

**TWIN OAKS BOARD OF ALDERMEN  
NOTICE OF WORK SESSION  
TWIN OAKS CITY HALL  
WEDNESDAY, NOVEMBER 15, 2023, 6 P.M.  
TWIN OAKS, MO 63021**

TENTATIVE AGENDA

- 1) Crescent Avenue Improvement Project Update
- 2) Boly Entrance Redesign
- 3) Fence Regulations
- 4) ADJOURNMENT

Frank Johnson  
City Clerk/Administrator

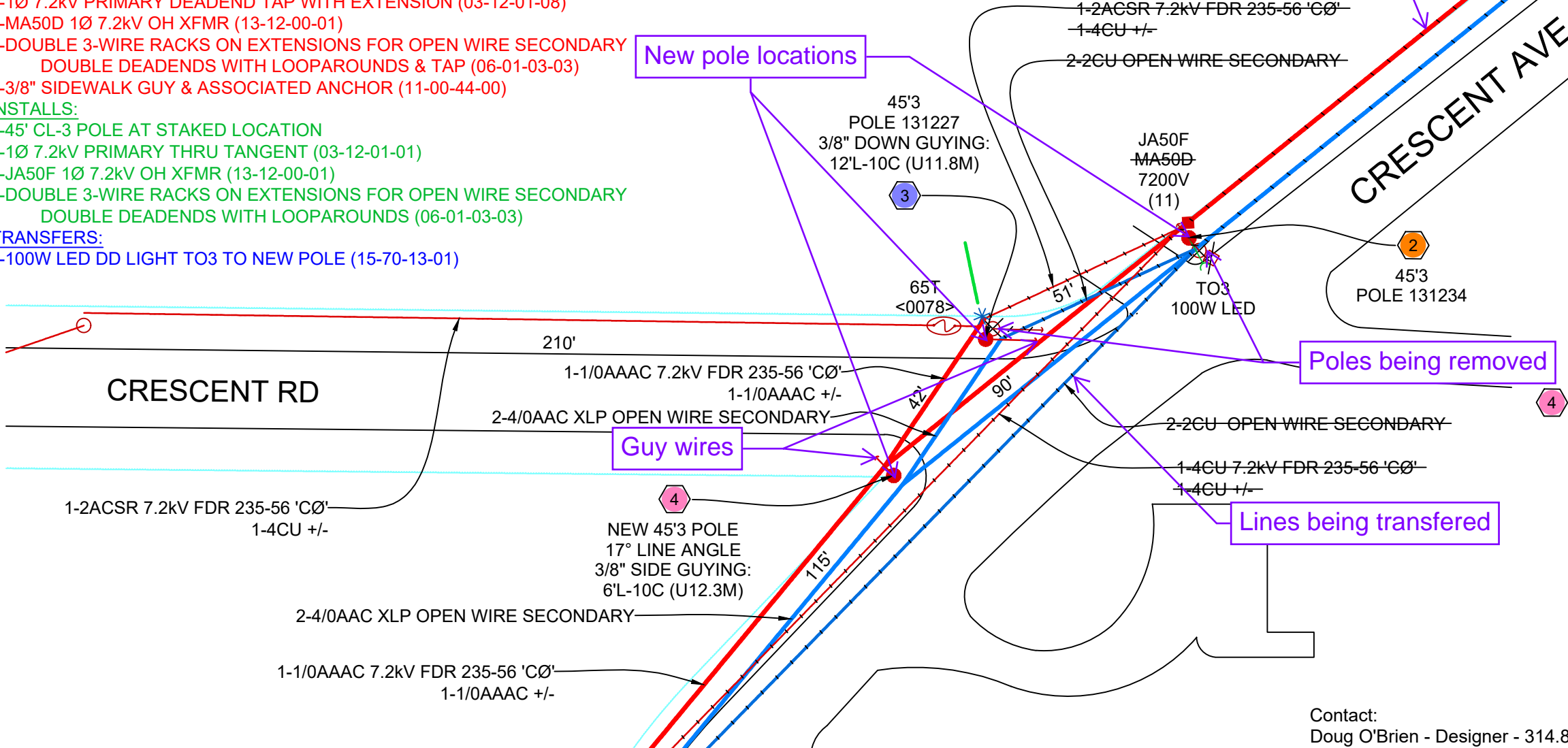
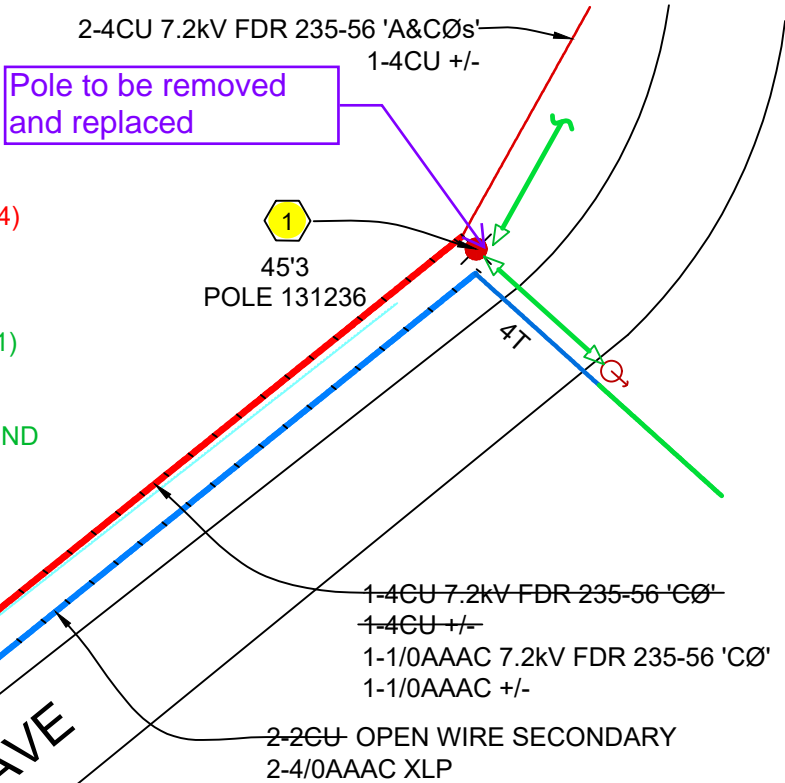
POSTED: December 4, 2023, 10 a.m.

**Please note:** Any person requiring physical or verbal accommodations should contact the city office 12 hours prior to meeting at 636-225-7873. Copies of public records for this agenda are available for public inspection before and at the time of the meeting.

**1** POLE 131236  
**REMOVALS:**  
 1-40' CL-4 (ESTIMATED) POLE. REDUCE POLE DOWN TO TELECOM LEVEL  
 2-8' WOOD XARMS  
 1-1Ø 7.2kV PRIMARY DOUBLE DEADEND WITH LOOPOVER ON DOUBLE WOOD XARMS  
 1-1Ø 7.2kV PRIMARY DEADEND ON DOUBLE WOOD XARMS  
 1-3-WIRE RACKS ON EXTENSION FOR +/- THRU AT ANGLE & SECONDARY HOT LEG DEADENDS & SINGLE CLEVIS ON EXTENSION FOR TRIPLEX SECONDARY TAP ACROSS STREET  
**INSTALLS:**  
 1-45' CL-3 POLE AT REPLACEMENT LOCATION  
 1-8' FIBERGLASS DEADEND XARM (04-00-42-02)  
 1-1Ø 7.2kV PRIMARY DOUBLE DEADEND WITH LOOPOVER ON XARM FOR 'CØ' (06-12-35-05)  
 1-1Ø 7.2kV PRIMARY DEADEND ON XARM FOR 'AØ' (06-12-35-01)  
 3-SINGLE CLEVISSES FOR +/- 'T' INTERSECTION (03-01-01-05)  
 2-SINGLE CLEVISSES ON POLE FOR SECONDARY HOT LEG DEADENDS (06-01-01-01)  
**TRANSFERS:**  
 2-POLE TO POLE SPAN GUY ATTACHMENTS TO NEW POLE (11-00-46-\*\*)  
 1-TRIPLEX SECONDARY ATTACHMENT TO NEW POLE

**2** POLE 131234  
**REMOVALS:**  
 1-35' CL-5 (ESTIMATED) POLE. REDUCE POLE DOWN TO TELECOM LEVEL  
 1-1Ø 7.2kV PRIMARY THRU AT ANGLE ON POLE TOP PIN (03-12-01-02)  
 1-1Ø 7.2kV PRIMARY DEADEND TAP WITH EXTENSION (03-12-01-08)  
 1-MA50D 1Ø 7.2kV OH XFMR (13-12-00-01)  
 1-DOUBLE 3-WIRE RACKS ON EXTENSIONS FOR OPEN WIRE SECONDARY DOUBLE DEADENDS WITH LOOPAROUNDS & TAP (06-01-03-03)  
 1-3/8" SIDEWALK GUY & ASSOCIATED ANCHOR (11-00-44-00)  
**INSTALLS:**  
 1-45' CL-3 POLE AT STAKED LOCATION  
 1-1Ø 7.2kV PRIMARY THRU TANGENT (03-12-01-01)  
 1-JA50F 1Ø 7.2kV OH XFMR (13-12-00-01)  
 1-DOUBLE 3-WIRE RACKS ON EXTENSIONS FOR OPEN WIRE SECONDARY DOUBLE DEADENDS WITH LOOPAROUNDS (06-01-03-03)  
**TRANSFERS:**  
 1-100W LED DD LIGHT TO3 TO NEW POLE (15-70-13-01)

**3** POLE 131227  
**REMOVALS:**  
 1-35' CL-5 (ESTIMATED) POLE. REDUCE POLE DOWN TO TELECOM LEVEL  
 1-15kV POLE TOP PIN (NOT USED) (06-12-01-02)  
 1-1Ø 7.2kV PRIMARY DEADEND ON POLE (03-12-01-11)  
 1-8' WOOD XARM (04-00-20-02)  
 1-1Ø 7.2kV PRIMARY DEADEND ON XARM (06-12-34-07)  
 1-1Ø 7.2kV FUSED CUTOUT SECTIONALIZING (SIMILAR TO 10-12-01-01)  
 2-3-WIRE RACKS FOR OPEN WIRE SECONDARY & +/- DEADENDS (06-01-03-04)  
 1-3/8" DISTRIBUTION DOWN GUY (11-00-43-05)  
**INSTALLS:**  
 1-45' CL-3 POLE AT STAKED LOCATION  
 1-1Ø 7.2kV FUSED CUTOUT SECTIONALIZING AT CORNER ANGLE (10-12-01-01)  
 FUSED CUTOUT TO BE FUSED AT 65T & IS NORMAL OPEN  
 1-SINGLE CLEVIS ON EXTENSION FOR +/- DEADEND FROM THE WEST  
 1-TRIPLE CLEVIS ON EXTENSION FOR NEW OPEN WIRE SECONDARY DEADEND FROM POINT 3  
 1-3/8" DISTRIBUTION DOWN GUY AS SHOWN (11-00-43-05)  
**TRANSFERS:**  
 1-UNDERGROUND SERVICE RISER TO NEW POLE LOCATION (14-12-01-\*\*) )



**CONSTRUCTION PLAT ACCEPTANCE**  
 The undersigned accepts the planned Ameren Missouri construction and contingencies as shown hereon.  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Date: \_\_\_\_\_

**4** NEW POLE  
**INSTALLS:**  
 1-45' CL-3 POLE AT STAKED LOCATION  
 1-1Ø 7.2kV PRIMARY FLOAT THRU AT 17° (03-12-02-04)  
 1-1Ø 7.2kV PRIMARY UNFUSED DEADEND TAP TO PT 2 (03-12-01-14)  
 1-TRIPLE CLEVIS FOR OPEN WIRE SECONDARY THRU AT 17° (06-01-03-04)  
 1-TRIPLE CLEVIS FOR OPEN WIRE SECONDARY DEADEND TAP TO PT 2 (06-01-03-04)  
 1-3/8" DISTRIBUTION SIDE GUY AS SHOWN (11-00-43-05)

**Focus 5**  
 Extremely narrow road with moderate vehicle traffic. Watch for pedestrians walking on road's edge  
 Body Mechanics • Eyes on Path/Work • Line of Fire  
 Pre-Job Inspection • Proper Tool/Equipment

Contact:  
 Doug O'Brien - Designer - 314.807.8805

REV	DATE	DES	DESCRIPTION	APPD

PROJECT NAME / CUSTOMER NAME Crescent Ave Sidewalk Improvements		DOJMW # / MAXIMO WO # KA51040	
LOCATION Crescent Ave near Crescent Rd	FINANCIAL WO #	HIGHEST VOLTAGE 7200	CIRCUIT 235-56
PROJECT TYPE Government Relocation	OPERATING CENTER Ellisville	DESIGNER Doug O'Brien	PREFIX / VOLUME / PAGE 02 17 0500
			SHEET # 1 of 2
			DRAWING DATE 8/2/2023

Not To Scale



**5** POLE 131229  
**REMOVALS:**  
 1-40' CL-4 (ESTIMATED) POLE. REDUCE POLE DOWN TO TELECOM LEVEL  
 1-8' WOOD XARM (04-00-20-02)  
 1-1Ø 7.2kV PRIMARY THRU AT 31° ON XARM PIN (06-12-01-01)  
 1-1Ø 7.2kV PRIMARY UNFUSED DEADEND TAP (03-12-01-14)  
 1-3-WIRE RACK ON EXTENSION FOR OPEN WIRE SECONDARY THRU AT 31° & +/- DEADEND TAP (06-01-03-01)  
 1-3/8" DISTRIBUTION SIDE GUY (11-00-43-05)

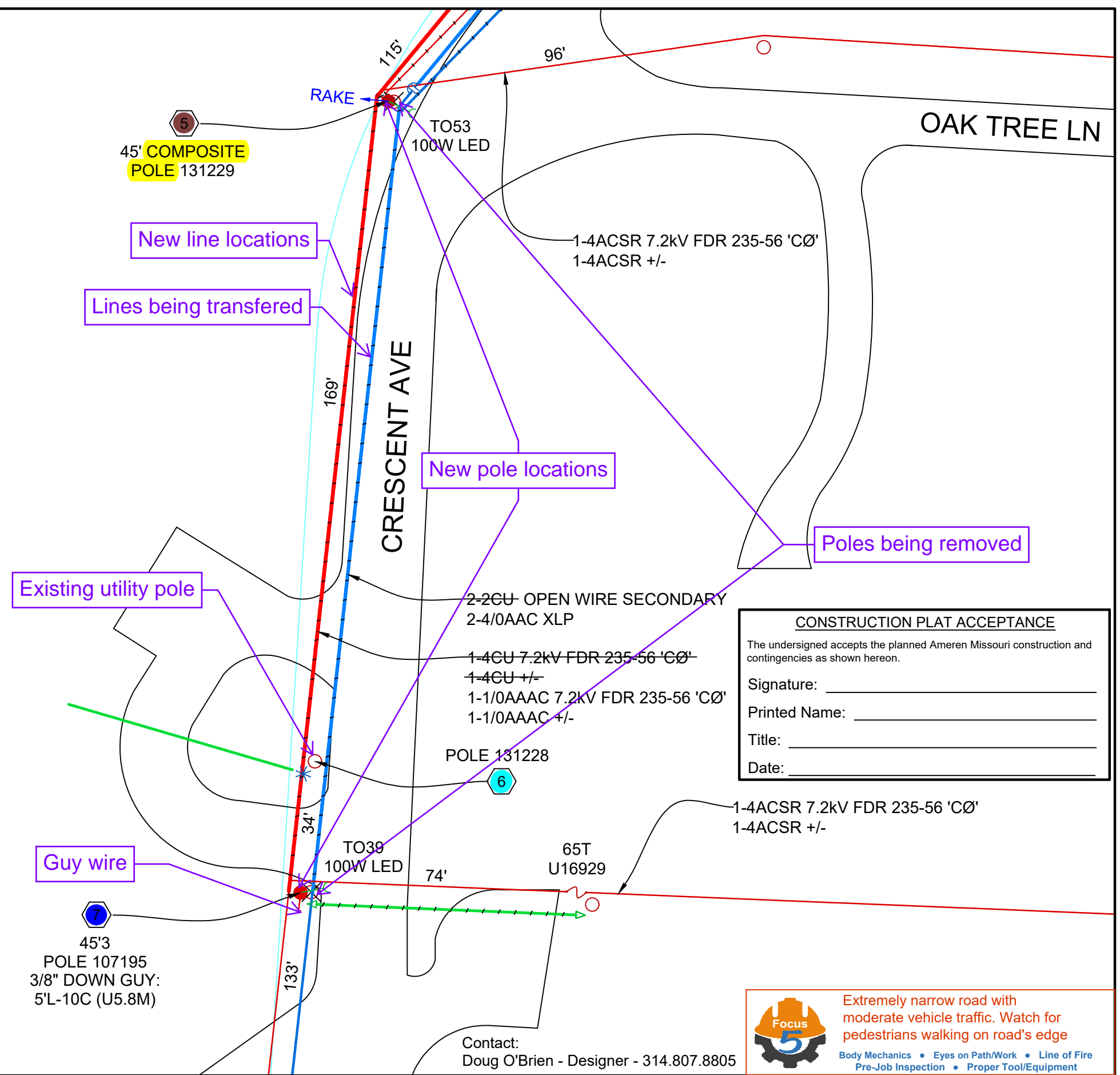
**INSTALLS:**  
 1-45' COMPOSITE POLE AT STAKED LOCATION (M41-45-832)  
 SET POLE 9.5' DEEP & WITH (8) ANGLE BRACKETS (02-20-05-12)  
 RAKE POLE 4 INCHES AT 275°  
 1-1Ø 7.2kV PRIMARY DOUBLE DEADEND WITH LOOPOVER AT 31° (SIMILAR TO 03-12-01-12)  
 2-TRIPLE CLEVIS RACKS FOR OPEN WIRE SECONDARY DOUBLE DEADEND AT 31° & FOR +/- DEADEND TAP TO THE EAST (03-01-21-01)  
 NO LOOPAROUNDS FOR NATURAL OPEN

**TRANSFERS:**  
 1-100W LED DD LIGHT TO53 TO NEW POLE (15-70-13-01)

**6** POLE 131228  
**REMOVALS:**  
 1-8' WOOD XARM  
 1-1Ø 7.2kV PRIMARY THRU TANGENT ON XARM PIN  
 3-SECONDARY HOT LEG & +/- ATTACHMENTS  
**INSTALLS:**  
 1-1Ø 7.2kV PRIMARY THRU TANGENT (03-12-01-01)  
 3-SECONDARY HOT LEG & +/- ATTACHMENTS FOR UPGRADED SECONDARY

**7** POLE 107195  
**REMOVALS:**  
 1-40' CL-4 (ESTIMATED) POLE. REDUCE POLE DOWN TO TELECOM LEVEL  
 1-1Ø 7.2kV PRIMARY THRU AT ANGLE ON POLE TOP PIN (03-12-01-02)  
 1-1Ø 7.2kV PRIMARY UNFUSED DEADEND TAP WITH EXTENSION (03-12-01-08)  
 1-3-WIRE RACK ON EXTENSION FOR OPEN WIRE SECONDARY THRU FIELD SIDE WITH +/- STREET SIDE TAP (03-01-20-03)  
 1-POLE TO POLE SPAN GUY NO LONGER NEEDED (11-00-46-\*\*) **INSTALLS:**  
 1-45' CL-3 POLE AT STAKED LOCATION  
 1-1Ø 7.2kV PRIMARY THRU TANGENT (03-12-01-01)  
 1-1Ø 7.2kV PRIMARY UNFUSED DEADEND TAP (03-12-01-14)  
 1-3-WIRE RACK ON EXTENSION FOR OPEN WIRE SECONDARY THRU TANGENT FIELD SIDE & SINGLE CLEVIS ON EXTENSION FOR STREET SIDE +/- DEADEND TAP (03-01-20-03)

**TRANSFERS:**  
 1-100W LED DD LIGHT TO39 TO NEW POLE (15-70-13-01)



**CONSTRUCTION PLAT ACCEPTANCE**  
 The undersigned accepts the planned Ameren Missouri construction and contingencies as shown hereon.  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Focus 5**  
 Extremely narrow road with moderate vehicle traffic. Watch for pedestrians walking on road's edge  
 Body Mechanics • Eyes on Path/Work • Line of Fire  
 Pre-Job Inspection • Proper Tool/Equipment

REV	DATE	DES	DESCRIPTION	APPD

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PROJECT TYPE Government Relocation	OPERATING CENTER Ellisville	DESIGNER Doug O'Brien	PREFIX / VOLUME / PAGE 02 17 0500
			SHEET # 2 of 2
			DRAWING DATE 8/2/2023

Not To Scale

**N**

**Ameren MISSOURI**

8/7/2023 8:00 AM



October 27, 2023

Angelica Rodgers  
BFA, Inc.  
103 Elm Street  
Washington, MO 63090

Re: E2021-012 Crescent Avenue Sidewalk

Thank you for the opportunity to review your plan for the above-referenced project. Based on the drawings and information received to date we have with respect to our existing water facilities, we anticipate the following conflicts. If these conflicts cannot be avoided, MAWC will create a plan of adjustment to relocate our facilities within the easement. The plan of adjustment will be competitively bid to our approved contractors. The relocations will be scheduled once we receive a signed reimbursement agreement and payment of the agreement amount.

- The existing fire hydrant in easement on the northwest side of Crescent Avenue will need to be relocated to avoid conflict with the sidewalk. The fire hydrant relocation will be sent out to bid, and a reimbursement agreement will be sent to the City. The fire hydrant relocation will be scheduled once the agreement has been signed and payment has been received.
- The results of the field investigation indicate that the result in cover of water main will be 6' in this area at Pothole #8 and we will accept this proposed short distance amount of cover.
- The water mains in easement at the northwest corner of the intersection of Crescent Road and Crescent Avenue will need additional restraintment before excavation for the proposed storm sewer occurs.
- Any right-of-way acquired over our easements will require a subordination agreement. The city will need to produce an exhibit showing the easement and the dedication. We will produce the script to go along with it.

Please be aware that it is the responsibility of your contractor to verify the exact location of our facilities prior to any excavation as well as ensuring the water main is adequately supported along any exposed length that spans an open excavation. An approximate location of our facilities can be obtained by contacting our System Records Department at [moawc-stl.systemrecords@amwater.com](mailto:moawc-stl.systemrecords@amwater.com). The contractor should use care when working around these facilities, as they will be responsible for any damage to MAWC facilities caused by their construction activities. Additionally, over dig in the vicinity of our existing fittings and/or thrust blocks would disturb the supporting soil such that failure of the water main is likely.

Please verify the submitted plans are in accordance with the Missouri American Water Company practice, which states: Sewers shall be laid at least ten feet (10') (3 m) horizontally



## AMERICAN WATER

from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a ten-foot (10') (3 m) separation, deviation may be allowed on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of gravity sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one (1) side of the gravity sewer and at an elevation so the bottom of the water main is at least eighteen inches (18") (46 cm) above the top of the sewer. Sewers crossing water mains shall be laid to provide a minimum vertical distance of eighteen inches (18") (46 cm) between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints.

If you find a service line or water main that is leaking, please contact our Call Center at 866-430-0820 to report the leak.

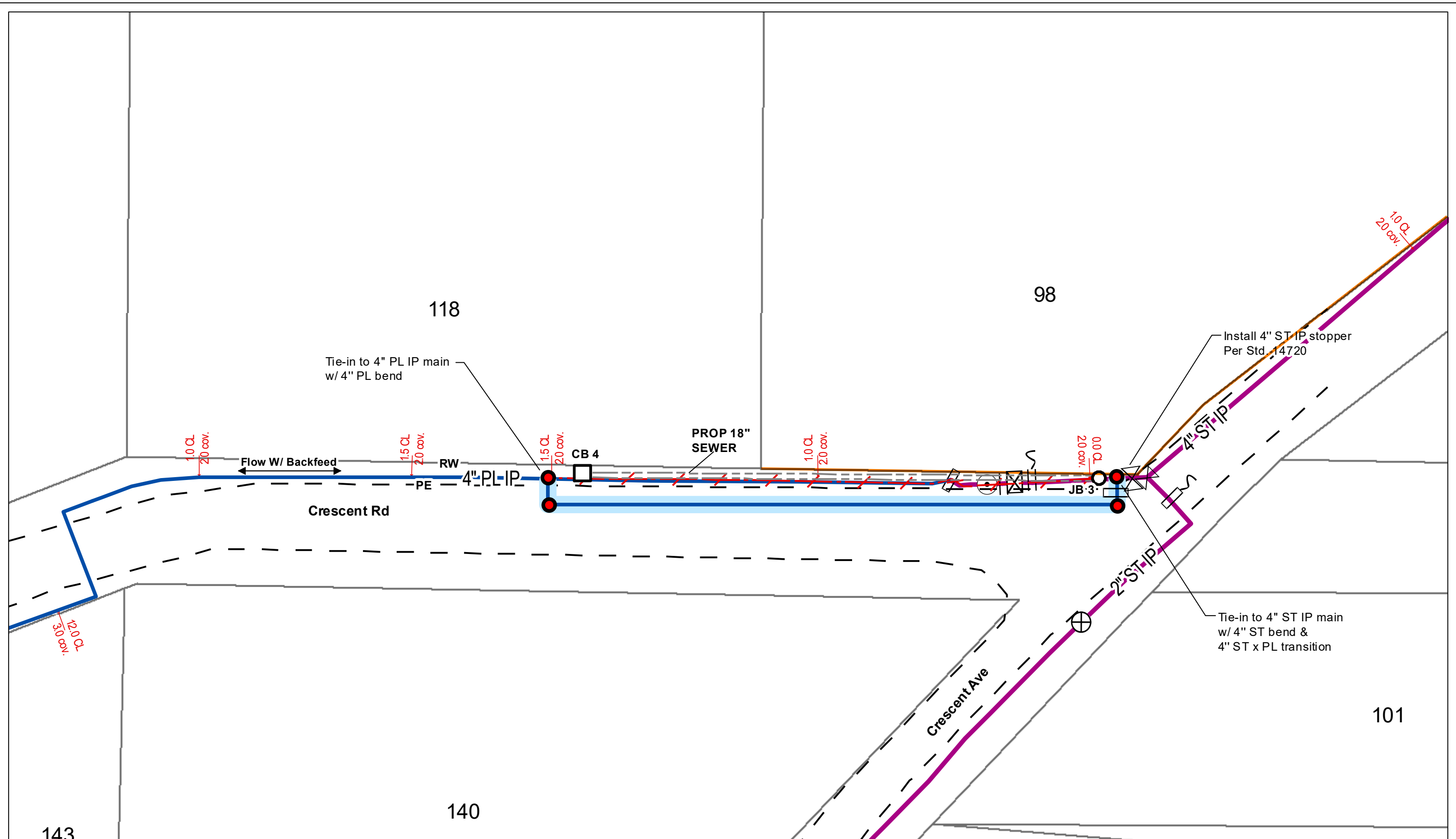
If you have any questions or comments, please do not hesitate to contact me at 314-996-2304 or [Priyanka.Sidella@amwater.com](mailto:Priyanka.Sidella@amwater.com).

