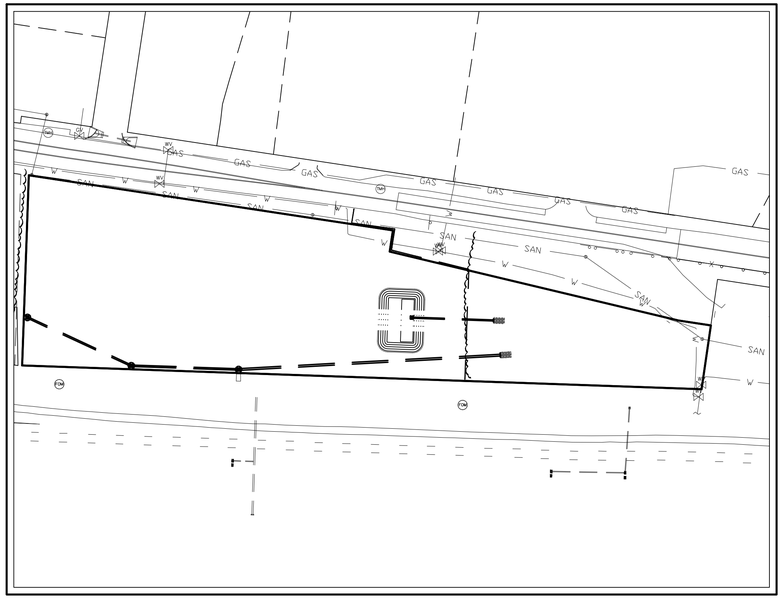
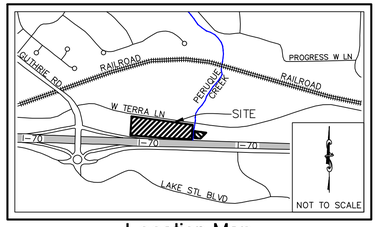
A SET OF GRADING PLANS FOR
Steinieger W Terra Lane

TWO TRACTS OF LAND BEING PART OF U.S. SURVEY 54
TOWNSHIP 47 NORTH, RANGE 2 EAST
CITY OF O'FALLON
ST. CHARLES COUNTY, MISSOURI



Plan View



Location Map

* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in Section 500.420 of the Municipal Code of the City of O'Fallon are as follows:

October 1 through May 31
7:00 A.M. To 7:00 P.M. Monday Through Sunday
June 1 Through September 30
6:00 A.M. To 8:00 P.M. Monday Through Friday
7:00 A.M. to 8:00 P.M. Saturday and Sunday

* The area of this phase of development is 4.115 Acres
The area of land disturbance is 3.40 Acres Number of proposed lots is one.
Building setback information. Front = 30 feet
Side = 20 feet
Rear = 35 feet

* Tree Preservation calculations: 20% of existing trees or 15 trees per acre (whichever is greater) shall be preserved
4.115 Acres Existing Trees x 0.20 = 0.82 Acres Required Trees Preserved
Total Trees Preserved = 0.93 Acres Trees

TREE CLEARING MAY TAKE PLACE BETWEEN OCTOBER 16TH AND MARCH 31ST. ANY CLEARING OUTSIDE OF THIS TIMEFRAME MUST BE CLEARED BY U.S. FISH AND WILDLIFE.

Conditions of Approval From Planning and Zoning

Staff Recommendations

1. All applicable requirements provided within Title IV of the City's Municipal code shall be addressed on the construction site plan.
2. Provide a sidewalk along West Terra Lane to match adjacent sidewalk with Brock's Tree Service.
3. Provide a photometric lighting plan.
4. The outdoor storage area shall meet the requirements of Code Section 400.140(D)(10)(b).
5. Identify the owner of the storm pipe that runs along the south side of the property.
6. Provide creek bank setbacks from 25' and 50' from the top of the bank, not from the centerline of the creek.
7. LOMR-F and flood plain development permit will be required for this site.
8. Provide Fire District, MoDOT, Corps of Engineers, MDNR, Sanitary and Water District approval.
9. Indicate if street lights are to be public or private.
10. Provide documentation regarding habitat removal from the FFW services.
11. Provide a sanitary effluent survey for businesses in the O'Fallon Sewer District.
12. The radius at the entrance shall be a minimum of 25'.

Grading Quantities:

35,800 C.Y. FILL (INCLUDES 8% SHRINKAGE)
2,800 C.Y. CUT (INCLUDES SUBGRADE)
33,000 C.Y. IMPORT

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY, NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP! CALL BEFORE YOU DIG!

CALL BEFORE YOU DIG!
1-800-DIG-RITE

Legend

600.00	EXISTING LABELS		EXIST. SINGLE CURB INLET
600.00	PROPOSED LABELS		EXIST. AREA INLET
CI	SINGLE CURB INLET		PROPOSED SINGLE CURB INLET
DCI	DOUBLE CURB INLET		
AI	AREA INLET		PROPOSED AREA INLET
DAI	DOUBLE AREA INLET		PROPOSED GRATE INLET
GI	GRATE INLET		EXIST. SANITARY MANHOLE
DGI	DOUBLE GRATE INLET		EXIST. STORM MANHOLE
MH	MANHOLE		PROPOSED MANHOLE
FE	FLARED END SECTION		POWER POLE
EP	END PIPE		GUY WIRE
CP	CONCRETE PIPE		LIGHT STANDARD
RCP	REINFORCED CONCRETE PIPE		FIRE HYDRANT
CMP	CORRUGATED METAL PIPE	WMTR	WATER METER
CPP	CORRUGATED PLASTIC PIPE		WATER VALVE
PVC	POLY VINYL CHLORIDE (PLASTIC)		GAS VALVE
CO	CLEAN OUT		TELEPHONE PEDESTAL
	SLOPE LIMITS		SIGN
	DRAINAGE SWALE		TREE
STM	EXISTING STORM SEWER		
SAN	EXISTING SANITARY SEWER		
W	EXISTING WATER LINE		
FO	EXISTING FIBER OPTIC LINE		
GAS	EXISTING GAS LINE		
UGE	EXISTING UNDERGROUND ELECTRIC		
OHW	EXISTING OVERHEAD ELECTRIC		
CTV	EXISTING CABLE TV LINE		
T	EXISTING TELEPHONE LINE		
	PROPOSED STORM SEWER		
	PROPOSED SANITARY SEWER		
X	FENCE LINE		
	SAWCUT LINE		

Drawing Index

Utility Contacts

Sanitary Sewer
City of O'Fallon
100 N. Main St.
O'Fallon, MO 63366
Contact: 636-281-2858

Water
Public Water Supply District No. 2
100 Water Dr.
O'Fallon, MO 63368
Contact: 636-561-3737

Gas
Spire Gas Company
6400 Graham Road
St. Louis, MO 63134
314-522-2297

Electric
Ameren UE
200 Callahan road
Wentzville, MO 63385
636-639-8312

Telephone
Centurylink
1151 Century Tel Dr.
Wentzville, MO 63385
636-332-7261

Charter Communications
941 Charter Commons
Town & Country, MO 63017
888-438-2427

Fire Department
O'Fallon Fire Protection District
119 E. Elm St.
O'Fallon, MO 63366
636-272-3493

Developer

CONTACT: MARK STEINIGER
854 LONE STAR DRIVE
O'FALLON, MO 63366
(636) 978-3478

Benchmarks:

Project

REFERENCE BENCHMARK: ELEVATION 545.451 (NAVD88)

DESCRIPTION: OBSERVED VERTICAL CHECK STATION UTILIZED IS LISTED ON WWW.NGS.NOAA.GOV AS DESIGNATION "C 149" WITH PID OF JC0544 AND PUBLISHED ELEVATION OF 545.45 (NAVD88).

Site

SITE BENCHMARK: ELEVATION 485.97 (NAVD 88)
NOTCH ON NORTH RIM OF SANITARY MANHOLE. LOCATION SHOWN ON ALTA SURVEY.

Fire Protection District Notes:

1. EACH FIRE HYDRANT SHALL NOT HAVE LESS THAN TWO 2-1/2 INCH OUTLETS AND ONE 4-1/2 INCH OUTLET, A 5-1/4 INCH VALVE, A 6 INCH BARREL AND SHALL BE OF THE BREAKAWAY DESIGN, FROST FREE WITH CHAIN, LEFT HAND OPEN DESIGN AND HAVE NATIONAL STANDARD THREADS.

2. FIRE HYDRANT SHALL BE PROVIDED WITH A CONTROL VALVE IN THE HYDRANT CONNECTION SUCH THAT THE HYDRANT CAN BE REMOVED FROM SERVICE WITHOUT SHUTTING OFF WATER SUPPLY TO OTHER FIRE HYDRANTS.

3. IN SETTING HYDRANTS, DUE REGARD SHALL BE GIVEN TO FINAL GRADE LINE. THE CENTER OF A HOSE NOZZLE OUTLET SHALL NOT BE LESS THAT (18) INCHES ABOVE GRADE AND THE OUTLETS MUST FACE THE STREET OR ACCESS DRIVE.

4. THERE SHALL BE NO OBSTRUCTION, I.E. PLANTING, BUSHES, TREES, SIGNS, LIGHT STANDARDS, MAILBOXES, ETC. WITHIN SIX (6) FEET OF ANY FIRE HYDRANT, AND/OR FIRE DEPARTMENT CONNECTION TO AN AUTOMATIC SPRINKLER SYSTEM.

5. A FIRE HYDRANT IS REQUIRED TO BE WITHIN 150 FEET OF A FIRE DEPARTMENT CONNECTION TO AN AUTOMATIC FIRE SUPPRESSION SYSTEM.

6. ALL TEES, PLUGS, BENDS AND HYDRANT BRANCHES SHALL BE RESTRAINED AGAINST MOVEMENT IN ACCORDANCE WITH SECTION 8-6 OF THE NFPA 24.

7. THE FLUSHING AND TESTING OF THE UNDERGROUND PIPING, ETC. FOR PRIVATE SERVOCE MAINS SHALL COMPLY WITH CHAPTER 9 OF NFPA 24 AND SHALL BE WITNESSED BY A REPRESENTATIVE FROM THE FIRE DISTRICT.

8. FIRE DEPARTMENT CONNECTION SHALL BE ACCESSIBLE AND INSTALLED ON ACCORDANCE TO SECTION 912 OF THE 2021 I.F.C.

Development Notes:

1. THIS PROPERTY IS A PART OF THE PROPERTY REFERENCED AS PARCEL I.D. NUMBER 4-0052-0054-00-0005.1000000 OF THE ST. CHARLES COUNTY ASSESSOR'S OFFICE.
2. AREA OF TRACT: 4.115 ACRES
3. EXISTING ZONING: I-1 LIGHT INDUSTRIAL, CITY OF O'FALLON
4. SITE ADDRESS: BRYAN ROAD O'FALLON, MO 63376
5. PROPOSED USE: *TO BE DEVELOPED AT A LATER DATE
6. OWNER: STEINIGER BROTHERS INVESTMENTS LLC 854 LONE STAR DR OFALLON, MO 63366
7. BASIS OF BEARINGS IS THE "MISSOURI COORDINATE SYSTEM OF 1983, EAST ZONE" (GRID NORTH)
8. TO DETERMINE THE LOCATION OF FLOOD DESIGNATIONS AND BOUNDARIES, WE DETERMINED THE HORIZONTAL LOCATION OF THIS TRACT OF LAND BY SCALING THE FOLLOWING FLOOD INSURANCE RATE MAP (FIRM): ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS, MAP NUMBER 29183C0220G, WITH AN EFFECTIVE DATE OF JANUARY 20, 2016.

