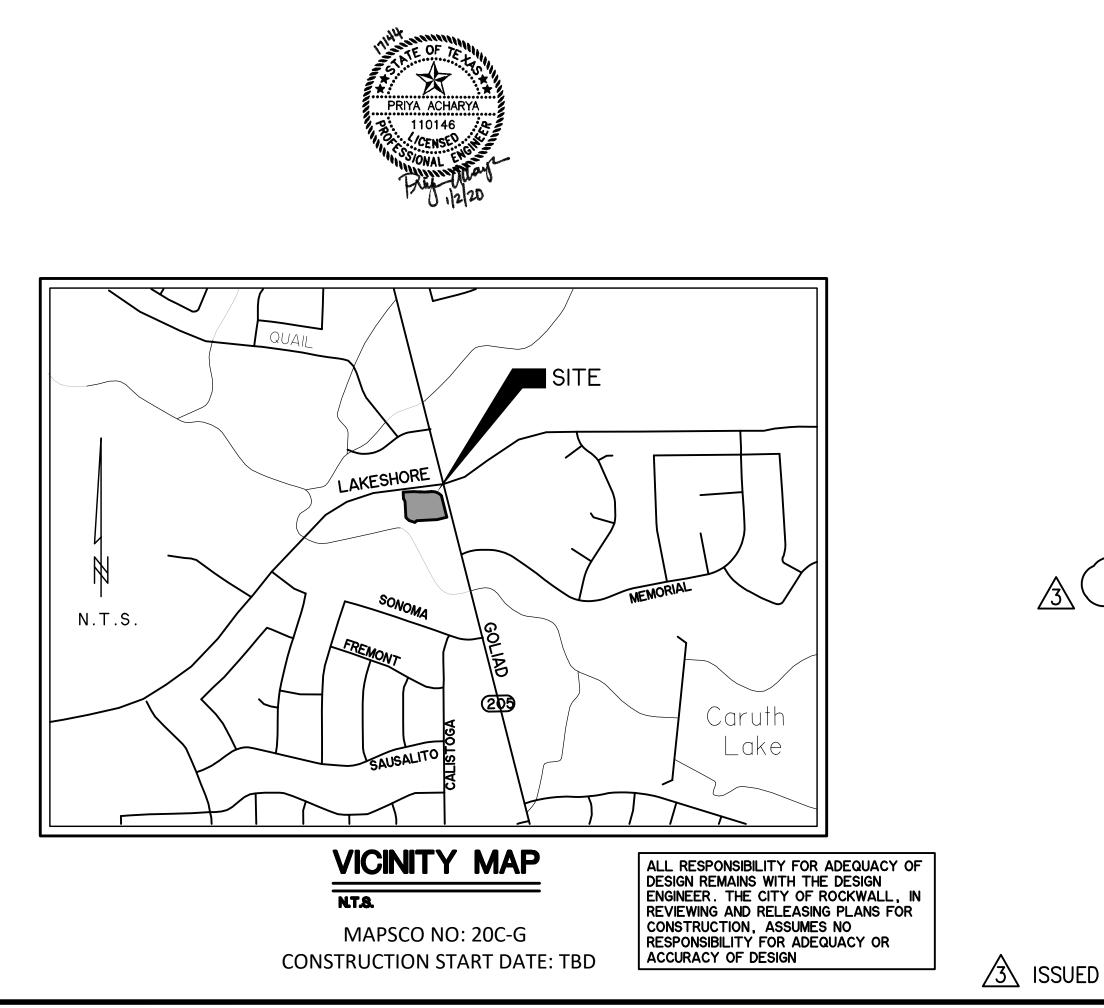
# LOT 2, BLOCK A LAKESHORE COMMONS N LAKESHORE DRIVE & HWY 205 THE CITY OF ROCKWALL, TEXAS FSU#03897 SHEET NO.

<u>APPLICANT:</u>	CHICK-FIL-A 5200 BUFFINGTON ROAD ATLANTA, GEORGIA 30349 (404) 765-8000 CONTACT: GETRA SANDERS
OWNER:	MOORE WORTH INVESTMENTS, LLC 9362 HOLLOW WAY RD DALLAS, TX 75220
CIVIL ENGINEER:	WIER & ASSOCIATES, INC 2201 E. LAMAR BOULEVARD, SUITE 200E ARLINGTON, TEXAS 76006 (817) 467-7700 CONTACT: PRIYA ACHARYA, P.E. PRIYAA@WIERASSOCIATES.COM
ARCHITECT:	MAYSE & ASSOCIATES, INC 14881 QUORUM DRIVE, STE. 800 DALLAS, TEXAS 75254 (972) 386-0338 CONTACT: KEENAN McCORD
LANDSCAPE ARCHITECT:	MANLEY LAND DESIGN 51 OLD CANTON STREET ALPHARETTA, GEORGIA 30009 (770) 442-8171 CONTACT: AARON NEITZKE, PLA



# **1979 NORTH LAKESHORE DRIVE**



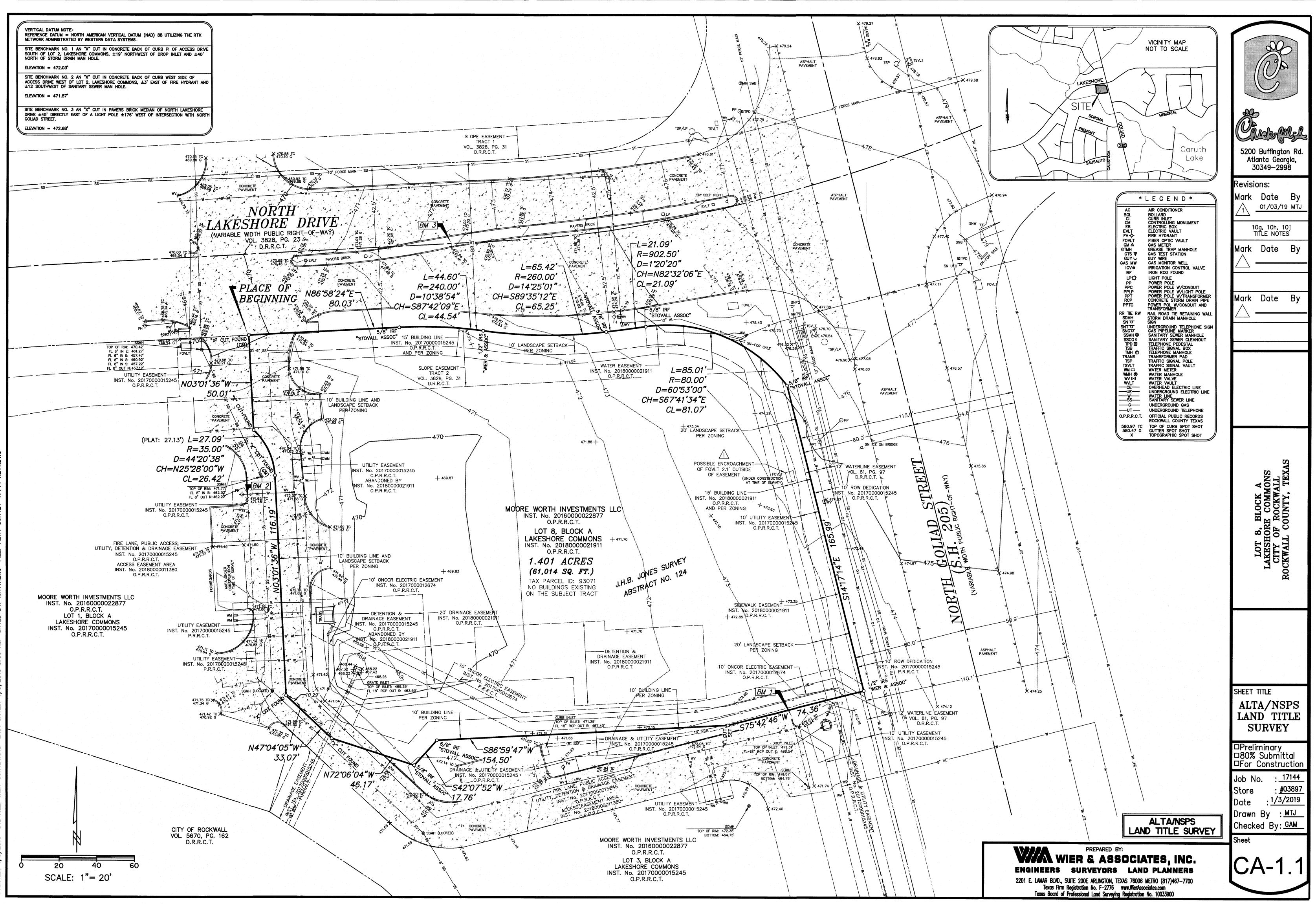
# SHEET INDEX

# DESCRIPTION

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CA-1.1-1.2	ALTA/ACSM LAND TITLE SURVEY	
C-2	FINAL PLAT (3 PAGES)	
C-3	DEMOLITION PLAN	
C-4.0	CITY OF ROCKWALL SITE PLAN	
C-4.1	SITE/DIMENSIONAL CONTROL PLA	N
C-5	PAVING PLAN	
C-6	GRADING PLAN	
C-7	DRAINAGE AREA MAP	
PS-1.0	UTILITY PLAN	
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PS-3.0-3.1	DETENTION POND PLAN & VOLUM	-
PS-4	CONTECH UNDERGROUND DETEN	TION POND DETAILS (5 PAGES)
C-8	EROSION CONTROL PLAN	
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C-10.1-10.3	PRIVATE CFA STANDARD DETAILS	
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<u>C-10.7</u>	PRIVATE DRAINAGE DETAILS	
C-10.8	TRAFFIC CONTROL PLAN (TCP2-1))	
L-100	LANDSCAPE PLAN	
L-101	LANDSCAPE DETAILS	
L-102	LANDSCAPE & MAINTENANCE SPE	CIFICATIONS
L-200	IRRIGATION PLAN	RECORD DRAWING
L-201	IRRIGATION DETAILS	
L-202	IRRIGATION SPECIFICATIONS	<b>June 9, 2020</b> To the best of our knowledge Wier & Associates,
		Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.
		PREPARED BY: R & ASSOCIATES, INC.



ENGINEERS SURVEYORS LAND PLANNERS 2201 E. LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700 Texas Firm Registration No. F—2776 www.WierAssociates.com



INTED: 1/3/2019 STB FILE: WER-SURVEY.STB LAST SAVED: 1/3/2019 9:06 AM SAVED BY: MATTHEWJ FILE: ALTA-SURVEY-17144 REV

\*FIELD NOTES\*

BEING A TRACT OF LAND LOCATED IN THE J.H.B. JONES SURVEY, ABSTRACT No. 124, ROCKWALL COUNTY, TEXAS, BEING ALL OF LOT 8, BLOCK A, LAKESHORE COMMONS, AN ADDITION TO THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, AS SHOWN ON THE PLAT RECORDED IN INSTRUMENT No. 20180000021911, OFFICIAL RECORDS, ROCKWALL COUNTY, TEXAS (O.P.R.R.C.T.) AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT AN "X" CUT FOUND IN THE SOUTH RIGHT-OF-WAY LINE OF NORTH LAKESHORE DRIVE (A VARIABLE WIDTH RIGHT-OF-WAY), BEING THE NORTHWEST CORNER OF SAID LOT 8, AND THE NORTHEAST CORNER OF LOT 1 OF SAID BLOCK A, LAKESHORE COMMONS, AN ADDITION TO THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, ACCORDING TO THE PLAT RECORDED IN INSTRUMENT No. 20170000015245, O.P.R.R.C.T.;

THENCE ALONG THE SOUTH RIGHT—OF—WAY LINE OF SAID NORTH LAKESHORE DRIVE AND THE NORTH LINE OF SAID LOT 8 AS FOLLOWS: (1) N 86'58'24" E, 80.03 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE BEGINNING OF A CURVE TO THE RIGHT;

(2) EASTERLY, AN ARC LENGTH OF 44.60 FEET ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 240.00 FEET, A DELTA ANGLE OF 10'38'54" AND A CHORD BEARING OF

S 87'42'09" E, 44.54 FEET TO A 1/2" IRON ROD SET WITH A CAP STAMPED "WER & ASSOC INC" BEING THE BEGINNING OF A REVERSE CURVE TO THE LEFT;

(3) EASTERLY, AN ARC LENGTH OF 65.42 FEET ALONG SAID REVERSE CURVE TO THE LEFT, HAVING A RADIUS OF 260.00 FEET, A DELTA ANGLE OF 14°25'01" AND A CHORD BEARING OF S 89°35'12" E, 65.25 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE BEGINNING OF A COMPOUND CURVE TO THE LEFT; 4) EASTERLY, AN ARC LENGTH OF 21.09 FEET ALONG SAID COMPOUND CURVE TO THE LEFT, HAVING A RADIUS OF 902.50 FEET, A DELTA ANGLE OF 01'20'20" AND A CHORD BEARING OF N 82"32"06" E, 21.09 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE MOST NORTHERLY NORTHEAST CORNER OF SAID LOT 8 AND THE BEGINNING OF A REVERSE CURVE TO THE RIGHT;

(5) SOUTHEASTERLY, AN ARC LENGTH OF 85.01 FEET ALONG SAID REVERSE CURVE TO THE RIGHT, HAVING A RADIUS OF 80.00 FEET, A DELTA ANGLE OF 60'53'00" AND A CHORD BEARING OF S 67'41'34" E, 81.07 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", IN THE WEST RIGHT-OF-WAY LINE OF NORTH GOLIAD STREET (A VARIABLE WIDTH RIGHT-OF-WAY), SAID IRON ROD BEING THE MOST EASTERLY NORTHEAST CORNER OF SAID LOT 8;

HENCE S 1417'14" E, ALONG THE WEST RIGHT-OF-WAY LINE OF SAID NORTH GOLIAD STREET AND THE EAST LINE OF SAID LOT 8, 165.99 FEET TO A A 1/2" IRON ROD SET WITH A CAP STAMPED "WER & ASSOC INC" BEING THE SOUTHEAST CORNER OF SAID LOT 8 AND THE NORTHEAST CORNER OF LOT 3 OF SAID BLOCK A, LAKESHORE COMMONS ADDITION RECORDED IN INSTRUMENT No. 20170000015245, O.P.R.R.C.T.;

THENCE ALONG THE SOUTH LINE OF SAID LOT 8 AND THE NORTH LINE OF SAID LOT 3 AS FOLLOWS: (1) S 75'42'46" W, DEPARTING THE WEST RIGHT-OF-WAY LINE OF SAID NORTH GOLIAD STREET, 74.36 FEET TO AN "X" CUT SET;

(2) S 86°59'47" W, 154.50 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC";

(3) S 42'07'52" W, 17.76 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC";

(4) N 72'06'04" W, 46.17 FEET TO AN "X" CUT FOUND;

(5) N 47'04'05" W, AT A DISTANCE OF 22.78 FEET PASSING THE NORTHWEST CORNER OF SAID LOT 3 AND AN ELL CORNER OF SAID LOT 1, CONTINUING ALONG THE EAST LINE OF SAID LOT 1 IN ALL A TOTAL DISTANCE OF 33.07 FEET TO AND "X" CUT FOUND IN THE EAST LINE OF SAID LOT 1 AND THE WEST LINE OF SAID LOT 8; THENCE ALONG THE EAST LINE OF SAID LOT 1 AND THE WEST LINE OF SAID LOT 8 AS FOLLOWS:

(1) N 03'01'36" W, 116.19 FEET TO AN "X" CUT FOUND, BEING THE BEGINNING OF A CURVE TO THE LEFT;

(2) NORTHWESTERLY, AN ARC LENGTH OF 27.09 FEET ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 35.00 FEET, A DELTA ANGLE OF 44'20'38" AND A CHORD BEARING OF N 25'28'00" W, 26.42 FEET TO AN "X" CUT FOUND;

(3) N 03'01'36" W, 50.01 FEET TO THE PLACE OF BEGINNING AND CONTAINING 1.401 ACRES (61,014 SQUARE FEET) OF LAND, MORE OR LESS.

\*CITY AND UTILITY PROVIDERS\* (SET NOTE 7) SURVEYOR'S NOTES\* . ACCORDING TO SURVEYOR'S INTERPRETATION OF INFORMATION SHOWN ON THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) "FLOOD ) PLANNING DEPARTMENT City of Rockwall Planning & Zoning Department Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Mr. Ryan Miller Phone: 972-772-6441 INSURANCE RATE MAP" (FIRM), MAP No. 48397C0030L, MAP REVISED SEPTEMBER 26, 2008, A PORTION OF THE SUBJECT TRACT LIES WITHIN ZONE "AE", DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, FEDERAL INSURANCE ADMINISTRATION, OR THE FEDERAL EMERGENCY MANAGEMENT AGENCY AS BEING "AREAS SUBJECT TO INUNDATION BY THE 0.1% ANNUAL CHANCE FLOOD - BASE ELEVATIONS DETERMINED." ACCORDING TO LETTER OF MAP AMENDMENT DETERMINATION DOCUMENT (LOMA) CASE No. 17-06-0554A, DATED DECEMBER 21, 2016, THE SUBJECT TRACT HAS BEEN REMOVED FROM THE SPECIAL FLOOD HAZARD AREA (SFHA). 2) ZONING DEPARTMENT City of Rockwall Planning & Zoning Department Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Mr. Ryan Miller Phone: 972-772-6441 2. THE ABOVE REFERENCED "FIRM" MAP IS FOR USE IN ADMINISTERING THE "NFIP"; IT DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL SOURCES OF SMALL SIZE, WHICH COULD BE FLOODED BY SEVERE, CONCENTRATED RAINFALL COUPLED WITH INADEQUATE LOCAL DRAINAGE SYSTEMS. THERE MAY BE OTHER STREAMS, CREEKS, LOW AREAS, DRAINAGE SYSTEMS OR OTHER SURFACE OF SUBSURFACE CONDITIONS EXISTING ON OR NEAR THE SUBJECT PROPERTY WHICH ARE NOT STUDIED OR ADDRESSED AS PART OF THE "NFIP". SIGNS 3) SIGNS City of Rockwall Building Department Address: 385 S Gollad Street, Rockwall, TX 75087 Contact: Mr. John Ankrum Phone: 972–772-6774 3. THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION MARKED BY UTILITY LOCATORS, VISIBLE IMPROVEMENTS AND/OR EXISTING DRAWINGS. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HEREON ARE IN THE EXACT LOCATION INDICATED. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED OR DESIGNATED THE UNDERGROUND UTILITIES. ) BUILDING DEPARTMENT 4. ALL BEARINGS SHOWN HEREON ARE CORRELATED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NAD OF City of Rockwall Building Department Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Mr. John Ankrum Phone: 972–772-8774 1983, AS DERIVED BY FIELD OBSERVATIONS UTILIZING THE RTK NETWORK ADMINISTRATED BY WESTERN DATA SYSTEMS. 5. THIS SURVEY WAS PREPARED WITH BENEFIT OF A COPY OF COMMITMENT FOR TITLE INSURANCE PREPARED BY CHICAGO TITLE INSURANCE COMPANY, GF. No. 3715001366, EFFECTIVE DATE NOVEMBER 25, 2018, ISSUED DATE DECEMBER 4, 2018. 5) FIRE MARSHAL City of Rockwall Fire Marshal's Office Address: 305 E. Boydstun, Rockwall, TX 75087 Contact: Mr. Brian Patrick 6. THE SUBJECT TRACT CONTAINS ZERO STRIPED PARKING SPACES. 7. ACCORDING TO DEVELOPMENT INVESTIGATION REPORT PREPARED FOR CHICK—FIL—A, INC., PREPARED BY SITE DEVELOPMENT, INC., PROJECT NO. 03897, DATED MARCH, 2, 2016, THE SUBJECT TRACT IS ZONED "PD-65", PLANNED DEVELOPMENT WITH "GR", GENERAL RETAIL BASE ZONING, AND STATE HIGHWAY 205 OVERLAY. SEE ZONING TABLE SHOWN HEREON. Phone: (972) 771-7770 6) PLUMBING City of Rockwall Building Department Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Mr. John Ankrum Phone: 972-772-6774 8. ALL MATTERS SHOWN ON RECORDED PLAT PROVIDED TO THE SURVEYOR ARE SHOWN ON THE SURVEY. 9. AT THE TIME OF THE SURVEY, THERE WAS EVIDENCE OF CURRENT EARTH MOVING WORK OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK. THE FIBER OPTIC VAULT ON THE EAST SIDE OF THE SUBJECT TRACT WAS UNDER CONSTRUCTION AND IS SHOWN HEREON. 7) HEALTH DEPARTMENT 10. AT THE TIME OF THE SURVEY, SURVEYOR WAS NOT AWARE OF ANY PROPOSED CHANGES IN STREET RIGHT-OF-WAY. THERE WAS NO KBK Food Safety Systems Address: Address not required Contact: Ms. Kelly Kirkpatrick Phone: 214-202-1202 EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK. 11. AT THE TIME OF THE SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL. 8) TRAFFIC ENGINEERING City of Rockwall Public Works Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Ms. Amy Williams Phone: 972-771—7748 12. THE SUBJECT TRACT ABUTS NORTH GOLIAD STREET ALONG THE EAST LINE AND NORTH LAKESHORE DRIVE ALONG THE NORTH LINE. 13. PROFESSIONAL LIABILITY INSURANCE POLICY OBTAINED BY THE SURVEYOR IN THE MINIMUM AMOUNT OF \$2,000,000 TO BE IN EFFECT THROUGHOUT CONTRACT TERM. CERTIFICATE OF INSURANCE TO BE FURNISHED UPON REQUEST. 9) SITE UTILITIES ) SANITARY SEWER City of Rockwall Public Works Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Ms. Arny Williams Phone: 972-771–7746 ) WATER City of Rockwall Public Works Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Ms. Amy Williams Phone: 972–771–7746 iii) STORM DRAINAGE
 City of Rockwall Public Works
 Address: 385 S Gollad Street, Rockwall, TX 75087
 Contact: Ms. Arny Williams
 Phone: 972-771-7746 ) EROSION CONTROL City of Rockwall Public Works Address: 385 S Goliad Street, Rockwall, TX 75087 Contact: Ms. Amy Williams Phone: 972–771–7746 V) GAS UTILITY

<u>\*TITLE NOTES\*</u> THIS SURVEY WAS PREPARED WITH BENEFIT OF A COPY OF COMMITMENT FOR TITLE INSURANCE PREPARED BY CHICAGO TITLE INSURANCE COMPANY, GF. No. 3715001366, EFFECTIVE DATE NOVEMBER 25, 2018, ISSUED DATE DECEMBER 4, 2018. 1. THE SUBJECT TRACT IS INCLUDED IN THE LANDS DESCRIBED AS PARCEL 5 IN TRACT II OF EXHIBIT A OF THE DECLARATION OF COVENANTS FOR THE COMMON AREA OF NORTH LAKESHORE VALLEY RECORDED IN VOL. 5288, PG. 42, D.R.R.C.T. THE SUBJECT TRACT IS INCLUDED IN THE LANDS DESCRIBED IN THE PLAT RECORDED IN INSTRUMENT No. 20170000015245, O.P.R.R.C.T., AND THE DECLARATION OF EASEMENTS, COVENANTS, AND RESTRICTIONS RECORDED IN INSTRUMENT No. 20180000011380, O.P.R.R.C.T., AND THE AND AMENDMENT TO THE DECLARATION OF EASEMENTS, COVENANTS, AND RESTRICTIONS RECORDED IN INSTRUMENT NO. 20180000110808, O.P.R.R.C.T. 10c. THE SUBJECT TRACT IS INCLUDED IN THE LANDS DESCRIBED AS PARCEL 5 IN TRACT II OF EXHIBIT A OF THE DECLARATION OF COVENANTS FOR THE COMMON AREA OF NORTH LAKESHORE VALLEY RECORDED IN VOL. 5288, PG. 42, D.R.R.C.T. 10d. THE EASEMENT RECORDED IN VOL. 81, PG. 97, D.R.R.C.T., IS LOCATED ON THE SUBJECT TRACT, AND IS SHOWN HEREON.

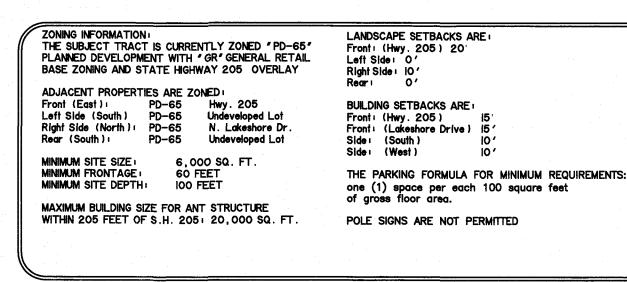
10e. THE SUBJECT TRACT IS A PORTION OF THE LANDS DESCRIBED IN THE DEED RECORDED IN VOL. 26, PG. 606, D.R.R.C.T. 10f. THE SUBJECT TRACT IS A PORTION OF THE LANDS DESCRIBED IN THE DEED RECORDED IN VOL. 102, PG. 708, D.R.R.C.T. 10g. THE EASEMENT RECORDED IN VOL. 2563, PG. 37, D.R.R.C.T., IS NOT LOCATED ON THE SUBJECT TRACT.

10h. THE EASEMENT RECORDED IN VOL. 2817, PG. 70, D.R.R.C.T., IS NOT LOCATED ON THE SUBJECT TRACT.

101. THE SLOPE EASEMENT TRACT 2 RECORDED IN VOL. 3828, PG. 31, D.R.R.C.T., IS LOCATED ON THE SUBJECT AND IS SHOWN HEREON. 10]. THE EASEMENT RECORDED IN VOL. 3828, PG. 49, D.R.R.C.T., IS NOT LOCATED ON THE SUBJECT TRACT.

10m. THE 15' BUILDING LINE, 25' FOOD BUILDING LINE, 10' UTILITY EASEMENT, VARIABLE WIDTH UTILITY EASEMENT, DETENTION AND DRAINAGE EASEMENT, VARIABLE WIDTH DRAINAGE AND UTILITY EASEMENTS, AND THE FIRELANE, PUBLIC ACCESS UTILITY, DETENTION AND DRAINAGE EASEMENT SHOWN ON THE PLAT RECORDED IN INSTRUMENT No. 20170000015245, O.P.R.R.C.T., ARE LOCATED ON THE SUBJECT TRACT, AND ARE SHOWN HEREON. 10n. THE EASEMENT RECORDED IN INSTRUMENT No. 20170000012674, O.P.R.R.C.T., IS LOCATED ON THE SUBJECT TRACT, AND IS SHOWN HEREON.

100. THE SUBJECT TRACT IS INCLUDED IN THE LANDS DESCRIBED IN THE PLAT RECORDED IN VOLUME J, PAGE 185, P.R.R.C.T., AND THE DECLARATION OF EASEMENTS, COVENANTS, AND RESTRICTIONS RECORDED IN INSTRUMENT NO. 20180000011380, O.P.R.R.C.T., AND THE AND AMENDMENT TO THE DECLARATION OF EASEMENTS, COVENANTS, AND RESTRICTIONS RECORDED IN INSTRUMENT NO. 20180000018088, O.P.R.R.C.T. THE ACCESS EASEMENT AREA SHOWN IN EXHIBIT "B" IS SHOWN HEREON.



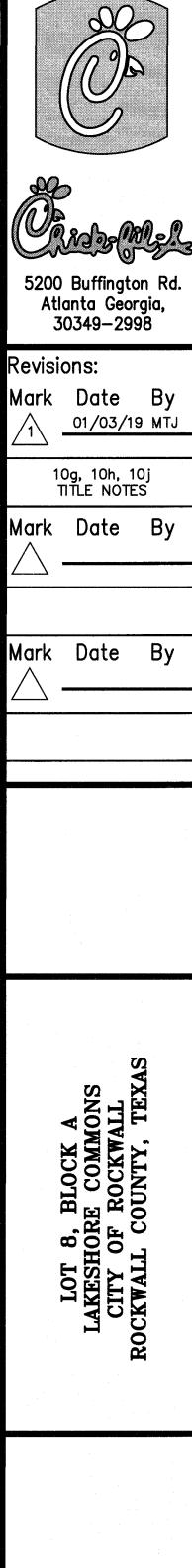
Atmos Energy Address: No address needed Contact: Ms. Dinah Wood Phone: 972-485-6277

vi) ELECTRIC Address: No address needed Contact: Mr. Phillip Dickerson Phone: (972) 551-6712

D) LANDLORD/DEVELOPER


vii) TELEPHONE ATT (Telephone) Address: 2702 Wesley Street, Greenville, TX 75401 Contact: Mr. Scott Ulrich Phone: (469) 665-7661

BT Investments, LLC Address: 10210 N. Central Expressway, Suite 300, Dallas, TX 75231 Contact: Mr. Worth Williams Phone: (214) 415-9993




SHEET TITLE <u>\*SURVEYOR'S STATEMENT\*</u> ALTA/NSPS TO CHICK-FIL-A, INC, A GEORGIA CORPORATION, MOORE WORTH INVESTMENTS LLC, AND CHICAGO TITLE INSURANCE COMPANY; LAND TITLE SURVEY THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH LAWS REGULATING SURVEYING IN THE STATE OF TEXAS, AND WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, INCLUDES ITEMS 1, 2, 3, 4, 5, 6(b), □Preliminary 7(a), 7(b1), 8, 9, 11, 13, 16, 17, 20, AND 21 OF TABLE A THEREOF. □80% Submittal THE FIELDWORK WAS COMPLETE ON NOVEMBER 19TH. 2018. □For Construction DATE OF PLAT OR MAP: \_\_\_\_\_\_ : 17144 Job No. : <u>#03897</u> GREGG A. E. MADSEN Store 5798 5798 . 1/3/2019 Date Less CE/ GREGG A.E. MADSEN, R.P.L.S. STATE OF TEXAS No. 5798 Drawn By :<u>MTJ</u> E-MAIL: GreggM**O**WierAssociates.com Checked By: <u>GAM</u> Sheet PREPARED BY: WIER & ASSOCIATES, INC. ENGINEERS SURVEYORS LAND PLANNERS 2201 E. LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467—7700 Texas Firm Registration No. F—2776 www.WierAssociates.com Texas Board of Professional Land Surveying Registration No. 10033900

\* LEGEND\* LINE IDENTIFIED L1 IN LINE TABLE CURVE IDENTIFIED IN CURVE TABLE CONTROLLING MONUMENT (CM **IRON ROD FOUND** IRON ROD SET IRS YELLOW CAP STAMPED "WER" "WER & ASSOC INC" NORTH AKESHORE (VARIABLE WIDTH PUBLIC RIGHT-OF-WAY) CENTERLINE VOL. 3828, PG. 23 D.R.R.C.T. PLACE OF N: 7034555.25 BEGINNING E: 2593149.42 "X" CUT FOUND (CM) 40' ACCESS DRIVE-----UTILITY EASEMENT INST. No. 20170000015245 P.R.R.C.1 NO3'01'36"W 50.01' L=27.09'---R=35.00' D=44'20'38" CH=N25'28'00"W "X" CUT FOUND CL=26.42' UTILITY EASEMENT INST. No. 20170000015245 P.R.R.C.T. FIRE LANE, PUBLIC ACCESS, UTILITY, DETENTION & DRAINAGE EASEMENT INST. No. 20170000015245 P.R.R.C.T. MOORE WORTH INVESTMENTS LLC INST. No. 2016000022877 0.P.R.R.C.T. LOT 1, BLOCK A UTILITY EASEMENT LAKESHORE COMMONS INST. No. 20170000015245 INST. No. 20170000015245 P.R.R.C.T. 0.P.R.R.C.T. UTILITY EASEMENT INST. No. 20170000015245 P.R.R.C.T. "X" CUT FOUND N47'04'05"W-33.07' CITY OF ROCKWALL VOL. 5670, PG. 162 D.R.R.C.T.



\* L E G E N D \* LINE IDENTIFIED IN LINE TABLE CURVE IDENTIFIED C IN CURVE TABLE (CM) CONTROLLING MONUMENT IRF **IRON ROD FOUND** IRS IRON ROD SET YELLOW CAP STAMPED "WER" "WER & ASSOC INC" NORTH (VARIABLE WIDTH PUBLIC RIGHT-OF-WAY) CENTERLINE VOL. 3828, PG. 23 D.R.R.C.T. PLACE OF BEGINNING "X" CUT FOUND (CM) CUT FOUND > "X" CUT FOUND MOORE WORTH INVESTMENTS LLC INST. No. 2016000022877 0.P.R.R.C.T. LOT 1, BLOCK A LAKESHORE COMMONS INST. No. 20170000015245 O.P.R.R.C.T. "X" CUT FOUND 9 L=1.40'-----*R=20.00*' D=4'01'16" CH=S45'13'18"E CL=1.40' EASEMENT CURVE TABLE ARC RADIUS DELTA BEARING CURVE DIST. 39.22' 77.15' 29'07'53" S14'30'36"E 38.80' 23.19' 109.97' 12'04'50" S21'59'35"E 23.14' C2 C3 | 15.56' | 69.88' | 12'45'16" | S06'55'49"E | 15.52' 78.79' 2571'56" S14'44'48"E 34.38' 34.65' ·C4 CITY OF ROCKWALL VOL. 5670, PG. 162 C5 20.41' 62.24' 18'47'26" S16'43'08"E 20.32' D.R.R.C.T. 19.32' 237.00' 4'40'12" S04'30'03"E 19.31' **C6** 27.23' 68.10' 22'54'34" S12'41'56"E 27.05' **C7** 



OWNER'S CERTIFICATE

STATE OF TEXAS COUNTY OF ROCKWALL

WHEREAS MOORE WORTH INVESTMENTS, LLC, BEING THE OWNER OF A TRACT OF LAND IN THE COUNTY OF ROCKWALL, STATE OF TEXAS, SAID TRACT BEING DESCRIBED AS FOLLOWS:

BEING A TRACT OF LAND LOCATED IN THE JOHN H.B. JONES SURVEY, ABSTRACT No. 124, ROCKWALL COUNTY, TEXAS, BEING ALL OF LOT 2, BLOCK A, LAKESHORE COMMONS, AN ADDITION TO THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, ACCORDING TO THE PLAT RECORDED IN INSTRUMENT NO. 20170000015245, OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS (O.P.R.R.C.T.), AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT AN "X" CUT FOUND IN THE SOUTH RIGHT-OF-WAY LINE OF NORTH LAKESHORE DRIVE (A VARIABLE WIDTH RIGHT-OF-WAY), BEING THE NORTHWEST CORNER OF SAID LOT 2, AND THE NORTHEAST CORNER OF LOT 1 OF SAID BLOCK A, LAKESHORE COMMONS;

THENCE ALONG THE SOUTH RIGHT-OF-WAY LINE OF SAID NORTH LAKESHORE DRIVE AND THE NORTH LINE OF SAID LOT 2 AS FOLLOWS:

(1) N 86'58'24" E, 80.03 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE BEGINNING OF A CURVE TO THE RIGHT;

(2) EASTERLY, AN ARC LENGTH OF 44.60 FEET ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 240.00 FEET, A DELTA ANGLE OF 10'38'54" AND A CHORD BEARING OF S 87'42'09" E, 44.54 FEET TO A 1/2" IRON ROD SET WITH A CAP STAMPED "WER & ASSOC INC" BEING THE BEGINNING OF A REVERSE CURVE TO THE LEFT;

(3) EASTERLY, AN ARC LENGTH OF 65.42 FEET ALONG SAID REVERSE CURVE TO THE LEFT, HAVING A RADIUS OF 260.00 FEET, A DELTA ANGLE OF 14'25'01" AND A CHORD BEARING OF S 89'35'12" E, 65.25 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE BEGINNING OF A COMPOUND CURVE TO THE LEFT;

(4) EASTERLY, AN ARC LENGTH OF 21.09 FEET ALONG SAID COMPOUND CURVE TO THE LEFT, HAVING A RADIUS OF 902.50 FEET, A DELTA ANGLE OF 01'20'20" AND A CHORD BEARING OF N 82'32'06" E, 21.09 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC", BEING THE MOST NORTHERLY NORTHEAST CORNER OF SAID LOT 2 AND THE BEGINNING OF A REVERSE CURVE TO THE RIGHT;

(5) SOUTHEASTERLY, AN ARC LENGTH OF 85.01 FEET ALONG SAID REVERSE CURVE TO THE RIGHT, HAVING A RADIUS OF BO.OO FEET, A DELTA ANGLE OF 60'53'00" AND A CHORD S 67'41'34" E, 81.07 FEET TO A 5/8" IRON ROD FOUND WITH A CAP BEARING STAMPED "STOVALL & ASSOC", IN THE WEST RIGHT-OF-WAY LINE OF NORTH GOLIAD STREET (A VARIABLE WIDTH RIGHT-OF-WAY), SAID IRON ROD BEING THE MOST EASTERLY NORTHEAST CORNER OF SAID LOT 2;

THENCE S 14'17'14" E, ALONG THE WEST RIGHT-OF-WAY LINE OF SAID NORTH GOLIAD STREET AND THE EAST LINE OF SAID LOT 2, 165.99 FEET TO A A 1/2" IRON ROD SET WITH A CAP STAMPED "WER & ASSOC INC" BEING THE SOUTHEAST CORNER OF SAID LOT 2 AND THE NORTHEAST CORNER OF LOT 3 OF SAID BLOCK A, LAKESHORE COMMONS ADDITION;

THENCE ALONG THE SOUTH LINE OF SAID LOT 2 AND THE NORTH LINE OF SAID LOT 3 AS FOLLOWS:

(1) S 75'42'46" W, DEPARTING THE WEST RIGHT-OF-WAY LINE OF SAID NORTH GOLIAD STREET, 74.36 FEET TO AN "X" CUT SET;

(2) S 86'59'47" W, 154.50 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL & ASSOC";

(3) S 42'07'52" W, 17.76 FEET TO A 5/8" IRON ROD FOUND WITH A CAP STAMPED "STOVALL ASSOC";

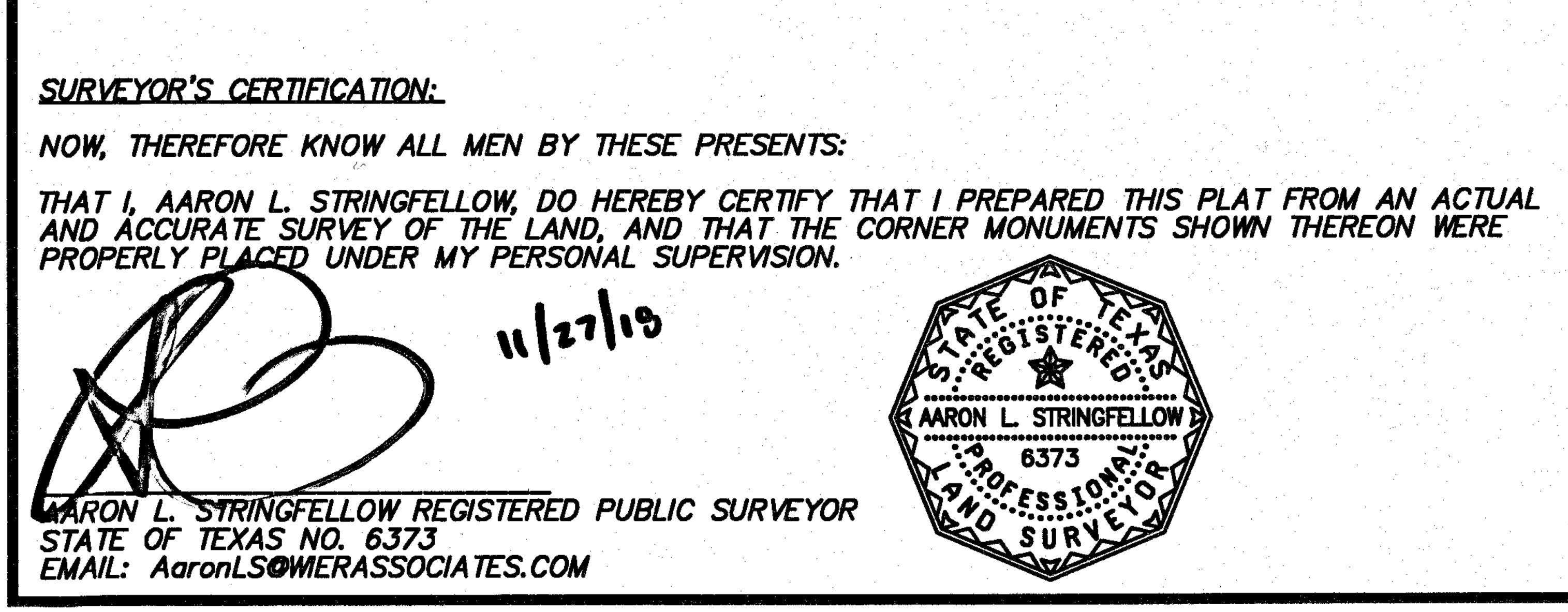
(4) N 72'06'04" W, 46.17 FEET TO AN "X" CUT FOUND;

(5) N 47'04'05" W, AT A DISTANCE OF 22.78 FEET PASSING THE NORTHWEST CORNER OF SAID LOT 3 AND AN ELL CORNER OF SAID LOT 1, CONTINUING ALONG THE EAST LINE OF SAID LOT 1 IN ALL A TOTAL DISTANCE OF 33.07 FEET TO AND "X" CUT FOUND IN THE EAST LINE OF SAID LOT 1 AND THE WEST LINE OF SAID LOT 2;

THENCE ALONG THE EAST LINE OF SAID LOT 1 AND THE WEST LINE OF SAID LOT 2 AS FOLLOWS: (1) N 03'01'36" W, 116.19 FEET TO AN "X" CUT FOUND, BEING THE BEGINNING OF A CURVE TO THE LEFT

(2) NORTHWESTERLY, AN ARC LENGTH OF 27.09 FEET ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 35.00 FEET, A DELTA ANGLE OF 44'20'38" AND A CHORD BEARING OF N 25'28'00" W, 26.42 FEET TO AN "X" CUT FOUND;

(3) N 03'01'36" W, 50.01 FEET TO THE PLACE OF BEGINNING AND CONTAINING 1.401 ACRES (61,014 SQUARE FEET) OF LAND, MORE OR LESS.



NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS: STATE OF TEXAS COUNTY OF DALLAS

I THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS LOT 8. BLOCK A. LAKESHORE COMMONS TO THE CITY OF ROCKWALL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO. HEREBY DEDICATE TO THE USE OF THE PUBLIC FOREVER ALL STREETS, ALLEYS. PARKS. WATER COURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED. I FURTHER CERTIFY THAT ALL OTHER PARTIES WHO HAVE A MORTGAGE OR LIEN INTEREST IN LOT 8, BLOCK A, LAKESHORE COMMONS HAVE BEEN NOTIFIED AND SIGNED THIS PLAT.

I UNDERSTAND AND DO HEREBY RESERVE THE EASEMENT STRIPS SHOWN ON THIS PLAT FOR THE PURPOSES STATED AND FOR THE MUTUAL USE AND ACCOMMODATION OF ALL UTILITIES DESIRING TO USE OR USING SAME. I ALSO UNDERSTAND THE FOLLOWING;

, NO BUILDINGS SHALL BE CONSTRUCTED OR PLACED UPON, OVER, OR ACROSS THE UTILITY EASEMENTS AS DESCRIBED HEREIN.

2. ANY PUBLIC UTILITY SHALL HAVE THE RIGHT TO REMOVE AND KEEP REMOVED ALL OR PART O ANY BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER GROWTHS OR IMPROVEMENTS WHICH IN ANY WAY ENDANGER OR INTERFERE WITH CONSTRUCTION, MAINTENANCE OR EFFICIENCY OF THEIR RESPECTIVE SYSTEM ON ANY OF THESE EASEMENT STRIPS; AND ANY PUBLIC UTILITY SHALL AT ALL TIMES HAVE THE RIGHT OF INGRESS OR EGRESS TO, FROM AND UPON THE SAID EASEMENT STRIPS FOR PURPOSE OF CONSTRUCTION, RECONSTRUCTION, INSPECTING, PATROLLING, MAINTAINING, AND EITHER ADDING TO OR REMOVING ALL OR PART OF THEIR RESPECTIVE SYSTEM WITHOUT THE NECESSITY OF, AT ANY TIME, PROCURING THE PERMISSION OF ANYONE.

3. THE CITY OF ROCKWALL WILL NOT BE RESPONSIBLE FOR ANY CLAIMS OF ANY NATURE RESULTING FROM OR OCCASIONED BY THE ESTABLISHMENT OF GRADE OF STREETS IN THE SUBDIVISION.

THE DEVELOPER AND ENGINEER SHALL BEAR TOTAL RESPONSIBILITY FOR STORM DRAIN IMPROVEMENTS.

5. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE NECESSARY FACILITIES TO PROVIDE DRAINAGE PATTERNS AND DRAINAGE CONTROLS SUCH THAT PROPERTIES WITHIN THE DRAINAGE AREA ARE NOT ADVERSELY AFFECTED BY STORM DRAINAGE FROM THE DEVELOPMENT.

S. NO HOUSE DWELLING UNIT, OR OTHER STRUCTURE SHALL BE CONSTRUCTED ON ANY LOT IN THIS ADDITION BY THE OWNER OR ANY OTHER PERSON UNTIL THE DEVELOPER AND/OR OWNER HAS COMPLIED WITH ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE CITY OF ROCKWALL REGARDING IMPROVEMENTS WITH RESPECT TO THE ENTIRE BLOCK ON THE STREET OR STREETS ON WHICH PROPERTY ABUTS, INCLUDING THE ACTUAL INSTALLATION OF STREETS WITH THE REQUIRED BASE AND PAVING, CURB AND GUTTER, WATER AND SEWER, DRAINAGE STRUCTURES, STORM STRUCTURES, STORM SEWERS, AND ALLEYS, ALL ACCORDING TO THE SPECIFICATIONS OF THE CITY OF ROCKWALL; OR

UNTIL AN ESCROW DEPOSIT, SUFFICIENT TO PAY FOR THE COST OF SUCH IMPROVEMENTS, AS DETERMINED BY THE CITY'S ENGINEER AND/OR CITY ADMINISTRATOR, COMPUTED ON A PRIVATE COMMERCIAL RATE BASIS, HAS BEEN MADE WITH THE CITY SECRETARY, ACCOMPANIED BY AN AGREEMENT SIGNED BY THE DEVELOPER AND/OR OWNER, AUTHORIZING THE CITY TO MAKE SUCH IMPROVEMENTS AT PREVAILING PRIVATE COMMERCIAL RATES. OR HAVE THE SAME MADE BY A CONTRACTOR AND PAY FOR THE SAME OUT OF THE ESCROW DEPOSIT, SHOULD THE DEVELOPER AND/OR OWNER FAIL OR REFUSE TO INSTALL THE REQUIRED IMPROVEMENTS WITHIN THE TIME STATED IN SUCH WRITTEN AGREEMENT, BUT IN NO CASE SHALL THE CITY BE OBLIGATED TO MAKE SUCH IMPROVEMENTS ITSELF. SUCH DEPOSIT MAY BE USED BY THE OWNER AND/OR DEVELOPER AS PROGRESS PAYMENTS AS THE WORK PROGRESSES IN MAKING SUCH IMPROVEMENTS BY MAKING CERTIFIED REQUISITIONS TO THE CITY SECRETARY, SUPPORTED BY EVIDENCE OF WORK DONE; OR

UNTIL THE DEVELOPER AND/OR OWNER FILES A CORPORATE SURETY BOND WITH THE CITY SECRETARY IN A SUM EQUAL TO THE COST OF SUCH IMPROVEMENTS FOR THE DESIGNATED AREA, GUARANTEEING THE INSTALLATION THEREOF WITHIN THE TIME STATED IN THE BOND, WHICH TIME SHALL BE FIXED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL.

7. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTAINING, REPAIRING, AND REPLACING ANY DRAINAGE SYSTEMS IN EASEMENTS.

I FURTHER ACKNOWLEDGE THAT THE DEDICATIONS AND/OR EXACTION'S MADE HEREIN ARE PROPORTIONAL TO THE IMPACT OF THE SUBDIVISION UPON THE PUBLIC SERVICES REQUIRED IN ORDER THAT THE DEVELOPMENT WILL COMPORT WITH THE PRESENT AND FUTURE GROWTH NEEDS OF THE CITY; I, MY SUCCESSORS AND ASSIGNS HEREBY WAIVE ANY CLAIM, DAMAGE, OR CAUSE OF ACTION THAT I MAY HAVE AS A RESULT OF THE DEDICATION OF EXACTIONS MADE HEREIN.

WITNESS OUR HANDS THIS THE 2 M DAY OF DOWNLOW AND 2018:

FOR: MOORE WORTH INVESTMENTS, LLC

STATE OF TEXAS COUNTY OF DALLAS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSE AND CONSIDERATION THEREIN STATED. GIVEN UPON MY HAND AND SEAL OF OFFICE THIS 29 DAY OF OVENBEL, 2018.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS PRINTED NAME NAME JILL M LOPEZ Notary Public State of Texas COMM. EXP. 6/21/2020 NO. 12495573-5 <u>SURVEYOR</u> <u>OWNER</u> WIER & ASSOCIATES, INC. MOORE WORTH INVESTMENTS, LLC 2201 EAST LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 10210 N. CENTRAL EXPRESSWAY, CONTACT: RANDY EARDLEY, P.E. SUITE 300, DALLAS, TX 75231

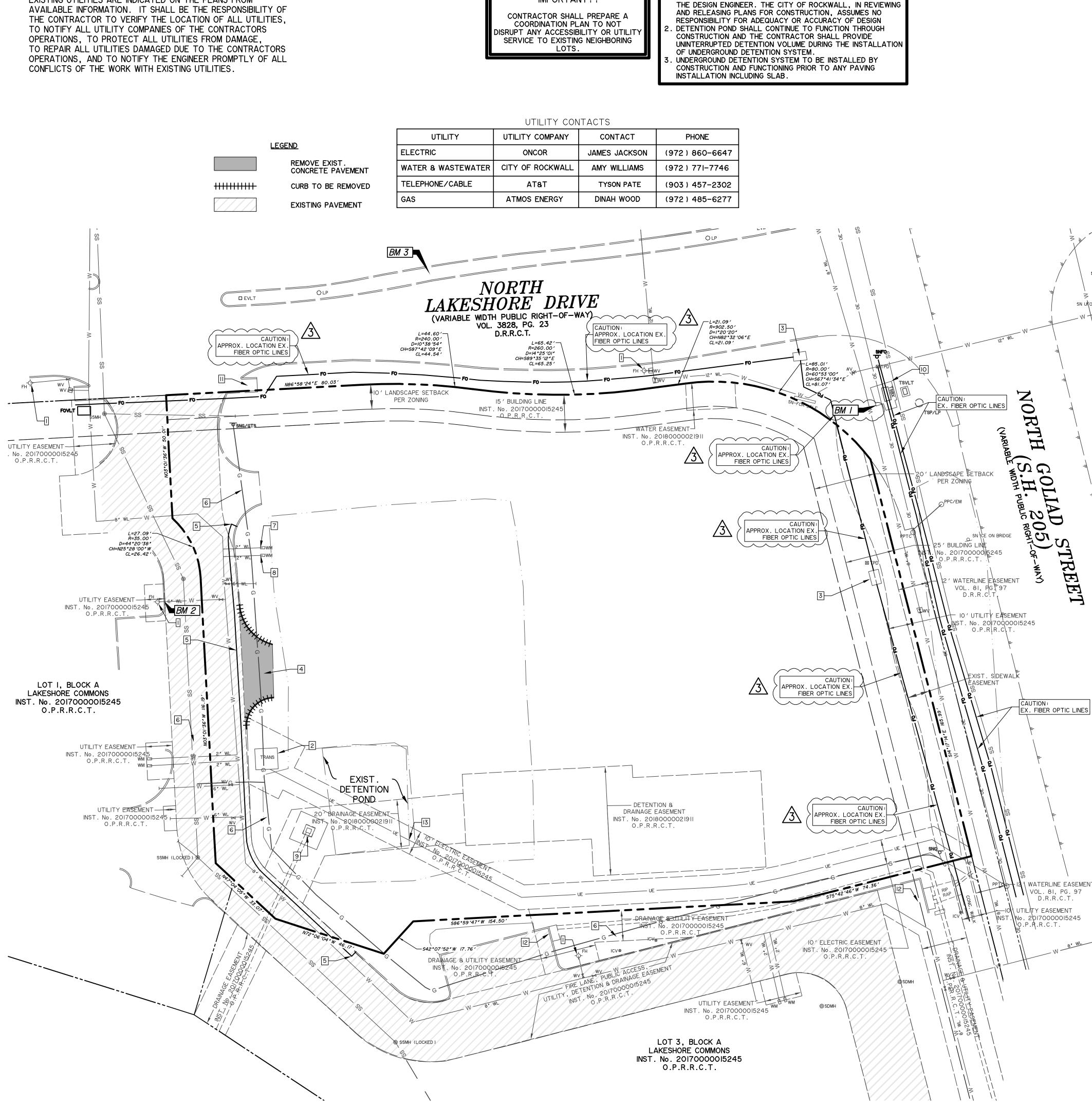
PH: (817) 467-7700 CONTACT: WORTH WILLIAMS PH: (214) 415–9993 FAX: (817) 467-7713

RECOMMENDED FOR FINAL APPROVAL DATE PLANNING AND ZONING COMMISSION. CHAIRMAN <u>APPROVED</u> I HEREBY CERTIFY THAT THE ABOVE AND FOREGOING PLAT OF AN ADDITION TO THE CITY OF ROCKWALL, TEXAS, WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL ON THE THIS APPROVAL SHALL BE INVALID UNLESS THE APPROVED PLAT FOR SUCH ADDITION IS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF ROCKWALL COUNTY, TEXAS WITHIN ONE HUNDRED EIGHTY (180) DAYS FROM SAID DATE OF FINAL APPROVAL. DAY OF \_\_\_\_\_ 2018. WITNESS OUR HANDS. THIS Umy Williams, PE OCITY ENGINEER SIGNATURE OF PARTY WITH MORTGAGE OR LIEN INTEREST STATE OF TEXAS COUNTY OF DALLAS PURPOSE AND CONSIDERATION THEREIN STATED. NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS JILL M LOPFZ SUL DPEZ PRINTED NAME XP. 6/21/2020 REPLAT LOT 8, BLOCK A LAKESHORE COMMONS BEING A REPLAT OF LOT 2, BLOCK A, LAKESHORE COMMONS AN ADDITION TO THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS CASE NUMBER - P2018-036 ONE LOT 1.401 ACRES WWA WIER & ASSOCIATES, INC. SURVEYORS LAND PLANNERS ENGINEERS 2201 E. LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700 Texas Firm Registration No. F-2776 www.WierAssociates.com Texas Board of Professional Land Surveying Registration No. 10033900 DATE: 10/29/2018 SHEET 3 OF 3 W.A. No. 17144

<u>GENERAL NOTES:</u> 1. IT SHALL BE THE POLICY OF THE WONTY OF ROCKWALL TO WITHHOLD ISSUING BUILDING PERMITS UNTIL ALL STREETS, WATER, SEWER AND STORM DRAINAGE SYSTEMS HAVE BEEN ACCEPTED BY THE CITY. THE APPROVAL OF A PLAT BY THE CITY DOES NOT CONSTITUTE ANY REPRESENTATION, ASSURANCE OR GUARANTEE THAT ANY BUILDING MITHIN SUCH PLAT SHALL BE APPROVED, AUTHORIZED OR PERMIT THEREFORE ISSUED, NOR SHALL SUCH APPROVAL CONSTITUTE ANY REPRESENTATION, ASSURANCE OR GUARANTEE BY THE CITY OF THE ADEQUACY AND AVAILABILITY FOR WATER FOR PERSONAL USE AND FIRE PROTECTION WITHIN SUCH PLAT, AS REQUIRED UNDER ORDINANCE 83-54. 2. THE PURPOSE OF THIS REPLAT IS TO ABANDON THE EASEMENTS INDICATED HEREON, AND CREATE THE EASEMENTS INDICATED HEREON. BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED DONNE MORESIGNED AUTHORITY, ON THIS DAY PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE GIVEN UPON MY HAND AND SEAL OF OFFICE THIS 29 DAY OF MOVEMBER. 2018. Filed and Recorded Official Public Records Shelli Miller, County Clerk Rockwall County, Texas 12/13/2018 10:57:09 AM \$150.00 20180000021911

CAUTION !! EXISTING UTILITIES ARE INDICATED ON THE PLANS FROM

ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH



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CONSTRUCTION.

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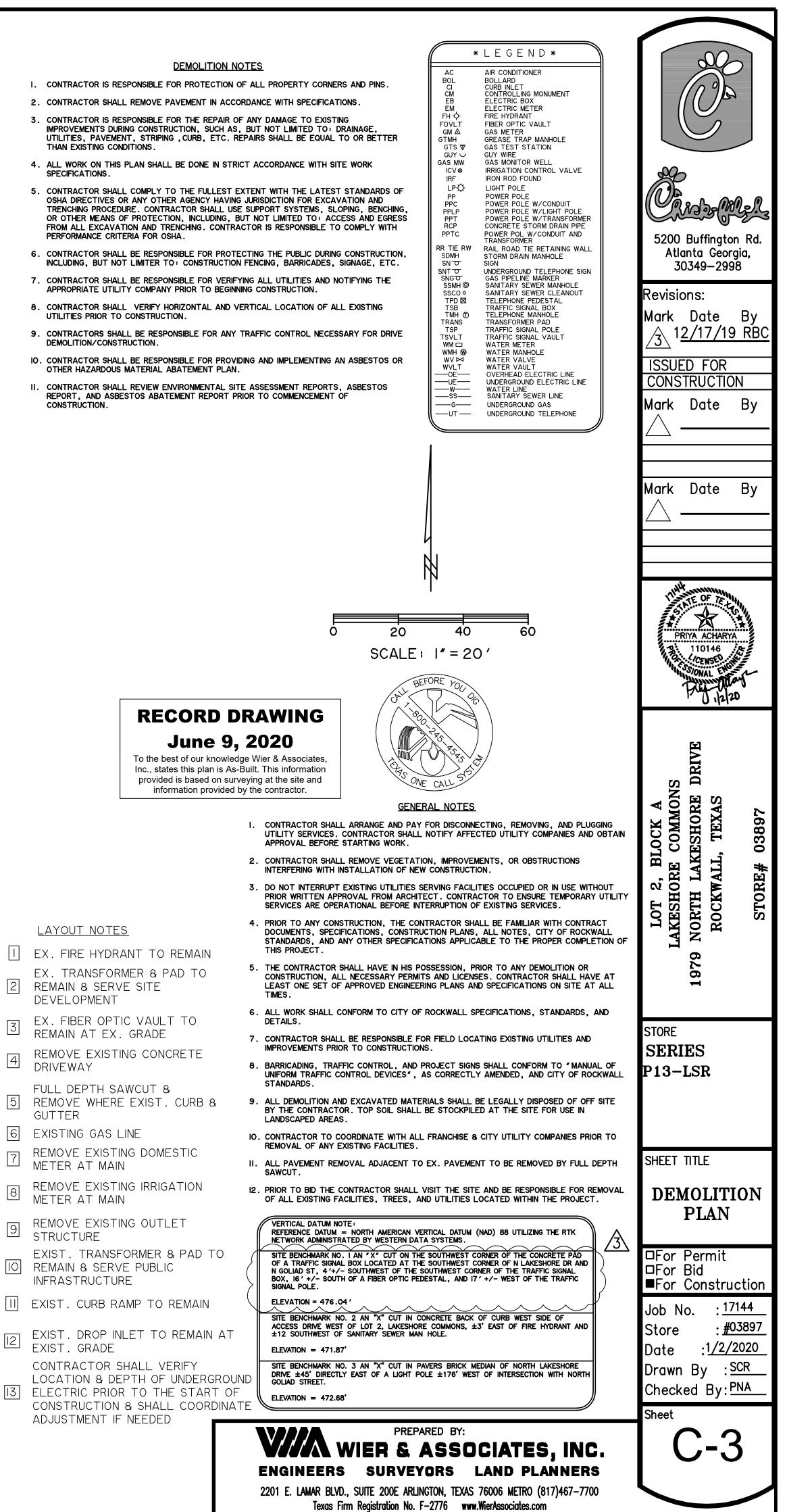
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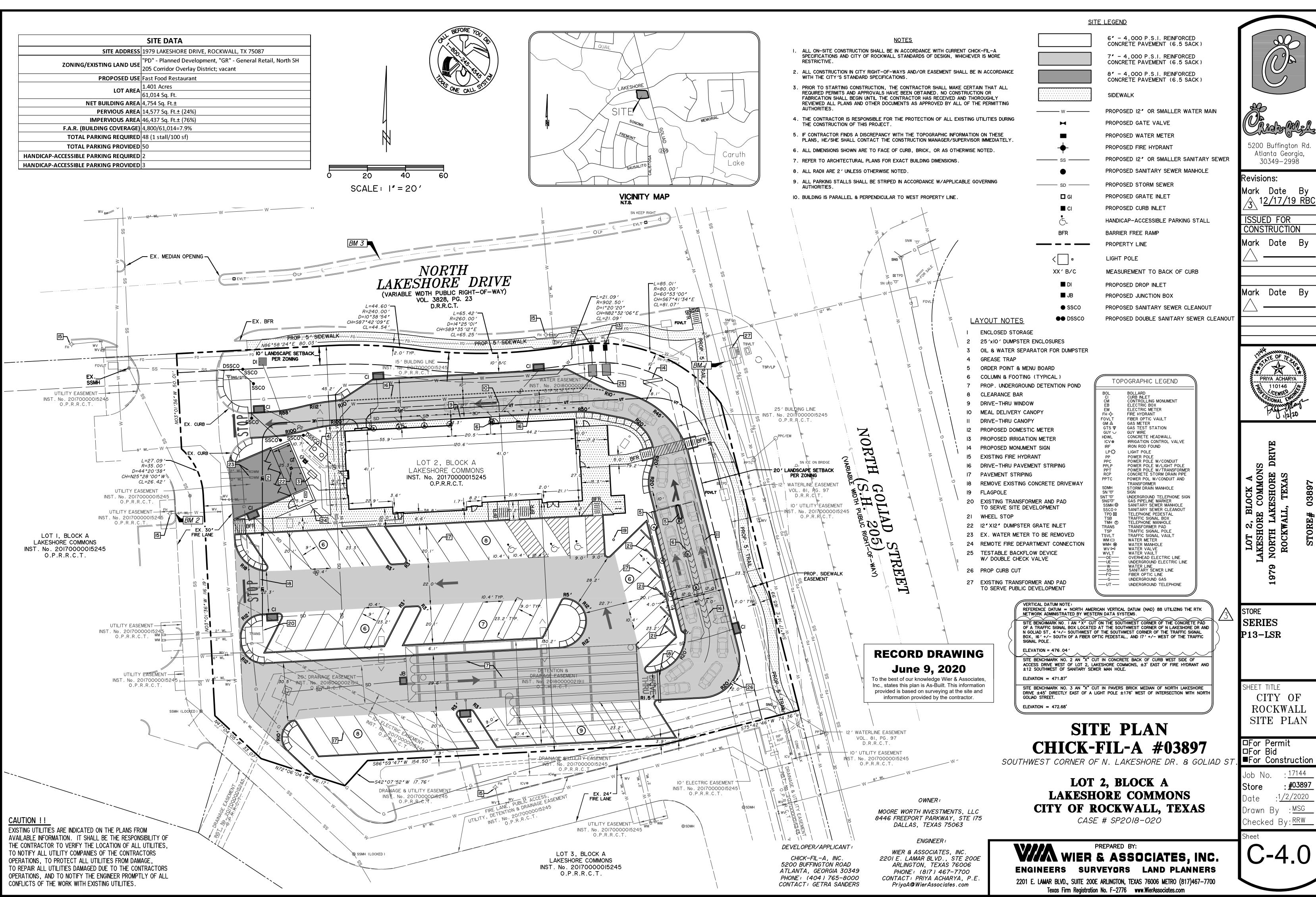
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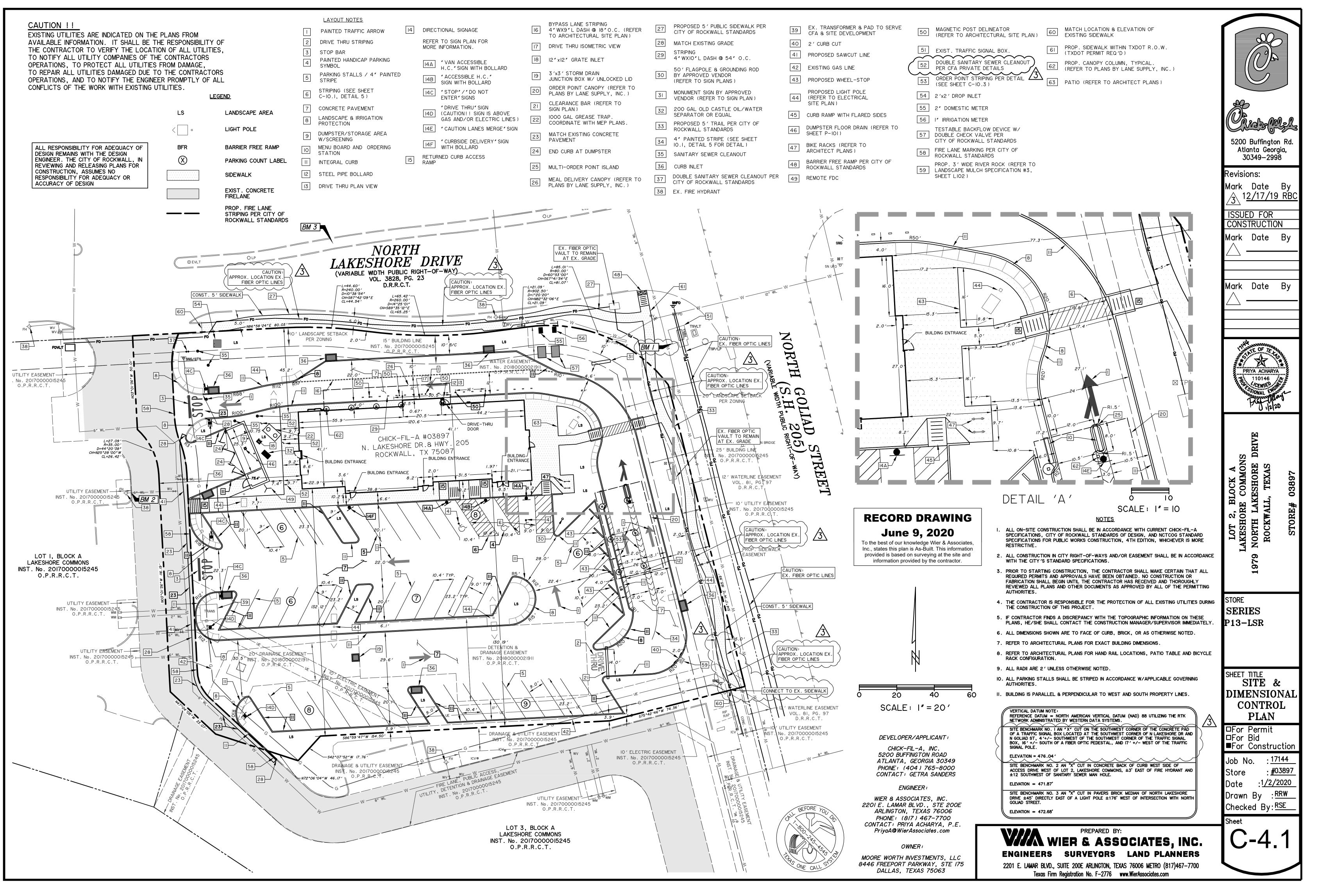
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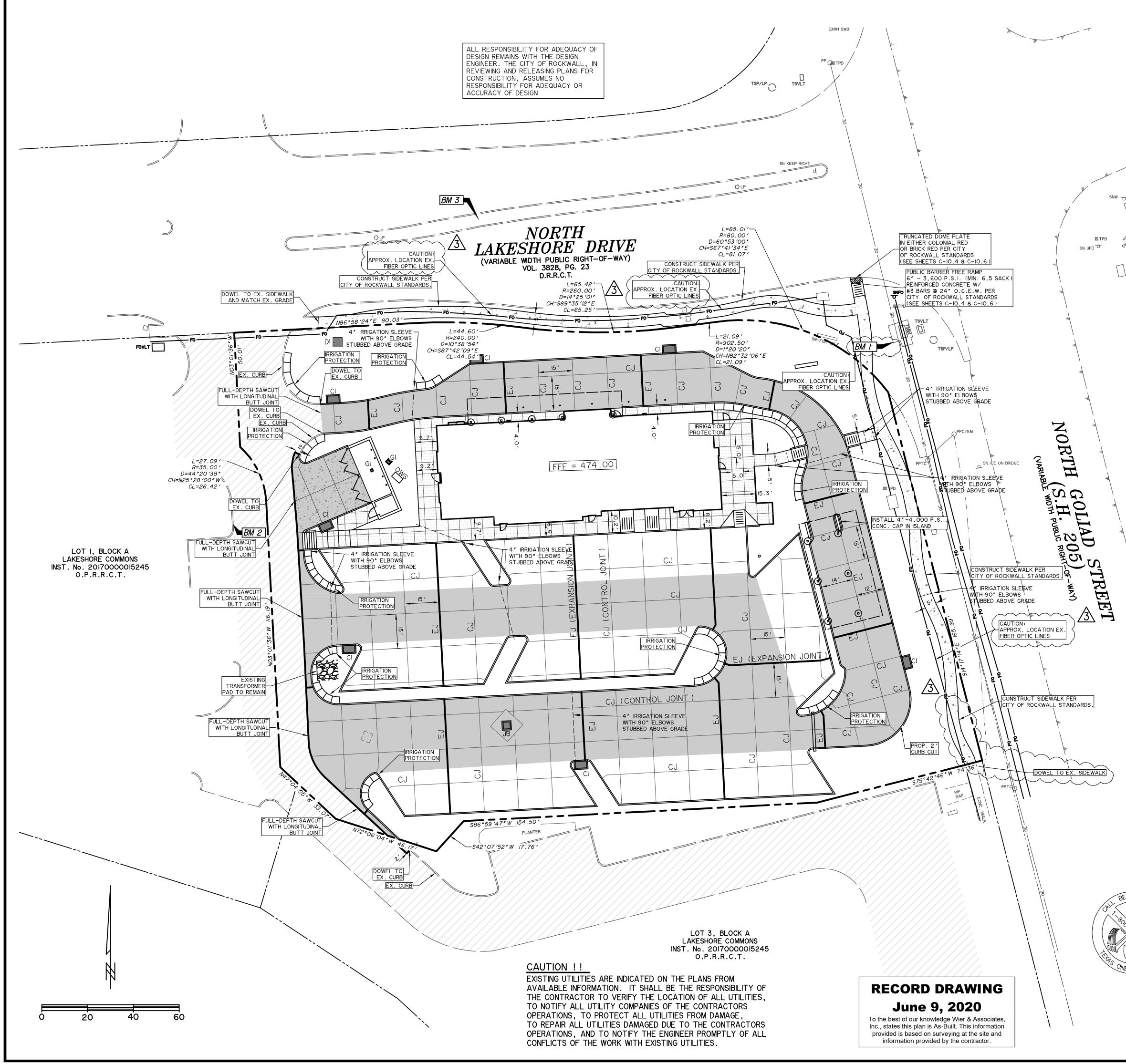
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- SPECIFICATIONS.



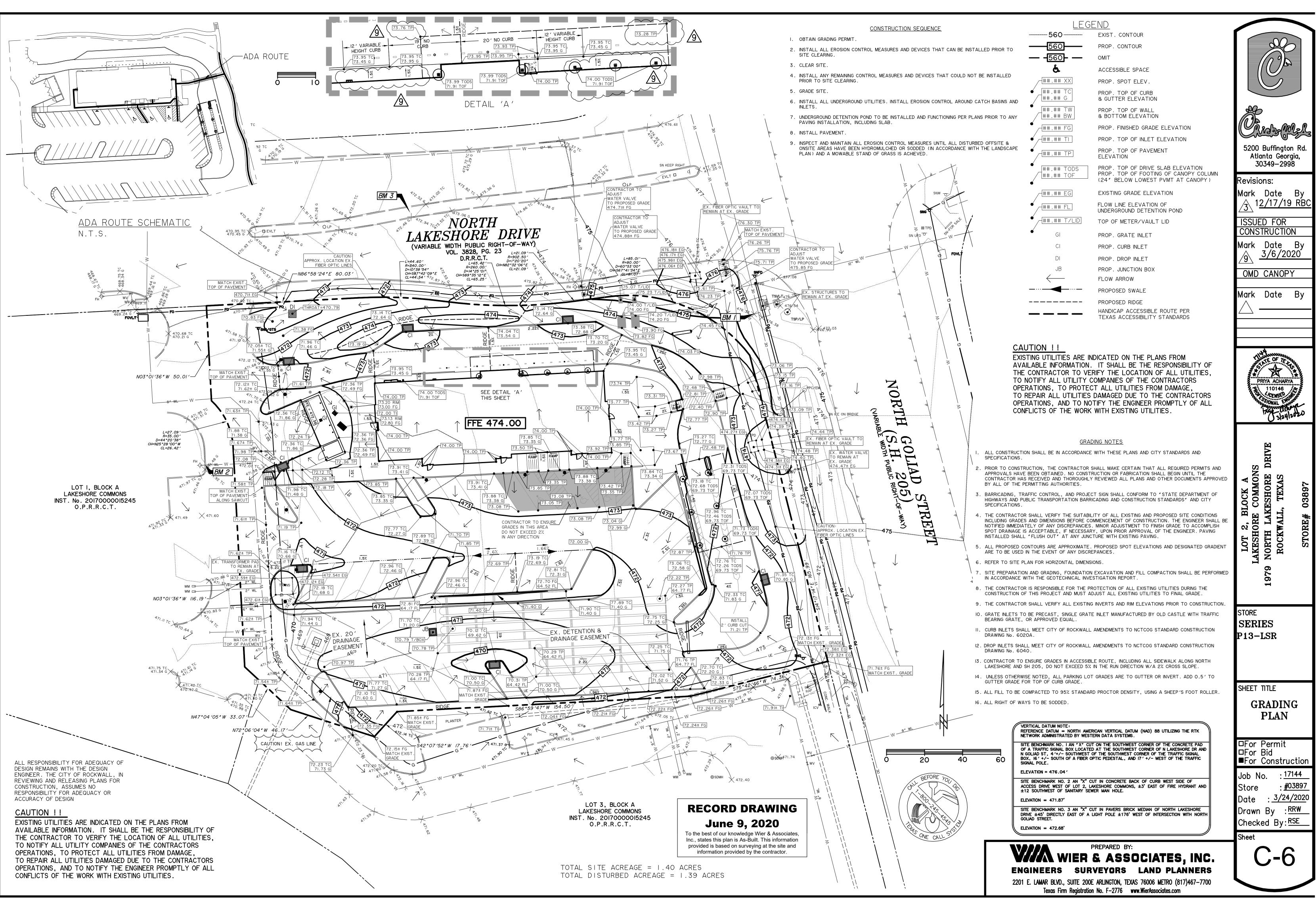




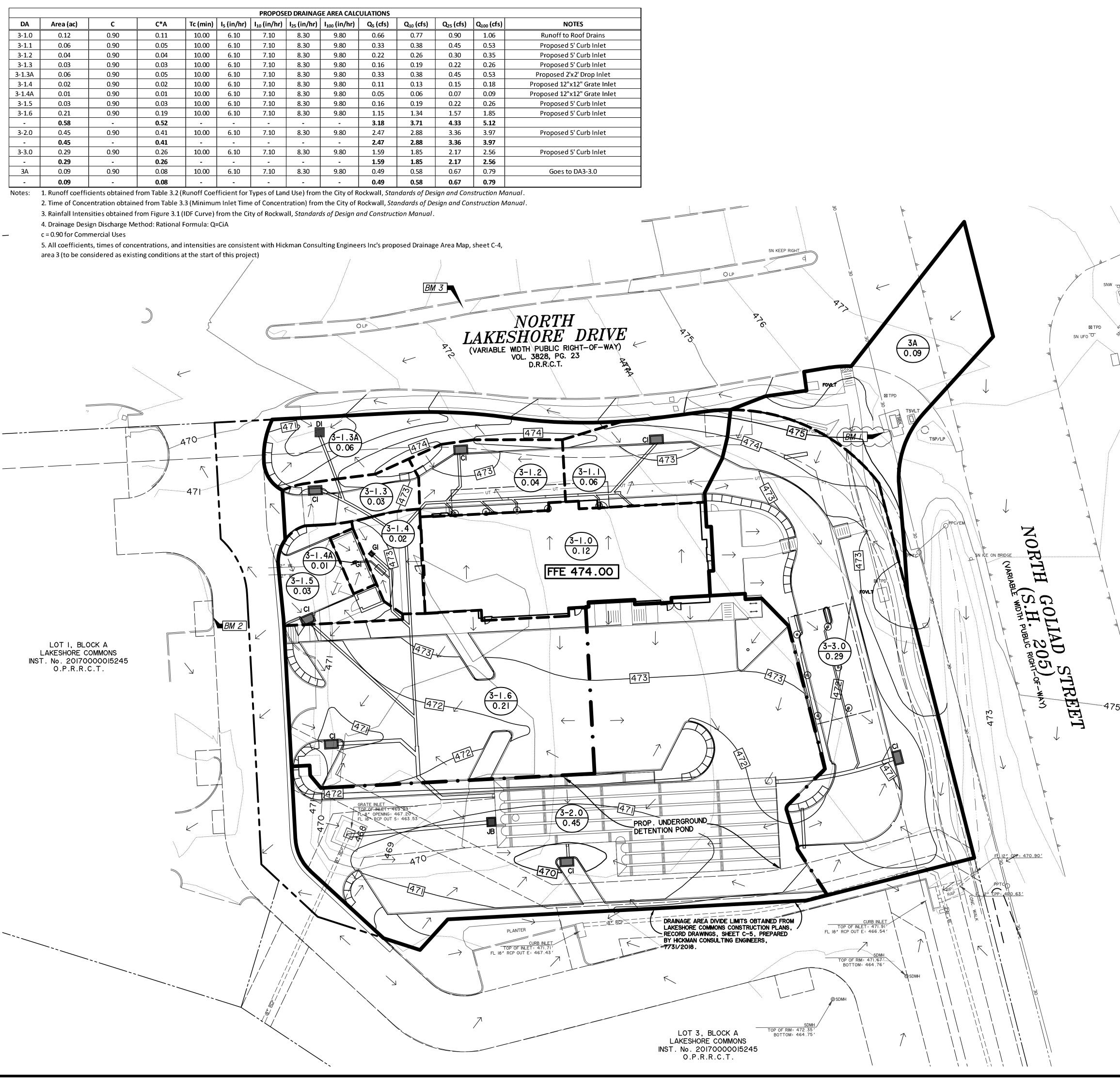


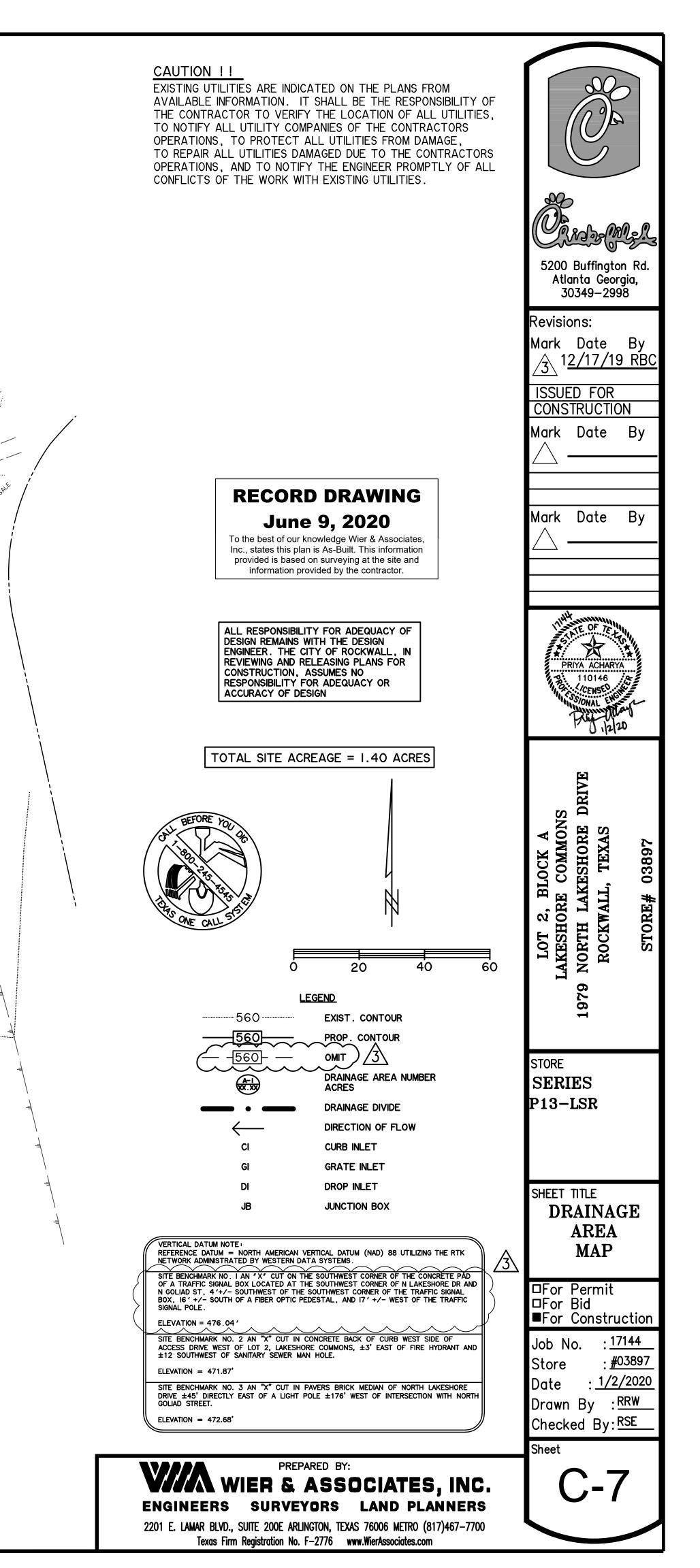
PRINTED: 1/2/2020 STB FILE: WIER-PAVING.STB LAST SAVED: 1/2/2020 12:09 PM SAVED BY: RILEYC FILE: C-5 PAVING PLAN-17144.DWG

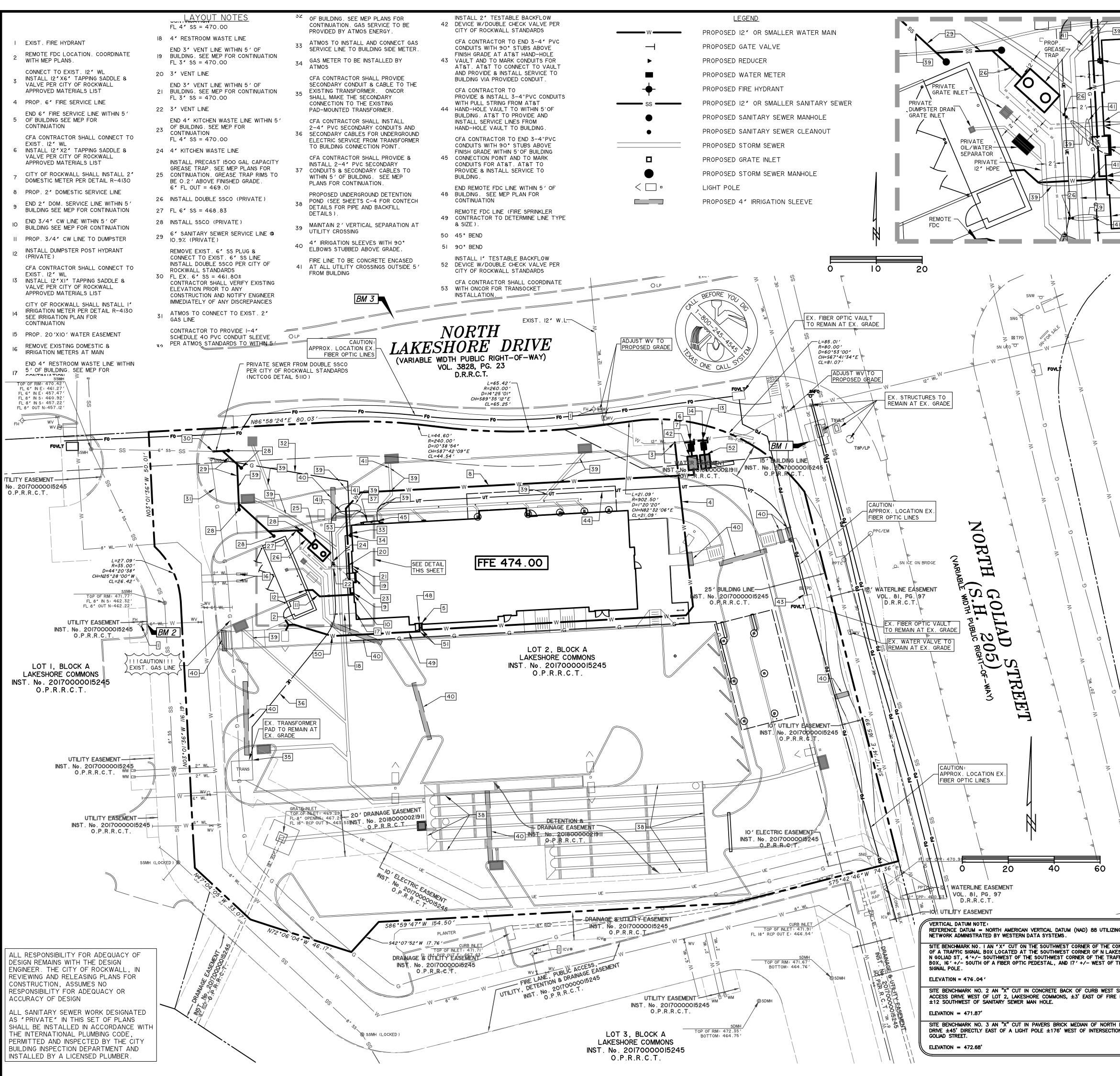
N J	LEGEND         CITY SIDEWALK PER CITY OF ROCKWALL STANDARDS         4* - 3,000 P.S.I. REINFORCED CONCRETE, MIN. 5.5 SACK MIX #3 BARS @24* O.C.E.W. PER CITY STANDARDS         STANDARD DUTY 6* - 4,000 P.S.I. REINFORCED CONCRETE PAVEMENT, MIN. 6.5 SACK MIX         HEAVY DUTY 7* - 4,000 P.S.I. REINFORCED CONCRETE PAVEMENT, MIN 6.5 SACK MIX         DUMPSTER APPROACH 8* - 4,000 P.S.I. REINFORCED CONCRETE PAVEMENT, MIN 6.5 SACK MIX         PRIVATE SIDEWALK 5* -4,000 P.S.I. REINFORCED CONCRETE, MIN. 6.5 SACK MIX         PRIVATE SIDEWALK 5* -4,000 P.S.I. REINFORCED CONCRETE, MIN. 6.5 SACK MIX         PRIVATE SIDEWALK 5* -4,000 P.S.I. REINFORCED CONCRETE, MIN. 6.5 SACK MIX	S200 Buffington Rd. Atlanta Georgia, 30349–2998
5 <sup>HF0R 5<sup>HF</sup></sup>	CI CURB INLET DI DROP INLET GI GRATE INLET JB JUNCTION BOX OWS OIL/WATER SEPARATOR EXISTING PAVEMENT	Mark Date By <u>3</u> 1 <u>2/17/19 RBC</u> <u>ISSUED FOR</u> <u>CONSTRUCTION</u> Mark Date By
	CONTRACTOR SHALL REFER TO "UNDERGROUND DETENTION BASIN" SECTION OF THE GEOTECHNICAL REPORT PREPARED BY GILES ENGINEERING ASSOCIATES, INC. PAVING NOTES ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE CITY STANDARDS AND SPECIFICATIONS. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR PUBLIC WORDER CONSTRUCTION FOR THE STANDARDS AND SPECIFICATIONS FOR PUBLIC	Mark Date By
\ 4.	WORKS CONSTRUCTION FOR THE CITY OF ROCKWALL, AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND DOCUMENTS APPROVED BY THE PERMITTING AGENCIES. DURING THE CONSTRUCTION OF THESE IMPROVEMENTS, ANY INTERPRETATION OF THE STANDARD SPECIFICATIONS FOR THE PUBLIC WORKS CONSTRUCTION AND ANY MATTER WHICH REQUIRES THE APPROVAL OF THE OWNER MUST BE APPROVED BY THE CITY ENGINEER OR HIS DESIGNEE BEFORE ANY CONSTRUCTION INVOLVING DECISION COMMENCES. ASSUMPTIONS ABOUT WHAT THESE DECISIONS MIGHT BE WHICH ARE MADE DURING THE BIDDING PHASE WILL HAVE NO BEARING ON THE DECISION. CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT PREPARED BY GILES ENGINEERING ASSOCIATES, INC. DATED OCTOBER 31, 2018 (4G-1710002).	PRIYA ACHARYA PRIYA ACHARYA 110146 CENSED WAL
	ONSITE PAVEMENT SHALL BE: STANDARD DUTY: MIN. 6' 4,000 PSI CONCRETE REINFORCED W/ #3 BARS @ I8' 0.C.E.W. UNDERLAIN BY 12' OF SCARIFIED AND RECOMPACTED SUBGRADE HEAVY DUTY: MIN. 7' 4,000 PSI CONCRETE REINFORCED W/ #3 BARS @ I4' 0.C.E.W. UNDERLAIN BY 12' OF SCARIFIED AND RECOMPACTED SUBGRADE DUMPSTER APPROACH MIN. 8' 4,000 PSI CONCRETE REINFORCED W/ #3 BARS @ I4' 0.C.E.W. UNDERLAIN BY 12' OF SCARIFIED AND RECOMPACTED SUBGRADE IN LIEU OF LIME STABILIZATION, 1' EXTRA OF REINFORCED CONCRETE HAS BEEN ADDED TO THE PAVEMENT SECTION PROVIDED HEREIN. A MINIMUM OF I2 INCHES OF PAVEMENT SUBGRADE SHALL BE SCARIFIED, MOISTURE-CONDITIONED RECOMPACTED AND PROOFROLLED. SUBGRADE SHALL BE SCARIFIED, MOISTURE-CONDITIONED RECOMPACTED AND PROOFROLLED. SUBGRADE SHALL BE SCARIFIED, MOISTURE-CONDITIONED RECOMPACTED AND PROOFROLLED. SUBGRADE SHALL BE COMPACTED TO AT LEAST IOO PERCENT OF MAXIMUM DRY DENSITY (ASTM D698) AND THE MATERIALS OPTIMUM MOISTURE CONTENT. THE MOISTURE CONTRACTOR SHALL REFER TO CURRENT GEOTECH REPORT FOR SIDEWALKS AND PATIO SUBGRADE RECOMMENDATIONS BARRIER FREE RAMPS SHALL BE CONSTRUCTED AT ALL STREET INTERSECTION AND DRIVEWAY APPROACHES. REFER TO SITE DETAILS FOR DETAILS OF CURB & SIDEWALK, ETC ALL FIRE LANES SHALL BE STRIPED ACCORDING TO CITY REQUIREMENTS. CONSTRUCTION OF STREETS, ALLEYS, SIDEWALKS, DRIVEWAYS AND STORM WATER FACILITIES IN THE SLIC RIGHT-OR-WAY SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CITY 'S CONSTRUCTION DETAILS. CONSTRUCTION SEQUENCE OBTAIN GRADING PERMIT.	LOT 2, BLOCK A LAKESHORE COMMONS 1979 NORTH LAKESHORE DRIVE ROCKWALL, TEXAS STORE# 03897
<ul> <li>↓ 2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> </ul>	INSTALL ALL EROSION CONTROL MEASURES AND DEVICES THAT CAN BE INSTALLED PRIOR TO SITE CLEARING. CLEAR SITE. INSTALL ANY REMAINING CONTROL MEASURES AND DEVICES THAT COULD NOT BE INSTALLED PRIOR TO SITE CLEARING. GRADE SITE. INSTALL ALL UNDERGROUND UTILITIES. INSTALL EROSION CONTROL AROUND CATCH BASINS AND INLETS. UNDERGROUND DETENTION POND TO BE INSTALLED AND FUNCTIONING PER PLANS PRIOR TO ANY PAVING INSTALLATION, INCLUDING SLAB.	STORE SERIES P13-LSR
	INSTALL PAVEMENT. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED OFFSITE & ONSITE AREAS HAVE BEEN HYDROMULCHED OR SODDED (IN ACCORDANCE WITH THE LANDSCAPE PLAN) AND A MOWABLE STAND OF GRASS IS ACHIEVED.	SHEET TITLE PAVING PLAN
BEFORE YOU DO BOO PRST TO	REFERENCE DATUM = NORTH AMERICAN VERTICAL DATUM (NAD) 88 UTILIZING THE RTK NETWORK ADMINISTRATED BY WESTERN DATA SYSTEMS. SITE BENCHMARK NO. I AN 'X' CUT ON THE SOUTHWEST CORNER OF THE CONCRETE PAD OF A TRAFFIC SIGNAL BOX LOCATED AT THE SOUTHWEST CORNER OF IL AKESHORE DR AND N GOLIAD ST, 4'+/- SOUTHWEST OF THE SOUTHWEST CORNER OF THE TRAFFIC SIGNAL BOX, 16' +/- SOUTH OF A FIBER OPTIC PEDESTAL, AND 17' +/- WEST OF THE TRAFFIC SIGNAL POLE. ELEVATION = 476.04' SITE BENCHMARK NO. 2 AN "X" CUT IN CONCRETE BACK OF CURB WEST SIDE OF ACCESS DRIVE WEST OF LOT 2, LAKESHORE COMMONS, ±3' EAST OF FIRE HYDRANT AND ±12 SOUTHWEST OF SANITARY SEWER MAN HOLE. ELEVATION = 471.87' SITE BENCHMARK NO. 3 AN "X" CUT IN PAVERS BRICK MEDIAN OF NORTH LAKESHORE DRIVE ±45' DIRECTLY EAST OF A LIGHT POLE ±176' WEST OF INTERSECTION WITH NORTH GOLIAD STREET. ELEVATION = 472.68'	□For Permit □For Bid ■For Construction Job No. : <u>17144</u> Store : <u>#03897</u> Date : <u>1/2/2020</u> Drawn By : <u>RRW</u> Checked By: <u>RSE</u> Sheet
	PREPARED BT: WIER & ASSOCIATES, INC. ENGINEERS SURVEYORS LAND PLANNERS 2201 E. LAWAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700 Texas Firm Registration No. F-2776 www.WierAssociates.com	C-5



