STORMWATER INFRASTRUCTURE RECONSTRUCTION

JEFFERSON CITY, COLE, COUNTY, MISSOURI

SITE PLAN

AUGUST 6, 2026

LEGEND

E	ELECTRIC LINE
UE	UNDERGROUND ELECTRIC LINE
UT	UNDERGROUND TELECOMMUNICATIONS LINE
S	SANITARY SEWER LINE
SS	STORM SEWER LINE
G	GAS LINE
W	WATER LINE
750	EXISTING CONTOUR
CMP	CORRUGATED METAL PIPE
EM	ELECTRIC METER
ETC	ELECTRIC TRANSFORMER
FL	FLOW LINE
GM	GAS METER
TP	TELECOMMUNICATIONS PEDESTAL
UP	UTILITY POLE
WM	WATER METER
WV	WATER VALVE
	SILT FENCE
750	FINISH CONTOUR
50.0 / 49.5	TOP OF CURB ELEVATION / TOP OF PAVEMENT ELEVATION
49.5	FINISH GRADE ELEVATION
	PROPOSED STORM SEWER
	REMOVE PAVEMENT
	PROPOSED DRIVEWAY PAVEMENT
	REMOVE & REPLACE STREET PAVEMENT

UTILITY NOTES

THE LOCATIONS, SIZES, AND MATERIAL TYPES OF UNDERGROUND UTILITIES INDICATED ON THE PLAT, NOT VISIBLE OR APPARENT FROM THE SURFACE, ARE SHOWN IN THEIR APPROXIMATE LOCATIONS FROM A MISSOURI ONE CALL SYSTEM LOCATE, OR UTILITY COMPANY RECORDS AND WERE NOT VERIFIED IN THE FIELD. UNDERGROUND UTILITY SERVICES TO BUILDINGS WERE NOT LOCATED.

WATER–FAIRMOUNT
MISSOURI AMERICAN WATER
906 WEST HIGH STREET
JEFFERSON CITY, MISSOURI 65109
CONTACT: KEVIN EVELER 573–634–3801

WATER–JENNIFER & CEDARBROOKE
PUBLIC WATER SUPPLY DISTRICT #2
1944 VIETH DRIVE
JEFFERSON CITY, MISSOURI 65109
CONTACT: 573–635–7011

ELECTRIC
AMEREN MISSOURI
P.O. BOX 1558
JEFFERSON CITY, MISSOURI
CONTACT: MATT KAUFMANN 573–690–0299

GAS
AMEREN MISSOURI
1310 INDUSTRIAL DRIVE
JEFFERSON CITY, MISSOURI 65101
CONTACT: MARK BRANDT 573–681–7550

TELECOMMUNICATIONS
CENTURYLINK
3546 N. TEN MILE DRIVE
JEFFERSON CITY, MISSOURI 65101
CONTACT: ALAN GRONER 573–681–2503

MEDIACOM
1922 SOUTHRIDGE DRIVE
JEFFERSON CITY, MISSOURI 65101
CONTACT: AARON SINGLETON 573–645–2333

BRIGHTSPEED
3546 N. TEN MILE DRIVE
JEFFERSON CITY, MISSOURI 65101
CONTACT: TONJIA BALDWIN TONJIA.BALDWIN@BRIGHTSPEED.COM

MEDIACOM
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SANITARY SEWER
CITY OF JEFFERSON
DEPARTMENT OF COMMUNITY DEVELOPMENT
320 EAST McCARTY STREET
JEFFERSON CITY, MISSOURI 65101
CONTACT: ERIC SEAMAN 573–634–6410

STORM SEWER
CITY OF JEFFERSON
DEPARTMENT OF COMMUNITY DEVELOPMENT
320 EAST McCARTY STREET
JEFFERSON CITY, MISSOURI 65101
CONTACT: DON FONTANA 573–634–6410

Call BEFORE you DIG
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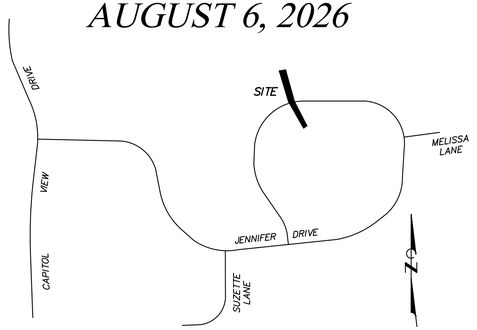
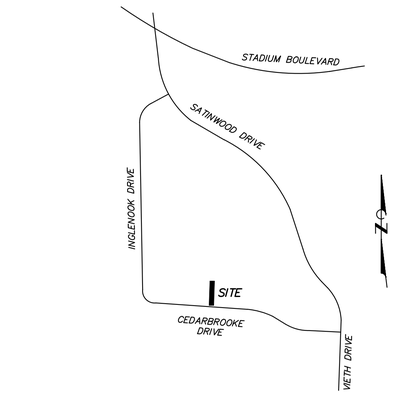
MISSOURI ONE–CALL SYSTEM, INC.



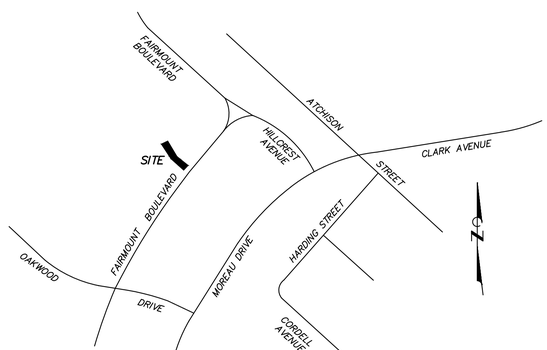
JENNIFER DRIVE SITE LOCATION MAP

NOT TO SCALE



CEDARBROOKE DRIVE SITE LOCATION MAP

NOT TO SCALE



FAIRMOUNT BOULEVARD SITE LOCATION MAP

NOT TO SCALE

SURVEY DISCLAIMER

THE SURVEY INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY THE CITY OF JEFFERSON. ENGINEERING SURVEYS & SERVICES DISCLAIMS ALL LIABILITY FOR THE ACCURACY OF THE SURVEY INFORMATION. DIMENSIONS ARE SHOWN AS FOUND AND ARE FOR GRAPHICAL DEPICTION PURPOSES ONLY.

FLOODPLAIN NOTE

THIS PROPERTY IS LOCATED IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN BY FLOOD INSURANCE RATE MAP NUMBERS 29051C0129E, DATED NOVEMBER 2, 2012 (CEDARBROOKE), 29051C0142E, DATED NOVEMBER 2, 2012 (JENNIFER), AND 29051C0141E, DATED NOVEMBER 2, 2012 (FAIRMOUNT).

TEMPORARY SHORING NOTE

1. DELEGATED DESIGN. CONTRACTOR SHALL ENGAGE A QUALIFIED LICENSED PROFESSIONAL ENGINEER TO DESIGN EXCAVATION SUPPORT AND PROTECTION SYSTEMS TO RESIST ALL VERTICAL AND LATERAL LOADING AND SURCHARGE, INCLUDING BUT NOT LIMITED TO, RETAINED SOIL, GROUNDWATER PRESSURE, ADJACENT BUILDING AND RETAINING WALL LOADS, ADJACENT TRAFFIC LOADS, CONSTRUCTION TRAFFIC LOADS, MATERIAL STOCKPILE LOADS, AND SEISMIC LOADS, BASED ON THE FOLLOWING:
   A. COMPLIANCE WITH OSHA STANDARDS AND INTERPRETATIONS, 29 CFR 1926, SUBPART P.
   B. COMPLIANCE WITH AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES OR AASHTO LRFD BRIDGE DESIGN SPECIFICATION, CUSTOMARY U.S. UNITS.
   C. COMPLIANCE WITH REQUIREMENTS OF THE CITY OF JEFFERSON.
   D. COMPLIANCE WITH UTILITY COMPANY REQUIREMENTS.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AS NEEDED, CONSISTING OF SHEET PILING OR ALTERNATE METHODS, TO PROTECT ADJACENT STRUCTURES, RETAINING WALLS, AND PAVEMENTS TO REMAIN WHILE PERFORMING THE CONSTRUCTION WORK.
3. THE CONTRACTOR SHALL SUBMIT THE PROPOSED METHOD OF TEMPORARY SHORING CONSTRUCTION TO THE ENGINEER PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL PERFORM A PRE–EXCAVATION SURVEY OF THE BRICK RETAINING WALL AT 2638 JENNIFER DRIVE AND ANY OTHER STRUCTURES BEING PROTECTED BY TEMPORARY SHORING PRIOR TO BEGINNING EXCAVATION.
5. CONTRACTOR SHALL REPAIR ANY DAMAGE TO ADJACENT STRUCTURES, PAVEMENT, OR UTILITIES CASUED BY THEIR EXCAVATION WOTK AT NO ADDITIONAL COST TO THE OWNER.

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CITY OF JEFFERSON CITYWIDE STORMWATER PROJECTS

APPROVED BY: _____ DATE: _____

DAVID BANGE, P.E.,
CITY ENGINEER

STORMWATER INFRASTRUCTURE RECONSTRUCTION

Engineering Surveys & Services
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MO Engineering Corp. # 2004005018

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

COVER

Sheet
C0.01

CONSTRUCTION DOCUMENTS

ES&S PROJECT NO. 16804

\\192.168.0.99\PROJECTS\GENERAL PROJECTS\16804-JCMO-SW-INFRASTRUCTURE-RECONSTRUCTION-DESIGN\CAD\16804 COVER & DETAILS.DWG 8/6/2026

CONSTRUCTION NOTES

1. 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 COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE RELOCATION OF ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL IDENTIFIED PROPERTY CORNERS, LAND SURVEY CORNERS, AND ACCESSORIES. THE CONTRACTOR SHALL CAUSE THE CORNERS AND ACCESSORIES TO BE REFERENCED BY A LICENSED LAND SURVEYOR, AND ANY SUCH CORNER OR ACCESSORIES DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE RESET BY THE SURVEYOR AT THE ORIGINAL LOCATION, AND FILE THE RESTORATIONS AND MONUMENT DOCUMENTS AS THE LAW REQUIRES.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO CITY OF JEFFERSON, DIVISION OF PUBLIC WORKS FOR REVIEW AND APPROVAL FOR ALL MATERIALS BEFORE ORDERING.
5. ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF SIDEWALK, OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL OBTAIN PERMIT FROM CITY TO WORK WITHIN STREET RIGHT-OF-WAY.
7. ALL TRAFFIC CONTROL SHALL BE PER CURRENT MUTCD REQUIREMENTS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. A TRAFFIC CONTROL PLAN WILL BE REQUIRED FOR ANY WORK WITHIN THE RIGHT-OF-WAY.
8. CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS IN WRITING 30 DAYS PRIOR TO CONSTRUCTION.
9. IF A CONFLICT EXISTS BETWEEN THE CIVIL PLANS AND CIVIL SPECIFICATIONS, THE CIVIL PLANS SHALL GOVERN.
10. ALL INCIDENTAL ITEMS INCLUDING BUT NOT LIMITED TO SIGNS, PAVEMENT MARKING, PAVEMENT, CURBS, TRUNCATED DOMES, FENCING, LANDSCAPING, IRRIGATION, ETC. EITHER DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE RETURNED TO ORIGINAL CONDITIONS BY THE CONTRACTOR.
11. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
12. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES, RESPECTIVELY.

CITY OF JEFFERSON STANDARD STREET NOTES

1. THE DEPARTMENT OF PUBLIC WORKS MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING GRADING. NO STREET OR ANY PART THEREOF WILL BE ACCEPTED BY THE CITY OF JEFFERSON UNLESS PROPER NOTICE HAS BEEN GIVEN TO THE DEPARTMENT OF PUBLIC WORKS IN ADVANCE, SO THAT THE WORK WILL BE INSPECTED.
2. ALL CONSTRUCTION INDICATED HEREON SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF JEFFERSON.
3. JOINTS FOR PCC PAVEMENT SHALL BE INSTALLED EVERY 12 FEET FOR 6 INCH THICK PAVEMENT. SPACING FOR OTHER PAVEMENT DEPTHS SHALL BE TWO TIMES THE PAVEMENT THICKNESS. IF CURB AND GUTTER IS PLACED SEPARATELY, PAVEMENT JOINTS SHALL MATCH JOINTS IN CURB AND GUTTER AND MAXIMUM SPACING ON CURB AND GUTTER JOINTS SHALL BE 10 FEET.
4. EXPANSION JOINTS SHALL BE PLACED IN CURB AND GUTTER AT CURB RETURNS, INLET RETURNS, AND DRIVE APPROACHES. 3/4" EXPANSION MATERIAL WITH 5/8" X 24" SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
5. REINFORCE JOINTS IN PCC PAVEMENTS AS FOLLOWS:
   a. TRANSVERSE SAWED JOINTS – NOT TIED
   b. TRANSVERSE CONSTRUCTION JOINTS – TIE WITH 1/2" X 24" DEFORMED BARS AT 12" CENTERS
   c. LONGITUDINAL CONSTRUCTION OR SAWED JOINTS – TIE WITH 1/2" X 24" DEFORMED BARS AT 30" CENTERS
6. ALL JOINTS SHALL BE SEALED
7. ALL DISTURBED RIGHT-OF-WAY SHALL BE SODDED OR SEEDED AND MULCHED BEFORE THE STREET WILL BE ACCEPTED BY THE CITY.
8. ALL PIPES SHALL BE INSTALLED BEFORE ADJACENT PAVEMENT IS INSTALLED.
9. ALL FILLS SHALL BE COMPACTED AS PLACED AND MADE PRIOR TO TRENCH EXCAVATION.
10. MINIMUM COVER OVER STORM WATER DRAINAGE PIPES = 1 FOOT.

GRADING AND STORM SEWER CONSTRUCTION NOTES

1. ALL STORM SEWER PIPES AND INLETS SHALL MEET HEAVY DUTY TRAFFIC (HS20) LOADING AND BE INSTALLED ACCORDINGLY.
2. CONCRETE STORM SEWER INLETS & JUNCTION BOXES SHALL BE INSTALLED PER THE CITY OF JEFFERSON SPECIFICATIONS AND AS DETAILED IN THESE PLANS.
3. PIPE SHALL BE ADS HP DUAL WALL SOIL TIGHT, SMOOTH INTERIOR PIPE OR APPROVED EQUAL. INSTALLATION SHALL BE AS SHOWN IN THE PLANS.
4. CONTRACTOR SHALL ADJUST ALL GRATES, MANHOLES, VALVE BOXES, ETC. TO MATCH FINISH GRADES, AS REQUIRED.
5. ALL STRUCTURE CONNECTIONS SHALL BE WATERTIGHT.
6. ALL CONCRETE STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED CONCRETE INVERT FROM INVERT IN TO INVERT OUT.
7. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE FLUSH WITH FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER". TOP OF BOXES SHALL BE SLOPED TO MATCH PAVEMENT GRADE.
8. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE OR DOWNSTREAM END OF FLARED END SECTIONS.
9. ALL FLARED END SECTIONS FOR PLASTIC PIPE SHALL BE GALVANIZED METAL UNLESS OTHERWISE NOTED.
10. ALL SITES USED FOR IMPORTING OR EXPORTING OF FILL MATERIAL SHALL HAVE AN ACTIVE MISSOURI DEPARTMENT OF NATURAL RESOURCES LAND DISTURBANCE PERMIT, AS REQUIRED.
11. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS, TREES AND BRUSH, AND OTHER MATERIAL CREATED AS A RESULT OF CONSTRUCTION. MATERIAL SHALL BE DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
12. CONTRACTOR SHALL REMOVE ALL STUMPS BY EXCAVATING TO INCLUDE REMOVAL OF ASSOCIATED ROOT SYSTEM.
13. CONTRACTOR SHALL NOT ADVANCE TRENCH EXCAVATION BEYOND AMOUNT THAT CAN ACCOMMODATE PIPE INSTALLATION AND BACKFILLING AT THE END OF EACH DAY.
14. ENGINEERED FILL SHALL BE FREE OF FROZEN SOIL, ORGANICS, RUBBISH, LARGE ROCKS, WOOD, OR OTHER DELETERIOUS MATERIAL. COHESIVE FILLS SHALL BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE "STANDARD" MAXIMUM DRY DENSITY AND BE WITHIN –2 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT AS DESCRIBED BY ASTM D698. GRANULAR FILLS SHALL BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE "STANDARD" MAXIMUM DRY DENSITY. THE MOISTURE CONTENT SHALL BE HIGH ENOUGH TO PROVIDE FOR PROPER COMPACTION BUT LOW ENOUGH TO PREVENT UNDUE PUMPING. PLACE FILL MATERIAL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES IN THICKNESS.
15. ROCKS AND STONES THAT EXCEED THE THICKNESS OF THE LOOSE LIFT FILL LAYER SHALL BE REMOVED AND DISPOSED OF OFF THE IMMEDIATE CONSTRUCTION AREA.
16. IMPORTED SOILS PROPOSED FOR USE AS FILL OR BACKFILL SHALL BE REVIEWED AND ANALYZED BY A GEOTECHNICAL ENGINEER PRIOR TO USE ON SITE. SOIL CLASSIFIED AS MH, OH, OL, OR PT (HIGH PLASTICITY SOILS AND ORGANIC SOILS) BY THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487) SHALL NOT BE IMPORTED FOR USE AS ENGINEERED FILL. SUITABLE IMPORTED MATERIALS FOR GENERAL SITE FILL ARE THOSE THAT CLASSIFY AS GW, GM, GC, SC, AND CL IN ACCORDANCE WITH ASTM D 2487. MATERIALS CLASSIFIED AS CH SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO THEIR IMPORTATION, SUBJECT TO FINAL DESIGN REQUIREMENTS FOR WALL BACKFILL. SUITABLE IMPORTED MATERIALS FOR WALL AND TRENCH BACKFILL ARE THOSE THAT CLASSIFY AS GW, GP, GM, GC, SM, SW, SP, SC, AND CL IN ACCORDANCE WITH ASTM D2487.
17. FILLS PLACED IN AREAS WHERE THE NATURAL SLOPE IS GREATER THAN 5H:1V (HORIZONTAL TO VERTICAL) SHALL BE BENCHED INTO THE EXISTING GRADE TO REDUCE THE POTENTIAL FOR SLIPPAGE BETWEEN EXISTING SLOPES AND ENGINEERED FILL. BENCHES SHALL BE LEVEL AND WIDE ENOUGH TO ACCOMMODATE COMPACTION AND EARTH MOVING EQUIPMENT.
18. FILL AND SUBGRADE CONSTRUCTION SHALL NOT BE STARTED ON FOUNDATION SOIL, PARTIALLY COMPLETED FILL, OR SUBGRADES THAT CONTAIN FROST OR ICE. FILL SHALL NOT BE CONSTRUCTED USING FROZEN SOIL. FROZEN SOIL SHALL BE REMOVED PRIOR TO PLACING FILL MATERIAL.
19. ALL NEW UTILITY TRENCHES SHALL BE BACKFILLED IN ACCORDANCE WITH APPROPRIATE CONTROLLED ENGINEERED FILL SPECIFICATIONS.
20. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS, BACKFILL OF TRENCHES THROUGH ANY IMPROVED AREAS, SUCH AS STREET, DRIVES OR PARKING LOTS SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY (ASTM D-698).
21. FIELD DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM D6938 (NUCLEAR METHODS) OR ASTM D 1556 (SAND CONE METHOD). FIELD DENSITY TESTS SHALL BE PERFORMED AT THE RATE OF ONE TEST PER 10,000 SQUARE FEET PER LIFT BENEATH PAVEMENTS, SIDEWALKS, AND OTHER POTENTIAL STRUCTURAL AREAS WITH A MINIMUM OF 3 TESTS PER LIFT AND ONE TEST PER 150 LINEAL FEET PER LIFT FOR FOUNDATION, TRENCH AND WALL BACKFILL.
22. ROADS AND DRIVEWAYS SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK TO IDENTIFY ANY SOFT OR UNSUITABLE AREAS, PRIOR TO BASE ROCK PLACEMENT. THE PROOF-ROLL SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER. AREAS IDENTIFIED AS UNSUITABLE SHALL BE OVER EXCAVATED AND RECONSTRUCTED WITH ENGINEERED FILL.
23. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS FOR ALL LANDSCAPED AND PAVED AREAS.
24. CONTRACTOR SHALL PLACE STOCKPILED TOPSOIL FROM SITE IN ALL LANDSCAPE AREAS TO A MINIMUM DEPTH OF OF 6", UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS. ANY EXCESS TOPSOIL SHALL BE DISPOSED OF ONSITE PER OWNER.

