UNIT WEIGHT = 125 PCF.
   f. COMPACTION FOR GRAVEL: TAMP/COMPACT AT 70% RELATIVE DENSITY, ASTM D4253/4254.
   g. COMPACTION FOR SAND/SELECT: 95% OF STANDARD PROCTOR DRY DENSITY (ASTM D698) NEAR OPTIMUM MOISTURE CONTENT.
   h. COMPACT BACKFILL IN LOOSE LIFTS NOT EXCEEDING 10-INCHES.
   i. FRICTION ANGLE BETWEEN BACK OF WALL AND BACKFILL, DELTA=21 DEGREES.
5. BASE SOIL PARAMETERS
   a. SOIL AT BASE SHALL BE NATURAL UNDISTURBED OR COMPACTED FILL SOILS.
   b. ANGLE OF INTERNAL FRICTION PHI-B=22 DEGREES WITH COHESIVE SUBGRADE BEARING CONDITION.
   c. COHESION BETWEEN BOTTOM OF FOOTING AND SUBGRADE, C=200 PSF.
   d. AT NON-COHESIVE BEARING CONDITION, PHI-B=24.5 DEGREES WITH ZERO COHESION (TYPICAL CONDITION FOR MAGNOLIA-PHASE F ADDITION).
   e. MASONRY FRICTION REDUCTION FACTOR, Ub=0.55, FOR COHESIVE AND NON-COHESIVE CONDITIONS.
   f. ALLOWABLE PASSIVE RESISTANCE IS 150 PSF ACTING ON VERTICAL PROJECTION OF SLOPED BASE AT FOOTING.
6. REFER GEOTECHNICAL ENGINEER (REED ENGINEERING) FOR RECOMMENDED TECHNICAL PROVISIONS FOR THE CONSTRUCTION PRACTICE IN SHORING AND SLOPING OF EXCAVATIONS AND REQUIRED COMPACTION REQUIREMENTS.
7. MAXIMUM VERTICAL LIVE LOAD DESIGN SURCHARGE: 50 PSF WITH ACTIVE LATERAL COEFFICIENT EQUAL TO 0.5.

MATERIALS:

1. CONCRETE MORTAR - A MIXTURE OF PORTLAND CEMENT (ASTM C150-TYPE I/II) AND SAND (ASTM C33) WITH MINIMUM STRENGTH OF f'c = 3000 PSI AT 28 DAYS.
2. ASSUMED DENSITY OF MASONRY STONE WALL APPROXIMATELY 140 PCF.
3. ALL RETAINING WALLS TO HAVE A COARSE PATTERN TO MATCH EXISTING RETAINING WALLS THROUGHOUT THE PROJECT.

CONSTRUCTION OF PIERS:

1. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAGING.
2. SONOTUBE FORMING SHALL BE PROTECTED DURING CONSTRUCTION AND LEFT IN PLACE.
3. DRILLING CONSTRUCTION OF PIERS AND CONCRETE PLACEMENT SHALL NOT SURCHARGE STONE GRAVITY WALL FOR ALL WALL HEIGHTS.
4. SONOTUBE SHALL EXTEND TO BOTTOM OF FOOTING. TOTAL LENGTH OF PIER SHALL BE 9'-0" MINIMUM.

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

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LIGHT FARMS

RETAINING WALL DETAILS SONOTUBE

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE AS SHOWN
DATE 1-30-2015
SHEET No. 02-08

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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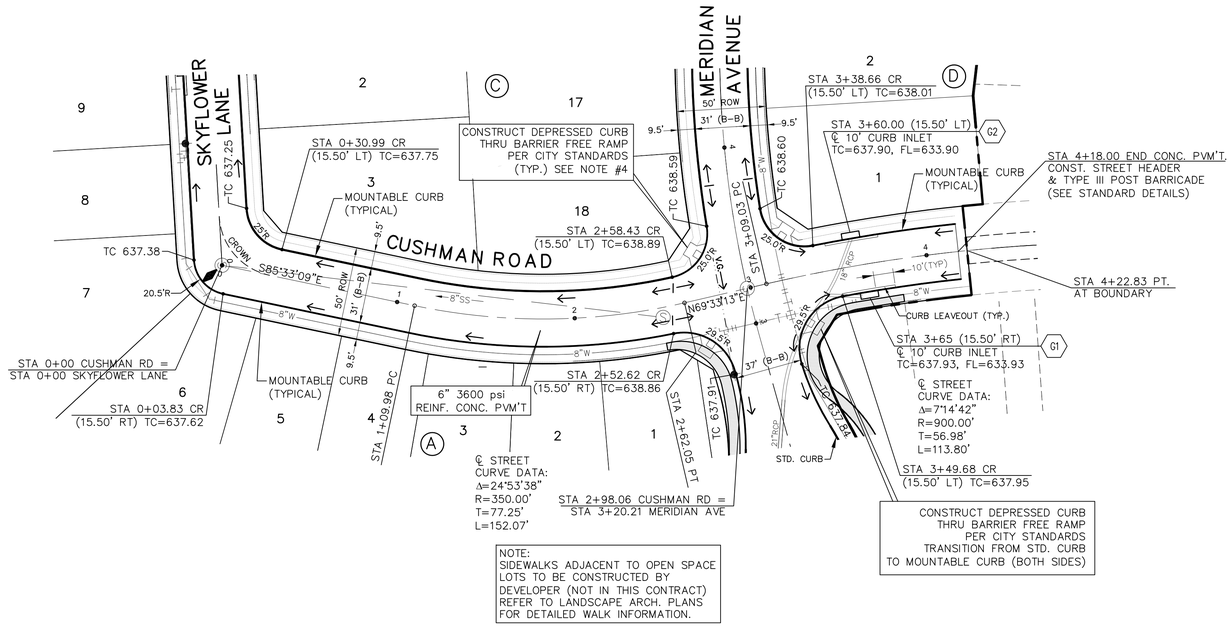
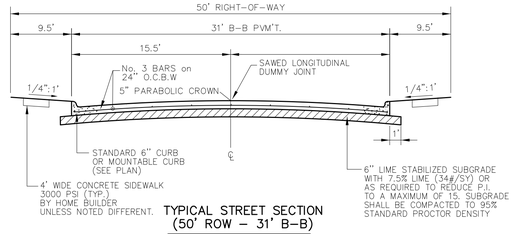
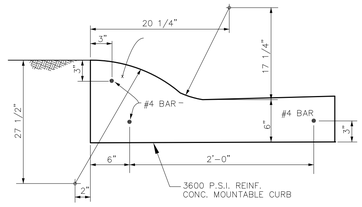
P-201405-06

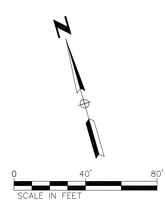


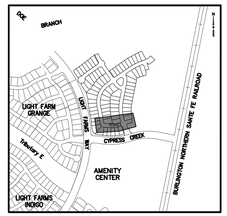


TYPICAL STREET SECTION
(50' ROW – 31' B-B)
N.T.S.



MOUNTABLE CURB DETAILS
N.T.S.





KEY MAP
N.T.S.

LEGEND

- BARRIER FREE RAMP
- HOMEBUILDER SIDEWALK
- FLOW DIRECTION
- CHANGE OF STREET NAME
- G2 — DENOTES INLET No. REFER TO DRAINAGE CALCULATIONS (INLET DESIGN) FOR DATA.

NOTE:

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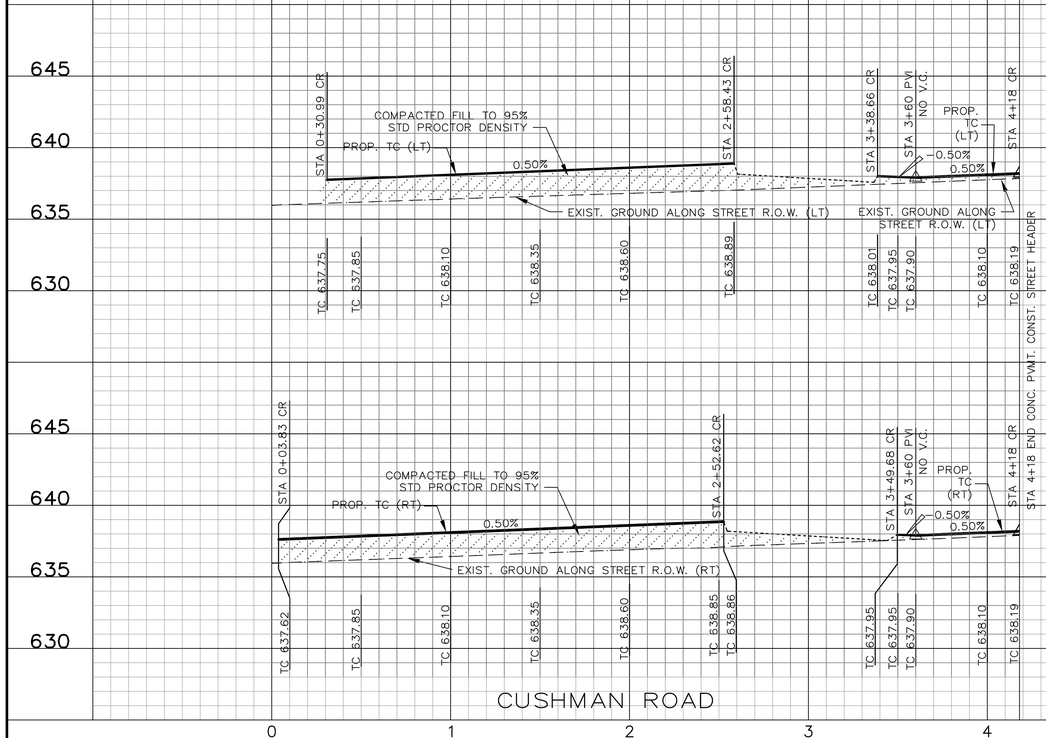
7. SEE SHEETS CS1 – CS5 FOR PAVING STANDARD DETAILS



BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

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Firm Registration No. F-761

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LIGHT FARMS

CUSHMAN ROAD
PAVING PLAN & PROFILE

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE	SHEET No.
H: 1" = 40' V: 1" = 5'	03–01
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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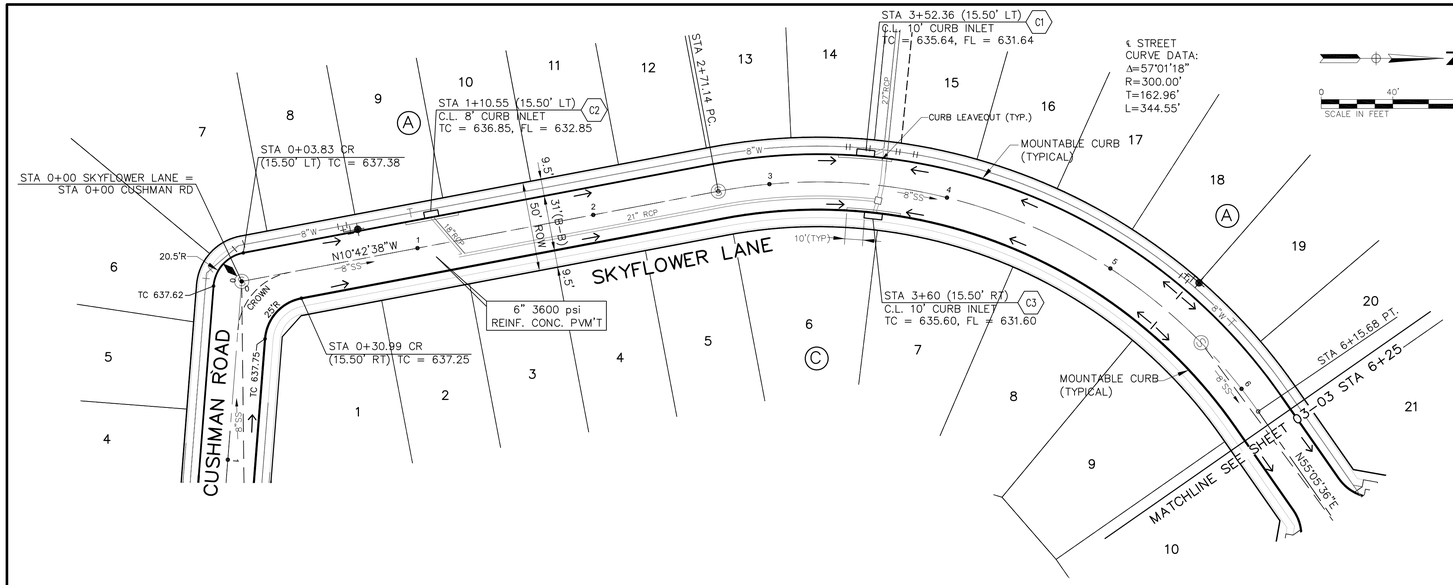
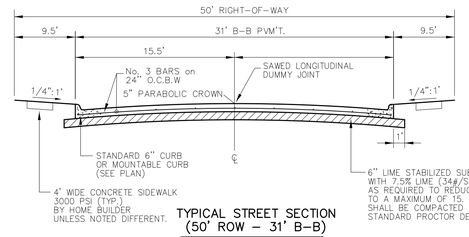
P-201405-06





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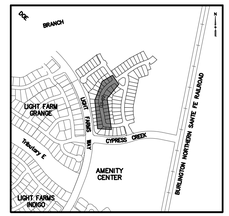
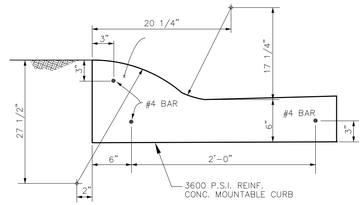


KEY MAP
N.T.S.



MOUNTABLE CURB DETAILS
N.T.S.

LEGEND

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- FLOW DIRECTION
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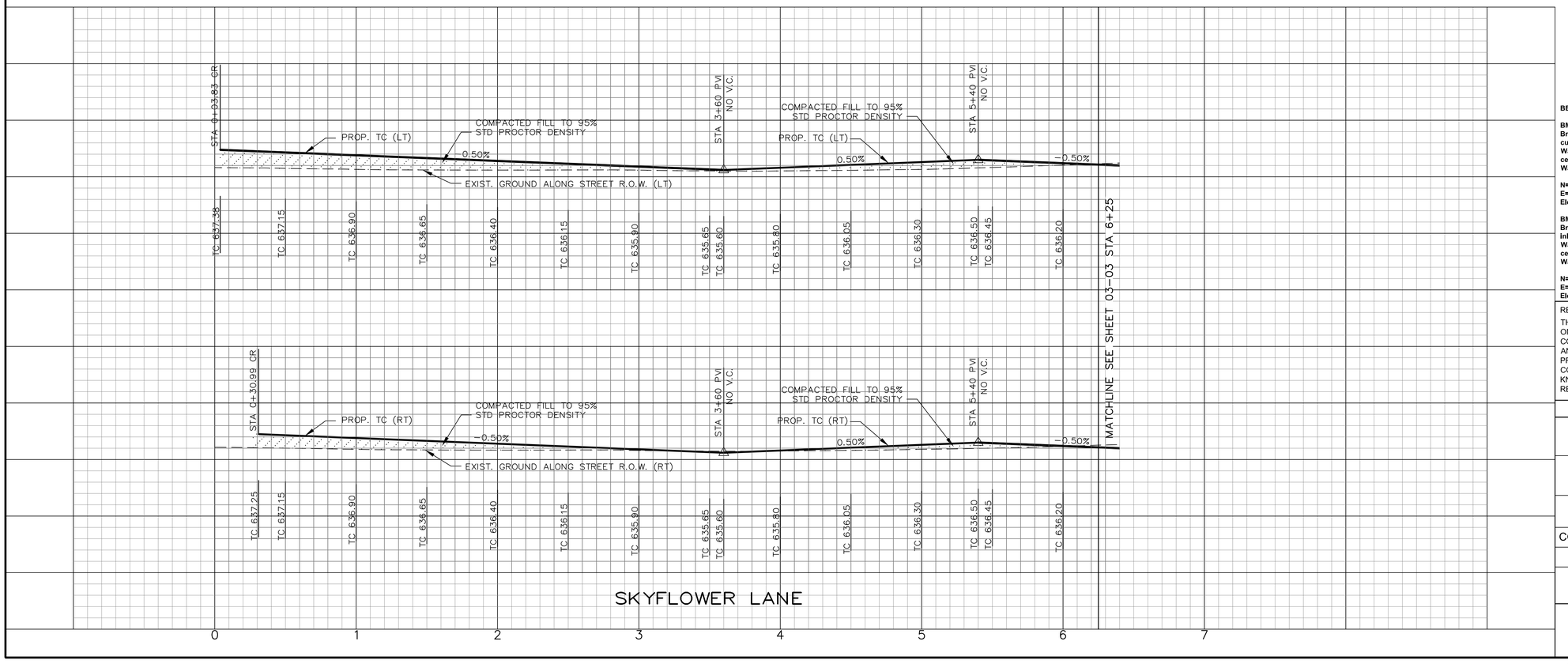

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1-30-15

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LIGHT FARMS

SKYFLOWER LANE
PAVING PLAN AND PROFILE

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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SCALE	SHEET No.
H: 1" = 40' V: 1" = 5'	03–02
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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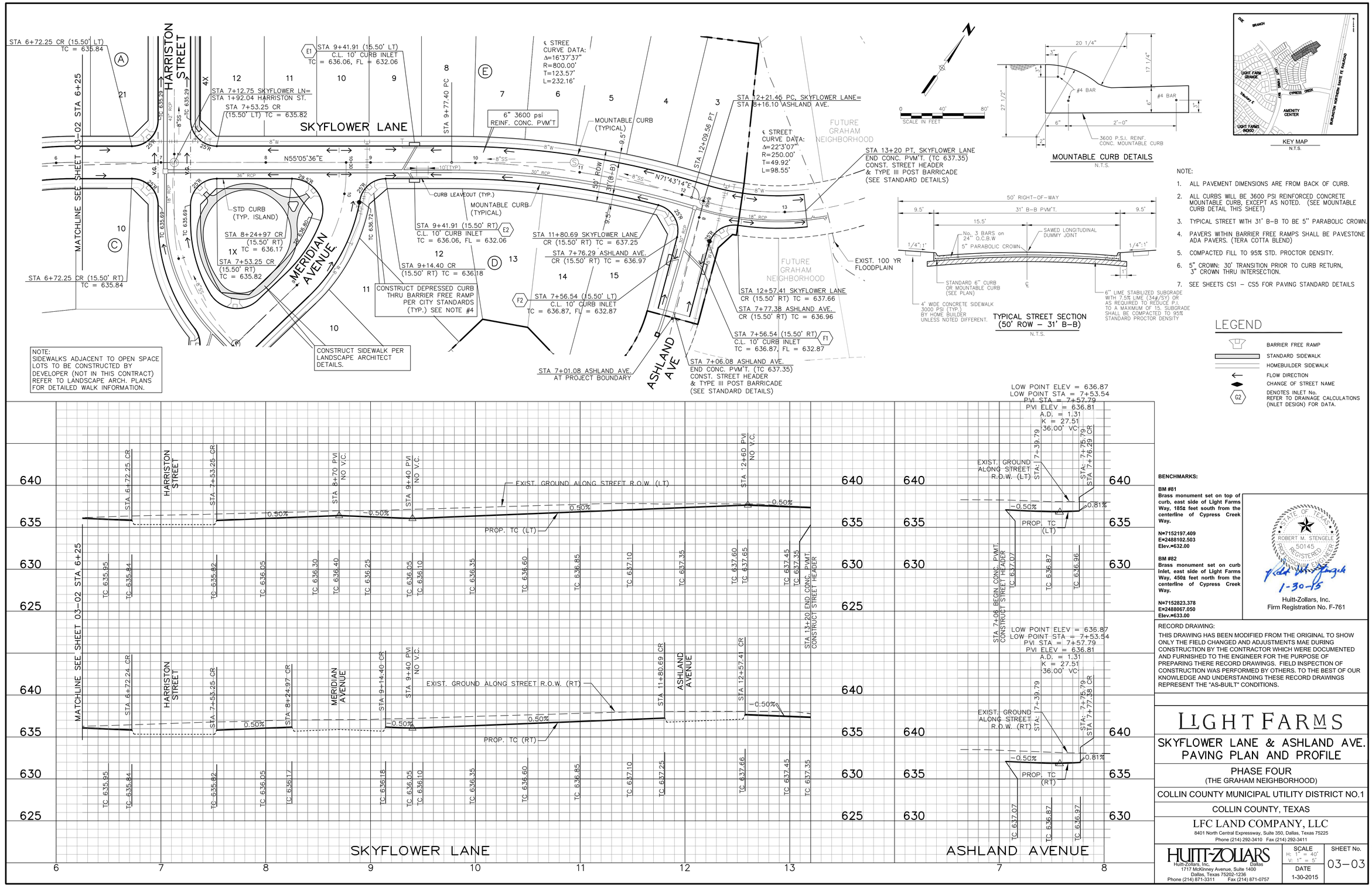

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LIGHT FARMS

SKYFLOWER LANE & ASHLAND AVE. PAVING PLAN AND PROFILE

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SCALE	SHEET No.
H: 1" = 40' V: 1" = 5'	03–03
DATE 1-30-2015	

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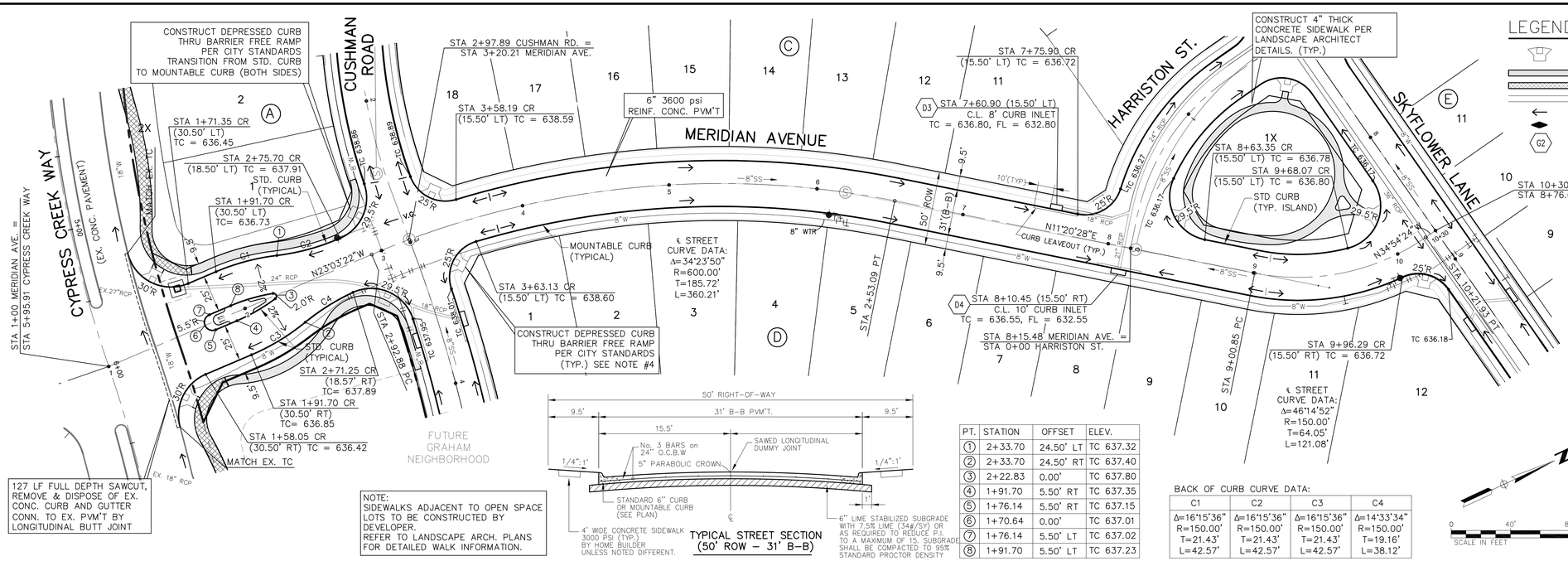
P-201405-06



127 LF FULL DEPTH SAWCUT, REMOVE & DISPOSE OF EX. CONC. CURB AND GUTTER CONN. TO EX. PVM'T BY LONGITUDINAL BUTT JOINT

NOTE:
SIDEWALKS ADJACENT TO OPEN SPACE LOTS TO BE CONSTRUCTED BY DEVELOPER.
REFER TO LANDSCAPE ARCH. PLANS FOR DETAILED WALK INFORMATION.

TYPICAL STREET SECTION (50' ROW – 31' B–B)

PT.	STATION	OFFSET	ELEV.
①	2+33.70	24.50' LT	TC 637.32
②	2+33.70	24.50' RT	TC 637.40
③	2+22.83	0.00'	TC 637.80
④	1+91.70	5.50' RT	TC 637.35
⑤	1+76.14	5.50' RT	TC 637.15
⑥	1+70.64	0.00'	TC 637.01
⑦	1+76.14	5.50' LT	TC 637.02
⑧	1+91.70	5.50' LT	TC 637.23

BACK OF CURB CURVE DATA:

C1	C2	C3	C4
Δ=16°15'36" R=150.00' T=21.43' L=42.57'	Δ=16°15'36" R=150.00' T=21.43' L=42.57'	Δ=16°15'36" R=150.00' T=21.43' L=42.57'	Δ=14°33'34" R=150.00' T=19.16' L=38.12'

0 40' 80'
SCALE IN FEET

LEGEND

- BARRIER FREE RAMP
- STANDARD SIDEWALK
- PICTURE FRAMW SIDEWALK
- HOMEBUILDER SIDEWALK
- FLOW DIRECTION
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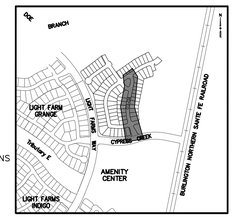

KEY MAP
N.T.S.

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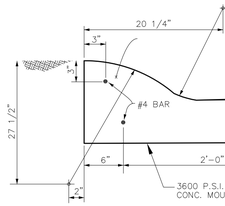

MOUNTABLE CURB DETAILS
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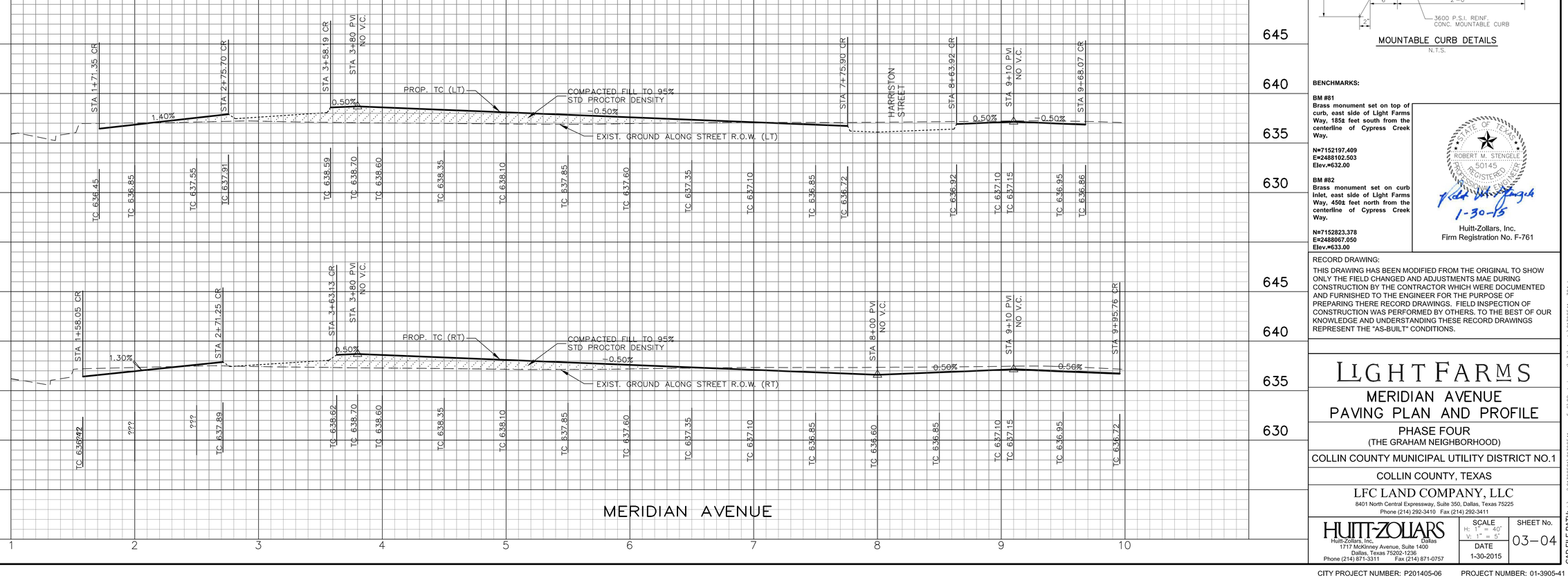

BENCHMARKS:

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LIGHT FARMS

MERIDIAN AVENUE PAVING PLAN AND PROFILE

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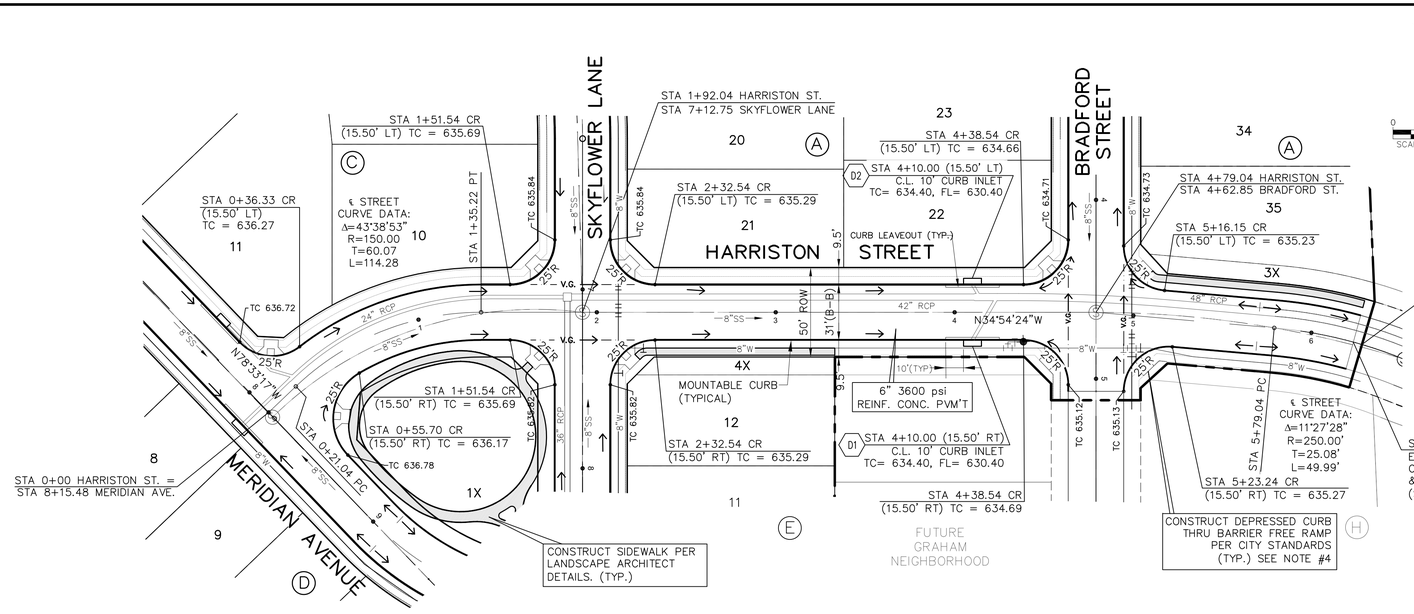
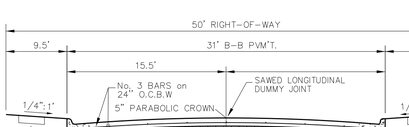
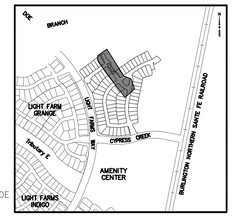
P-201405-06





TYPICAL STREET SECTION
(50' ROW – 31' B-B)



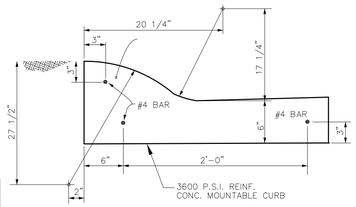
KEY MAP
N.T.S.

NOTE:

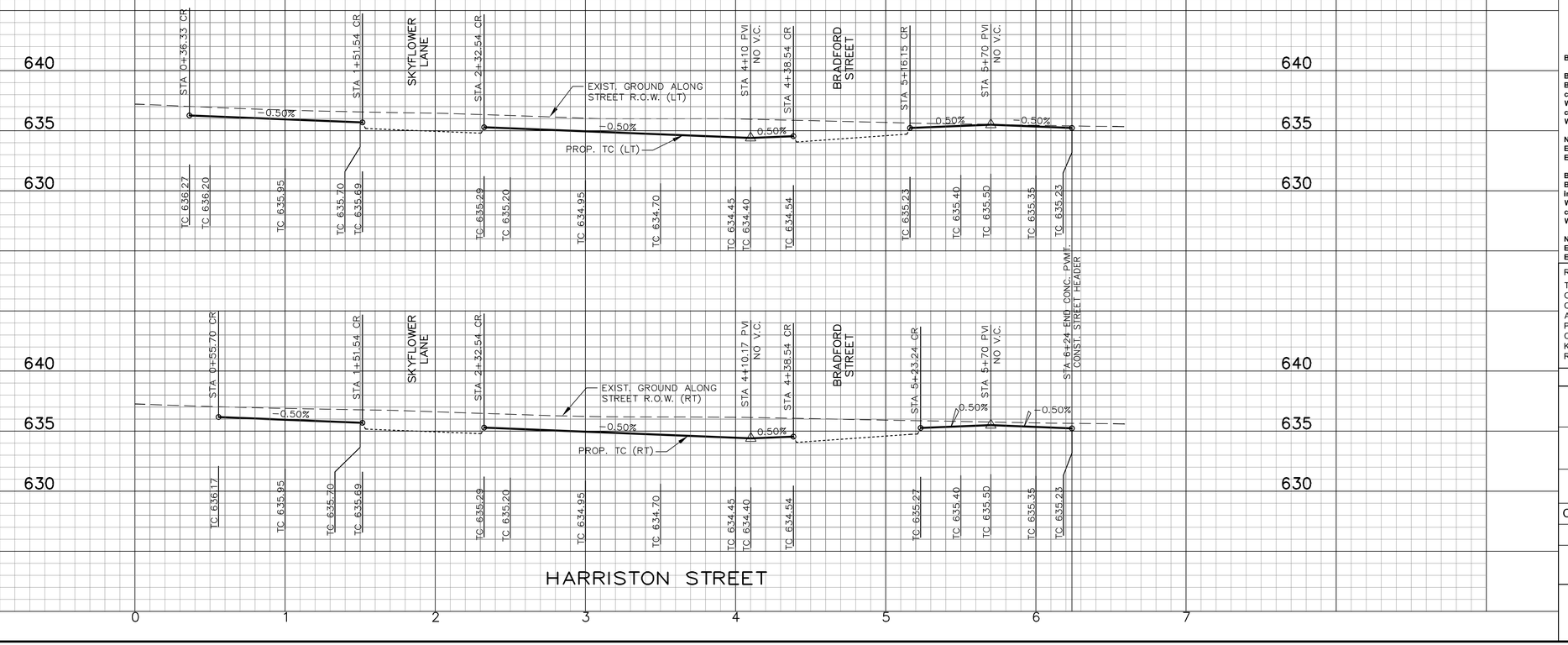
1. ALL PAVEMENT DIMENSIONS ARE FROM BACK OF CURB.
2. ALL CURBS WILL BE 3600 PSI REINFORCED CONCRETE MOUNTABLE CURB, EXCEPT AS NOTED. (SEE MOUNTABLE CURB DETAIL THIS SHEET)
3. TYPICAL STREET WITH 31' B–B TO BE 5" PARABOLIC CROWN.
4. PAVERS WITHIN BARRIER FREE RAMPS SHALL BE PAVESTONE ADA PAVERS. (TERA COTTA BLEND)
5. COMPACTED FILL TO 95% STD. PROCTOR DENSITY.
6. 5" CROWN: 30' TRANSITION PRIOR TO CURB RETURN, 3" CROWN THRU INTERSECTION.
7. SEE SHEETS CS1 – CS5 FOR PAVING STANDARD DETAILS

LEGEND

- BARRIER FREE RAMP
- STANDARD SIDEWALK
- HOMEBUILDER SIDEWALK
- FLOW DIRECTION
- CHANGE OF STREET NAME
- G2 — DENOTES INLET No. REFER TO DRAINAGE CALCULATIONS (INLET DESIGN) FOR DATA.