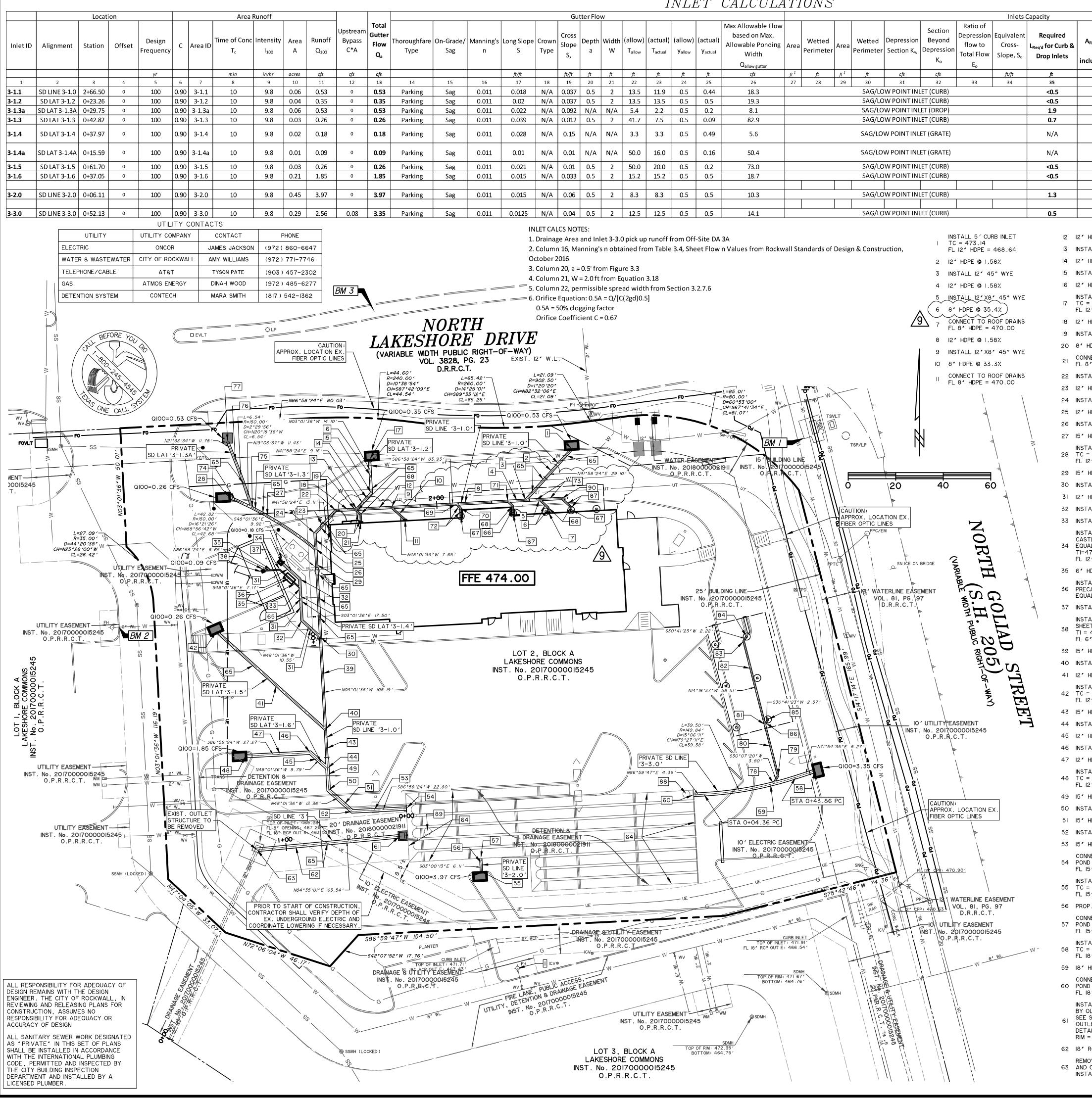
			1			PROPOSE	ED DRAINAC	E AREA CALC	ULATIONS			· · · · · ·	
DA	Area (ac)	С	C*A	Tc (min)	l₅ (in/hr)	I <sub>10</sub> (in/hr)	I <sub>25</sub> (in/hr)	I <sub>100</sub> (in/hr)	Q <sub>5</sub> (cfs)	Q <sub>10</sub> (cfs)	Q <sub>25</sub> (cfs)	Q <sub>100</sub> (cfs)	
3-1.0	0.12	0.90	0.11	10.00	6.10	7.10	8.30	9.80	0.66	0.77	0.90	1.06	F
3-1.1	0.06	0.90	0.05	10.00	6.10	7.10	8.30	9.80	0.33	0.38	0.45	0.53	Р
-1.2	0.04	0.90	0.04	10.00	6.10	7.10	8.30	9.80	0.22	0.26	0.30	0.35	Р
-1.3	0.03	0.90	0.03	10.00	6.10	7.10	8.30	9.80	0.16	0.19	0.22	0.26	Р
1.3A	0.06	0.90	0.05	10.00	6.10	7.10	8.30	9.80	0.33	0.38	0.45	0.53	Pro
·1.4	0.02	0.90	0.02	10.00	6.10	7.10	8.30	9.80	0.11	0.13	0.15	0.18	Prop
1.4A	0.01	0.90	0.01	10.00	6.10	7.10	8.30	9.80	0.05	0.06	0.07	0.09	Prop
3-1.5	0.03	0.90	0.03	10.00	6.10	7.10	8.30	9.80	0.16	0.19	0.22	0.26	<u>Р</u>
-1.6	0.21	0.90	0.19	10.00	6.10	7.10	8.30	9.80	1.15	1.34	1.57	1.85	Р
-	0.58	-	0.52	-	-	-	-	-	3.18	3.71	4.33	5.12	
-2.0	0.45	0.90	0.41	10.00	6.10	7.10	8.30	9.80	2.47	2.88	3.36	3.97	Р
- -3.0	<b>0.45</b> 0.29	- 0.90	<b>0.41</b> 0.26	- 10.00	- 6.10	- 7.10	- 8.30	- 9.80	<b>2.47</b> 1.59	<b>2.88</b> 1.85	<b>3.36</b> 2.17	<b>3.97</b> 2.56	Р
-3.0	0.29 0.29	0.90	0.26 0.26	10.00	0.10	7.10	0.50	9.60	<b>1.59</b>	<b>1.85</b>	2.17 2.17	2.56	r
- BA	0.09	0.90	0.08	10.00	6.10	7.10	8.30	9.80	0.49	0.58	0.67	0.79	
	0.09	-	0.08	10.00	0.10	-	0.50	-	0.49 0.49	0.58	0.67	0.79	
	5. All coefficient area 3 (to be cor				are consist		kman Consı	Ilting Enginee	rs Inc's prop	osed Drainag	e Area Map,	sheet C-4,	
	5. All coefficient	ts, times of conc		intensities	are consist		kman Consu	Ilting Enginee	rs Inc's prop	osed Drainag		sheet C-4,	
	5. All coefficient	ts, times of conc		intensities	are consist		kman Consu		rs Inc's prop			AKES	NOI SHOJ VOL. 382 D.R.I
	5. All coefficient	ts, times of conc		intensities	are consist	ect)	kman Consu					AKES	SHO. NDTH PU





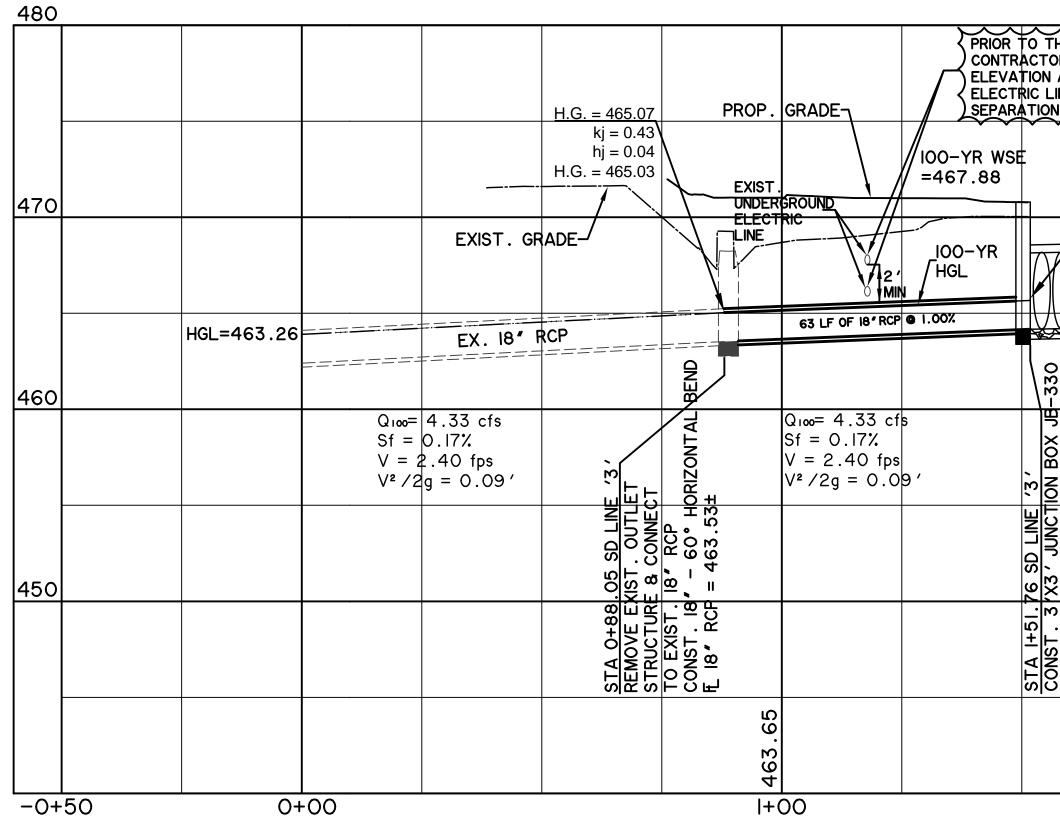


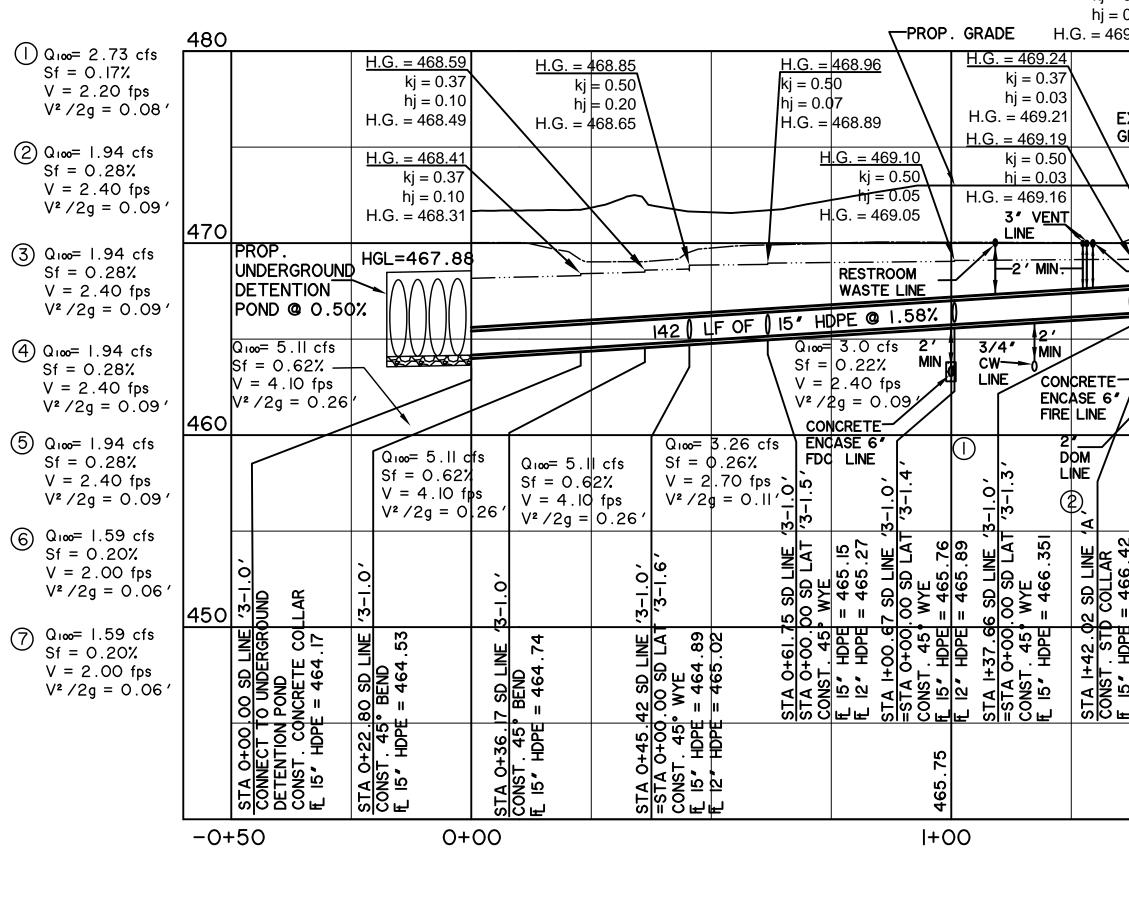
	 45 CAUTION !	1				000	
RE .	EXISTING UTIL	ITIES ARE INDICA		LANS FROM RESPONSIBILITY	OF	(1)A	
RE ICE LINE	TO NOTIFY AL	L UTILITY COMP	ANIES OF THE		ES,		
3″ VENT	TO REPAIR AL		AGED DUE TO	OM DAMAGE, THE CONTRACTO PROMPTLY OF 4			ļ
LINE	CONFLICTS OF	THE WORK WIT					
4″ KITCH WASTE L 3 _2″ DOM.	LINE					Carson	R
SERVICE 9 -3/4" CW				_		5200 Buffington R Atlanta Georgia,	
-15 / HDPE		To the best	of our knowledge W	/ier & Associates,		30349–2998	
-[17] 5″ FIRE	_	provided is	this plan is As-Built. based on surveying ation provided by the	g at the site and		Revisions: Mark Date By	v
ERVICE LINE						<u>3</u> 1 <u>2/17/19</u> R	
I	<ol> <li>ALL WORK AND MATERIALS, U SPECIFICATIONS.</li> </ol>	WATER LINE GE NLESS OTHERWISE NO		RM TO CITY STANDARD	1	ISSUED FOR CONSTRUCTION	
:	2. ALL 6" OR 8" WATER MAINS SERVICE TAPS I" AND LARGER			SS I50 WATER PIPE. F	OR PVC	Mark Date By	<u></u>
:	3. DEPTHS OF WATER LINES TO M APPROVED IN TXDOT PERMIT.	IEET CITY DESIGN CRIT	FERIA. UTILITIES IN T	TXDOT R.O.W. TO ME	ET CRITERIA	<u>9</u> <u>3/6/2020</u>	
	<ol> <li>FIRE HYDRANTS TO BE CITY AI</li> <li>VALVES TO BE CITY APPROVE</li> </ol>					OMD CANOPY	
	6. THE CONTRACTOR SHALL FURN DATE OF ACCEPTANCE OF THE	ISH A MAINTENANCE B		O RUN TWO (2) YEAR	S FROM THE	Mark Date By	y
-	7. THE CONTRACTOR SHALL BE F SHOWING THE LOCATION OF W			WING" PLANS TO THE	ENGINEER		
	8. FIRE HYDRANTS SHALL BE PAIN PROTECTED AREA WITH 6" CU	RB OR BOLLARDS.					
9	<ol> <li>STREAMER NOZZLES ON FIRE F AND SHALL FACE THE CENTER LOCATION FOUR (4) FEET, B THE CURB.</li> </ol>	OF THE FIRE LANE OF	R STREET. FIRE HYD	RANTS SHALL USUALL	Y BE	STATE OF MUL	
I	IO. ALL WATER LINES SHALL BE H	YDROSTATICALLY TES	TED PER CITY STAN	IDARDS AND SPECIFICA	TIONS .		
	<ol> <li>ALL WATER LINES SHALL BE S</li> <li>ALL METER BOXES SHALL BE I BOLLARDS.</li> </ol>				S OR	PRIYA ACHARYA	
I	I3. THE HORIZONTAL AND VERTICA FROM RECORD DRAWINGS. THE	CONTRACTOR SHALL	VERIFY THAT NECES	SARY CLEARANCES BE	TWEEN	MINISSIONAL ENGINE	-
I	EXISTING AND PROPOSED UTILI				G.	6/9/2020	0
	15. ANCHOR FITTING SHALL BE USE			A PLUMBER.		E	
I	I7. CONTRACTOR TO INCLUDE ALL \$.\$.	CITY WATER AND SEV	WER FEES IN BID. PA	Y CITY IMPACT FEES F	FOR WATER &	RIVE	
I	18. BLUE EMS DISK SHALL BE PLAG METERS, ETC.	CED AT 250' INTERVA	LS AND AT ALL BEN	IDS, TEES, CORPS, S	ERVICES,	K A IMONS ORE D XAS	
	19. ANYWHERE OUTSIDE 5' FROM I (INCLUDING WATER), THE FSL	MUST BE CONCRETE E	ENCASED.		ILITY LINE	LOCK COMM ESHOI TEX	3897
	20. ALL FIRE HYDRANTS AND METE	R SHALL HAVE 5' CLI	EARANCE AROUND TI	HEM .			;0 #
		WASTE WATER (	GENERAL NOTES			N. 23.	STORE
5	<ol> <li>ALL WORK, UNLESS OTHERWIS</li> <li>THE HORIZONTAL AND VERTIC</li> </ol>					LOT 2 LAKESHO NORTH ROCKW	<b>S</b>
M	FROM DATA RECORDED BY OT BETWEEN EXISTING AND PROP	HERS. CONTRACTOR S	HALL VERIFY THAT	NECESSARY CROSSING	CLEARANCES	6	
	3. CONTRACTOR SHALL COORDIN REPRESENTATIVE REGARDING	ANY DEVIATIONS FROM	THESE PLANS.			197	
	<ol> <li>CONTRACTOR SHALL MAINTAIN SUBMITTED TO THE ENGINEER</li> <li>IT WILL BE THE RESPONSIBILIT</li> </ol>	UPON COMPLETION OF	THIS PROJECT.				
	CONSTRUCTION OF THIS PROJE LATERALS, WATER SERVICE,	CT'ALL MANHOLES, ETC	CLEANOUTS, VALV	E BOXES, FIRE HYDRAI	NTS, SEWER	STORE SERIES	
ļ	<ul> <li>SANITARY SEWER PIPE SHALL OF THE FOLLOWING MATERIAL</li> <li>a. Polyvinyl/Chloride (PV)</li> </ul>	S :	ECIFICATIONS AND SI Diameter		LU FROM ONE	P13-LSR	
	ASŤM Ď 3034 SDR 26 ASTM D 3034 SDR 35	(FOR IO' AND DEEPE (FOR IO' AND SHALL)	R) 4" - 15 OWER) 4" - 15	и И			
//	<ol> <li>SANITARY SEWER PIPE MUST E RESULTING FROM CONSTRUCTI</li> <li>ALL SANITARY SEWER MAINS A</li> </ol>	ON OPERATIONS.					
ĺ	CROSSING OCCUR. 9. CONTRACTOR SHALL TIE A I"	WIDE PIECE OF RED P	LASTIC FLAGGING TO	THE END OF SEWER	SERVICE AND	SHEET TITLE	
//	SHALL LEAVE A MINIMUM OF 3 COMPLETED, CONTRACTOR SI ACCORDANCE WITH THE STAN	HALL MARK THE LOCA	TION OF THE SEWER			UTILITY PLAN	
١	IO. THE CONTRACTOR SHALL FUR FINAL ACCEPTANCE OF THE S		BOND TO THE CITY T	O RUN 2 YEARS FROM	THE DATE OF		
\	<ul><li>II. ALL SANITARY SEWER LATER</li><li>I2. CONTRACTOR TO INCLUDE ALI</li></ul>					□For Permit □For Bid	
	13. GREEN EMS DISK SHALL BE PL	ACED AT ALL MH, CLI UTILITY CON		ND 250' INTERVALS.		□For Bid ■For Constructio	on
TK PAD			CONTACT	PHONE (972) 860-6647	]	Job No. : <u>17144</u> Store : <u>#0389</u>	
PAD RAND AL TIC	WATER & WASTEWATER	CITY OF ROCKWALL	JAMES JACKSON AMY WILLIAMS	(972) 771-7746	-	Date : <u>6/9/202</u>	20
	TELEPHONE/CABLE GAS	AT&T ATMOS ENERGY	TYSON PATE DINAH WOOD	(903) 457-2302 (972) 485-6277		Drawn By : <u>RRW</u> Checked By: <u>RSE</u>	
T AND	DETENTION SYSTEM	CONTECH	MARA SMITH	(817) 542-1362		Sheet	
IORE NORTH	V///	WIED P	REPARED BY:	CIATES,		<b>IPS-1.</b> (	$\bigcap$
	ENGINE	ERS SURV	ASSU /Eyors l	LIAIES, I AND PLANN	IERS		
		R BLVD., SUITE 200E Texas Firm Registration		76006 METRO (817)46 WierAssociates.com	67–7700		
			2//V <b>सम</b> त.				



Gutter Flow Inlets Capaci	city		Inlets Bypass		
Cross Max Allowable Flow Ratio of Depression Equivalent Review	Required Actual	Actual Inlet			00
$ \frac{Wn}{Pe} = \frac{S_x}{S_x} = \frac{W}{T_{allow}} = \frac{T_{actual}}{T_{allow}} = \frac{V_{allow}}{T_{actual}} = \frac{V_{allow}}{V_{allow}} = \frac{V_{allow}}{V_{actual}} = \frac{V_{actual}}{V_{allow}} = \frac{V_{actual}}{V_{actual}} = \frac{V_{allow}}{V_{actual}} = \frac{V_{allow}}{V_{allow}} = \frac{V_{allow}}{V_{allow}} = \frac{V_{allow}}{V_{actual}} = \frac{V_{allow}}{V_{allow}} = \frac{V_{allow}}{$		A <sub>actual</sub> for Grate Capacity	bypass C*A To Inlet ID	Remarks	(19)
ft/ft       ft	ft in <sup>2</sup> ft		cfs	41	
8       19       20       21       22       23       24       25       26       27       28       29       30       31       32       33       34         /A       0.037       0.5       2       13.5       11.9       0.5       0.44       18.3       SAG/LOW POINT INLET (CURB)       5       5         /A       0.037       0.5       2       13.5       13.5       0.5       0.5       19.3       SAG/LOW POINT INLET (CURB)       5       5	35         N/A         36           <0.5	N/A 5.8		41 5' CURB INLET 5' CURB INLET	
A         0.037         0.3         2         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         13.3         0.3         0.3         0.3         13.3         0.3	N/A         S           1.9         N/A         8           0.7         N/A         5	N/A 8.7	0 0 N/A	2'x2' DROP INLET 5' CURB INLET	200
/A         0.15         N/A         N/A         3.3         3.3         0.5         0.49         5.6         SAG/LOW POINT INLET (GRATE)	N/A 13.5 N/A 76	<b>12"x12",</b> <b>2</b> .0	0 0 N/A	12"x12"-GRATE INLET w/ 0.49' depth. Accounts for 50% clog, See Note 6	Ching of the A
/A         0.01         N/A         N/A         50.0         16.0         0.16         50.4         SAG/LOW POINT INLET (GRATE)		76 sq.in. open area	0 0 N/A	12"x12"-GRATE INLET w/ 0.16' depth. Accounts for 50% clog, See Note 6	5200 Buffington Rd.
	<0.5         N/A         5           <0.5			5' CURB INLET 5' CURB INLET	Atlanta Georgia, 30349-2998
/A     0.06     0.5     2     8.3     8.3     0.5     10.3     SAG/LOW POINT INLET (CURB)	1.3 N/A 5	N/A 7.0	0 0 N/A	5' CURB INLET	Revisions:
/A         0.04         0.5         2         12.5         12.5         0.5         14.1         SAG/LOW POINT INLET (CURB)	0.5 N/A 5	N/A 7.0 JT_NOTES	0 0 N/A	5' CURB INLET, PICKS OFF OFF-SITE FLOW FROM GOLIAD, DA 3A	Mark Date By
CALCS NOTES: Inage Area and Inlet 3-3.0 pick up runoff from Off-Site DA 3A I TC = 473.14	12 12" HDPE @ 1.58%	PROPOSED UNDERGROUND			<u>3</u> 1 <u>2/17/19 RBC</u>
umn 16, Manning's n obtained from Table 3.4, Sheet Flow n Values from Rockwall Standards of Design & Construction,       FL 12* HDPE = 468.64         er 2016       2       12* HDPE @ 1.58%	13 INSTALL 12" X12" 45° WYE 14 12" HDPE @ 6.82%	SEE CONTECH DETAILS F BACKFILL DETAILS		<b>RECORD DRAWING</b>	ISSUED FOR CONSTRUCTION
umn 20, a = 0.5' from Figure 3.3 umn 21, W = 2.0 ft from Equation 3.18	IS INSTALL 12" 45° BEND	65 MAINTAIN 2' VERTICAL S UTILITY CROSSING	SEPARATION AT	June 9, 2020	Mark Date By
umn 22, permissible spread width from Section 3.2.7.6412" HDPE @ 1.58%ice Equation: 0.5A = Q/[C(2gd)0.5]5INSTALL 12" X8" 45° WYE	<pre>16 12" HDPE @ 6.82% INSTALL 5' CURB INLET 17 TC = 473.14</pre>	<ul> <li>66 8" HDPE @ 69.7%</li> <li>67 CONNECT TO CANOPY DO FL 8" HDPE = 472.41</li> </ul>	OWNSPOUT	To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information	$\frac{3}{9} \frac{3}{6} \frac{2020}{2020}$
A = 50% clogging factor $6 = 8^{*}$ HDPE @ 35.4% Fice Coefficient C = 0.67 CONNECT TO ROOF DRAINS	FL 12" HDPE = 468.64	68 INSTALL 8" 45° BEND		provided is based on surveying at the site and information provided by the contractor.	OMD CANOPY
FL 8" HDPE = 470.00 8 12" HDPE @ 1.58%	19 INSTALL 12" X8" 45° WYE	69 INSTALL 12" X8" 45° WY 70 INSTALL 8" 45° BEND	$\mathbf{A}$		Mark Date By
9 INSTALL 12" X8" 45° WYE N.L. 10 8" HDPE @ 33.3%	20 8" HDPE @ 44.3% 21 CONNECT TO ROOF DRAINS FL 8" HDPE = 470.00	71 INSTALL 12" X8" 45° WY FL 8" HDPE = 468.58		LEGEND	Mark Date By
09' $350'$ $3EL 8'' HDPE = 470.00$	22 INSTALL 12" 45° BEND	72 8" HDPE @ 67.0%		PROPOSED 12" OR SMALLER WATER MAIN PROPOSED GATE VALVE	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	23 12" HDPE @ 1.58% 24 INSTALL 12" 45° BEND	74 12" HDPE @ 2.0%	<u> </u>	PROPOSED GATE VALVE PROPOSED REDUCER	
FH     FO       FS     E       FS     E	25 12" HDPE @ 1.58%	75 INSTALL 15" X12" 45° W 76 15" HDPE @ 1.84%	VYE	PROPOSED WATER METER	1144 mmm
W 12. W W SN-FORMER BM I S TSP/LP	26 INSTALL 15" X15" 45° WYE 27 15" HDPE @ 2.0%	INSTALL 2'X2' DROP INL 77 THROAT = 470.79 FL 8" HDPE = 467.54	_ET es	PROPOSED FIRE HYDRANT PROPOSED 12″ OR SMALLER SANITARY SEWER	STATE OF TELES
	INSTALL 5' CURB INLET 28 TC = 471.96 FL 12" HDPE = 467.46	78 INSTALL 18" X8" 45° W	YE	PROPOSED SANITARY SEWER MANHOLE	PRIYA ACHARYA
NA1*58'24'E 29.10' INST. No. 20180000081911 INST. No. 20170000005245	29 15" HDPE @ 1.58%	79 INSTALL8" 45° BEND 80 8" HDPE @ 5.70%	•	PROPOSED SANITARY SEWER CLEANOUT	CENSE SONAL ENSE
	30 INSTALL 15″X12″ 45° WYE 31 12″ HDPE @ 5.56%	81 INSTALL 8″X8″ 45° WY 82 8″ HDPE @ 5.70%	YE	PROPOSED STORM SEWER PROPOSED GRATE INLET	Hun 12020
CAUTION: CAUTION: CAUTION: CAUTION EX. FIBER OPTIC LINES	32 INSTALL 12″45° BEND 33 INSTALL 12″X6″45° BEND	83 INSTALL 8" 45° BEND	•	PROPOSED STORM SEWER MANHOLE	
Image: Constraint of the second se	INSTALL 18″×18″ CATCH BASIN OLD CASTLE CB-121218 OR APPROVED	84 CONNECT TO CANOPY DO FL 8* HDPE = 470.23		□ LIGHT POLE	VE
	34 EQUAL TI=472.00 FL I2" HDPE=468.00	85 CONNECT TO CANOPY DO FL 8" HDPE = 470.23			S DRI
PPTC SNIČE ON BRIDGE	35 6" HDPE @ 4.17%	86 8" HDPE @ 85.36% (87 8" HDPE @ 74.3%)	<u>⁄9\</u>		A FONS AS AS
25 ' BUILDING LINE INST. No. 20170000015245 O.P.R.R.C.T.	INSTALL 200 GAL OLD CASTLE 36 PRECAST OIL/WATER SEPARATOR OR EQUAL	88 RISER RIM = 472.22 89 RISER RIM = 470.78		CAUTION 1 ! EXISTING UTILITIES ARE INDICATED ON THE PLANS FROM AVAILABLE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIEN THE LOCATION OF ALL UTILITIES	DCK OMM SHOI TEX 3897
	37 INSTALL 6″ 45° BEND INSTALL DUMPSTER DRAIN PER P-32,	90 INSTALL 12" X8" 45° WY PLUG	YE WITH 12"	THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES, TO NOTIFY ALL UTILITY COMPANIES OF THE CONTRACTORS OPERATIONS, TO PROTECT ALL UTILITIES FROM DAMAGE, TO REPAIR ALL UTILITIES DAMAGED DUE TO THE CONTRACTORS	C C C C C C C C C C C C C C C C C C C
530·41/23·W 2.22	38 SHEET P-90I TI = 472.24 FL 6" HDPE = 468.24		$\widehat{\mathbf{A}}$	TO REPAIR ALL UTILITIES DAMAGED DUE TO THE CONTRACTORS OPERATIONS, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING UTILITIES.	TZ, I SHORE TH LA CKWAL TORE#
	39 15" HDPE @ 1.58%			NAGE GENERAL NOTES	
	40 INSTALL 15" X12" 45° WYE 41 12" HDPE @ 3.41%	CONTRACTOR SHALL VERIFY THA	L LOCATIONS OF EXISTING	TO CITY STANDARD SPECIFICATIONS. SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION	
	INSTALL 5' CURB INLET 42 TC = 471.88 FL I2" HDPE = 467.38	OF ANY SUCH CROSSING.	TE WITH THE OWNER, ENG	NEER, OR HIS REPRESENTATIVE AND CITY REPRESENTATIVE REGARDING ANY	626
	FL 12" HDPE = 467.38 43 15" HDPE @ 1.58%			INGS (AS BUILT) ON SITE WHICH WILL BE SUBMITTED TO THE ENGINEER UPON	1
L=39.50' R=149.84' D=16.06'11' CH=N70*27'11'E CH=N7	44 INSTALL 15" X12" 45° WYE 45 12" HDPE @ 4.44%	MANHOLES, CLEANOUTS, VALVE	E BOXES, FIRE HYDRANTS	PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT, ALL SEWER LATERALS, WATER SERVICE, ETC	07005
CH=N/9 27 17 E CL=39.38' REIVATE SD LINE S30°07'20'W	46 INSTALL 12" 45° BEND	7. ALL STORM SEWER PIPE SHALL		AND GRADE PRIOR TO THE PLACING OF PERMANENT PAVEMENT.	STORE SERIES
NB6°59′47″E 4.36′ NB6°59′47″E 4.36′ 78 000=3.35 CFS 00 00 000=3.35 CFS	47 12" HDPE @ 4.44% INSTALL 5' CURB INLET 48 TC = 471.16	a. CLASS III RCP UNLESS OTHER b. SDR 26 PVC (PRIV		Diameter 12"-60" 8"-15"	P13-LSR
	48 TC = 471.18 FL 12" HDPE = 466.66 49 15" HDPE @ 1.58%	c. HDPE (PRIVATE)		6"-36" EASEMENT WILL BE RCP PIPE UNLESS OTHERWISE NOTED.	
59 59 FIBER OPTIC LINES	50 INSTALL 15" 45° BEND	9. ALL STORM PIPES ARE PRIVATE	EXCEPT THOSE SHOWN IN	CITY & STATE R.O.W	
NTION 8 E EASEMENT 64	51 I5" HDPE @ 1.58% 52 INSTALL I5" 45° BEND	II. ALL HDPE PIPE INSTALLATION AN	AND BEDDING SHALL CONFOR	ERICAN CONCRETE PIPE ASSOCIATION INSTALLATION MANUAL.	SHEET TITLE
IO' ELECTRIC EASEMENT INST. No. 20170000015245 O.P. R. C.T.	53 15" HDPE @ 1.58% CONNECT TO UNDERGROUND DETENTION	13. ALL CURB INLETS SHALL BE CON	NSTRUCTED PER CITY OF R		STORM
UE SNG FL 121 OPR 470.90'	54 POND & INSTALL CONCRETE COLLAR FL 15" HDPE = 464.17			D PER MANUFACTURER'S SPECIFICATIONS.	DRAIN PLAN
UE G 42'46'W 74.36'K P 88	INSTALL 5' CURB INLET 55 TC = 470.12 FL 15" HDPE = 465.62	ĺ	VERTICAL DATUM NOT REFERENCE DATUM =	NORTH AMERICAN VERTICAL DATUM (NAD) 88 UTILIZING THE RTK	
UE U	56 PROP. 15" HDPE @21.28%	-	NETWORK ADMINISTRA	TED BY WESTERN DATA SYSTEMS. I AN 'X' CUT ON THE SOUTHWEST CORNER OF THE CONCRETE PAD BOX LOCATED AT THE SOUTHWEST CORNER OF N LAKESHORE DR AND	□For Permit □For Bid
- DRAINAGE & UTILITY EASEMENT W CURB IN ET	CONNECT TO UNDERGROUND DETENTION 57 POND AND INSTALL CONCRETE COLLAR FL 15" HDPE = 464.32		N GOLIAD ST, 4'+/-	SOUTHWEST OF THE SOUTHWEST CORNER OF N LARESHORE DR AND SOUTHWEST OF THE SOUTHWEST CORNER OF THE TRAFFIC SIGNAL OF A FIBER OPTIC PEDESTAL, AND 17' +/- WEST OF THE TRAFFIC	For Construction
INST. No. 20170000015245     W     CURB INLET:     P     V	INSTALL 5' CURB INLET 58 TC = 471.35 FL 18" HDPE = 466.85		ELEVATION = 476.04	2 AN "X" CUT IN CONCRETE BACK OF CURB WEST SIDE OF	Job No. : <u>17144</u>
W $W$ $W$ $W$ $W$ $W$ $W$ $W$ $W$ $W$	59 18" HDPE @ 3.99%		ACCESS DRIVE WEST ±12 SOUTHWEST OF	OF LOT 2, LAKESHORE COMMONS, $\pm 3'$ EAST OF FIRE HYDRANT AND SANITARY SEWER MAN HOLE.	Store : <u>#03897</u> Date : <u>3/24/202</u> 0
BLIC ACCESS, SEMENT DRAINAGE EASEMENT 70000015245 .R.C.T.	CONNECT TO UNDERGROUND DETENTION 60 POND & INSTALL CONCRETE COLLAR FL 18" HDPE =464.77		ELEVATION = 471.87	3 AN "X" CUT IN PAVERS BRICK MEDIAN OF NORTH LAKESHORE	Drawn By : <u>RRW</u>
	INSTALL 3'X3' JUNCTION BOX JB-330 BY OLD CASTLE OR APPROVED EQUAL		DRIVE ±45' DIRECTLY GOLIAD STREET. LEEVATION = 472.68	EAST OF A LIGHT POLE ±176' WEST OF INTERSECTION WITH NORTH	Checked By: RSE
INST. No. 20170000015245 0.P.R.R.C.T.	61 SEE SHEET PS-3.0 FOR LID AND OUTLET STRUCTURE DIMENSION DETAILS PIM = 470, 79				Sheet
LOT 3, BLOCK A TOP OF RIM: 472.35' BOTTOM: 464.75'	RIM = 470.79 62 18" RCP @ 1.0%		WIA WI	PREPARED BY: ER & ASSOCIATES, INC.	<b>PS-1.1</b>
LAKESHORE COMMONS INST. No. 20170000015245 0.P.R.R.C.T.	REMOVE EXIST. OUTLET STRUCTURE 63 AND CONNECT TO EXIST. 18″ RCP INSTALL 18″ 60° BEND	ENC	GINEERS	SURVEYORS LAND PLANNERS	
		2201		TE 200E ARLINGTON, TEXAS 76006 METRO (817)467—7700 gistration No. F—2776 www.WierAssociates.com	
		<b>_</b>			

PRIVATE S.D. LINE '3'





# STORM DRAIN CALCULATIONS

			480
OR SHALL VE AND ADJUS	F CONSTRUCTION RIFY EXIST. T UNDERGROUND ITAIN 2' VERTICA NG	>	
	H. <u>G. = 465.78</u> kj = 1.25 hj = 0.11 H.G. = 465.67	•	470
	PROP. UNDER DETENTION P	GROUND OND @ 0.50%	
EQUAL S			460
PPROVED OR DETAIL SGROUND			
ASTLE OR A STLE OR A PS-3.0 F T TO UNDER	.79 ' = 464.17		450
BY OLD CASTLE OR APPROVED EQUAL SEE SHEET PS-3.0 FOR DETAILS & CONNECT TO UNDERGROUND DETENTION POND	RIM = 470 FL 18° RCF		

FROM	то	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)		STORM DRAIN DIAMETER (in)		SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)
							•		SD LINE 3				•				
1+51.76	0+88.05	63.71	0.43	10	0.43	10.0	100	9.8	4.3	18	2.4	0.0017	1.25	0.11	0.2	10.2	465.78
0+88.05	0+00.00	88.05	0.00	10	0.43	10.2	100	9.8	4.3	18	2.4	0.0017	0.43	0.04	0.2	10.4	465.07
	SD LINE 3-1.0																
2+66.50	2+37.40	29.10	0.05	10	0.05	10.0	100	9.8	0.5	12	0.6	0.0002	1.25	0.01	0.8	10.8	469.66
2+37.40	2+25.80	11.60	0.00	10	0.05	10.8	100	9.8	0.5	12	0.6	0.0002	0.50	0.00	0.3	11.1	469.64
2+25.80	1+81.47	44.33	0.11	10	0.16	11.1	100	9.8	1.6	12	2.0	0.0020	0.50	0.06	0.4	11.5	469.64
1+81.47	1+66.29	15.18	0.00	10	0.16	11.5	100	9.8	1.6	12	2.0	0.0020	0.50	0.03	0.1	11.6	469.49
0+23.26	0+09.16	14.10	0.04	10	0.04	10.0	100	9.8	0.4	12	0.5	0.0001	1.25	0.00	0.0	10.0	469.64
0+09.16	1+66.29	9.16	0.00	10	0.04	10.0	100	9.8	0.4	12	0.5	0.0001	0.37	0.00	0.3	10.3	469.43
1+66.29	1+58.52	7.77	0.00	10	0.20	11.6	100	9.8	1.9	12	2.4	0.0028	0.50	0.06	0.1	11.7	469.43
1+58.52	1+57.46	1.06	0.00	10	0.20	11.7	100	9.8	1.9	12	2.4	0.0028	0.50	0.04	0.0	11.7	469.35
1+57.46	1+44.36	13.10	0.00	10	0.20	11.7	100	9.8	1.9	12	2.4	0.0028	0.37	0.03	0.1	11.8	469.31
1+44.36	1+37.66	6.70	0.00	10	0.20	11.8	100	9.8	1.9	12	2.4	0.0028	0.37	0.03	0.0	11.8	469.24
0+42.82	0+32.06	10.76	0.03	10	0.03	10.0	100	9.8	0.3	12	0.4	0.0001	1.25	0.00	0.4	10.4	469.21
0+29.75	0+32.06	29.75	0.05	10	0.05	10.0	100	9.8	0.5	15	0.4	0.0001	1.25	0.00	1.2	11.2	469.21
0+32.06	1+37.66	32.06	0.00	10	0.08	11.2	100	9.8	0.8	15	0.7	0.0002	0.50	0.01	0.8	12.0	469.21
1+37.66	1+00.67	36.99	0.00	10	0.28	12.0	100	9.8	2.7	15	2.2	0.0017	0.50	0.03	0.3	12.3	469.19
0+37.97	0+28.05	9.92	0.02	10	0.02	10.0	100	9.8	0.2	12	0.3	0.0000	1.25	0.00	0.6	10.6	469.10
0+28.05	0+24.17	3.88	0.00	10	0.02	10.6	100	9.8	0.2	12	0.3	0.0000	0.37	0.00	0.2	10.8	469.10
0+24.17	0+10.55	13.62	0.01	10	0.03	10.8	100	9.8	0.3	12	0.4	0.0001	0.50	0.00	0.6	11.4	469.10
0+10.55	1+00.67	10.55	0.00	10	0.03	11.4	100	9.8	0.3	12	0.4	0.0001	0.37	0.00	0.4	11.8	469.10
1+00.67	0+61.75	38.92	0.00	10	0.31	12.3	100	9.8	3.0	15	2.4	0.0022	0.50	0.05	0.3	12.6	469.10
0+61.70	0+61.75	61.70	0.03	10	0.03	10.0	100	9.8	0.3	12	0.4	0.0001	1.25	0.00	2.6	12.6	468.97
0+61.75	0+45.42	16.33	0.00	10	0.34	12.6	100	9.8	3.3	15	2.7	0.0026	0.50	0.07	0.1	12.7	468.96
0+37.05	0+09.79	27.26	0.19	10	0.19	10.0	100	9.8	1.8	12	2.3	0.0026	1.25	0.10	0.2	10.2	469.08
0+09.79	0+45.42	9.79	0.00	10	0.19	10.2	100	9.8	1.8	12	2.3	0.0026	0.37	0.03	0.1	10.3	468.91
0+45.42	0+36.17	9.25	0.00	10	0.53	12.7	100	9.8	5.1	15	4.1	0.0062	0.50	0.20	0.0	12.7	468.85
0+36.17	0+22.80	13.37	0.00	10	0.53	12.7	100	9.8	5.1	15	4.1	0.0062	0.37	0.10	0.1	12.8	468.59
0+22.80	0+00.00	22.80	0.00	10	0.53	12.8	100	9.8	5.1	15	4.1	0.0062	0.37	0.10	0.1	12.9	468.41
									SD LINE '3-2	.0'							
0+06.11	0+00.00	6.11	0.41	10	0.41	10.0	100	9.8	4.0	15	3.3	0.0038	1.25	0.21	0.0	10.0	468.55
									SD LINE 3-3	.0							
0+52.13	0+34.04	18.09	0.34	10	0.34	10.0	100	9.8	3.4	18	1.9	0.001	1.25	0.08	0.2	10.2	468.93
0+34.04	0+00.00	34.04	0.00	10	0.34	10.2	100	9.8	3.4	18	1.9	0.001	0.50	0.03	0.3	10.5	468.83

2+00

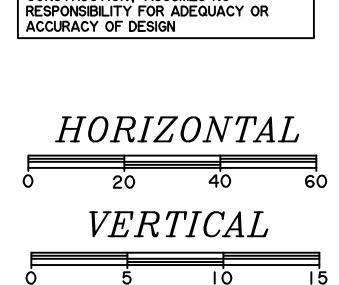
PRIVATE S.D. LINE '3-1.0'

<u>H.G. = 469.31</u> kj = 0.37	H.G. = 469.35 /kj = 0.50	
hj = 0.03 H.G. = 469.28	hj = 0.04 H.G. = 469.31	480
0.24 0.37 0.03 0.21 EXIST . 0.19 GRADE 0.50 0.03 0.16 ENT	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	470
CONCRETE ENCASE 6' FIRE LINE		460
	PE = 466.91 TO ROOF DRAIN 45° WYE PE = 467.04 PE = 467.04 PE = 467.04 PE = 467.21 PE = 467.05 PE = 468.06 PE = 4	CURB INLE 1 = 468.64 .14 .027
HDPE HDPE HDPE HDPE HDPE HDPE HDPE		$F_{L} = \frac{CONST \cdot 5}{17}$
	2+00 3+00	

2+00

June 9, 2020 To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.