RETAINING WALL NOTES

1. ALL RETAINING WALLS SHALL BE SEGMENTAL BLOCK.
2. PRIOR TO STARTING WALL CONSTRUCTION, CONTRACTOR SHALL ARRANGE FOR WALL CONSTRUCTION INSPECTION AS REQUIRED IN THE NOTE BELOW.
3. FOLLOWING WALL CONSTRUCTION THE CONTRACTOR SHALL SUBMIT A "CERTIFICATION OF CONFORMANCE" INDICATING THAT THE BACKFILL AND FOUNDATION MATERIAL USED MET THE REQUIREMENTS OF THE ORIGINAL DESIGN. THIS CERTIFICATE MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE THE STATE OF MISSOURI AND, AT A MINIMUM, INDICATE THE WALL WAS INSPECTED AT THE FOLLOWING SPECIFIC MILESTONES:

   FOR MODULAR BLOCK WALLS:
   a. FOOTING OR BEARING PAD
   b. DURING BACKFILL OPERATION AND FOR FIRST LAYER OF SOIL REINFORCEMENT
   c. FOLLOWING COMPLETION OF THE WALL

5. RETAINING WALLS IN EXCESS OF THIRTY (30) INCHES (MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW) ARE REQUIRED TO HAVE A FENCE OR GUARDRAIL PROTECTING THE PUBLIC FROM INJURY. THE GUARD MUST MEET ALL THE REQUIREMENTS OF THE 2018 INTERNATIONAL BUILDING CODE.

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE SAFETY AND DESIGN CODES. ALL TEMPORARY TRAFFIC CONTROL PLANS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MUTCD.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE, WORKER, AND TRAFFIC SAFETY.
3. CONTRACTOR SHALL KEEP WORK SPACE LENGTHS AS SHORT AS PRACTICAL TO SAFELY COMPLETE WORK ACTIVELY BEING PERFORMED ON EACH DAY.
4. CONTRACTOR MAY MODIFY THE TEMPORARY TRAFFIC CONTROL PLAN TO ACCOMMODATE THEIR CONSTRUCTION MEANS, METHODS, SEQUENCE, AND TECHNIQUES OR PROCEDURES. CONTRACTOR SHALL SUBMIT ALL PROPOSED MODIFICATIONS TO THE TEMPORARY TRAFFIC CONTROL PLAN TO THE CITY OF JEFFERSON, DIVISION OF PUBLIC WORKS FOR APPROVAL, IN WRITING, PRIOR TO IMPLEMENTATION.
5. CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL AS THE WORK ZONE SPECIALIST (WZS) WHO IS KNOWLEDGEABLE, COMPETENT BY TRAINING AND/OR CERTIFICATION AND EXPERIENCE IN THE PRINCIPLES OF PROPER TEMPORARY TRAFFIC CONTROL IN ACCORDANCE WITH CHAPTER 6 OF THE MUTCD, AT THE PROJECT LEVEL WHO HAS THE PRIMARY RESPONSIBILITY, WITH SUFFICIENT AUTHORITY, FOR IMPLEMENTING THE TEMPORARY TRAFFIC CONTROL PLAN AND OTHER SAFETY AND MOBILITY ASPECTS OF THE PROJECT. CONTRACTOR SHALL SUBMIT PROOF THAT THEIR WZS HAS SUCCESSFULLY PASSED MODOT'S ADVANCED WORK ZONE COURSE OR EQUIVALENT TRAINING OBTAINED FROM A QUALIFIED PERSON AS DEFINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. THE WZS SHALL HAVE A CARD AND/OR CERTIFICATE THAT INCLUDES THE WZS'S NAME, INSTRUCTOR'S NAME AND TITLE, TRAINING ENTITY/AGENCY, DATE, AND SIGNATURE OF THE INSTRUCTOR. TRAINING RE-CERTIFICATION WILL BE REQUIRED A MINIMUM OF EVERY FOUR YEARS. (FROM MODOT SPEC 616.3.3 (A))
6. CONTRACTOR SHALL MONITOR TRAFFIC FLOW THROUGH THE WORK ZONE AND MAKE ADJUSTMENTS TO THE TRAFFIC CONTROL PLAN, WITH THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION, AS REQUIRED. PROVIDE FLAGGER(S) IF TRAFFIC DOES NOT EFFECTIVELY SELF REGULATE.

HAZARDOUS SUBSTANCE NOTE

1. SUBSTANCES REGULATED BY FEDERAL LAW UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) OR THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA) WHICH ARE TRANSPORTED, STORED OR USED FOR MAINTENANCE, CLEANING OR REPAIRS SHALL BE MANAGED ACCORDING TO THE PROVISIONS OF RCRA AND CERCLA.
2. ALL PAINTS, SOLVENTS, PETROLEUM PRODUCTS AND PETROLEUM WASTE PRODUCTS (EXCEPT FUELS) AND STORAGE CONTAINERS (SUCH AS DRUMS, CANS OR CARTONS) SHALL BE STORED SUCH THAT THESE MATERIALS ARE NOT EXPOSED TO STORM WATER. SUFFICIENT PRACTICES OF SPILL PREVENTION, CONTROL AND/OR MANAGEMENT SHALL BE PROVIDED TO PREVENT ANY SPILLS OF THESE POLLUTANTS FROM ENTERING A WATER OF THE STATE. ANY CONTAINMENT SYSTEM USED TO IMPLEMENT THIS REQUIREMENT SHALL BE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE SUBSTANCES CONTAINED AND SHALL ALSO PREVENT THE CONTAMINATION OF GROUNDWATER.
3. THE APPLICANT SHALL NOTIFY BY TELEPHONE AND IN WRITING THE DEPARTMENT OF NATURAL RESOURCES, WATER POLLUTION CONTROL PROGRAM, POST OFFICE BOX 176, JEFFERSON CITY, MO 65102, 1-800-361-4827, OF ANY OIL SPILLS OR IF HAZARDOUS SUBSTANCES ARE FOUND DURING THE PROSECUTION OF WORK UNDER THIS PERMIT.

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JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI · ROSS A. KASMANN · NUMBER PE-2011000907 · PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
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Revised

Design: RE Drawn: BR

GENERAL NOTES

Sheet
C0.02

ES&S PROJECT NO. 16804

CONSTRUCTION DOCUMENTS

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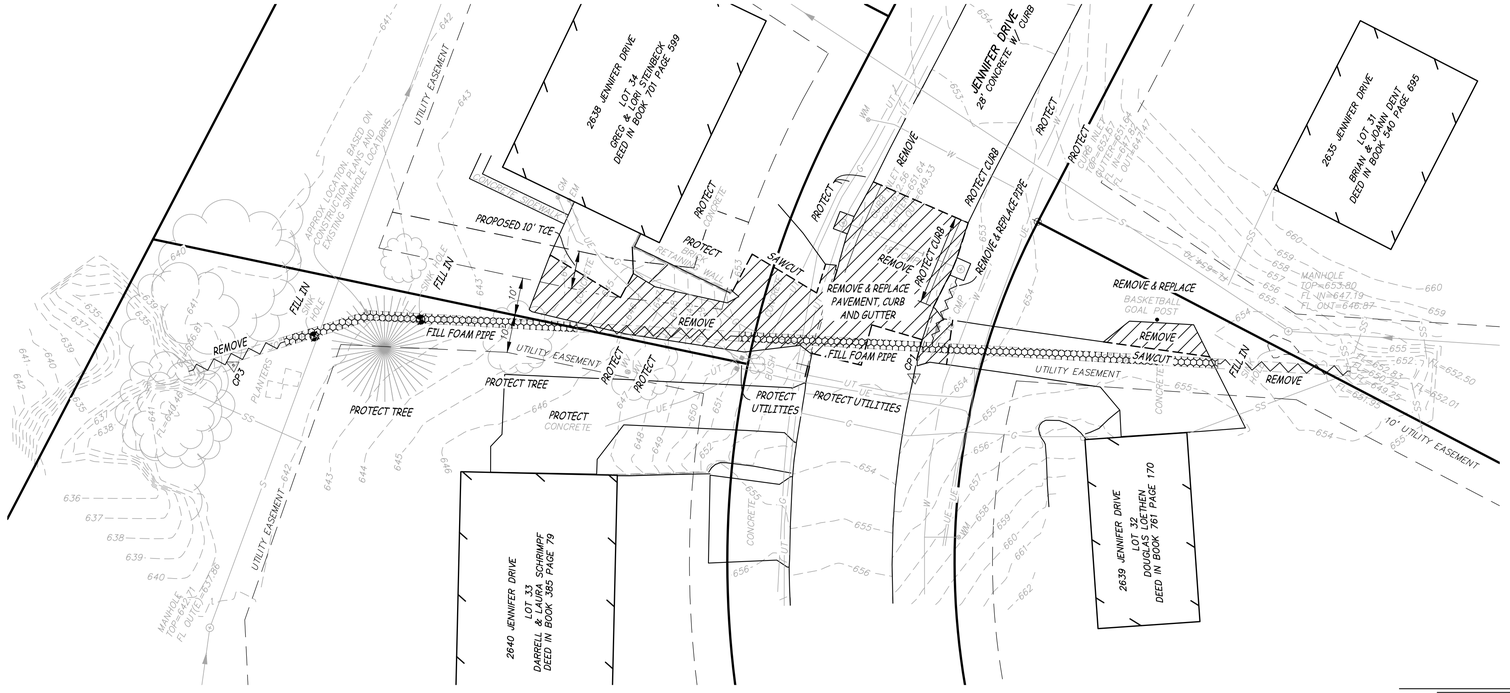

LEGEND

- REMOVE PAVEMENT
- REMOVE EXISTING STORM SEWER PIPE
- FILL FOAM EXISTING STORM SEWER PIPE

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660-826-8618

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MO Engineering Corp. # 2004005018

N

0 1"
SCALE: 1" = 20'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

JENNIFER DRIVE
DEMOLITION PLAN

Sheet
C1.01

ES&S PROJECT NO. 16804

CONSTRUCTION DOCUMENTS

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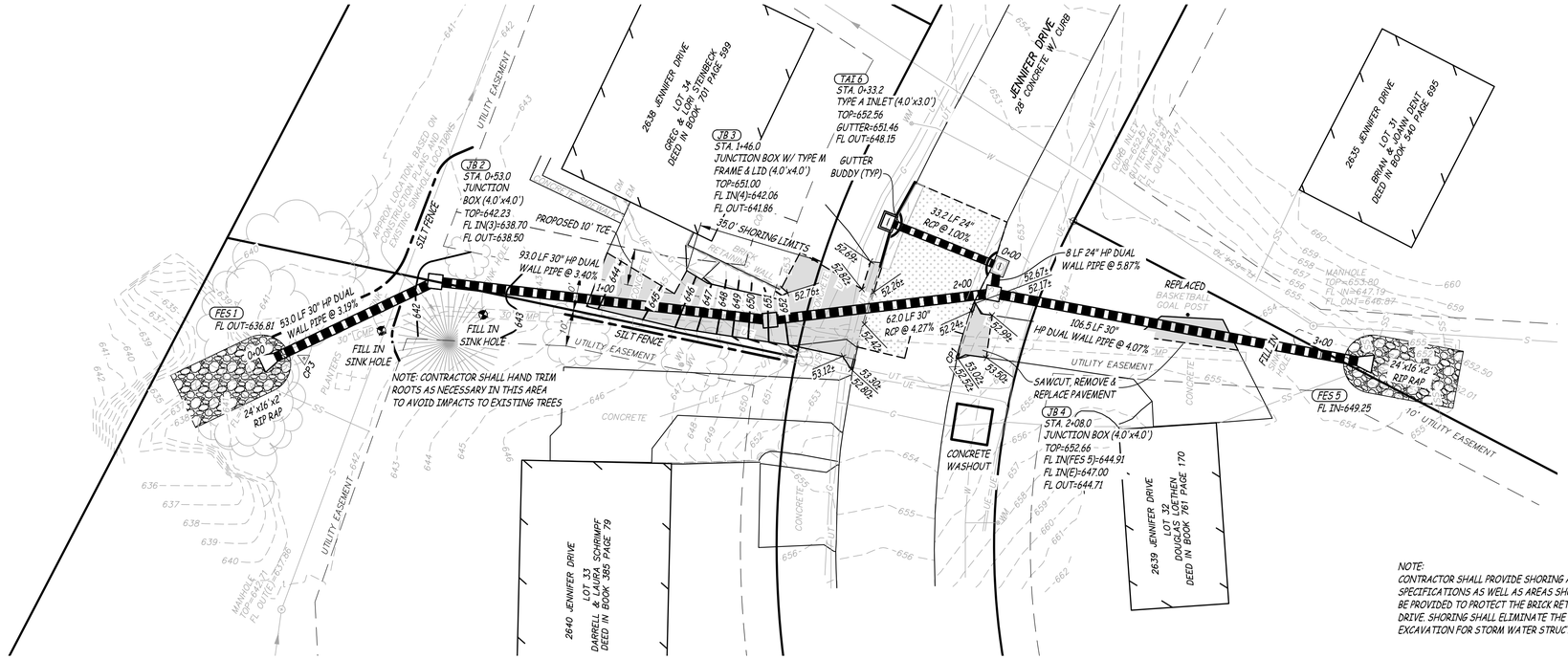
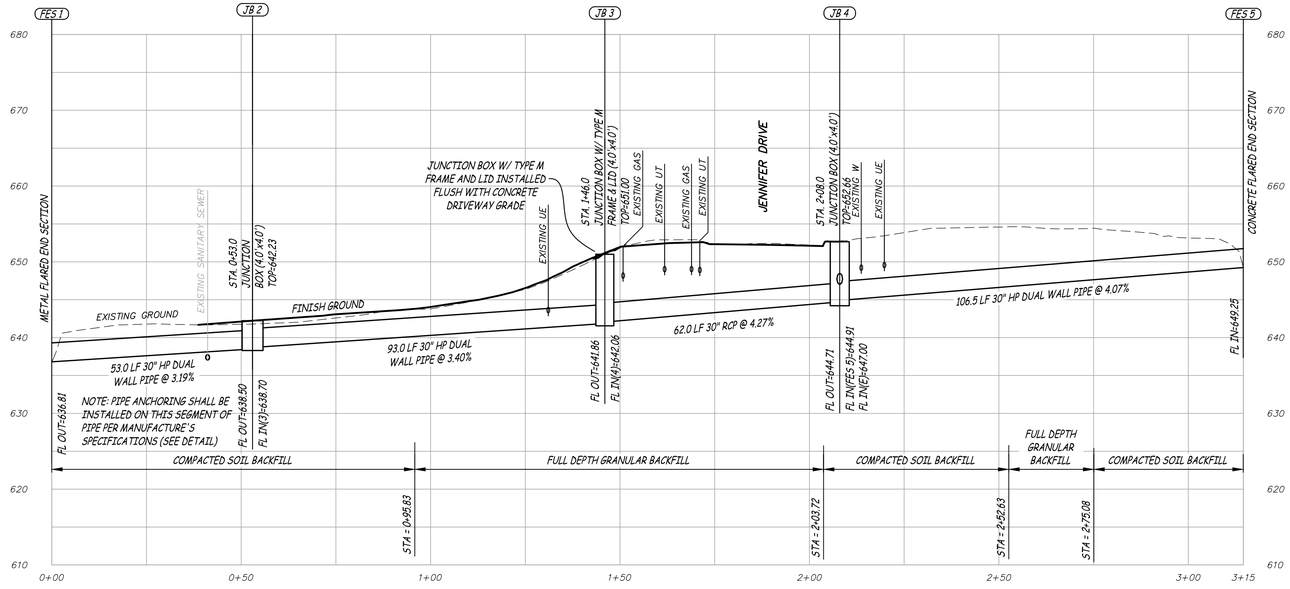
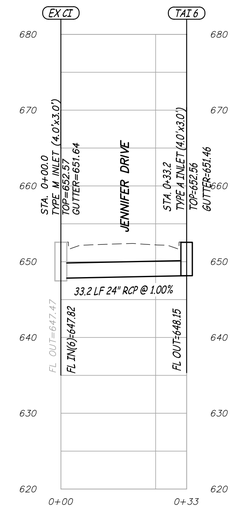


NOTE:
CONTRACTOR SHALL PROVIDE SHORING AS OUTLINED IN THE TECHNICAL SPECIFICATIONS AS WELL AS AREAS SHOWN ON THE PLANS. SHORING SHALL BE PROVIDED TO PROTECT THE BRICK RETAINING WALL AT 2638 JENNIFER DRIVE. SHORING SHALL ELIMINATE THE LATERAL SHIFTING OF SOIL DURING EXCAVATION FOR STORM WATER STRUCTURE AND PIPE INSTALLATION.



FES 1 THRU FES 5
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



EX CI THRU TAI 6
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'

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N

0 1"
SCALE: 1" = 20'

CONSTRUCTION DOCUMENTS

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
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8/6/2026
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ROSS A. KASMANN
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Date
AUGUST 6, 2026

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JENNIFER DRIVE STORM SEWER PLAN & PROFILE

Sheet
C1.02

ES&S PROJECT NO. 16804

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LEGEND

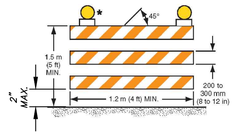
TYPE 3 BARRICADE W/ TYPE "A" LIGHTS

TEMPORARY TRAFFIC CONTROL SIGN

WORKSPACE

DESIGN DATA

POSTED SPEED = 30 MPH



* WARNING LIGHTS SHALL BE PROVIDED IF ROAD IS TO BE CLOSED OVERNIGHT

** RAIL STRIPE WIDTHS SHALL BE 150 MM (6 IN.), EXCEPT THAT 100 MM (4 IN.) WIDE STRIPES MAY BE USED IF RAIL LENGTHS ARE LESS THAN 900 MM (36 IN.). THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.