   COMMUNITY: CITY OF O'FALLON
   NUMBER: 290316
   PANEL: 0220
   SUFFIX: G

   BY EXPRESS REFERENCE TO THIS MAP AND ITS LEGEND, THIS TRACT OF LAND IS INDICATED TO BE WITHIN THE FOLLOWING ZONES:

   ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
   ZONE X - OTHER FLOOD AREAS - AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.
   ZONE AE - SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. (BASE FLOOD ELEVATIONS DETERMINED.)
   FLOODWAY AREAS IN ZONE AE.

   THE EVALUATION PROVIDED IN THIS NOTE IS RESTRICTED TO SIMPLY INDICATING THE APPARENT HORIZONTAL LOCATION OF THE PROPERTY WITH RESPECT TO THE FEATURES DISPLAYED ON THE MAP. NO FIELD STUDY OF THE DRAINAGE CHARACTERISTICS TO WHICH THIS PROPERTY MAY BE SUBJECT TO HAS BEEN CONDUCTED AND NO REPRESENTATION CONCERNING THE INSURABILITY OF THIS PROPERTY OR THE POTENTIAL SUSCEPTIBILITY OF THIS PROPERTY TO FLOODING HAS BEEN MADE. BAX ENGINEERING MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THE ABOVE REFERENCED FIRM MAP WHICH INCLUDES A NOTE THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM. IT DOES NOT NECESSARILY IDENTIFY ALL AREA SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL DRAINAGE SOURCES OF SMALL SIZE.

   THIS FLOOD ZONE DETERMINATION AND THE FLOOD ZONE LIMITS SHOWN HEREON, IF ANY, WERE MADE USING FEMA INFORMATION WHICH WAS AVAILABLE ON THE DATE.
9. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.
10. ANY REQUIRED EASEMENTS WILL BE PROVIDED BY SEPARATE DOCUMENT.
11. CLEARING LIMITS SHALL BE VISIBLY MARKED IN THE FIELD PRIOR TO REMOVAL OF TREES.
12. TREE CLEARING MAY TAKE PLACE BETWEEN OCTOBER 16TH AND MARCH 31ST. ANY CLEARING OUTSIDE OF THIS TIMEFRAME MUST BE CLEARED BY U.S. FISH AND WILDLIFE.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Ryan Rockwell DATE 11/06/2025
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE:
GRADING PLANS FOR
Steinieger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Bax Project # 22-18600B | Issue Date: 10/21/2025

ENGINEERING
PLANNING
SURVEYING
221 Point Test Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER 2007020343
PROFESSIONAL ENGINEER
11/05/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10-21-25	CITY COMMENTS
11-05-25	CITY COMMENTS

Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978-3478

COVER SHEET

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

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GENERAL NOTES

1. Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sumps
2. Sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with the current approved "American with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.
   2.1. Truncated domes for curb ramps located in public right of way shall meet PROWAG requirements and shall be constructed using red pre–cast truncated domes per pavement details.
3. Any proposed pavilions or playground areas will need a separate permit from the Building Division.
4. The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of O'Fallon (636) 379–3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call Missouri One Call 1–800–DIG–RITE. 1–800–344–7483
5. All proposed utilities and/or utility relocations shall be located underground.
6. All proposed fencing requires a separate permit through the Building Safety Division.
7. All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards whichever is more stringent.
8. (INTENTIONALLY OMITTED)
9. All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.
10. Materials such as trees, organic debris, rubble, foundations, and other deleterious material shall be removed from the site and disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a soil Engineer must clarify amount, location, depth. etc. and be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils engineer.
11. Twenty–four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion of the City Engineer, to assure compliance with the plans and specifications as approved.
12. The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items or infrastructure located on the approved plans.
13. All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, he/she shall make such changes at his/her own risk, without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvements so as to confirm to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City inspectors.
14. City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning code.

Grading Notes

1. Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading. The soil report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:
   1.1. Maximum dry density
   1.2. Optimum moisture content
   1.3. Maximum and minimum allowable moisture content
   1.4. Curve must be plotted to show density from a minimum of 90% Compaction and above as determined by the "Modified AASHTO T–180 Compaction Test" (A.S.T.M.–D–1157) or from a minimum of 95% as determined by the "Standard Proctor Test ASSHTO T–99, Method C" (A.S.T.M.–D–698). Proctor type must be designated on document.
   1.5. Curve must have at least 5 density points with moisture content and sample locations listed on document
   1.6. Specific gravity
   1.7. Natural moisture content
   1.8. Liquid limit
   1.9. Plastic limit

   Be advised that if this information is not provided to the City's Construction Inspector the City will not allow grading or construction activities to proceed on any project site.
2. All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted from the bottom of the fill up in 8" lifts and compacted to 90% maximum density as determined by Modified AASHTO T–180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T–99. Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill.
3. The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.
4. All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.
5. When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient density to provide erosion control on site. Between permanent grass seeding periods, temporary cover shall be provided according to Missouri Department of Natural Resources Protecting Water Quality – a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.All finished grades (areas not to be disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000 square feet when seeded.
6. No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the plans and approved by the City Engineer.
7. All low places whether on site or off shall be graded to provide drainage with temporary ditches.
8. Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of O'Fallon Construction Inspection Department and following Missouri Department of Natural Resources standards and specifications.
9. (INTENTIONALLY OMITTED)
10. All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may be earth material (free of large clods, or stones) and compacted using either mechanical tamping or water jetting, Granular material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage to newly laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes every 7.5 foot centers.
    10.1. Depth, Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill, but not less than 3 feet. Trench back fill greater than 8 feet in depth shall be probed to half the depth of the trench back fill but not greater than 8 feet.
    10.2. Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
    10.3. Method, Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
    10.4. Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is collapsed, the void shall be back filled with the same material used as trench back fill and re–jetted. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.
11. Site grading.
    11.1. Within City right–of–way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along the centerline for each lift.
    11.2. Outside of City right–of–way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed at two (2) foot vertical intervals and approximately every one thousand (1,000) cubic yards.
12. Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

Erosion Control Notes

1. The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT."
2. All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one–quarter inch of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.
3. Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with Missouri Department of Natural Resources Protecting Water Quality – a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.
4. This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls that protects water quality and controls run off to maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines. (Ord. 5082, section 405.245)
5. Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR. (70% coverage per square foot) Ord. 6496, Section 405.095

Sanitary Sewer Notes

1. All sanitary sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon Ordinances.
2. Brick shall not be used in the construction of sanitary sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
3. Connections at all sanitary structures are to be made with A–Lock joint or equal
4. All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
5. All sanitary mains shall be a minimum of 8" diameter pipe.
6. All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar at each pipe joint. Sanitary line with a slope greater than 50% will require a special approved design as shown on detail sheet.
7. All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
8. All sanitary sewer mains must have a minimum of 42" cover.
9. When sanitary mains cross over storm line the sanitary main must be ductile iron pipe for 10 feet on each side of the crossing.
10. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
11. The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
12. All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR–8.120 (7)(E).
13. All sanitary sewer pipe shall be SDR35 or equal. All sanitary sewer laterals shall be Schedule 40.
14. All sanitary sewer manholes and pipes will be tested to the following specifications. ASTM C1244, Standard testing method for Concrete Sewer Manhole by Negative Air Pressure (Vacuum), Latest revision ASTM F1417, Standard testing method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air, Latest revision.
15. Add 1" minus rock back fill to all sanitary sewer and all other utilities that lie within the 1:1 shear plane of the road.

Storm Sewer Notes

1. All Storm Sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon ordinances.
2. Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
3. A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
4. (INTENTIONALLY OMITTED)
5. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
6. The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
7. All concrete pipes will be installed with O–ring rubber type gaskets.
8. Connections at all storm structures are to be made with A–lock joint or equal.
9. Pre cast concrete inlet covers are not to be used.
10. The swale in the detention basins shall have a minimum 2% longitudinal slope and be lined with a permanent erosion control blanket that will allow infiltration of storm water.
11. All structures and flared end sections must be concrete. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to detention basins, creek discharge or other approved means.
12. (INTENTIONALLY OMITTED)
13. Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for effectiveness and field modified, if necessary to reduce erosion on and off site.
14. Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.
15. (INTENTIONALLY OMITTED)

Flood plain Information

1. Refer to Section 415 for Floodplain Development Information

Water Notes

1. Fire hydrants shall be a maximum of 600' apart. Local fire district approval is required.
2. Coordinate with the water company on the location of water meters. For meters in the City's district, meters shall be in the right–of–way, otherwise an access easement from the right–of–way shall be provided.
3. All water main must have a minimum of 42" of cover. (City water mains)
4. Provide water valves to isolate the system.
5. All water mains shall be class 200 SDR 21 or equal with locator/tracer wires
6. If the excavations are made in the improved portion of the right–of–way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement. There will be a plastic membrane placed between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining eight inches will be restored by placing a 28 day, 4,000 psd concrete mix.
7. DISINFECTING: Disinfecting shall be accomplished by placing sufficient hypo chlorite granule (HTH) in each section of pipe to achieve a chlorine residual in the pipeline, upon initial filling, of 50 mg/L (PPM). HT. tablets will not be allowed. Following completion of the pipeline, it shall be slowly filled with water and a sample will be taken immediately and the chlorine residual must be 50 mg/L or greater. The solution shall be allowed to stand for 24 hours and a sample shall then be taken. The chlorine residual after 24 hours shall be 30 mg/L or greater. If the piping shows insufficient chlorine residuals in either test, the piping shall be re–chlorinated by the injection of hypo chlorite solution until satisfactory results are achieved. All disinfecting shall be done by the contractor. Only the testing to determine the chlorine residual will be done by the City.
8. PRESSURE TESTING: Immediately following disinfection, the piping shall be pumped to a pressure (at the HIGHEST point in the project) of 150 psi or higher where the working pressure is higher than 150 PSI as determined by the City. In such cases, the pressure shall be as specified by the City and two pressure tests shall be conducted. The first test shall be with the fire hydrant auxiliary valve open and be to 50 PSI. The second test shall be with the fire hydrant auxiliary valve closed and be to the higher pressure as directed by the City. All pumping equipment and pressure gauges shall be provided by the contractor. After achieving the test pressure, the piping shall be left closed for a period of two (2) hours. At the end of this time the pressure drop shall not exceed 2 psi. In addition, if the pressure appears, in judgment of the City's representative, to be continuing to drop, the test shall be continued for another two (2) hours and if any further drops occur, the test shall be considered a failure. If the pressure test fails, the contractor will be required to find and correct the source of the leakage. If this requires draining of the pipeline, when the leakage is corrected, the pipeline must be re–disinfected and the pressure tested again until satisfactory result are achieved. Any MDNR required dechlorination will be performed by the contractor.
9. All tops for valves, meters, and manholes are to be constructed to within 1 inch (0.08') of finish grade. Grading around structure tops on slopes need to be accounted for.
10. BACTERIOLOGICAL TESTING: After satisfactory disinfection and pressure testing, a sample shall be taken by the contractor in the presence of a City representative and submitted to a laboratory approved by the Missouri Department of Natural Resources and the City for bacteriological analysis. After 24 hours, a second sample shall be taken in a like manner and submitted for analysis. The two samples taken on consecutive days ,a minimum of 24 hours apart, must be found to be "safe" by the testing laboratory, and copies of the test results must be supplied to the City. If the samples are not found to be "safe" further flushing and/or disinfection as directed by the City shall be conducted by the contractor until "safe" samples on two consecutive test days are achieved. Following successful bacteriological testing and a determination by the City that the samples are "safe", the mains may be placed into service.