MOUNTABLE CURB DETAILS
N.T.S.



BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:

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LIGHT FARMS

HARRISTON STREET
PAVING PLAN AND PROFILE

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
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Dallas, Texas 75202-1236
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SCALE	SHEET No.
H: 1" = 40' V: 1" = 5'	03–05
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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BASE-UTIL Cypress Creek BASE Cypress Creek BASE-STORM Cypress Creek 01390541-C-ST-A BASE-STORM Cypress Creek 01390541-C-BD-A
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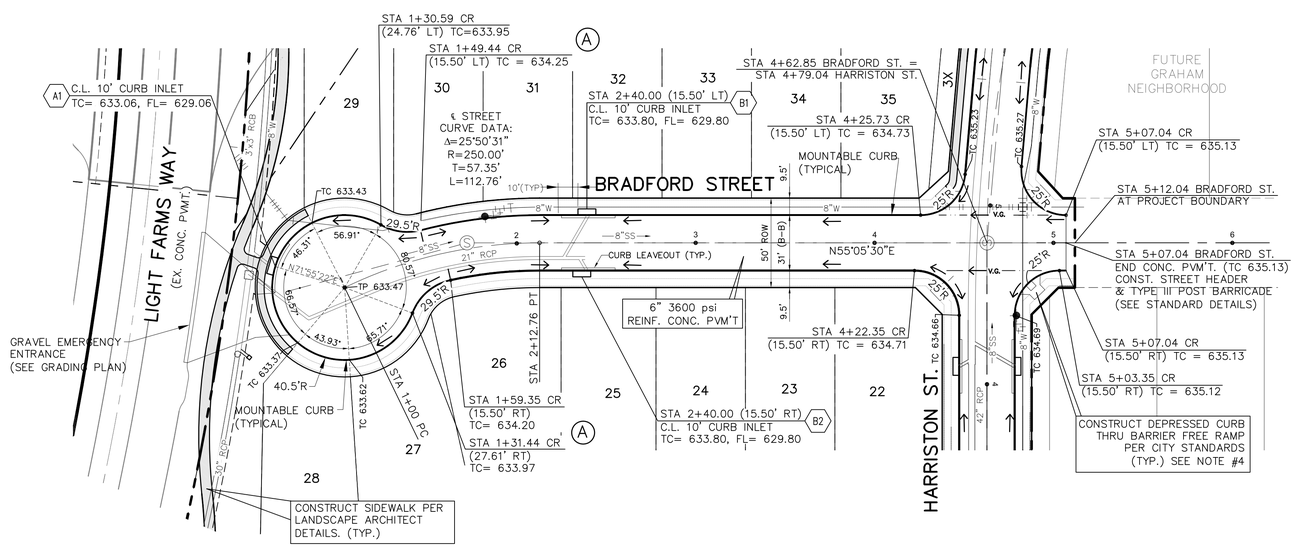
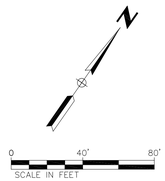
P-201405-06





LEGEND

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- HOMEBUILDER SIDEWALK
- FLOW DIRECTION
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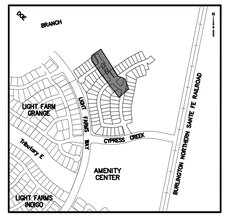

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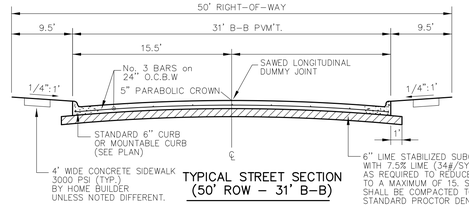

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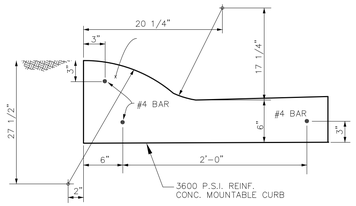
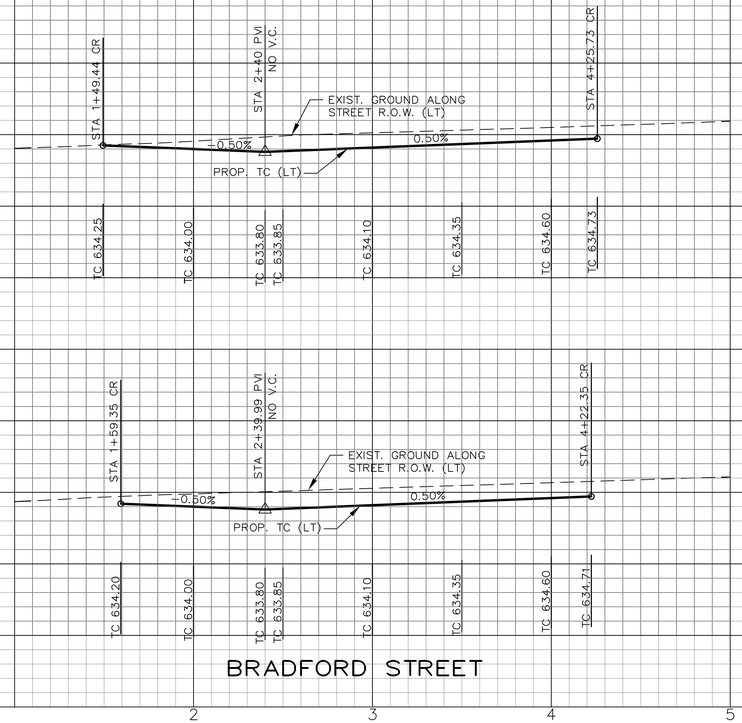


MOUNTABLE CURB DETAILS
N.T.S.



BENCHMARKS:

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Elev.=632.00

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Brass monument set on curb Inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

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E=2488067.050
Elev.=633.00

STATE OF TEXAS
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1-30-15

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LIGHT FARMS

BRADFORD STREET
PAVING PLAN AND PROFILE

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE	SHEET No.
H: 1" = 40' V: 1" = 5'	03–06
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- ROCK DAM
- INLET PROTECTION
- DIVERSION DIKE AND SWALE
- SEEDED HAYMAT
- 635 PROPOSED CONTOURS
- 635 EXISTING CONTOURS
- SILT FENCE CHEVRON (TYP.)
- LIMITS OF DISTURBANCE LINE

EROSION CONTROL DETAILS ON SHEET 04-04

AREA OF DISTURBANCE 30.3 AC.

PHASES OF EROSION CONTROL:

A. GRADING
1. INSTALL SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE
3. INSTALL CHECK DAMS
4. INSTALL DETENTION POND

B. UTILITIES
1. MAINTAIN SILT FENCE
2. MAINTAIN CONSTRUCTION ENTRANCE
3. MAINTAIN CHECK DAMS
4. MAINTAIN DETENTION POND
5. INSTALL INLET PROTECTION

C. PAVING
1. MAINTAIN SILT FENCE
2. REMOVE CONSTRUCTION ENTRANCE
3. MAINTAIN CHECK DAMS
4. MAINTAIN DETENTION POND
5. MAINTAIN INLET PROTECTION
6. INSTALL EROSION CONTROL BLANKET & BACK OF CURB AND 4:1 SLOPES
7. INSTALL SILT FENCE CHEVRONS

D. POST EROSION CONTROL
REMOVE ALL EROSION CONTROL DEVICES AFTER COMPLETION AND VEGETATION IS ESTABLISHED. NOTIFY OWNER PRIOR TO REMOVAL OF DEVICES

NOTE:
1. MAINTAIN SILT FENCE, INLET PROTECTION AND EROSION BLANKET UNTIL VEGETATION IN THE SUBDIVISION IS ESTABLISHED.
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BENCHMARKS:

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N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
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PROFESSIONAL ENGINEER
1-30-15

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Firm Registration No. F-761

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LIGHT FARMS

EROSION CONTROL PLAN

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE 1" = 60'
DATE 1-30-2015
SHEET No. 04-01

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CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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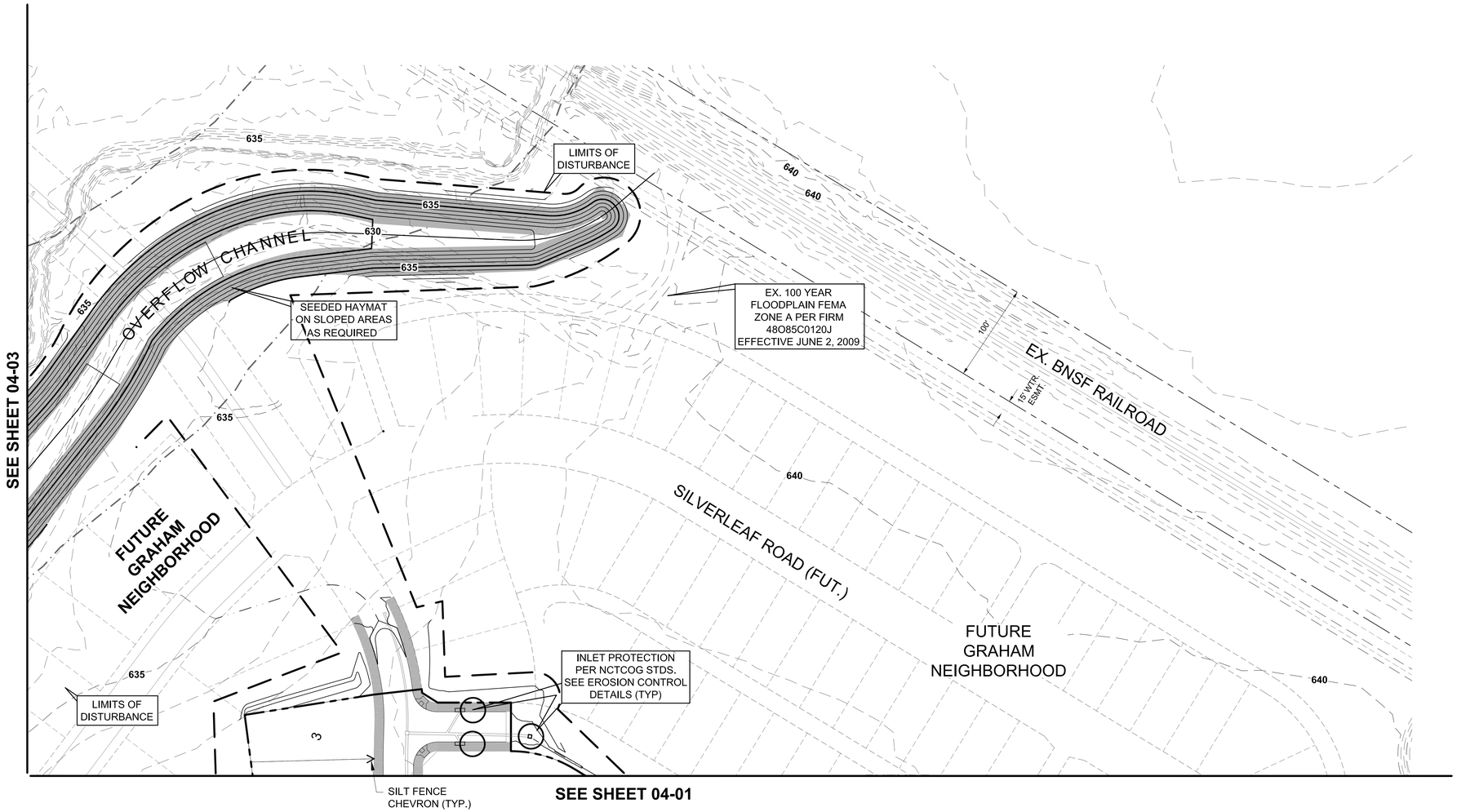
P-201405-06



LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- ROCK DAM
- INLET PROTECTION
- DIVERSION DIKE AND SWALE
- SEEDED HAYMAT
- 635 PROPOSED CONTOURS
- 635 EXISTING CONTOURS
- SILT FENCE CHEVRON (TYP.)
- LIMITS OF DISTURBANCE LINE

0 60' 120'
SCALE IN FEET

EROSION CONTROL DETAILS ON SHEET 04-04

AREA OF DISTURBANCE 30.3 AC.

PHASES OF EROSION CONTROL:

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2. INSTALL CONSTRUCTION ENTRANCE
3. INSTALL CHECK DAMS
4. INSTALL DETENTION POND

B. UTILITIES
1. MAINTAIN SILT FENCE
2. MAINTAIN CONSTRUCTION ENTRANCE
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5. INSTALL INLET PROTECTION

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1. MAINTAIN SILT FENCE
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5. MAINTAIN INLET PROTECTION
6. INSTALL EROSION CONTROL BLANKET & BACK OF CURB AND 4:1 SLOPES
7. INSTALL SILT FENCE CHEVRONS

D. POST EROSION CONTROL
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NOTE:
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LIGHT FARMS

EROSION CONTROL PLAN

PHASE FOUR
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SCALE	SHEET No.
1" = 60'	04-02
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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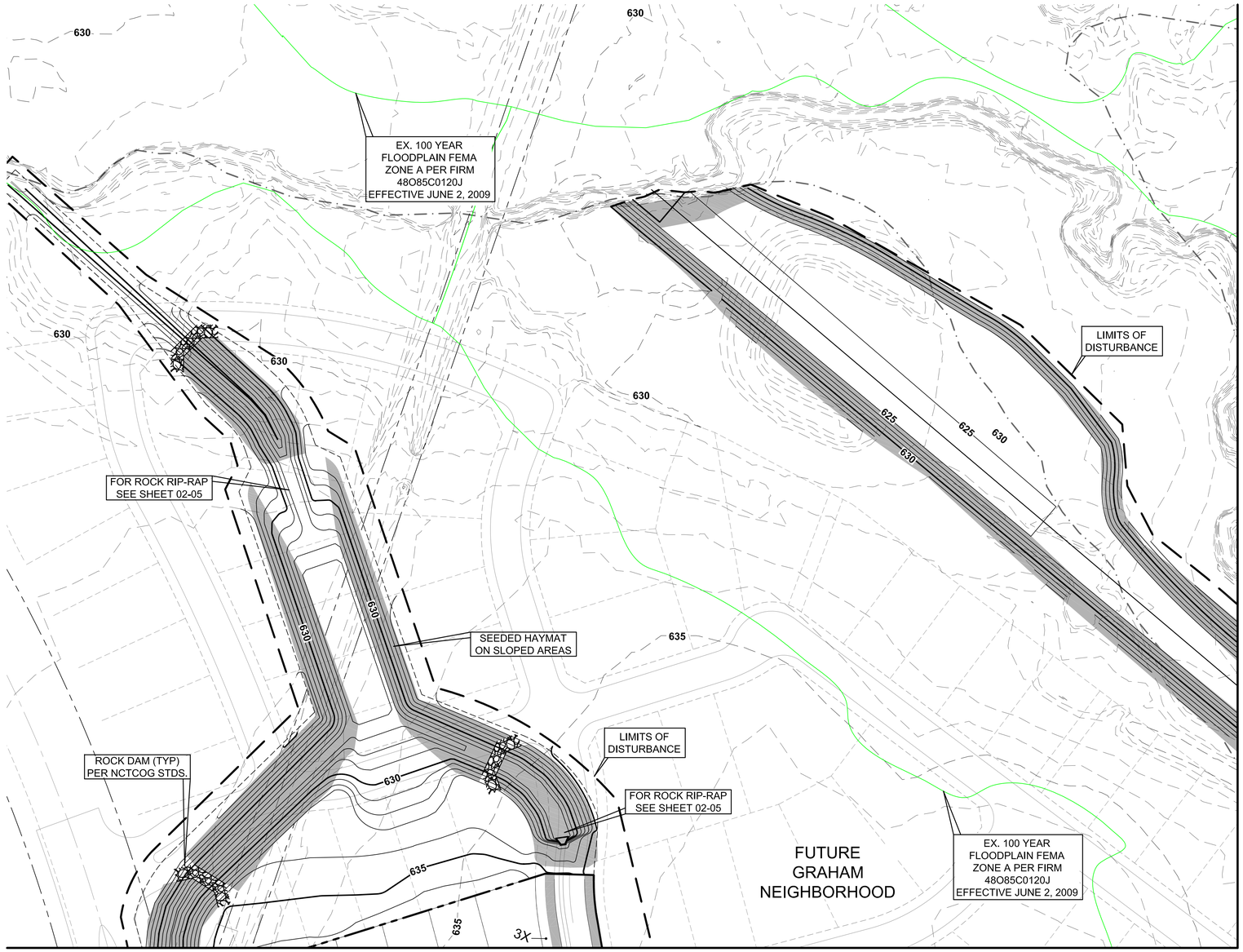

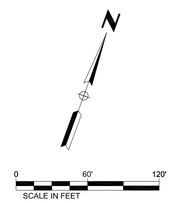

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EROSION CONTROL DETAILS ON SHEET 04-04

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CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\013905\01\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C401.dwg USER: aloeffel
DATE: Feb 02, 2015 1:27pm XREFS: 01390541-C-BD-A 01390541-C-ST-A 01390541-C-GP-A 01390541-C-SP-A BASE-STORM Cypress Creek LF-MASTER-BASE BASE Cypress Creek LF_EX-CONTOUR OFFSITE GRADING-al

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EROSION CONTROL GENERAL NOTES

1. DISTURBED AREAS WHERE CONSTRUCTION HAS PERMANENTLY OR TEMPORARILY CEASED MUST BE STABILIZED WITHIN 14 DAYS OF THE LAST DISTURBANCE. AREA WHICH WILL BE RE-DISTURBED WITHIN 21 DAYS NEED NOT BE STABILIZED.
2. EROSION CONTROL MEASURES WILL BE ACTIVELY MAINTAINED UNTIL FINAL STABILIZATION OF THE DISTURBED AREA. IF EROSION CONTROL MEASURES ARE REMOVED FOR CONSTRUCTION OR ACCESS PURPOSES, CONTRACTOR SHALL REPLACE ALL ITEMS AT THE END OF EACH WORK DAY.
3. AFTER INSTALLATION OF PAVEMENT, FINAL GRADING AND GENERAL CLEANUP. ALL DISTURBED AREAS SHALL BE HYDROMULCHED OR CULTIPACK SEEDED. SEE SEEDING SPECIFICATIONS THIS SHEET.
4. EROSION CONTROL MEASURES REQUIRE MAINTENANCE. CLEANING AND REPLACEMENT AS REQUIRED. EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF A RAIN FALL ONE-HALF INCH OR GREATER BY AN AGENT DESIGNATED BY THE OPERATOR AND A WRITTEN REPORT SHALL BE MAINTAINED.
5. EXCAVATED TRENCHES AND UTILITY SPOILS SHALL BE BACKFILLED OR STOCKPILED AT THE END OF EACH DAY.
6. STOCKPILED MATERIALS SHALL BE SURROUNDED BY SILT BARRIER FENCE OR HAY BALES PER THE DETAILS. ALTERNATE: SMALL STOCKPILED AREAS MAY BE COVERED WITH WATER REPELLANT TARP OR PLASTIC AS APPROVED BY THE OPERATOR.
7. SOILS IN PARKWAYS TO BE CHAIN HARROWED OR CHAIN DRAGGED PRIOR TO SEEDING. AFTER SEEDING, PARKWAYS TO BE MAINTAINED UNTIL A STAND OF GRASS HAS BEEN ACCOMPLISHED AND APPROVED BY THE CITY.

INSTALLATION SEQUENCE

PHASE 1 - INITIAL INSTALLATION OF SILT FENCE SHALL BE INSTALLED PRIOR TO CLEARING THE SITE FOR ESTABLISHING ROUGH GRADES. INSTALLATION OF SILT FENCE AND STONE OVERFLOW STRUCTURES SHALL BE PRESERVED BY THE EXCAVATION CONTRACTOR. IF DURING THE COURSE OF CLEARING AND EXCAVATION, THE EXCAVATION CONTRACTOR DESTROYS OF MOVES THESE FACILITIES, THEN IT SHALL BE THE RESPONSIBILITY OF THE EXCAVATION CONTRACTOR TO REPLACE THE FACILITIES TO THE STAT IN WHICH HE FOUND THEM WHEN HE MOBILIZED.
PHASE 2 - IF REQUIRED,INSTALLATION OF SILT FENCE OR STONE OVERFLOW STRUCTURES, AS SHOWN, SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF ANY DRAINAGE FACILITIES AND AFTER INLET BOTTOMS ARE POURED. IT SHALL THE BE UTILITY CONTRACTOR'S RESPONSIBILITY TO PRESERVE AND/OR REPLACE ANY FACILITIES PREVIOUSLY INSTALLED DURING PHASE 1 IF DESTROYED.
PHASE 3 - CURLEX SHALL BE INSTALLED AFTER THE PAVING CONTRACTOR HAS BACKFILLED ALL STREET CURBS. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING AND/OR REPLACING ANY PREVIOUSLY INSTALLED FACILITIES WHICH ARE DESTROYED AS A RESULT OF CONSTRUCTING ANY AND ALL PAVING FACILITIES.
PHASE 4 - ALL DISTURBED ARES SHALL BE SEEDED AFTER THE EXCAVATION CONTRACTOR HAS COMPLETED THE FINAL GRADING WITHIN THE DEVELOPMENT.

NOTE: ALL PROPOSED STORMWATER POLLUTION PREVENTION DEVICES SHALL BE INSTALLED BY A QUALIFIED CONTRACTOR AND SHALL BE PAID FOR PER A UNIT PRICE CONTRACT.

SEEDING SPECIFICATIONS

CULTIPACK SEEDING SPECIFICATIONS

• WINTER RYE SEED (FALL AND WINTER)	65 LB/ACRE
• COMMON BERMUDA SEED (SPRING AND SUMMER)	65 LB/ACRE
• 17/17/17 FERTILIZER	380 LB/ACRE

HYDROMULCH SEEDING SPECIFICATIONS

• WINTER RYE SEED (FALL AND WINTER)	65 LB/ACRE
• COMMON BERMUDA SEED (SPRING AND SUMMER)	65 LB/ACRE
• 17/17/17 FERTILIZER	380 LB/ACRE
• WOOD CELLULOSE MULCH FIBER	2000 LB/ACRE

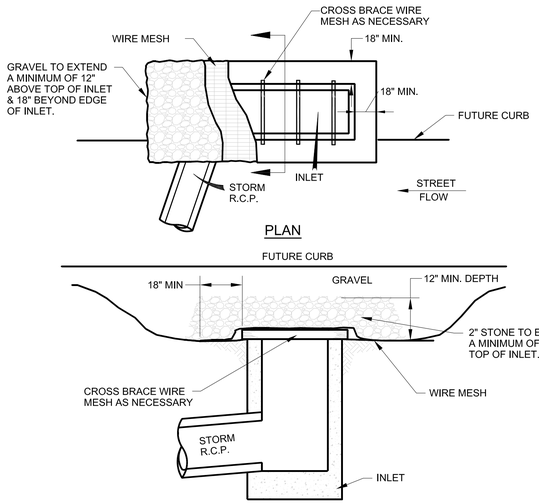
NOTE: SOIL TO BE SEEDED SHALL BE CHAIN HARROWED OR CHAIN DRAGGED PRIOR TO SEEDING. AFTER SEEDING, PARKWAYS TO BE MAINTAINED UNTIL A STAND OF GRASS HAS BEEN ACCOMPLISHED AND APPROVED BY THE OPERATOR

OTHER NOTES

1. SOLID NON-HAZARDOUS CONSTRUCTION WASTE SHALL BE DISPOSED OF IN A TRASH DUMPSTER OR APPROVED EQUAL IN A LOCATION APPROVED BY THE OPERATOR. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.
2. HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OF SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS AND SHALL BE KEPT UNDER COVER. GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. HAZARDOUS WASTE STORAGE AREA LOCATIONS SHALL BE PROPERLY APPROVED BY THE OPERATOR. HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.
3. FRESH CONCRETE WASTE OR CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED IN AN AREA APPROVED BY THE OPERATOR. CONTRACTOR SHALL ENSURE THAT AN ADEQUATE VEGETATIVE BUFFER IS PRESENT AROUND CONCRETE WASHOUT AREAS.
4. ALL WASTE MATERIALS SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES, WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.
5. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO CONTROL DUST GENERATED DURING CONSTRUCTION ACTIVITIES.
6. CONTRACTOR SHALL CONSTRUCT APPROPRIATE ENTRYWAYS TO PROHIBIT THE TRACKING OF DIRT AND DEBRIS OFF-SITE.
7. A CENTRALLY LOCATED PORT-A-JOHN SHALL BE PLACED AND MAINTAINED ON A PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
8. EQUIPMENT MAINTENANCE, REPAIR, AND WASHDOWNS SHALL BE PERFORMED OFF-SITE OR IN LOCATIONS APPROVED BY THE OPERATOR.
9. A COPY OF THE SWPPP SHALL BE KEPT ON-SITE FOR THE ENTIRE CONSTRUCTION PERIOD. THE NOI ASSOCIATED WITH THIS SWPPP SHALL BE PROPERLY DISPLAYED ON-SITE FOR THE ENTIRE CONSTRUCTION PERIOD.
10. A NOTICE OF TERMINATION (NOT) SHALL BE FILED FOR THE PROJECT UPON CITY ACCEPTANCE OF THE PROJECT AND AFTER FINAL STABILIZATION HAS BEEN ACHIEVED AND THE RESPONSIBILITY FOR CONTINUED STORM WATER MANAGEMENT/EROSION CONTROL SHALL BECOME THAT OF THE BUILDER, CITY, OR OTHER APPROPRIATE ENTITY.
11. COMPLETE INSPECTION RECORDS PERTAINING TO THIS NOI AND SWPPP MUST BE MAINTAINED BY THE OPERATOR FOR A PERIOD OF THREE YEARS FOLLOWING FINAL STABILIZATION.

BMP MAINTENANCE SCHEDULE

BMP	MAINTENANCE FREQ.	BY:
TEMP STONE CONST. ENTRANCE	WEEKLY AND AFTER RAIN STORM EVENTS	OPERATOR
ROCK CHECK DAMS	WEEKLY AND AFTER RAIN STORM EVENTS	OPERATOR
SILT FENCE	WEEKLY AND AFTER RAIN STORM EVENTS	OPERATOR
INLET PROTECTION	WEEKLY AND AFTER RAIN STORM EVENTS	OPERATOR

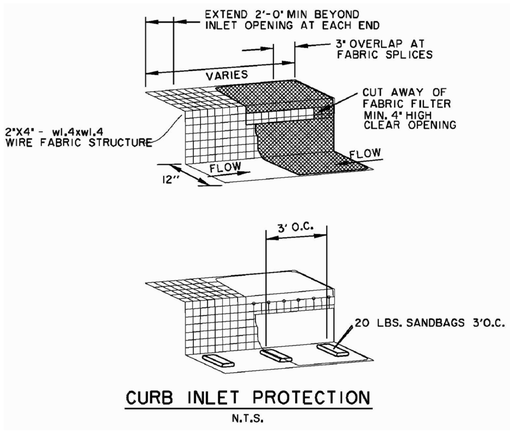


INLET PROTECTION WIRE MESH & GRAVEL

NCTCOG 02270.G
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'C'
N.T.S.

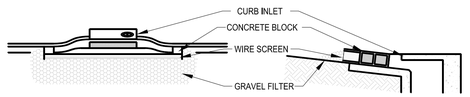
CONTRACTOR SHALL INTERCEPT FLOW AND INSTALL INLET PROTECTION MEASURES AS SOON AS PRACTICABLE.



CURB INLET PROTECTION

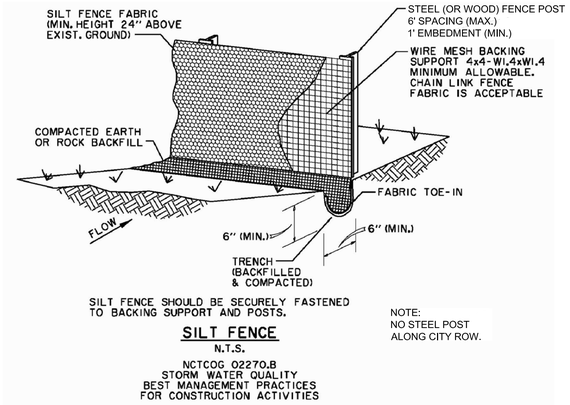
N.T.S.

METHODOLOGY APPLIES TO RECESSED AND STANDARD CURB INLETS. CARE SHOULD BE TAKEN TO KEEP MEASURE OUT OF TRAFFIC.



CURB INLET PROTECTION

DETAIL "F"
N.T.S.



SILT FENCE SHOULD BE SECURELY FASTENED TO BACKING SUPPORT AND POSTS.

NOTE:
NO STEEL POST
ALONG CITY ROW.

SILT FENCE

N.T.S.

NCTCOG 02270.B
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'B'
N.T.S.

NOTE TO ALL CONTRACTORS

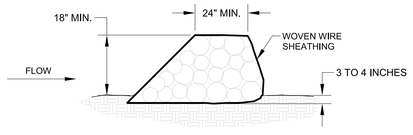
1. IN ACCORDANCE WITH THE REQUIREMENTS OF THE T.P.D.E.S. GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITES, ALL CONTRACTORS AND SUBCONTRACTORS SHALL AT ALL TIMES TAKE NECESSARY MEASURES TO PREVENT THE FLOW OF SEDIMENT AND OTHER MATERIALS FROM THE WORK SITE INTO THE STORM SEWER SYSTEM OR TO ANY RECEIVING WATER. SUCH MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE PLACEMENT OF EROSION DIKES AND INLET PROTECTION, SILT FENCE, RIP RAP STABILIZATION, SEEDING, SODDING, ETC. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, PAYMENT FOR THIS WORK WILL BE INCLUSIVE UNDER THE LINE ITEM IN THE BID DOCUMENTS FOR EROSION CONTROL.

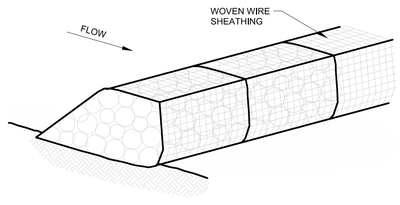
2. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE INSTALLATION AND MAINTENANCE OF THE SEDIMENT CONTROL MEASURES AT THE SITE AS OF THE DATE OF HIS "NOTICE TO PROCEED".

3. A NOTICE OF TERMINATION SHOULD BE FILED UPON OWNER'S/ENGINEER'S ACCEPTANCE OF FINAL GRADING AND ACHIEVEMENT OF A FINALLY STABILIZED CONSTRUCTION SITE.

SILT FENCE GENERAL NOTES:

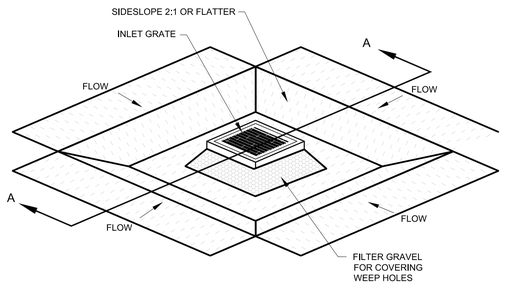
1. STEEL (OR WOOD) POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE FENCE POST.
5. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
6. INSPECTION SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
7. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO TO ADDITIONAL SILTATION.

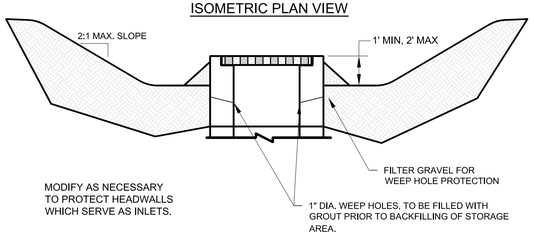




ROCK BERM

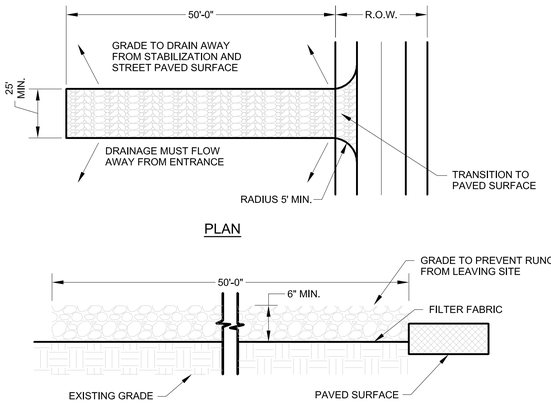
DETAIL 'E'
N.T.S.





EXCAVATED IMPOUNDMENT INLET PROTECTION

DETAIL 'D'
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE / EXIT

NCTCOG 02270.G
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'A'
N.T.S.

The Stabilized Construction Entrance / Exit Is To Be Used As A Vehicle Wash Down Area For Debris And Soil Removal Before Exiting The Site Onto The Existing Roadway. Location For Installation Should Be Identified On The Project's Erosion Control Plan. An Alternate Location Must Be Approved By Owner Or Engineer Prior To Installation. Stabilized Construction Entrance / Exit Shall Be Top Dressed With Additional Stone As Necessary.