TYPE 3 BARRICADE

NOT TO SCALE



W20-1
"ROAD WORK AHEAD" SIGN

NOT TO SCALE



R11-4
"ROAD CLOSED" SIGN

NOT TO SCALE



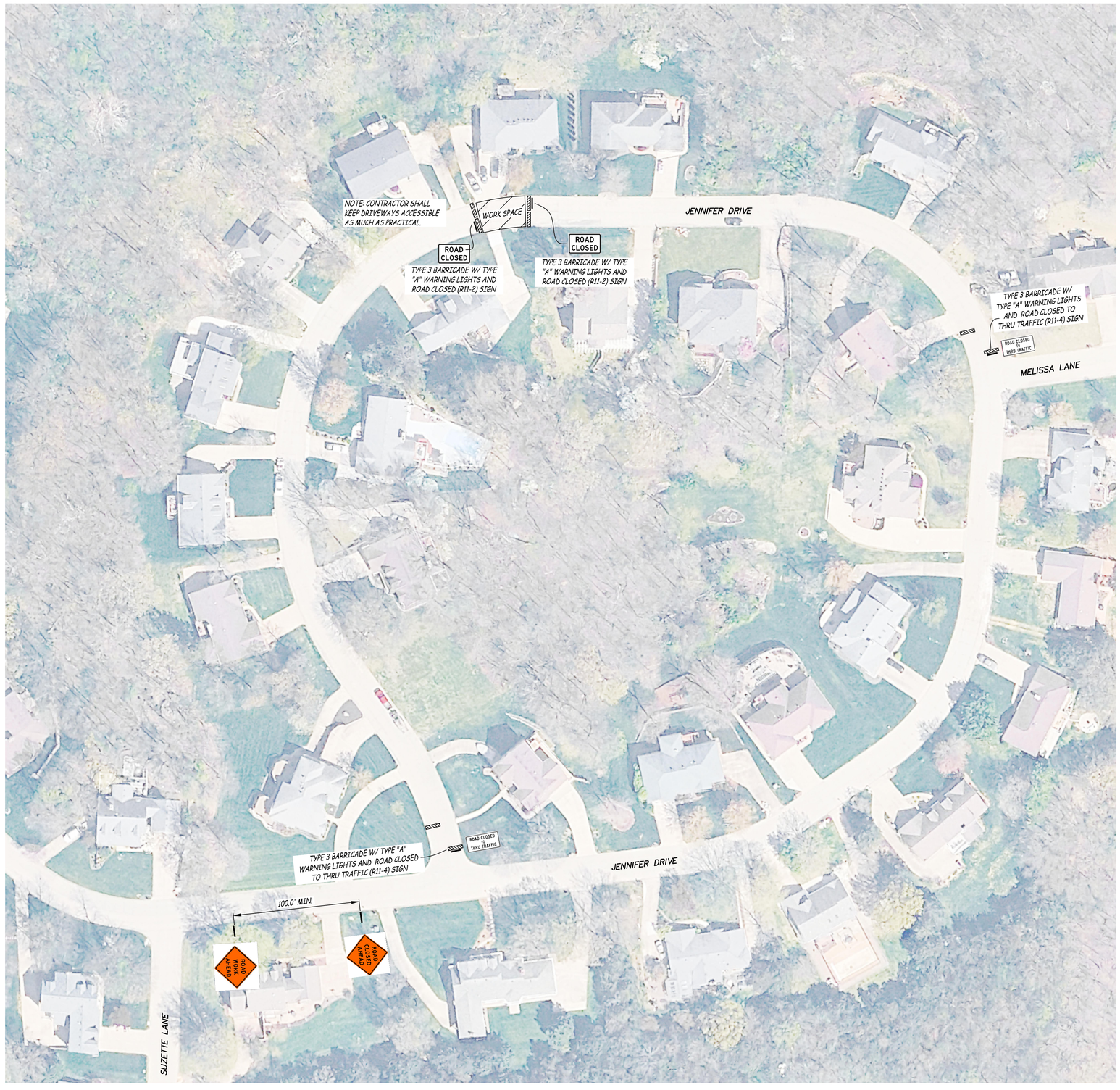
R11-2
"ROAD CLOSED" SIGN

NOT TO SCALE



W20-3
"ROAD CLOSED AHEAD" SIGN

NOT TO SCALE



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N

0 1"
SCALE: 1" = 50'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

CONSTRUCTION DOCUMENTS

8/6/2026

STATE OF MISSOURI
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ROSS A. KASMANN
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Date
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JENNIFER DRIVE
TEMPORARY TRAFFIC CONTROL PLAN

Sheet
C1.03

ES&S PROJECT NO. 16804

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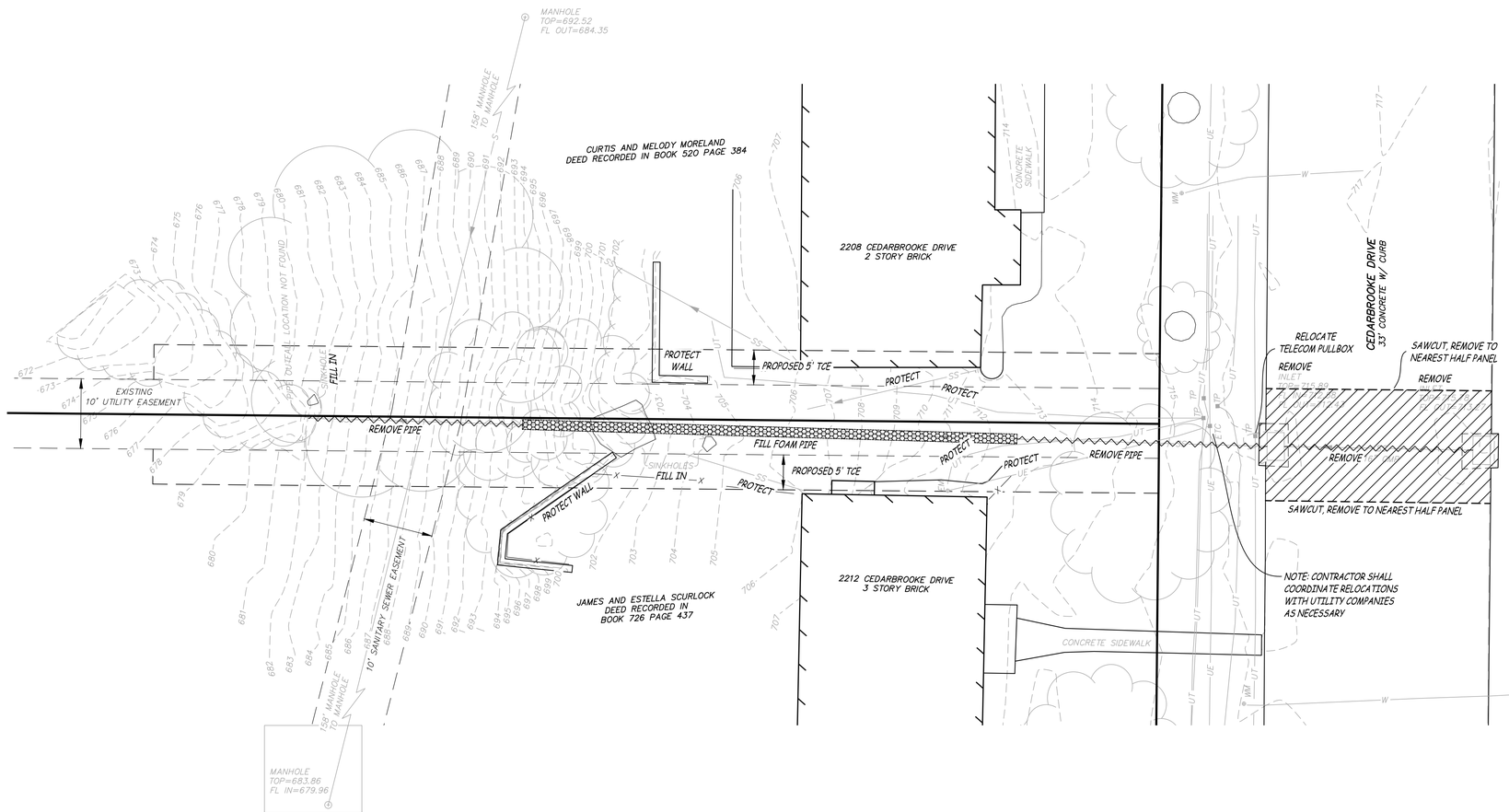

LEGEND

- REMOVE PAVEMENT
- REMOVE EXISTING STORM SEWER PIPE
- FILL FOAM EXISTING STORM SEWER PIPE

CONSTRUCTION DOCUMENTS

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N

0 1"
SCALE: 1" = 10'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
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CEDARBROOKE DRIVE
DEMOLITION PLAN

Sheet
C2.01

ES&S PROJECT NO. 16804

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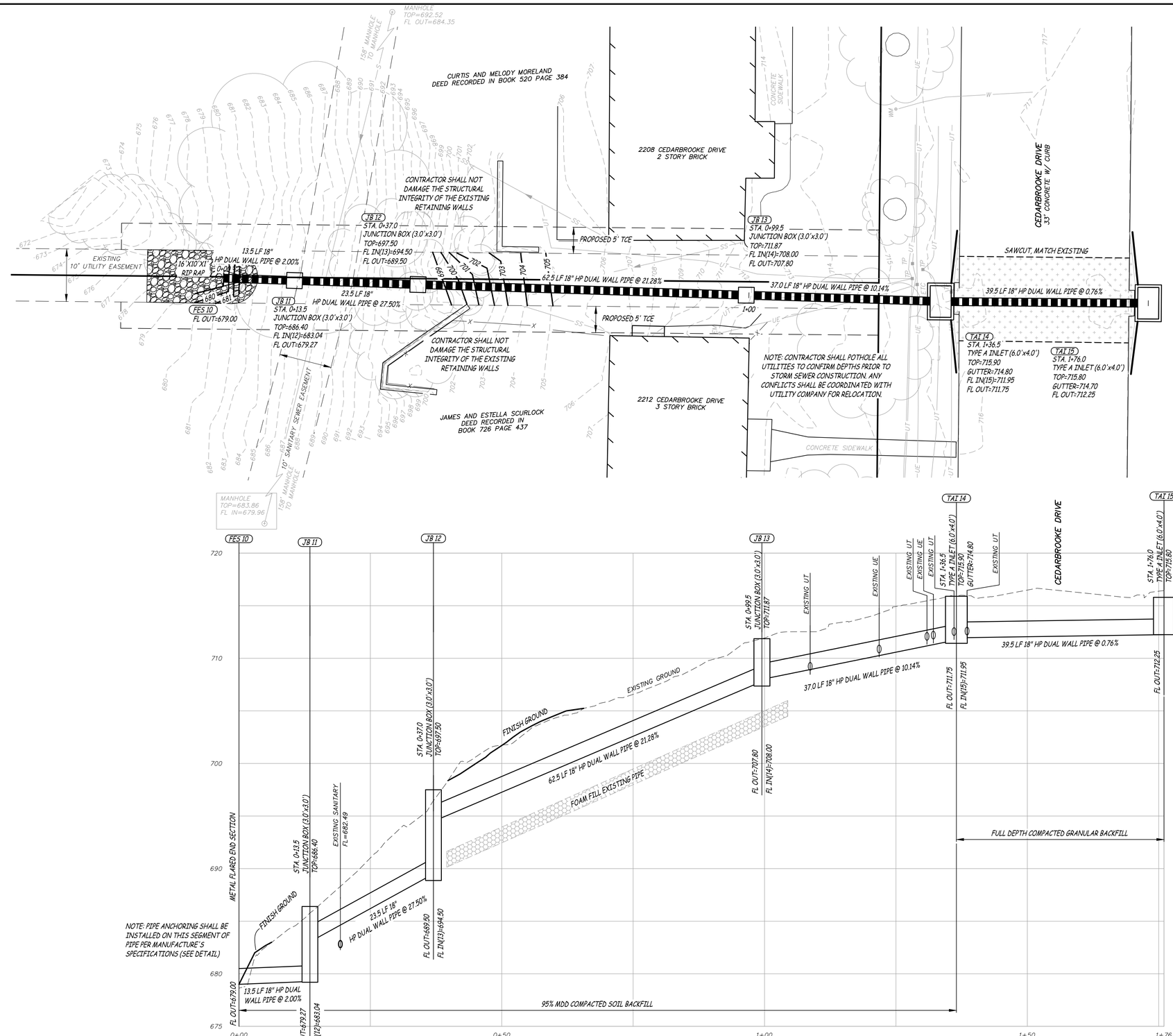

FES 10 THRU TAI 15

SCALE – HORIZ. 1" = 10'
VERT. 1" = 5'

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CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
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8/6/2026

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CEDARBROOKE DRIVE
STORM SEWER
PLAN & PROFILE

Sheet

C2.02

ES&S PROJECT NO. 16804

CONSTRUCTION DOCUMENTS

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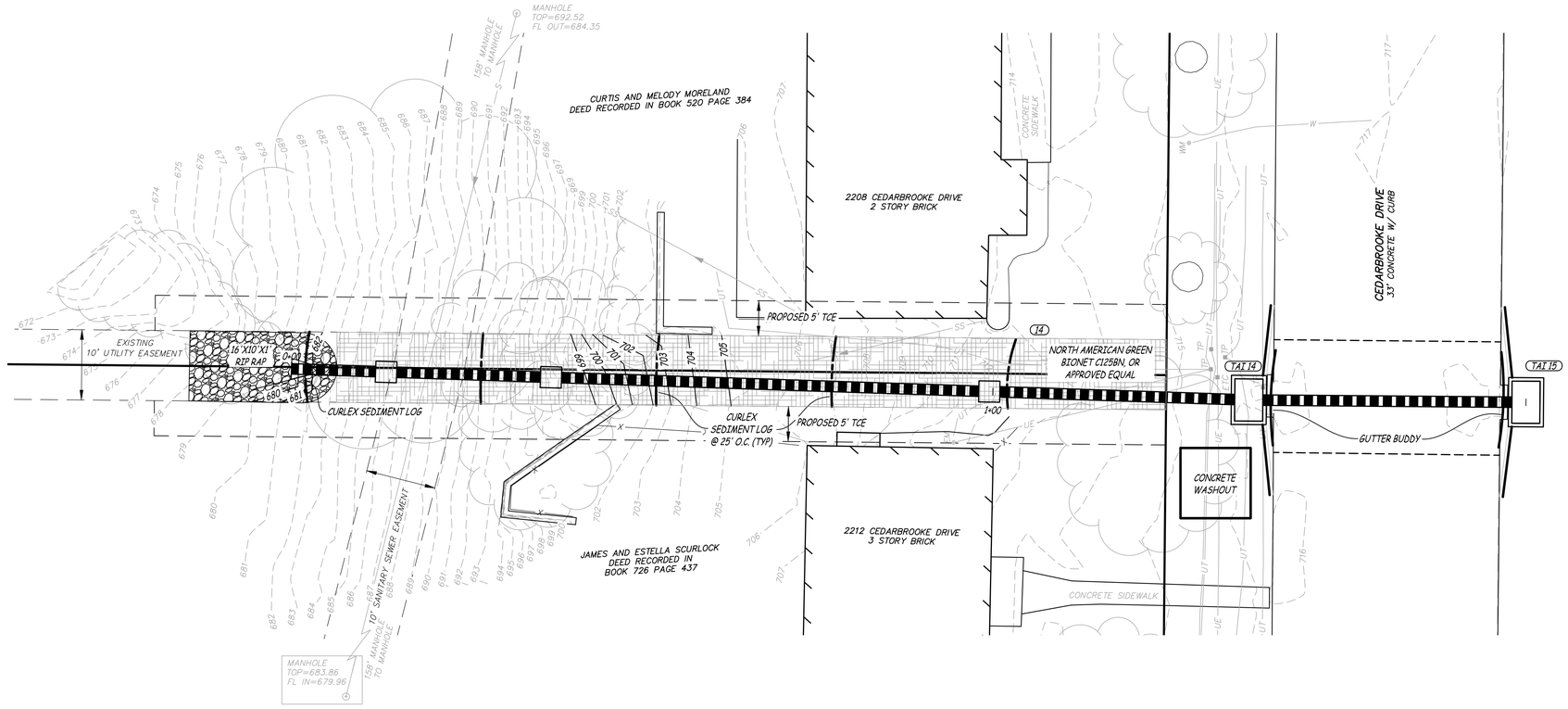

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CEDARBROOKE DRIVE
EROSION CONTROL PLAN

Sheet

C2.03

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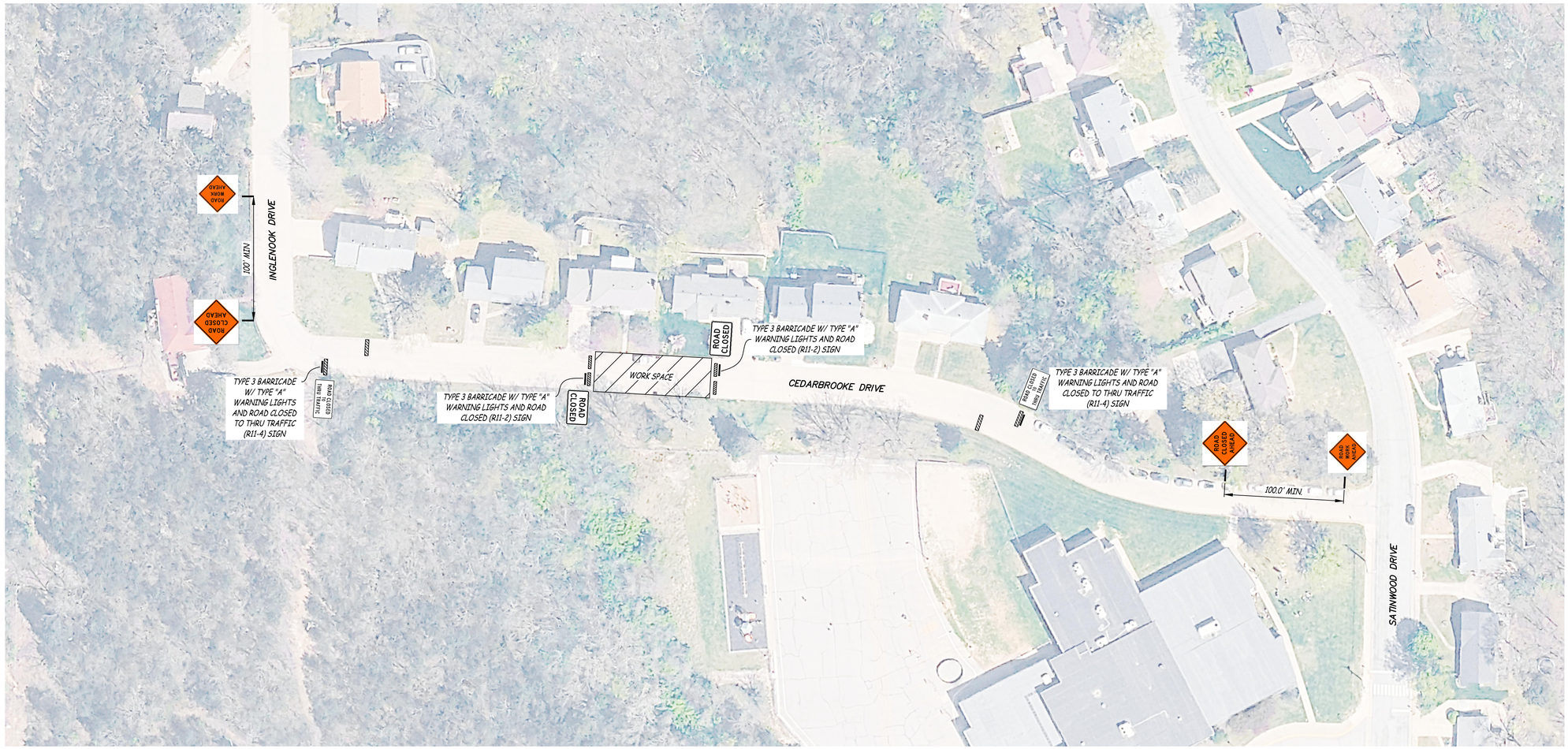


LEGEND

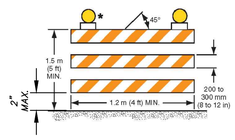
TYPE 3 BARRICADE W/ TYPE "A" WARNING LIGHTS

TEMPORARY TRAFFIC CONTROL SIGN

WORKSPACE

DESIGN DATA

POSTED SPEED = 30 MPH



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TYPE 3 BARRICADE
NOT TO SCALE



R11–2
"ROAD CLOSED" SIGN
NOT TO SCALE



R11–4
"ROAD CLOSED" SIGN
NOT TO SCALE



W20–3
"ROAD CLOSED AHEAD" SIGN
NOT TO SCALE



W20–1
"ROAD WORK AHEAD" SIGN
NOT TO SCALE

CONSTRUCTION DOCUMENTS

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N

0 1"
SCALE: 1" = 50'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
ROSS A. KASMANN
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CEDARBROOKE DRIVE TEMPORARY TRAFFIC CONTROL PLAN