Roadway Notes

1. All paving (public and private) to be in accordance with St. Louis County Standards and Specifications except as modified by the City of O'Fallon ordinances.
2. If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.
3. Provide 6" of concrete over 5" of aggregate base rock or asphalt equivalent for minor residential streets per City Code 405.370.
   3.1. Rock to meet the all the requirements of MoDOT type 5 rock with a tighter restriction on the fines being that no more than ten percent (10%) fines shall pass a no. 200 sieve. (City Code 405.210.B.1) The gradation of this rock needs to be submitted to the City for approval. Any deliveries made without the proper delivery ticket, including signature, will not be accepted. The delivery ticket must list the project name or jobsite location. A separate certification sheet may be provided attached to the delivery ticket with a signature of the company's quality control manager. The quality control certification must be current and dated within 4 weeks of the delivery. (City Code 405.210.A.2.k)
4. Multi–use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
5. Type C (BP–1) Compaction requirements shall be 98% minimum density according to St. Louis Co. Standard Specifications.
6. Provide pavement striping at any point where the multi–use trail crosses existing or proposed pavement
7. All street stub–outs over 250' in length will require a temporary turnaround.
8. All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements
9. Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's discretion. The developer's engineer shall perform quality control guidelines, in accordance with St. Louis County requirements 501.3.1.
10. Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon and shall approve the base before concrete or surface course is placed. The sub grade and base shall be so constructed that it will be uniform in density throughout.
11. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and an average of one (1) test within every two hundred fifty (250) feet.
12. No traffic will be allowed on new concrete pavement until it has cured for seven (7) days and it reaches three thousand five hundred (3,500) psi within 28 days.
    12.1. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi. Cylinders/compressive strength. One (1) set of four (5) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, three (3) at twenty–eight (28) days, and one (1) held in reserve.
13. Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof–rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour. If soft spots are detected, or pumping, rutting or heaving occurs greater than one (1) inch at the sub grade, the roadbed shall be considered unsatisfactory and the soil in these areas shall be remediated to the depth indicated by the contractor's testing firm and approved by a representative of the City Engineer.
14. Sub grade and base beneath pavements shall be compacted to St. Louis County Highway Department specifications. The moisture range shall be determined by the Standard or Modified Proctor Density Method AASHTO T–99 and within –2/+4 percentage points of the optimum moisture content.
15. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling or washing occurs, or where hauling results in ruts or other objectionable irregularities, the contractor shall improve the sub grade or base to the satisfaction of the City before the pavement is placed. Additional rolling or methods to verify compaction shall be at the discretion of the City Engineer. Tolerance allowed on all lines, grades and cross sections shall be plus or minus four–hundredths (+0.04) feet.
16. Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly back filled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts. Utilities installed after sub grade preparation shall be bored. Compaction requirements shall follow St. Louis County standards.
17. Equipment calibration. The developer's contractors and subcontractors must have their equipment calibrated by the following minimum standards.
    17.1. Air meter––weekly.
    17.2. Cylinder compression––annually by independent calibration service.
    17.3. Batch scales––monthly.
    17.4. Nuclear testing devices––every six (6) months.
    17.5. Proctor equipment––every six (6) months.
    17.6. Slump cone––monthly.
18. All permanent traffic control will be per M.U.T.C.D. or MoDot standards. S1–1 from the M.U.T.C.D. manual will be used at all crosswalk locations accompanied with ether w16–9p or w16–7p signs.
19. All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by City of O'Fallon and MoDOT)
20. If the excavations are made in the improved portion of the right–of–way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement. There will be a plastic membrane placed between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining eight inches will be restored by placing a 28 day, 4,000 psi concrete mix.

PROJECT TITLE:
GRADING PLANS FOR
Steiniger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Bax Project # 22–18600B Issue Date: 10/21/2025

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636–928–5552
FAX 928–1718

STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER PE-2007020343
PROFESSIONAL ENGINEER
11/03/25

Larry D. Walker
CIVIL ENGINEER
Authority No. 2007020343

REVISIONS

10–21–25	CITY COMMENTS
11–05–25	CITY COMMENTS

Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978–3478

CONSTRUCTION NOTES

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
2 of 11

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1 inch = 40 ft.

LOT 1
"PERUQUE CROSSING
PLAT ONE"
P.B. 40 PG. 286

PERUQUE CROSSING COURT (50' WIDE)

PROPERTY N/F
H & M PROPERTY
MANAGEMENT LLC
ZONED: "C-2"
CITY OF O'FALLON

LOT 10
"PERUQUE CROSSING
PLAT ONE"
P.B. 40 PG. 286

PROPERTY N/F
PERUQUE CROSSING
HOMEOWNERS ASSOCIATION
ZONED: "C-2"
CITY OF O'FALLON

COMMON GROUND "B"
"PERUQUE CROSSING
PLAT ONE"
P.B. 40 PG. 286

PROPERTY N/F
RLG INDUSTRIES LLC
ZONED: "I-2"
CITY OF O'FALLON

LOT 1
"TRINITY METALS"
P.B. 36 PG. 149

PROPERTY N/F
TRINITY PRODUCTS
ZONED: "I-2"
CITY OF O'FALLON

LOT 2
"TRINITY METALS"
P.B. 36 PG. 149

NEW PARCEL A
"O'FALLON GATEWAY BOBCAT
BOUNDARY ADJUSTMENT PLAT"
P.B. 39 PG. 181

SANITARY MANHOLE TOP=521.36 FL=510.95

12" PVC (15" PVC PER BASE MAP) SAN

FLARED END 15" RCP FL=513.64

FLARED END 15" RCP FL=512.22

15" RCP

POINT OF COMMENCEMENT

BURIED GAS WAS SCALED FROM BASE MAP

SANITARY MANHOLE TOP=516.55 FL=508.83

DOUBLE YELLOW STRIPING

S81°23'46"E 514.56'

SANITARY MANHOLE TOP=498.20 FL=486.76

WEST TERRA LANE
(IRREGULAR WIDTH)
(A.K.A. OLD HIGHWAY 40)

S08°36'14"W 30.00'

SANITARY MANHOLE TOP=486.00 FL=471.12

N02°00'01"E 266.06'

REMAINDER OF
15'W. SANITARY
SEWER EASEMENT
D.B. 4200 PG. 2303

12" PVC (15" PVC PER BASE MAP) SAN

EASEMENT FOR RIGHT OF WAY
D.B. 1326 PG. 1704
(PARCEL 11.2, TRACT NO. 2)

S76°33'25"E 414.90'

CONCRETE HEADWALL

GUARDRAIL

BRIDGE DECK

RIP RAP

48" CHAIN LINK FENCE

EXISTING 100 YEAR
FLOOD ELEVATION 489'
(RED HATCHED)

TRIBUTARY AS MARKED IN FIELD

WETLANDS AS MARKED IN FIELD

RIGHT OF WAY LINES OF INTERSTATE HIGHWAY 70 PER PLANS FOR MISSOURI STATE HIGHWAY COMMISSION PROJECT NO. I-70-4(15)204

S81°23'46"E 45.61'

S81°23'46"E 14.39'

SANITARY MANHOLE TOP=477.29 FL=463.19

S08°51'13"W 90.08'

N08°51'13"E 78.52'

EDGE OF WATER 2-28-22

DRAINAGE DITCH EASEMENT
D.B. 1326 PG. 1704
(PARCEL 11.2, TRACT NO. 2)

PROPERTY N/F
BARTHELMAS FARM, LLC
D.B. 2829 PG. 2010

N87°59'59"W 90.66'

N87°59'59"W 949.84'

FL AT HEADWALL 498.23

END OF PIPE 24" RCP FL=497.33

24" RCP FROM I-70 ROAD DRAINS

100 YEAR FLOOD ELEVATION 489

END OF PIPE 12" RCP FL=477.28

CONC. WALL

INTERSTATE HIGHWAY 70

FLOODWAY
(YELLOW HATCHED AREA)

ZONE X
ZONE X (SHADED)
ZONE AE
ZONE AE (FLOODWAY)
ZONE AE S

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

PROJECT TITLE:
GRADING PLANS FOR
Steinieger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Box Project # 22-18600B | Issue Date: 10/21/2025

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER PE-2007020343
PROFESSIONAL ENGINEER
11/3/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10-21-25	CITY COMMENTS
11-05-25	CITY COMMENTS

Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978-3478

FLOOD EXHIBIT

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
3 of 11

GRAPHIC SCALE

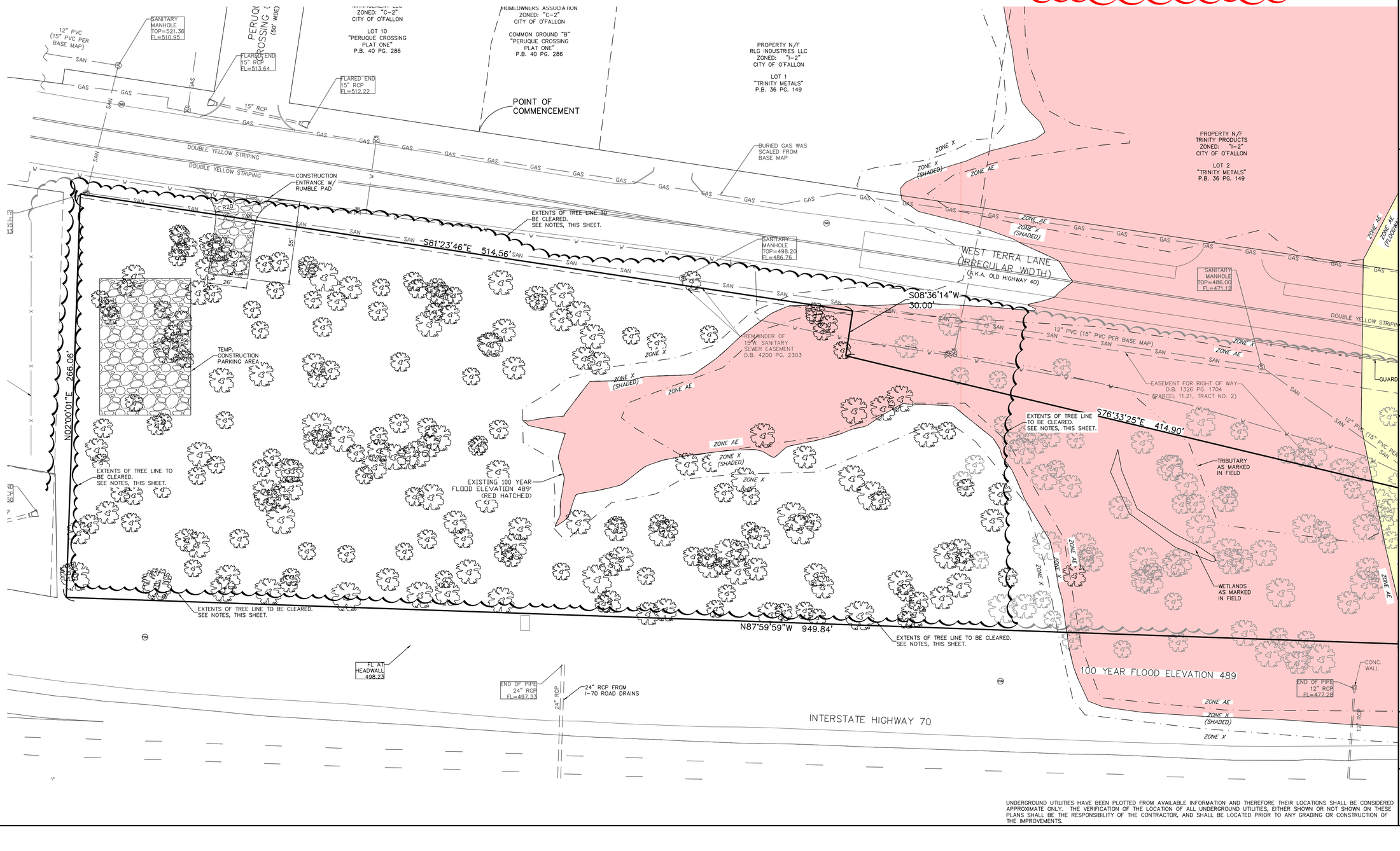
30 0 15 30

(IN FEET)
1 inch = 30 ft.