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL
ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

LIGHT FARMS

EROSION CONTROL DETAILS

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE N.T.S.
DATE 1-30-2015
SHEET No. 04-04

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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DATE: Feb 02, 2015 11:38am XREFS: 01390541-C-BD-A

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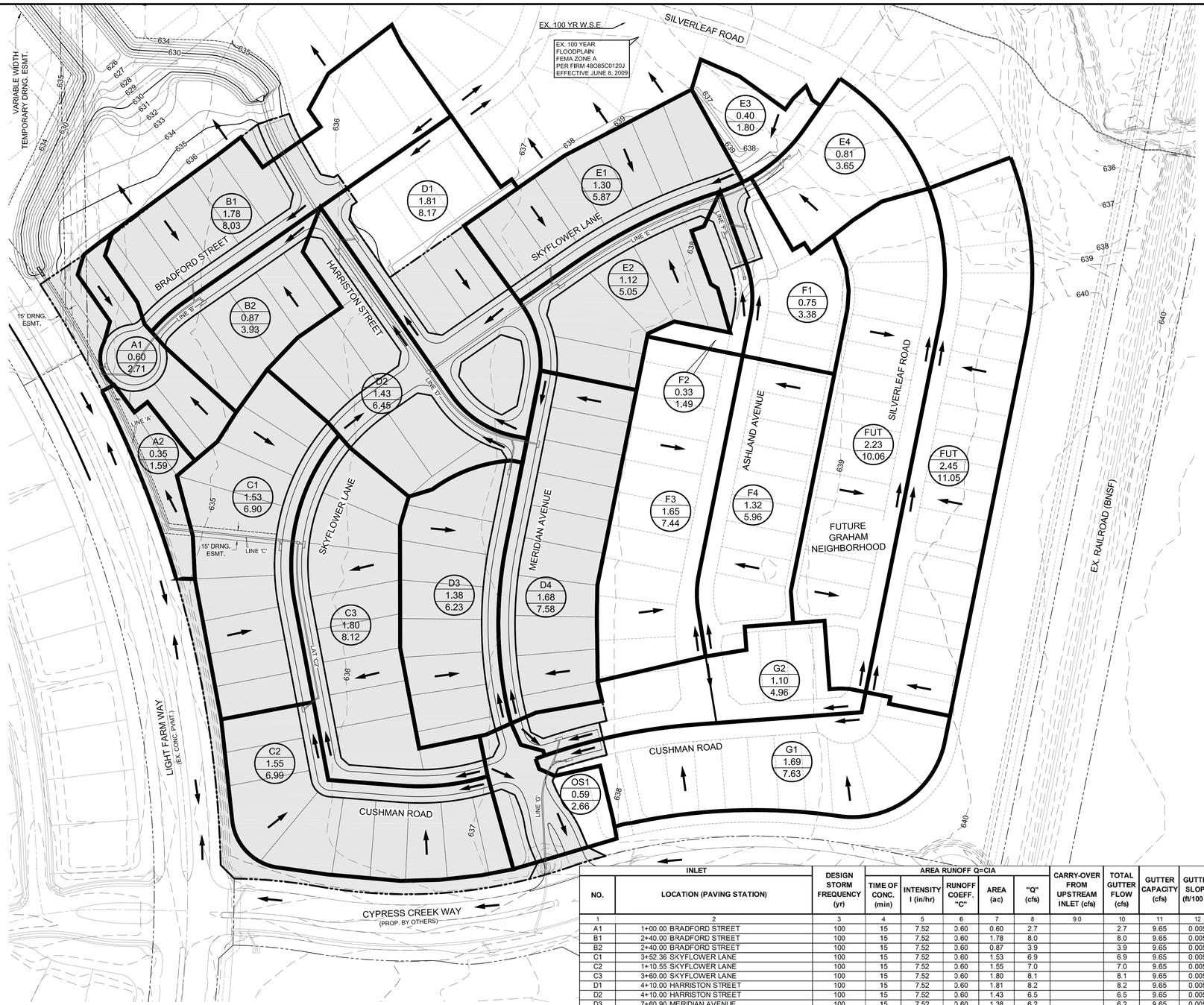
P-201405-06



DESIGN FLOW (Q_{25}) BY RATIONAL METHOD						
LOCATION, AREA DESIGNATION	TIME OF CONCENTRATION, T_C (MIN.)	INTENSITY "I_{100}" (in/hr)	DRAINAGE AREA "A" (AC)	RUNOFF COEFFICIENT "C"	FREQUENCY (YRS.)	DESIGN FLOW "Q_{100}"= C*I*A (CFS)
1	2	3	4	5		6.00
A1	15	7.52	0.60	0.60	100	2.71
A2	15	7.52	0.35	0.60	100	1.58
B1	15	7.52	1.78	0.60	100	8.03
B2	15	7.52	0.87	0.60	100	3.93
C1	15	7.52	1.53	0.60	100	6.90
C2	15	7.52	1.55	0.60	100	6.99
C3	15	7.52	1.80	0.60	100	8.12
D1	15	7.52	1.81	0.60	100	8.17
D2	15	7.52	1.43	0.60	100	6.45
D3	15	7.52	1.38	0.60	100	6.23
D4	15	7.52	1.68	0.60	100	7.58
E1	15	7.52	1.30	0.60	100	5.87
E2	15	7.52	1.12	0.60	100	5.05
E3	15	7.52	0.40	0.60	100	1.80
E4	15	7.52	0.81	0.60	100	3.65
F1	15	7.52	0.75	0.60	100	3.38
F2	15	7.52	0.33	0.60	100	1.49
F3	15	7.52	1.65	0.60	100	7.44
F4	15	7.52	1.32	0.60	100	5.96
G1	15	7.52	1.69	0.60	100	7.63
G2	15	7.52	1.10	0.60	100	4.96
OS1	15	7.52	0.59	0.60	100	2.66

LEGEND

- DRAINAGE DIVIDE (MAJOR)
- FLOW ARROW
- PROPOSED PHASE
- 629 EXISTING CONTOURS
- 629 PROPOSED MINOR CONTOURS
- 629 PROPOSED MAJOR CONTOURS
- # / X.XX / X.XX DRAINAGE AREA NUMBER / DRAINAGE AREA (AC) / DRAINAGE AREA RUNOFF (cfs)

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INLET		DESIGN STORM FREQUENCY (yr)	AREA RUNOFF Q=CIA					CARRY-OVER FROM UPSTREAM INLET (cfs)	TOTAL GUTTER FLOW (cfs)	GUTTER CAPACITY (cfs)	GUTTER SLOPE (ft/100 ft)	CROWN TYPE	SELECTED INLET		CARRY-OVER TO DOWNSTREAM INLET (cfs)
NO.	LOCATION (PAVING STATION)		TIME OF CONC. (min)	INTENSITY I (in/hr)	RUNOFF COEFF. "C"	AREA (ac)	"Q" (cfs)						LENGTH "LI" (feet)	TYPE	
1	2	3	4	5	6	7	8	9.0	10	11	12	13	14	15	16
A1	1+00.00 BRADFORD STREET	100	15	7.52	0.60	0.60	2.7		2.7	9.65	0.005	5" PARABOLIC	10	SAG	0.0
B1	2+40.00 BRADFORD STREET	100	15	7.52	0.60	1.78	8.0		8.0	9.65	0.005	5" PARABOLIC	10	SAG	0.0
B2	2+40.00 BRADFORD STREET	100	15	7.52	0.60	0.87	3.9		3.9	9.65	0.005	5" PARABOLIC	10	SAG	0.0
C1	3+52.36 SKYFLOWER LANE	100	15	7.52	0.60	1.53	6.9		6.9	9.65	0.005	5" PARABOLIC	10	SAG	0.0
C2	1+10.55 SKYFLOWER LANE	100	15	7.52	0.60	1.55	7.0		7.0	9.65	0.005	5" PARABOLIC	8	ON GRADE	0.0
C3	3+60.00 SKYFLOWER LANE	100	15	7.52	0.60	1.80	8.1		8.1	9.65	0.005	5" PARABOLIC	10	SAG	0.0
D1	4+10.00 HARRISTON STREET	100	15	7.52	0.60	1.81	8.2		8.2	9.65	0.005	5" PARABOLIC	10	SAG	0.0
D2	4+10.00 HARRISTON STREET	100	15	7.52	0.60	1.43	6.5		6.5	9.65	0.005	5" PARABOLIC	10	SAG	0.0
D3	7+60.90 MERIDIAN AVENUE	100	15	7.52	0.60	1.38	6.2		6.2	9.65	0.005	5" PARABOLIC	8	ON GRADE	0.0
D4	8+10.45 MERIDIAN AVENUE	100	15	7.52	0.60	1.68	7.6		7.6	9.65	0.005	5" PARABOLIC	10	SAG	0.0
E1	9+41.91 SKYFLOWER LANE	100	15	7.52	0.60	1.30	5.9		5.9	9.65	0.005	5" PARABOLIC	10	SAG	0.0
E2	9+41.91 SKYFLOWER LANE	100	15	7.52	0.60	1.12	5.1		5.1	9.65	0.005	5" PARABOLIC	10	SAG	0.0
E3	13+40.00 SKYFLOWER LANE	100	15	7.52	0.60	0.40	1.8		1.8	9.65	0.005	5" PARABOLIC	10	SAG	0.0
E4	13+40.00 SKYFLOWER LANE	100	15	7.52	0.60	0.81	3.7		3.7	9.65	0.005	5" PARABOLIC	10	SAG	0.0
F1	7+61.29 ASHLAND AVENUE	100	15	7.52	0.60	0.75	3.4		3.4	9.65	0.005	5" PARABOLIC	10	SAG	0.0
F2	7+61.29 ASHLAND AVENUE	100	15	7.52	0.60	0.33	1.5		1.5	9.65	0.005	5" PARABOLIC	10	SAG	0.0
F3	FUTURE ASHLAND AVENUE	100	15	7.52	0.60	1.65	7.4		7.4	9.65	0.005	5" PARABOLIC	8	ON GRADE	0.0
F4	FUTURE ASHLAND AVENUE	100	15	7.52	0.60	1.32	6.0		6.0	9.65	0.005	5" PARABOLIC	8	ON GRADE	0.0
G1	3+65.00 CUSHMAN ROAD	100	15	7.52	0.60	1.69	7.6		7.6	9.65	0.005	5" PARABOLIC	10	SAG	0.0
G2	3+60.00 CUSHMAN ROAD	100	15	7.52	0.60	1.10	5.0		5.0	9.65	0.005	5" PARABOLIC	10	SAG	0.0

LIGHT FARMS

DRAINAGE AREA MAP

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE	SHEET No.
1" = 80'	05-01
DATE 1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C210-DAM.dwg USER: aloeffel
DATE: Feb 02, 2015 11:41am XREFS: 01390541-C-SP-A 01390541-C-BD-A BASE Cypress Creek BASE-STORM Cypress Creek 01390541-C-DA-A LF_EX-CONTOUR 01390541-C-ST-A LF-MASTER-BASE OFFSITE GRADING-al
CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\cad\c3d\sheets\01390541-c210-dam.dwg

P-201405-06

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft/ft)	Selected Storm Sewer Size	Slope of Storm Pipe (ft/ft)	Pipe Capacity (c.f.s.)	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. per City of Celina Storm Manual	Kj, city of Celina Storm Manual	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"																	
	1	2	3	4	5	6	7	8	9	10	11.00	12.00	13	14			15	16		17	18	19	20
LINE A																							
	5+37.00	5+34.00	3			0.6	0.00	0.00	15.00	100	7.52	0.00	0.0000	30	0.0030	22.47	0.00	0.00		0.00	0.00	15.00	
LINE C	5+34.00	3+25.00	209	LINE C	4.88	0.6	2.93	2.93	15.00	100	7.52	22.02	0.0029	30	0.0030	22.47	5.22	0.60		0.42	0.67	15.67	PARTIAL FLOW
	3+25.00	3+22.00	3			0.6	0.00	2.93	15.67	100	7.52	22.02	0.0011	36	0.0030	36.53	5.41	0.00		0.45	0.00	15.67	PARTIAL FLOW
LAT A2	3+22.00	2+80.00	42	A2	0.35	0.6	0.21	3.14	15.67	100	7.52	23.60	0.0013	36	0.0030	36.53	5.50	0.05		0.47	0.13	15.79	PARTIAL FLOW
LINE B	2+80.00	2+68.00	12	LINE B	2.65	0.6	1.59	4.73	15.79	100	7.52	35.55	0.0018	36	0.0030	36.53	4.42	0.02		0.30	0.05	15.84	PARTIAL FLOW
LAT A1	2+68.00	1+10.00	158	A1	0.60	0.6	0.36	5.09	15.84	100	7.52	38.26	0.0020	36	0.0030	36.53	4.80	0.32		0.36	0.55	16.39	PARTIAL FLOW
	1+10.00	0+00.00	110			0.6	0.00	5.09	16.39	100	7.52	38.26	0.0020	36	0.0030	36.53	4.80	0.22		0.36	0.00	16.39	PARTIAL FLOW
LAT A1	0+16.00	0+00.00	16	A1	0.60	0.6	0.36	0.36	15.00	100	7.52	2.71	0.0007	18	0.0573	25.14	9.36	0.01	1.25	1.36	0.03	15.03	PARTIAL FLOW
LAT A2	0+07.00	0+00.00	7	A2	0.35	0.6	0.21	0.21	15.00	100	7.52	1.58	0.0002	18	0.1135	35.39	10.20	0.00	1.25	1.62	0.01	15.01	PARTIAL FLOW
LINE B																							
END	2+05.00	2+02.00	3			0.6	0.00	0.00	15.00	100	7.52	0.00	0.0000	21	0.0040	10.02	0.00	0.00	0.00	0.00	0.00	15.00	
LAT B2	2+02.00	1+93.00	9	B2	0.87	0.6	0.52	0.52	15.00	100	7.52	3.93	0.0006	21	0.0040	10.02	1.63	0.01	0.40	0.04	0.09	15.09	Vp > 2.5fps for all events less than 100 yr event
LAT B1	1+93.00	0+45.00	148	B1	1.78	0.6	1.07	1.59	15.09	100	7.52	11.96	0.0057	21	0.0040	10.02	4.97	0.84	0.40	0.38	0.50	15.59	
BEND	0+45.00	0+00.00	45			0.6	0.00	1.59	15.59	100	7.52	11.96	0.0057	21	0.0040	10.02	4.97	0.26	0.50	0.38	0.00	15.59	
LAT B1	0+28.00	0+00.00	28	B1	1.78	0.6	1.07	1.07	15.00	100	7.52	8.03	0.0058	18	0.0150	12.87	4.54	0.16	1.25	0.32	0.10	15.10	
LAT B2	0+08.00	0+00.00	8	B2	0.87	0.6	0.52	0.52	15.00	100	7.52	3.93	0.0014	18	0.0317	18.70	2.22	0.01	1.25	0.08	0.06	15.06	Vp > 2.5fps for all events less than 100 yr event
LINE C																							
LAT C3	2+02.00	1+79.00	23	C3	1.80	0.6	1.08	1.08	15.00	100	7.52	8.12	0.0026	21	0.0244	24.75	9.24	0.06		1.33	0.04	15.04	
	1+79.00	1+76.00	3			0.6	0.00	1.08	15.04	100	7.52	8.12	0.0007	27	0.0100	30.97	6.56	0.00		0.67	0.00	15.04	PARTIAL FLOW
LAT C2	1+76.00	1+66.00	10	C2	1.55	0.6	0.93	2.01	15.04	100	7.52	15.12	0.0024	27	0.0100	30.97	7.76	0.02		0.94	0.02	15.06	PARTIAL FLOW
LAT C1	1+66.00	0+00.00	166	C1	1.53	0.6	0.92	2.93	15.06	100	7.52	22.02	0.0051	27	0.0100	30.97	8.47	0.84		1.11	0.33	15.39	PARTIAL FLOW
LAT C1	0+63.00	0+00.00	63	C1	1.53	0.6	0.92	0.92	15.00	100	7.52	6.90	0.0043	18	0.1235	36.91	16.11	0.27	1.25	4.03	0.07	15.07	PARTIAL FLOW
	2+43.00	2+40.00	3			0.6	0.00	0.00	15.00	100	7.52	0.00	0.0000	18	0.0064	8.40	0.00	0.00	0.00	0.00	0.00	15.00	
LAT C2	2+40.00	0+00.00	240	C2	1.55	0.6	0.93	0.93	15.00	100	7.52	6.99	0.0044	18	0.0064	8.40	5.32	1.06	0.60	0.44	0.75	15.75	PARTIAL FLOW
LAT C2.1	0+28.00	0+00.00	28	C2	1.55	0.6	0.93	0.93	15.00	100	7.52	6.99	0.0044	18	0.0109	10.97	7.51	0.12	1.25	0.88	0.06	15.06	PARTIAL FLOW
LINE D																							
LAT D4	16+83.00	16+47.00	36	D4	1.68	0.6	1.01	1.01	15.00	100	7.52	7.58	0.0023	21	0.0169	20.60	7.93	0.08		0.98	0.08	15.08	
	16+47.00	16+44.00	3			0.6	0.00	1.01	15.08	100	7.52	7.58	0.0011	24	0.0060	17.52	5.38	0.00		0.45	0.00	15.08	PARTIAL FLOW
LAT D3	16+44.00	14+79.00	165	D3	1.38	0.6	0.83	1.84	15.08	100	7.52	13.81	0.0037	24	0.0060	17.52	6.18	0.61		0.59	0.44	15.52	PARTIAL FLOW
	14+79.00	12+51.00	228	LINE E	7.68	0.6	4.61	6.44	15.52	100	7.52	48.46	0.0023	42	0.0032	56.91	6.65	0.53		0.69	0.57	16.09	PARTIAL FLOW
	12+51.00	12+48.00	3			0.6	0.00	6.44	16.09	100	7.52	48.46	0.0011	48	0.0020	64.24	5.62	0.00		0.49	0.00	16.09	PARTIAL FLOW
LAT D2	12+48.00	12+38.00	10	D2	1.43	0.6	0.86	7.30	16.09	100	7.52	54.91	0.0015	48	0.0020	64.24	5.75	0.01		0.51	0.03	16.12	PARTIAL FLOW
	12+38.00	12+13.00	25			0.6	0.00	7.30	16.12	100	7.52	54.91	0.0015	48	0.0020	64.24	5.75	0.04		0.51	0.00	16.12	PARTIAL FLOW
LAT D1	12+13.00	10+00.00	213	D1	1.81	0.6	1.09	8.39	16.12	100	7.52	63.08	0.0019	48	0.0020	64.24	5.83	0.41		0.53	0.61	16.73	PARTIAL FLOW
LAT D1	0+28.00	0+00.00	28	D1	1.81	0.6	1.09	1.09	15.00	100	7.52	8.17	0.0027	21	0.0487	34.97	12.02	0.07	1.25	2.24	0.04	15.04	PARTIAL FLOW
LAT D2	0+08.00	0+00.00	8	D2	1.43	0.6	0.86	0.86	15.00	100	7.52	6.45	0.0038	18	0.1180	36.08	16.90	0.03	1.25	4.43	0.01	15.01	PARTIAL FLOW
LAT D3	0+28.00	0+00.00	28	D3	1.38	0.6	0.83	0.83	15.00	100	7.52	6.23	0.0035	18	0.0188	14.40	7.86	0.10	1.25	0.96	0.06	15.06	PARTIAL FLOW
LINE E																							
	6+36.00	6+33.00	3			0.6	0.00	0.00	15.00	100	7.52	0.00	0.0000	18	0.0030	5.75	0.00	0.00		0.00	0.00	15.00	
LAT E4	6+33.00	6+22.00	11	E4	0.81	0.6	0.49	0.49	15.00	100	7.52	3.65	0.0012	18	0.0030	5.75	3.45	0.01		0.18	0.05	15.05	PARTIAL FLOW
LAT E3	6+22.00	5+09.00	113	E3	0.40	0.6	0.24	0.73	15.05	100	7.52	5.46	0.0027	18	0.0030	5.75	3.71	0.31		0.21	0.51	15.56	PARTIAL FLOW
	5+09.00	2+35.00	274	LINE F	4.05	0.6	2.43	3.16	15.56	100	7.52	23.73	0.0033	30	0.0036	24.61	5.71	0.92		0.51	0.80	16.36	PARTIAL FLOW
	2+35.00	2+32.00	3			0.6	0.00	3.16	16.36	100	7.52	23.73	0.0013	36	0.0032	37.73	5.65	0.00		0.50	0.00	16.36	PARTIAL FLOW
LAT E2	2+32.00	2+25.00	7	E2	1.12	0.6	0.67	3.83	16.36	100	7.52	28.79	0.0019	36	0.0032	37.73	5.88	0.01		0.54	0.02	16.38	PARTIAL FLOW
	2+25.00	2+22.00	3			0.6	0.00	3.83	16.38	100	7.52	28.79	0.0019	36	0.0032	37.73	5.88	0.01		0.54	0.00	16.38	PARTIAL FLOW
LAT E1	2+22.00	0+00.00	222	E1	1.30	0.6	0.78	4.61	16.38	100	7.52	34.65	0.0027	36	0.0032	37.73	6.06	0.60		0.57	0.61	16.99	PARTIAL FLOW
LAT E1	0+28.00	0+00.00	28	E1	1.30	0.6	0.78	0.78	15.00	100	7.52	5.87	0.0031	18	0.0327	19.00	9.49	0.09	1.25	1.40	0.05	15.05	PARTIAL FLOW
LAT E2	0+08.00	0+00.00	8	E2	1.12	0.6	0.67	0.67	15.00	100	7.52	5.05	0.0023	18	0.1083	34.57	14.06	0.02	1.25	3.07	0.01	15.01	PARTIAL FLOW
LINE F																							
	2+48.00	2+45.00	3			0.6	0.00	0.00	15.00	100	7.52	0.00	0.0000	18	0.0100	10.50	0.00	0.00		0.00	0.00	15.00	
LAT F4	2+45.00	2+38.00	7	F4	1.32	0.6	0.79	0.79	15.00	100	7.52	5.96	0.0032	18	0.0100	10.50	6.15	0.02		0.59	0.02	15.02	PARTIAL FLOW
	2+38.00	2+35.00	3			0.6	0.00	0.79	15.02	100	7.52	5.96	0.0004	27	0.0024	15.17	3.60	0.00		0.20	0.00	15.02	PARTIAL FLOW
LAT F3	2+35.00	0+66.00	169	F3	1.65	0.6	0.99	1.78	15.02	100	7.52	13.40	0.0019	27	0.0024	15.17	4.31	0.32		0.29	0.65	15.67	PARTIAL FLOW
	0+66.00	0+63.00	3			0.6	0.00	1.78	15.67	100	7.52	13.40	0.0011	30	0.0024	20.09	4.39	0.00		0.30	0.00	15.67	PARTIAL FLOW
LAT F2	0+63.00	0+54.00	9	F2	0.33	0.6	0.20	1.98	15.67	100	7.52	14.89	0.0013	30	0.0024	20.09	4.48	0.01		0.31	0.03	15.71	PARTIAL FLOW
LAT F1	0+54.00	0+00.00	54	F1	0.75	0.6	0.45	2.43	15.71	100	7.52	18.27	0.0020	30	0.0024	20.09	4.64	0.11		0.33	0.19	15.90	PARTIAL FLOW
LAT F1	0+28.00	0+00.00	28	F1	0.75	0.6	0.45	0.45	15.00	100	7.52	3.38	0.0005	21	0.0181	21.32	6.53	0.01	1.25	0.66	0.07	15.07	PARTIAL FLOW
LAT F2	0+08.00	0+00.00	8	F2	0.33	0.6	0.20	0.20	15.00	100	7.52	1.49	0.0002	18	0.0363	20.01	6.66	0.00	1.25	0.69	0.02	15.02	PARTIAL FLOW
LINE G																							
LAT G2	2+93.00	2+78.00	15	G2	1.10	0.6	0.66	0.66	15.00	100	7.52	4.96	0.0022	18	0.0209	15.19	7.72	0.03		0.93	0.03	15.03	
	2+78.00	2+61.00	17			0.6	0.00	0.66	15.03	100	7.52	4.96	0.0022	18	0.0100	10.50	5.88	0.04		0.54	0.00	15.03	PARTIAL FLOW
	2+61.00	2+58.00	3			0.6	0.00	0.66	15.03	100	7.52	4.96	0.0010	21	0.0100	15.85	5.85	0.00		0.53	0.00	15.03	PARTIAL FLOW
LAT G1	2+58.00	0+94.00	164	G1	1.69	0.6	1.01	1.67	15.03	100	7.52	12.59	0.0063	21	0.0100	15.85	7.32	1.04	0.60	0.83	0.37	15.41	PARTIAL FLOW
LAT G1	0+20.00	0+00.00	20	G1	1.69	0.6	1.01	1.01	15.00	100	7.52	7.63	0.0053	18	0.0329	19.05	10.22	0.11	1.25	1.62	0.03	15.03	PARTIAL FLOW

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:

THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

LIGHT FARMS

DRAINAGE CALCULATIONS

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE

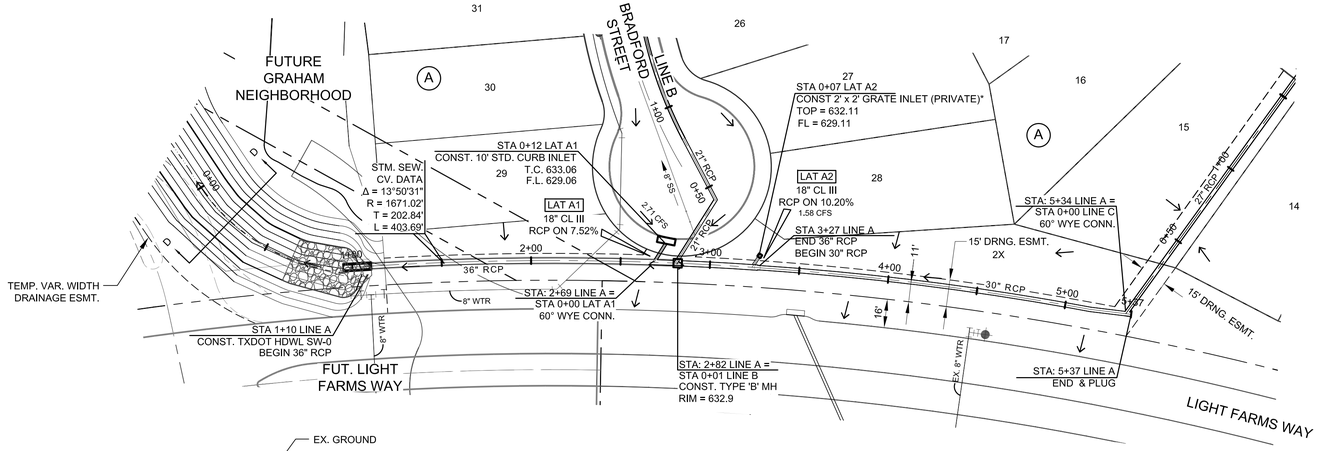
DATE 1-30-2015

SHEET No. 05-02

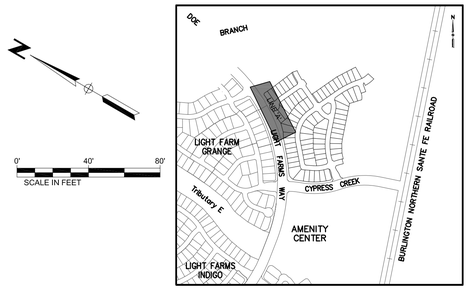
CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\013905\01\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C502-DAM.dwg USER: aleofiel
DATE: Feb 02, 2015 1:28pm XREFS: 01390541-C-SP-A 01390541-C-BD-A BASE Cypress Creek BASE-STORM Cypress Creek 01390541-C-DA-A LF_EX-CONTOUR-4-2013 LF_MASTER-BASE OFFSITE GRADING-all

CAD FILE PATH: I:\proj\013905\01\01390541_Par_5_6\08_design\cad\c3d\sheets\01390541-c502-dam.dwg



SECTION D-D
NTS



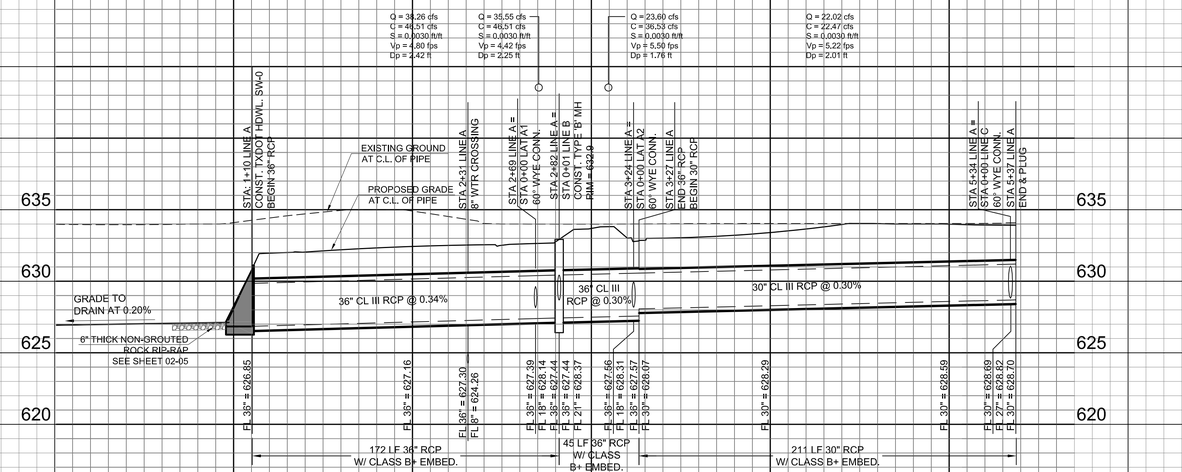
KEY MAP
N.T.S.

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

*PRIVATE INLET NOTE:
PRIVATE STORM DRAINS AND INLETS SHALL FOREVER BE THE RESPONSIBILITY OF THE COLLIN COUNTY MUD #1 AND/OR THE HOA

NOTE:
- SEE CITY STANDARD SHEETS FOR STANDARD STORM DETAILS
- SEE EROSION CONTROL ITEMS ON THE EROSION CONTROL PLANS.



STORM LINE A

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LIGHT FARMS

STORM PLAN & PROFILE LINE 'A'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE	SHEET No.
H: 1 " = 40' V: 1" = 5'	06-01
DATE 1-30-2015	

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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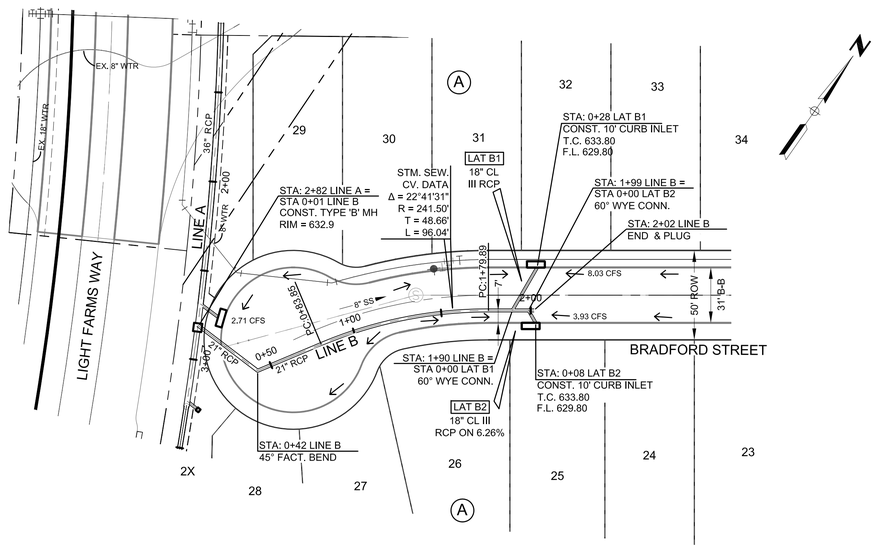
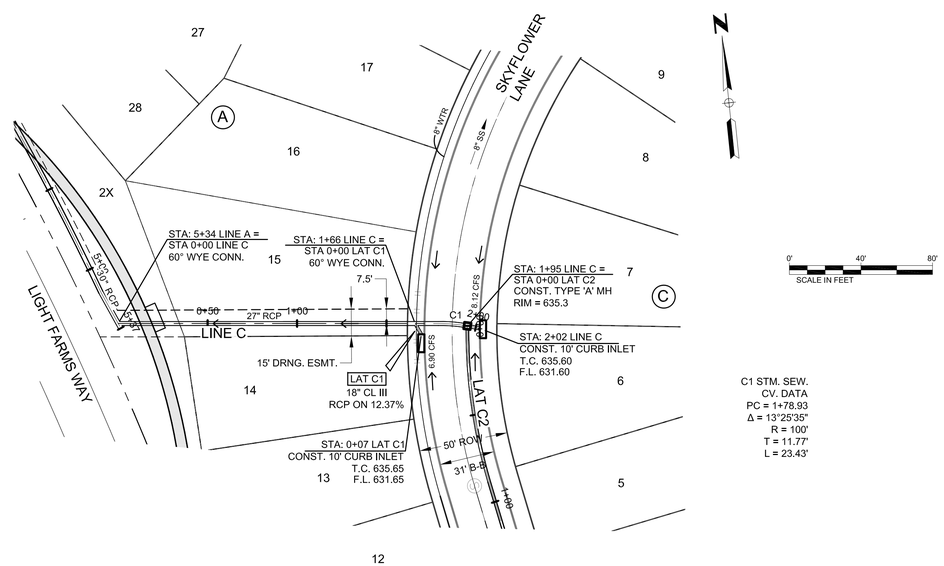
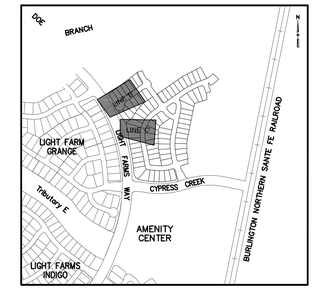
P-201405-06







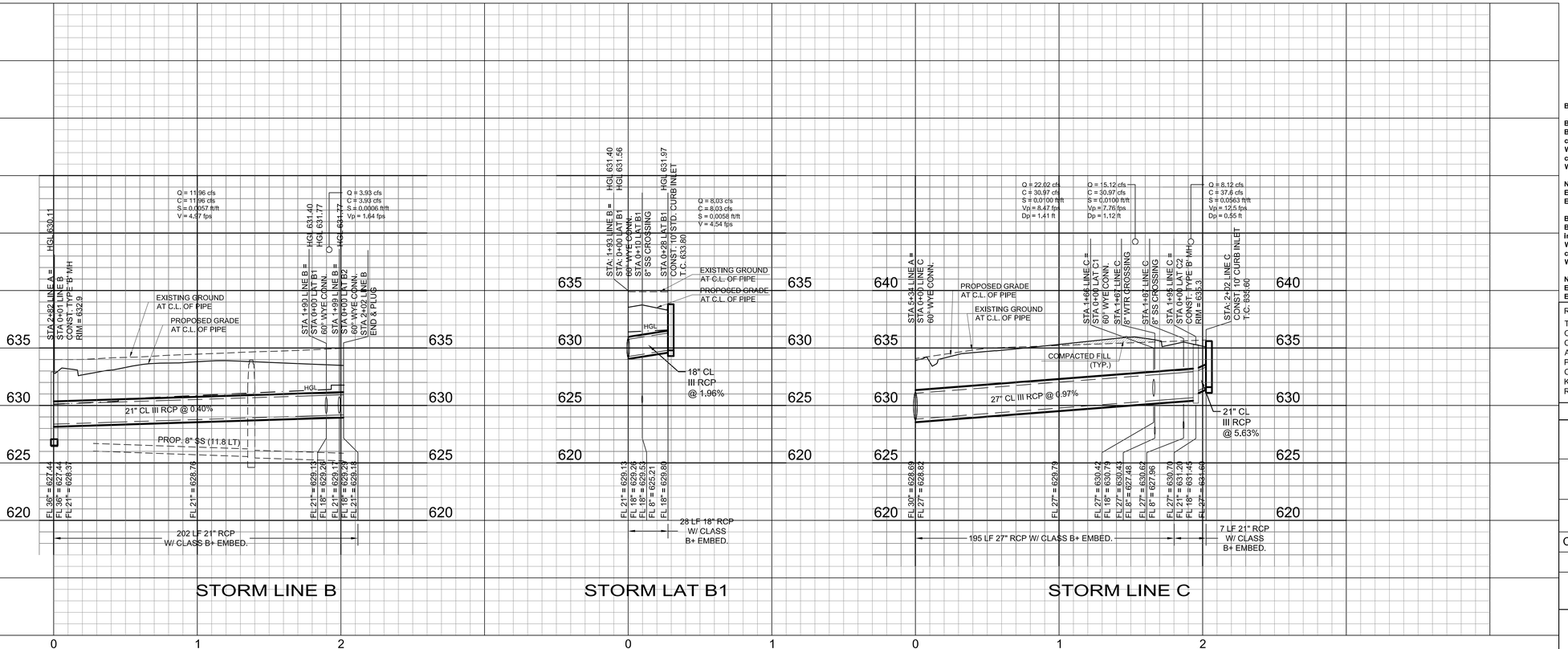
KEY MAP
N.T.S.