Sincerely,

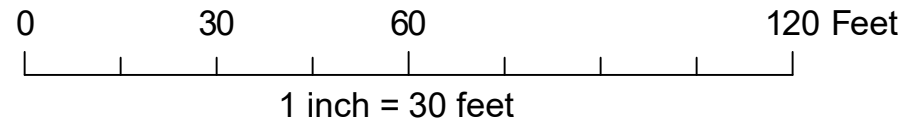
*Priyanka Sidella*

Priyanka Sidella  
Engineering Technician





**Job Description:**  
No WO Poly found in MXSPAT.WOPOLY



**Maximo Work Order:** No WO Poly record found in MXSPAT.WOPOLY  
**Project #:** ENTER VALUE

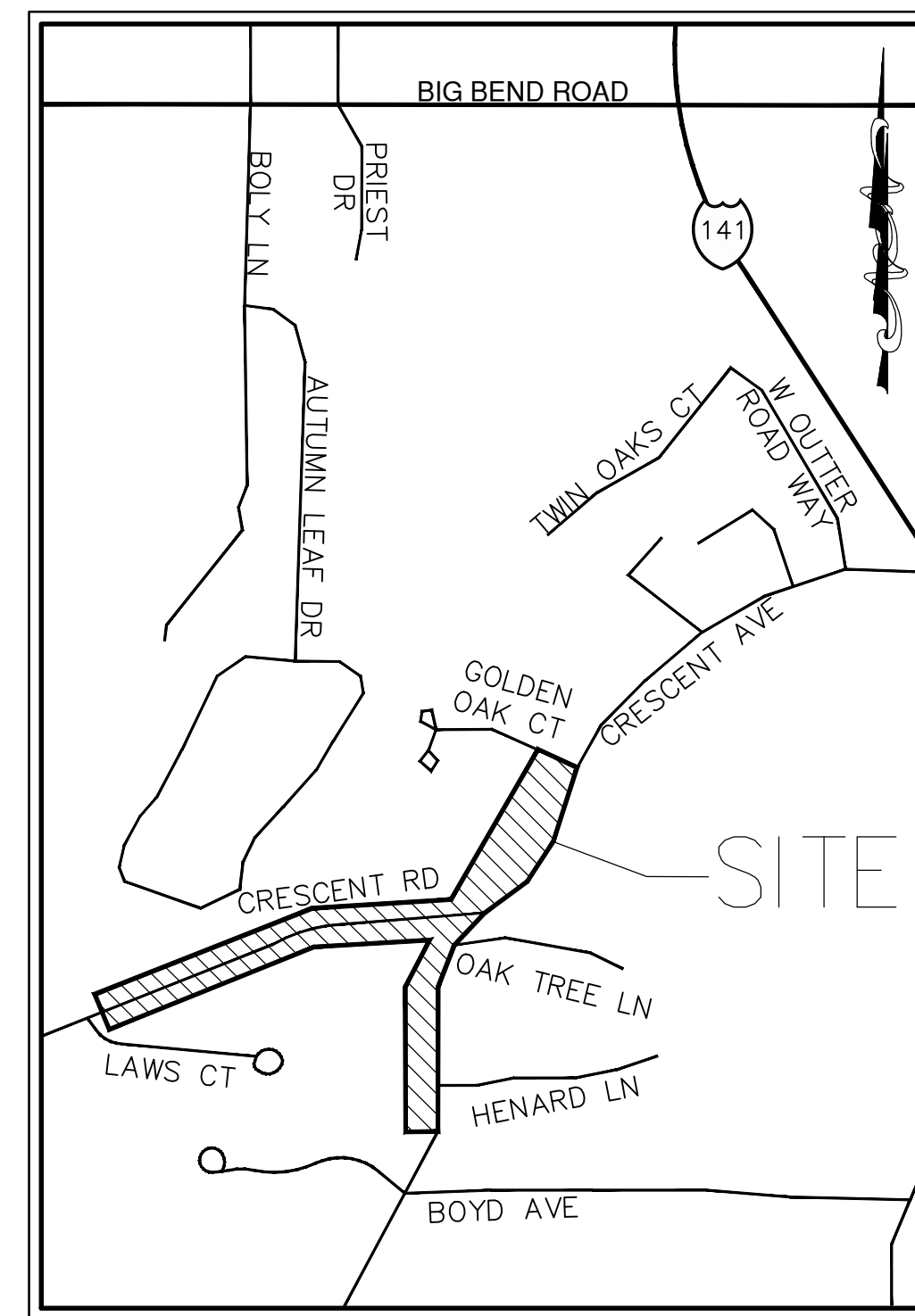


PAGE OF



# PROPOSED SIDEWALK AND STORMWATER IMPROVEMENTS CRESCENT AVE, TWIN OAKS ST. LOUIS COUNTY, MISSOURI

UTILITY/ GOVERNING AGENCIES CONTACTS	
<b>GAS</b>	SPIRE CONTACT: NATHAN TENHOLDER PHONE: EMAIL: NATHAN.TENHOLDER@SPIREENERGY.COM
<b>TELEPHONE</b>	AT&T CONTACT: JEREMIAH KINEALY PHONE: (314) 810-9468 EMAIL: JK036T@ATT.COM
<b>ELECTRIC</b>	AMEREN CONTACT: JENSEN LAKE PHONE: (314) 562-2739 EMAIL: JLAKE2@AMEREN.COM
<b>WATER</b>	MISSOURI AMERICAN WATER CONTACT: MICKIE REDHAGE PHONE: (314) 705-7200 EMAIL: MICKIE.REDHAGE@AMWATER.COM
<b>SANITARY SEWER</b>	METROPOLITAN SEWER DISTRICT CONTACT: DEVELOPMENT REVIEW ENGINEERING DESK PHONE: (314) 768-2705



AREA MAP - NOT TO SCALE  
**SITE LOCATION MAP**  
NOT TO SCALE

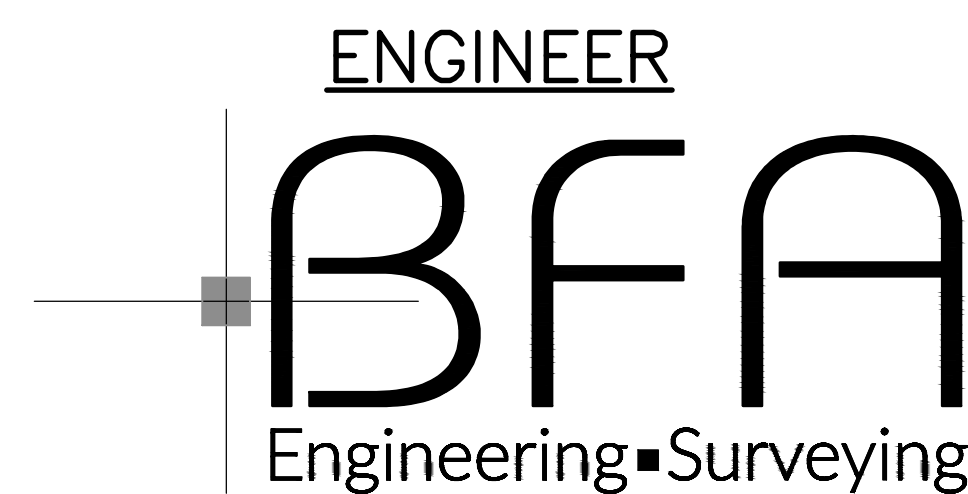
SHEET INDEX		
SHEET TITLE	SHEET NAME	SHEET NUMBER
COVER SHEET	CS-1	1 OF 33
TOPOGRAPHIC SURVEY	TS-1	2 OF 33
TOPOGRAPHIC SURVEY	TS-2	3 OF 33
TOPOGRAPHIC SURVEY	TS-3	4 OF 33
<del>EROSION AND SEDIMENT CONTROL SITE MAP NOTES</del>	<del>ESC-1</del>	<del>5 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL PLAN</del>	<del>ESC-2</del>	<del>6 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL PLAN</del>	<del>ESC-3</del>	<del>7 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL PLAN</del>	<del>ESC-4</del>	<del>8 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL DETAIL SHEET</del>	<del>ESC-5</del>	<del>9 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL DETAIL SHEET</del>	<del>ESC-6</del>	<del>10 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL DETAIL SHEET</del>	<del>ESC-7</del>	<del>11 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL DETAIL SHEET</del>	<del>ESC-8</del>	<del>12 OF 33</del>
<del>EROSION AND SEDIMENT CONTROL DETAIL SHEET</del>	<del>ESC-9</del>	<del>13 OF 33</del>
DEMOLITION PLAN	DM-1	14 OF 33
DEMOLITION PLAN	DM-2	15 OF 33
DEMOLITION PLAN	DM-3	16 OF 33
GRADING PLAN	GR-1	17 OF 33
GRADING PLAN	GR-2	18 OF 33
GRADING PLAN	GR-3	19 OF 33
GRADING PLAN	GR-4	20 OF 33
SITE/UTILITY PLAN	SUP-1	21 OF 33
SITE/UTILITY PLAN	SUP-2	22 OF 33
SITE/UTILITY PLAN	SUP-3	23 OF 33
STORM SEWER PLAN AND PROFILE	SSPP-1	24 OF 33
STORM SEWER PLAN AND PROFILE	SSPP-2	25 OF 33
STORM SEWER DRAINAGE AREA MAP	DA-1	26 OF 33
STORM SEWER DRAINAGE AREA MAP	DA-2	27 OF 33
<del>DETAIL SHEET 1</del>	<del>DTL-1</del>	<del>28 OF 33</del>
<del>DETAIL SHEET 2</del>	<del>DTL-2</del>	<del>29 OF 33</del>
<del>DETAIL SHEET 3</del>	<del>DTL-3</del>	<del>30 OF 33</del>
<del>DETAIL SHEET 4</del>	<del>DTL-4</del>	<del>31 OF 33</del>
<del>DETAIL SHEET 5</del>	<del>DTL-5</del>	<del>32 OF 33</del>
<del>DETAIL SHEET 6</del>	<del>DTL-6</del>	<del>33 OF 33</del>

**SIDEWALK AND STORMWATER IMPROVEMENTS  
CITY OF TWIN OAKS  
CRESCENT AVE  
ST. LOUIS COUNTY, MO 63088**

REVISIONS	
1	By: X.X.X   XX-XX-XX   App: X.X.X
2	By: X.X.X   XX-XX-XX   App: X.X.X
3	By: X.X.X   XX-XX-XX   App: X.X.X
4	By: X.X.X   XX-XX-XX   App: X.X.X

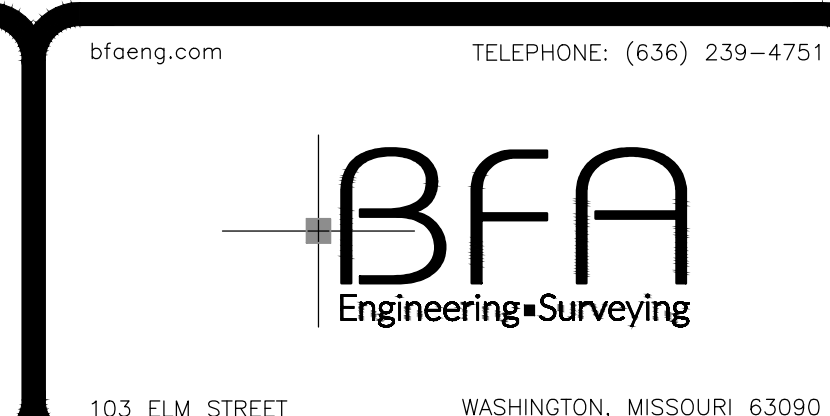
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 C.M.B., E.R.Q., A.J.R.  
 CHECKED  
 T.S.C.  
 DATE  
 10/26/2023  
 SCALE  
 NO SCALE  
 JOB No.  
 3497-13A  
 SHEET NAME  
 COVER SHEET

CS-1



**OWNER**  
**City of TWIN OAKS**  
 1381 Big Bend Road  
 Twin Oaks, MO 63021  
 TEL: (636) 225-7873

**PRELIMINARY DRAWING**  
  
 FOR REVIEW PURPOSES ONLY  
 NOT TO BE USED FOR CONSTRUCTION

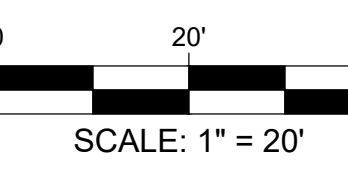


103 ELM STREET  
 WASHINGTON, MISSOURI 63090  
 bfaeng.com  
 TELEPHONE: (636) 239-4751



# TOPOGRAPHIC SURVEY PLAN

(THIS IS NOT A BOUNDARY SURVEY)



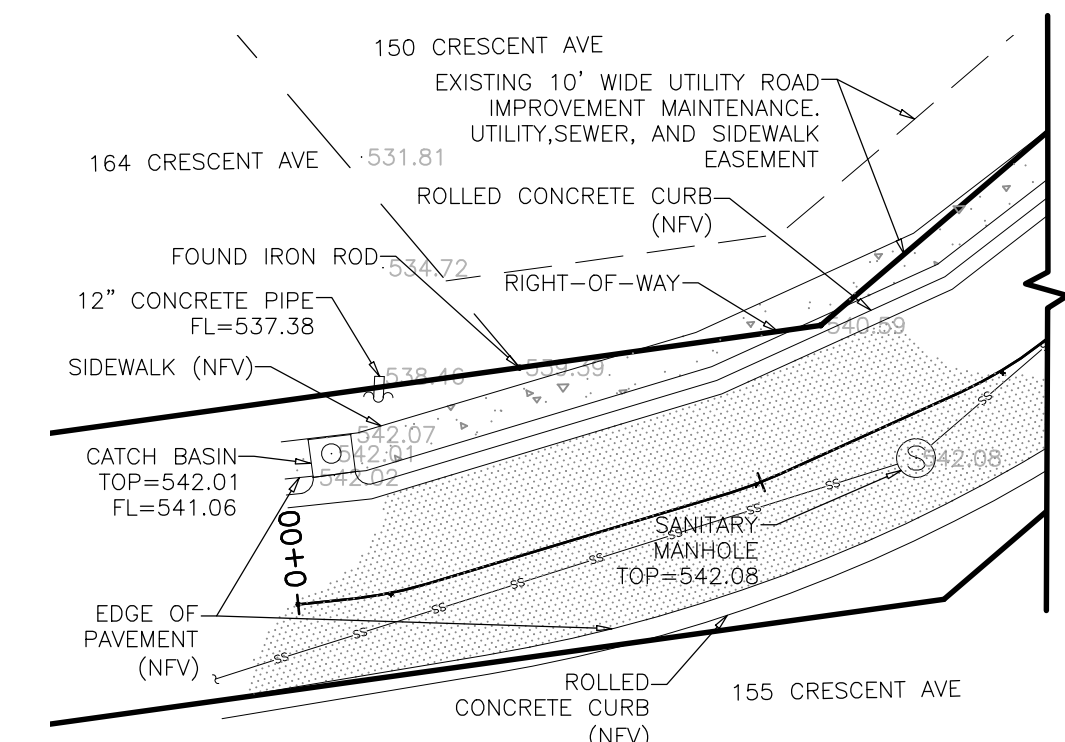
### TOPOGRAPHIC SURVEY NOTES:

- The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on plans.
  - Bearing referenced to Grid North of the Missouri Coordinate System 1983, East Zone per GPS observations utilizing the MODOT VRS RTK Network.
  - Field work was completed on this site by Buescher Frankenberg Associates, Inc. on October 27, 2020; August 1, 2022; and July 28, 2022.
  - (M) Indicates measured outboundary information obtained by BFA, Inc.
  - (R) Indicates recorded outboundary information as Village of Twin Oaks, Missouri Street Boundary Map by P.H. WEIS & Associates Incorporated dated 9/1/00.
  - Contractor shall verify elevation of temporary benchmarks based on the elevation of the primary benchmark, prior to the start of construction. Contractor shall notify engineer if elevations differ from those shown on these plans.
- Vertical datum used is NAVD 1988 per GPS observations utilizing ModOT VRS RTK Network.
- Temporary Benchmark No. 1- Concrete Monument  
Elevation = 549.54
- This site scales within Zone X, as per Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel No. 29189C0292K dated 2/4/2015.
  - This site is zoned as Zone "A" Single-Family Residential Dwelling District as per City of Twin Oaks.
  - Building setback lines as per City of Twin Oaks Code Section 400.150 are 35 feet.
  - Water service to this site is provided by Missouri-American Water Company.
  - Sanitary sewer service to this site is provided by Metropolitan St. Louis Sewer District, at time of survey.
  - Electrical service to this site is provided by Ameren, at time of survey.
  - Telephone service to this site is provided by AT&T and Charter, at time of survey. All Charter lines are aerial.
  - Natural gas service to this site is provided by Spire, at time of survey.
  - Existing storm sewers, that were accessible at the time field work was completed, appeared to be in fair condition.
  - The minimum depth of cover for waterlines on this site shall meet Missouri-American Water Company standards. Actual depths of waterlines may vary.
  - Existing curbs and gutters on site vary.
  - Potholing for waterline depth was performed on August 17, 2023 and August 18, 2023.

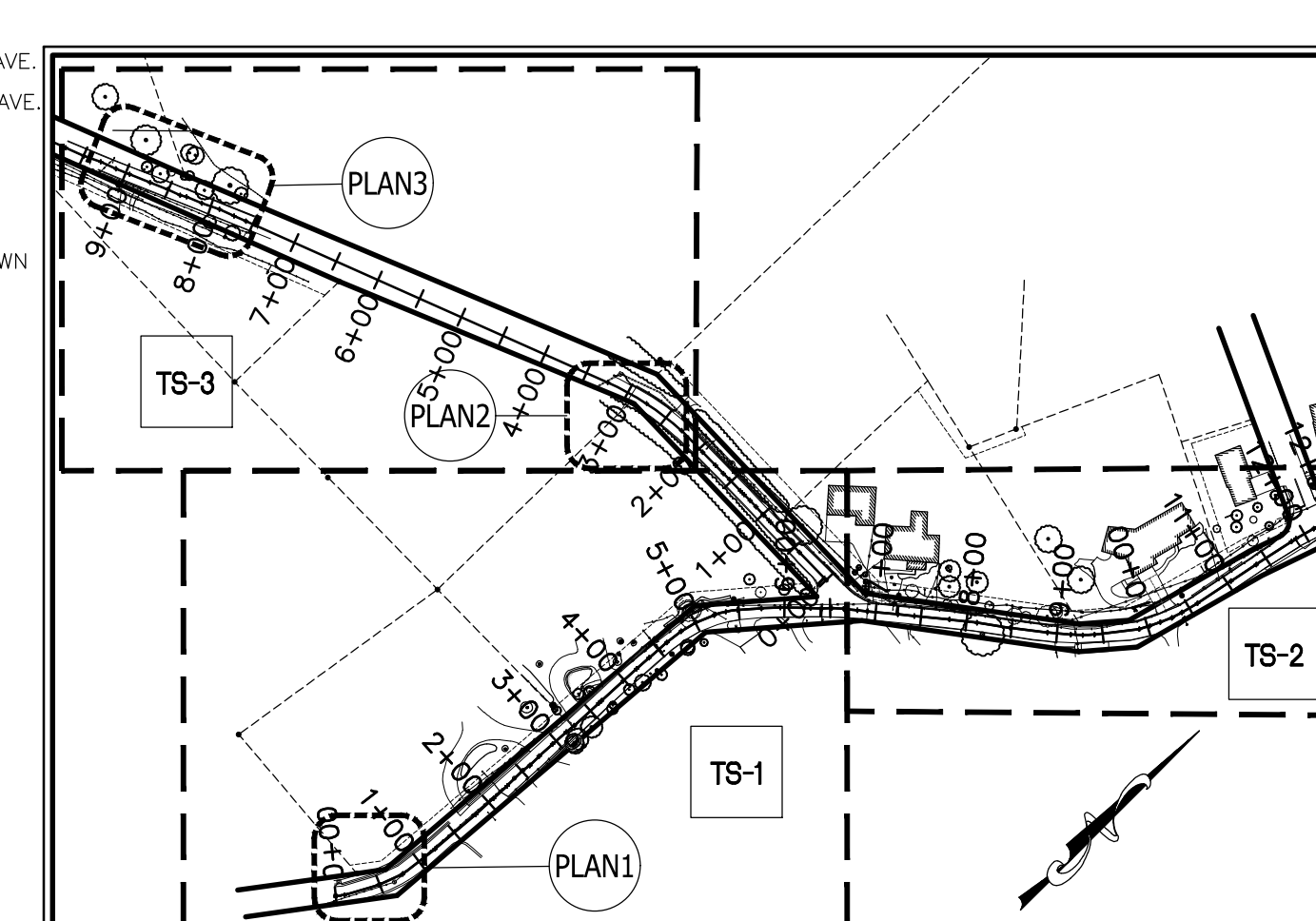
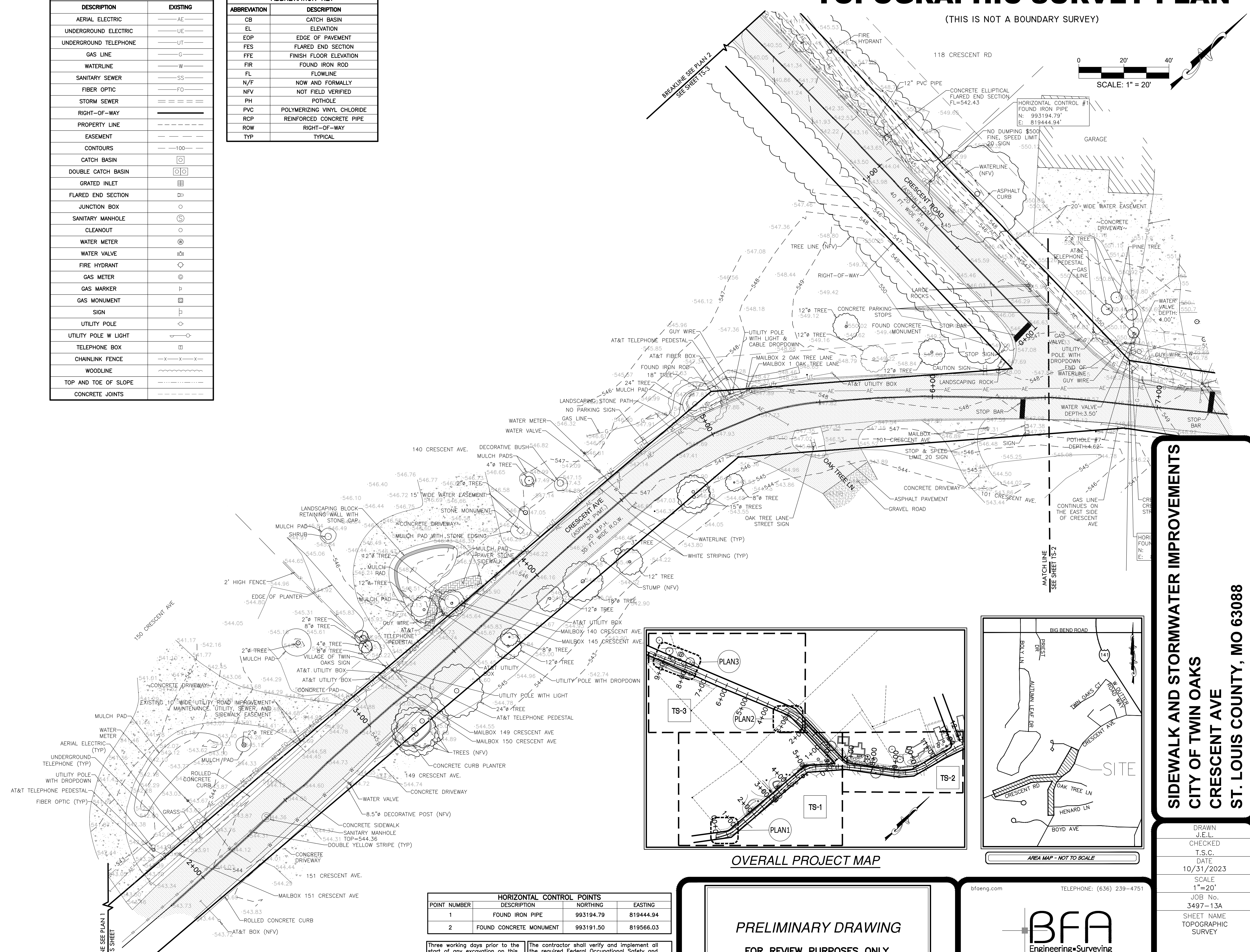
TOPOGRAPHIC LEGEND	
DESCRIPTION	EXISTING
AERIAL ELECTRIC	—AE—
UNDERGROUND ELECTRIC	—UE—
UNDERGROUND TELEPHONE	—UT—
GAS LINE	—G—
WATERLINE	—W—
SANITARY SEWER	—SS—
FIBER OPTIC	—FO—
STORM SEWER	—S—
RIGHT-OF-WAY	—R—
PROPERTY LINE	—P—
EASEMENT	—E—
CONTOURS	—100—
CATCH BASIN	□
DOUBLE CATCH BASIN	□□
GRATED INLET	■
FLARED END SECTION	▤
JUNCTION BOX	⊙
SANITARY MANHOLE	⊙
CLEANOUT	○
WATER METER	⊗
WATER VALVE	⊕
FIRE HYDRANT	⊙
GAS METER	⊗
GAS MARKER	⊕
GAS MONUMENT	⊗
SIGN	⊕
UTILITY POLE	⊙
UTILITY POLE W LIGHT	⊙
TELEPHONE BOX	⊕
CHAINLINK FENCE	—X—X—X—
WOODLINE	—W—W—W—
TOP AND TOE OF SLOPE	—T—T—T—
CONCRETE JOINTS	—C—C—C—

ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
CB	CATCH BASIN
EL	ELEVATION
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FIR	FOUND IRON ROD
FL	FLOWLINE
N/F	NOW AND FORMALLY
NFV	NOT FIELD VERIFIED
PH	POT HOLE
PVC	POLYMERIZING VINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
TYP	TYPICAL

P:\Vault\3497-13A Crescent Ave\3497-13A Plan Sheets\3497-13A Topographic Survey.dwg 10/31/2023 3:02 PM



**1 PLAN 1**  
Scale: 1" = 20'



**OVERALL PROJECT MAP**

HORIZONTAL CONTROL POINTS			
POINT NUMBER	DESCRIPTION	NORTHING	EASTING
1	FOUND IRON PIPE	993194.79	819444.94
2	FOUND CONCRETE MONUMENT	993191.50	819566.03

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for approved location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

**PRELIMINARY DRAWING**  
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NOT TO BE USED FOR CONSTRUCTION

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103 ELM STREET WASHINGTON, MISSOURI 63090

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

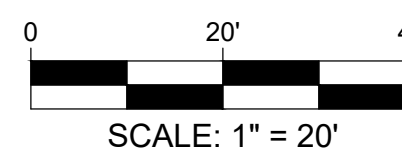
DRAWN J.E.L.  
CHECKED T.S.C.  
DATE 10/31/2023  
SCALE 1"=20'  
JOB No. 3497-13A  
SHEET NAME TOPOGRAPHIC SURVEY

TS-1

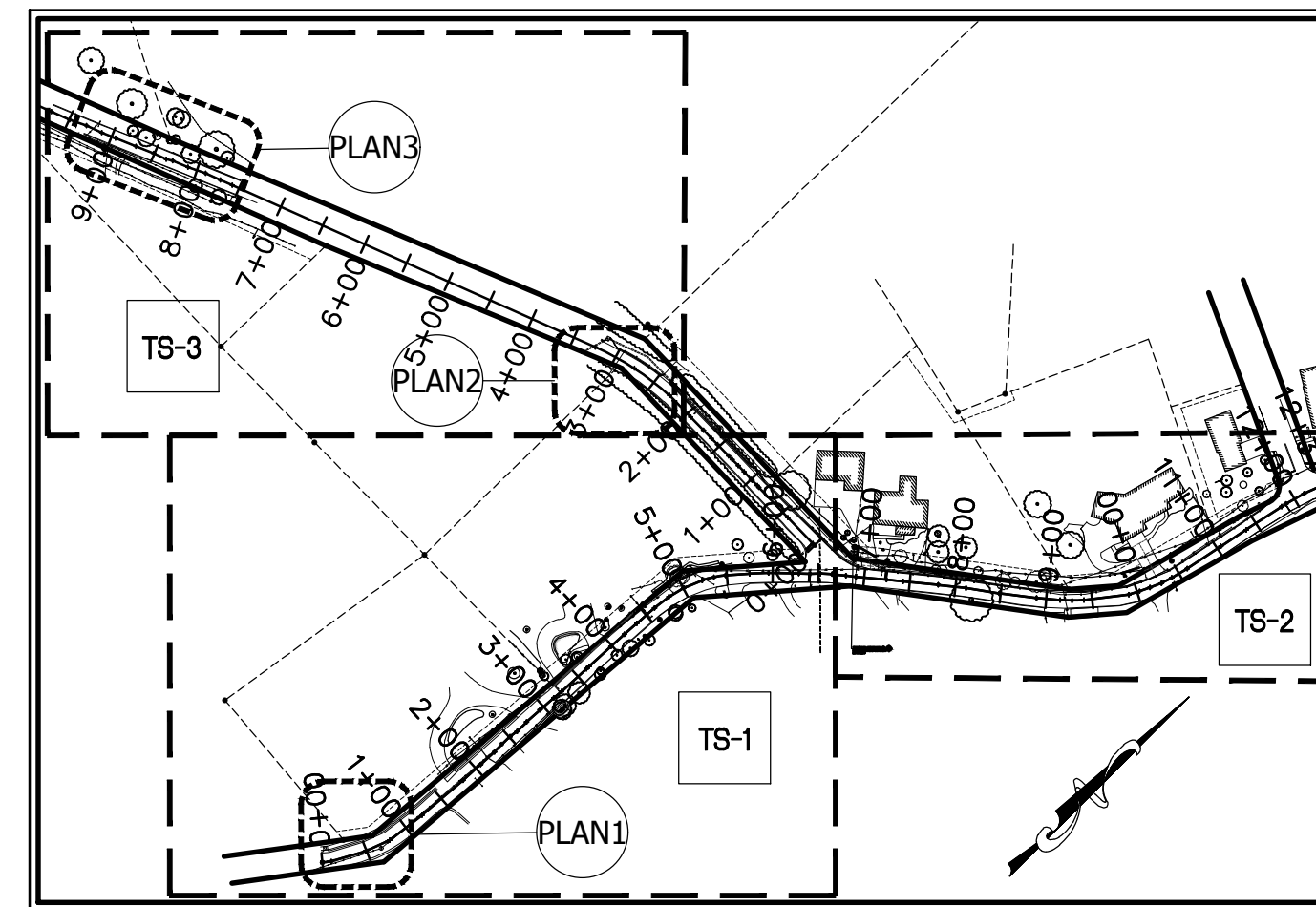


# TOPOGRAPHIC SURVEY PLAN

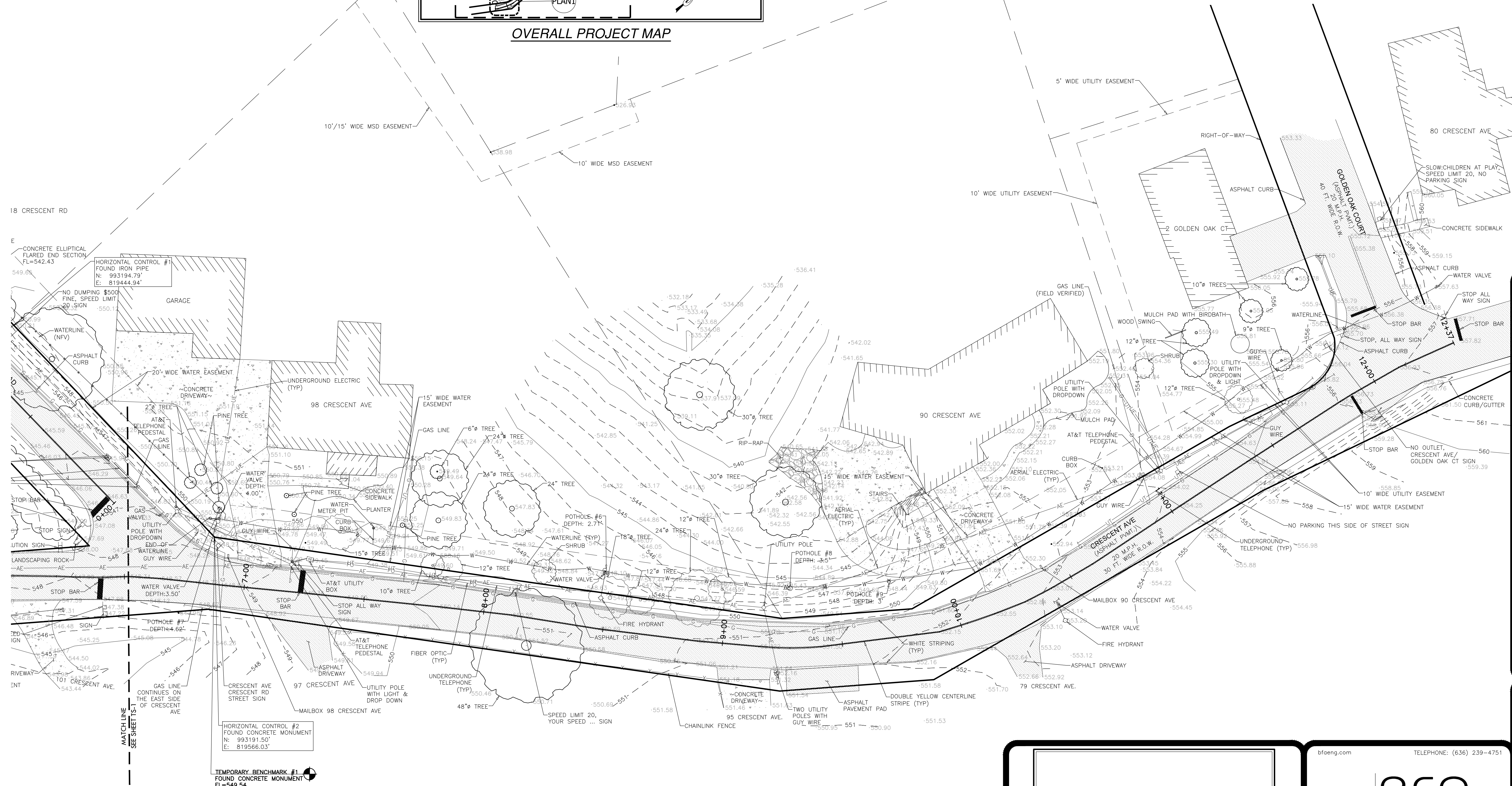
(THIS IS NOT A BOUNDARY SURVEY)