* Tree Preservation calculations: 20% of existing trees or 15 trees per acre (whichever is greater) shall be preserved
4.115 Acres Existing Trees x 0.20 = 0.82 Acres Required Trees Preserved
Total Trees Preserved = 0.93 Acres Trees

NOTES:

1. ALL 5:1 SLOPES TO 3:1 SLOPES SHALL BE COVERED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKET (OR EQUIVALENT).
2. CONTRACTOR TO KEEP ROADWAYS CLEAN AND FREE OF DEBRIS AT ALL TIMES.
3. CONTRACTOR TO REPAIR GREENSPACE IN RIGHT OF WAY WITH SOD.
4. CLEARING LIMITS SHALL BE VISIBLY MARKED IN THE FIELD PRIOR TO THE REMOVAL OF TREES.
5. TREE CLEARING MAY TAKE PLACE BETWEEN OCTOBER 16TH AND MARCH 31ST. ANY CLEARING OUTSIDE OF THIS TIMEFRAME MUST BE CLEARED BY U.S. FISH AND WILDLIFE.



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11/03/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

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11-05-25	CITY COMMENTS

Developer / Owner:
Mark Steiniger
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O'Fallon, MO 63366
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DEMOLITION PLAN

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
4 of 11

GRAPHIC SCALE

30 0 15 30

(IN FEET)
1 inch = 30 ft.

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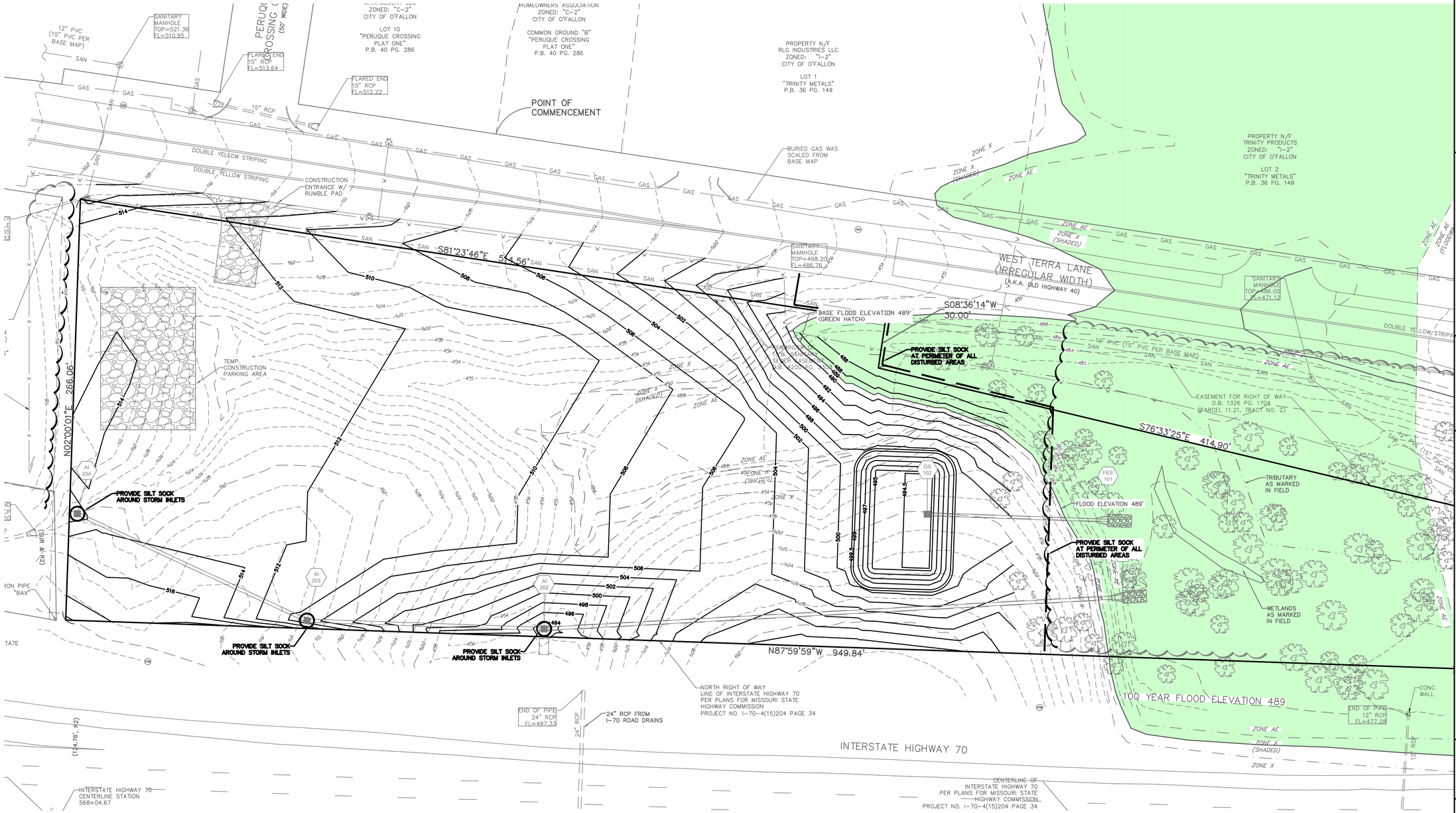
3. CONTRACTOR TO REPAIR GREENSPACE IN RIGHT OF WAY WITH SOD.
4. CLEARING LIMITS SHALL BE VISIBLY MARKED IN THE FIELD PRIOR TO THE REMOVAL OF TREES.



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GRADING PLAN

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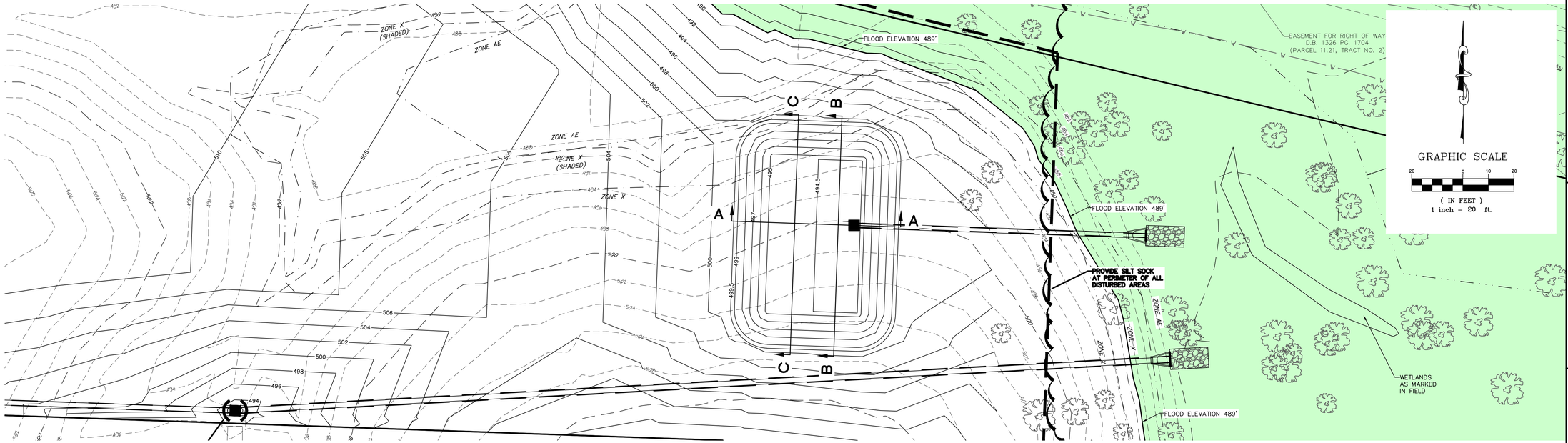
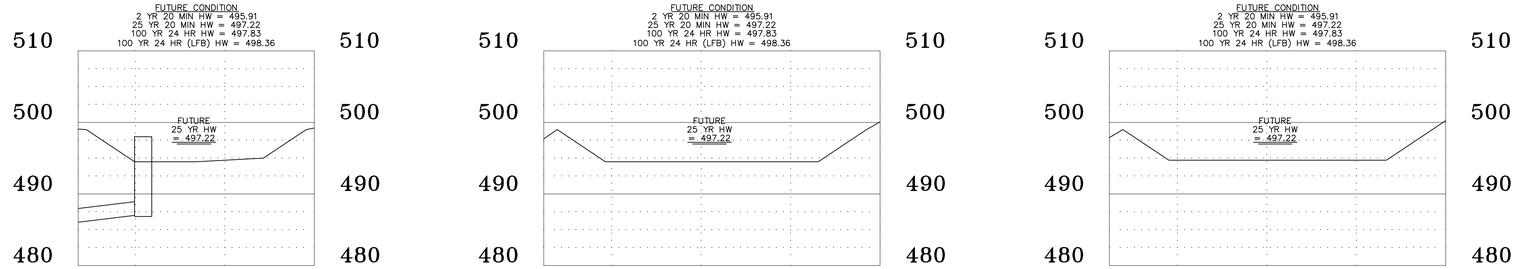
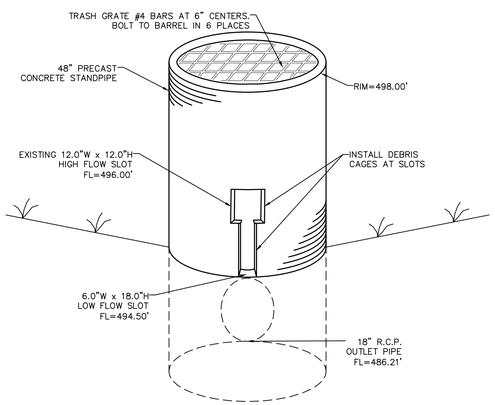




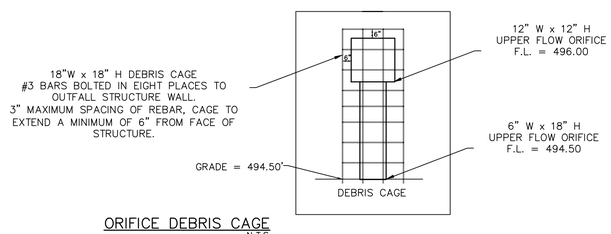
Basin Section A-A
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

Basin Section B-B
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

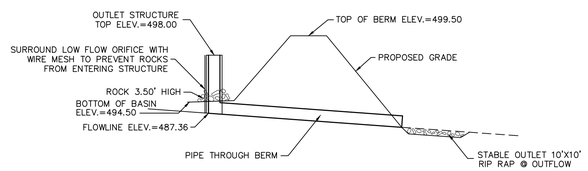
Basin Section C-C
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



OVERFLOW STRUCTURE DETAIL
NOT TO SCALE



ORIFICE DEBRIS CAGE
N.T.S.



TEMPORARY SEDIMENT BASIN DETAIL
NOT TO SCALE

NOTE: PAINT MARK @ ELEV. 496.50 FOR CLEANOUT OF SEDIMENT BASIN.

DETENTION BASIN SHALL BE USED FOR TEMPORARY SEDIMENT BASIN.

