CITY OF RAYMORE

100 Municipal Circle · Raymore, MO. 64083 Phone · 816-892-3045 · Fax · 816-892-3093



ADDENDUM NO. 1

Johnston Drive Extension Project #18-243-201

All plan holders are hereby notified and agree by signature below, that the bid includes consideration of the following changes, amendments, and/or clarifications and costs associated with these changes and are included in the bid.

Addendum No. 1 - Addition of Plan Set

Any other questions regarding this proposal shall be submitted to Kim Quade, CPPB by e-mail at kquade@raymore.com or by phone at (816) 892-3045. There will be no questions allowed after February 2, 2018 at 5 p.m.

I hereby certify that the above have been considered and associated costs have been included in this bid.

Company Name:	
By:	
T 11	
Title: _	
Address: _	
Date:	Phone:
Signature of Biddo	er:

ADDENDUM MUST BE SUBMITTED WITH BID

SHEET TITLE

JOHNSTON DRIVE EXTENSION

FOR THE CITY OF RAYMORE, CASS COUNTY, MISSOURI 12/20/2017

UTILITY CONTACTS

WATER & SEWER RAYMORE PUBLIC WORKS 1021 S MADISON STREET RAYMORE, MISSOURI 64029 (816) 331-2377

ELECTRICITY KANSAS CITY POWER & LIGHT (816) 471-5275

MISSOURI GAS ENERGY (MGE) 3205 SOUTEAST CLOVER DRIVE LEE'S SUMMIT, MISSOURI 64082 (800) 582-1234

TELEPHONE (816) 325-5615/(816) 275-1640

LEE'S SUMMIT, MO 64086 (816) 607-2187 MISSOURI ONE CALL

CABLE TELEVISION

COMCAST CABLE

816-795-2259

EMERGENCY:

RAYMORE POLICE

911 OR (816) 331-0530

SOUTH METROPOLITAN FIRE PROTECTION DISTRICT 911 OR (816) 331-3008

600 NE COLBERN ROAD

(800) DIG-RITE

CONTRACTOR SHALL VERIFY IN THE FIELD AT THE TIME OF CONSTRUCTION.

FOR FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 1-800-344-7483 1-(800) DIG-RITE STATE LAW REQUIRES TWO DAYS ADVANCE NOTICE.





Cass County, Missouri

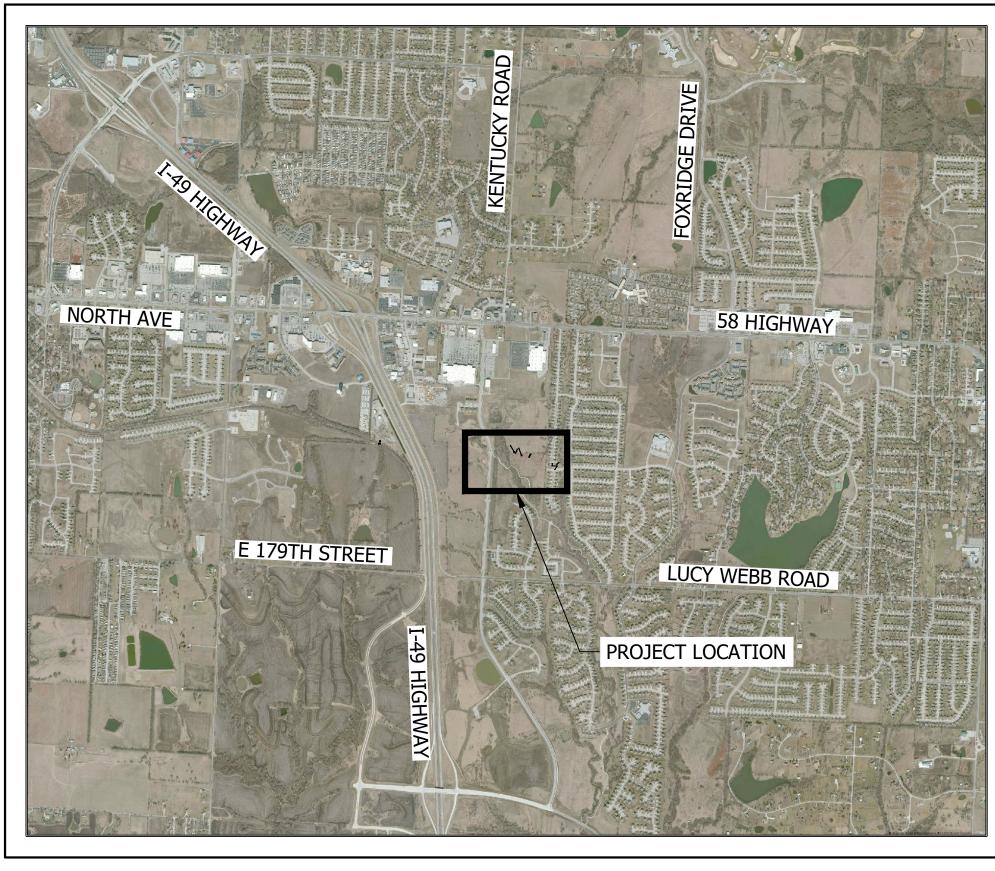
PREPARED & SUBMITTED BY:



JIM E. ROSS, PE

APPROVAL:

APPROVED BY: GREG ROKOS CITY OF RAYMORE, MO



VICINITY MAP	
SCALE: 1"=2000'	

PROPOSED WATER MAIN

LEGEND

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			STORM SEWER
•			CHAINLINK/ BARBED WIRE FENCE
-			WOOD FENCE EXISTING MINOR CONTOURS
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. □ . □	PROPOSED CONCRETE PAVEMENT		EVERGREEN TREE
	DIRECTIONAL BORE	点	TREE STUMP
8	MAILBOX	₩	WATER METER
T	TELEPHONE PEDESTAL	Þ	FIRE HYDRANT
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2	GENERAL NOTES		
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SHEET INDEX

GENERAL SHEETS

TITLE SHEET

SHEET NUMBER

DESIGN STANDARDS & DATA

1. CITY OF RAYMORE

2. ALL PROPOSED IMPROVEMENTS ARE OUTSIDE THE LIMITS OF ALL FLOOD HAZARDS. SEE FEMA

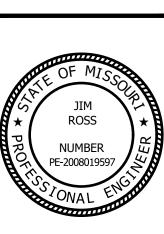
3. AMERICAN PUBLIC WORKS ASSOCIATION (AWPA).

PROJECT GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN PUBLIC WORKS ASSOCIATION KANSAS CITY METROPOLITAN CHAPTER (KCAPWA) SPECIFICATIONS, THE CITY OF RAYMORE STANDARD MODIFICATIONS OF THE KCAPWA SPECIFICATIONS, AND THE JOB SPECIAL PROVISIONS.

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SEALED DATE:	
DESIGNED BY:	BLW
DRAWN BY:	BDM
APPROVED BY:	JER
DESIGN PROJ:	19267.001
DATE:	12/20/2017
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- 2. CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF PLANS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND CONTRACT AGREEMENTS ARE RECEIVED AND APPROVED BY SAME.
- 3. NO WORK SHALL COMMENCE ON THOSE AREAS DESIGNATED AS EASEMENTS UNTIL THE AUTHORITY HAS BEEN GRANTED BY THE CITY. IT IS INTENDED THAT ALL EASEMENTS WILL BE IN PLACE PRIOR TO CONSTRUCTION. VERIFICATION MUST BE GIVEN PRIOR TO WORK ON THOSE PROPERTIES.
- 4. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION SPECIFICATIONS AND PROJECT MANUAL AT THE JOB SITE AT ALL TIMES. IT IS ADVISABLE THAT THE CONTRACTOR BECOME FAMILIAR WITH THE CITY REQUIREMENTS AND STANDARDS IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THIS APPROVED PLAN AND THE CITY REQUIREMENTS. ADVISE THE CITY'S REPRESENTATIVE OF ANY DISCREPANCY PRIOR TO BIDDING OR WORKING ON THIS PROJECT.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK. THE CITY HAS NO PERMITS REQUIRED BY THE CONTRACTOR OTHER THAN A BUSINESS LICENSE.
- 6. THE ACCURACY AND ADEQUACY OF THE ALIGNMENTS, DIMENSIONS, AND ELEVATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AT THE JOB SITE. IF THE CONTRACTOR FINDS ANY DIMENSIONS TO BE IN ERROR OR IN QUESTION, THE CITY'S REPRESENTATIVE SHALL BE PROMPTLY CONTACTED FOR CLARIFICATION PRIOR TO THE CONTINUATION OF THE WORK. THE ENGINEERING AND GEOLOGICAL DATA SHOWN ON THESE PLANS ARE FROM STUDIES MADE IN THE FIELD AND REPRESENTS THE BEST INFORMATION AVAILABLE AT THE TIME OF TESTING.
- 7. NOTIFY THE CITY'S REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK. FOR CONSTRUCTION UNDER DRIVEWAYS AND STREETS, CONTRACTOR SHALL NOTIFY RESIDENTS OF CONSTRUCTION ACTIVITIES WELL IN ADVANCE OF THE WORK, AND SHALL PROVIDE AND MAINTAIN A TEMPORARY SURFACE FOR ACCESS UNTIL PERMANENT RESTORATION IS COMPLETED.
- 8. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT PROPER TRAFFIC CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES).
- 9. DURING CONSTRUCTION, ACCESS SHALL BE MAINTAINED FOR EMERGENCY VEHICLES AND LOCAL TRAFFIC. CONTRACTOR SHALL NOTIFY THE CITY 72 HOURS PRIOR TO ANY STREET CLOSURES OR BLOCKAGES TO ALLOW THE CITY ADEOUATE TIME TO NOTIFY THE FIRE, POLICE AND AMBULANCE DEPARTMENTS, SCHOOLS, SCHOOL BUS COMPANIES, AND POST OFFICE OF THE UPCOMING WORK. CLOSURES AND TRAFFIC PLANS ARE SUBJECT TO APPROVAL OF THE CITY'S REPRESENTATIVE.
- 10. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY 1-800-DIG-RITE OF MISSOURI AND ALL THOSE UTILITY COMPANIES WHICH HAVE FACILITIES IN THE VICINITY 72 HOURS PRIOR TO THE CONSTRUCTION TO BE PERFORMED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR UNDERGROUND UTILITY LINES, WHETHER SHOWN ON THESE PLANS OR NOT, PRIOR TO ANY EXCAVATION. ALL EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE TAKEN FROM UTILITY COMPANY INFORMATION OR AS OBSERVED AT THE SURFACE AND ARE APPROXIMATE ONLY. THE CONTRACTOR. PRIOR TO CONSTRUCTION, SHALL VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES. THE REPAIR OF ANY DAMAGE TO SAID UTILITIES SHALL BE AT THE COST TO THE CONTRACTOR. ANY UTILITIES FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY'S REPRESENTATIVE. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES ARE ON THE TITLE SHEET.
- 11. ALL UTILITIES SHALL BE KEPT IN SERVICE AND PROTECTED DURING CONSTRUCTION OPERATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES, AND NOTIFY THE CITY'S REPRESENTATIVE OF ANY CONFLICTS IMMEDIATELY. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITIES PRIOR TO ANY EXCAVATION. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 12. NOTIFICATION MUST BE GIVEN TO PROPERTY OWNERS OF SERVICE OR ACCESS INTERRUPTION. SERVICES SHALL BE RE-ESTABLISHED WITHIN 6 HOURS OF DISCONNECTION. RESIDENTS SHALL BE NOTIFIED IN WRITING WITHIN 48 HOURS OF SERVICE BEING DISCONNECTED.
- 13. CONTRACTOR SHALL POTHOLE ALL UTILITIES WHERE THERE MAY BE CONFLICTS AND WILL PROVIDE THE CITY FIELD NOTES WITH ELEVATIONS OF OTHER UTILITIES AS FOUND.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING LATERALLY AND/OR BRACING/PROTECTING UTILITIES AS APPLICABLE.