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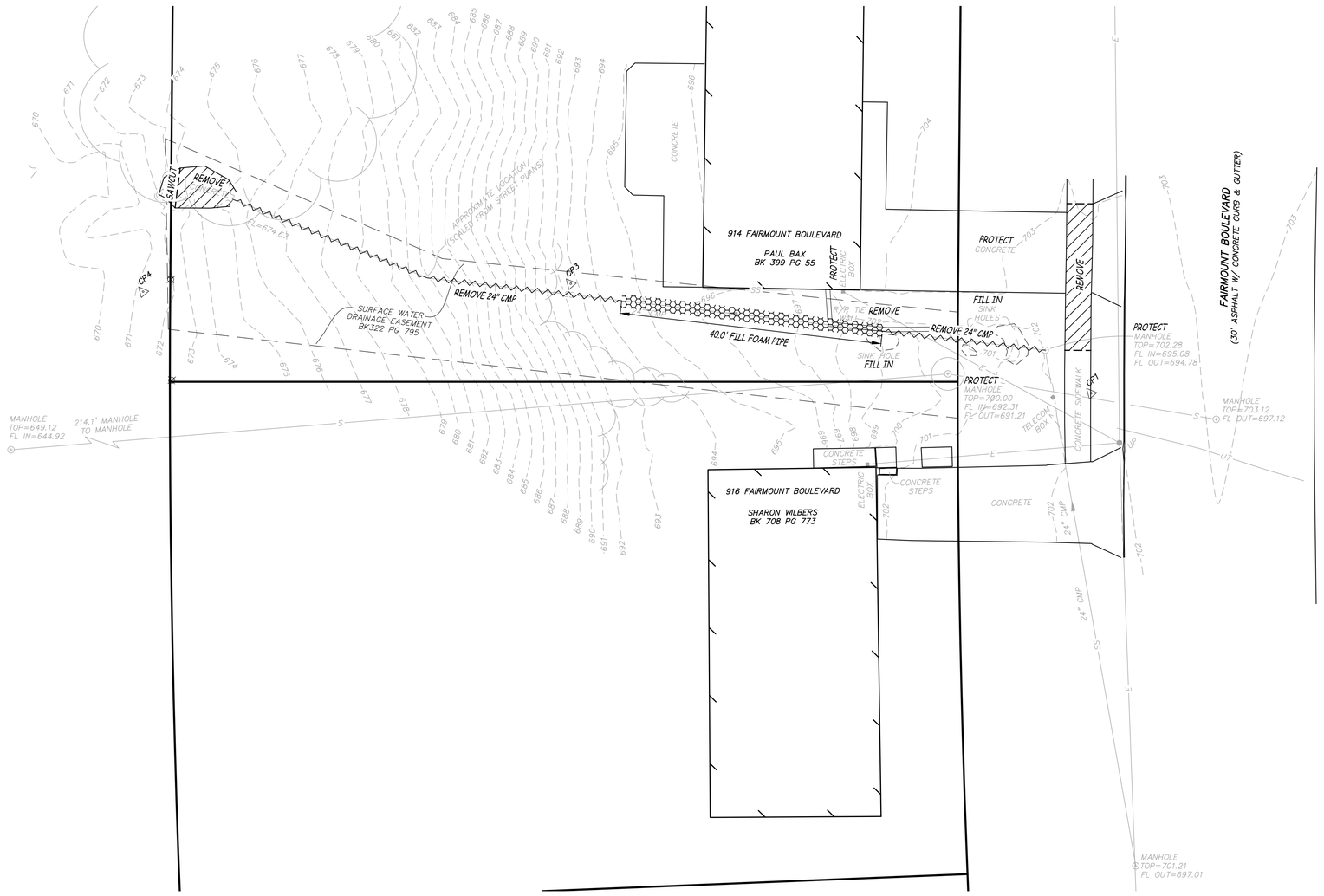

LEGEND

- REMOVE PAVEMENT
- REMOVE EXISTING STORM SEWER PIPE
- FILL FOAM EXISTING STORM SEWER PIPE

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N

0 1"
SCALE: 1" = 10'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
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Date
AUGUST 6, 2026

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FAIRMOUNT BOULEVARD DEMOLITION PLAN

Sheet
C3.01

ES&S PROJECT NO. 16804

CONSTRUCTION DOCUMENTS

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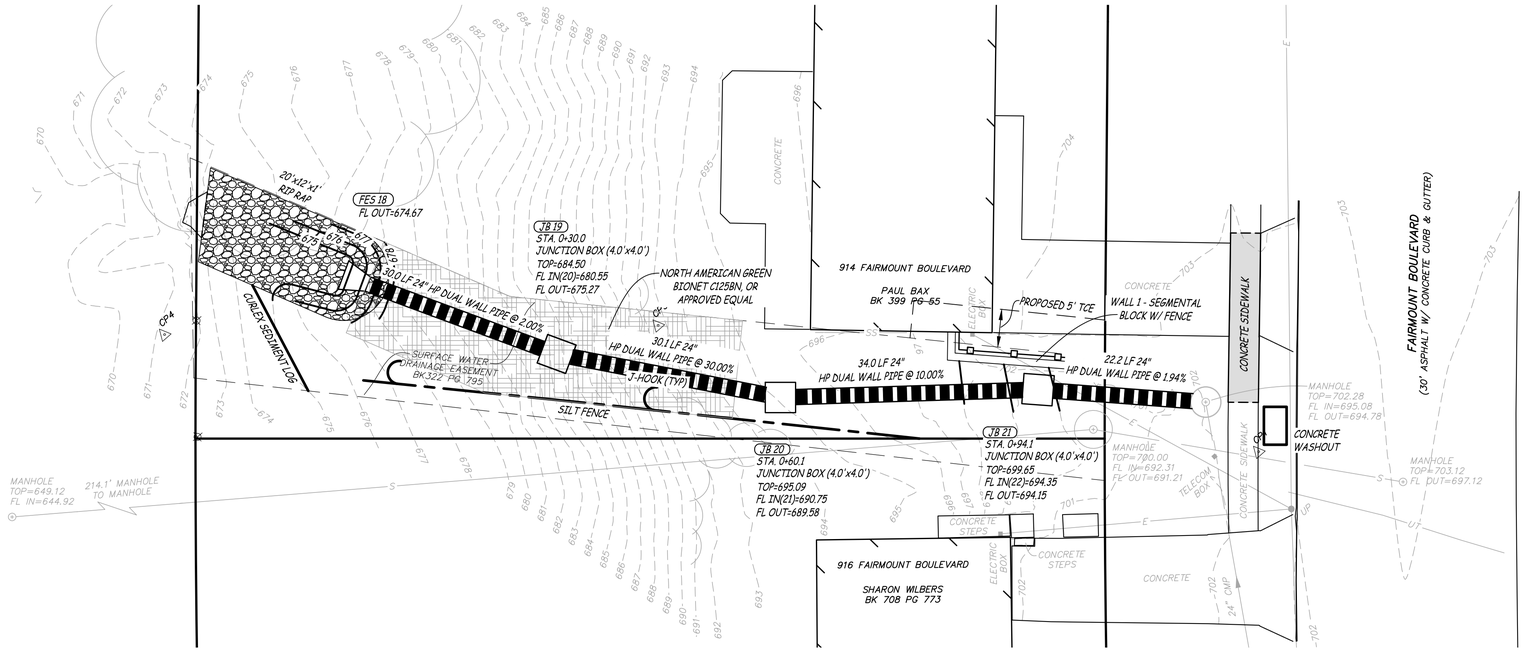

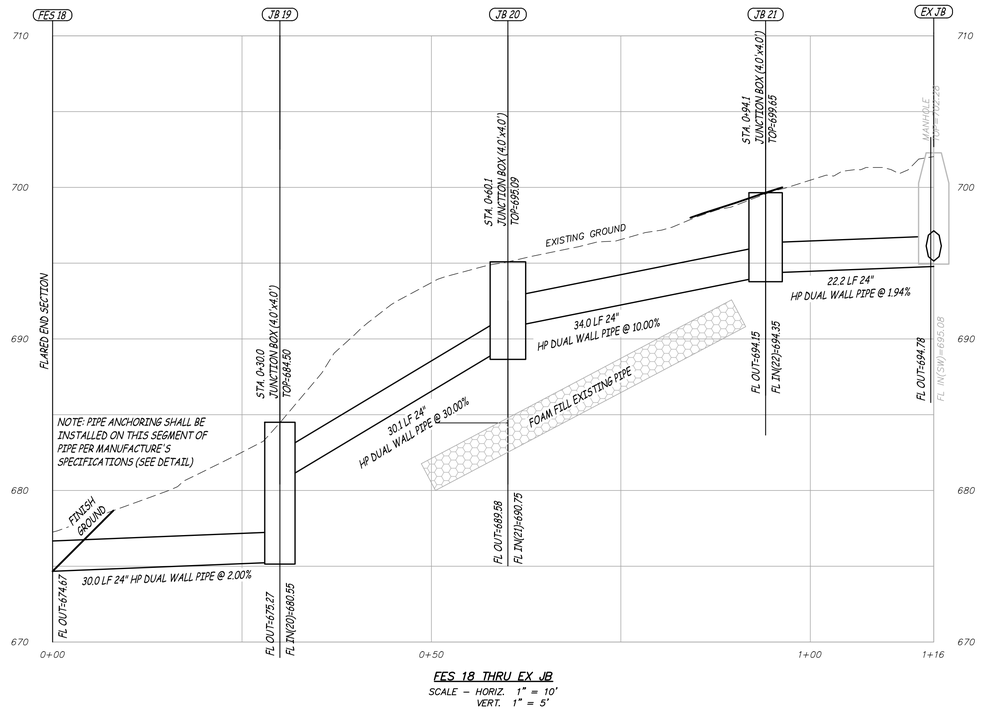

FES 18 THRU EX JB

SCALE – HORIZ. 1" = 10'
VERT. 1" = 5'

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FAIRMOUNT BOULEVARD STORM, EROSION, & WALL PLAN

Sheet
C3.02

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CONSTRUCTION DOCUMENTS

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Standard Street Notes

1. The Department of Public Works must be notified at least 24 hours prior to beginning construction, including grading. No street or any part thereof will be accepted by the City of Jefferson unless prior notice has been given to the Department of Public Works.
2. All construction indicated hereon shall be done in accordance with the standards and specifications of the City of Jefferson.
3. All disturbed right of way shall be sodded or seeded and mulched before the street will be accepted by the City.

Concrete Pavement

1. Concrete for curbs and pavement shall meet the specifications of MoDOT Class B–2, or MB–2 and shall have a have a minimum 28–day compressive strength of 4000 psi.
2. All concrete used on public infrastructure shall be air–entrained. The designated quantity of air by volume shall be within the range of 4.5% to 7%.
3. In street patching operations or other applications in which concrete is to be opened to traffic within 24 hours the concrete shall meet the requirements of MoDOT specification 613.10.2.3.1. Only non chloride accelerators are allowed.
4. In street patching operations or other applications in which concrete is to be opened to traffic within 4 hours the concrete shall meet the requirements of MoDOT specification 613.10.2.3.2. Only non chloride accelerators are allowed.
5. In regard to items 3 and 4 above the concrete shall reach a compressive strength of 3,000 psi within the specified times (24 hours or 4 hours) for pavements that are 8 inches thick or less, or 2,700 psi for pavements that are greater than 8 inches thick but less than 10 inches thick.
6. All dowels and tie bars used in concrete pavements shall be epoxy coated meeting MoDOT specification 1057.
7. Curb and gutter shall be finished with a light broom finish parallel to the street. Pavement is to receive a heavy broom finish perpendicular to the street.

Asphalt Pavement

1. Asphalt for pavements shall be as specified in the City of Jefferson Tecnical Specifications.

Subbase Material

Subbase material shall conform to one the gradations (A–D) of ASTM M147 as shown in the chart below.

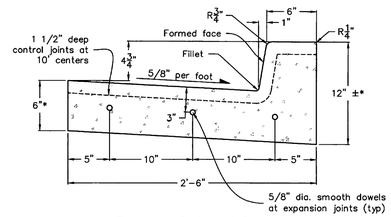
Sieve Size	Percent Passing					
	Grading A	Grading B	Grading C	Grading D	Grading E	Grading F
2 in.	100	100	--	--	--	--
1 in.	--	75 – 95	100	100	100	100
⅜ in.	30 –65	40 – 75	50 – 85	50 – 100	--	--
No. 4	25 – 55	30 – 60	35 – 65	50 – 85	55 – 100	55 – 100
No. 10	15 – 40	20 – 45	25 – 50	40 – 70	40 – 100	40 – 100
No. 40	8 – 20	15 – 30	15 – 30	25 – 45	20 – 50	30 – 70
No. 200*	2 – 8	5 – 20	5 – 15	5 – 20	6 – 20	8 – 25

* Material passing the No. 200 sieve shall be limited to a maximum of 15% for all grading classifications.

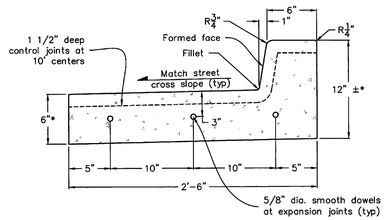
Revision and Description: | No: | Date: | Standard Street Notes | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 20.01



Type "A" Curb and Gutter



Type "A" Curb and Gutter with Tilt Out Pan

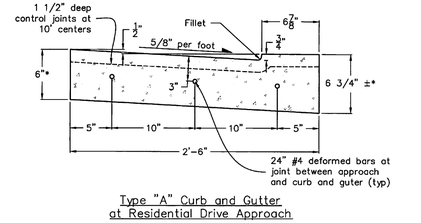
Notes:
1. Expansion joints shall be installed at curb return radius points on intersecting streets, when expansion is installed in the street, and at ends of inlet transitions. These 1/2" expansion joints shall have 5/8" diameter x 18" long smooth dowels. These dowels shall be greased and wrapped on one end with expansion tubes.
2. Control joints may be sawed or pre–formed.
3. Curb pan can be constructed at 2.0% cross slope when the street and curb are constructed monolithically or on arterial streets when asphalt is placed under the curb.
4. When a tilt out pan is constructed the pan shall be tilted out no more than the cross slope of the adjoining street.

*Pan thickness increases to match concrete pavement thickness on arterial streets. Back of curb dimension increases as the pan dimension increases.

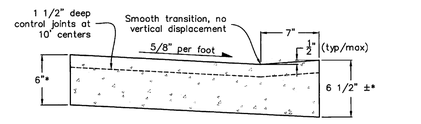
Revision and Description: | No: | Date: | Type "A" Curb and Gutter | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

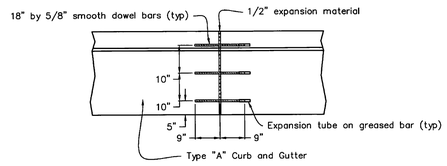
SECTION NUMBER 20.07



Type "A" Curb and Gutter at Residential Drive Approach



Type "A" Curb and Gutter at Sidewalk Ramps



Plan View Type "A" Curb and Gutter Expansion Joint Detail

Notes:
1. Refer to notes on previous page.

*Pan thickness increases to match concrete pavement thickness on arterial streets. Back of curb dimension increases as the pan dimension increases.

Revision and Description: | No: | Date: | Type "A" Curb and Gutter at Driveways & Ramps | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 20.08

Excavation in Right of Way

All excavations in any right of way in the City shall be made in the following manner

1. The location of new facilities to be constructed on right–of–way shall be approved by the Director of Public Works. No new facilities shall be constructed under roadways, unless undue hardship is imposed by placement outside the roadway. The edge of a trench for excavations paralleling curbs outside of roadways shall be kept a minimum of three (3) feet from the back of curb.
2. The permit holder shall notify the Director of the time the excavation is to begin a minimum of two (2) hours prior to its commencement.
3. Road closures require the prior approval of the Director. Five (5) working days' notice is required for work involving the closure of a roadway to traffic. If the work involved is due to a need for immediate repair or other good cause, the Director may reduce or waive the required notice. When closing a street to traffic, the permit holder shall notify the communications division of the police department of the time the roadway will be closed and at the time the roadway is reopened to traffic.
4. The permit holder shall provide, erect and maintain such barricades, signs, flags, and lighting at the excavation area as may be required by the most recent edition of the Manual on Uniform Traffic Control Devices. For arterial streets a traffic control plan designed and sealed by a Professional Engineer shall be submitted.

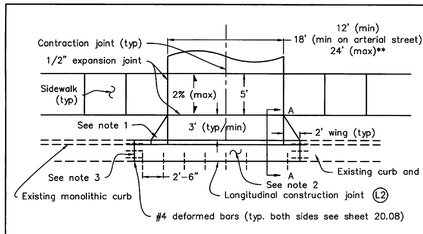
All excavations in any roadway shall conform with the following additional procedures:

1. The outer edges of all cuts through paved surfaces shall be sawed the full depth of the pavement thickness by use of a power driven concrete saw to obtain a smooth and square cut. If an excavation is made in a roadway with a surface deficiency, the pavement removal shall be expanded to a point where a smooth straight edge can be maintained. If the contractor fails to saw the pavement, the city shall perform this operation or have this operation performed, and the cost thereof shall be charged to the contractor.
2. Asphalt pavement shall be removed to a minimum width of twelve (12) inches beyond each edge of the excavated trench. Concrete pavement shall be removed to the nearest pavement joint unless a twelve (12) inch wide bench can be achieved by the removal of one half of a pavement panel. All cuts shall be square. No panel shall be cut in a manner which results in a panel with a length that is more than twice its width. Benching is not required for trenches six (6) inches wide or less.
3. In the event the entire width of a roadway is to be excavated, the excavation and backfill shall be completed within one–half of the width of the roadway prior to any excavation commencing in the remaining half of the roadway if practical as determined by the Director.
4. No open cuts will be permitted across arterial streets unless undue hardship is imposed. Approval of the Director must be obtained prior to an open cut being made across an arterial street.
5. For the three (3) years following the resurfacing of a roadway, no open cuts will be permitted on that roadway for any work that could have been foreseen.
6. In the event an excavation crosses a curb or curb and gutter, the curb or curb and gutter shall be removed and replaced a minimum of one half of the affected curb section. If the trench extends to within twelve (12) inches of the centerline of the curb section the entire section shall be replaced. If a bare under curb or curb and gutter is made or utility is pushed under the curb and material under the curb sloughs creating a void under the curb or curb and gutter, the entire width of curb or curb and gutter shall be removed and replaced in accordance with the above requirements. All reconstructed curb or curb and gutter shall be doweled to the existing curb or curb and gutter.
7. If an excavation takes place at an intersection that has a sidewalk and the excavation damages or leads to the removal of the sidewalk, ramp, or curb, a sidewalk ramp that is compliant with the City of Jefferson Standard Drawings shall be constructed.

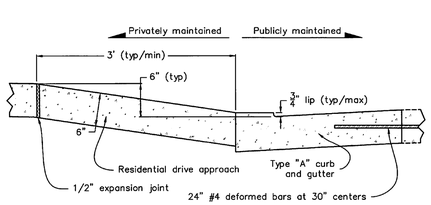
Revision and Description: | No: | Date: | Excavations in Right of Way Standard Notes | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 21.01



Type "S" Residential Drive Approach on Concrete Street



Section A–A

Notes:
1. The flared wing to a residential driveway shall not be located within the transition pan/wing of a stormwater inlet.
2. Unless the curb is removed by approved mechanical methods the entirety of the curb and gutter section in front of the driveway approach is to be removed and replaced with a gutter section with a 3/4" curb. In the case of a curb poured monolithically with the street the street shall be cut at 30" from the back of the curb so that a standard gutter section can be placed with a 3/4" curb.
3. In the event that a driveway approach wing falls within two feet of a contraction or construction joint in the existing curb and gutter or street, the curb and gutter or associated street shall be removed to that joint and a standard doweled joint installed.

** Maximum driveway width is 30 feet where a three vehicle garage faces the street.

Revision and Description: | No: | Date: | Type "S" Residential Drive Approach Concrete Street | Standard Driveway Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 22.03

Backfill in Right of Way

All excavations within any right of way of the City shall be backfilled in the following manner:

1. Permit holder shall notify the Director of the time when backfilling is to be commenced at least two (2) hours before commencement, and upon its completion.
2. Backfilling shall be accomplished as quickly as good working practice permits, and an excavation shall not be left open and unfilled for a longer period of time than is deemed reasonable and necessary by the Director.
3. All excess materials excavated shall be removed by the permit holder from the site of the excavation area. Shot rock in compacted lifts may be used to stabilize the bottom of excavations.
4. Excavations under paved portions of the right–of–way shall be backfilled with a crushed stone aggregate material having a maximum diameter of one (1) inch and shall be placed in lifts not exceeding six (6) inches. Each lift shall be compacted with a flat plate tamper, vibratory rammer, wheeled compactor, or other compacting device appropriate for the material being used before any additional material is placed in the excavation.
5. Excavations not in driveways, sidewalks, or other paved surfaces and not within three feet of a roadway may use native or imported soil as backfill and shall be backfilled in a manner that will minimize settlement. The backfill shall be left flush with the adjacent area. It shall be the permit holder's responsibility to repair any settlement that occurs within one year after placement of the backfill. In addition, in areas that are seeded, the permit holder shall be responsible for obtaining a stand of grass equal to or better than that of the surrounding yard area.