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O'Fallon, MO 63366

Bax Project # 22-18600B | Issue Date: 10/21/2025

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STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER 2007020343
PROFESSIONAL ENGINEER
11/05/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10-21-25	CITY COMMENTS
11-05-25	CITY COMMENTS

Developer / Owner:
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854 Long Star Drive
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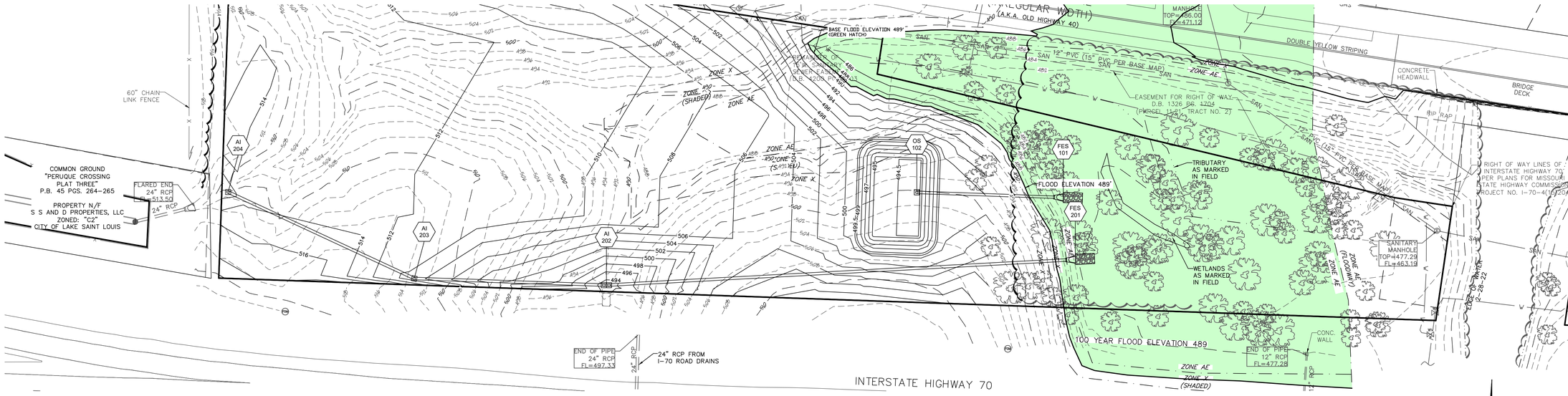
(636) 978-3478

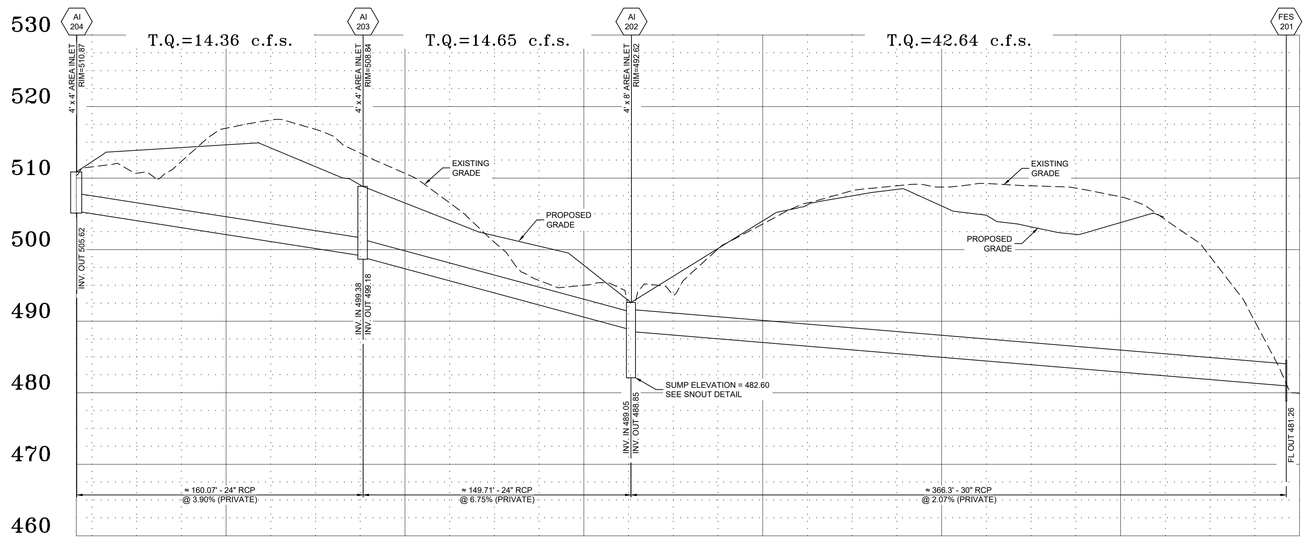
BASIN AND STORM DETAILS

P+Z No. 25-008321
Approved: 09-04-2025

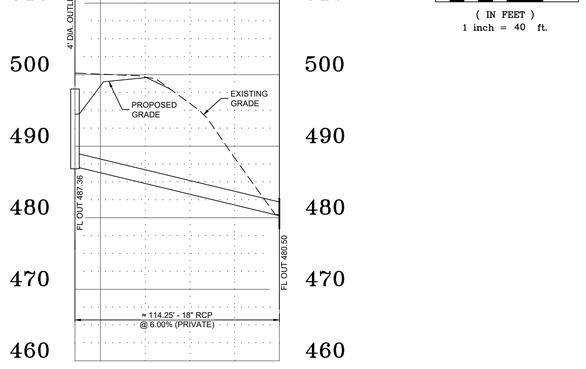
City No.
GR25-000007

Page No.
6 of 11

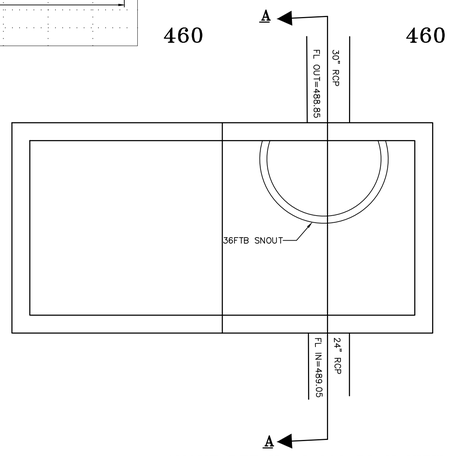




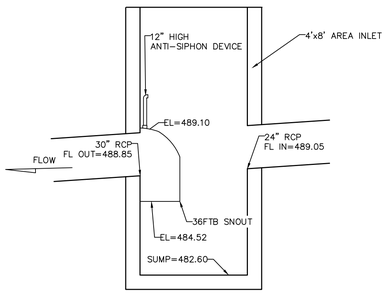
STORM PROFILE
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=10'



STORM PROFILE
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=10'



SNOUT DETAIL AI 202 PLAN VIEW
NOT TO SCALE



SNOUT DETAIL AI 202 PROFILE VIEW: A-A
NOT TO SCALE

GRAPHIC SCALE
40 0 20 40
(IN FEET)
1 inch = 40 ft.

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221 Point Test Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER PE-2007020343
PROFESSIONAL ENGINEER
11/05/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10-21-25	CITY COMMENTS
11-05-25	CITY COMMENTS

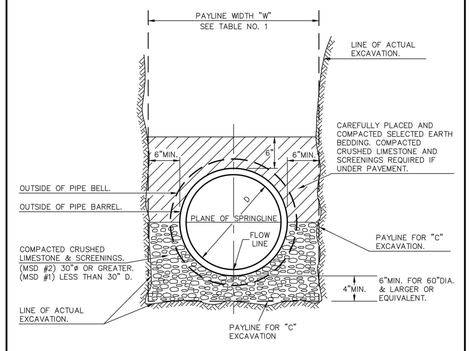
Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978-3478

STORMWATER PROFILES

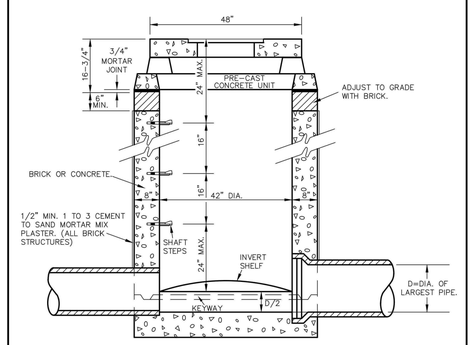
P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
7 of 11

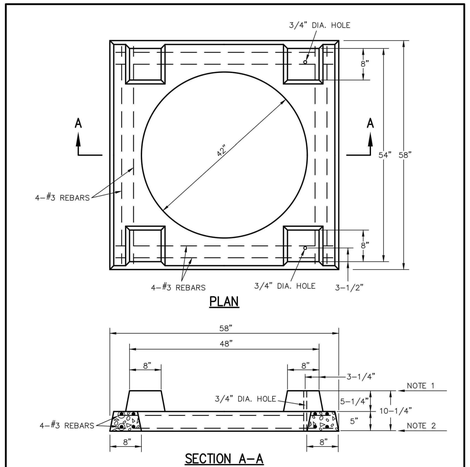


PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. W.S.H. Ch. J.C.K.	2009	SHEET 4



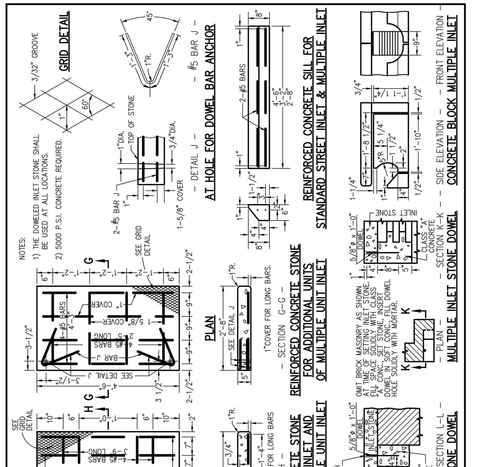
NOTE:
FOR SEWERS 27 INCH THRU 42 INCH SEE DETAIL SHEET 11 FOR BOTTOM SECTION.

AREA INLET MANHOLE (12" THRU 24")	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. RGW/SAM Ch. J.C.K.	2009	SHEET 25

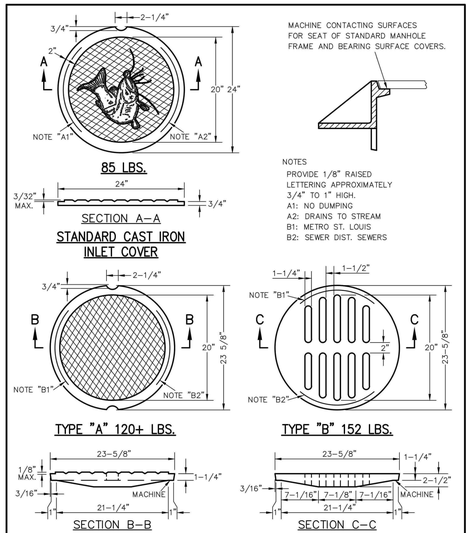


NOTES:
1) SET STANDARD INLET STONE IN 3/4" MORTAR BED OR APPROVED MASTIC AND DOWEL WITH 5/8" 1'-0" LONG PINS AND GROUT.
2) RAISE TO FINAL GRADE WITH COURSES OF BRICK AND SET THE UNIT TO BASE WITH 3/4" MORTAR BED.
3) THIS UNIT TO BE USED WITH 42 INCH I.D. BASE.
4) 5000 P.S.I. CONCRETE IS REQUIRED.

