

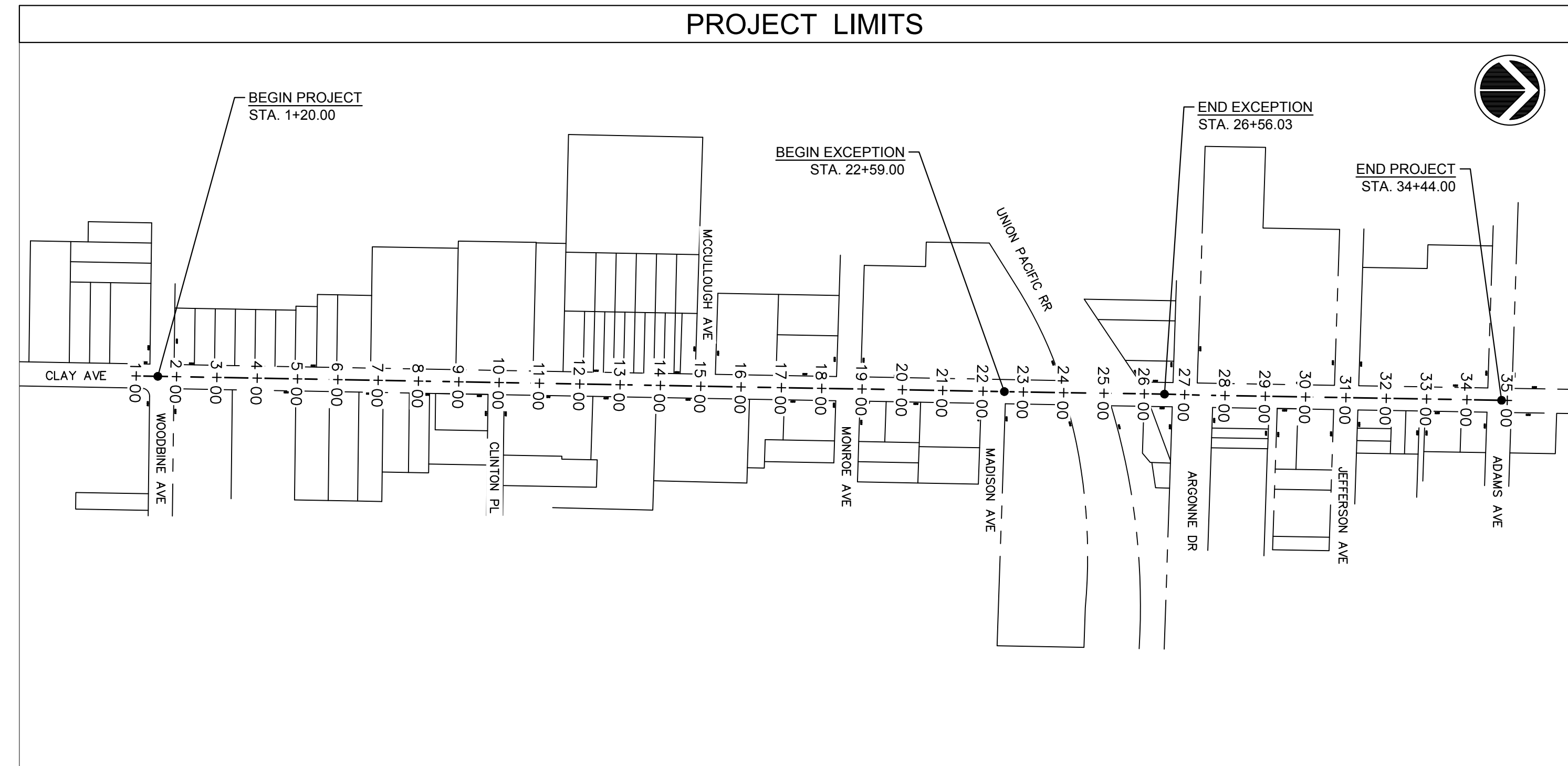
CITY OF KIRKWOOD

SOUTH CLAY AVENUE RESURFACING PROJECT

STP-5502(614)

FROM W. WOODBINE AVE TO W. MADISON AVE & W. ARGONNE DR TO W. ADAMS AVE

GENERAL LEGEND			
	STORM MANHOLE		HANDHOLE
	STORM INLET		GAS VALVE
	STORM INLET		LIGHT POLE
	STORM DOUBLE INLET		VAPOR LIGHT
	FLARED END SECTION		LIGHT JUNCTION BOX
	DOWNSPOUT		SIGN
	SANITARY MANHOLE		FLAGPOLE
	SANITARY/STORM CLEANOUT		POST/BOLLARD
	UNKNOWN MANHOLE		CONIFER TREE
	WATER VALVE		DECIDUOUS TREE
	HYDRANT		BUSH/SHRUB
	WELL		TREE STUMP
	SPRINKLER BOX		CONTROL POINT
	WATER METER		BENCHMARK
	WATER SERVICE		SOIL BORING HOLE
	POWER POLE		R.O.W. MARKER, FOUND
	POWER POLE W/ LIGHT		RAILROAD SPIKE, FOUND
	POWER POLE W/ METER		PIPE, FOUND
	GUY WIRE		CONCRETE MONUMENT, FOUND
	GUY POLE		MEASURED DIMENSION
	ELECTRIC MANHOLE		RECORDED DIMENSION
	ELECTRIC PEDESTAL/TRANSFORMER		SPOT ELEVATION
	ELECTRIC METER		GRADE LABEL
	TELEPHONE POLE		DRAINAGE SLOPE
	TELEPHONE MANHOLE		LINE CONTINUATION
	TELEPHONE PEDESTAL		
	UTILITY MANHOLE		



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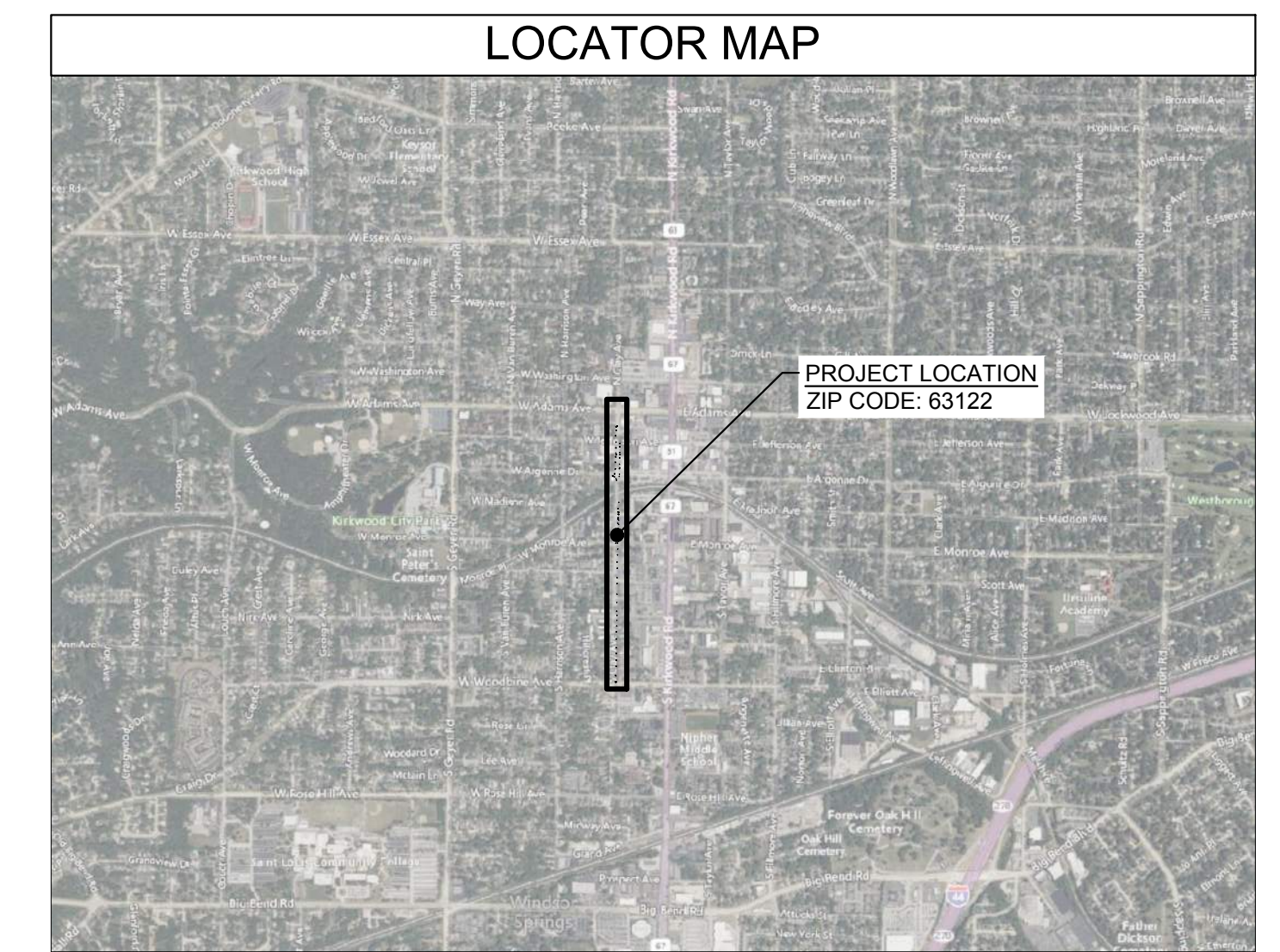
PROJECT INFORMATION	
SITE ACREAGE	= 4.42 AC
OWNER	= CITY OF KIRKWOOD
ZONING	= MIX B-1, B-2, B-4, B-5, R-1, R-4 & R-5
FIRE DISTRICT	= CITY OF KIRKWOOD
SCHOOL DISTRICT	= CITY OF KIRKWOOD
SEWER DISTRICT	= METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE	= MISSOURI-AMERICAN WATER CO.
GAS SERVICE	= SPIRE
ELECTRIC SERVICE	= AMEREN UE ELECTRIC CO.
PHONE SERVICE	= AT&T
ZIP CODE	= 63122
WUNNENBURG MAP	= PG. 35 GRID T-25

CONTRACTOR NOTE

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITIES," SECTION 10.080.

MSD CERTIFICATION

THE EXISTING SEWER LENGTHS, SIZES, FLOWLINES, DEPTHS OF STRUCTURES AND SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED EASEMENTS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS. SINCE THE WYE LOCATIONS HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY THE SEWER CONTRACTOR OR OTHER SOURCES, I DISCLAIM ANY RESPONSIBILITY FOR THAT SPECIFIC INFORMATION.



LENGTH OF PROJECT			
CLAY AVENUE			
-END OF PROJECT	STA. 34+44.00		
-BEGINNING OF PROJECT	STA. 01+20.00		
-APPARENT LENGTH	3324.00	FEET	
-EQUATIONS & EXCEPTIONS	397.03	FEET	
-TOTAL CORRECTIONS	0.00	FEET	
NET LENGTH OF PROJECT	2926.97	FEET	
COUNTY LENGTH	0.55	MILES	

UTILITY NOTE

THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITY MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVEGROUND UTILITIES, REMAINS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

ALL PUBLIC SEWERS ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS EXCEPT AS FOLLOWS:

SIGNED P.E. _____

DATE _____

BASIS OF BEARINGS & BENCHMARK INFORMATION

THE BASIS OF BEARING AND COORDINATE SYSTEM WAS ESTABLISHED USING A TRIMBLE R10 GNSS GPS THAT REFERENCES THE MODOT VRS NETWORK MISSOURI EAST STATE PLANE COORDINATE SYSTEM FIPS 2401, GEOID 12B, SCALE FACTOR 1.0000878. THE COORDINATES ARE SHOWN IN U.S. SURVEY FEET GROUND. HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED USING "TRIMBLE R10" GPS EQUIPMENT, USING THE MODOT VRS NETWORK AND NGS BASE STATION SEILER TREECOURT CORS ARP (CORS ID MOSI) (PID DL3650) ADJUSTMENT DATE (2011.00) EPOCH DATE (2010.00). HORIZONTAL CONTROL IS REPORTED IN NAD 83 AND VERTICAL CONTROL IS REPORTED IN NAVD 88. FIELD WORK WAS PERFORMED DURING THE MONTH OF JULY 2023.

IT SHOULD BE UNDERSTOOD THAT THIS SIGNATURE AND SEAL APPLY ONLY TO THE AFOREMENTIONED FINAL MEASUREMENTS

STORMWATER MANAGEMENT FUTURE DISTURBANCE NOTE:	
PROJECT DISTURBANCE	= 0.46 AC
PROJECT RUNOFF DIFFERENTIAL	= 0.286 CFS
ADDED IMPERVIOUS AREA	= 0.06 AC
MAINTENANCE AREA	= 3.96 AC

STANDARD SPECIFICATIONS

UNLESS OTHERWISE NOTED, ALL WORK ON THIS PROJECT SHALL BE COVERED BY THE ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AND BY APPLICATION ST. LOUIS COUNTY STANDARD DRAWINGS.

M.S.D. P-NUMBER: 24MSD-00066

M.S.D. BASE MAP: 23-24M

REVIEW ENGINEER: _____

APPROVAL DATE: _____

I hereby certify that this plan was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

James W. Dietzel _____ 6/11/2024

Signature _____ Date _____

JAMES W. DIETZEL, Civil Engineer P.E.
License No. 2014023907
My license renewal date is December 31, 2024

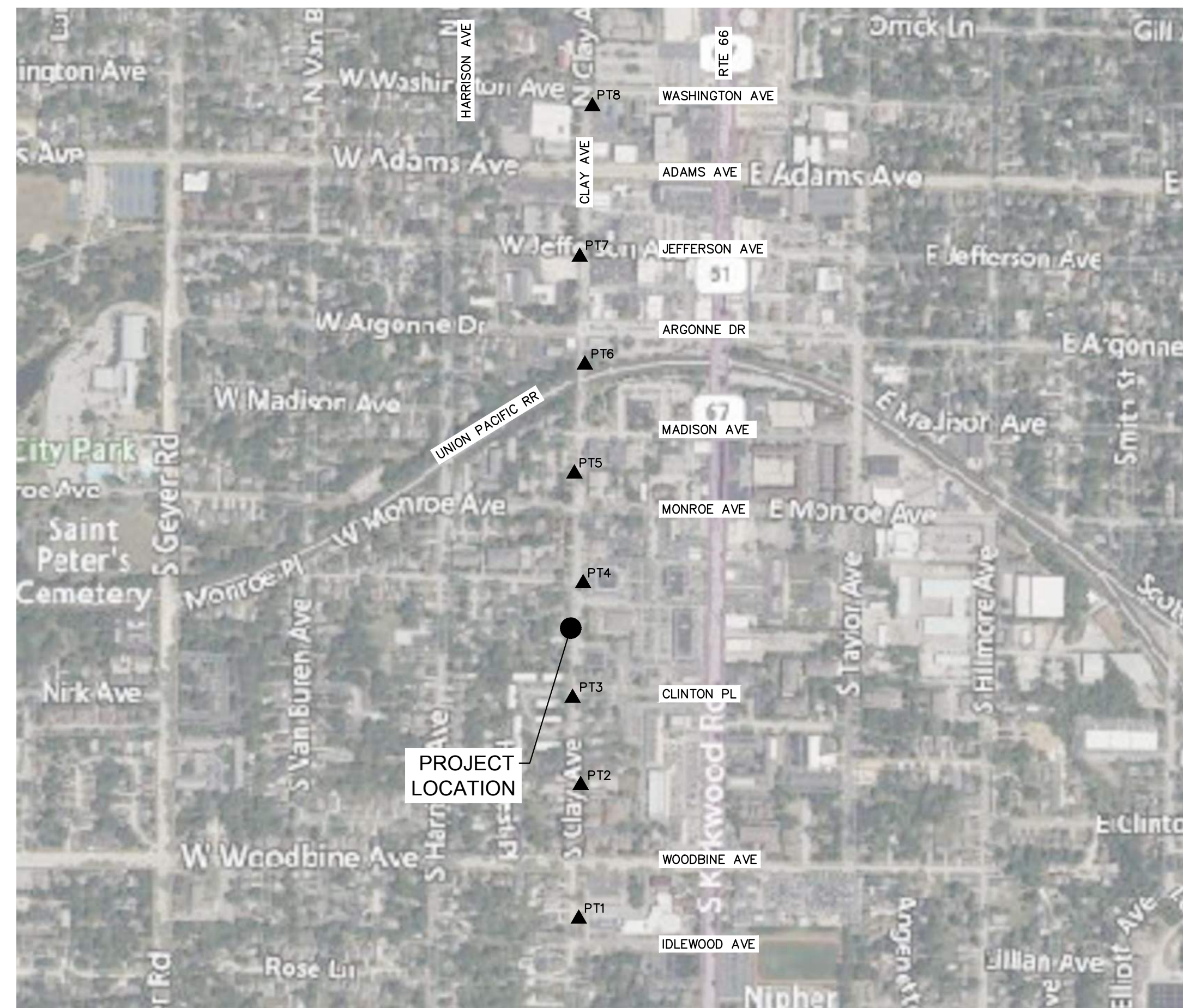
15 SUNNEN DR, SUITE 104
ST. LOUIS, MO 63143
314.645.1132
www.imegcorp.com
PROJECT #23010101.00

IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREON. SAID DRAWING AND/OR DATA ARE THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP.

REFERENCE SCALE IN INCHES

GENERAL NOTES

- ALL IMPROVEMENTS SHOWN ON THESE ENGINEERING PLANS SHALL COMPLY WITH THE **CITY OF KIRKWOOD** DESIGN AND SPECIFICATIONS, LATEST EDITION; THE STANDARDS OF THE **MISSOURI** DEPARTMENT OF NATURAL RESOURCES, LATEST EDITION; THE CURRENT STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT.
- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS, AND FIELD INVESTIGATION. THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO.
- ANY ENTITY THAT PERFORMS WORK SHALL PROVIDE THE CITY WITH A CERTIFICATE OF INSURANCE EVIDENCING GENERAL LIABILITY COVERAGE (BODILY INJURY AND PROPERTY DAMAGE) IN THE AMOUNTS SPECIFIED AS THE LIMITS OF LIABILITY SET BY THE STATE FOR PUBLIC ENTITIES. SUCH CERTIFICATE SHALL INCLUDE THE "CITY OF KIRKWOOD" AS AN ADDITIONAL INSURED AND SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF ANY PERMIT. CERTIFICATE SHALL PROVIDE FOR A 30 DAY POLICY CANCELLATION NOTICE TO THE CITY OF KIRKWOOD.
- CONTRACTOR SHALL KEEP EXISTING OFFSITE ROADWAYS CLEAN FROM OF MUD AND DEBRIS AT ALL TIMES. ALL DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE PROPERLY DISPOSED OF OFF-SITE UNLESS NOTED.
- THE CONTRACTOR SHALL EXERCISE PROPER CAUTION TO PROTECT THE EXISTING IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
- ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN 48 HOURS NOTICE IN ADVANCE OF ANY WORK.
- ANY DISTURBED OFFSITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN KIND, AT THE CONTRACTOR'S EXPENSE.
- MAXIMUM LEGAL LENGTHS IN THE COUNTY ARE FORTY (40) FEET FOR ANY SINGLE UNIT TRUCK AND FIFTY-FIVE (55) FEET FOR ANY COMBINATION OF VEHICLES, INCLUDING THE LOAD. MAXIMUM LEGAL WIDTH IS EIGHT (8) FEET AND MAXIMUM HEIGHT IS THIRTEEN AND ONE-HALF (13'-6") FEET. LEGAL WEIGHT LIMITS IN THE COUNTY ARE THE SAME AS THOSE REQUIRED BY MISSOURI STATE LAWS, EXCEPT IN CASES WHEN THE COUNTY COUNCIL HAS ESTABLISHED ROADWAY LOAD LIMITS BY ORDINANCE OR WHEN BRIDGES ARE POSTED UNDER STATE REGULATIONS. ANY VEHICLES EXCEEDING THESE LIMITS SHALL REQUIRE A SPECIAL USE PERMIT PRIOR TO DRIVING ON ST. LOUIS COUNTY ROADWAYS. CONTACT JAMES HAYES AT (314) 615-8515 FOR PERMITS.
- PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
- THE CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC CONTROL SIGNS (STREET NAME, STOP, NO PARKING, ONE-WAY, TURN, ETC.) UNTIL SUCH A TIME AS THEY NEED TO BE REMOVE/RELOCATED FOR CONSTRUCTION OPERATIONS. TEMPORARY SIGNING SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF MUTCD CHAPTER 6F (TEMPORARY TRAFFIC CONTROL ZONE DEVICES). EXISTING SIGNS SHALL NOT LIE ON THE GROUND FOR ANY PERIOD OF TIME. PORTABLE SUPPORTS SHALL NOT BE LOCATED ON SIDEWALKS OR AREAS DESIGNATED FOR PEDESTRIAN TRAFFIC. SIGNS SHALL BE CRASHWORTHY AND PROPERLY MAINTAINED FOR CLEANLINESS, VISIBILITY, AND PROPER POSITIONING.
- ALL UTILITIES, OUTDOOR STORAGE, AND MECHANICAL EQUIPMENT SHALL BE SCREENED IN ACCORDANCE WITH ST. LOUIS COUNTY ZONING CODE.
- CLEANUP AND FINAL INSPECTION. WORK BROKEN OR DAMAGED BY CONTRACTOR ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. ALL WASTE MATERIAL, CONCRETE WASHOUT, LANDSCAPE WASTE AND BUILDING MATERIAL SHALL BE REMOVED. SOIL SHALL BE REMOVED FROM PAVED AREAS AND THE PROJECT SHALL BE LEFT IN A CLEAN AND WORKMANLIKE MANNER.
- ALL SIDEWALK, SIDEWALK TERMINATIONS, AND ASSOCIATED ACCESSIBILITY IMPROVEMENTS TO BE CONSTRUCTED TO ST. LOUIS COUNTY & MODOT ADA STANDARDS. DRIVEWAYS AND ENTRANCES PER ST. LOUIS COUNTY STANDARDS.
- PERMITS WILL BE REQUIRED BY THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS FOR CONSTRUCTION OF RETAINING WALLS.
- THE PROJECT ENGINEER SHALL PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL TO MSD PRIOR TO CONSTRUCTION. THE MSD CONTACT PHONE NUMBER IS 314-768-6387.
- PORTLAND CEMENT CONCRETE. CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES. COMPRESSING STRENGTH SHALL BE 4000PSI IN 28 DAYS, AIR ENTRAINMENT SHALL BE BETWEEN 5 % AND 8% AND SLUMP SHALL BE 4 INCHES OR LESS ALL AS MEASURED BY THE APPROPRIATE ASTM METHODS. REINFORCING STEEL SHALL BE ASTM CERTIFIED 60KSI TENSILE STRENGTH. REINFORCING STEEL SHALL BE #4 SIZE UNLESS OTHERWISE SPECIFIED. HANDRAILS, BOLLARDS, AND OTHER APPURTENANCES SHALL BE INSTALLED PER PLAN AND MEET JURISDICTIONAL REQUIREMENTS.
- STANDARD CONSTRUCTION 2023 VERSION: ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, ALL SUBSEQUENT CHANGES MADE THERETO, AND SHALL ALSO INCLUDE THE FOLLOWING:
 - MATERIALS OF CONSTRUCTION
 - SECTION G PIPE
 - CORRUGATED POLYPROPYLENE PIPE
 - PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST. FOR USE IN SANITARY AND COMBINED SEWER INSTALLATIONS, A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL: INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
 - DETAIL DRAWINGS: THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.



SITE CONTROL
SCALE: 1" = 50'

S. CLAY CONTRL - NAD 83/NAVD 88				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	997775.302	846366.141	658.885	CUT CROSS
2	998413.704	846375.176	667.594	CUT CROSS
3	998830.210	846336.698	664.129	REBAR W/CAP
4	999377.534	846387.143	658.366	REBAR W/CAP
5	999901.687	846345.405	656.335	CUT CROSS
6	1000421.860	846395.519	657.467	CUT CROSS
7	1000936.882	846370.575	651.310	CUT CROSS
8	1001655.496	846431.160	661.778	CUT CROSS

CONTACTS

CITY OF KIRKWOOD WATER
212 S. TAYLOR AVE
KIRKWOOD, MO 63122
314.984.5925

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103
314.768.6262

CITY OF KIRKWOOD ELECTRIC
212 S. TAYLOR AVE
KIRKWOOD, MO 63122
314.984.5912

SPIRE GAS
4118 SHREWBERRY AVE
ST. LOUIS, MO 63119
314.706.2399

LUMEN FIBEROPTIC
877.366.8344

ATT DISTRIBUTIONS
314.275.0020

CHARTER COMMUNICATIONS
636.232.1398

MCI TELECOMMUNICATIONS
800.289-3427



Know what's below.
Call before you dig.

LEGEND

PROPOSED	EXISTING	
		STORM MANHOLE
		STORM INLET
		STORM DOUBLE INLET
		FLARED END SECTION
		DOWNSPOUT
		SANITARY MANHOLE
		SANITARY/STORM CLEANOUT
		UNKNOWN MANHOLE
		WATER VALVE
		HYDRANT
		WELL
		SPRINKLER BOX
		WATER METER
		WATER SERVICE
		POWER POLE
		POWER POLE W/ LIGHT
		POWER POLE W/ METER
		GUY WIRE
		GUY POLE
		ELECTRIC MANHOLE
		ELECTRIC PEDESTAL/TRANSFORMER
		ELECTRIC METER
		TELEPHONE POLE
		TELEPHONE MANHOLE
		TELEPHONE PEDESTAL
		UTILITY MANHOLE
		HANDHOLE
		GAS VALVE
		LIGHT POLE
		VAPOR LIGHT
		LIGHT JUNCTION BOX
		SIGN
		FLAGPOLE
		POST/BOLLARD
		CONIFER TREE
		DECIDUOUS TREE
		BUSH/SHRUB
		TREE STUMP
		CONTROL POINT
		BENCHMARK
		SOIL BORING HOLE
		R.O.W. MARKER, FOUND
		RAILROAD SPIKE, FOUND
		PIPE, FOUND
		CONCRETE MONUMENT, FOUND
		MEASURED DIMENSION
		RECORDED DIMENSION
		SPOT ELEVATION
		GRADE LABEL
		DRAINAGE SLOPE
		LINE CONTINUATION
		SURVEY BOUNDARY
		PROPERTY LINE
		CENTERLINE
		HISTORICAL LINE - AS NOTED
		EASEMENT LINE
		SECTION LINE
		R.O.W. LINE
		SETBACK LINE
		FORCE MAIN
		SANITARY SEWER
		STORM SEWER
		PIPE UNDERDRAIN
		WATER LINE
		OVERHEAD ELECTRIC
		UNDERGROUND ELECTRIC
		GAS LINE
		TELEPHONE LINE
		UTILITY LINE
		EDGE OF WATER LINE/DITCH FLOWLINE
		CHAIN LINK FENCE
		SILT FENCE
		CONTOUR
		GUARD RAIL
		TREE LINE
		FLOOD PLAIN
		FLOODWAY
		CONSTRUCTION LIMITS

REVISIONS	NO.	DESCRIPTION	DATE
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.			
Signature:		Date: 06/11/2024	
JAMES W. DIETZEL, Civil Engineer P.E. Missouri State Certificate of Authority E-201708930 My license renewal date is December 31, 2024.			
SOUTH CLAY AVENUE RESURFACING PROJECT		KIRKWOOD, MISSOURI	
NOTES-LEGEND-SITE CONTROL		IMEG Project No: 23001201.00	
M.S.D. P#: 24MSD-00066 BASEMAP #: 23-24M			
File Name: 23001201.00-Notes-Details.dwg			
© COPYRIGHT 2024 ALL RIGHTS RESERVED			
Drawn By: PTD			
Checked By: JWD			
Date: 06/11/2024			
A2			
Sheet 2 of 46			

Monday, June 10, 2024, 4:24:07 PM
 G:\2023\23001201.00\DESIGN\CIVIL\C30\PILOT\23001201.00--NOTES--DETAILS.DWG

GRADING NOTES

- 1. ALL EARTHWORK OPERATIONS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
2. GRADING SHALL COMPLY WITH ST. LOUIS COUNTY AND M.S.D. STANDARD CONSTRUCTION AND SPECIFICATIONS AND DETAILS AND STANDARD SPECIFICATIONS.
3. ALL ELEVATIONS SHOWN ARE TO FLOWLINE FINISHED GRADE OR TOP OF PAVEMENT UNLESS OTHERWISE STATED.
4. PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS. DO NOT ALLOW WATER TO POND ON PROPERTY.
5. TREES AND/OR SHRUBS SHALL NOT BE REMOVED OR DISTURBED WITHIN RIGHT-OF-WAY WITHOUT PRIOR APPROVAL OF THE ENGINEER.
6. TRUCKS SHALL NOT EXCEED POSTED WEIGHT LIMITS FOR ST. LOUIS COUNTY BRIDGES DURING HAUL OPERATIONS.
7. PRIOR TO PLACEMENT OF ANY FILL, THE STRIPPED SITE SHALL BE SCARIFIED TO A DEPTH OF 9 INCHES AND RE-COMPACTED TO 95% DENSITY. ANY UNSUITABLE SOILS FOUND AT THIS TIME SHALL BE DRIED AND RECOMPACTED OR REMOVED IF REQUIRED COMPACTION CANNOT BE OBTAINED. CUT AREAS SHALL ALSO BE SCARIFIED TO A DEPTH OF 9 INCHES AND RE-COMPACTED TO 95% DENSITY.
8. CLEARING TECHNIQUES THAT RETAIN EXISTING VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE SHALL BE USED AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.
9. ALL FILL MATERIAL SHALL CONSIST OF APPROVED, SUITABLE SOILS PLACED IN LOOSE LIFTS OF 9 INCHES OR LESS AND COMPACTED TO AT LEAST 95% OF THE MATERIAL'S MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D-698) IN ALL PAVEMENT, BUILDING ADDITION AND ATHLETIC FIELD AREAS. IT SHALL BE FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS. THE COMPACTION WILL BE FIELD TESTED BY A SOILS ENGINEERING CONSULTANT REPRESENTING THE OWNER.
10. PROJECT WILL BE COVERED BY A GENERAL PERMIT REGULATING RUNOFF FROM CONSTRUCTION SITES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE REQUIRED MONITORING, INSPECTION AND MAINTENANCE AS REQUIRED BY THE PERMIT.
11. NO GRADE SHALL EXCEED 3:1 SLOPE, EXCEPT AS NOTED AND APPROVED PER PLAN. ALL DISTURBED EMBANKMENTS GREATER THAN 3:1 SLOPES SHALL BE SEEDED ACCORDING TO A RECOMMENDED SEEDING MIX BY THE LANDSCAPER AND COVERED WITH EROSION CONTROL BLANKETS OR AS DIRECTED BY PLAN DOCUMENTS.
12. CONTRACTOR SHALL ADHERE TO THE CITY OF KIRKWOOD WATER CONTROL AND LAND DISTURBANCE CONTROL REGULATIONS AND THE STATE OF MISSOURI CONSTRUCTION SITE EROSION CONTROL MANUAL.
13. ALL AREAS TO BE GREENSPACE AT PROJECT COMPLETION SHALL BE LEFT WITH 6 INCHES OF TOPSOIL WHEN MASS GRADING ACTIVITIES ARE COMPLETE.

BULK EARTHWORK NOTES

CUT.....± CUBIC YARDS
FILL.....± CUBIC YARDS
NET.....± CUBIC YARDS

- 1. THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THE PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.
2. THE ENGINEERS EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS LESS THAN 24" IN DIAMETER; STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS OR DUCT BANKS; BASES FOR LIGHT STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, RETAINING WALL BACKFILL, ETC.
3. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO REMOVAL OF UNSUITABLE MATERIAL FROM THE SITE.
4. IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO PERFORM AN INDEPENDENT EARTHWORK ANALYSIS PRIOR TO SUBMISSION OF BID. IN THE EVENT A DISCREPANCY EXISTS, THE GRADING CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCY PRIOR TO SUBMISSION OF BID.
5. AFTER CONTRACTOR RECEIVES AWARD AND NOTICE TO PROCEED, CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY AND PERFORM EARTHWORK ANALYSIS PRIOR TO COMMENCING GRADING TO RE-CONFIRM BID QUANTITIES.
6. RE-USE OF EXISTING STOCKPILE MATERIALS AND EXCAVATION SPOILS ON-SITE SHALL BE VERIFIED AND COORDINATED WITH THE ENGINEER.
7. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ANY ROCK ENCOUNTERED.

EARTHWORK ASSUMPTIONS:

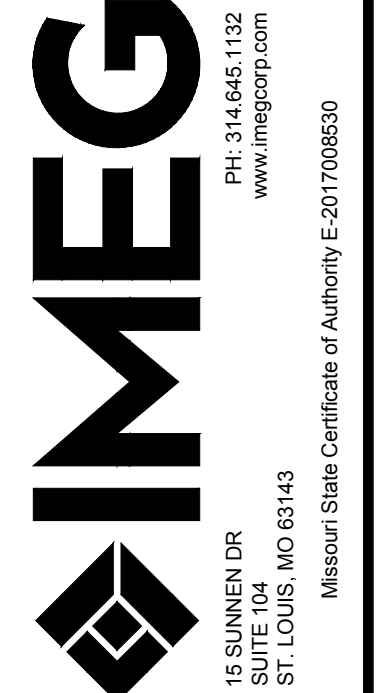
EROSION CONTROL NOTES

- 1. EROSION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING OPERATIONS WHERE POSSIBLE. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY THE CITY OF KIRKWOOD.
2. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT OFF-SITE TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS. ANY SEDIMENT DEPOSITED ON PUBLIC ROADS SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
3. SHOWN LOCATION OF SILTATION CONTROL IS APPROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION.
4. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO MUD ONTO ROADS SHALL BE ALLOWED.
5. WATER PUMPED DURING CONSTRUCTION OPERATIONS SHALL BE FILTERED.
6. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
7. ONCE CONSTRUCTION HAS BEEN COMPLETED, OR TEMPORARILY SUSPENDED FOR LONGER THAN 14 DAYS (SUCH AS WINTER SHUTDOWN), THE CONTRACTOR SHALL INITIATE SEEDING ON ALL AREAS DISTURBED IMMEDIATELY OF THE LAST DISTURBANCE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE CONTRACTOR ESTABLISHES A GOOD STAND OF GRASS OF UNIFORM COLOR AND DENSITY TO THE SATISFACTION OF THE ENGINEER.
8. CONTRACTOR SHALL ADHERE TO THE MISSOURI CONSTRUCTION SITE EROSION CONTROL MANUAL AND MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR SEDIMENT AND EROSION CONTROL MANUAL.
9. ALL EROSION CONTROL MEASURES MUST BE INSTALLED (WHERE POSSIBLE) PRIOR TO THE COMMENCEMENT OF ANY EARTH DISTURBING OPERATIONS. THE REMAINING EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS REASONABLY POSSIBLE AFTER GRADING OPERATIONS BEGIN. WHERE THE PRESENCE OF SILT FENCE WILL INTERFERE WITH ACTIVITIES, DIVERSION DITCHES AND SMALL TEMPORARY SEDIMENT TRAPS SHALL BE UTILIZED UNTIL SILT FENCE OR OTHER MEASURES MAY BE INSTALLED AND VEGETATION ESTABLISHED.
10. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH PRECIPITATION EVENT AND REPLACED OR REPAIRED AS NECESSARY.
11. SILT FENCE AND SEDIMENT BASIN SHALL BE CLEANED OR REPLACED WHEN SILT BUILDS UP TO WITHIN ONE FOOT OF THE TOP OF THE SILT FENCE.
12. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
13. PROJECT WILL BE COVERED BY A GENERAL PERMIT REGULATING RUNOFF FROM CONSTRUCTION SITES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE REQUIRED MONITORING, INSPECTION AND MAINTENANCE AS REQUIRED BY THE PERMIT.
14. CONCRETE WASHOUT DEBRIS SHOULD BE HAULED OFF-SITE. WASHOUT SHOULD BE FILLED IN AND SEEDED.
15. ALL AREAS DISTURBED BEYOND LIMITS SHOWN SHOULD BE IMMEDIATELY SODDED OR SEEDED WITH ADJACENT SEED MIXTURE OR IN-KIND.
16. AREAS SHALL BE SEEDED AFTER CLEARING AND GRUBBING WHEN NO ACTIVITY WILL OCCUR WITHIN THIRTY DAYS.

UTILITY NOTES

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES AND PAVED STREETS, INCLUDING ANY NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY CONFLICTS WITH THE DRAWINGS OCCUR. ANY DAMAGE TO EXISTING UTILITIES AND/OR PAVED STREETS CAUSED BY TRENCHING AND GRADING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE.
2. ALL EXISTING UNDERGROUND UTILITIES SHOWN WERE LOCATED PARTIALLY IN THE FIELD AND PARTIALLY FROM REVIEW OF EXISTING PUBLIC RECORDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT EACH UTILITY COMPANY FOR THE FIELD LOCATION OF THEIR EXISTING LINES IN OR NEARBY THE CONSTRUCTION AREA PRIOR TO BEGINNING ANY CONSTRUCTION.
3. THE CONTRACTOR SHALL EXERCISE PROPER CAUTION TO PROTECT THE EXISTING IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
4. THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITY MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVEGROUND UTILITIES, REMAINS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
5. WATER MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL WATER COMPANY STANDARD SPECIFICATIONS FOR WATER MAIN CONSTRUCTION.
6. ALL WATER MAIN SHALL HAVE A MINIMUM COVER OF 5 FEET.
7. MAINTAIN 18 INCHES VERTICAL SEPARATION (OUTER EDGE TO OUTER EDGE) BETWEEN WATER MAIN AND SEWER.
8. NITRILE GASKETS SHALL BE USED WHERE WATER MAIN CROSSES BELOW STORM SEWER.
7. ALL CONSTRUCTION OF STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO, OR TO BE PRIVATE UNDER MSD INSPECTION, MUST CONFORM TO M.S.D. STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, LATEST EDITION. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
8. ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO ASTM DESIGNATION C76-80 CLASS III UNLESS NOTED.
9. TYPE "C" BEDDING PER MSD AND ST. LOUIS COUNTY STANDARDS IS REQUIRED FOR PIPES IN BLOCK.
10. JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
11. UTILITY PIPING. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION METHODS INCLUDING BACKFILL MATERIAL AND MATERIAL DEPTHS. PIPE MATERIAL SHALL BE AS SPECIFIED ON THE PLANS. ALL MATERIAL SHALL MEET THE REQUIREMENTS OF THE LOCAL JURISDICTION FOR STRENGTH, MATERIAL TYPE AND CONFORMITY WITH THE EXISTING SYSTEM. SEWER LINES SHALL BE CONSTRUCTED STRAIGHT TO THE SPECIFIED LINE AND GRADES. MANHOLES, STORM INLETS, VALVE BOXES AND APPURTENANCES SHALL BE ADJUSTED TO GRADE OR PER PLAN PRIOR TO SEEDING/LANDSCAPING ACTIVITIES.
12. TRENCH BACKFILL COMPACTION AND TESTING REQUIREMENTS: THE CONTRACTOR IS TO REFER TO PART 4, SECTION H OF THE MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR STORM SEWERS AND DRAINAGE FACILITIES, LATEST EDITION, TO ESTABLISH THE REQUIREMENTS FOR SPECIFIC TYPE OF BACKFILL BEING USED.
13. ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIALS HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT FILLED AREAS INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, PROPOSED SANITARY AND STORM SEWER LINES, AND PAVED AREAS CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR." FILL IS TO BE PLACED IN A MAXIMUM OF 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50 FOOT INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2 FEET VERTICALLY, AND LATERALLY ON EACH SIDE OF THE PIPE AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION.
14. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURE(S) WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF NEEDED.
15. PARTIAL REMOVAL OR CONVERSION OF A STRUCTURE: THE PARTIAL REMOVAL, REPLACEMENT, AND CONVERSION OF THE EXISTING STRUCTURE(S) WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, AND THE TOP SECTION CAN BE CONVERTED AS PROPOSED AND STILL MEET MSD STANDARDS, THEN CONVERT AND ADJUST TO GRADE. OTHERWISE, THE ENTIRE STRUCTURE WILL BE REMOVED AND PLACED WITH A NEW STRUCTURE.
16. STRUCTURES NOTED TO BE ADJUSTED TO FINISH GRADE SHALL BE ADJUSTED BY EITHER REMOVAL OR PLACEMENT OF GRADE RINGS, BRICK WORK, OR MORTAR BEDDING BY SUCH METHODS AS APPROVED BY MSD STANDARD CONSTRUCTION SPECIFICATIONS, LATEST EDITION, AND ST. LOUIS COUNTY SPECIFICATIONS FOR STORM SEWERS.
17. MAINTENANCE OF THE SEWERS DESIGNATED AS "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

Table with 2 columns: No., DATE. Header: REVISIONS, DESCRIPTION.

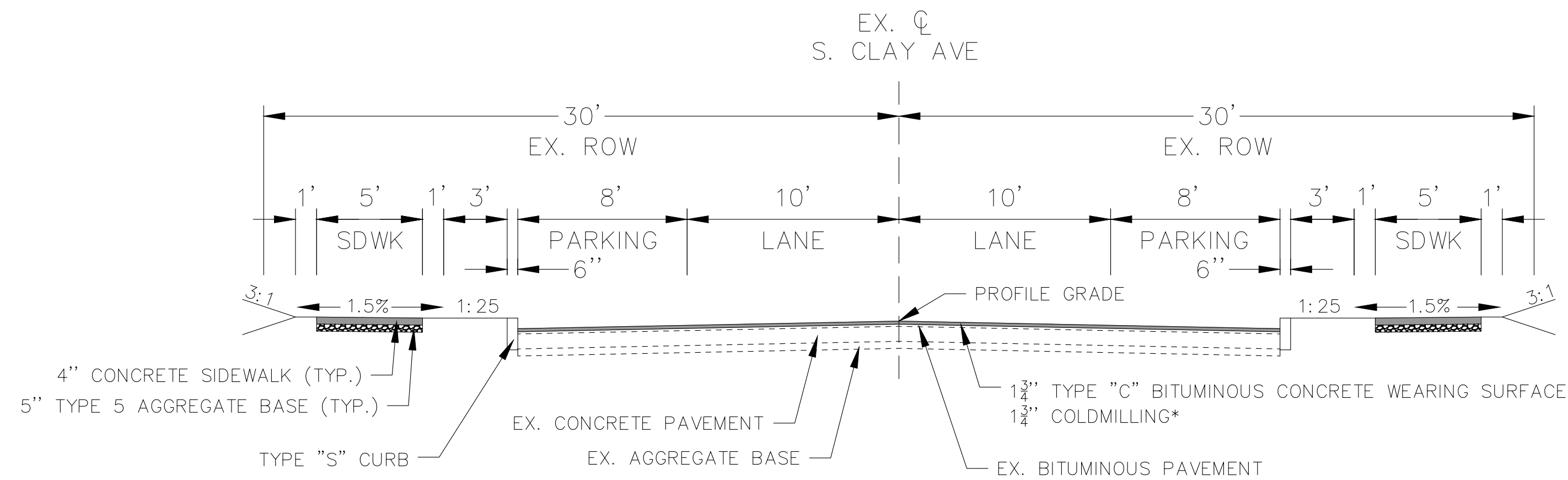


Professional Engineer seal for James W. Dietzel, Missouri State Certificate of Authority E-201700830, dated 6/11/2024.