0' 40' 80'
SCALE IN FEET

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

NOTE:
SEE CITY STANDARD SHEETS FOR STANDARD STORM DETAILS



BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
90145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:

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LIGHT FARMS

STORM PLAN & PROFILE LINES 'B' & 'C'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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SCALE	SHEET No.
H: 1 " = 40' V: 1" = 5'	06-02
DATE 1-30-2015	

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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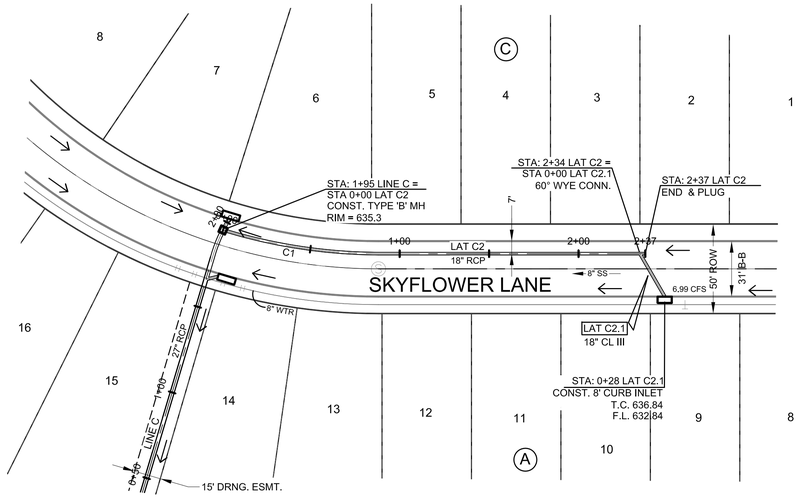
CAD FILE PATH: I:\proj\013905\01\1390541_par_5_6\06_design\cad\c3d\sheets\01390541-s602.dwg

P-201405-06



C1 STM SEW
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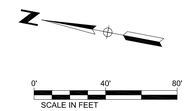
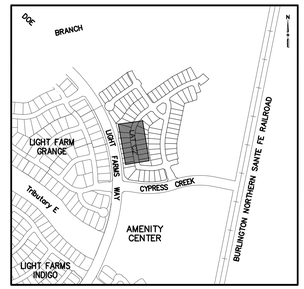
T = 44.42'
L = 88.17'



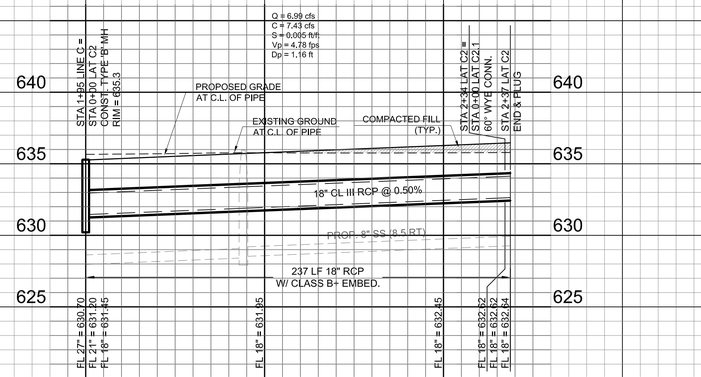


KEY MAP
N.T.S.

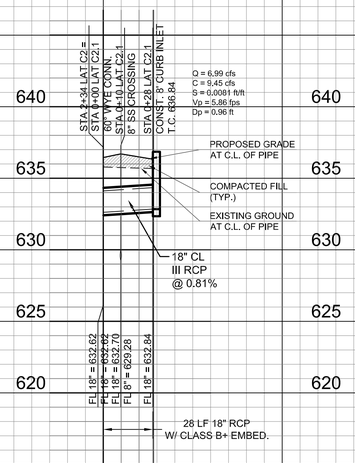
LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

NOTE:
SEE CITY STANDARD SHEETS FOR STANDARD STORM DETAILS



STORM LAT C2



STORM LAT C2.1

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

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LIGHT FARMS

STORM PLAN & PROFILE
LAT 'C2'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE	SHEET No.
H: 1 " = 40' V: 1" = 5'	06-03
DATE 1-30-2015	

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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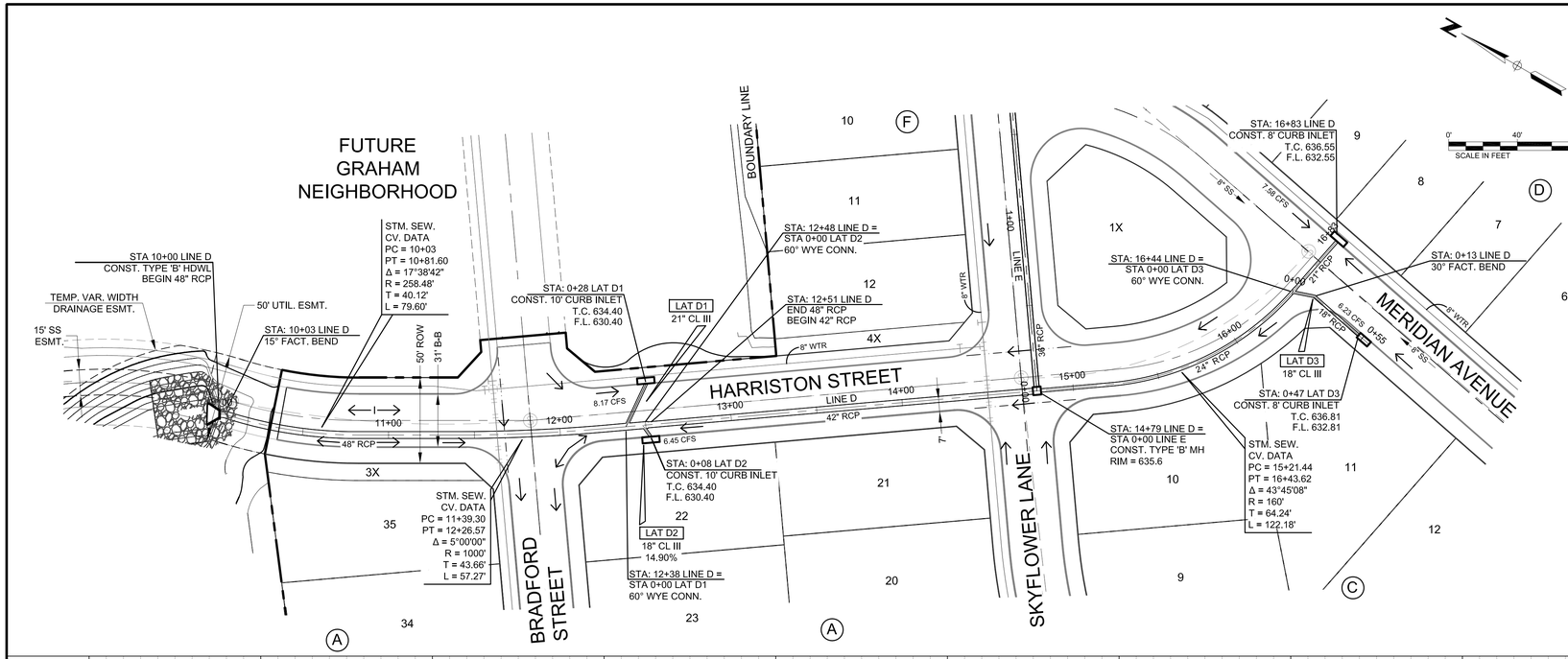
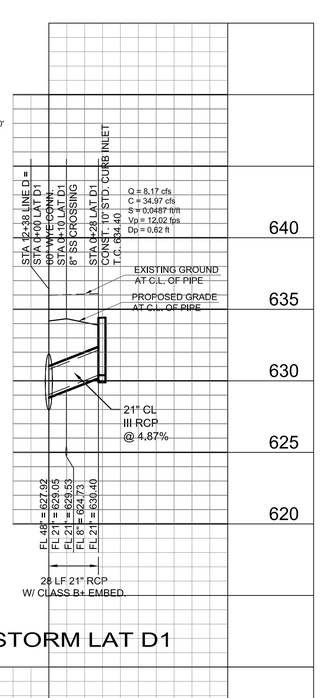
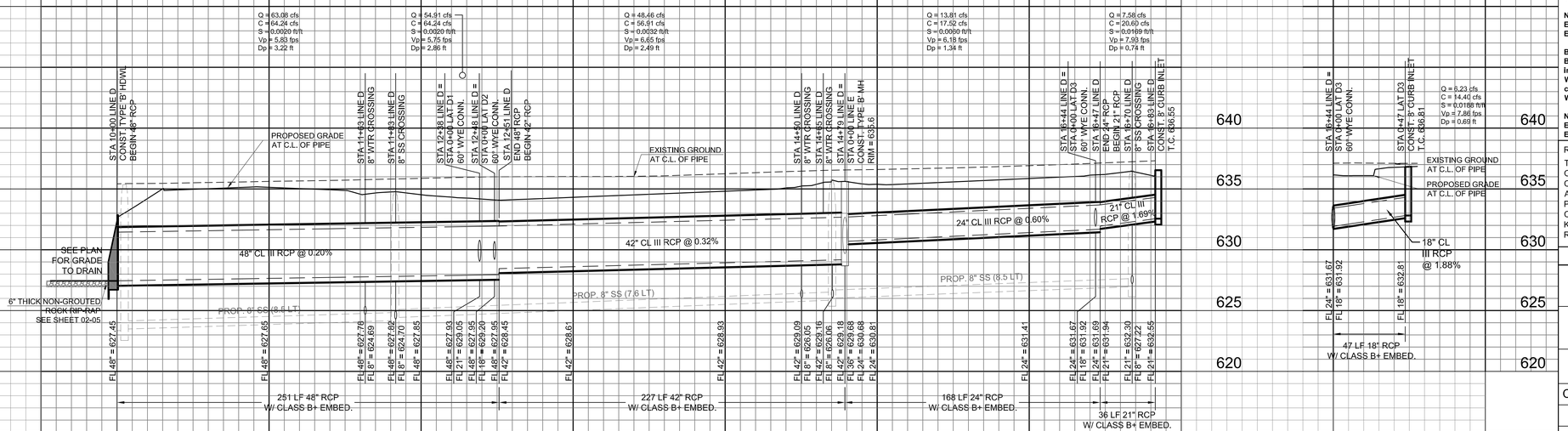
P-201405-06



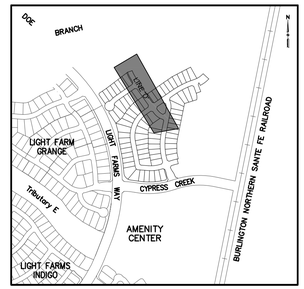


STORM LAT D1



STORM LINE D

STORM LAT D3



KEY MAP
N.T.S.

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

NOTE:
SEE CITY STANDARD SHEETS FOR STANDARD STORM DETAILS

BENCHMARKS:

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E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
80145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15
Huitt-Zollars, Inc.
Firm Registration No. F-761

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LIGHT FARMS

STORM PLAN & PROFILE
LINE 'D'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

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SCALE
H: 1 " = 40'
V: 1" = 5'

DATE
1-30-2015

SHEET No.
06-04

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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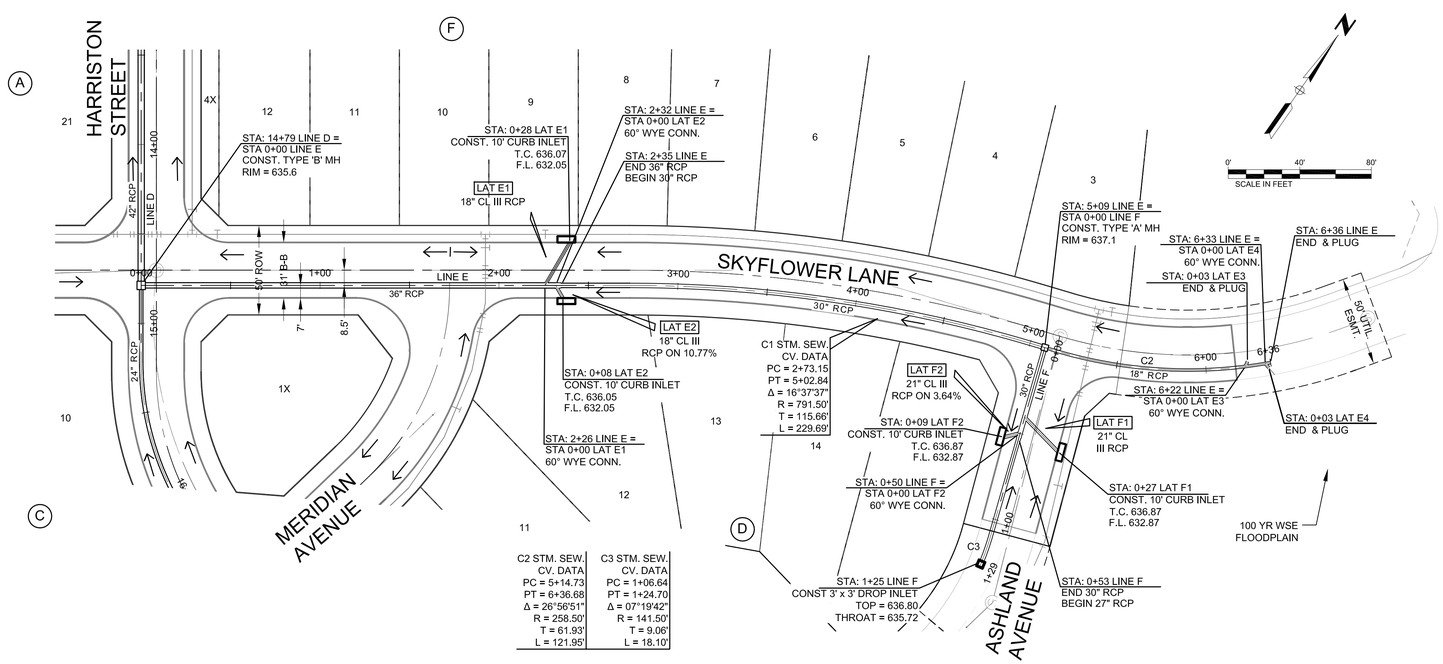
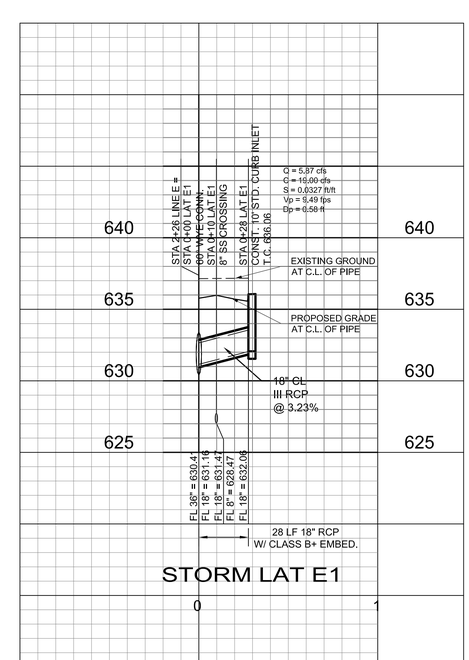
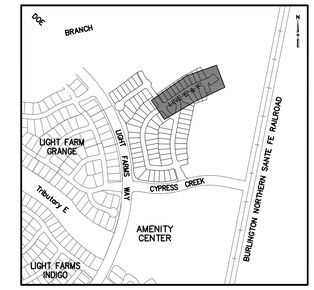
P-201405-06







KEY MAP
N.T.S.

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

NOTE:
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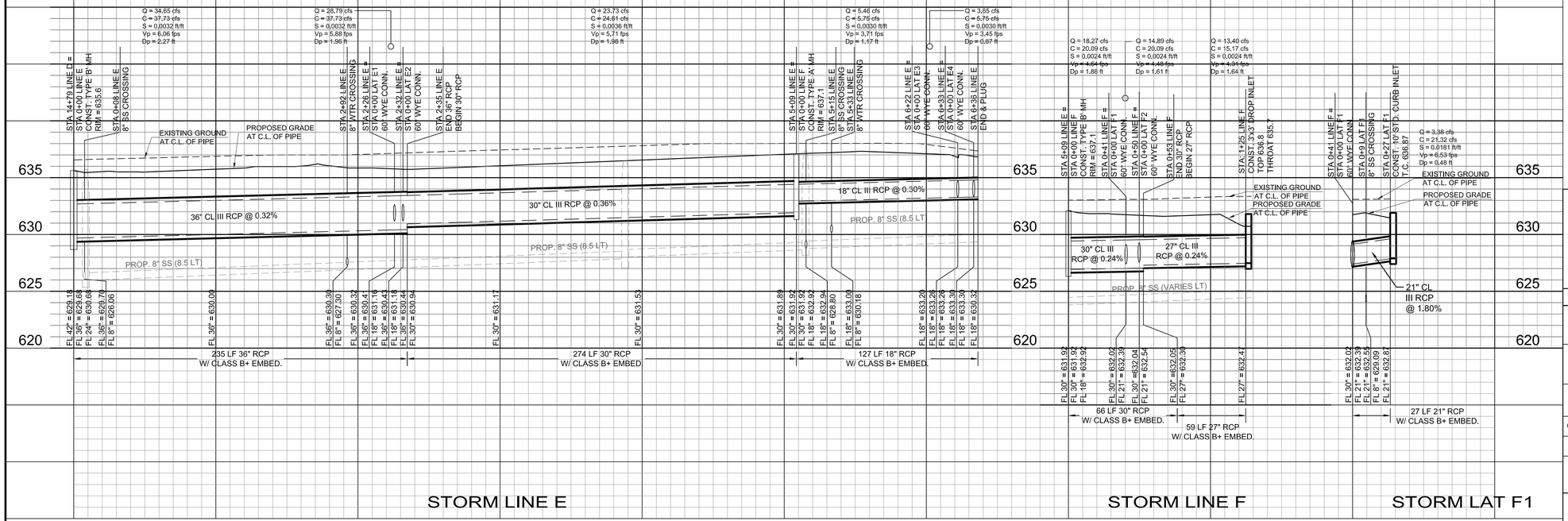
- SEE EROSION CONTROL ITEMS ON THE EROSION CONTROL PLANS.



BENCHMARKS:

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Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
80145
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1-30-15

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LIGHT FARMS

STORM PLAN & PROFILE LINES 'E' & 'F'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE H: 1 " = 40' V: 1" = 5'
DATE 1-30-2015
SHEET No. 06-05

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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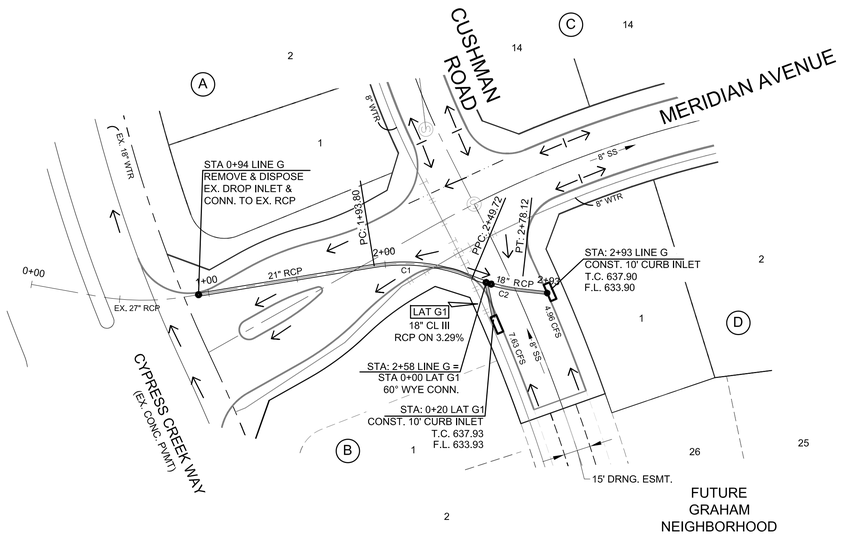
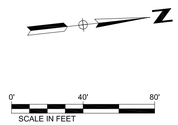
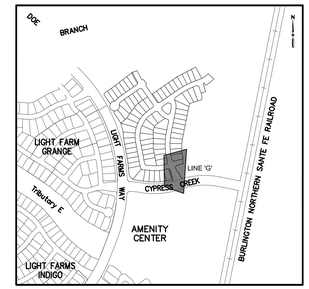
CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\06_design\cad\c3d\sheets\01390541-c605.dwg

P-201405-06



C1 STM. SEW. CV. DATA	C2 STM. SEW. CV. DATA
Δ = 32°02'33"	Δ = 16°16'17"
R = 100.00'	R = 100.00'
T = 28.71'	T = 14.30'
L = 55.92'	L = 28.40'



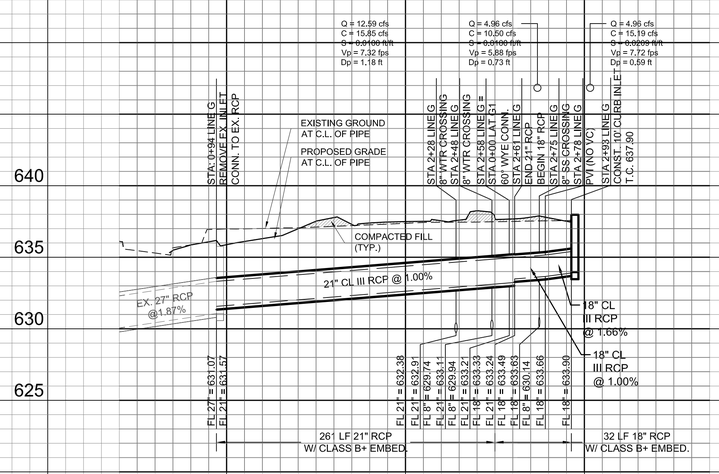


KEY MAP
N.T.S.

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED STORM INLET
- EXISTING STORM SEWER
- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED FLOW DIRECTION

NOTE:
- SEE CITY STANDARD SHEETS FOR STANDARD STORM DETAILS
- SEE EROSION CONTROL ITEMS ON THE EROSION CONTROL PLANS.



STORM LINE G

BENCHMARKS:

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N=7152197.409
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1-30-15

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LIGHT FARMS

STORM PLAN & PROFILE LINE 'G'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

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SCALE
H: 1 " = 40'
V: 1" = 5'

DATE
1-30-2015

SHEET No.
06-06

STORM DRAIN CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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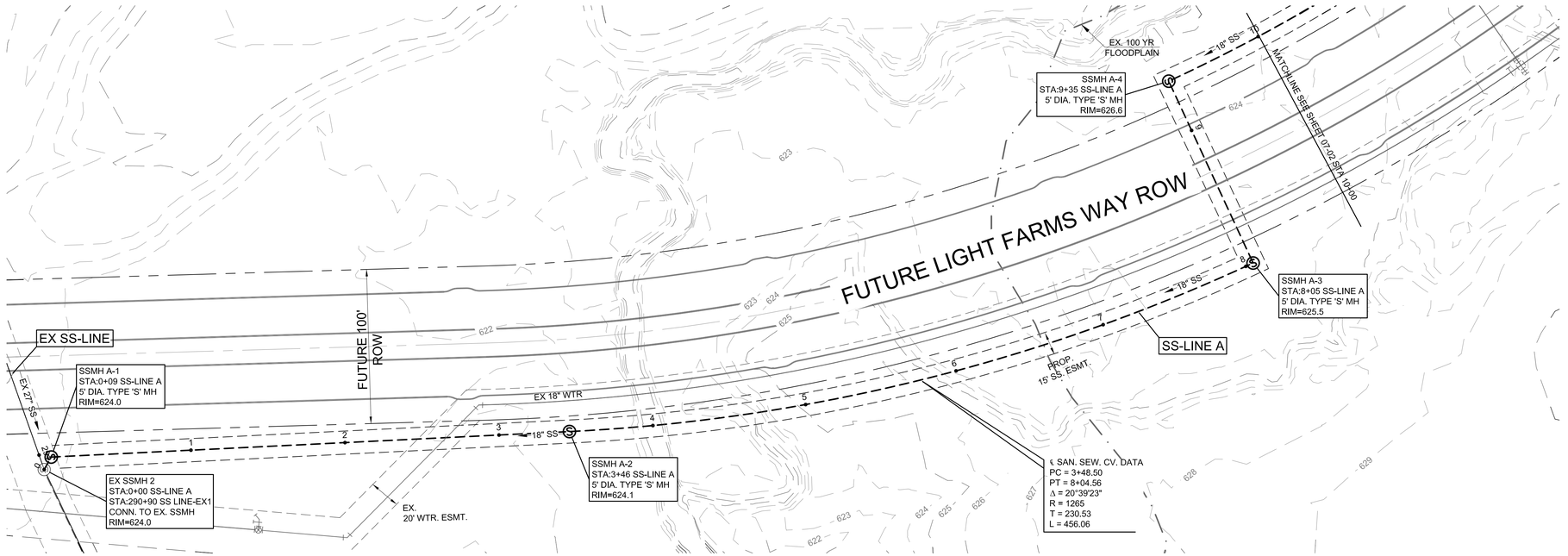

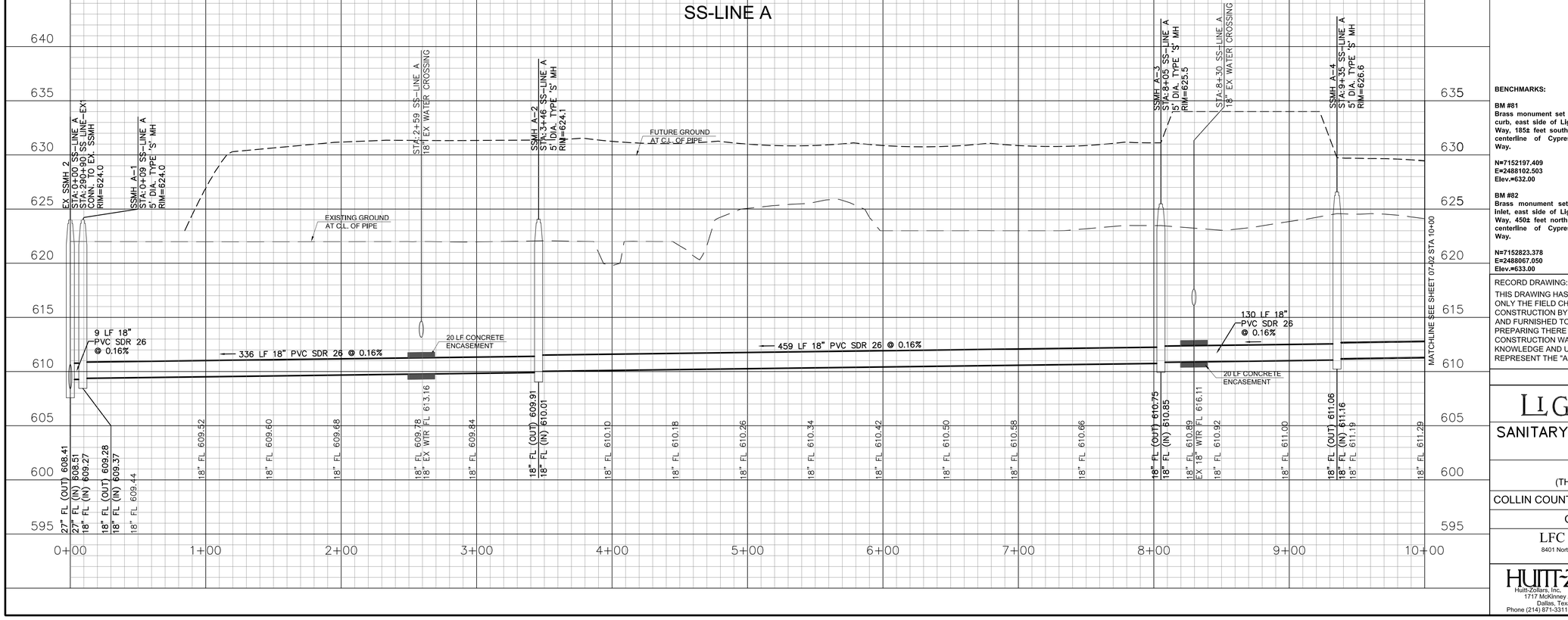

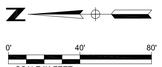

KEY MAP
N.T.S.

LEGEND

- PROP. SAN SEWER MAIN
- PROP. SAN SEWER LATERAL
- PROP. WATER MAIN
- PROP. WATER SERVICE
- PROP. FIRE HYDRANT
- EX. FIRE HYDRANT
- PROP. SAN SEWER MH
- EX. SAN SEWER MH
- PROP. WATER VALVE
- EX. WATER VALVE
- EX. SAN SEWER MAIN
- EX. WATER MAIN

NOTE:
ALL OPEN CUT SANITARY SEWER LINE SHALL HAVE CLASS 'H' EMEDMENT

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb Inlet, east side of LIght Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
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LIGHT FARMS

SANITARY SEWER PLAN & PROFILE LINE 'A'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

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HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE	SHEET No.
1 " = 40'	07–01
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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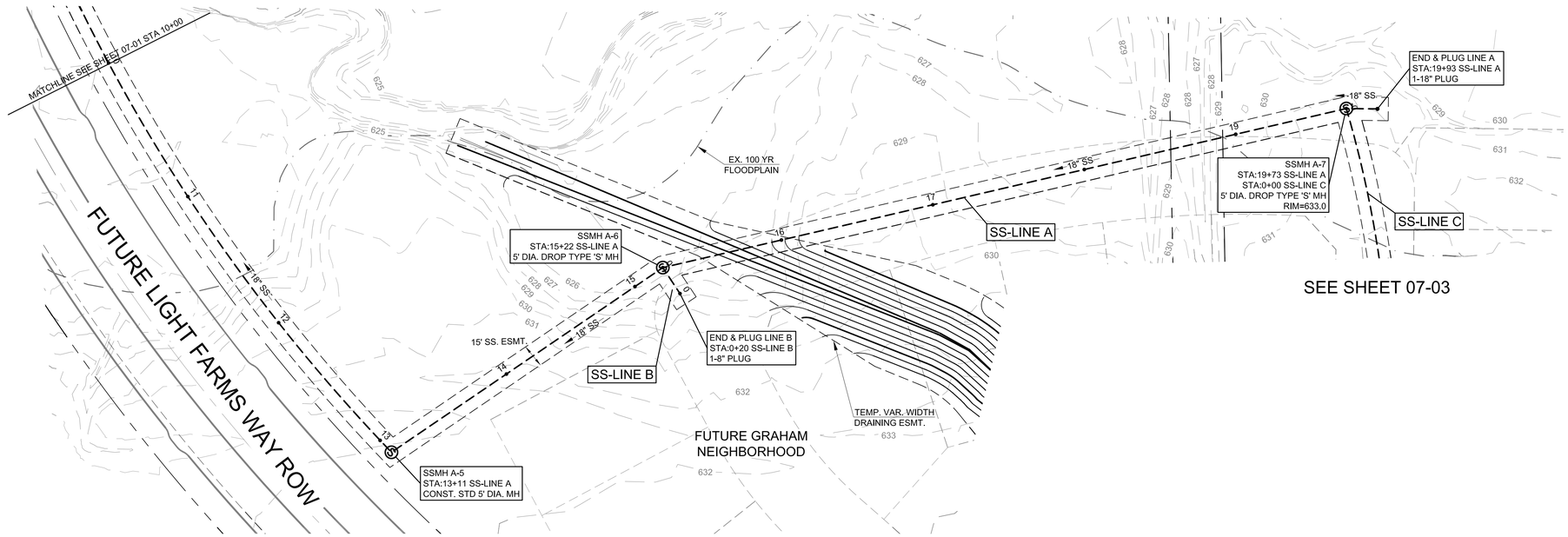
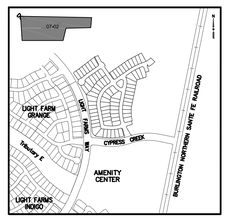
DATE: Feb 02, 2015 1:32pm XREFS: 01390541-C-SP-A 01390541-C-WTR-A LF-MASTER-BASE BASE-STORM Cypress Creek BASE-UTIL Cypress Creek BASE Cypress Creek

CAD FILE PATH: h:\proj\01390501\01390541_par_5_6\08_design\cadd\c3d\sheets\01390541-c701.dwg

P-201405-06





KEY MAP
N.T.S.

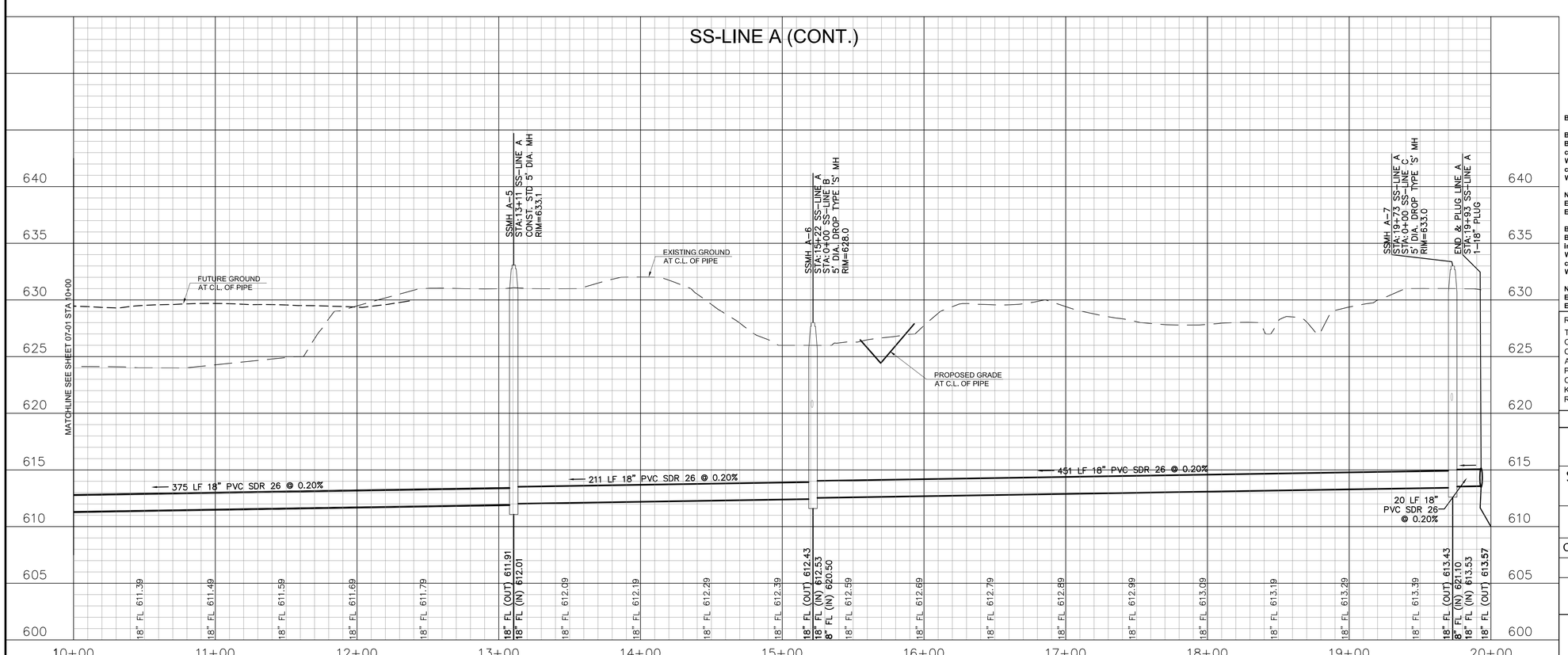
0' 40' 80'
SCALE IN FEET

LEGEND

- PROP. SAN SEWER MAIN
- PROP. SAN SEWER LATERAL
- PROP. WATER MAIN
- PROP. WATER SERVICE
- PROP. FIRE HYDRANT
- EX. FIRE HYDRANT
- PROP. SAN SEWER MH
- EX. SAN SEWER MH
- PROP. WATER VALVE
- EX. WATER VALVE
- EX. SAN SEWER MAIN
- EX. WATER MAIN

NOTE:
ALL OPEN CUT SANITARY SEWER LINE SHALL HAVE CLASS 'H' EMEDMENT

SS-LINE A (CONT.)