**RECORD DRAWING** 



ALL RESPONSIBILITY FOR ADEQUACY OF

DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN

REVIEWING AND RELEASING PLANS FOR

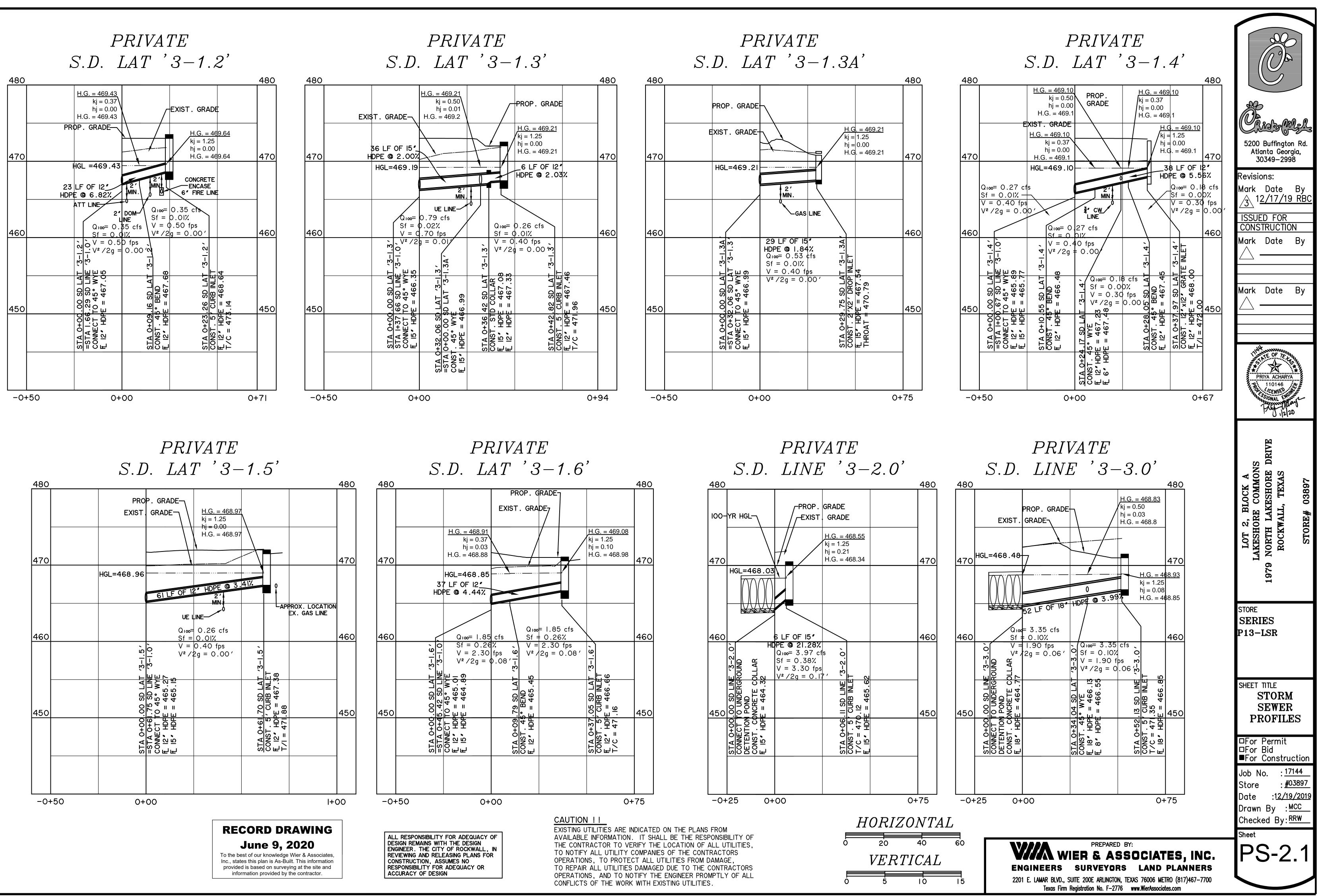
CONSTRUCTION, ASSUMES NO

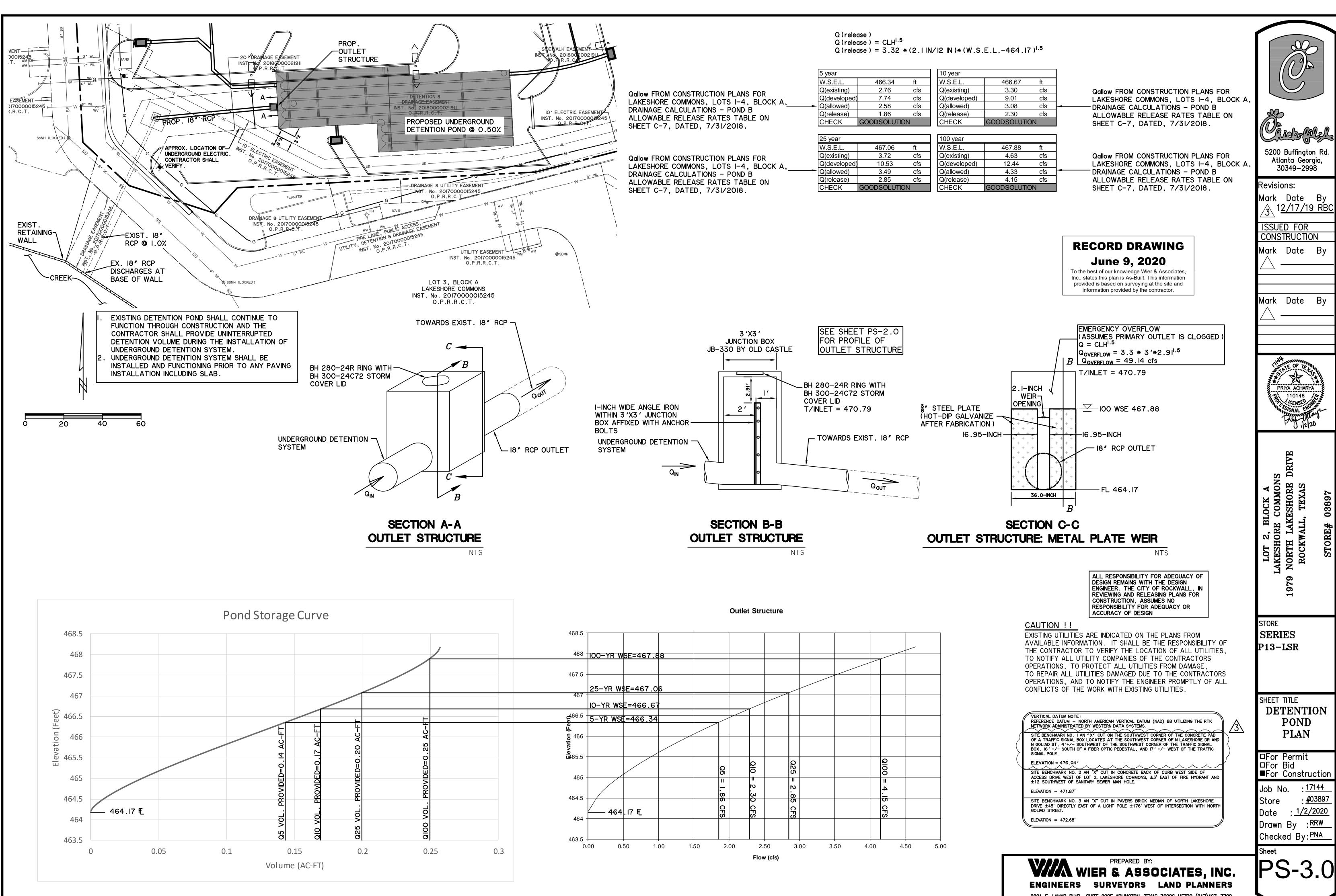
## CAUTION !!

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2201 E. LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700 Texas Firm Registration No. F-2776 www.WierAssociates.com

# **5 YEAR STORM - DETENTION STORAGE VOLUME**

5 YR PON	ID DESIGN				Rainfall Intesity, I (in/hr)				А	$Q_{peak} = Q_0$
Step			К	С			T <sub>c</sub> (min)	l (in/hr)	(acres)	(cfs)
1	Existing C	onditions								2.76
2	Proposed C	Conditions	1	0.90			10	6.10	1.4	7.74

	T <sub>d</sub>							Volume (ft <sup>3</sup> )	
Time Step	duration	K	C	l (in/hr)	A (acres)	Q <sub>peak</sub> (cfs)	Inflow	Outflow	Required Storag
	(min)						T <sub>d</sub> *Q*60	0.5*(T <sub>c</sub> +T <sub>d</sub> )*Q <sub>o</sub> *60	Inflow-Outflow
1	10	1	0.90	6.10	1.41	7.74	4,645	1,655	2,990
2	20	1	0.90	4.90	1.41	6.22	7,462	2,482	4,980
3	30	1	0.90	4.10	1.41	5.20	9,365	3,309	6,056
4	40	1	0.90	3.40	1.41	4.31	10,355	4,137	6,218
5	50	1	0.90	2.80	1.41	3.55	10,660	4,964	5,695
6	60	1	0.90	2.60	1.41	3.30	11,878	5,792	6,086
7	70	1	0.90	2.40	1.41	3.05	12,792	6,619	6,173

MAX STORAGE (AC-FT)

# **10 YEAR STORM - DETENTION STORAGE VOLUME**

10 YR POND DESIGN				Rainfall Intesity, I (in/hr)					A	$Q_{peak} = Q_0$		
Step			К	С				T <sub>c</sub> (min)	l (in/hr)	(acres)	(cfs)	
1	Existing C	onditions									3.30	
2	Proposed (	Conditions	1	0.90				10	7.10	1.4	9.01	

	T <sub>d</sub>	T <sub>d</sub>						Volume (ft <sup>3</sup> )	
Time Step	duration	K	C	l (in/hr)	A (acres)	Q <sub>peak</sub> (cfs)	Inflow	Outflow	Required Storage
	(min)						T <sub>d</sub> *Q*60	0.5*(T <sub>c</sub> +T <sub>d</sub> )*Q <sub>o</sub> *60	Inflow-Outflow
1	10	1	0.90	7.10	1.41	9.01	5,406	1,981	3,425
2	20	1	0.90	5.90	1.41	7.49	8,985	2,971	6,014
3	30	1	0.90	4.80	1.41	6.09	10,964	3,961	7,003
4	40	1	0.90	4.00	1.41	5.08	12,182	4,951	7,231
5	50	1	0.90	3.50	1.41	4.44	13,325	5,942	7,383
6	60	1	0.90	3.00	1.41	3.81	13,705	6,932	6,773
7	70	1	0.90	2.80	1.41	3.55	14,923	7,922	7,001

MAX STORAGE (AC-FT)

# 25 YEAR STORM - DETENTION STORAGE VOLUME

25 YR POND DESIGN				Rainfall	Intesity, I	(in/hr)		А	Q <sub>peak</sub> = Q <sub>0</sub>	]
Step		K	С			T <sub>c</sub> (min)	l (in/hr)	(acres)	(cfs)	]
1	Existing Conditions								3.72	}
2	Proposed Conditions	1	0.90			10	8.30	1.4	10.53	]←

	T <sub>d</sub>							Volume (ft <sup>3</sup> )	
Time Step	duration	K	С	l (in/hr)	A (acres)	Q <sub>peak</sub> (cfs)	Inflow	Outflow	Required Storage Inf
	(min)						T <sub>d</sub> *Q*60	$0.5^{*}(T_{c}+T_{d})^{*}Q_{o}^{*}60$	Outflow
1	10	1	0.90	8.30	1.41	10.53	6,320	2,233	4,087
2	20	1	0.90	6.60	1.41	8.38	10,050	3,349	6,701
3	30	1	0.90	5.50	1.41	6.98	12,563	4,466	8,097
4	40	1	0.90	4.60	1.41	5.84	14,010	5,582	8,428
5	50	1	0.90	4.00	1.41	5.08	15,228	6,699	8,529
6	60	1	0.90	3.50	1.41	4.44	15,989	7,815	8,174
7	70	1	0.90	3.30	1.41	4.19	17,588	8,932	8,657

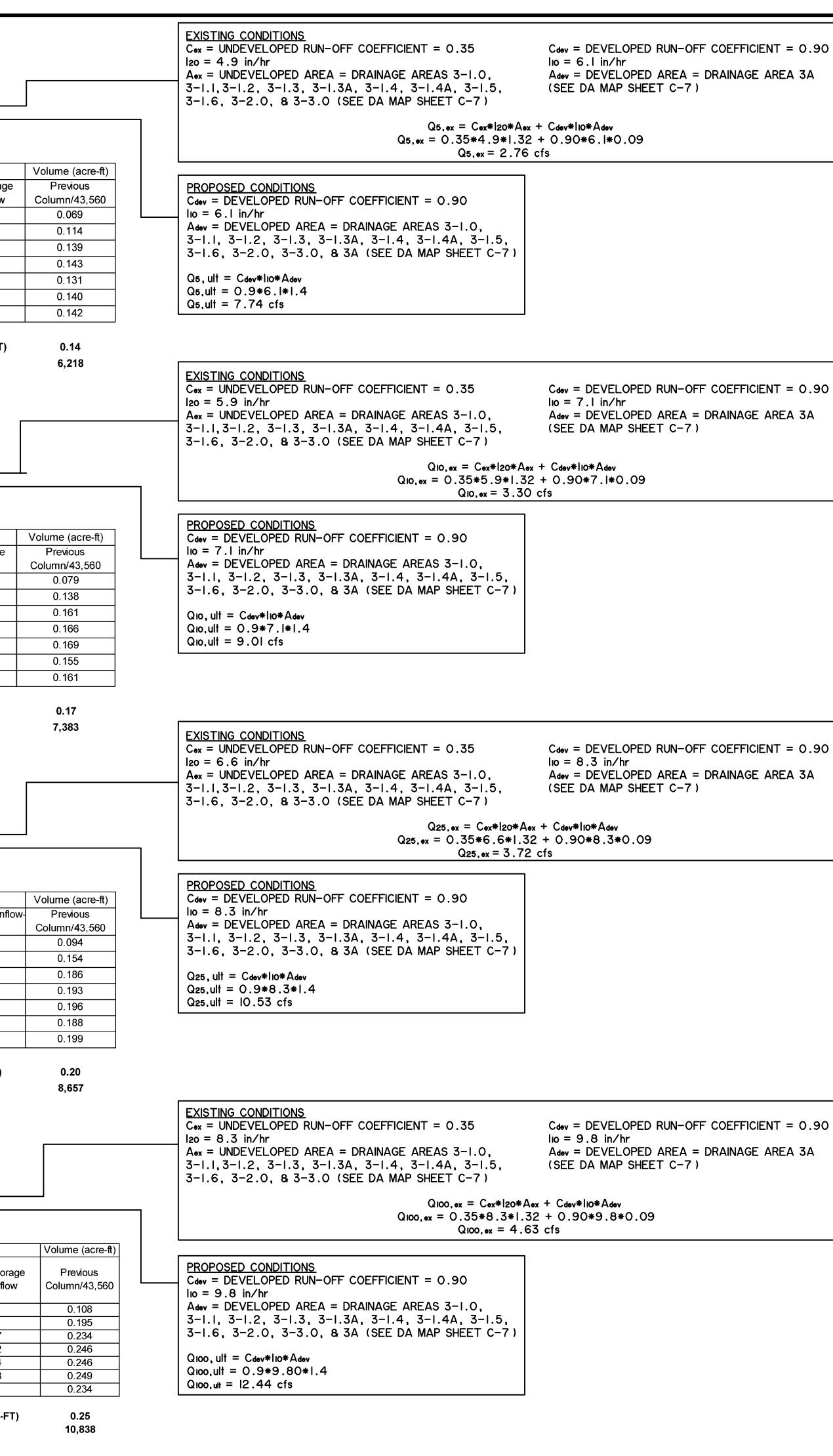
MAX STORAGE (AC-FT)

# **100 YEAR STORM - DETENTION STORAGE VOLUME**

100 YR P0	OND DESIGN			Rainfall Intesity, I (in/hr)					A	$Q_{peak} = Q_0$
Step		K	С				T <sub>c</sub> (min)	l (in/hr)	(acres)	(cfs)
1	Existing Conditions									4.63
2	Proposed Conditions	1	0.90				10	9.80	1.4	12.44

			С	l (in/hr)	A (acres)		Volume (ft <sup>3</sup> )				
[lime Step]	T <sub>d</sub> duration (min)	К				Q <sub>peak</sub> (cfs)	Inflow T <sub>d</sub> *Q*60	Outflow 0.5*(T <sub>c</sub> +T <sub>d</sub> )*Q <sub>o</sub> *60	Required Stor Inflow-Outflo		
1	10	1	0.90	9.80	1.41	12.44	7,462	2,777	4,685		
2	20	1	0.90	8.30	1.41	10.53	12,639	4,166	8,474		
3	30	1	0.90	6.90	1.41	8.76	15,761	5,554	10,207		
4	40	1	0.90	5.80	1.41	7.36	17,664	6,943	10,722		
5	50	1	0.90	5.00	1.41	6.35	19,035	8,331	10,704		
6	60	1	0.90	4.50	1.41	5.71	20,558	9,720	10,838		
7	70	1	0.90	4.00	1.41	5.08	21,319	11,108	10,211		

MAX STORAGE (AC-FT)



ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN

**RECORD DRAWING** 

June 9, 2020

To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information

provided is based on surveying at the site and

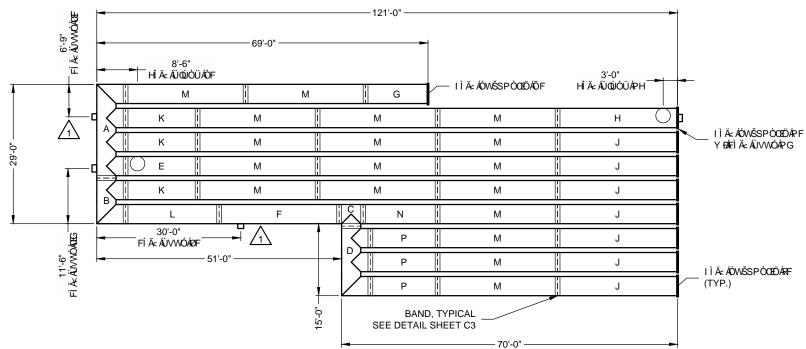
information provided by the contractor.

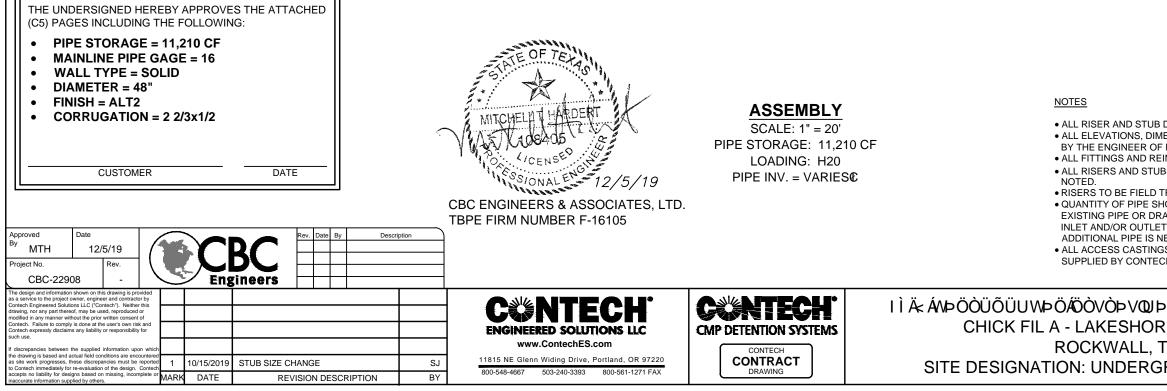
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ISSUE CONS	Date 2/17/ D FOF	<u>19 RBC</u> R
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LOT 2, BLOCK A LAKESHORE COMMONS	1979 NORTH LAKESHORE DRIVE ROCKWALL. TEXAS	STORE# 03897
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V REQU □For □For ■For Job No Store	PONI OLUN IREN Permi Bid Const const : 10 By	D ME MENTS MENTS t ruction 17144 <u>#03897</u> 0/4/2018 : <u>RRW</u>
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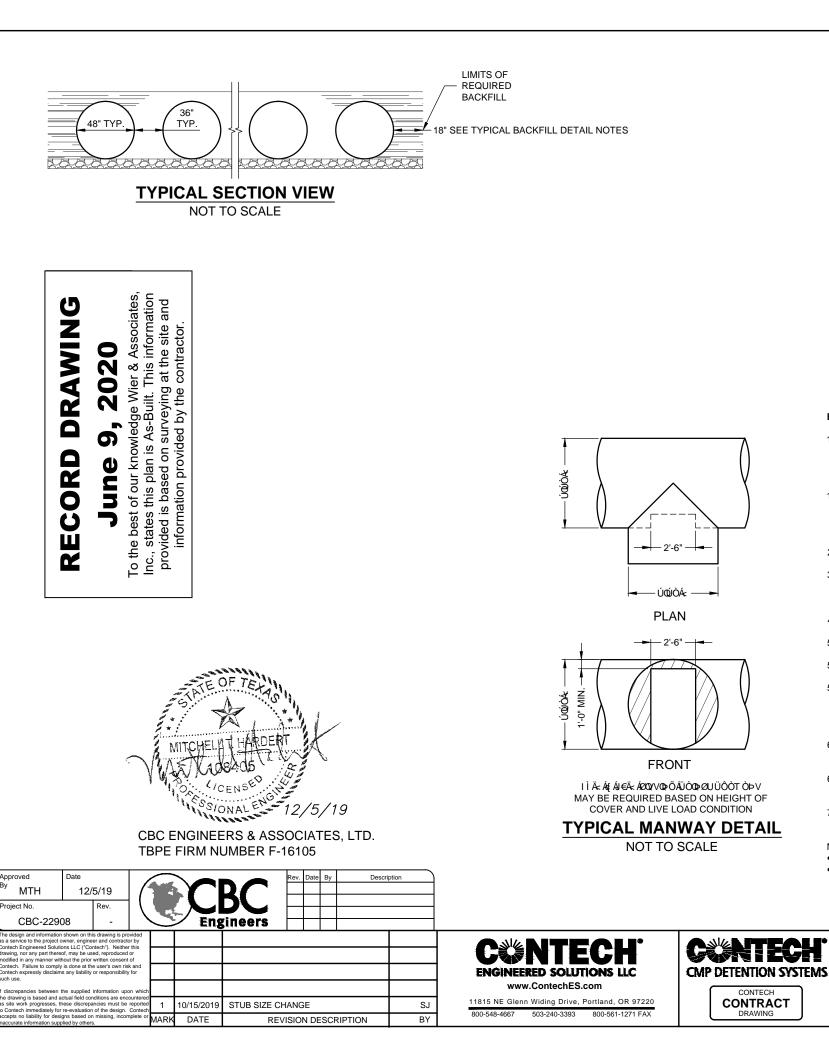
BS ARE 273 X72 CORROGATION AND TO GAGE UNLESS OTHERWISE									
TRIMMED TO GRADE AS REQUIRED, BY CONTRACTOR. HOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO HAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL T PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF HEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR. GS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT CH.									
⊳ÂĴŸÙVÒT - 577163-010	PROJECT No.: SEQ. N 577163 01			DATE: 10/15/2019					
RE COMMONS	DESIGNED: LMO		DRAWN: PDW/SJ						
ТХ	CHECKED:		APPR	OVED:					
ROUND STORAGE	SHEET NO.: C1			C5					
			P	S-4.1					

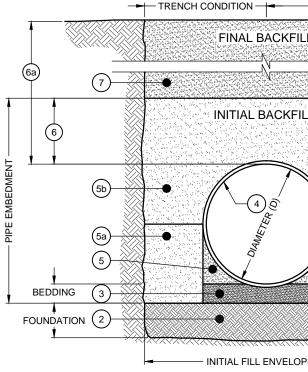
• ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. • ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD (EOR) PRIOR TO RELEASING FOR FABRICATION. • ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998. • ALL RISERS AND STUBS ARE 2% x % CORRUGATION AND 16 GAGE UNLESS OTHERWISE

To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor. G DRAWIN 2020 5 RECORD une

RISER INFORMATION								
PIECE	RIM ELEV.	SYSTEM INVERT						
HÎÄ: ÁÜQÙÒÜÁÒF	470.78	464.18						
HÎÄ xÁ ÜQÙÒÜÁPH	472.22	464.73						

	STUB INFORMATION									
	PIECE	STUB INVERT	SYSTEM INVERT							
$\Lambda$	FÍÄ∝ÁÙVWÓÁQEF	464.17	464.17							
	FÌÄ k ÁÙVWÓÁQEG	464.17	464.17							
$\Lambda$	FÍÄĸÁÙVWÓÁØF	464.32	464.32							
	FÌÄ∈ÁÛVWÓÁPG	464.77	464.77							





BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF AASHTO LF

- MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER CON THE MINIMUM TRENCH WIDTH (12.6.6.1): ÚQÚÓÁráFGĂKÔÁEÁT Ä PIPE > 12": 1.5D + 12"
- 1a MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVEL PIPE < 24": 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10'0"
- 2 THE FOUNDATION UNDER THE PIPE AND SIDE BACKFILL SHALL B
- 3 BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL T MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, W DEPTH (26.3.8.1, 26.5.3).
- 4 CORRUGATED STEEL PIPE (CSP / HEL-COR), DIAMETERS 18" 72"
- 5 HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVE
- 5a INITIAL BACKFILL SHALL BE WELL GRADED CRUSHED ROCK UP T
- 5b BACKFILL PLACED ABOVE THE SPRINGLINE TO MEET AASHTO A-90% STANDARD PROCTOR (T 99). MAXIMUM PARTICLE SIZE NOT IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPAC 1/3 THE DIAMETER OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE
- 6 SAND BACKFILL (AASHTO A-3 OR APPROVED EQUAL) TO BE PLACE INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLIC
- 6a TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIG FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT (12.6.6.3).
- 7 FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUI PER THE ENGINEER OF RECORD (26.5.4.1).

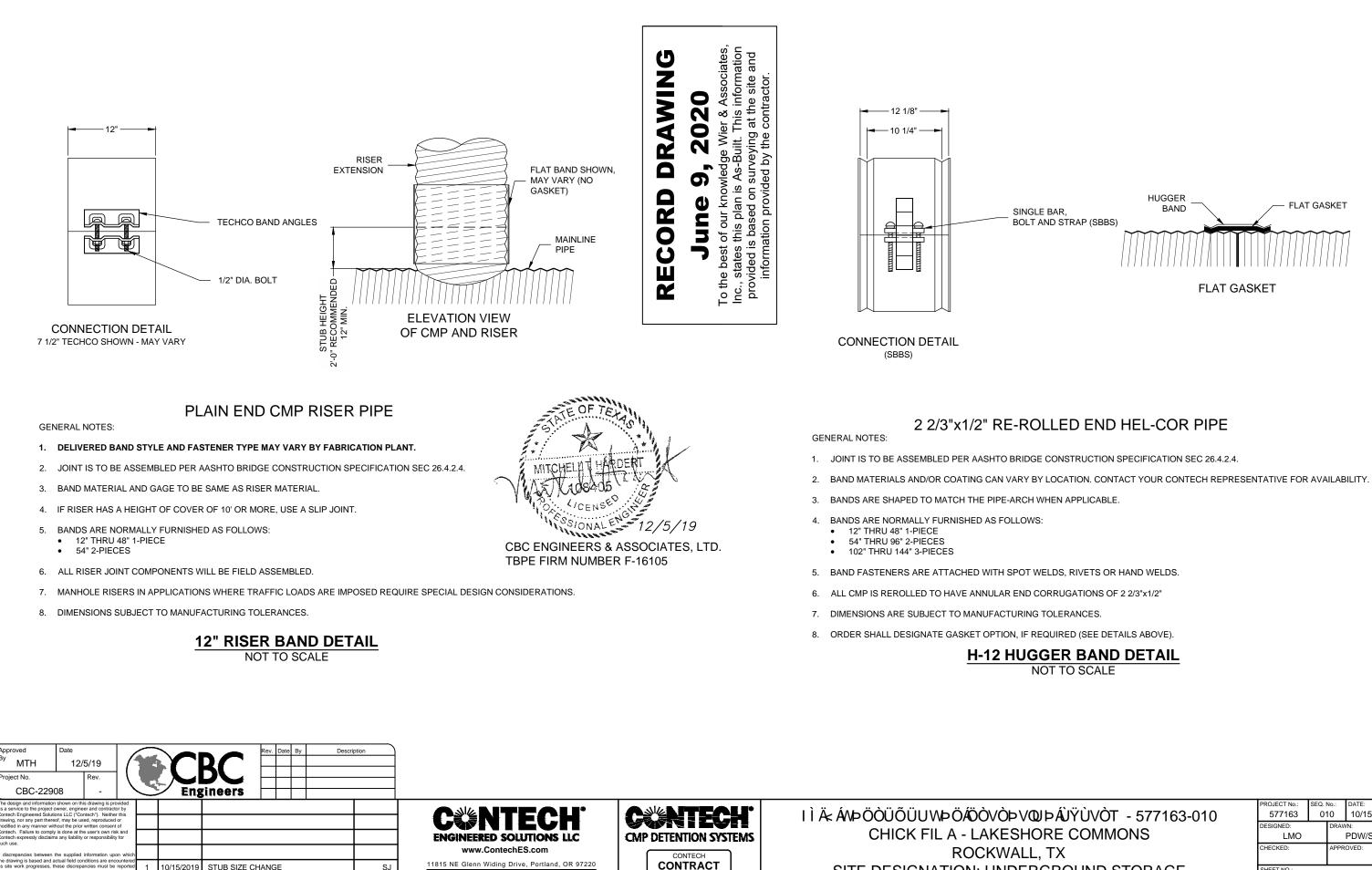
NOTES:

- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED ST
- BUT NO LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LA NONSTANDARD SPACING (TABLE C12.6.7-1).

IÌÄ ÁVÞÖÒÜÕÜUVÞÖÁÖÒVÒÞVQJ CHICK FIL A - LAKESHOF ROCKWALL, SITE DESIGNATION: UNDERG

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$\mathbf{i}$					
	$\lambda$			COD	
		DIAMETER	MIN. COVER	COR PROF	
		6"-10"	12"	1 1/2" x	1/4"
		12"-48"	12"	2 2/3" x	1/2"
		54"-72"	12"	3" x 1", 5	" x 1"
$\frac{1}{12}$					
RFD BRIDGE DESIGN (SEC	: 12) AN	D CONSTRUCTIO	ON (SEC 26)		
MPACTION OF HAUNCH M	ATERIAI	S UNDER THE P	IPE.		
_OPE (12.6.6.2):					
BE ADEQUATE TO SUPPOR				,	
THAT IS ROUGHLY SHAPE VITH THE MAXIMUM PARTI			,		N
n					
EL SLICED INTO PLACE TO	ALLOW	/ FOR PROPER C	OMPACTION	l (26.5.4).	
O SPRINGLINE OF PIPE.					
1, A-2 OR A-3 CLASSIFICA TO EXCEED 3" (12.4.1.2). A CTED LIFT HEIGHT TO PRE -TO-SIDE (26.5.4).	LL LIFT	S PLACED IN A C	ONTROLLED	D MANNER	ł.
	) 12" Ae	BOVE PIPE. INITIA	L BACKFILL	ABOVE M	AY
CABLE). GHWAY LOADS IS MEASUR			ТО ВОТТОМ	OF	
IREMENTS SHALL FOLLOV	V THE P	ROJECT PLANS	AND SPECIF	ICATIONS	
OIL MIGRATION INTO VAR	EEN PAR	RALLEL PIPE RUN	IS SHALL BE		./2
RGER. CONTACT YOUR C		H REPRESENTAT	IVE FOR		
OT TO SCALE					
ÞÁÙŸÙVÒT - 57	7163	3-010	PROJECT No.: 577163	SEQ. No.: 010	DATE: 10/15/201
RE COMMONS			DESIGNED: LMO	DRAW	/N: PDW/SJ
ТХ			CHECKED:	APPR	OVED:
GROUND STOR	AGE		SHEET NO.: C2	OF	C5
				P	S-4.2

- EMBANKMENT CONDITION -



10/15/2019

MARK DATE

STUB SIZE CHANGE

REVISION DESCRIPTION

S.I

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503-240-3393

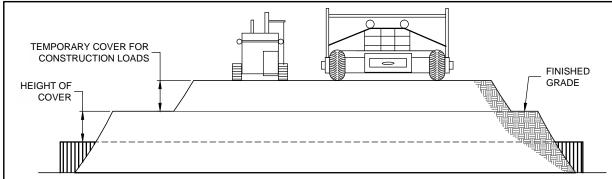
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SITE DESIGNATION: UNDERC

ÞÂĴŸÙVÒT - 577163-010	
RE COMMONS	
ТХ	
GROUND STORAGE	

PROJECT No.:	SEQ.	No.:	DATE:				
577163	0.	10	10/15/2019				
DESIGNED:		DRAWN:					
LMO			PDW/SJ				
CHECKED:		APPR	OVED:				
SHEET NO .:							
C3	C	)F	C5				
		P	5-4.3				



#### CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC

PIPE SPAN, INCHES			LOADS ps)						
inter i Lo	18-50	8-50 50-75 75-110							
		MINIMUM C	COVER (FT)						
12-42	2.0	2.5	3.0	3.0					
48-72	48-72 3.0 3.0 3.5								
78-120	3.0	3.5	4.0	4.0					
126-144	3.5	4.0	4.5	4.5					

\*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.



NOT TO SCALE

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

#### SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

#### MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A929.

#### PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRC UNITED STATES.	DUCT	SHALL OC	CCUR WITHIN THE			× 10 1
		MAT	ERIAL SPECIFICAT	ION	MITCHEL	MTHARDERT DEADS CENSE
Approved         Date           By         MTH         12/5/19           Project No.         Rev.           CBC-22908         -		Eng	BC Rev. Date By D	escription		ERS & ASSOCIATES, LTD. NUMBER F-16105
The design and information shown on this drawing is provided as service to the project owner, engineer and contractor by Contech Engineered Solutions LLC ('Contech'). Neither this trawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of Contech. Failure to comply is done at the user's own risk and Contech expressly disclaims any liability or responsibility for durb use. If discrepancies between the supplied information upon white he drawing is based and actual did conditions are encounter is alle work progresses, these discrepancies must be reporte contech milleristly for designs based on missing, incomplete concrute information supplied by others.	ad 1	10/15/2019 DATE	STUB SIZE CHANGE REVISION DESCRIPTION	SJ BY	CCC NTECH ENGINEERED SOLUTIONS LLC www.ContechES.com 1815 NE Glenn Widing Drive, Portland, OR 97220 800-548-4667 503-240-3398 800-561-1271 FAX	CONTECH CONTECH CONTECH DRAWING

HANDLING AND ASSEMBLY

WITH THE SITE ENGINEER.

INSTALLATION

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE

AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR

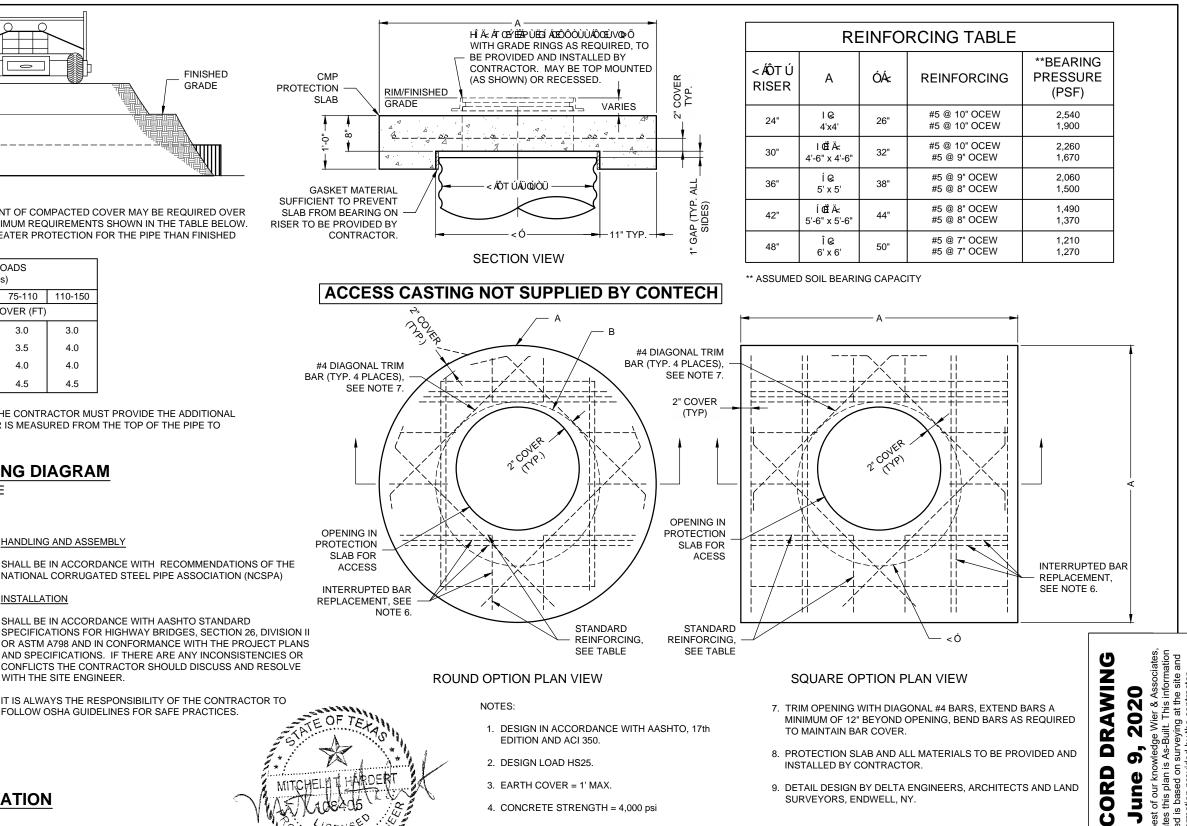
CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO

NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPA)

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD

FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



- 4. CONCRETE STRENGTH = 4,000 psi
- 5. REINFORCING STEEL = ASTM A615, GRADE 60.
- 6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.