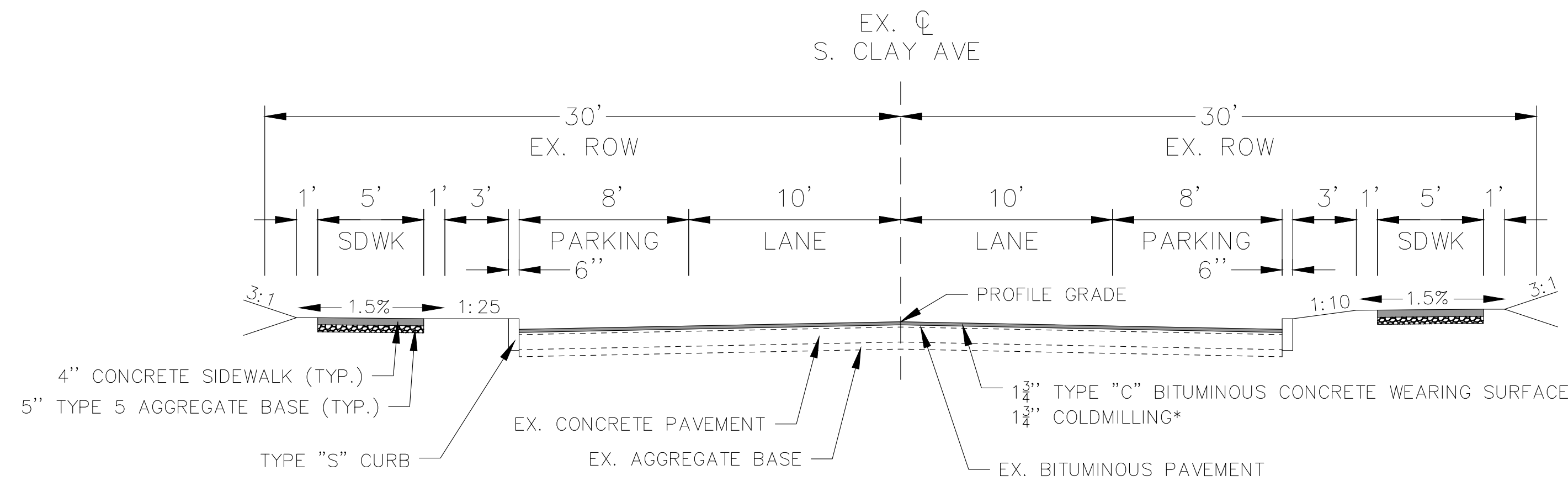
SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
NOTES

Project information: IMEG Project No: 23001201.00, M.S.D. P#: 24MSD-00066, File Name: 23001201.00-Notes-Details.dwg, Drawn By: PTD, Checked By: JWD, Date: 06/11/2024, Sheet 3 of 46

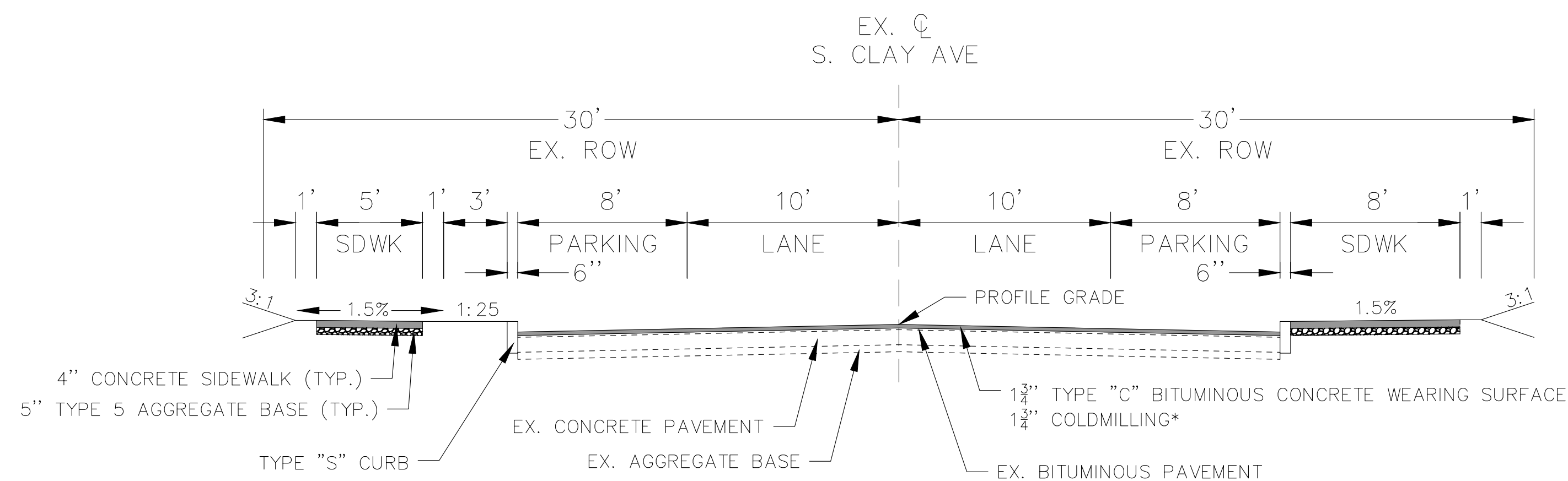
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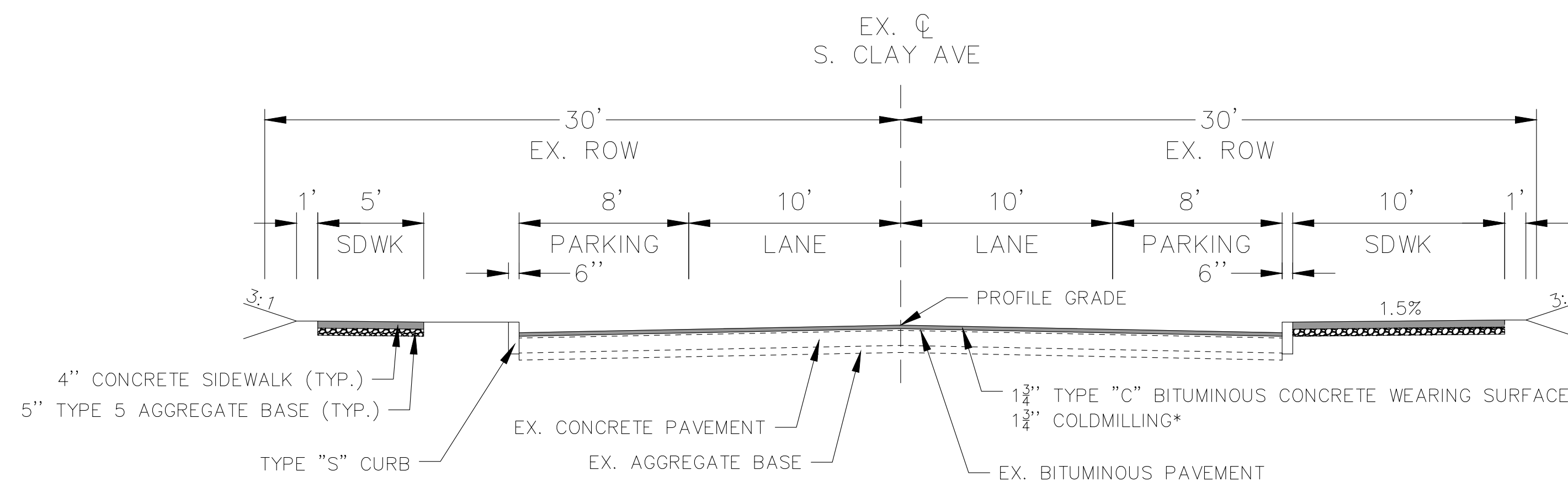
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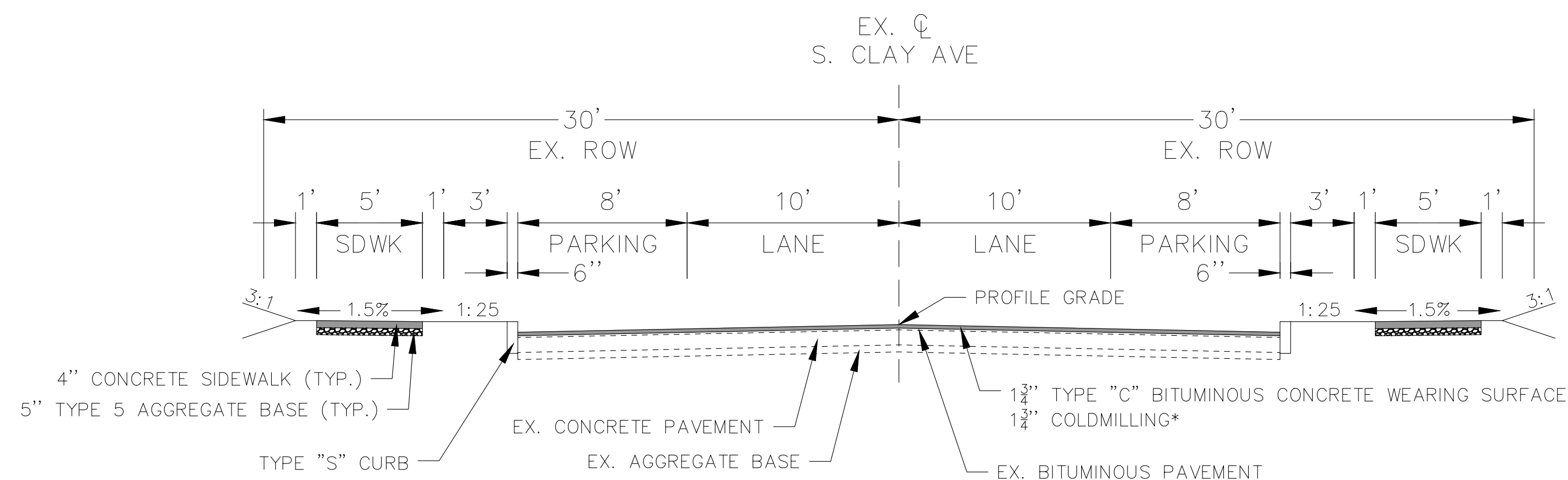
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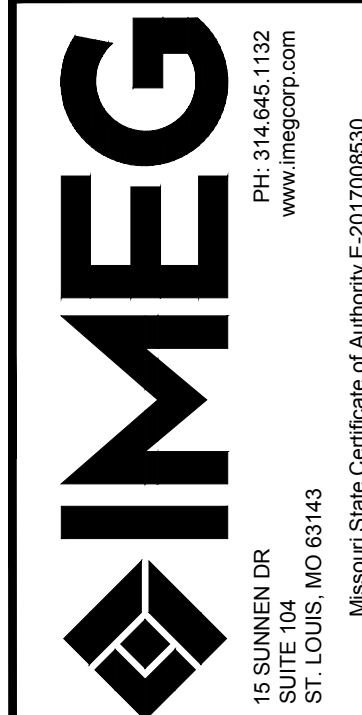
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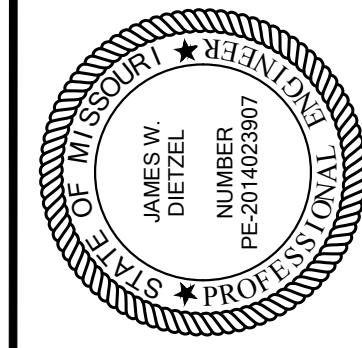
*NOTE: COLDMILLING TO NOT EXCEED 2" TO MAINTAIN SMOOTH SURFACE

NO.	DESCRIPTION	DATE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 My license renewal date is December 31, 2024.

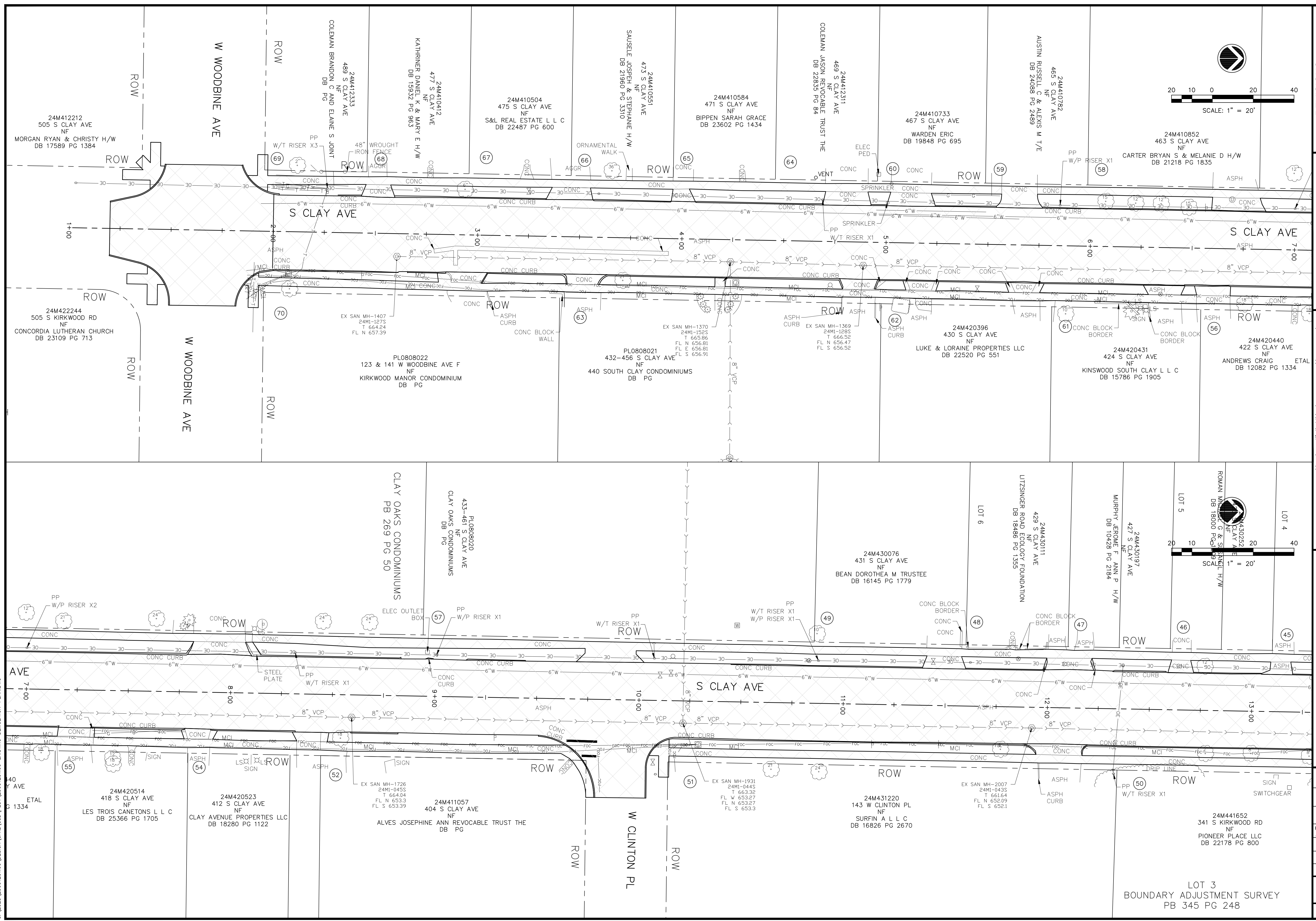


SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
TYPICAL SECTIONS

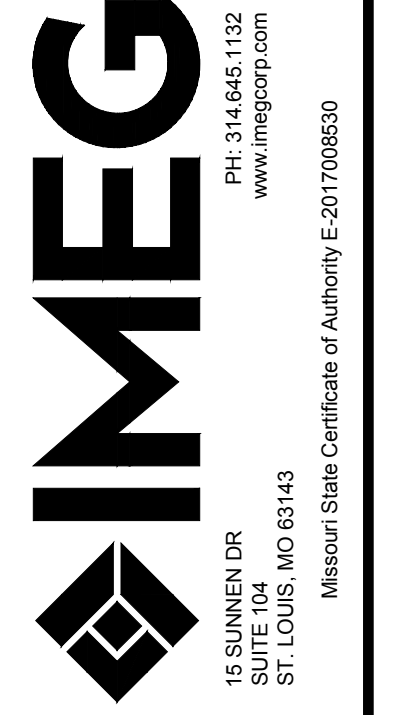
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 BASEMAP #: 23-24M
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 Checked By: JWD
 Date: 06/11/2024

B1

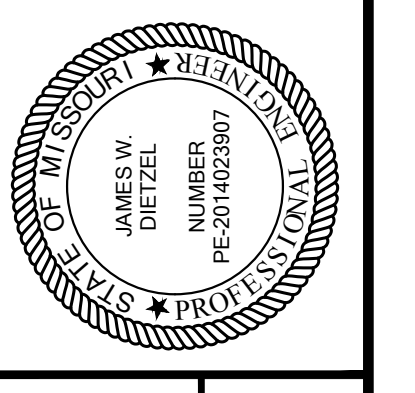
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REVISIONS	NO.	DESCRIPTION	DATE



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 Signature: *James W. Dietzel*
 Date: 6/11/2024
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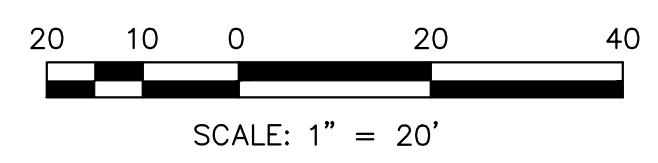
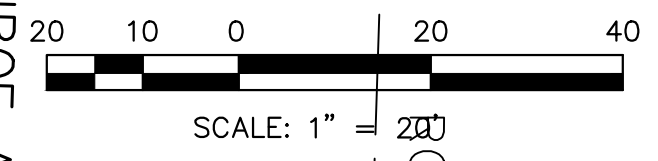
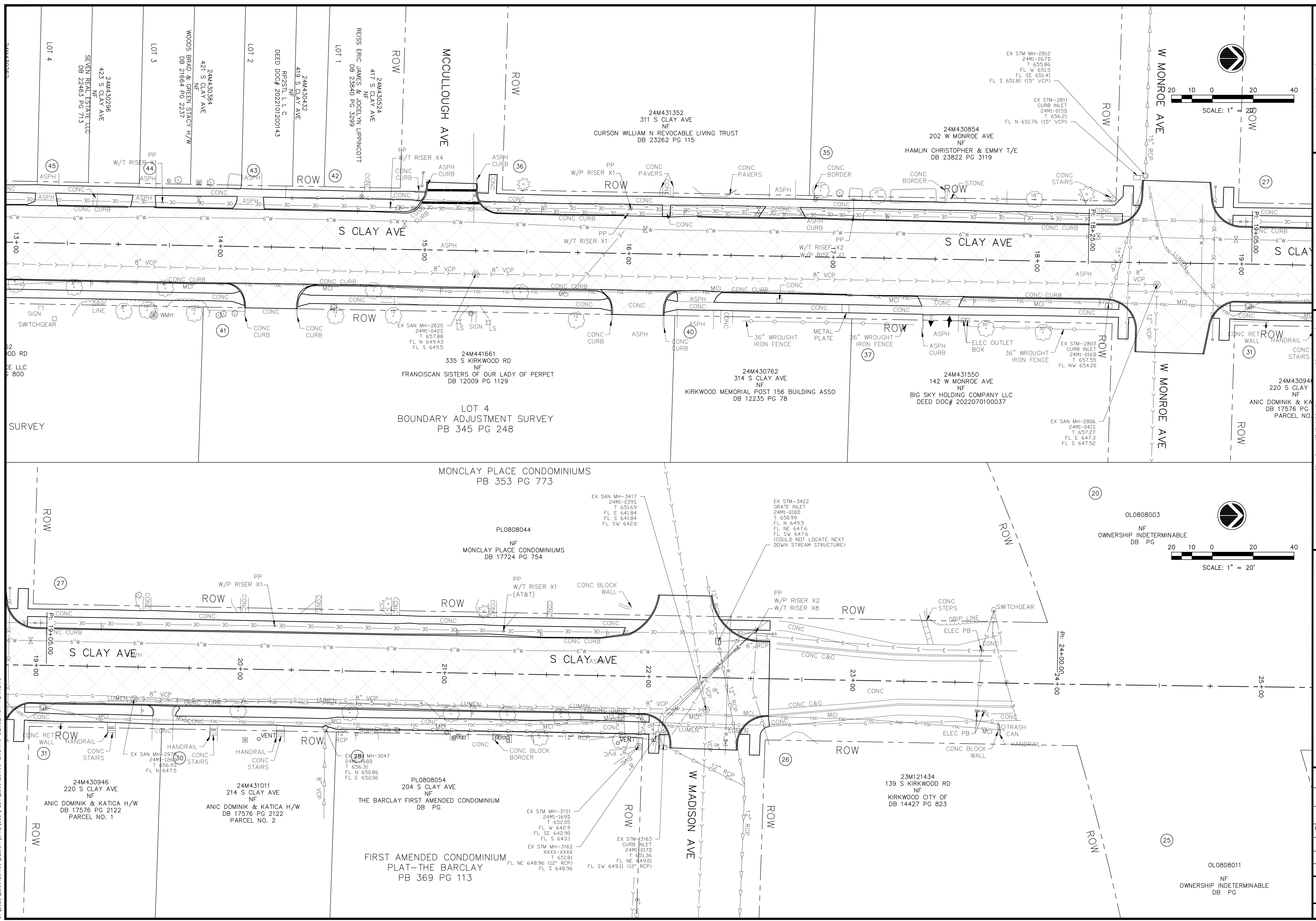


SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 EXISTING CONDITIONS

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 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
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D1
 Sheet 5 of 46

LOT 3
 BOUNDARY ADJUSTMENT SURVEY
 PB 345 PG 248

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REVISIONS	NO.	DESCRIPTION	DATE

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
 15 SUMNER DR
 ST. LOUIS, MO 63143
 My license renewal date is December 31, 2024.

STATE OF MISSOURI
 PROFESSIONAL ENGINEER
 JAMES W. DIETZEL
 NUMBER: PE-281628007

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

EXISTING CONDITIONS

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 BASEMAP #: 23-24M

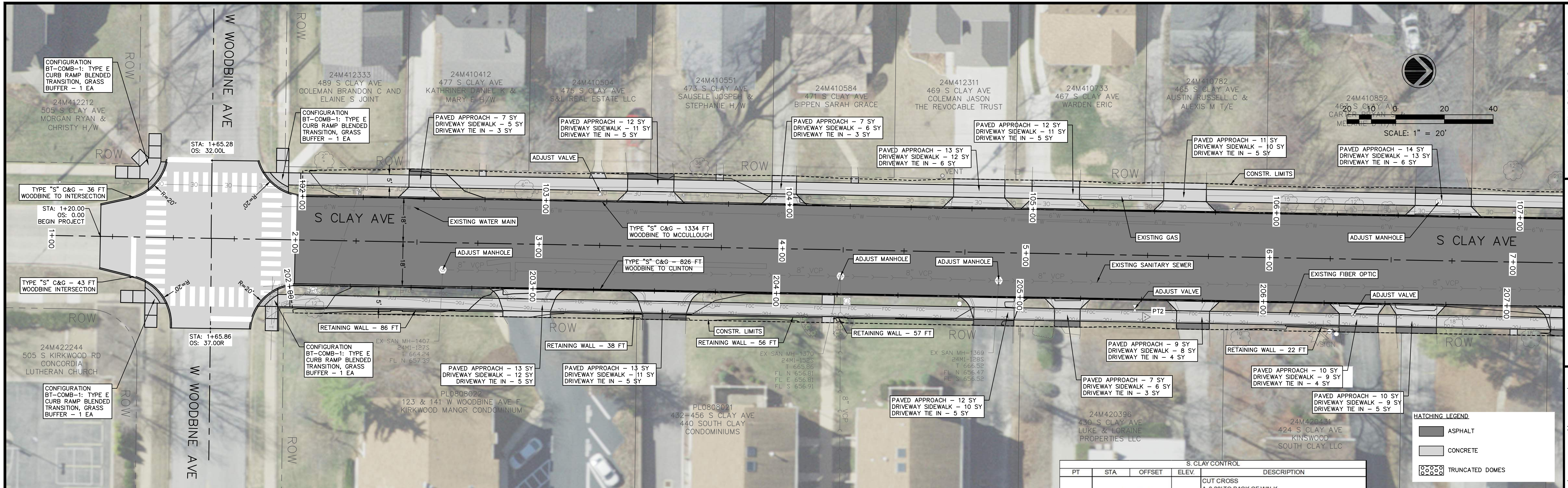
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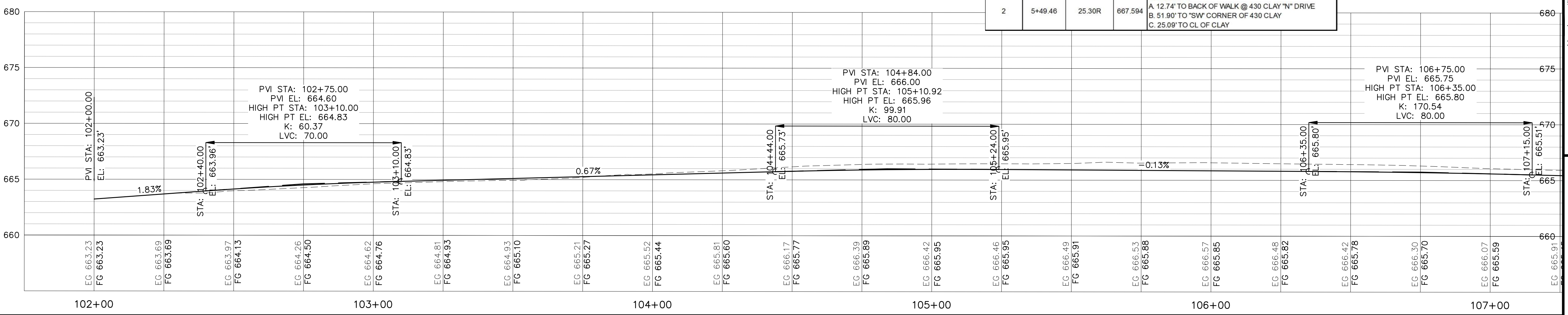
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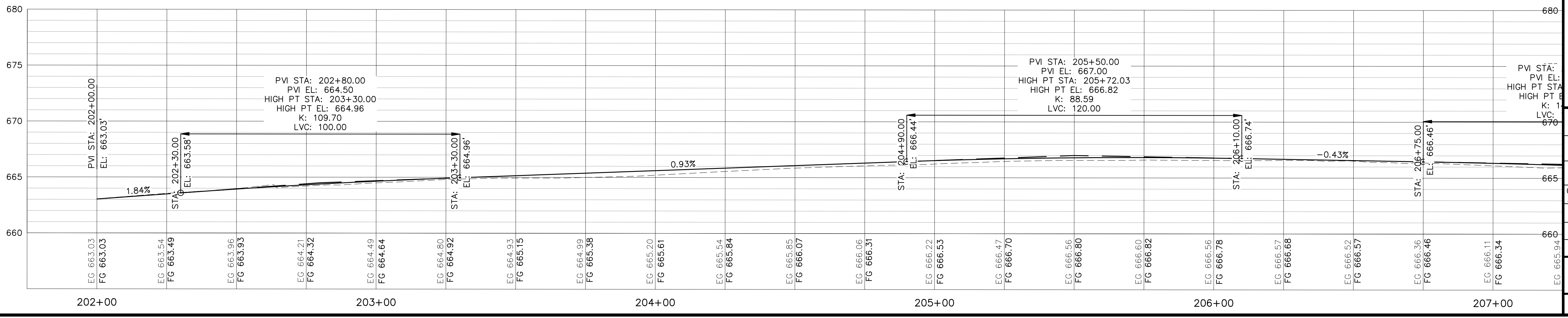
IMEG
 15 SUMNER DR
 ST. LOUIS, MO 63143
 Missouri State Certificate of Authority E-201700830
 PH: 314.646.1132
 www.imegcorp.com



PROFILE VIEW OF CLAY AVE_WOODBINE AVE TO CLINTON PL LEFT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_WOODBINE AVE TO CLINTON PL RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PT	STA	OFFSET	ELEV	DESCRIPTION
1	STATION OFF PROJECT		658.885	CUT CROSS A. 0.20' TO BACK OF WALK B. 34.10' CL-CL CLAY @ 110 WOODBINE "W" ENTRANCE C. 82.90' TO NO PARKING SIGN
2	5+49.46	25.30R	667.594	CUT CROSS A. 12.74' TO BACK OF WALK @ 430 CLAY "N" DRIVE B. 51.90' TO "SW" CORNER OF 430 CLAY C. 25.09' TO CL OF CLAY

HATCHING LEGEND

- ASPHALT
- CONCRETE
- TRUNCATED DOMES

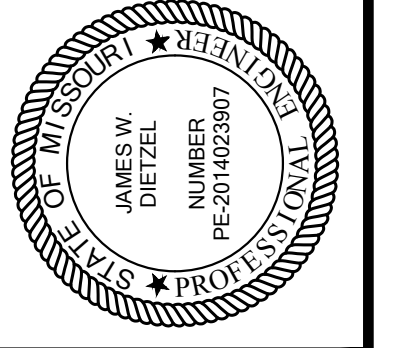
REVISIONS

NO.	DESCRIPTION	DATE



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Signature: *James W. Dietzel*
 Name: JAMES W. DIETZEL
 License No: PE-28102807
 Date: 6/11/2024
 Title: Civil Engineer P.E.
 My license renewal date is December 31, 2024.



SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

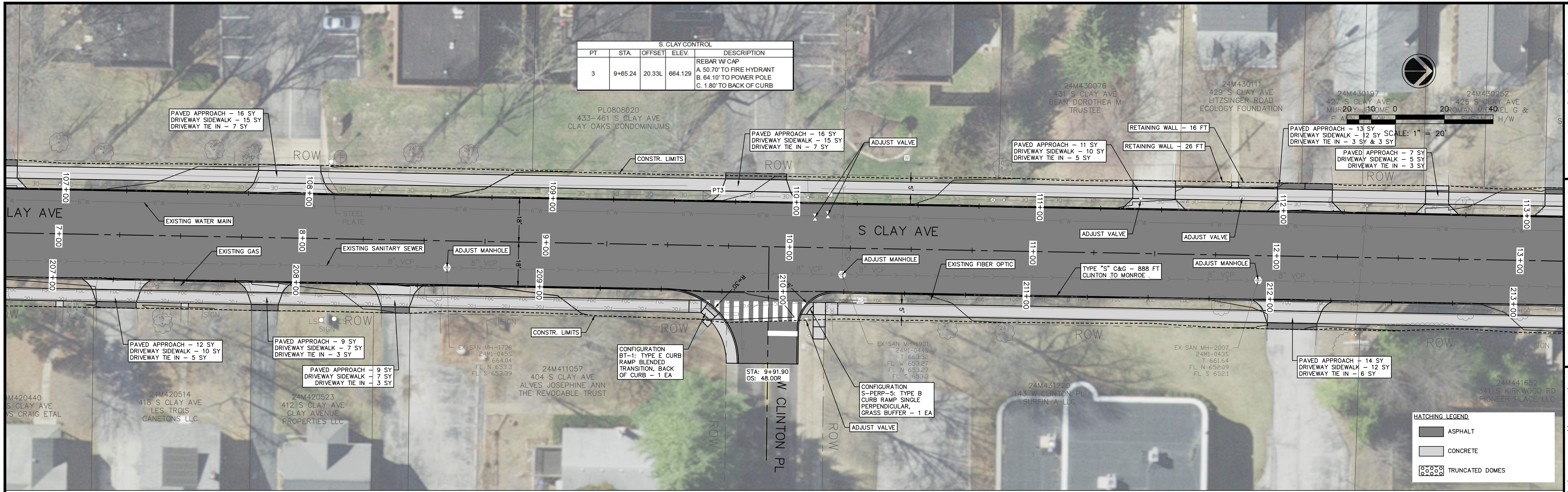
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IMEG Project No: 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M

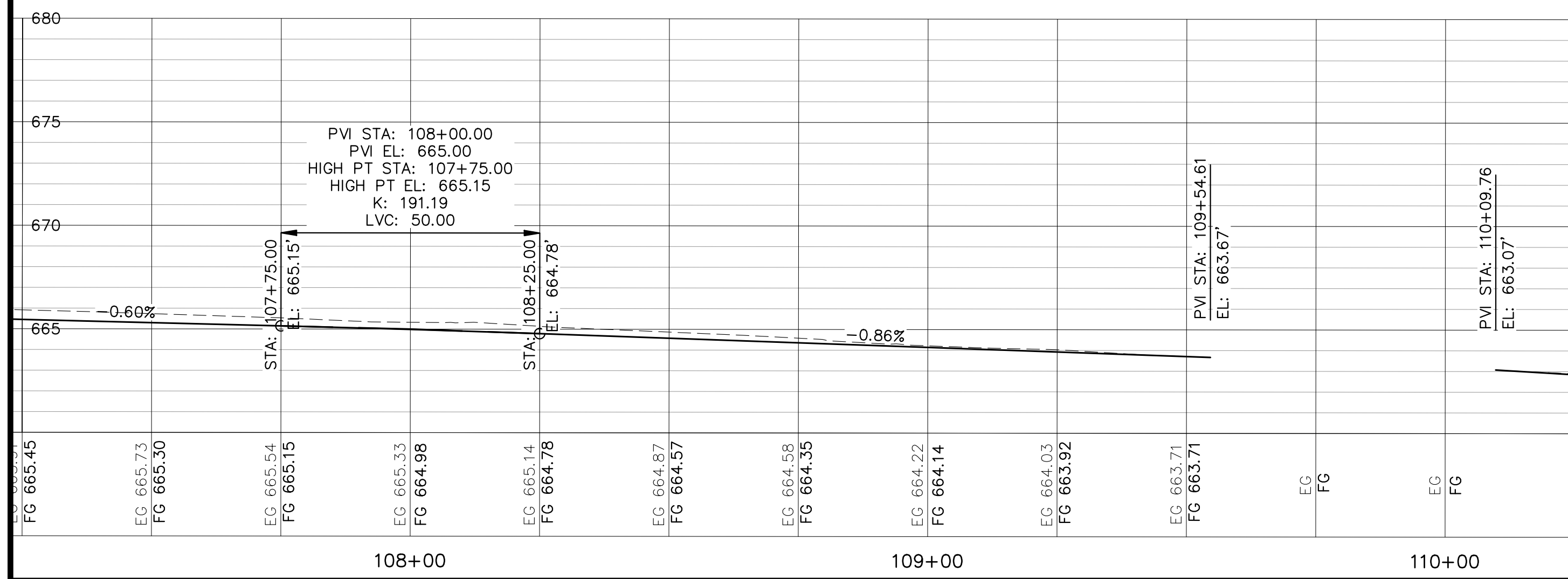
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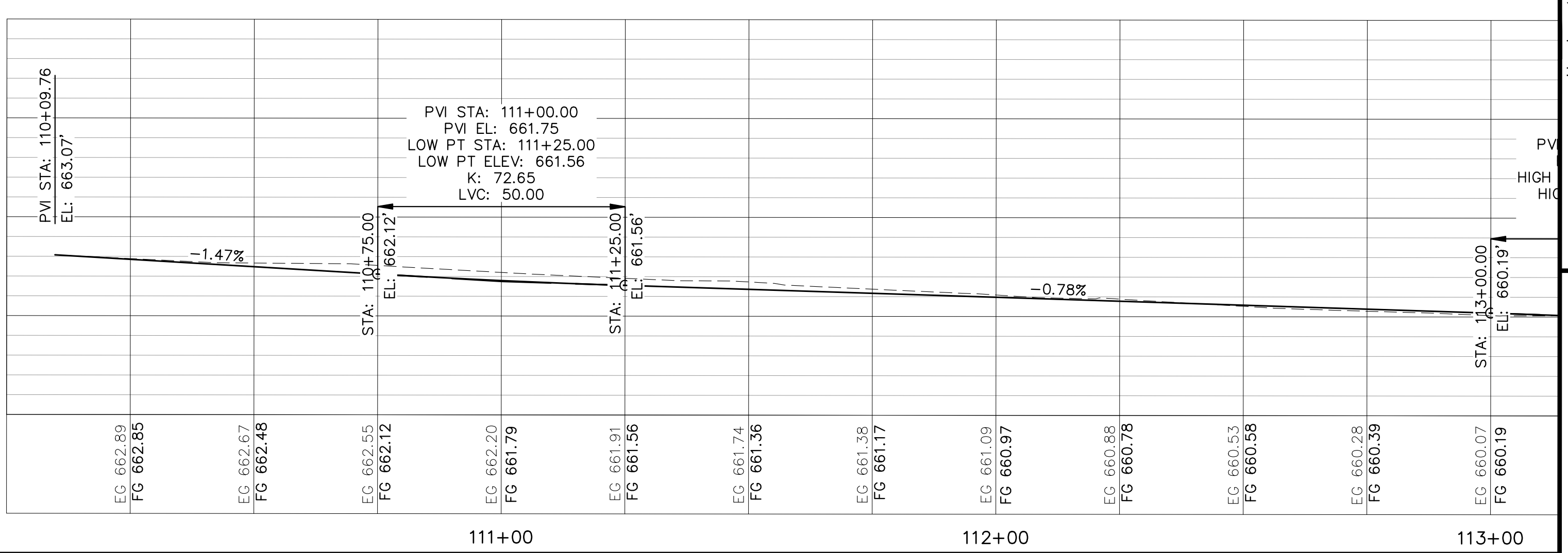
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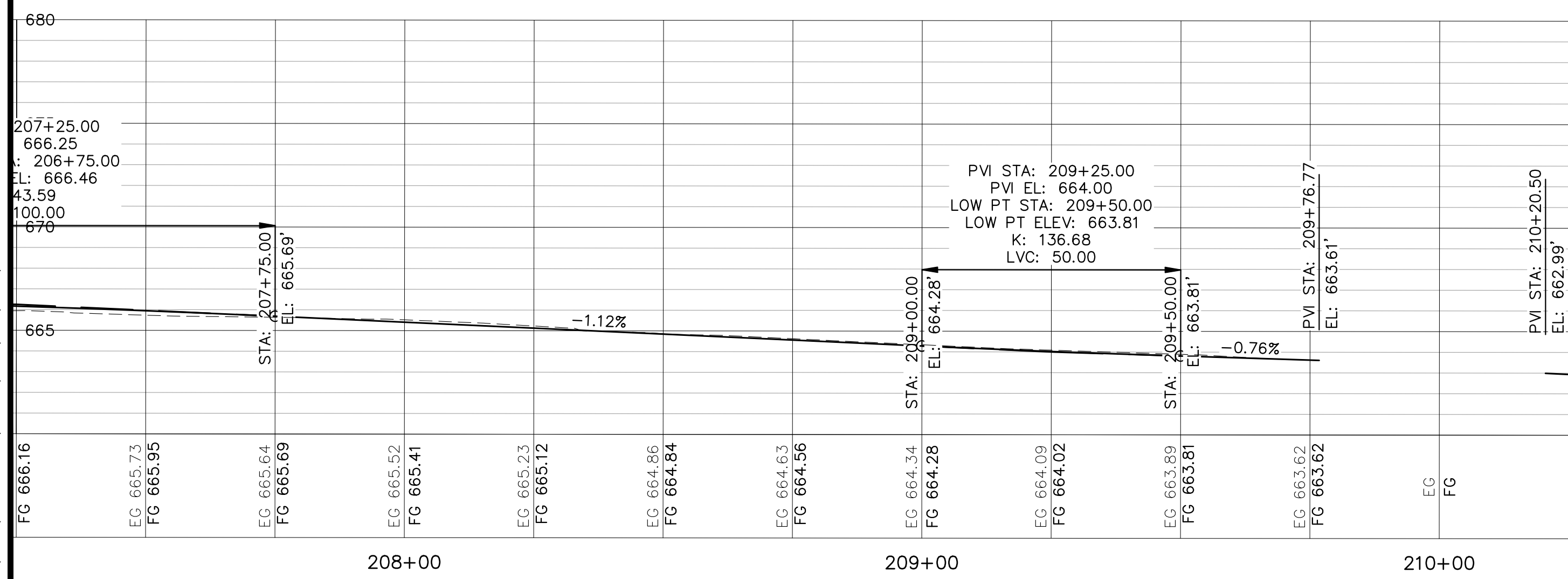
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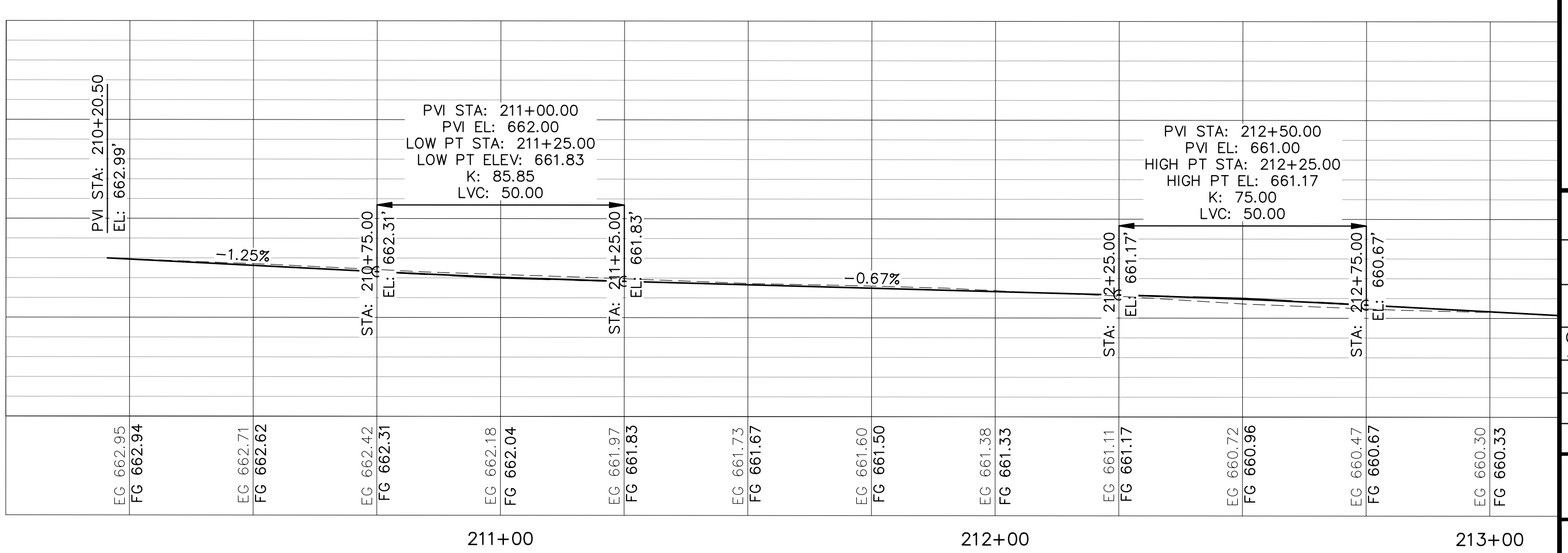
PROFILE VIEW OF CLAY AVE_CLINTON PL TO MCCULLOUGH AVE | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_WOODBINE AVE TO CLINTON PL RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_CLINTON PL TO MONROE AVE RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



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NO.	DESCRIPTION

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Signature: *James W. Dietzel*
 JAMES W. DIETZEL, Civil Engineer P.E.
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