- 15. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS, CODES, AND ORDINANCES. OPEN BURNING OF DEBRIS SHALL NOT BE PERMITTED.
- 16. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SITE EROSION CONTROL IN ACCORDANCE WITH THE CRITERIA SET FORTH BY THE STATE OF MISSOURI AND THE CITY OF RAYMORE AND/OR AS NOTED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY EROSION CONTROL SHALL BE INSTALLED PER THE SPECIFICATIONS, OR AS WARRANTED AND DETERMINED IN THE FIELD BY THE CITY'S REPRESENTATIVE. EROSION CONTROLS MUST BE IN PLACE PRIOR TO ANY SITE WORK AND MUST BE MAINTAINED CONTINUOUSLY THROUGHOUT THE PROJECT.
- 17. DRIVEWAYS, SIDEWALKS, FENCES AND OTHER AREAS INSIDE AND OUTSIDE THE CONSTRUCTION LIMITS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTED BEFORE DAMAGE OCCURRED AT THE CONTRACTORS EXPENSE. ALL DAMAGED INFRASTRUCTURE SHALL BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NO SEPARATE PAYMENT WILL BE MADE FOR ADJUSTMENTS NOT NOTED IN THE PLAN NOTATION AND CALLOUTS.
- 18. EXISTING TREES NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. TREES DAMAGED DURING CONSTRUCTION SHALL BE PRUNED AND WOUNDS PROTECTED AS APPROVED BY THE CITY'S REPRESENTATIVE. TREES NOT TO BE REMOVED BEFORE NOVEMBER 1ST OR AFTER APRIL 1ST AS TO NOT HINDER THE INDIANA BAT HABITAT.
- 19. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EARTHWORK TYPE AND OUANTITIES THEREOF. NO CLASSIFICATION OF EXCAVATED MATERIALS WILL BE MADE. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE AMOUNT OF ROCK EXCAVATION, IF ANY, TO BE INCLUDED IN HIS BID. EXCAVATION WORK SHALL INCLUDE THE REMOVAL AND SUBSEQUENT HANDLING OF ALL MATERIALS EXCAVATED OR OTHERWISE REMOVED IN PERFORMANCE OF THE WORK, REGARDLESS OF THE TYPE, CHARACTER, COMPOSITION, OR CONDITION THEREOF. ALL FILL AND BACKFILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER WITH ALL UNDESIRABLE MATERIAL REMOVED.
- 20. NO EXPLOSIVES ALLOWED.
- 21. ALL CONTRACTOR STOCKPILING, STAGING AND EMPLOYEE PARKING SHALL BE CONFINED TO LOCATIONS COORDINATED WITH THE CITY OR PRIVATE PROPERTY OWNER. IF THE CONTRACTOR BELIEVES THAT HE REQUIRES MORE WORKING ROOM THAN IS PROVIDED IN THE PERMANENT EASEMENT OR RIGHT-OF-WAY, THE CONTRACTOR, AT HIS EXPENSE, MAY OBTAIN AGREEMENTS WITH PROPERTY OWNERS FOR ADDITIONAL TEMPORARY ACCESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GAINING ANY TEMPORARY ACCESS REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL PROVIDE OWNER AND CITY WITH COPIES OF ANY AGREEMENTS REACHED FOR SAID ACCESS.
- 22. THE TOP 6" OF ALL FILL OUTSIDE OF PAVED AREAS SHALL BE TOP SOIL, AND SHALL BE APPROVED BY THE CITY'S REPRESENTATIVE PRIOR TO SOD OR SEED INSTALLATION. ALL BACKFILL SHALL BE TAMPED AND ORGANIC TOP SOIL PLACED THEREAFTER FOLLOWED BY SEEDING OR SOD AS REOUIRED BY THE SPECIFICATIONS. NO EXTRA PAYMENT WILL BE MADE FOR IMPORTED FILL MATERIAL REQUIRED TO CONSTRUCT FILLS TO LINES AND GRADES INDICATED ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEEDING, FERTILIZING, AND EROSION CONTROL
- 23. GROUNDWATER SEEPAGE MAY BE ENCOUNTERED. IF WATER SEEPAGE IS ENCOUNTERED DURING EXCAVATION, USE OF TEMPORARY DEWATERING TECHNIQUES MAY BE NECESSARY AT NO ADDITIONAL COST TO THE CITY.
- 24. THE CONTRACTOR SHALL NOT BE ALLOWED TO WORK SUNDAY. HOLIDAYS AND SATURDAY WORK SHALL BE APPROVED BY THE CITY'S REPRESENTATIVE.
- 25. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF THE CONSTRUCTION WORKERS AND THE PUBLIC. THIS RESPONSIBILITY WILL NOT BE LIMITED TO NORMAL WORKING HOURS.
- 26. ALL BENCHMARKS, CONTROL POINTS, PROPERTY MARKERS, AND RIGHT-OF-WAY MONUMENTS DISTURBED OR DESTROYED SHALL BE RESET BY A MISSOURI REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- 27. CONTRACTOR SHALL RESTORE ALL DISTURBED GRASSY AREAS WITH SEED PER SPECIFICATIONS. CONTRACTOR SHALL FERTILIZE AND WATER AS NECESSARY UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- 28. CONCRETE FOR DRIVEWAY SIDEWALK AND/OR STREET REPLACEMENTS SHALL MATCH THE STANDARD DETAILS AS SHOWN. SLOPES SHALL MEET ACCESSIBILITY STANDARDS.
- 29. ALL CONSTRUCTION MUST BE ADA COMPLIANT. NON ADA COMPLIANT CONSTRUCTION MUST BE REMOVED AND REPLACED AT THE CONTRACTOR'S
- 30. LANDINGS SHALL HAVE A MAXIMUM OF 2% CROSS SLOPE IN BOTH DIRECTIONS AND SHALL BE INSTALLED AT TOP OF RAMPS UNLESS OTHERWISE NOTED.
- 31. BACKFILL OF REINFORCED CONCRETE PIPE SHALL BE 1 INCH CLEAN ROCK OR SOIL COMPACTED TO 90 PERCENT OF STANDARD PROCTOR DENSITY.

STAKING AND TESTING

- 1. ALL CONSTRUCTION STAKING AND TESTING WILL BE AT THE CONTRACTORS EXPENSE.
- 2. CONTRACTOR SHALL GIVE CITY'S REPRESENTATIVE 48 HOURS NOTICE BEFORE REQUESTING THEIR PRESENCE FOR OBSERVATION OR TESTING.
- 3. THE HIRING OF A TESTING LAB AND THE COST OF FIELD TESTING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 4. A MINIMUM OF FOUR COMPACTION TESTS WILL BE TAKEN DETERMINE COMPLIANCE WITHIN ROADWAYS AND MEANS AND METHODS USED BY THE CONTRACTOR. TEST LOCATIONS WILL BE DETERMINED BY THE OWNER.
- 5. AT THE OWNER'S DISCRETION, ADDITIONAL PROCTOR TEST MAY BE REQUIRED TO DETERMINE THE ADEQUACY OF SPECIFIED COMPACTION