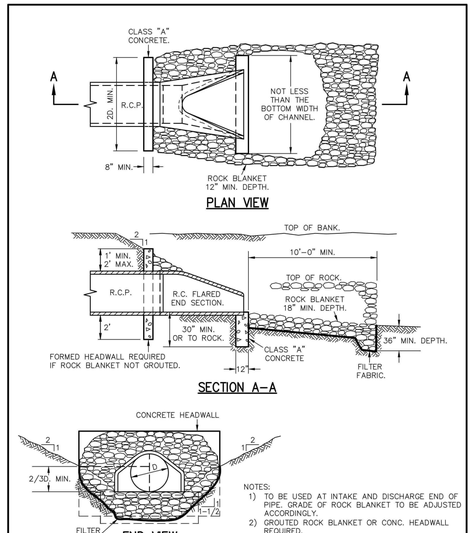
PRECAST CONCRETE UNIT FOR 4 WAY AREA INLET	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. DAB/SAM Ch. J.C.K.	2009	SHEET 36



STANDARD – INLET STONES, BLOCKS & DESIGN DETAILS	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 40

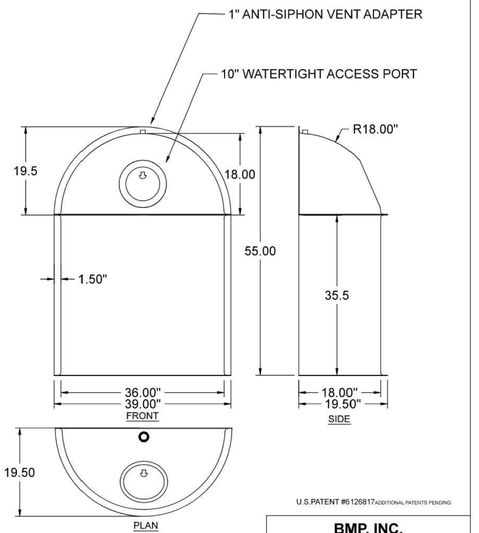


CAST IRON COVERS FOR MANHOLES AND INLETS	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. RGW/SAM Ch. J.C.K.	2009	SHEET 48



NOTES:
1) TO BE USED AT INTAKE AND DISCHARGE END OF PIPE. GRADE OF ROCK BLANKET TO BE ADJUSTED ACCORDINGLY.
2) GROUTED ROCK BLANKET OR CONC. HEADWALL REQUIRED.
3) IF A PIPE MATERIAL OTHER THAN RCP WILL BE USED, CONTRACTOR TO PROVIDE SHOP DRAWINGS DETAILING CONNECTION BETWEEN PIPE AND R.C. FLARED END SECTION.

FLARED END SECTION	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 55

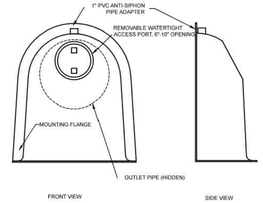


U.S.PATENT #6126817ADDITIONAL PATENTS PENDING

BMP, INC.
53 MT. ARCHER ROAD, LYME, CT. 06371
(800) 504-8008 FAX: (860)434-3195

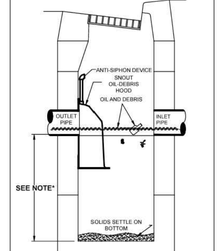
DESCRIPTION	DATE	SCALE
36FTB SNOUT OIL & DEBRIS STOP	03/28/05	NONE
	DRAWING NUMBER	36FTB

CONFIGURATION DETAIL



SNOUT OIL-WATER-DEBRIS SEPARATOR

TYPICAL INSTALLATION

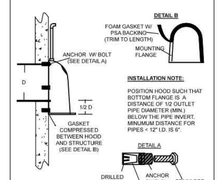


*NOTE- SUMP DEPTH OF 36" MIN. FOR UP TO 12" ID PIPE OUTLET. FOR PIPES 15" ID AND ABOVE, SUMP DEPTH OF 2.5 TO 3 TIMES PIPE ID RECOMMENDED (E.G. 5' DEEP for 24" PIPE)

NOTES:
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
BEST MANAGEMENT PRODUCTS, INC.
9 MATHEWS DRIVE, UNIT A1-A2
EAST HADDAM, CT 06423
TOLL FREE: (800) 504-8008 OR (888) 434-0277, FAX: (877) 434-3197
WEB SITE: www.bmpinc.com
OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
8. ALL STRUCTURE JOINTS SHALL BE WATERTIGHT.
9. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 2" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
10. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
INSTALLATION KIT SHALL INCLUDE:
A. INSTALLATION INSTRUCTIONS
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
D. 3/8" STAINLESS STEEL BOLTS
E. ANCHOR SHIELDS

US Patent # 6126817, 7951294, 7857966, 8512556
Canada Patent # 2285146, 2690156, 2690156 others pending

INSTALLATION DETAIL



HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES		
DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/18	NONE
	DRAWING NUMBER	SP-SN

ENGINEER SEAL DOES NOT APPLY TO MSD / SNOUT DETAILS

PROJECT TITLE:
GRADING PLANS FOR
Steinieger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Bax Project # 22-18600B | Issue Date: 10/21/2025

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER
PE-2007020343
PROFESSIONAL ENGINEER
11/05/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10-21-25	CITY COMMENTS
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Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978-3478

STORM DETAILS

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
8 of 11

SWPPP Cut Sheet

Last Updated: 7-1-07

Section 1: Erosion and Sediment Control – Construction Activities

1.1 Filtrexx SiltSoxx™

Sediment & Perimeter Control Technology

PURPOSE & DESCRIPTION
Filtrexx SiltSoxx™ are a three-dimensional tubular sediment control and storm water runoff filtration device typically used for **perimeter control** of sediment and other soluble pollutants (such as phosphorus and petroleum hydrocarbons), on and around construction activities.

APPLICATION
Filtrexx SiltSoxx™ are to be installed down slope of any disturbed area requiring erosion and sediment control and filtration of soluble pollutants from runoff. SiltSoxx™ are effective when installed perpendicular to sheet or low concentrated flow. Acceptable applications include:

- Site perimeters
- Above and below disturbed areas subject to sheet runoff, interrill and rill erosion
- Above and below exposed and erodable slopes
- Around area drains or inlets located in a 'sump'
- On compacted soils where trenching of silt fence is difficult or impossible
- Around sensitive trees where trenching of silt fence is not beneficial for tree survival or may unnecessarily disturb established vegetation.
- On frozen ground where trenching of silt fence is impossible.
- On paved surfaces where trenching of silt fence is impossible.

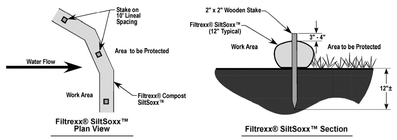
INSTALLATION
1. SiltSoxx™ used for perimeter control of sediment and soluble pollutants in storm runoff shall meet Filtrexx Soxx™ Material Specifications and use Certified Filtrexx FilterMedia™.
2. Contractor is required to be Filtrexx Certified™ as determined by Filtrexx International, LLC (440-926-2607 or visit website at www.filtrexx.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application (current listing can be found at www.filtrexx.com). Look for the Filtrexx Certified™ Seal.
3. SiltSoxx™ will be placed at locations indicated on plans as directed by the Engineer.
4. SiltSoxx™ should be installed parallel to the base of the slope or other disturbed area. In extreme conditions (i.e., 2:1 slopes), a second SiltSoxx™ shall be constructed at the top of the slope.
5. Stakes shall be installed through the middle of the SiltSoxx™ on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 1 ft (1m) wooden stakes. In the event staking is not possible, i.e., when SiltSoxx™ are used on pavement, heavy concrete blocks shall be used behind the SiltSoxx™ to help stabilize during rainfall/runoff events.
6. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
7. Loose compost may be backfilled along the upslope side of the SiltSoxx™, filling the seam between the soil surface and the device, improving filtration and sediment retention.
8. If the SiltSoxx™ is to be left as a permanent filter or part of the natural landscape, it may be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.
9. Filtrexx SiltSoxx™ are not to be used in perennial, ephemeral, or intermittent streams.

See design drawing schematic for correct Filtrexx SiltSoxx™ installation (Figure 1.1).

INSPECTION and MAINTENANCE
Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. SiltSoxx™ should be regularly inspected to make sure they maintain their shape and are producing adequate hydraulic flow-through. If ponding becomes excessive, additional SiltSoxx™ may be required to reduce effective slope length or sediment removal may be necessary. SiltSoxx™ shall be inspected until area above has been permanently stabilized and construction activity has ceased.

1. The Contractor shall maintain the SiltSoxx™ in a functional condition at all times and it shall be routinely inspected.
2. If the SiltSoxx™ has been damaged, it shall be repaired, or replaced if beyond repair.
3. The Contractor shall remove sediment at the base of the upslope side of the SiltSoxx™ when accumulation has reached 1/2 of the effective height of the SiltSoxx™, or as directed by the Engineer. Alternately, a new SiltSoxx™ can be placed on top of and slightly behind the original one creating more sediment storage capacity without soil disturbance.
4. SiltSoxx™ shall be kept clear until disturbed area above the device has been permanently stabilized and construction activity has ceased.
5. The FilterMedia™ will be dispersed on site once disturbed area has been permanently stabilized, construction activity has ceased, or as determined by the Engineer.
6. For long-term sediment and pollution control applications, SiltSoxx™ can be seeded at the time of installation to create a vegetative filtering system for prolonged and increased filtration of sediment and soluble pollutants (contained vegetative filter strip). The appropriate seed mix shall be determined by the Engineer.

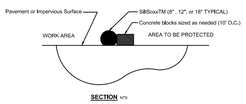
Filtrexx® SiltSoxx™ Details

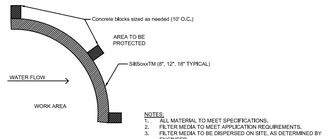


Notes:
1. All material to meet Filtrexx® specifications.
2. SiltSoxx™ compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx™ depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

Slope Percent	Maximum Slope Length Above SiltSoxx™ in Feet (meters)*				
	8 in (200 mm) SiltSoxx™	12 in (300 mm) SiltSoxx™	18 in (450 mm) SiltSoxx™	24 in (600mm) SiltSoxx™	32 in (800mm) SiltSoxx™
	7 in (175 mm)**	10 in (250 mm) **	15 in (375 mm) **	20 in (500 mm) **	26 in (650 mm) **
2 (or less)	600 (180)	750 (225)	1000 (300)	1300 (400)	1650 (500)
5	400 (120)	500 (150)	550 (165)	650 (200)	750 (225)
10	200 (60)	250 (75)	300 (90)	400 (120)	500 (150)
15	140 (40)	170 (50)	200 (60)	325 (100)	450 (140)
20	100 (30)	125 (38)	140 (42)	260 (80)	400 (120)
25	80 (24)	100 (30)	110 (33)	200 (60)	275 (85)
30	60 (18)	75 (23)	90 (27)	130 (40)	200 (60)
35	60 (18)	75 (23)	80 (24)	115 (35)	150 (45)
40	60 (18)	75 (23)	80 (24)	100 (30)	125 (38)
45	40 (12)	50 (15)	60 (18)	80 (24)	100 (30)
50	40 (12)	50 (15)	55 (17)	65 (20)	75 (23)

*Based on a failure point of 36 in (0.9 m) super silt fence (wire reinforced) at 1000 ft (303 m) of slope, watershed width equivalent to receiving length of sediment control device, 1 in/ 24 hr (25 mm/24 hr) rain event. **Effective height of Silt Soxx™ after installation and with constant head from runoff as determined by Ohio State University.





SiltSoxxTM for Sediment Control on Pavement

NTS

Storm Water Pollution Prevention Plan

A. PURPOSE:

The purpose of the Storm Water Pollution Prevention Plan (SWPPP) is to inform the Developer/Contractor of the following objectives they are required to meet:

- Prevent erosion where construction activities shall occur.
- Prevent pollutants from mixing with storm water.
- Prevent pollutants from being discharged by trapping them on–site, before they can affect the receiving waters.
- All regulations of Missouri Department of Natural Resources are met.
- All regulations of the Environmental Protection Agency are met.
- All regulations of the local municipality are met.

B. PROJECT DESCRIPTION:

The project is located in the Peruque Creek watershed in St. Charles County, Missouri. This project disturbs approximately 3.88 acres.