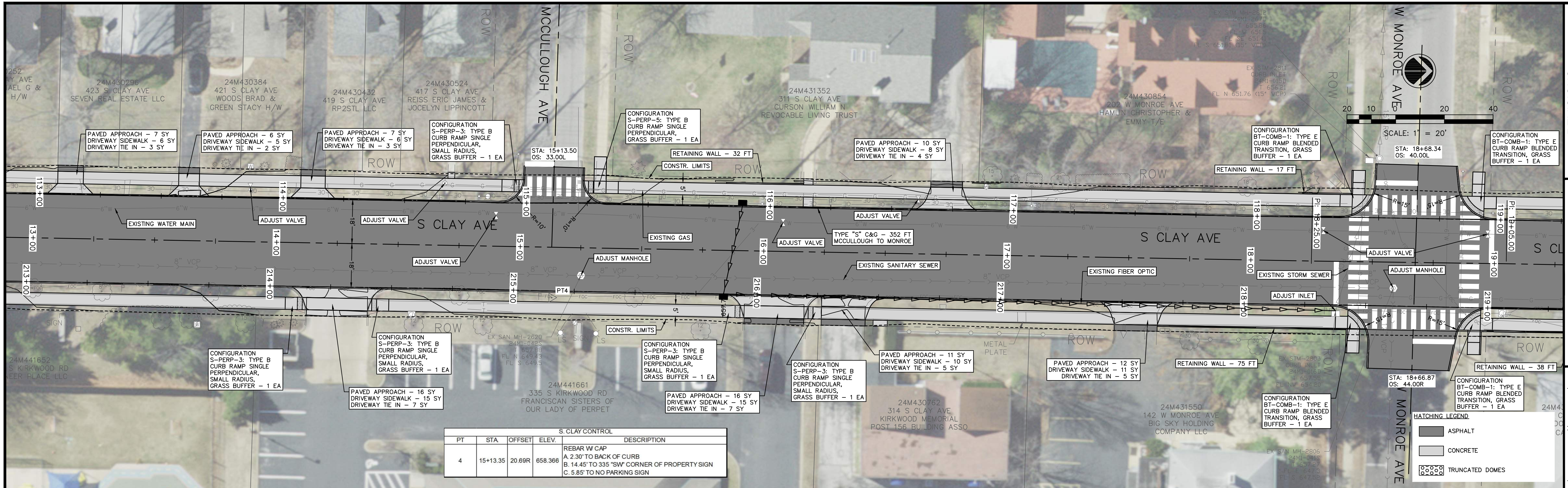
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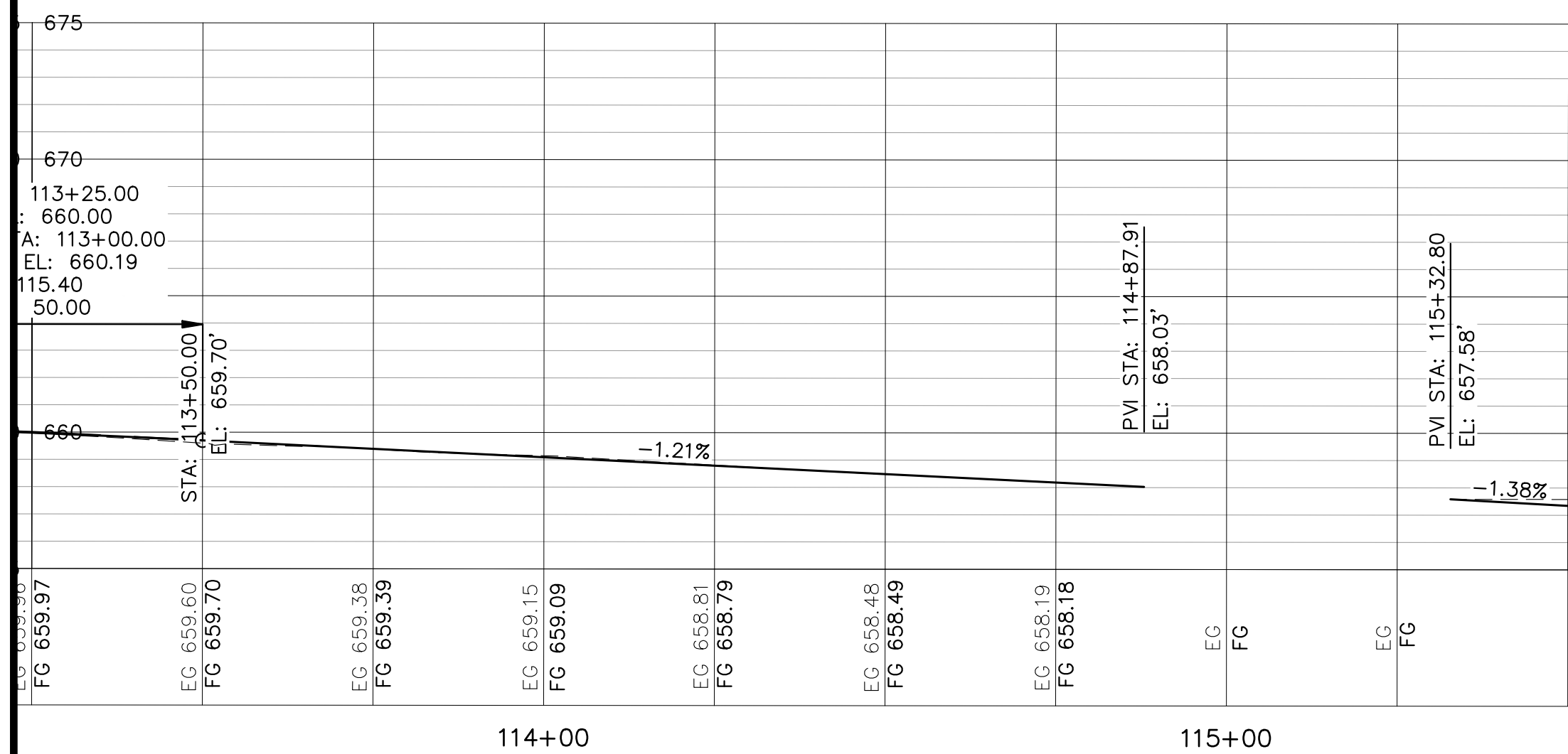
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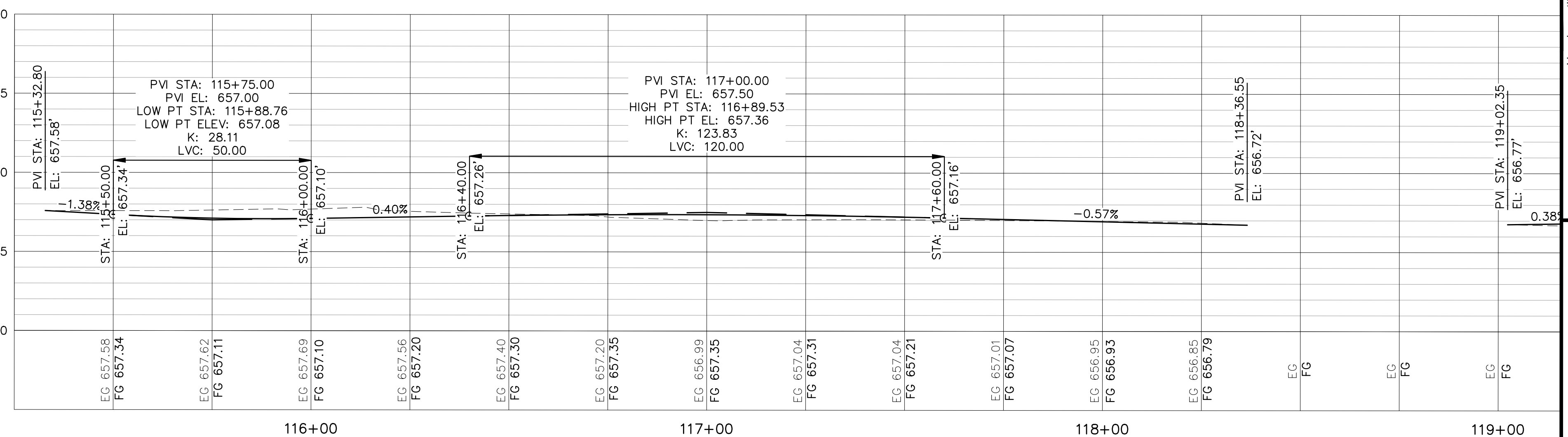


PT	STA	OFFSET	ELEV.	DESCRIPTION
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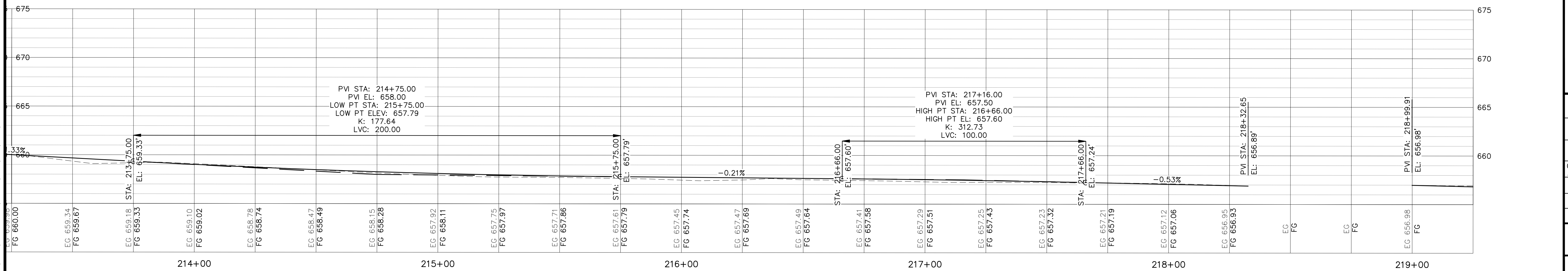
PROFILE VIEW OF CLAY AVE_CLINTON PL TO MCCULLOUGH AVE | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_MCCULLOUGH AVE TO MONROE AVE | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_CLINTON PL TO MONROE AVE RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



NO.	DESCRIPTION	DATE

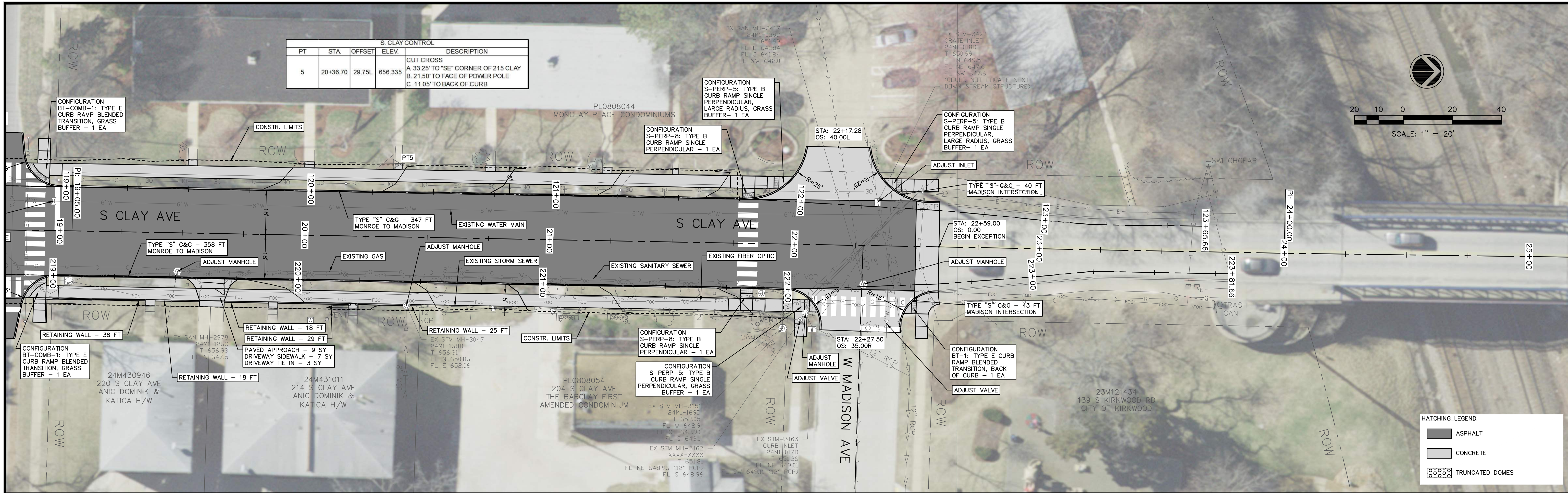
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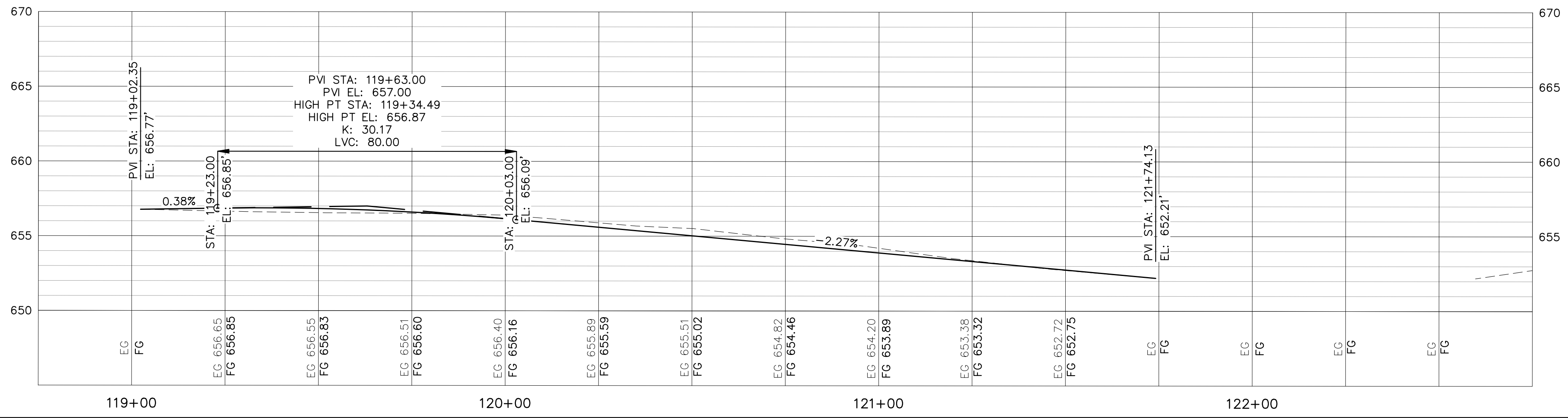
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 S. CLAY AVE C&G PLAN & PROFILE

IMEG Project No:
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 BASEMAP #: 23-24M
 File Name:
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 Date: 06/11/2024
P3
 Sheet 10 of 46

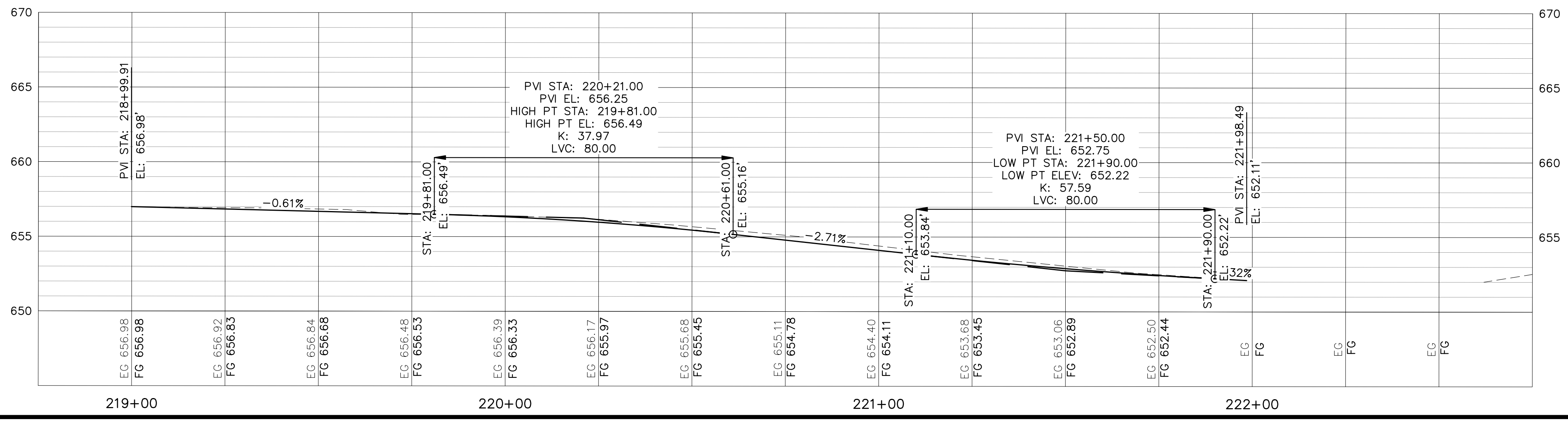
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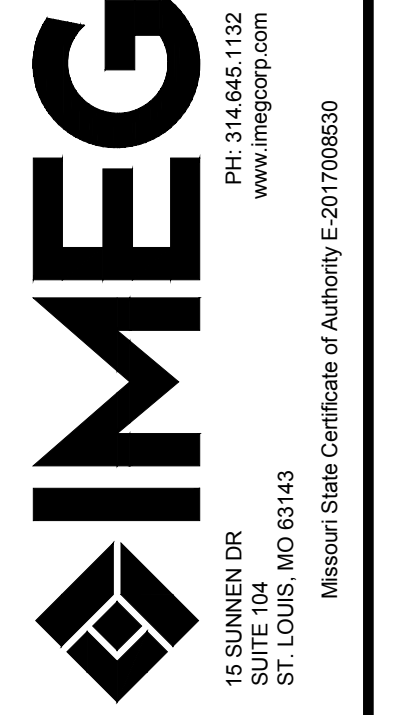
PROFILE VIEW OF CLAY AVE_MONROE AVE TO MADISON AVE LEFT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_MONROE AVE TO MADISON AVE RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



NO.	DESCRIPTION	DATE



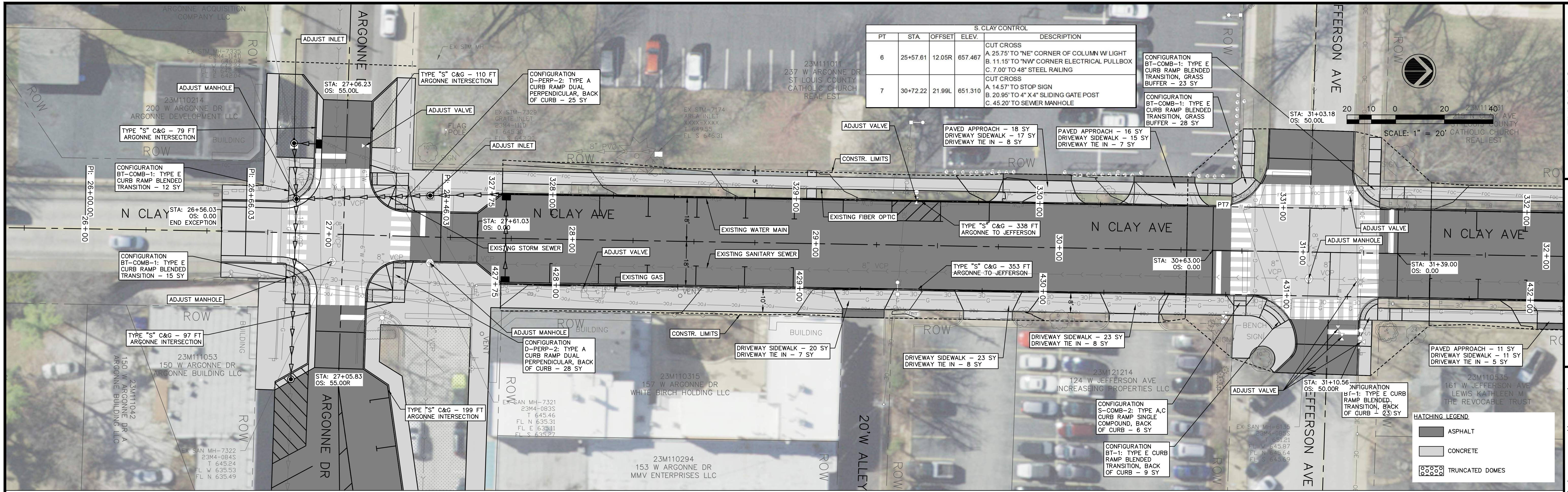
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
 Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 No. 287628907
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 S. CLAY AVE C&G PLAN & PROFILE

IMEG Project No: 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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PT	STA	OFFSET	ELEV.	DESCRIPTION
6	25+57.61	12.05R	657.467	CUT CROSS A 25.75' TO 'NE' CORNER OF COLUMN W LIGHT B 11.15' TO 'NW' CORNER ELECTRICAL PULLBOX C 7.00' TO 48" STEEL RAILING
7	30+72.22	21.99L	651.310	CUT CROSS A 14.57' TO STOP SIGN B 20.95' TO 4" X 4" SLIDING GATE POST C 45.20' TO SEWER MANHOLE

NO.	DESCRIPTION	DATE

IMEG
 15 SUMNER DR
 ST. LOUIS, MO 63143
 PH: 314.646.1132
 WWW.IMEG-PP.COM
 Missouri State Certificate of Authority E-201708930

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
 JAMES W. DIETZEL, Civil Engineer P.E.
 NUMBER: PE-287628907
 My license renewal date is December 31, 2024.

Date: 6/11/2024

STATE OF MISSOURI
 PROFESSIONAL ENGINEER
 JAMES W. DIETZEL
 NUMBER: PE-287628907

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

S. CLAY AVE C&G PLAN & PROFILE

IMEG Project No:
23001201.00

M.S.D. P#: 24MSD-00066
BASEMAP #: 23-24M

File Name:
23001201.00-PNP.dwg

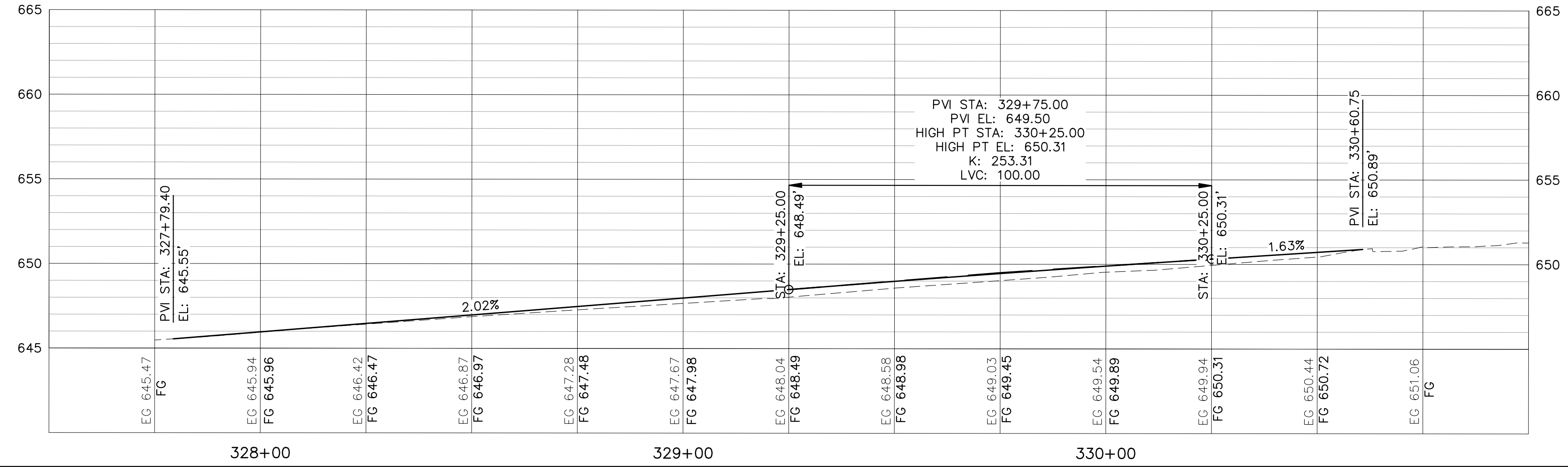
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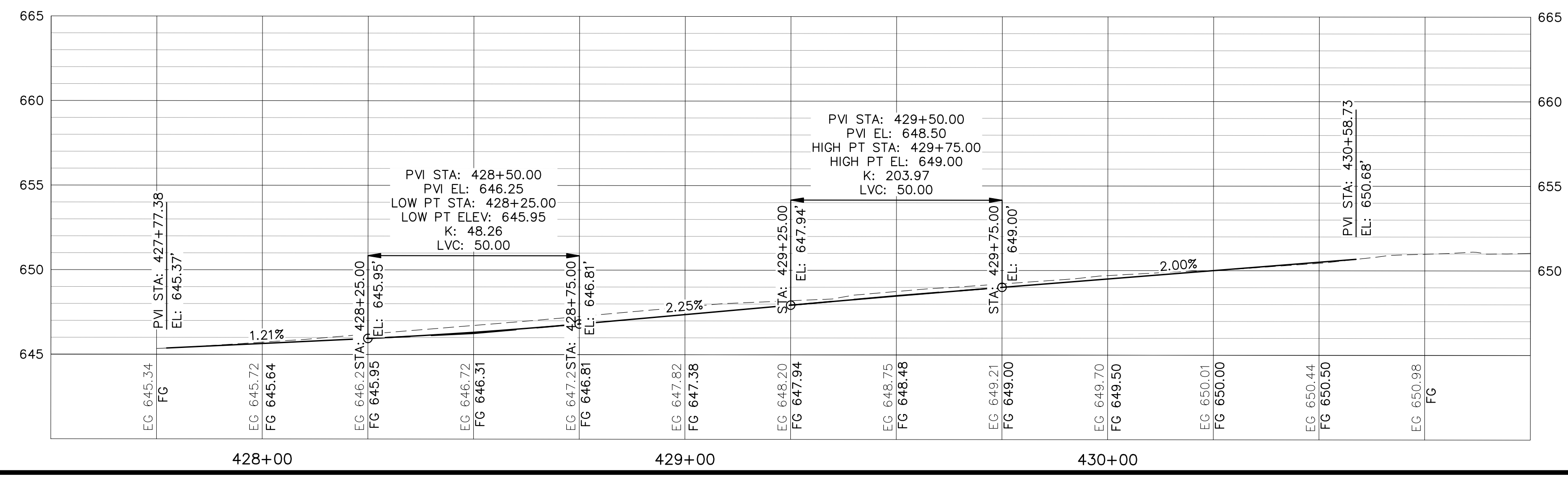
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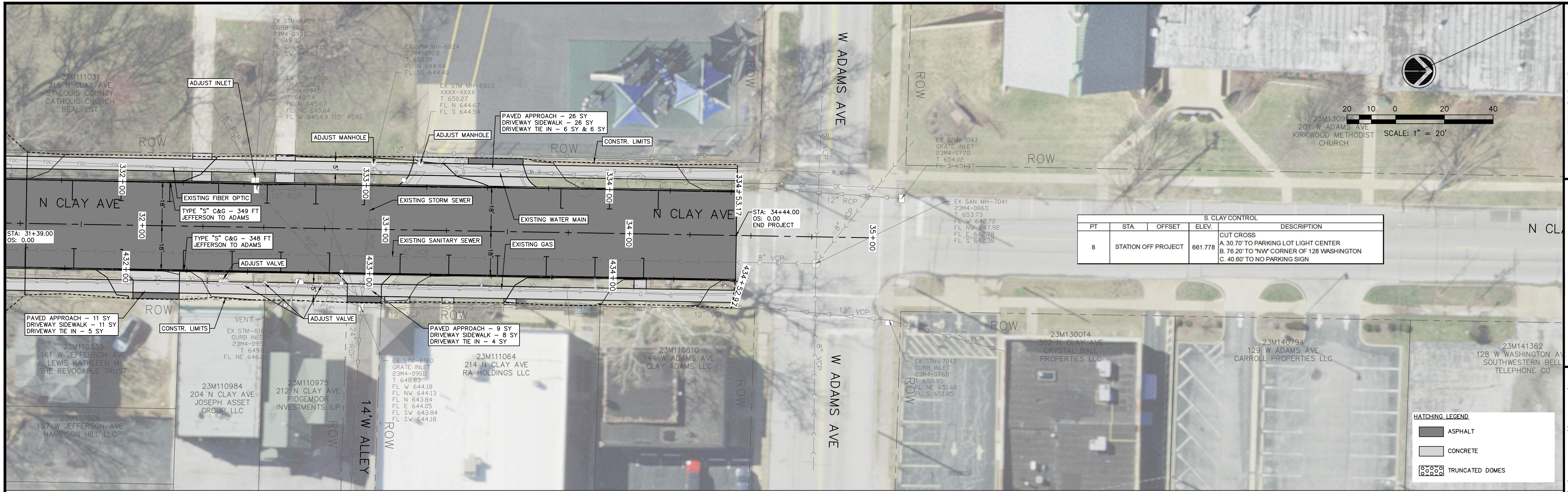
PROFILE VIEW OF CLAY AVE_ARGONNE AVE TO JEFFERSON AVE LEFT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



PROFILE VIEW OF CLAY AVE_ARGONNE AVE TO JEFFERSON AVE RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



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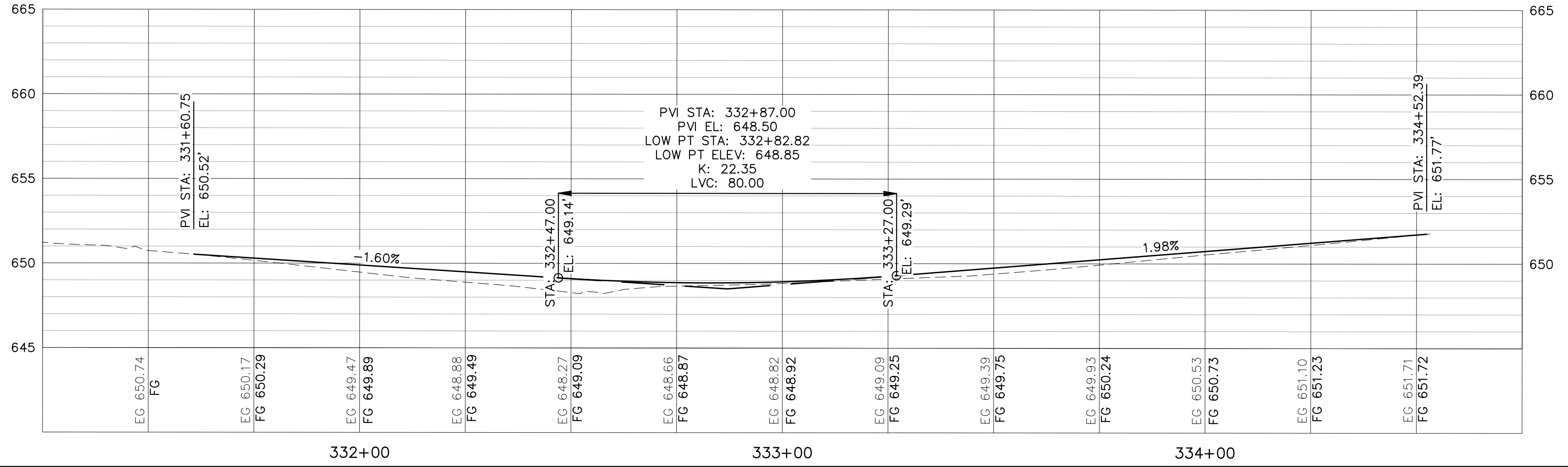


PT	STA	OFFSET	ELEV.	DESCRIPTION
8	STATION OFF PROJECT	661.778		CUT CROSS A. 30.70' TO PARKING LOT LIGHT CENTER B. 76.20' TO 'NW' CORNER OF 128 WASHINGTON C. 40.80' TO NO PARKING SIGN

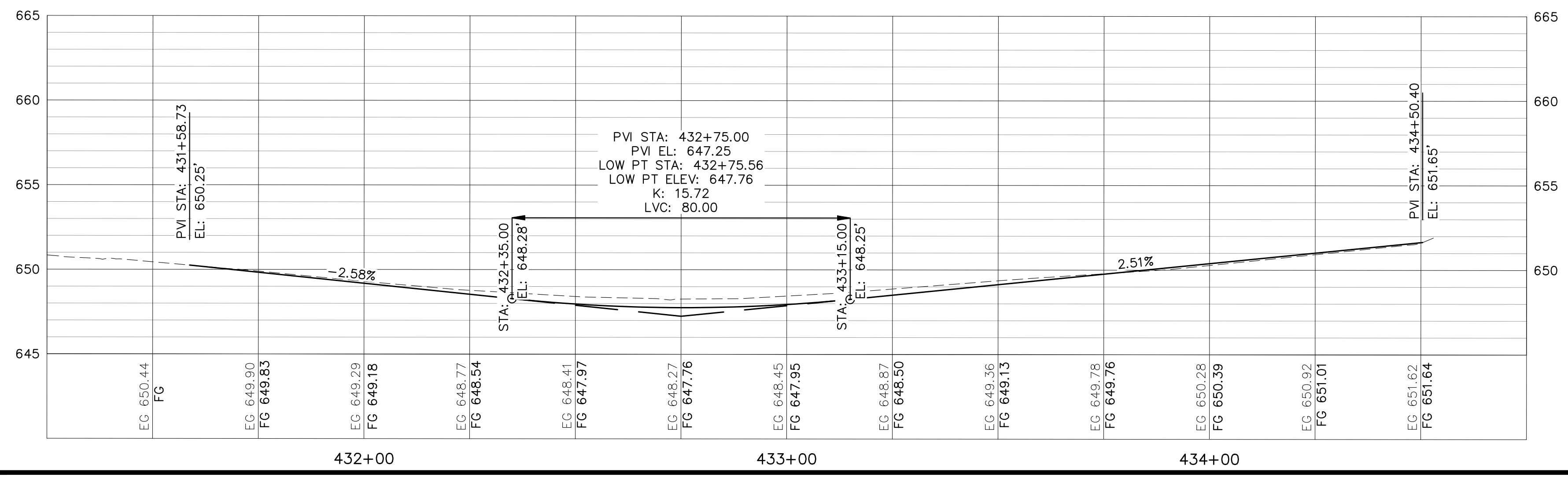
HATCHING LEGEND

- ASPHALT
- CONCRETE
- TRUNCATED DOMES

PROFILE VIEW OF CLAY AVE_JEFFERSON AVE TO ADAMS AVE LEFT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'

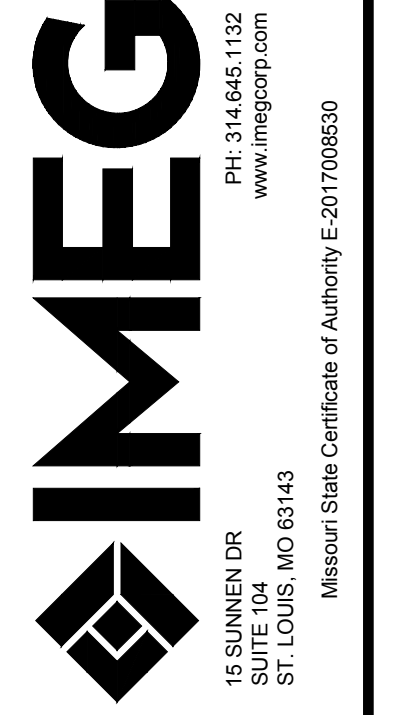


PROFILE VIEW OF CLAY AVE_JEFFERSON AVE TO ADAMS AVE RIGHT C&G | HOR. SCALE: 1" = 10' | VERT. SCALE: 1" = 2'



REVISIONS

NO.	DESCRIPTION	DATE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License Number: PE-287628907
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

S. CLAY AVE C&G PLAN & PROFILE

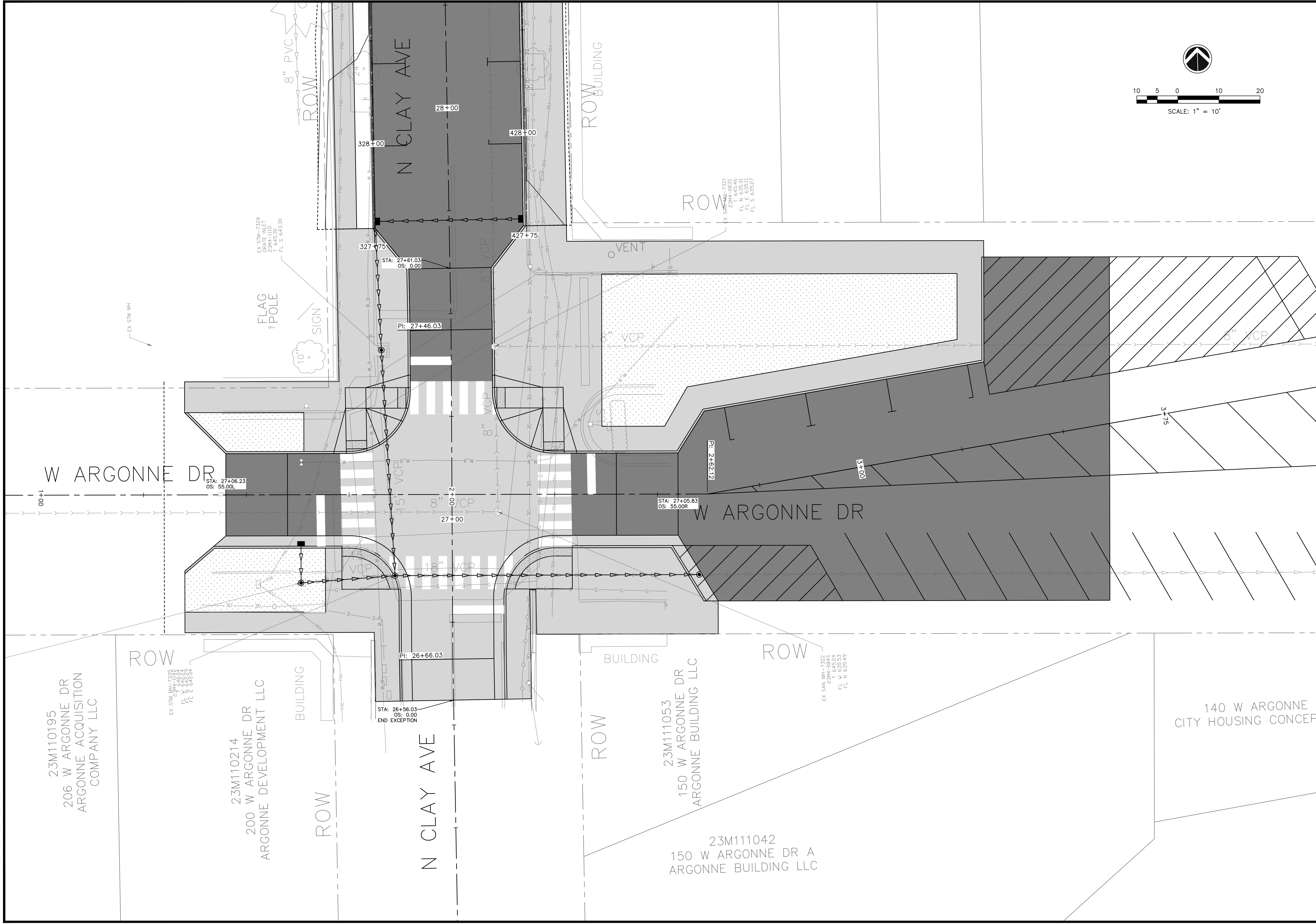
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 BASEMAP #: 23-24M
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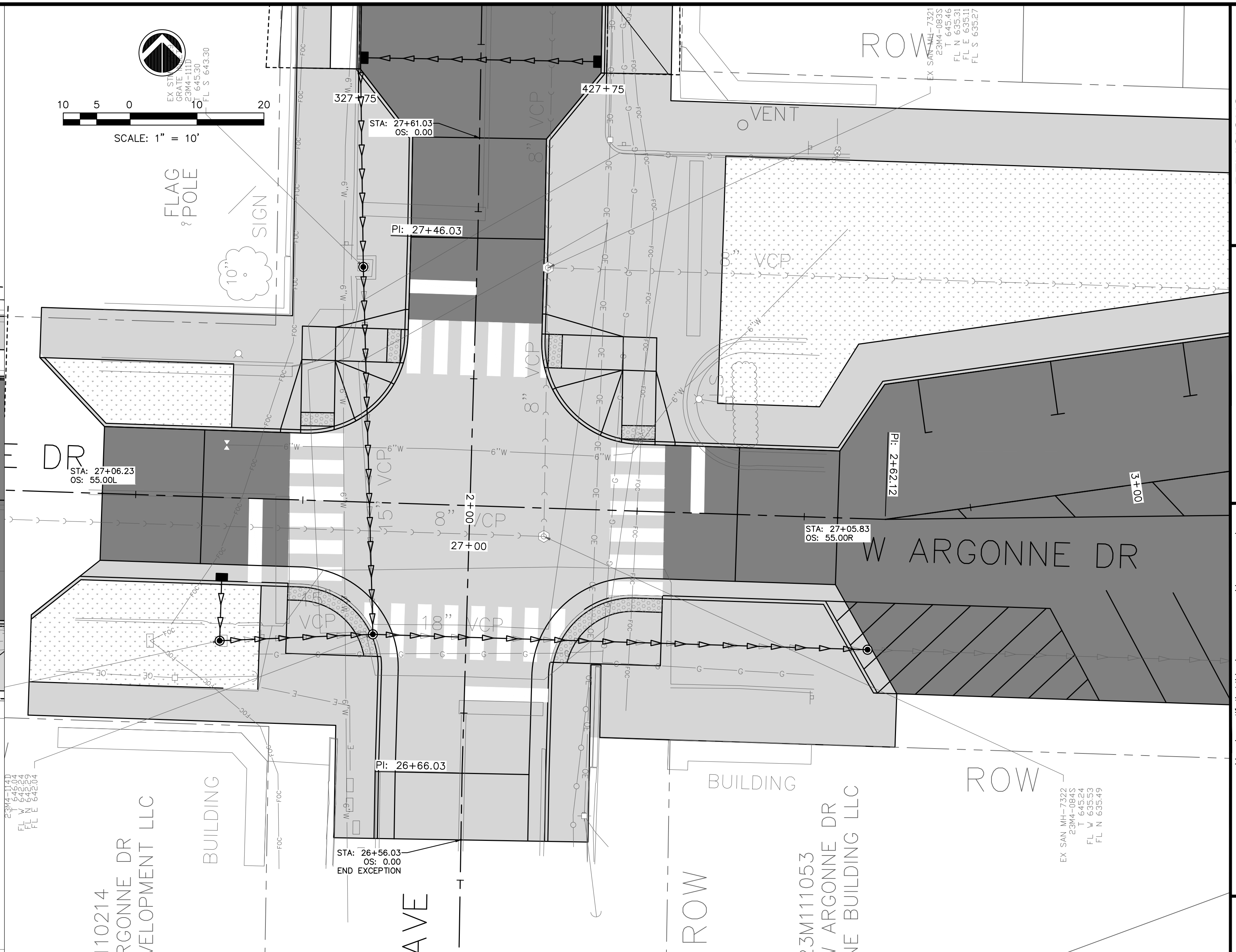
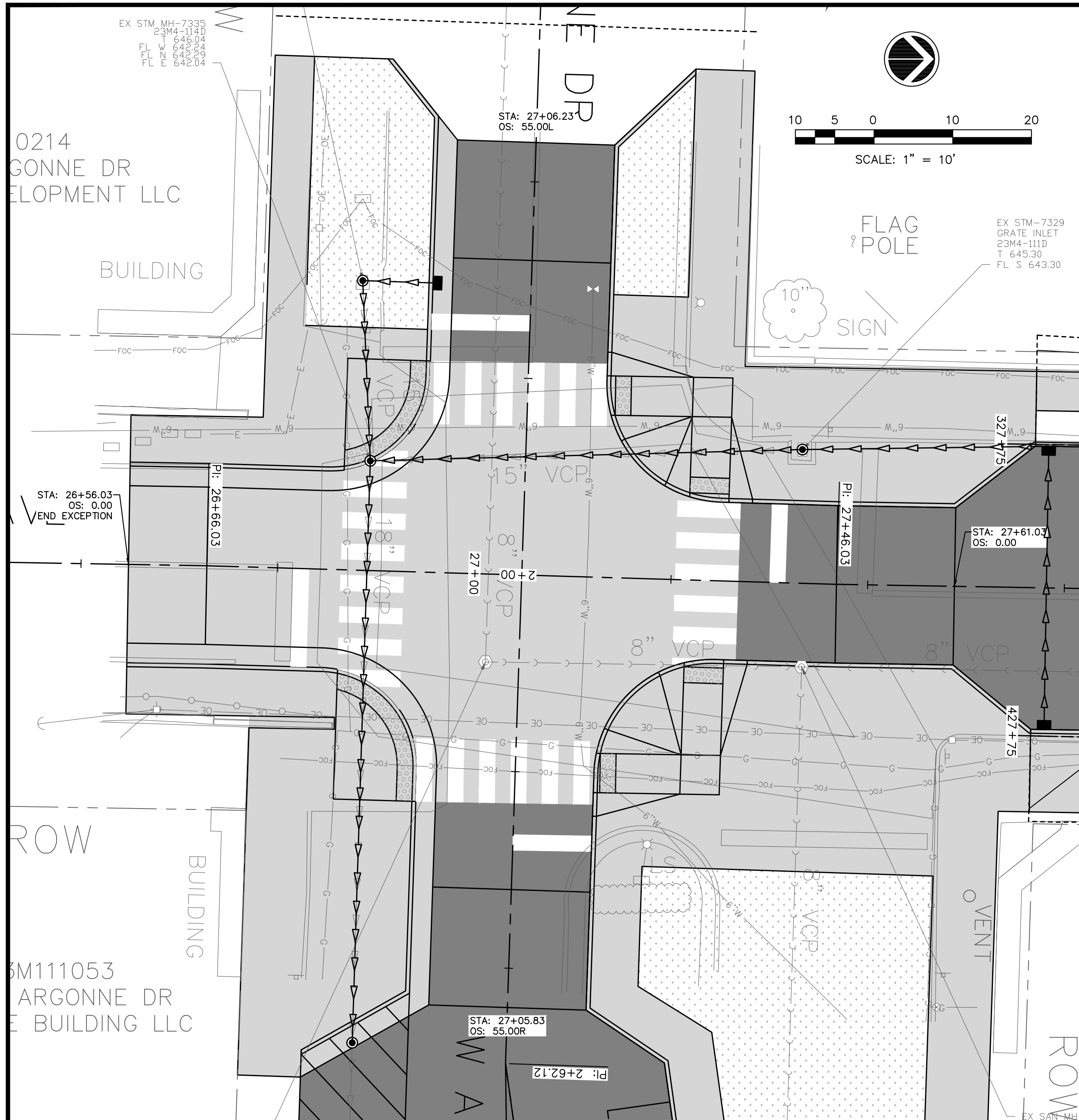
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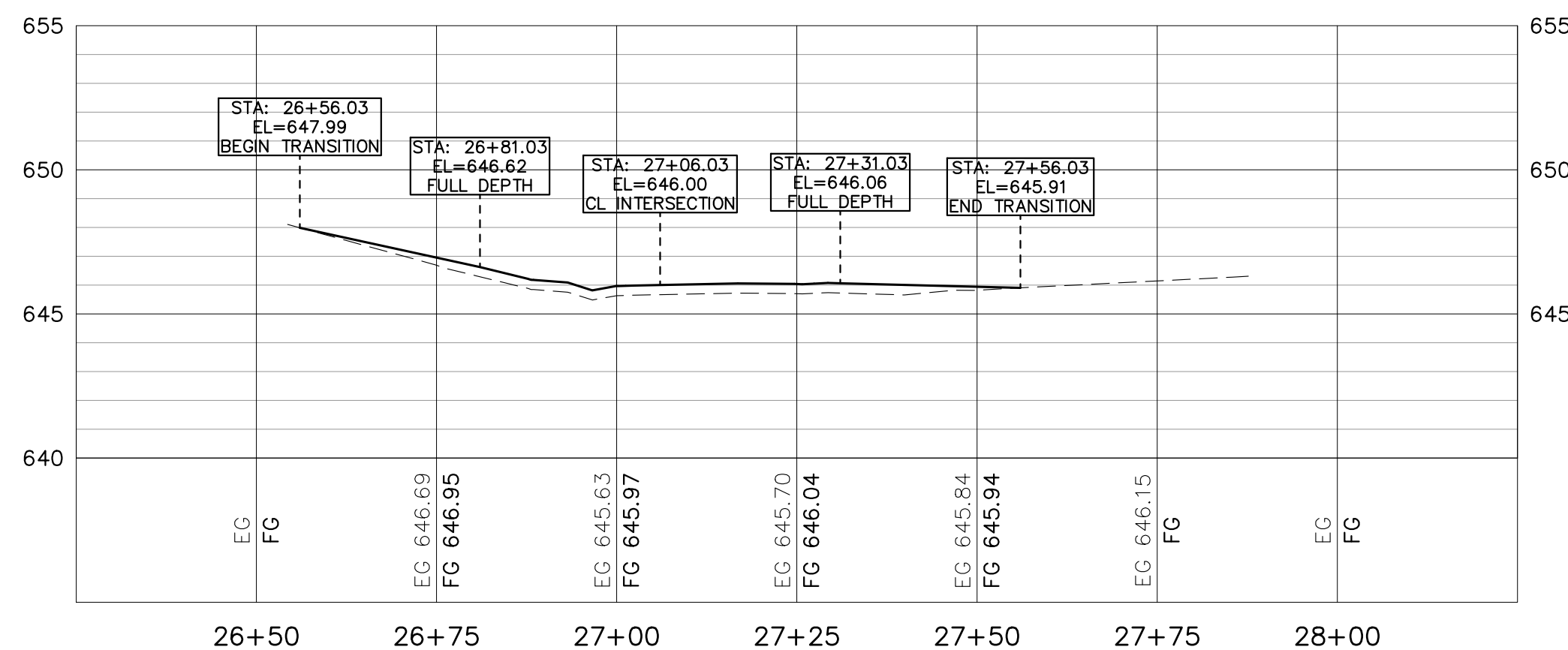
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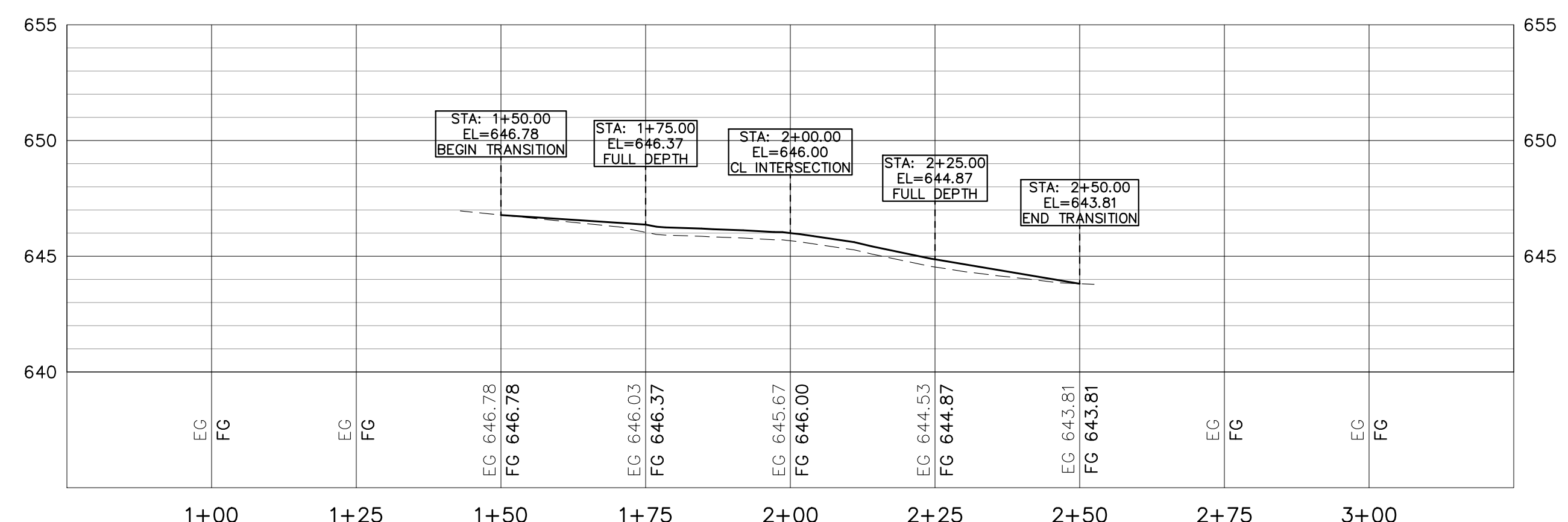
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NO.	DESCRIPTION	DATE			
<small> 15 SUNNEX DR ST. LOUIS, MO 63143 Missouri State Certificate of Authority E-201708930 www.imegcorp.com PH: 314.645.1132 </small>					
<small> I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri. Signature: <i>James W. Dietzel</i> Date: 6/11/2024 JAMES W. DIETZEL, Civil Engineer P.E. My license renewal date is December 31, 2024. </small>					
SOUTH CLAY AVENUE RESURFACING PROJECT KIRKWOOD, MISSOURI					
S. CLAY AVE & W. ARGONNE DR OVERALL PLAN					
IMEG Project No: 23001201.00					
M.S.D. #: 24MSD-00066 BASEMAP #: 23-24M					
File Name: 23001201.00-PNP.dwg					
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Checked By: JWD					
Date: 06/11/2024					
P7					
Sheet 14 of 46					