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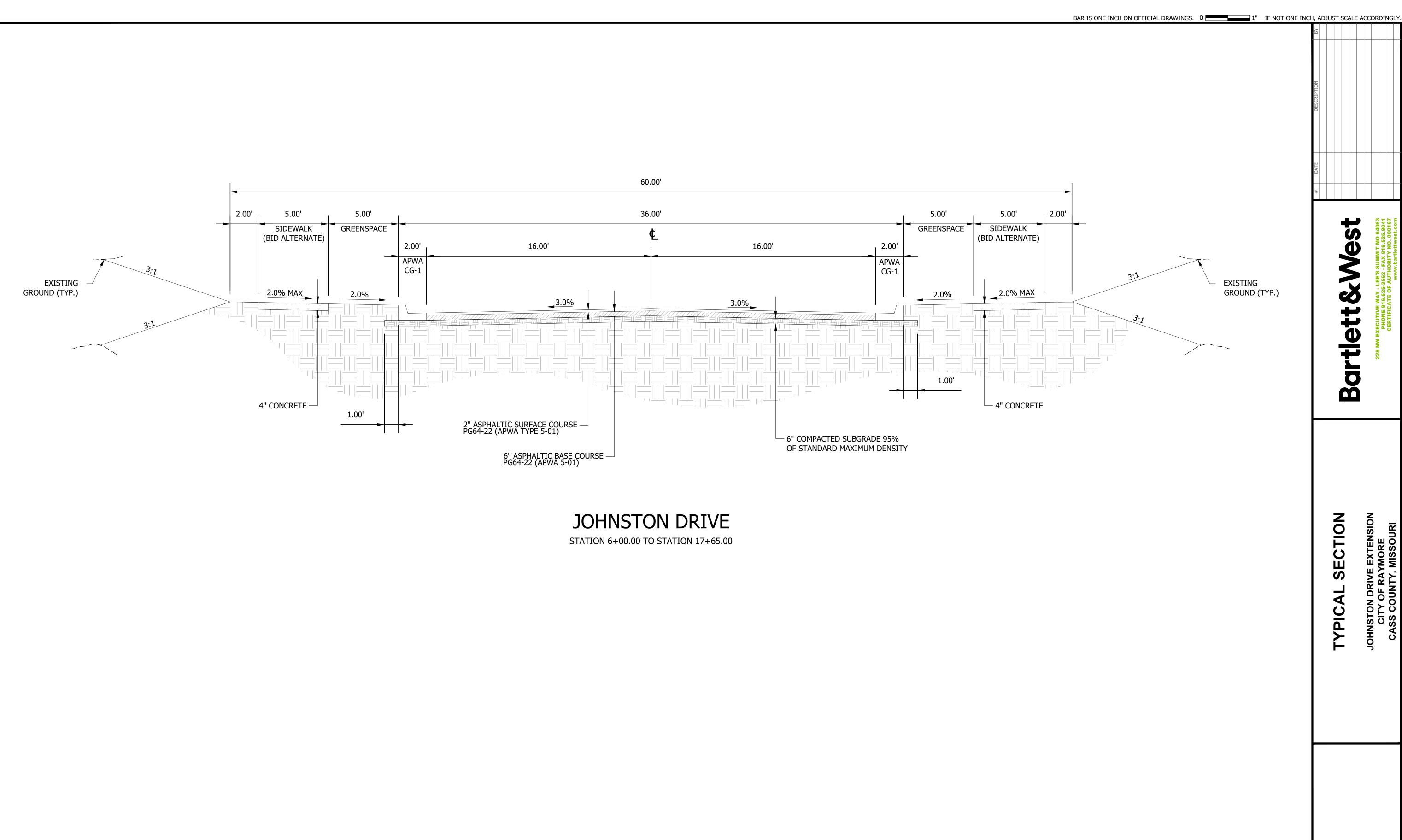
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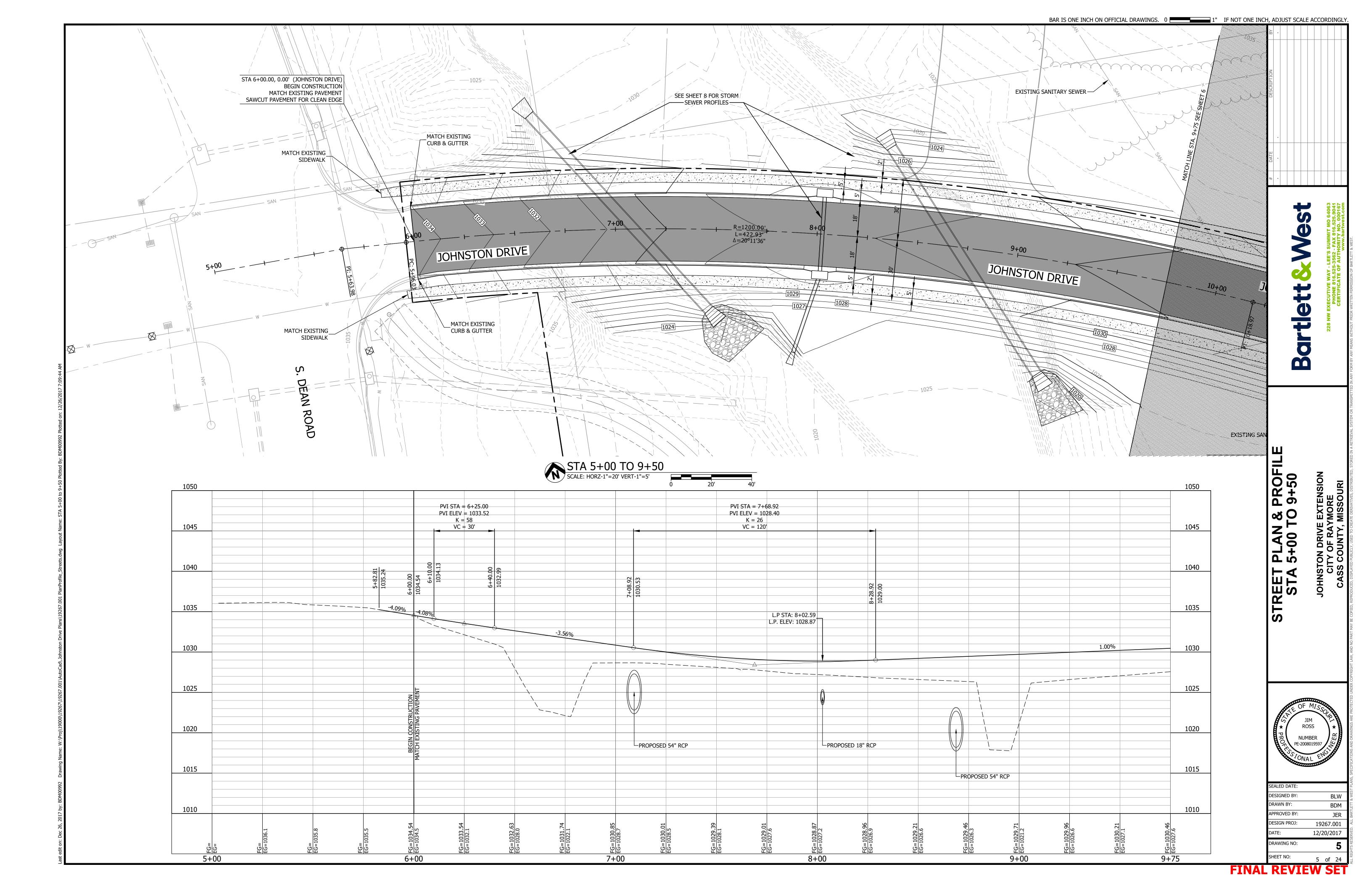
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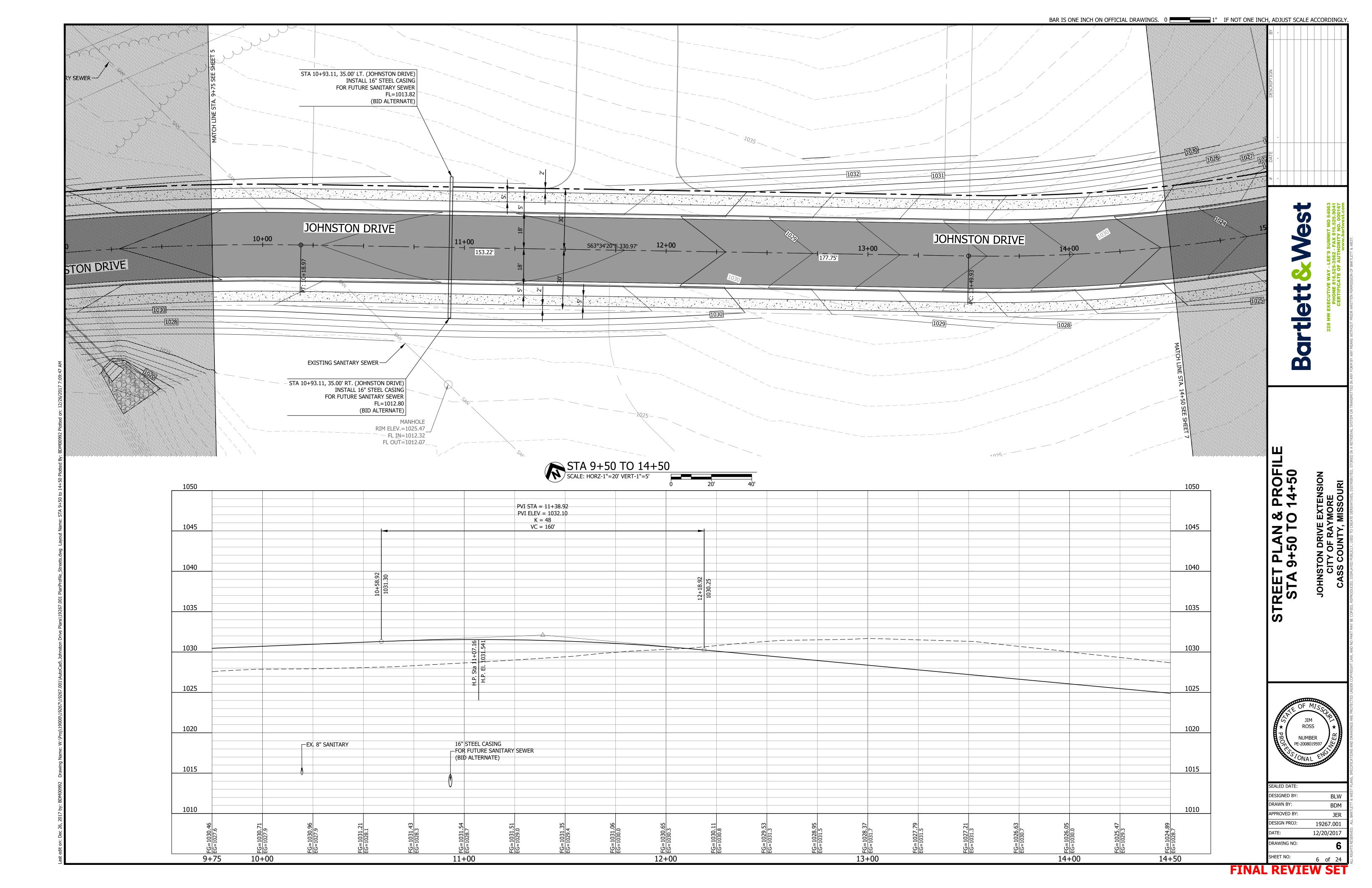
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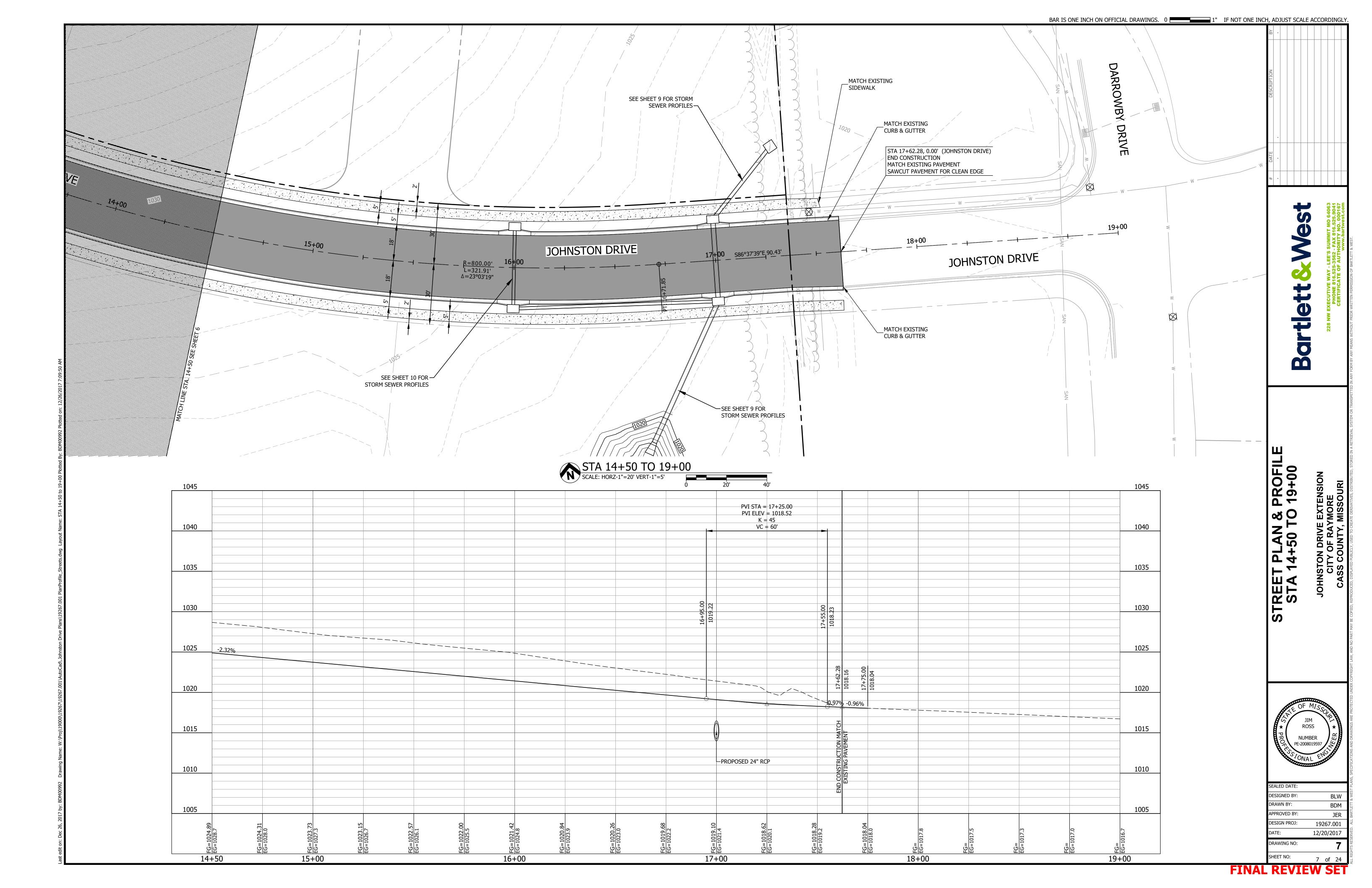
Bartlett&West