POINT NUMBER	HORIZONTAL CONTROL POINTS		
	DESCRIPTION	NORTHING	EASTING
1	FOUND IRON PIPE	993194.79	819444.94
2	FOUND CONCRETE MONUMENT	993191.50	819566.03



OVERALL PROJECT MAP



**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
 K.N.K.  
 CHECKED  
 T.S.C.  
 DATE  
 10/31/2023  
 SCALE  
 1"=20'  
 JOB No.  
 3497-13A  
 SHEET NAME  
 TOPOGRAPHIC  
 SURVEY

TS-2

**PRELIMINARY DRAWING**  
**FOR REVIEW PURPOSES ONLY**  
**NOT TO BE USED FOR CONSTRUCTION**

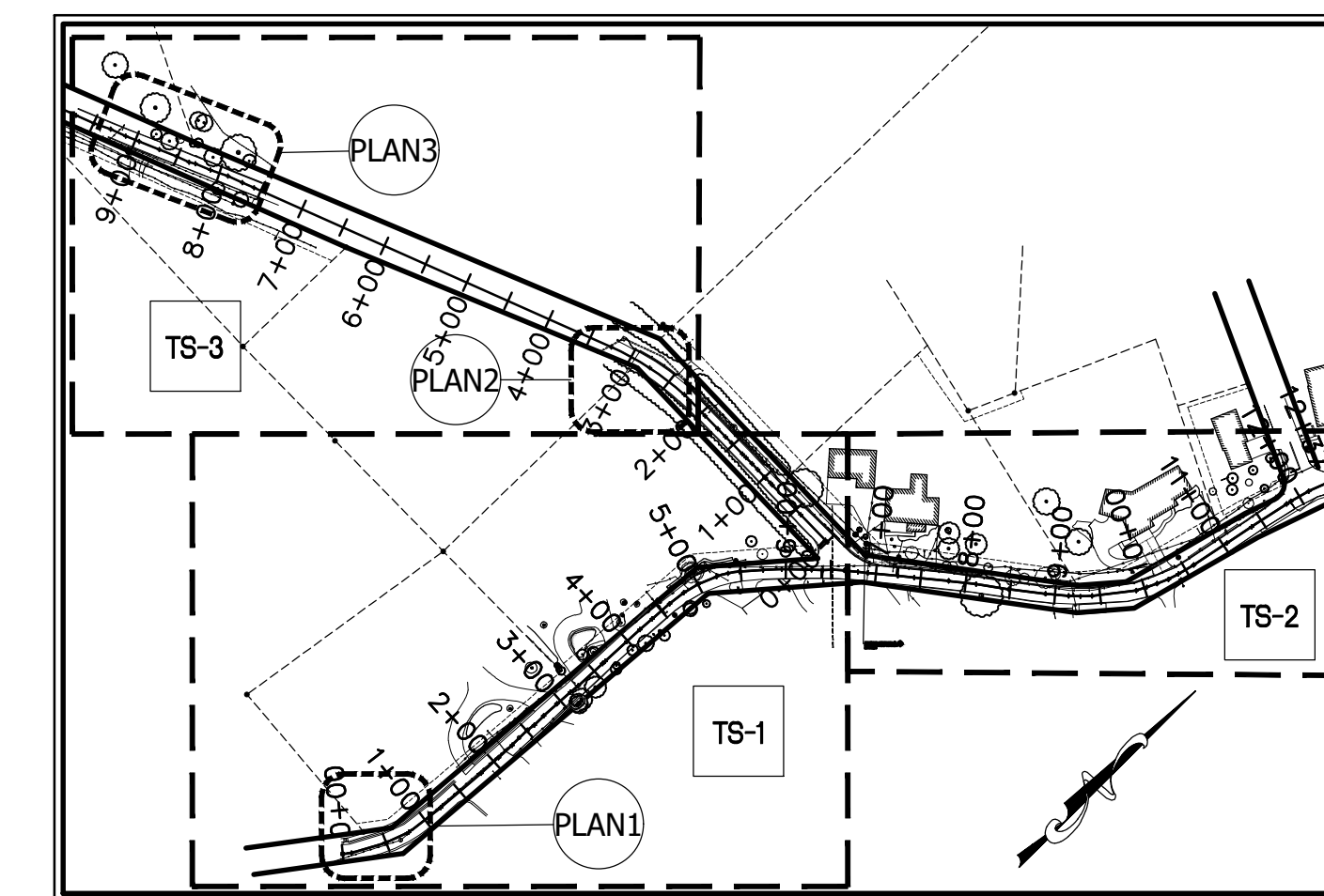
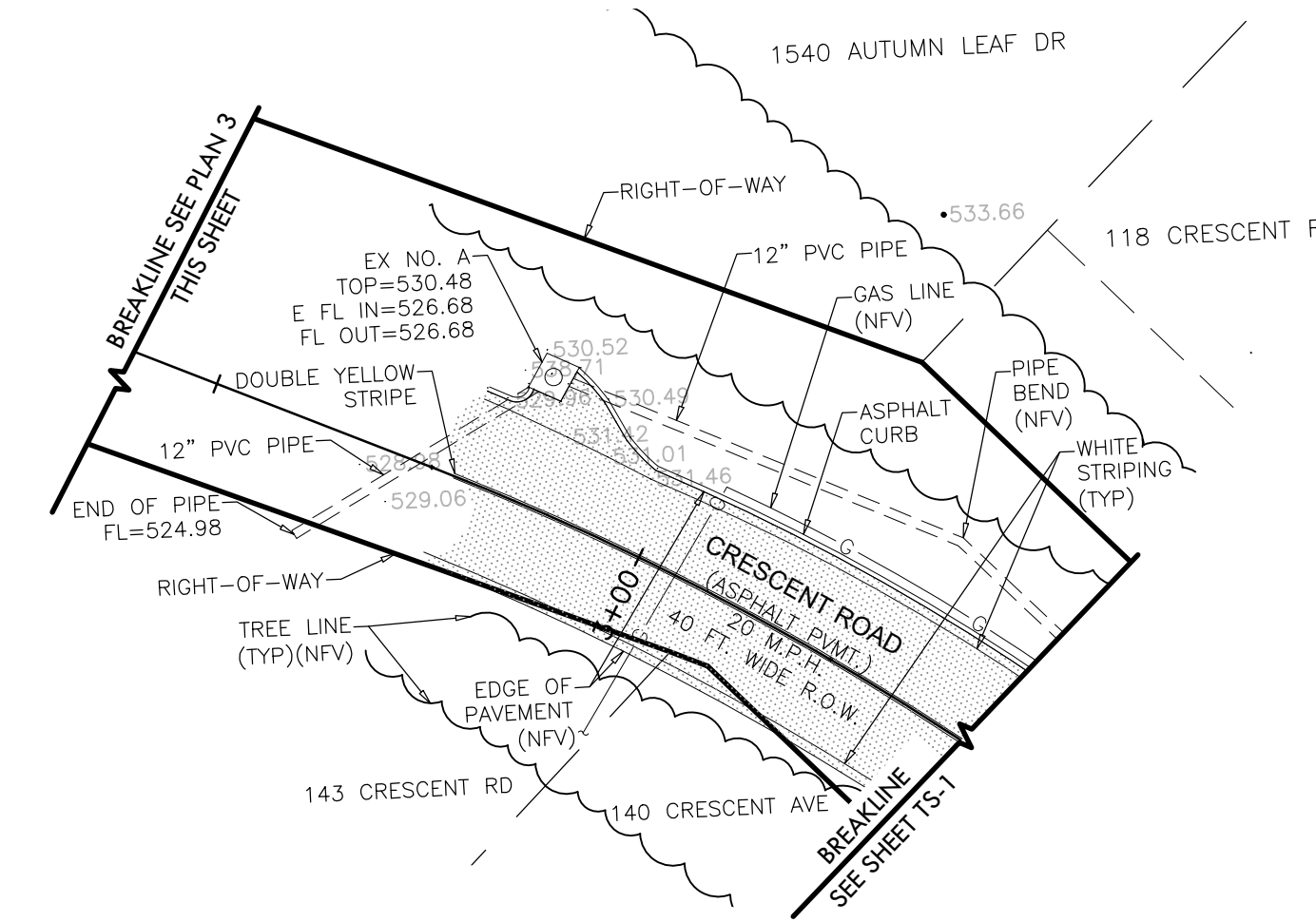
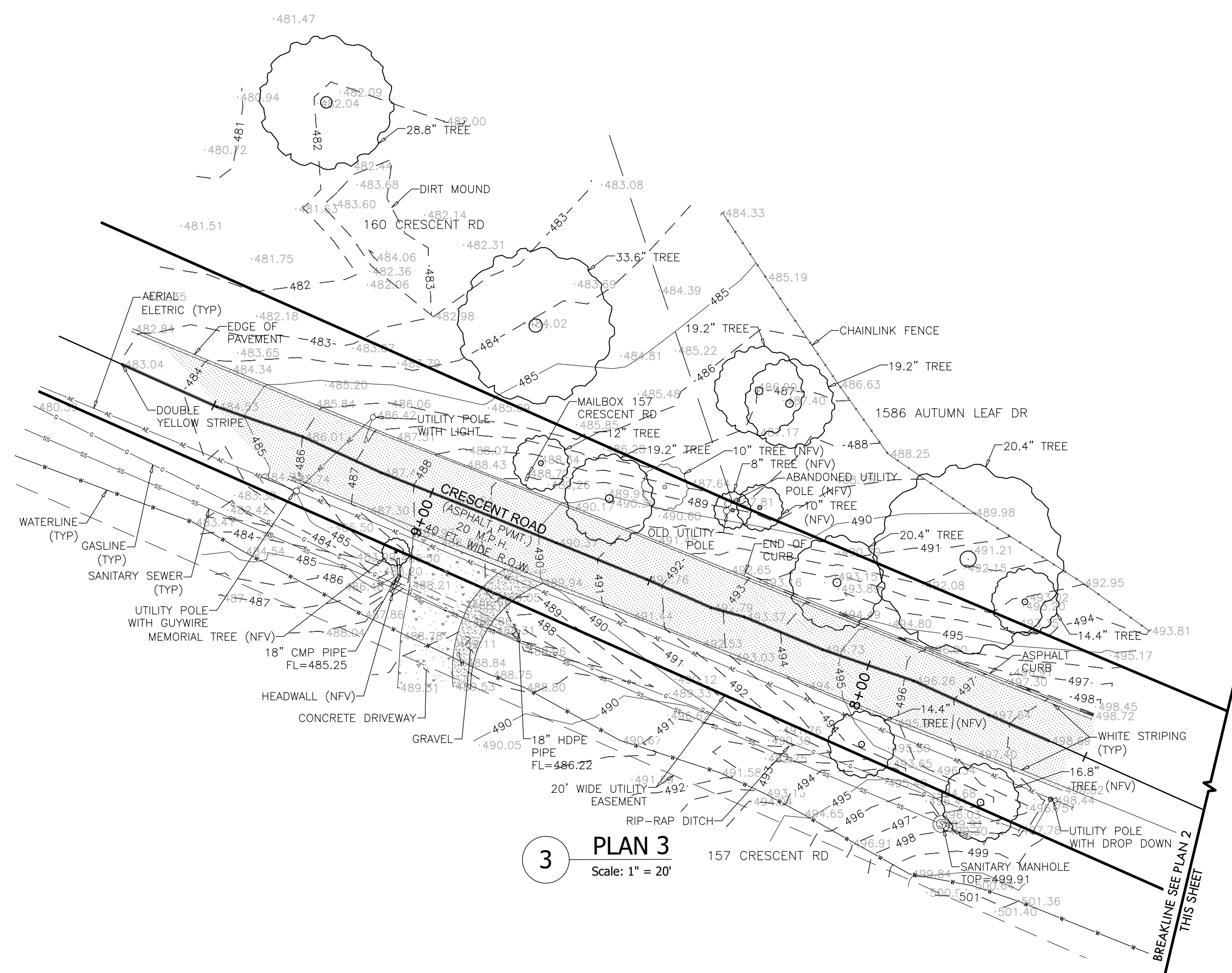
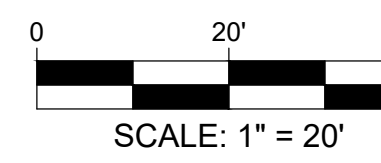
Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.  
 The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

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# TOPOGRAPHIC SURVEY PLAN

(THIS IS NOT A BOUNDARY SURVEY)



OVERALL PROJECT MAP

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
A.J.R.  
 CHECKED  
T.S.C.  
 DATE  
10/31/2023  
 SCALE  
1"=20'  
 JOB No.  
3497-13A  
 SHEET NAME  
TOPOGRAPHIC  
 SURVEY

TS-3

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

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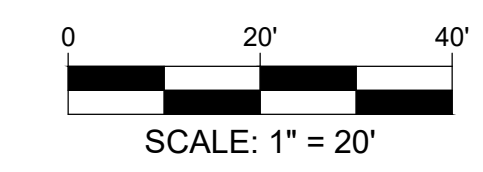
**PRELIMINARY DRAWING**  
**FOR REVIEW PURPOSES ONLY**  
**NOT TO BE USED FOR CONSTRUCTION**

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# DEMOLITION PLAN



## DEMOLITION PLAN NOTES:

- The Contractor shall conform to all applicable State and local codes for demolition of structures, safety of adjacent structures, dust control, and sediment and erosion control during construction.
- The Contractor shall verify that all required permits and licenses from appropriate authorities have been obtained prior to construction.
- The Contractor shall notify and coordinate scheduling with affected utility companies before starting work and comply with their requirements.
- The Contractor shall not close or obstruct public or private roadways, sidewalks, or fire hydrants without appropriate permits or written authorization.
- The Contractor shall accurately record actual locations of capped utilities and subsurface obstructions that will remain after demolition.
- The Contractor shall provide, erect, and maintain sediment and erosion control devices, temporary barriers, and security devices during construction.
- The Contractor shall protect existing landscaping materials, appurtenances, and structures, which are not to be demolished. Any damage caused by demolition operations shall be repaired by the Contractor at no cost to Owner. Any mailboxes damaged by Contractor in demolition process shall be replaced by Contractor at Contractor's expense.
- The Contractor shall protect and maintain in a safe and operable condition utilities that are to remain. The Contractor shall prevent interruption of existing utility service to occupied or used facilities, except when authorized in writing by authorities having jurisdiction. The Contractor shall provide temporary services during interruptions to existing utilities as acceptable to governing authorities and Owner.
- The Contractor shall notify adjacent owners of work that may affect their property, potential noise, utility outages or disruptions.
- No burning of any material, debris, or trash on-site or off-site will be allowed, except when allowed by appropriate governing authority and Owner. Any permits required for doing so shall be obtained by the Contractor.
- All items noted "to be adjusted" shall be raised or lowered to match the new grade indicated or flush with the surrounding pavement. (i.e. manhole rims, valve covers, grates, etc.)
- Unless noted otherwise, utilities designated to be removed shall be removed in their entirety. Trenches shall then be backfilled and compacted as per the sitework specifications.
- Should hazardous materials be found during demolition operations, the Contractor shall notify the owner and all governing agencies, if necessary, and conform to all applicable regulatory procedures.
- The Contractor shall provide, install, and maintain traffic control at all times during construction. This includes signs, barriers, construction fencing, striping, etc. necessary to safely control site traffic.
- The Contractor shall keep the premises clean and free of debris during construction.
- The fire protection for the site shall remain in service at all times during construction.
- All survey monuments disturbed during construction shall be replaced by a licensed land surveyor, licensed in the state where this project is located.
- The edges of all pavement and curb sections to be removed shall be sawcut. Remaining pavement and curb sections shall have smooth, clean edges. Contractor means and methods shall assure new asphalt/concrete pavement, concrete curb and gutter, sidewalks, etc. is placed against a fresh, clean, sharp sawcut line. This will mean more than one sawcut may be necessary.
- Remove all stumps, bushes, trees, weeds and other surface obstructions from the site that are within the proposed construction area and that are not otherwise noted to remain. Contractor to strip all topsoil from entire area to be graded. This may be done in phases. (Refer to Erosion and Sediment Control Plans.)
- The sitework for this project shall meet or exceed the "Site Specific Specifications".
- The contractor shall maintain the site in a well-drained manner in order to assure the shortest possible drying time after rainfall. This will mean that pumping of standing water in the low areas on the site may be required during construction.
- The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on plans.
- The demolition plan is intended to provide general information, only, regarding items to be demolished and/or removed. The contractor must also review the other drawings and include in demolition activities all incidental work necessary for the construction of the new site improvements.

## CONSTRUCTION PHASING NOTES:

BY SUBMITTING A BID, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS EXAMINED THE PROJECT TO THE DEGREE NECESSARY TO PROVIDE A LUMP SUM PRICE FOR THE WORK AND THAT HE/SHE HAS ACCOUNTED FOR ANY ADDITIONAL TEMPORARY PROTECTION, TRAFFIC CONTROL, LOW IMPACT CONSTRUCTION EQUIPMENT, AND/OR WORK REQUIRED DURING SPECIFIED DATES AND HOURS THAT MAY BE REQUIRED TO MINIMIZE DISRUPTIONS AND/OR INCONVENIENCE TO THE COMMERCIAL AND RESIDENTIAL OCCUPANTS AND PROPERTY.

PRIOR TO START OF CONSTRUCTION ACTIVITIES BY THE CONTRACTOR, A PRECONSTRUCTION MEETING SHALL BE CONDUCTED BETWEEN THE CONTRACTOR, THE ENGINEER, AND THE CITY OF TWIN OAKS TO DISCUSS PROJECT PHASING AND TEMPORARY TRAFFIC CONTROL.

CONTRACTOR SHALL MAINTAIN DEWATERING OPERATIONS AND EROSION AND SEDIMENT CONTROL BMP'S.

**TRAFFIC CONTROL**  
CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL MEASURES NECESSARY TO ENSURE THE SAFETY OF CONSTRUCTION CREWS, PEDESTRIANS, AND TRAFFIC DURING CONSTRUCTION. NO WORK SHALL BEGIN UNTIL ALL TRAFFIC CONTROL MEASURES ARE INSTALLED. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL MEET MDDOT AND MUTCD STANDARDS.

CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS OF ANY INTERRUPTION OF ACCESS TO PRIVATE DRIVEWAYS AT LEAST 24 HOURS IN ADVANCE.

CONTRACTOR SHALL PROVIDE MESSAGE BOARDS AND DETOUR SIGNS 48 HOURS BEFORE ROAD CLOSURE. CONTRACTOR SHALL NOTIFY THE CITY OF TWIN OAKS 48 HOURS IN ADVANCE OF ANY INTENDED ALTERATIONS TO TRAFFIC FLOW. CONTACT INFORMATION:

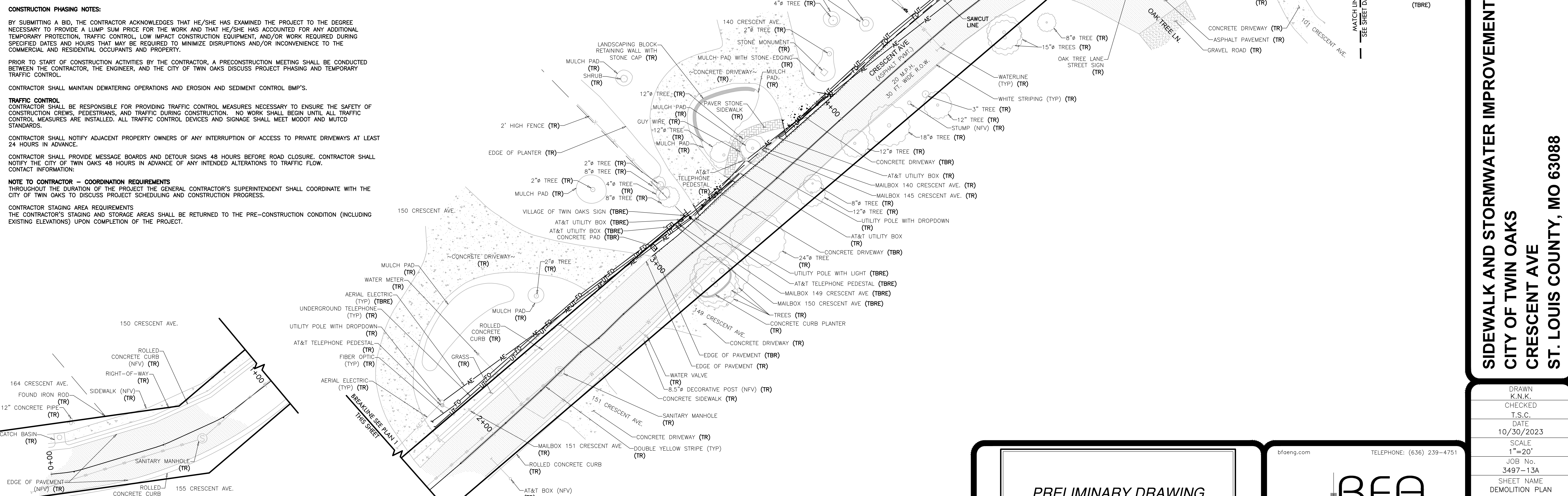
**NOTE TO CONTRACTOR - COORDINATION REQUIREMENTS**  
THROUGHOUT THE DURATION OF THE PROJECT THE GENERAL CONTRACTOR'S SUPERINTENDENT SHALL COORDINATE WITH THE CITY OF TWIN OAKS TO DISCUSS PROJECT SCHEDULING AND CONSTRUCTION PROGRESS.

**CONTRACTOR STAGING AREA REQUIREMENTS**  
THE CONTRACTOR'S STAGING AND STORAGE AREAS SHALL BE RETURNED TO THE PRE-CONSTRUCTION CONDITION (INCLUDING EXISTING ELEVATIONS) UPON COMPLETION OF THE PROJECT.