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Elev.=632.00

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E=2488067.050
Elev.=633.00

STATE OF TEXAS
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REGISTERED
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ENGINEER
1-30-15

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LIGHT FARMS

SANITARY SEWER PLAN & PROFILE LINE 'A'

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SCALE	SHEET No.
1 " = 40'	07–02
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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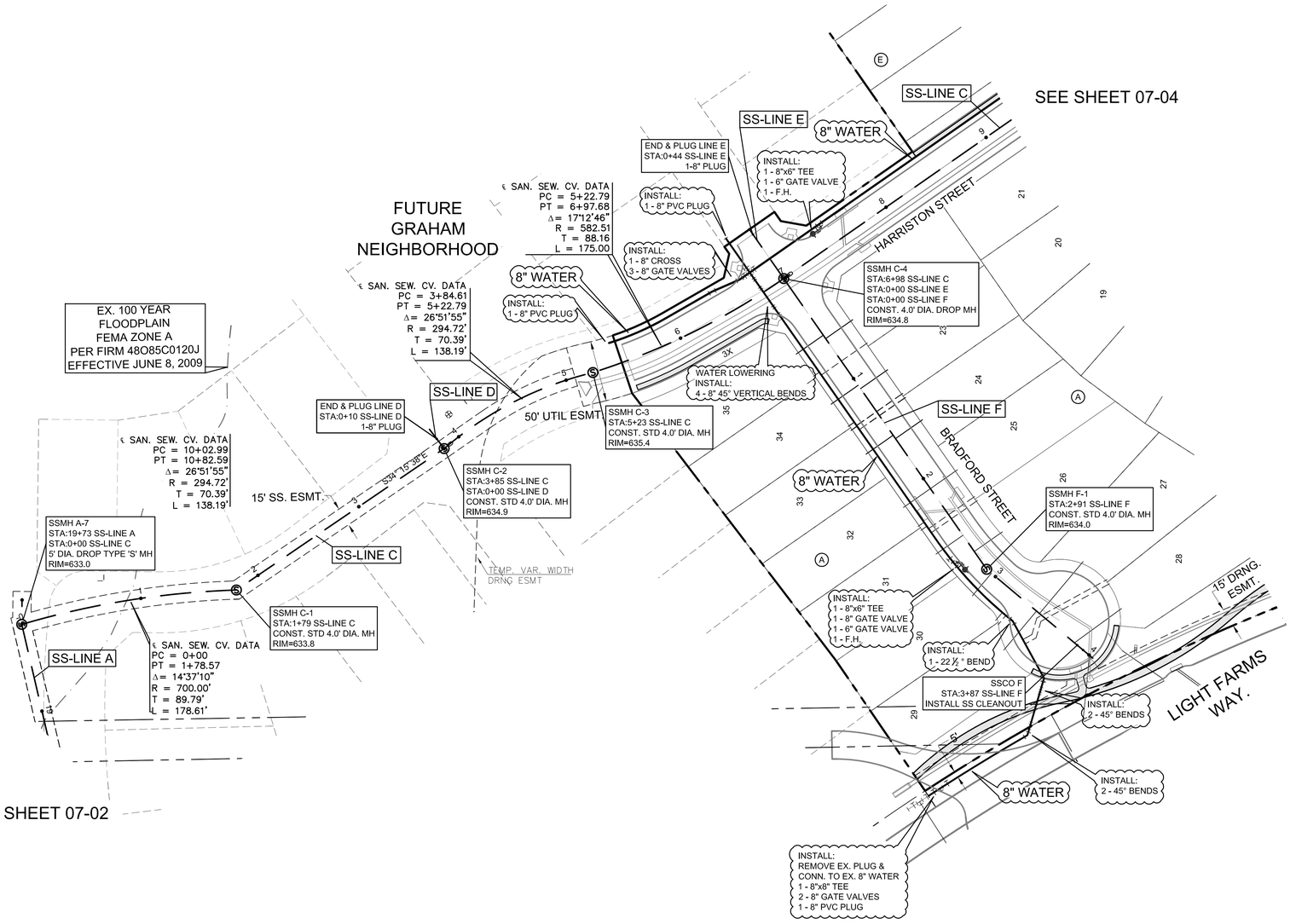
DATE: Feb 02, 2015 1:43pm XREFS: 01390541-C-BD-A 01390541-C-KM-A 01390541-C-SS-A LF_EX-CONTOUR OFFSITE GRADING-all
01390541-C-SP-A 01390541-C-ST-A 01390541-C-WTR-A

CAD FILE PATH: I:\proj\013905\01\01390541_par_5_6\08_design\cad\c3d\sheets\01390541-c702.dwg



KEY MAP
N.T.S.

0' 50' 100'
SCALE IN FEET

LEGEND

- PROP. SAN SEWER MAIN
- PROP. SAN SEWER LATERAL
- PROP. WATER MAIN
- PROP. WATER SERVICE
- PROP. FIRE HYDRANT
- EX. FIRE HYDRANT
- PROP. SAN SEWER MH
- EX. SAN SEWER MH
- PROP. WATER VALVE
- EX. WATER VALVE
- EX. SAN SEWER MAIN
- EX. WATER MAIN

BENCHMARKS:

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Elev.=633.00

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LIGHT FARMS

WATER & SANITARY SEWER PLAN

PHASE FOUR
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SCALE	SHEET No.
1" = 50'	07–03
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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DATE: Feb 02, 2015 1:45pm XREFS: 01390541-C-SS-A 01390541-C-SP-A 01390541-C-ST-A 01390541-C-WTR-A LF-MASTER-BASE BASE-STORM Cypress Creek BASE-UTIL Cypress Creek BASE Cypress Creek 01390541-C-BD-A 01390541-C-KM-A LF-MASTER-UTI

CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\cad\c3d\sheets\01390541-c703.dwg

SSMH G-3
STA:6+87 SS-LINE G
CONST. STD 4.0' DIA. MH

50' UTIL ESMT.

INSTALL:
1 - 2" FLUSH VALVE
W/ METER BOX

8" WATER

INSTALL:
1 - 11 ¼ ° BEND
1 - 2" FLUSH VALVE
W/ METER BOX

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

SSMH H-1
STA:1+54 SS-LINE H
CONST. STD 4.0' DIA. MH
RIM=638.4

END & PLUG LINE H
STA:1+74 SS-LINE H
1-8" PLUG

℄ SAN. SEW. CV. DATA
PC = 5+10.06
PT = 6+86.11
Δ = 40°6'12"
R = 251.37
T = 91.75
L = 175.94

8" SS

SS-LINE H

WATER LOWERING
INSTALL:
4 - 8" 45° VERTICAL BENDS

SSMH G-2
STA:5+11 SS-LINE G
STA:0+00 SS-LINE H
CONST. STD 4.0' DIA. MH
RIM=637.4

INSTALL:
1 - 8"x8" TEE
2 - 8" GATE VALVES

SSMH G-1
STA:3+82 SS-LINE G
CONST. STD 4.0' DIA. MH
RIM=636.5

STA. 1+26 SS-LINE K
CONST. CLEANOUT

100 YR. FLOODPLAIN

SS-LINE G

SKYFLOWER LANE

WATER LINE NOTE:
9' MIN. HORIZONTAL SEPARATION DIST. BETWEEN ALL WATER LINES AND WW LINES & MANHOLES. CONTRACTOR TO PULL WATER LINE AS NEEDED.

8" WATER

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.
2 - 11 ¼ ° BEND

INSTALL:
2 - 11 ¼ ° BEND

SS-LINE K

SSMH C-6
STA:11+74 SS-LINE C
STA:0+00 SS-LINE K
CONST. STD 4.0' DIA. MH
RIM=636.5

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

SS-LINE C

8" WATER

INSTALL:
1 - 8"x8" CROSS
3 - 8" GATE VALVES

INSTALL:
4 - 8" 45° VERTICAL BENDS

INSTALL:
1 - 8"x8" TEE
2 - 8" GATE VALVES

INSTALL:
1 - 2" IRRIGATION SERVICE
W/ METER BOX

SS-LINE G

SS-LINE C

8" SS

PROP. STORM

℄ SAN. SEW. CV. DATA
PC = 9+84.82
PT = 11+77.71
Δ = 51°38'27"
R = 210
T = 101.61
L = 189.27

SSMH C-7
STA:13+74 SS-LINE C
CONST. STD 4.0' DIA. MH
RIM=637.4

MERIDIAN AVENUE

℄ SAN. SEW. CV. DATA
PC = 13+73.75
PT = 16+72.77
Δ = 28°33'30"
R = 600
T = 152.45
L = 299.06

SSMH C-8
STA:16+73 SS-LINE C
CONST. STD 4.0' DIA. MH
RIM=637.8

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

SSMH J-4
STA:9+61 SS-LINE J
CONST. STD 4.0' DIA. MH

8" WATER

SS-LINE J

EX. 18" WTR

CYPRESS CREEK WAY

CUSHMAN ROAD

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

INSTALL:
1 - 45° BEND
1 - 22 ½ ° BEND

INSTALL:
4 - 8" 45° VERTICAL BENDS

SSMH J-2
STA:4+41 SS-LINE J
CONST. STD 4.0' DIA. MH
RIM=635.9

PROP. STORM

15' DRNG. ESMT.

SSMH C-5
STA:9+85 SS-LINE C
STA:0+00 SS-LINE G
STA:0+00 SS-LINE J
CONST. STD 4.0' DIA. MH
RIM=635.7

HARRISTON STREET

8" WATER

WATER LOWERING
INSTALL:
4 - 8" 45° VERTICAL BENDS

SS-LINE C

SSMH J-1
STA:1+47 SS-LINE J
CONST. STD 4.0' DIA. MH
RIM=636.3

℄ SAN. SEW. CV. DATA
PC = 1+46.90
PT = 4+41.41
Δ = 56°15'17"
R = 300
T = 160.37
L = 294.55

SSMH J-3
STA:7+13 SS-LINE J
CONST. STD 4.0' DIA. MH
RIM=637.2

SKYFLOWER LANE

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

INSTALL:
4 - 8" 45° VERTICAL BENDS

SEE SHEET 07-03

FUTURE GRAHAM NEIGHBORHOOD

FUTURE GRAHAM NEIGHBORHOOD

℄ SAN. SEW. CV. DATA
PC = 16+72.77
PT = 19+44.95
Δ = 17°16'6"
R = 902.96
T = 137.11
L = 272.14

SSMH C-9
STA:19+45 SS-LINE C
CONST. STD 4.0' DIA. MH

SS-LINE C

15' SS ESMT.

INSTALL:
1 - 8" PVC PLUG

REMOVE EX. 8" PLUG & CONN. TO EX. 8" WATER

INSTALL:
1 - 11 ¼ ° BEND

8" WATER

INSTALL:
2 - 11 ¼ ° BEND

INSTALL:
1 - 2" IRRIGATION SERVICE W/ METER BOX
1 - 3/4" IRRIGATION SERVICE W/ METER BOX

PROP. STORM

EX. STORM

WATER LOWERING
INSTALL:
8 - 8" 45° VERTICAL BENDS

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

SSMH J-4
STA:9+61 SS-LINE J
CONST. STD 4.0' DIA. MH

8" WATER

SS-LINE J

EX. 18" WTR

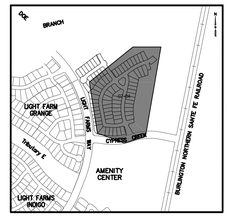
CYPRESS CREEK WAY

CUSHMAN ROAD

INSTALL:
1 - 8"x6" TEE
1 - 8" GATE VALVE
1 - 6" GATE VALVE
1 - F.H.

INSTALL:
1 - 45° BEND
1 - 22 ½ ° BEND

0' 50' 100'
SCALE IN FEET



KEY MAP
N.T.S.

LEGEND

- PROP. SAN SEWER MAIN
- PROP. SAN SEWER LATERAL
- PROP. WATER MAIN
- PROP. WATER SERVICE
- PROP. FIRE HYDRANT
- EX. FIRE HYDRANT
- PROP. SAN SEWER MH
- EX. SAN SEWER MH
- PROP. WATER VALVE
- EX. WATER VALVE
- EX. SAN SEWER MAIN
- EX. WATER MAIN

BENCHMARKS:

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E=2488067.050
Elev.=633.00

STATE OF TEXAS
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LIGHT FARMS

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SCALE: 1 " = 50'
DATE: 1-30-2015
SHEET No. 07–04

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C704.dwg USER: aloeffel
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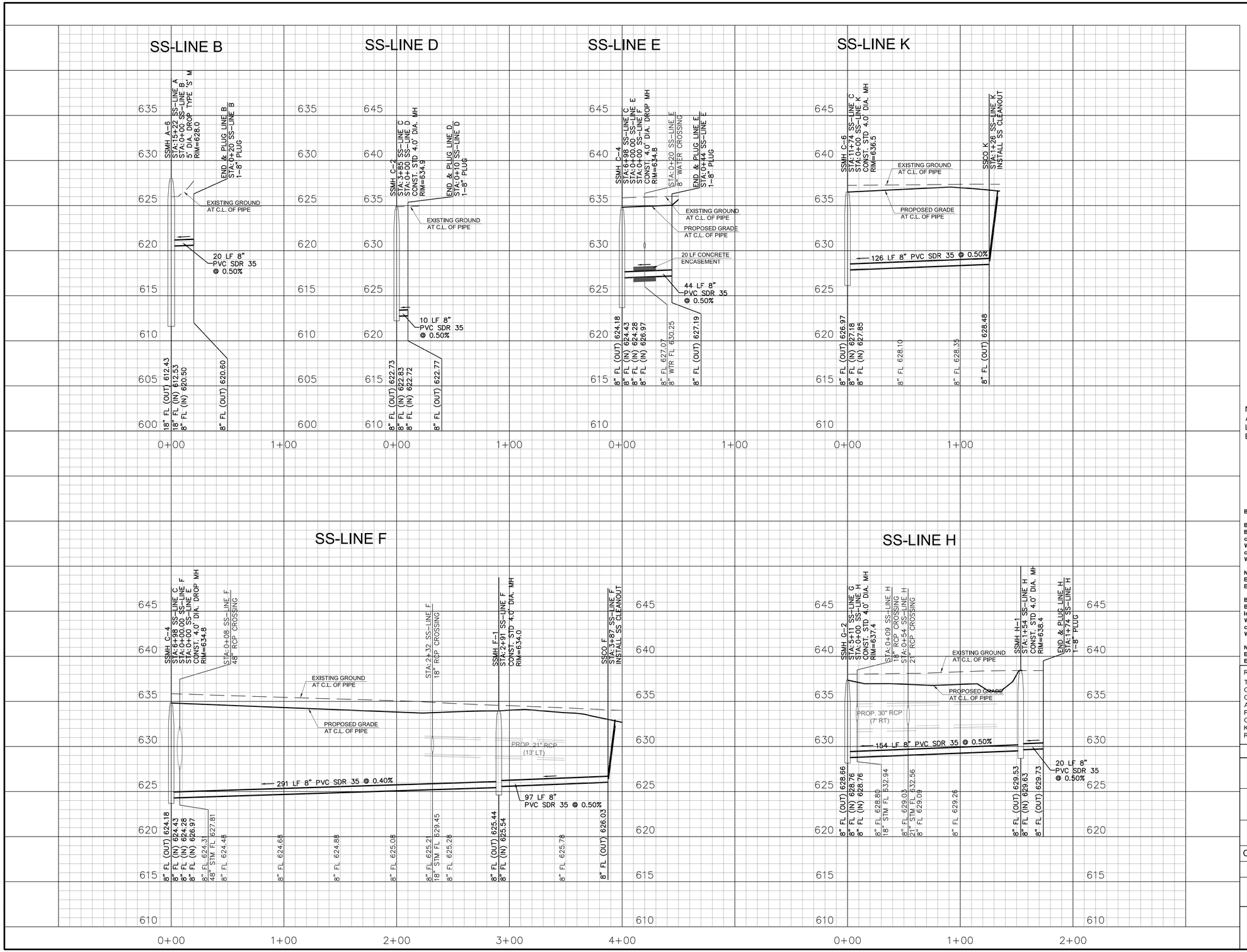
P-201405-06



0' 40' 80'
SCALE IN FEET

NOTE:
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E=2488067.050
Elev.=633.00

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LIGHT FARMS

SANITARY SEWER PROFILES LINES 'B', 'D', 'E', 'F', 'H', 'K'

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SCALE 1" = 40'
DATE 1-30-2015
SHEET No. 07-05

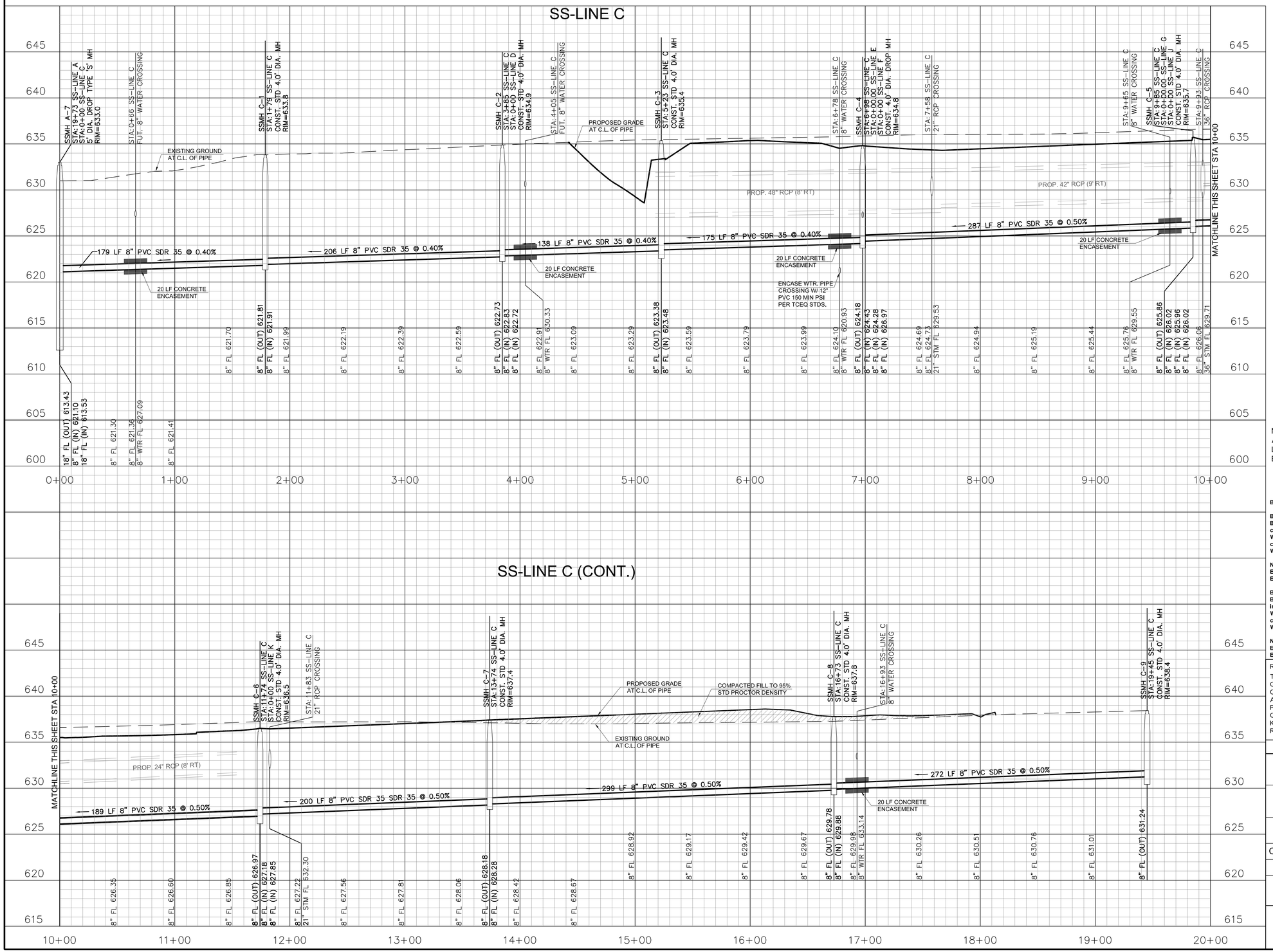
CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C705.dwg USER: aloeffel
DATE: Feb 02, 2015 1:55pm XREFS: 01390541-C-BD-A 01390541-C-SS-A

CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\cad\c3d\sheets\01390541-c705.dwg

P-201405-06

SS-LINE C



SS-LINE C (CONT.)

0' 40' 80'
SCALE IN FEET

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Firm Registration No. F-761

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LIGHT FARMS

SANITARY SEWER PROFILE LINE 'C'

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

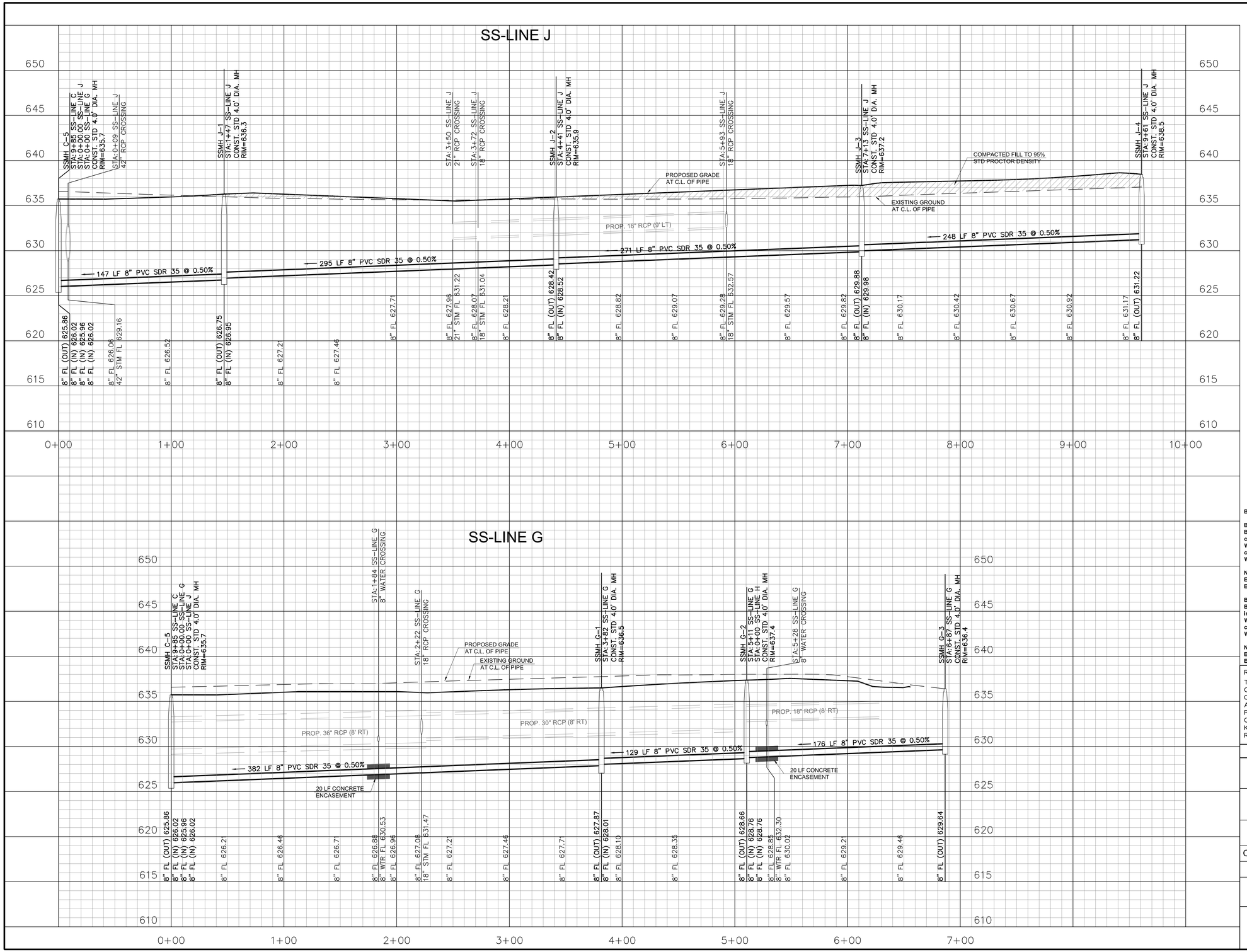
SCALE: 1" = 40'
DATE: 1-30-2015
SHEET No. 07-06

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C705.dwg USER: aloeffel
DATE: Feb 02, 2015 1:56pm XREFS: 01390541-C-BD-A 01390541-C-SS-A

CAD FILE PATH: I:\proj\01390501\01390541_par_5_6\08_design\civil\c3d\sheets\01390541-c705.dwg

P-201405-06



BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
90145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

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LIGHT FARMS

SANITARY SEWER PROFILES LINES 'G' & 'J'

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(THE GRAHAM NEIGHBORHOOD)

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SCALE	SHEET No.
1" = 40'	07-07
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

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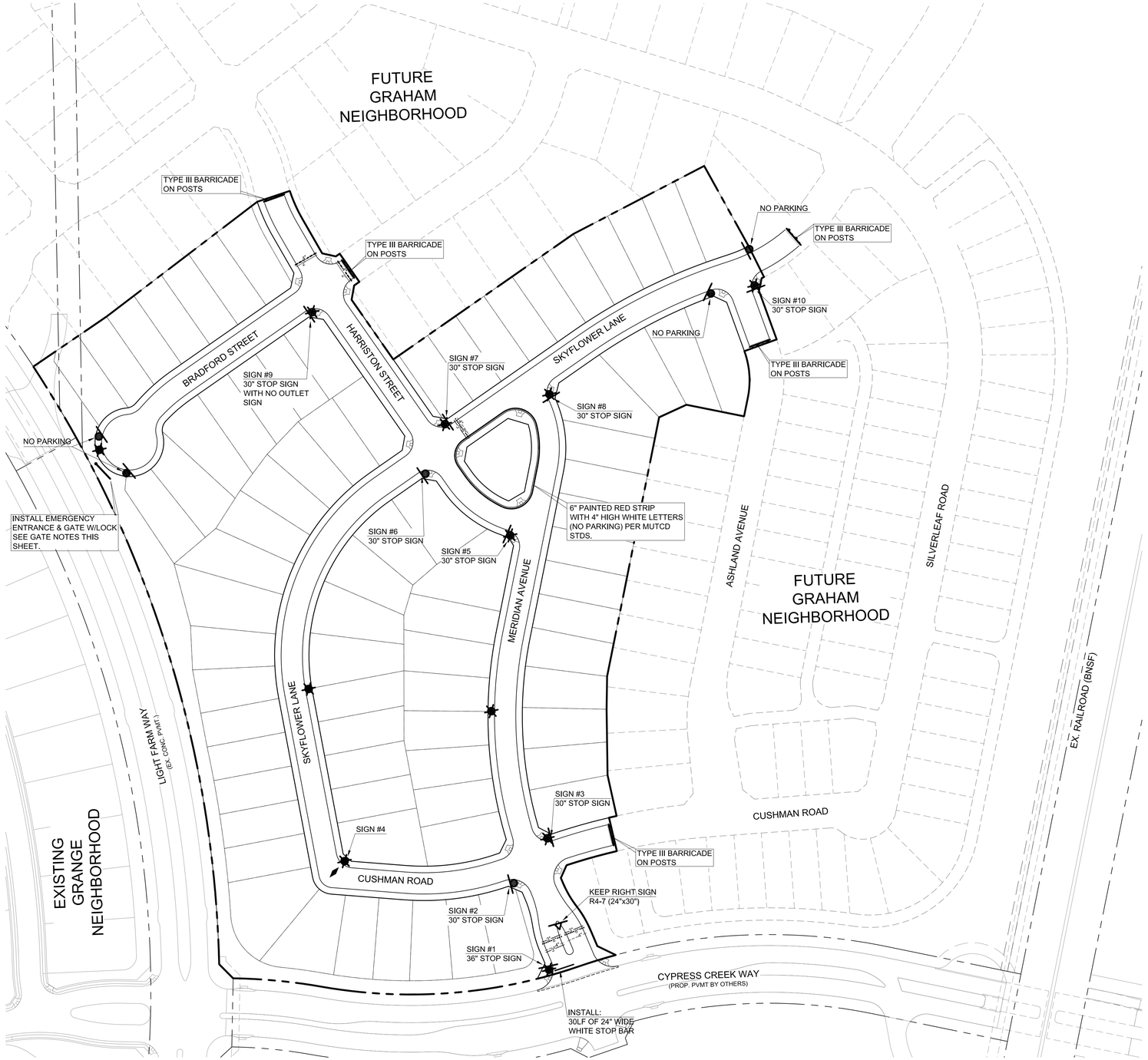
P-201405-06



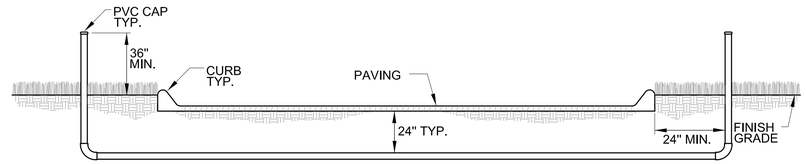
LEGEND

- STOP SIGN ON 11'-10" CONC. POLE
- STREET LIGHT (BY OTHERS)
- REGULATORY SIGN
- STOP SIGN ON LIGHT POLE (POLE BY OTHERS)
- SIGN # CORNER ID FOR STREET NAME BLADES
- —2"— 2" IRRIGATION SLEEVE
- —3"— 3" IRRIGATION SLEEVE
- --4"-- 4" ELECTRICAL SLEEVE
- --4"-- 4" IRRIGATION SLEEVE
- ···8"··· 8" IRRIGATION SLEEVE

N

0 80' 160'
SCALE IN FEET

Blade #1 36x6" 2-Sided Sign Blade					Blade #2 36x6" 2-Sided Sign Blade			
Sign Key	Block No. (South)	Name	Suffix	Block No. (North)	Block No. (West))	Name	Suffix	Block No. (East)
1		MERIDIAN	AVENUE	3600	1200	CYPRESS CREEK	WAY	1100
2	3600	MERIDIAN	AVENUE	3500	1200	CUSHMAN	ROAD	1100
3	3600	MERIDIAN	AVENUE	3500	1200	CUSHMAN	ROAD	1100
4		SKYFLOWER	LANE	1300		CUSHMAN	ROAD	1200
5	3500	MERIDIAN	AVENUE	3400	3400	HARRISTON	STREET	
6	3400	HARRISTON	STREET	3400	1200	SKYFLOWER	LANE	1100
7	3400	HARRISTON	STREET	3400	1200	SKYFLOWER	LANE	1100
8	3400	MERIDIAN	AVENUE		1100	SKYFLOWER	LANE	1100
9	3400	HARRISTON	STREET	3300	1200	BRADFORD	STREET	1100
10	3400	ASHLAND	AVENUE		1100	SKYFLOWER	LANE	1000

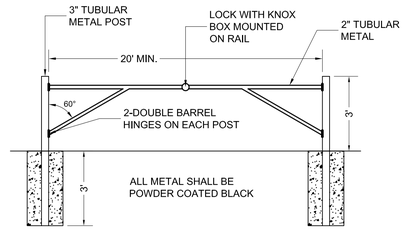


SLEEVING DETAIL

SLEEVING NOTES:
1. ALL PVC PIPE TO BE CLASS 200.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATER TIGHT.
3. MECHANICAL TAMP TO 95% PROCTOR.
4. MIN. CLEARANCE BETWEEN UTILITIES SHALL BE 6".
5. ALL SLEEVING TO BE SIZED AS NOTED (LANDSCAPE-IRRIG.)

GATE NOTE:
1. THE MINIMUM GATE WIDTH SHALL BE 20 FEET.
2. GATES SHALL BE HINGED TO SWING OPEN.
3. GATES SHALL BE CONSTRUCTED OF MATERIALS TO BE OPERATED BUY ONE PERSON.
4. GATES SHALL BE LOCKED WITH A PADOCK OR CHAIN AND PADLOCK. KEYS FOR OPENING THE GATE SHALL BE INSTALLED AT THE GATE LOCATION.
5. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.

NOTE TO CONTRACTOR:
1. ALL SIGNAGE IS TO BE MANUFACTURED AND INSTALLED PER CITY AND MUTCD STANDARDS.



GATE DETAIL

BENCHMARKS:

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STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

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LIGHT FARMS

STREET SIGN PLAN

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SCALE	SHEET No.
1" = 80'	08-01
DATE	
1-30-2015	

CAD FILE PATH: I:\proj\01390501\01390541_pw_5_0106_design\cad\c3d\sheets\01390541-c801.dwg

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

P-201405-06

Cast Aluminum Backplate Highlights:

Heavy cast aluminum design with 1" wide and ¼" thick raised border.

Designed to accept D.O.T. standard street signs in sizes and shapes below.

Easy installation on 3", 4" or 5" O.D., straight, round poles, with no alterations to pole, with two (2) of our 3", 4" or 5" mounting collars.

Installation on 3", 4" or 5" O.D., tapered round poles, may be accomplished by using our 3", 4" or 5" mounting collars with extra setscrews for leveling.

All Stainless Steel hardware

Durable Powder coat finish, (Medium Gloss Black Polyester, Standard).

Custom colors available.

18" Stop Signs available for golf course cart path application.*

Applied Vinyl, aluminum, D.O.T. standard, street signs are available but not included. **(See our "SIGN" section)**

Ordering Information:

Sample catalog number
#TSC-24x24-D-4S-BLK

Type	Size	Orientation	Mounting	Color
TSC	24x24	D	4S	BLK

Stop Sign - Cast Aluminum Back plate, with two mtg. collars:

Type & Nominal Size	Actual size of Stop Sign
STC-18	18" (For Golf Courses Only)
STC-24	24"
STC-30	30"
STC-36	36"

Traffic Sign - Cast Aluminum Back plate with two mtg. collars:

Type & Nominal Size	Actual size of Sign
TSC-6x12	6" x 12" (Needs only one mtg. collar)
TSC-12x18	12" x 18"
TSC-18x18	18" x 18"
TSC-18x24	18" x 24"
TSC-24x24	24" x 24"
TSC-24x30	24" x 30"
TSC-30x30	30" x 30"

Orientation of Traffic Sign

D	Diamond

Yield Sign - Cast Aluminum Back plate, with two mtg. collars:

Type & Nominal Size	Actual size of Sign
YDC-30	30"
YDC-36	36"

Mounting collar size and type

3S	Two 3" Mounting Collars for 3" straight pole
4S	Two 4" Mounting Collars for 4" straight pole
5S	Two 5" Mounting Collars for 5" straight pole
3T	Two 3" Mounting Collars for tapered pole
4T	Two 4" Mounting Collars for tapered pole
5T	Two 5" Mounting Collars for tapered pole
6.5T	Two 6.5" x 2" Mounting collars for tapered poles
BOS	Two Bolt or strap on brackets for any pole

Colors

BLK	Medium Gloss Black Polyester (Standard)
BLKP	Medium Gloss Black Polyester, Orange Peel Texture.
RAL-6012	Dark Green Polyester
WHT	White Polyester
CC	Custom Colors.