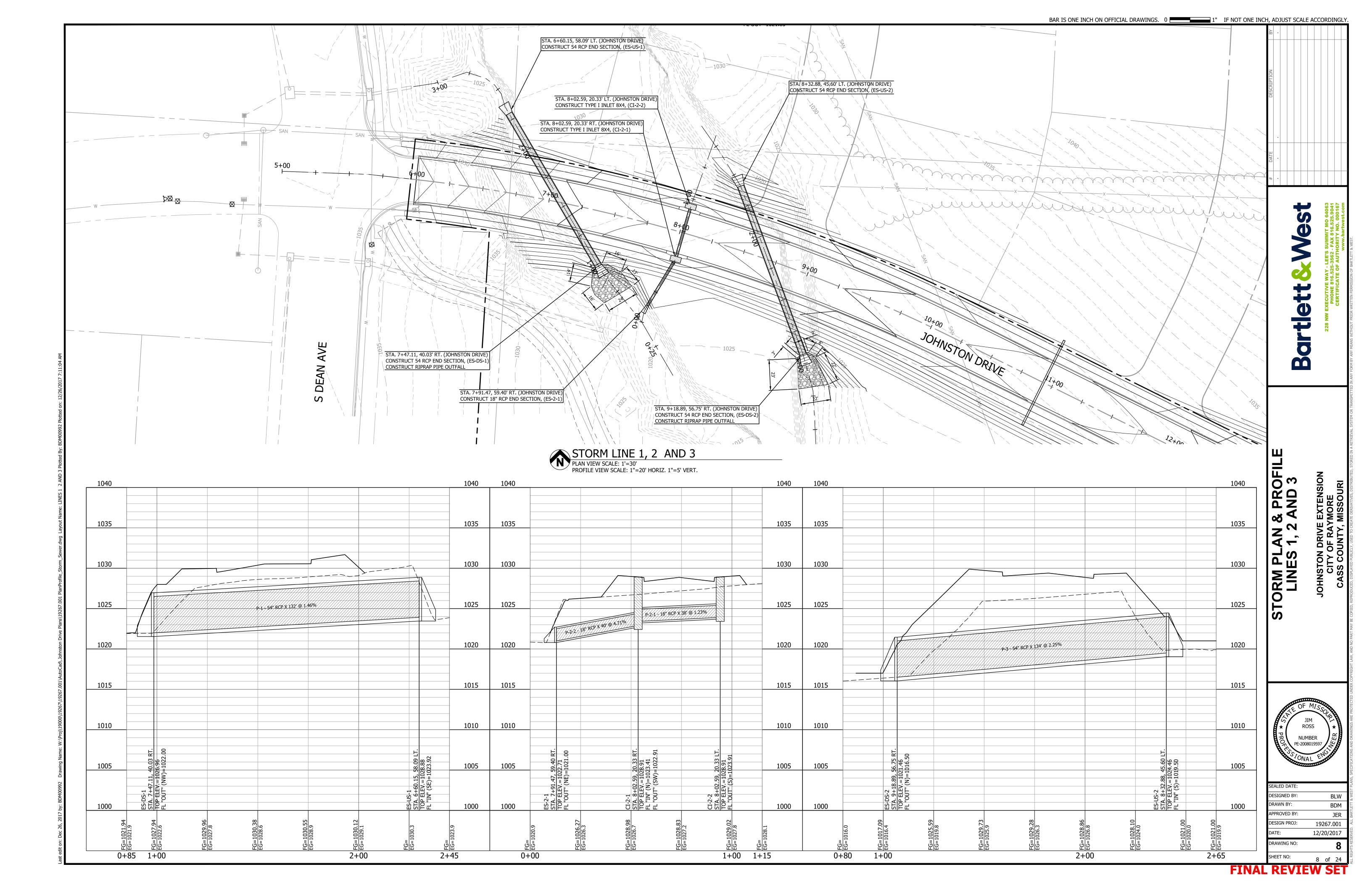
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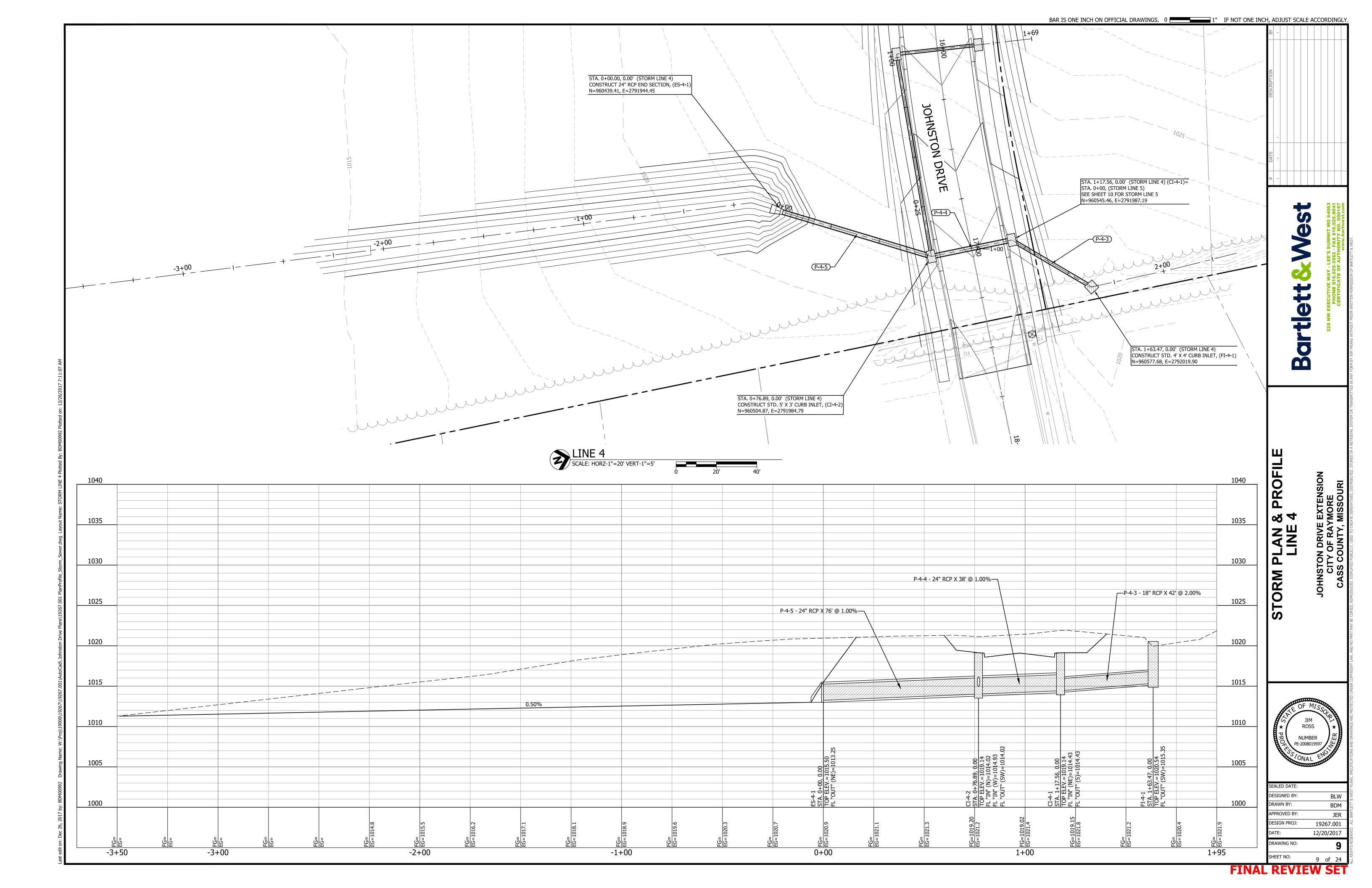
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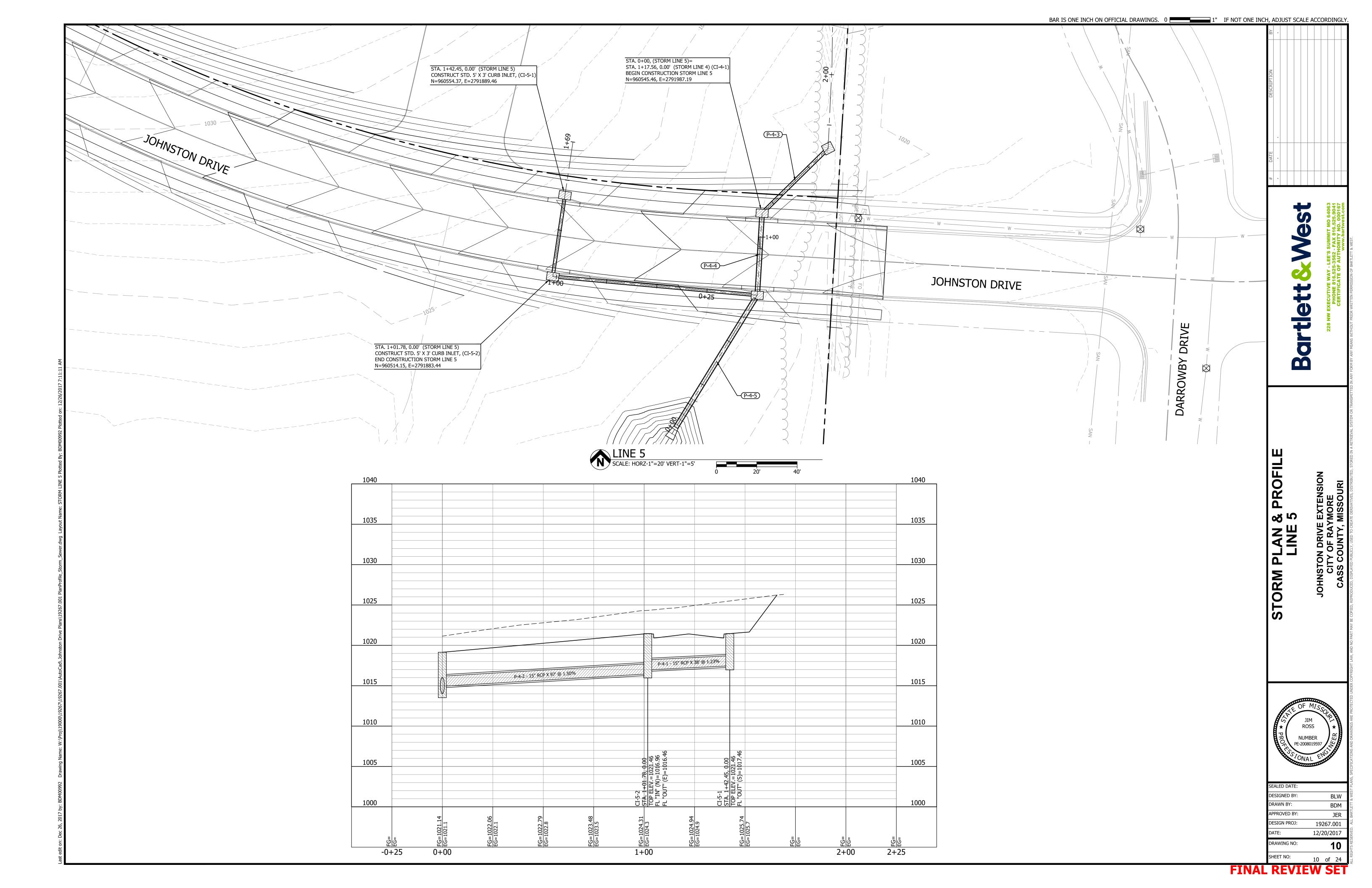


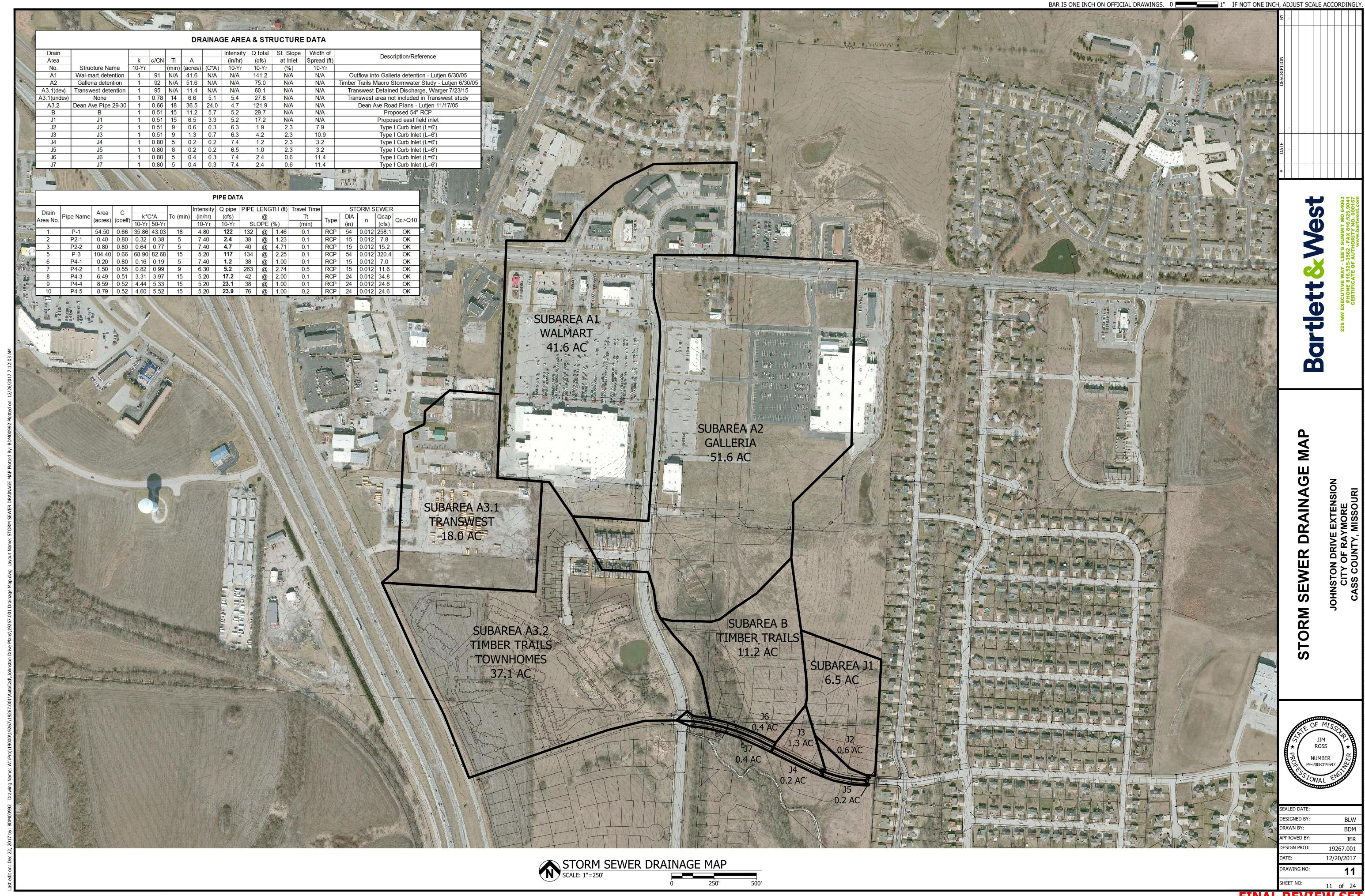












FINAL REVIEW SET

GENERAL INFORMATION:

STOCKPILED SOIL SHALL HAVE SEDIMENT FENCE PLACED ON THE DOWNHILL SIDE TO TRAP SEDIMENT.

ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND OPERABLE BEFORE SOIL-DISTURBING ACTIVITY BEGINS AND UNTIL SOIL-DISTURBING ACTIVITY HAS ENDED AND PERMANENT VEGETATION HAS BEEN ESTABLISHED.

MINIMIZE AREA OF SOIL &/OR VEGETATION DISTURBANCE TO ONLY THE AREA NECESSARY FOR PROPOSED IMPROVEMENTS.

AREAS THAT HAVE BEEN CLEARED AND GRADED BUT WILL NOT CONSTRUCTED ON FOR MORE THAN 10 DAYS MUST BE STABILIZED WITH TEMPORARY VEGETATION.

SEDIMENT FENCE AND ROCK CHECK DAM INSTALLATION AND DETAILS SHALL COMPLY WITH MOST RECENT APWA SPECIFICATIONS AND DRAWINGS.

AMENDING/UPDATING PLAN::

THIS PLAN SHALL BE AMENDED AS APPROPRIATE DURING THE TERM OF THE LAND DISTURANCE AND AT A MINIMUM WHENEVER THE:

1. DESIGN, OPERATION, OR MAINTENANCE OF CONTROL MEASURES ARE CHANGED. 2. DESIGN OF THE CONSTRUCTION PROJECT IS CHANGED THAT COULD

SIGNIFICANTLY AFFECT THE QUALITY OF THE STORM WATER DISCHARGES.

3. CONTRACTOR'S INSPECTIONS INDICATE DEFICIENCIES IN THE PLAN. 4. MISSOURI DEPARTMENT OF NATURAL RESOURCES(MDNR) OR LBVSD NOTIFY THE CONTRACTOR IN WRITING OF DEFICIENCIES.

5. PLAN IS DETERMINED TO BE INEFFECTIVE IN SIGNIFICANTLY MINIMIZING OR CONTROLLING EROSION & SEDIMENTATION (EG, THERE IS VISUAL EVIDENCE, SUCH AS EXCESSIVE SITE EROSION OR EXCESSIVE SEDIMENT DEPOSITS IN STREAMS OR

6. SETTLEABLE SOLIDS FROM A STORM WATER OUTFALL EXCEED 2.5 MG/L/HR. 7. MDNR OR LBVSD DETERMINE VIOLATIONS OF WATER QUALITY STANDARDS MAY OCCUR OR MAY HAVE OCCURRED.

SITE INSPECTIONS:

THE CONTRACTOR SHALL ENSURE THE LAND DISTURBANCE SITE IS INSPECTED WITHIN 24 HOURS FOLLOWING A HEAVY RAIN OF 0.5" OR MORE IN 24 HOURS OR AT LEAST ONCE PER SEVEN CALENDAR DAYS.