DEMOLITION LEGEND	
DESCRIPTION	EXISTING
AERIAL ELECTRIC	—AE—
UNDERGROUND ELECTRIC	—UE—
UNDERGROUND TELEPHONE	—UT—
GAS LINE	—G—
WATERLINE	—W—
SANITARY SEWER	—SS—
FIBER OPTIC	—FO—
STORM SEWER	—SS—
RIGHT-OF-WAY	—R—
PROPERTY LINE	—P—
EASEMENT	—E—
CONTOURS	—100—
CATCH BASIN	☐
DOUBLE CATCH BASIN	☐☐
GRATED INLET	☐
FLARED END SECTION	☐
JUNCTION BOX	○
SANITARY MANHOLE	⊙
CLEANOUT	○
WATER METER	⊙
WATER VALVE	⊙
FIRE HYDRANT	⊙
GAS METER	⊙
GAS MARKER	⊙
GAS MONUMENT	⊙
SIGN	⊙
UTILITY POLE	⊙
UTILITY POLE W LIGHT	⊙
TELEPHONE BOX	⊙
CHAINLINK FENCE	—X—X—X—
WOODLINE	—W—
TOP AND TOE OF SLOPE	—T—
CONCRETE JOINTS	—C—

ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
CB	CATCH BASIN
EL	ELEVATION
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FIR	FOUND IRON ROD
FL	FLOWLINE
N/F	NOW AND FORMALLY
NFV	NOT FIELD VERIFIED
PVC	POLYMERIZING VINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
TBA	TO BE ADJUSTED
TBR	TO BE REMOVED
TBRE	TO BE REMOVED AND RELOCATED
TR	TO REMAIN
TYP	TYPICAL

PAVEMENT LEGEND	
---	SAWCUT LINE
▨	EXISTING GRAVEL PAVEMENT
▩	EXISTING CONCRETE PAVEMENT
▧	EXISTING ASPHALT PAVEMENT
▦	EXISTING PAVEMENT TO BE REMOVED
▥	EXISTING CONCRETE PAVEMENT TO BE REMOVED



**SIDEWALK AND STORMWATER IMPROVEMENTS  
CITY OF TWIN OAKS  
CRESCENT AVE  
ST. LOUIS COUNTY, MO 63088**

DRAWN	K.N.K.
CHECKED	T.S.C.
DATE	10/30/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	DEMOLITION PLAN

**PRELIMINARY DRAWING  
FOR REVIEW PURPOSES ONLY  
NOT TO BE USED FOR CONSTRUCTION**

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**BFA**  
Engineering-Surveying

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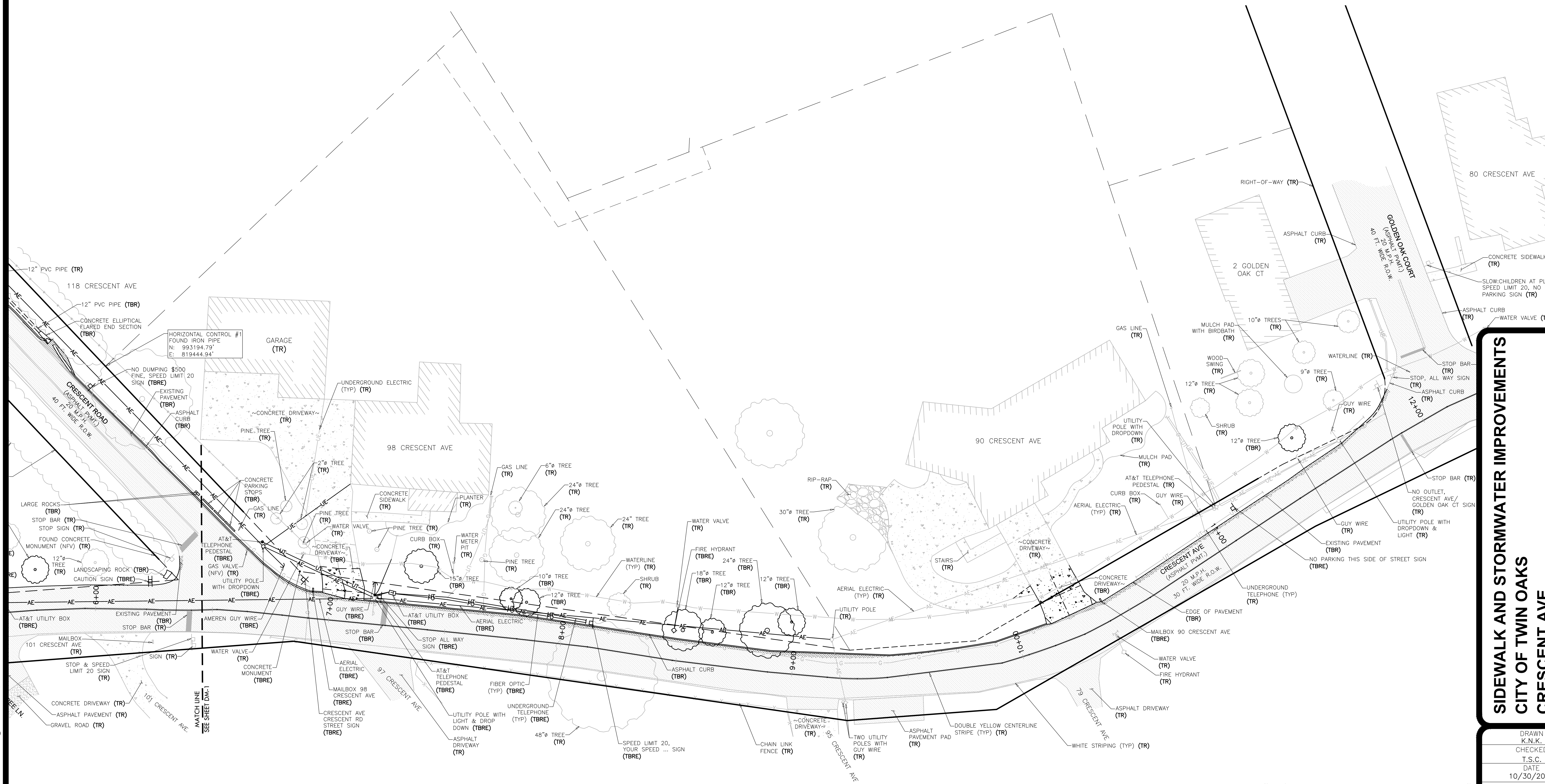
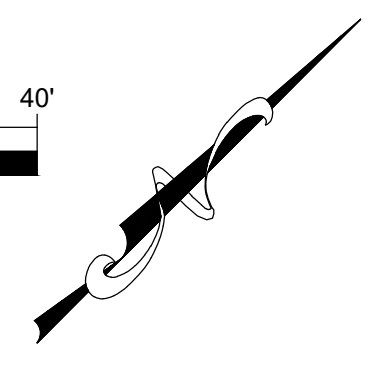
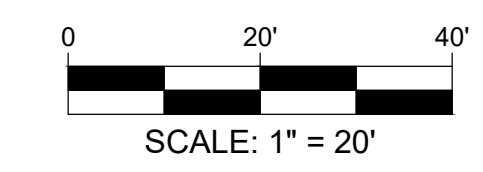
Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

P:\Vault\3497-13A Crescent Ave\3497-13A Plan Sheets\3497-13A Demolition Plan.dwg 10/30/2023 10:23 AM



# DEMOLITION PLAN



**SIDEWALK AND STORMWATER IMPROVEMENTS  
CITY OF TWIN OAKS  
CRESCENT AVE  
ST. LOUIS COUNTY, MO 63088**

DRAWN	K.N.K.
CHECKED	T.S.C.
DATE	10/30/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	DEMOLITION PLAN

DM-2

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

**PRELIMINARY DRAWING**  
FOR REVIEW PURPOSES ONLY  
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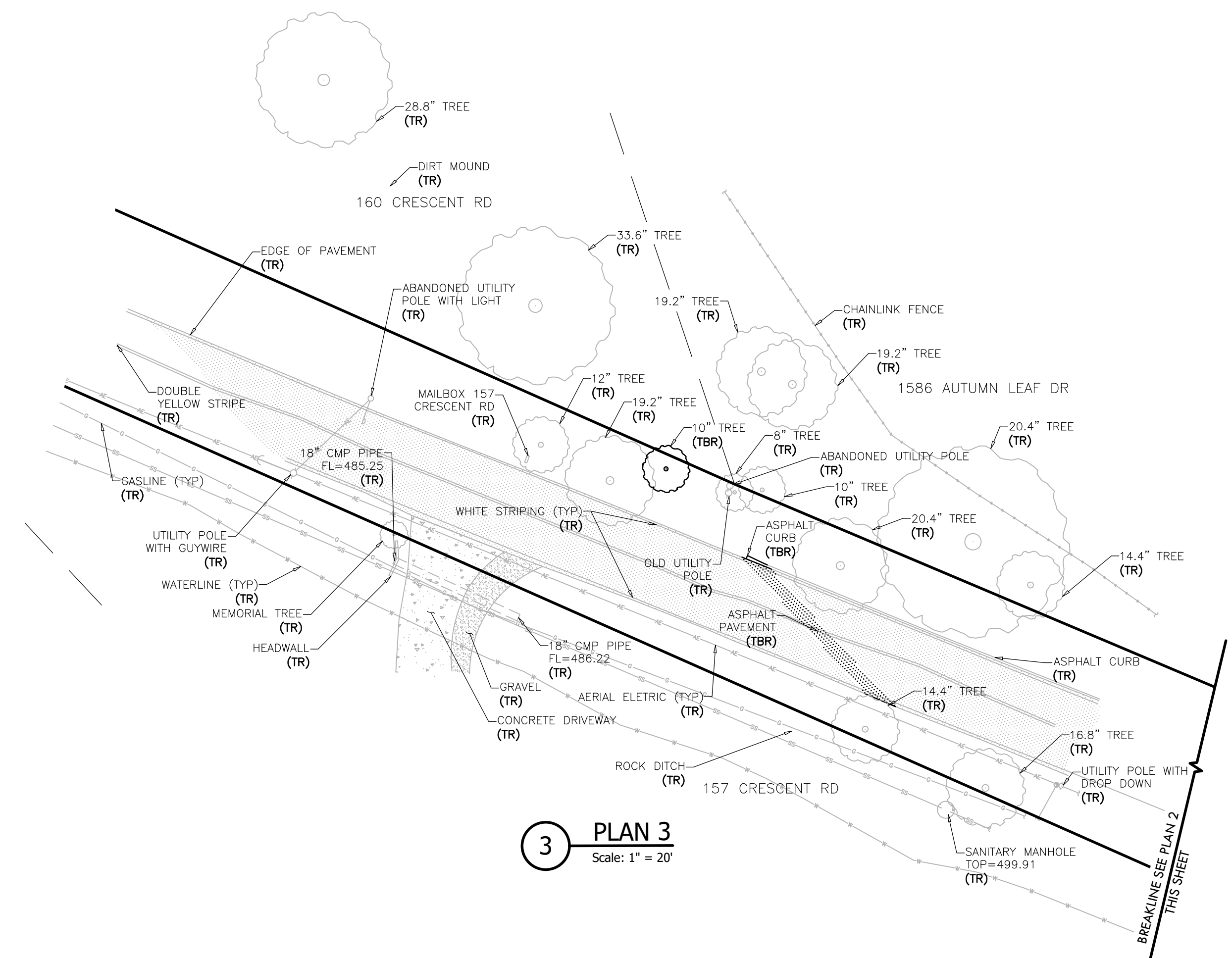
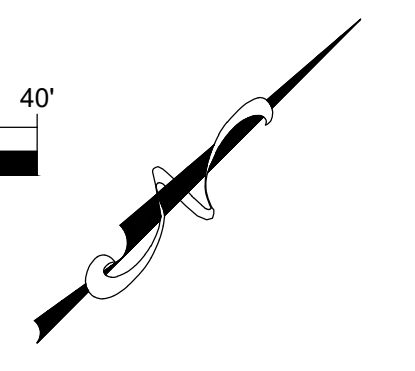
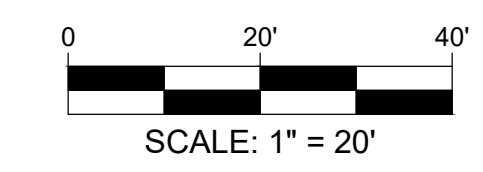
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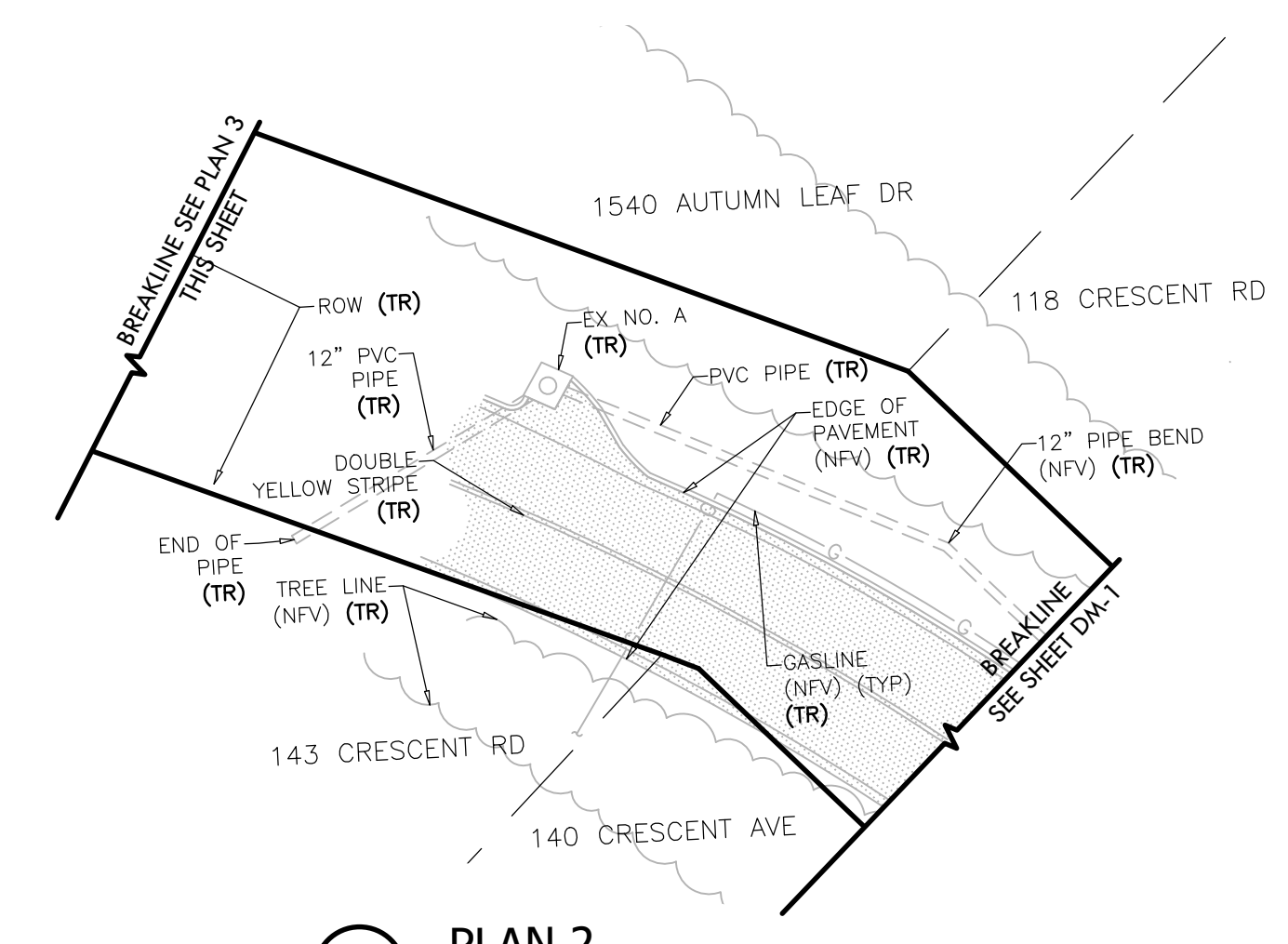
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# DEMOLITION PLAN



**3 PLAN 3**  
Scale: 1" = 20'



**2 PLAN 2**  
Scale: 1" = 20'

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

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**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN	A.J.R.
CHECKED	T.S.C.
DATE	10/31/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	DEMOLITION PLAN

**DM-3**



GRADING PLAN LEGEND		
DESCRIPTION	PROPOSED	EXISTING
AERIAL ELECTRIC	—AE—	—AE—
UNDERGROUND ELECTRIC	—UE—	—UE—
UNDERGROUND TELEPHONE	—UT—	—UT—
GAS LINE	—G—	—G—
WATERLINE	—W—	—W—
SANITARY SEWER	—SS—	—SS—
STORM SEWER	====	====

- GRADING NOTES:
- Bearing referenced to Grid North of the Missouri Coordinate System 1983, East Zone per GPS observations utilizing the MODOOT VRS RTK Network.
  - Contractor shall verify elevation of temporary benchmarks based on the elevation of the primary benchmark, prior to the start of construction. Contractor shall notify engineer if elevations differ from those shown on these plans.  
Vertical datum used is NAVD 1988 per GPS observations utilizing MODOOT VRS RTK Network.  
Temporary Benchmark No. 1—Concrete Monument  
Elevation = 549.54
  - This site scales within Zone X, as per Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel No. 29189C0292K dated 2/4/2015.
  - This site is zoned as Zone "A" Single-Family Residential Dwelling District as per City of Twin Oaks.

Add these Notes:

**LIMITS OF DISTURBANCE:**

The contractor shall stay within the limits of disturbance as shown on the plans and minimize disturbance within the work area wherever possible.

**PUBLIC SEWER MAINTENANCE:**

Maintenance of the sewers designated "public" shall be the responsibility of the Metropolitan St. Louis Sewer District upon dedication of the sewers to the District

**STANDARD CONSTRUCTION 2023 VERSION: (This note is to be used on projects with initial file upload date on or after August 1, 2023)**

All storm and sanitary sewer structures and appurtenances to be dedicated to MSD, or to be Private Under MSD Inspection, shall conform to the Metropolitan St. Louis Sewer District, Standard Construction Specifications for Sewers and Drainage Facilities, 2023. That will include Standard Details shown therein, all subsequent changes made thereto, and shall also include the following:

**PART 2 - MATERIALS OF CONSTRUCTION**

**SECTION G PIPE.**

**12. Corrugated Polypropylene Pipe.**

d. Pipe for gravity sewer installations shall be installed in accordance with ASTM D2321. Consolidation by water (jetting or puddling) shall not be used. Consolidation shall be in accordance with MSD Standard Construction Specifications for trench backfill. Price for compacted backfill shall be included in pipe unit cost.

1. For use in sanitary and combined sewer installations, a representative from the pipe manufacturer shall visit the site within the first 100 feet of pipe installation. Coordination of this site visit shall be arranged by the Contractor. The Contractor shall provide the MSD inspector at least 24 hours' notice of the planned date and time of the manufacturer's site visit.

2. Following the site visit, the Contractor shall be required to provide a letter from the piping manufacturer summarizing their observations. At a minimum, the letter shall:

- Indicate the date the initial section of pipe was installed; and
  - Verify that the installation occurred in accordance with manufacturer's recommended procedures.
- e. Trench width shall be in accordance with manufacturer's installation recommendations. District standard payline widths based on the nominal inside pipe diameter shall apply.

**STORMWATER MANAGEMENT FUTURE DISTURBANCE NOTE:**

Project Disturbance = 0.68 ACRES  
Project Runoff Differential = 1.27 CFS

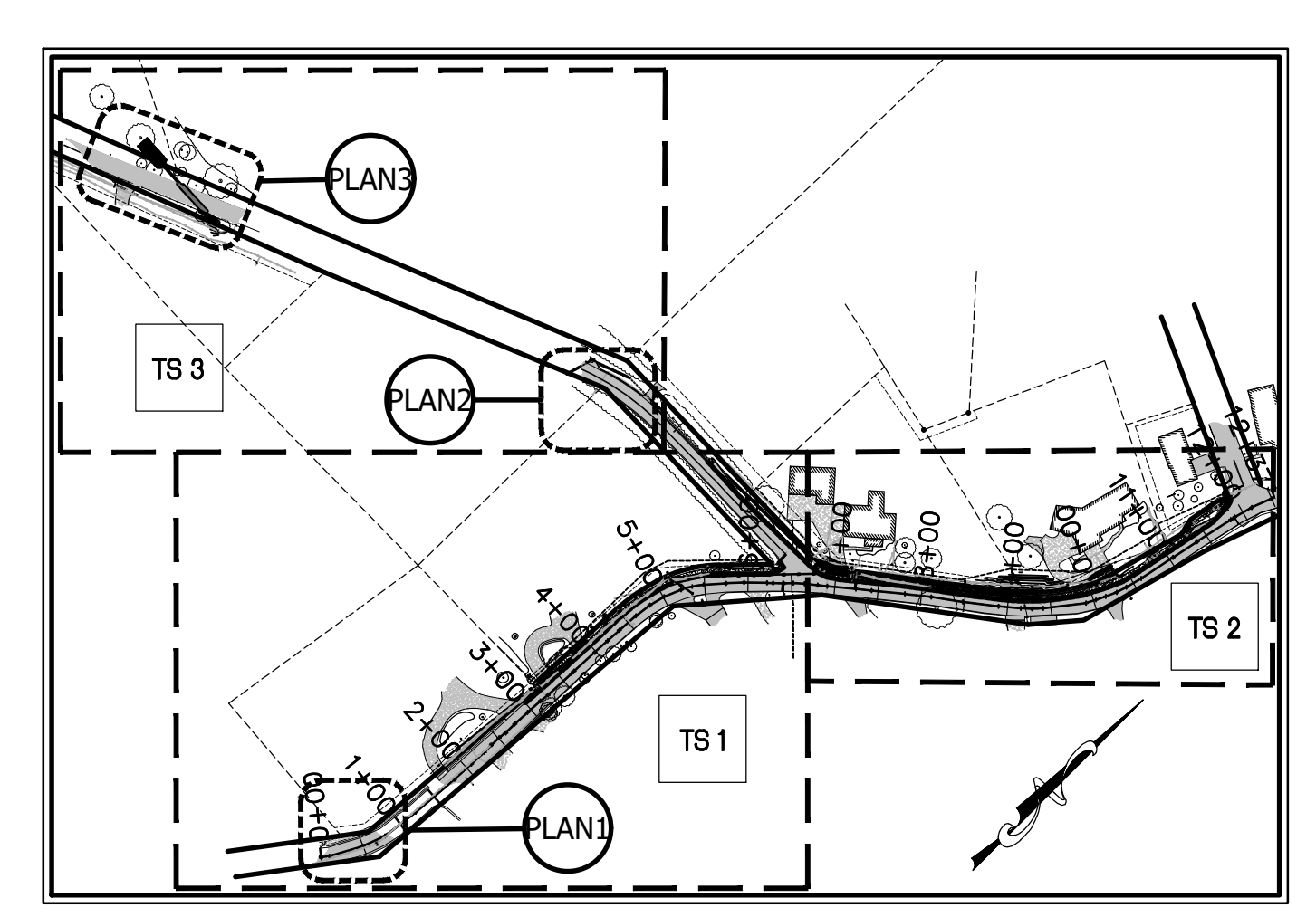
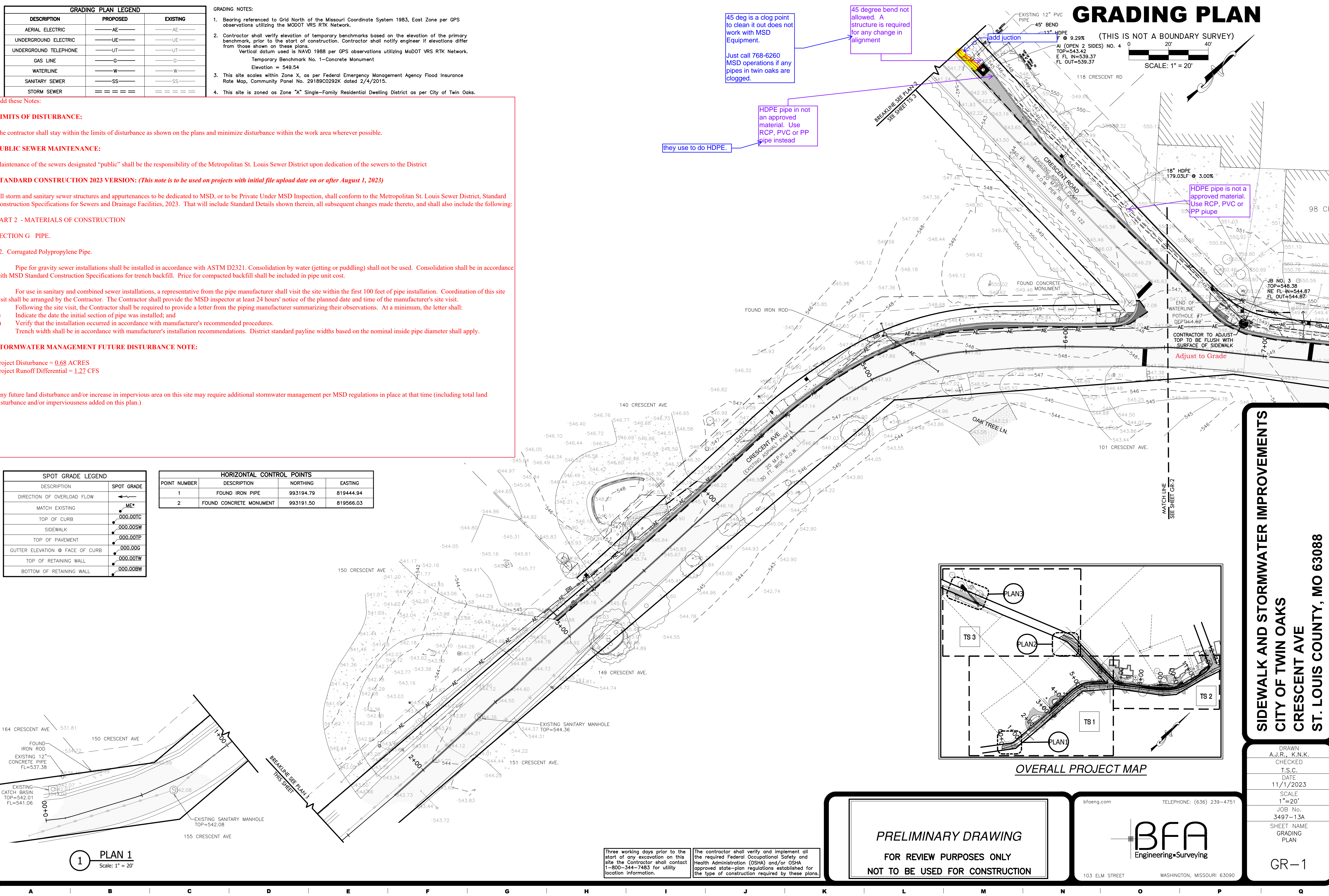
Any future land disturbance and/or increase in impervious area on this site may require additional stormwater management per MSD regulations in place at that time (including total land disturbance and/or imperviousness added on this plan.)

SPOT GRADE LEGEND	
DESCRIPTION	SPOT GRADE
DIRECTION OF OVERLOAD FLOW	← ME* →
MATCH EXISTING	ME*
TOP OF CURB	000.00TC
SIDEWALK	000.00SW
TOP OF PAVEMENT	000.00TP
GUTTER ELEVATION @ FACE OF CURB	000.00G
TOP OF RETAINING WALL	000.00TW
BOTTOM OF RETAINING WALL	000.00BW

HORIZONTAL CONTROL POINTS			
POINT NUMBER	DESCRIPTION	NORTHING	EASTING
1	FOUND IRON PIPE	993194.79	819444.94
2	FOUND CONCRETE MONUMENT	993191.50	819566.03

# GRADING PLAN

(THIS IS NOT A BOUNDARY SURVEY)  
 F @ 9.29%  
 AI (OPEN 2 SIDES) NO. 4  
 E FL IN=539.37  
 FL OUT=539.37  
 SCALE: 1" = 20'



**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
A.J.R., K.N.K.  
 CHECKED  
T.S.C.  
 DATE  
11/1/2023  
 SCALE  
1"=20'  
 JOB No.  
3497-13A  
 SHEET NAME  
GRADING PLAN  
 GR-1

**PRELIMINARY DRAWING**  
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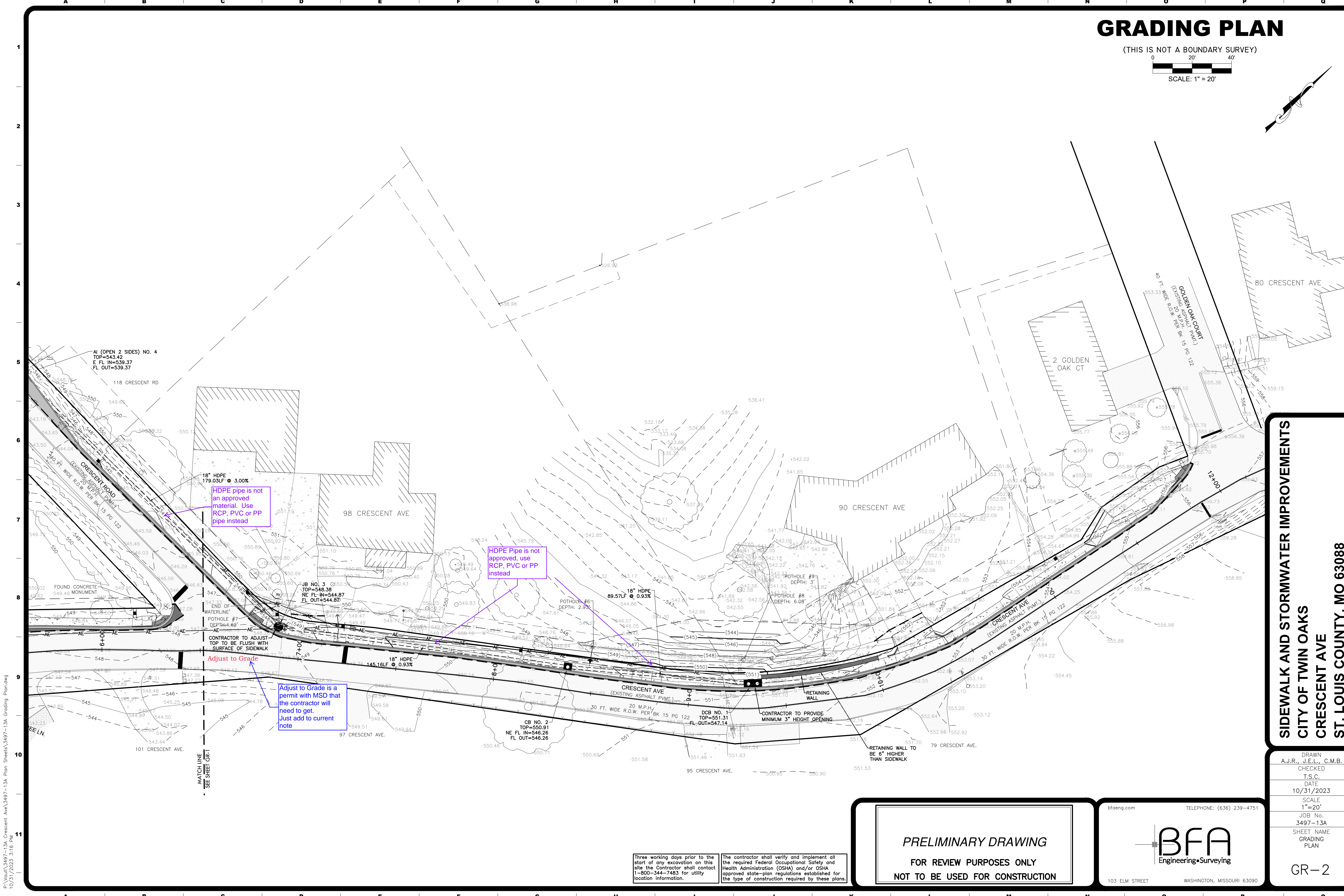
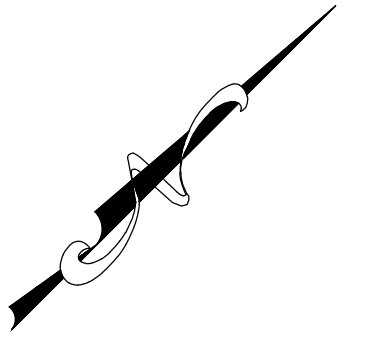
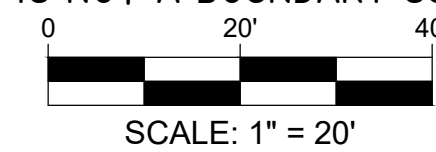
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# GRADING PLAN

(THIS IS NOT A BOUNDARY SURVEY)



18" HDPE  
179.03LF @ 3.00%

HDPE pipe is not an approved material. Use RCP, PVC or PP pipe instead

18" HDPE  
89.57LF @ 0.93%

HDPE Pipe is not approved, use RCP, PVC or PP instead

18" HDPE  
145.16LF @ 0.93%

Adjust to Grade

Adjust to Grade is a permit with MSD that the contractor will need to get. Just add to current note