Notes
1. Contact us for pricing.
2. Mounting collars are shipped in separate, individual boxes.
3. Applied Vinyl, aluminum, D.O.T. standard, street signs are available but not included. **(See our "SIGN" section)**
4. Tapered poles must be accurately measured at of mounting points. Next size collar must be used when pole diameter is larger than standard size.

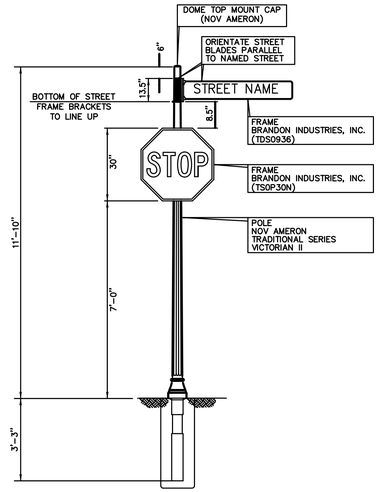
Celina Street Sign Example

Street Name: 6" initial uppercase letter followed by 4.5" lowercase letters
Must meet 2009 (or latest) MUTCD requirements
9" flat blank, high intensity prismatic

Front: (Left to Right)

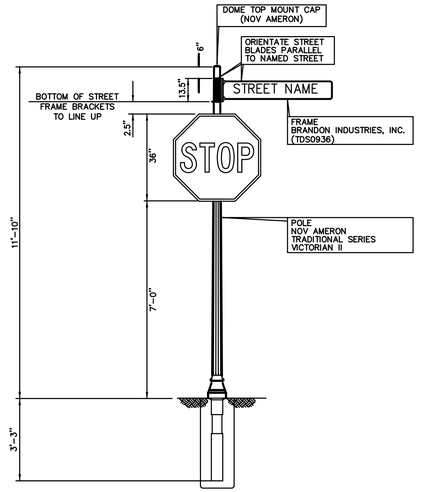
NOTE:
USE NEW CELINA LOGO

Back: (Left to Right)



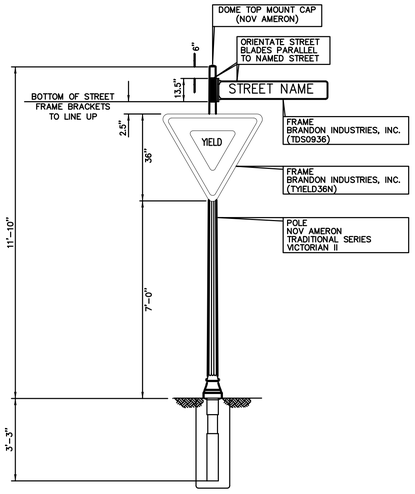
TYPICAL SIGN & POLE DETAIL
30" STOP SIGN
NTS

NOTE:
USE MANUFACTURERS INSTALLATION GUIDELINES AND PROCEDURES. (PER CITY APPROVAL)



TYPICAL SIGN & POLE DETAIL
36" STOP SIGN
(Cypress Creek Way At Frontier Parkway)
NTS

NOTE:
USE MANUFACTURERS INSTALLATION GUIDELINES AND PROCEDURES. (PER CITY APPROVAL)



TYPICAL SIGN & POLE DETAIL
36" X 36" YIELD SIGN
NTS

NOTE:
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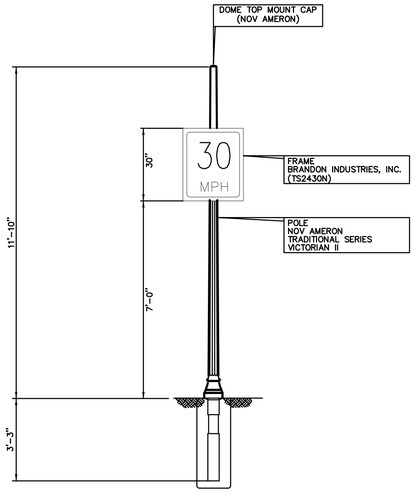

TYPICAL SIGN & POLE DETAIL
24" X 30" SPEED LIMIT SIGN
NTS

NOTE:
USE MANUFACTURERS INSTALLATION GUIDELINES AND PROCEDURES. (PER CITY APPROVAL)

MANUFACTURERS

BRANDON INDUSTRIES, INC.
1601 W. WILMETH ROAD
MCKINNEY, TEXAS
75069-8250
PHONE: 1-800-247-1274

NOV AMERON
SOUTH CENTRAL DIVISION
8505 CLAY HIBBINS ROAD
KELLER, TEXAS
76248
PHONE: 817-999-6867

SPECIFICATIONS ARE NOT MEANT TO EXCLUDE ANY OTHER MANUFACTURER. ANY SPECIFICATION MAY BE REPLACED WITH AN APPROVED EQUAL UPON APPROVAL BY THE CITY OF CELINA.

BENCHMARKS:

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LIGHT FARMS

SIGN DETAILS

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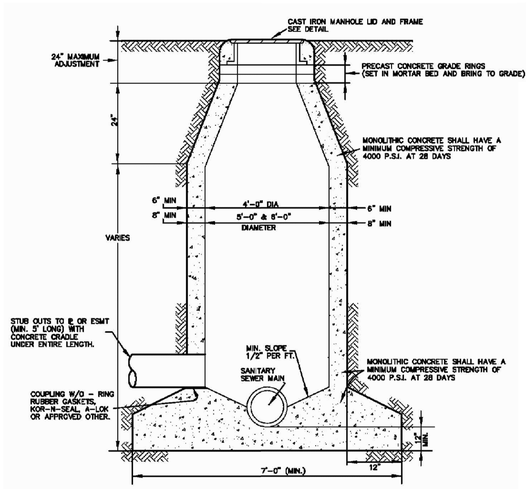
SCALE	SHEET No.
DATE 1-30-2015	09-01

CAD FILE PATH: I:\pro\01390501\01390541_Por_5_6\08_Design\CAD\C3D\SHEETS\01390541-C901.dwg

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41



NOTES:
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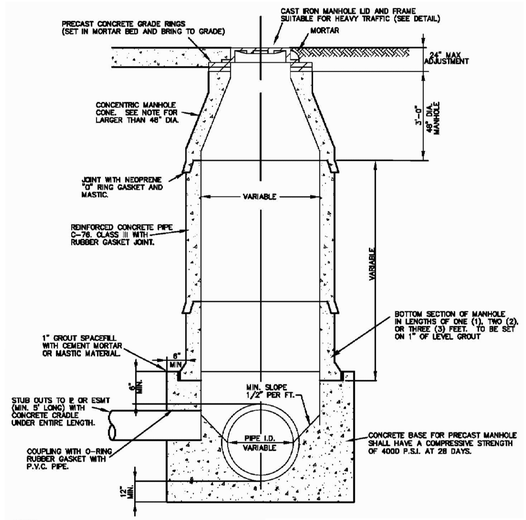
2. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN TWENTY-FOUR INCHES (24") ABOVE THE OUTFALL ELEVATION.

3. WHERE PIPES ENTER A MANHOLE THERE SHALL BE A MINIMUM OF TWO-TENTHS OF A FOOT (0.2') DROP BETWEEN INVERTS.

4. WHERE UNEQUAL PIPES ENTER A MANHOLE, THE CROWN OF THE PIPES SHALL BE SET AT THE SAME ELEVATION.

5. CONCRETE SHALL BE A MONOLITHIC POUR.

STANDARD CAST IN PLACE MANHOLE
(NTS)



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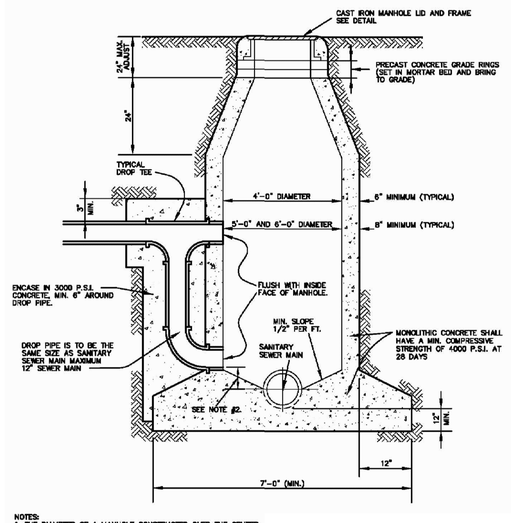
STANDARD PRECAST MANHOLE
(NTS)



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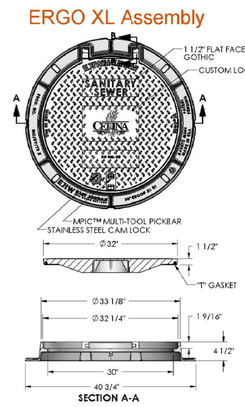
2. FLOWLINE OF DROP SHALL BE LOCATED BETWEEN THE CENTERLINE AND TOP OF SEWER MAIN.

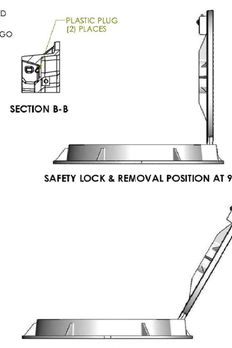
3. WHERE PIPES ENTER A MANHOLE THERE SHALL BE A MINIMUM OF TWO-TENTHS OF A FOOT (0.2') DROP BETWEEN INVERTS.

4. WHERE UNEQUAL PIPES ENTER A MANHOLE, THE CROWN OF THE PIPES SHALL BE SET AT THE SAME ELEVATION.

5. CONCRETE SHALL BE A MONOLITHIC POUR.

MANHOLE DROP CONNECTION
(NTS)





Product Number
NPR12-1865A
Design Features
-Materials
Cover
Ductile Iron (80-55-06)
Frame
Ductile Iron (80-55-06)

-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface
-Slip Resistant Surface with the LLLL® registered trademark

Certification
-ASTM A536
-
-Country of Origin: USA

Major Components
LC0014BOX/
LF3008/34073

Drawing Revision
6/18/2013 Designer: SDC
2/10/2012 Revised By:

Disclaimer
Weights (Design), dimensions (pictured/nominal), and specifications are subject to change and EJ reserves the right to modify specifications without prior notice.

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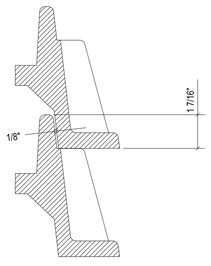
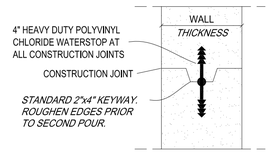
Contact
800.626.4653
ejco.com

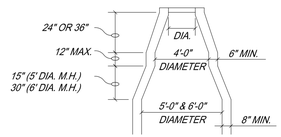
BASS & HAYS 30 INCH MANHOLE COVER AND FRAME
NTS



STACK DETAIL
(NTS)



MANHOLE CONSTRUCTION JOINT
KEYWAY WITH WATERSTOP



CONE TRANSITION
5' & 6' DIAMETER MANHOLES ONLY

MANHOLE CONE NOTE:
FOR MANHOLES WITH DIAMETER LARGER THAN 48" I.D., A PRE-CAST FLAT TOP MANHOLE COVER AS PER A.S.T.M. C478 SHALL BE INSTALLED.

BENCHMARKS:

BM #81
Brass monument set on top of curb, east side of Light Farms Way, 185± feet south from the centerline of Cypress Creek Way.

N=7152197.409
E=2488102.503
Elev.=632.00

BM #82
Brass monument set on curb inlet, east side of Light Farms Way, 450± feet north from the centerline of Cypress Creek Way.

N=7152823.378
E=2488067.050
Elev.=633.00

STATE OF TEXAS
ROBERT M. STENGELE
50145
REGISTERED
PROFESSIONAL ENGINEER
1-30-15

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING:
THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGED AND ADJUSTMENTS MAE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THERE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" CONDITIONS.

LIGHT FARMS

SANITARY SEWER MANHOLE DETAILS

PHASE FOUR
(THE GRAHAM NEIGHBORHOOD)

COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO.1

COLLIN COUNTY, TEXAS

LFC LAND COMPANY, LLC
8401 North Central Expressway, Suite 350, Dallas, Texas 75225
Phone (214) 292-3410 Fax (214) 292-3411

HUITT-ZOLLARS
Huitt-Zollars, Inc. Dallas
1717 McKinney Avenue, Suite 1400
Dallas, Texas 75202-1236
Phone (214) 871-3311 Fax (214) 871-0757

SCALE	SHEET No.
1" = 80'	09-02
DATE	
1-30-2015	

CITY PROJECT NUMBER: P201405-06 PROJECT NUMBER: 01-3905-41

DWG: I:\proj\01390501\01390541_Par_5_6\08_Design\CAD\C3D\SHEETS\01390541-C902.dwg USER: aleefiel
DATE: Feb 02, 2015 1:59pm XREFS: 01390541-C-BD-A
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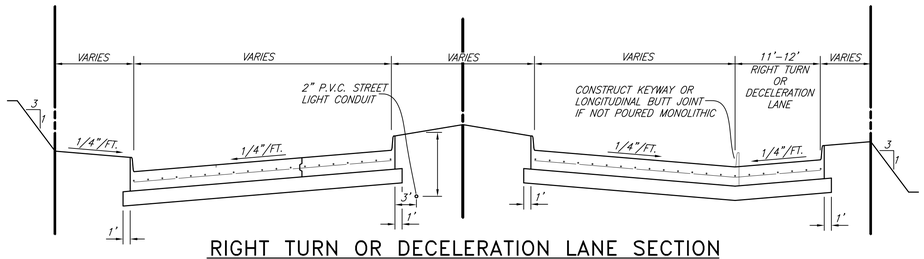
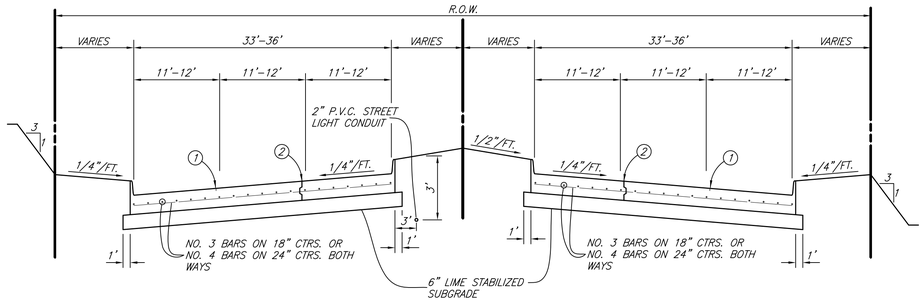


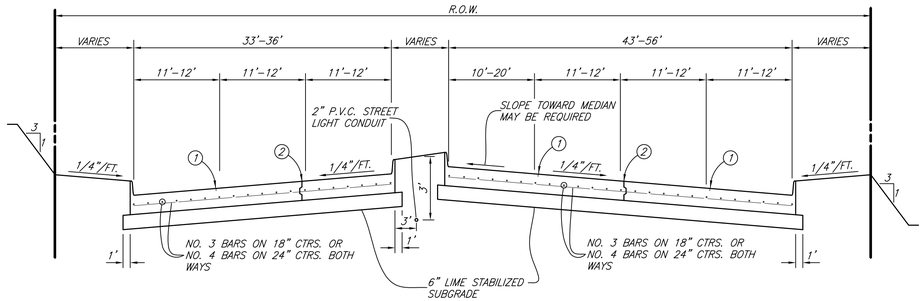
RIGHT TURN OR DECELERATION LANE SECTION



REGULAR SECTION

M6D & P6D

(REG_SECT)



LEFT TURN SECTION

(LTURN_SECT)

LEGEND

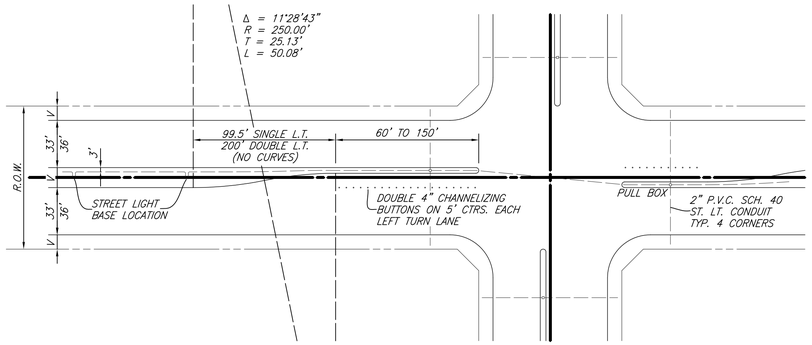
① – SAWED LONGITUDINAL DUMMY JOINT

A. CONSTRUCTION JOINT (FULL WIDTH PVMT. IS ALLOWED WHERE APPROVED BY CITY).

② – B. DELETE IT WHEN PAVING IS 25 FT. WIDTH TO BE WIDENED IN FUTURE.

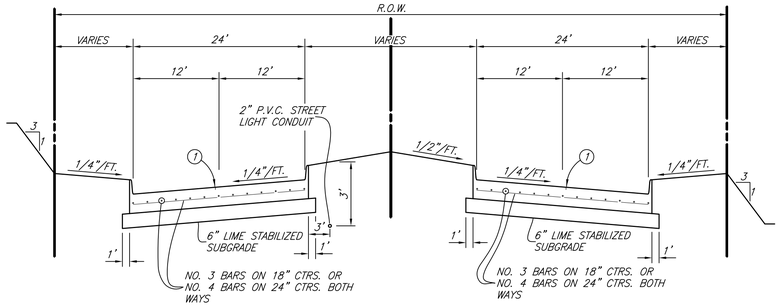
C. INSTALL CURB IF PAVING IS LESS THAN FULL WIDTH OF 33'-36'.

(LEGNED_PVMT)



LEFT TURN PLAN

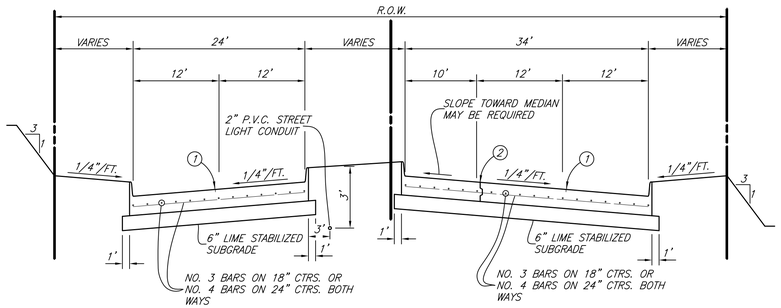
(PVMT-PLAN)



REGULAR SECTION

M4D

(REG_SECT2)



LEFT TURN SECTION

NOTE:
FOR RETROFIT TURN LANES AND MEDIAN OPENINGS. TWO ADDITIONAL INCHES OF CONCRETE CAN BE PLACED IN LIEU OF LIME STABILIZATION.

(LTURN_SECT2)

M60, P60, M4D SECTIONS SHALL HAVE MINIMUM PAVEMENT THICKNESS OF 8 INCHES.

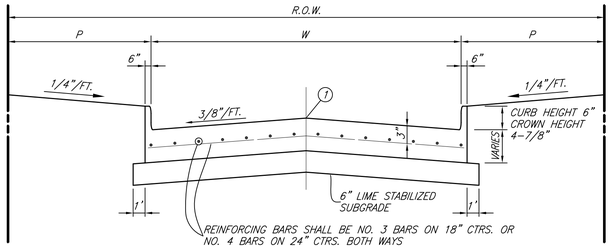
LIME STABILIZED SUBGRADE – THE RATE OF HYDRATED LIME SHALL BE 7 1/2% BY UNIT DRY WEIGHT OR THAT PERCENT TO REDUCE THE SOIL P.I. TO LESS THAN 15. CONTRACTOR TO PROVIDE CITY WITH LIME SERIES TEST TO DETERMINE THE OPTIMUM LIME CONTENT.

CITY OF CELINA, TEXAS

PAVING

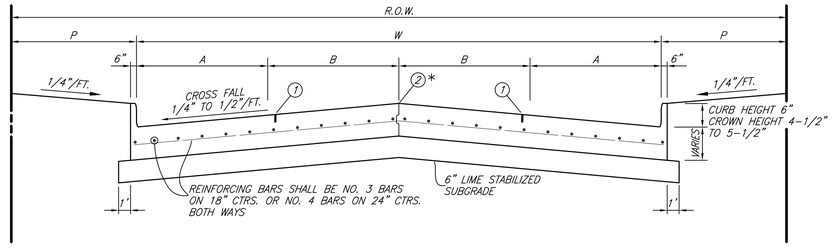
STANDARD DETAILS – 09–03

P-201405-06



REGULAR SECTION

R2U
C2U



REGULAR SECTION

C4U
M4U
M5U

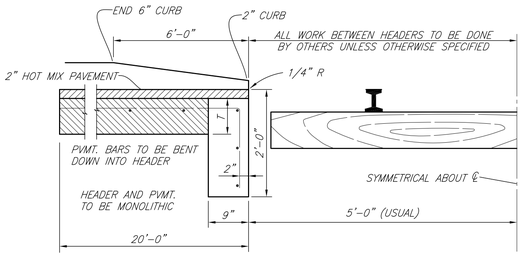
(PARA_SECT)

LEGEND

① – SAWED LONGITUDINAL DUMMY JOINT

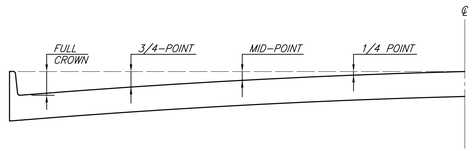
② – CONSTRUCTION JOINT (FULL WIDTH PVMT. IS ALLOWED WHERE APPROVED BY CITY)

(LEGEND_PVMT2)



RAIL HEADER

(RR-HEADER)



ROADWAY WIDTH (W)	TOTAL CROWN HEIGHT	3/4 POINT	MID-POINT	1/4 POINT
26'	4"	2-1/4"	1"	1/4"
36'	6"	3-3/8"	1-1/2"	3/8"
44'	6"	3-3/8"	1-1/2"	3/8"

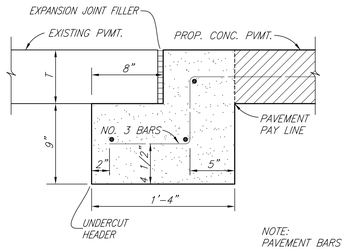
TABLE OF CROWN HEIGHTS AND ORDINATES FOR VARIOUS PARABOLIC SECTIONS

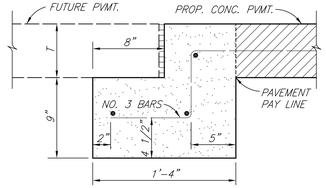
SLIP-FORM PAVEMENT MUST MEET CROWN GRADES AT GUTTERS, AT MID-POINTS & ℄

PARABOLIC ROADS ONLY TO BE CONSTRUCTED WITH SLIP FORM PAVERS

(PARA-TABLE)

R2U, C2U, C4U, M4U & M5U PAVING SECTIONS SHALL HAVE A MINIMUM PAVEMENT THICKNESS OF 6 INCHES.

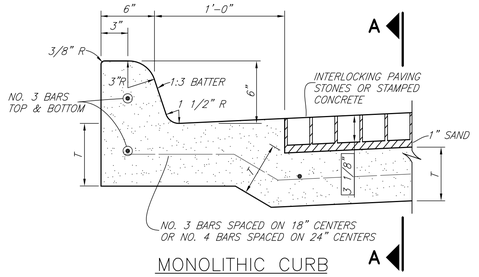




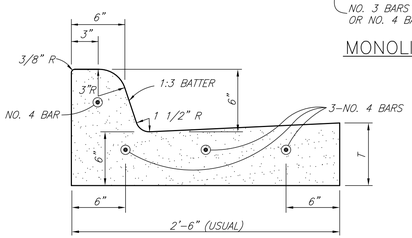
NOTE:
PAVEMENT BARS TO BE BENT DOWN INTO HEADER. PAVEMENT AND HEADER SHALL BE MONOLITHIC.

STREET HEADER

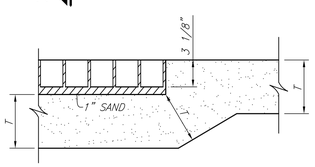
(HEADER)



MONOLITHIC CURB



SEPARATE CURB AND GUTTER

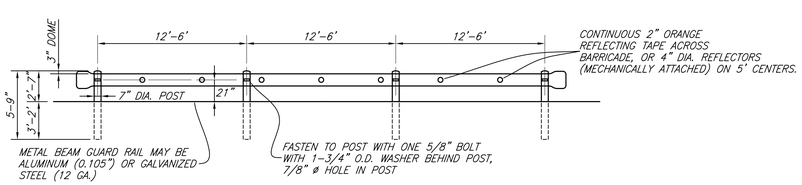


SECTION A-A

PAVING STONES SHALL BE PER NCTCOG ITEMS 2.3.7 AND 5.8 OF SPECIAL PROVISIONS

CURB AND CURB AND GUTTER

(CURB-GUT)



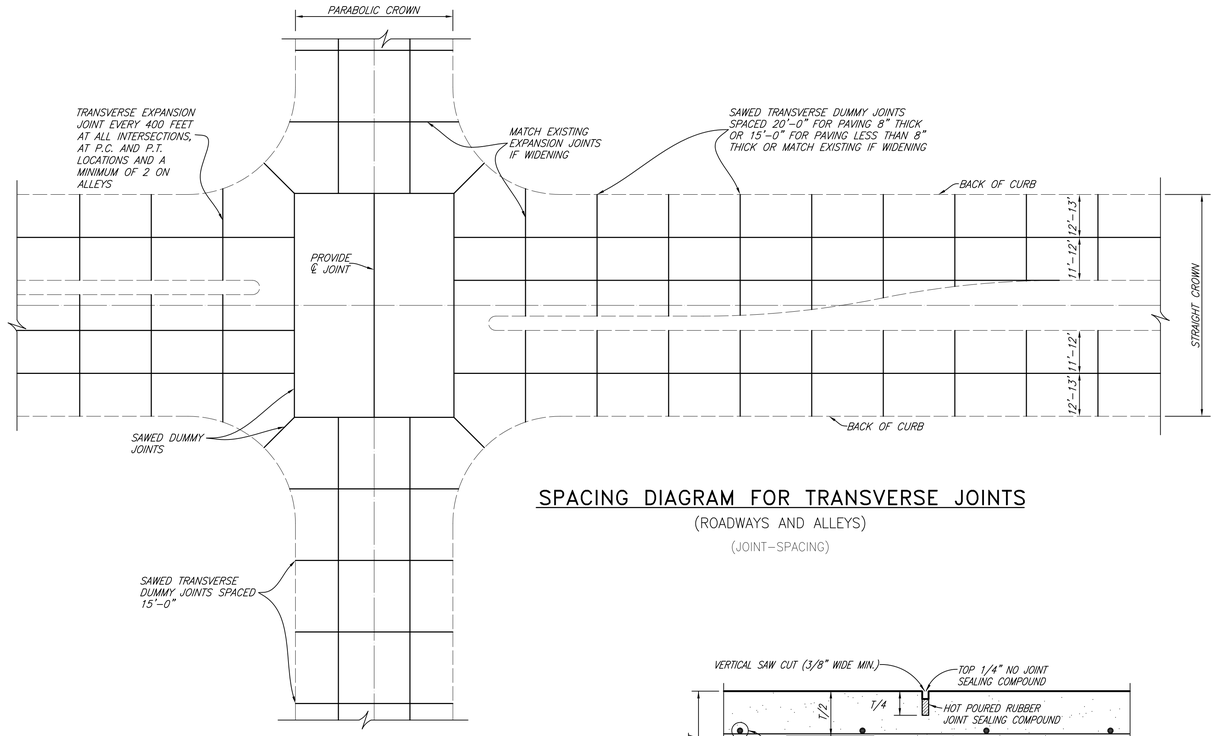
NON CONSTRUCTION BARRICADES (PERMANENT BARRICADES) SHALL CONSIST OF TxDOT GF(TD)-87 METAL BEAM GUARD FENCE WITH TERMINAL CONNECTOR SECTIONS AT EACH END. PERMANENT BARRICADES SHALL BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH TxDOT DETAILS. BARRICADE SHALL EXTEND FROM OUTSIDE CURB TO OUTSIDE CURB.

TYPICAL PERMANENT BARRICADE DETAIL

(PERM-BARRICADE)

CITY OF CELINA, TEXAS

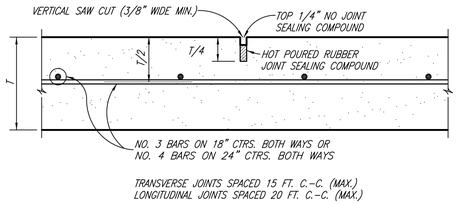
PAVING
STANDARD DETAILS – 09-04



SPACING DIAGRAM FOR TRANSVERSE JOINTS

(ROADWAYS AND ALLEYS)

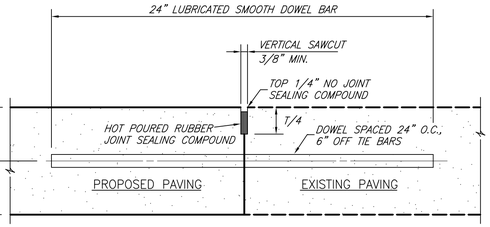
(JOINT-SPACING)



TRANSVERSE JOINTS SPACED 15 FT. C.-C. (MAX.)
LONGITUDINAL JOINTS SPACED 20 FT. C.-C. (MAX.)

SAWED DUMMY JOINT

(DUMMYJNT)

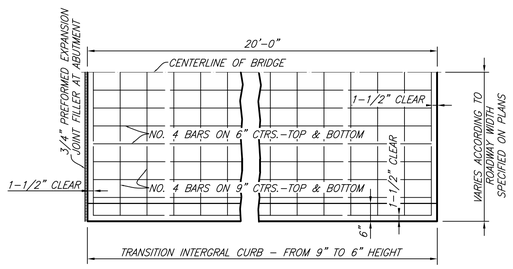


NOTE:

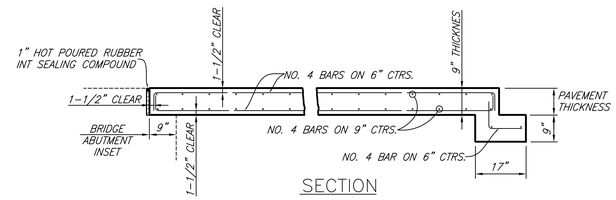
1. T-8" AND GREATER NO. 6 BAR, T-6" AND LESS NO. 5 BAR
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. HAND DRILLING NOT ACCEPTABLE. DAMAGE TO EXISTING PAVEMENT SHALL BE REMOVED BY CONTRACTOR AND JOINT CONSTRUCTED AT CONTRACTORS EXPENSE.
4. DOWEL BAR SHOWN IS IN ADDITION TO TIE BARS (12" O.C.-6" OFF DOWELS).
5. TIE BARS SHALL BE NO. 5 BAR DEFORMED. TIE BAR SHALL HAVE A LENGTH OF 24 INCHES.

LONGITUDINAL BUTT JOINT

(BUTTJNT)



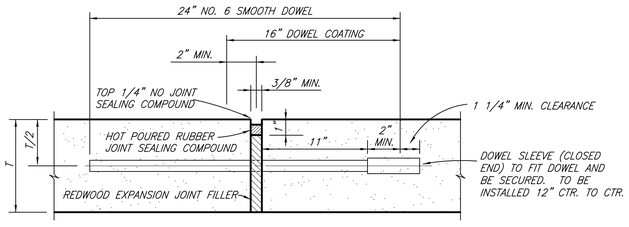
PLAN



SECTION

BRIDGE APPROACH SLAB

(APPROACHSLAB)

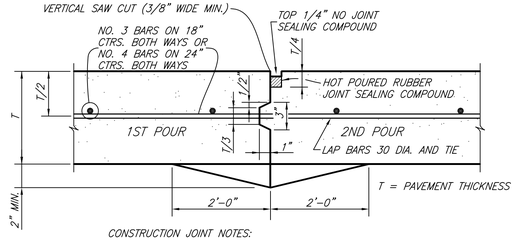


TRANSVERSE EXPANSION JOINT NOTES:

1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.
2. TRANSVERSE EXPANSION JOINTS SHALL BE SPACED AT 400 FT. MAXIMUM AND AT ALL INTERSECTIONS.

TRANSVERSE EXPANSION JOINT

(EXPJNT)



CONSTRUCTION JOINT NOTES:

1. CONTRACTOR SHALL PROTECT KEYWAY PRIOR TO SECOND POUR. IF LONGITUDINAL KEYWAY IS DAMAGED, CONTRACTOR SHALL REPAIR WITH THE USE OF LONGITUDINAL BUTT JOINT (DRILL DOWELS INTO FIRST POUR).
2. THICKENED EDGES ARE REQUIRED FOR FUTURE WIDENING ONLY.

CONSTRUCTION JOINT

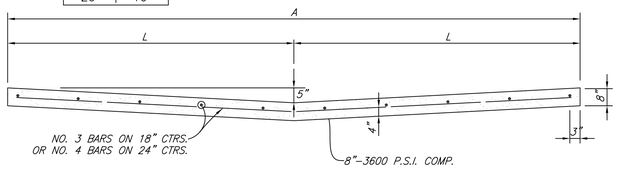
(CONSTJNT)

CITY OF CELINA, TEXAS

PAVING

STANDARD DETAILS - 09-05

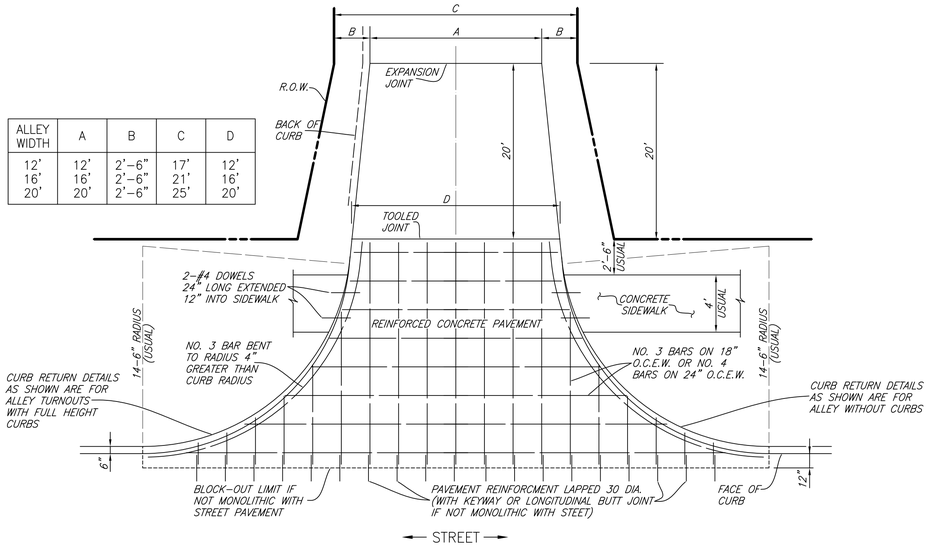
ALLEY WIDTH (A)	HALF WIDTH (L)
12'	6'
16'	8'
20'	10'



STANDARD 12, 16' & 20' ALLEY SECTION

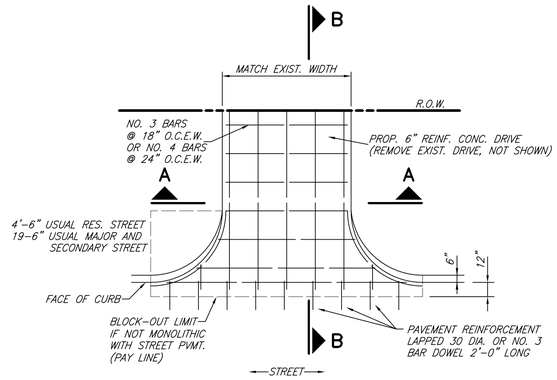
(STDALLEY2)

ALLEY WIDTH	A	B	C	D
12'	12'	2'-6"	17'	12'
16'	16'	2'-6"	21'	16'
20'	20'	2'-6"	25'	20'

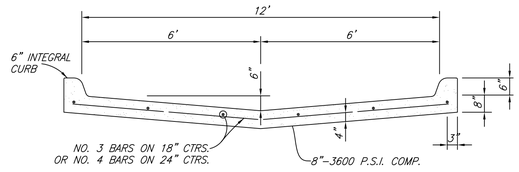


ALLEY RETURN DETAILS

(ALLEY_DTL)



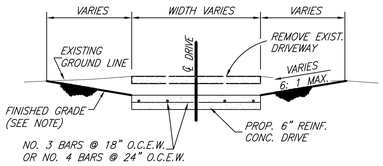
DRIVEWAY RETURN TO STREET



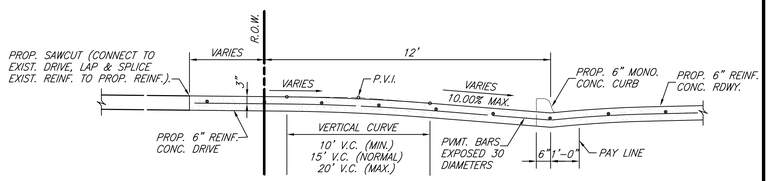
STANDARD ALLEY SECTION WITH CURBS

(STDALLEY)

NOTE:
FINISHED GRADING WITHIN THE R.O.W. SHALL BE BROADCAST SEEDED. WHERE PROPOSED DRIVEWAY CONSTRUCTION GOES BEYOND THE R.O.W. AND INTO PRIVATE PROPERTY, THE FINISHED GRADING SHALL BE BLOCK SODDED TO RESTORE THE LANDSCAPING TO ITS PRE-CONSTRUCTION APPEARANCE.