IÌÄ ÁMÞÖÒÜŐÜUWÞÖÁÖÒVÒÞVQUÞÁÙŸÙVÒT - 577163-010 CHICK FIL A - LAKESHORE COMMONS ROCKWALL, TX SITE DESIGNATION: UNDERGROUND STORAGE

REINFORCING TABLE										
ر ۲	А	ÓÁ	REINFORCING	**BEARING PRESSURE (PSF)						
		26"	#5 @ 10" OCEW #5 @ 10" OCEW	2,540 1,900						
	I0ĒÎÄ≼ 4'-6"x4'-6"	32"	#5 @ 10" OCEW #5 @ 9" OCEW	2,260 1,670						
	Í & 5' x 5'	38"	#5 @ 9" OCEW #5 @ 8" OCEW	2,060 1,500						
	ÍŒÍÄ≼ 5'-6"x5'-6"	44"	#5 @ 8" OCEW #5 @ 8" OCEW	1,490 1,370						
	Î & 6' x 6'	50"	#5 @ 7" OCEW #5 @ 7" OCEW	1,210 1,270						

9. DETAIL DESIGN BY DELTA ENGINEERS, ARCHITECTS AND LAND SURVEYORS, ENDWELL, NY.

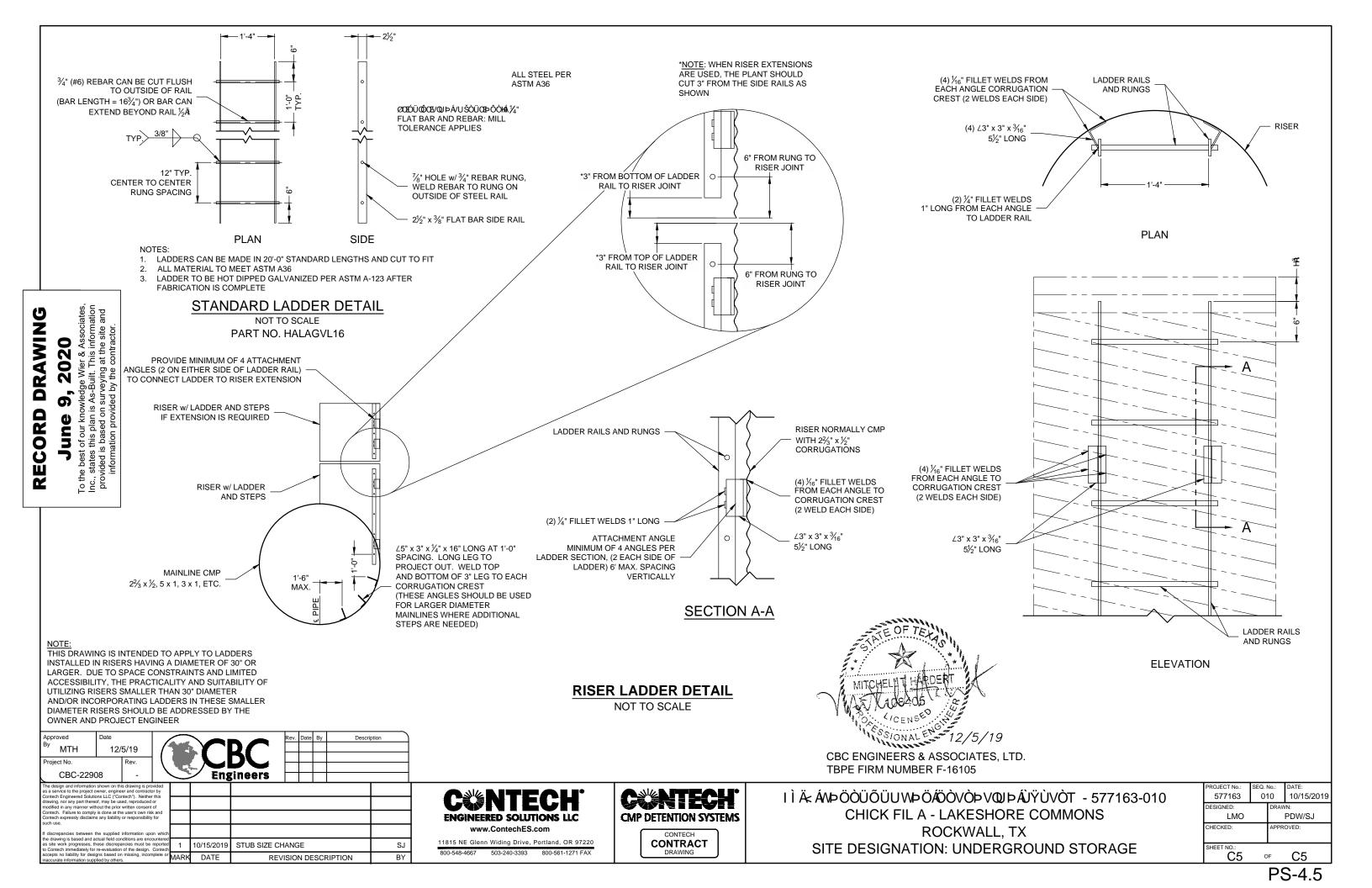
#### MANHOLE CAP DETAIL

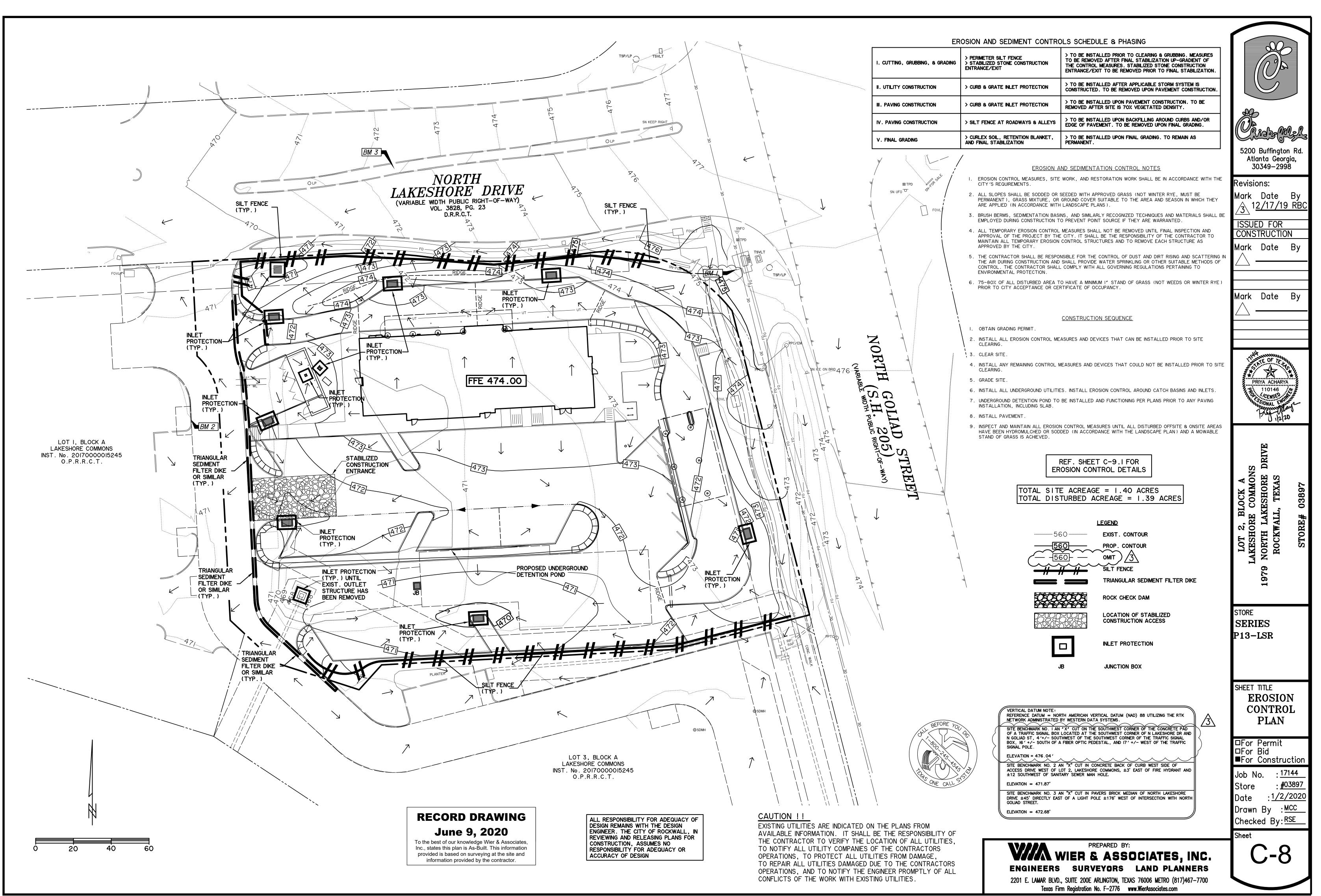
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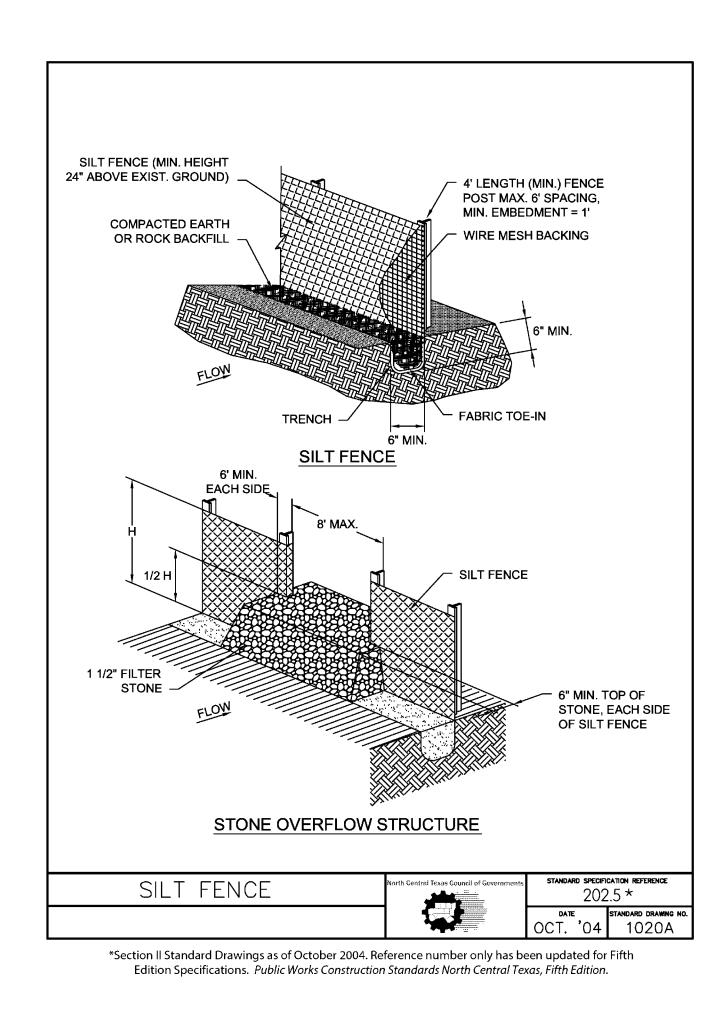
PROJECT No.:	SEQ.	No.:	DATE:
577163	0'	10	10/15/2019
DESIGNED:		DRAW	/N:
LMO			PDW/SJ
CHECKED:		APPR	OVED:
SHEET NO.: C4	c	۶F	C5
		P.	S-4 4

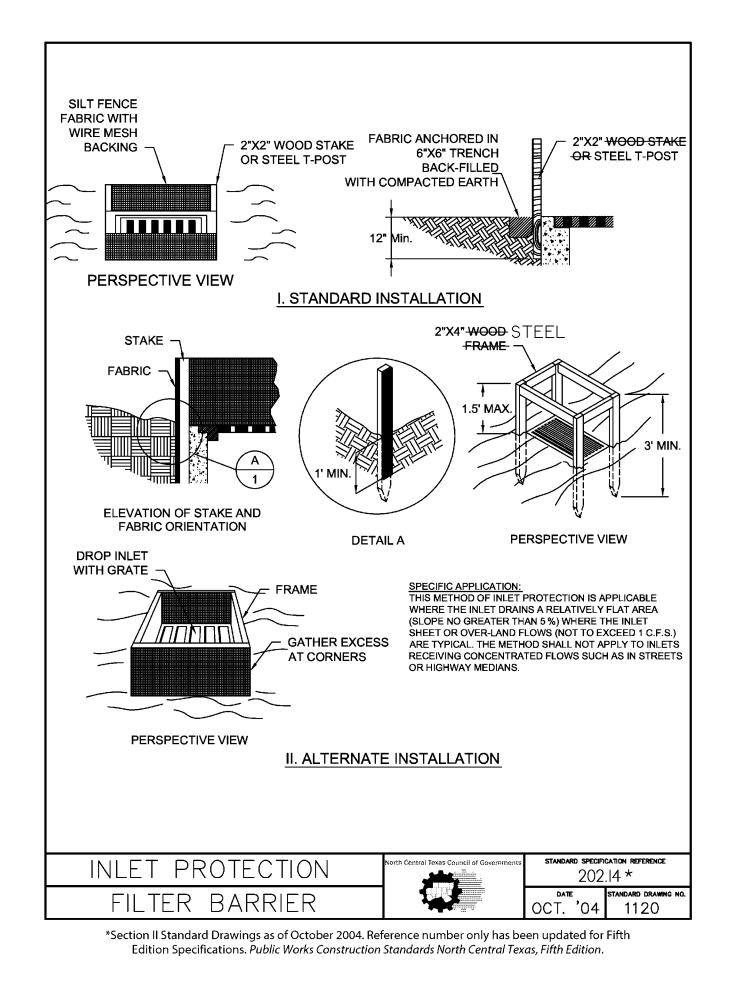
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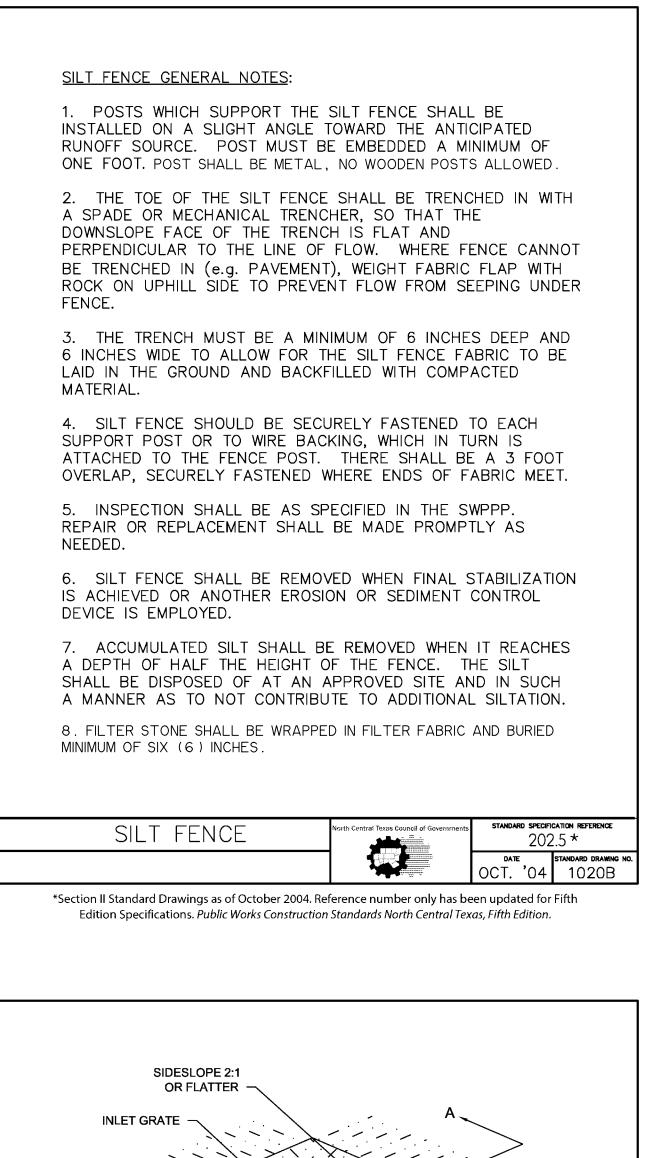
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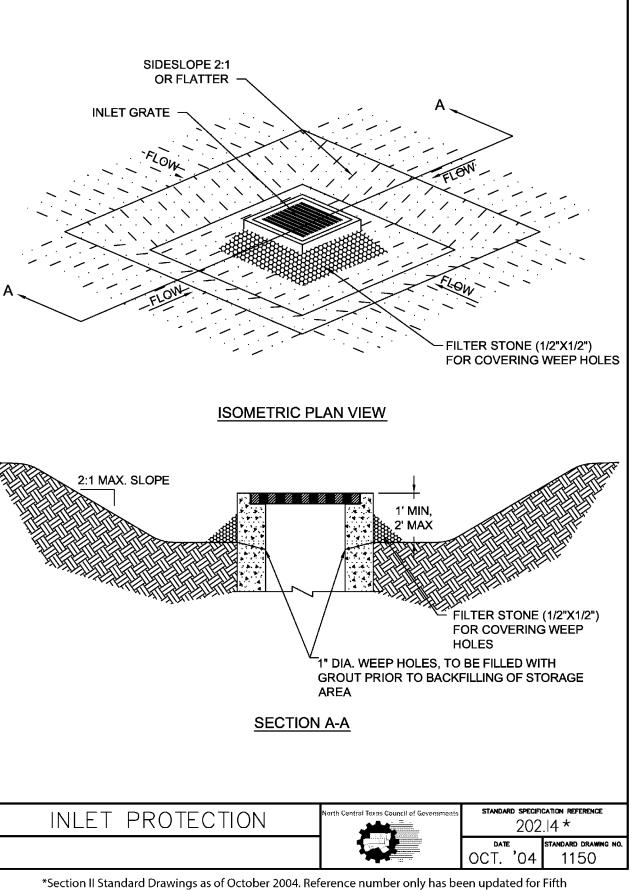






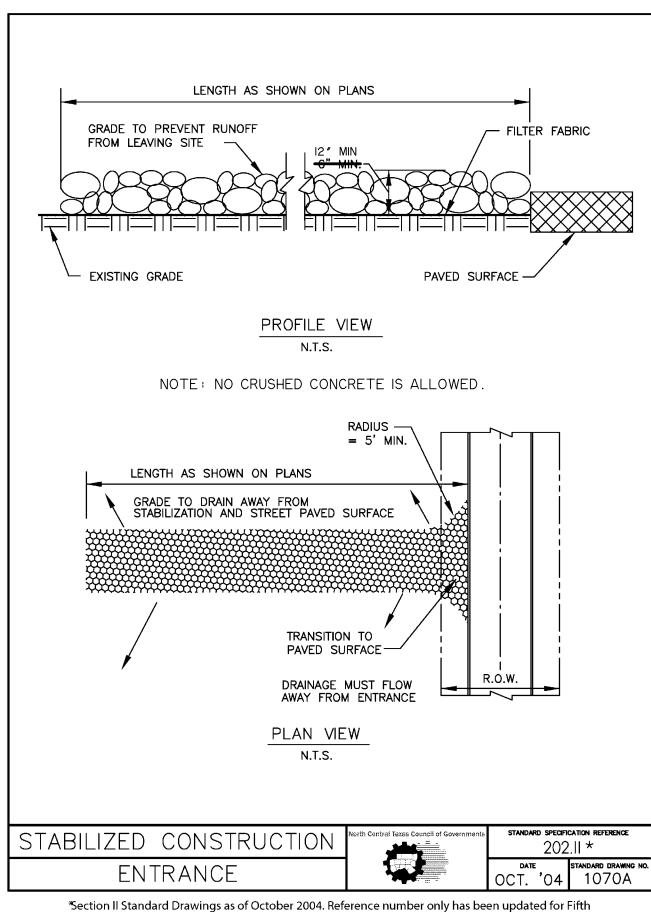






E.		202	2.5 *
		OCT. '04	standard drawing no. 1020B
f October 2004. Ref	ference number only has be	en updated for	Fifth

Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.



Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.

ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION. ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN

STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:	COA COA
<ol> <li>STONE SHALL BE 3 TO 5 INCH DIAMETER COARSE AGGREGATE. STONE SHALL BE 4 TO 6 INCH DIAMETER COURSE AGGREGATE. NO CRUSHED CONCRETE WILL BE ALLOWED.</li> <li>LENGTH SHALL BE AS SPECIFIED IN THE SWPPP. MINIMUM LENGTH SHALL BE FIFTY (50) FEET, AND MINIMUM WIDTH SHALL BE TWENTY (20) FEET.</li> <li>THE THICKNESS SHALL NOT BE LESS THAN 12 INCHES.</li> <li>THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.</li> </ol>	5200 Buffington Rd.
5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.	Atlanta Georgia, 30349–2998 Revisions: Mark Date By <u>3</u> 1 <u>2/17/19 RBC</u>
<ul> <li>6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.</li> <li>7. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE</li> </ul>	ISSUED FOR CONSTRUCTION Mark Date By
A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE. 8. PREVENT SHORTCUTTING OF THE FULL LENGTH OF THE CONSTRUCTION ENTRANCE BY INSTALLING BARRIERS AS NECESSARY.	∠ Mark Date By
9. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.	
STABILIZED CONSTRUCTION       North Central Texas Council of Governments       STANDARD SPECIFICATION REFERENCE 202.11 *         ENTRANCE       Date 0CT. '04       STANDARD DRAWING NO. 1070B	PRIYA ACHARYA

Put 1/2/20

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STORE

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P13–LSR

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CONTROL

DETAILS

For Construction

· 17144

: <u>#03897</u>

: MCC

: 12/19/2019

□For Permit

□For Bid

Job No.

Drawn By

Checked By:<u>RSE</u>

C-9.1

Store

Date

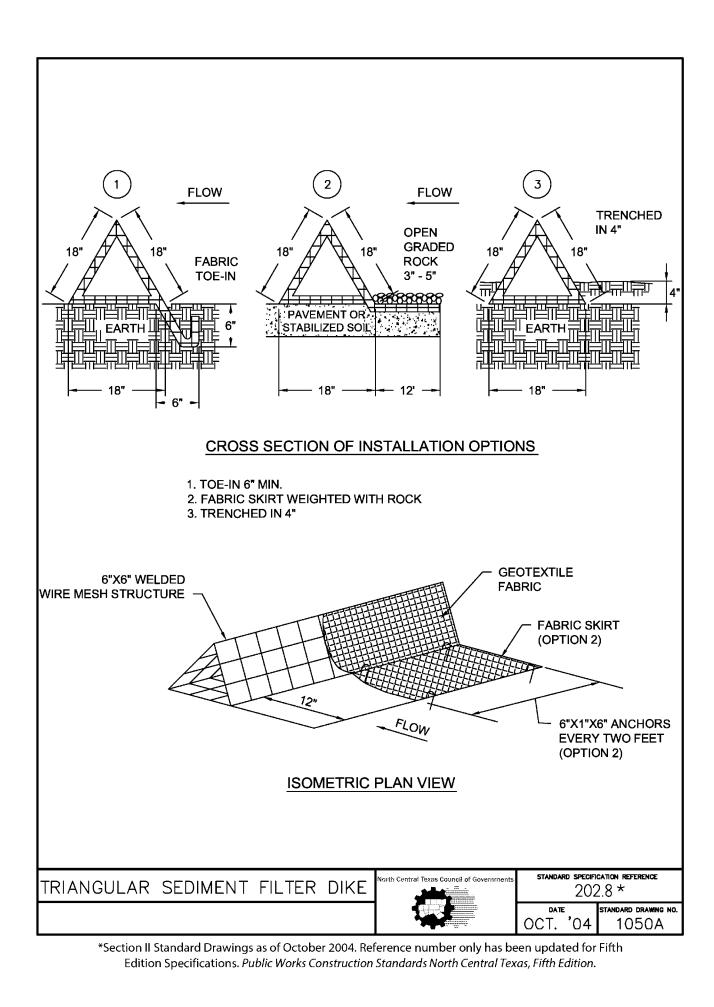
Sheet

\*Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.



To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.





ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN

	COA COA
TRIANGULAR SEDIMENT FILTER DIKE GENERAL NOTES:	
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.	8
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE, AND FABRIC SHALL BE OVERLAPPED A MINIMUM OF 12".	On some Man . ?.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF TYPE 'A' RIP RAP, OR TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED TO A DEPTH OF 4 INCHES.	5200 Buffington Rd. Atlanta Georgia, 30349–2998
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6-INCH WIRE STAPLES ON 2-FOOT CENTERS ON BOTH EDGES AND SKIRTS.	Revisions:
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.	Mark Date By <u>3</u> 1 <u>2/17/19 RBC</u>
6. THE DIKE STRUCTURE SHALL BE 6 GA. 6" X 6" WIRE MESH, 18" ON A SIDE.	ISSUED FOR CONSTRUCTION
7. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.	Mark Date By
8. THE FILTER DIKE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.	
9. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES APPROXIMATELY 6-INCHES IN DEPTH. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.	Mark Date By
TRIANGULAR SEDIMENT FILTER DIKE       North Central Texas Council of Governments       STANDARD SPECIFICATION REFERENCE         202.8 *       DATE       202.8 *         OCT. '04       1050B         *Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.	PRIVA ACHARYA PRIVA ACHARYA 110146 CENSEQ SONAL ENSU
	LOT 2, BLOCK A LAKESHORE COMMONS ) NORTH LAKESHORE DRIVE ROCKWALL, TEXAS STORE# 03897

1979

STORE

SERIES

P13–LSR

SHEET TITLE

Job No.

Store

Date

EROSION CONTROL

DETAILS

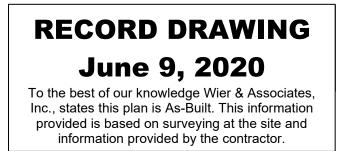
□For Permit □For Bid ■For Construction

Drawn By :<u>MCC</u>

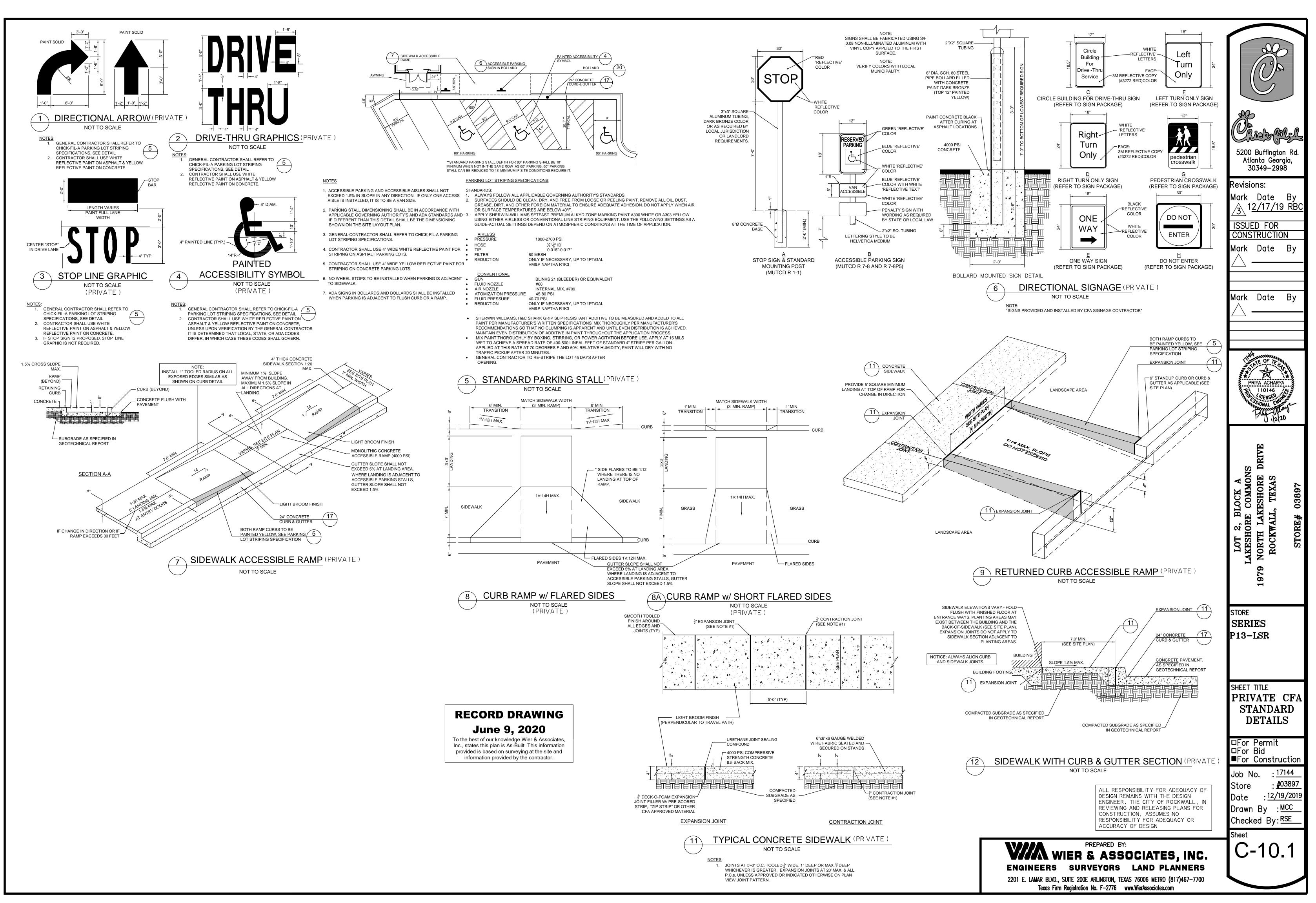
: <u>17144</u>

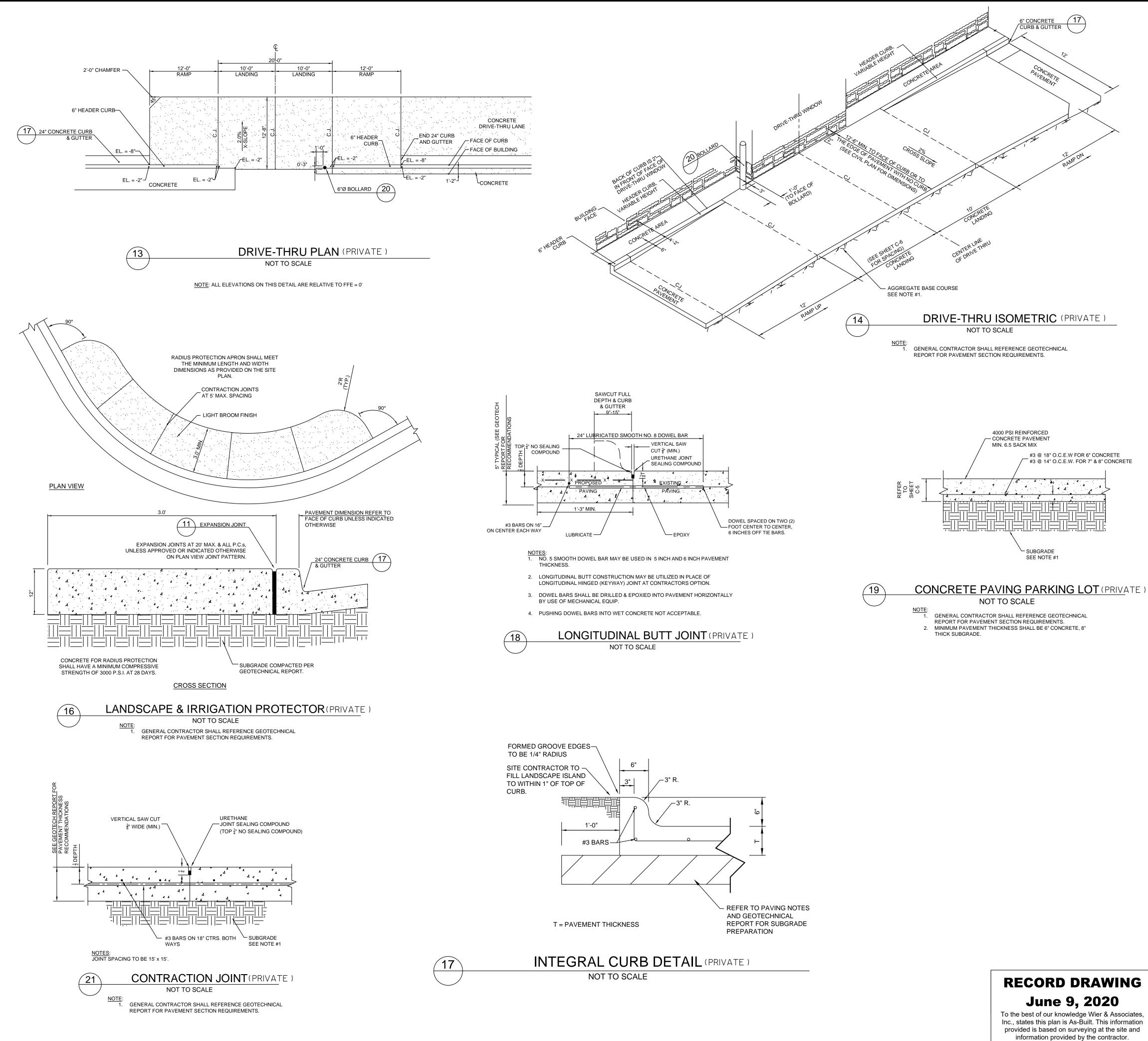
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:<u>12/19/2019</u>

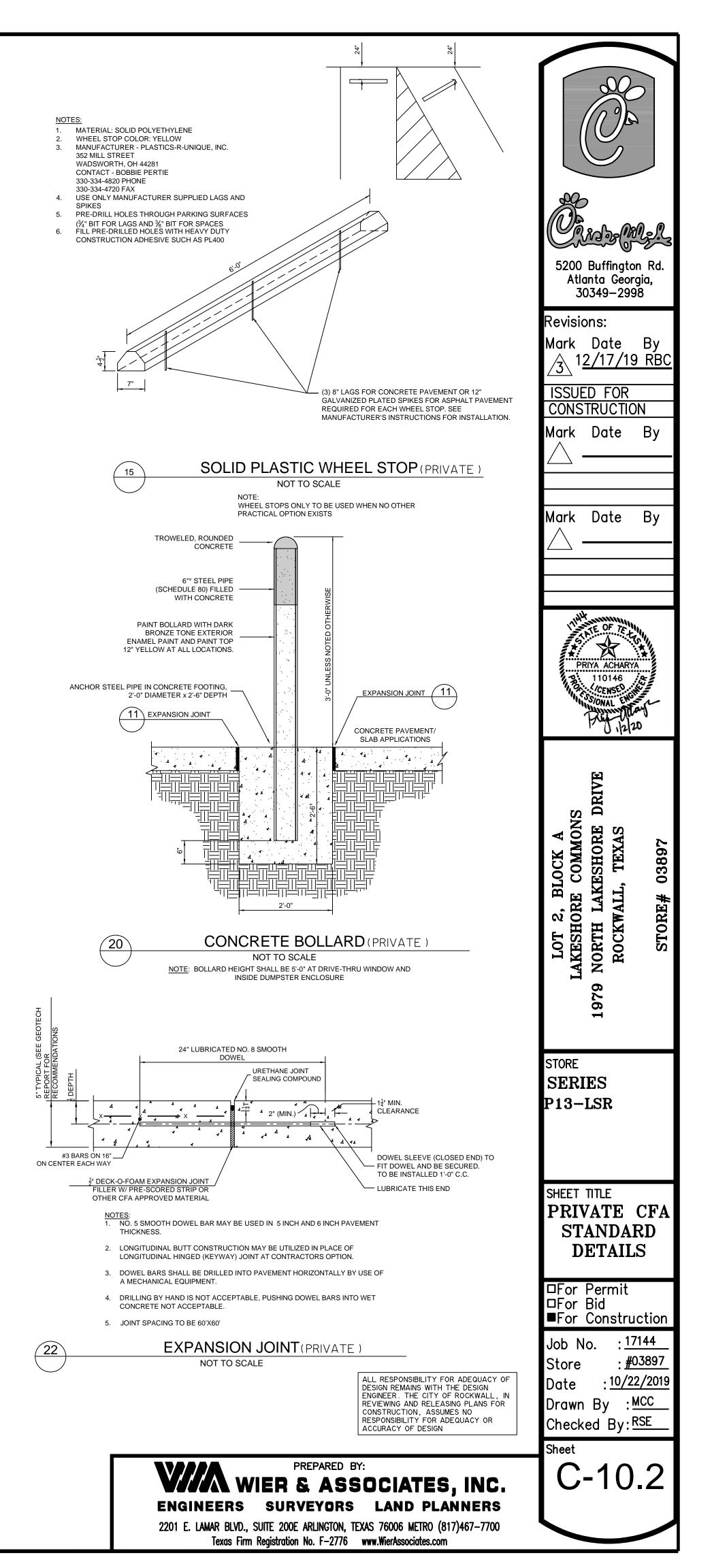


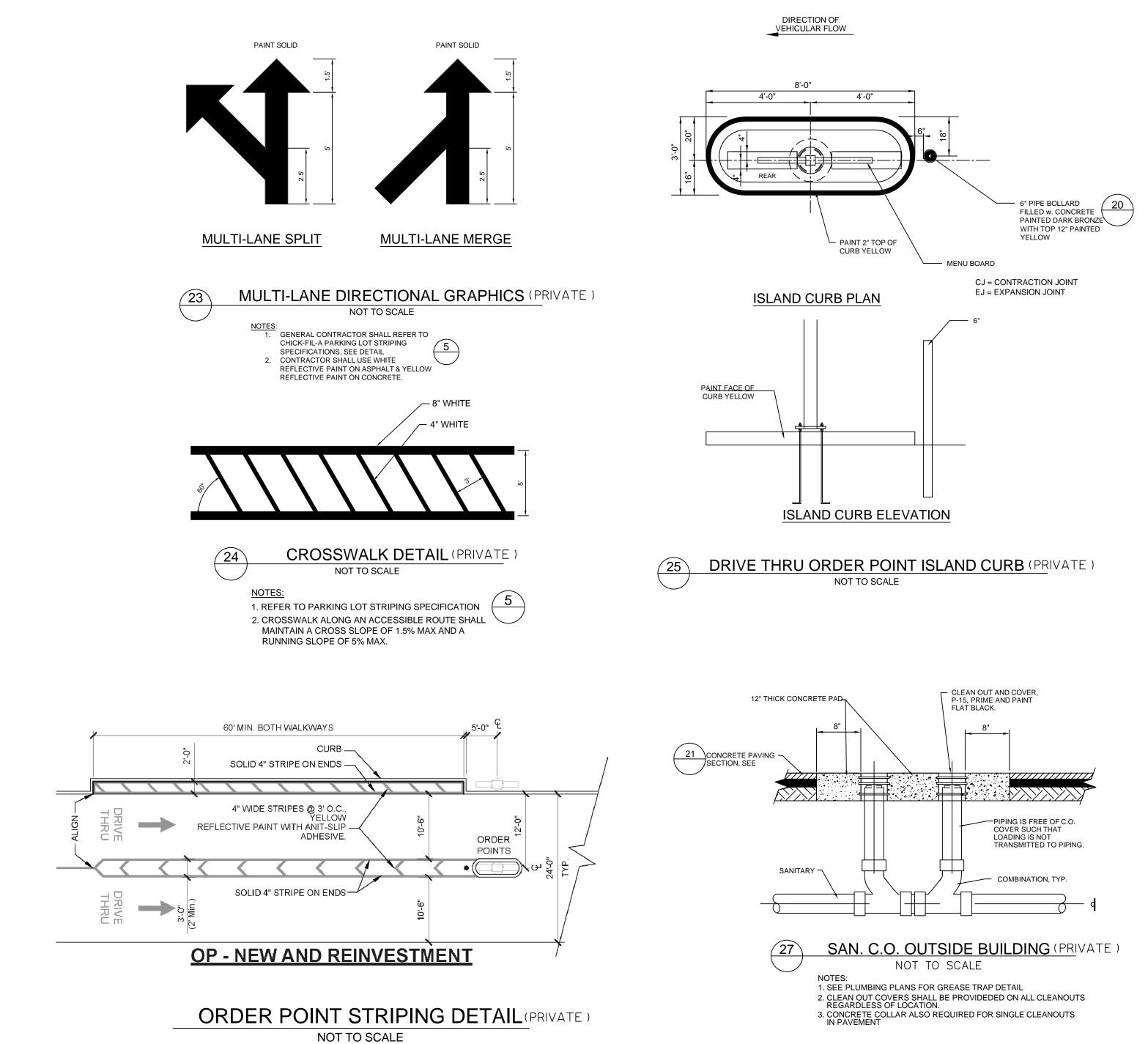


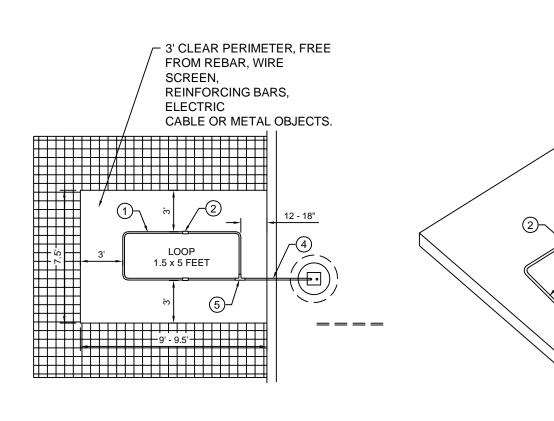




**RECORD DRAWING** To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and



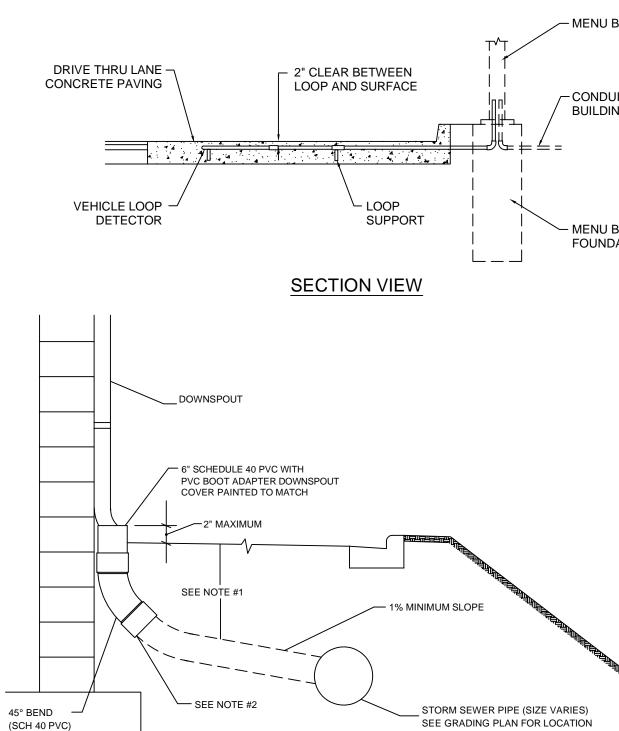




PLAN VIEW

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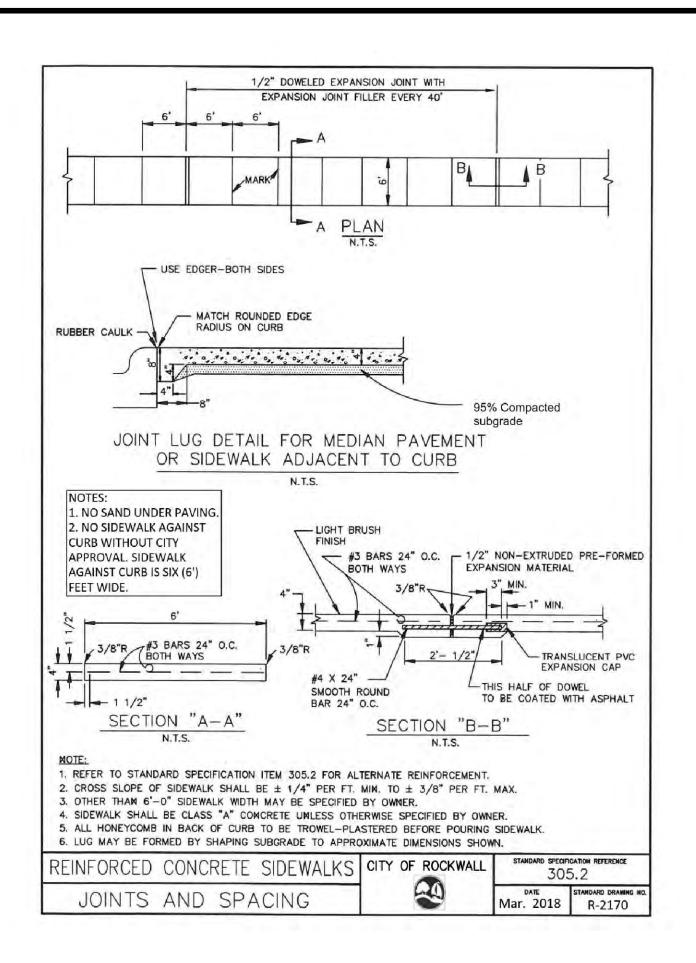
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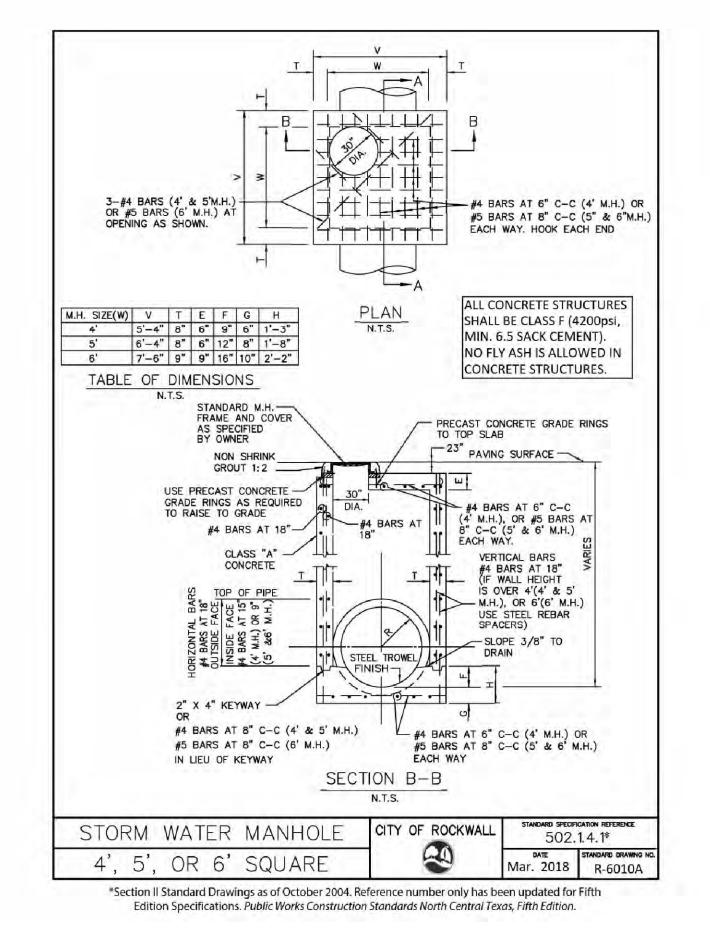