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103 ELM STREET WASHINGTON, MISSOURI 63090

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
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**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
A.J.R., J.E.L., C.M.B.  
CHECKED  
T.S.C.  
DATE  
10/31/2023  
SCALE  
1"=20'  
JOB No.  
3497-13A  
SHEET NAME  
GRADING PLAN

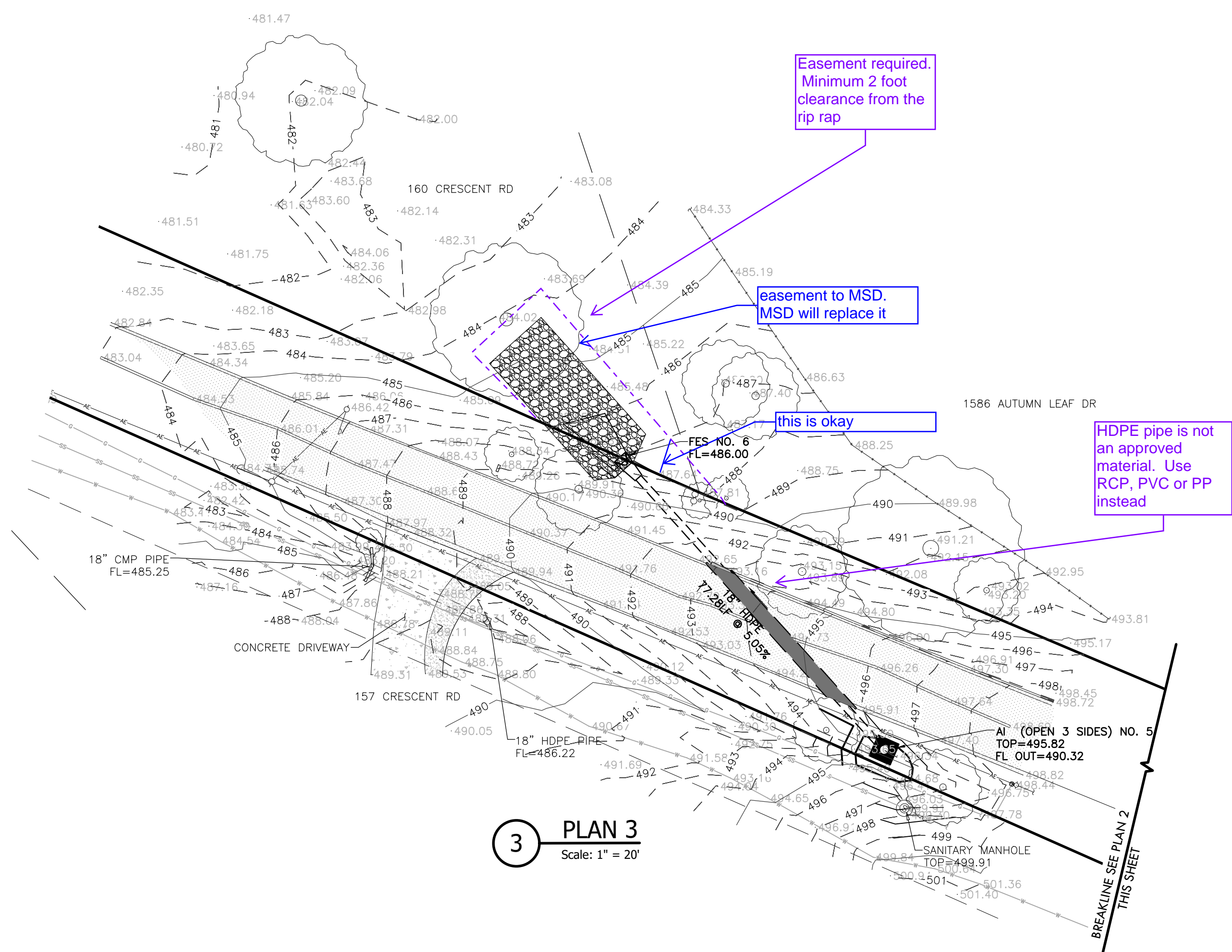
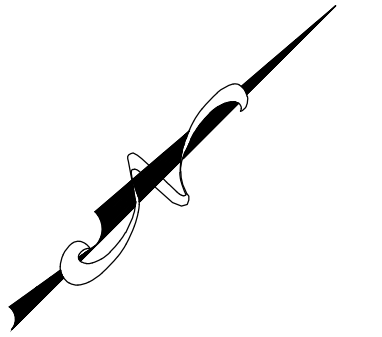
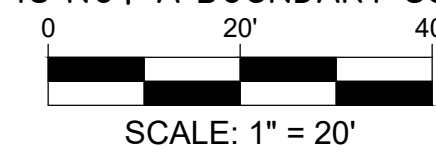
GR-2

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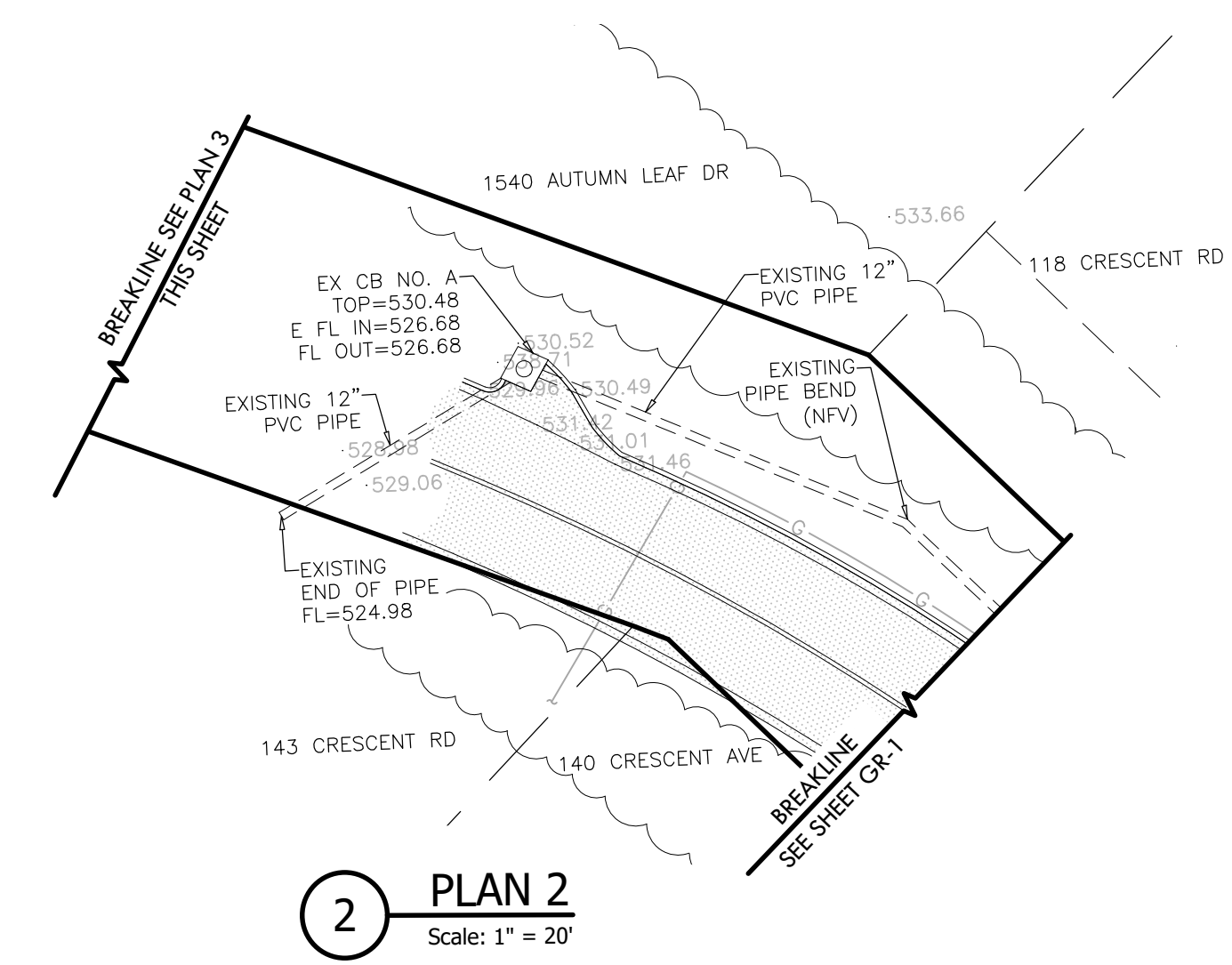


# GRADING PLAN

(THIS IS NOT A BOUNDARY SURVEY)



**3 PLAN 3**  
Scale: 1" = 20'



**2 PLAN 2**  
Scale: 1" = 20'

Easement required.  
Minimum 2 foot  
clearance from the  
rip rap

easement to MSD.  
MSD will replace it

this is okay

HDPE pipe is not  
an approved  
material. Use  
RCP, PVC or PP  
instead

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

**PRELIMINARY DRAWING**  
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**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN	A.J.R., J.E.L., C.M.B.
CHECKED	T.S.C.
DATE	11/1/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	GRADING PLAN

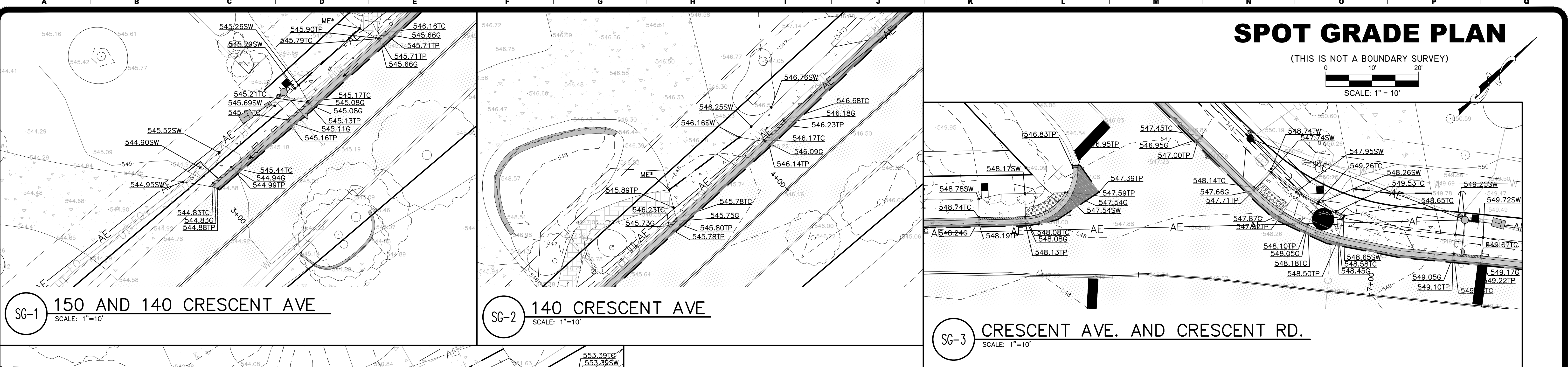
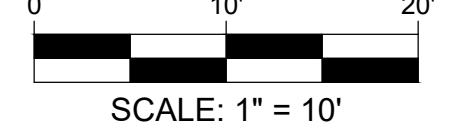
GR-3

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# SPOT GRADE PLAN

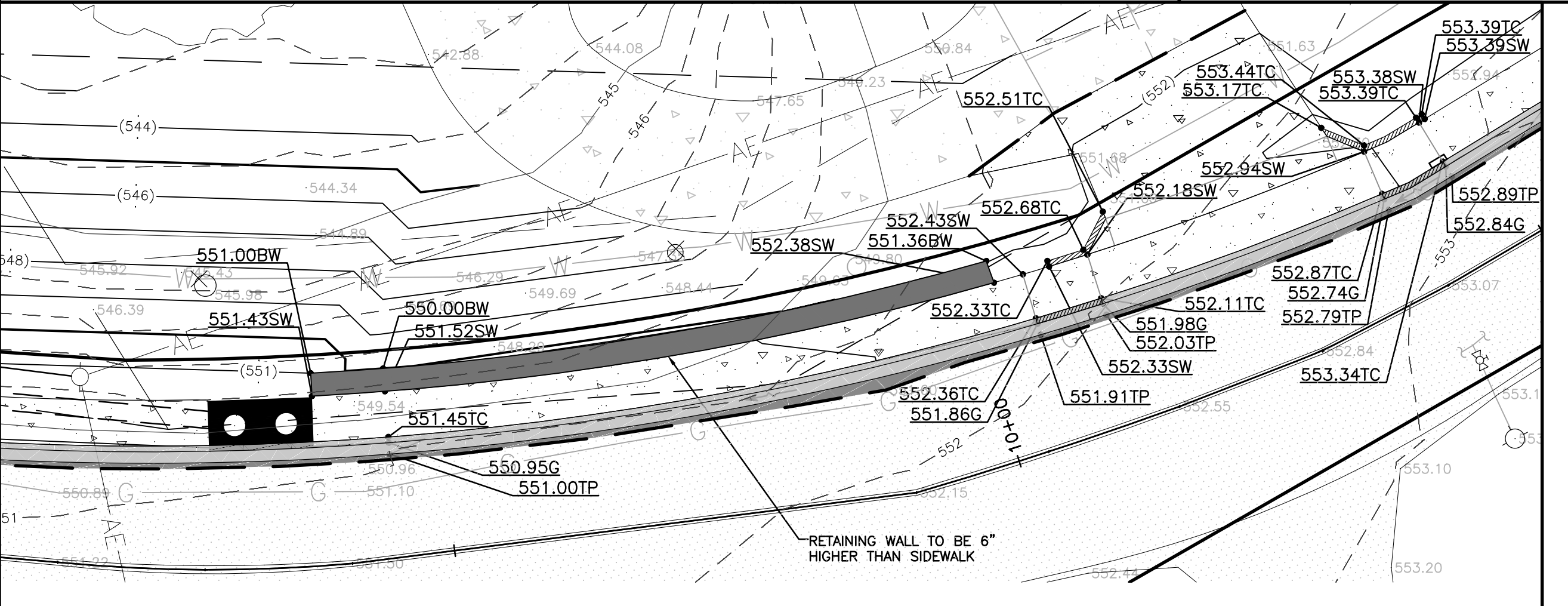
(THIS IS NOT A BOUNDARY SURVEY)



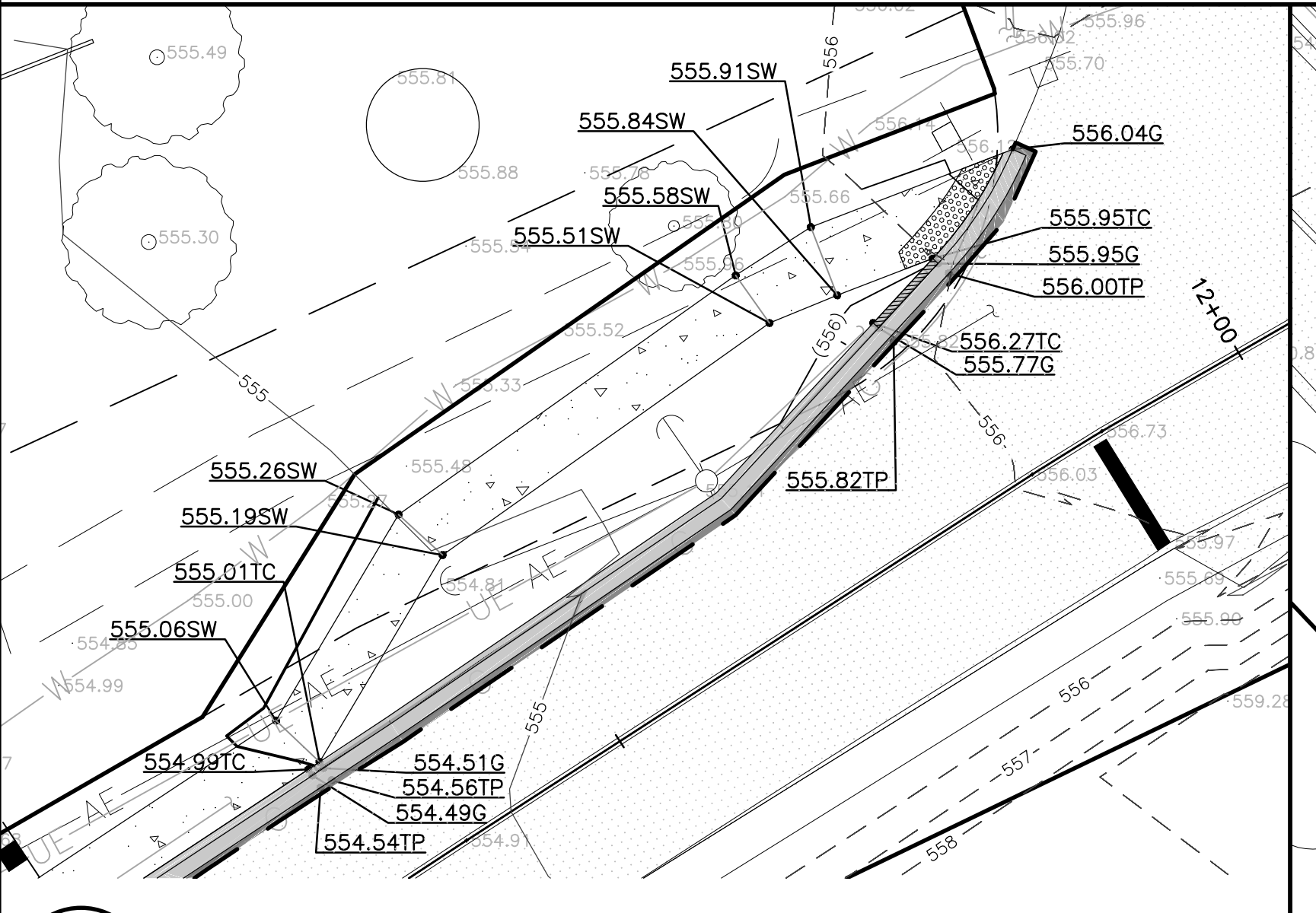
**SG-1** 150 AND 140 CRESCENT AVE  
SCALE: 1"=10'

**SG-2** 140 CRESCENT AVE  
SCALE: 1"=10'

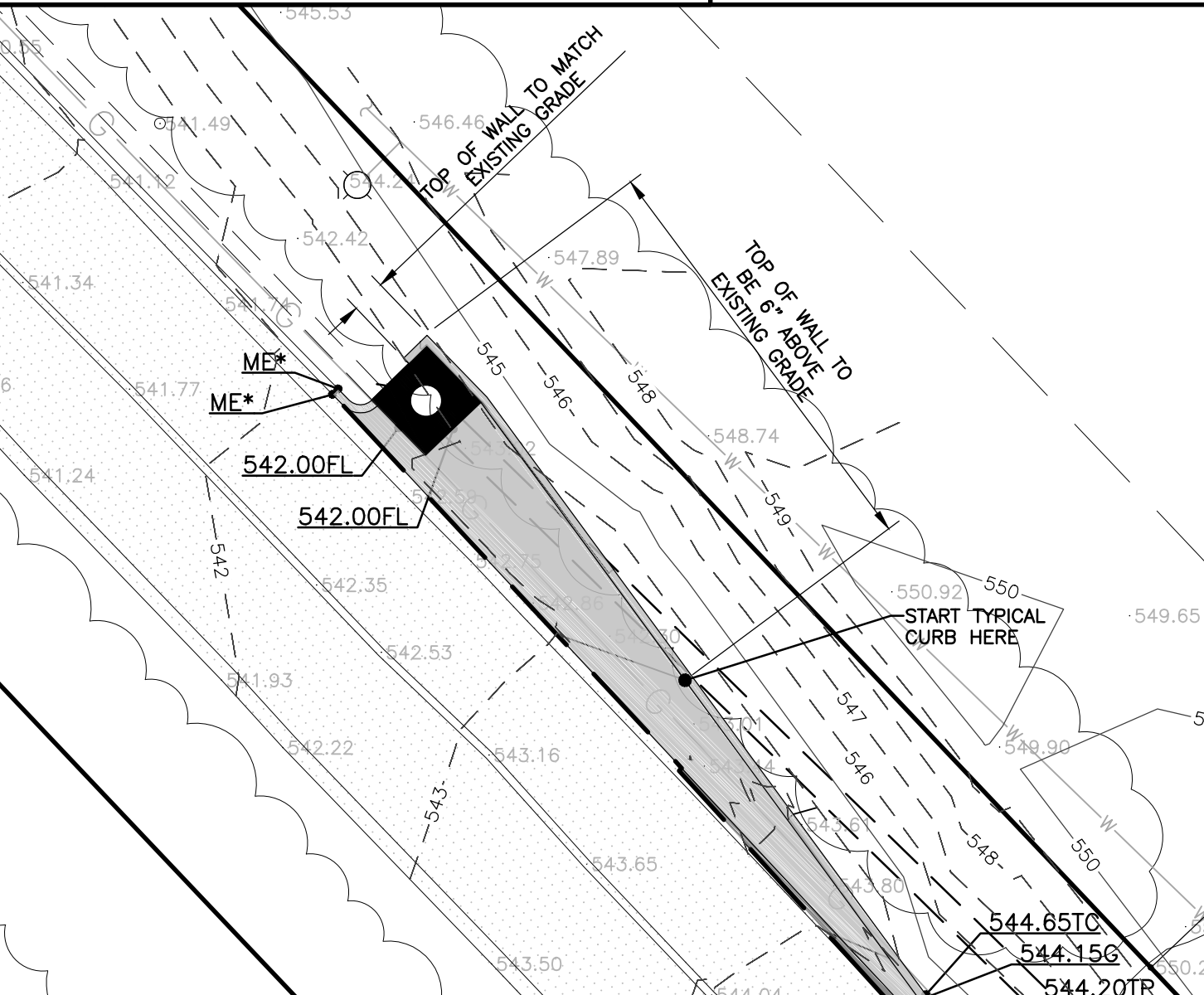
**SG-3** CRESCENT AVE. AND CRESCENT RD.  
SCALE: 1"=10'



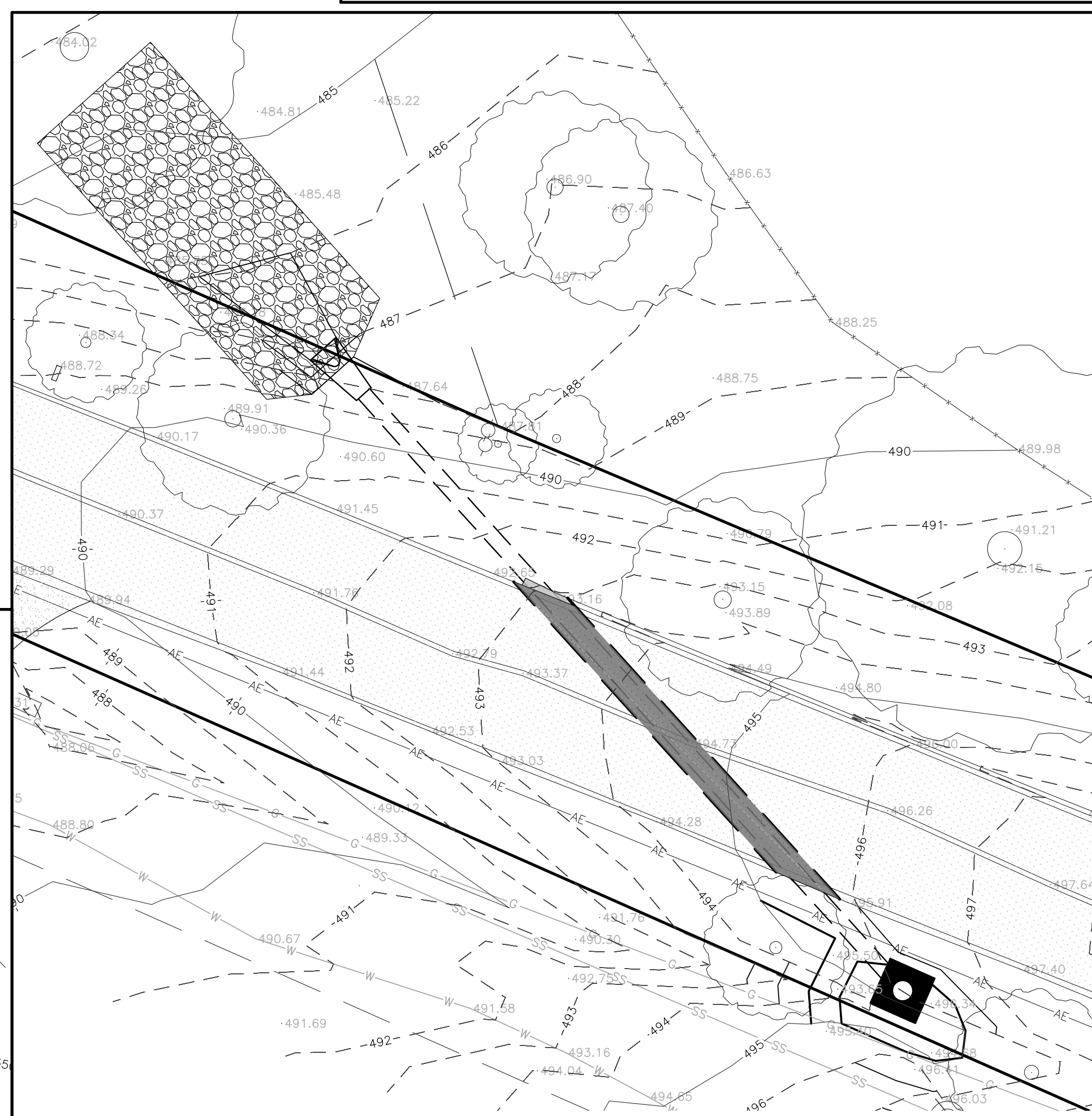
**SG-4** RETAINING WALL & 90 CRESCENT AVE.  
SCALE: 1"=10'



**SG-5** CRESCENT AVE. AND GOLDEN OAK RD.  
SCALE: 1"=10'



**SG-6** CRESCENT RD. STORM PIPE  
SCALE: 1"=10'



**SG-7** CRESCENT RD. AREA INLET  
SCALE: 1"=10'

SPOT GRADE LEGEND	
DESCRIPTION	SPOT GRADE
DIRECTION OF OVERLOAD FLOW	←
MATCH EXISTING	ME*
TOP OF CURB	• 000.00TC
SIDEWALK	• 000.00SW
TOP OF PAVEMENT	• 000.00TP
GUTTER ELEVATION @ FACE OF CURB	• 000.00GG
TOP OF RETAINING WALL	• 000.00TW
BOTTOM OF RETAINING WALL	• 000.00BW

PAVEMENT LEGEND	
SAWCUT LINE	---
CURB & GUTTER	[Pattern]
VARIABLE HEIGHT CURB	[Pattern]
DETECTABLE WARNING	[Pattern]
ASPHALT PAVEMENT INFILL	[Pattern]
CONCRETE SIDEWALK	[Pattern]
EXISTING ASPHALT PAVEMENT	[Pattern]
EXISTING CONCRETE PAVEMENT	[Pattern]

SPOT GRADE DETAIL INDEX	
SG-1	150 AND 140 CRESCENT AVE.
SG-2	140 CRESCENT AVE.
SG-3	CRESCENT AVE. AND CRESCENT RD.
SG-4	RETAINING WALL 90 CRESCENT AVE.
SG-5	CRESCENT AVE. AND GOLDEN OAK DR.
SG-6	CRESCENT RD. STORM PIPE
SG-7	CRESCENT RD. AREA INLET

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
 K.N.K.  
 CHECKED  
 T.S.C.  
 DATE  
 10/31/2023  
 SCALE  
 1"=10'  
 JOB No.  
 3497-13A  
 SHEET NAME  
 SPOT GRADE PLAN

**PRELIMINARY DRAWING**  
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**NOT TO BE USED FOR CONSTRUCTION**

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Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.  
 The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

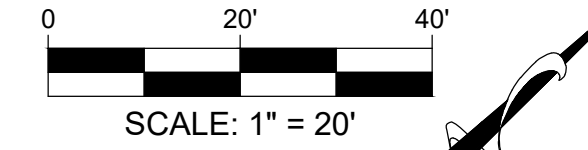


SITE AND UTILITY NOTES:

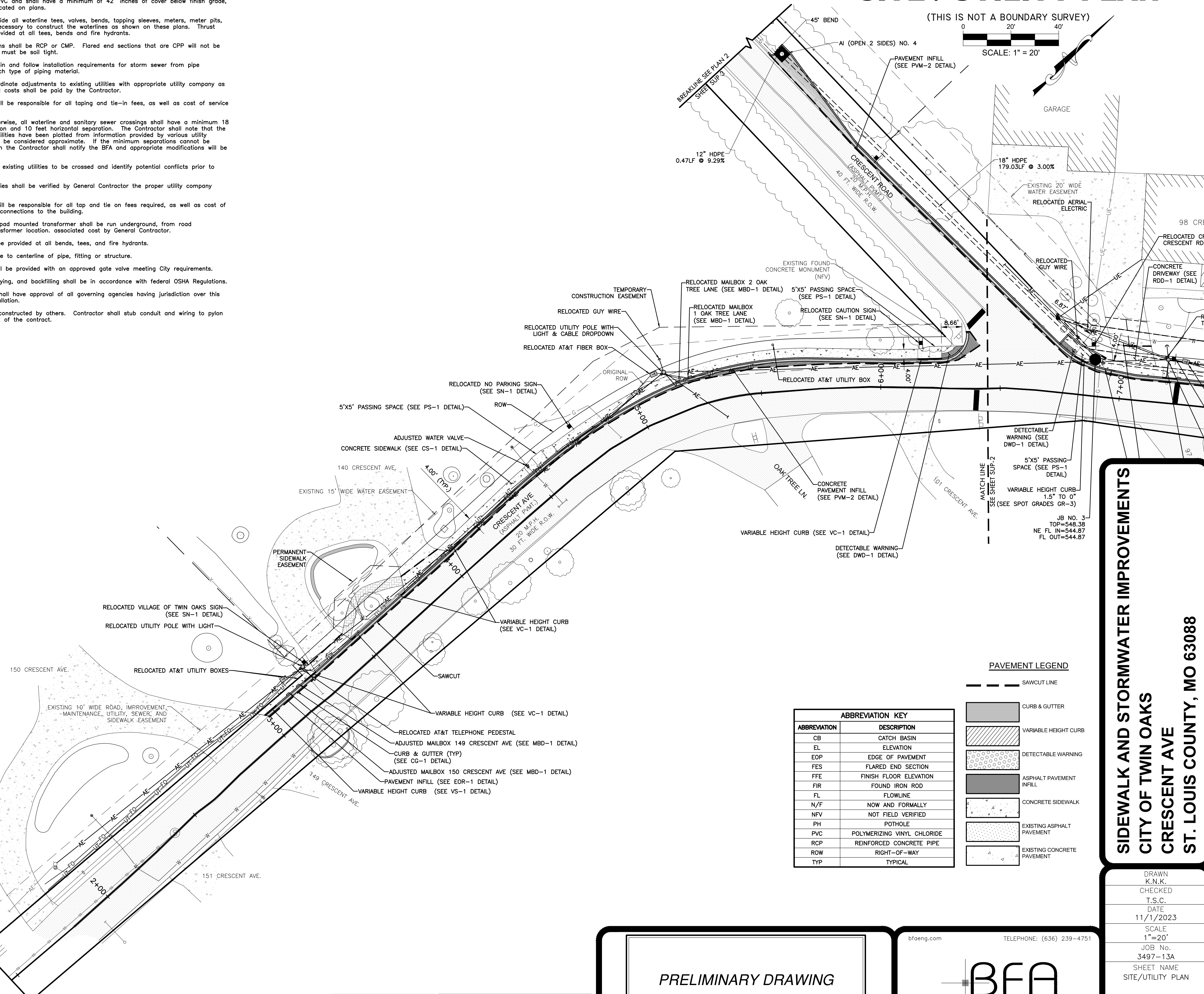
- The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The Contractor must call the appropriate utility company to request exact field location of utilities. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on plans.
- Bearing referenced to Grid North of the Missouri Coordinate System 1983, East Zone per GPS observations utilizing the MDDOT VRS RTK Network.
- Contractor shall verify elevation of temporary benchmarks based on the elevation of the primary benchmark, prior to the start of construction. Contractor shall notify engineer if elevations differ from those shown on these plans. Vertical datum used is NAVD 1988 per GPS observations utilizing MDDOT VRS RTK Network. Temporary Benchmark No. 1—Concrete Monument Elevation = 549.54
- This site scales within Zone X, as per Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel No. 29189C0292K dated 2/4/2015.
- All trenches under paved areas shall be backfilled with granular material and compacted to meet compaction requirements for the parking lot. Granular material shall be placed and compacted to a level equal to the trench depth at the time of the utility installation.
- Contractor to contact telephone, electric, gas, cable, and water companies to have underground utilities located on this site and adjacent to this site prior to doing any excavating.
- The sitework for this project shall meet or exceed the "Technical Specifications".
- All dimensions and radii are to the back of curb, unless otherwise shown.
- Contractor shall be responsible for all removals and/or relocations, including but not limited to, utilities, storm drainage, signs, traffic signals and poles, etc as required. All work shall be done in accordance with governing authorities specifications and shall be approved by such. All costs shall be included in base bid.
- The Contractor is responsible for keeping storm water run-off and sediment under control during construction. All contractors shall refer to Erosion and Sediment Control Plans throughout construction.
- All survey monuments disturbed during construction shall be replaced at the Contractors expense, by a surveyor licensed in the state in which this project is located, at the Contractors expense.
- The Contractor shall verify and perform all necessary inspections and/or certifications required by codes and/or utility companies prior to the announced building possession date and the final connections of utility services. All fees shall be paid by the Contractor.
- Contractor shall notify utility authorities inspectors at least 72 hours before connecting to any existing line. Underground utilities shall be installed, inspected and approved prior to backfilling.
- Sanitary sewer pipe shall be VCP.
- Waterlines shall be PVC and shall have a minimum of 42" inches of cover below finish grade, unless otherwise indicated on plans.
- Contractor shall provide all waterline tees, valves, bends, tapping sleeves, meters, meter pits, fire hydrants, etc. necessary to construct the waterlines as shown on these plans. Thrust blocking shall be provided at all tees, bends and fire hydrants.
- All flared end sections shall be RCP or CMP. Flared end sections that are CPP will not be allowed. Connections must be soil light.
- Contractor shall obtain and follow installation requirements for storm sewer from pipe manufacturers for each type of piping material.
- Contractor shall coordinate adjustments to existing utilities with appropriate utility company as work progresses. All costs shall be paid by the Contractor.
- Utility Contractor shall be responsible for all taping and tie-in fees, as well as cost of service connections.
- Unless indicated otherwise, all waterline and sanitary sewer crossings shall have a minimum 18 inch vertical separation and 10 feet horizontal separation. The Contractor shall note that the depths of existing utilities have been plotted from information provided by various utility companies and is to be considered approximate. If the minimum separations cannot be constructed as shown the Contractor shall notify the BFA and appropriate modifications will be issued.
- Verify location of all existing utilities to be crossed and identify potential conflicts prior to starting construction.
- Location of site utilities shall be verified by General Contractor the proper utility company providing service.
- General Contractor will be responsible for all top and tie on fees required, as well as cost of underground service connections to the building.
- Electrical service to pad mounted transformer shall be run underground, from road right-of-way to transformer location, associated cost by General Contractor.
- Thrust blocks shall be provided at all bends, tees, and fire hydrants.
- Dimensions shown are to centerline of pipe, fitting or structure.
- All fire hydrants shall be provided with an approved gate valve meeting City requirements.
- All trenching, pipe laying, and backfilling shall be in accordance with federal OSHA Regulations.
- General Contractor shall have approval of all governing agencies having jurisdiction over this system prior to installation.
- Pylon sign shall be constructed by others. Contractor shall stub conduit and wiring to pylon sign location as part of the contract.

# SITE / UTILITY PLAN

(THIS IS NOT A BOUNDARY SURVEY)



GRADING PLAN LEGEND		
DESCRIPTION	PROPOSED	EXISTING
AERIAL ELECTRIC	—AE—	—AE—
UNDERGROUND ELECTRIC	—UE—	—UE—
UNDERGROUND TELEPHONE	—UT—	—UT—
GAS LINE	—G—	—G—
WATERLINE	—W—	—W—
SANITARY SEWER	—SS—	—SS—
STORM SEWER	—SS—	—SS—
FIBER OPTIC	—FO—	—FO—
RIGHT-OF-WAY	—	—
PROPERTY LINE	—	—
EASEMENT	—	—
CONTOURS	(100)	—100—
CATCH BASIN	■	■
DOUBLE CATCH BASIN	■	■
GRATED INLET	■	■
FLARED END SECTION	▢	▢
JUNCTION BOX	●	●
SANITARY MANHOLE	○	○
CLEANOUT	○	○
WATER METER	⊙	⊙
WATER VALVE	⊙	⊙
FIRE HYDRANT	⊙	⊙
GAS METER	⊙	⊙
GAS MARKER	⊙	⊙
GAS MONUMENT	⊙	⊙
SIGN	⊙	⊙
UTILITY POLE	⊙	⊙
UTILITY POLE W LIGHT	⊙	⊙
TELEPHONE BOX	⊙	⊙
CHAINLINK FENCE	—X—X—X—	—X—X—X—
WOODLINE	~~~~~	~~~~~
TOP AND TOE OF SLOPE	—	—
CONCRETE JOINTS	—	—



ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
CB	CATCH BASIN
EL	ELEVATION
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FEE	FINISH FLOOR ELEVATION
FIR	FOUND IRON ROD
FL	FLOWLINE
N/F	NOW AND FORMALLY
NFV	NOT FIELD VERIFIED
PH	POT HOLE
PVC	POLYMERIZING VINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
TYP	TYPICAL

PAVEMENT LEGEND	
—	SAWCUT LINE
▨	CURB & GUTTER
▨	VARIABLE HEIGHT CURB
▨	DETECTABLE WARNING
▨	ASPHALT PAVEMENT INFILL
▨	CONCRETE SIDEWALK
▨	EXISTING ASPHALT PAVEMENT
▨	EXISTING CONCRETE PAVEMENT

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
 K.N.K.  
 CHECKED  
 T.S.C.  
 DATE  
 11/1/2023  
 SCALE  
 1"=20'  
 JOB No.  
 3497-13A  
 SHEET NAME  
 SITE/UTILITY PLAN

SUP-1

**PRELIMINARY DRAWING**  
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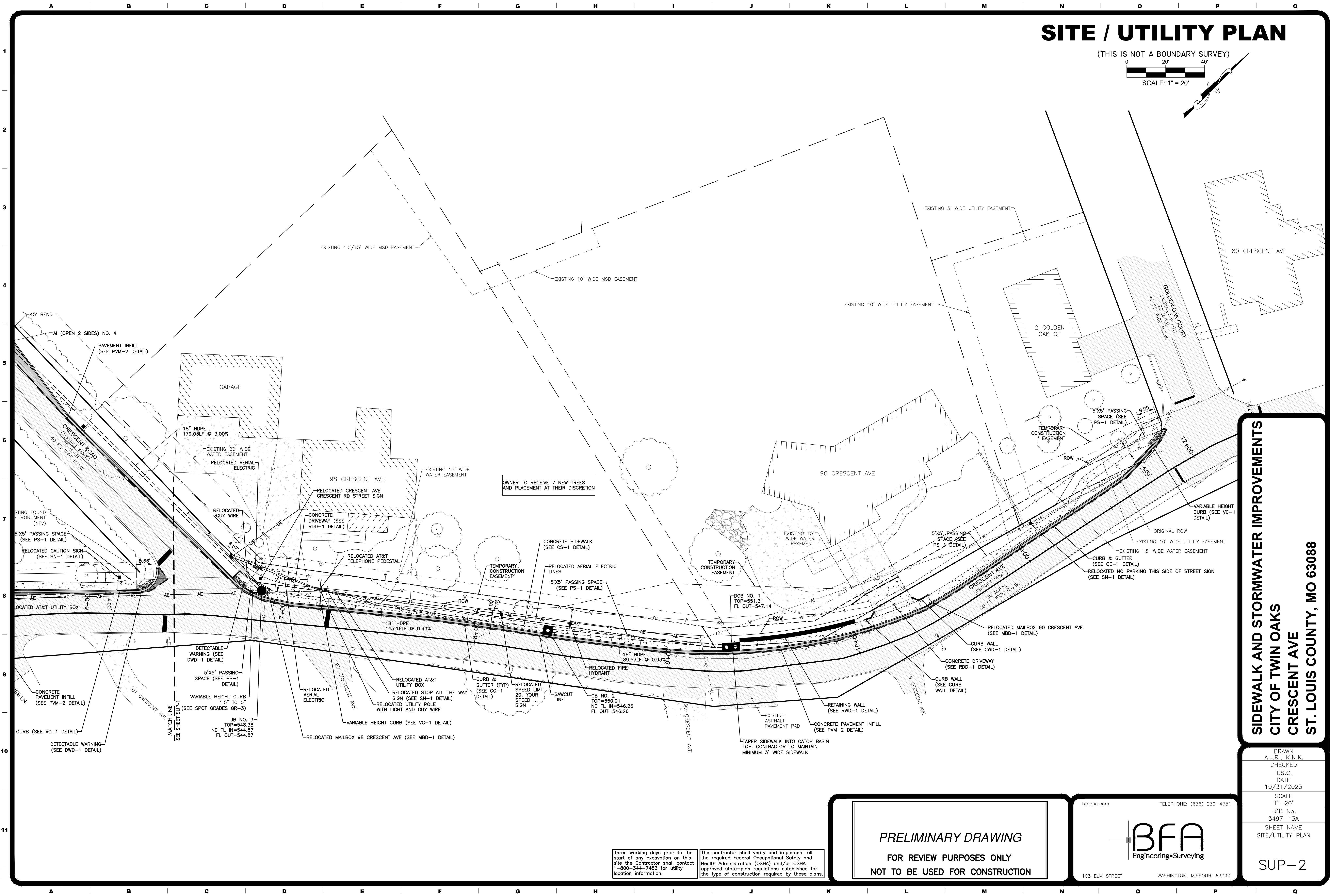
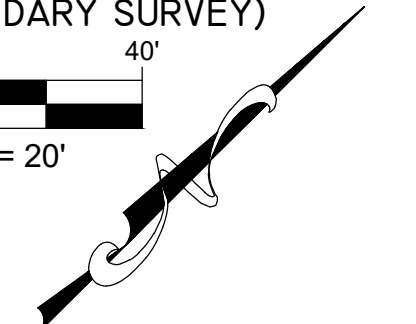
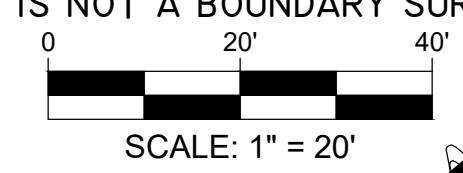
Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.  
 The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

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# SITE / UTILITY PLAN

(THIS IS NOT A BOUNDARY SURVEY)



**SIDEWALK AND STORMWATER IMPROVEMENTS  
CITY OF TWIN OAKS  
CRESCENT AVE  
ST. LOUIS COUNTY, MO 63088**

DRAWN	A.J.R., K.N.K.
CHECKED	T.S.C.
DATE	10/31/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	SITE/UTILITY PLAN

SUP-2

**PRELIMINARY DRAWING**  
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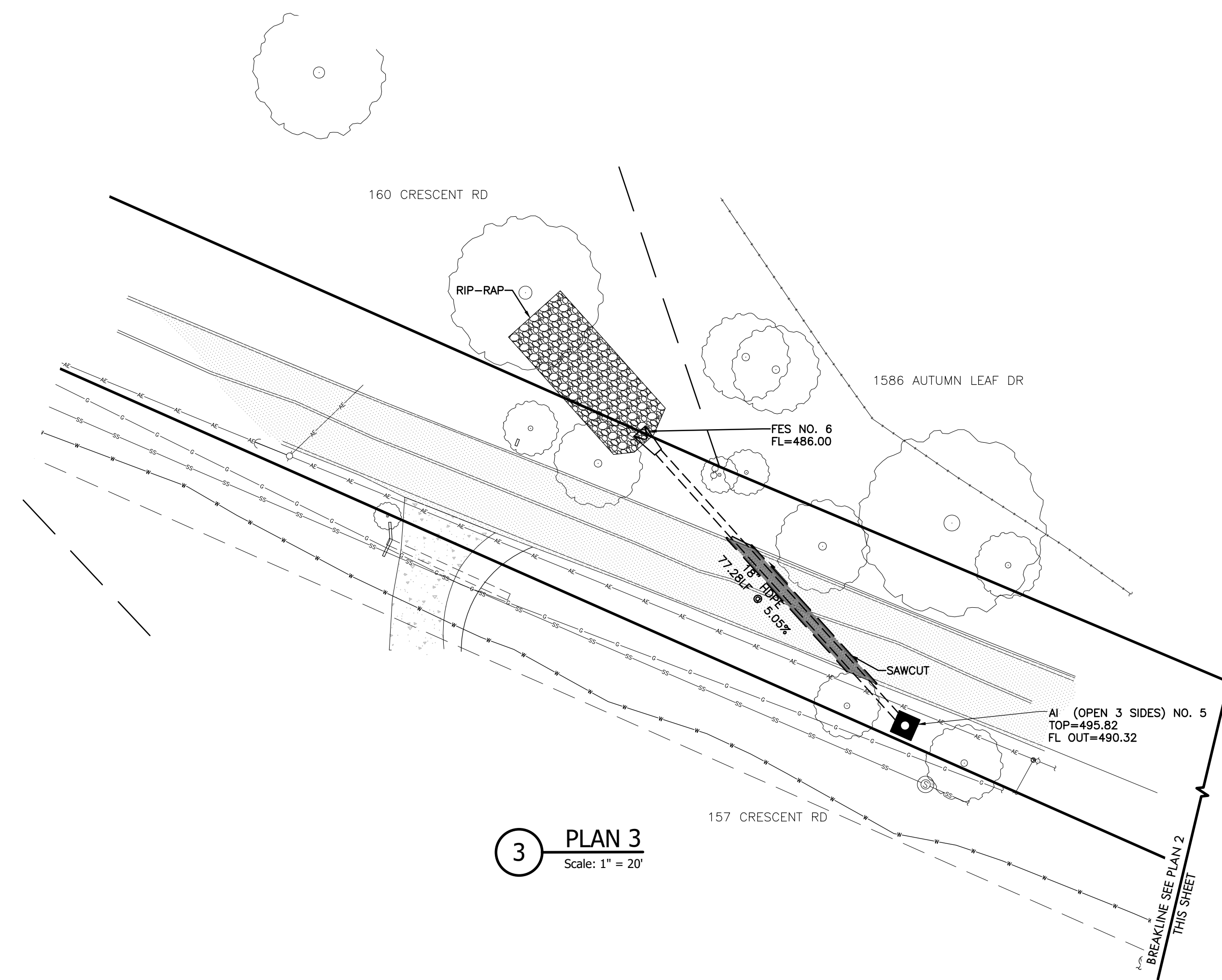
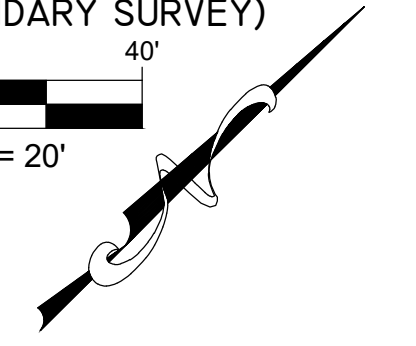
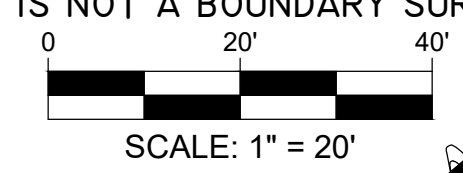
Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

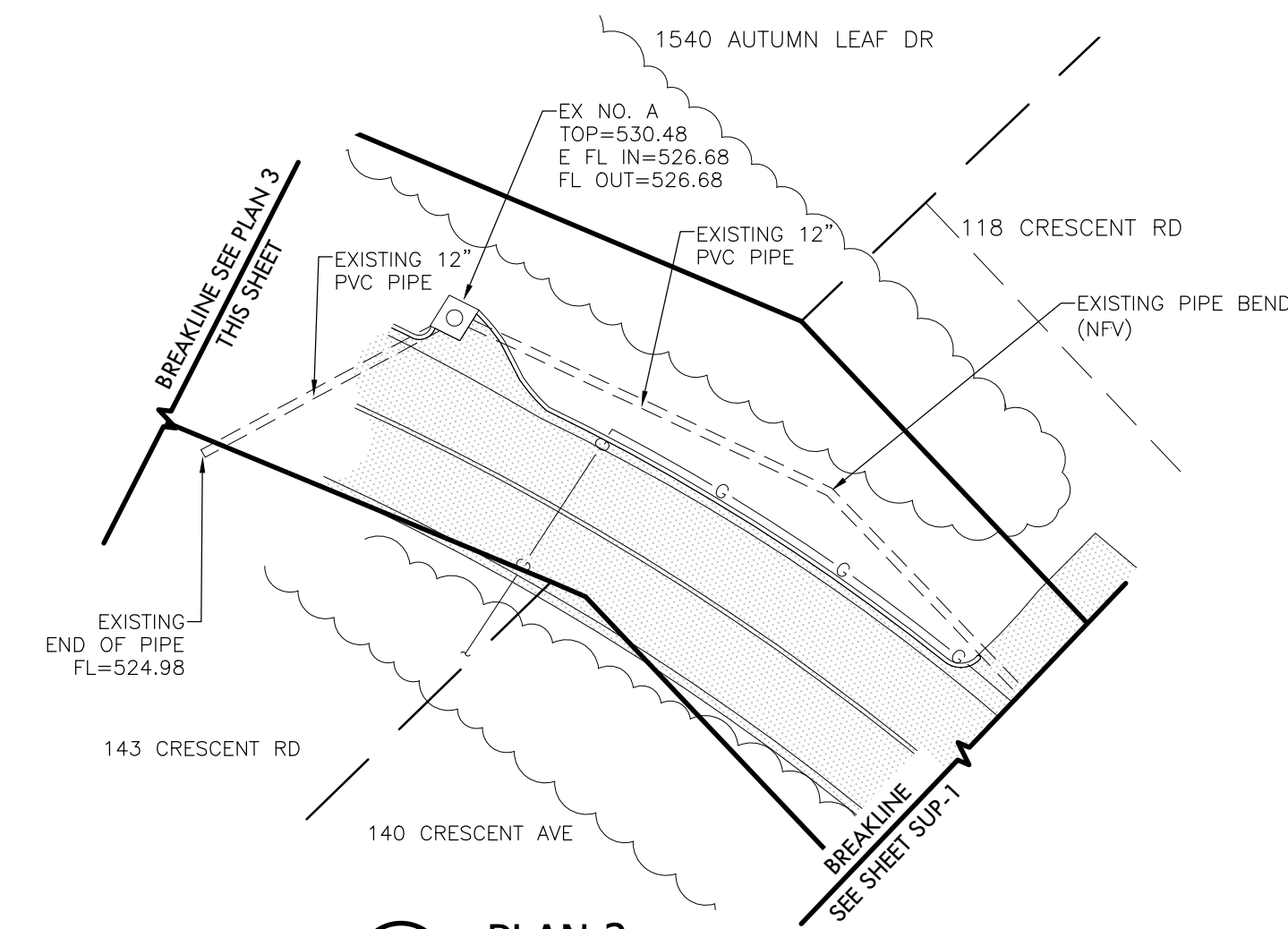
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# SITE / UTILITY PLAN

(THIS IS NOT A BOUNDARY SURVEY)



**3 PLAN 3**  
Scale: 1" = 20'



**2 PLAN 2**  
Scale: 1" = 20'

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
A.J.R., K.N.K.  
CHECKED  
T.S.C.  
DATE  
10/31/2023  
SCALE  
1"=20'  
JOB No.  
3497-13A  
SHEET NAME  
SITE/UTILITY PLAN

SUP-3

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

**PRELIMINARY DRAWING**  
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bfaeng.com TELEPHONE: (636) 239-4751

**BFA**  
Engineering-Surveying

103 ELM STREET WASHINGTON, MISSOURI 63090

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NOTES:

- Underground facilities, structures, and utilities have been plotted from available surveys and records. Therefore, their location must be considered approximate only. There may be others, the existence of which is presently not known.
- Bearings referenced to Grid North of the Missouri Coordinate System 1983, East Zone per GPS observations utilizing the MoDOT VRS RTK Network.
- Contractor shall verify elevation of temporary benchmarks based on the elevation of the primary benchmark, prior to the start of construction. Contractor shall notify engineer if elevations differ from those shown on these plans.  
Vertical datum used is NAVD 1988 per GPS observations utilizing MoDOT VRS RTK Network.  
Temporary Benchmark No. 1—Concrete Monument  
Elevation = 549.54
- All trenches under paved areas shall be backfilled with granular material and compacted to meet compaction requirements for the road. Granular material shall be placed and compacted to a level equal to the trench depth at the time of the utility installation.
- This site scales within Zone "X", as per Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel No. 29189C0292K, dated February 4th, 2015.
- All survey monuments disturbed during construction shall be replaced by a surveyor licensed in the state, in which this project is located, at the Contractor's expense.
- The sitework for this project shall meet or exceed the "Technical Specifications."
- Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The Contractor must call the appropriate utility company to request exact field location of utilities. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on plans.
- The Contractor shall verify and/or perform all necessary inspections and/or certifications required by codes and/or utility companies prior to the announced building possession date and the final connections of utility services. All fees shall be paid by the contractor.
- Contractor shall notify utility authorities inspectors at least 72 hours before connecting to any existing line. Underground utilities shall be installed, inspected and approved prior to backfilling.
- All un surfaced areas are to receive six inches of topsoil. Contractor to seed, mulch, fertilize, water, and maintain all areas outside of paved areas that were disturbed during construction until an acceptable stand of grass is established. Contractor shall be responsible to take whatever means necessary to establish permanent soil stabilization.
- Contractor is responsible for keeping storm water run-off and sediment under control during construction. All contractors shall refer to the Erosion and Sediment Control Plan throughout construction.
- Contractor shall maintain the site in a well-drained manner in order to assure the shortest possible drying time after each rainfall. This will mean that pumping of standing water in low areas on the site will most likely be required during construction. Also pumping of ground water in utility trenched and deep excavations will be required during construction.
- All flared end sections shall be RCP or CMP. Flared end sections that are CPP will not be allowed. Connections must be soil tight.
- Contractor shall obtain and follow installation requirements for storm sewer from pipe manufacturers for each type of piping material.
- Contractor shall coordinate adjustments to existing utilities with appropriate utility company as work progresses. All costs shall be paid by the Contractor.
- Verify location of all existing utilities to be crossed and identify potential conflicts prior to starting construction.
- Contractor to contact telephone, electric, gas, water companies to have underground utilities located on this site and adjacent to this site prior to doing any excavation.
- Locations of site utilities shall be verified by General Contractor the proper utility company providing service.
- General Contractor shall have approval of all governing agencies having jurisdiction over this system prior to installation.
- All trenching, pipe laying, and backfilling shall be in accordance with federal OSHA Regulations.