PROFILE VIEW OF 23001201.00-CLAY & ARGONNE
 HOR. SCALE: 1" = 10'
 VERT. SCALE: 1" = 2'



PROFILE VIEW OF 23001201.00-ARGONNE DR
 HOR. SCALE: 1" = 10'
 VERT. SCALE: 1" = 2'



NO.	DESCRIPTION	DATE

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
 Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI

S. CLAY AVE & W. ARGONNE DR PLAN & PROFILE

IMEG Project No:
 23001201.00

M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M

File Name:
 23001201.00-PNP.dwg

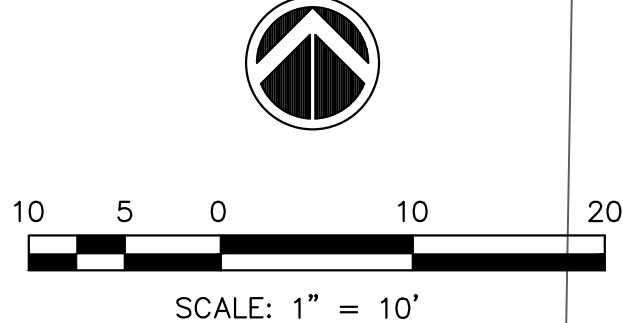
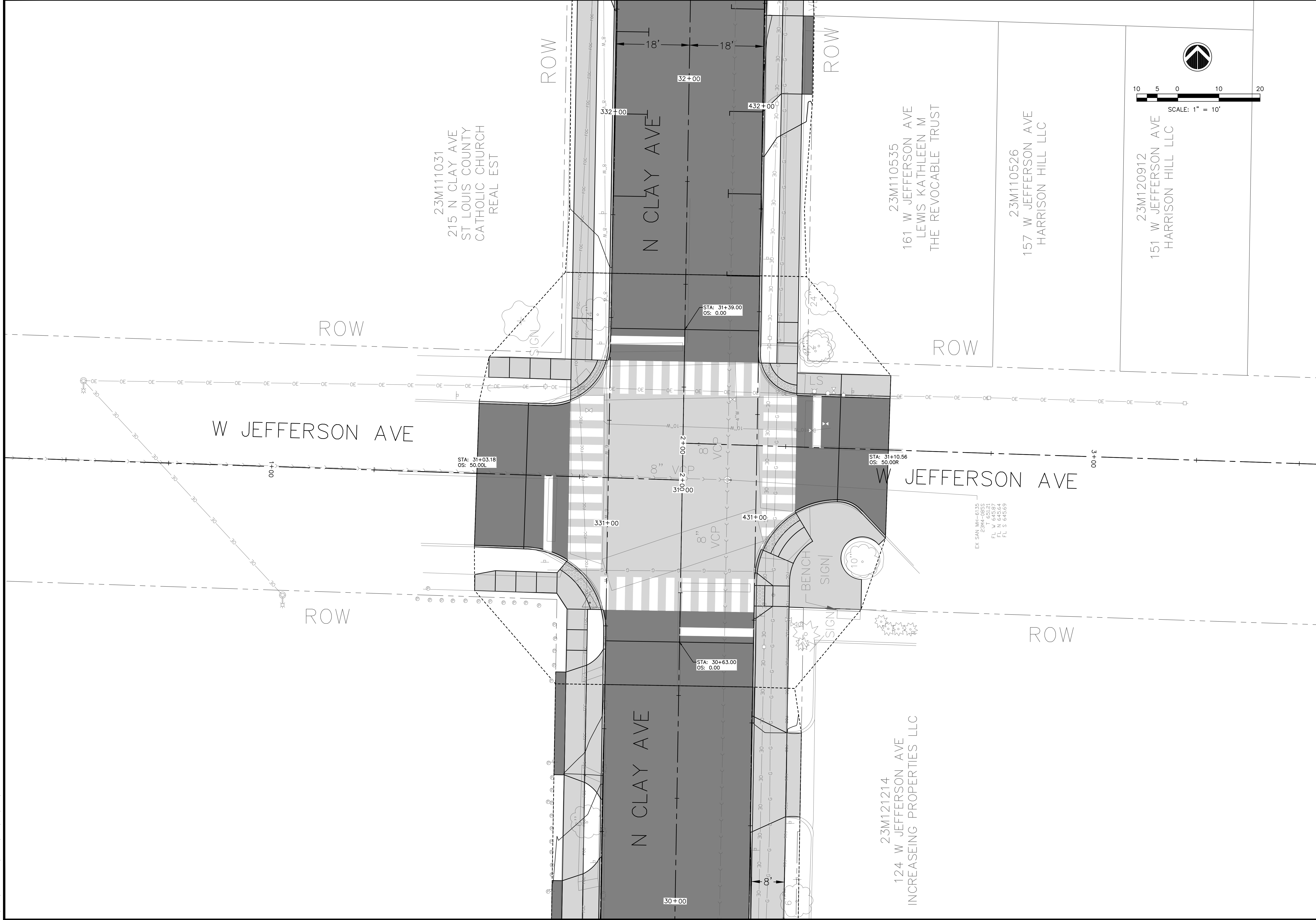
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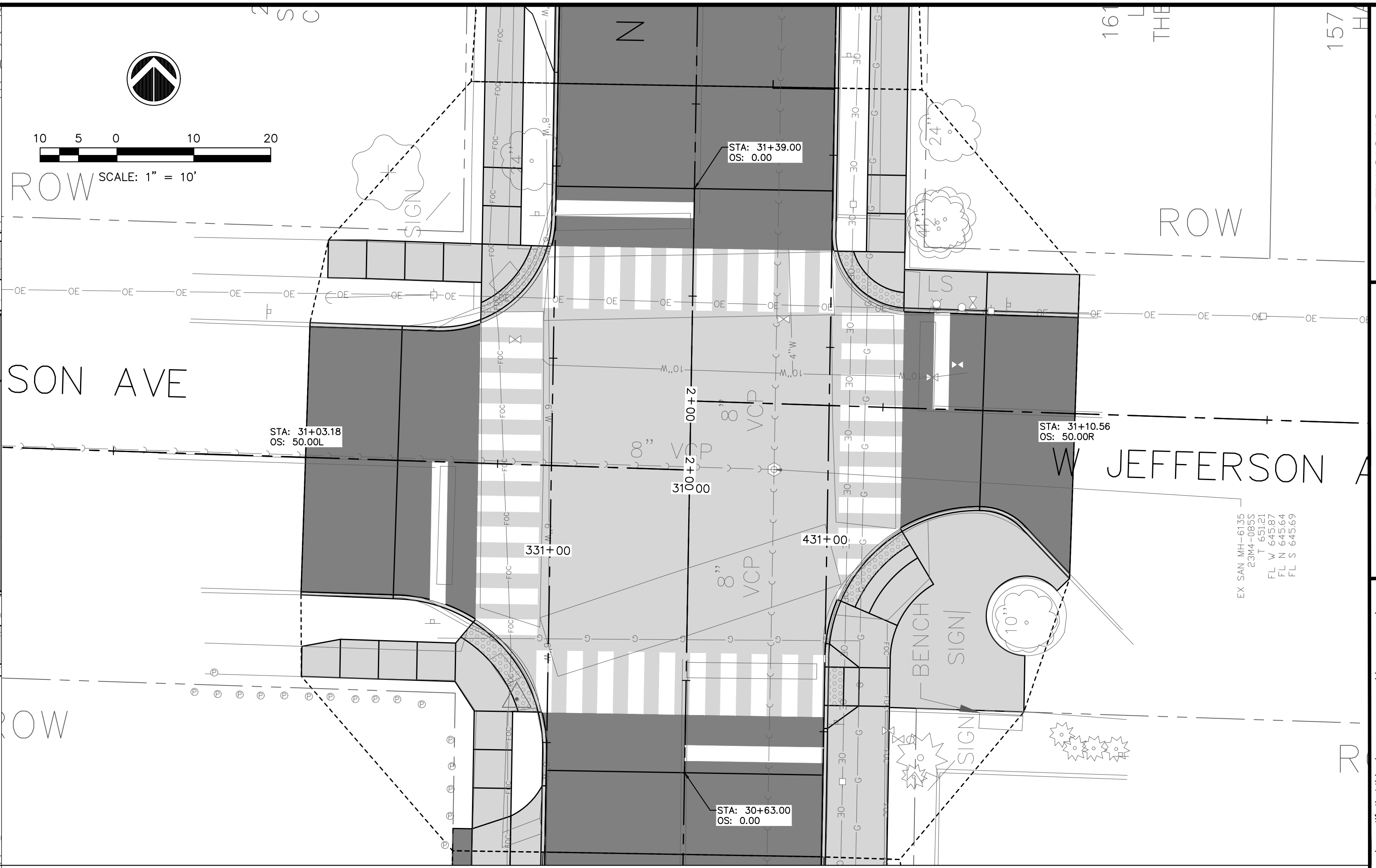
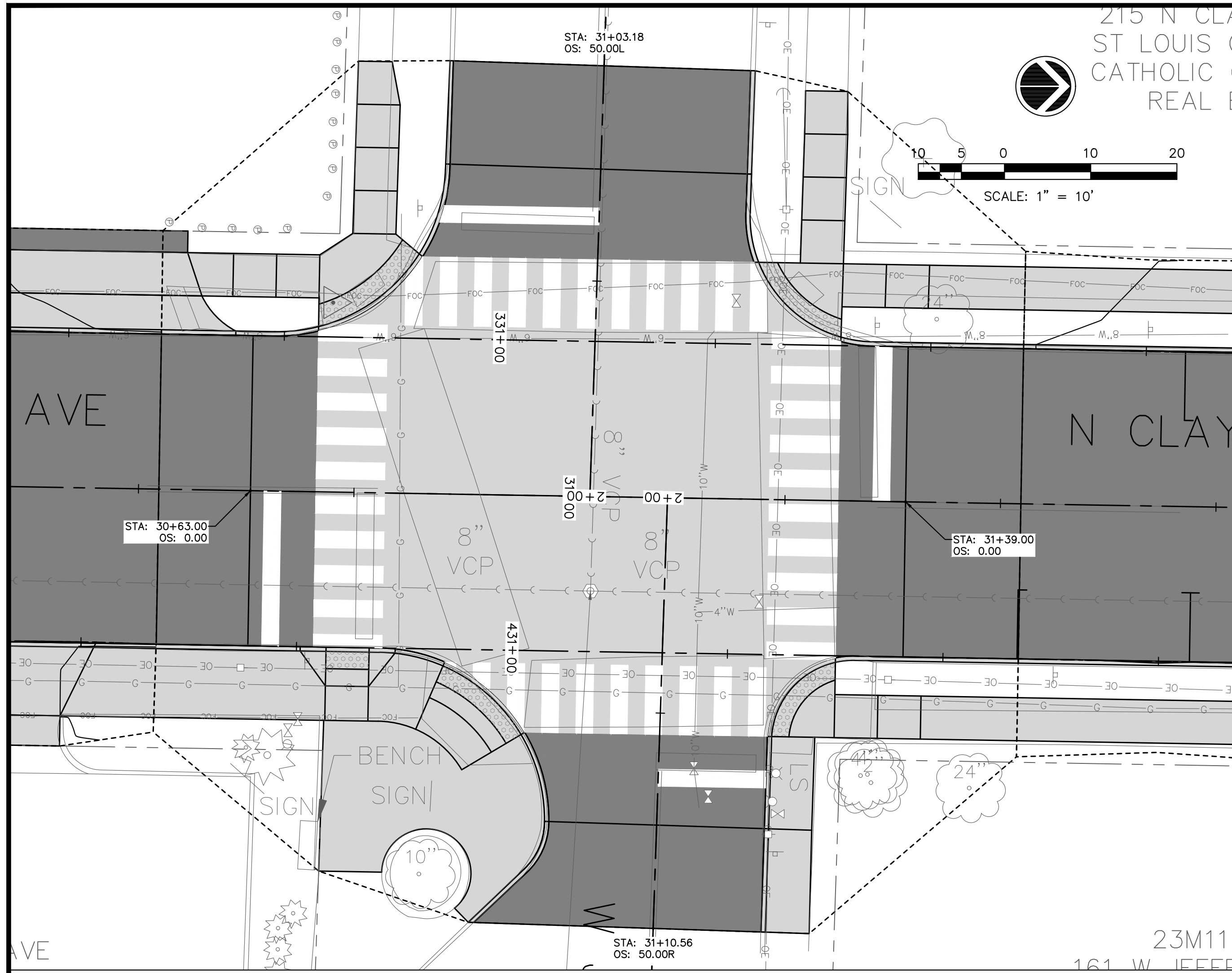
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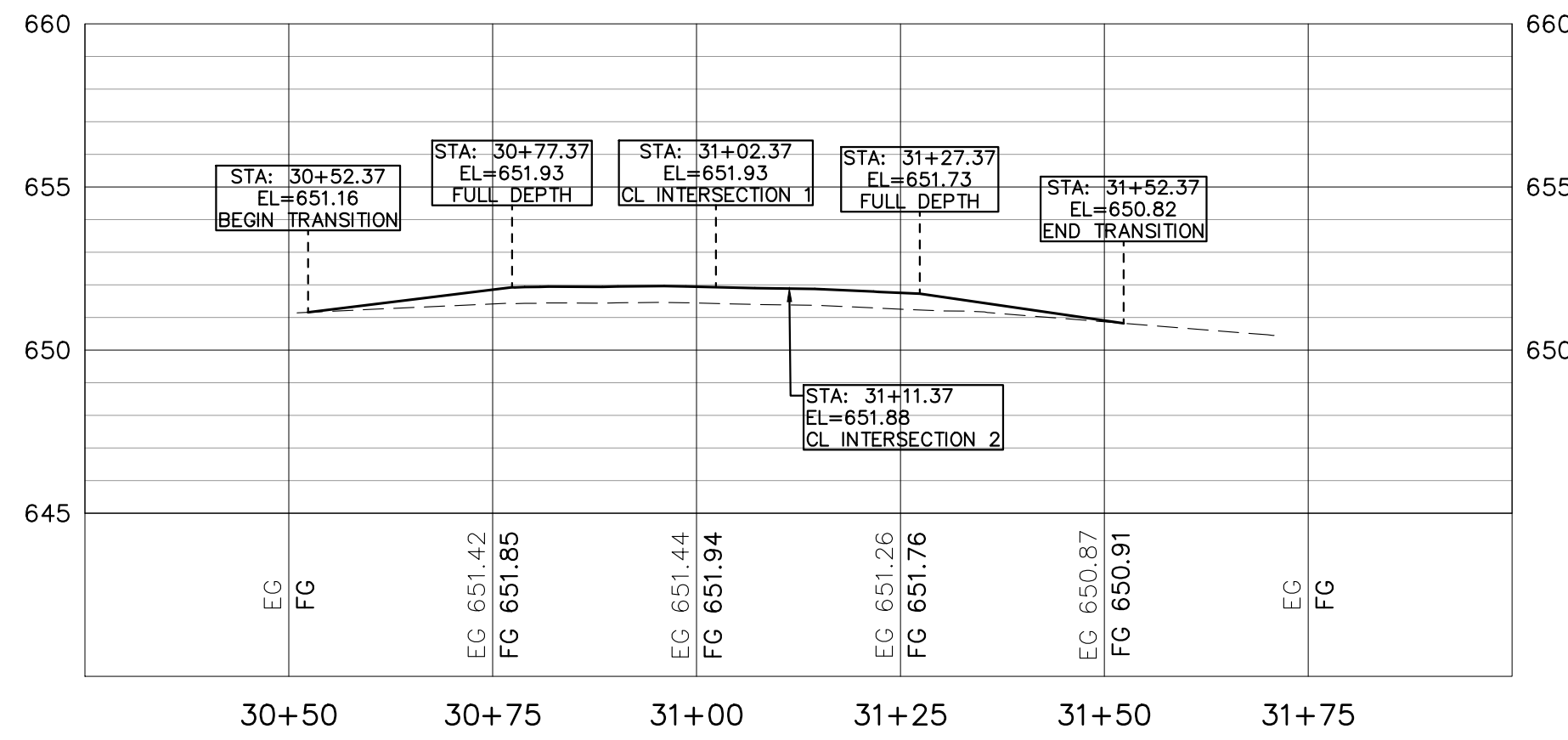
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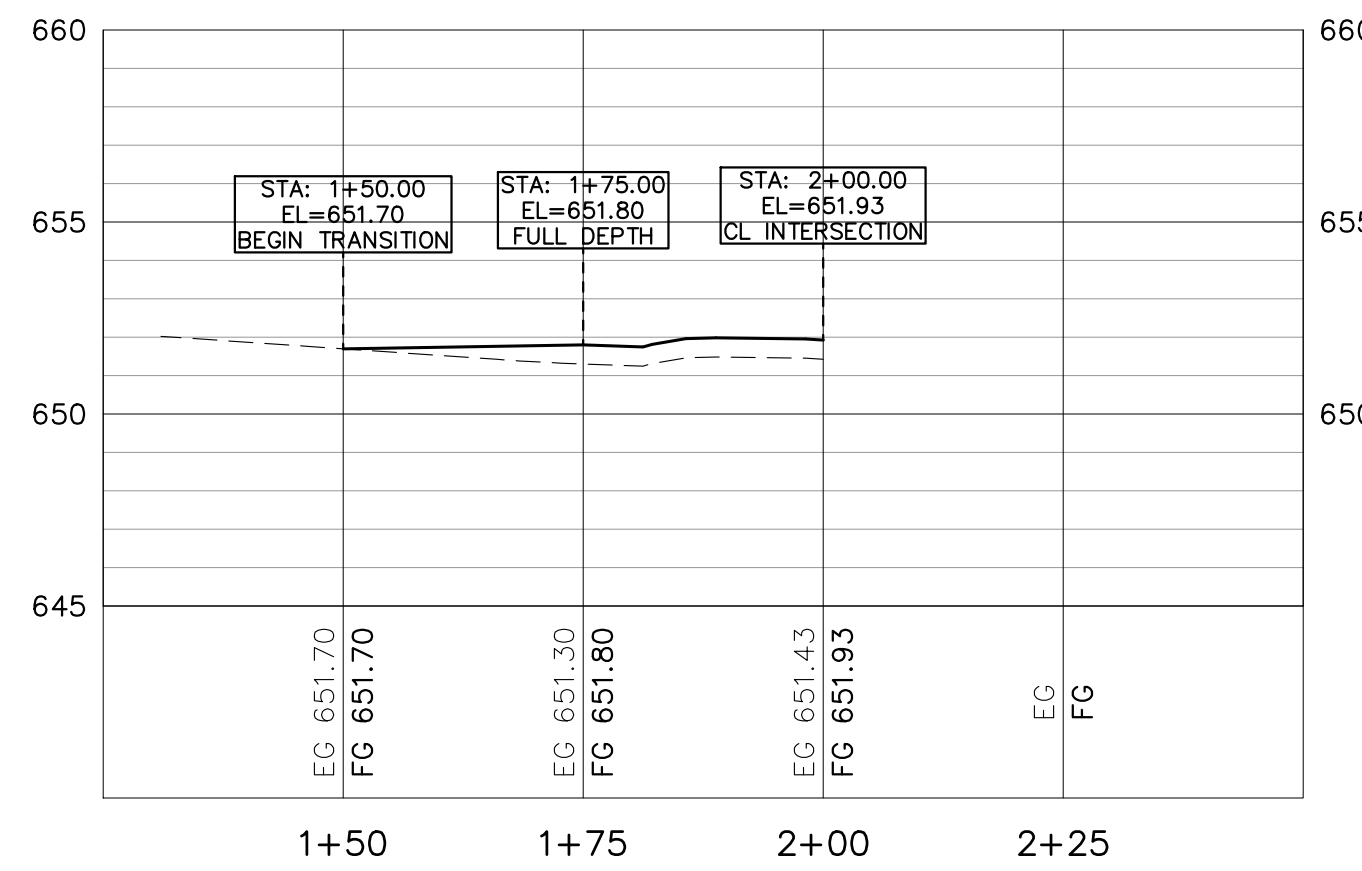
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<h1>P9</h1>													
Sheet 16 of 46													
SOUTH CLAY AVENUE RESURFACING PROJECT KIRKWOOD, MISSOURI													
S. CLAY AVE & W. JEFFERSON AVE OVERALL PLAN													
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri. Signature: <i>James W. Dietzel</i> JAMES W. DIETZEL, Civil Engineer P.E. No. 63123 My license renewal date is December 31, 2024.													
Date: 6/11/2024													
REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DESCRIPTION	DATE									
NO.	DESCRIPTION	DATE											
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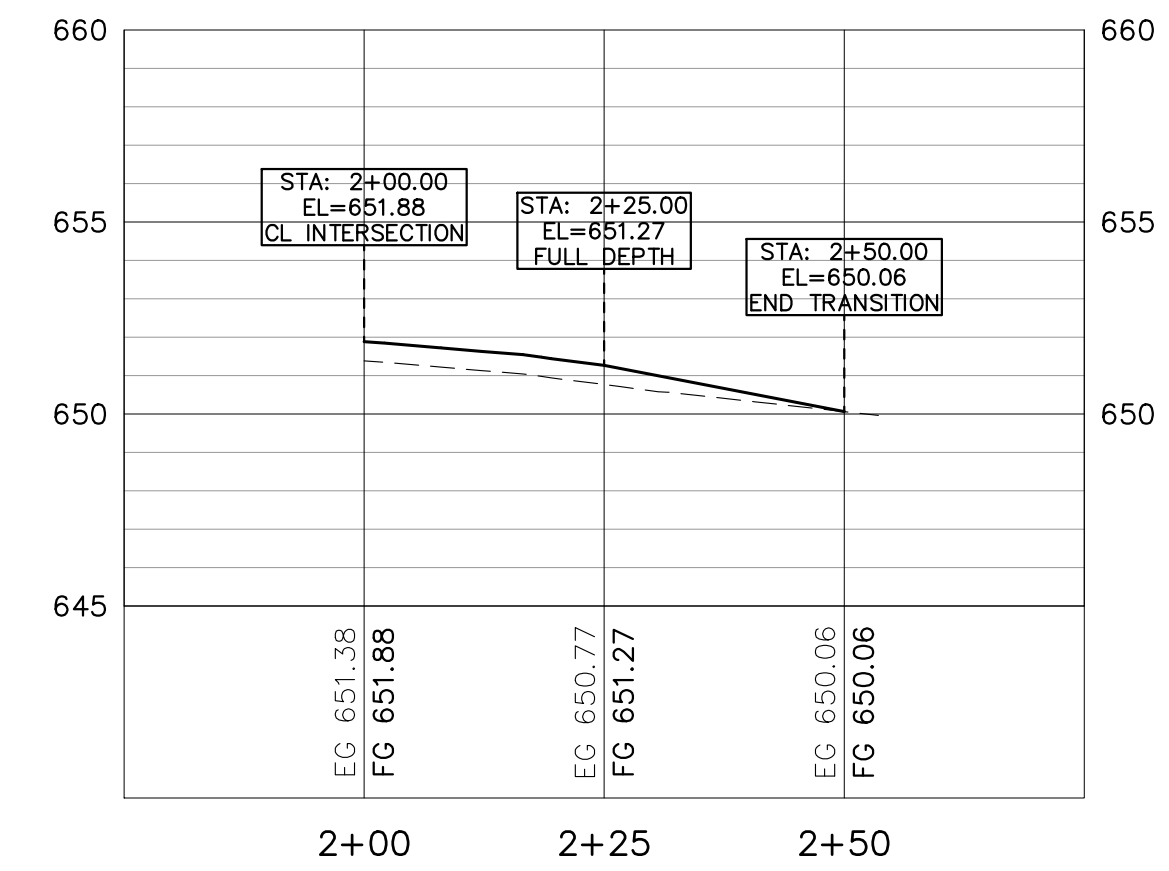
PROFILE VIEW OF 23001201.00-CLAY & JEFFERSON
HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 2'



PROFILE VIEW OF 23001201.00-JEFFERSON AVE 1
HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 2'



PROFILE VIEW OF 23001201.00-JEFFERSON AVE 2
HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 2'



NO.	DESCRIPTION	DATE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
License No. 230120100
My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI

S. CLAY AVE & W. JEFFERSON AVE PLAN & PROFILE

IMEG Project No:
23001201.00

M.S.D. P#: 24MSD-00066
BASEMAP #: 23-24M

File Name:
23001201.00-PNP.dwg

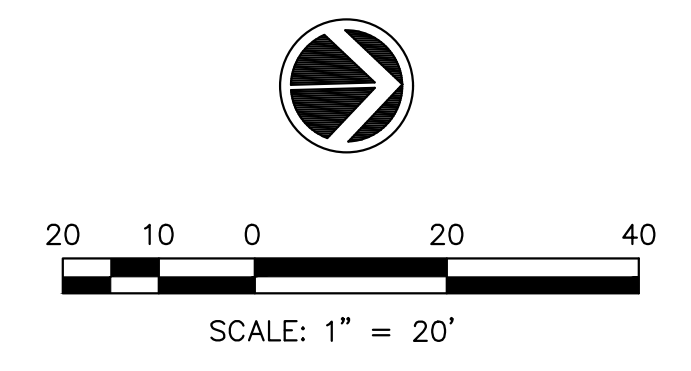
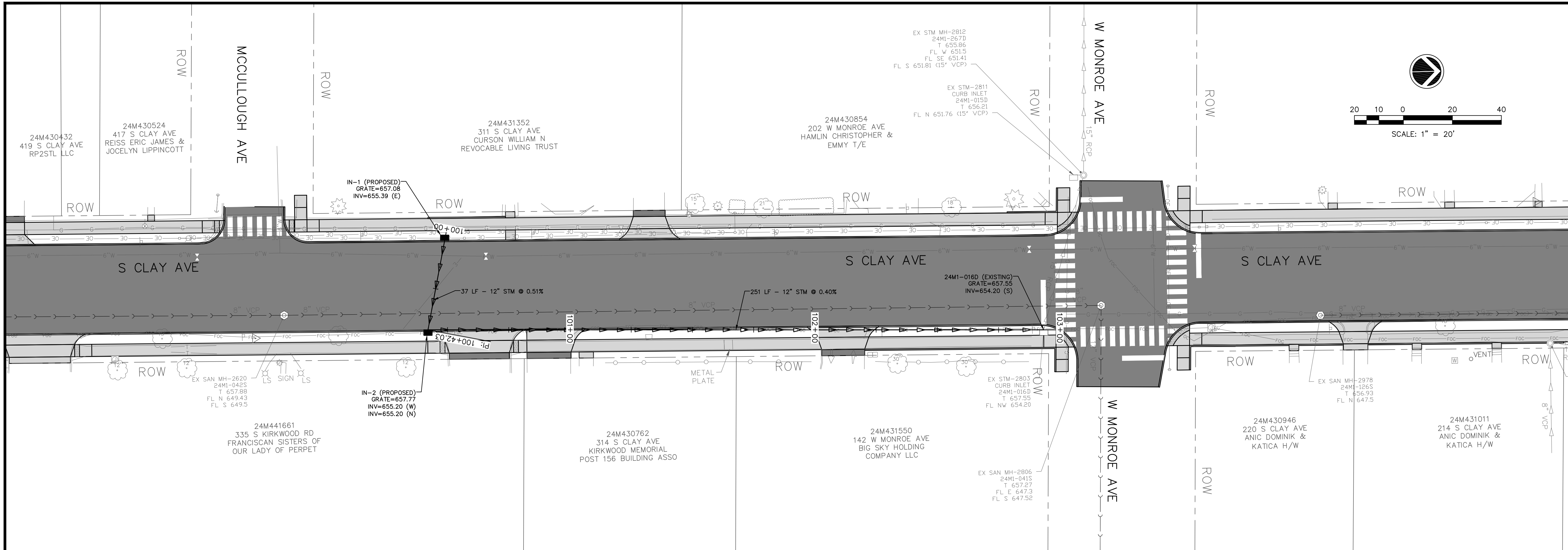
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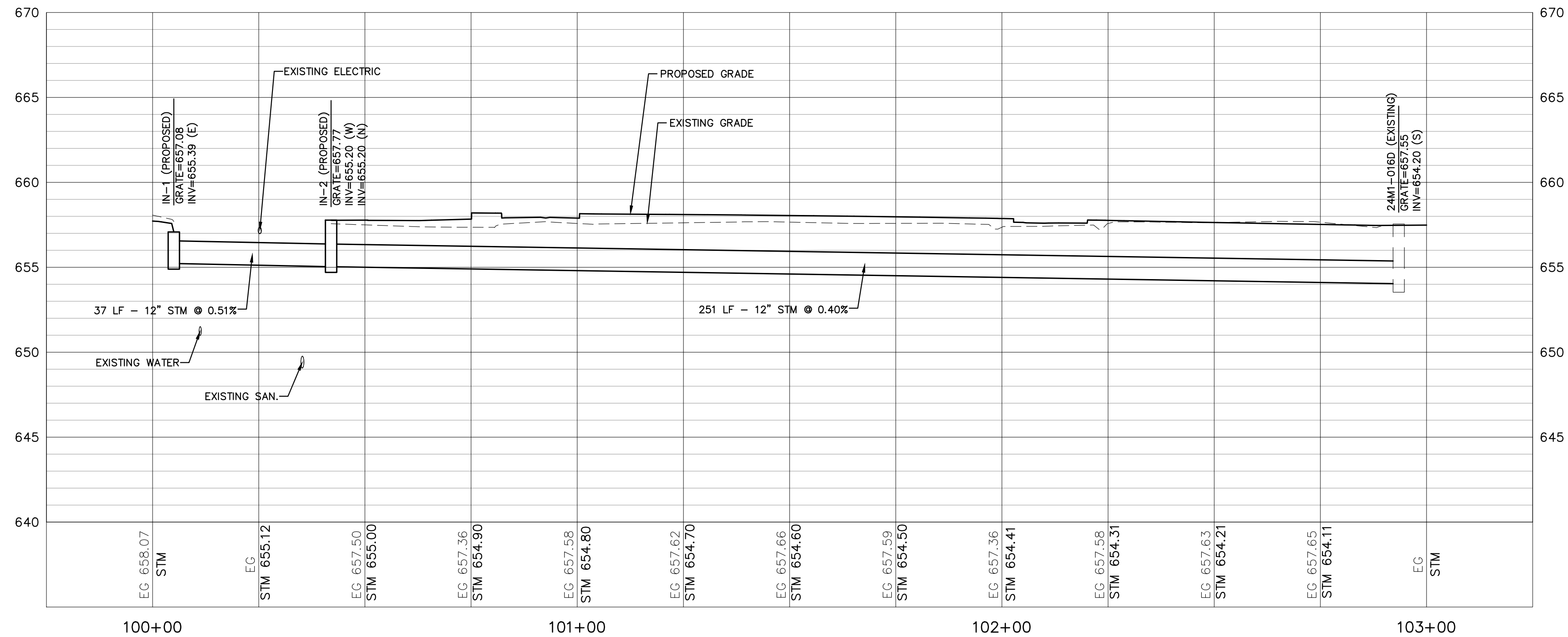
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PROFILE VIEW OF 23001201.00-PROPOSED STORM 1
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'



NOTES:

1. MAINTAIN MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER LINES AND ALL SEWER LINES AND MANHOLES.
2. ALL SEWER MAINS CROSSING WATER MAIN WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE AND ALL OTHER UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 12 INCHES OF SEPARATION UNLESS OTHERWISE NOTED.
3. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURES WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF REQUIRED.

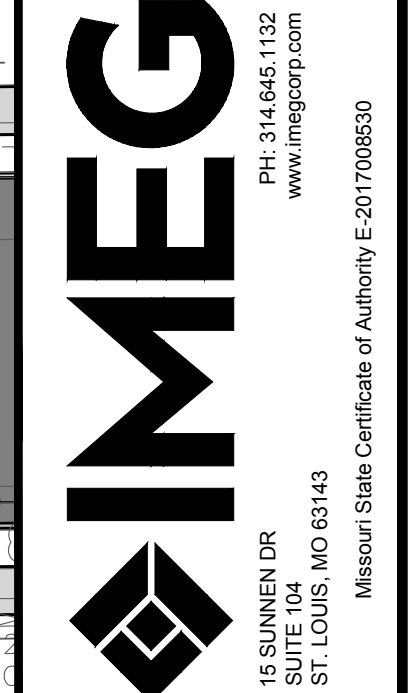
STRUCTURE TABLE

NAME	STATION	STA OFFSET	RIM ELEV	INV IN	INV OUT
IN-1 (PROPOSED)	15+91.07	18.44' L	657.69		655.39
IN-2 (PROPOSED)	15+83.93	17.89' R	657.96	655.20	655.20

PIPE TABLE

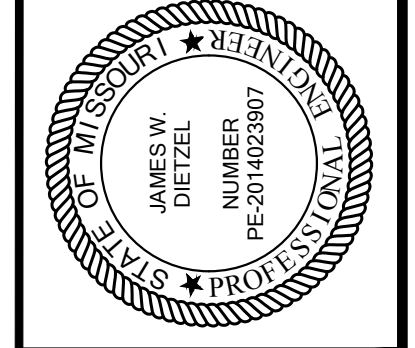
NAME	SIZE	LENGTH	SLOPE	INV IN	INV OUT
P-368 (CLAY AVE)	12" RCP	37 LF	0.51%	655.39	655.20
P-369 (CLAY AVE)	12" RCP	251 LF	0.40%	655.20	654.20

REVISIONS	NO.	DESCRIPTION	DATE



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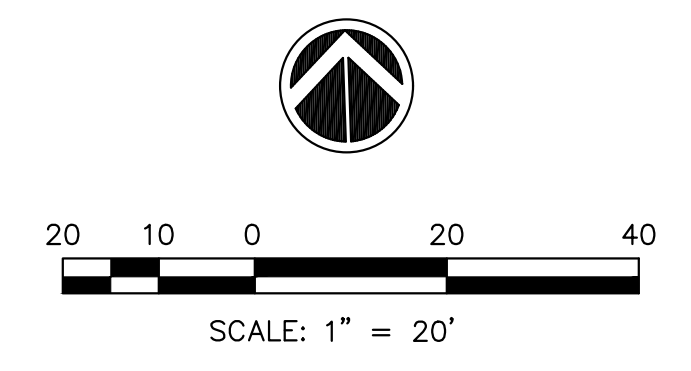
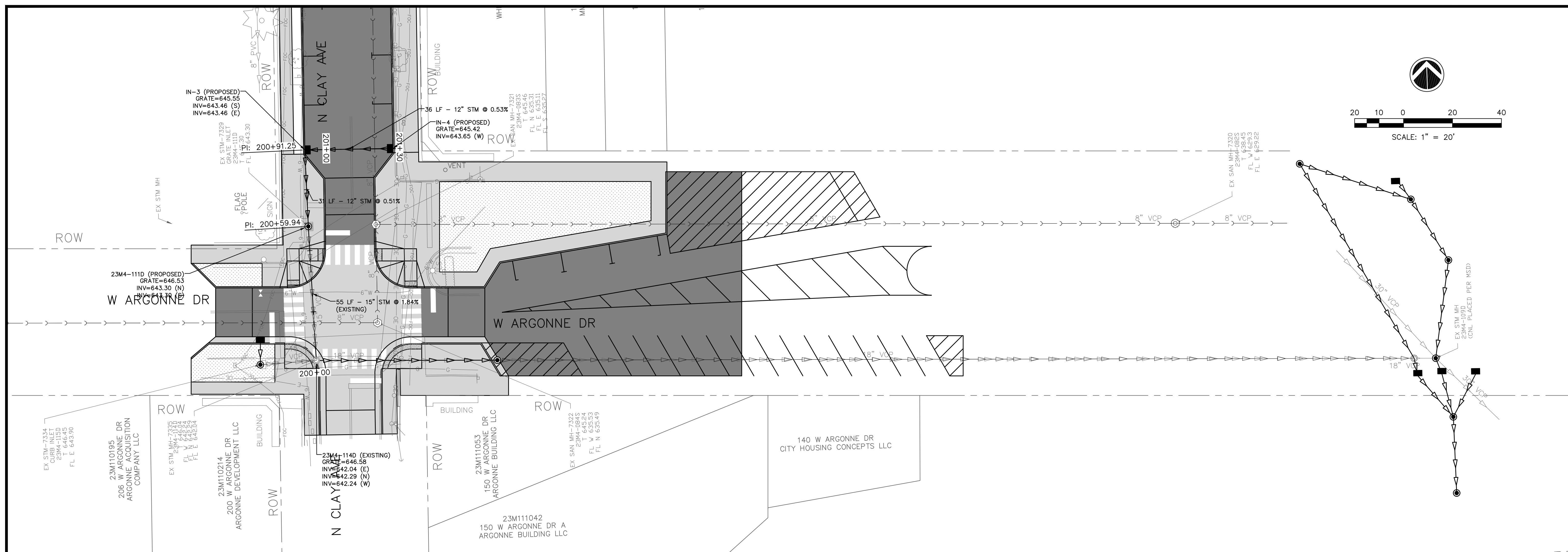
Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License No: PE-28762890
 My license renewal date is December 31, 2024.



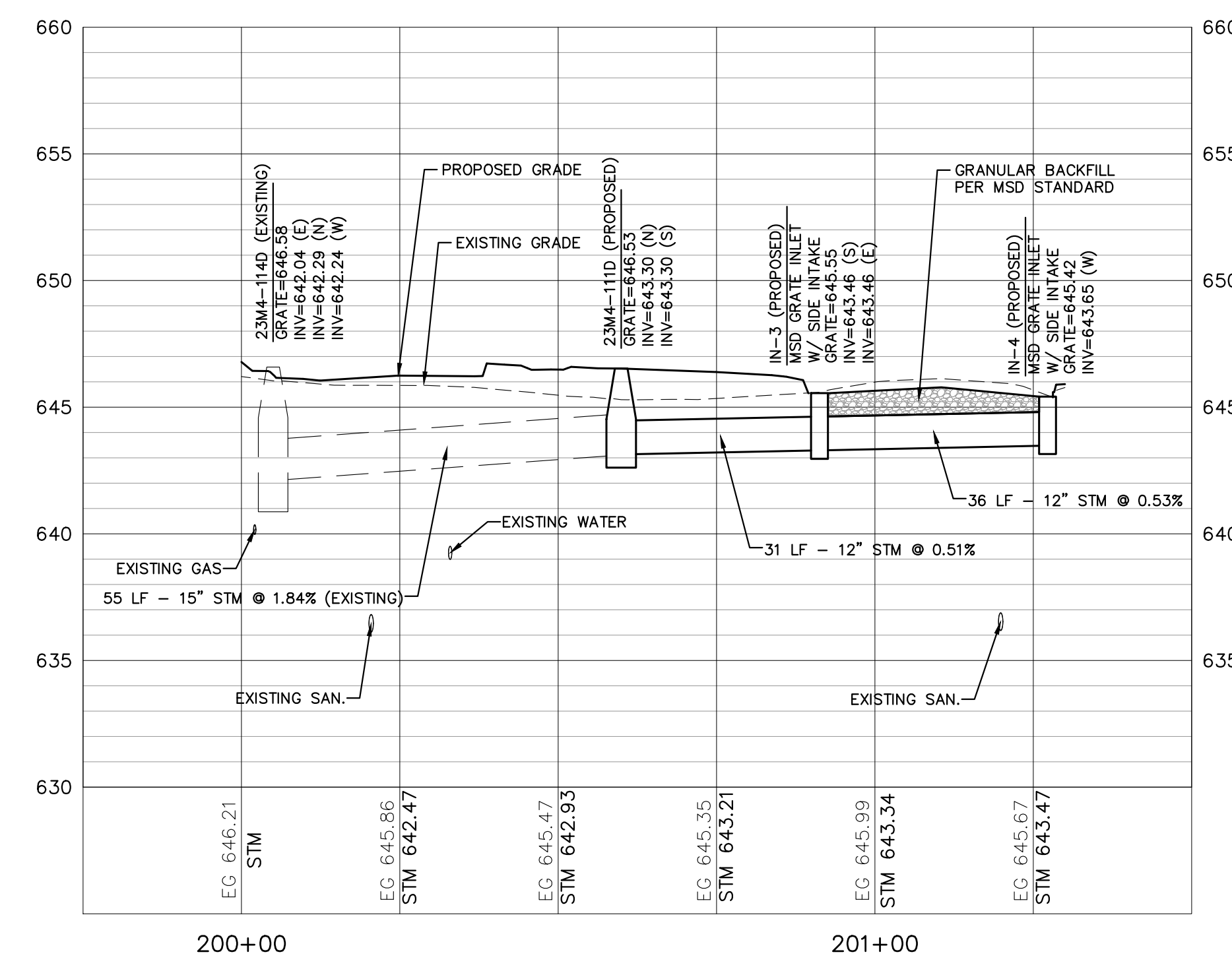
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 CLAY AVE STORM PROFILE 1

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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 Sheet 18 of 46

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PROFILE VIEW OF 23001201.00-PROPOSED STORM 2
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



NOTES:

1. MAINTAIN MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER LINES AND ALL SEWER LINES AND MANHOLES.
2. ALL SEWER MAINS CROSSING WATER MAIN WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE AND ALL OTHER UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 12 INCHES OF SEPARATION UNLESS OTHERWISE NOTED.
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STRUCTURE TABLE					
NAME	STATION	STA OFFSET	RIM ELEV	INV IN	INV OUT
23M4-111D (PROPOSED)	27+41.22	16.99' L	646.53	643.30	643.30
IN-3 (PROPOSED)	27+72.72	18.00' L	645.59	643.46	643.46
IN-4 (PROPOSED)	27+72.72	18.00' R	645.47		643.65

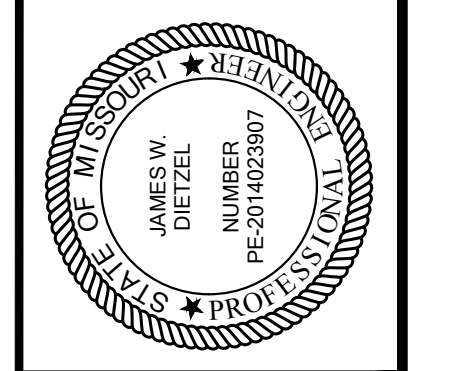
PIPE TABLE					
NAME	SIZE	LENGTH	SLOPE	INV IN	INV OUT
P-348	12" RCP	31 LF	0.51%	643.46	643.30
P-351	12" RCP	36 LF	0.53%	643.65	643.46

REVISIONS	
NO.	DESCRIPTION

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
15 SUMNER DR, ST. LOUIS, MO 63143
My license renewal date is December 31, 2024.



SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI

ARGONNE AVE STORM PROFILE 2

IMEG Project No:
23001201.00

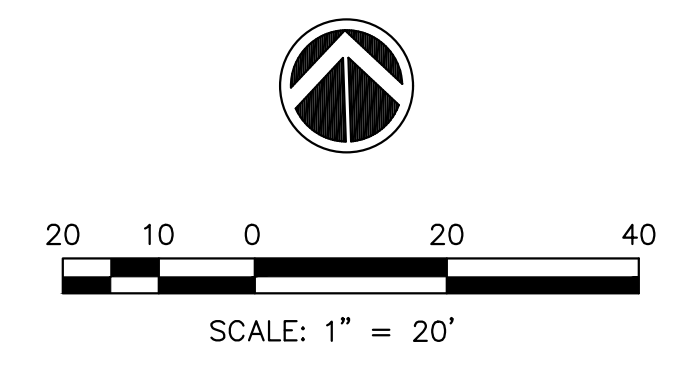
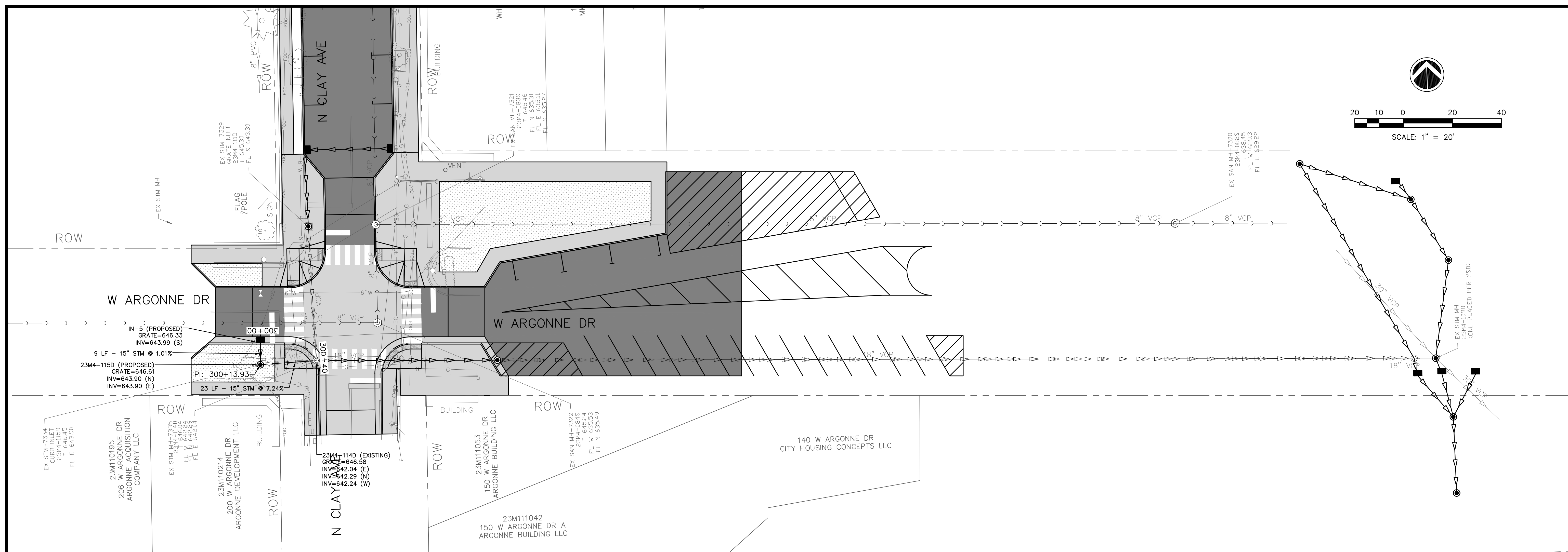
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BASEMAP #: 23-24M

File Name:
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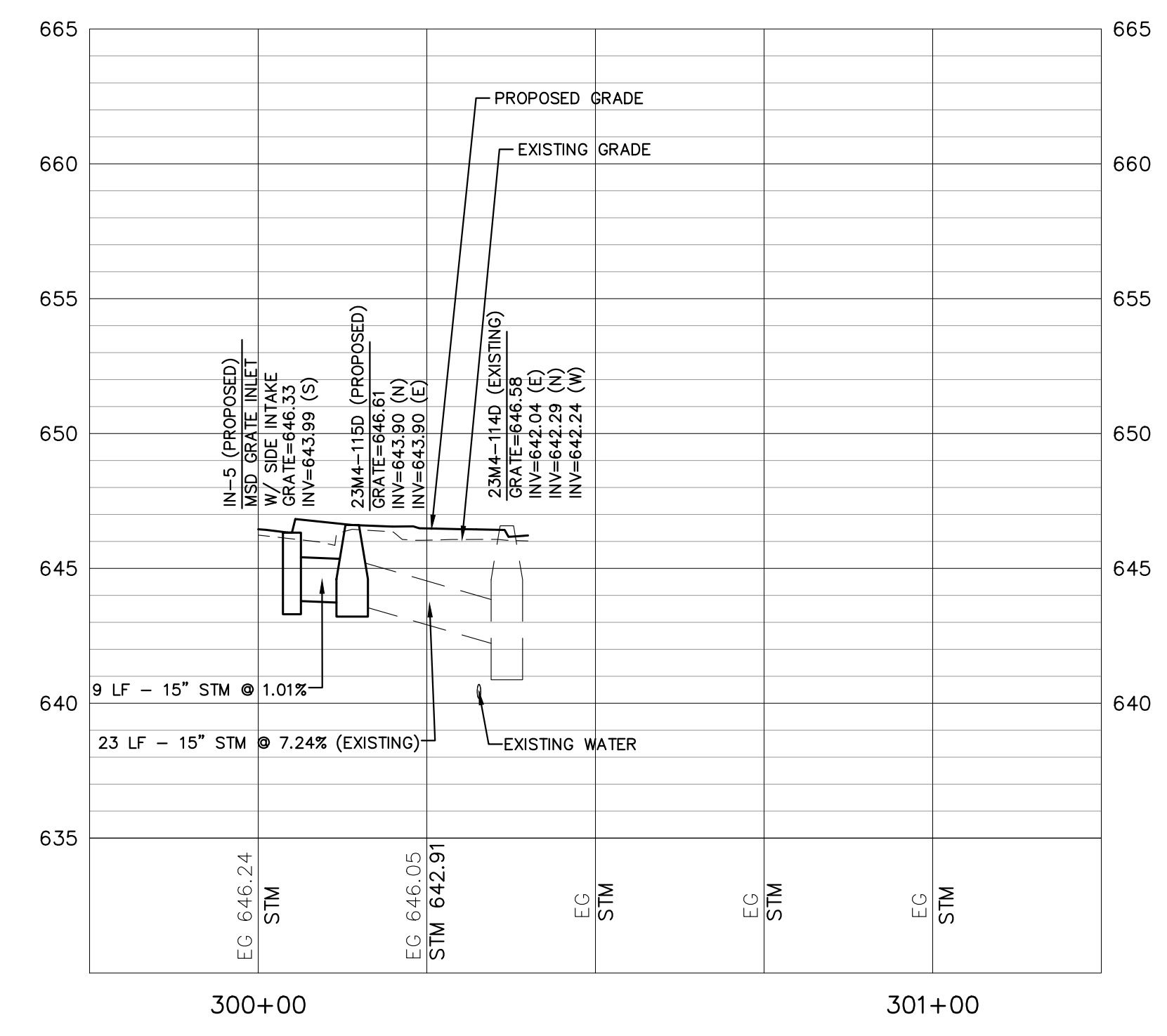
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PROFILE VIEW OF 23001201.00-PROPOSED STORM 3
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



- NOTES:**
1. MAINTAIN MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER LINES AND ALL SEWER LINES AND MANHOLES.
 2. ALL SEWER MAINS CROSSING WATER MAIN WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE AND ALL OTHER UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 12 INCHES OF SEPARATION UNLESS OTHERWISE NOTED.
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STRUCTURE TABLE					
NAME	STATION	STA OFFSET	RIM ELEV	INV IN	INV OUT
23M4-115D (PROPOSED)	26+84.73	36.81' L	646.61	643.90	643.90
IN-5 (PROPOSED)	26+93.66	36.78' L	646.33		643.99

PIPE TABLE					
NAME	SIZE	LENGTH	SLOPE	INV IN	INV OUT
P-349	15" RCP	9 LF	1.01%	643.99	643.90

REVISIONS

NO.	DESCRIPTION	DATE

IMEG
15 SUMNER DR
ST. LOUIS, MO 63143
PH: 314.645.1132
www.imegcorp.com
Missouri State Certificate of Authority E-201700830

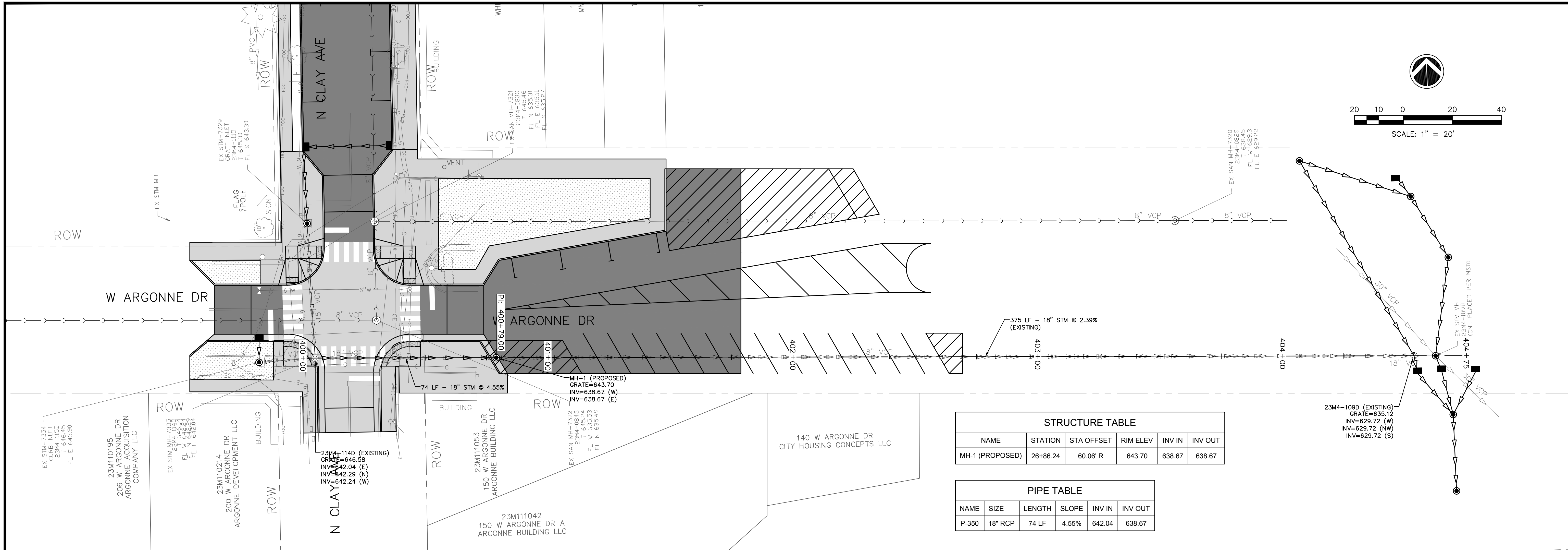
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel*
Date: 6/11/2024
Professional Engineer P.E.
JAMES W. DIETZEL
ST. LOUIS, MO 63143
My license renewal date is December 31, 2024.

STATE OF MISSOURI
JAMES W. DIETZEL
NO. 261022907
PROFESSIONAL ENGINEER

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
ARGONNE AVE STORM PROFILE 3

IMEG Project No:
23001201.00
M.S.D. P#: 24MSD-00066
BASEMAP #: 23-24M
File Name:
23001201.00-Utility-Plan.dwg
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Drawn By: PTD
Checked By: JWD
Date: 06/11/2024
P13
Sheet 20 of 46



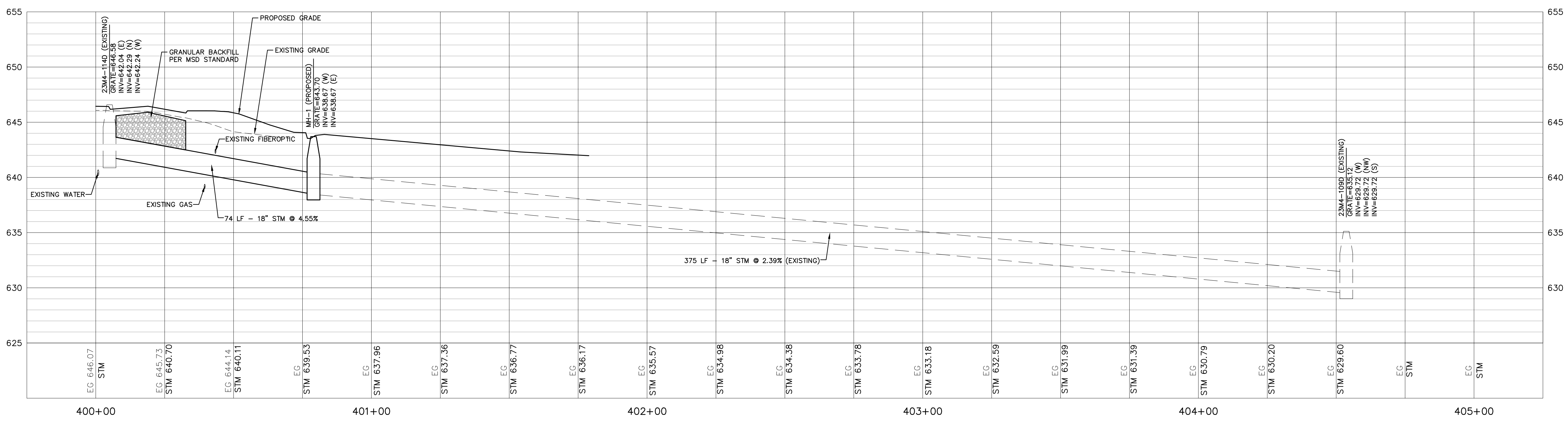
NAME	STATION	STA OFFSET	RIM ELEV	INV IN	INV OUT
MH-1 (PROPOSED)	26+86.24	60.06' R	643.70	638.67	638.67

NAME	SIZE	LENGTH	SLOPE	INV IN	INV OUT
P-350	18" RCP	74 LF	4.55%	642.04	638.67

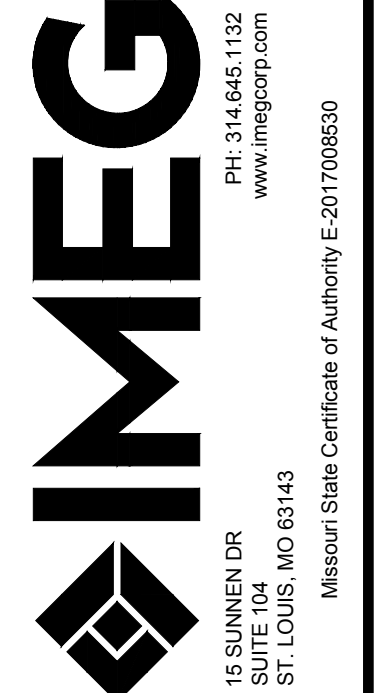
NOTES:

1. MAINTAIN MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER LINES AND ALL SEWER LINES AND MANHOLES.
2. ALL SEWER MAINS CROSSING WATER MAIN WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE AND ALL OTHER UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 12 INCHES OF SEPARATION UNLESS OTHERWISE NOTED.
3. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURES WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF REQUIRED.

PROFILE VIEW OF 23001201.00-PROPOSED STORM 4
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'

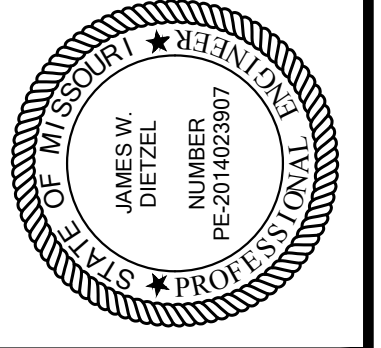


NO.	DESCRIPTION	DATE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 My license renewal date is December 31, 2024.

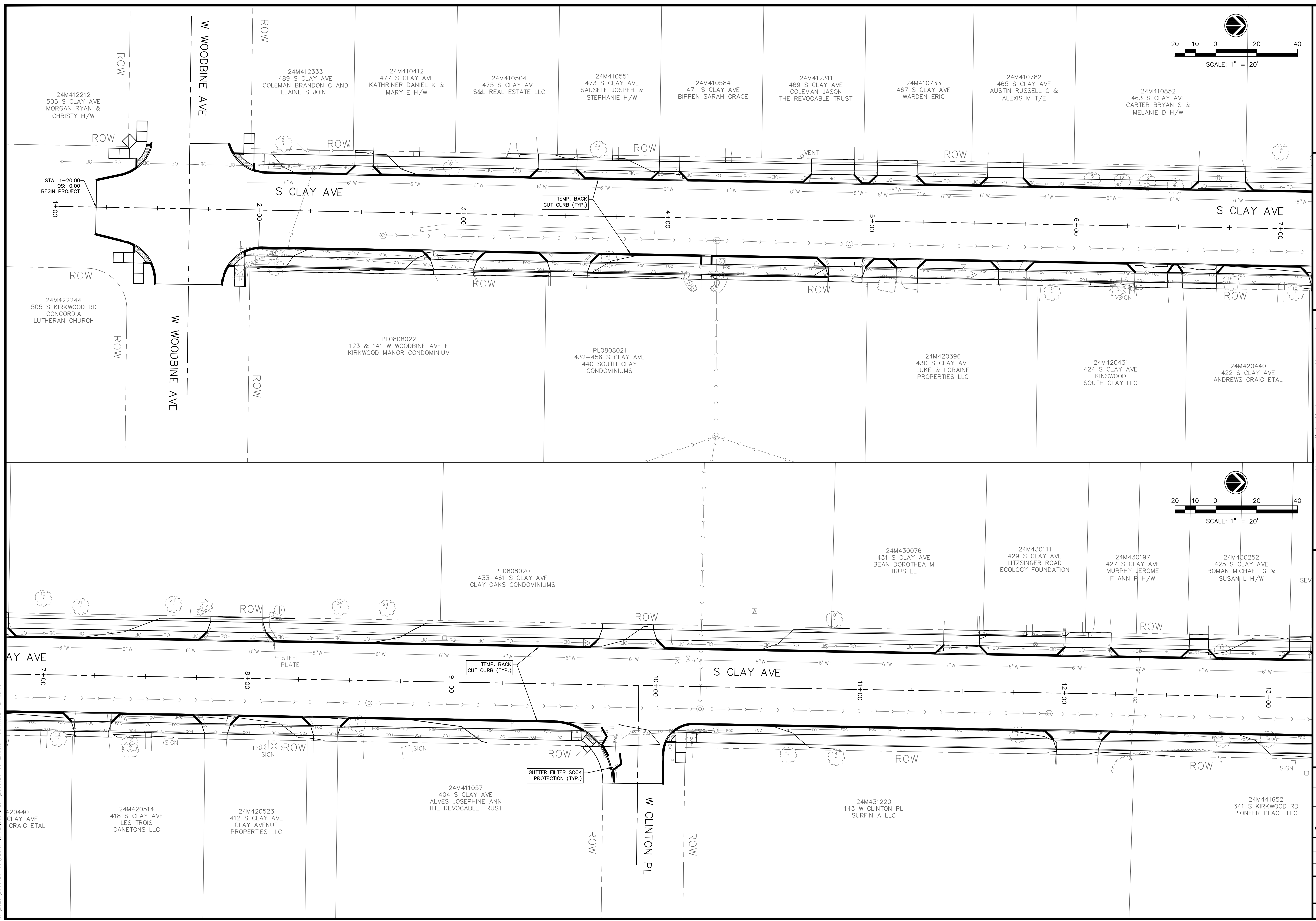


SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 ARGONNE AVE STORM PROFILE 4

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
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Monday, June 10, 2024, 4:36:08 PM
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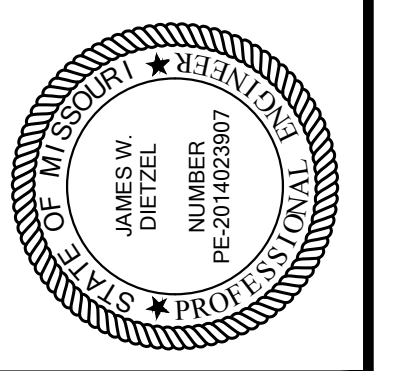


NO.	DESCRIPTION	DATE

IMEG
 15 SUMNER DR
 ST. LOUIS, MO 63143
 Missouri State Certificate of Authority E-201708930
 www.imegcorp.com
 PH: 314.646.1132

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

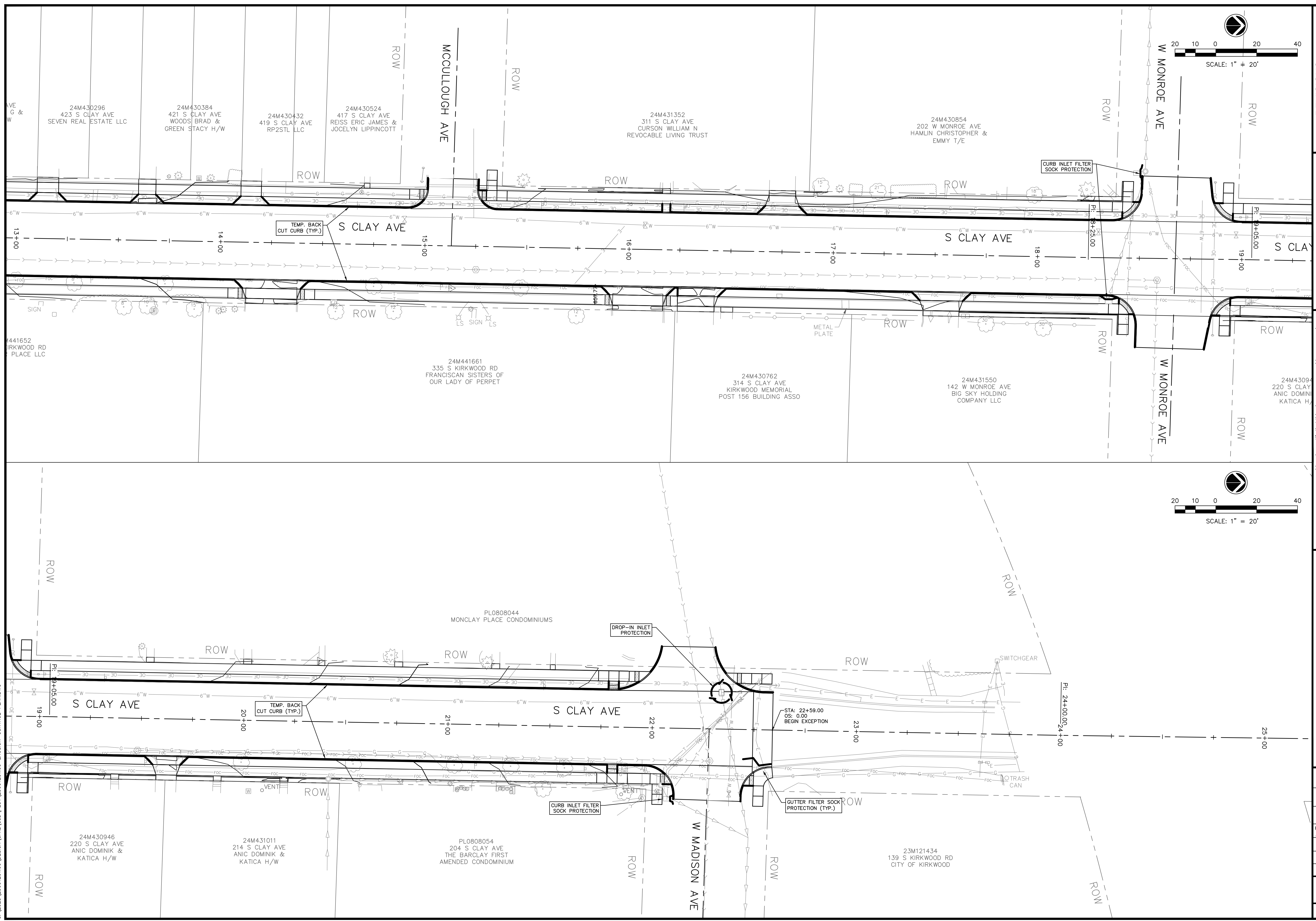
Signature: *James W. Dietzel*
 Date: 6/11/2024
 Professional Engineer P.E.
 My license renewal date is December 31, 2024.



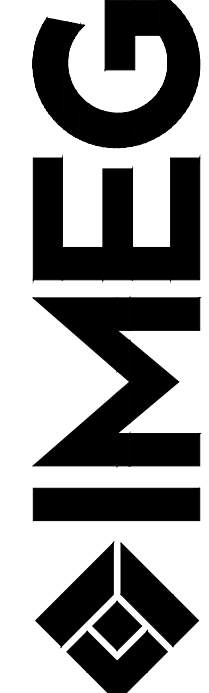
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 EROSION CONTROL PLAN

IMEG Project No:
 23001201.00
 M.S.D. #: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
 23001201.00-Erosion-Control-Plan.dwg
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S1
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NO.	DESCRIPTION	DATE



 15 SUMNER DR
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 Missouri State Certificate of Authority E-201708930
 www.imegcorp.com
 PH: 314.646.1132

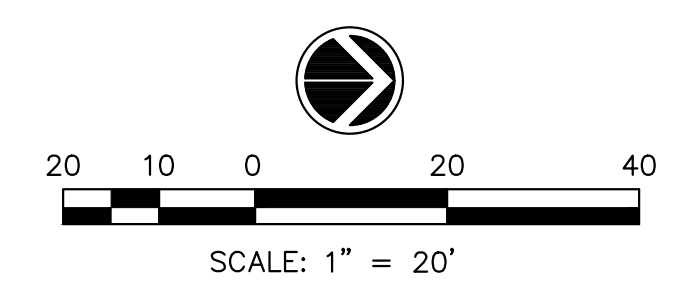
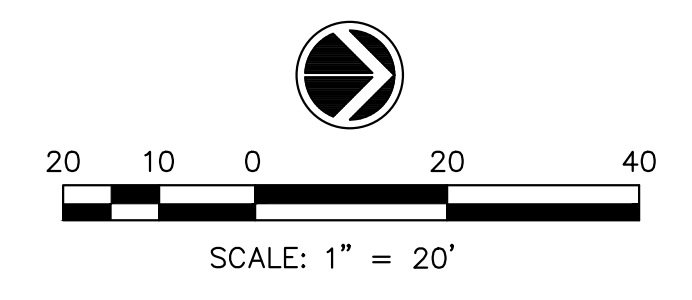
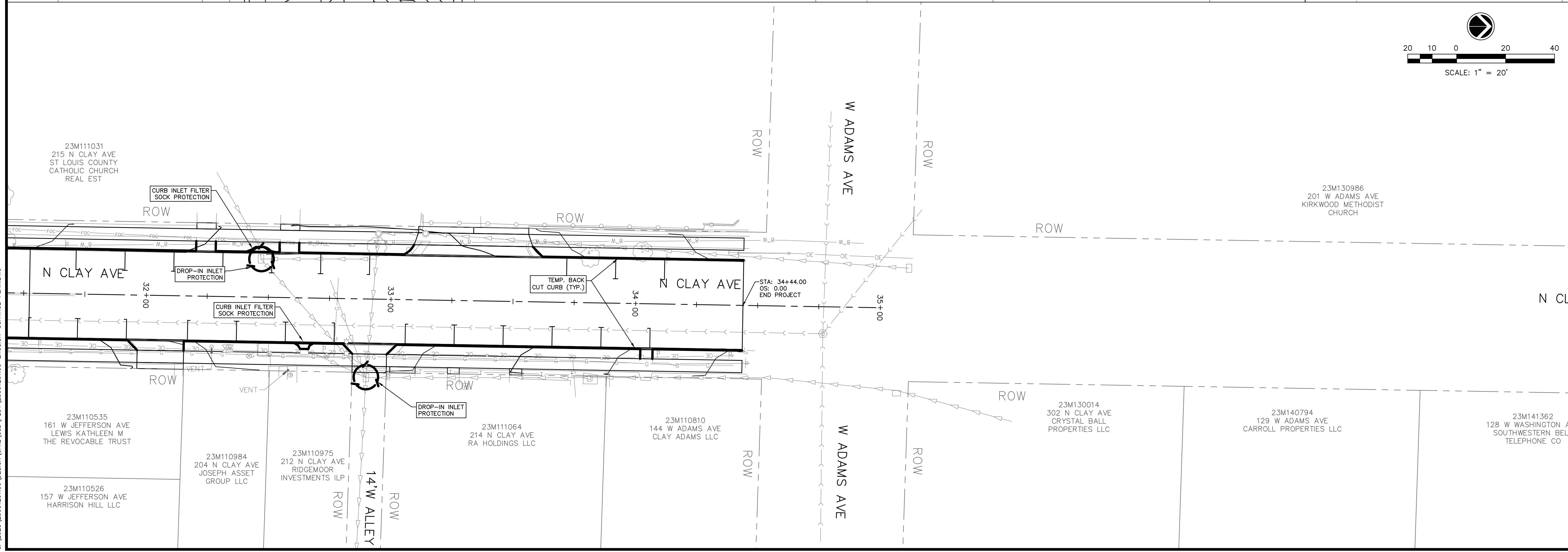
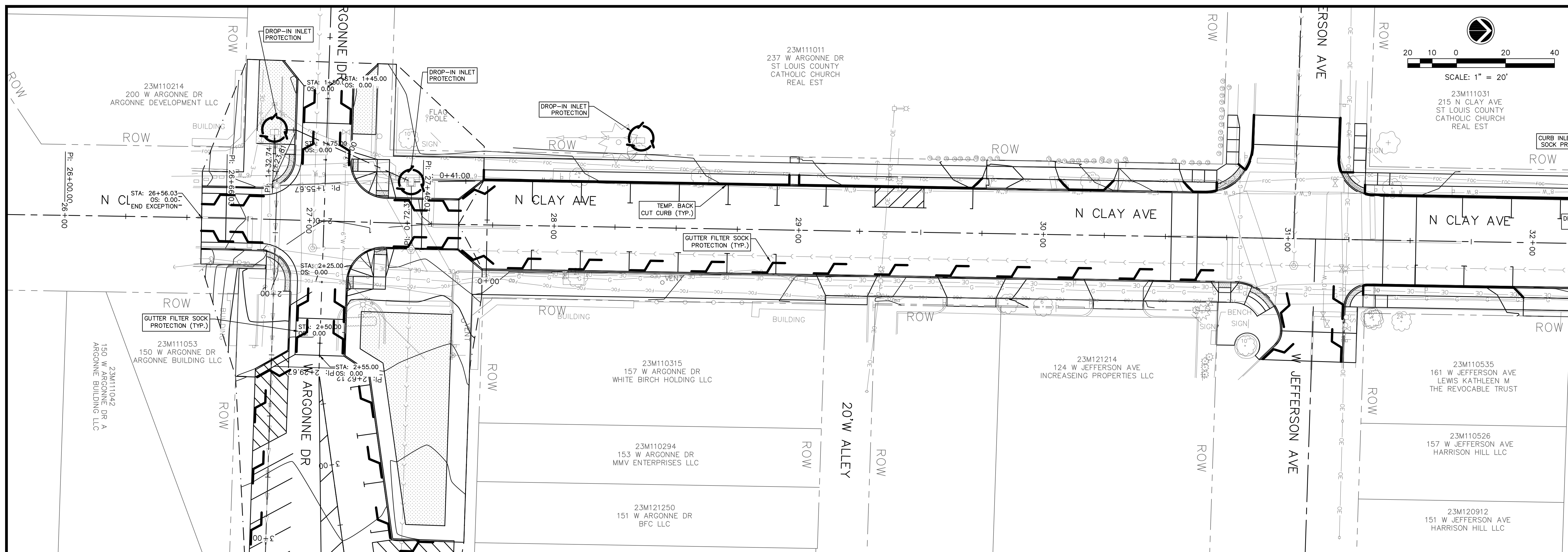
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Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License Number: PE-287628907
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 EROSION CONTROL PLAN

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
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S2
 Sheet 23 of 46

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 Missouri State Certificate of Authority E-201708930
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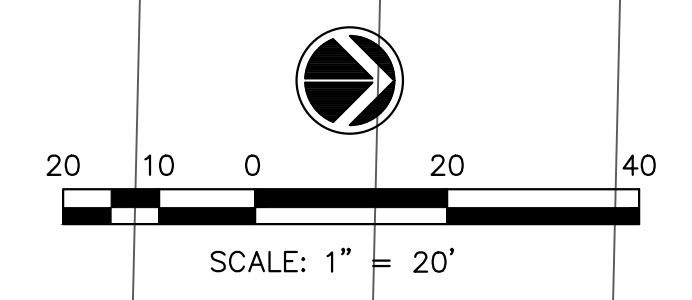
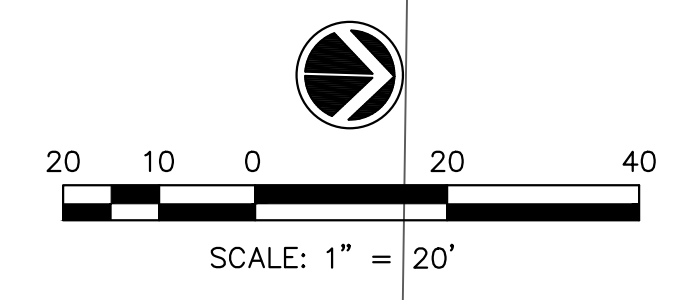
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Signature: *James W. Dietzel*
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 License No: 000000000
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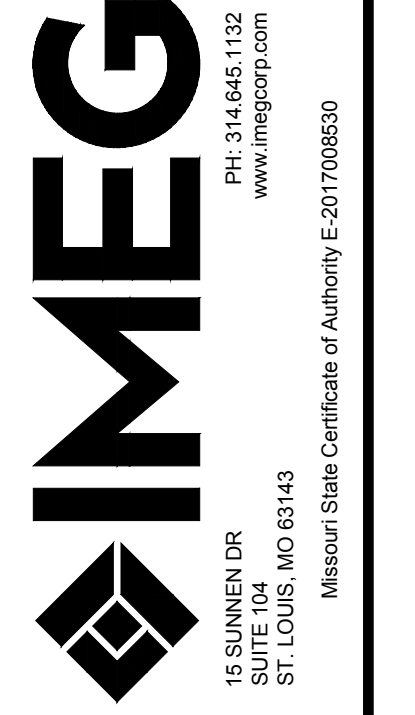
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 EROSION CONTROL PLAN

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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S3
 Sheet 24 of 46

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NO.	DESCRIPTION	DATE



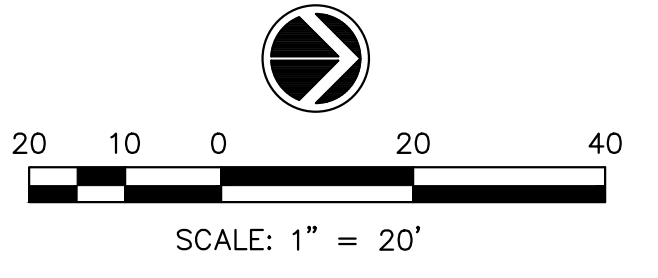
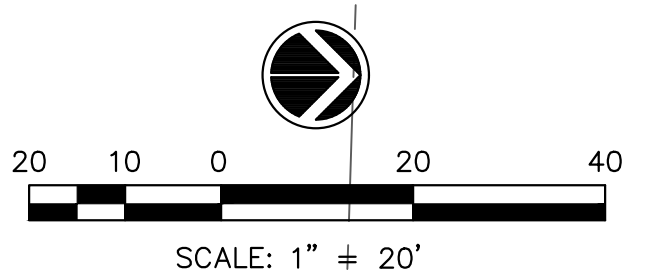
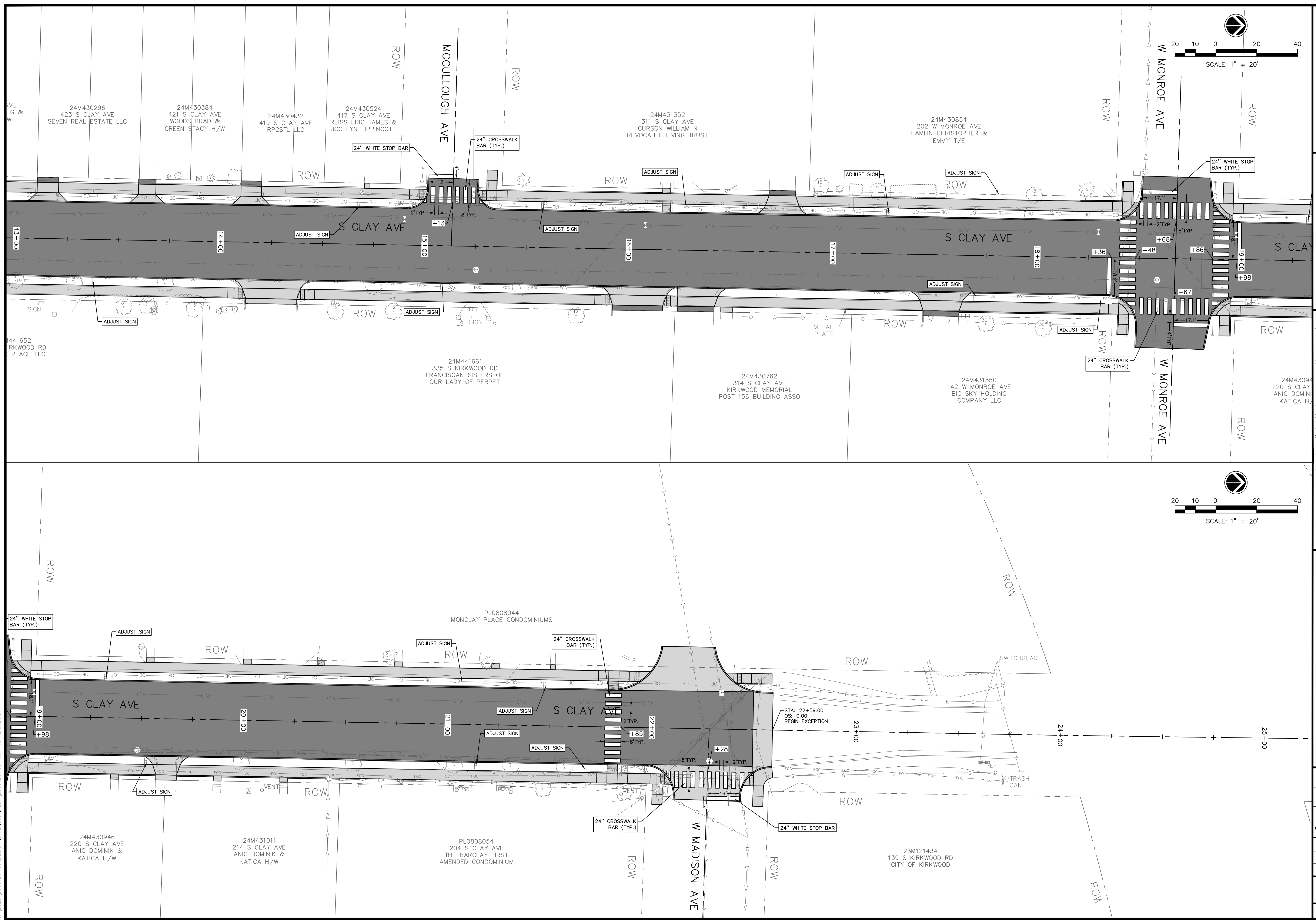
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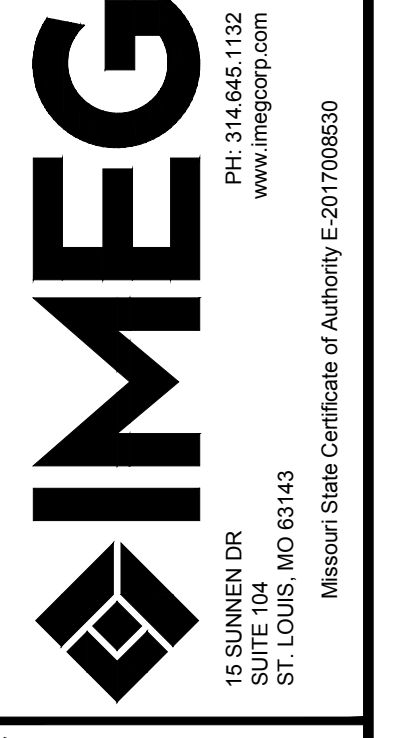
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 PERMANENT MARKINGS AND SIGNAGE PLAN

IMEG Project No: 23001201.00
 M.S.D. #: 24MSD-00066
 BASEMAP #: 23-24M
 File Name: 23001201.00-Traffic Plan.dwg
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 Checked By: JWD
 Date: 06/11/2024
T1
 Sheet 25 of 46

Monday, June 10, 2024, 4:31:06 PM
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NO.	DESCRIPTION	DATE