The project activities consist of the construction of a new building, parking lot and entrance. The site will be protected by the various erosion protection measures listed below:

1. Siltation Control: The entire perimeter of the project that allows storm water to exit will have silt siltation control installed. Details of these devices are depicted on the detail plans prepared by Bax Engineering Company, Inc.
2. Revegetation: The site will consist of varying ground slopes, upon completion of the grading activities the slope prone to erosion will be seeded and strawed to stabilize the slope and prevent erosion.

C. MAINTENANCE AND INSPECTION:

Regular Maintenance: Weekly inspections of the project will include: (a) The repair of any sediment (silt) fence and/or staked straw bale barriers damaged or out of place; (b) The removal of any accumulated trash and/or debris; and (c) The remove of any externally deposited waste materials.

Periodic Inspections: Following each rain of more than 0.25 inch in 24 hours, the site will be inspected, and any necessary maintenance will be provided for a period of one year following the completion of the above remediation measures. Summaries of the maintenance and the inspections will be maintained and shall be kept available from the owner. An inspection report shall be filed and kept on site for every inspection. The report shall detail the findings of the inspection and if any action was required. The inspection form needs to include, name of the site, name of the inspector, permit number, date of inspection, major observations and actions taken to correct problems and the signature of the inspector. The inspection reports need to be kept on file by the permittee for three years after the project is completed.

The field inspections will be conducted in a systematic manner to minimize the possibility of any significant feature being overlooked. A detailed checklist will be developed and followed for the examination. Particular attention will be given to detecting evidence of erosion, slope instability, undue settlement, displacement, and tilting. Photographs and drawings will be used freely to record conditions in order to minimize descriptions. The field inspection will include appropriate features and items, including potential hazards to human life or property.

The condition of the slopes and vegetative cover will be evaluated and examined for erosion.

Measures will be taken to promote the growth of vegetation and repair of damage caused by erosion and sedimentation. The inspection will also provide recommendations for measures that need to be undertaken immediately, based on the experience and judgment of the inspector. Necessary follow up inspections will be made as necessary to verify that any maintenance, alteration, or repair measures are accomplished by methods acceptable by standard engineering practice.

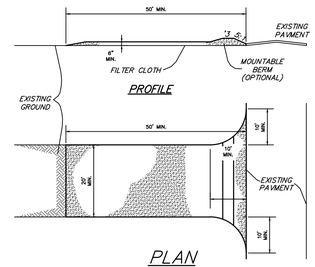
Table 60-5 Soil Stabilization Schedule

Soil Disturbance Activity or Condition	Required Stabilization Time
Soil disturbance has ceased in areas greater than 2,000 square feet.	14 days
After construction of dikes, swales, diversions, and other concentrated flow areas	5 days
When slopes are steeper than 3 horizontal to1 vertical	7 days
When slopes are greater than 3% and longer than 150 feet.	14 days
Perimeter controls around soil stockpiles.	End of workday
Stabilization or covering of inactive stockpiles.	30 days
When land disturbance is completed, permanent soil stabilization must be installed.	30 days

SPILL AND SITE POLLUTION

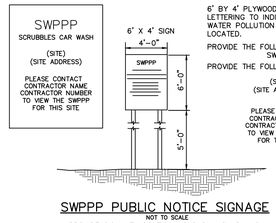
Should an accidental spill occur refer to material safety data sheets. Any spills of hazardous materials in quantities in excess of reportable quantities as defined by EPA or the state agency regulations, shall be immediately reported to the EPA National Response Center (800–424–8802) and Missouri Department of Natural Resources (573–634–2436). Reportable spills for petroleum products is greater than 50 gallons. All other reportable hazardous materials and their quantities may be found on the website at http://www.dnr.mo.gov an the local number is 573–840–9750. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetlands, or area such as a road ditch that drains into the above. An emergency spill kit is required to be onsite for all potential spills.

STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

1. Stone Size – Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length – As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness – Not less than six (6) inches.
4. Width – Twenty (20) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth – Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water – All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance – The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights–of–way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights–of–way must be removed immediately.
8. Washing – Wheels shall be cleaned to remove sediment prior to entrance onto public rights–of–way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.



SWPPP PUBLIC NOTICE SIGNAGE

NOT TO SCALE

PROVIDE SIGN AT LOCATION AS SHOWN ON PLANS.

ROLLMAX™ ROLLED EROSION CONTROL

Specification Sheet – EroNet™ P300* Permanent Erosion Control Blanket

DESCRIPTION

The permanent erosion control blanket shall be a machine-produced mat of 100% UV stable polypropylene fiber. The matting shall be of consistent thickness with the synthetic fibers evenly distributed over the entire area of the mat. The matting shall be covered on the top side with black heavyweight UV-stabilized polypropylene netting having ultraviolet additives to delay breakdown and approximate 0.50 x 0.50 inch (1.27 x 1.27 cm) mesh. The bottom net shall also be UV-stabilized polypropylene with a 0.63 x 0.63 inch (1.57 x 1.57 cm) mesh size. The blanket shall be sewn together on 1.5 inch (3.81 cm) centers with non-degradable thread. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats. The P300 shall meet Type 5A, 5B, specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18

Material Content		
Matrix	100% UV stable Polypropylene Fiber	0.7 lbs/sq yd (0.38 kg/m)
Netting	Top: UV-stabilized Polypropylene	5 lbs/1000 sq ft (24 kg/100)
	Bottom: UV-stabilized Polypropylene	3 lbs/1000 sq ft (147 g/sm)
Thread	Polypropylene, UV stable	

Standard Roll Size		
Width	6.5 ft (2.0 m)	8 ft (2.44 m)
Length	164 ft (32.92 m)	112 ft (34.14 m)
Weight ±10%	61 lbs (27.66 kg)	76.25 lbs (34.59 kg)
Area	80 sq yd (66.6 sm)	100 sq yd (83.61 sm)

Slope Design Data: C Factors	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.001	0.029	0.082
20-50 ft	0.036	0.060	0.086
≥ 50 ft (15.2 m)	0.070	0.090	0.110

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.49 in. (11.94 mm)
Resiliency	ASTM D6524	91.5%
Density	ASTM D792	0.96 g/cm³
Mass/Unit Area	ASTM 6566	13.63 oz/sy (443 g/m-2)
UV Stability	ASTM D4355/ 1000 hr	90%
Porosity	ECTC Guidelines	95.89%
Stiffness	ASTM D1388	0.34 in-lb (1095.39 mg-cm)
Light Penetration	ASTM D6567	17.9%
Tensile Strength - MD	ASTM D6818	438 lbs/ft (6.49 kN/m)
Elongation - MD	ASTM D6818	28.5%
Tensile Strength - TD	ASTM D6818	295 lbs/ft (4.32 kN/m)
Elongation - TD	ASTM D6818	26.7%
Biomass Improvement	ASTM D7322	497%

Design Permissible Shear Stress	Short Duration	Long Duration
Phase 1: Unvegetated	3.0 psf (144 Pa)	2.0 psf (96 Pa)
Phase 2: Partially Veg.	8.0 psf (383 Pa)	8.0 psf (383 Pa)
Phase 3: Fully Veg.	8.0 psf (383 Pa)	8.0 PSF (383 Pa)
Unvegetated Velocity	9.0 fps (2.7 m/s)	
Vegetated Velocity	16 fps (4.9 m/s)	

Roughness Coefficients – Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.034
0.50 - 2.0 ft	0.034-0.020
≥ 2.0 ft (0.60 m)	0.020

Tensar International Corporation
2500 Northwinds Parkway
Suite 500
Alpharetta, GA 30009
800-TENSAR1
tensarcorp.com

Tensar International Corporation warrants that at the time of delivery the product furnished hereunder shall conform to the specification stated herein. Any other warranty including merchantability and fitness for a particular purpose, are hereby excluded. If the product does not meet specifications on this page and Tensar is notified prior to installation, Tensar will replace the product at no cost to the customer. This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to January 1, 2012.

EC_RMX_MP3S_P300_1.10

Tensar. NORTH AMERICAN GREEN

Tensar International Corporation
5401 St. Wendel-Cynthiana Road
Poseyville, Indiana 47633
Tel. 800.772.2040
Fax 812.867.0247
www.nagreen.com

Material and Performance Specification
S75 Erosion Control Blanket

Description

The short-term single net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a lightweight photodegradable polypropylene netting having an approximate 0.50 x 0.50 (1.27 x 1.27 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The S75 shall meet Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) *FP-03 Section 713.17*

Material Content		
Matrix	100% Straw Fiber	0.5 lbs/yd² (0.27 kg/m²)
Netting	Top side only, lightweight photodegradable	1.5 lb/1000 ft² (0.73 kg/100 m²) approx. weight
Thread	degradable	

Standard Roll Sizes			
Width	6.67 ft (2.03 m)	8.0 ft (2.44 m)	16.0 ft (4.87 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)	108 ft (32.92 m)
Weight ± 10%	40 lbs (18.14 kg)	50 lbs (22.68 kg)	96 lbs (43.54 kg)
Area	80 yd² (66.9 m²)	100 yd² (83.61 m²)	192 yd² (165.5 m²)

Bench Scale Testing (NTPEP)		
Test Method	Parameters	Results
ECTC 2 Rainfall	50 mm (2 in)/hr-30 min 100mm (4 in)/hr-30 min 150 mm (6 in)/hr-30 min	SLR** = 8.80 SLR** = 8.16 SLR** = 7.81
ECTC 3 Shear Res.	Shear at 0.50 inch soil loss	1.80 lbs/ft²
ECTC 4 Germination	Top Soil, Fescue, 21 day incubation	228% improvement of biomass

* Bench Scale tests should not be used for design purposes
** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with RECP

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.37 in (9.4 mm)
Resiliency	ECTC Guidelines	78.8%
Water Absorbency	ASTM D1117	426%
Mass/Unit Area	ASTM 6475	11.97 oz/yd² (407 g/m²)
Swell	ECTC Guidelines	15%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.31 oz-in
Light Penetration	ECTC Guidelines	7.3%
Tensile Strength –MD	ASTM D6818	130.8 lbs/ft (1.94 kN/m)
Elongation – MD	ASTM D6818	24.4%
Tensile Strength – TD	ASTM D6818	85.2 lbs/ft (1.26 kN/m)
Elongation – TD	ASTM D6818	26.8%

Maximum Permissible Shear Stress	
Unvegetated Shear Stress	1.55 lbs/ft² (74 Pa)
Unvegetated Velocity	5.00 ft/s (1.52 m/s)

Slope Design Data: C Factors	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.029	NA	NA
20-50 ft	0.11	NA	NA
≥ 50 ft (15.2 m)	0.19	NA	NA

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.055
0.50 – 2.0 ft	0.055 – 0.021
≥ 2.0 ft (0.60 m)	0.021

Proud Participant of:

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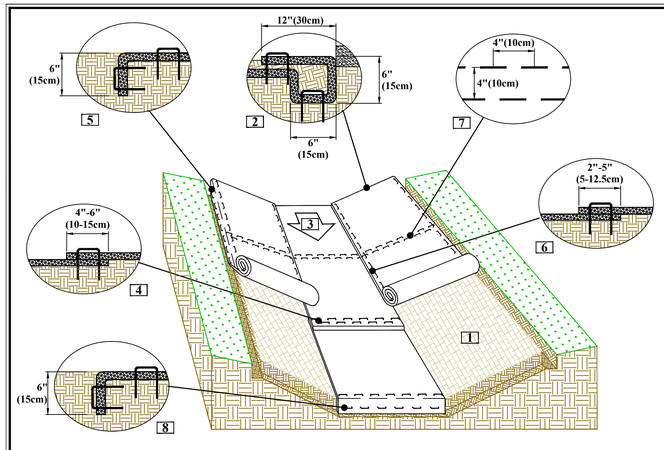

CRITICAL POINTS
A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

Drawing Not To Scale

CHANNEL INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm) (Depending on RECPs type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

NOTES:
*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

**In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

Tensar. NORTH AMERICAN GREEN®

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Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 3-16-11

VEGETATION ESTABLISHMENT
For Urban Development Sites
APPENDIX A

SEEDING RATES:

PERMANENT:
Tall Fescue – 30 lbs./ac. Smooth Brome – 20 lbs./ac.
Combined – Fescue @ 15 lbs./ac. AND Brome @ 10 lbs./ac.