OPERATION AND MAINTENANCE:

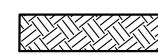
THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ALL TEMPORARY EROSION & SEDIMENT CONTROL MEASURES AND REMOVE SEDIMENT FROM ALL SEDIMENT TRAPS ON AN AS NEEDED BASIS. THE CONTRACTOR SHALL PREVENT FLOW FROM BYPASSING THE PROPOSED CONTROL MEASURES AND IF BYPASSING OCCURS MODIFY THE PLAN TO PREVENT FUTURE BYPASSING.

NOTIFICATION TO ALL CONTRACTORS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING EACH CONTRACTOR ENTITY (INCLUDING CREWS & CITY EMPLOYEES OR THEIR AGENTS) WHO WILL PERFORM WORK AT THE SITE OF THE EROSION CONTROL MEASURES IN PLACE AND WHAT ACTION OR PRECAUTIONS SHALL BE TAKEN WHILE ON SITE TO MINIMIZE THE POTENTIAL FOR DAMAGING ANY CONTROLS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE A SUBCONTRACTOR MAY DO TO ESTABLISHED CONTROLS AND ANY SUBSEQUENT WATER QUALITY VIOLATION RESULTING FROM THE DAMAGE.

LEGEND

TEMPORARY SEDIMENT FENCE



ROCK CHECK DAM



INLET SEDIMENT BARRIER

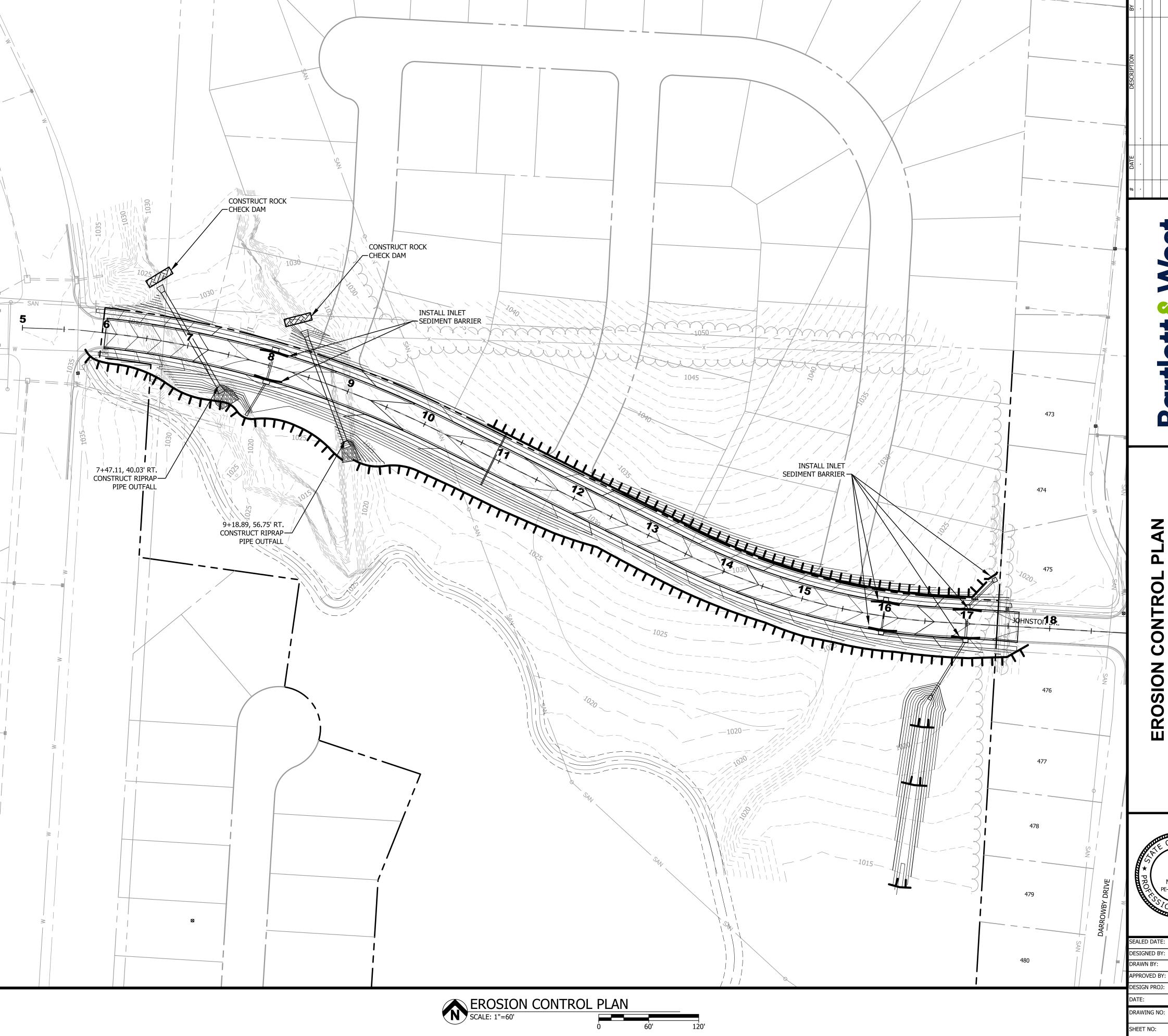
QUANTITY ESTIMATE

SEDIMENT FENCE

1,600 LF

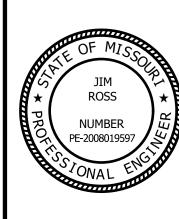
ROCK CHECK DAM

INLET SEDIMENT BARRIER



12/20/2017

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY



EROSION CONTROL NOTES:

- 1. THE CONTRACTOR SHALL KEEP A WRITTEN LOG OF WHEN CONSTRUCTION ACTIVITIES BEGIN, EROSION AND SEDIMENT CONTROLS ARE INSTALLED, INSPECTED AND REPAIRED. COPIES OF LOG SHALL BE FURNISHED TO THE ENGINEER.
- 2. THE CONTRACTOR SHALL MONITOR EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE PROJECT. THIS PLAN MAY BE UPDATED AS CONSTRUCTION PROGRESSES WITH APPROVAL OF ENGINEER.
- 3. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES INSTALLED AS PART OF THIS PLAN SHALL NOT BE REMOVED FOLLOWING CONSTRUCTION UNTIL SLOPES ARE STABILIZED TO A NON-EROSIVE STATE WITH ESTABLISHED GRASS OR AS DIRECTED BY THE ENGINEER.
- 4. IMMEDIATELY AFTER MOBILIZATION AND PRIOR TO STARTING ANY SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL ANY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, GRAVEL CONSTRUCTION ENTRANCE(S) AND TEMPORARY SEDIMENT BASIN(S). IT IS RECOGNIZED THAT SOME SITE CLEARING AND PREPARATION MAY BE REQUIRED TO PROPERLY INSTALL SUCH MEASURES.
- 5. THE RECOMMENDED SEQUENCE OF CONSTRUCTION ACTIVITIES AND OF THE INSTALLATION AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES IS AS FOLLOWS: ANY PERIMETER CONTROL MEASURES (SILT FENCE, ROCK CHECK DAM) INCLUDING AREAS DRAINING TO A DRAINAGE WAY SUCH AS A STREAM, DITCH CHECKS, STREETS, FINAL GRADING, SEEDING, FERTILIZING AND MULCHING ON ALL SLOPES AND DISTURBED AREAS, INDIVIDUAL SITE CONTROL MEASURES, REMOVAL OF TEMPORARY PRACTICES, REMOVAL OF PERIMETER CONTROLS AND SITE CLEANUP.
- 6. INSTALL SILT FENCE ALONG OR PERPENDICULAR TO THE TRENCHED PIPELINE ON THE DOWNHILL SLOPES WHERE SLOPES ARE > 5:1, AND AREAS DRAIN TO DRAINAGE WAYS SUCH AS A STREAM AND OTHER LOCATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. PLACE SILT FENCING PARALLEL TO THE CONTOUR LINE AND AT 200' SPACING AS NECESSARY. MEASURES WILL BE KEPT IN PLACE UNTIL GRASS IS ESTABLISHED.
- 7. ROCK CHECK DAMS SHALL BE INSTALLED IN DRAINAGE WAYS WITH INTERMITTENT RUNNING WATER AND SHALL REMAIN IN PLACE UNTIL PERMANENT GRASS STAND IS ESTABLISHED. IN ADDITION, SILT FENCE WILL BE PLACED ALONG DRAINAGE WAYS AS NEEDED TO REDUCE SEDIMENT FROM THE WATERWAY.
- 8. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED BY THE GENERAL CONTRACTOR NOT LESS THAN WEEKLY OR WITHIN 72 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR MORE IN 24 HOURS. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO SEDIMENT REMOVAL AND SILT FENCE REPAIR AND/OR REPLACEMENT.
- 9. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED BY THE GENERAL CONTRACTOR IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS AND PAVED STREETS. THIS MAY INCLUDE PERIODIC TOP DRESSING WITH ADDITIONAL CRUSHED STONE AS CONDITIONS WARRANT. REPAIR OF ENTRANCES, CLEANING ON A DAILY BASIS OF RIGHT-OF-WAYS AND PAVED STREETS THAT HAVE BEEN SOILED BY CONSTRUCTION ACTIVITIES SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY.
- 10. THE CONTRACTOR SHALL NOTIFY EACH SUB-CONTRACTOR OR ENTITY (INCLUDING UTILITY CREWS AND OWNER'S EMPLOYEES OR THEIR AGENTS) THAT WILL BE PERFORMING WORK AT THE SITE OF THE EROSION CONTROL PLAN AND WHAT ACTIONS OR PRECAUTIONS SHALL BE TAKEN TO MINIMIZE THE POTENTIAL FOR SOIL EROSION.
- 11. DURING ALL SOIL DISTURBING ACTIVITIES, THE GENERAL CONTRACTOR WILL TAKE APPROPRIATE STEPS USING ACCEPTED CONSTRUCTION METHODS TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL.
- 12. NO GROUND SHALL BE LEFT OPEN FOR MORE THAN 7 DAYS OF NON-ACTIVITY WITHOUT BEING MULCHED AND/OR SEEDED.
- 13. SOIL STOCKPILED FOR MORE THAN 7 DAYS SHALL HAVE SILT FENCE PLACED ON THE DOWNHILL SLOPES TO TRAP SEDIMENT.
- 14. WHENEVER SOIL, ROCK, VEGETATION OR OTHER MATERIALS ARE EXPORTED FOR PLACEMENT IN AREAS OFF OF THE CONSTRUCTION SITE COVERED IN THIS PLAN, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING THAT EPA STORM WATER PERMITTING REQUIREMENTS ARE MET. PRIOR TO THE REMOVAL OF ANY MATERIALS FROM THE SITE THE GENERAL CONTRACTOR WILL FURNISH THE ENGINEER WITH WRITTEN AGREEMENT, SIGNED BY EACH LANDOWNER WHO WILL RECEIVE EXPORTED MATERIALS, STATING THAT THEY ACCEPT THE MATERIAL AND THAT RECEIVING SITE IS PROPERLY PERMITTED, WHEN REQUIRED.

ADDITIONAL SITE MANAGEMENT BMPS

THE PERMITTEE SHALL PROVIDE (OR REQUIRE THE PROVISION FROM NON-EMPLOYEE WORKERS) SOLID AND HAZARDOUS WASTE MANAGEMENT. THIS IS ACCOMPLISHED BY:

- PROVIDING TRASH CONTAINERS AND REGULAR SITE CLEANUP FOR PROPER DISPOSAL OF SCRAP MATERIALS, PRODUCT/MATERIAL SHIPPING WASTE, FOOD CONTAINERS, WASTE PAINTS, SOLVENTS, AND CLEANING
- 2. PROVIDING PORTABLE TOILETS FOR PROPER DISPOSAL OF SANITARY WASTES.
- STORE CONSTRUCTION MATERIALS AWAY FROM DRAINAGE COURSES AND LOW AREAS.
- 4. INSTALLING CONTAINMENT BERMS AND USING DRIP PANS AT ALL PETROLEUM PRODUCT LIQUID STORAGE TANKS AND CONTAINERS.

THIS PLAN SHALL BE AMENDED AND UPDATED AS APPROPRIATE DURING THE TERM OF THE LAND DISTURBANCE. AT A MINIMUM, WHENEVER THE:

- 5. DESIGN, OPERATION, OR MAINTENANCE OF BMPS IS CHANGED.
- 6. DESIGN OF THE CONSTRUCTION PROJECT IS CHANGED AND SIGNIFICANTLY AFFECTS THE DISCHARGES.
- 7. PERMITTEE'S INSPECTIONS INDICATE DEFICIENCIES IN THIS PLAN OR ANY BMPS.
- 8. THE MISSOURI DEPARTMENT OF NATURAL RESOURCES NOTIFIES THE PERMITTEE OF DEFICIENCIES IN THIS

THE PERMITTEE SHALL INSURE THE LAND DISTURBANCE SITE IS INSPECTED WITHIN 72 HOURS FOLLOWING A HEAVY RAIN OF 0.5" OR MORE IN 24 HOURS OR AT LEAST ONCE PER WEEK. A LOG OF THE INSPECTIONS SHALL BE KEPT AND SHALL, AS A MINIMUM, CONTAIN:

- THE INSPECTOR'S NAME.
- DATE OF THE INSPECTION.
- 11. OBSERVATIONS AS TO THE EFFECTIVENESS OF THE BMPS.
- 12. ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES.
- 13. LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED.
- 14. THE SIGNATURE OF THE INSPECTOR AND THE CONTRACTOR.