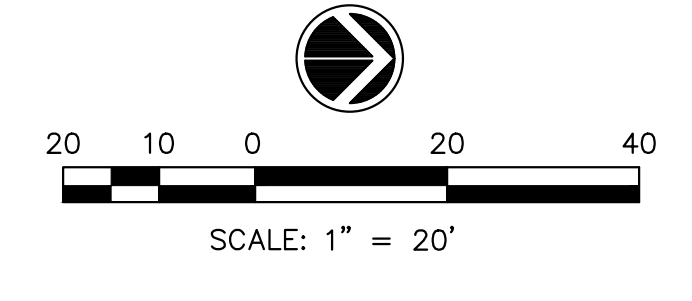
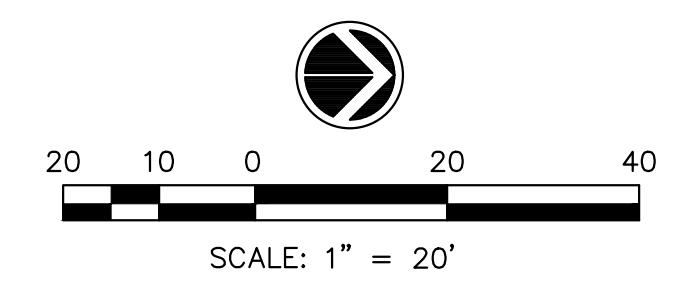
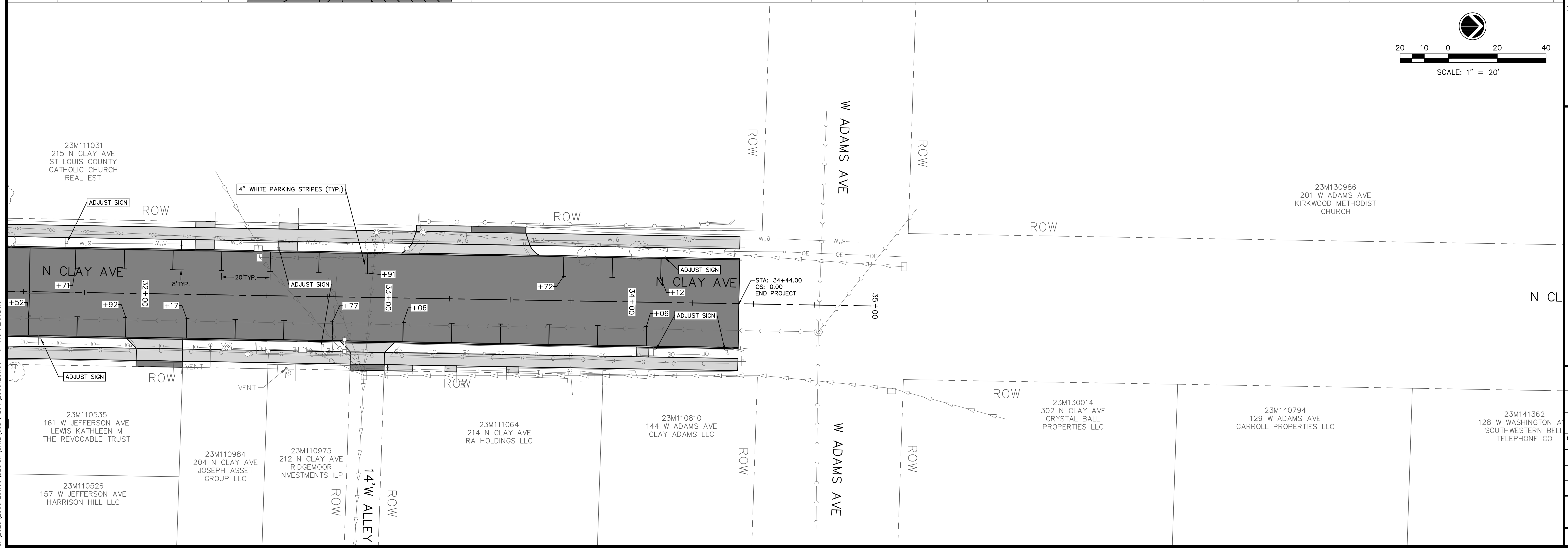
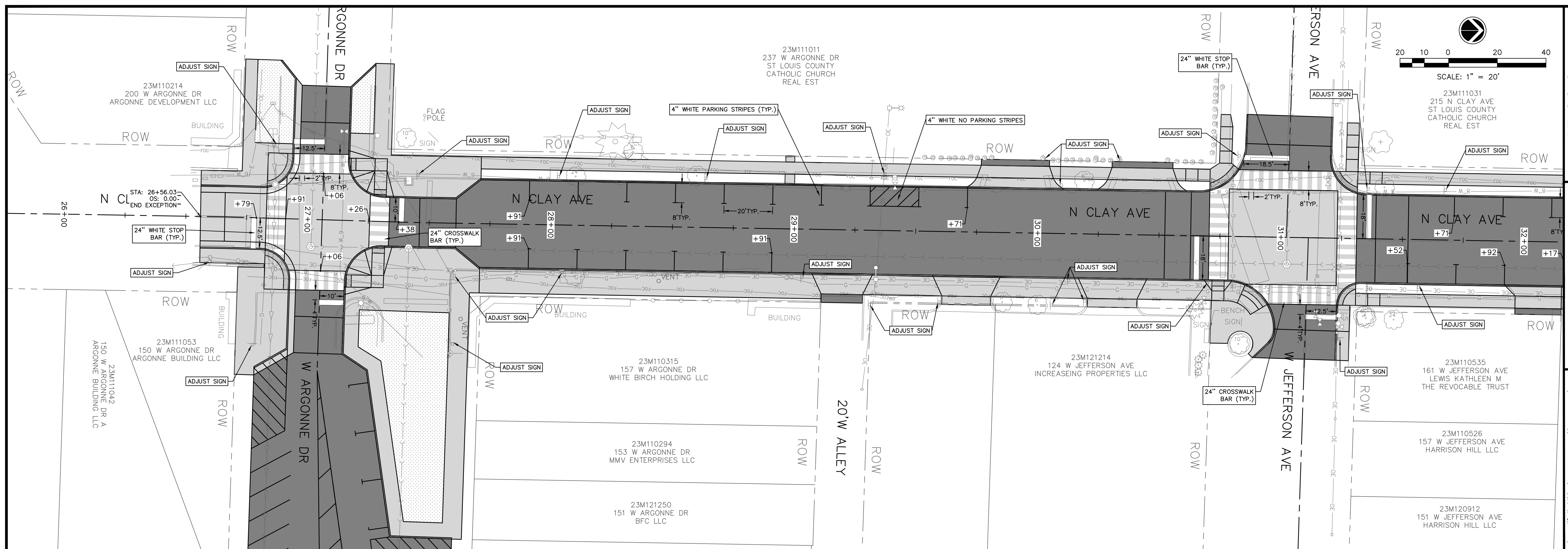
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Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License No: PE-287628907
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 PERMANENT MARKINGS AND SIGNAGE PLAN

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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T2
 Sheet 26 of 46

Monday, June 10, 2024, 4:31:17 PM
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NO.	DESCRIPTION	DATE

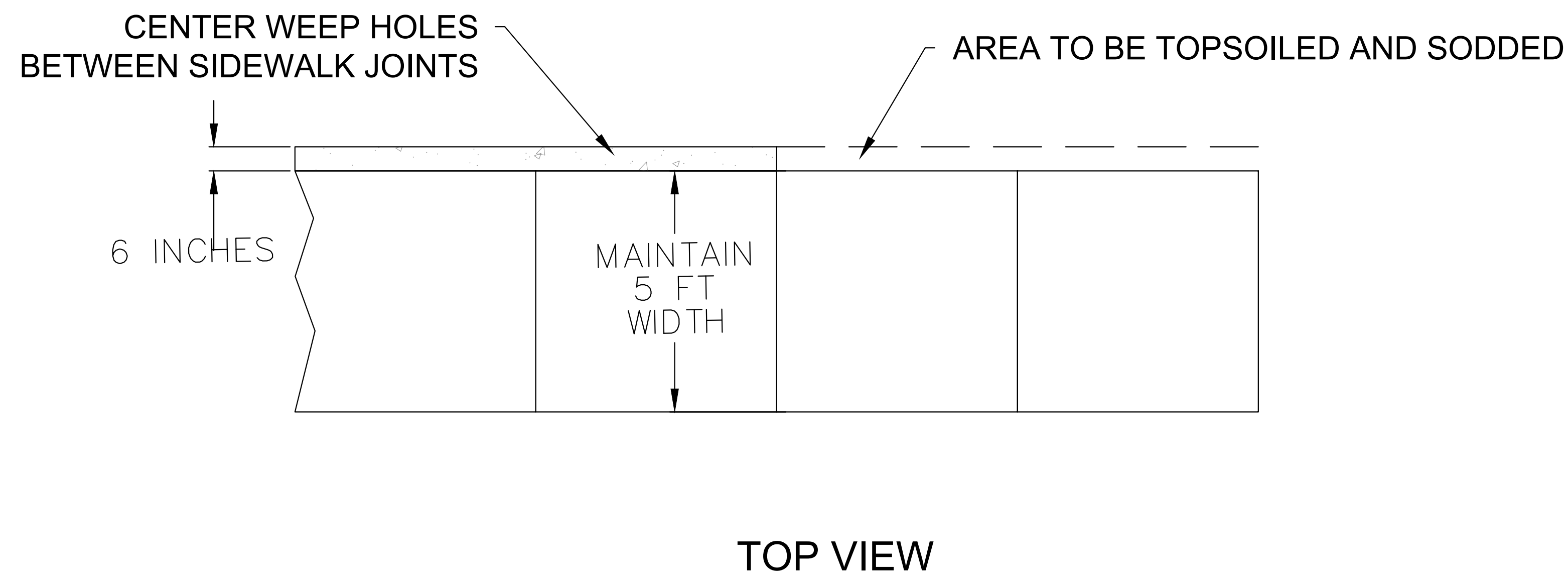
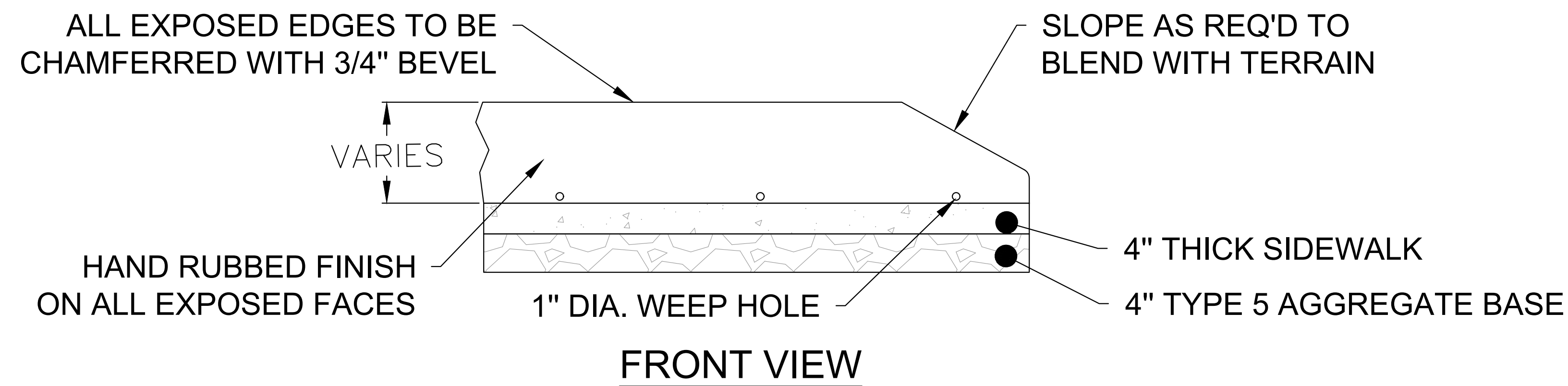
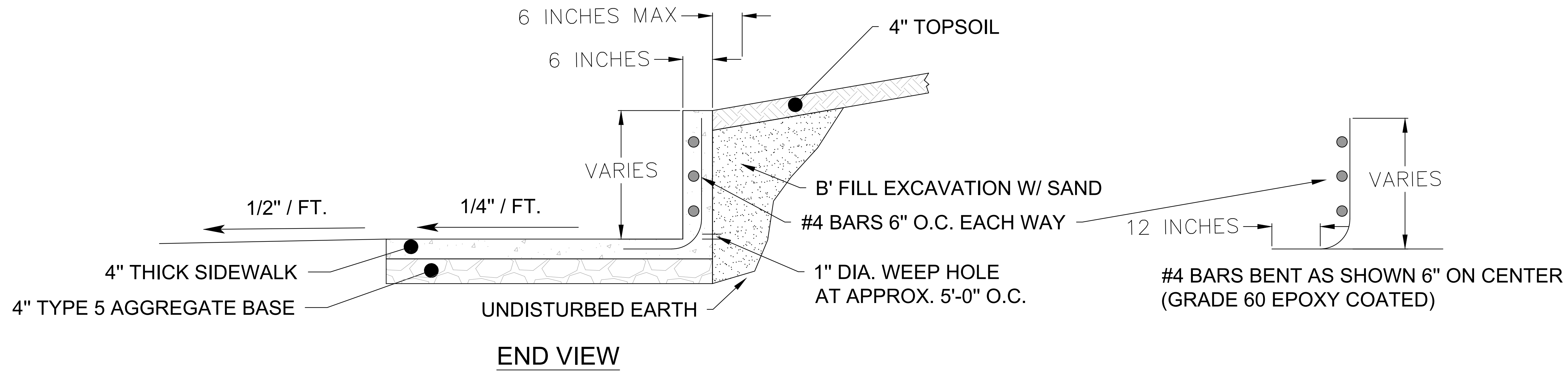
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 License No. 153000000 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
PERMANENT MARKINGS AND SIGNAGE PLAN

IMEG Project No:
 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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 Date: 06/11/2024
T3
 Sheet 27 of 46





NOTES:

1. GEOSYNTHETIC COVER OVER BACK OF WALL PVC WEEP HOLE.
2. RODENT SCREEN COVER WALL FACE PVC WEEP HOLE.
3. WALL MONOLITHIC WITH SIDEWALK.
4. EXCAVATION AT BACK OF WALL TO BE VERTICAL CUT NO MORE THAN 6 INCHES FROM BACK OF WALL AND SHALL BE WITHIN THE RIGHT OF WAY.

**CONCRETE RETAINING WALL DETAIL
N.T.S.**

REVISIONS	
NO.	DATE

IMEG
PH: 314.645.1132
www.imegcorp.com
15 SUNNEX DR
ST. LOUIS, MO 63143
Missouri State Certificate of Authority E-201708930

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

Signature: *James W. Dietzel* Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 License No. PE-28762800
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI

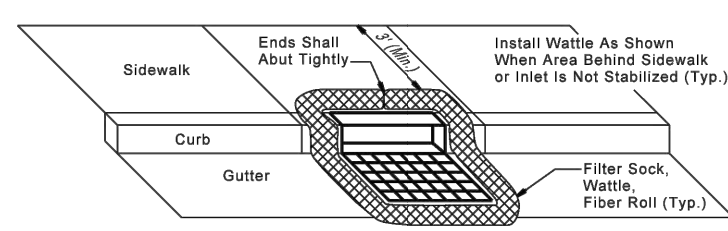
DETAILS

IMEG Project No:
23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
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U1
 Sheet 29 of 46

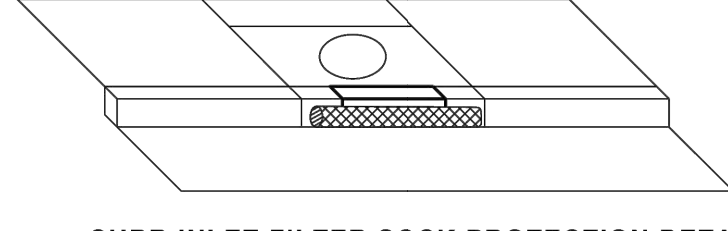
NEW	REVISIONS
11/1/14	1/1/16

GENERAL NOTES

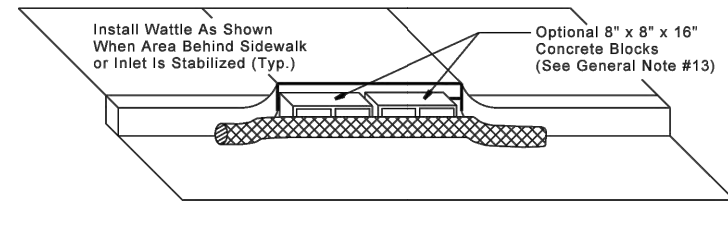
- 1) LOCATION, DIAMETER AND LENGTH OF SOCK IS DEPENDENT ON THE INLET/OUTLET BEING PROTECTED (I.E. DOUBLE, TRIPLE INLET, ETC.).
- 2) GRAVEL FILTER BAGS MAY BE SUBSTITUTED FOR FILTER SOCKS.
- 3) SOME LOCATIONS WILL NOT HAVE SIDEWALK (AS SHOWN IN THIS DETAIL).
- 4) IF THE AREA BEHIND THE INLET (AND SIDEWALK) IS NOT STABILIZED, A BMP SHALL BE USED TO PREVENT POLLUTANTS FROM ENTERING THE INLET FROM BEHIND.
- 5) WHEN A WATTLE IS USED TO PREVENT POLLUTANTS FROM ENTERING AN INLET FROM BEHIND, IT MUST BE PLACED ON A SIDEWALK TO MAINTAIN A MINIMUM 3 FOOT WALKING PATH. THE BMP SHALL BE MAINTAINED TO PREVENT SEDIMENT ACCUMULATION ON THE SIDEWALK.
- 6) SOCKS / BAGS (BMP) SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITY ON EXISTING INLETS AND IMMEDIATELY AFTER INSTALLATION OF PROPOSED INLETS.
- 7) ACCUMULATED SEDIMENT SHALL BE REMOVED BEFORE IT REACHES ONE HALF THE DIAMETER OF THE SOCK OR BAG HEIGHT AT A MINIMUM OR ENCROACHES ONTO A TRAVEL LANE.
- 8) SEE GRAVEL BAG, FILTER SOCK (WATTLE, FIBER ROLL) AND INLET PROTECTION SPECIFICATIONS IN THE SEDIMENT AND EROSION CONTROL MANUAL FOR ADDITIONAL INFORMATION. GRAVEL BAGS MUST BE LAYERED AND PACKED TIGHTLY SUCH THAT NO GAPS ARE EVIDENT.
- 9) LEAVE ONE GRAVEL BAG GAP IN THE TOP LAYER TO PROVIDE A SPILLWAY FOR OVERFLOW.
- 10) STRAW BALES MAY NOT BE USED AS A BMP. INSTALL A PAIR OF FILTER SOCKS, NEXT TO EACH OTHER, PARALLEL TO THE CURB INLET IF DIRECTED BY THE COUNTY.
- 11) BMP'S MUST BE INSTALLED TO ALLOW THE INLET / GUTTER TO FUNCTION WITHOUT COMPLETELY BLOCKING FLOWS TO ELIMINATE LOCALIZED FLOODING. CHOOSE THE DIAMETER OF SOCK AND LAYER(S) OF BAGS SUITABLE TO THE INDIVIDUAL APPLICATION.
- 12) INLET PROTECTION IS NOT A STAND ALONE BMP AND SHOULD BE USED IN CONJUNCTION WITH OTHER UP GRADIENT BMP'S.
- 13) SOCKS NEED TO BE WEIGHTED FOR USE AROUND INLETS. INTERNAL ROLL WEIGHT OR BY PLACING A WEIGHT, SUCH AS A CONCRETE BLOCK, ON THE DOWN STREAM SIDE OF THE SOCK. USE ALTERNATE BMP IF LOCALIZED FLOODING IS POSSIBLE.
- 14) AT LOCATIONS WITHOUT CURBS, THE GUTTER PROTECTION MAY BE SHAPED INTO A HORSESHOE, WITH THE OPENING FACING OPPOSITE THE DIRECTION OF FLOW. GUTTER PROTECTION CAN HELP PRE-TREAT STORM WATER IF NEEDED.
- 15) AT LOCATIONS WITHOUT CURBS, PLACE BMP'S OF CHOICE COMPLETELY AROUND THE INLET, OVERLAP ENDS IF NEEDED.



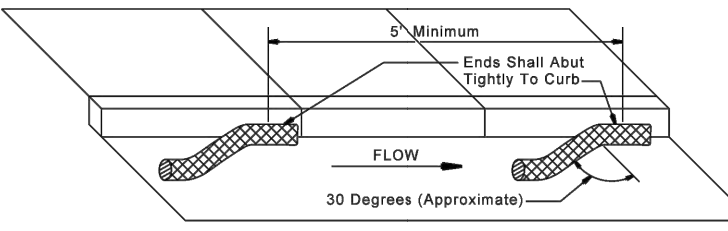
CURB AND GRATE INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



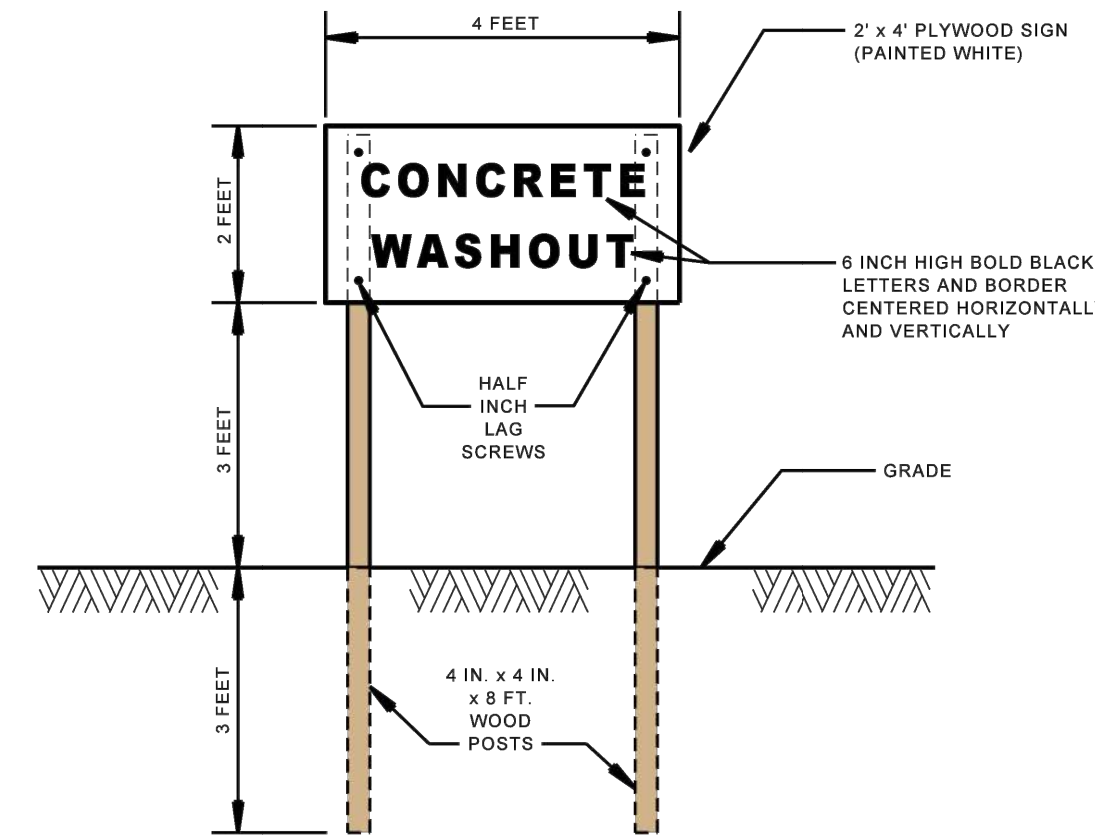
GUTTER FILTER SOCK PROTECTION DETAIL

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

**TYPICAL BMP DETAIL
GRATED UNIT, INLET AND
SOCK AND GRAVEL FILTER BAG**

REVISION DATE: January 1, 2016
DRAWING 806-45.08

NEW	REVISIONS
4/18/08	10/10/11
	1/1/16



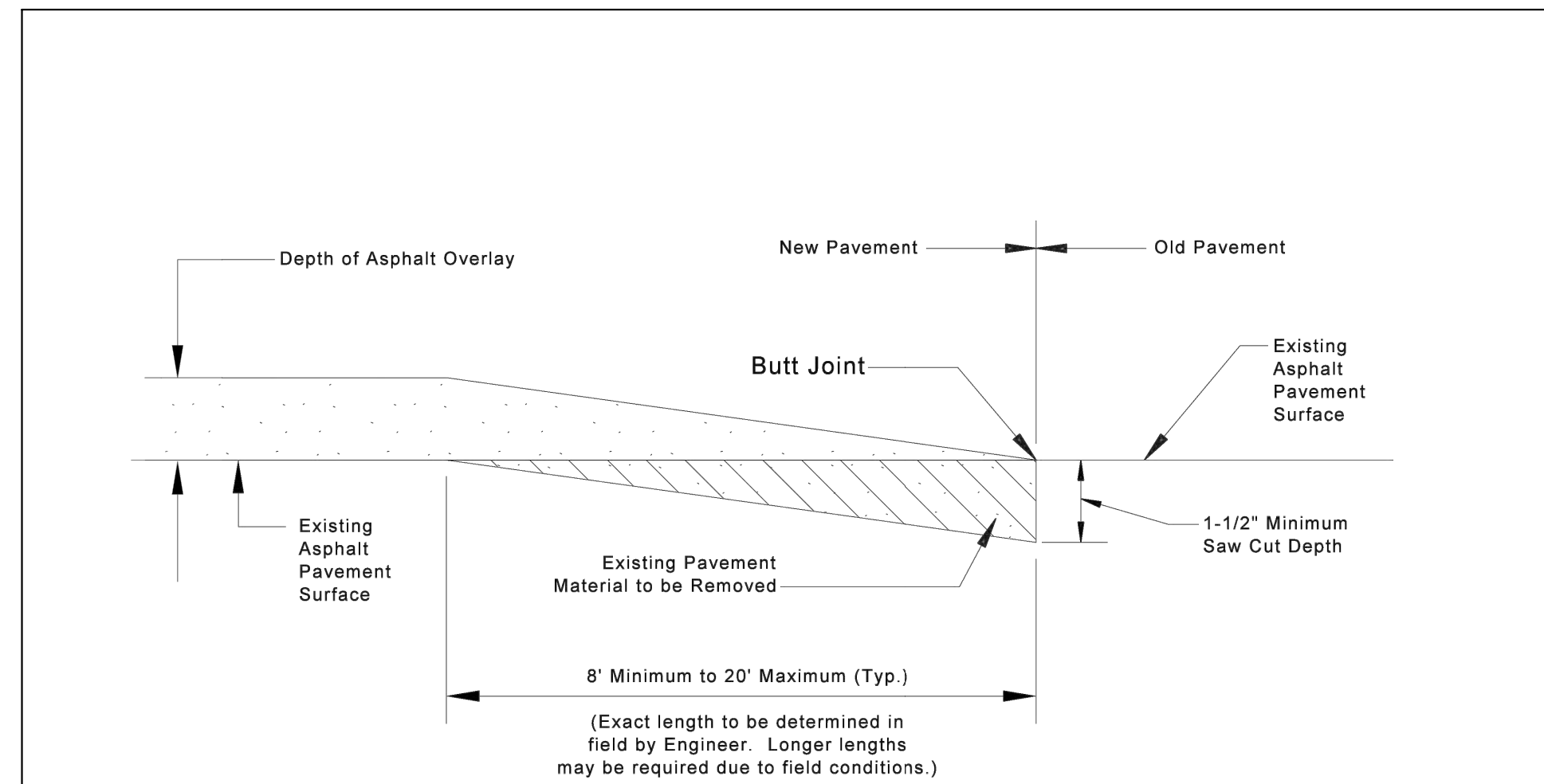
**CONCRETE WASHOUT SIGN DETAIL
(OR EQUIVALENT AS APPROVED BY COUNTY)**

- GENERAL NOTES**
- 1) DO NOT SCALE DRAWING, FOLLOW DIMENSIONS.
 - 2) ACTUAL LAYOUT DETERMINED IN THE FIELD.
 - 3) THE "CONCRETE WASHOUT" SIGN SHALL BE INSTALLED WITHIN 30 FEET OF EACH TEMPORARY CONCRETE WASHOUT FACILITY.

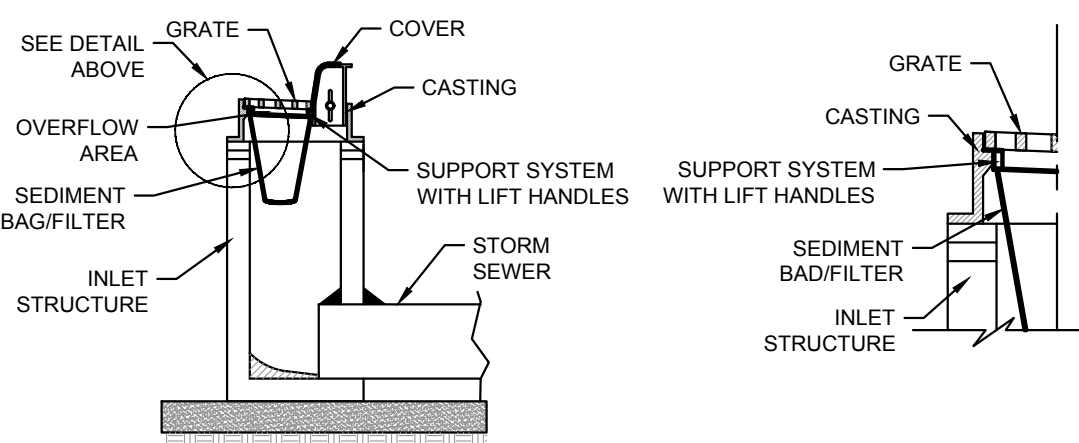
ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

**TYPICAL BMP DETAIL
CONCRETE WASTE
MANAGEMENT
(CONCRETE WASHOUT SIGN)**

REVISION DATE: January 1, 2016
DRAWING 806-46.03



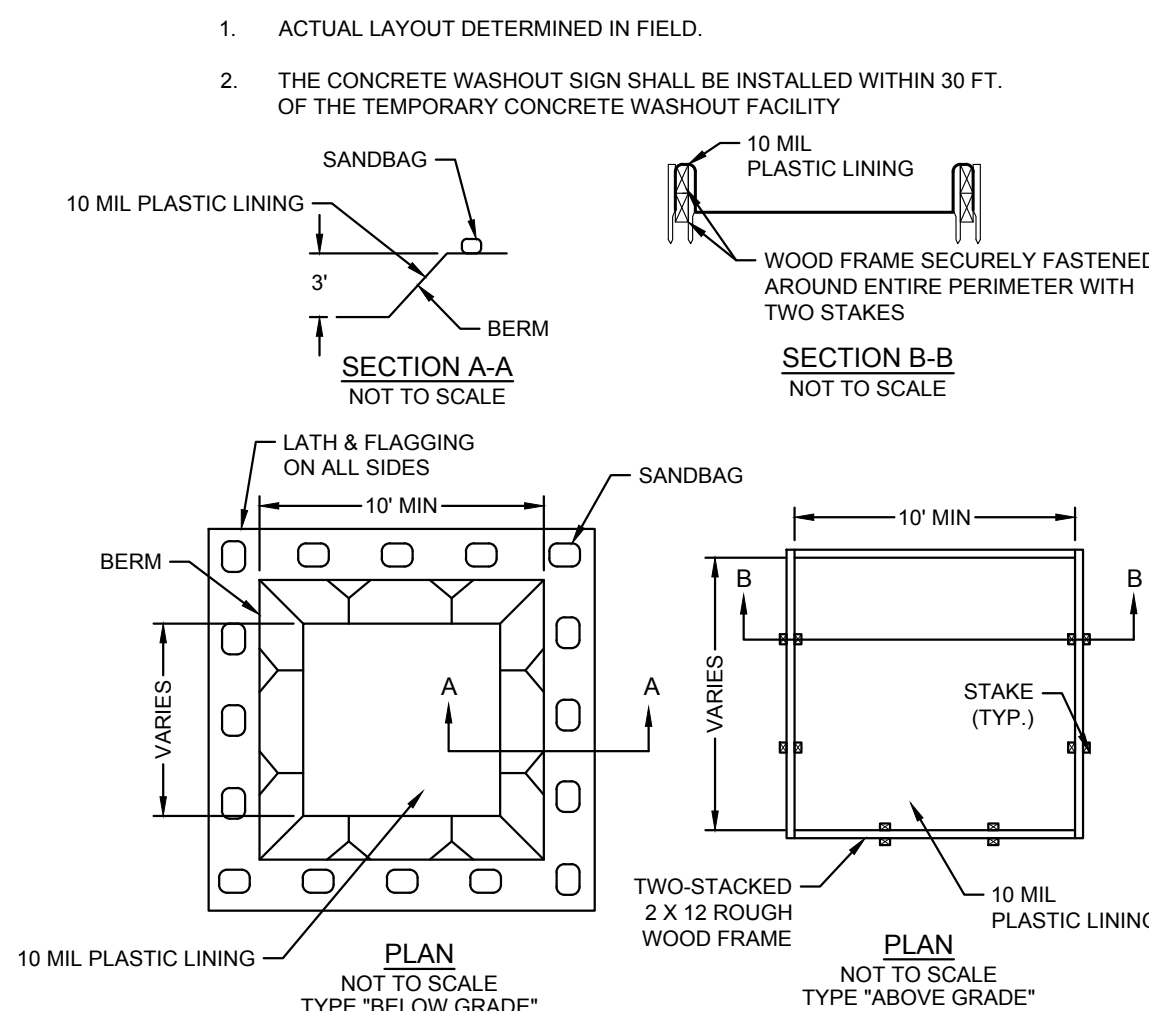
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		EFFECTIVE 05/01/2020
		SHEET 1 OF 1
		DRAWING C404.13



- NOTE:**
1. DETAIL DERIVED FROM THE ILLINOIS URBAN MANUAL STANDARD DRAWING NO. IUM-561D.

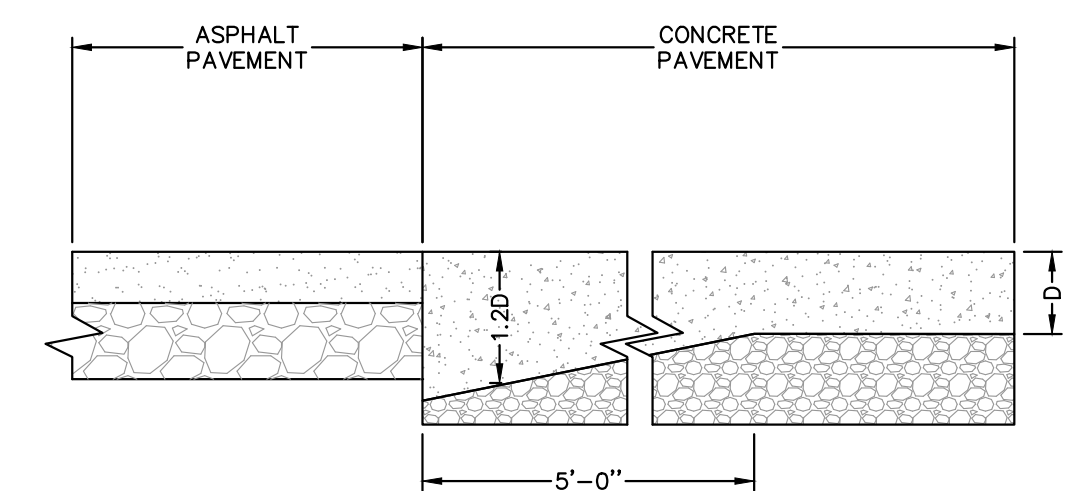
3
U2
N.T.S.

INLET PROTECTION - PAVED AREAS DROP IN



4
U2
N.T.S.

CONCRETE WASH MANAGEMENT



5
U2
N.T.S.

ASPHALT/CONCRETE PAVEMENT TRANSITION DETAIL

REVISIONS	DESCRIPTION	DATE
No.		



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Signature: *James W. Dietzel*
Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
Professional Engineer License No. PE-287628907
My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI

DETAILS

IMEG Project No:
23001201.00

M.S.D. P#: 24MSD-00066
BASEMAP #: 23-24M

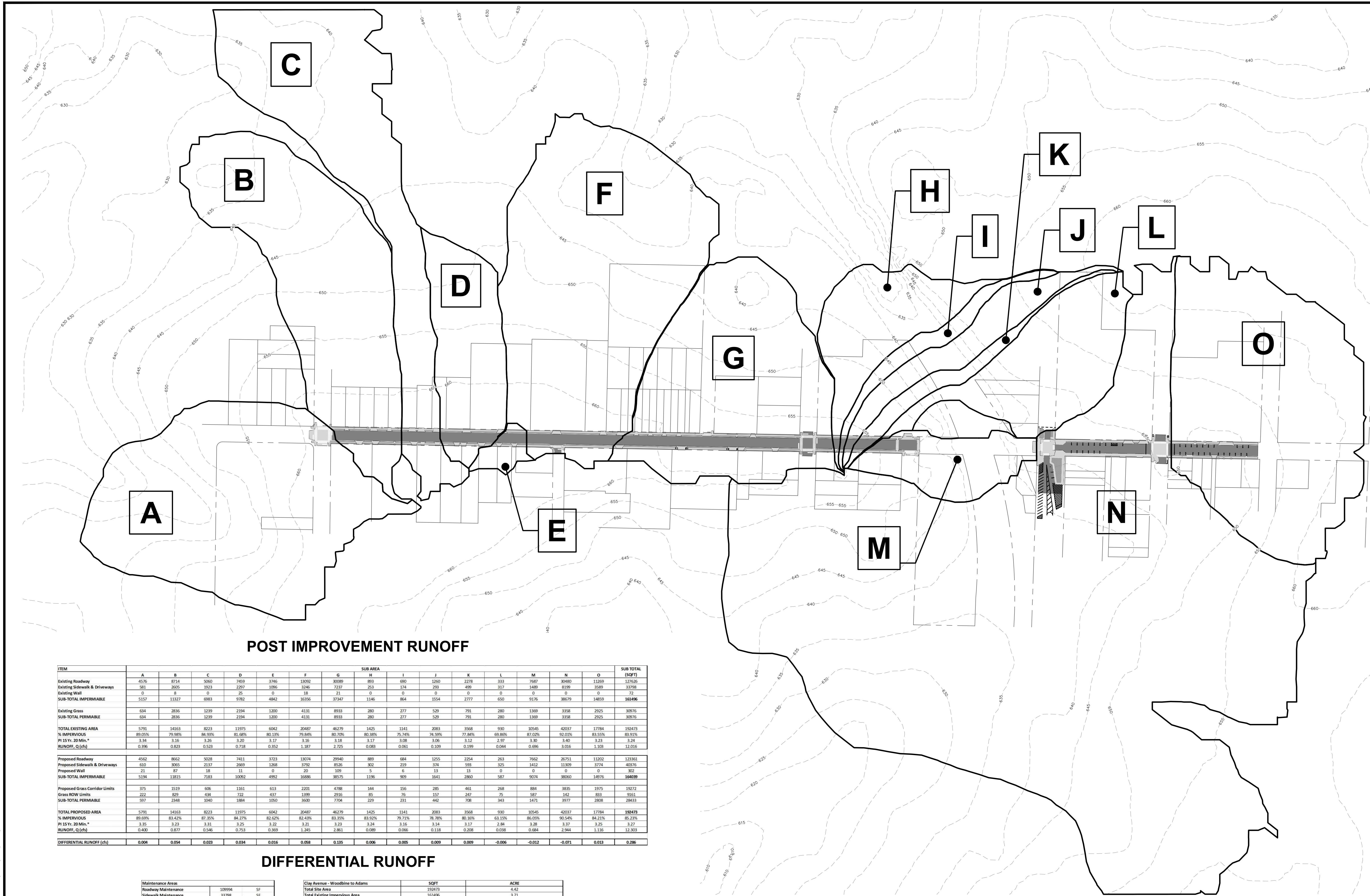
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Checked By: JWD
Date: 06/11/2024

U2

Sheet 30 of 46



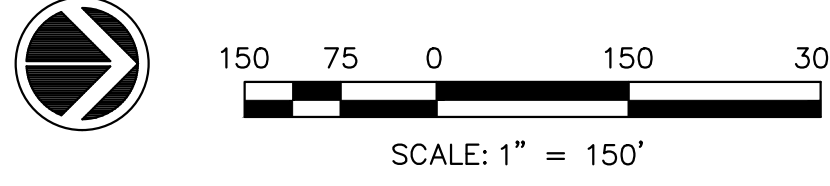
POST IMPROVEMENT RUNOFF

ITEM	SUB AREA															SUB TOTAL (SQFT)
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Existing Roadway	4576	8714	5060	7459	3746	13092	30089	893	690	1260	2278	333	7687	30480	11269	127626
Existing Sidewalk & Driveways	581	2605	1923	2297	1096	3246	7237	253	174	293	499	317	1489	8199	3589	33798
Existing Wall	0	8	0	25	0	18	21	0	0	0	0	0	0	0	0	72
SUB-TOTAL IMPERMIABLE	5157	11327	6983	9782	4842	16356	37347	1146	864	1554	2777	650	9176	38679	14859	161496
Existing Grass	634	2836	1239	2194	1200	4131	8933	280	277	529	791	280	1369	3358	2925	30976
SUB-TOTAL PERMIABLE	634	2836	1239	2194	1200	4131	8933	280	277	529	791	280	1369	3358	2925	30976
TOTAL EXISTING AREA	5791	14163	8223	11975	6042	20487	46279	1425	1141	2083	3568	930	10545	42037	17784	192473
% IMPERVIOUS	89.05%	79.98%	84.99%	81.68%	80.13%	79.84%	80.70%	80.38%	75.74%	74.59%	77.84%	69.88%	87.02%	92.01%	83.55%	89.91%
P15 Yr. 20 Min.*	3.34	3.16	3.26	3.43	3.17	3.16	3.17	3.08	3.06	3.12	2.97	3.30	3.40	3.23	3.23	3.24
RUNOFF, Q (cfs)	0.396	0.823	0.523	0.718	0.352	1.187	2.725	0.083	0.063	0.109	0.189	0.044	0.666	3.016	1.103	12.016
Proposed Roadway	4552	8662	5028	7411	3723	13074	29940	889	684	1255	2254	263	7662	26751	11202	123361
Proposed Sidewalk & Driveways	610	3065	2137	2669	1268	3782	8526	302	219	374	598	325	1412	11929	3774	40376
Proposed Wall	21	87	18	11	20	109	5	6	6	13	13	0	0	0	0	302
SUB-TOTAL IMPERMIABLE	5194	11815	7183	10092	4992	16886	38575	1196	909	1641	2860	587	9074	38660	14976	164039
Proposed Grass Corridor Limits	375	1519	606	1161	613	2201	4788	144	156	285	461	268	884	3835	1975	19272
Grass ROW Limits	222	929	434	722	437	1399	2916	85	75	157	247	75	387	142	833	9161
SUB-TOTAL PERMIABLE	597	2348	1040	1884	1050	3600	7704	229	231	442	708	343	1471	3977	2808	28433
TOTAL PROPOSED AREA	5791	14163	8223	11975	6042	20487	46279	1425	1141	2083	3568	930	10545	42037	17784	192473
% IMPERVIOUS	89.69%	81.42%	87.35%	84.27%	82.62%	82.43%	81.55%	83.92%	79.71%	78.78%	80.16%	63.19%	86.05%	90.54%	84.21%	85.23%
P15 Yr. 20 Min.*	3.35	3.23	3.31	3.25	3.22	3.21	3.24	3.16	3.14	3.17	2.84	3.28	3.37	3.25	3.27	3.27
RUNOFF, Q (cfs)	0.400	0.877	0.546	0.753	0.369	1.245	2.861	0.089	0.066	0.118	0.208	0.038	0.684	2.944	1.116	12.303
DIFFERENTIAL RUNOFF (cfs)	0.004	0.054	0.023	0.034	0.016	0.058	0.135	0.006	0.005	0.009	0.009	-0.006	-0.012	-0.071	0.013	0.286

DIFFERENTIAL RUNOFF

Maintenance Area	Area (SF)	Area (AC)
Roadway Maintenance	109994	SF
Sidewalk Maintenance	33798	SF
Wall Maintenance	72	SF
Grass Maintenance	26433	SF
Total Non-Disturbance	172297	SF
Total Disturbance	20175	SF

Clay Avenue - Woodbine to Adams	SQFT	ACRE			
Total Site Area	192473	4.42			
Total Existing Impervious Area	161496	3.71			
Total Proposed Impervious Area	164039	3.77			
Total Disturbed Area	20175	0.46			
Existing	Area (AC)	Imp Area (AC)	% Imp	P15 Yr. 20 Min.*	Q20 (cfs)
Proposed	4.42	3.71	83.91%	3.24	12.016
	4.42	3.77	85.23%	3.27	12.303
				Differential Runoff	0.286



REVISIONS	NO.	DESCRIPTION	DATE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

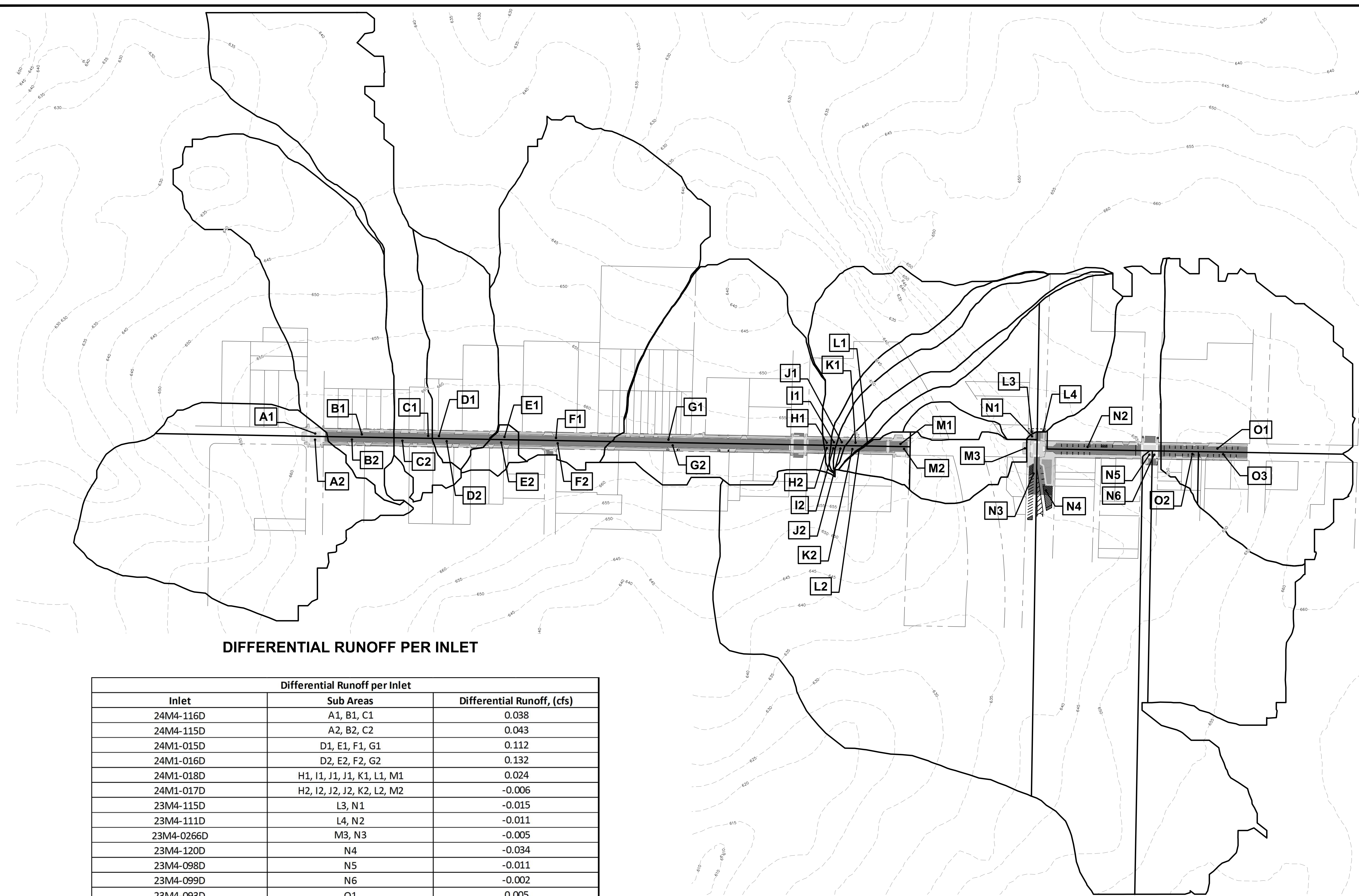
Signature: *James W. Dietzel*
 Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 MISSOURI PROFESSIONAL ENGINEER
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
DIFFERENTIAL RUNOFF MAP