PLAN AND PROFILE LEGEND		
DESCRIPTION	PROPOSED	EXISTING
AERIAL ELECTRIC	—AE—	—AE—
UNDERGROUND ELECTRIC	—UE—	—UE—
UNDERGROUND TELEPHONE	—UT—	—UT—
GAS LINE	—G—	—G—
WATERLINE	—W—	—W—
SANITARY SEWER	—SS—	—SS—
STORM SEWER	====	====
FIBER OPTIC	—FO—	—FO—
RIGHT-OF-WAY	—	—
PROPERTY LINE	—	—
EASEMENT	—	—
CONTOURS	(100)	(100)
CATCH BASIN	☐	☐
DOUBLE CATCH BASIN	☐☐	☐☐
GRATED INLET	☐	☐
FLARED END SECTION	☐	☐
SANITARY MANHOLE	○	○
CLEANOUT	○	○
WATER METER	⊙	⊙
WATER VALVE	⊙	⊙
FIRE HYDRANT	⊙	⊙
GAS METER	⊙	⊙
GAS MARKER	⊙	⊙
GAS MONUMENT	⊙	⊙
SIGN	⊙	⊙
UTILITY POLE	⊙	⊙
UTILITY POLE WITH LIGHT	⊙	⊙
LIGHT POLE	⊙	⊙
TELEPHONE BOX	⊙	⊙
WOODLINE	~~~~	~~~~
TOP AND TOE OF SLOPE	~~~~	~~~~

STRUCTURE ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
PVC	POLYVINYL CHLORIDE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
EOP	END OF PIPE
CB	CATCH BASIN
DCB	DOUBLE CATCH BASIN
AI	AREA INLET
JB	JUNCTION BOX
FES	FLARED END SECTION

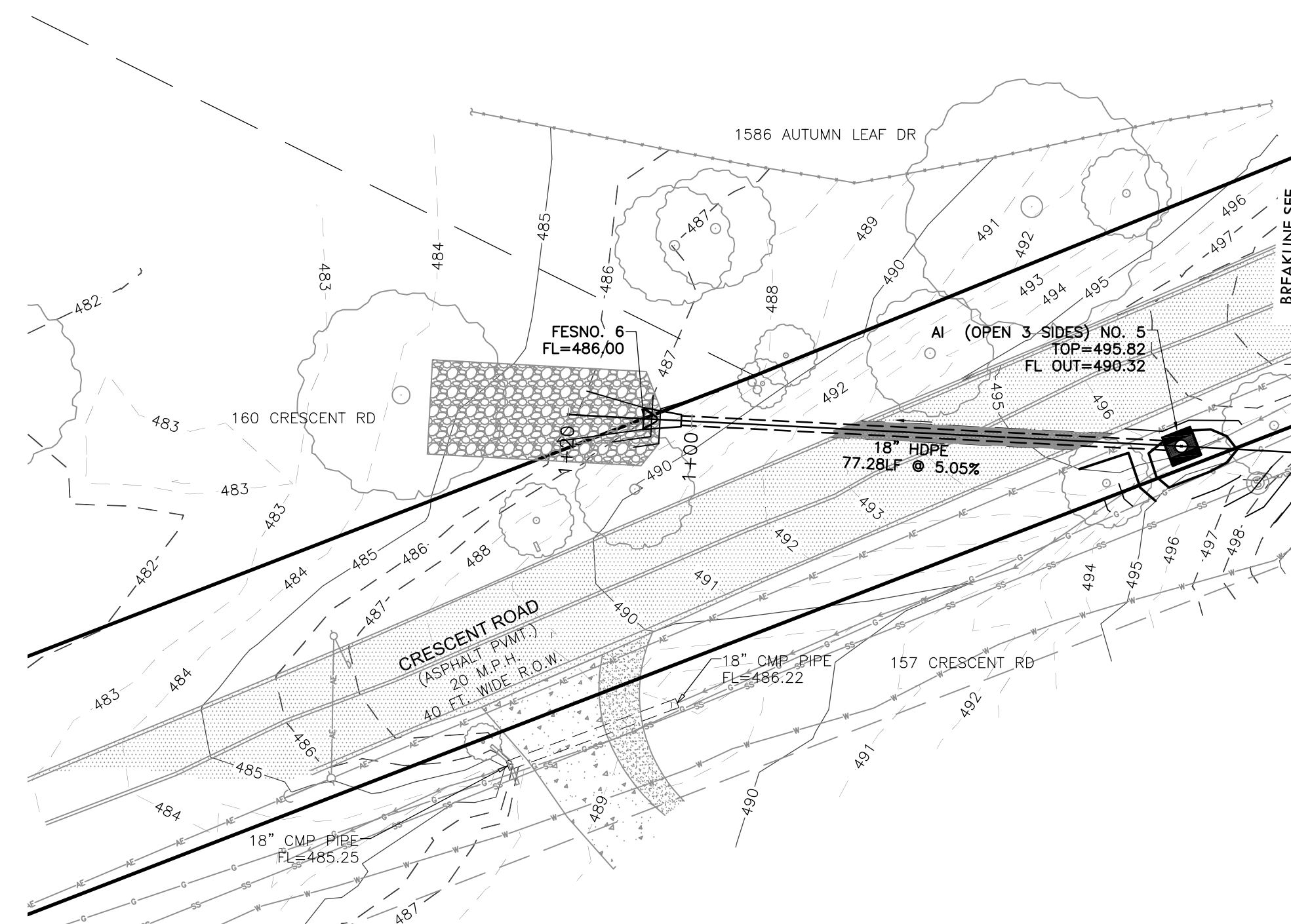
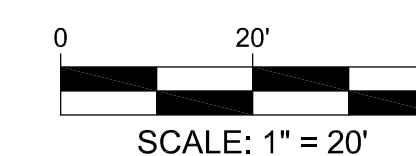
PROFILE LEGEND

SITE FEATURES	
—	PROPOSED HYDRAULIC GRADE LINE Q <sub>s</sub> 20MIN
---	PROPOSED HYDRAULIC GRADE LINE Q <sub>100</sub> 20MIN
====	STORM PIPES
====	EXISTING STORM PIPES

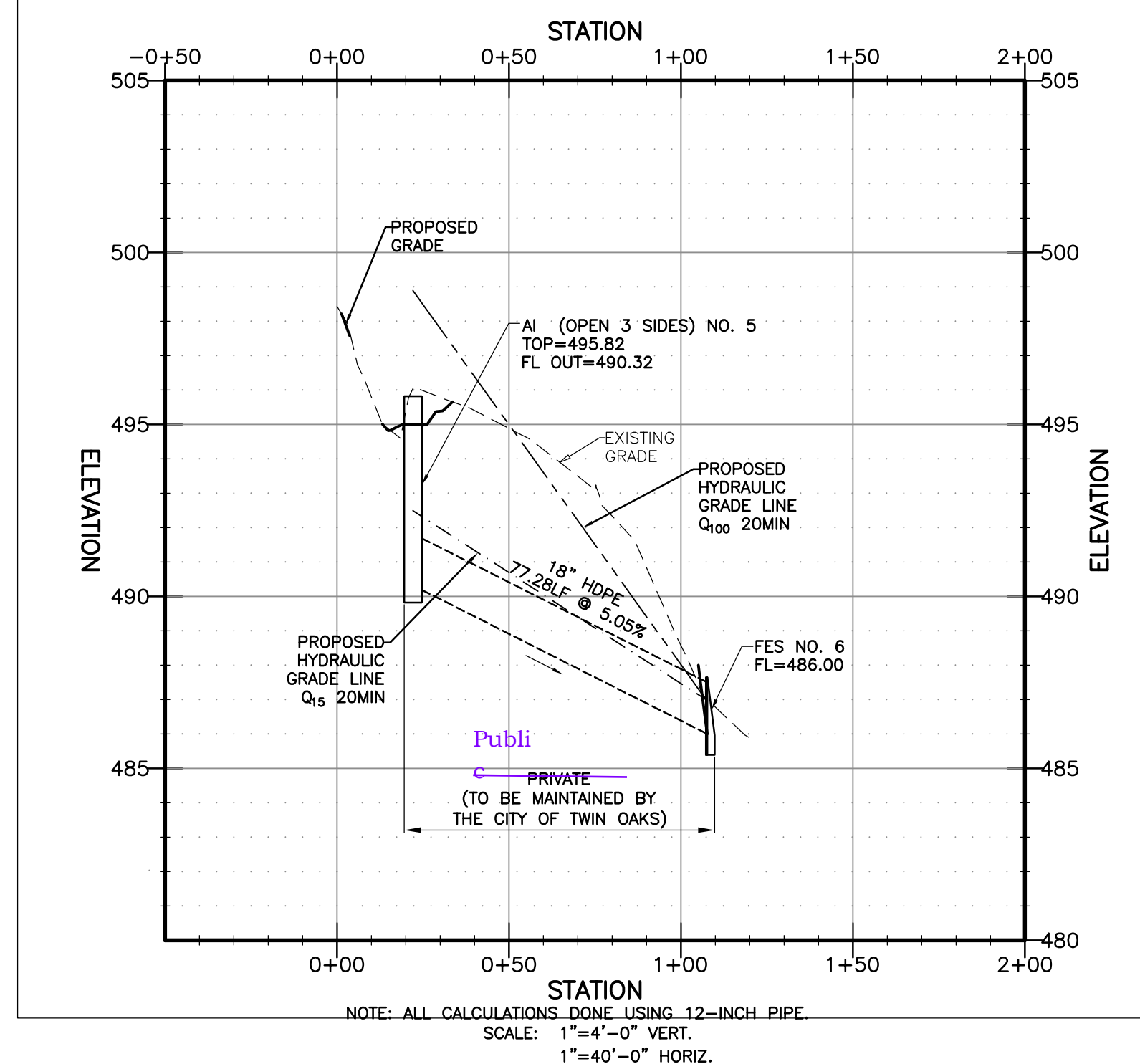
MSD owns and maintains the stormsewer system within public Right a way in the city of Twin Oaks

# STORM SEWER PLAN AND PROFILE

(THIS IS NOT A BOUNDARY SURVEY)



## PROFILE VIEW OF PROPOSED STORM ALIGNMENT B



NOTE: ALL CALCULATIONS DONE USING 12-INCH PIPE.  
SCALE: 1"=4'-0" VERT.  
1"=40'-0" HORIZ.

**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN  
A.J.R.  
CHECKED  
T.S.D.  
DATE  
11/1/2023  
SCALE  
1"=20'  
JOB No.  
3497-13A  
SHEET NAME  
STORM SEWER PLAN  
AND PROFILE

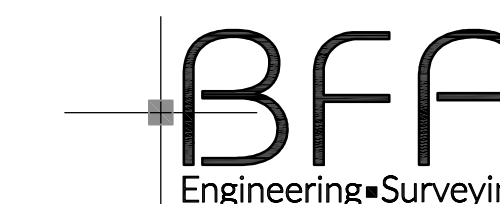
SSPP-1

PRELIMINARY DRAWING

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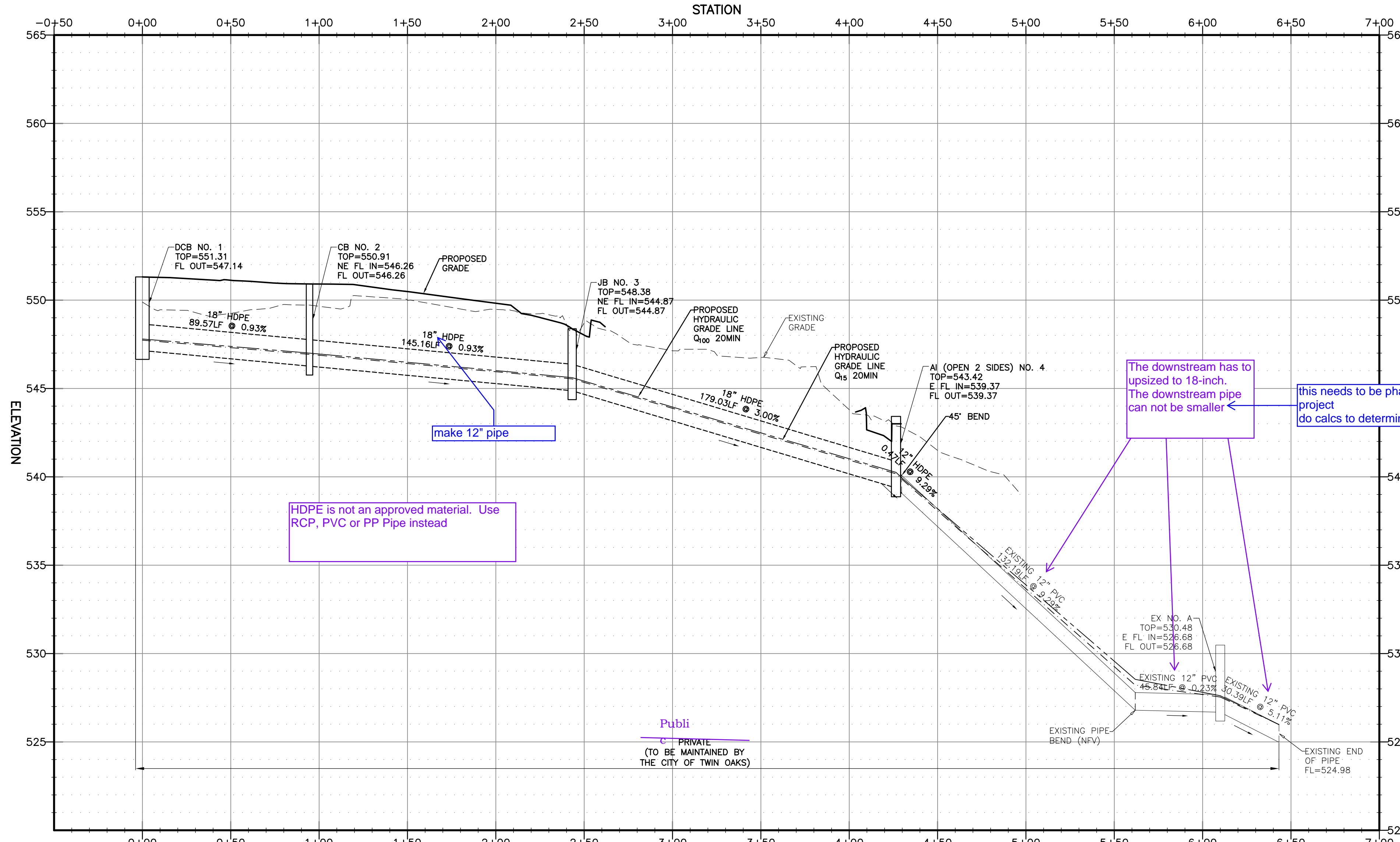
103 ELM STREET WASHINGTON, MISSOURI 63090

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.



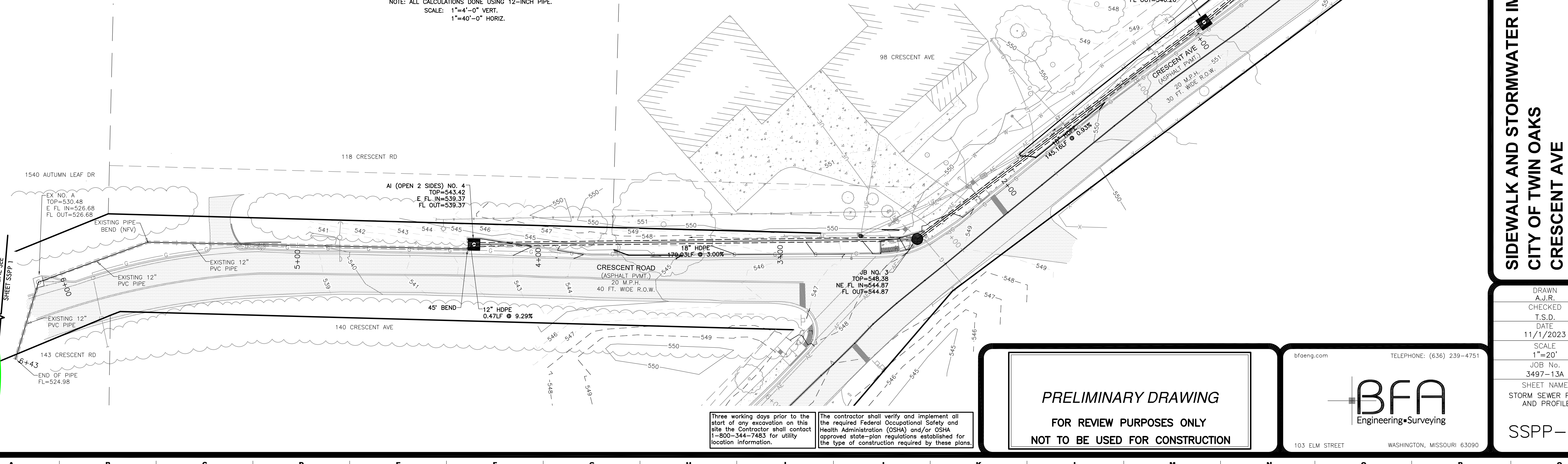
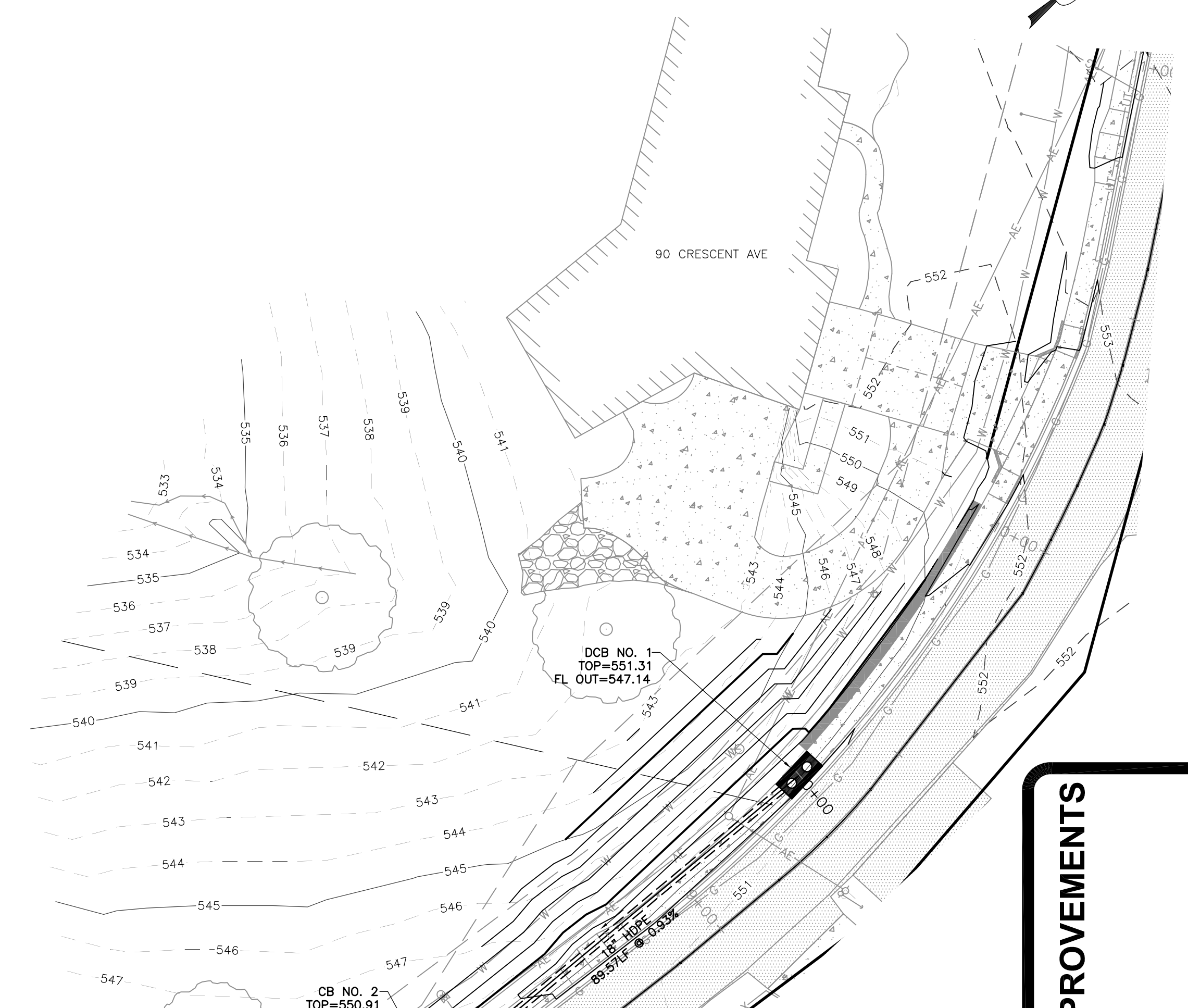
PROFILE VIEW OF PROPOSED STORM ALIGNMENT A



NOTE: ALL CALCULATIONS DONE USING 12-INCH PIPE.  
 SCALE: 1"=4'-0" VERT.  
 1"=40'-0" HORIZ.

STORM SEWER PLAN AND PROFILE

(THIS IS NOT A BOUNDARY SURVEY)  
 SCALE: 1" = 20'



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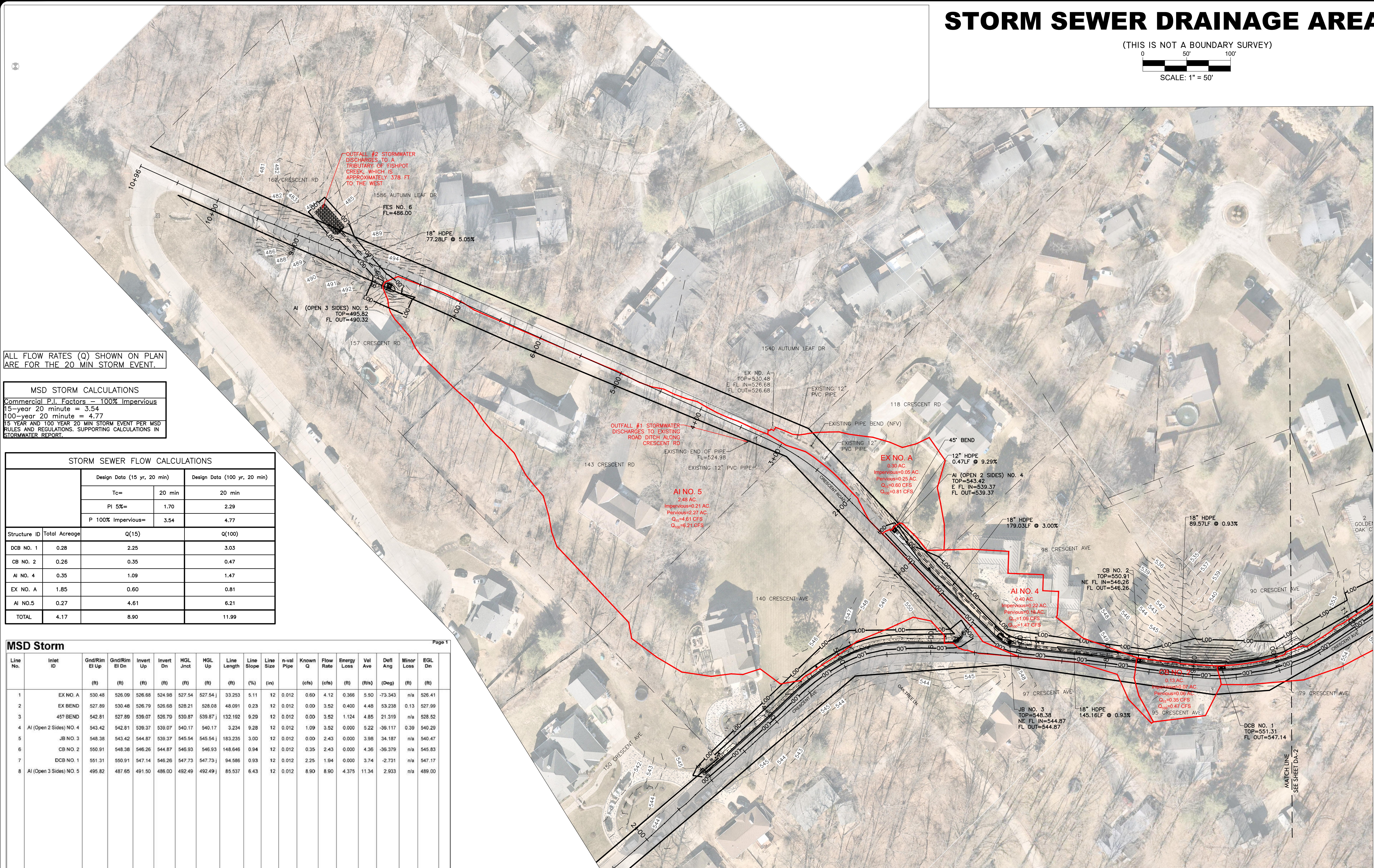
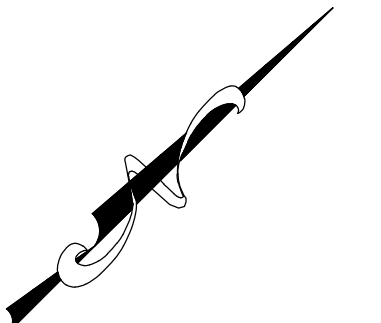
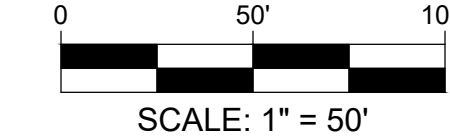
SIDEWALK AND STORMWATER IMPROVEMENTS  
 CITY OF TWIN OAKS  
 CRESCENT AVE  
 ST. LOUIS COUNTY, MO 63088

DRAWN	A.J.R.
CHECKED	T.S.D.
DATE	11/1/2023
SCALE	1"=20'
JOB No.	3497-13A
SHEET NAME	STORM SEWER PLAN AND PROFILE
	SSPP-2



# STORM SEWER DRAINAGE AREA MAP

(THIS IS NOT A BOUNDARY SURVEY)



ALL FLOW RATES (Q) SHOWN ON PLAN ARE FOR THE 20 MIN STORM EVENT.

MSD STORM CALCULATIONS	
Commercial P.I. Factors = 100% Impervious	
15-year 20 minute = 3.54	
100-year 20 minute = 4.77	
15 YEAR AND 100 YEAR 20 MIN STORM EVENT PER MSD RULES AND REGULATIONS, SUPPORTING CALCULATIONS IN STORMWATER REPORT.	

STORM SEWER FLOW CALCULATIONS				
Structure ID	Total Acreage	Design Data (15 yr, 20 min)		Design Data (100 yr, 20 min)
		Tc=	20 min	20 min
		PI 5% =	1.70	2.29
		P 100% Impervious =	3.54	4.77
Structure ID	Total Acreage	Q(15)	Q(100)	
DCB NO. 1	0.28	2.25	3.03	
CB NO. 2	0.26	0.35	0.47	
AI NO. 4	0.35	1.09	1.47	
EX NO. A	1.85	0.60	0.81	
AI NO.5	0.27	4.61	6.21	
<b>TOTAL</b>	<b>4.17</b>	<b>8.90</b>	<b>11.99</b>	

MSD Storm																		
Line No.	Inlet ID	Gnd/Rim El Up (ft)	Gnd/Rim El Dn (ft)	Invert Up (ft)	Invert Dn (ft)	HGL Jctn (ft)	HGL Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	n-val Pipe	Known Q (cfs)	Flow Rate (cfs)	Energy Loss (ft)	Val Ave (ft/s)	Defl Ang (Deg)	Minor Loss (ft)	EGL Dn (ft)
1	EX NO. A	530.48	526.09	526.68	524.98	527.54	527.54	33.253	5.11	12	0.012	0.60	4.12	0.366	5.90	-73.343	n/a	528.41
2	457 BEND	527.89	530.48	526.79	526.68	528.21	528.08	48.091	0.23	12	0.012	0.00	3.52	0.400	4.48	53.238	0.13	527.99
3	457 BEND	542.81	527.89	539.07	526.79	539.87	539.87	132.192	9.29	12	0.012	0.00	3.52	1.124	4.85	21.319	n/a	528.52
4	AI (Open 2 Sides) NO. 4	543.42	542.81	539.37	539.07	540.17	540.17	3.234	9.28	12	0.012	1.09	3.52	0.000	5.22	-36.117	0.39	540.29
5	JB NO. 3	548.38	543.42	544.87	539.37	545.54	545.54	183.235	3.00	12	0.012	0.00	2.43	0.000	3.98	34.187	n/a	540.47
6	CB NO. 2	550.91	548.38	546.26	544.87	546.93	546.93	148.646	0.94	12	0.012	0.35	2.43	0.000	4.36	-36.379	n/a	545.83
7	DCB NO. 1	551.31	550.91	547.14	546.26	547.73	547.73	94.586	0.93	12	0.012	2.25	1.94	0.000	3.74	-2.731	n/a	547.17
8	AI (Open 3 Sides) NO. 5	495.82	487.65	491.50	486.00	492.49	492.49	85.537	6.43	12	0.012	8.90	8.90	4.375	11.34	2.933	n/a	489.00

Project File: 10-05-2023 Pipe Calcs - 15 yr.stm  
 Number of lines: 8  
 Date: 10/16/2023  
 NOTES: \*\* Critical depth ; System flows limited to inlet captured flows.

**LEGEND**

**SITE FEATURES**

- DRAINAGE AREA BOUNDARY
- PROPOSED LIMITS OF DISTURBANCE

NOTE:  
 1. NEARMAP IMAGERY DATED 03-01-2022 & 02-12-2023.

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**PRELIMINARY DRAWING**  
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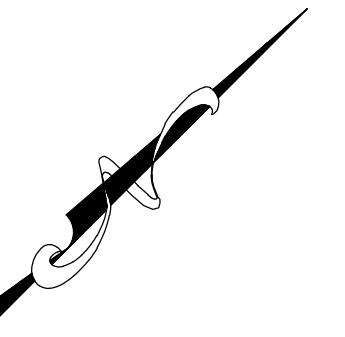
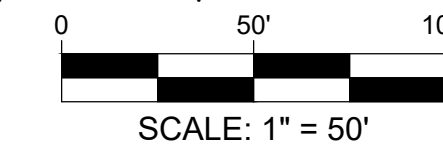
**SIDEWALK AND STORMWATER IMPROVEMENTS**  
**CITY OF TWIN OAKS**  
**CRESCENT AVE**  
**ST. LOUIS COUNTY, MO 63088**

DRAWN A.J.R.  
 CHECKED T.S.D.  
 DATE 10/31/2023  
 SCALE 1"=20'  
 JOB No. 3497-13A  
 SHEET NAME STORM SEWER DRAINAGE AREA MAP  
 DA-1



# STORM SEWER DRAINAGE AREA MAP

(THIS IS NOT A BOUNDARY SURVEY)



**SIDEWALK AND STORMWATER IMPROVEMENTS  
CITY OF TWIN OAKS  
CRESCENT AVE  
ST. LOUIS COUNTY, MO 63088**

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DRAWN  
A.J.R.  
CHECKED  
T.S.C.  
DATE  
10/31/2023  
SCALE  
1"=20'  
JOB No.  
3497-13A  
SHEET NAME  
STORM SEWER  
DRAINAGE AREA  
MAP

DA-2



# St. Louis Metropolitan Sewer District



8/23/2021

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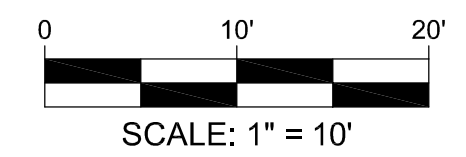
1 inch = 100 feet

Disclaimer: This map was prepared by MSD from available information and for its exclusive use. It is not intended to be used or relied upon by others. MSD makes no representation of either the accuracy or the completeness of its contents. Third party source: GIS (FEMA). Determination regarding its location within or near the Special Flood Hazard Area must be confirmed by referencing the ground copy.