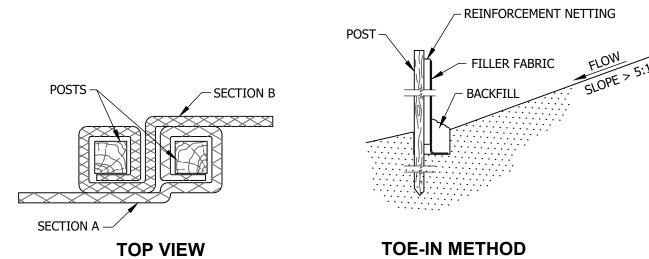
THE PERMITTEE SHALL AT ALL TIMES MAINTAIN ALL POLLUTION CONTROL MEASURES AND SYSTEMS IN GOOD ORDER TO ACHIEVE COMPLIANCE WITH THE TERMS OF THE GENERAL PERMIT.

A CONTINUALLY UPDATED EROSION CONTROL PLAN MUST BE KEPT ON THE PROJECT SITE ALONG WITH INSPECTION SHEETS IN A POLE MOUNTED LOCKED BOX. THE DNR LAND DISTURBANCE PERMIT INFORMATION SHEET WITH THE PERMIT NUMBER NEEDS TO BE ON PERMANENT DISPLAY ON OR NEAR THE MOUNTED BOX.

GENERAL NOTES:

- 1. CLEARING AND GRUBBING WITHIN 50 FEET OF A DEFINED DRAINAGE COURSE SHOULD BE AVOIDED.
- 2. WHERE CHANGES TO DEFINED DRAINAGE COURSES OCCUR AS PART OF THE PROJECT, CLEARING AND GRUBBING WITHIN 50 FEET OF THE DEFINED DRAINAGE COURSE SHOULD BE DELAYED UNTIL ALL MATERIALS AND EQUIPMENT NECESSARY TO PROTECT AND COMPLETE THE DRAINAGE CHANGE ARE ON
- 3. CHANGES TO DEFINED DRAINAGE COURSES SHALL BE COMPLETED AS QUICKLY AS POSSIBLE ONCE THE WORK HAS BEEN INITIATED. THE AREA IMPACTED BY THE LAND DISTURBANCE OF THE DRAINAGE COURSE CHANGE IS TO BE RE-VEGETATED OR PROTECTED FROM EROSION AS SOON AS POSSIBLE. AREAS WITHIN 50 FEET OF DEFINED DRAINAGE WAYS SHOULD BE RECONTOURED AS NEEDED AND REVEGETATED, SEEDED, OR OTHERWISE PROTECTED WITHIN FIVE (5) WORKING DAYS AFTER GRADING HAS CEASED.
- 4. SPECIFICALLY DENOTED ON THIS PLAN ARE THE BMPS USED TO CONTROL AND CONTAIN EROSION AND SEDIMENT. ALL OF THESE FACILITIES WILL BE TEMPORARY, TO BE REMOVED UPON COMPLETION OF LAND DISTURBANCE ACTIVITIES AND REVEGETATION OF ALL DISTURBED AREAS.
- 5. ALL STRUCTURES SHALL BE MAINTAINED ON AN "AS NEEDED" BASIS TO INCLUDE REMOVAL OF ACCUMULATED SEDIMENT, RE-ESTABLISHMENT OF THE STRUCTURE IN ACCORDANCE WITH THIS PLAN AND ITS DETAILS.
- 6. THE DISTURBED AREAS ARE DEFINED ON THIS PLAN WITH THE CONTOURS OF THE SITE SHOWN.
- 7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THE PROPER INSTALLATION OF ALL BMPS AS SHOWN ON THIS PLAN.
- 8. PRESERVATION OF EXISTING VEGETATION SHALL BE MAXIMIZED AS IS PRACTICAL, AND THE TIME THAT DISTURBED AREAS ARE WITHOUT VEGETATIVE COVER SHALL BE KEPT TO A MINIMUM.

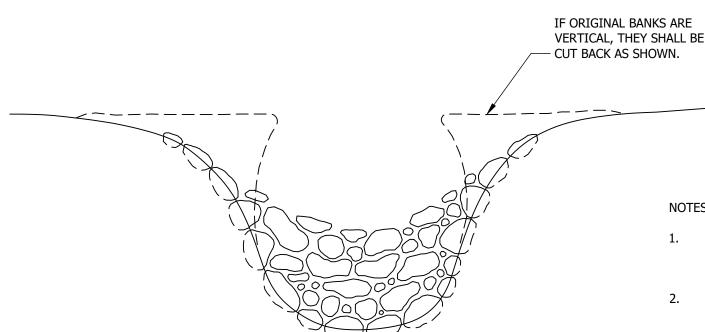
JOINING SECTIONS



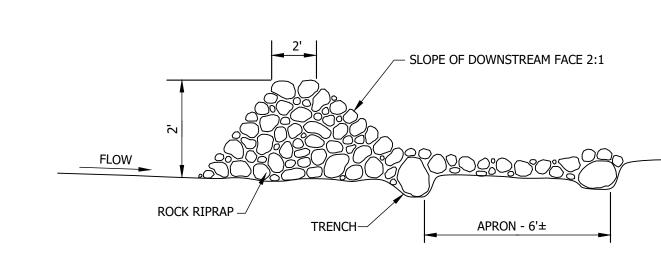
NOTES:

- 1. EXCAVATE A 6"x 6" TRENCH ALONG THE TOE OF SLOPE.
- UNROLL ONE SECTION AT A TIME AND POSITION POSTS AGAINST THE DOWNSTREAM WALL OF THE TRENCH. REINFORCEMENT NETTING MUST BE ON DOWNSTREAM SIDE OF FLOW DIRECTION.
- 3. DRIVE POST INTO THE GROUND UNTIL THE REINFORCEMENT NETTING IS APPROXIMATELY 2' FROM THE TRENCH BOTTOM.
- LAY THE TOE-IN FLAP OF THE FABRIC IN THE BOTTOM OF THE TRENCH, AND TAMP THE SOIL.
- 5. DOWNSTREAM END OF SILT FENCE SHALL BE TURNED INTO BACKSLOPE TO FORM ENCLOSURE.