IMEG Project No:
23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
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 Checked By: JWD
 Date: 06/11/2024
W1
 Sheet 31 of 46

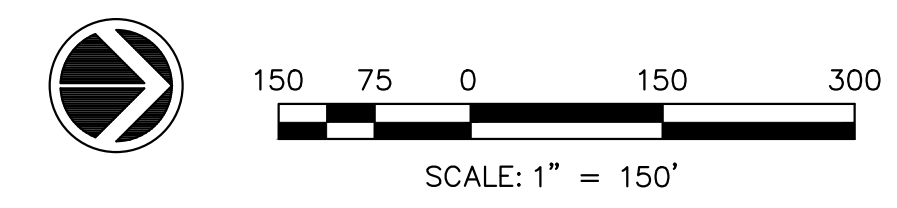
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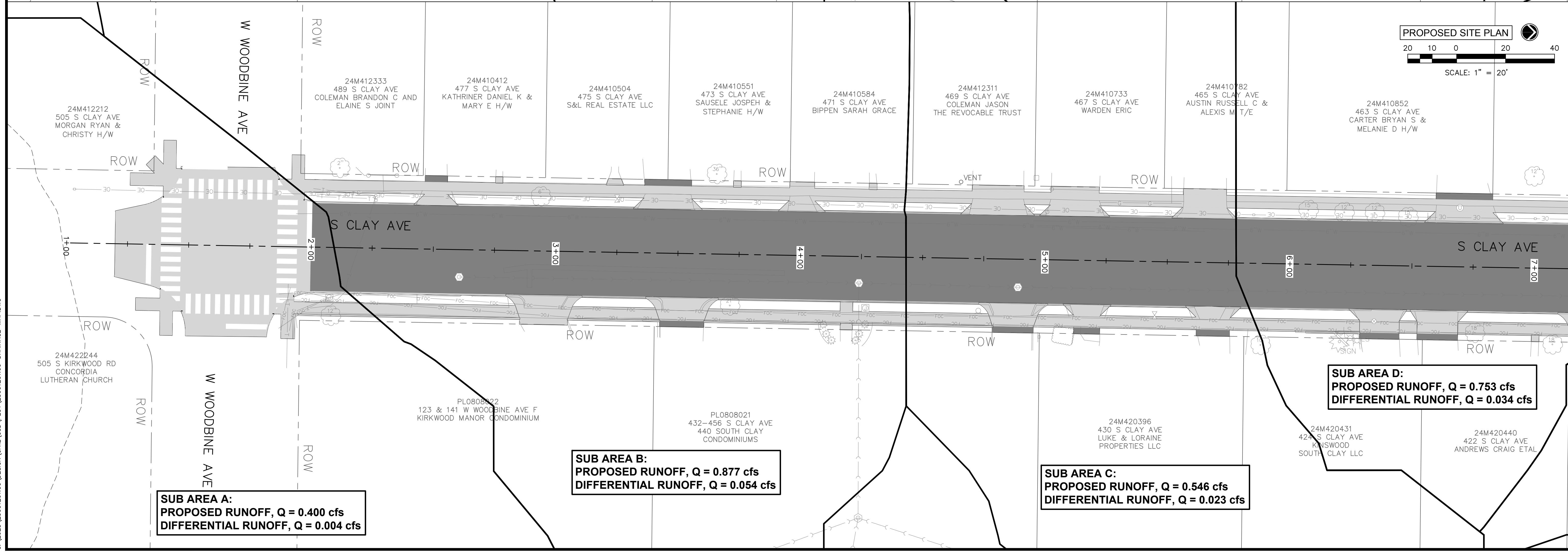
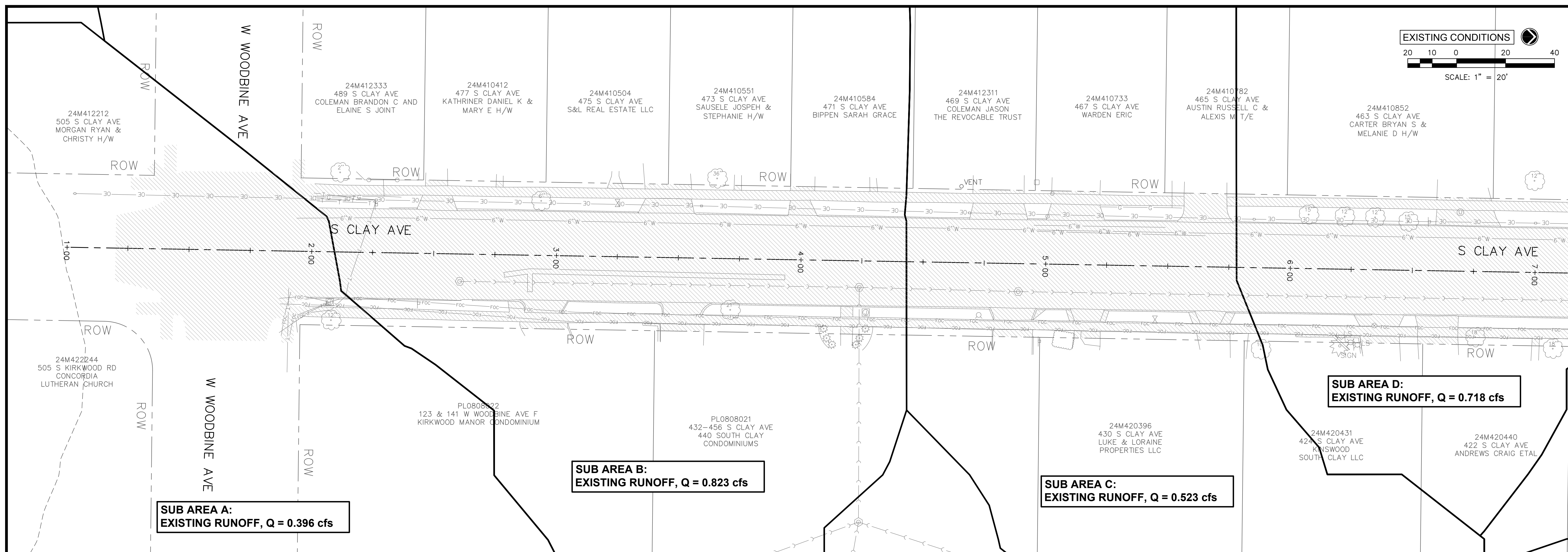
DIFFERENTIAL RUNOFF PER INLET

Differential Runoff per Inlet		
Inlet	Sub Areas	Differential Runoff, (cfs)
24M4-116D	A1, B1, C1	0.038
24M4-115D	A2, B2, C2	0.043
24M1-015D	D1, E1, F1, G1	0.112
24M1-016D	D2, E2, F2, G2	0.132
24M1-018D	H1, I1, J1, J1, K1, L1, M1	0.024
24M1-017D	H2, I2, J2, J2, K2, L2, M2	-0.006
23M4-115D	L3, N1	-0.015
23M4-111D	L4, N2	-0.011
23M4-0266D	M3, N3	-0.005
23M4-120D	N4	-0.034
23M4-098D	N5	-0.011
23M4-099D	N6	-0.002
23M4-093D	O1	0.005
23M4-095D	O2	-0.004
23M4-090D	O3	0.011



<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 80%;">DESCRIPTION</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE										<div style="text-align: center;"> <p>IMEG</p> <p>15 SUNNEX DR PH: 314.645.1132 www.imegcorp.com ST. LOUIS, MO 63143 Missouri State Certificate of Authority E-201708930</p> </div> <hr/> <p style="font-size: small;">I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.</p> <p style="text-align: right;"> Signature: _____ Date: 6/11/2024 JAMES W. DIETZEL, Civil Engineer P.E. My license renewal date is December 31, 2024. </p> <div style="text-align: center;"> </div> <hr/> <p style="text-align: center;"> SOUTH CLAY AVENUE RESURFACING PROJECT KIRKWOOD, MISSOURI DIFFERENTIAL RUNOFF MAP </p> <hr/> <p> IMEG Project No: 23001201.00 M.S.D. P#: 24MSD-00066 BASEMAP #: 23-24M File Name: 23001201.00-Drainage-Map.dwg © COPYRIGHT 2024 ALL RIGHTS RESERVED Drawn By: PTD Checked By: JWD Date: 06/11/2024 </p> <div style="text-align: center; font-size: 2em; font-weight: bold;">W2</div> <p style="text-align: center;">Sheet 32 of 46</p>
NO.	DESCRIPTION	DATE											

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Signature: *James W. Dietzel*
 Date: 6/11/2024

JAMES W. DIETZEL, Civil Engineer P.E.
 License No. PE-28762807
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 DIFFERENTIAL RUNOFF MAP

IMEG Project No:
 23001201.00

M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M

File Name:
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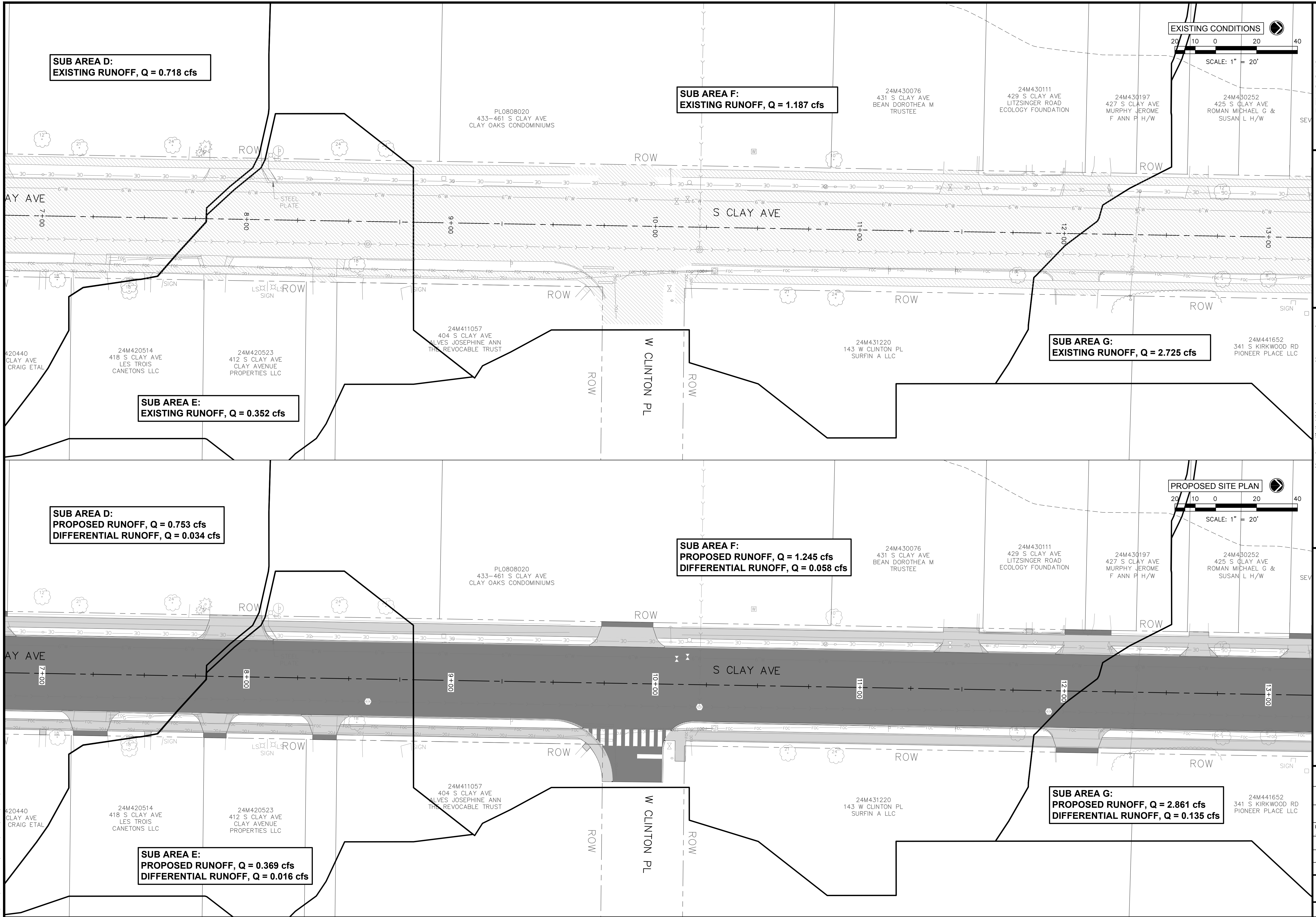
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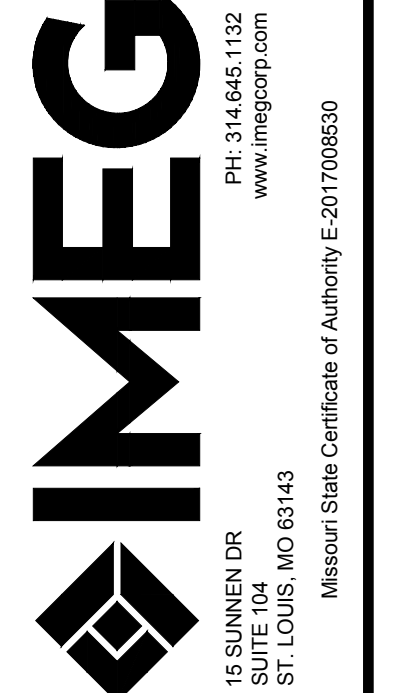
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Sheet 33 of 46

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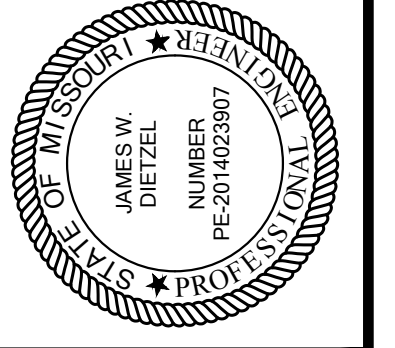


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Signature: *James W. Dietzel*
 Date: 6/11/2024
 JAMES W. DIETZEL, Civil Engineer P.E.
 My license renewal date is December 31, 2024.



SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI
DIFFERENTIAL RUNOFF MAP

IMEG Project No: 23001201.00
 M.S.D. #: 24MSD-00066
 BASEMAP #: 23-24M
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W4
 Sheet 34 of 46

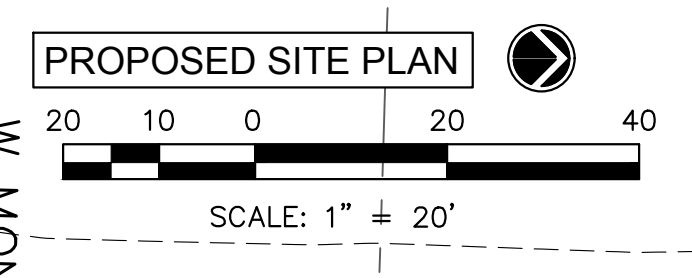
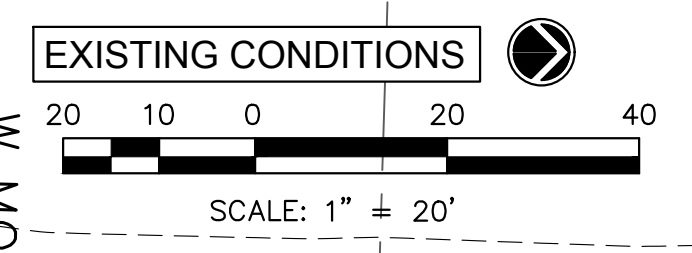
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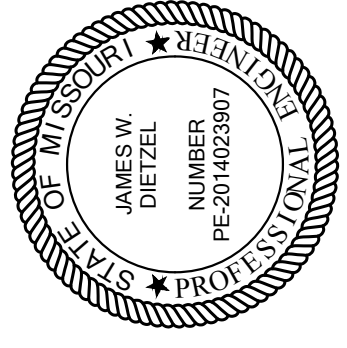
**SUB AREA G:
EXISTING RUNOFF, Q = 2.725 cfs**

**SUB AREA G:
PROPOSED RUNOFF, Q = 2.861 cfs
DIFFERENTIAL RUNOFF, Q = 0.135 cfs**



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 Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License No.: PE-28762B007
 My license renewal date is December 31, 2024.

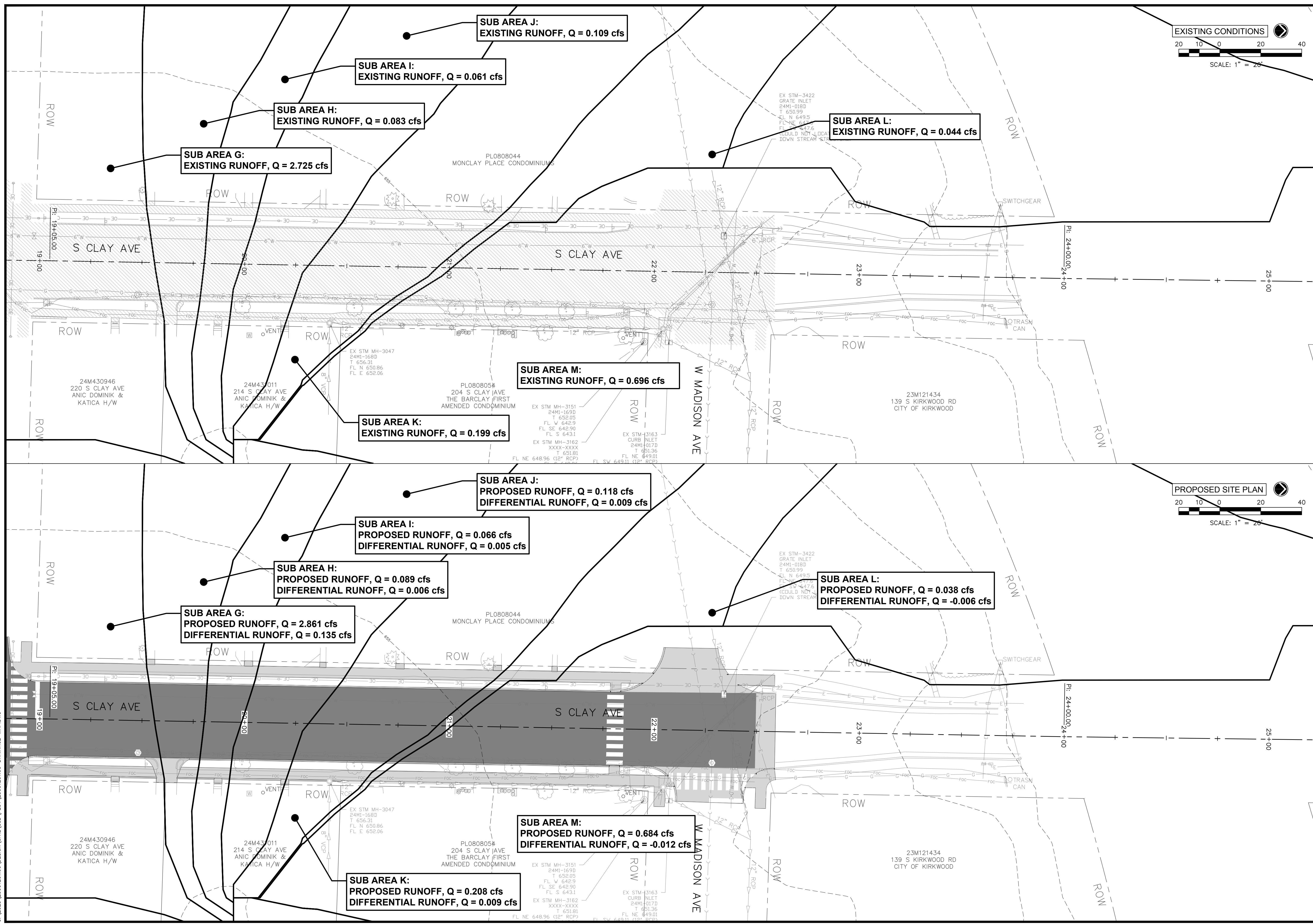
**SOUTH CLAY AVENUE RESURFACING PROJECT
KIRKWOOD, MISSOURI**

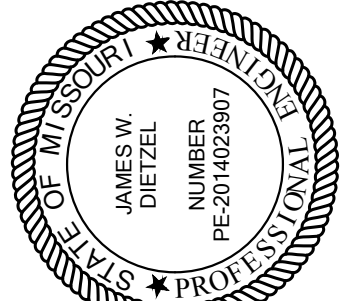
DIFFERENTIAL RUNOFF MAP

IMEG Project No: 23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name: 23001201.00-Drainage-Map.dwg
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 Checked By: JWD
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 Sheet 35 of 46

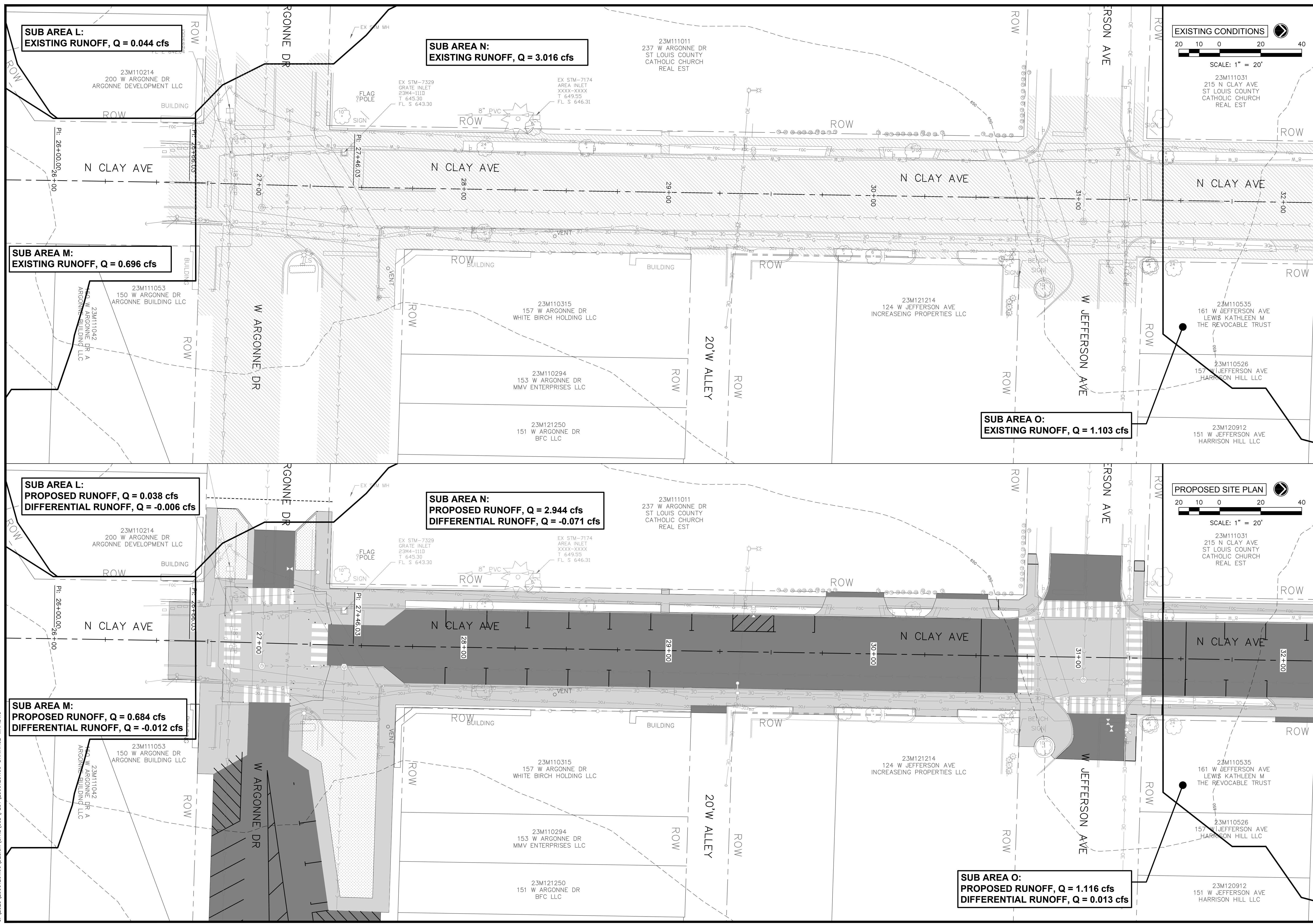

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<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 80%;">DESCRIPTION</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE				<p style="text-align: center;">IMEG</p> <p style="font-size: 8px;"> 15 SUMNER DR ST. LOUIS, MO 63143 Missouri State Certificate of Authority E-201700830 PH: 314.646.1132 www.imegcorp.com </p> <hr/> <p style="font-size: 8px;"> I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri. </p> <p style="font-size: 8px;"> Signature: <i>James W. Dietzel</i> Date: 6/11/2024 JAMES W. DIETZEL, Civil Engineer P.E. My license renewal date is December 31, 2024. </p> <div style="text-align: center;">  </div>
NO.	DESCRIPTION	DATE					
<p>SOUTH CLAY AVENUE RESURFACING PROJECT KIRKWOOD, MISSOURI DIFFERENTIAL RUNOFF MAP</p>							
<p>IMEG Project No: 23001201.00 M.S.D. P#: 24MSD-00066 BASEMAP #: 23-24M</p>							
<p>File Name: 23001201.00-Drainage-Map.dwg © COPYRIGHT 2024 ALL RIGHTS RESERVED</p>							
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<p>Sheet 36 of 46</p>							

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SUB AREA L:
EXISTING RUNOFF, Q = 0.044 cfs

SUB AREA N:
EXISTING RUNOFF, Q = 3.016 cfs

SUB AREA M:
EXISTING RUNOFF, Q = 0.696 cfs

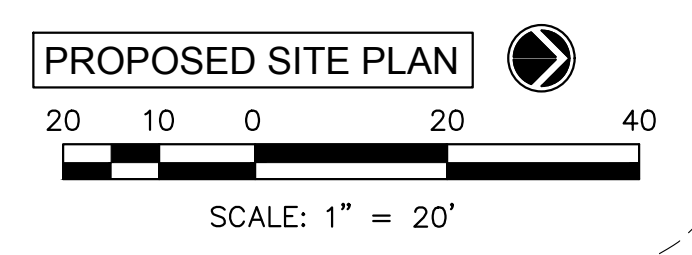
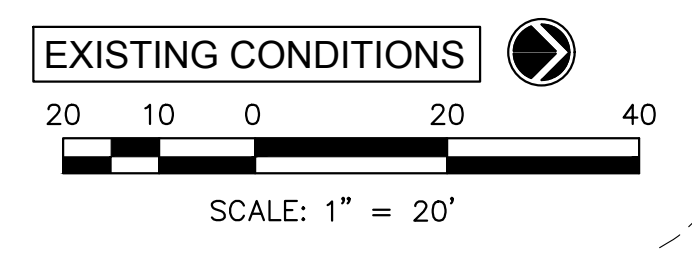
SUB AREA O:
EXISTING RUNOFF, Q = 1.103 cfs

SUB AREA L:
PROPOSED RUNOFF, Q = 0.038 cfs
DIFFERENTIAL RUNOFF, Q = -0.006 cfs

SUB AREA N:
PROPOSED RUNOFF, Q = 2.944 cfs
DIFFERENTIAL RUNOFF, Q = -0.071 cfs

SUB AREA M:
PROPOSED RUNOFF, Q = 0.684 cfs
DIFFERENTIAL RUNOFF, Q = -0.012 cfs

SUB AREA O:
PROPOSED RUNOFF, Q = 1.116 cfs
DIFFERENTIAL RUNOFF, Q = 0.013 cfs



NO.	DESCRIPTION	DATE

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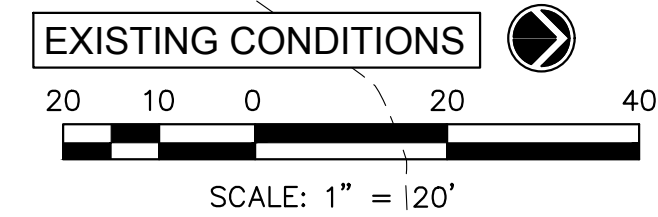
Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License No.: PE-28763807
 My license renewal date is December 31, 2024.

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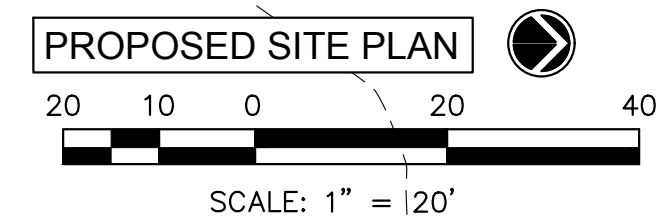
SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 DIFFERENTIAL RUNOFF MAP

IMEG Project No:
23001201.00
 M.S.D. P#: 24MSD-00066
 BASEMAP #: 23-24M
 File Name:
 23001201.00-Drainage-Map.dwg
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W7
 Sheet 37 of 46

**SUB AREA O:
EXISTING RUNOFF, Q = 1.103 cfs**



**SUB AREA O:
PROPOSED SITE PLAN
DIFFERENTIAL RUNOFF, Q = 0.013 cfs**



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NO.	DESCRIPTION	DATE

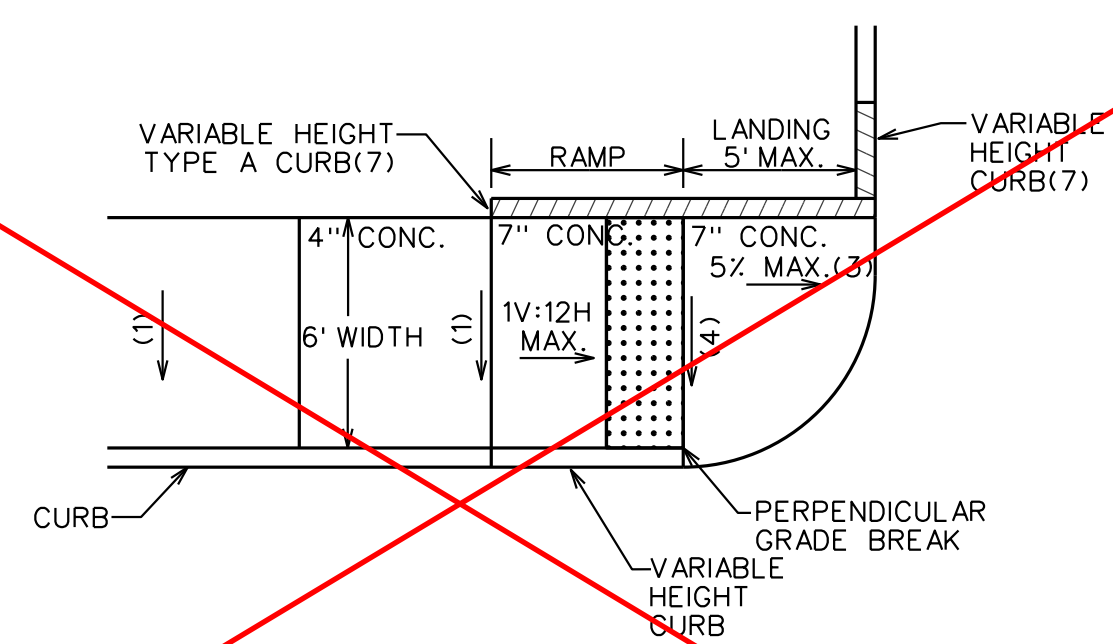


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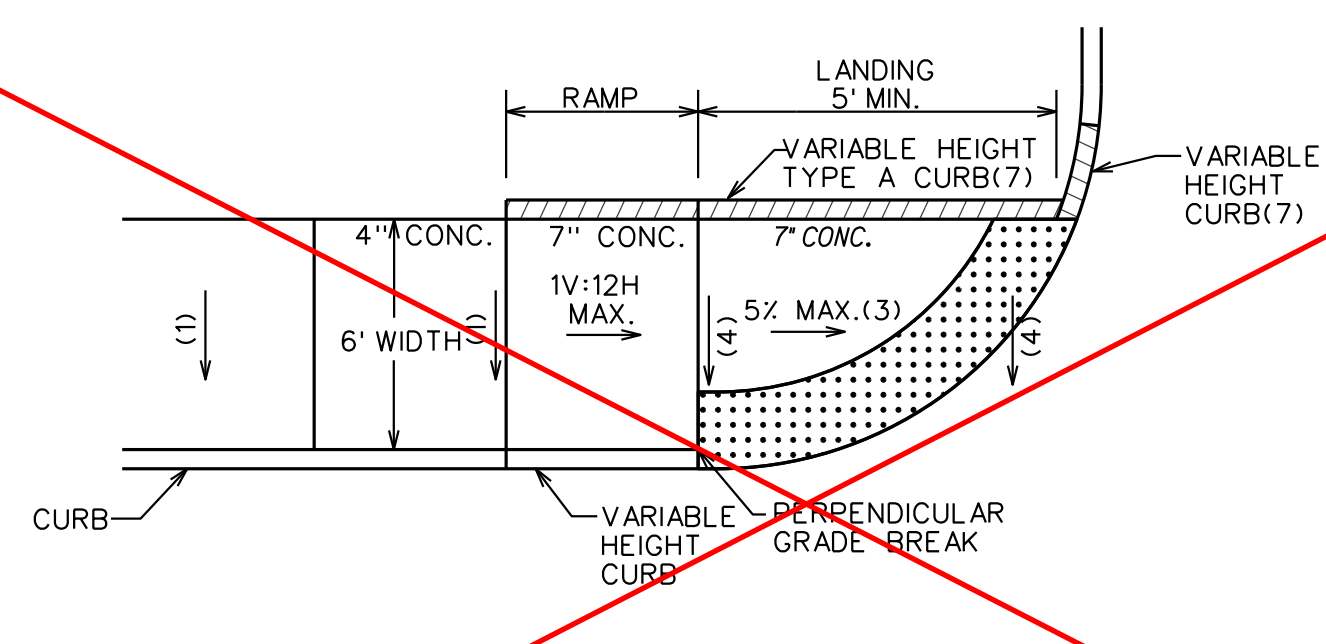
Signature: *James W. Dietzel*
 Date: 6/11/2024
 Name: JAMES W. DIETZEL, Civil Engineer P.E.
 License Number: PE-28762807
 My license renewal date is December 31, 2024.

SOUTH CLAY AVENUE RESURFACING PROJECT
 KIRKWOOD, MISSOURI
 DIFFERENTIAL RUNOFF MAP

IMEG Project No:
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W8
 Sheet 38 of 46



**CONFIGURATION S-PERP-1:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
SMALL RADIUS, BACK OF CURB**



**CONFIGURATION S-PERP-2:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
LARGE RADIUS, BACK OF CURB**

NOTES:

- (1) CROSS SLOPE SHALL BE SUFFICIENT TO PREVENT PONDING UP TO A MAXIMUM OF 2% UNLESS OTHERWISE NOTED. 1.5% (+/-) 0.5% CROSS SLOPE RECOMMENDED.
- (2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.
- (3) ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT OR GUTTER SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL AND CURB RAMP SLOPE SHALL NOT EXCEED 13.0%. PROVIDE A 24" LEVEL LANDING IF ALGEBRAIC DIFFERENCE EXCEEDS 13.0%.
- (4) CROSS SLOPE SHALL BE A MIN OF 1.0% AND A MAX OF 2.0% AT INTERSECTIONS WITH STOP OR YIELD CONTROL. CROSS SLOPE SHALL BE A MAX OF 5.0% AT INTERSECTIONS WITHOUT STOP OR YIELD CONTROL.
- (5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.
- (6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX.
- (7) IN ORDER TO PREVENT TRIPPING HAZARDS, RETURN CURBS AND NON-TRAVERSIBLE FLARES MAY BE USED ONLY WHEN NECESSARY. IF GRADING CAN BE PERFORMED TO SURROUNDING VEGETATIVE AREAS THAT IS SIMILAR TO ADJOINING SLOPES, VERTICAL CURBS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE SHALL BE AVOIDED.

GENERAL NOTES:

THE CONTRACTOR SHALL COMPLY WITH ALL LAWS PERTAINING TO THE AMERICANS WITH DISABILITIES ACT ON PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

SIDEWALK AND RAMP WIDTH SHALL BE 5' MIN FOR ARTERIAL (ARS), COLLECTOR (CRS-2), AND NONRESIDENTIAL (CRS) ROADS; 4' MIN WIDTH FOR RESIDENTIAL (CRS) STREETS; 6' MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB.

FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER.

THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% EXCEPT WHEN MATCHING THE GRADE OF AN ADJACENT ROADWAY.

A DIAGONAL RAMP IS A SINGLE CURB RAMP WHICH SERVES TWO CROSSINGS. DIAGONAL RAMP SHALL NOT BE PERMITTED FOR NEW CONSTRUCTION OR REDEVELOPMENT PROJECTS. DIAGONAL RAMP MAY ONLY BE USED FOR ALTERATION TYPE PROJECTS WHERE CONSTRUCTION OF SPLIT RAMP IS NOT PRACTICABLE AS DETERMINED BY THE ENGINEER.

LANDINGS, TURNING SPACES, AND CLEAR SPACES LOCATED IN THE ROADWAY MUST BE COMPLETELY CONTAINED WITHIN THE CROSSWALK.

TRANSITIONS FROM SIDEWALK TO GUTTER TO ROADWAY MUST BE FLUSH.

DETECTABLE WARNING DEVICES ARE REQUIRED AT PUBLIC STREETS AND SIGNALIZED ENTRANCES. FOR DETECTABLE WARNING SURFACE REQUIREMENTS SEE STANDARD DRAWING C608.51

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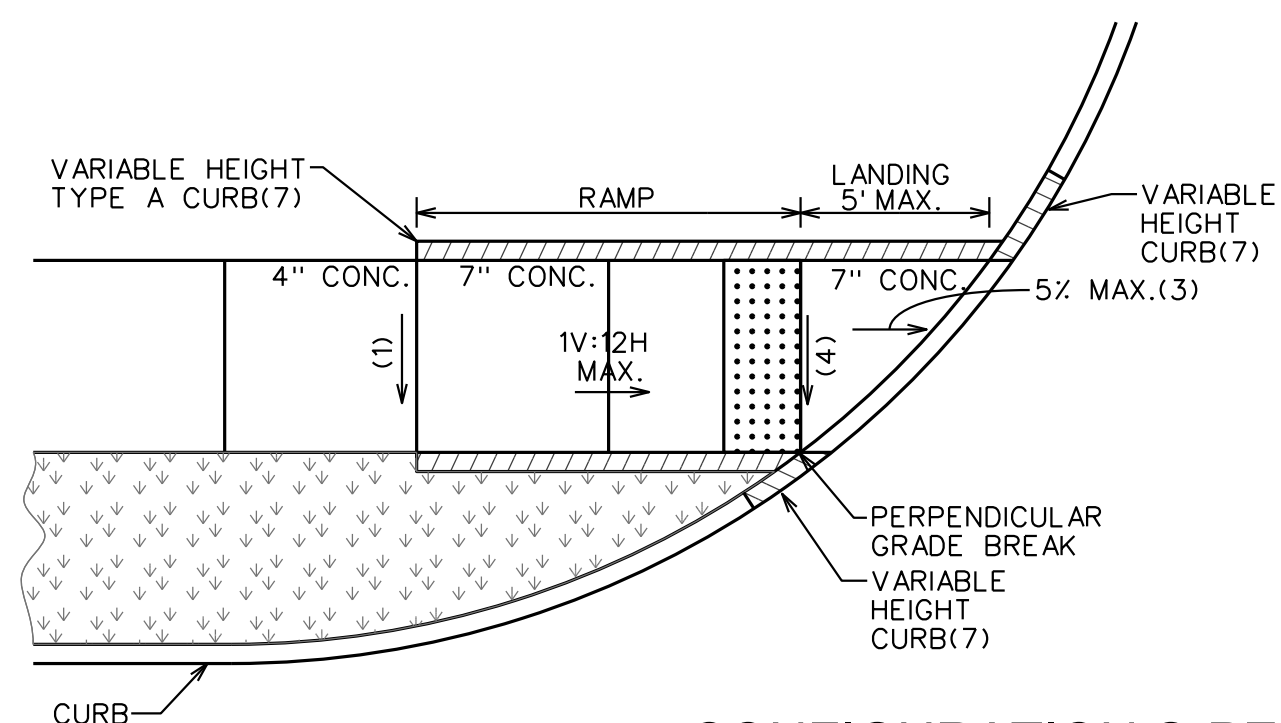
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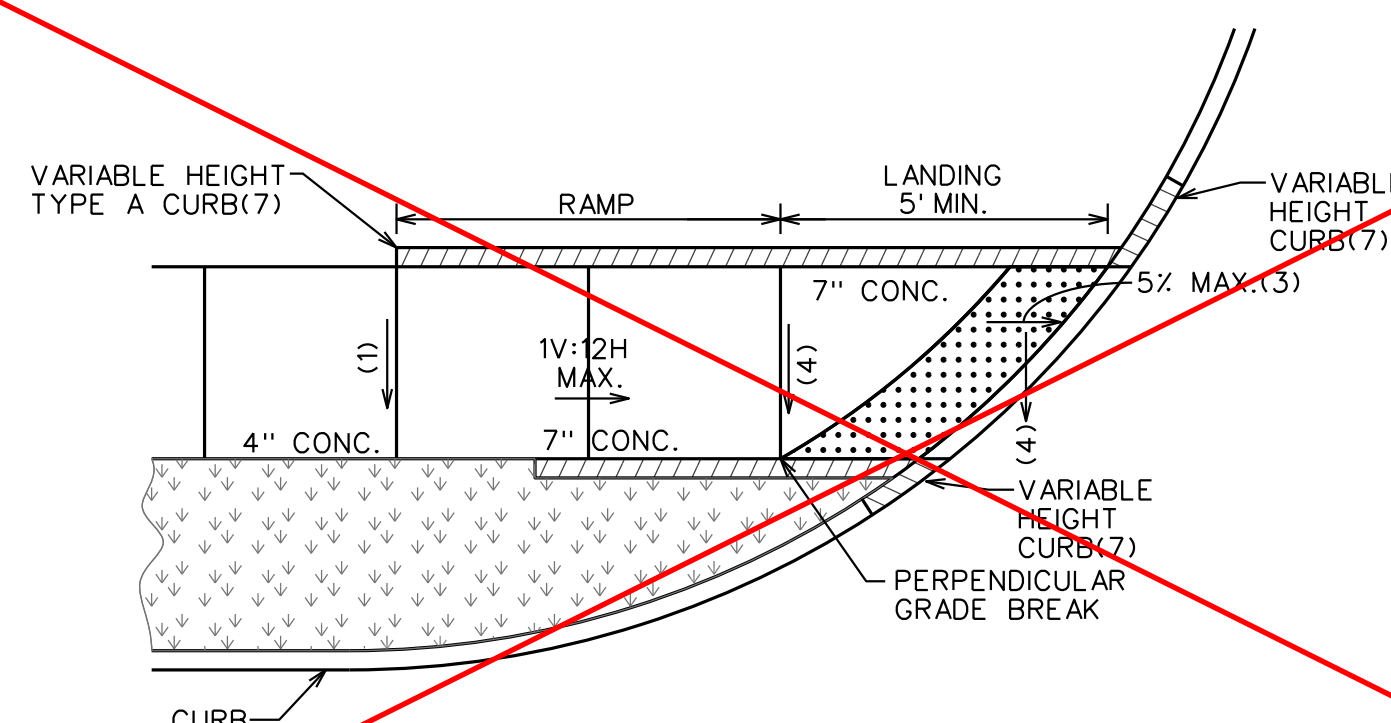
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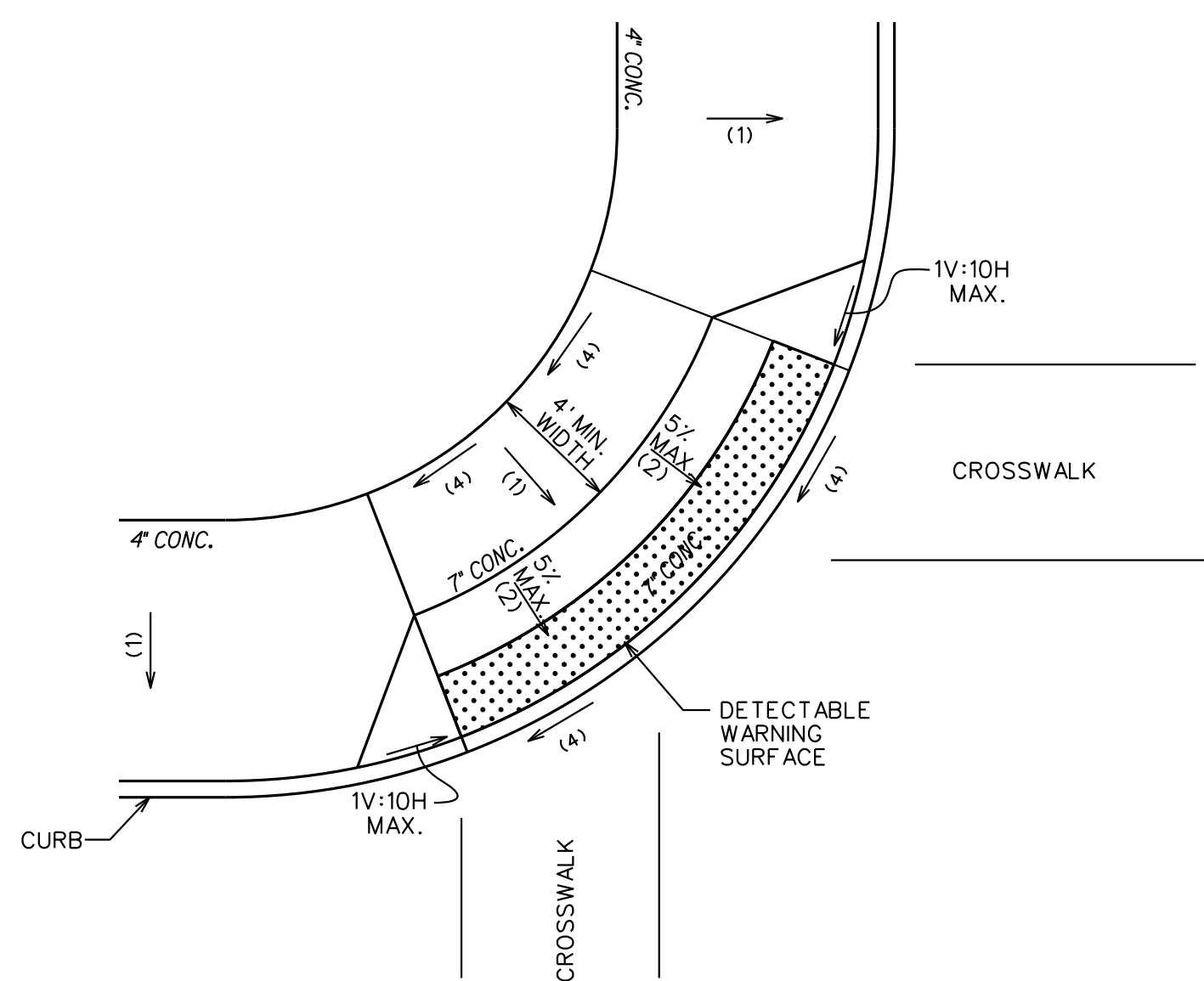
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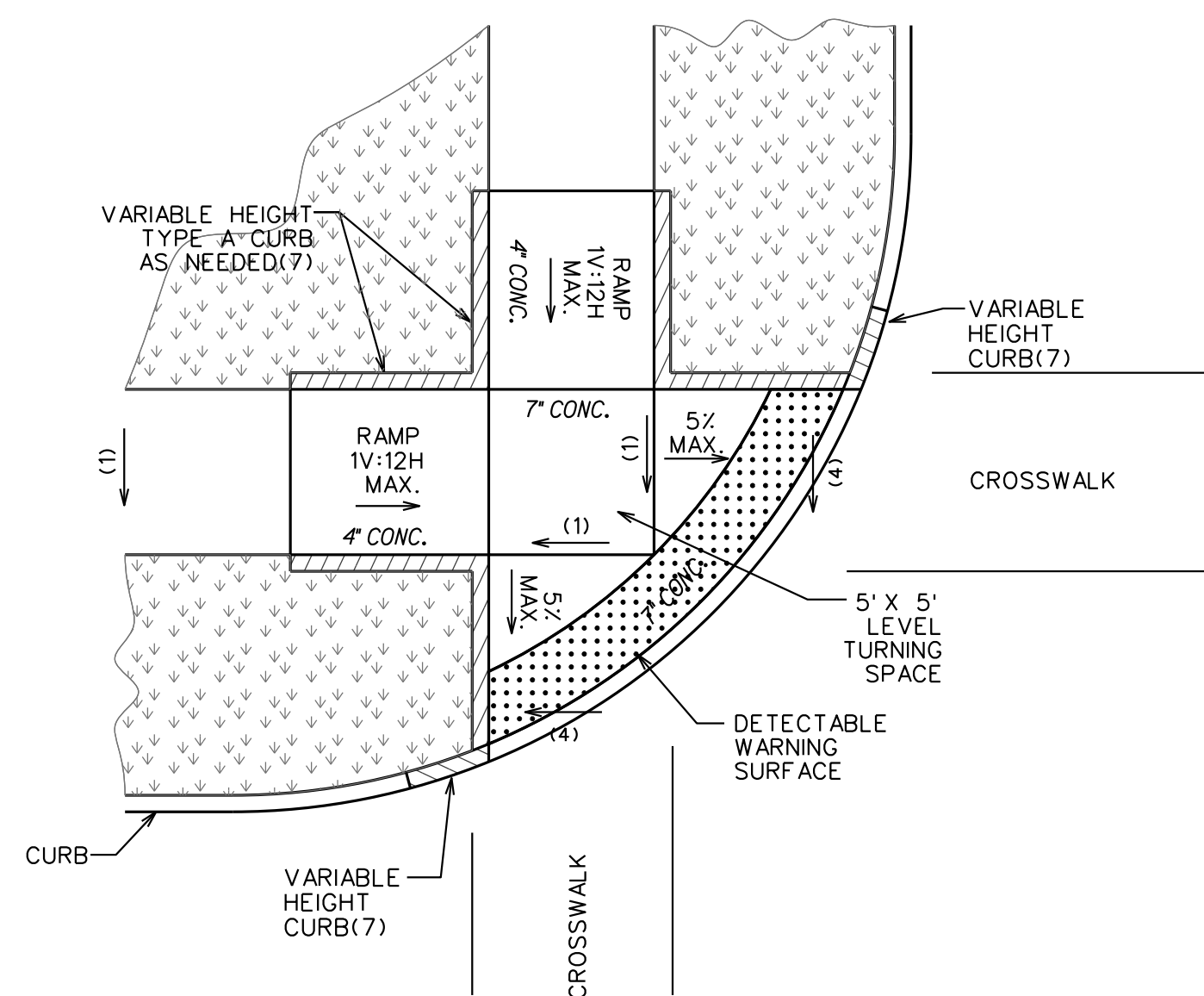
**CONFIGURATION S-PERP-3:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
SMALL RADIUS, GRASS BUFFER**