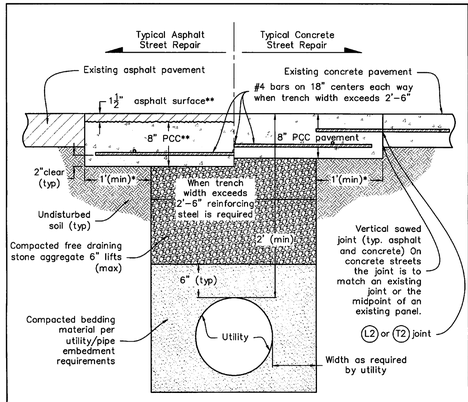
Backfill of excavations under or within three feet of the roadway shall have the following additional requirements:

1. The excavation shall be backfilled with a crushed stone aggregate material meeting one of the gradations (A–D) of ASTM M147 shown on sheet 20.01. The aggregate shall be placed in the excavation in lifts not exceeding six (6) inches. Each lift shall be compacted with a flat plate tamper, vibratory rammer, wheeled compactor, or other compacting devise appropriate for the material being used before any additional material is placed in the excavation.
2. Pavement replacements shall be as depicted on sheet 21.03 or as described below.
3. In bituminous pavements that are not classified as arterial, backfill of excavations that have a minimum width of ten (10) feet and a minimum length of one hundred (100) feet may be topped with asphalt base course in lieu of concrete. The asphalt base course shall be seven (7) inches in thickness, and shall meet the standard specification for asphalt base. The asphalt shall be placed in two (2) lifts by a self–propelled mechanical paving machine. Each lift shall be compacted by a steel wheeled vibratory roller before any additional material is placed on top of it. The top of the asphalt base shall be held one and one–half (1½) inches below the top of the existing pavement. The remaining one and one–half (1½) inches shall be bituminous material meeting the specifications of BP–1.

Revision and Description: | No: | Date: | Backfill in Right of Way Standard Notes | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 21.02



Paved Street/Alley Backfilling and Pavement Replacement

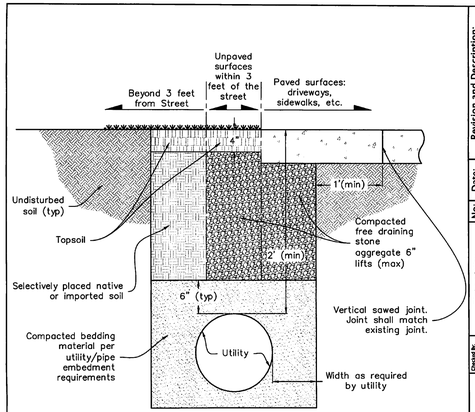
Notes:

1. A 1 foot wide (min) bench/ledge must be maintained or established between the edge of the trench and the vertical face of the existing pavement prior to the placement of the new pavement. If the street is concrete the joint shall be located at an existing joint or may be located at the midpoint of the panel if it does not result in a panel that is more than twice as long as it is wide. *The bench/ledge is not required when the trench is less than 6 inches wide.
2. All concrete used for street repair shall meet the specifications set forth for 4 hour or 24 hour high early strength concrete (see sheet 20.01) as may be directed by the engineer or dictated by the circumstances. The finish shall match the finish on the adjoining street.
3. Asphalt streets which have a surface less than 6 years old shall be capped with one and one–half (1½) inches of hot mix asphalt meeting the specifications of BP–1 unless otherwise approved by the Director. If hot mix asphalt is not available the patch shall be capped with cold mix. When hot mix becomes available the cold mix is to be removed and replaced with hot mix. **Asphalt streets which have a surface 6 years old or older may be patched with concrete all the way to the surface. In this instance the concrete shall be 9 1/2" thick.
4. In the event that any appurtenance such as a valve box, meter, or manhole is required to be placed in an asphalt street with a surface older than 6 years and concrete is brought to the surface the concrete shall be held back 6" from the appurtenance and the remaining void filled with asphalt to facilitate future milling operations.

Revision and Description: | No: | Date: | Paved Street/Alley Excavation & Backfilling | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 21.03



Right of Way Excavation and Backfill Beyond the Street

Notes:

1. Sidewalk panels shall be removed and replaced in their entirety. No partial replacement of a sidewalk panel is allowed.
2. The replacement of a driveway shall be performed such that there is no increase in the number of transverse joints in the driveway. This may require the removal of the driveway back to an existing joint. If a driveway approach is within the excavation it shall be replaced in a manner that does not increase the number of joints within the approach.
3. The contractor is responsible for the repair of any settlement for a period of one year following the completion of the project.

Revision and Description: | No: | Date: | Right of Way Excavation & Backfilling | Standard Details | Checked By: | Drawn By: | Date:

City of Jefferson Department of Public Works

SECTION NUMBER 21.04

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MO Engineering Corp. # 2004005018

CONSTRUCTION DOCUMENTS

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

ROADWAY DETAILS

Sheet
C4.01

ES&S PROJECT NO. 16804

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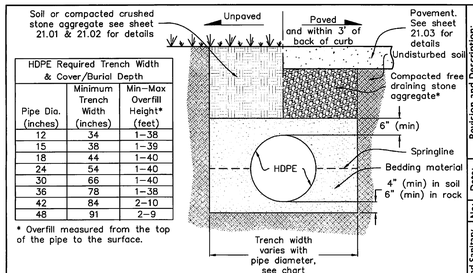
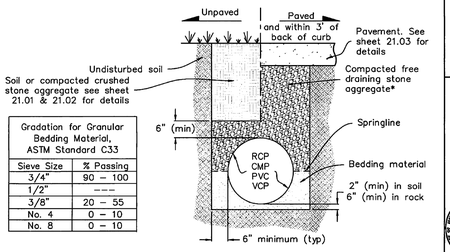


HDPE Required Trench Width & Cover/Burial Depth		
Pipe Dia. (inches)	Minimum Trench Width (inches)	Min–Max Overfill Height* (feet)
12	34	1–38
15	38	1–39
18	44	1–40
24	54	1–40
30	66	1–40
36	78	1–38
42	84	2–10
48	91	2–9

* Overfill measured from the top of the pipe to the surface.

Installation Detail for HDPE Pipe

Notes:
1. Construction sequence
   1.1. Place bedding material to grade
   1.2. Compact bedding outside the middle third of the pipe
   1.3. Pipe should be located in the center of the trench.
   1.4. Place and compact bedding material to the springline
   1.5. Place remaining backfill in accordance with the specifications.
2. All HDPE pipe shall have water tight gasket connections.



Gradation for Granular Bedding Material, ASTM Standard C33	
Sieve Size	% Passing
3/4"	90 – 100
1/2"	———
3/8"	20 – 55
No. 4	0 – 10
No. 8	0 – 10

Installation Detail for RCP, CMP, PVC, and VCP

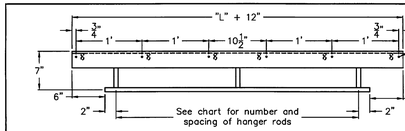
* When the stormwater pipe is under or running parallel to the pavement the gradation of the free draining stone aggregate shall meet one of the gradations A–D of ASTM M147 shown on sheet 20.01. The aggregate shall be compacted in 6" lifts.

Revision and Description: | No: | Date:
Stormwater and Sanitary Sewer Pipe Embedment Details | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 30.01

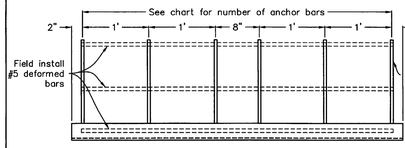
Stormwater Structure Notes:

1. Inlet dimensions are typically listed on the plans as length "L" (dimension parallel to the street) by width "W" (dimension perpendicular to the street). The dimensions reference the interior dimensions of the inlet or junction box.
2. The minimum fall through a stormwater inlet or junction box is 0.20'.
3. Dimensions of the upstream and downstream gutter transitions shall be as detailed unless otherwise specified on the plans.
4. Gutter transitions on inlets in a sump shall be 10 feet long on both sides of inlet unless otherwise specified on the plans.
5. Gutter transitions shall transition uniformly between standard curb and gutter and the inlet wall.
6. Expansion joints and dowel placement between curb and gutter and inlet transition shall be the same as that shown on Type "A" curb and gutter detail.
7. Gutter deflectors (see sheet 40.09) are required when the street slope is 5% or greater or when the inlet is located within a vertical curve connecting to a slope that is 5% or greater.
8. After initial set, remove deflector channel forms and finish surface of concrete.
9. Ring and cover casting should be located on the downstream side of top slab of the curb inlet.
10. All exposed concrete corners shall have a bull nosed finish.
11. Curb inlets shall include an edge angle assembly with a trash rod (see sheet 40.02).
12. Inlets shall have a 2" to 4" diameter weep hole in every side which also contains a stormwater pipe. The weep hole shall be covered with a 12" x 12" piece of filter fabric reinforced by a similarly sized piece of geogrid or wire fabric. The fabric and grid should be firmly attached to the outside of the inlet wall with mastic or by other approved means. Weep holes shall be placed as low as feasible within the inlet wall.
13. All inlets shall have inverts installed to provide for the smooth transition of water to the outlet pipe. (see MoDOT typical invert details)
14. All reinforcement steel shall be 1 1/2" clear of the concrete surface unless otherwise shown.
15. Reinforcing steel shall be bent around pipes and manhole openings when possible. If steel is cut, a diagonal bar shall be used to tie all cut ends together. Reinforcing steel shall be omitted through pipe and manhole openings.
16. When the top slab (also referred to as the "lid") of the inlet is integral to the sidewalk (i.e. part of the sidewalk), #4 bars shall be installed on 12" centers to tie the lid to the sidewalk (see sidewalk details). In the case that the back edge of the inlet is within 12" of the edge of the sidewalk, the top slab shall be cantilevered over the back wall of the inlet structure and extended to match the back edge of the sidewalk. The steel reinforcement shall be the same as is detailed for the top slab of the inlet.
17. Precast inlets shall not be used without the written consent of the City. Without exception the top slab of all inlets shall be poured in place.
18. The top slab of the inlet shall be sloped to match the longitudinal slope of the street. The slope of the top slab perpendicular to the street shall not exceed 2%.
19. For projects undertaken by the City the transitional gutter and inlet pan will be paid as Type "A" curb and gutter.

Revision and Description: | No: | Date:
Stormwater Structure Notes | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 40.01

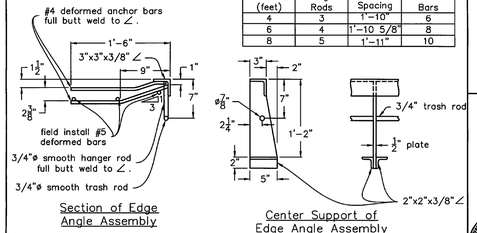


Front Elevation Edge Angle Assembly



Plan View Edge Angle Assembly

Hanger Rods & Anchor Bars			
Inlet Length "L" (feet)	# of Hanger Rods	Hanger Rod Spacing	# of Anchor Bars
4	3	1'–10"	6
6	4	1'–10 5/8"	8
8	5	1'–11"	10

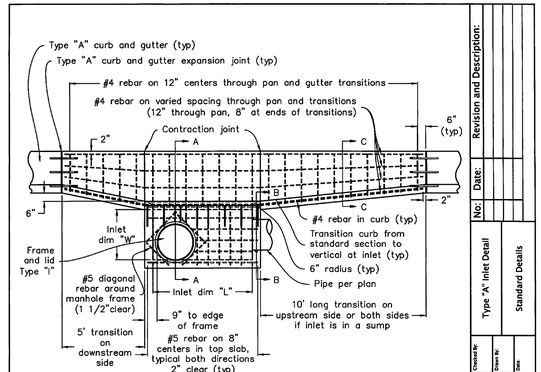


Section of Edge Angle Assembly

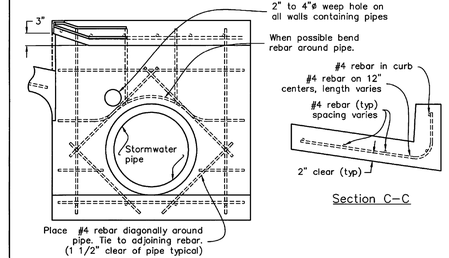
Center Support of Edge Angle Assembly

Notes:
1. Edge angle assembly shall be structural steel. Exposed steel surfaces shall be finished smooth and hot dip galvanized after fabrication.
2. All components shall be joined by continuous welds.
3. Nails or bolts used to anchor angle to form shall be removed or cut off flush with surface of angle.
4. Center support required in center of 8' inlet. Shim under center support plate as needed and spade concrete under base angles.

Revision and Description: | No: | Date:
Edge Angle Assembly Details | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 40.02



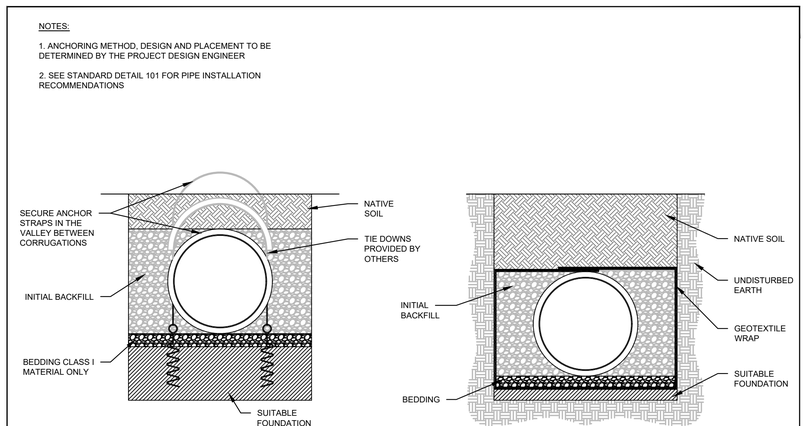
Type "A" Inlet with Top Slab and Pan/Gutter Transition Reinforcing



Section C–C

Section B–B

Revision and Description: | No: | Date:
"Type "A" Inlet Detail | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 40.03



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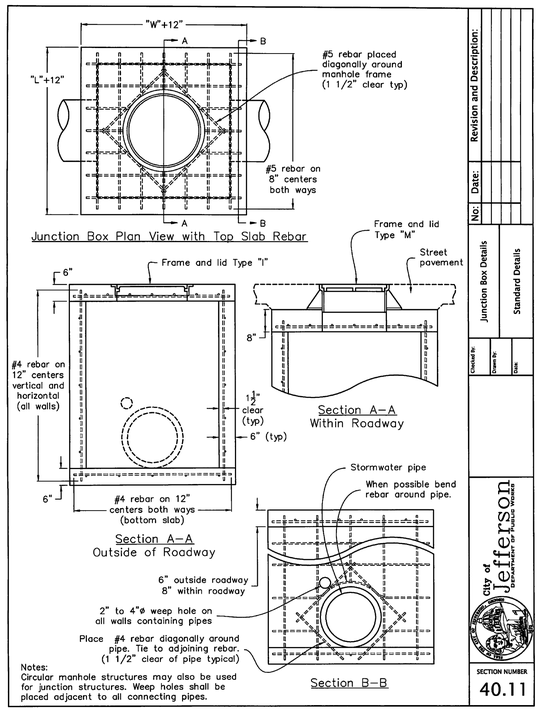
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
2	INITIAL BACKFILL	ALI	05/01/20	

PIPE ANCHORING DETAIL

DRAWING NUMBER: STD-104

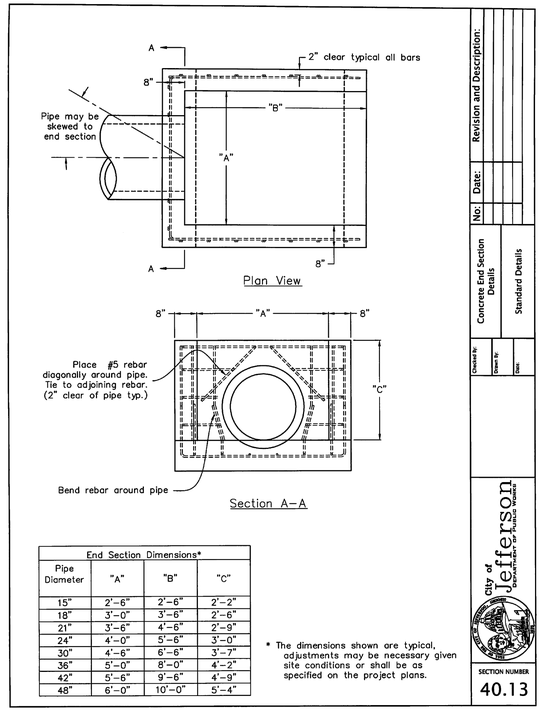
ADS, 4640 TRUEMAN BLVD, HILLIARD, OHIO 43026
ADVANCED DRAINAGE SYSTEMS, INC.

DRAWN BY: JR/CKS
DATE: 10/18/06
SCALE: NTS
SHEET: 1 OF 1



Notes:
Circular manhole structures may also be used for junction structures. Weep holes shall be placed adjacent to all connecting pipes.

Revision and Description: | No: | Date:
Junction Box Details | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 40.11



End Section Dimensions*			
Pipe Diameter	"A"	"B"	"C"
15"	2'–6"	2'–6"	2'–2"
18"	3'–0"	3'–6"	2'–6"
21"	3'–6"	4'–6"	2'–9"
24"	4'–0"	5'–6"	3'–0"
30"	4'–6"	6'–6"	3'–7"
36"	5'–0"	8'–0"	4'–2"
42"	5'–6"	9'–6"	4'–9"
48"	6'–0"	10'–0"	5'–4"

* The dimensions shown are typical, adjustments may be necessary given site conditions or shall be as specified on the project plans.