SILT FENCE INSTALLATION 13 / NOT TO SCALE



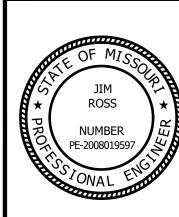
CROSS SECTION



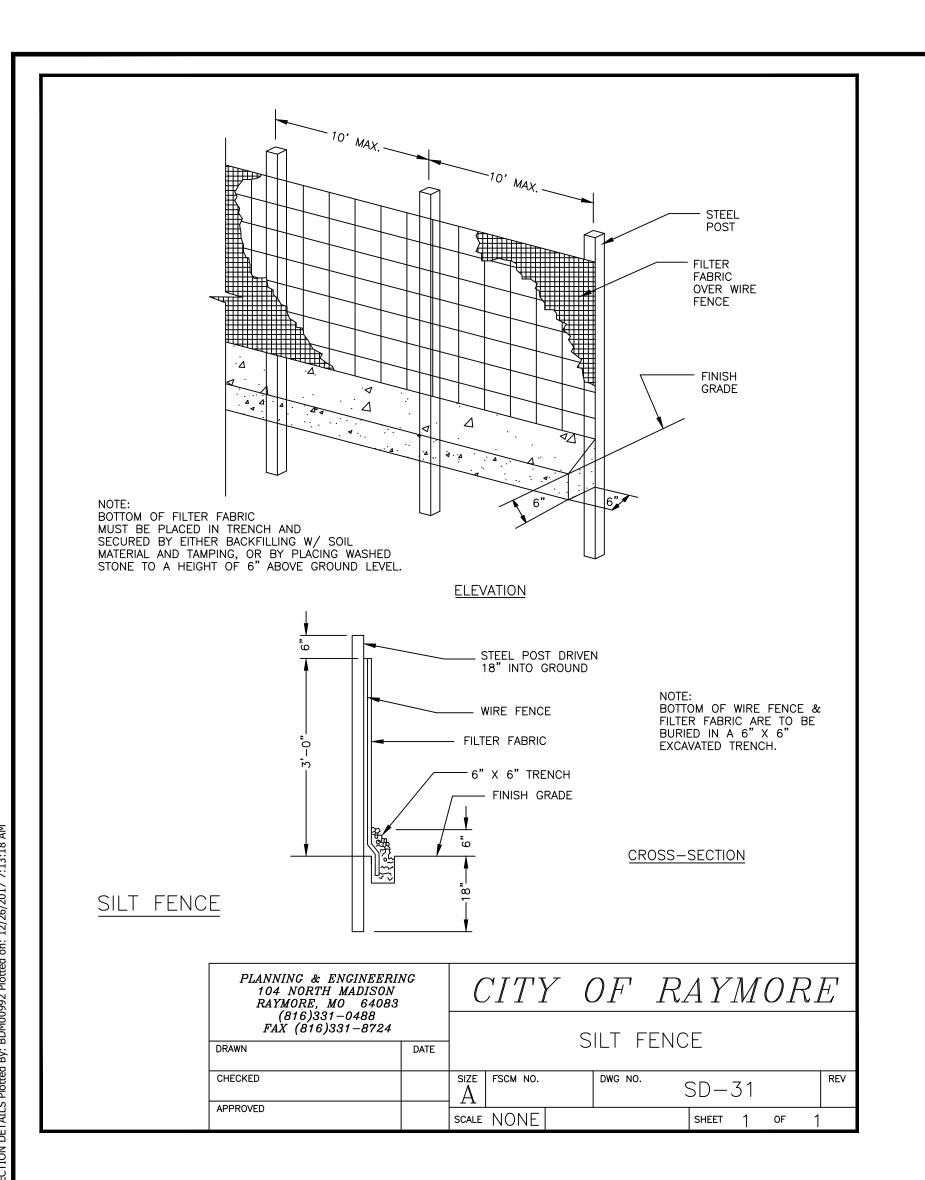
PROFILE

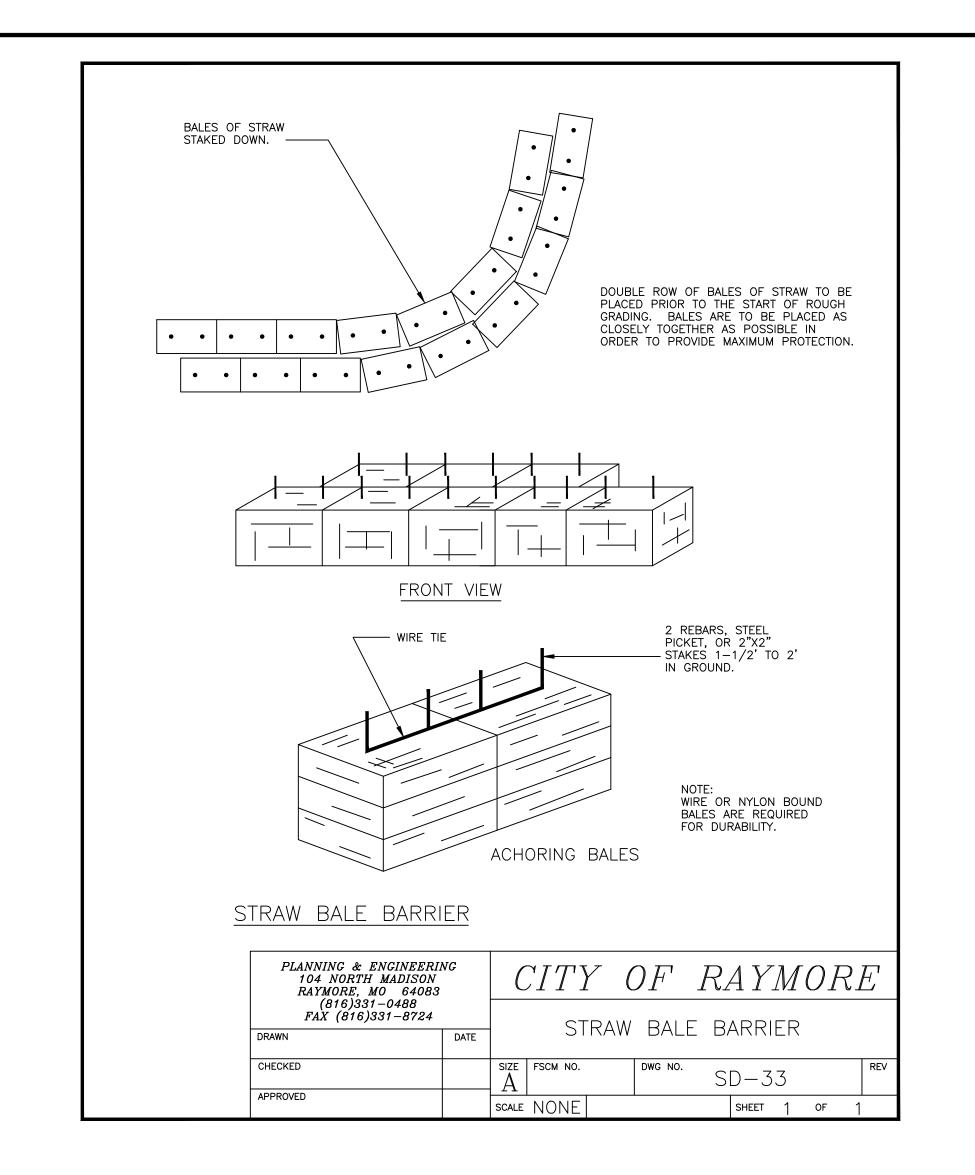


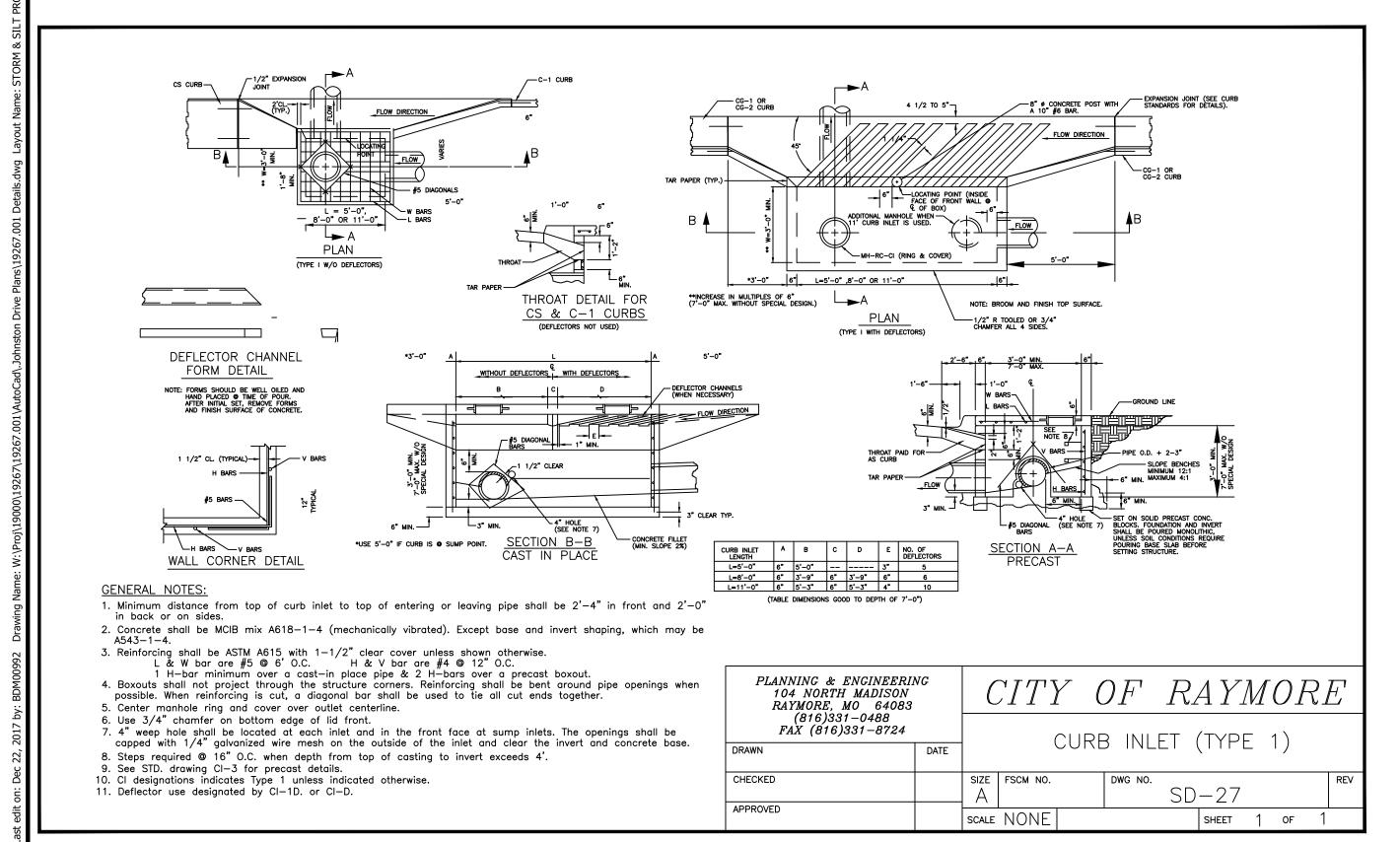
- 1. CUT A 4 TO 6 INCH TRENCH ACROSS THE CHANNEL BOTTOM AND UP THE SIDES TO ANCHOR THE HEAVY ROCKS ON THE DOWNSTREAM TOE OF THE DAM.
- PLACE A ROW OF LARGE ROCKS ALONG THIS TRENCH TO FORM THE DOWNSTREAM TOE. BUILD BACK FROM THIS ROW. THE ROCKS, ESPECIALLY ON THE DOWN- STREAM FACE, SHOULD BE TOED UPWARD SO THAT THEY WILL BE KEYED IN PLACE. NOTE THAT THE FLATTER ROCKS ARE USED ON THIS FACE.
- ABOUT 6ft. DOWNSTREAM FROM THE DOWNSTREAM TOE OF THE DAM CUT A 4 TO 6 INCH TRENCH ACROSS THE GULLY. LAY A ROW OF HEAVY ROCKS IN THIS TRENCH ACROSS THE GULLY.
- 4. AT COMPLETION OF PROJECT, SPREAD ROCK TO BLEND WITH UPSTREAM AND DOWNSTREAM PROFILE.

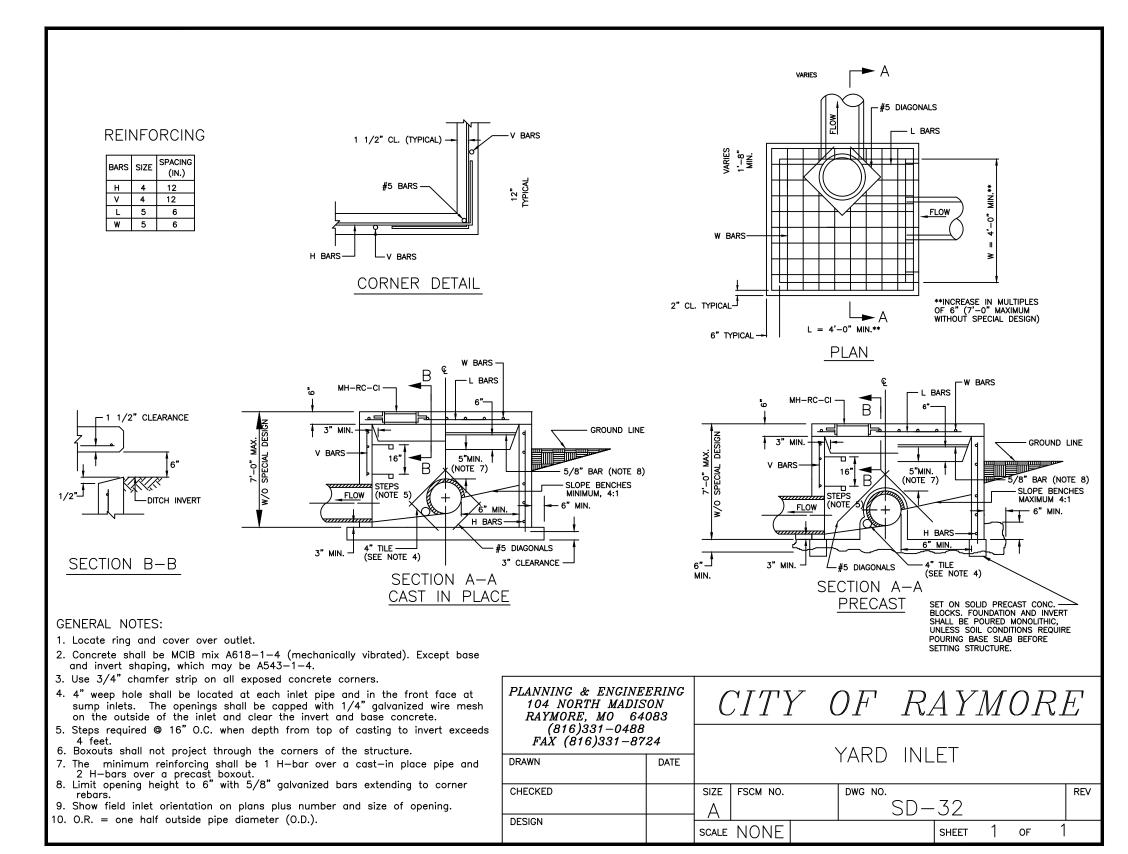


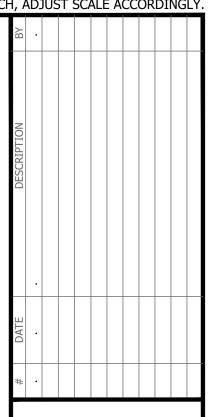
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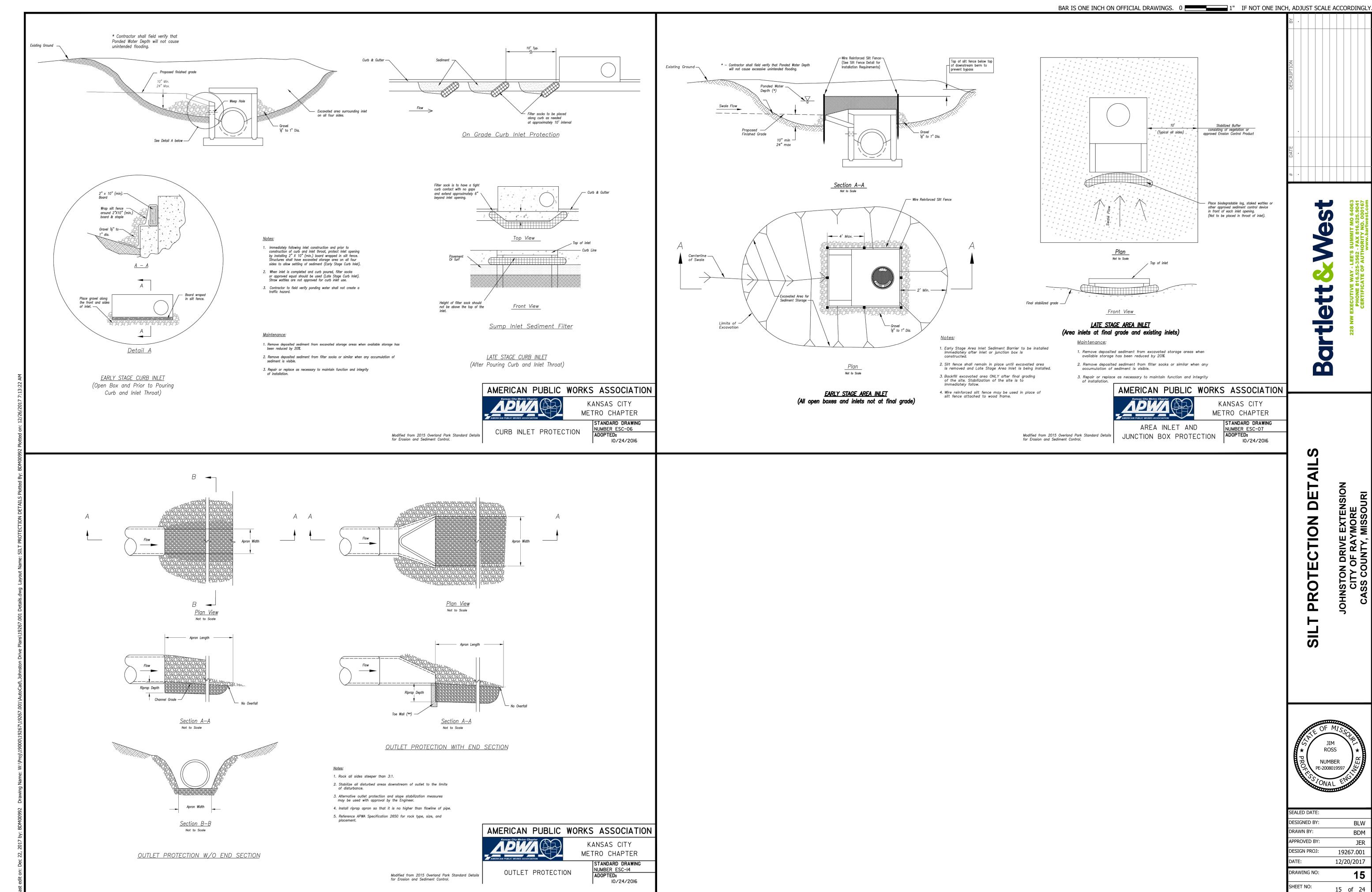