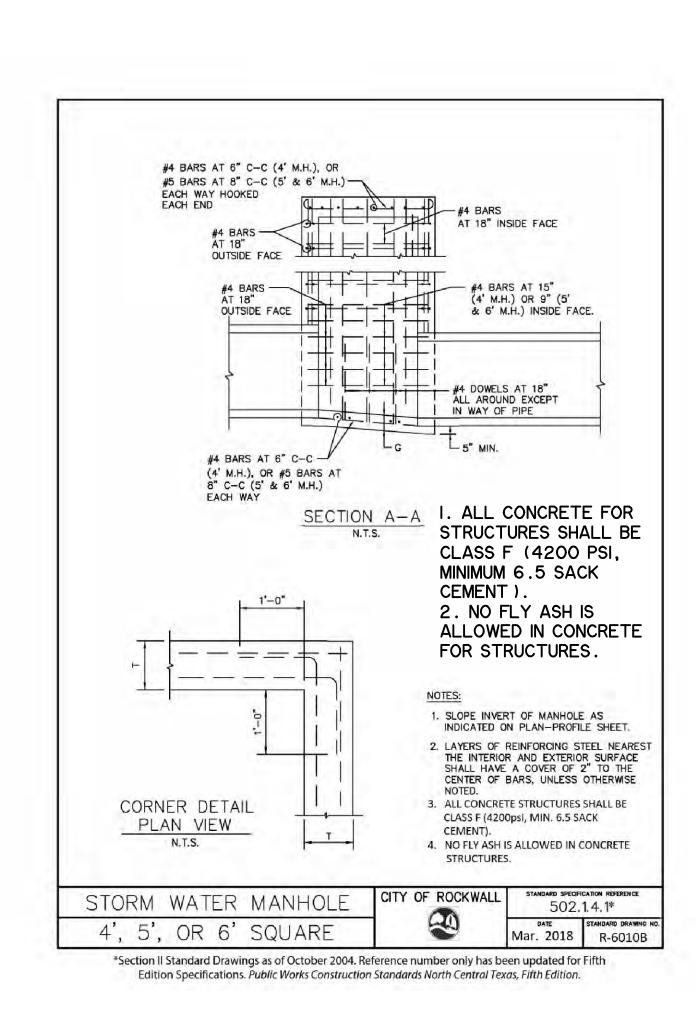
## (28) BUILDING DOWNSPOUT CONNECTION DETAIL NOT TO SCALE

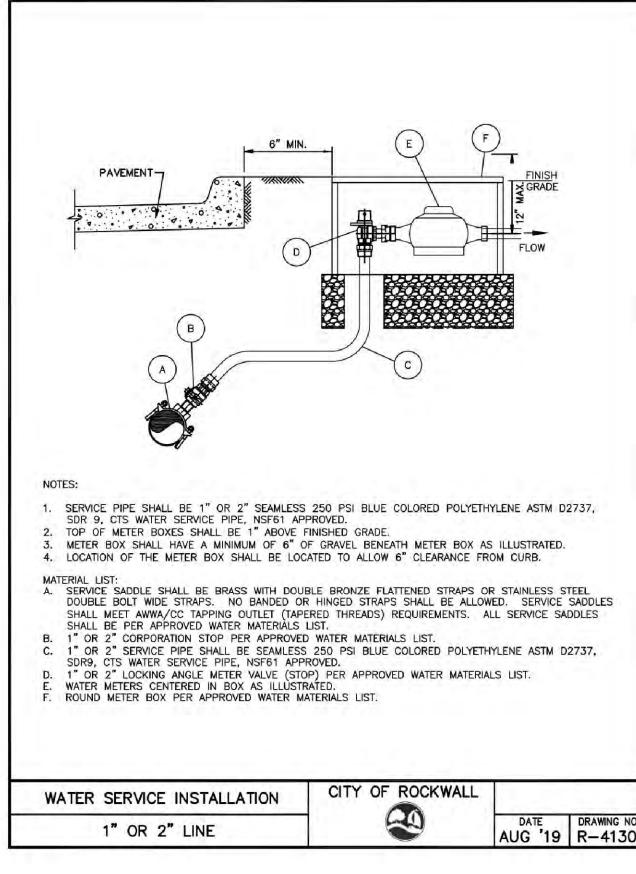
- NOTES: 1. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES. 2. A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY
- TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE. 3. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITEWORK
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK INCLUDING THE RODENT SCREEN. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE RODENT SCREEN.
- 4. IF NECESSARY, ADJUST FOOTING TO ALLOW DOWNSPOUT TO BE INSTALLED TIGHT AGAINST BUILDING

MICROPHONE SPEAKER 7 7 6 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 7 6 7	MENU BOARD LOOP DETECTION SYSTEM	Evisions: Ark Date By 12/17/19 RBC
ISOMETRIC VIEW	NOTES: 1. LOOP DETECTOR IS MODEL NO. VDL100 VEHICLE DETECTION LOOP MANUFACTURED BY MH ELECTRONICS, INC.	ISSUED FOR CONSTRUCTION
BOARD PARTS LIST 1 PREFAB (FOLDED) LOOP (1.5' x 4 2 1/2" PVC COUPLING 3 1/2" PVC SLEEVE COUPLING 4 1/2" PVC TUBING (3' LENGTH)	2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.	Mark Date By
<ul> <li>(5) 1/2" PVC CORNER FITTING</li> <li>(6) 1/2" PVC 90° ELBOW</li> <li>(7) 1/2" PVC TUBING (2' LENGTH)</li> </ul>		Mark Date By
BOARD DATION		
		PRIYA ACHARYA PRIYA ACHARYA 110146 CENSED SONAL ENGLARYA
Anterna de la companya de la company		LOT 2, BLOCK A LAKESHORE COMMONS 1979 NORTH LAKESHORE DRIVE ROCKWALL, TEXAS STORE# 03897
		STORE SERIES P13-LSR
	RECORD DRAWING June 9, 2020 To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.	SHEET TITLE PRIVATE CFA STANDARD DETAILS
	ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN	□For Permit □For Bid ■For Construction Job No. : <u>17144</u> Store : <u>#03897</u> Date : <u>12/19/2019</u> Drawn By : <u>MCC</u> Checked By: <u>RSE</u>
ENGIN	PREPARED BY: WIER & ASSOCIATES, INC. EERS SURVEYORS LAND PLANNERS MAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467-7700 Texas Firm Registration No. F-2776 www.WierAssociates.com	Sheet C-10.3









- DIRECTED BY THE CITY.

- 4. BLUE EMS DISK SHALL BE SET AT MAIN LINE. 5. NO C.F. CORPORATION STOPS.

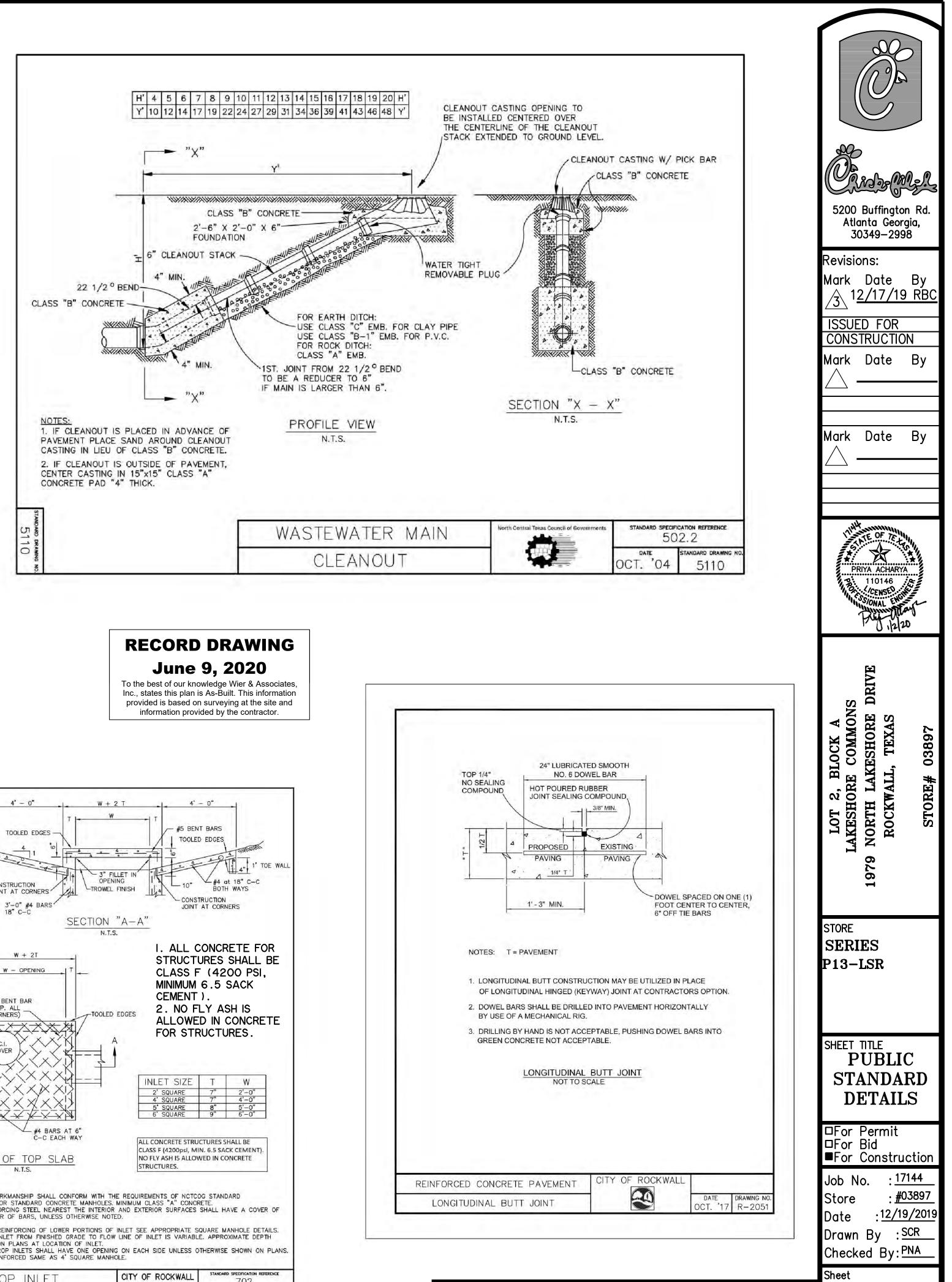
INSTALLATION	CITY OF ROCKWALL		
LINE		AUG '19	DRAWING NO. R-4130

I. COPPER SERVICE LINE SHALL BE I"I.D. C.T.S. POLY TUBE SDR-9.

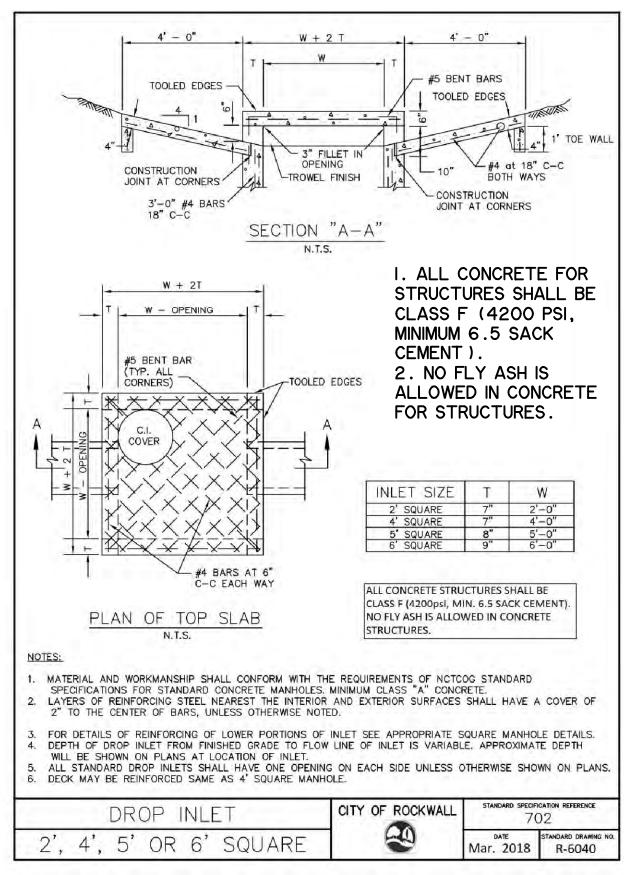
2. A) FOR I' METER: METER BOX SHALL BE TWO (2) FEET FROM BACK OF CURB OR AS

B) FOR 2" METER: METER BOX SHALL BE TWO FEET, 6 INCHES (2'-6") FROM BACK OF CURB OR AS DIRECTED BY THE CITY. 3. METER BOX SHALL BE EIGHTEEN (18) INCH DIAMETER BY FOURTEEN (14) INCH DEEP

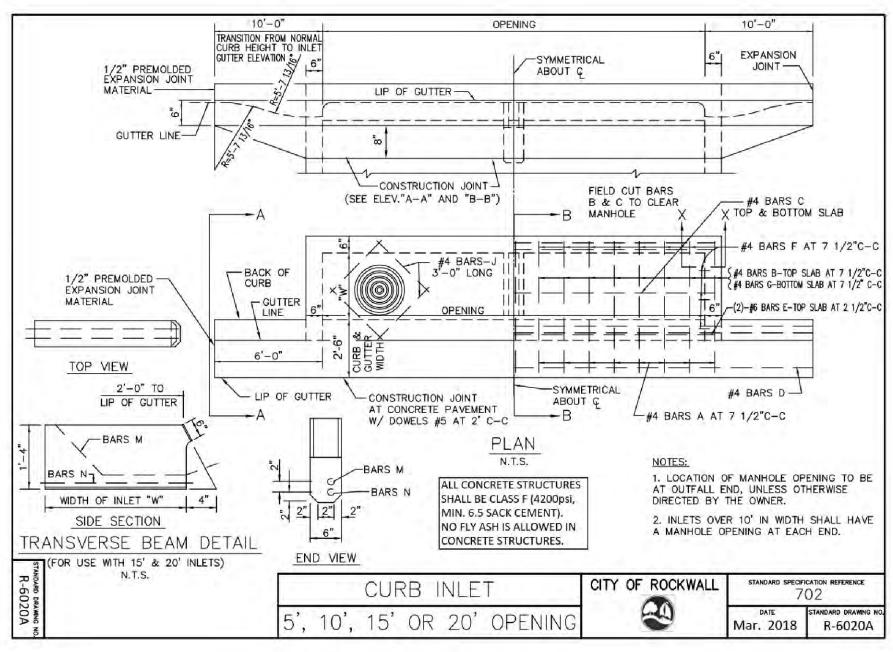
6. SEE CITY DETAIL FOR SERVICE METER TAIL CONNECTION.



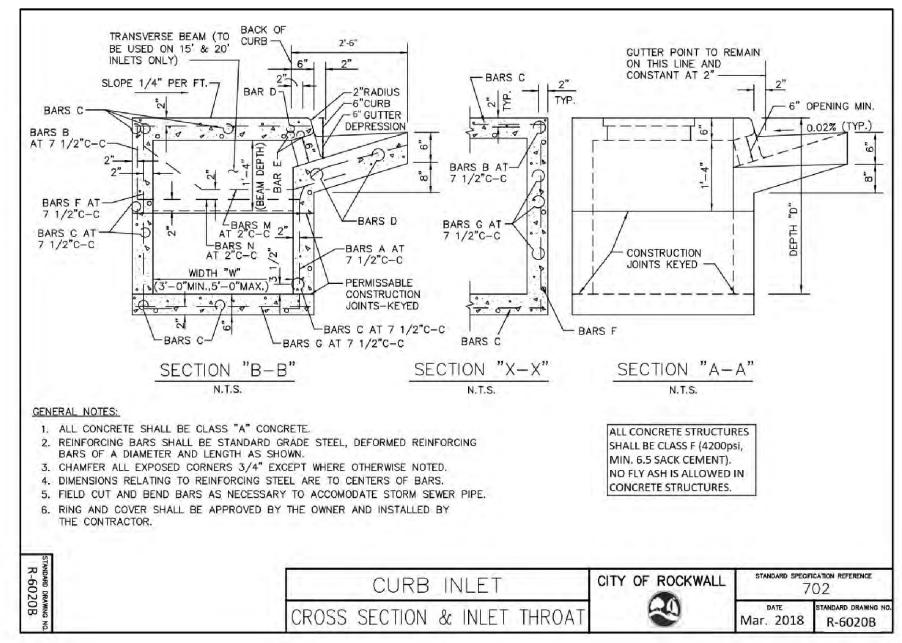




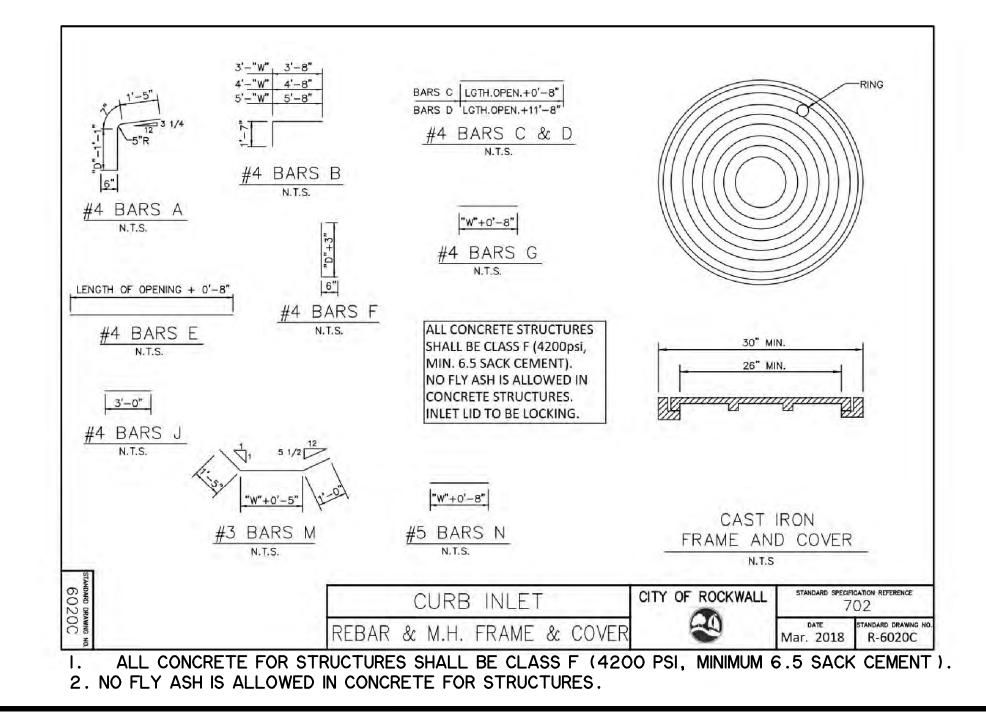




I. ALL CONCRETE FOR STRUCTURES SHALL BE CLASS F (4200 PSI, MINIMUM 6.5 SACK CEMENT). 2. NO FLY ASH IS ALLOWED IN CONCRETE FOR STRUCTURES.



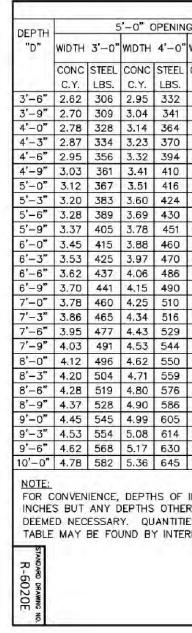
ALL CONCRETE FOR STRUCTURES SHALL BE CLASS F (4200 PSI, MINIMUM 6.5 SACK CEMENT).
 NO FLY ASH IS ALLOWED IN CONCRETE FOR STRUCTURES.



EPTH "D"					OPENI	NG LE	NGTH	"L'	. =	5ft	OPEN	ING LE	NGTH	"L"	= 1	Oft	OPEN	ING LE	NGTH		"["	= 1	5 ft	-	OPEN	ING LE	NGTH		"L"	= 2	0 ft	915 1		
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-9″	21	"	"	**		21	12	"		26	**		"			34	*	n	7		*	42	**			R	97 <sup>4</sup>	27	. 10	50	**		5.0	
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-3"	23	n		**	"	89	13	"		28	"			"		36			n	2	"	44			"	н	"		31	52	"			
-6"	23	7		**		**		"	"	28	"		"	"		36	*	.0	"		"	44	"				27	"		52				TRUCTU
-9"	25	n	"	m	72	n	.17	11	"	30	n			"		38	"	*	n		n	46	"	a.		п	22	n	19	54	"	31	ALL CONCRETE	
-0"	25	2	"	*			19	"		30		10	"			38	"		"			46		.0			37	19	**	54			SHALL BE CLASS	
-3"	26	"		**	"	"	"	12		30	7		"	"		38		"	"		"	46			1.6	"			*	54	"	2	MIN. 6.5 SACK	
-6"	27	n		-17		8	12		71	32	n		32	. 17	39	40	17	н	78	57	17	48	n	12	a.	п	37	37	39	56	12	н	NO FLY ASH IS A	
-9"	27	"	39		"		13			32	"			"		40		.91	л		.19	48					**	37	*	56	19		CONCRETE STR	JUTURES.
-0"	29		2	27	"	н	13	"	"	34	"		"	"		42		- a			11	50			71	n	37	37		58				
-3"	29	n	*	27			13		"	34	n		"	17		42	**		n	**	**	50	n	19	21	п	27	.17		58	"			
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-0"	31			20	"		19			36	n					44		. 11	n			52	м				97	"		60	"			
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-6"	33	71	7	*1				11		38	n	. 10		n		46		21	n		17	54		12		11	27	n	37	62	"	- 11		
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-6"	37			**			19			42				"		50		0	. n		н	58		10	10	n	97		- 78	66				
-0"	38	n	'n	27	"	м	19			42	. Эв	н		10	30	50						58				п	57	. 11		66				

- I. ALL CONCRETE FOR STRUCTURES SHALL BE CLASS F (4200 PSI, MINIMUM 6.5 SACK CEMENT). 2. NO FLY ASH IS ALLOWED IN CONCRETE FOR STRUCTURES.+
- 3. BLOCK OUT FOR THROAT TO BE TWO AND ONE-HALF (2-1/2) FEET FROM BACK OF CURB. 4. GUTTER DEPRESSION TO BE SIX (6) INCHES.

Thrust Block Detail

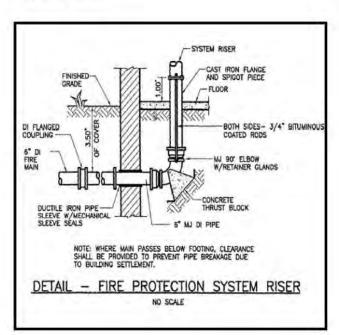


I. ALL CONCRETE FO 2. NO FLY ASH IS AU 3. INLET LID TO BE

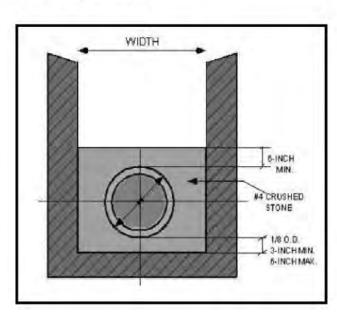


## UNDERGROUND FIRE LINE

Spigot Detail



Embedment Detail



 
 TYPE OF PHTTING
 CROSS WPLUG
 TEE WPLUG
 TEE DR DEAD END

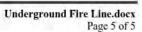
 WOULD WOUL







Rockwall Fire Marshal Division

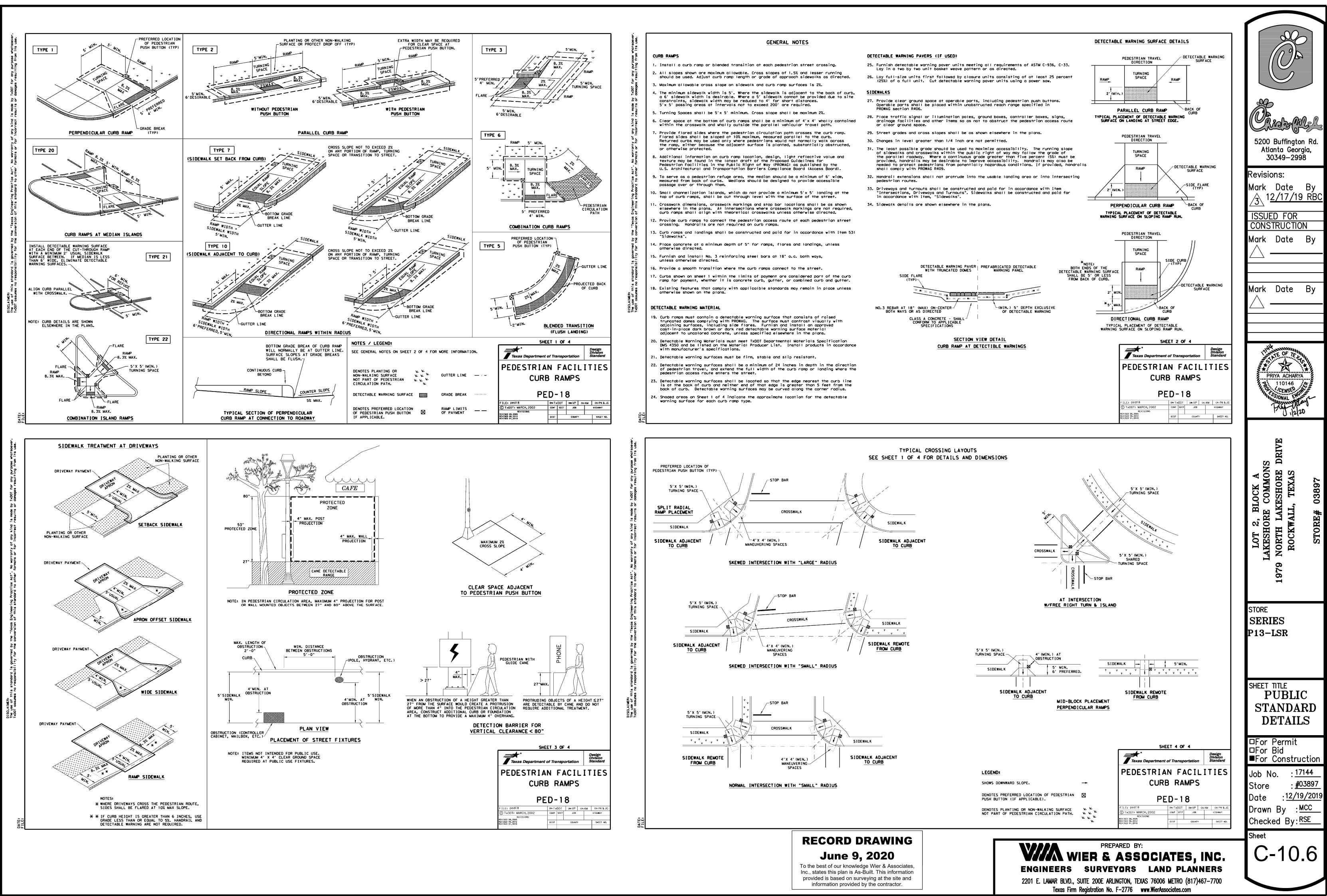


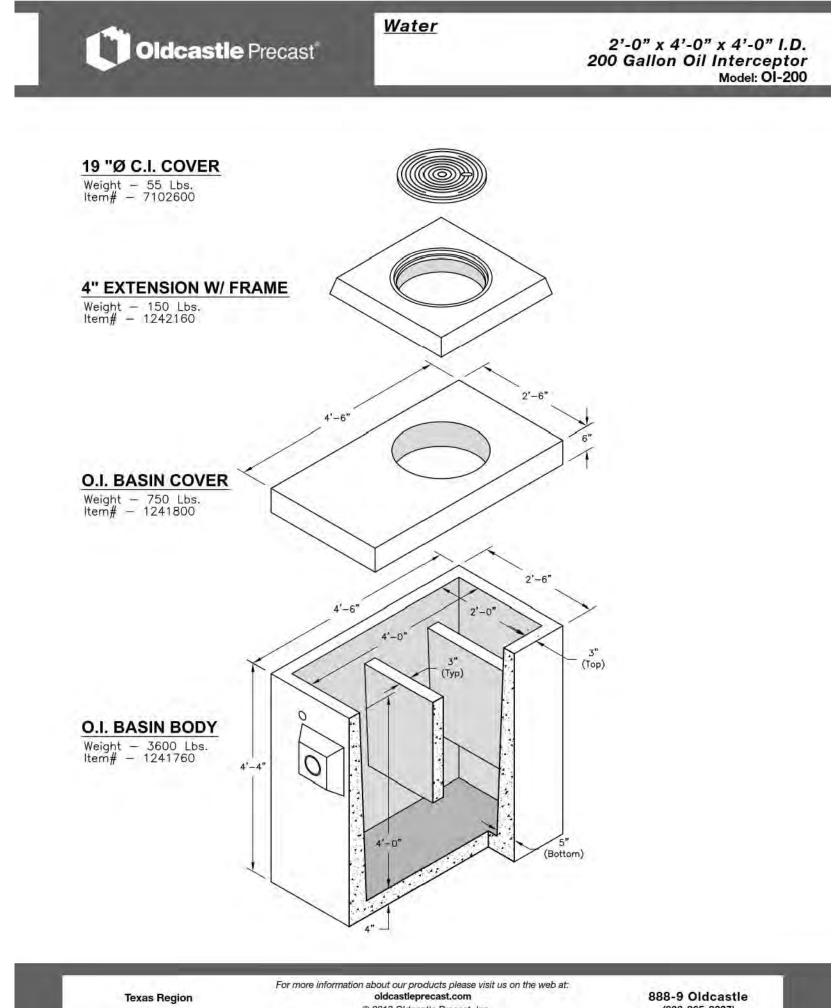
Rockwall Fire M

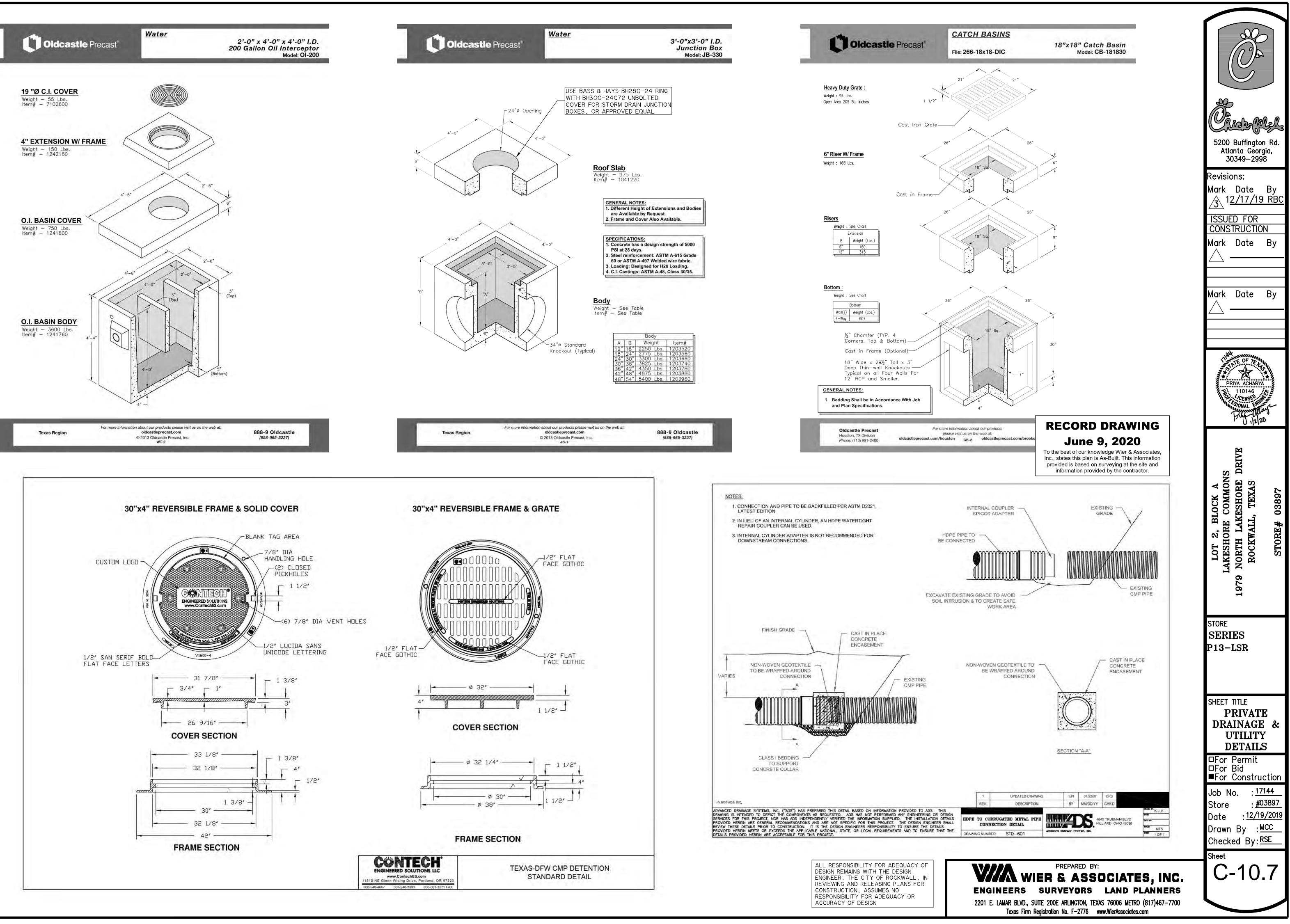
RECORD DRAWING June 9, 2020

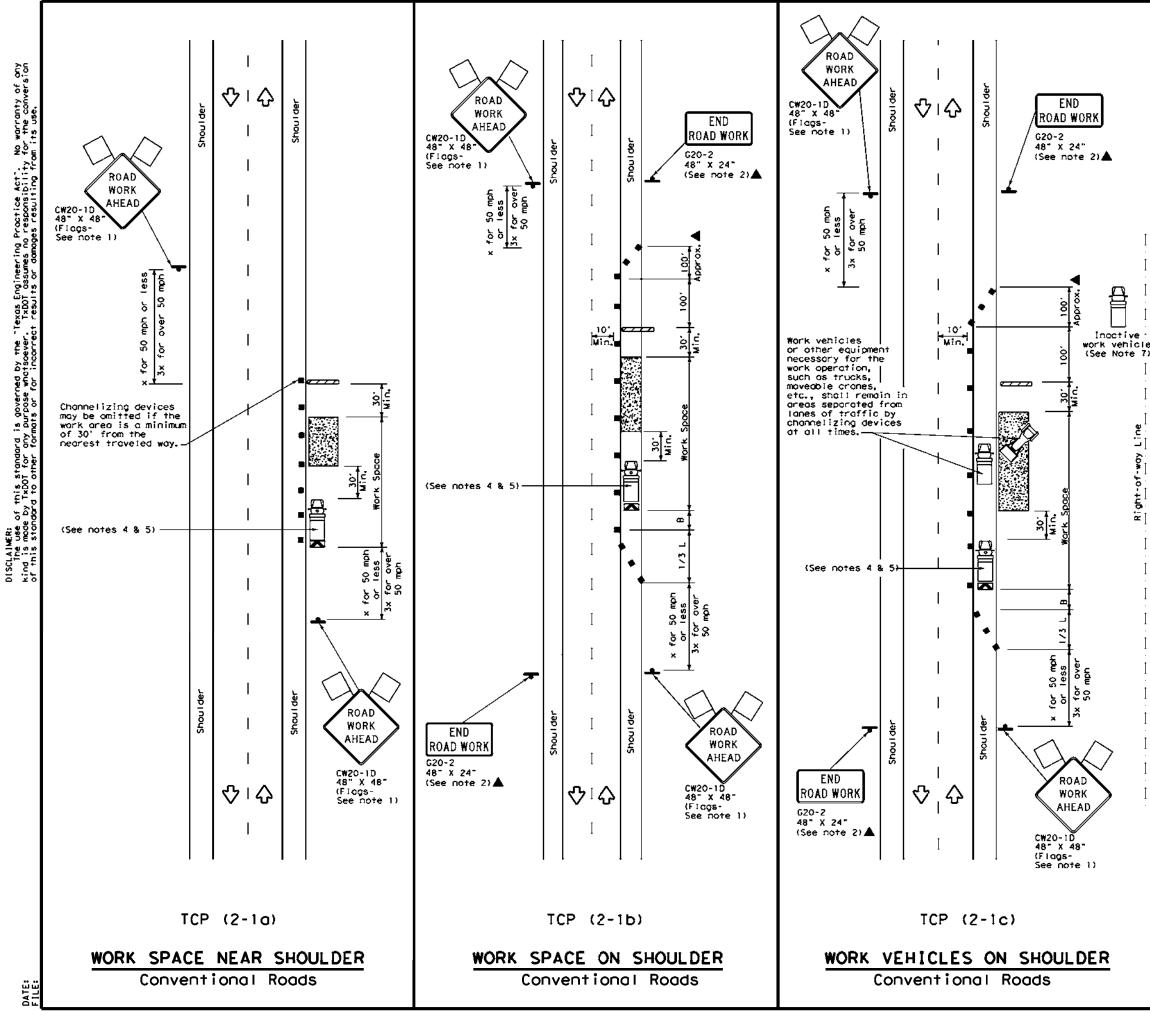
To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.

SUMMARY       OF       QUANTITIES       FOR       CURB       INLETS         NING       10'-0"       OPENING       15'-0"       OPENING       20'-0"       OPENING         0"       WDTH       3'-0"       WIDTH       4'-0"       WIDTH       5'-0"       WIDTH       5'-0"       WIDTH       3'-0"       WIDTH       5'-0"       WIDTH       3'-0"       WIDTH       4'-0"       WIDTH       5'-0"       <	
0         3.59         406         4.51         526         5.06         573         5.64         619         6.22         729         6.95         787         7.69         847         7.87         922         8.81         990         9.75         1061           4         3.69         4.31         4.64         558         5.20         607         5.79         656         6.40         770         7.14         830         7.88         891         8.09         9.73         9.04         1043         9.99         1115           0         3.79         438         4.77         566         5.34         616         5.94         6.65         6.57         780         7.32         841         8.07         903         8.31         986         9.27         1056         10.23         1129           6         3.90         445         4.90         5.74         5.47         6.09         675         791         7.51         853         8.27         915         8.53         999         9.50         10.70         1144           4         4.00         465         5.03         6.06         5.23         704         6.93         827         7.68	Or some R
0         4.41         515         5.55         661         6.17         718         6.83         773         7.63         908         8.44         975         9.24         1044         9.64         1147         10.66         1223         11.67         1305           6         4.51         532         5.68         681         6.31         739         6.97         7.81         935         8.62         1005         9.43         1057         9.87         1178         10.89         1258         11.92         1340           0         4.61         537         5.81         688         6.45         747         7.12         806         7.98         1055         9.63         1066         10.09         11.12         12.28         12.15         1355           0         4.71         560         5.94         716         6.59         777         7.27         837         8.16         981         8.99         1053         9.82         1126         10.31         12.35         1319         12.40         1404           6         4.81         567         6.07         724         6.72         866         8.33         992         9.18         10.65	5200 Buffington Rd. Atlanta Georgia, 30349-2998 Revisions:
9       5.22       613       6.59       784       7.28       849       8.01       915       9.04       1069       9.92       1149       10.80       1228       11.42       1353       12.51       1440       13.60       1529         6       5.32       6.32       6.71       804       7.42       871       8.16       938       9.21       1107       10.10       1176       10.99       1257       11.64       1385       12.74       14.74       13.84       1565         6       5.42       643       6.84       819       7.56       886       8.31       954       9.39       1119       10.29       1199       11.18       1280       11.87       1410       12.97       1500       14.08       1592         5       5.53       664       6.97       842       7.70       912       8.46       982       9.56       1148       10.47       1231       11.38       1313       12.09       1447       13.44       1563       14.50       1660         0       5.73       692       7.23       878       7.97       950       8.75       1022       9.92       1195       10.84       1280       11.77	Mark Date By <u>3</u> 1 <u>2/17/19 RBC</u> ISSUED FOR CONSTRUCTION
A DATE OF INCLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF STATE         HER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER         ITTES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE         CURB INLET         CURB INLET         SUMMARY OF QUANTITIES         CITY OF ROCKWALL         SUMMARY OF QUANTITIES         Date         Mar. 2018	Mark Date By
FOR STRUCTURES SHALL BE CLASS F (4200 PSI, MINIMUM 6.5 SACK CEMENT). ALLOWED IN CONCRETE FOR STRUCTURES. E LOCKING.	Mark Date By
	PRIYA ACHARYA
UNDERGROUND FIRE LINE	Pung 110146 (CENSED) (NONAL ENGINE Pung 12/20
S SENERAL NOTES Minimum pipe size leading to the FDC shall be lefermined by hydroulic colculations, but shall be in minimum of A" for all systems. A 6" minimum pipe is required for all systems with a total demand exceeding 750 GPM. S. All exposed piping and fittings to be galvanized with the exception of the Siemese connection. A Embedment and underground details below are thown to clarity only. Refer to Fire Sprinkler Inderground Guidelines for details. S. All exposed piping and fittings to be galvanized thown to clarity only. Refer to Fire Sprinkler Inderground Guidelines for details. S. All exposed piping and fittings to be galvanized thown to clarity only. Refer to Fire Sprinkler Inderground Guidelines for details.	, BLOCK A RE COMMONS LAKESHORE DRIVE ALL, TEXAS E# 03897
ALL NON-PLASTIC PIPING SHALL BE EXTERNALLY COATED AND WRAPPED PER NFPA 24 ALL EXPOSED PIPING SHALL BE GALVANIZED	LOT 2, B LAKESHORE 1979 NORTH LAI ROCKWALI STORE#
BALL DRIP IN #4 CRUSHED STONE	STORE SERIES P13-LSR
THRUST BLOCKING PER FIRE SPRINKLER UNDERGROUND GUIDELINES AND NFPA 24. (SHOWN FOR CLARITY ONLY)	SHEET TITLE PUBLIC STANDARD DETAILS
re Marshal Division Underground Fire Line.docx Page 4 of 5	□For Permit □For Bid ■For Construction Job No. : <u>17144</u> Store
	Store : <u>#03897</u> Date : <u>12/19/2019</u> Drawn By : <u>MCC</u> Checked By: <u>RSE</u> Sheet
PREPARED BY: WIER & ASSOCIATES, INC. ENGINEERS SURVEYORS LAND PLANNERS	C-10.5
2201 E. LAMAR BLVD., SUITE 200E ARLINGTON, TEXAS 76006 METRO (817)467—7700 Texas Firm Registration No. F—2776 www.WierAssociates.com	









	LEGEND				
	Type 3 Borricade		Channelizing Devices		
	Heavy Work Vehicle	K	Truck Mounted Attenuator (TMA)		
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)		
ŀ	Sign	Ŷ	Traffic Flow		
$\Diamond$	Flog	Lo	Flagger		

Posted Speed	Formuta	מ	Ninimur esirob er Leo X X	Ie	Spoch Chonne		Minimum Sign Spocing "x"	Suggested Longitudina Buffer Space
*		10' Offset	11' Offset	12' Offset	On a Toper	On a Tongent	Distance	-8-
30	t = <u>#S<sup>2</sup></u>	150'	1651	1801	30'	601	1201	90'
35	L= <u>#S</u> 60	2051	2251	2451	351	701	1601	1201
40	00	2651	2951	3201	40'	80.	240'	1551
45		450'	4951	5401	45'	901	320′	1957
50		500'	550'	600'	501	1001	4001	240'
55	L=₩S	5501	6051	660'	551	110'	5001	295'
60	E - 173	6001	6601	7201	601	120'	6001	350'
65		650'	715'	7801	65'	1301	7001	410′
70		[ 700 <sup>+</sup>	770'	8401	70'	1401	8001	475'
75		750'	8251	9001	75'	1501	9001	5401

\* Conventional Roads Only

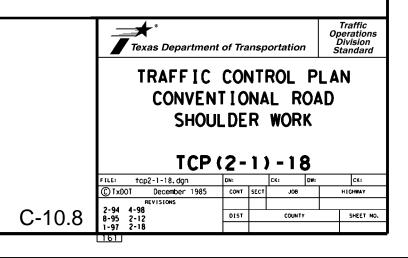
\*\* Toper lengths have been rounded off.