SECTION A-A



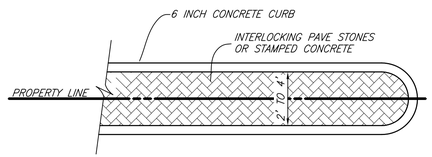
SECTION B-B

DRIVEWAY RETURN SECTIONS

(DRIVEDTL)

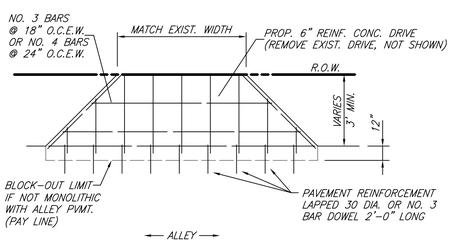
TYPICAL DRIVE OR STREET CONNECTION TO EXISTING ASPHALT STREET

(DRIVE_CON)



MEDIAN AT DRIVEWAYS SPLIT BY PROPERTY LINE

(DRIVEDTL3)



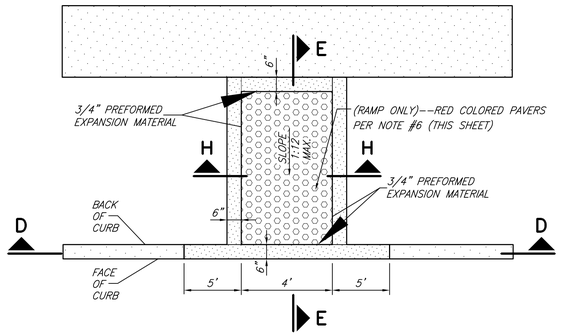
DRIVEWAY RETURN TO ALLEY

(DRIVEDTL2)

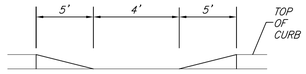
CITY OF CELINA, TEXAS

PAVING

STANDARD DETAILS – 09-06

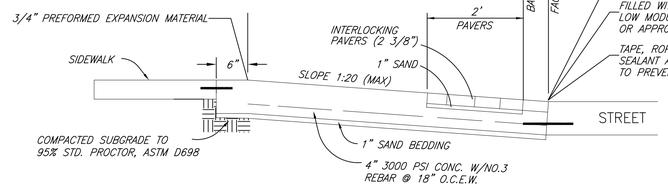


BARRIER FREE RAMP @ STRAIGHT CURB



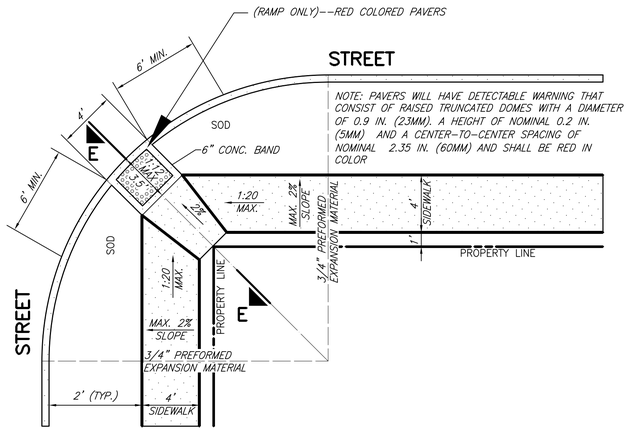
SECTION D–D

SECTION H–H

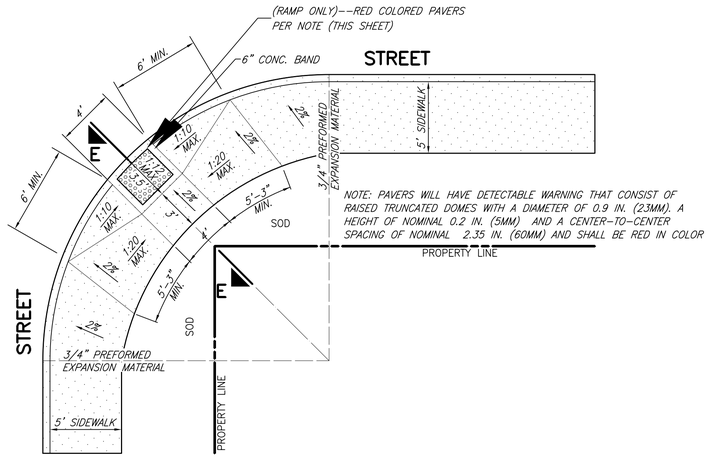


SECTION E–E

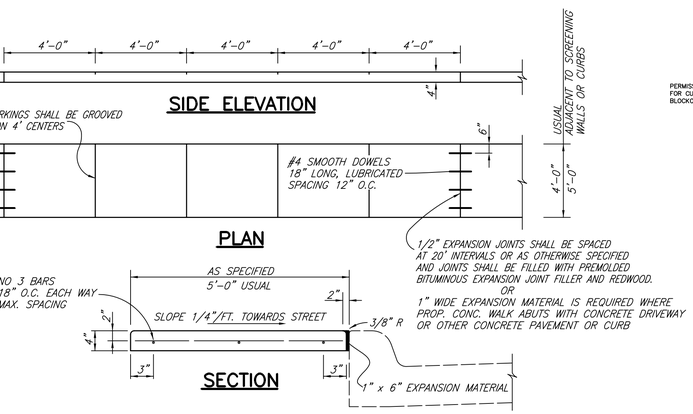
(BARRIER_FREE)



RAMP FOR 4 FEET SIDEWALK AWAY FROM CURB

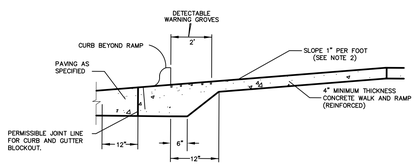


RAMP FOR 5 FEET SIDEWALK NEXT TO CURB



REINFORCED CONCRETE SIDEWALK

(SIDEWALK)

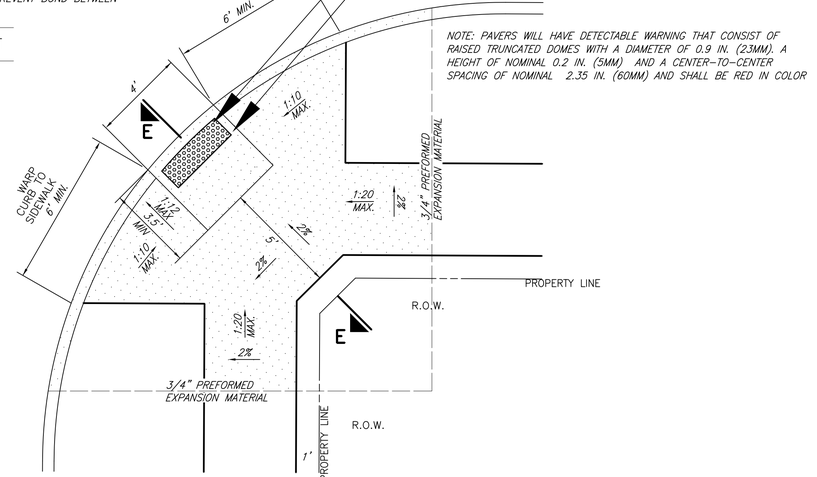


BARRIER FREE RAMP
TYPICAL SECTION THRU RESIDENTIAL RAMP
NTS

GENERAL NOTES:

1. BARRIER FREE RAMPS SHALL BE CONSTRUCTED AS EXTENSIONS OF STANDARD CONCRETE SIDEWALKS EXCEPT AS NOTED IN THESE DETAILS.
2. MAXIMUM SLOPE ON BARRIER FREE RAMPS SHALL NOT EXCEED 1" PER FOOT AT ANY LOCATION.
3. DESIGNS SHOWN ARE FOR 6" CURBS. FOR CURBS WITH HEIGHT GREATER THAN 6", DIMENSIONS SHALL BE INCREASED PROPORTIONATELY.
4. STREETS ON STEEP GRADE WILL REQUIRE LONGER TRANSITIONS ON UPGRADE SIDE.
5. LOCATION OF BARRIER FREE RAMP MAY BE SHIFTED TO CLEAR OBSTRUCTIONS WITH THE APPROVAL OF THE CITY ENGINEER.
6. ACCESS RAMP FROM STREET GRADE SHALL HAVE DETECTABLE WARNING GROVES THAT SHALL BE 1/4" TO 3/4" WIDE, 1/8" DEEP, SPACED 2" APART.
7. ALL LANDINGS ARE TO BE 5'X5' AREAS WITH 2% (MAX) SLOPES IN ANY DIRECTION

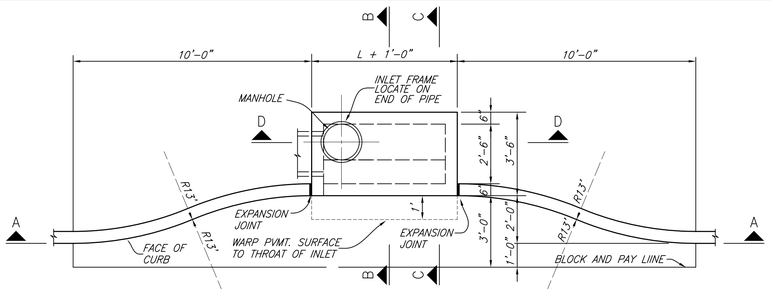
RAMP WITH DOMES



BARRIER FREE RAMP
STREET INTERSECTION
PLAN VIEW
NTS

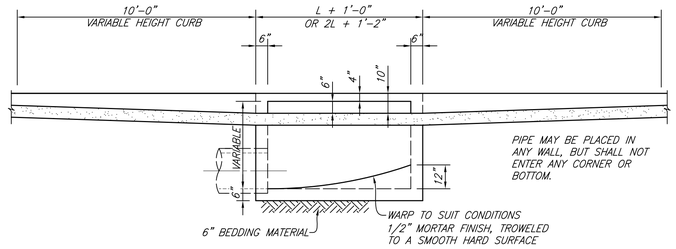
CITY OF CELINA, TEXAS

PAVING
STANDARD DETAILS – 09–07



PLAN – RECESSED INLET

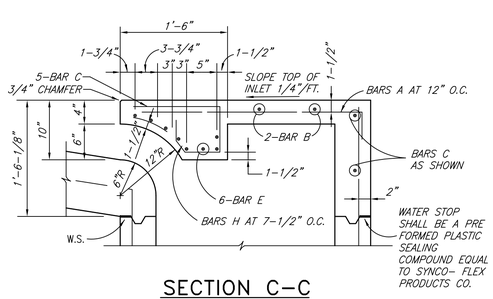
(REC–INT1)



SECTION A–A–RECESSED AND STANDARD INLETS

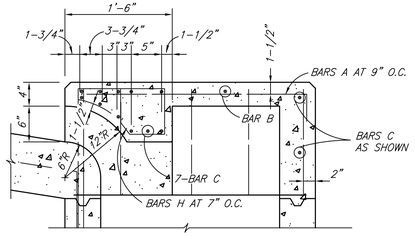
4, 6, 8, AND 10 FOOT INLETS

(PLAN–10)



SECTION C–C

(SECT_C–C)



NOTE: FOR ADDITIONAL INFORMATION SEE SECTION C–C

SECTION E–E

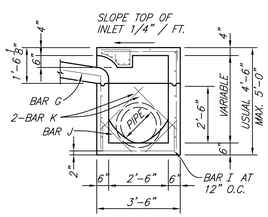
(SECT_E–E)

NOTES:

THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.

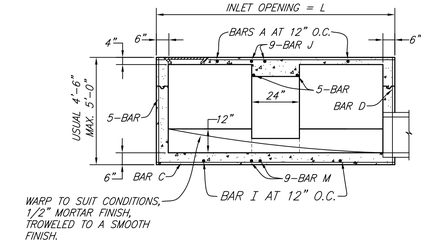
A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR LIEU OF THIS, AT LEAST 6 INCHES OF 2–SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED–SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.

AFTER CASING HAS BEEN INSTALLED ON THE PROPER BEDDING, THE BACKFILL MATERIAL, WHICH IS FREE FLOWING AND CLEAR OF ROCKS, IN EXCESS OF 4" DIAMETER AND OTHER LUMPS WHICH WOULD PROHIBIT PROPER COMPACTION, SHALL BE COMMENCED IN LIFTS OF NO MORE THAN 18". THE MATERIAL USED FOR BACKFILL SHOULD BE A TYPE SUITABLE TO OBTAIN THE DENSITY REQUIREMENTS FOR THE SPECIFIC JOB.



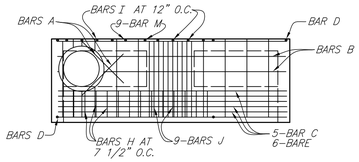
SECTION B–B

(SECT_B–B)



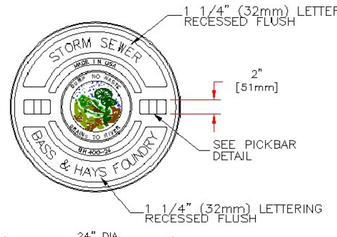
SECTION A–A – STANDARD AND RECESSED INLETS

(SECT_A–A1)



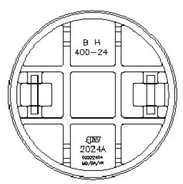
PLAN – STANDARD INLET

(PLAN_STDINL)

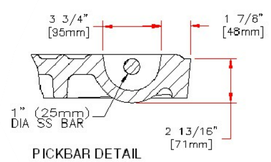


COVER SECTION

√ MACHINED SURFACE

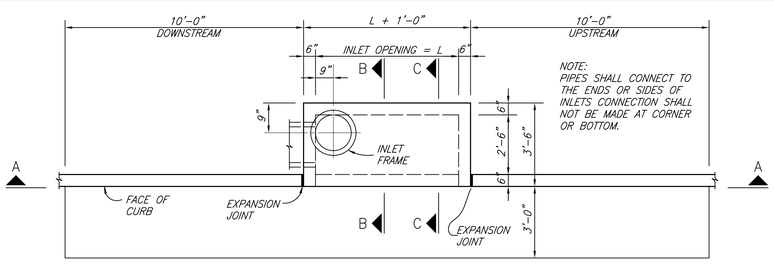


BOTTOM VIEW OF COVER



PICKBAR DETAIL

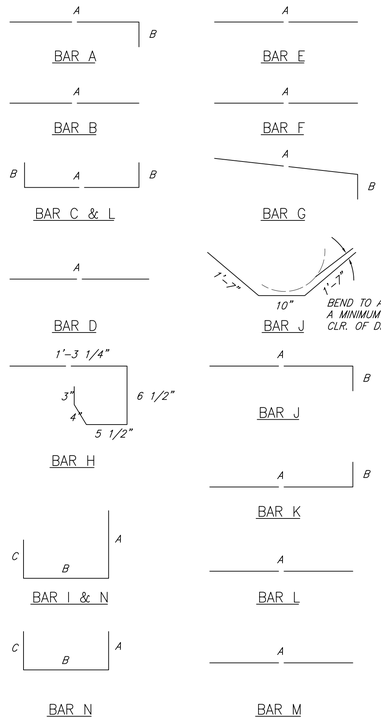
BH and Bass & Hays are registered trademarks of Bass & Hays Foundry, Inc.



PLAN – STANDARD INLET

4, 6, 8 AND 10 FOOT INLETS

(STDINLT1)



BAR DIAGRAMS

(BARDIAG)

REINFORCING STEEL SCHEDULE

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

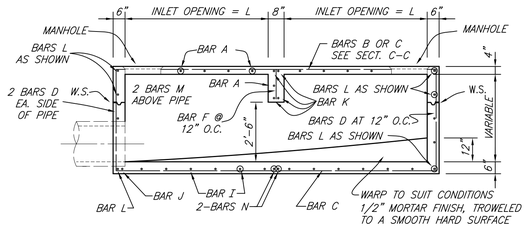
INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS A	B	C
4	A	3	6	3'–2"	0'–3"	–
	B	3	1	2'–10"	–	–
	C	4	15	4'–8"	0'–6"	–
	D	4	5	4'–8"	–	–
	F	4	1	3'–2"	–	–
	G	3	5	2'–0"	1'–3"	–
	H	3	6	*	*	*
	N	3	3	3'–2"	3'–2"	3'–2"
6	A	3	9	3'–2"	0'–3"	–
	B	3	1	4'–10"	–	–
	C	4	15	6'–8"	0'–6"	–
	D	4	5	4'–8"	–	–
	F	4	1	3'–2"	–	–
	G	3	5	2'–0"	1'–3"	–
	H	3	9	*	*	*
	N	3	3	3'–2"	3'–2"	3'–2"
8	A	3	12	3'–2"	0'–3"	–
	B	4	1	6'–10"	–	–
	C	4	15	8'–8"	0'–6"	–
	D	4	5	4'–8"	–	–
	F	4	1	3'–2"	–	–
	G	3	5	2'–0'	1'–3"	–
	H	3	12	*	*	*
	N	3	3	3'–2"	3'–2"	3'–2"
10	A	3	13	3'–2"	0'–3"	–
	B	3	2	8'–10"	–	–
	C	4	16	10'–8"	0'–6"	–
	D	4	4	4'–8"	–	–
	E	5	6	10'–8"	–	–
	G	3	5	2'–0"	1'–3"	–
	H	3	14	*	*	*
	I	4	8	4'–8"	3'–2"	3'–2"
	L	4	5	4'–3"	–	–

* SEE DIAGRAM FOR DIMENSIONS.
4', 6', 8' AND 10' INLETS

CITY OF CELINA, TEXAS

DRAINAGE

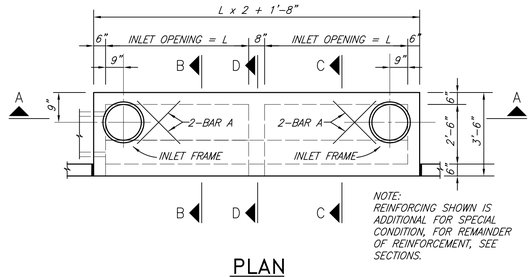
STANDARD DETAILS – 09–08



SECTION A–A

12, 14, 16 AND 20 FOOT INLETS

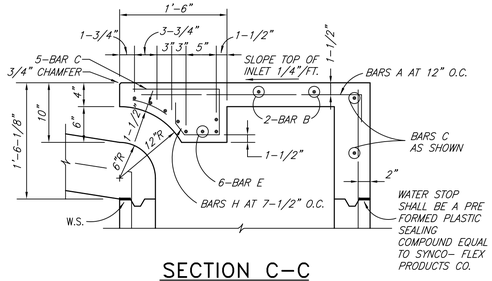
(SECT_A–A)



PLAN

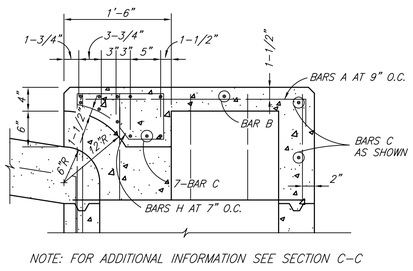
20 FOOT INLETS

(PLAN_20)



SECTION C–C

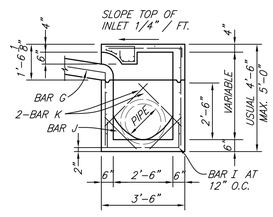
(SECT_C–C)



NOTE: FOR ADDITIONAL INFORMATION SEE SECTION C–C

SECTION D–D

(SECT_D–D)



SECTION B–B

(SECT_B–B)

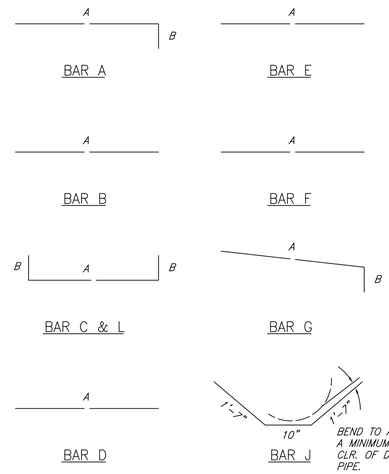
DOUBLE INLETS

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS A	B	C
6 FT.	A	3	15	3'–2"	0'–6"	–
	B	3	2	11'–6"	–	–
	C	4	16	13–4"	0'–6"	–
	D	4	9	4'–8"	–	–
	E	5	6	13–4"	–	–
	F	4	5	1'–2"	–	–
	G	3	12	2'–0"	1'–3"	–
	H	3	26	*	*	*
	I	4	12	4'–8"	3'–2"	3'–2"
	J	5	1	*	*	*
	K	5	6	3'–2"	0'–6"	–
	L	4	11	3'–2"	0'–6"	–
	M	4	2	3'–0" **	–	–
	N	4	2	4'–8"	3'–2"	4'–8"
7 FT.	A	3	17	3'–2"	0'–6"	–
	B	3	2	13'–6"	–	–
	C	4	16	15'–4"	0'–3'	–
	D	4	9	4'–8"	–	–
	E	5	6	15'–4"	–	–
	F	4	5	1'–2"	–	–
	G	3	15	2'–0"	1'–3"	–
	H	3	32	*	*	*
	I	4	14	4'–8"	3'–2"	3'–2"
	J	5	1	*	*	*
	K	5	6	3'–2"	0'–6"	–
	L	4	11	3'–2"	0'–6"	–
	M	4	2	3'–0" **	–	–
	N	4	2	4'–8"	3'–2"	4'–8"
8 FT.	A	3	19	3'–2"	0'–6"	–
	B	3	2	15'–6"	–	–
	C	4	16	17'–4"	0'–6"	–
	D	4	9	4'–8"	–	–
	E	5	6	17'–4"	–	–
	F	4	5	1'–2"	–	–
	G	3	12	2'–0"	1'–3"	–
	H	3	26	*	*	*
	I	4	16	4'–8"	3'–2"	3'–2"
	J	5	1	*	*	*
	K	5	6	3'–2"	0'–6"	–
	L	4	11	3'–2"	0'–6"	–
	M	4	2	3'–0" **	–	–
	N	4	2	4'–8"	3'–2"	4'–8"
10 FT.	A	3	23	3'–2"	0'–6"	–
	B	3	2	19'–6"	–	–
	C	4	16	21'–4"	0'–6"	–
	D	4	9	4'–8"	–	–
	E	5	6	21'–4"	–	–
	F	4	5	1'–2"	–	–
	G	3	15	2'–0"	1'–3"	–
	H	3	32	*	*	*
	I	4	20	4'–8"	3'–2"	3'–2"
	J	5	1	*	*	*
	K	5	6	3'–2"	0'–6"	–
	L	4	11	3'–2"	0'–6"	–
	M	4	2	3'–0" **	–	–
	N	4	2	4'–8"	3'–2"	4'–8"

* SEE DIAGRAM FOR DIMENSIONS.
** FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE 16' AND 20' INLETS

REINFORCING STEEL SCHEDULE



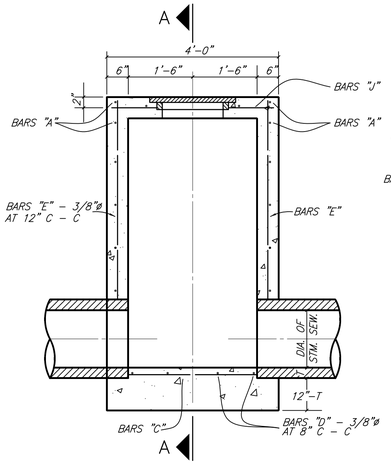
△ BEND TO ALLOW A MINIMUM 1 1/2" CIR. OF DRAIN PIPE
* SEE DIAGRAMS FOR DIMENSIONS
** FIELD CUT AS REQUIRED TO ACCOMODATE DRAIN PIPE

BAR BENDING DIAGRAMS

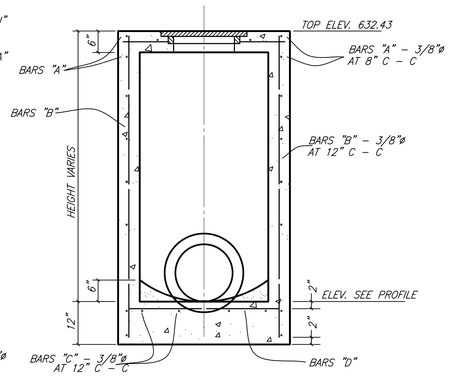
(BARLIST2)

CITY OF CELINA, TEXAS

DRAINAGE
STANDARD DETAILS – 09–09



ELEVATION

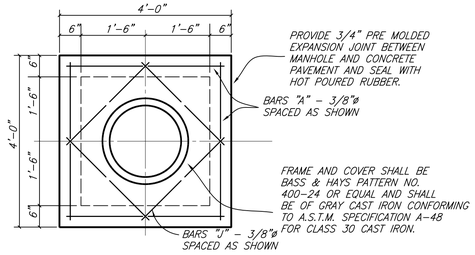


SECTION A–A

STORM SEWER TYPE A MANHOLE

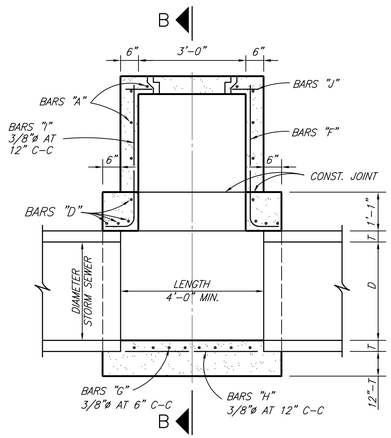
MAX. PIPE SIZE 30"

(TYPEAMH)

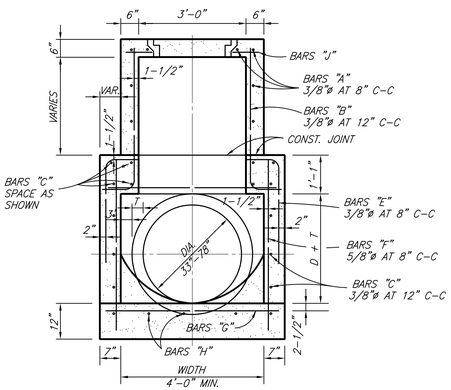


TOP PLAN
TYPE A & TYPE B
STORM SEWER MANHOLE

(MH_TOP)



ELEVATION

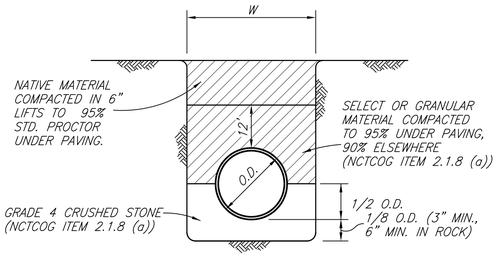


SECTION B–B

TYPE B STORM SEWER MANHOLE

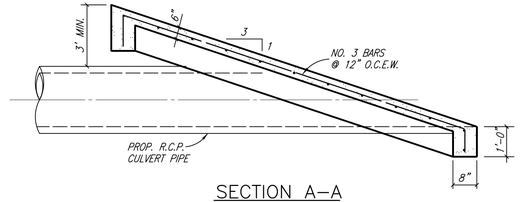
MAX. PIPE SIZE 78"

(TYPEBMH)

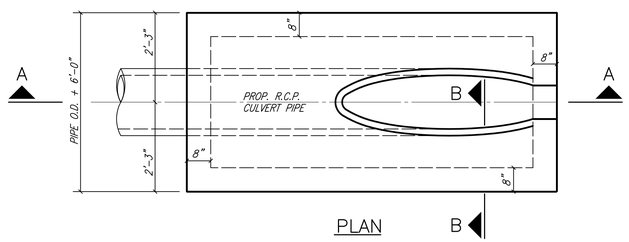


CLASS B+ EMBEDMENT

STD RCP STORM



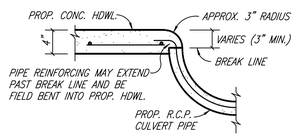
SECTION A–A



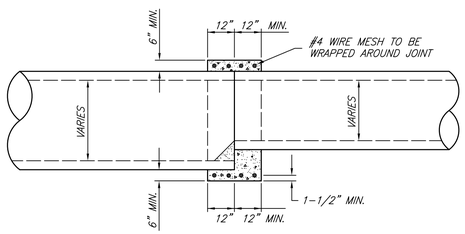
PLAN B

SLOPED CONCRETE HEADWALL

(SLOPEHWL)



SECTION B–B

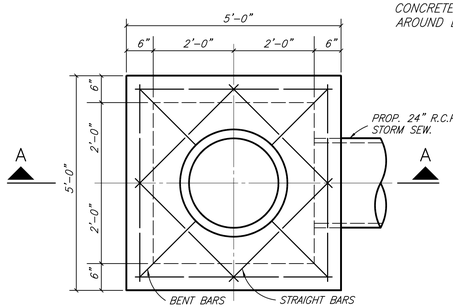


DETAIL OF CONCRETE COLLAR FOR R.C.P. OR R.C.A.P. CONNECTIONS

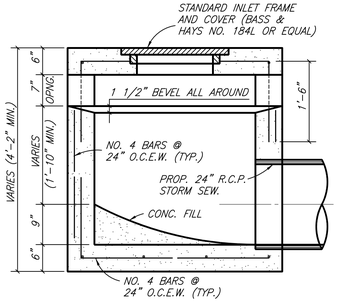
INSIDE JOINT SHALL BE CONCRETE MORTAR

(CONCCOL)

NOTE:
DROP INLETS TO HAVE 4" THICK 3' WIDE CONCRETE APRON AROUND ENTIRE INLET



PLAN



SECTION A–A

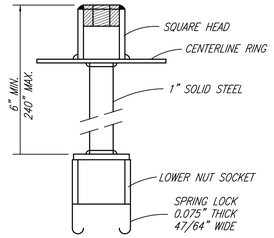
STANDARD DROP INLET

(DROPINLET)

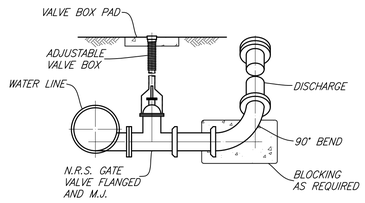
CITY OF CELINA, TEXAS

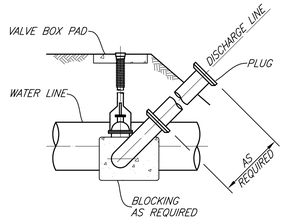
DRAINAGE
STANDARD DETAILS – 09–10

P-201405-06

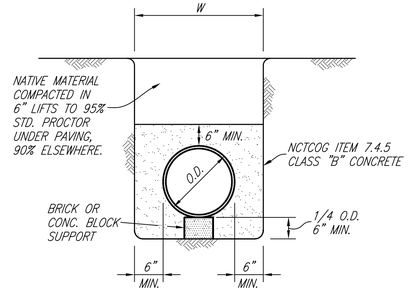


SPRING LOCK VALVE EXTENSION



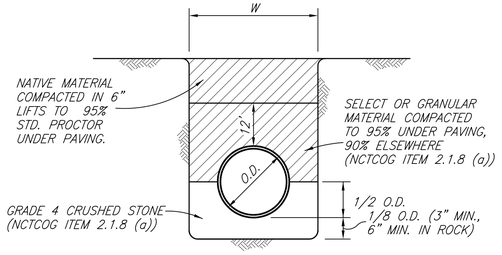


BLOW OFF VALVE



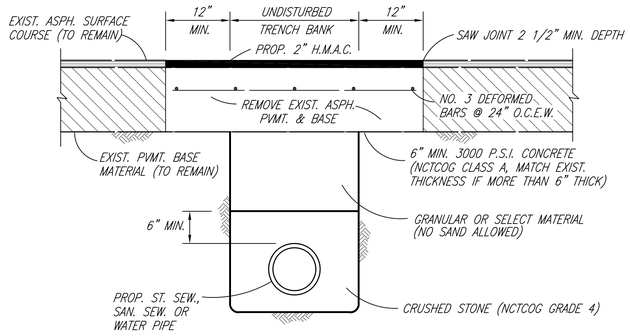
CLASS G EMBEDMENT

CONCRETE ENCASEMENT
NO SCALE



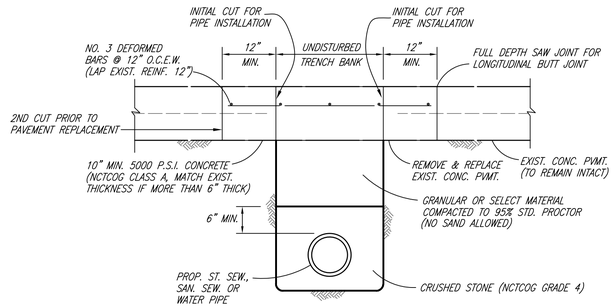
CLASS B+ EMBEDMENT

STD PVC WATER



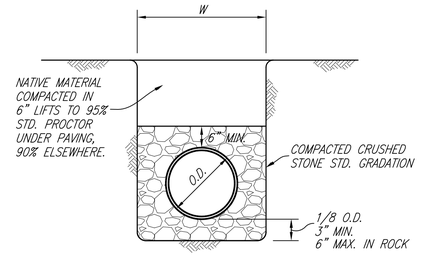
ASPHALT STREET REPAIR

NO SCALE



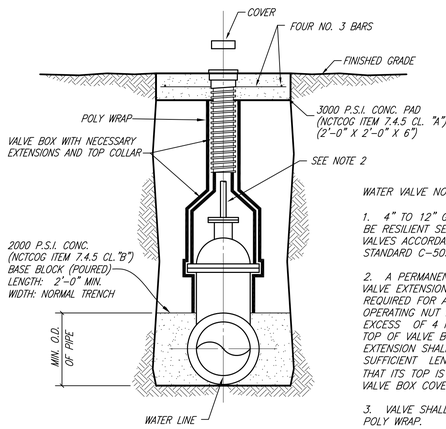
CONCRETE STREET REPAIR

NO SCALE



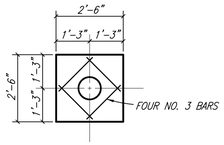
CLASS H EMBEDMENT

P.V.C. PIPE ONLY
NO SCALE



VALVE SETTING & BOX

NO SCALE

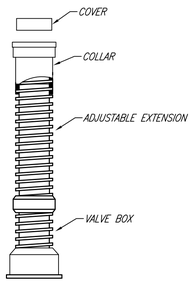


VALVE BOX PAD PLAN

NO SCALE

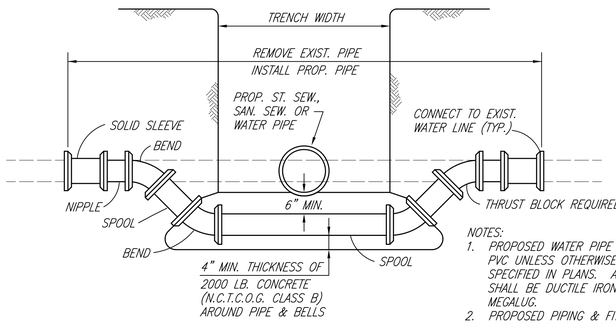
WATER VALVE NOTES:

1. 4" TO 12" GATE VALVE SHALL BE RESILIENT SEATED WEDGE GATE VALVES ACCORDANCE WITH AWWA STANDARD C-509.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4" OF THE VALVE BOX COVER.
3. VALVE SHALL BE WRAPPED IN POLY WRAP.