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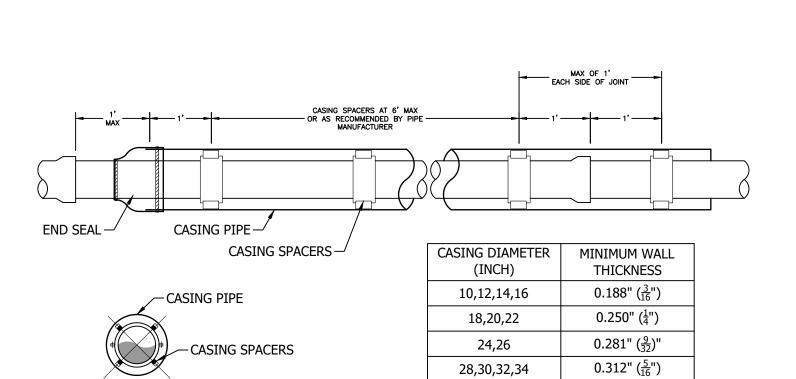
PROTECTION DETAILS
JOHNSTON DRIVE EXTENSION

JIM
ROSS
NUMBER
PE-2008019597

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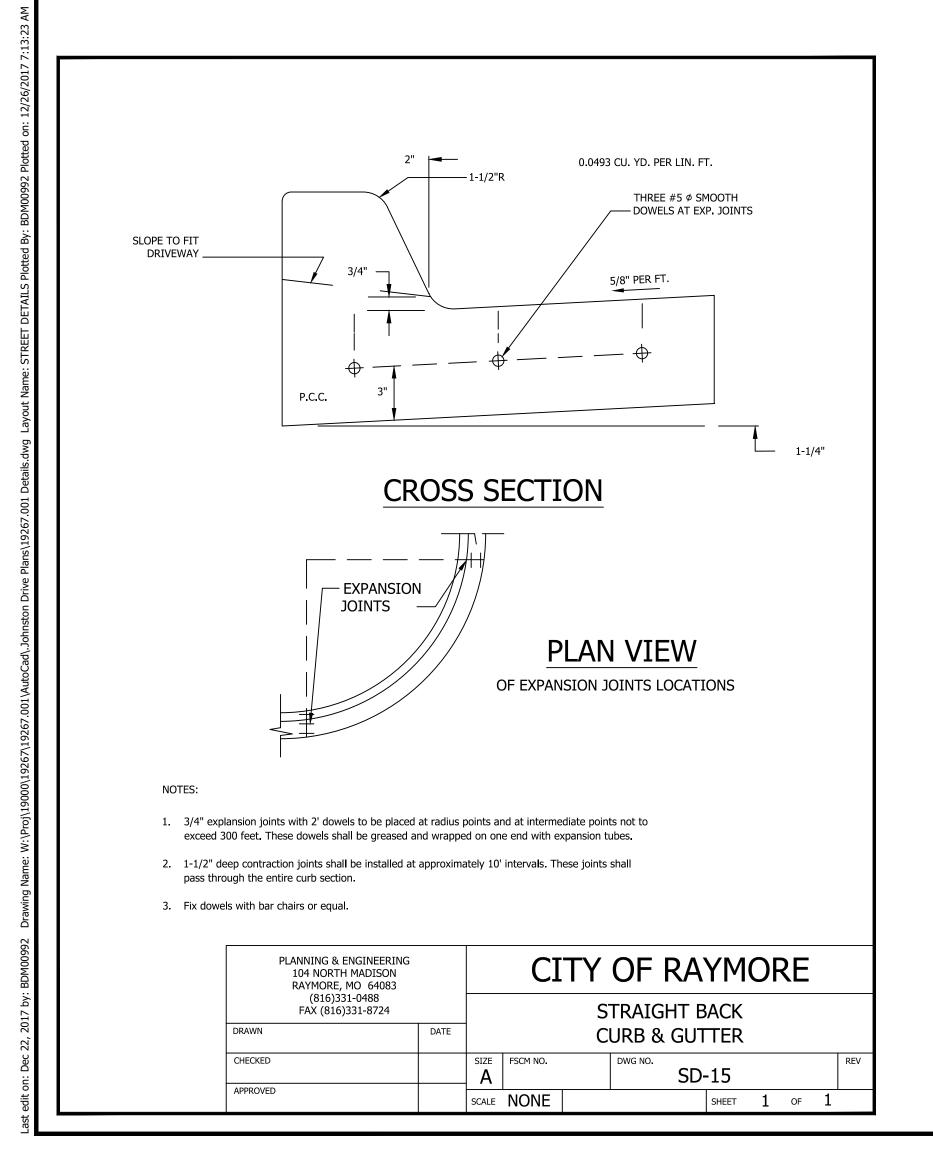
FINAL REVIEW SE

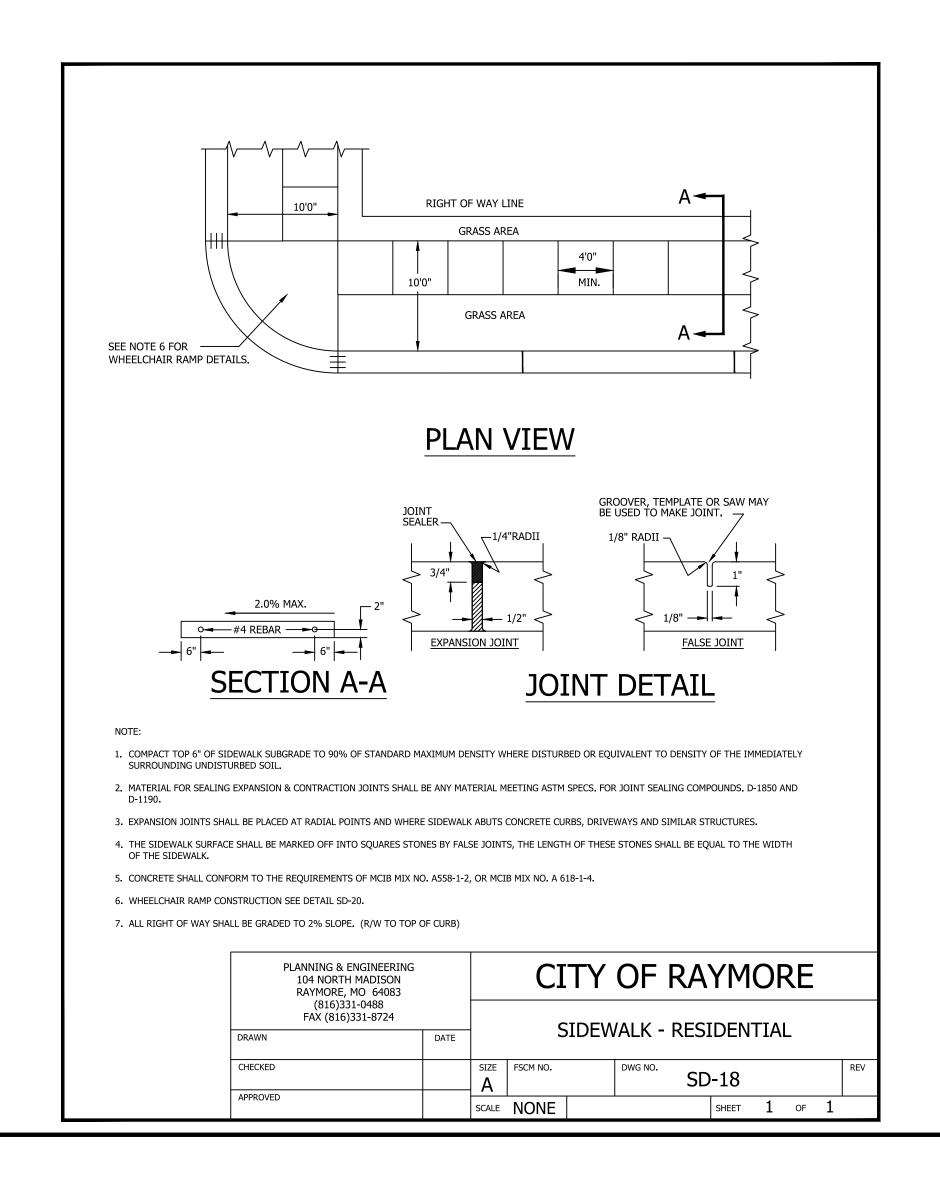


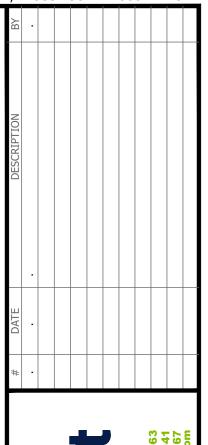
CASING PIPE DETAIL (BID ALTERNATE) NOT TO SCALE

36,38,40,48

 $0.344" \left(\frac{11}{32}"\right)$

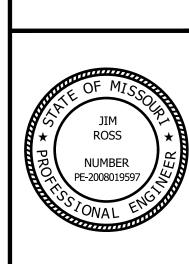




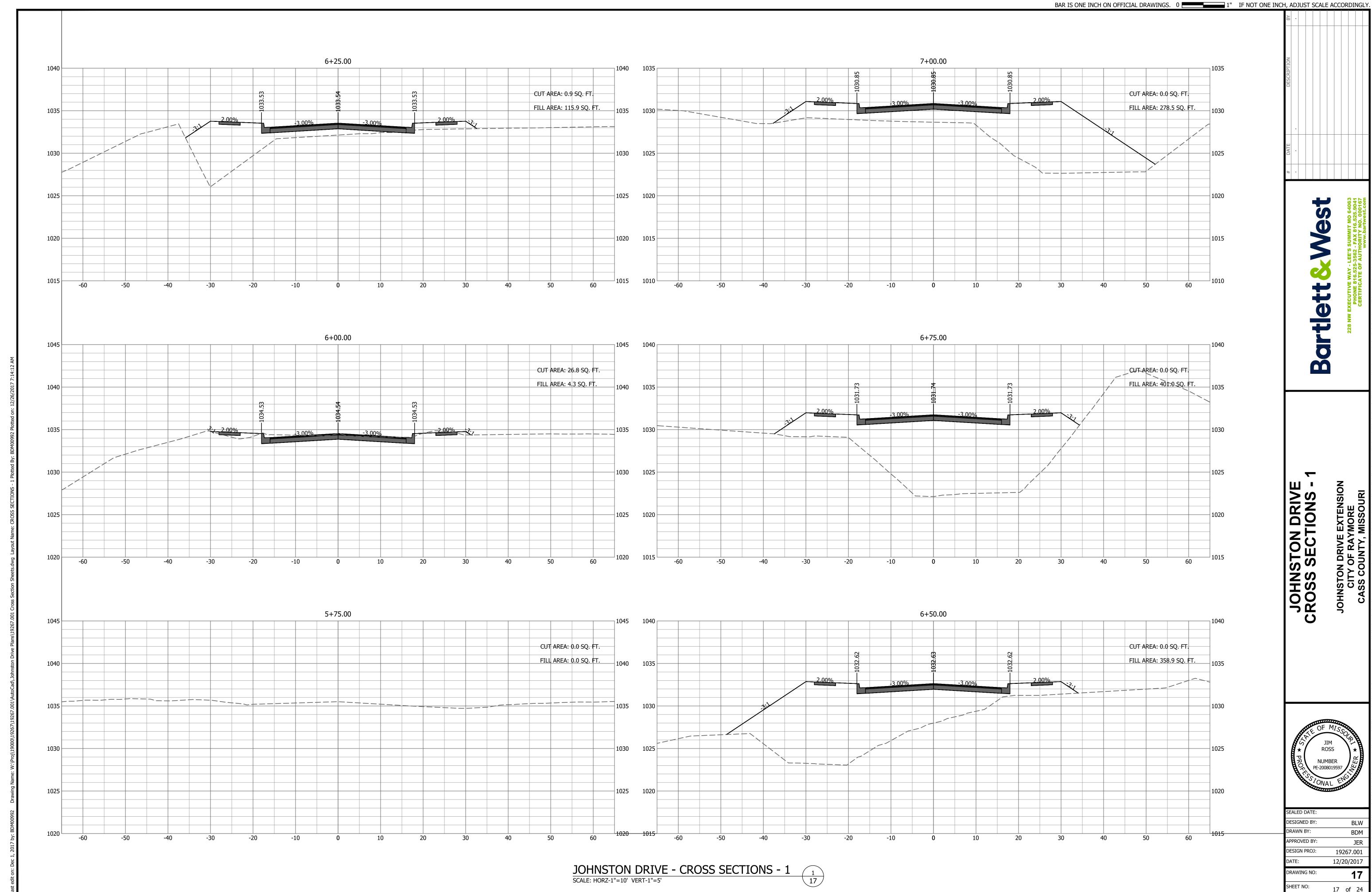


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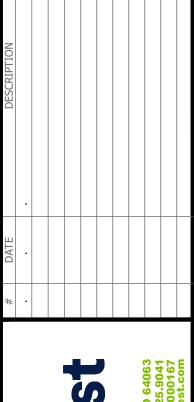


FINAL REVIEW SET

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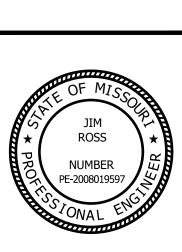
BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 _______1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

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JOHNSTON DRIVE CROSS SECTIONS -



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JOHNSTON DRIVE CROSS SECTIONS -

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Bartlett

JOHNSTON DRIVE CROSS SECTIONS -

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