# DEMOLITION PLAN



ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
EL	ELEVATION
FFE	FINISH FLOOR ELEVATION
FIR	FOUND IRON ROD
N/F	NOW AND FORMALLY
NFV	NOT FIELD VERIFIED
PT	POINT
ROW	RIGHT-OF-WAY
STA	STATION
TBA	TO BE ADJUSTED
TBR	TO BE REMOVED
TBRE	TO BE REMOVED AND RELOCATED
TR	TO REMAIN
TSCL	TEMPORARY SLOPE CONSTRUCTION LICENSE
TYP	TYPICAL
000	HOUSE ADDRESS NUMBER (FOUND UNDER MAILBOX)

### PAVEMENT LEGEND

[Symbol]	CURB & GUTTER
[Symbol]	VARIABLE HEIGHT CURB
[Symbol]	DETECTABLE WARNING
[Symbol]	CONCRETE SIDEWALK
[Symbol]	CONCRETE PAVEMENT
[Symbol]	ASPHALT PAVEMENT
[Symbol]	SAWCUT LINE

DEMOLITION LEGEND	
DESCRIPTION	EXISTING
AERIAL ELECTRIC	— AE —
UNDERGROUND ELECTRIC	— UE —
UNDERGROUND TELEPHONE	— UT —
GAS LINE	— G —
WATERLINE	— W —
RIGHT-OF-WAY	— — — —
PROPERTY LINE	— · — · —
EASEMENT	— · — · —
WATER METER	⊙
WATER VALVE	⊕
FIRE HYDRANT	⊙
SIGN	⊠
UTILITY BOX	⊠
UTILITY POLE	⊙
LIGHT POLE	⊙
ELECTRIC BOX	⊠
MAILBOX	⊠
CONCRETE JOINTS	— · — · —

**CAUTION - NOTICE TO CONTRACTOR REGARDING EXISTING UTILITIES**

THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE PERFORMING ANY CONSTRUCTION ACTIVITIES TO REQUEST FIELD LOCATIONS OF THEIR UTILITIES. THE CONTRACTOR MUST BE AWARE THAT SOME EXISTING UTILITIES MAY NOT BE ACCURATELY SHOWN, KNOWN TO EXIST, AND/OR LOCATED BY LOCAL OR STATE UTILITY COMPANIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ACCOMMODATIONS TO ACCURATELY LOCATE ALL EXISTING UTILITIES.

ALL EXISTING UTILITIES ON THIS PROJECT SITE OR ON ADJACENT DEVELOPMENTS SHALL REMAIN IN PLACE AND OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE EXISTING UTILITIES WHEN NECESSARY TO FACILITATE THE REQUIRED IMPROVEMENTS SHOWN BY THESE PLANS. THE CONTRACTOR MUST COORDINATE ANY RELOCATIONS OR MODIFICATIONS TO THE EXISTING UTILITIES WITH THE APPROPRIATE UTILITY COMPANY, THE CITY OF WARRENTON, THE PROPERTY OWNER, AND BFA, INC.

### DEMOLITION PLAN NOTES:

- The Contractor shall conform to all applicable State and local codes for demolition of structures, safety of adjacent structures, dust control, and sediment and erosion control during construction.
- The Contractor shall verify that all required permits and licenses from appropriate authorities have been obtained prior to construction. The Contractor is responsible for any costs or fees associated with any permitting, demolition, disposal, and construction on this project.
- The Contractor shall notify and coordinate scheduling with affected utility companies before starting work and comply with their requirements. The Contractor shall coordinate adjustments to existing utilities with appropriate utility company as work progresses. Contractor to coordinate demolition of all items so as to not disrupt any service of utilities.
- The Contractor shall not close or obstruct public or private roadways, sidewalks, or fire hydrants without appropriate permits or written authorization.
- The Contractor shall provide, erect, and maintain sediment and erosion control devices, temporary barriers, and security devices during construction.
- The Contractor shall protect existing landscaping materials, appurtenances, and structures, which are not to be demolished. Any damage caused by demolition operations shall be repaired by the Contractor at no cost to Owner.
- The Contractor shall notify adjacent owners of work that may affect their property, potential noise, utility outages or disruptions.
- No burning of any material, debris, or trash on-site or off-site will be allowed, except when allowed by appropriate governing authority and Owner. Any permits required for doing so shall be obtained by the Contractor.
- The Contractor shall keep the premises clean and free of debris during construction.
- The fire protection for the site shall remain in service at all times during construction.
- Contractor shall sawcut all curb and gutter sections, concrete medians and along pavement where proposed construction ties into existing areas. The edges of all pavement and curb sections to be removed shall be sawcut. Remaining pavement and curb sections shall have smooth, clean edges.
- Continuous access shall be maintained to all surrounding properties before, during, and after all demolition and construction is complete.
- Contractor shall replace/repair any pavement, storm sewer, utilities, etc., that is to remain after demolition and construction has been completed.
- Contractor shall use all necessary means and traffic control devices to protect the public at all times during demolition and construction with fencing, barricades, enclosures, etc., and to facilitate traffic flow, insure safety, and meet the requirements of all local governing agencies.
- It shall be the contractors responsibility to keep all mud and silt on site and off of streets.
- Land disturbing activities shall not commence until approval to do so has been received by governing agencies.
- Contractor shall dispose of demolition debris at permitted off site locations. Contractor shall take all necessary measures to properly dispose of any hazardous debris to meet requirements of authorities having jurisdiction.
- Contractor shall be responsible for all removals of and/or relocations, including, but not limited to utilities, storm drainage, signs, traffic signals and shall be approved by such. All costs shall be included in the base bid.

### CONSTRUCTION PHASING NOTES:

BY SUBMITTING A BID, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS EXAMINED THE PROJECT TO THE DEGREE NECESSARY TO PROVIDE A LUMP SUM PRICE FOR THE WORK AND THAT HE/SHE HAS ACCOUNTED FOR ANY ADDITIONAL TEMPORARY PROTECTION, TRAFFIC CONTROL, LOW IMPACT CONSTRUCTION EQUIPMENT, AND/OR WORK REQUIRED DURING SPECIFIED DATES AND HOURS THAT MAY BE REQUIRED TO MINIMIZE DISRUPTIONS AND/OR INCONVENIENCE TO THE COMMERCIAL AND RESIDENTIAL OCCUPANTS AND PROPERTY.

PRIOR TO START OF CONSTRUCTION ACTIVITIES BY THE CONTRACTOR, A PRECONSTRUCTION MEETING SHALL BE CONDUCTED BETWEEN THE CONTRACTOR, THE ENGINEER, AND THE CITY OF WARRENTON TO DISCUSS PROJECT PHASING AND TEMPORARY TRAFFIC CONTROL.

CONTRACTOR SHALL MAINTAIN DEWATERING OPERATIONS AND EROSION AND SEDIMENT CONTROL BMP'S.

**TRAFFIC CONTROL**  
CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL MEASURES NECESSARY TO ENSURE THE SAFETY OF CONSTRUCTION CREWS, PEDESTRIANS, AND TRAFFIC DURING CONSTRUCTION. NO WORK SHALL BEGIN UNTIL ALL TRAFFIC CONTROL MEASURES ARE INSTALLED. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL MEET MODOT AND MUTCD STANDARDS.

CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS OF ANY INTERRUPTION OF ACCESS TO PRIVATE DRIVEWAYS AT LEAST 24 HOURS IN ADVANCE.

CONTRACTOR SHALL PROVIDE MESSAGE BOARDS AND DETOUR SIGNS 48 HOURS BEFORE ROAD CLOSURE. CONTRACTOR SHALL NOTIFY THE CITY OF WARRENTON 48 HOURS IN ADVANCE OF ANY INTENDED ALTERATIONS TO TRAFFIC FLOW.  
GUY GEVERS (573) 220-8889  
JON STRUCKHOFF (636) 399-6142

**NOTE TO CONTRACTOR - COORDINATION REQUIREMENTS**  
THROUGHOUT THE DURATION OF THE PROJECT THE GENERAL CONTRACTOR'S SUPERINTENDENT SHALL COORDINATE WITH THE CITY OF WARRENTON TO DISCUSS PROJECT SCHEDULING AND CONSTRUCTION PROGRESS.

**CONTRACTOR STAGING AREA REQUIREMENTS**  
THE CONTRACTOR'S STAGING AND STORAGE AREAS SHALL BE RETURNED TO THE PRE-CONSTRUCTION CONDITION (INCLUDING EXISTING ELEVATIONS) UPON COMPLETION OF THE PROJECT.

**PRELIMINARY DRAWING**

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**BIG BEND BOLY ENTRANCE  
CITY OF TWIN OAKS  
BOLY LANE  
ST. LOUIS COUNTY, MO 63088**

### REVISIONS

1	By: X.X.X XX-XX-XX App: X.X.X
2	By: X.X.X XX-XX-XX App: X.X.X
3	By: X.X.X XX-XX-XX App: X.X.X
4	By: X.X.X XX-XX-XX App: X.X.X

DRAWN  
A.J.R.  
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T.S.D.  
DATE  
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SHEET NAME  
DEMOLITION PLAN

DM-1

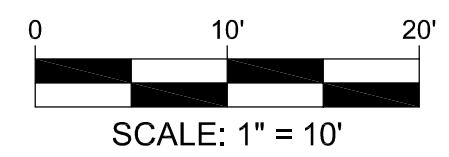
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P:\Vout\3497-2S Big Bend Boly Entrance\3497-2S Plan Sheets\3497-2S Demolition Plan.dwg 11/21/2023 2:24 PM



# SITE/UTILITY PLAN



SPOT GRADE LEGEND	
DESCRIPTION	SPOT GRADE
DIRECTION OF OVERLOAD FLOW	← ME*
MATCH EXISTING	0.00.00TC
TOP OF CURB/CONCRETE	0.00.00SW
TOP OF PAVEMENT	0.00.00TP
GUTTER ELEVATION @ FACE OF CURB	0.00.00GG
TOP OF RETAINING WALL	0.00.00TW
BOTTOM OF RETAINING WALL	0.00.00BW

PAVEMENT LEGEND	
EXISTING	PROPOSED
[Symbol]	CURB & GUTTER
[Symbol]	VARIABLE HEIGHT CURB
[Symbol]	DETECTABLE WARNING
[Symbol]	CONCRETE SIDEWALK
[Symbol]	CONCRETE PAVEMENT
[Symbol]	ASPHALT PAVEMENT
[Symbol]	SAWCUT LINE

SITE PLAN LEGEND		
DESCRIPTION	PROPOSED	EXISTING
AERIAL ELECTRIC	— AE —	— AE —
UNDERGROUND ELECTRIC	— UE —	— UE —
UNDERGROUND TELEPHONE	— UT —	— UT —
GAS LINE	— G —	— G —
WATERLINE	— W —	— W —
RIGHT-OF-WAY	— — —	— — —
PROPERTY LINE	— — —	— — —
EASEMENT	— — —	— — —
WATER METER	⊙	⊙
WATER VALVE	⊕	⊕
SIGN	⊥	⊥
UTILITY BOX	■	■
UTILITY POLE	⊙	⊙
LIGHT POLE	⊙	⊙
UTILITY POLE W LIGHT	⊙	⊙
ELECTRIC BOX	⊕	⊕
MAILBOX	⊥	⊥
CONCRETE JOINTS	— — —	— — —

- NOTES:
- ALL SURVEY MONUMENTS DISTRIBUTED BY CONSTRUCTION SHALL BE REPLACED BY A LICENSED SURVEYOR.
  - COORDINATE CONSTRUCTION PHASING AND DRIVEWAY CLOSURES WITH PROPERTY OWNERS AT LEAST 48 HOURS IN ADVANCE.
  - CAUTION: THERE MAY BE UNDERGROUND UTILITIES THAT ARE NOT SHOWN IN THIS PLAN. CONTRACTOR SHALL HAVE A UTILITY LOCATE DONE PRIOR TO THE START OF WORK.
  - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 7 DAYS OF CURE.
  - ANY CONCRETE PAVEMENT, CURBS, AND DRIVEWAY THAT ARE TO REMAIN BUT ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTORS COST.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL MEASURES NECESSARY TO ENSURE THE SAFETY OF CONSTRUCTION CREWS, PEDESTRIANS, AND TRAFFIC DURING CONSTRUCTION. NO WORK SHALL BEGIN UNTIL ALL TRAFFIC CONTROL MEASURES ARE INSTALLED. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL MEET ST. LOUIS COUNTY AND MUTCD STANDARDS.
  - CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OPEN TRAFFIC AT ALL TIMES.
  - PRIOR TO CONCRETE POUR MAINTENANCE SUPERVISOR AT CITY HALL 636-225-7873 MUST BE NOTIFIED TO VERIFY AND CALCULATE DEPTHS AND DOWEL PLACEMENT.
  - CURING AGENT SHALL BE APPLIED WITHIN ONE HALF-HOUR OF POUR.

- SITE PLAN NOTES:
- The sitework shall meet or exceed the "Technical Specifications."
  - Contractor to provide a complete finished project.
  - All proposed improvements shall be constructed to St. Louis County Standards.
  - All grading and drainage shall be in conformance with St. Louis county and MSD Standards.
  - Continuous pedestrian access shall be provided during the construction process. Prior to the start of construction, adequate pedestrian access and around the site shall be provided and verified.

- UTILITY NOTES:
- The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The Contractor must call the appropriate utility company to request exact field location of utilities. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on plans.
  - The Contractor shall verify and/or perform all necessary inspections and/or certifications required by codes and/or utility companies. All fees shall be paid by the contractor.
  - Contractor shall notify utility authorities inspectors at least 72 hours before connecting to any existing line.
  - Verify location of all existing utilities to be crossed and identify potential conflicts prior to starting construction.
  - General Contractor shall have approval of all governing agencies having jurisdiction over this system prior to installation.
- GRADING NOTES:
- The Contractor shall grade all areas to drain in order to prevent ponding water. The minimum allowable slope on all paved surfaces shall be 1 percent.
  - Contractor is responsible for keeping stormwater run-off and sedimentation under control during construction. Contractor is required to install any stormwater "best management practices" necessary to limit erosion and sediment runoff.
  - Landscaping not shown. Contractor must replace landscaping as required by city.
  - All work to meet or exceed the latest version of Missouri Standard Plans and Specifications for Highway Construction, City Standards and Specifications and MSD Standards and Specifications.

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**BIG BEND BOLY ENTRANCE**  
**CITY OF TWIN OAKS**  
**BOLY LANE**  
**ST. LOUIS COUNTY, MO 63088**

REVISIONS	
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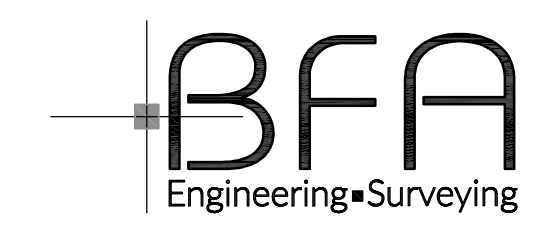
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SHEET NAME  
SITE/UTILITY PLAN

SUP-1

**PRELIMINARY DRAWING**

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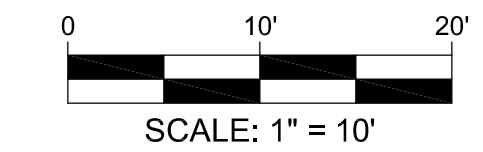
103 ELM STREET WASHINGTON, MISSOURI 63090

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# TOPOGRAPHIC SURVEY

(THIS IS NOT A BOUNDARY SURVEY)

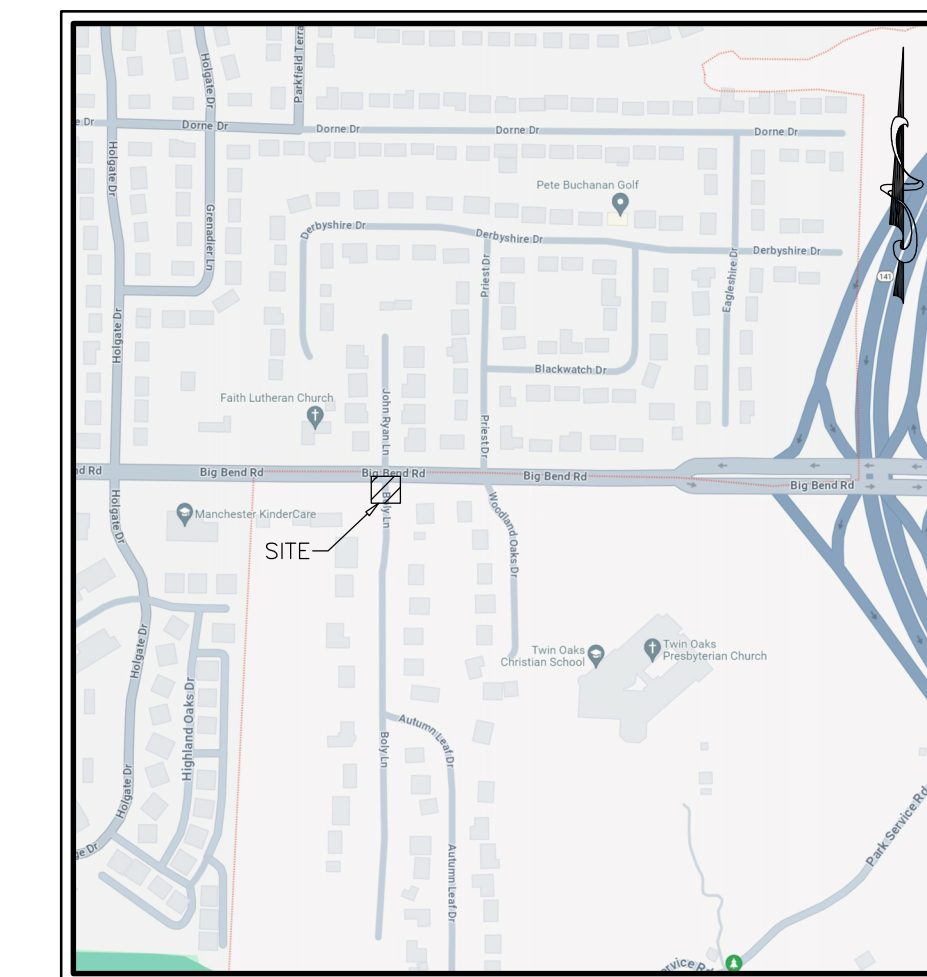


TOPOGRAPHIC LEGEND	
DESCRIPTION	EXISTING
AERIAL ELECTRIC	— AE —
UNDERGROUND ELECTRIC	— UE —
UNDERGROUND TELEPHONE	— UT —
GAS LINE	— G —
WATERLINE	— W —
RIGHT-OF-WAY	— — — — —
PROPERTY LINE	- - - - -
EASEMENT	- - - - -
CONTOURS	— 100 —
WATER METER	⊕
WATER VALVE	⊕
SIGN	⊕
UTILITY BOX	⊕
UTILITY POLE	⊕
LIGHT POLE	⊕
MAILBOX	⊕
ELECTRIC BOX	⊕
CONCRETE JOINTS	- - - - -

**TOPOGRAPHIC SURVEY NOTES:**

- Underground facilities, structures, and utilities have been plotted from available surveys and records. Therefore, their location must be considered approximate only. There may be others, the existence of which is presently not known.
- Bearing referenced to Grid North of the Missouri Coordinate System 1983, East Zone per GPS observations utilizing the MoDOT VRS RTK Network.
- Fieldwork was completed on this site by BFA, Inc. on June 19, 2018 and November 30, 2018.
- Right-of-Way and property line information gathered from St. Louis County GIS and shall be considered approximate.
- Existing site data is a combination of fieldwork and graphically scaled from available maps, thus shall be considered approximate only.
- This site scales within Zone X, as per Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel No. 29189C0284K dated 02/05/2015.
- Water service to this site is provided by Missouri American Water, at time of survey.
- Sanitary sewer service to this site is provided by Metropolitan St. Louis Sewer District (MSD), at time of survey.
- Electrical service to this site is provided by Ameran, at time of survey.
- Telephone service to this site is provided by AT&T, at time of survey.
- Natural gas service to this site is provided by Spire Inc., at time of survey.
- Contractors shall contact telephone, electric, gas, and water companies to have underground utilities located on this site and adjacent to this site prior to doing any excavating.
- Existing curbs and gutters on site are vertical and mountable. Curbs and gutters along concrete and asphalt paved areas are of unverified height and width.

ABBREVIATION KEY	
ABBREVIATION	DESCRIPTION
EL	ELEVATION
FIR	FOUND IRON ROD
N/F	NOW AND FORMALLY
ROW	RIGHT-OF-WAY
STA	STATION
TYP	TYPICAL



**BIG BEND BOLY ENTRANCE**  
**CITY OF TWIN OAKS**  
**BOLY LANE**  
**ST. LOUIS COUNTY, MO 63088**

REVISIONS	
1	By: X.X.X XX-XX-XX App: X.X.X
2	By: X.X.X XX-XX-XX App: X.X.X
3	By: X.X.X XX-XX-XX App: X.X.X
4	By: X.X.X XX-XX-XX App: X.X.X

DRAWN  
 A.J.R.  
 CHECKED  
 T.S.D.  
 DATE  
 11/9/2023  
 SCALE  
 1"=10'  
 JOB No.  
 3497-2S  
 SHEET NAME  
 TOPOGRAPHIC  
 SURVEY

TS-1

**PRELIMINARY DRAWING**  
 FOR REVIEW PURPOSES ONLY  
 NOT TO BE USED FOR CONSTRUCTION

bfaeng.com TELEPHONE: (636) 239-4751  
  
 103 ELM STREET WASHINGTON, MISSOURI 63090

Three working days prior to the start of any excavation on this site the Contractor shall contact 1-800-344-7483 for utility location information.  
 The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

F:\Vault\3497-2S Big Bend Boly Entrance\3497-2S Plan Sheets\3497-2S Topographic Survey.dwg  
 11/9/2023 2:02 PM



## Chapter 510

### FENCE REGULATIONS

<b>Section 510.010.</b>	<b>Definitions.</b>	<b>Section 510.060.</b>	<b>Height Restrictions — Installation Requirements.</b>
<b>Section 510.020.</b>	<b>Certain Uses Prohibited.</b>	<b>Section 510.070.</b>	<b>Non-Conforming Fences.</b>
<b>Section 510.030.</b>	<b>Allowable Fences.</b>	<b>Section 510.080.</b>	<b>Maintenance.</b>
<b>Section 510.040.</b>	<b>Permit Required For Construction Or Alteration.</b>	<b>Section 510.090.</b>	<b>Penalty.</b>
<b>Section 510.050.</b>	<b>Permit Fee.</b>		

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**Section 510.010. Definitions. [R.O. 2016 § 510.010; Ord. No. 409<sup>1</sup> § 2, 11-20-2013]**

As used in this Chapter, the following terms shall have the meanings ascribed to them:

**BARBED WIRE** — Twisted strands of fence wire with barbs at regular intervals.

**BRICK FENCE** — A fence constructed of manufactured brick or stone with at least thirty percent (30%) of said fence containing open areas consistently throughout the length of the fence.

**CHAIN LINK** — Vinyl, color-coated (black or earth tone) wire of at least eleven-gauge woven into mesh no less than two (2) inches, attached to metal posts spaced at regular intervals only for uses other than division fences.

**DECORATIVE FENCING** — Fencing used not as a barricade but simply for aesthetic purposes.

**DIVISION FENCE OR WALL** — Any partition erected parallel to and/or along a residential property line and setting off the property of one (1) person from that of another or otherwise for the purpose of shielding property from trespass or view.

**PERSON** — Any person, firm, partnership or corporation, whether as owner, tenant, occupant or lessee of any real estate in the City or as the contractor or subcontractor of such owner, tenant, occupant or lessee.

**STACKED FENCE** — A split-rail fence, often laid out in zigzag pattern for decorative purposes, made from logs split lengthwise.

**STONE FENCE** — See "brick fence," above.

**VINYL-CLAD WIRE** — Wire woven in a mesh pattern that is coated with vinyl.

**WALL** — A solid exterior partition designed to act as a retaining wall.

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1. Editor's Note: This ordinance also repealed former Ch. 515, Fences, adopted and amended R.O. 2011 §§ 515.010 through 515.090; 6-21-1978 by Ord. No. 78-4; 9-3-1997 by Ord. No. 97-28; 2-20-2002 by Ord. No. 73; 3-20-2002 by Ord. No. 79; and 7-19-2006 by Ord. No. 219.

WIRE FENCE — A light wire (under eleven-gauge), including woven wire, chicken wire, barbed wire or variations thereof.

**Section 510.020. Certain Uses Prohibited. [R.O. 2016 § 510.020; Ord. No. 409 § 3, 11-20-2013]**

- A. No person shall erect or maintain any division fence or screen, in whole or in part of cloth, canvas, wire, or other like material, except during construction.
- B. No person shall permit any fence erected or maintained on premises owned, occupied or leased to be used for advertising purposes.
- C. No fence of any kind is permitted for residences in a front yard.
- D. Fences that do not utilize the same type of material throughout, except upon careful review and exercise of discretion by the Code Enforcement Officer, are prohibited.
- E. Residential fences that do not have the finished side to the outside of the property are prohibited.

**Section 510.030. Allowable Fences. [R.O. 2016 § 510.025; Ord. No. 409 § 4, 11-20-2013]**

- A. District "A" Residential: powder-coated anodized aluminum or powder-coated galvanized-steel in black or earth tones; wood (including composite wood with wood-grain finish in natural wood colors, but not plywood or knotty pine); decorative wrought iron in black or earth tones; decorative stacked fence; stone or brick fence.
- B. District "B" Residential: wood as listed for District "A"; powder-coated/vinyl-clad chain-link fencing (permitted only for tennis courts or baseball field backstops) in black or green color only.
- C. District "C" Commercial: powder-coated aluminum or powder-coated galvanized steel in black color only; wood as listed for District "A," above or vinyl fencing in any color approved by the Board of Aldermen.

**Section 510.040. Permit Required For Construction Or Alteration. [R.O. 2016 § 510.030; Ord. No. 409 § 5, 11-20-2013]**

- A. No person shall construct or alter any fence, screen, wall or other exterior partition in the City without first filing an application with and receiving a permit from the Code Enforcement Officer for the construction of such fence, screen or wall. Such application shall be filed upon forms provided by the Code Enforcement Officer and shall clearly show the type of fence, screen or wall proposed to be constructed, the material of which it is to be constructed and the location where it is to be constructed. Said location shall further be identified by corner staking of the applicant's property limits within the area proposed to be fenced. Said proof of property boundary shall be accompanied by a professional survey, if reasonably requested by the Code Enforcement Officer.
- B. No permit shall be required for the construction or alteration of an exterior wall less than three (3) feet in height.



**Section 510.050. Permit Fee. [R.O. 2016 § 510.040; Ord. No. 409 § 6, 11-20-2013]**

An application for a permit under the provisions of this Chapter shall be accompanied by a fee of twenty-five dollars (\$25.00) to cover the cost of the permit and inspection of the fence, screen, wall or exterior partition proposed to be constructed.

**Section 510.060. Height Restrictions — Installation Requirements. [R.O. 2016 § 510.050; Ord. No. 409 § 7, 11-20-2013]**

- A. No person residing in a residential area shall construct or maintain any division fence or any other fence, wall, or exterior partition, which exceeds eight (8) feet in height.
- B. All division fences constructed of wood shall be finished on the neighboring homeowner's side in wood-tone or other natural wood color.
- C. Manufactured fences shall be installed according to manufacturer specifications. For fences not accompanied by manufacturer specifications, line fence posts shall be set at a depth of not less than two (2) feet, terminal posts shall be set in concrete at a depth not less than three (3) feet and all posts and vertical fence boards shall be constructed at the plumb line. Posts for wood panel and rail fencing shall be installed on the applicant's side of the division line. Fences constructed of brick, stone or ornamental iron shall be set on concrete footings not less than three (3) feet in depth.

**Section 510.070. Non-Conforming Fences. [R.O. 2016 § 510.060; Ord. No. 409 § 8, 11-20-2013]**

Division fences, walls or exterior partitions which do not conform to the provisions of this Chapter but which are in place prior to its adoption (November 20, 2013) may continue in existence; provided, however, that in the event any such non-conforming fence, wall or partition shall be damaged or destroyed or shall decay to the extent that the cost of restoration shall exceed fifty percent (50%) of the cost of a new fence or wall, including labor and materials, then said fence, wall or partition shall be altered and reconstructed in conformity with the provisions of this Chapter, including those Sections hereof requiring the issuance of a permit.

**Section 510.080. Maintenance. [R.O. 2016 § 510.070; Ord. No. 409 § 9, 11-20-2013]**

Fences, walls or exterior partitions shall be maintained in a state of good repair, free of rotting, rusting, loose or deteriorating supports, members, materials and hardware and properly painted, stained or otherwise preserved. The Code Enforcement Officer is hereby empowered to issue notices to property owners to comply with this Section. Owners will be given a reasonable time to comply not to exceed thirty (30) days; provided, however, that a longer period may be given at the discretion of the Code Enforcement Officer if such compliance within that time would work an undue hardship.

**Section 510.090. Penalty. [R.O. 2016 § 510.080; Ord. No. 409 § 10, 11-20-2013]**

Every person constructing, maintaining or altering any fence, wall or exterior partition in violation of or contrary to the requirements of this Chapter, and every person who shall fail, neglect or refuse to observe the requirements of this Chapter or violate the same, shall be guilty of a misdemeanor and upon conviction thereof shall be subject to a fine as set forth in Section 100.220 of this Code.