VALVE BOX WITH EXTENSION

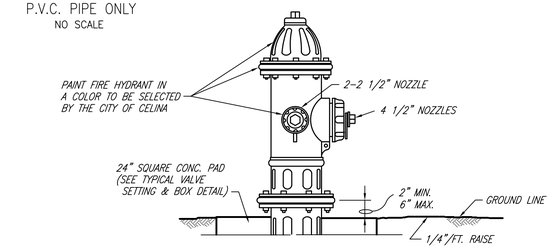
NO SCALE



WATER MAIN LOWERING

NOTES:

1. PROPOSED WATER PIPE SHALL BE PVC UNLESS OTHERWISE SPECIFIED IN PLANS. ALL FITTINGS SHALL BE DUCTILE IRON (M.J.-P.E.) MEGALUG.
2. PROPOSED PIPING & FITTINGS ARE SYMMETRIC ABOUT CENTER OF PROP. SAN. SEW. OR ST. SEW. PIPE AND SHALL RETAIN TEST PRESSURES.
3. ALL THRUST BLOCKING SHALL BE SUBSIDIARY TO UNIT PRICE.
4. CROSSING OF SANITARY SEWER SHALL BE IN ACCORDANCE WITH T.N.R.C.C. REQUIREMENTS. (CHAPTER 317.13 APPENDIX E)



FIRE HYDRANT NOTES:

1. IN GENERAL ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARDS SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE FOR WATER AND SANITARY SEWER IMPROVEMENTS. FIRE HYDRANTS SHALL HAVE A 5-1/4" MINIMUM VALVE OPENING AND WITH A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL HYDRANTS SHALL BE APPROVED BY THE CITY OF CELINA.

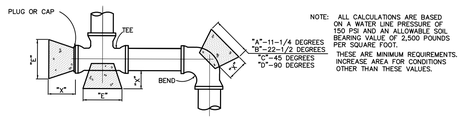
TYPICAL FIRE HYDRANT INSTALLATION

NO SCALE

CITY OF CELINA, TEXAS

WATER DISTRIBUTION SYSTEM
STANDARD DETAILS – 09–11

P-201405-06



NOTE: ALL CALCULATIONS ARE BASED ON A WATER LINE PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING VALUE OF 2,500 POUNDS PER SQUARE FOOT.

THESE ARE MINIMUM REQUIREMENTS. INCREASE AREA FOR CONDITIONS OTHER THAN THESE VALUES.

HORIZONTAL BLOCKING TABLE

PIPE SIZE	"X" DIM. IN. FT.	11-1/4 DEGREES		22-1/2 DEGREES		45 DEGREES		90 DEGREES		TEE & PLUG	
		"A"	MIN. AREA	"B"	MIN. AREA	"C"	MIN. AREA	"D"	MIN. AREA	"E"	MIN. AREA
4"	1.5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.00
6"	1.5	1.00	1.00	1.00	1.00	1.14	1.30	1.55	2.40	1.30	1.70
8"	1.5	1.00	1.00	1.08	1.18	1.52	2.31	2.07	4.27	1.74	3.02
10"	1.5	1.00	1.00	1.35	1.84	1.90	3.61	2.58	6.66	2.17	4.71
12"	1.5	1.00	1.33	1.63	2.65	1.86	5.19	3.10	9.60	2.61	6.79
14"	1.5	1.03	1.81	1.90	3.60	2.66	7.07	3.61	13.06	3.04	9.24
16"	2.0	1.18	2.36	2.17	4.71	3.04	9.23	4.13	17.06	3.47	12.06
18"	2.0	1.33	2.99	2.44	5.96	3.42	11.69	4.65	21.59	3.91	15.27
20"	2.0	1.48	3.70	2.71	7.35	3.80	14.43	5.16	26.66	4.34	18.85
21"	2.0	1.55	4.07	2.85	8.11	3.99	15.91	5.42	29.39	4.56	20.78
24"	2.0	1.77	5.32	3.25	10.59	4.56	20.77	6.20	38.39	5.21	27.14
27"	2.5	1.99	6.73	3.66	13.40	5.13	26.29	6.97	48.58	5.86	34.35
30"	2.5	2.22	8.31	4.07	16.55	5.70	32.46	7.74	59.98	6.51	42.41
33"	2.5	2.44	10.06	4.47	20.02	6.27	39.28	8.52	72.57	7.16	51.31
36"	2.5	2.66	11.97	4.88	23.83	6.84	46.74	9.29	86.37	7.81	61.07
39"	3.0	2.88	14.05	5.29	27.97		7.41	54.86	10.07	101.36	8.47	71.68
42"	3.0	3.10	16.30	5.69	32.43		7.98	63.62	10.85	117.56	9.12	83.13

NOTE: CLASS "B" CONCRETE 2,000 PSI SHALL BE USED FOR ALL BLOCKING UNLESS OTHERWISE NOTED ON STANDARD DETAILS AND / OR PLANS.

THE MINIMUM VERTICAL DIMENSION OF ALL BLOCKING SHALL BE 1.5 TIMES THE PIPE DIAMETER WITH AT LEAST 0.75 TIMES THE PIPE DIAMETER EXTENDING BOTH ABOVE AND BELOW THE PIPE CENTERLINE. THIS DIMENSION DETERMINES THE "A" DIMENSION FOR 11-1/4° BENDS.

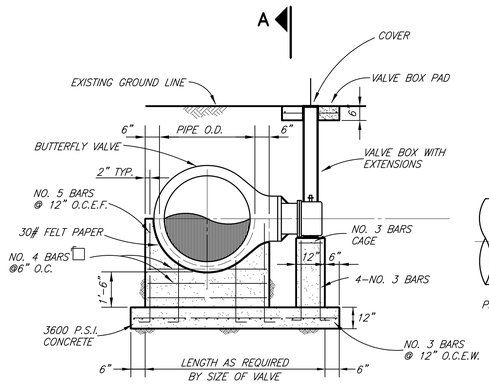
FOR 22-1/2 °,45 °,90 °,AND TEES AND PLUGS, THE VERTICAL DIMENSION SHALL BE EQUAL TO THE HORIZONTAL DIMENSION SHOWN TO PRODUCE THE REQUIRED MINIMUM AREA.

ALL MINIMUM AREAS ARE IN SQUARE FEET.

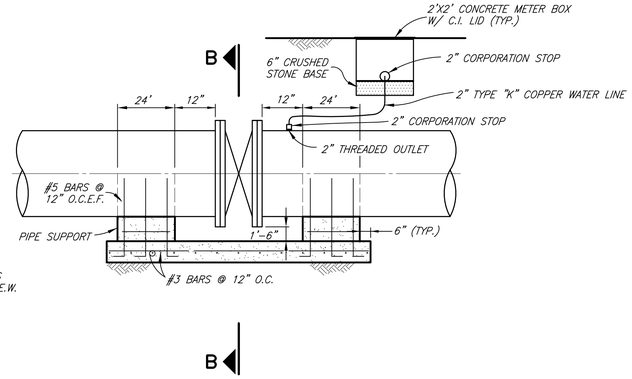
BLOCKING TO BE AGAINST UNDISTURBED TRENCH WALLS AND BOTTOM.

HORIZONTAL THRUST BLOCKING DETAIL

NO SCALE

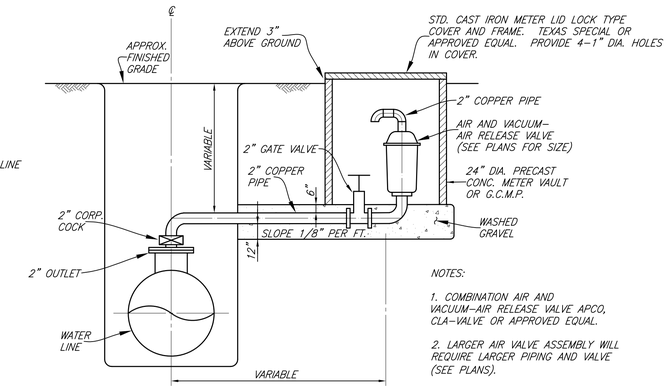


SECTION B–B



SECTION A–A

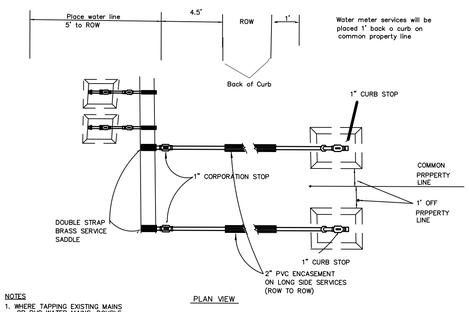
BUTTERFLY VALVE INSTALLATION



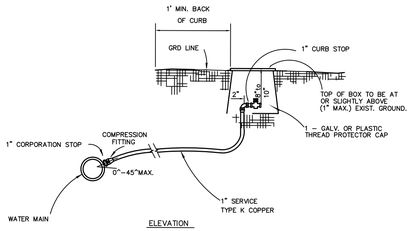
NOTES:

1. COMBINATION AIR AND VACUUM-AIR RELEASE VALVE APCO, CLA-VALVE OR APPROVED EQUAL.
2. LARGER AIR VALVE ASSEMBLY WILL REQUIRE LARGER PIPING AND VALVE (SEE PLANS).

AIR AND VACUUM – AIR RELEASE VALVE INSTALLATION



PLAN VIEW



ELEVATION

NOTES

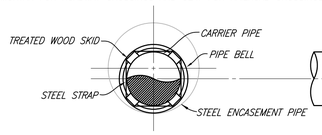
1. WHERE TAPPING EXISTING MAINS OR PVC WATER MAINS, DOUBLE STRAPPED BRONZE, STAINLESS STEEL OR PVC SERVICE SADDLES OR DUCTILE IRON SADDLES SHALL BE USED.
2. COPPER SERVICES SHALL BE CONTINUOUS WITH NO JOINTS FROM CORP. STOP TO QUARTER BEND.
3. ALL COPPER FITTINGS SHALL BE COMPRESSION FITTINGS.
4. METERS SHALL NOT BE INSTALLED IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAYS.

SERVICE CONNECTION DETAIL (LOTS10,000 S.F. OR LARGER)

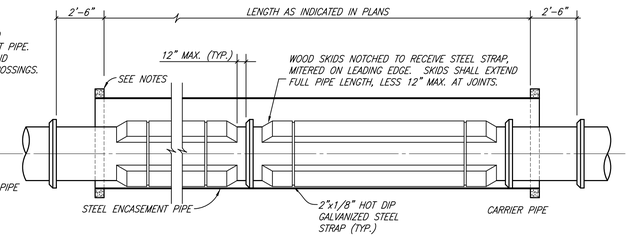
NO SCALE

BORING NOTES:

1. 2 MORTAR BANDS FOR R.C.C.P. AND CEMENT LINED & COATED STEEL PIPE MAY BE USED IN LIEU OF SKIDS & STRAPS.
2. CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE MIN. 1" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
3. ENDS OF ENCASEMENT PIPE SHALL BE PLUGGED WITH BRICK AND MORTAR FOR ROADWAY CROSSINGS AND CLAY FOR RAILROAD CROSSINGS.

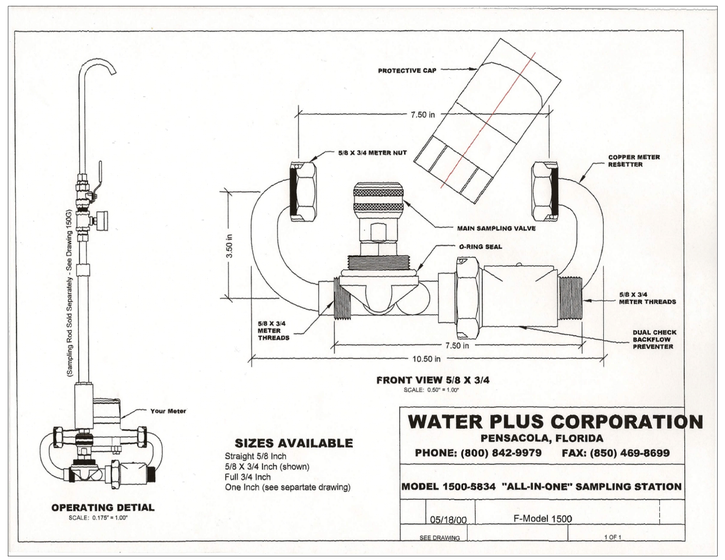


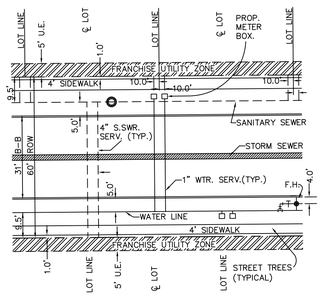
SECTION



ELEVATION

ENCASED ROAD OR RAILROAD BORE





UTILITY PLACEMENT DETAIL

NO SCALE

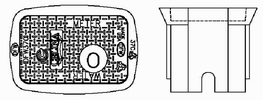
CITY OF CELINA, TEXAS

WATER DISTRIBUTION SYSTEM
STANDARD DETAILS – 09–12

P-201405-06

DFW PLASTICS, INC.

PO Box 648
Bedford, Texas 76095
Tel: 817.439.3600
Fax: 817.439.3700
www.dfwplasticsinc.com



DFW37C-12-1SAF CELINA

21x14x12 Black Polymer Box w/ Black Polymer AMR/AMI Lid w/ Security Lock & Knockout

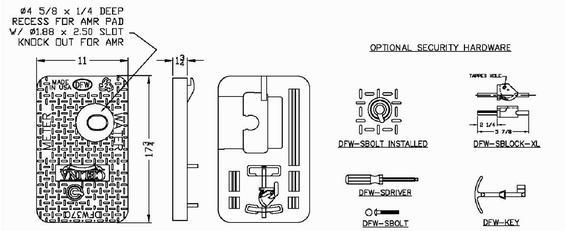
This product is designed to withstand loading in non-deliberate and incidental traffic. Not to be installed in roadway. Meter Box shall be black and constructed out of modified polyethylene material for maximum durability and corrosion resistance. The black material is for maximum UV protection. The black material shall be uniform throughout the Meter Box for maximum longevity and **not have** a foaming agent that creates air pockets within the plastic wall.

Vertical and Lateral Load Rating:

- Compliant with AASHTO, Design Load of H-10; ASTM C 857-12a, Design Load of A-8, 8,000 lbs. transferred through a 10" x 10" steel plate centered in the cover and body.
- Compliant with AASHTO, Design Load of H-20; ASTM C 857-12a, Design Load of A-16, 16,000 lbs. transferred through a 10" x 20" steel plate centered on the cover and body.
- This product is designed to withstand H-10 and H-20 loading in non-deliberate or incidental traffic areas. **NOT INTENDED TO BE INSTALLED IN ROADWAYS.**

Polymer Lid

- The polymer lid shall have a molded key hole and Security Lock underneath lid (DFW-SBLOCK-XL) - *as illustrated.*
- The polymer lid shall have one **(1) MOLDED knock out plug (1.88" x 2.50"), recessed (4 [3/8]" x [1/4]") deep** - *as illustrated.*
- The polymer lid shall have a molded slide mount bracket for placement of AMR/AMI device - *as illustrated.*
- The polymer lid shall seat securely and evenly inside the Meter Box and shall not overlap the top edge of the Meter Box.
- The polymer lid shall have molded **tread-pattern** for skid resistance - **tread dimensions shall be 0.188" x 0.938" x 0.150" deep.**
- The polymer lid shall have "Water Meter" molded into the lid - **Font shall be Std Facial CNC Font with 1" characters x 0.150" deep.**
- The polymer lid shall have "CELINA" molded into the lid - *as illustrated.*
- The polymer lid shall retrofit existing cast iron meter boxes with similar dimensions and be able to adjust in the field.
- The polymer lid shall be black and have a molded recycled emblem with a minimum of 50% Post Consumer Recycled and 50% Post Industrial/ Pre Consumer Recycled Content- Verified with a **Leed Product Documentation**.
- The polymer lid shall be DFW Plastics Inc, **MADE IN USA.** - Domestic Only.



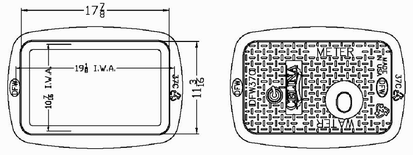
This product is designed to withstand loading in non-deliberate and incidental traffic. Not to be installed in roadway. Meter Box shall be black and constructed out of modified polyethylene material for maximum durability and corrosion resistance. The black material is for maximum UV protection. The black material shall be uniform throughout the Meter Box for maximum longevity and not have a foaming agent that creates air pockets within the plastic wall.

Vertical and Lateral Load Rating:

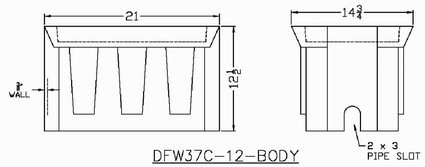
- Compliant with AASHTO, Design Load of H-10; ASTM C 857-12a, Design Load of A-8, 8,000 lbs. transferred through a 10" x 10" steel plate centered in the cover and body.
- Compliant with AASHTO, Design Load of H-20; ASTM C 857-12a, Design Load of A-16, 16,000 lbs. transferred through a 10" x 20" steel plate centered on the cover and body.
- This product is designed to withstand H-10 and H-20 loading in non-deliberate or incidental traffic areas. **NOT INTENDED TO BE INSTALLED IN ROADWAYS.**

Polymer Body

- The polymer body shall be BLACK and have a **Minimum** of 3/8" wall thickness - *as illustrated.*
- The polymer body shall have **Minimum** inside working room of (19 [3/8]" x 10 [7/8]") - *as illustrated.*
- The polymer body shall have crush resistant ribbing along the outside of the box.
- The polymer body shall have a flange around the lid opening to help prevent settling and aide in the adjustment to grade.
- The polymer body shall have one pipe slot molded on each end of the body that measures (3" x 4").
- The polymer body shall be black and have a molded recycled emblem with a minimum of 35% Post Industrial/ Pre Consumer Recycled Content - Verified with a **Leed Product Documentation.**
- The polymer Body shall be DFW Plastics Inc., **MADE IN USA.** - Domestic Only.



DFW37C-12-1SAF CELINA



DFW37C-12-BODY

Meter Box shall be C Series by DFW Plastics, Inc. or an approved equal. All Specs are subject to change without notice.

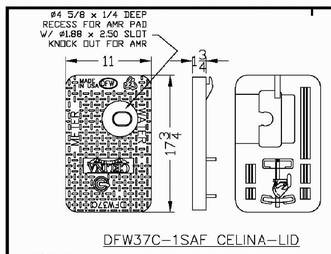
Part No.	Series	Size	Height	Width	Length
DFW37C-12-BODY	37C	21" x 14"	12"	Top - 14-3/4"	Top- 21"
DFW37C-12-1SAF CELINA	37C	21" x 14"	12"	Base - 11-1/4"	Base- 21"
DFW37C-1SAF CELINA-LID	37C	21" x 14"	1-7/8"	11"	17-3/4"

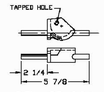
Single Service Box for [3/4", 1", & 1 1/2"] Meters
File: Submittal -DFW37C-12-1SAF CELINA
Rev. A July 2013

Submitted by:

REVISIONS		
REV	DESCRIPTION	DATE
NR	NEW RELEASE	07/09/13

LID KEY	
1	BLACK COLOR
S	BRASS LOCK, SECURITY
A	AMR SLIDE MOUNT
F	KNOCKOUT
CELINA	CELINA ENGRAVING



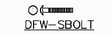


DFW-SBLOCK-XL

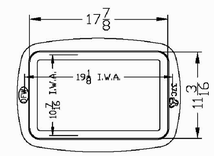
DFW-KEY

OPTIONAL SECURITY HARDWARE

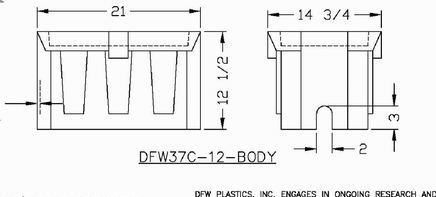
DFW-SDRIVER



DFW-SBOLT



DFW37C-12-1SAF CELINA



DFW37C-12-BODY

NOTES
1) DIM'S ± 1/8 U.N.O.
2) LID MATERIAL: H.D.P.E.
3) BODY MATERIAL: L.L.P.E.
4) WALL THICKNESS: 3/8 ± 5%
5) I.W.A. = INSIDE WORK AREA
6) SNAP LOCK POCKET WILL RECEIVE AMR/AMI DEVICE ENDPOINT. SNAP LOCK SLOT IS 1.80" ± .015" TO ALLOW FOR A FINGER FORCE INSTALL. POCKET HEIGHT IS 15/16 FOR MIN 1/8" AIR GAP.

DFW PLASTICS, INC. ENGAGES IN ONGOING RESEARCH AND DEVELOPMENT TO IMPROVE AND ENHANCE ITS PRODUCTS. THEREFORE, DFW PLASTICS, INC. RESERVES THE RIGHT TO CHANGE PRODUCT OR SYSTEM SPECIFICATIONS WITHOUT NOTICE.

DFW PLASTICS, INC.
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BEDFORD, TEXAS 76095
(817) 439-3600
(817) 439-3700 (f)
www.dfwplasticsinc.com

CITY OF CELINA

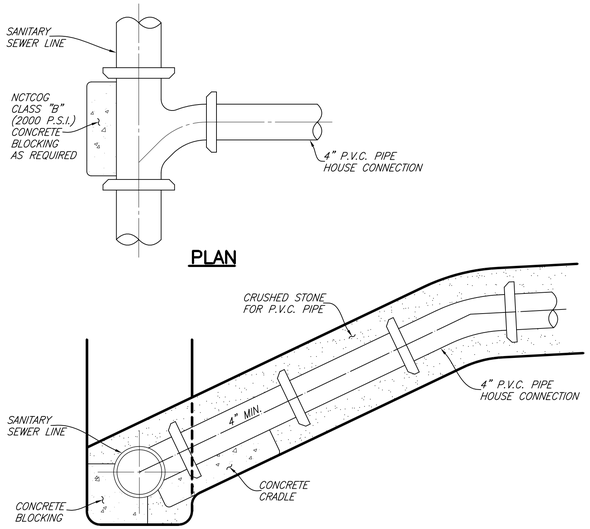
DFW37C-12-1SAF CELINA

CREATED:	07/09/13
UPDATED:	*
ACCEPTED:	BMcK
DRAWN BY:	J.C.A.
PLOT SCALE:	1:10

THIS DRAWING IS THE PROPERTY OF DFW PLASTICS, INC.

CITY OF CELINA, TEXAS

WATER DISTRIBUTION SYSTEM
STANDARD DETAILS – 09-13



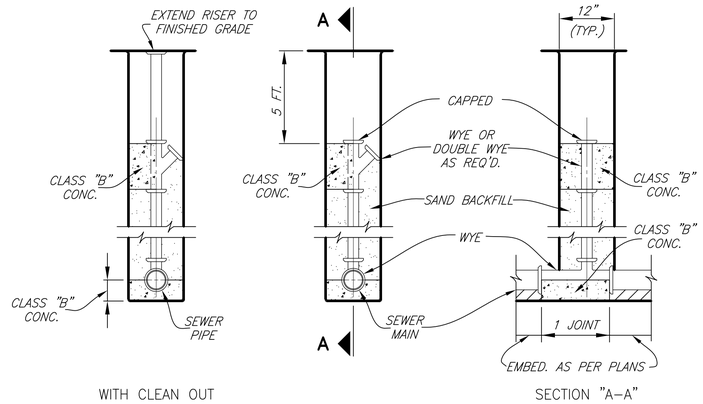
PLAN

SECTION

TYPICAL SEWER HOUSE SERVICE CONNECTION

SANITARY SEWER CLEANOUT BOOTS SHALL BE BASS & HAYS # 339 OR APPROVED EQUAL.

(HOUSE_SERVICE)

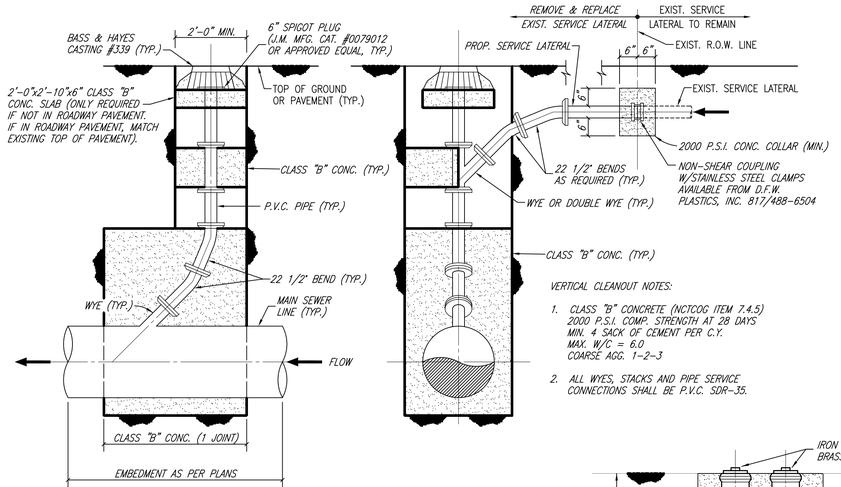


WITH CLEAN OUT

SECTION "A–A"

DEEP CUT CLEANOUT

(DEEPCUT–CO)



VERTICAL CLEANOUT NOTES:

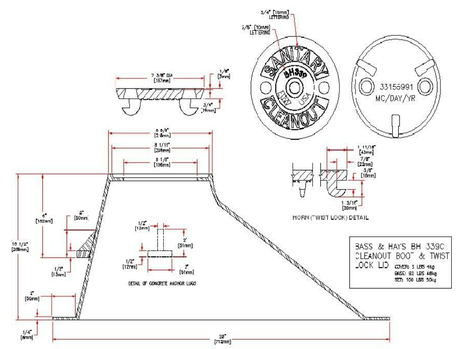
1. CLASS "B" CONCRETE (NCTCOG ITEM 7.4.5) 2000 P.S.I. COMP. STRENGTH AT 28 DAYS MIN. 4 SACK OF CEMENT PER C.Y. MAX. W/C = 6.0 COARSE AGG. 1–2–3
2. ALL WYES, STACKS AND PIPE SERVICE CONNECTIONS SHALL BE P.V.C. SDR–35.

VERTICAL CLEANOUT CONNECTION

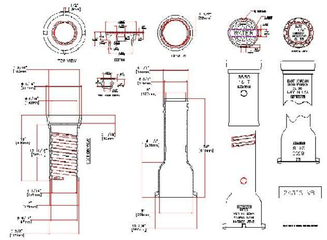
(CONNECTION, WYE, CONCRETE, BENDS, CASTING, ETC. ALL SUBSIDIARY TO CLEANOUT)

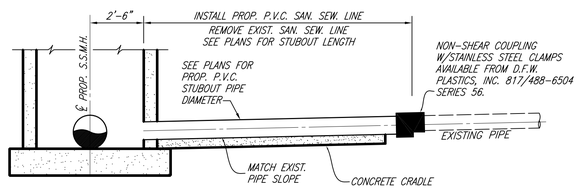
(VERT–CO)

Cleanout



Valve box

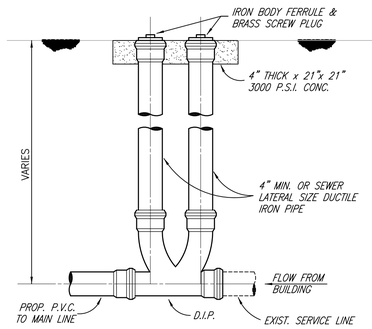




STANDARD CLEANOUT

NO SCALE

(CLEANOUT)



TYPICAL TWO WAY CLEANOUT

NO SCALE

(2–WAY–CO)

TYPICAL STUBOUT CONNECTION

NO SCALE

NOTE:
MATCH SOFFITS UPSTREAM OF MANHOLE
MATCH FLOW LINES DOWNSTREAM OF MANHOLE

(STUBOUT)

CITY OF CELINA, TEXAS

SANITARY SEWER SYSTEM

STANDARD DETAILS – 09–14

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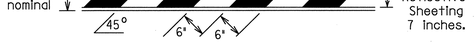
TYPE III BARRICADES

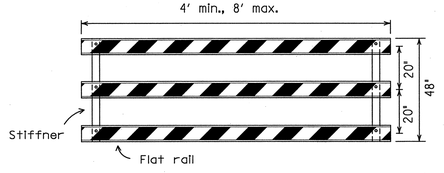
1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type III Barricades and a list of all materials used in the construction of Type III Barricades.
2. Type III Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



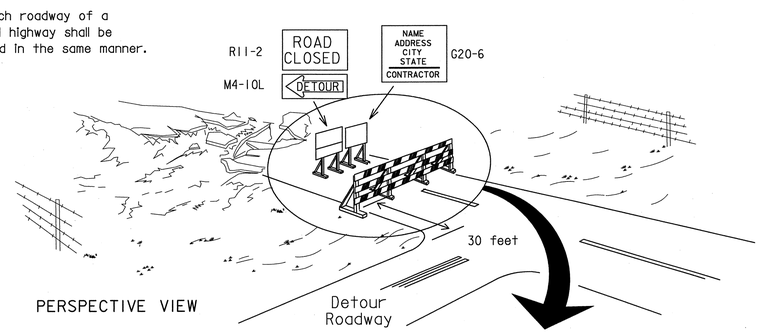
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPE III BARRICADE (POST AND SKID) TYPICAL APPLICATION

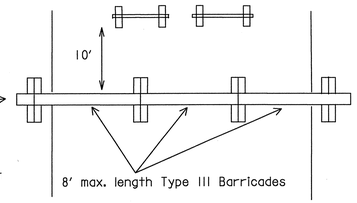
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

The three rails on Type III barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

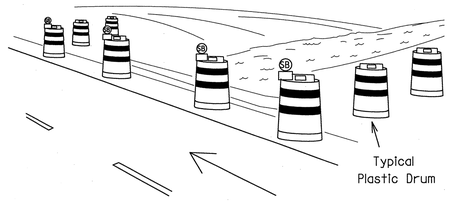
Barricade striping should slant downward in the direction of detour.



1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type III Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

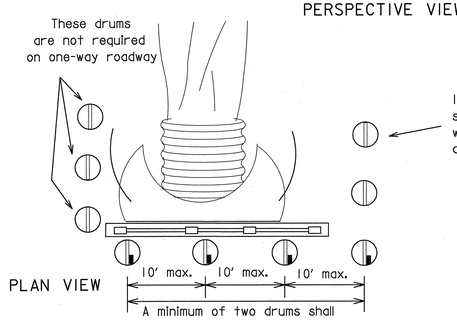
PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



PERSPECTIVE VIEW

1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



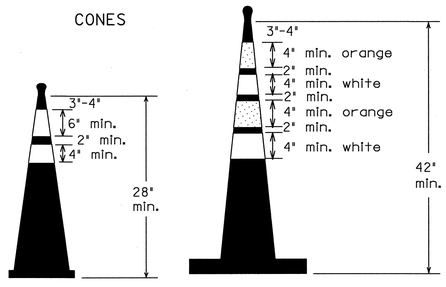
PLAN VIEW

Increase number of plastic drums on the side of approaching traffic if the crown width makes it necessary. (minimum of 2 and maximum of 4 drums)

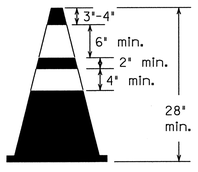
Legend

- Plastic drum
- Plastic drum with steady burn light or yellow warning reflector
- SB — Steady burn warning light or yellow warning reflector

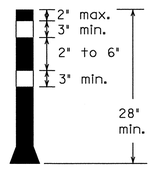
CONES



Two-Piece cones



One-Piece cones

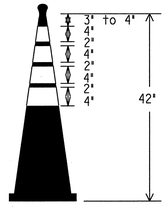


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

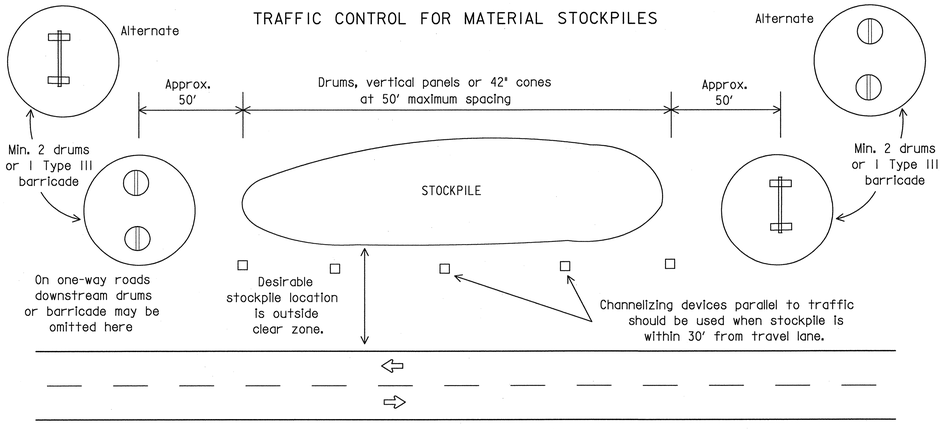
1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at nighttime.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflectorized bands.
4. Cones and tubular markers used for nighttime operations shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface that displays the same approximate color during the day and night. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
5. When used at night, appropriate personnel shall ensure that cones and tubular markers remain in their proper location and in an upright position.
6. Reflectorization of 28"cones shall consist of a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band.
7. Reflectorization of 42" cones shall be provided by alternating 4 to 6" orange and white stripes with orange on top.
8. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands.
9. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure they remain in their proper location and in an upright position.
10. Cones or tubular markers used on each project shall be of the same size and shape.
11. The handle may be designed as a hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. Length of the handle shall not be considered with regard to the overall height of the cone.



EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type C encapsulated bead (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

TRAFFIC CONTROL FOR MATERIAL STOCKPILES



Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

10 of 12 BC(10)-07

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9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY	
	DIST	COUNTY		SHEET NO.	

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