TEMPORARY:
Wheat or Rye – 150 lbs./ac. (3.5 lbs. per 1,000 s.f.)
Oats – 120 lbs./ac. (2.75 lbs. per 1,000 s.f)

SEEDING PERIODS:
Fescue or Brome – March 1 to June 1
August 1 to October 1
Wheat or Rye – March 15 to November 1
Oats – March 15 to September 15

MULCH RATES:
100 lbs. per 1,000 sq. ft. (4,356 lbs. per ac.)

FERTILIZER RATES:

Nitrogen	30 lbs./ac.
Phosphate	30 lbs./ac.
Potassium	30 lbs./ac.
Lime	600 lbs./ac. ENM*

* ENM = effective neutralizing material as per State evaluation of quarried rock.

ENGINEER SEAL DOES NOT APPLY TO FILTREXX AND TENSAR DETAILS

PROJECT TITLE:
GRADING PLANS FOR
Steinieger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Bax Project # 22-18600B | Issue Date: 10/21/2025

ENGINEERING PLANNING SURVEYING
221 Point Test Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
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STATE OF MISSOURI LARRY DAVID WALKER NUMBER PE-2007020343 PROFESSIONAL ENGINEER 11/3/25

Larry D. Walker
CIVIL ENGINEER
2007020343

REVISIONS

10–21–25	CITY COMMENTS
11–05–25	CITY COMMENTS

Developer / Owner:
Mark Steiniger
854 Long Star Drive
O'Fallon, MO 63366
(636) 978-3478

SEDIMENT AND EROSION CONTROL DETAILS

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
9 of 11

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1 inch = 40 ft.

"PERUQUE CROSSING PLAT ONE" P.B. 40 PG. 286

PERUQUE CROSSING C (50' WIDE)

SANITARY MANHOLE TOP=521.36 FL=510.95

12" PVC (15" PVC PER BASE MAP) SAN

FLARED END 15" RCP FL=513.64

FLARED END 15" RCP FL=512.22

PROPERTY N/F H & M PROPERTY MANAGEMENT LLC ZONED: "C-2" CITY OF O'FALLON

LOT 10 "PERUQUE CROSSING PLAT ONE" P.B. 40 PG. 286

PROPERTY N/F PERUQUE CROSSING HOMEOWNERS ASSOCIATION ZONED: "C-2" CITY OF O'FALLON

COMMON GROUND "B" "PERUQUE CROSSING PLAT ONE" P.B. 40 PG. 286

POINT OF COMMENCEMENT

PROPERTY N/F RLG INDUSTRIES LLC ZONED: "I-2" CITY OF O'FALLON

LOT 1 "TRINITY METALS" P.B. 36 PG. 149

BURIED GAS WAS SCALED FROM BASE MAP

PROPERTY N/F TRINITY PRO... ZONED: CITY OF O'F...

LOT 2 "TRINITY M... P.B. 36 PG...

0.28 ac. @ 1.70
0.51 ac. @ 3.54
Q = 2.28 c.f.s.

0.08 ac. @ 1.70
0.00 ac. @ 3.54
Q = 0.14 c.f.s.

S81°23'14"E 14.56'

SANITARY MANHOLE TOP=516.55 FL=508.83

SANITARY MANHOLE TOP=49...20 FL=486.76

SANITARY MANHOLE TOP=486.00 FL=471.12

WEST TERRA LANE (IRREGULAR WIDTH) (A.K.A. OLD HIGHWAY 40)

S08°36'14"W 30.00'

0.35 ac. @ 1.70
0.57 ac. @ 3.54
Q = 2.61 c.f.s.

...WAY PER PLANS ...OURI HIGHWAY AND ...PORTATION COMMISSION FED PROJECT NO. 170-4(149) (JOB NO. J6I0736C) "EXISTING COMMUTER PARKING"

60" CHAIN LINK FENCE

0.23 ac. @ 1.70
3.80 ac. @ 3.54
Q = 13.8 c.f.s.

LOT 16 "PERUQUE CROSSING PLAT THREE" P.B. 45 PGS. 264-265

PROPERTY N/F S S AND D PROPERTIES, LLC ZONED: "C2" CITY OF LAKE SAINT LOUIS

(SUR & R2)

N02°00'01"E 266.06'

REMAINDER OF 15' W. SANITARY SEWER EASEMENT D.B. 4200 PG. 2303

ZONE X (SHADED)

ZONE AE

2.90 ac. @ 1.70
0.00 ac. @ 3.54
Q = 4.93 c.f.s.

S76°33'25"E 414.90'

EASEMENT FOR RIGHT OF... D.B. 1326 PG. 420 (PARCEL 11-61, TRACT N...

FOUND IRON PIPE "BAX"

COMMON GROUND "PERUQUE CROSSING PLAT THREE" P.B. 45 PGS. 264-265

PROPERTY N/F S S AND D PROPERTIES, LLC ZONED: "C2" CITY OF LAKE SAINT LOUIS

FLARED END 24" RCP FL=513.50

24" RCP

(SUR & R2)

FOUND IRON PIPE "BAX"

FOUND IRON PIPE "BAX"

1.09 ac. @ 1.70
0.52 ac. @ 3.54
Q = 3.69 c.f.s.

NORTH RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 70 PER PLANS FOR MISSOURI STATE HIGHWAY COMMISSION PROJECT NO. I70-4(149) JOB NO. J6I0736C

FLOOD ELEVATION 489'

1.14 ac. @ 1.70
0.00 ac. @ 3.54
Q = 1.94 c.f.s.

ZONE X

ZONE AE

WETLA... AS MA... IN FIEL...

N87°59'59"W 949.84'

NORTH RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 70 PER PLANS FOR MISSOURI STATE HIGHWAY COMMISSION PROJECT NO. I-70-4(15)204 PAGE 34

100 YEAR FLOOD ELEVATION 489

ZONE AE

ZONE X (SHADED)

ZONE X

INTERSTATE HIGHWAY 70

(124.76' R2)

INTERSTATE HIGHWAY 70 CENTERLINE STATION 567+98.71

INTERSTATE HIGHWAY 70 CENTERLINE STATION 568+04.67

END OF PIPE 24" RCP FL=497.33

24" RCP FROM I-70 ROAD DRAINS

0.77 ac. @ 1.70
0.67 ac. @ 3.54
Q = 3.68 c.f.s.

CENTERLINE OF INTERSTATE HIGHWAY 70 PER PLANS FOR MISSOURI STATE HIGHWAY COMMISSION PROJECT NO. I-70-4(15)204 PAGE 34

2.42 ac. @ 1.70
2.61 ac. @ 3.54
Q = 13.4 c.f.s.

HEADWALL (BOTTOM OF SLOPE)

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

PROJECT TITLE:
GRADING PLANS FOR
Steinieger W Terra Lane
W Terra Lane
O'Fallon, MO 63366

Bax Project # 22-18600B | Issue Date: 10/21/2025

ENGINEERING
PLANNING
SURVEYING
221 Point Test Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

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STATE OF MISSOURI
LARRY DAVID WALKER
NUMBER PE-2007020343
PROFESSIONAL ENGINEER
11/03/25

Larry D. Walker
CIVIL ENGINEER
2007020343

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11-05-25	CITY COMMENTS

Developer / Owner:
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854 Long Star Drive
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GRADING PLAN

P+Z No. 25-008321
Approved: 09-04-2025

City No.
GR25-000007

Page No.
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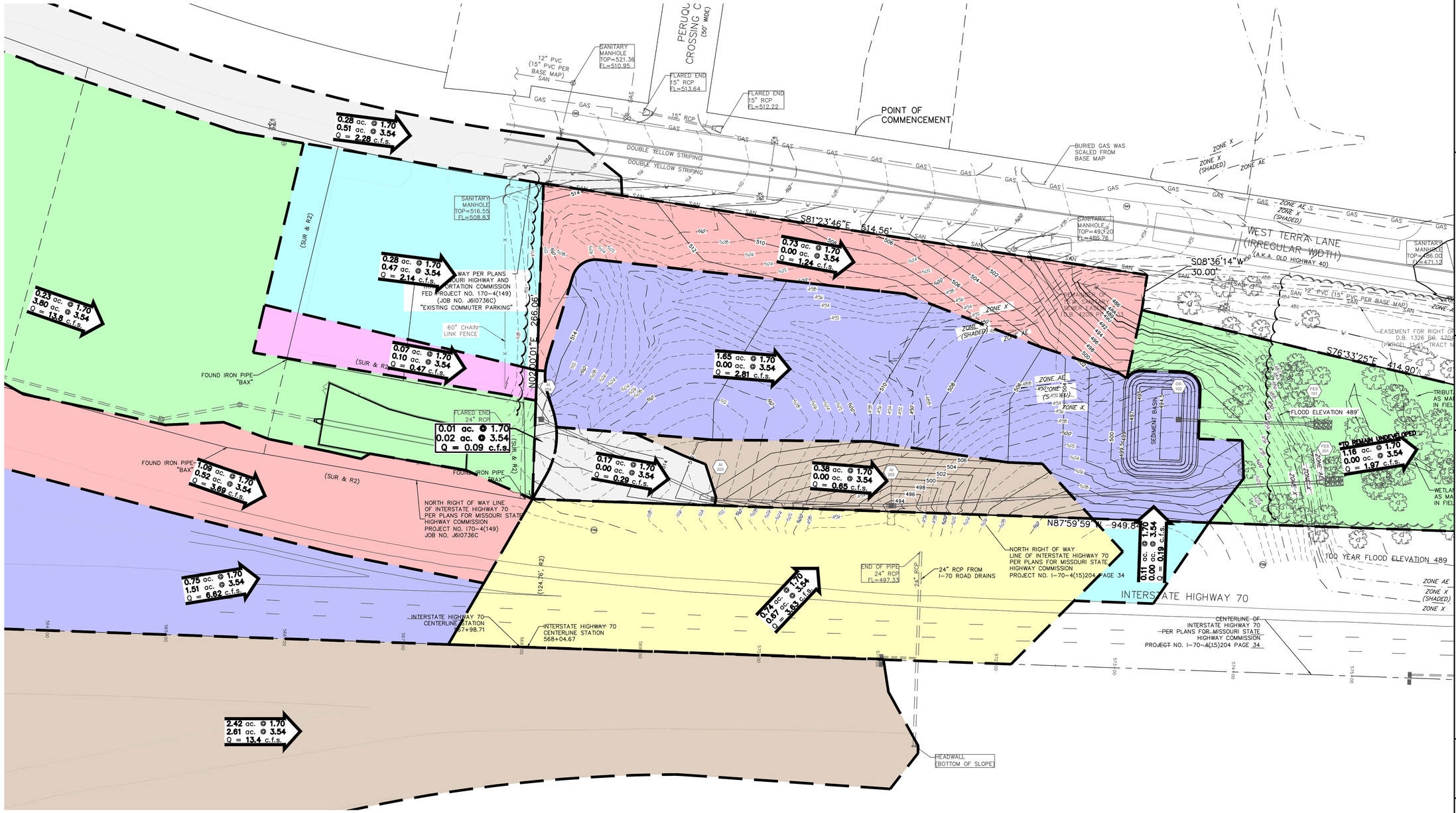
40 0 20 40

(IN FEET)
1 inch = 40 ft.



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