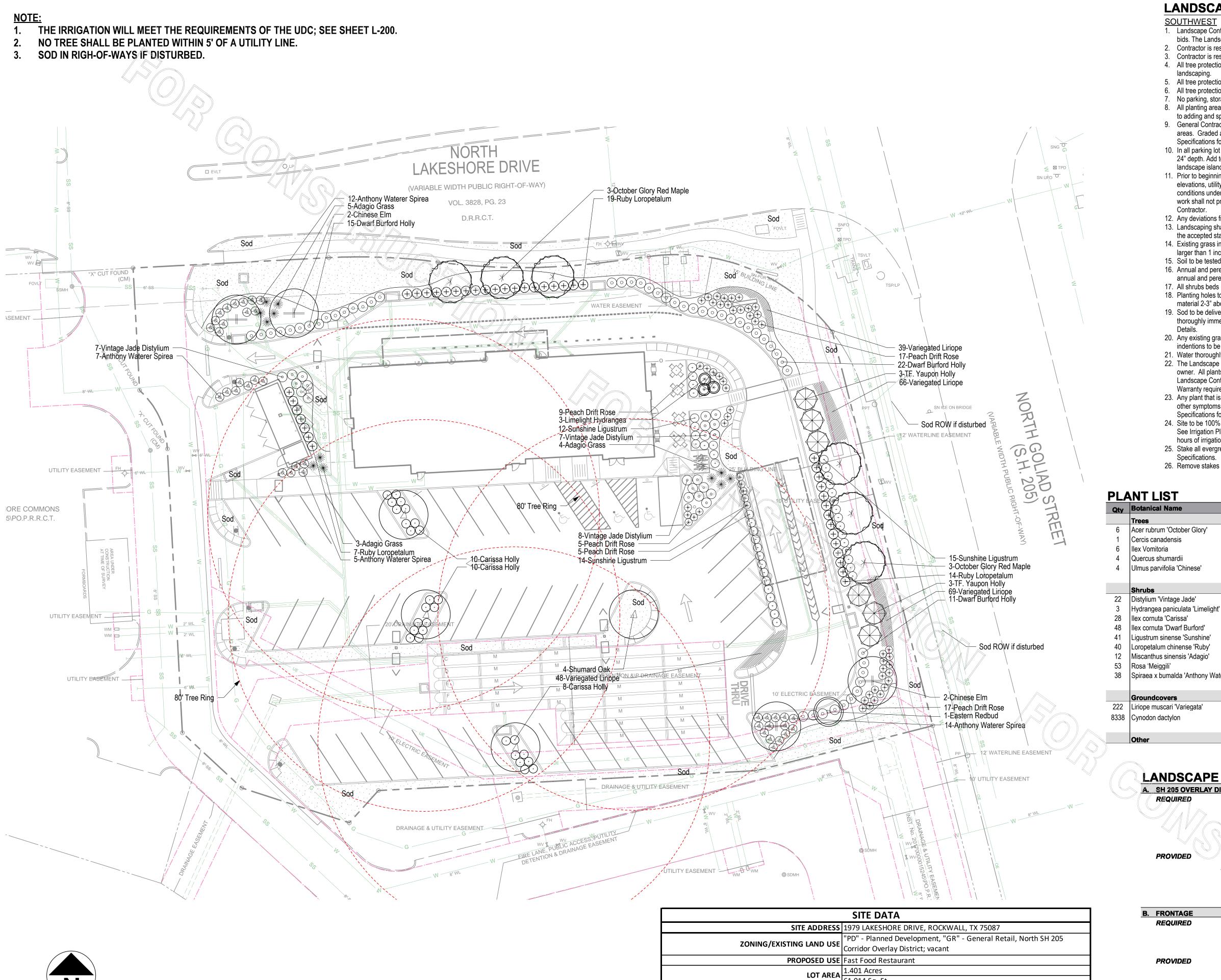
L=Length of Toper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	4	<b>1</b>	4	4

#### GENERAL NOTES

- I. Flogs attached to signs where shown, are REQUIRED.
- 2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
- Stockpiled material should be placed a minimum of 30 feet from
- nearest traveled way.
  4. Shodow Vehicle with TMA and high intensity rotating, flashing, ascillating or strobe lights. A Shodow Vehicle with a TMA should be intensity in the travelet in an analysis. used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place. Type 3 Barricades or other channelizing devices may be substituted for the Shodow Vehicle and TWA.
- 5. Additional Shodow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space. 6. See TCP(5-1) for shoulder work on divided highways, expressways and
- freeways. 7. Inoctive work vehicles or other equipment should be parked near the
- right-of-way line and not parked on the paved shoulder. 8. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D
- "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.





20 40 FT

	SITE DATA	<u>B.</u>
SITE ADDRESS	1979 LAKESHORE DRIVE, ROCKWALL, TX 75087	
	"PD" - Planned Development, "GR" - General Retail, North SH 205	
ZONING/EXISTING LAND USE	Corridor Overlay District; vacant	
PROPOSED USE	Fast Food Restaurant	
LOT AREA	1.401 Acres	
	61,014 Sq. Ft.	
NET BUILDING AREA	4,754 Sq. Ft.±	В.
PERVIOUS AREA	14,577 Sq. Ft.± (24%)	,
	46,437 Sq. Ft.± (76%)	
F.A.R. (BUILDING COVERAGE)	· · ·	
TOTAL PARKING REQUIRED	48 (1 stall/100 sf)	
TOTAL PARKING PROVIDED	50	
HANDICAP-ACCESSIBLE PARKING REQUIRED	2	
HANDICAP-ACCESSIBLE PARKING PROVIDED	3	

## LANDSCAPE NOTES

1. Landscape Contractor to read and understand the Landscape Specifications (sheet L-102) prior to finalizing bids. The Landscape Specifications shall be adhered to throughout the construction process. 2. Contractor is responsible for locating and protecting all underground utilities prior to digging. 3. Contractor is responsible for protecting existing trees from damage during construction. 4. All tree protection devices to be installed prior to the start of land disturbance, and maintained until final

5. All tree protection areas to be protected from sedimentation.

6. All tree protection fencing to be inspected daily, and repaired or replaced as needed. 7. No parking, storage or other construction activities are to occur within tree protection areas. 8. All planting areas shall be cleaned of construction debris (ie. concrete, rock, rubble, building materials, etc) prior to adding and spreading of the topsoil.

9. General Contractor is responsible for adding a min of 4" clean friable topsoil in all planting beds and all grassed areas. Graded areas to be held down the appropriate elevation to account for topsoil depth. See Landscape Specifications for required topsoil characteristics.

10. In all parking lot islands, the Contractor is responsible to remove all debris, fracture/loosen subgrade to a min. 24" depth. Add topsoil to a 6"-8" berm height above island curbing; refer to landscape specifications and landscape island detail.

11. Prior to beginning work, the Landscape Contractor shall inspect the subgrade, general site conditions, verify elevations, utility locations, irrigation, approve topsoil provided by the General Contractor and observe the site conditions under which the work is to be done. Notify the General Contractor of any unsatisfactory conditions, work shall not proceed until such conditions have been corrected and are acceptable to the Landscape Contractor.

12. Any deviations from the approved set of plans are to be approved by the Landscape Architect. 13. Landscaping shall be installed in conformance with ANSI Z60.1 the "American Standard for Nursery Stock" and the accepted standards of the American Association of Nurserymen.

14. Existing grass in proposed planting areas shall be killed and removed. Hand rake to remove all rocks and debris larger than 1 inch in diameter, prior to adding topsoil and planting shrubs. 15. Soil to be tested to determine fertilizer and lime requirements prior to laying sod.

16. Annual and perennial beds: add min. 4 inch layer of organic material and till to a min. depth of 12 inches. Mulch annual and perennial beds with 2-3 inch depth of mini nuggets.

17. All shrubs beds (existing and new) to be mulched with a min. 3 inch layer of rock mulch. 18. Planting holes to be dug a minimum of twice the width of the root ball, for both shrub and tree. Set plant material 2-3" above finish grade. Backfill planting pit with topsoil and native excavated soil.

19. Sod to be delivered fresh (Cut less than 24 hours prior to arriving on site), laid immediately, rolled, and watered thoroughly immediately after planting. Edge of sod at planting beds are to be "V" trenched; see Landscape

20. Any existing grass disturbed during construction to be fully removed, regraded and replaced. All tire marks and indentions to be repaired.

21. Water thoroughly twice in first 24 hours and apply mulch immediately.

22. The Landscape Contractor shall guarantee all plants installed for one full year from date of acceptance by the owner. All plants shall be alive and at a vigorous rate of growth at the end of the guarantee period. The Landscape Contractor shall not be responsible for acts of God or vandalism. See Landscape Specifications for Warranty requirements/expectations.

23. Any plant that is determined dead, in an unhealthy, unsightly condition, lost its shape due to dead branches, or other symptoms of poor, non-vigorous growth, shall be replaced by the Landscape Contractor. See Landscape Specifications for warranty requirements/expectations.

24. Site to be 100% irrigated in all planting beds and grass area by an automatic underground Irrigation System. See Irrigation Plan L-200 for design. Irrigation as-built shall be provided to the Landscape Architect within 24 hours of irrigation install completion.

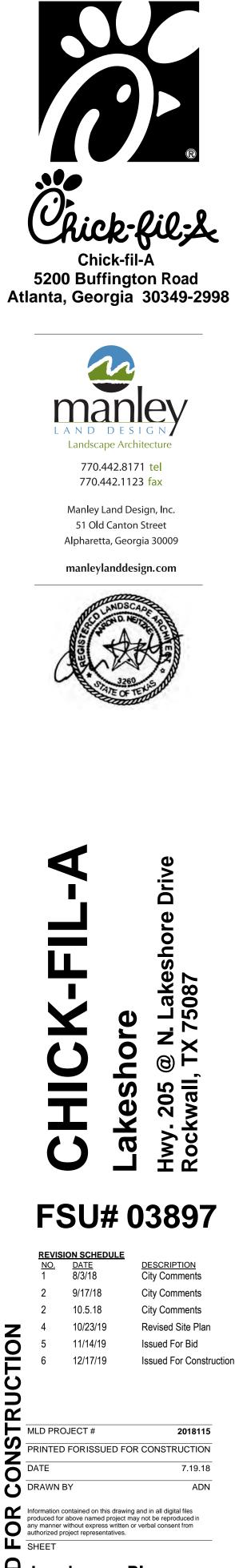
25. Stake all evergreen and deciduous trees as shown in the planting detail and as per the Landscape

26. Remove stakes and guying from all trees after one year from planting.

	Common Name	Scheduled Size	Remarks
ber Glory' i hinese'	October Glory Red Maple Eastern Redbud Tree Form Yaupon Holly Shumard Oak Chinese Elm	4" Cal; 12'-14' Hgt. 1.5" Cal. 6'-8' Hgt. 2" Cal. min 10' Hgt. 4" Cal; 12'-14' Hgt.	B & B; Single straight leader B & B; Good form, well branched Multi-stem; tree form B & B; Single straight leader B & B; Good form, well branched
Jade' lata 'Limelight' sa' Burford' 'Sunshine' nse 'Ruby' is 'Adagio'	Vintage Jade Distylium Limelight Hydrangea Carissa Holly Dwarf Burford Holly Sunshine Ligustrum Ruby Loropetalum Adagio Grass Peach Drift Rose	Min. 15" OA; 3 Gal. Min. 15" Hgt; 3 Gal. Min. 15" OA; 3 Gal. Min. 24" Hgt. Min. 24" Hgt, 3 Gal. Min. 24" Hgt. Min. 15" Hgt; 3 Gal. Min. 15" OA; 3 Gal.	
'Anthony Waterer'	Anthony Waterer Spirea	Min. 15" Hgt; 3 Gal.	
ariegata'	Variegated Liriope Hybrid Bermuda Grass	1 Gal. SF; Sod	Plant 18" O.C.

## LANDSCAPE REQUIREMENTS

TRIC	Υ
1. 20	0' buffer strip with 2 Canopy and 4 Accent Trees along street frontage.
	SH 205: 177 LF / 100 = 4 Canopy, 7 Accent Trees
2. C	ontinuous screen hedge required along street frontage
3. C	anopy trees min. 4" Cal; Accent trees min. 4' hgt
4. / D	eciduous shrubs min. 15" hgt, min. 2 gal.; Evergreen shrubs min. 12" hgt, min. 2 gal.
1,// 20	0 <sup>th</sup> buffer strip provided along SH 205
//SI	H 205: 4 Canopy: 3 Maple, 1 Elm, 7 Accent: 6 TF Yaupon Holly, 1 Redbud
2. M	lix of Dwarf Burford Holly and Loropetalum hedge provided
3. Bi	uffer trees are 4" Cal; Accent trees are 5'-6' Hgt.
4. So	creening shurbs are 24" Hgt. min; all other shrubs meet min. size.
1. 10	0' Wide buffer-strip along N. Lakeshore Dr
2. 1	Large tree per 50 LF
	Lakeshore Dr: 236 LF/50 = 5 Canopy Trees
1. 10	0' Wide buffer-strip along N. Lakeshore Dr.
2. 5	Canopy: 3 Maple, 2 Elm
1. 1	Canpoy tree per 10 parking spaces
	37 spaces / 10 = 4 Trees
2. N	o parking space may be further than 80' from the trunk of a large canpy tree
1. 4	Canopy trees: 4 Shumard Oak
2. Al	Il parking spaces are within 80' of the trunk of a large canopy trees; see 80' tree ring.
	1. $2^{1}$ 2.       C         3.       C         4.       D         2.       M         3.       B         4.       S         1.       1         2.       M         3.       B         1.       1         2.       1         1.       1         2.       1         1.       1         2.       5         1.       1         2.       N         1.       1         2.       N         1.       1



Landscape Plan

()

 $\mathbf{M}$ 

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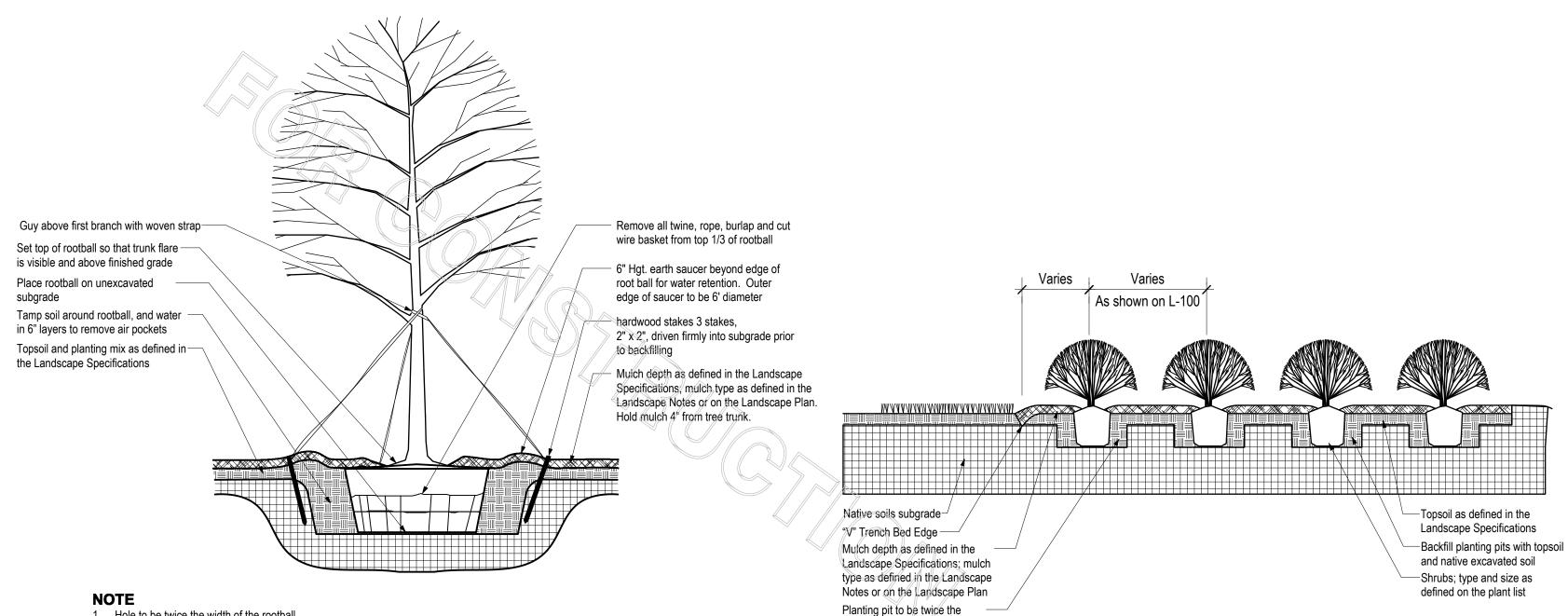
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R

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S S

> SHEET NUMBER L-100



width of the rootball

SCALE: NTS

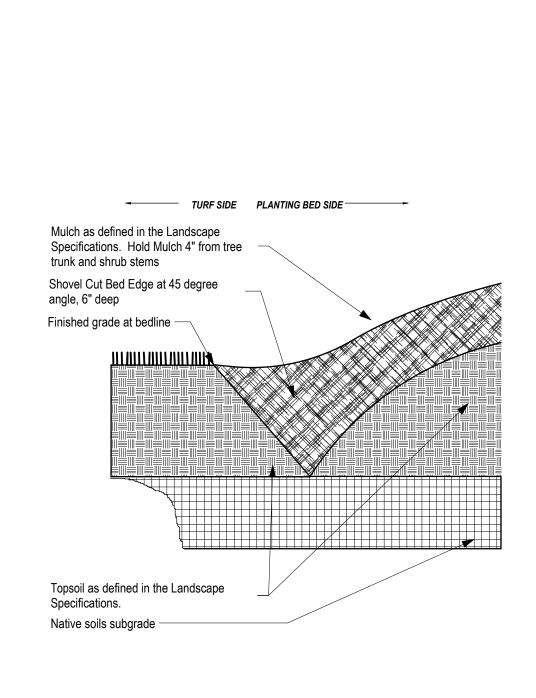
2

SCALE: NTS

1

- 1. Hole to be twice the width of the rootball. 2. Do not heavily prune tree at planting. Prune only crossover limbs, broken or dead branches; Do not remove the terminal buds of
- branches that extend to the edge of the crown.
- 3. Each tree must be planted such that the trunk flare is visible at the top of the rootball. Trees where the trunk flare is not visible shall
- be rejected. Do not cover the top of the rootball with soil. Mulch to be held back 4" away from trunk. 4. Remove Guy Wires and Staking when warranty period has expired (after one year).

**TREE PLANTING & STAKING** 





## A = Row Spacing B = On Center Spacing

Mulch depth as defined in the

Landscape Specifications; mulch type as defined in the Landscape

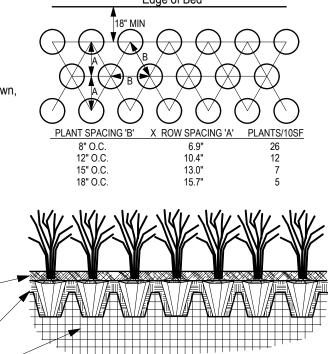
Notes or on the Landscape Plan.

Topsoil as defined in the

Landscape Specifications

Native soils subgrade -

Space plants in a triangular pattern as shown spaced equally from each other at spacing indicated on the plant list



Edge of Bed

## NOTE

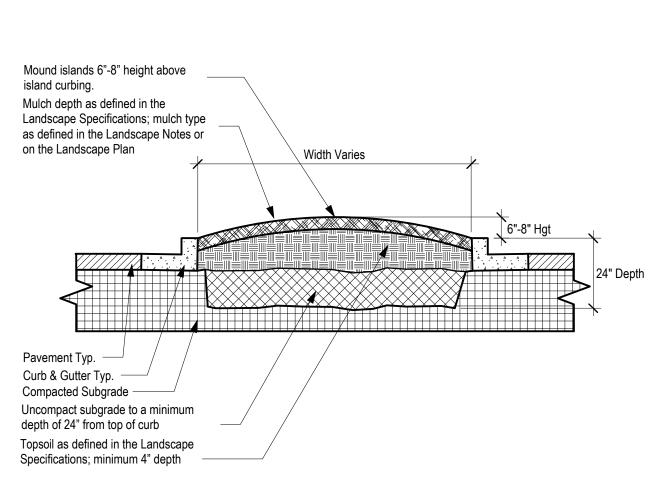
3

- 1. Space groundcover plants in accordance with indicated spacing listed on the plant list, or as shown on the landscape plan.
- 2. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants.
- 3. Plant to within 24" of the trunks of trees and shrubs within planting bed and to within 18" of edge of bed.



SCALE: NTS

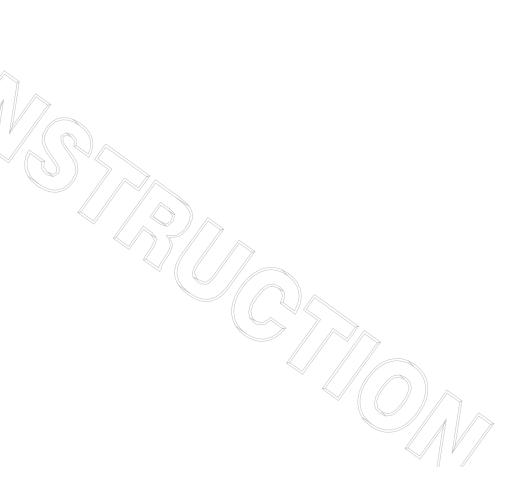
**"V" TRENCH BED EDGING** 

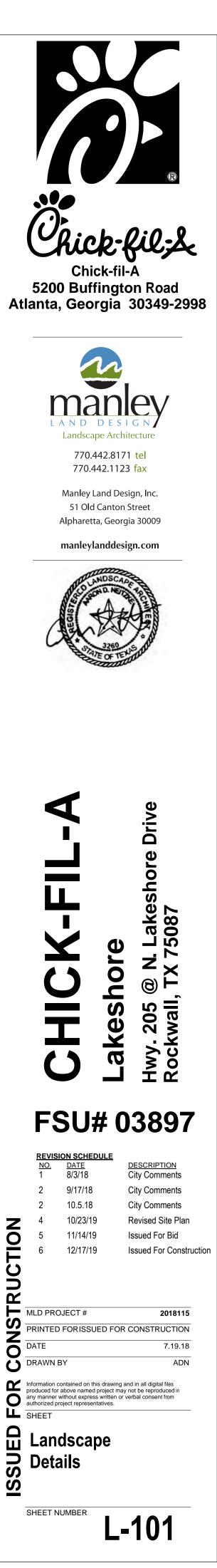


#### NOTE

- 1. Clean construction debris from within landscape island areas (ie. concrete, rocks, rubble, building materials, ect), prior to installing topsoil and plant material.
- 2. Fracture/loosen existing subgrade to a minimum 24" depth. Remove and replace any subgrade unsuitable for planting. Once subgrade is clean of debris and loosened, add topsoil to a minimum bermed 6"-8" height above island curbing. Island plant material as per the Landscape Plan.
- 4. Install plant material as per tree, shrub and ground cover planting details, and as defined in the Landsacpe Specifications. 5. Install mulch or sod as specified on the Landscape Plan, and as defined in the Landscape
- Specifications.







## LANDSCAPE SPECIFICATIONS

## **PART 1 - GENERAL**

#### DESCRIPTION

Provide trees, shrubs, ground covers, sod, and annuals/perennials as shown and specified on the landscape plan. The work includes:

- Soil preparation 2. Trees, shrubs, ground covers, and annuals/perennials.
- 3. Planting mixes.
- 4. Top Soil, Mulch and Planting accessories. 5. Maintenance
- 6. Decorative stone.

Related Work: 1. Irrigation System; see irrigation specifications (sheet L-2.2)

## QUALITY ASSURANCE

Plant names indicated; comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock" . A plant shall be dimensioned as it stands in its natural position.

All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years.

Nursery Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

Before submitting a bid, the Contractor shall have investigated the sources of supply and be satisfied that they can supply the listed plants in the size, variety and quality as specified. Failure to take this precaution will not relieve the Contractor from their responsibility for furnishing and installing all plant materials in strict accordance with the Contract Documents without additional cost to the Owner. The Landscape Architect shall approve any substitutes of plant material, or changes in plant material size, prior to the Landscape Contractor submitting a bid.

#### DELIVER, STORAGE AND HANDLING

Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Landscape Architect. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Cover plants transported on open vehicles with a protective covering to prevent wind burn.

#### **PROJECT CONDITIONS**

Protect existing utilities, paving, and other facilities from damage caused by landscape operations.

A complete list of plants, including a schedule of sizes, quantities, and other requirements are shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.

The irrigation system will be installed prior to planting. Locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components damaged during planting operations; at the Contractor's expense. Refer to the irrigation specifications, irrigation plan and irrigation details.

Do not begin landscape accessory work before completion of final grading or surfacing.

#### WARRANTY

Warrant plant material to remain alive, be healthy and in a vigorous condition for a period of 1 year after completion and final acceptance of entire project.

Replace, in accordance with the drawings and specifications, all plants that are dead or, are in an unhealthy. or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. The cost of such replacement(s) is at the Contractor's expense. Warrant all replacement plants for 1 year after installation.

Warranty shall not include damage, loss of trees, plants, or ground covers caused by fires, floods, freezing rains, lightning storms, winds over 75 miles per hour, winter kill caused by extreme cold, severe winter conditions not typical of planting area, and/or acts of vandalism or negligence on a part of the Owner.

Remove and immediately replace all plants, found to be unsatisfactory during the initial planting installation.

Maintain and protect plant material, lawns, and irrigation until final acceptance is made.

#### ACCEPTANCE

Inspection of planted areas will be made by the Owner's representative. 1. Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.

Upon acceptance, the Contractor shall commence the specified plant maintenance.

#### CODES, PERMITS AND FEES

Obtain any necessary permits for this Section of Work and pay any fees required for permits.

The entire installation shall fully comply with all local and state laws and ordinances, and with all established codes applicable thereto; also as depicted on the landscape and irrigation construction set.

#### PART 2 - PRODUCTS

#### MATERIALS

Plants: Provide typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held on storage will be rejected if they show signs of growth during the storage period.

- 1. Balled and plants wrapped with burlap, to have firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock" . Cracked or mushroomed balls, or signs of circling roots are not acceptable. 2. Container- grown stock: Grown in a container for sufficient length of time for the root system to
- have developed to hold its soil together, firm and whole. a. No plants shall be loose in the container.
- b. Container stock shall not be pot bound. 3. Plants planted in rows shall be matched in form.
- 4. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.
- a. If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.
- 5. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list. 6. No pruning wounds shall be present with a diameter of more than 1" and such wounds must
- show vigorous bark on all edges.
- 7. Evergreen trees shall be branched to the ground or as specified in plant list. 8. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant
- a. The measurements for height shall be taken from the ground level to the height of the top of the plant and not the longest branch.
- b. Single stemmed or thin plants will not be accepted. c. Side branches shall be generous, well-twigged, and the plant as a whole well-bushed to
- the ground d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.

#### ACCESSORIES

Topsoil: Shall be Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, roots, sticks, and other foreign materials, with acidity range of between pH 6.0 and 6.8.

Note: All planting areas shall be cleaned of construction debris (ie. Concrete, rubble, stones, building material, etc.) prior to adding and spreading of the top soil.

- 1. Sod Areas: Spread a minimum 4" layer of top soil and rake smooth.
- 2. Planting bed areas: Spread a minimum 4" layer of top soil and rake smooth.

- 3. Landscape Islands/Medians: Fracture/loosen existing subgrade to a minimum 24" depth. Remove and replace any subgrade unsuitable for planting. Once subgrade is clean of debris and loosened, add topsoil to a minimum berm 6"-8" height above island curbing.
- 4. Annual/Perennial bed areas: Add a minimum of 4" organic matter and till to a minimum 12" depth.

#### Mulch: Type selected dependent on region and availability; see landscape plans for type of much to be used. Hold mulch 4" from tree trunks and shrub stems

- 1. Hardwood: 6 month old well rotted double shredded native hardwood bark mulch not larger than 4" in length and ?" in width, free of wood chips and sawdust. Install minimum depth of 3".
- 2. Pine Straw: Pine straw to be fresh harvest, free of debris, bright in color. Bales to be wired and tightly bound. Needles to be dry. Install minimum depth of 3". 3. River Rock: (color) light gray to buff to dark brown, washed river rock,  $1^{\circ} - 3^{\circ}$  in size.
- Install in shrub beds to an even depth of 3". Weed control barrier to be installed under all rock mulch areas. Use caution during installation not to damage plant material. 4. Mini Nuggets: Install to a minimum depth of 2"-3" at all locations of annual and perennial
- beds. Lift the stems and leaves of the annuals and carefully spread the mulch to avoid injuring the plants. Gently brush the mulch off the plants.

#### Guying/Staking:

- 1. Arbortie: Green (or white) staking and guying material to be flat, woven, polypropylene material, ?" wide 900 lb. break strength. Arbortie shall be fastened to stakes in a manner which permits tree movement and supports the tree.
- 2. Remove Guying/Staking after one year from planting.

Tree Wrap: Tree wraps should be used on young, newly planted thin-barked trees (Cherry, Crabapple, Honey Locust, Linden, Maple, Mountain Ash, Plum) that are most susceptible to /sun scald/Sunburn. Standard waterproofed tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe Draft paper weighing not less than 30 lbs. per ream, cemented together with asphalt. Wrap the tree in the fall and leave the wrap in place throughout the winter and early spring. Tree wraps are temporary and no longer needed once trees develop corky bark.

## PART 3 - EXECUTION

#### INSPECTION

Prior to beginning work, the Landscape Contractor shall inspect the subgrade, general site conditions, verify elevations, utility locations, irrigation, approve top soil provided by the General Contractor and observe the site conditions under which the work is to be done. Notify the General Contractor of any-unsatisfactory conditions, and work shall not proceed until such conditions have been corrected and are acceptable to the Landscape Contractor.

#### PREPARATION

Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor

Locate plants as indicated on the plans or as approved in the field after staking by the Landscape Contractor. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected and approved by the Landscape Architect; spacing of plant material shall be as shown on the landscape plan.

Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide shrub pits at least 12" greater than the diameter of the root system and 24" greater for trees. Depth of pit shall accommodate the root system. Provide undisturbed sub grade to hold root ball at nursery grade as shown on the drawings.

#### INSTALLATION

Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material 2" – 3" above the finish grade. No filling will be permitted around trunks or stems." Backfill the pit with topsoil mix and excavated material. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

After balled and wrapped in burlap plants are set, muddle planting soil mixture around bases of balls and fill all voids.

1. Remove all burlap, ropes, and wires from the top 1/3 of the root ball

Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 24" of the trunks of trees and shrubs within planting bed and to within 18" of edge of bed.

1. Mulch tree and shrub planting pits and shrub beds with required mulching material (see landscape plan for mulch type); depth of mulch as noted above. **Hold mulch back 4**" away from tree trunks and shrub stems. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

#### Decorative Stone: (where indicated on landscape plan)

1. Install weed control barrier over sub-grade prior to installing stone. Lap 6" on all sides. 2. Place stone without damaging weed barrier. 3. Arrange stones for best appearance and to cover all weed barrier fabric.

## Wrapping, guying, staking:

Inspect trees for injury to trunks, evidence of insect infestation, and improper pruning before wrapping

- 2. Wrapping:
- a. Wrap trunks of all young newly planted trees known to have thin bark. Wrap spirally from bottom to top with specified tree wrap and secure in place. b. Overlap ? the width of the tree wrap strip and cover the trunk from the ground to the
- height of the second branch. c. Secure tree wrap in place with twine wound spirally downward in the opposite
- direction, tied around the tree in at least 3 places in addition to the top and bottom. d. Wrap the trees in the fall and leave the wrap in place throughout the winter and early
- d. Tree wraps are temporary and no longer needed once the trees develop corky bark.
- 3. Staking/Guying: a. Stake/guy all trees immediately after lawn sodding operations and prior to
- acceptance. b. Stake deciduous trees 2" caliper and less. Stake evergreen trees under 7'-0" tall. 1. Stakes are placed in line with prevailing wind direction and driven into undisturbed soil.
- 2. Ties are attached to the tree, usually at the lowest branch.
- c. Guy deciduous trees over 2" caliper. Guy evergreen trees 7'-0" tall and over. 1. Guy wires to be attached to three stakes driven into undisturbed soil, with one
- stake placed in the direction of the prevailing wind.
- 2. Ties are attached to the tree as high as practical. 3. The axis of the stake should be at 90 degree angle to the axis on the pull of the

#### guy wire. 4. Remove all guying and staking after one year from planting.

1. Prune deciduous trees and evergreens only to remove broken or damaged branches.

#### WORKMANSHIP

MAINTENANCE

Representative.

lawns free of insects and disease.

material and remove dead material.

weather and season permit

During landscape/irrigation installation operations, all areas shall be kept neat and clean. Precautions shall be taken to avoid damage to existing structures. All work shall be performed in a safe manner to the operators, the occupants and any pedestrians.

Upon completion of installation operations, all excess materials, equipment, debris and waste material shall be cleaned up and removed from the site; unless provisions have been granted by the owner to use on-site trash receptacles. Sweep parking and walks clean of dirt and debris. Remove all plant tags and other debris from lawns and planting areas.

#### Any damage to the landscape, the structure, or the irrigation system caused by the landscape contractor shall be repaired by the landscape contractor without charge to the owner.

and not less than twice per week until final acceptance.

Contractor shall provide maintenance until work has been accepted by the Owner's

Maintenance shall include mowing, fertilizing, mulching, pruning, cultivation, weeding, watering, and application of appropriate insecticides and fungicides necessary to maintain plants and

1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent 2. repair guy wires and stakes as required. Remove all stakes and guy wires after 1 year.

3. Correct defective work as soon as possible after deficiencies become apparent and

## 4. Water trees, plants and ground cover beds within the first 24 hours of initial planting,

LANDSCAPE MAINTENANCE SPECIFICATIONS

The Contractor shall provide as a separate bid, maintenance for a period of **1 year** after final acceptance of the project landscaping. The Contractor must be able to provide continued maintenance if requested by the Owner or provide the name of a reputable landscape contractor who can provide maintenance.

## **STANDARDS**

All landscape maintenance services shall be performed by trained personnel using current, acceptable horticultural practices.

All work shall be performed in a manner that maintains the original intent of the landscape design.

All chemical applications shall be performed in accordance with current county, state and federal laws, using EPA registered materials and methods of application. These applications shall be performed under the supervision of a Licensed Certified applicator.

## APPROVALS

Any work performed in addition to that which is outlined in the contract shall only be done upon written approval by the Owner's Representative (General Manager of the restaurant).

All seasonal color selections shall be approved by the General Manager prior to ordering and installation.

### SOIL TESTING

The maintenance contractor shall perform soil tests as needed to identify imbalances or deficiencies causing plant material decline. The owner shall be notified of the recommendation for approval, and the necessary corrections made at an additional cost to the owner.

### Acceptable Soil Test Results

	Landscape Trees and Shrub	8	Turf
pH Range	5.0-7.0		6.0-7.0
Örganic Matter	>1.5%		>2.5%
Magnesium (Mg)	100+lbs./acre		100+lbs./acre
Phosphorus (P2O5)	150+lbs./acre		150+lbs./acre
Potassium (K2O)	120+lbs./acre		120+lbs./acre
Soluble salts/	Not to exceed 900ppm/1.9 mr	nhos/cm	Not to exceed 750ppm/0.75 mmhos/cm
Conductivity	in soil; not to exceed 1400 ppr mmhos/cm in high organic mix	m/2.5	in soil; not to exceed 2000 ppm/2.0 mmhos/cm in high organic mix
For unusual soil cond	itions, the following optional tes	ts are recomn	nended with levels not to exceed:
	Boron	3 pounds pe	er acre
	Manganese	50 pounds	per acre
	Potassium (K2O)	450 pounds	per acre
	Sodium	20 pounds r	per acre

#### WORKMANSHIP

During landscape maintenance operations, all areas shall be kept neat and clean. Precautions shall be taken to avoid damage to existing structures. All work shall be performed in a safe manner to the operators, the occupants and any pedestrians.

Upon completion of maintenance operations, all debris and waste material shall be cleaned up and removed from the site, unless provisions have been granted by the owner to use on-site trash receptacles.

Any damage to the landscape, the structure, or the irrigation system caused by the maintenance contractor, shall be repaired by the maintenance contractor without charge to the owner.

## TURF

## GENERAL CLEAN UP

Prior to mowing, all trash, sticks, and other unwanted debris shall be removed from lawns, plant beds, and payed areas.

#### MOWING

Warm season grasses (i.e. Bermuda grass) shall be maintained at a height of 1" to 2" during the growing season.

Cool season grasses, including blue grass, tall fescue, perennial ryegrass, etc., shall be maintained at a height of 2" to 3" in spring and fall. From June through September, mowing height shall be maintained at no less than 3".

The mowing operation includes trimming around all obstacles, raking excessive grass clippings and removing debris from walks, curbs, and parking areas. Caution: Weed eaters should NOT be used around trees because of potential damage to the bark

Edging of all sidewalks, curbs and other paved areas shall be performed once every other mowing. Debris from the edging operations shall be removed and the areas swept clean. Caution shall be used to avoid flying debris.

#### **LIMING & FERTILIZING**

A soil test shall be taken to determine whether an application of limestone in late fall is necessary. If limestone is required, the landscape contractor shall specify the rate obtain approval from the owner and apply it at an additional cost. A unit price for liming of turf shalf accompany the bid based on a rate of 50 pounds per 1000 square feet.

Fertilizer shall be applied in areas based on the existing turf species.

#### LAWN WEED CONTROL: HERBICIDES

Selection and proper use of herbicides shall be the landscape contractor's responsibility. All chemical applications shall be performed under the supervision of a Licensed Certified Applicator. Read the label prior to applying any chemical.

#### **INSECT & DISEASE CONTROL FOR TURF**

The contractor shall be responsible for monitoring the site conditions on each visit to determine if any insect pest or disease problems exist. The contractor shall identify the insect pest or disease, as well as the host plant, and then consult the most current edition of the Cooperative Extension Service's "Commercial Insecticide Recommendation for Turf" for control. The licensed applicator shall be familiar with the label provided for the selected product prior to application.

Inspection and treatment to control insect pests shall be included in the contract price.

## **TREES, SHRUBS, & GROUND COVER**

## PRUNING

All ornamental trees, shrubs and ground cover shall be pruned when appropriate to remove dead or damaged branches, develop the natural shapes. Do not shear trees or shrubs. If previous maintenance practice has been to shear and ball, then a natural shape will be restored gradually.

#### Pruning Guidelines:

- 1. Prune those that flower before the end of June immediately after flowering. Flower buds develop during the previous growing season. Fall, winter or spring pruning would reduce the spring flowering display.
- 2. Prune those that flower in summer or autumn in winter or spring before new growth begins, since these plants develop flowers on new growth.
- 3. Delay pruning plants grown for ornamental fruits, such as cotoneasters, pyracanthas and viburnums.
- 4. Hollies and other evergreens may be pruned during winter in order to use their branches for seasonal decoration. However, severe pruning of evergreens should be done in early spring only. 5. Broadleaf evergreen shrubs shall be hand-pruned to maintain their natural appearance
- after the new growth hardens off. 6. Hedges or shrubs that require shearing to maintain a formal appearance shall be pruned as required. Dead wood shall be removed from sheared plants before the first
- shearing of the season 7. Conifers shall be pruned, if required, according to their genus. A. Yews, junipers, hemlocks, arborvitae, and false-cypress may be pruned after
- new growth has hardened off in late summer. If severe pruning is necessary, it must be done in early spring.
- B. Firs and spruces may be lightly pruned in late summer, fall, or winter after completing growth. Leave side buds. Never cut central leader.
- C. Pines may be lightly pruned in early June by reducing candles. 8. Groundcover shall be edged and pruned as needed to contain it within its borders.

- 9. Thinning: Remove branches and water sprouts by cutting them back origin on parent stems. This method results in a more open plant, wi excessive growth. Thinning is used on crepe myrtles, lilacs, viburnur
- 10. Renewal pruning: Remove oldest branches of shrub at ground, leavi more vigorous branches. Also remove weak stems. On overgrown p may be best done over a three-year period. Renewal pruning may be forsythia deutzia spiraea etc.