Revision and Description: | No: | Date:
Concrete End Section Details | Standard Details
Checked By: | Drawn By: | Date:
City of Jefferson Department of Public Works
SECTION NUMBER 40.13

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CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

CONSTRUCTION DOCUMENTS

8/6/2026
STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

STORM SEWER DETAILS

Sheet
C5.01

ES&S PROJECT NO. 16804

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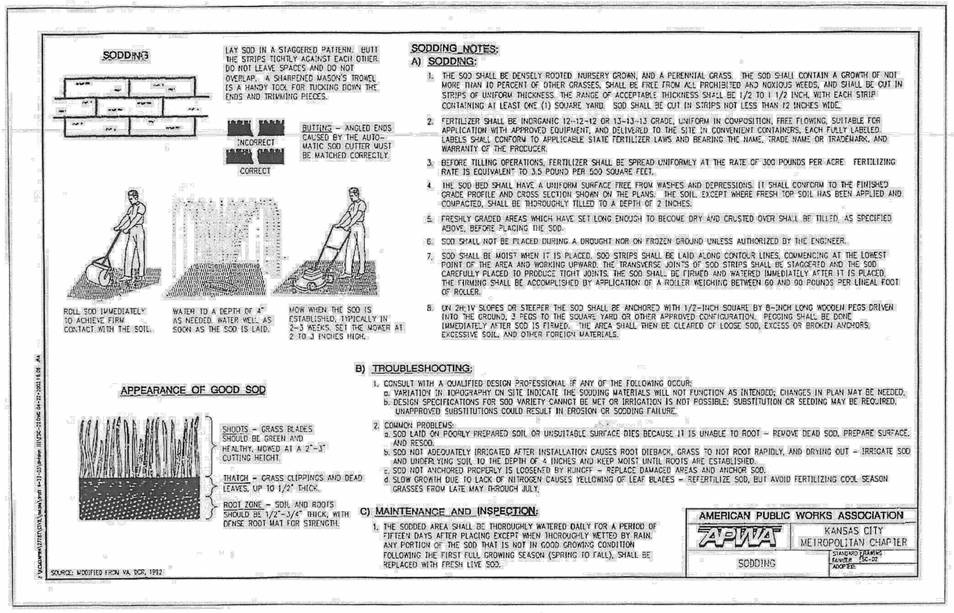


SODDING NOTES:

A) SODDING:

1. THE SOD SHALL BE DENSELY ROOTED NURSERY GROWN, AND A PERENNIAL GRASS. THE SOD SHALL CONTAIN A GROWTH OF NOT MORE THAN 10 PERCENT OF OTHER GRASSES, SHALL BE FREE FROM ALL PROHIBITED AND NOXIOUS WEEDS, AND SHALL BE CUT IN STRIPS OF UNIFORM THICKNESS. THE RANGE OF ACCEPTABLE THICKNESS SHALL BE 1/2 TO 1 1/2 INCH, WITH EACH STRIP CONTAINING AT LEAST ONE (1) SQUARE YARD. SOD SHALL BE CUT IN STRIPS NOT LESS THAN 12 INCHES WIDE.
2. FERTILIZER SHALL BE INORGANIC 12–12–12 OR 13–13–13 GRADE, UNIFORM IN COMPOSITION, FREE FLOWING, SUITABLE FOR APPLICATION WITH APPROVED EQUIPMENT, AND DELIVERED TO THE SITE IN CONVENIENT CONTAINERS, EACH FULLY LABELED. LABELS SHALL CONFORM TO APPLICABLE STATE FERTILIZER LAWS AND BEARING THE NAME, TRADE NAME OR TRADEMARK, AND WARRANTY OF THE PRODUCER.
3. BEFORE TILLING OPERATIONS, FERTILIZER SHALL BE SPREAD UNIFORMLY AT THE RATE OF 300 POUNDS PER ACRE. FERTILIZING RATE IS EQUIVALENT TO 3.5 POUND PER 500 SQUARE FEET.
4. THE SOD BED SHALL HAVE A UNIFORM SURFACE FREE FROM WASHES AND DEPRESSIONS; IT SHALL CONFORM TO THE FINISHED GRADE PROFILE AND CROSS SECTION SHOWN ON THE PLANS. THE SOIL, EXCEPT WHERE FRESH TOP SOIL HAS BEEN APPLIED AND COMPACTED, SHALL BE THOROUGHLY TILLED TO A DEPTH OF 2 INCHES.
5. FRESHLY GRADED AREAS WHICH HAVE SET LONG ENOUGH TO BECOME DRY AND CRUSTED OVER SHALL BE TILLED, AS SPECIFIED ABOVE, BEFORE PLACING THE SOD.
6. SOD SHALL NOT BE PLACED DURING A DROUGHT NOR ON FROZEN GROUND UNLESS AUTHORIZED BY THE ENGINEER.
7. SOD SHALL BE MOIST WHEN IT IS PLACED. SOD STRIPS SHALL BE LAID ALONG CONTOUR LINES, COMMENCING AT THE LOWEST POINT OF THE AREA AND WORKING UPWARD. THE TRANSVERSE JOINTS OF SOD STRIPS SHALL BE STAGGERED AND THE SOD CAREFULLY PLACED TO PRODUCE TIGHT JOINTS. THE SOD SHALL BE FIRMED AND WATERED IMMEDIATELY AFTER IT IS PLACED. THE FIRMING SHALL BE ACCOMPLISHED BY APPLICATION OF A ROLLER WEIGHING BETWEEN 60 AND 90 POUNDS PER LINEAL FOOT OF ROLLER.
8. ON 2H:1V SLOPES OR STEEPER THE SOD SHALL BE ANCHORED WITH 1/2-INCH SQUARE BY 8-INCH LONG WOODEN PEGS DRIVEN INTO THE GROUND, 3 PEGS TO THE SQUARE YARD OR OTHER APPROVED CONFIGURATION. PEGGING SHALL BE DONE IMMEDIATELY AFTER SOD IS FIRMED. THE AREA SHALL THEN BE CLEARED OF LOOSE SOD, EXCESS OR BROKEN ANCHORS, EXCESSIVE SOIL, AND OTHER FOREIGN MATERIALS.

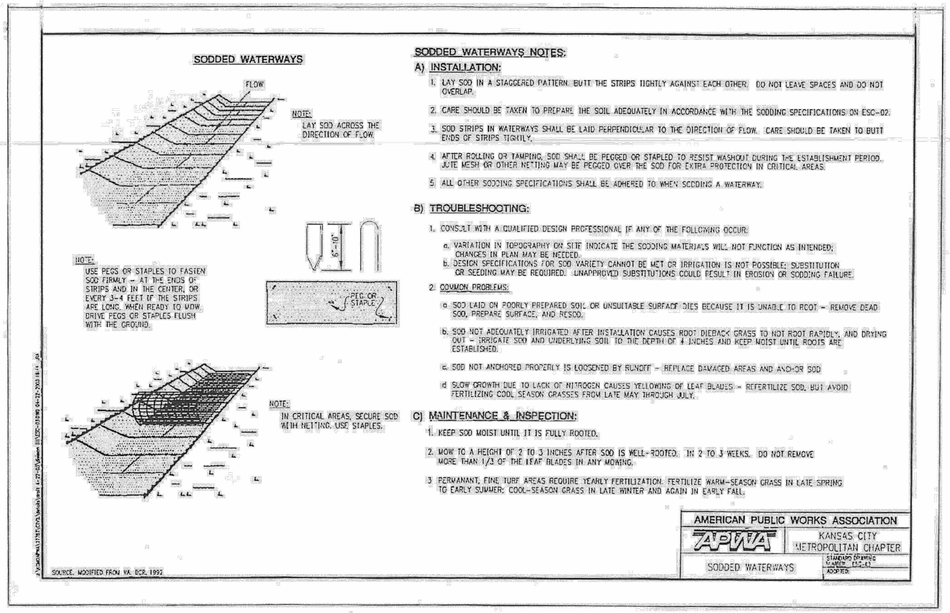
B) TROUBLESHOOTING:

1. CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:
   a. VARIATION IN TOPOGRAPHY ON SITE INDICATE THE SODDING MATERIALS WILL NOT FUNCTION AS INTENDED; CHANGES IN PLAN MAY BE NEEDED.
   b. DESIGN SPECIFICATIONS FOR SOD VARIETY CANNOT BE MET OR IRRIGATION IS NOT POSSIBLE; SUBSTITUTION OR SEEDING MAY BE REQUIRED. UNAPPROVED SUBSTITUTIONS COULD RESULT IN EROSION OR SODDING FAILURE.
2. COMMON PROBLEMS:
   a. SOD LAID ON POORLY PREPARED SOIL OR UNSUITABLE SURFACE DIES BECAUSE IT IS UNABLE TO ROOT – REMOVE DEAD SOD, PREPARE SURFACE, AND RESOD.
   b. SOD NOT ADEQUATELY IRRIGATED AFTER INSTALLATION CAUSES ROOT DIEBACK, GRASS TO NOT ROOT RAPIDLY, AND DRYING OUT – IRRIGATE SOD AND UNDERLYING SOIL TO THE DEPTH OF 4 INCHES AND KEEP MOIST UNTIL ROOTS ARE ESTABLISHED.
   c. SOD NOT ANCHORED PROPERLY IS LOOSENED BY RUNOFF – REPLACE DAMAGED AREAS AND ANCHOR SOD.
   d. SLOW GROWTH DUE TO LACK OF NITROGEN CAUSES YELLOWING OF LEAF BLADES – REFERTILIZE SOD, BUT AVOID FERTILIZING COOL SEASON GRASSES FROM LATE MAY THROUGH JULY.

C) MAINTENANCE AND INSPECTION:

1. THE SODDED AREA SHALL BE THOROUGHLY WATERED DAILY FOR A PERIOD OF FIFTEEN DAYS AFTER PLACING EXCEPT WHEN THOROUGHLY WETTED BY RAIN. ANY PORTION OF THE SOD THAT IS NOT IN GOOD GROWING CONDITION FOLLOWING THE FIRST FULL GROWING SEASON (SPRING TO FALL), SHALL BE REPLACED WITH FRESH LIVE SOD.

AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METROPOLITAN CHAPTER
SODDING	STANDARD DETAILS MANUAL ESC-02 ADOPTED



SODDED WATERWAYS NOTES:

A) INSTALLATION:

1. LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP.
2. CARE SHOULD BE TAKEN TO PREPARE THE SOIL ADEQUATELY IN ACCORDANCE WITH THE SODDING SPECIFICATIONS ON ESC-02.
3. SOD STRIPS IN WATERWAYS SHALL BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY.
4. AFTER ROLLING OR TAMPING, SOD SHALL BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. JUTE MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.
5. ALL OTHER SODDING SPECIFICATIONS SHALL BE ADHERED TO WHEN SODDING A WATERWAY.

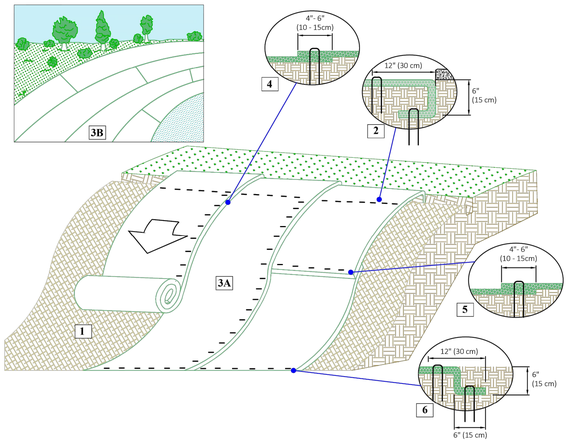
B) TROUBLESHOOTING:

1. CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:
   a. VARIATION IN TOPOGRAPHY ON SITE INDICATE THE SODDING MATERIALS WILL NOT FUNCTION AS INTENDED; CHANGES IN PLAN MAY BE NEEDED.
   b. DESIGN SPECIFICATIONS FOR SOD VARIETY CANNOT BE MET OR IRRIGATION IS NOT POSSIBLE; SUBSTITUTION OR SEEDING MAY BE REQUIRED. UNAPPROVED SUBSTITUTIONS COULD RESULT IN EROSION OR SODDING FAILURE.
2. COMMON PROBLEMS:
   a. SOD LAID ON POORLY PREPARED SOIL OR UNSUITABLE SURFACE DIES BECAUSE IT IS UNABLE TO ROOT – REMOVE DEAD SOD, PREPARE SURFACE, AND RESOD.
   b. SOD NOT ADEQUATELY IRRIGATED AFTER INSTALLATION CAUSES ROOT DIEBACK, GRASS TO NOT ROOT RAPIDLY, AND DRYING OUT – IRRIGATE SOD AND UNDERLYING SOIL TO THE DEPTH OF 4 INCHES AND KEEP MOIST UNTIL ROOTS ARE ESTABLISHED.
   c. SOD NOT ANCHORED PROPERLY IS LOOSENED BY RUNOFF – REPLACE DAMAGED AREAS AND ANCHOR SOD.
   d. SLOW GROWTH DUE TO LACK OF NITROGEN CAUSES YELLOWING OF LEAF BLADES – REFERTILIZE SOD, BUT AVOID FERTILIZING COOL SEASON GRASSES FROM LATE MAY THROUGH JULY.

C) MAINTENANCE & INSPECTION:

1. KEEP SOD MOIST UNTIL IT IS FULLY ROOTED.
2. MOW TO A HEIGHT OF 2 TO 3 INCHES AFTER SOD IS WELL-ROOTED. IN 2 TO 3 WEEKS, DO NOT REMOVE MORE THAN 1/3 OF THE LEAF BLADES IN ANY MOWING.
3. PERMANENT, FINE TURF AREAS REQUIRE YEARLY FERTILIZATION. FERTILIZE WARM-SEASON GRASS IN LATE SPRING TO EARLY SUMMER; COOL-SEASON GRASS IN LATE WINTER AND AGAIN IN EARLY FALL.

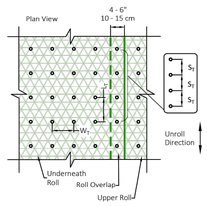
AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METROPOLITAN CHAPTER
SODDED WATERWAYS	STANDARD DETAILS MANUAL ESC-03 ADOPTED



Instructions

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.
2. Begin at the top of the slope by anchoring the RECPs in a 6" (15 cm) deep X 6" (15 cm) wide trench. Anchor the RECPs with a row of staples/stakes/pins spaced at S_T apart in the bottom of the trench. Backfill and compact the trench after stapling and fold the roll over downslope. Secure RECPs over compacted soil with a row of staples/stakes/pins spaced at S_T apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes/pins in appropriate locations as shown in the staple pattern guide. RollMax RECPs and ECBs should utilize Staple Pattern C, TRMs and VMax materials should utilize Staple Pattern D.
4. The edges of parallel RECPs must be stapled with approximately 4" - 6" (10 - 15 cm) overlap.
5. Consecutive RECPs spliced down the slope must overlapped with the upstream mat atop the downstream mat (shingle style). The overlap should be 4" - 6" (10 - 15 cm).
6. At the terminal end, secure each mat across the width with a row of staples/stakes/pins spaced at S_T, if exposed to flow, foot traffic, wind uplift or other disruption, trench the terminal end in as shown in detail.
7. Fasteners should provide a minimum of twenty pounds of pullout resistance. Six-inch (10 cm) X one-inch (2.5 cm) eleven gauge staples are typically adequate. In loose soils, longer staples may be necessary, twist pins can provide the greatest pullout resistance. In hard or rocky soils, straight pins may by used where staples or twist pins are refused, provided the minimum pullout requirements are met. Bio-degradable fasteners shall not be used with VMax (TRM) or TMax (HPTRM) materials.

Staple Pattern Guide



- Pin / Staple / Twist Pin, as appropriate for field conditions

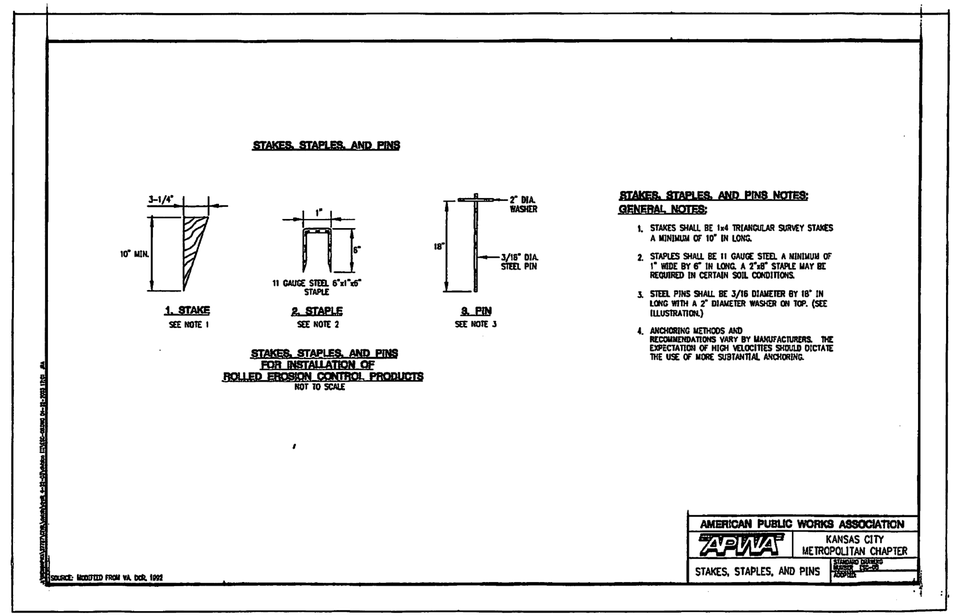
	Staple Pattern	
Dimension	C	D
W_T	30" (75 cm)	24" (60 cm)
L_T	30" (75 cm)	20" (50 cm)
S_T	18" (45 cm)	18" (45 cm)
Nominal Frequency	1.7 / SY	3.0 / SY
Application	ECB (Degradable)	TRM (Permanent)

*Note: Staple Pattern A and B used prior to 8/2019 have been discontinued.

ROLLMAX ROLLED EROSION CONTROL | NORTH AMERICAN GREEN

Project: Standard Slope Installation Recommendations RollMax RECPs, VMax TRMs
Shown: Perspective View, Some Fasteners and Vegetation Omitted for Clarity- NTS

Date: 3/24/20
Revision: 0
Drawings: 1/3



STAKES, STAPLES, AND PINS NOTES:

GENERAL NOTES:

1. STAKES SHALL BE 1x4 TRIANGULAR SURVEY STAKES A MINIMUM OF 10" IN LONG.
2. STAPLES SHALL BE 11 GAUGE STEEL. A MINIMUM OF 1" WIDE BY 6" IN LONG. A 2"x8" STAPLE MAY BE REQUIRED IN CERTAIN SOIL CONDITIONS.
3. STEEL PINS SHALL BE 3/16 DIAMETER BY 18" IN LONG WITH A 2" DIAMETER WASHER ON TOP. (SEE ILLUSTRATION.)
4. ANCHORING METHODS AND RECOMMENDATIONS VARY BY MANUFACTURERS. THE EXPECTATION OF HIGH VELOCITIES SHOULD DICTATE THE USE OF MORE SUBSTANTIAL ANCHORING.

AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METROPOLITAN CHAPTER
STAKES, STAPLES, AND PINS	STANDARD DETAILS MANUAL ESC-04 ADOPTED

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CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026
STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

CONSTRUCTION DOCUMENTS

EROSION CONTROL DETAILS

Sheet
C6.01

ES&S PROJECT NO. 16804

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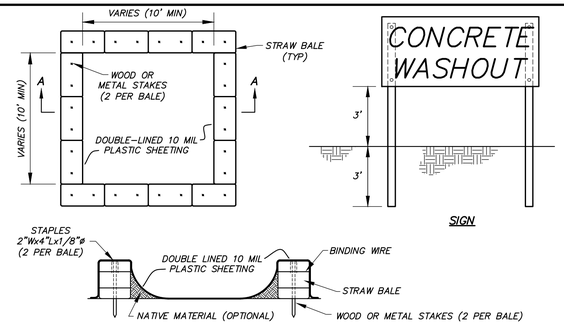


SECTION A–A

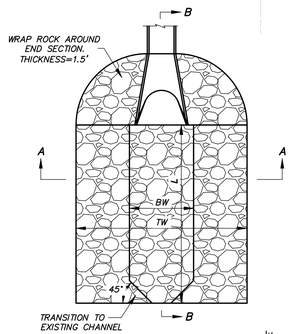
NOTES:
1. ALL CONCRETE WASTE MATERIAL, INCLUDING WASHOUT WATER, SHALL BE TOTALLY CONTAINED.
2. SEE SWPPP FOR MORE DETAILS.
3. UPON PROJECT COMPLETION CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CONCRETE WASTE FROM THE OWNER'S PROPERTY PER ALL APPLICABLE SOLID WASTE REGULATIONS.
4. CONSTRUCT SIGN OF WEATHER PROOF MATERIALS OF A SIZE EASILY READABLE BY CONCRETE TRUCK DRIVERS. PLACE SIGN WITHIN 10' OF WASHOUT.
5. CONTRACTOR SHALL CONTAIN WASHOUT WATERS AT ALL TIMES.

CONCRETE WASHOUT AREA

NOT TO SCALE

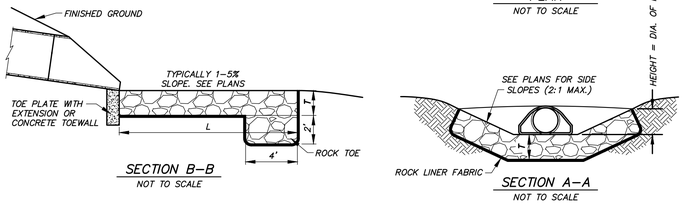
PIPE SIZE (in)	MAXIMUM PIPE SLOPE (%)	LENGTH L (ft)	BOTTOM WIDTH BW MINIMUM (ft)	TOP WIDTH TW MINIMUM (ft)	THICKNESS T MINIMUM (ft)
12	3.50	12	4	8	1
15	2.60	15	4	9	1
18	2.00	16	4	10	1
24	1.70	20	4	12	1
30	1.40	24	6	16	2
36	1.00	28	6	18	2
42	0.80	32	6	20	2
48	0.65	36	6	22	2
54	0.55	40	8	26	2
60	0.45	44	8	28	3
72	0.40	48	8	32	3

NOTES:
1. RIP RAP SHALL BE MODOT TYPE 1 ROCK BLANKET: 40% OF THE MASS SHALL BE PIECES HAVING A VOLUME OF ONE CUBIC FOOT OR MORE. ROCK MUST BE ANGULAR, HARD, AND DURABLE.
2. ROCK LINER FABRIC SHALL CONSIST OF A NON-WOVEN POLYPROPYLENE TYPE FABRIC: TENCATE MIRAFI 180N OR GEOTEX 801 OR APPROVED EQUAL.



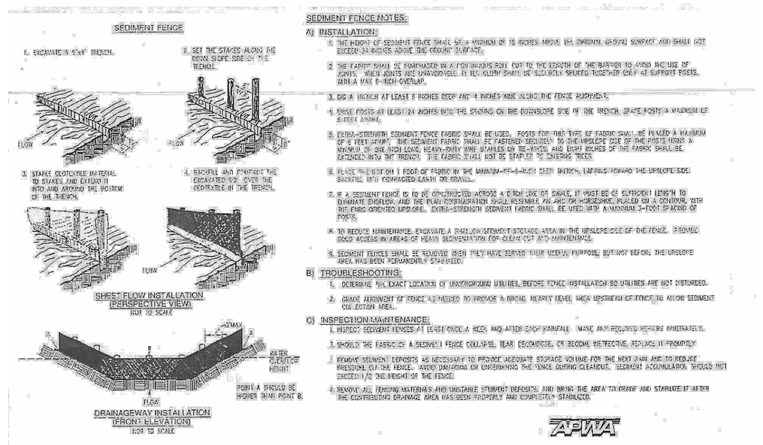
PLAN

NOT TO SCALE



RIP RAP FOR FLARED END SECTIONS

NOT TO SCALE



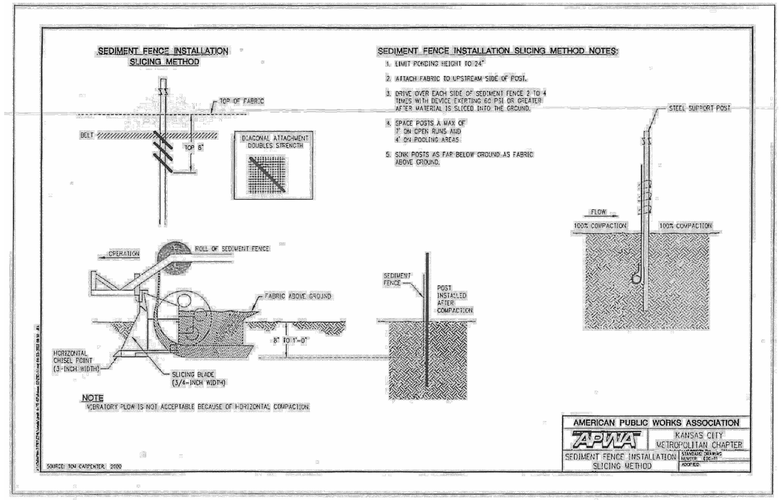
SEDIMENT FENCE NOTES:

A) INSTALLATION:
1. THE HEIGHT OF SEDIMENT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE THE GROUND SURFACE.
2. THE FABRIC SHALL BE PURCHASED IN LENGTHS WHICH RUN CONTINUOUSLY BETWEEN POSTS. WHEN JOINTS ARE UNAVOIDABLE, THEY SHALL BE SECURELY FASTENED TOGETHER ONLY AT SUPPORT POSTS, WITH A MINIMUM 6-INCH OVERLAP.
3. DIG A TRENCH AT LEAST 6 INCHES DEEP AND 4 INCHES WIDE ALONG THE FENCE ALIGNMENT.
4. DRIVE POSTS AT LEAST 24 INCHES INTO THE GROUND ON THE DOWNSLOPE SIDE OF THE TRENCH. SPACE POSTS A MAXIMUM OF 8 FEET APART.
5. EXTRA-STRENGTH SEDIMENT FENCE FABRIC SHALL BE USED. POSTS FOR THIS TYPE OF FABRIC SHALL BE PLACED A MAXIMUM OF 6 FEET APART. THE SEDIMENT FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING A MINIMUM OF 3/8-INCH LONG, HEAVY-DUTY WIRE STAPLES OR TIE-WIRES, AND EIGHT INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. PLACE THE BOTTOM 1 FOOT OF FABRIC IN THE TRENCH, FACING TOWARD THE UPSLOPE SIDE. BACKFILL WITH COMPACTED EARTH OR GRAVEL.
7. IF A SEDIMENT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH OR SWALE, IT MUST BE AT LEAST 7 FEET LONG TO ENSURE SUFFICIENT LENGTH AND THE PROPER CONFIGURATION. SILT RETAINING ORGANISMS, PLACED ON A CONTOUR, WITH THE ENDS TURNED UPSLOPE. EXTRA-STRENGTH SEDIMENT FABRIC SHALL BE USED WITH A MINIMUM 3-FOOT SPACING OF POSTS.
8. TO REDUCE MAINTENANCE, EXCAVATE A SMALL SEDIMENT STORAGE AREA IN THE UPSLOPE SIDE OF THE FENCE. PROVIDE GOOD ACCESS IN AREAS OF HEAVY SEDIMENTATION FOR CLEAN-OUT AND MAINTENANCE.
9. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR INTENDED PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

B) TROUBLESHOOTING:
1. DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES, BEFORE FENCE INSTALLATION SO UTILITIES ARE NOT DISTURBED.
2. GRADE ALIGNMENT OF FENCE AS NEEDED TO PROVIDE A RIDING, NEARLY LEVEL AREA UNDERNEATH OF FENCE TO ALLOW SEDIMENT COLLECTION AREA.

C) INSPECTION/MAINTENANCE:
1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. AVOID DAMAGING OR UNDERMINING THE FENCE DURING CLEANOUT. SEDIMENT ACCUMULATION SHOULD NOT EXCEED 1/2 THE HEIGHT OF THE FENCE.
4. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY AND COMPLETELY STABILIZED.

APWA



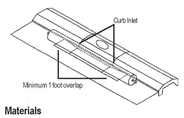
Gutterbuddy™ Specification

For Curb Gutter Storm Drains

1.0 Description

1.1 This work shall consist of furnishing, placing, maintaining and removing the Gutterbuddy™ sediment control device as directed by the engineer and as shown on the contract drawings. The Gutterbuddy™ sediment control system distributed by:

ACF Environmental, Inc.
2831 Cardwell Road
Richmond, Virginia 23234
Phone: 800-448-3636 • Fax: 804-743-7779
www.acfenvironmental.com



2.0 Materials

2.1 GUTTERBUDDY™

The Gutterbuddy™ shall be synthetic filter manufactured from recycled synthetic fibers.

2.1.1 The Gutterbuddy™ will be manufactured to be 9" in diameter and are available in 4', 6', 8', 10', 12', 14' and 16' lengths and a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12) inches beyond the inlet on both ends.

3.0 Construction Sequence

3.1 General

3.1.1 Install the Gutterbuddy™ in front of the curb inlet opening. Each end of the Gutterbuddy™ should overlap the curb inlet approximately 12".

3.1.2 The Gutterbuddy™ should be cleaned if a visual inspection shows silt and debris build up around the Gutterbuddy™.

3.1.3 To remove the Gutterbuddy™, lift out of the opening.

3.1.4 The Gutterbuddy™ is reusable. Once the construction project is complete and it is no longer needed for sediment control, remove, clean and store out of the sunlight until needed on the next project.

3.1.5 Ponding is likely if sediment is not removed regularly. Inspection of Gutterbuddy™ should be on a regular basis and immediately after major rain events.

4.0 Basis of Payment

4.1 The payment for any Gutterbuddy™ used during the construction is to be included in the bid of the overall erosion and sediment control plan and priced by the linear foot.



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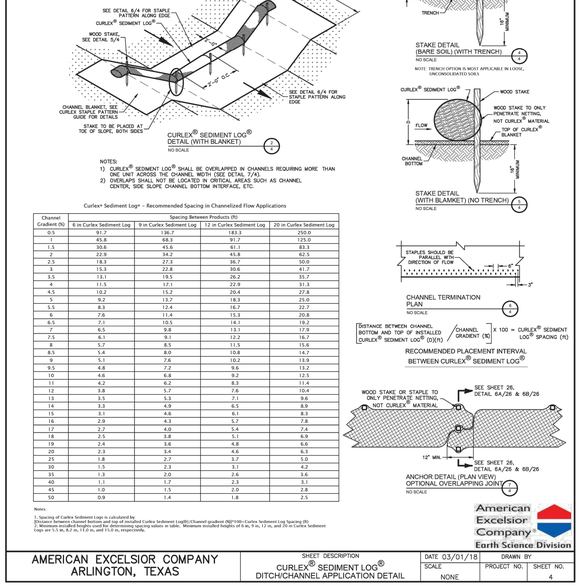

Curlex® Sediment Log® - Recommended Spacing in Channelized Flow Applications

Channel Gradient (%)	Spacing Between Products (ft)			
	6 in Curlex Sediment Log	9 in Curlex Sediment Log	12 in Curlex Sediment Log	20 in Curlex Sediment Log
0.5	91.7	136.7	183.3	250.0
1	45.8	68.3	91.7	125.0
1.5	30.6	45.6	61.1	83.3
2	22.9	34.2	45.8	62.5
2.5	18.3	27.3	36.7	50.0
3	15.3	22.8	30.6	41.7
3.5	13.1	19.5	26.2	35.7
4	11.5	17.1	22.9	31.3
4.5	10.2	15.2	20.4	27.8
5	9.2	13.7	18.3	25.0
5.5	8.3	12.4	16.7	22.7
6	7.6	11.4	15.3	20.8
6.5	7.1	10.5	14.1	19.2
7	6.5	9.8	13.1	17.9
7.5	6.1	9.1	12.2	16.7
8	5.7	8.5	11.5	15.6
8.5	5.4	8.0	10.8	14.7
9	5.1	7.6	10.2	13.9
9.5	4.8	7.2	9.6	13.2
10	4.6	6.8	9.2	12.5
11	4.2	6.2	8.3	11.4
12	3.8	5.7	7.6	10.4
13	3.5	5.3	7.1	9.6
14	3.3	4.9	6.5	8.9
15	3.1	4.6	6.1	8.3
16	2.9	4.3	5.7	7.8
17	2.7	4.0	5.4	7.4
18	2.5	3.8	5.1	6.9
19	2.4	3.6	4.8	6.6
20	2.3	3.4	4.6	6.3
25	1.8	2.7	3.7	5.0
30	1.5	2.3	3.1	4.2
35	1.3	2.0	2.6	3.6
40	1.1	1.7	2.3	3.1
45	1.0	1.5	2.0	2.8
50	0.9	1.4	1.8	2.5

Notes:
1. Spacing of Curlex Sediment Logs is calculated by:
[Distance between channel bottom and top of installed Curlex Sediment Log(ft)/Channel gradient (ft)*100=Curlex Sediment Log Spacing (ft)]
2. Minimum installed heights used for determining spacing values in table. Minimum installed heights of 6 in, 9 in, 12 in, and 20 in Curlex Sediment logs are 5.5 in, 8.7 in, 11.0 in, and 19.0 in, respectively.

American Excelsior Company
Earth Science Division

AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS	SHEET DESCRIPTION: CURLEX® SEDIMENT LOG® DITCH/CHANNEL APPLICATION DETAIL	DATE 03/01/18	DRAWN BY
		SCALE NONE	PROJECT NO.
			SHEET NO. 4

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CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION
FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

CONSTRUCTION DOCUMENTS

8/6/2026

STATE OF MISSOURI
ROSS A. KASMANN
NUMBER PE-2011000907
PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

EROSION CONTROL DETAILS

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ES&S PROJECT NO. 16804

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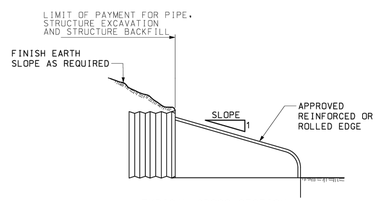
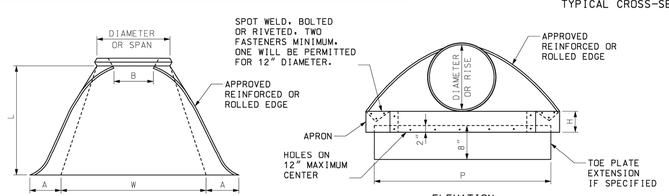
END SECTIONS FOR ARCH PIPE										
TYPE	ARCH DIMENSIONS SPAN x RISE	DIAMETER EQUIVALENT ROUND PIPE IN.	GALVANIZED SHEET THICK IN.	DIMENSIONS (IN.)					APPROXIMATE SLOPE (V:H) (1:SLOPE)	TOE PLATE IF SPECIFIED P. (IN.)
				A 1" TOL.	B MAX.	H 1" TOL.	L 1½" TOL.	W 2" TOL.		
B1	SEE STANDARD PLAN 725.00	15	.064	6	9	6	19	30	2⅛	40
B2		18	.064	7	11	6	23	36	2	46
B3		21	.064	8	12	6	28	42	2⅛	52
B4		24	.064	8	16	6	32	48	2	58
B5		30	.079	10	16	6	39	60	1⅞	70
B6 OR B6A		36	.079	12	18	8	46	75	1⅞	85
B7 OR B7A		42	.109	13	21	9	53	85	1⅞	107
B8 OR B8A		48	.109	18	26	12	63	90	1⅞	112
B9 OR B9A		54	.109	18	30	12	70	102	1⅞	124
B10 OR B10A		60	.109	18	33	12	77	114	1⅞	136
B11 OR B11A		66	.109	18	36	12	77	126	1⅝	148
B12 OR B12A		72	.109	18	39	12	77	138	1½	160

END SECTIONS FOR ROUND PIPE								
PIPE DIAMETER (IN.)	GALVANIZED SHEET THICK (IN.)	DIMENSIONS (IN.)					APPROXIMATE SLOPE (V:H) (1:SLOPE)	TOE PLATE IF SPECIFIED P. (IN.)
		A 1" TOL.	B MAX.	H 1" TOL.	L 1½" TOL.	W 2" TOL.		
12	.064	6	6	6	21	24	2½	34
15	.064	7	8	6	26	30	2½	40
18	.064	8	10	6	31	36	2½	46
21	.064	9	12	6	36	42	2½	52
24	.064	10	13	6	41	48	2½	58
30	.079	12	16	8	51	60	2½	70
36	.079	14	19	9	60	72	2½	94
42	.109	16	22	11	69	84	2½	106
48	.109	18	27	12	78	90	2½	112
54	.109	18	30	12	84	102	2 OR 2½	124
60	.109	18	33	12	87	114	1½ OR 2	136
66	.109	18	36	12	87	120	1½ OR 2	144
72	.109	18	39	12	87	126	1½ OR 2	148
78	.109	18	42	12	87	132	1½ OR 1½	154
84	.109	18	45	12	87	138	1½ OR 1½	160



TYPICAL CROSS-SECTION



PLAN ELEVATION

END SECTION FOR PIPE AND PIPE ARCH

GENERAL NOTES:

MINOR VARIATIONS OF DETAIL AND DIMENSIONS WILL BE ACCEPTED TO PERMIT THE USE OF A MANUFACTURER'S STANDARD METHODS OF FABRICATION.

END SECTIONS FABRICATED FROM THICKER METAL THAN INDICATED WILL BE ACCEPTED.

ALL BOLTS SHALL BE ⅜" DIAMETER AND GALVANIZED, UNLESS OTHERWISE SHOWN.

TOE PLATE EXTENSIONS, IF SPECIFIED, SHALL HAVE HOLES TO MATCH HOLES IN TOE PLATE.

SKIRT SECTION IS DEFINED AS THE FLARED PORTION OF THE END SECTION INCLUDING SIDE AND BOTTOM (CENTER) PANELS AND APRON.

SKIRT SECTION FOR 12" THROUGH 24" PIPES SHALL BE MADE IN ONE PIECE.

SKIRT SECTIONS FOR 30" AND LARGER PIPES AND B5 AND LARGER PIPE ARCHES MAY BE MADE FROM UP TO 2 SHEETS JOINED BY RIVETING OR BOLTING ON CENTERLINE.

SKIRT SECTIONS FROM 48" AND LARGER PIPES AND B8 OR LARGER PIPE ARCHES MAY BE MADE FROM UP TO 3 SHEETS JOINED BY RIVETING OR BOLTING EQUAL DISTANCE FROM CENTERLINE.

SKIRT SECTIONS FOR 72" AND LARGER PIPES MAY BE MADE FROM UP TO 4 SHEETS JOINED BY RIVETING AND BOLTING. THE BOTTOM PANEL SHALL BE 2 EQUAL WIDTH SHEETS JOINED ON CENTERLINE.

ALL 3 PIECE AND 4 PIECE SKIRTS FOR 60" OR LARGER PIPES AND B10 AND LARGER PIPE ARCHES SHALL HAVE 0.109" THICK SIDES AND 0.138" THICK BOTTOM (CENTER) PANELS. WIDTH OF BOTTOM PANELS SHALL BE GREATER THAN 20% OF THE PIPE PERIPHERY CONNECTOR SECTIONS. CORNER PLATES AND TOE PLATES SHALL BE GALVANIZED AND OF THE SAME OR GREATER THICKNESS AS THE SKIRT.

SEE SHEET 3 OF 3 FOR CONNECTION DETAILS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

ERIC E. SCHROETER NUMBER PE-2007 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

FLARED END SECTION
METAL

DATE EFFECTIVE: 04/01/2016
DATE PREPARED: 2/11/2016

732.00S

SHEET NO. 2 OF 3

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

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JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026
STATE OF MISSOURI ROSS A. KASMANN NUMBER PE-2011000907 PROFESSIONAL ENGINEER

ROSS A. KASMANN
PROFESSIONAL ENGINEER
PE-2011000907

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Design: RE Drawn: BR

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CONSTRUCTION DOCUMENTS

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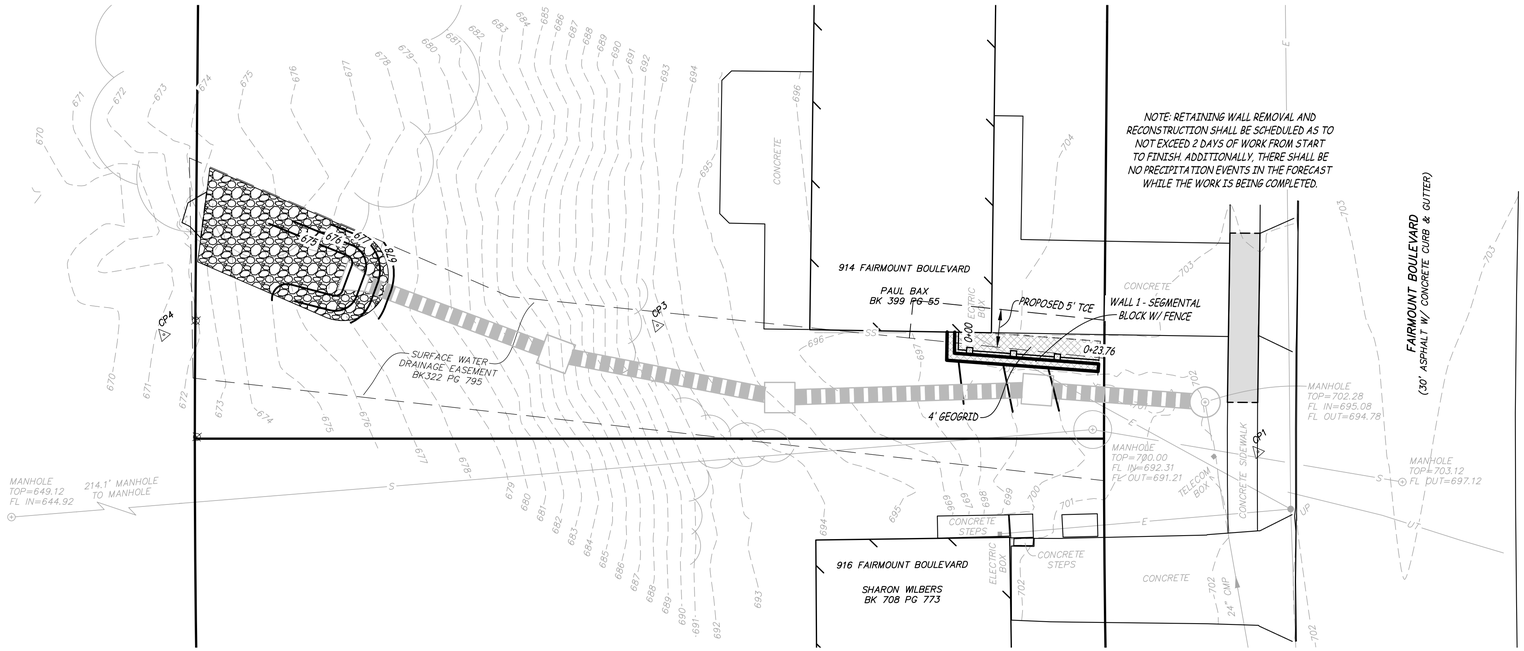