#### **SPRING CLEANUP**

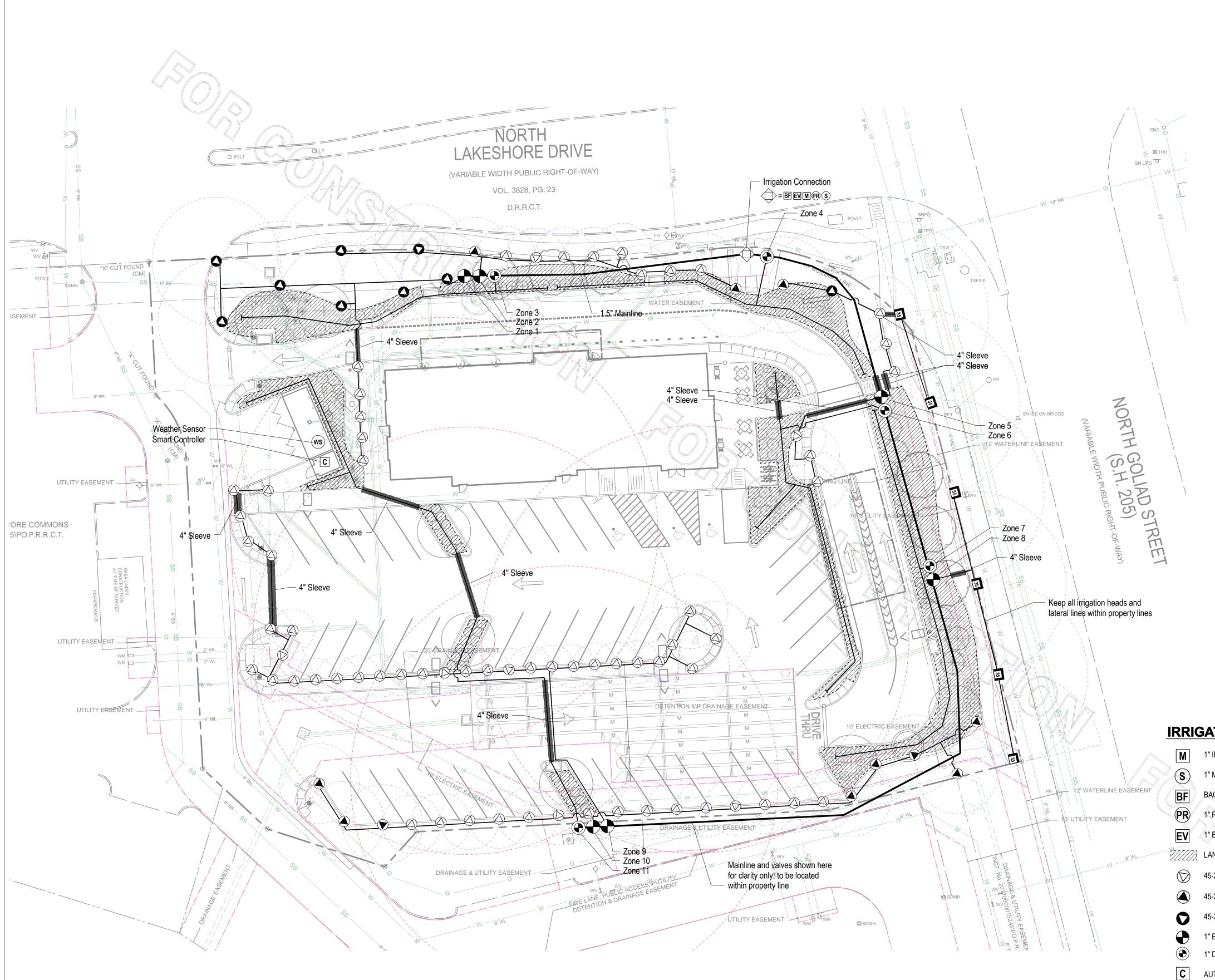
#### FERTILIZING

#### MULCHING

#### WEEDING

<ol> <li>Thinning: Remove branches and water sprouts by cutting them back to their point of origin on parent stems. This method results in a more open plant, without stimulating excessive growth. Thinning is used on crepe myrtles, lilacs, viburnums, smoke bush,etc.</li> <li>Renewal pruning: Remove oldest branches of shrub at ground, leaving the younger, more vigorous branches. Also remove weak stems. On overgrown plants, this method may be best done over a three-year period. Renewal pruning may be used on abelia, forsythia, deutzia, spiraea, etc.</li> </ol>	<ol> <li>Perennials:         <ol> <li>After initial installation, if a time-released fertilizer has been incorporated during plant installation, no more fertilizer need be applied the first growing season.</li> <li>The following year:                 <ul> <li>Fertilize perennials with a slow-release fertilizer or any 50% organic fertilizer, or mulch perennials with compost 1" deep.</li> <li>Cut all deciduous perennials flush to the ground by March 1, if this was not done the previous fall, to allow new growth to develop freely.</li> </ul> </li> </ol></li> </ol>	
Plants overhanging passageways and parking areas and damaged plants shall be pruned as needed.	<ul> <li>c. Mulch the perennial bed once in early spring at 1"-2" depth. If soil is bared in late fall, re-mulch lightly after ground is frozen to protect perennials.</li> <li>d. Inspect for insect or disease problems on perennials. Monitor and control slugs on</li> </ul>	
Shade trees that cannot be adequately pruned from the ground shall not be included in the Maintenance Contract. A certified arborist under a separate contract shall perform this type of work.	<ul> <li>hostas and ligularias. Powdery mildew on phlox, monardas, and asters can be prevented with properly timed fungicides or use of disease-resistant varieties.</li> <li>e. Weed perennial bed as specified in "WEEDING" above.</li> <li>f. Prune branching species to increase density. Cut only the flowering stems after</li> </ul>	
<b>SPRING CLEANUP</b> Plant beds shall receive a general cleanup before fertilizing and mulching. Cleanup includes removing debris and trash from beds and cutting back herbaceous perennials left standing through winter, e.g. ornamental grasses, Sedum Autumn Joy.	<ul> <li>blooming. Do not remove the foliage.</li> <li>3. The following fall cut back deteriorating plant parts unless instructed to retain for winter interest, e.g. Sedum Autumn Joy and ornamental grasses.</li> <li>4. Long-term Care:</li> </ul>	Objeb-lil-2
<b>FERTILIZING</b> For trees, the rate of fertilization depends on the tree species, tree vigor, area available for fertilization, and growth stage of the tree. Mature specimens benefit from fertilization every 3 to 4 years; younger trees shall be fertilized more often during rapid growth stages.	<ul> <li>a. Divide plants that overcrowd the space provided. Divide according to the species. Some need frequent dividing, e.g. asters and yarrow every two years; other rarely, if ever, e.g. peonies, hostas, and astilbe.</li> <li>b. For detailed information regarding the care of specific perennials, refer to <i>All About</i> <i>Perennials</i> by Ortho; <i>Perennials: How to Select, Grow and Enjoy</i> by Pamela Harper</li> </ul>	Chick-fil-A 5200 Buffington Road
The current recommendation is based on the rate of 1000 square feet of area under the tree to be fertilized. For deciduous trees, 2 to 6 pounds of Nitrogen per 1000 square feet; for narrow-leaf evergreens, 1 to 4 pounds of Nitrogen per 1000 square feet; for broadleaf evergreens, 1 to 3 pounds of Nitrogen per 1000 square feet.	and Frederick McGouty, Hp Books Publisher; <i>Herbaceous Perennial Plants: A</i> <i>Treatise on their Identification, Culture and Garden Attributes</i> by Allan Armitage, Stipes Pub LLC.	Atlanta, Georgia 30349-2998
Shrubs and groundcover shall be top-dressed with compost 1" deep, or fertilized once in March with 10-6-4 analysis fertilizer at the rate of 3 pounds per 100 square feet of bed area. Ericaceous material shall be fertilized with an ericaceous fertilizer at the manufacturer's recommendation rate. If plants are growing poorly, a soil sample should be taken.	<b>SUMMARY OF MAINTENANCE</b> 1. Soil analysis performed annually to determine pH. If pH does not fall within specified	manley
<b>MULCHING</b> Annually, all tree and shrub beds will be prepared and mulched, to a minimum depth of 3" with quality mulch to match existing. Bed preparation shall include removing all weeds, cleaning up said bed, edging and cultivating decayed mulch into the soil. Debris from edging is to be removed from beds where applicable. If deemed necessary, a pre-emergent herbicide may be applied to the soil to inhibit the growth of future weeds.	<ul> <li>range, adjust according to soil test recommendations.</li> <li>Maintain proper fertility and pH levels of the soil to provide an environment conducive to turf vitality for cool season grasses</li> <li>Mow warm and cool season on a regular basis and as season and weather dictates. Remove no more than the top 1/3 of leaf blade. Clippings on paved and bed areas will be removed.</li> <li>Aerate warm season turf areas to maintain high standards of turf appearance.</li> </ul>	LAND DESIGN Landscape Architecture 770.442.8171 tel 770.442.1123 fax
Organically maintained gardens shall not receive any pre-emergent herbicides. Mulch in excess of 4" will be removed from the bed areas. SPECIAL CARE shall be taken in the mulching operation not to over-mulch or cover the base of trees and shrubs. This can be detrimental to the health of the plants.	<ol> <li>Apply pre-emergent to turf in two applications in early February and early April to extend barrier.</li> <li>Apply post emergent as needed to control weeds.</li> <li>Mechanically edge curbs and walks.</li> <li>Apply non-selective herbicide, to mulched bed areas and pavement and remove excess runners to meinter place defined hade.</li> </ol>	Manley Land Design, Inc. 51 Old Canton Street Alpharetta, Georgia 30009
<b>WEEDING</b> All beds shall be weeded on a continuous basis throughout the growing season to maintain a neat appearance at all times.	runners to maintain clean defined beds. <b>TREE, GROUNDCOVER, AND SHRUB BED MAINTENANCE</b> 1. Prune shrubs, trees and groundcover to encourage healthy growth and create a natural	manleylanddesign.com
Pre-emergent (soil-applied) and post-emergent (foliar-applied) herbicides shall be used where and when applicable and in accordance with the product's label.	<ol> <li>appearance.</li> <li>Mulch to be applied in February/March with a half rate in late summer to top dress.</li> <li>Apply pre-emergent herbicides in February and April.</li> </ol>	SUC LANDSCADE
INSECT & DISEASE CONTROL: TREES, SHRUBS & GROUNDCOVER	<ol> <li>Manual weed control to maintain clean bed appearance.</li> <li>Apply fungicides and insecticides as needed to control insects and disease.</li> <li>Ornamental shrubs, trees and groundcovers to be fertilized three (3) times per year with</li> </ol>	
The maintenance contractor shall be responsible for monitoring the landscape site on a regular basis. The monitoring frequency shall be monthly except for growing season, which will be every other week. Trained personnel shall monitor for plant damaging insect activity, plant pathogenic diseases and potential cultural problems in the landscape. The pest or cultural problem will be identified under the supervision of the contractor.	<ul> <li>a balanced material (January/February, April/May, and October/November)</li> <li>7. Edge all mulched beds.</li> <li>8. Remove all litter and debris.</li> </ul>	STATE OF TENS
For plant damaging insects and mites identified in the landscape, the contractor shall consult and follow the recommendations of the most current edition of the state Cooperative Service publication on insect control on landscape plant material.	<ol> <li>Remove all man-made debris, blow edges.</li> <li>Inspect grounds on a monthly basis and schedule inspection with Unit Operator.</li> </ol>	
Plant pathogenic disease problems identified by the contractor that can be resolved by pruning or physical removal of damaged plant parts will be performed as part of the contract. For an additional charge, plant pathogenic diseases that can be resolved through properly timed applications of fungicides shall be made when the owner authorizes it.		
If the contractor notes an especially insect-or disease-prone plant species in the landscape, he/she will suggest replacement with a more pest-resistant cultivar or species that is consistent with the intent of the landscape design.		Drive
NOTE: For identification of plant-damaging insects and mites, a reference textbook that can be used is <i>Insects that feed on Trees and Shrubs</i> by Johnson and Lyon, Comstock Publishing Associates. For plan pathogenic diseases, two references are suggested: <i>Scouting and Controlling Woody Ornamental Diseases in Landscapes and Nurseries</i> , authorized by Gary Moorman, published by Penn State College of Agricultural Sciences, and <i>Diseases of Trees and Shrubs</i> by Sinclair and Lyon, published by Comstock Publishing Press.		shore
<b>TRASH REMOVAL</b> The maintenance contractor shall remove trash from all shrub and groundcover beds with each visit.		N. Lake
<b>LEAF REMOVAL</b> All failen leaves shall be removed from the site in November and once in December. If requested by the owner, the maintenance contractor, at an additional cost to the owner shall perform supplemental leaf removals.		
WINTER CLEAN-UP The project shall receive a general clean-up once during each of the winter months, i.e., January, February, and March.		akes wy. 205 ockwall
Clean-up includes: <ul> <li>Cleaning curbs and parking areas</li> <li>Removing all trash and unwanted debris</li> <li>Turning mulch where necessary</li> <li>Inspection of grounds</li> </ul>		
SEASONAL COLOR: PERENNIALS, ANNUALS, AND BULBS		FSU# 03897
The installation of perennials, annuals, and bulbs, unless specified herein, shall be reviewed with the owner, and, if accepted, installed and billed to the owner.		NO.DATEDESCRIPTION18/3/18City Comments29/17/18City Comments
SEASONAL COLOR MAINTENANCE		210.5.18City Comments2410/23/19Revised Site Plan
<ul> <li>Perennialization of Bulbs:</li> <li>1. After flowering, cut off spent flower heads.</li> <li>2. Allow leaves of daffodils and hyacinths to remain for six weeks after flowers have faded. Cut off at base.</li> <li>3. Allow leaves of other bulbs to yellow naturally and then cut off at base.</li> </ul>		OLD511/14/19Issued For Bid612/17/19Issued For Construction
4. Apply fertilizer after flowering in spring, possibly again in fall. Apply 10-10-10 at the rate of 2 pounds per 1000 square feet, or top-dress with compost 1" deep. Fall fertilization with a bulb fertilizer or mulching with 1" of compost is optional.		MLD PROJECT # 2018115
<ul> <li>Flower Rotation:</li> <li>1. Bulbs: Remove the entire plant and bulb after flowers have faded or at the direction of the owner, and install new plants if included in contract.</li> <li>2. Summer Annuals or Fall Plants: <ul> <li>a. Dead heading: Pinch and remove dead flowers on annuals as necessary.</li> <li>b. Fertilizing Summer Annuals: Fertilize using one or two methods: Apply a slow-release fertilizer in May following manufacturer's recommendations. A booster such as 10-10-10 may be necessary in late summer. Or, apply liquid fertilizations of 20-20-20 water-soluble fertilizers, not to exceed 2 pounds of 20-20-20 per 100 gallons of water, monthly; or mulch with compost 1" deep.</li> <li>c. Removal: If fall plants are to be installed, summer appuals shall be left in the ground.</li> </ul> </li> </ul>		<ul> <li>PRINTED FOR ISSUED FOR CONSTRUCTION</li> <li>DATE 7.19.18</li> <li>DRAWN BY ADN</li> <li>Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from authorized project representatives.</li> <li>SHEET</li> <li>Dandiscape &amp;</li> </ul>
c. Removal: If fall plants are to be installed, summer annuals shall be left in the ground until the first killing frost and then removed, unless otherwise directed by the owner.		D Maintenance Specifications

SHEET NUMBER



Irrigation contractor shall provide an as built drawing to the landscape architect. This drawing shall be overnighted to Manley Land Design, Inc. within 24 hours of completion of installation.

Ν 20 40 FT 

Irrigation Contractor to perform a walk-thru inspection with the Store Operator of the functioning system prior to opening but no later than one week after opening.

# **IRRIGATION ZONES**

ART CONTROLLER				
11.59	GPM	6	DRIP	
11.57	GPM	7	DRIP	
DRIP		8	13.35	GPM
DRIP		9	17.40	GPM
13.82	GPM	10	16.21	GPM

# NOTE:

## **IRRIGATION NOTES**

- 80 psi.
- Irrigation meter and backflow preventor to be provided by the general contractor.
   All valves to be located in valve box with cover at grade; Locate box in grass area when possible.
- 5. Automatic controller and weather sensor to be located in the storage room and trash enclosure respectively; Weather Sensor to be free from obstructions and exposed to the weather.
- 6. All pipes, automatic valves, backflow preventor, manual valve and meter to be located within property lines. Shown outside on drawing for clarity only.
- 45 psi required per rotor station, 30 psi required per spray station, 40 psi required per drip station. All spray and rotor bodies to have PRS (In-stem pressure regulation) as indicated in the legend.
   8. Pop-up height of spray heads to be as follows: 4" in Turf Zones, 12" in Shrub Zones, and 12" in Seasonal/color
- beds. Rotor height to be 4". MPR Rotor Nozzle size is indicated on drawing for each rotor. 9. 4" SCH 40 PVC sleeves to be located as shown on drawing. Extend sleeve 18" beyond back of curb or pavement. Sleeves to be located and exposed by the general contractor prior to start of irrigation installation.
   10. All 1.5" mainlines (class 200 PVC pipe) to have a minimum of 18" cover.
   11. All lateral and sub-main pipe (class 200 PVC pipe) to have a minimum of 12" and a maximum of 18" cover.
- 12. No rocks, boulders, or other extraneous materials to be used in backfilling trenches.

- 520-904-1146

# **IRRIGATION LEGEND**

- **1" IRRIGATION METER** 1" MANUAL SHUTOFF VALVE BACKFLOW PREVENTER **1" PRESSURE REGULATOR** 1" ELECTRICAL MASTER VALVE LANDSCAPE DRIPLINE 45-270 ADJUSTABLE ARC ROTARY NOZZLE - 8'-14' RADIUS 45-270 ADJUSTABLE ARC ROTARY NOZZLE - 13'-18' RADIUS 45-270 ADJUSTABLE ARC ROTARY NOZZLE - 17'-24' RADIUS **1" ELECTRIC VALVE 1" DRIP CONTROL ZONE VALVE** AUTOMATIC SMART CONTROLLER
- ws WEATHER SENSOR

MAINLINE AND LATERAL LINE

IRRIGATION SLEEVE - 4" SCH 40 PVC

...DRIP 11.....

# **SEE SHEET L-201 FOR IRRIGATION DETAILS**

Irrigation contractor is responsible for locating and protecting all underground utilities prior to trenching.
 Pressure regulator required by local code if static water pressure at point of connection for site is greater than

- 13. All threaded joints to be coated with Teflon Tape or Liquid Teflon.
- All lines to be thoroughly flushed before installation of sprinkler heads.
   Must use products specified on this drawing, unless otherwise approved by the Landscape Architect. Refer to the Irrigation Legend for product specs.16. Irrigation is to be installed as designed, unless otherwise approved by the Landscape Architect.
- 17. All pipe, valves, drip, spray heads, rotors, controllers, and weather sensors to be installed as per manufacturers specifications. For any questions on Rainbird products or installation of rainbird products call Donn Mann
- 18. Irrigation contractor shall provide an as-built drawing to the landscape architect; this drawing shall be overnighted within 24 hours of completion of installation.
- 19. Irrigation Contractor to perform a walk-thru inspection with the Store Operator of the functioning system prior to opening but no later than one week after opening.

PROVIDED BY THE GENERAL CONTRACTOR
------------------------------------

- 1 REQUIRED
- AS REQUIRED BY CITY
- AS REQUIRED
- **1 REQUIRED**
- RAINBIRD XFD-09-18
- RAINBIRD RD1800-S-P45-RVAN14
- RAINBIRD RD1800-S-P45-RVAN18
- RAINBIRD RD1800-S-P45-RVAN1724
- RAINBIRD 100-PGA
- RAINBIRD XCZ-100-PRB-COM

RAINBIRD ESP-SMTe (120V required); expansion modules as needed

INCLUDED W/T CONTROLLER

CLASS 200 PVC /RRIGATION PIPE AND FITTINGS -1.5" MAINLINE, 1" LATERAL LINES

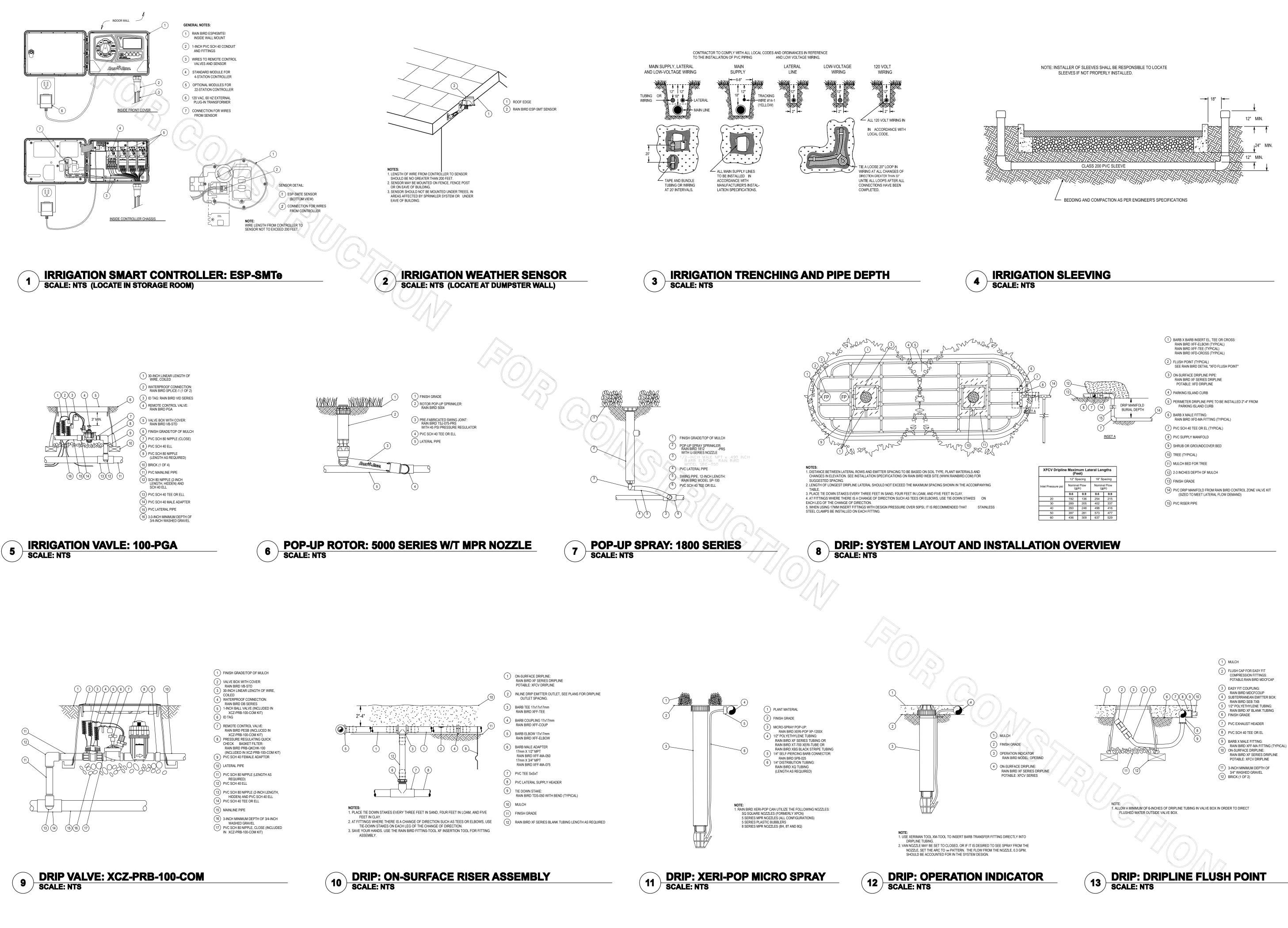
4" SCH 40 PVC ŚLĘEVE UNDER PAVEMENT installation of sleeves by contractor in location as shown on plan.

Chick-fil-A 5200 Buffington Road Atlanta, Georgia 30349-2998 manley LAND DESIGN Landscape Architecture 770.442.8171 tel 770.442.1123 fax Manley Land Design, Inc. 51 Old Canton Street Alpharetta, Georgia 30009 manleylanddesign.com Φ Ο sh Lake: 5087 U @ N. | TX 7! 0 Hwy. 205 ( Rockwall, S Lake 

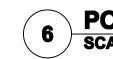


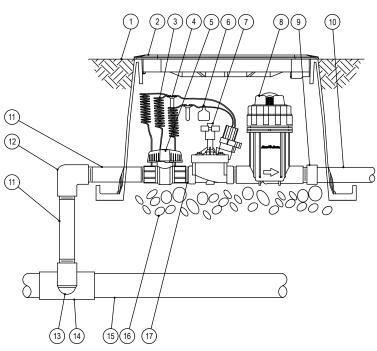
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	2	10.5.18	City Comments
	2	9/17/18	City Comments
	<u>NO.</u> 1	<u>date</u> 8/3/18	DESCRIPTION City Comments

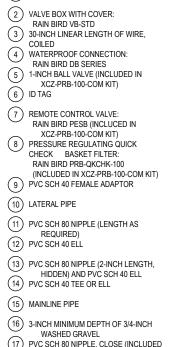


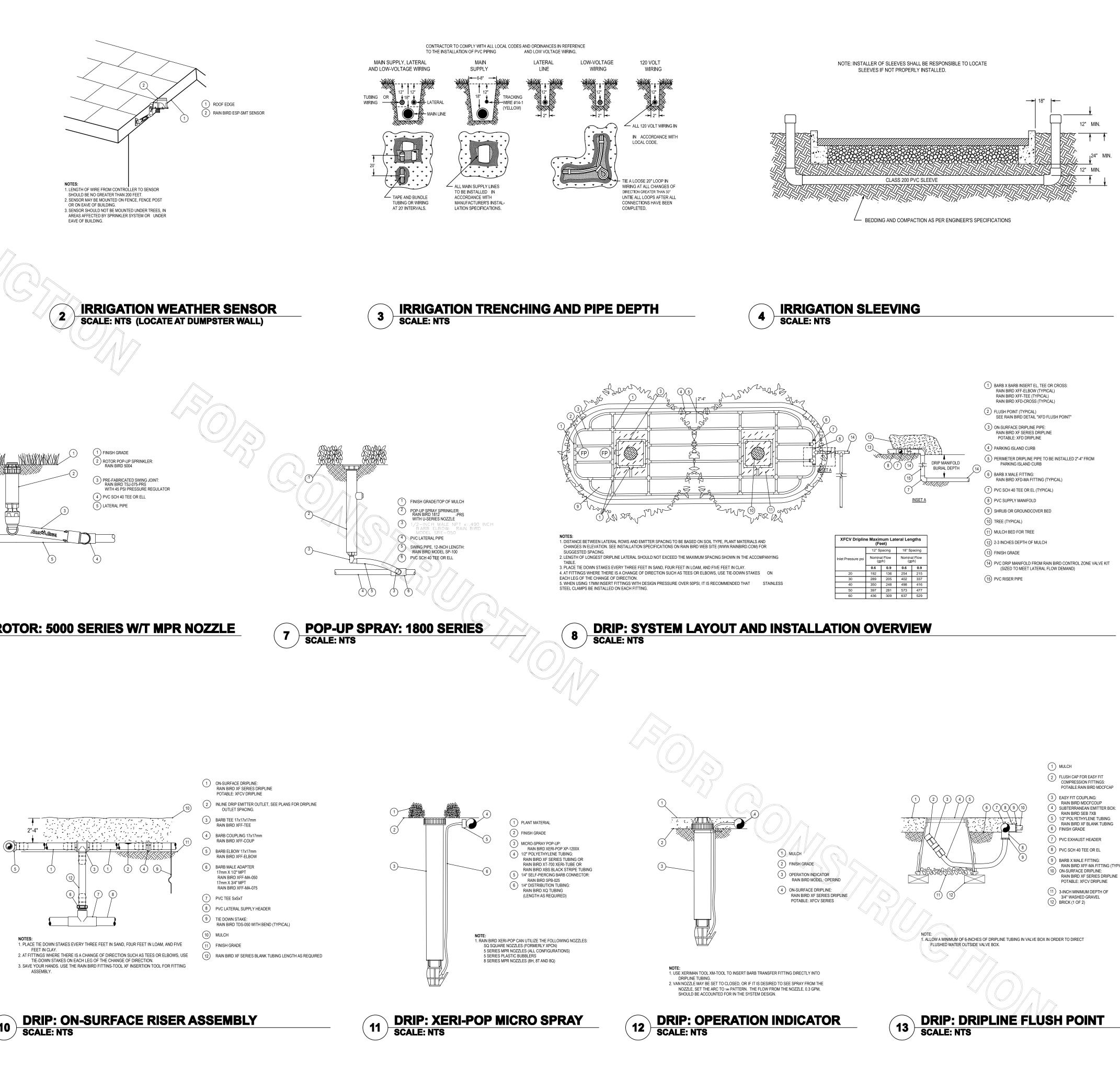














	12" S	pacing	18" Spacing	
Inlet Pressure psi	Nominal Flow (gph)		Nominal Flow (gph)	
	0.6	0.9	0.6	0.9
20	192	136	254	215
30	289	205	402	337
40	350	248	498	416
50	397	281	573	477
60	436	309	637	529



## **IRRIGATION COMPONENTS AND/OR SYSTEMS**

## PART 1 – GENERAL

#### SECTION INCLUDES

Work to be performed under this Section shall consist of furnishing all labor and materials necessary to construct a complete working and tested sprinkler irrigation system as per all drawings and specifications.

REFERENCES

- A. ANSI American National Standards Institute
- B. ASIC American Society of Irrigation Consultants: ASIC Grounding Guideline. C. ASSE - American Society of Sanitary Engineering: ASSE 1013, 1015: Backflow Preventers,
- Pressure Reducers.
- D. ASTM American Society of Testing and Materials E. IA – The Irrigation Association: Main BMP Document.
- F. NFPA National Fire Protection Association: NFPA 70 National Electrical Code.

G. UL – Underwriters Laboratories: UL Wires and Cables.

## PERFORMANCE REQUIREMENTS

- A. All work to be performed to current standards of SEI and of the local governing municipality. B. PVC Pipe: Must be stamped with certified NFS.
- C. Contractor shall be responsible to obtain all necessary permits and to comply with electrical
- company requirements. D. No substitutions of materials are allowed unless approved by Landscape Architect.
- QUALITY ASSURANCE
- A. Contractor shall have considerable experience and demonstrate ability in the installation of irrigation system(s) of specified type(s) in a neat, orderly, and responsible manner in accordance with recognized standards of workmanship.
- B. All work shall be performed in accordance with the best standards of practice relating to the trade. C. Contractor shall provide an irrigation as-built drawing to the designer responsible for the irrigation plan. This drawing shall be overnighted to the respective party within 24 hours of installation completion.

#### WARRANTY

A. Contractor shall provide a one year warranty that covers all workmanship and labor. B. Contractor shall provide a five year warranty that covers all materials.

## **PART 2 - PRODUCTS**

PIPE AND FITTINGS

- A. Material: PVC
- B. Pressure Pipe: Class 200.
- C. Lateral Pipe: Class 200, Polyethylene for Northeastern Climate.
- D. Fittings: Schedule 40, solvent welded or threaded. E. Risers: Schedule 80, threaded.

#### F. Sleeves: Schedule 40, minimum 4"

#### AUTOMATIC CONTROLLER

- A. Irrigation controller specifications include but are not limited to:
  - or manual operation.
- well as using or not using the master valve.
- 3. The controller shall have the capability of shutting off the system on rainy days.
- (CV) and pressure-regulating filter (PRF)
- 1. Control Valve (CV) component specifications include: and other chemical/ultra-violet resistant materials.
- b. One unit diaphragm constructed of durable Buna-N rubber with a clog resistant metering
- Inlet pressure rating of 15 to 150 psi (1.0 to 10.3 bar). Pressure Regulating Filter (PRF) component specifications include:
- resistant polypropylene, with 150 psi (10.3 bar) operating pressure rating. 200 mesh (75 micron) filter screen constructed of stainless steel.
- Normally-open pressure regulating device with preset outlet pressure of 40 psi (2.8 bar). 3. Regulated pressure of 40 psi (2.8 bar).

Low Flow Valve (LFV) and Pressure-Regulating Filter (PRF). . Low flow valve (LFV) component specifications include:

- and other chemical/ultra-violet resistant materials.
- metering orifice. Inlet pressure rating of 15 to 150 psi (1.0 to 10.3 bar).
- 2. Pressure regulating filter (PRF) component specifications include:
- resistant polypropylene, with 150 psi (10.3 bar) operating pressure rating.
- 3. Regulated pressure of 30 psi (2.1 bar).

#### POP-UP SPRINKLERS

A. Irrigation spray body for small turf areas (2,5-24 feet (0.8-7.3m) with a 30 psi (2.0 bar) pressure

- regulating device specifications include but are not limited to: particulates, high operating pressures common in commercial irrigation and resistant to ultra-violet light.
- installed on the same valve.
- harmful debris during operation.
- 4. Shall include a check valve to prevent low head drainage of up to 14 feet (4.3 m); 6 psi/(0.4)
- 5. Shall include technology built into the stem to prevent water loss and alert maintenance when a spray nozzle is removed
- 6. Flow by rating of 0 at 15 psi (1.0 bar) or greater, 0.5 gpm (0.1 m3/h; 0.03 l/s) otherwise.
- 7. Shall include ?" (15/21) NPT female threaded bottom inlet. 8. The spray body, stem, nozzle, and screen shall be constructed of heavy-duty and ultra-violet
- resistant plastic B. Irrigation spray body for small turf areas (2.5-24 feet (0.8-7.3m) with a 45 psi (3.1 bar) pressure regulating device specifications include but are not limited to:
- 1. Parts and components to withstand harsh operating conditions using chemically treated recycled water (reclaimed/non-potable), dirty water containing grit, debris, and other particulates, high operating pressures common in commercial irrigation and resistant to ultra-violet light.
- 2. Pressure-activated, co-molded soft elastomer wiper seal composed of three wipers and a base seal to ensure a positive seal without excess "flow-by" which enables more heads to be installed on the same valve.
- 3. Recessed debris pockets located in the base of the spray body to prevent recirculation of
- harmful debris during operation
- 4. Shall include a check valve to prevent low head drainage of up to 14 feet (4.3 m); 6 psi (0.4
- 5. Shall include technology built into the stem to prevent water loss and alert maintenance when a
- spray nozzle is removed.

resistant plastic.

- 6. Flow by rating of 0 at 15 psi (1.0 bar) or greater, 0.5 gpm (0.1 m3/h; 0.03 l/s) otherwise. 7. Shall include ?" (15/21) NPT female threaded bottom inlet.
- 8. The spray body, stem, nozzle, and screen shall be constructed of heavy-duty and ultra-violet

## SPRAY NOZZLES

- A. Fixed or variable arc matched precipitation rate spray nozzle for small turf areas (3-15 feet (.91-4.6
- m), maximum 30 psi (2.1 bar) specifications include but are not limited to: . Shall be constructed of ultra-violet resistant plastic.
- 2. Shall contain a stainless steel flow and radius adjustment screw allowing up to 25% radius
- reduction. 3. Nozzle shall have a precipitation rate that is matched across sets and patterns of spray nozzles
- up to 15 feet (4.6 m).
- 4. Shall include color coding marking on top of nozzle for easy identification of spray radius. B. Dual orifice fixed arc nozzle for small turf areas (5-15 feet (1.7-4.6 m), maximum 30 psi (2.1 bar) specifications include but are not limited to:
- 1. Shall be constructed of ultra-violet resistant plastic. 2. Shall contain a stainless steel flow and radius adjustment screw allowing up to 25% radius
- specifications include but are not limited to:
- 2. Shall contain a stainless steel radius adjustment screw allowing reduction to 13 feet (4.0 m).
- pattern
- reduction.

- 3. Shall have a matched precipitation rate of 0.60 in/hr (15.2 mm/hr). 4. Shall have a color coded radius reduction plug to allow for easy identification of fixed arc

- 3. The nozzle shall have dual orifices for both in-close watering and standard pattern watering
- 4. Shall include color coding marking on top of nozzle for easy identification of spray radius.
- 1. Shall be constructed of ultra-violet resistant plastic.

- with a matched precipitation rate between sets and matched flow and with other matched precipitation rate fixed spray nozzles up to 15 feet (4.6 m).
- C. Multi stream rotating nozzle for small turf areas (8-24 feet (2.4-7.4m), maximum 55 psi (3.8 bar)

#### **ROTOR HEADS**

- A. Pop-up rotor sprinkler for medium turf areas (25-47 feet (7.6-14.3 m), maximum 75 psi (5.2 bar) specifications include but are not limited to: 1. Shall have adjustable arc rotation of 40 to 360 degrees (0.7 to 6.3 rad) and reversing full circle
- 2. Shall have a flow shut-off device that is integrated into the flow path of the sprinkler. 3. Shall have a pressure-activated, multi-function wiper seal that protects internals from debris
- and assures positive pop-up and retraction.
- 4. Shall contain additional o-rings and seals for extra protection in "gritty" water. 5. Operating precipitation rate of 0.20 to 1.01 inches per hour (5 to 26 mm/h).
- 6. Operating flow rate of 0.73 to 8.31 gpm (0.17 to 1.85 m3/h).
- 7. The body, stem, nozzle, and screen shall be constructed of heavy-duty and ultra-violet resistant plastic 8. Shall include a 45 psi (3.1 bar) pressure regulating device to prevent high pressure misting to
- the nozzle stream 9. Shall include an internal check valve to prevent low head drainage of up to 7 feet (2.1 m) to
- prevent puddling, run-off and erosion. 10. Shall include a set of twelve interchangeable nozzles, 8 nozzles with 25 degree (0.4 rad) trajectory and 4 low-angle nozzles with 10 degree (0.2 rad) trajectory.

#### FLEXIBLE SWING PIPE

- A. Swing pipe specifications include but are not limited to:
- 1. Swing pipe shall be flexible black tubing constructed of linear low density polyethylene material with a wall thickness of 0.098" (0.3 cm) with a nominal inside diameter of 0.49" (1.2 cm). 2. Pipe shall be capable of a flow up to 8 gpm (0.5 l/s).

#### DRIPLINE

- A. Distribution tubing specifications include but are not limited to:
- 1. The blank tubing shall be manufactured from flexible polyethylene material with a wall thickness of 0.049" (1.2 mm), outside diameter of 0.634" (16.1 mm), and inside diameter of 0.536" (13.6

2. The tubing shall be dual-layered (brown over black).

#### INLINE EMITTER DRIPLINE

- A. Sub-surface inline emitter tubing specifications include but are not limited to:
- 1. The tubing shall be manufactured from flexible polyethylene material with wall thickness of 0.049" (1.2 mm), outside diameter of 0.634" (16 mm), and inside diameter of 0.536" (13.6 mm). 2. The tubing shall have factory installed pressure-compensating, inline emitters with a copper shield device installed every 12, 18, or 24 inches (30.5, 45.7, 61 cm) as indicated on
- construction drawings. 3. Operating pressure range of 8.5 to 60 psi (0.6 to 4.1 bar).
- 4. Operating emitter flow rates of 0.6 and 0.9 gph (2.3 l/hr and 3.5 l/hr).

#### DISTRIBUTION TUBING

A. ?" distribution tubing for emitters and other devices specifications include but are not limited to: 1. The blank tubing shall be extruded from ultra-violet resistant polyethylene resin materials with a wall thickness of 0.04" (1 mm), outside diameter of 0.250" (6.3 mm), and inside diameter of 0.170" (4.3 mm).

2. Operating pressure range from 0 to 60 psi (0 to 4.1 bar).

#### EMITTERS

- A. Point source emission device specifications include but are not limited to:
- 1. The emitter shall be constructed of ultra-violet resistant acetyl materials.
- 2. Shall have a pressure-compensating design to deliver a uniform flow throughout a pressure
- range of 15 to 50 psi (1.0 to 3.4 bar). 3. Flow rates that range from 0.5 to 2 gph (1.89 to 7.57 l/h) at a pressure range of 15 to 50 psi (1.0 to 3.4 bar).

#### VALVE BOX

- A. Valve boxes specifications include but are not limited to:
- 1. Shall be made of structural foam HPDE resin that is resistant to ultra-violet light, weather, moisture and chemical action of soils.
- 2./ Lids shall be clearly marked with the words "IRRIGATION CONTROL VALVE" molded onto the 3, Lid colors are available in black, green and purple designating non-potable water use.

## PART 3 - EXECUTION

# EXCAVATION

	installer
В.	Excavat
С.	Barricad
-	

#### INSTALLATION

2. General Contractor shall stub-up and flag sleeve locations for the Irrigation Contractors ease of 3. Sleeve locations shall be approximate to that shown on the Irrigation Plan. D. Control Valves: . Install one valve per valve box and provide 12 inches of expansion loop slack wire at all connections inside valve box.

- plans. G. Backflow Preventer:
- H. Valve Boxes

- I. Automatic Controller
- J. Wire and Electrical Work
- 3. Low Voltage Wiring:

- completed.
- L. Drip Tubing

## BACKFILLING

- Owner.

## INSPECTION

- directed.

- **RESTORATION AND CLEANING**

- sprinkler circuit.

1. The controller shall be of a hybrid type that is microelectronic circuitry capable of fully automatic

#### 2. All stations shall have the capability of independently obeying or ignoring the weather sensor as

## B. Control zone kit for drip zones with flows from 3 to 15 gpm (11.4 to 56.8 l/m), including control valve

a. Valve body and bonnet constructed of high impact, weather-resistant plastic, stainless steel

a. Compact "Y" filter body and cap configuration constructed of glass-filled, ultra-violet

C. Low flow control zone kit for drip zones with flows from 0.2 to 5.0 gpm (0.8 to 18.9 l/m), including

a Valve body and bonnet constructed of high impact, weather-resistant plastic, stainless steel b. One unit diaphragm constructed of durable Buna-N rubber material with a clog resistant

a. Compact \*\* / filter body and cap configuration constructed of glass-filled, ultra-violet

## 200 mesh (75 micron) filter screen constructed of stainless steel.

Normally-open pressure regulating device with preset outlet pressure of 30 psi (2.1 bar).

1. Parts and components to withstand harsh operating conditions using chemically treated recycled water (reclaimed/non-potable), dirty water containing grit, debris, and other

# 2. Pressure-activated, co-molded soft elastomer wiper seal composed of three wipers and a base

seal to ensure a positive seal without excess "flow-by" which enables more needs to be

3. Recessed debris pockets located in the base of the spray body to prevent recirculation of

A. Stake pipe and equipment layout for Owner's review and approval. Review does not relieve from coverage problems due to improper placement after staking. te trenches for irrigation system pipe to provide minimum cover per plans and details. de trenches that are left open overnight.

A. General: Plans are diagrammatic. Proceed with installation in accordance with the following: 1. Install stop and waste valves, backflow preventers, and other equipment required by local authorities according to laws and regulations in order to make system complete. a. Coordinate with the General Contractor the responsible for installing the backflow preventer and other irrigation items at the connection point. b. Coordinate with the General Contractor the for exact location of the irrigation connection

2. Thoroughly flush main lines before installing automatic control valves, and laterals before installing sprinklers. Flush supply lines thoroughly before installing backflow preventers or other regulating devices.

B. Piping: Assemble all mainline and lateral lines in accordance with manufacturer's

recommendations with no cul-de-sacs. Assure positive drainage. C. Sleeves: General Contractor shall install sleeves before concrete/paving work.

. Sleeves should be a minimum two times the diameter of the pipe passing through them.

E. Manual Drains: 1. Install per manufacturer's recommendations on upstream and downstream side of backflow preventers and at lowest point along main pressure pipe.

F. Quick-Coupling Valves:

1. Install using 1 inch PVC nipples and schedule 40 ells as detailed. Location as indicated on

1. Install assembly complete for irrigation system with 2 drain valves and 2 shut off valves per detail, local laws and regulations, and per manufacturer's specifications.

2. Install assemblies with drain valves in below grade installations. Provide open box floor with gravel drain sump

. Install over all remote control valves, manual control valves, zone shutoff valves, gate valves, or globe valves. Size to provide adequate room for maintenance. 2. Install boxes on level subgrade with proper drainage so that top of boxes are flush with finish grade material (sod, mulch, rock, etc.). Place parallel or perpendicular to adjacent curbs, sidewalks, or driveways.

3. Place washed gravel aggregate in sump as shown on details.

1. Properly ground controller per local laws and regulations. Make all control wire connections to automatic controller. Coordinate controller installation with other electrical work. 2. Connect remote control valves to controller in numerical sequence as shown on Plans.

1. Use electrical control and ground wire suitable for sprinkler control cable. 2. Provide 120-volt power connection (by others) to automatic controller to conform to local codes, ordinances and authorities having jurisdiction.

a. Bury control wiring between controller and electric valves in pressure supply line trenches, strung as close as possible to main pipe lines with such wires to be consistently located

below and to one side of the pipe, or in separate trenches. b. Bundle all 24-volt wires at 10-foot intervals and lay with pressure supply line pipe to one side of trench.

Install control wire for each control valve.

d. Run 2 spare #14-1 wires from controller pedestal or electric control valve on each and every leg of mainline

K. Sprinkler Heads, Emitters, Rotators, and Rotors 1. Flush circuit piping with full head of water and install sprinklers after hydrostatic text is

2. Adjust nozzles to allow for adequate coverage and to minimize overspray onto walks, roads, driveways, and buildings.

3. Stake emitter tubing with 1/4" Rainbird®TS-025 tubing stakes. 4. Adjust heads to be plumb and flush with finish grades, even with top of soil level or top of material level after completion of grading, seeding, sodding, and rolling of grass.

1. Install all drip tubing in locations shown on the Irrigation Plan. To be laid out and installed per the irrigation drip details (sheet L-2.1).

2. Install flush caps as indicated on details.

3. Install drip indicator on all drip zones. M. Thrust Blocks and/or Joint Restraints

1. Install on pipe sized 2" or larger wherever the main pipe line: a. Changes any direction at tees, angles, and crosses vertical and horizontal.

b. Changes at reducers.

Stops at a dead-end

d. Valves at which thrust develops when closed.

A. Do not begin backfilling operations until system tests and approvals have been completed. B. Bed all pipe a minimum of 2 inches. Backfill to 6 inches above pipe with soil free of rocks over 1-inch diameter, debris, or organic matter. Backfill remainder of trench with soil of like quality to

adjacent areas. Haul away all material not suitable for backfill. C. Compact backfill in 6-inch lifts thoroughly to prevent settling damage to grades or plant material. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Low areas and damage caused by settling will be repaired by Contractor at no additional cost to the Project or

D. Prevent soil, rocks, or debris from entering pipes or sleeves.

FLUSHING AND TESTING

A. Flushing: After piping, risers, and valves are in place and connected, but prior to installation of sprinkler heads, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthermost valves. Cap risers after flushing.

A. Arrange for Owner's presence 48 hours in advance of inspection walk-through. B. Examine areas and conditions under which work of this section is to be performed and ensure a complete and operating installation prior to scheduling a walk-through. C. Operate each zone in its entirety for Owner at time of walk-through and open all valve boxes as

D. Expose all drip emitters under operations for observation by Owner to demonstrate they are performing and installed as designed prior to placing of mulch material. Schedule separate walk-through as necessary.

E. As necessary Owner will generate a list of items to be corrected prior to Final Acceptance.

A. Flush dirt and debris from piping before installing sprinklers and other devices.

B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each C. Restore all damaged areas to original condition unless otherwise shown on plans at no additional cost to the Project or Owner.



5200 Buffington Road Atlanta, Georgia 30349-2998



770.442.8171 tel 770.442.1123 fax

Manley Land Design, Inc. 51 Old Canton Street Alpharetta, Georgia 30009 manleylanddesign.com



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8/3/18	City Comments
9/17/18 10.5.18	City Comments City Comments
10.5.18	Revised Site Plan
10/23/19	

v 4	10/23/19	Revised Site Plan	
5	11/14/19	Issued For Bid	
6	12/17/19	Issued For Construc	
MLD PROJECT #		2018115	
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