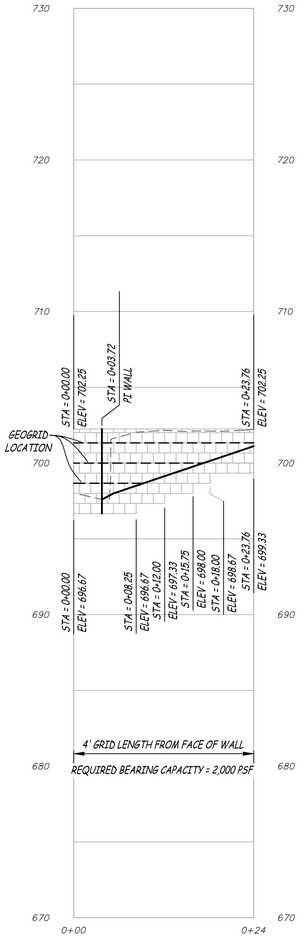

WALL 1

SCALE – HORIZ. 1" = 10'
VERT. 1" = 5'

RETAINING WALL NOTES

1. RETAINING WALL DESIGN:
   - A. STRUCTURAL DESIGN HEREIN REPRESENTS A FINISHED STRUCTURE. THE GENERAL CONTRACTOR/OWNER SHALL PROVIDE ALL INTERIM BRACING, SHORING, INTERIM DRAINAGE PROVISIONS, DRAINAGE DIVERSION AND EROSION PROTECTION REQUIRED UNTIL FINAL CAPPING, PAVING, CURBING, AND COMPLETION OF FINAL STORM DRAIN SYSTEM IS COMPLETE.
   - B. THE WALL IS NOT CONSIDERED COMPLETE UNTIL ALL FINAL GRADING AND STORMWATER CONVEYANCE IS COMPLETE.
   - C. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL FINAL GRADES DRAIN AWAY FROM THE TOP OF THE RETAINING WALL.
2. ENGINEERING SURVEYS & SERVICE SHALL BE NOTIFIED IF ANY SETTLEMENT IS OBSERVED DURING CONSTRUCTION.
3. MATERIAL PROPERTIES:
   - A. SEGMENTAL BLOCK UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C1372 HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A MAXIMUM MOISTURE ABSORPTION OF 8%. ALL UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERFORMANCE OF THE CONSTRUCTION.
   - B. COMPACTED REINFORCED BACKFILL AND DRAINAGE SHALL BE FREE OF ORGANIC MATERIAL. THE ROCK SHALL BE A WELL GRADED GRAVEL OR LIMESTONE WITH A MAXIMUM PARTICLE SIZE OF 2" AND A MAXIMUM OF 20% PASSING A NO. 200 SIEVE. LIMESTONE SCREENINGS ARE NOT ACCEPTABLE FOR STRUCTURE WALL BACKFILL. MATERIAL SHALL BE MODOT TYPE 1/5 OR APPROVED EQUAL.
   - C. THE GEOGRID SHALL BE A HIGH DENSITY POLYETHYLENE EXPANDED SHEET OR POLYESTER WOVEN FIBER MATERIAL, SPECIFICALLY FABRICATED FOR USE AS SOIL REINFORCEMENT. ACCEPTABLE GEOGRID TYPES AND MANUFACTURER
     - TYPE I: SG 200 BY STRATA OR APPROVED EQUAL
   - D. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
   - E. CONSTRUCTION ADHESIVE SHALL BE EXTERIOR GRADE ADHESIVE AS RECOMMENDED BY THE SEGMENTAL CONCRETE WALL UNIT MANUFACTURER. EXCAVATION: IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE TO THE GRADES ON THE PLAN. EXCAVATION MEANS AND METHOD ARE ALSO THE CONTRACTOR'S RESPONSIBILITY INCLUDING: BENCHING, SHORING, STABILITY OF ALL RESPECTIVE EXCAVATIONS, AND THE EFFECTS ON ADJACENT PROPERTIES.
4. STRUCTURES.
   FOUNDATION SOIL PREPARATION:
   - A. FOLLOWING EXCAVATION FOR THE LEVELING PAD AND THE REINFORCED SOIL ZONE, FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S GEOTECHNICAL ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOIL NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH SOIL MEETING THE DESIGN CRITERIA, AS DIRECTED BY THE OWNER'S GEOTECHNICAL ENGINEER.
   - B. FOUNDATION SOIL IS DEFINED AS THE SOIL UNDER THE SEGMENTAL RETAINING WALL VOLUME, EXTENDING FROM THE TOE OF THE LEVELING PAD TO THE BACK OF THE REINFORCED MASS.
5. BASE LEVELING PAD SHALL BE COMPACTED WITH A VIBRATORY PLATE OR ROLLER AND COMPACTION TESTING TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT OF −2% TO +4% OF OPTIMUM MOISTURE CONTENT.
6. PLACE DRAINAGE AGGREGATE A MINIMUM OF 12" DIRECTLY BEHIND AND BETWEEN THE UNITS AND LEVEL WITH THE TOP OF THE UNIT. PLACE REINFORCED BACKFILL DIRECTLY AGAINST DRAINAGE FILL. COMPACT DRAINAGE AGGREGATE WITH 3 PASSES OF A VIBRATORY COMPACTOR. COMPACTION TESTING OF DRAINAGE AGGREGATE IS NOT REQUIRED. EXCESS MATERIAL SHALL BE REMOVED FROM TOP OF UNITS PRIOR TO INSTALLATION OF NEXT COURSE.
7. GEOGRID INSTALLATION:
   - A. GEOGRID SHALL BE LAID AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE DRAWINGS.
   - B. THE GEOGRID REINFORCEMENT SHALL BE LAID HORIZONTALLY ON LEVEL, COMPACTED BACKFILL, AND EMBEDDED IN THE BLOCK.
   - C. THE GEOGRID SHALL BE PULLED TIGHT AFTER THE NEXT ROW OF BLOCK AND DRAINAGE AGGREGATE HAS BEEN PLACED.
   - D. THE GEOGRID SHALL BE PLACED WITH THE AXIAL STRENGTH PERPENDICULAR TO THE WALL FACE ALL LOCATIONS.
8. REINFORCED BACKFILL
   - A. MATERIAL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO A MINIMUM 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT OF −2% TO +4% OF OPTIMUM MOISTURE CONTENT.
   - B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED FROM THE BACK OF THE WALL REARWARD INTO THE EMBANKMENT TO ENSURE THAT THE GEOGRID REMAINS TIGHT.
   - C. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM BACKFILL THICKNESS OF 6" SHALL BE MAINTAINED TO OPERATE TRACKED VEHICLES OVER THE GEOGRID. TURNING OF TRACKED CONSTRUCTION EQUIPMENT SHALL BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
9. FIELD QUALITY CONTROL:
   - A. THE OWNER OR OWNER'S REPRESENTATIVE IS RESPONSIBLE FOR ENGAGING THE SERVICES OF AN INDEPENDENT THIRD PARTY INSPECTOR TO OBSERVE AND VERIFY ALL SOIL PROPERTIES AS WELL AS VERIFY CORRECT INSTALLATION OF ALL SYSTEM COMPONENTS TO MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND DRAWINGS.
   - B. I, EACH LIFT OF REINFORCED BACKFILL MATERIAL AND BASE LEVELING PAD SHOULD BE COMPACTION TESTED AT A FREQUENCY OF ONE TEST PER 2,500 SQUARE FEET OR A MINIMUM OF 2 TESTS PER LIFT.

BLOCK PROPERTIES	
BLOCK TYPE	VERSA-LOK
BLOCK STYLE	SQUARE FOOT

WALL PROPERTIES		
BACKSLOPE	50:1 (1.15 H:V)	DEGREES
TOESLOPE	8:1 (7.37 H:V)	DEGREES
BATTER	7.13	DEGREES
SETBACK	1"	INCHES
SURCHARGE		
DEAD LOAD	0	PSF
LIVE LOAD	0	PSF

ASSUMED DESIGN SOIL PARAMETERS			
	DESCRIPTION	Φ (DEGREES)	γ (PCF)
FOUNDATION SOIL	CLAY SOIL	28	111
RETAINED SOIL	CLAY SOIL	28	111
REINFORCED BACKFILL	CRUSHED LIMESTONE	34	130

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N

0 1"
SCALE: 1" = 10'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
JOSHUA DAVID LEHMEN
NUMBER PE-2012000779
PROFESSIONAL ENGINEER

JOSHUA D. LEHMEN
PROFESSIONAL ENGINEER
PE-2012000779

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Date
AUGUST 6, 2026

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FAIRMOUNT
RETAINING WALL PLAN

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CONSTRUCTION DOCUMENTS

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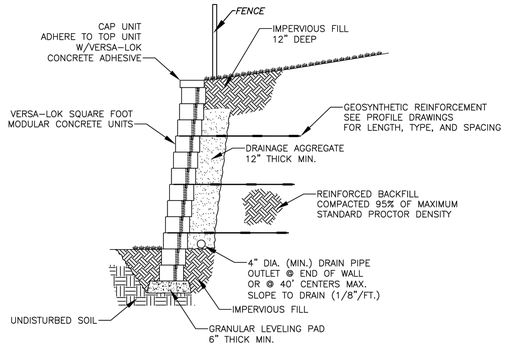


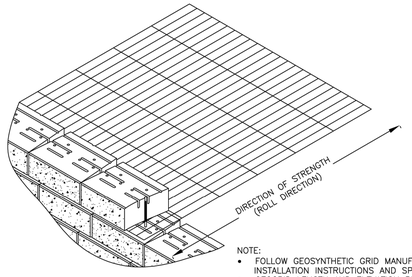
TYPICAL SECTION–REINFORCED RETAINING WALL

SQUARE FOOT MODULAR CONCRETE UNIT
SCALE: NONE

THESE PRELIMINARY DETAILS ARE INTENDED AS AN AID IN DESIGNING ATTRACTIVE, DURABLE RETAINING WALLS WITH VERSA-LOK UNITS. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL FOR THE USE CONTEMPLATED, AND ITS MANNER OF USE, IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.

VERSA-LOK® Retaining Wall Systems "Solid Solutions."
(800)770-4525 fax(651)770-4089
6348 Hwy36 Ste1, Oakdale,MN 55128

VERSA-LOK SQUARE FOOT DETAILS	SCALE: 3/8"=1'
REINFORCED TYPICAL SECTION	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/2007
	DWG. NO.: 8" reinforced section

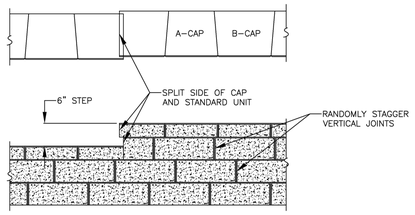


NOTE:
- FOLLOW GEOSYNTHETIC GRID MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SPECIFICATIONS
- GEOGRID LENGTH AND ELEVATION PLACEMENT SHALL BE DETERMINED BY WALL DESIGN ENGINEER

GEOSYNTHETIC INSTALLATION DETAIL

SCALE: NONE

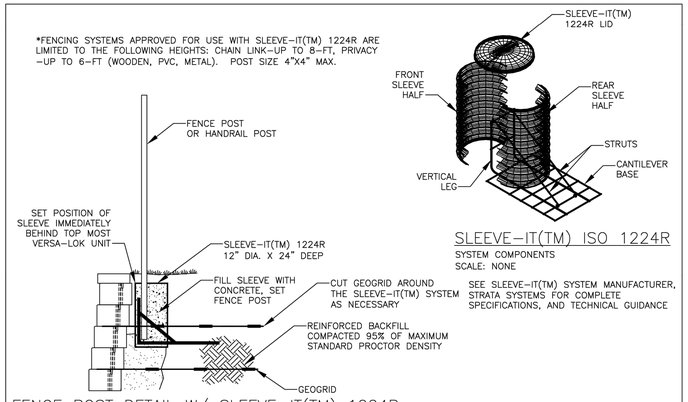
FOR STRAIGHT WALLS, ALTERNATE A–CAP AND B–CAP



CAPPING DETAIL–PROFILE

STEP AT TOP OF WALL
SCALE: NONE

*FENCING SYSTEMS APPROVED FOR USE WITH SLEEVE-IT(TM) 1224R ARE LIMITED TO THE FOLLOWING HEIGHTS: CHAIN LINK–UP TO 8–FT, PRIVACY –UP TO 6–FT (WOODEN, PVC, METAL). POST SIZE 4"X4" MAX.



FENCE POST DETAIL W/ SLEEVE–IT(TM) 1224R

SQUARE FOOT UNIT–WITH SLEEVE–IT(TM) 1224R
SCALE: NONE

SLEEVE–IT(TM) ISO 1224R

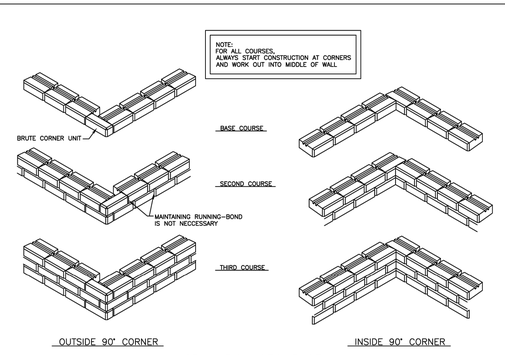
SYSTEM COMPONENTS
SCALE: NONE

SEE SLEEVE–IT(TM) SYSTEM MANUFACTURER, STRATA SYSTEMS FOR COMPLETE SPECIFICATIONS, AND TECHNICAL GUIDANCE

THESE PRELIMINARY DETAILS ARE INTENDED AS AN AID IN DESIGNING ATTRACTIVE, DURABLE RETAINING WALLS WITH VERSA-LOK UNITS. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL FOR THE USE CONTEMPLATED, AND ITS MANNER OF USE, IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.

VERSA-LOK® Retaining Wall Systems "Solid Solutions."
(800)770-4525 fax(651)770-4089
6348 Hwy36 Ste1, Oakdale,MN 55128

VERSA-LOK SQUARE FOOT DETAILS	SCALE: 3/4"=1'
FENCEPOST WITH SLEEVE IT	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/2007
	DWG. NO.: 4" fencepost with sleeve it



INSTALLATION SEQUENCE

SCALE: NONE

NOT FOR CONSTRUCTION

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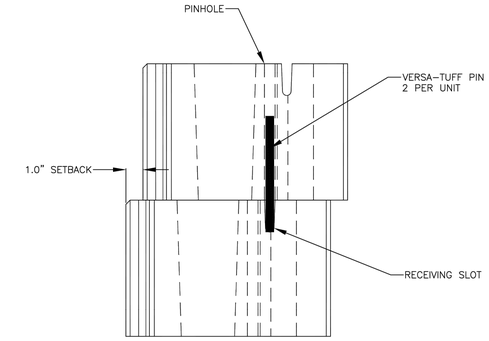
6348 Hwy36 Ste1, Oakdale,MN 55128

BRUTE DETAILS	SCALE: AS NOTED
CORNER DETAILS	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/04
	DWG. NO.: brute corner details



PINNING DETAIL

SQUARE FOOT UNIT–CROSS SECTION
SCALE: NONE

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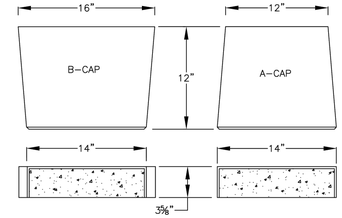
6348 Hwy36 Ste1, Oakdale,MN 55128

VERSA-LOK SQUARE FOOT DETAILS	SCALE: 3"=1'
PINNING	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/2007
	DWG. NO.: 8" pinning



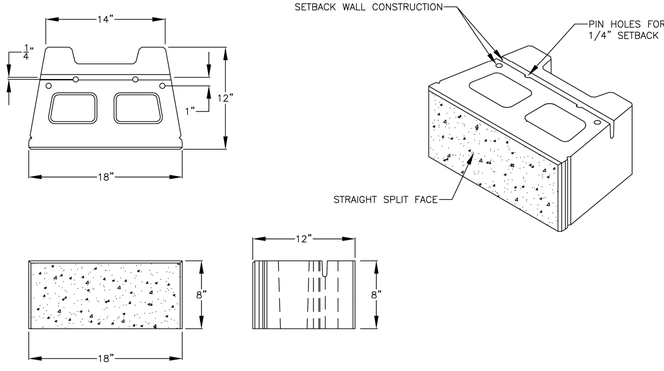
VERSA–LOK CAP UNITS

UNIT DIMENSIONS
SCALE: NONE

THESE PRELIMINARY DETAILS ARE INTENDED AS AN AID IN DESIGNING ATTRACTIVE, DURABLE RETAINING WALLS WITH VERSA-LOK UNITS. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL FOR THE USE CONTEMPLATED, AND ITS MANNER OF USE, IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.

VERSA-LOK® Retaining Wall Systems "Solid Solutions."
(800)770-4525 fax(651)770-4089
6348 Hwy36 Ste1, Oakdale,MN 55128

VERSA-LOK SQUARE FOOT DETAILS	SCALE: 1 1/2"=1'
CAP UNITS	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/2007
	DWG. NO.: 8" cap units



NOTE:
–LIMIT CHANGES IN BASE ELEVATION TO 8" PER STEP TO AVOID DIFFERENTIAL SETTLEMENT
–STEP OFTEN ENOUGH TO MAINTAIN MINIMUM REQUIRED EMBEDMENT

STEPPING BASE DETAIL

SCALE: NONE

NOT FOR CONSTRUCTION

THESE PRELIMINARY DETAILS ARE INTENDED AS AN AID IN DESIGNING ATTRACTIVE, DURABLE RETAINING WALLS WITH VERSA-LOK STANDARD UNITS. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL FOR THE USE CONTEMPLATED, AND ITS MANNER OF USE, IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.

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6348 Hwy36 Ste1, Oakdale,MN 55128

BRUTE DETAILS	SCALE: AS NOTED
BASE STEPPING	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/04
	DWG. NO.: brute base stepping

VERSA–LOK SQUARE FOOT UNIT

UNIT DIMENSIONS
SCALE: NONE

THESE PRELIMINARY DETAILS ARE INTENDED AS AN AID IN DESIGNING ATTRACTIVE, DURABLE RETAINING WALLS WITH VERSA-LOK UNITS. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL FOR THE USE CONTEMPLATED, AND ITS MANNER OF USE, IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.

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6348 Hwy36 Ste1, Oakdale,MN 55128

VERSA-LOK SQUARE FOOT DETAILS	SCALE: 1 1/2"=1'
SQUARE FOOT UNIT	DRAWN BY: PPS
	CHECKED BY:
	DATE: 10/2007
	DWG. NO.: square foot unit

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N

0 1"
SCALE: 1" = 10'

CITY OF JEFFERSON
STORMWATER INFRASTRUCTURE RECONSTRUCTION

FAIRMOUNT BOULEVARD, CEDARBROOKE DRIVE, & JENNIFER DRIVE
JEFFERSON CITY, COLE COUNTY, MISSOURI

8/6/2026

STATE OF MISSOURI
JOSHUA DAVID LEHMEN
NUMBER PE-2012000779
PROFESSIONAL ENGINEER

JOSHUA D. LEHMEN
PROFESSIONAL ENGINEER
PE-2012000779

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
AUGUST 6, 2026

Revised

Design: RE Drawn: BR

FAIRMOUNT
RETAINING WALL PLAN

Sheet
RW1.02

CONSTRUCTION DOCUMENTS

ES&S PROJECT NO. 16804

\\192.168.0.99\PROJECTS\GENERAL PROJECTS\16804_JCMO-SW-INFASTRUCTURE-RECONSTRUCTION-DESIGN\CAD\16804 SITE PLAN.DWG 8/6/2026