**CONFIGURATION S-PERP-4:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
LARGE RADIUS, GRASS BUFFER**

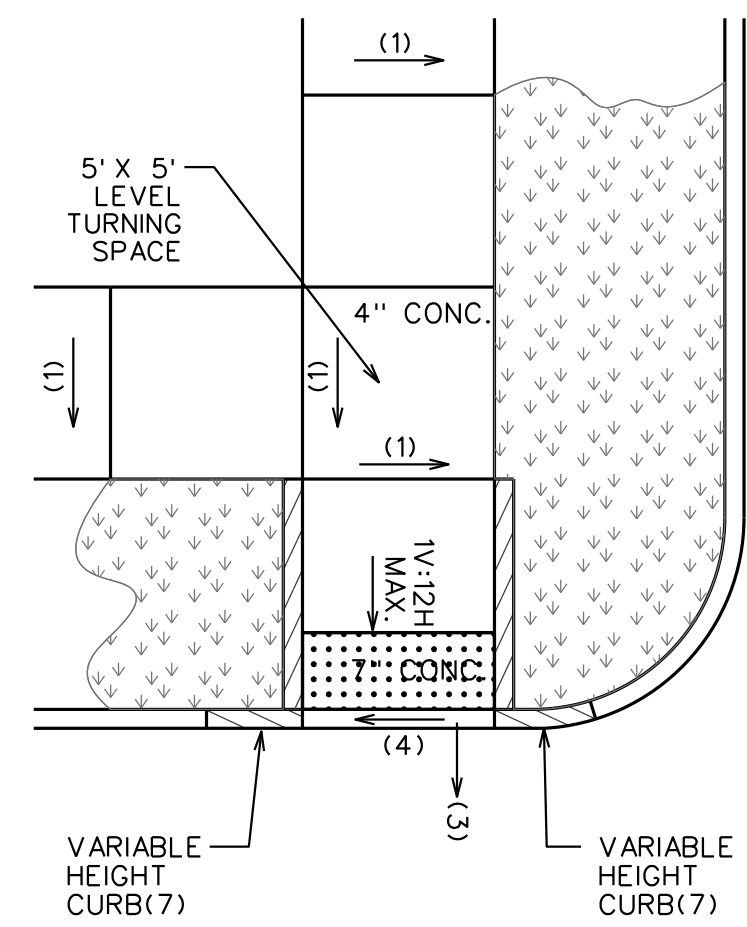


**CONFIGURATION BT-1:
TYPE E CURB RAMP
BLENDED TRANSITION,
BACK OF CURB**

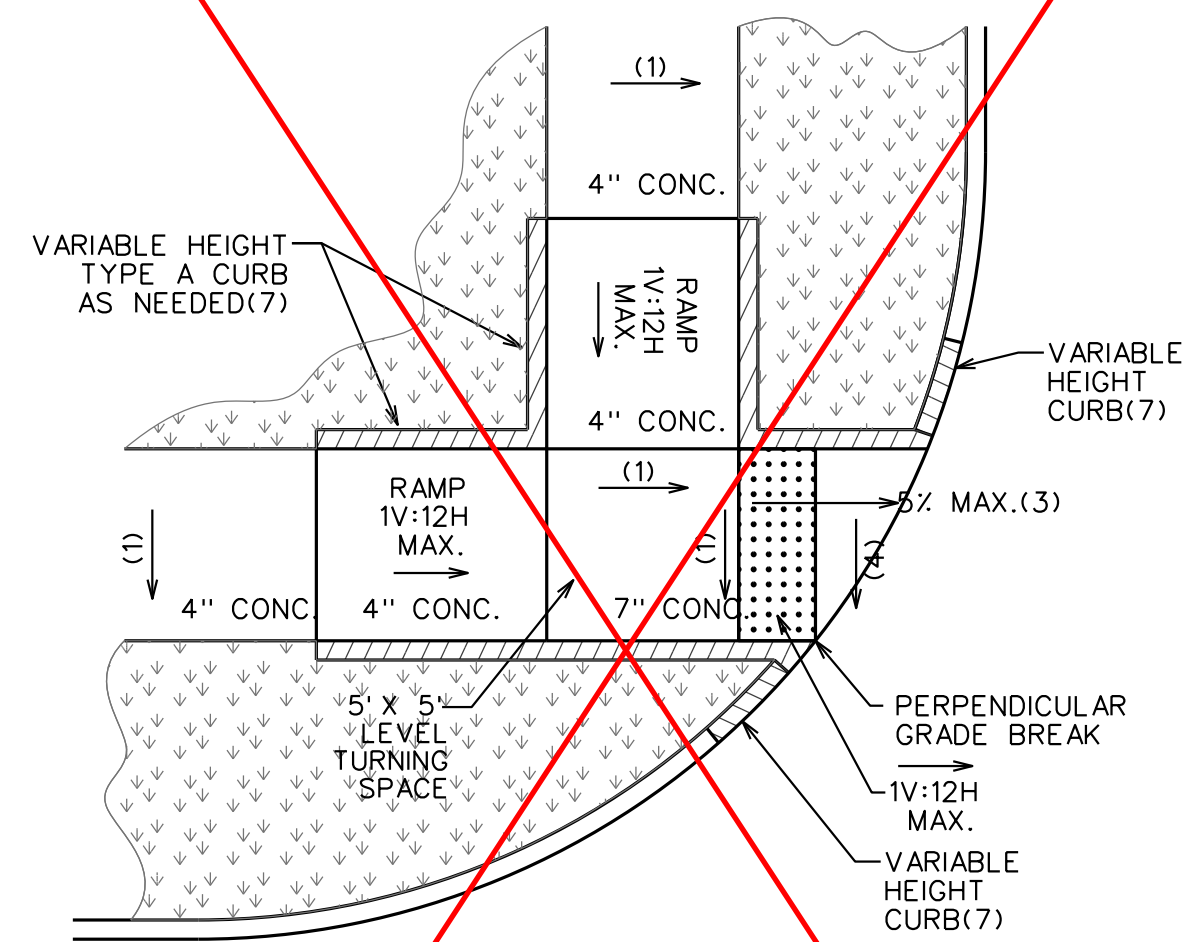


**CONFIGURATION BT-COMB-1:
TYPE E CURB RAMP
BLENDED TRANSITION
GRASS BUFFER**

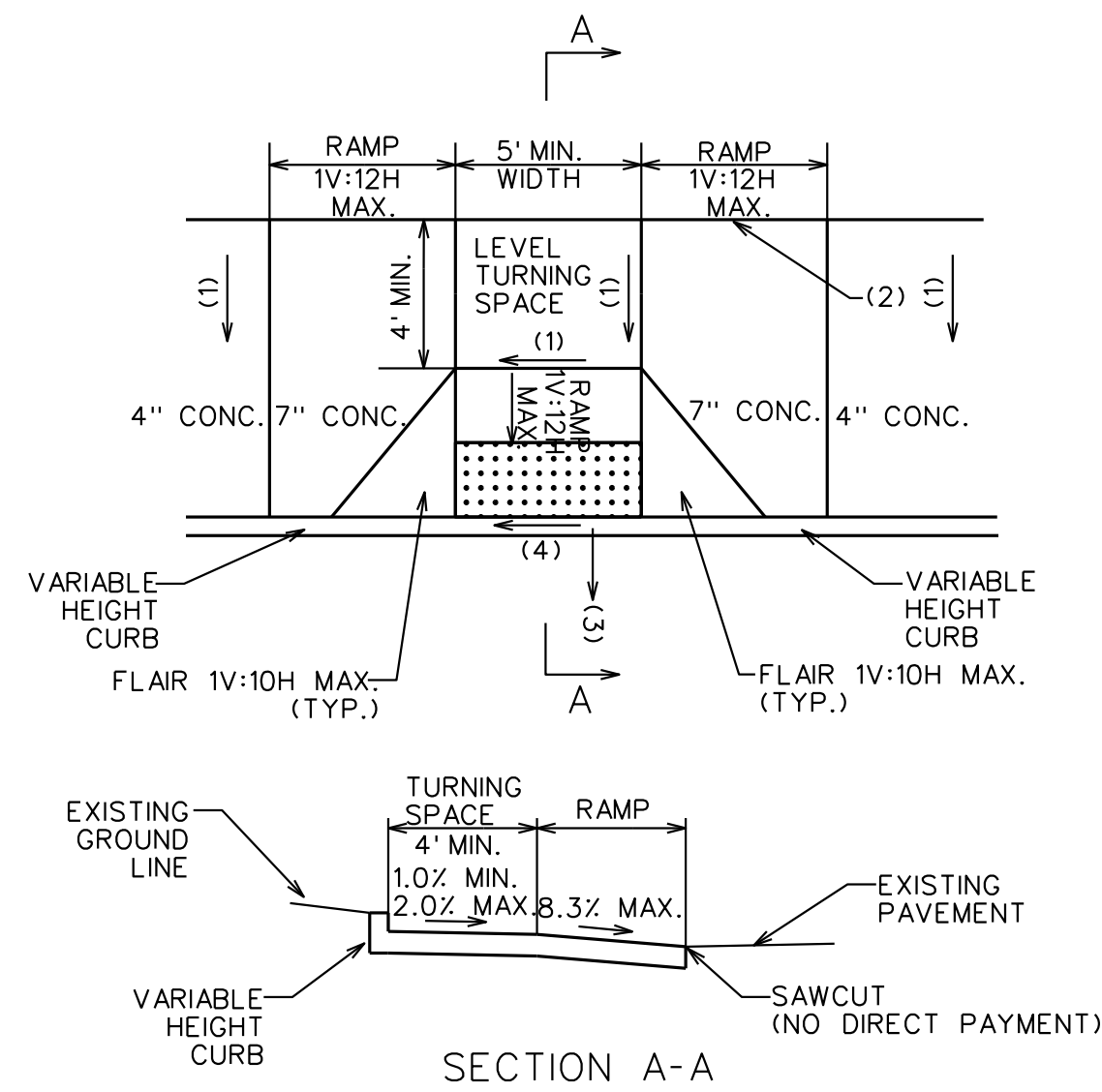
ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT		CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY			
03/09/2020			1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132	EFFECTIVE 05/01/2020	SHEET 1 OF 7	DRAWING C608.41
REVISIONS						



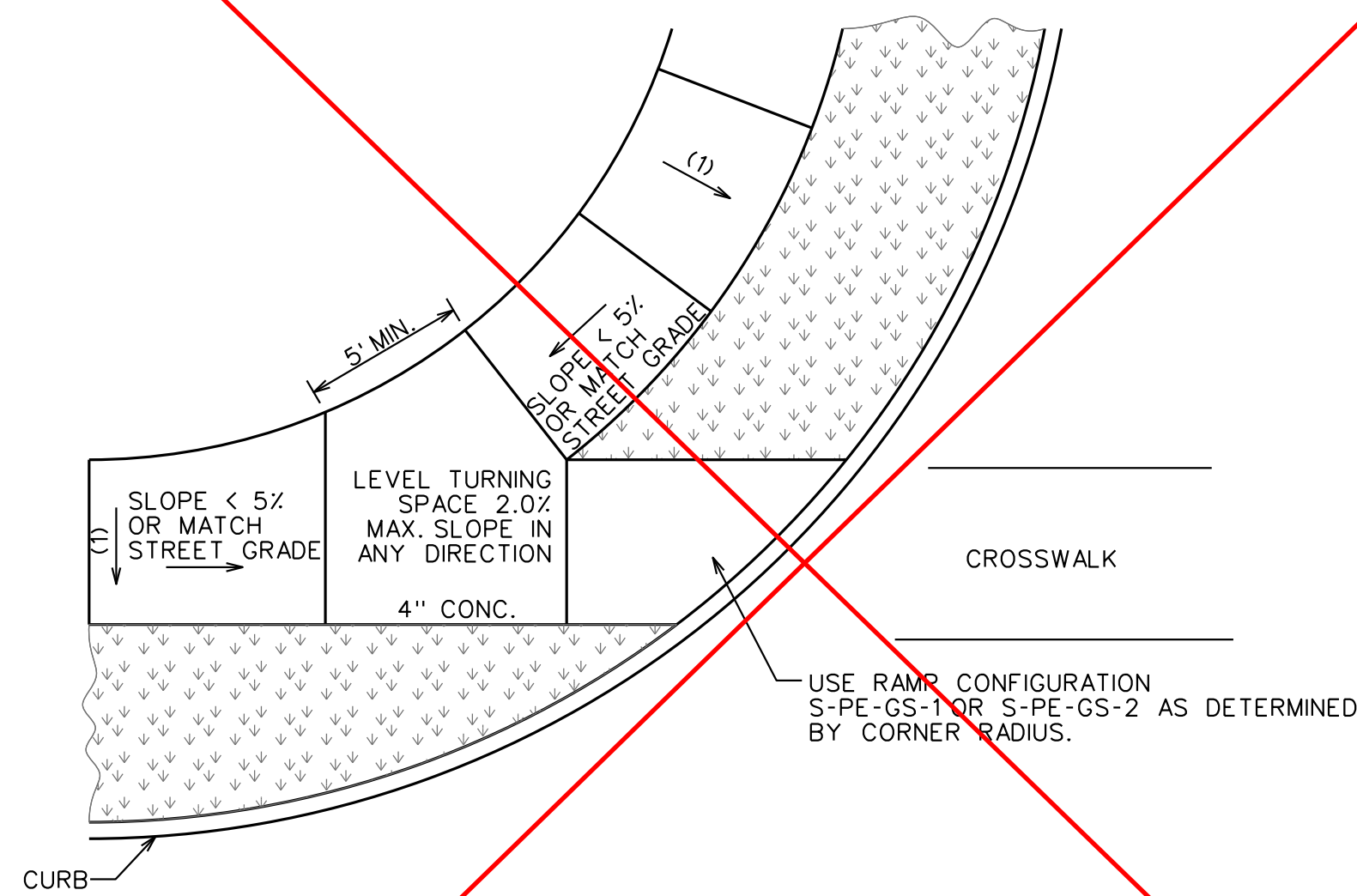
**CONFIGURATION S-PERP-5:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
GRASS BUFFER**



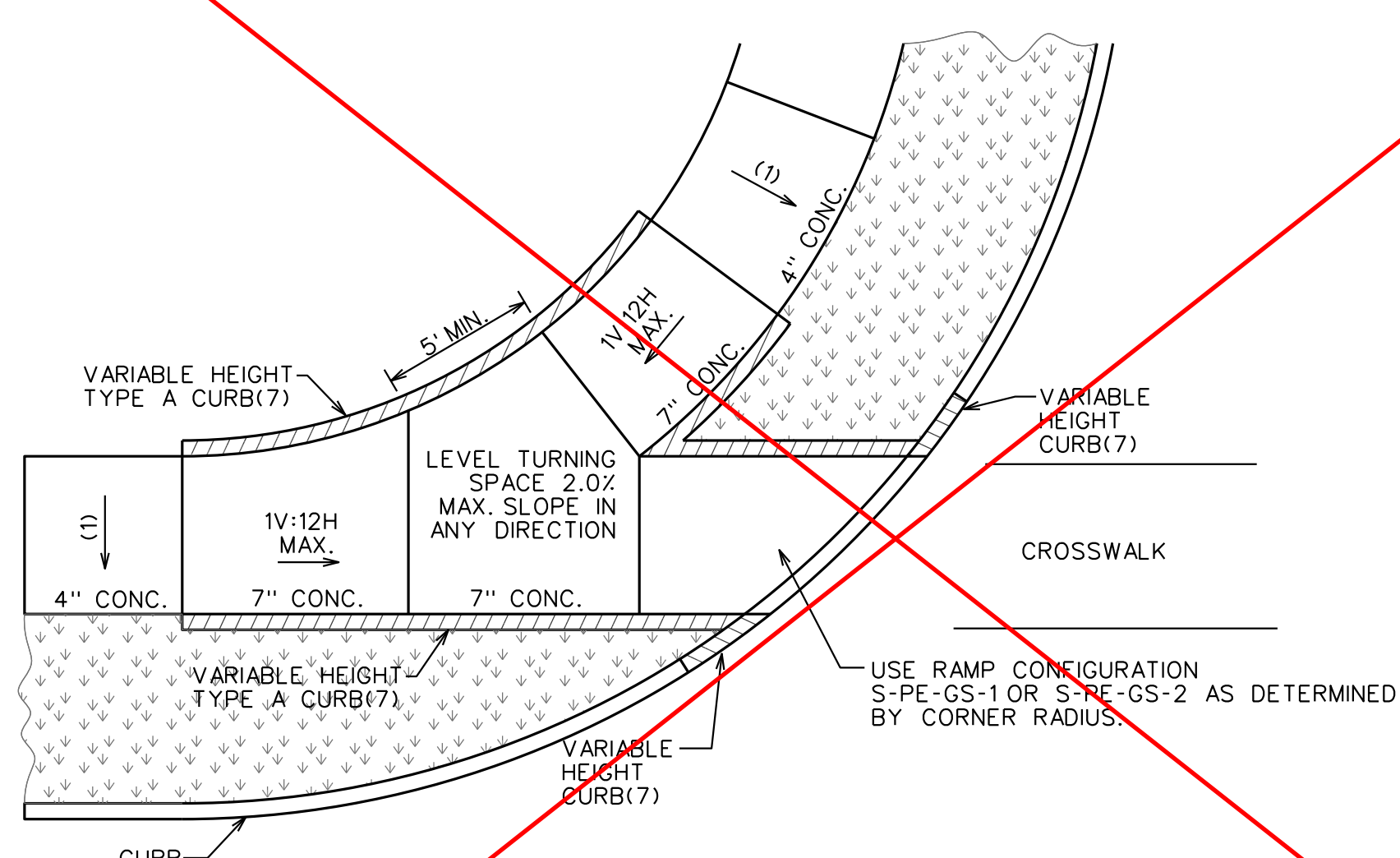
**CONFIGURATION S-COMB-1:
TYPE B,C CURB RAMP
SINGLE COMPOUND,
GRASS BUFFER**



**CONFIGURATION S-COMB-2:
TYPE A,C CURB RAMP
SINGLE COMPOUND,
BACK OF CURB**



**CONFIGURATION S-PERP-6:
TYPE B CURB RAMP
SINGLE PERPENDICULAR,
NON-PERPENDICULAR DIVERGENT
PATH, GRASS BUFFER**



**CONFIGURATION S-COMB-3:
TYPE B CURB RAMP
SINGLE COMPOUND,
NON-PERPENDICULAR DIVERGENT
PATH, GRASS BUFFER**

NOTES:

- (1) CROSS SLOPE SHALL BE SUFFICIENT TO PREVENT PONDING UP TO A MAXIMUM OF 2% UNLESS OTHERWISE NOTED. 1.5% (+/-) 0.5% CROSS SLOPE RECOMMENDED.
- (2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.
- (3) ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT OR GUTTER SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL AND CURB RAMP SLOPE SHALL NOT EXCEED 13.0%. PROVIDE A 24" LEVEL LANDING IF ALGEBRAIC DIFFERENCE EXCEEDS 13.0%.
- (4) CROSS SLOPE SHALL BE A MIN OF 1.0% AND A MAX OF 2.0% AT INTERSECTIONS WITH STOP OR YIELD CONTROL. CROSS SLOPE SHALL BE A MAX OF 5.0% AT INTERSECTIONS WITHOUT STOP OR YIELD CONTROL.
- (5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.
- (6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX.
- (7) IN ORDER TO PREVENT TRIPPING HAZARDS, RETURN CURBS AND NON-TRAVERSIBLE FLARES MAY BE USED ONLY WHEN NECESSARY. IF GRADING CAN BE PERFORMED TO SURROUNDING VEGETATIVE AREAS THAT IS SIMILAR TO ADJOINING SLOPES, VERTICAL CURBS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE SHALL BE AVOIDED.

GENERAL NOTES:

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SIDEWALK AND RAMP WIDTH SHALL BE 5' MIN FOR ARTERIAL (ARS), COLLECTOR (CRS-2), AND NONRESIDENTIAL (CRS) ROADS; 4' MIN WIDTH FOR RESIDENTIAL (CRS) STREETS; 6' MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB.

FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER.

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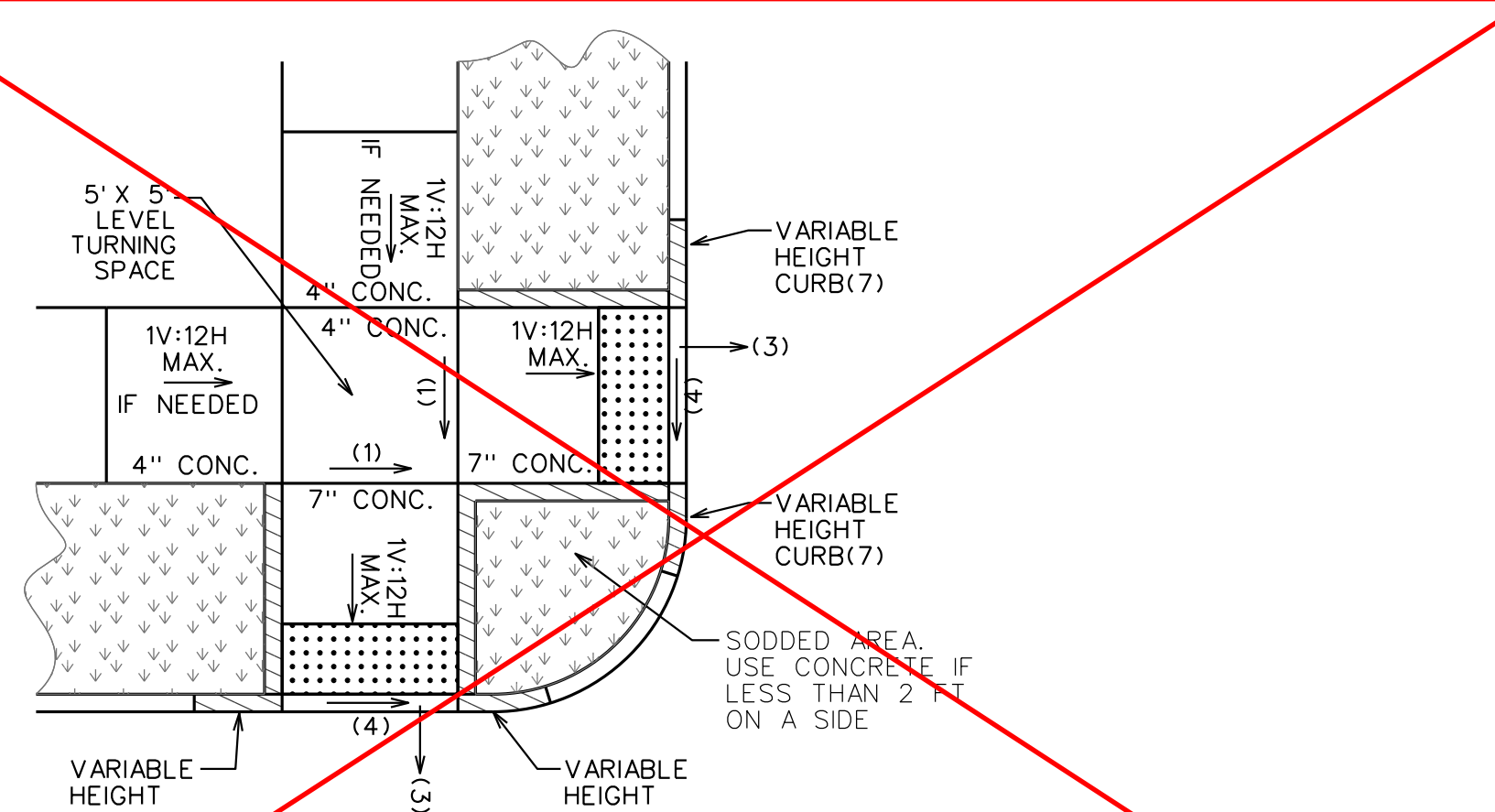


CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY

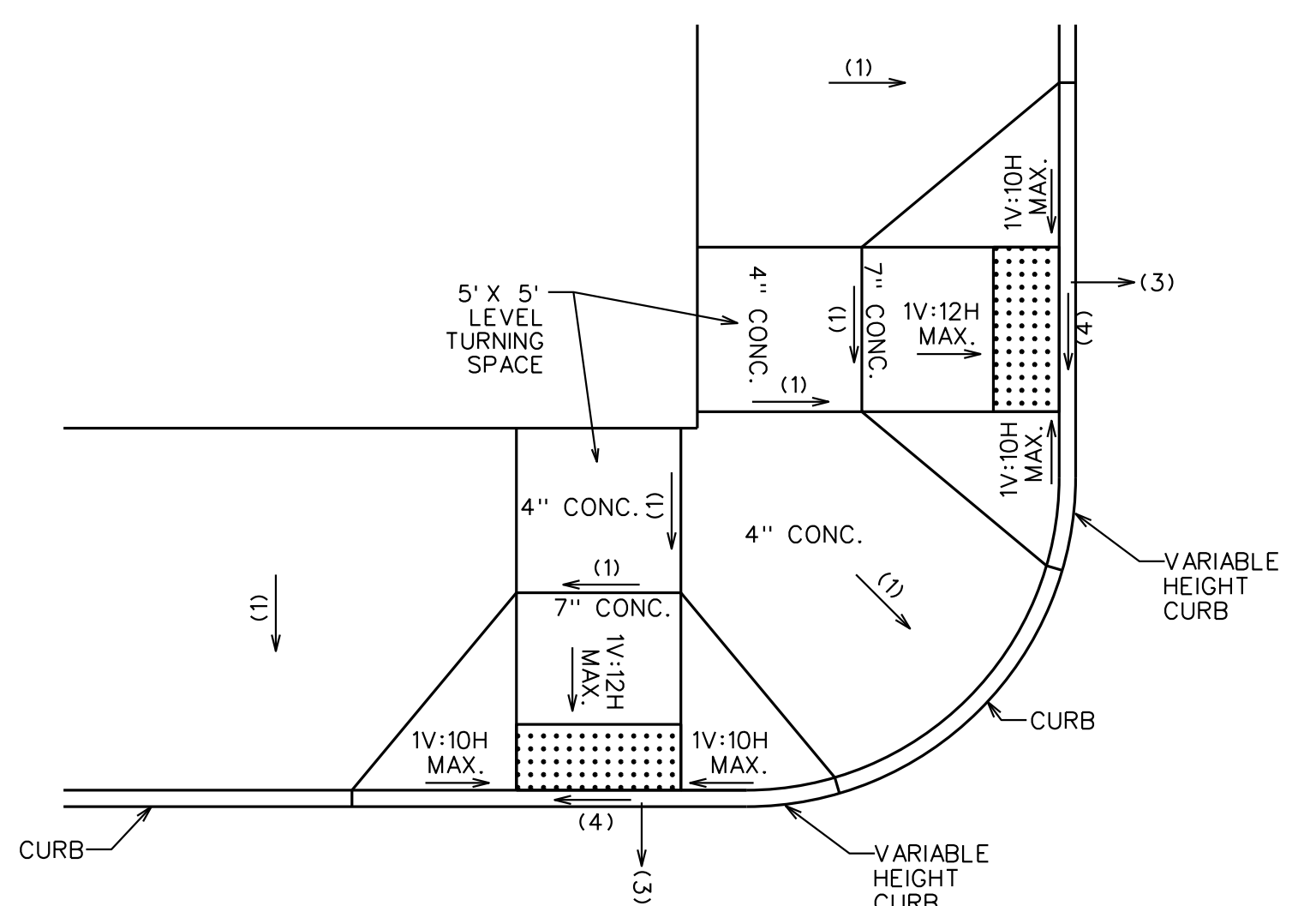
EFFECTIVE 05/01/2020

SHEET 2 OF 7

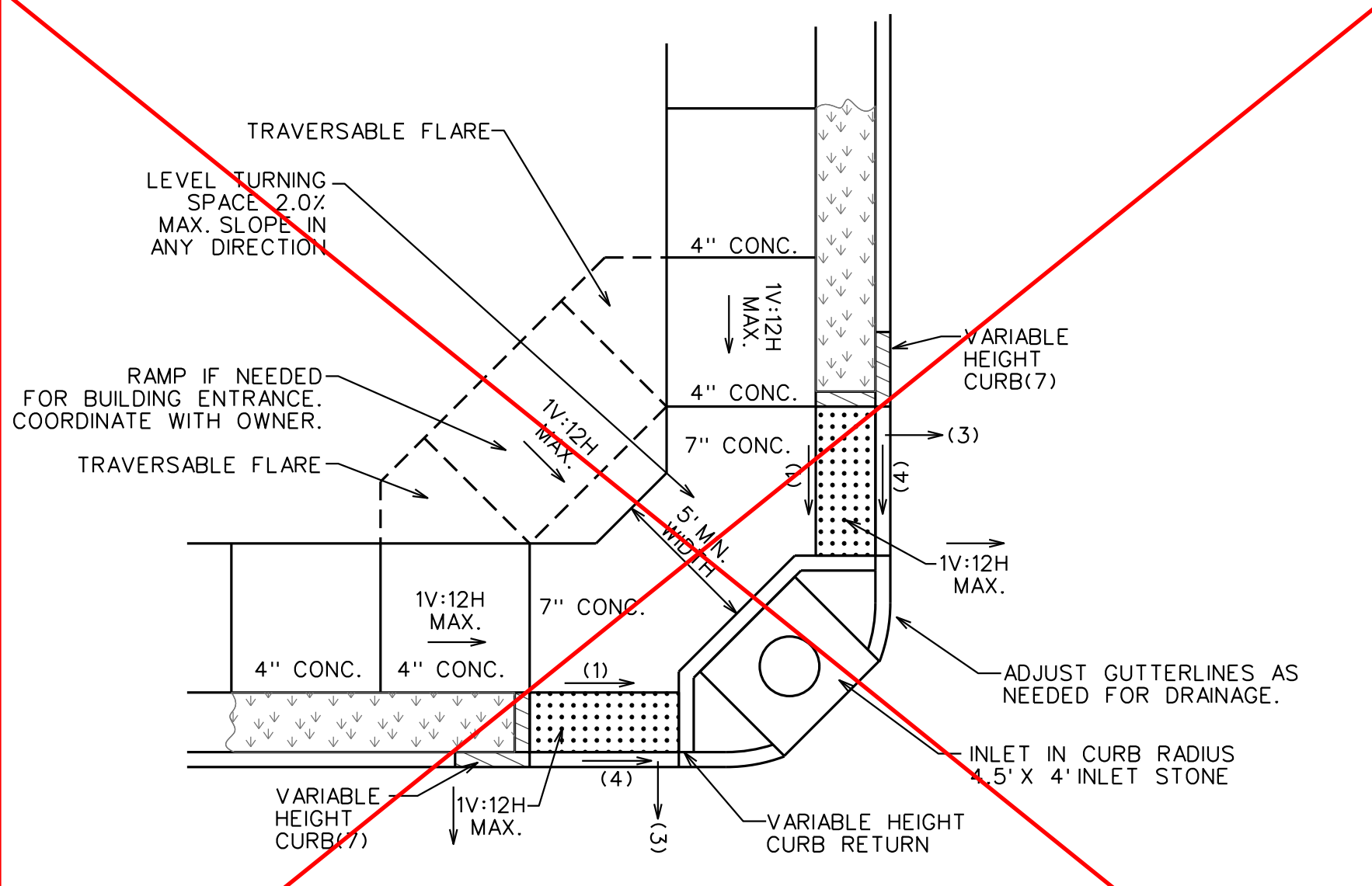
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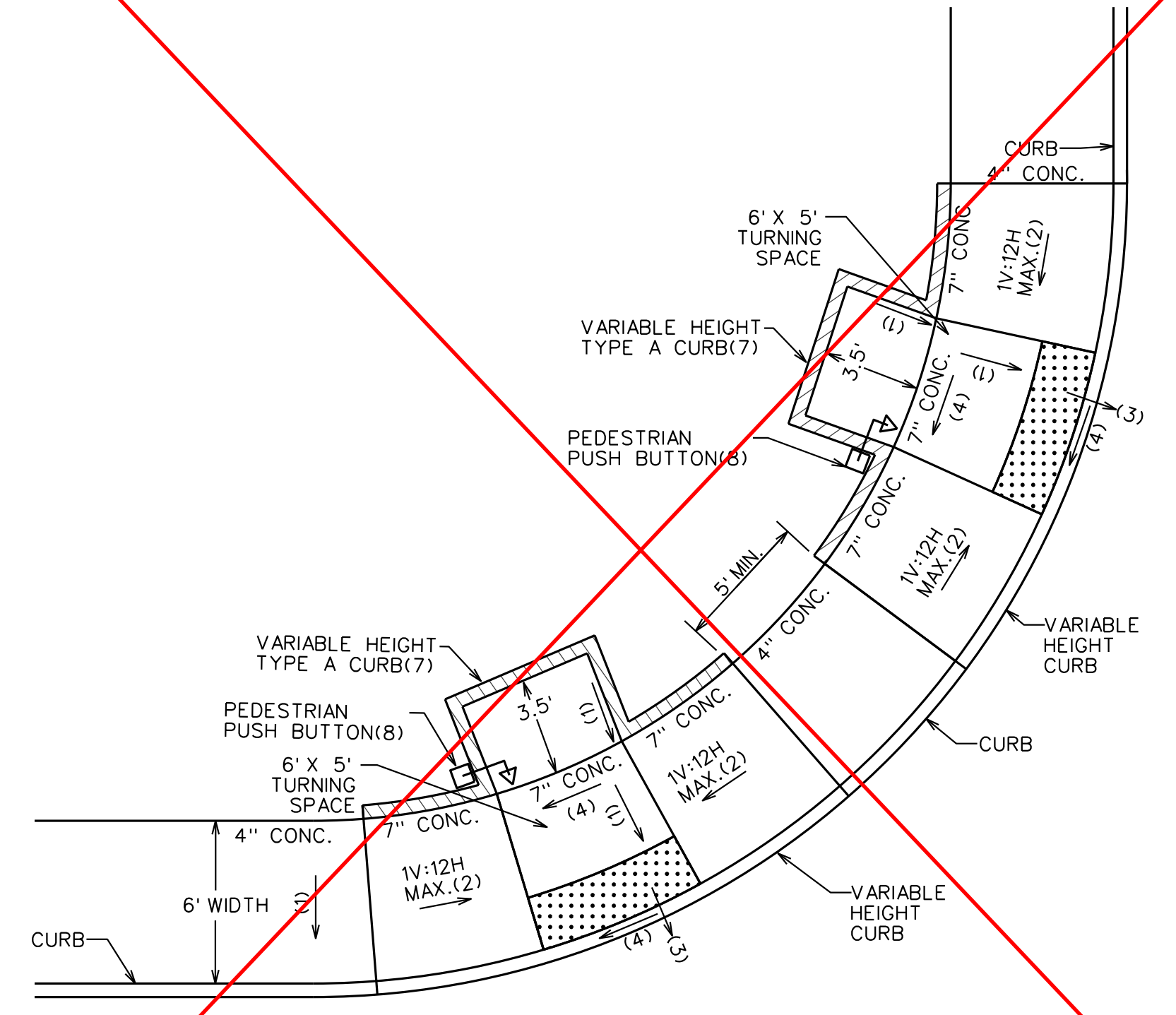
**CONFIGURATION D-PERP-1:
TYPE B CURB RAMP
DUAL PERPENDICULAR,
GRASS BUFFER**



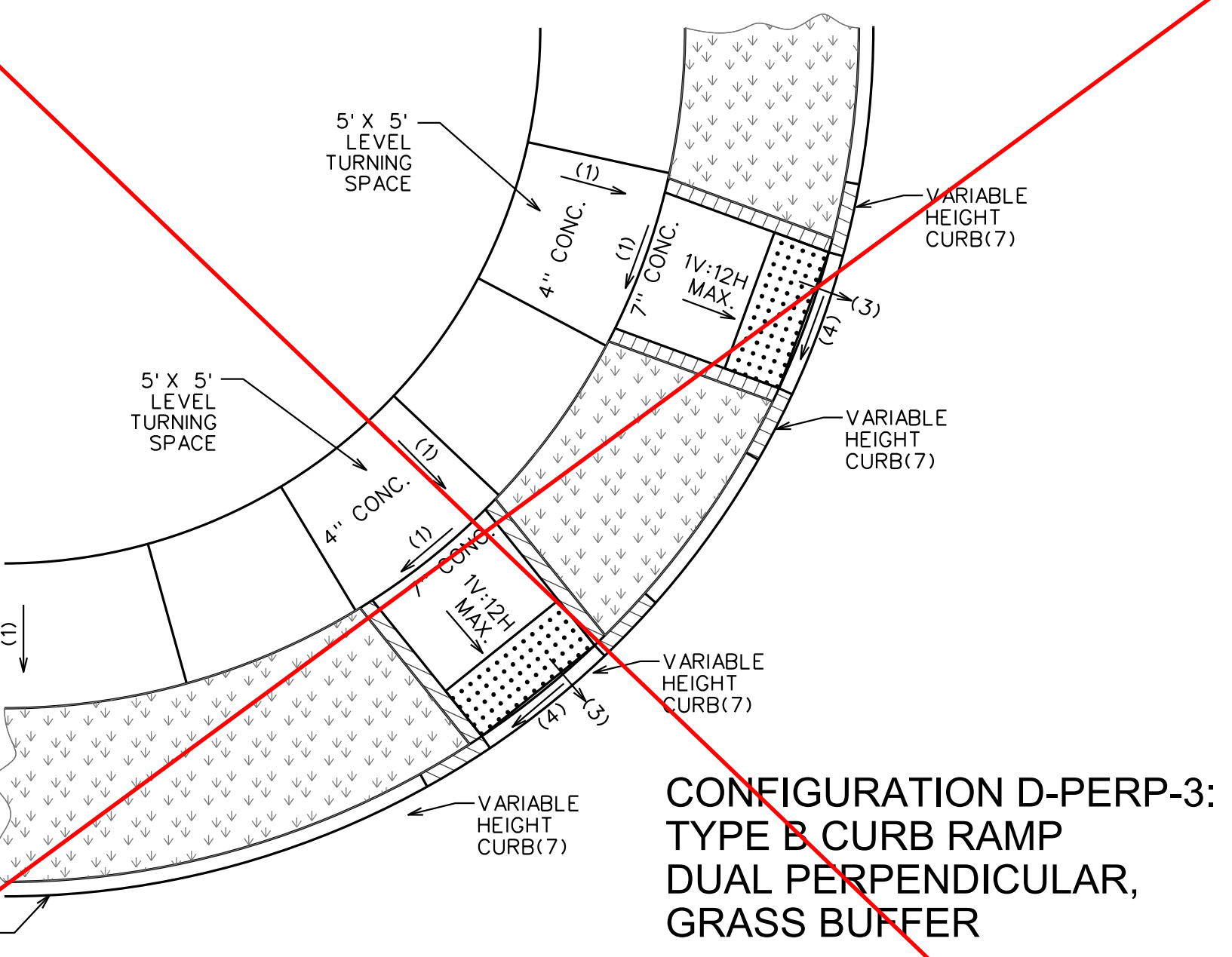
**CONFIGURATION D-PERP-2:
TYPE A CURB RAMP
DUAL PERPENDICULAR,
BACK OF CURB**



**CONFIGURATION D-COMB-1:
TYPE 2,3 CURB RAMP
DUAL COMPOUND
WITH RADIUS INLET**



**CONFIGURATION D-PAR-1:
TYPE C CURB RAMP
DUAL PARALLEL,
BACK OF CURB**



**CONFIGURATION D-PERP-3:
TYPE B CURB RAMP
DUAL PERPENDICULAR,
GRASS BUFFER**

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Saint Louis COUNTY TRANSPORTATION
1050 NORTH LINDBERGH BLVD.
ST. LOUIS, MISSOURI 63132

CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY

EFFECTIVE 05/01/2020	SHEET 3 OF 7	DRAWING C608.41
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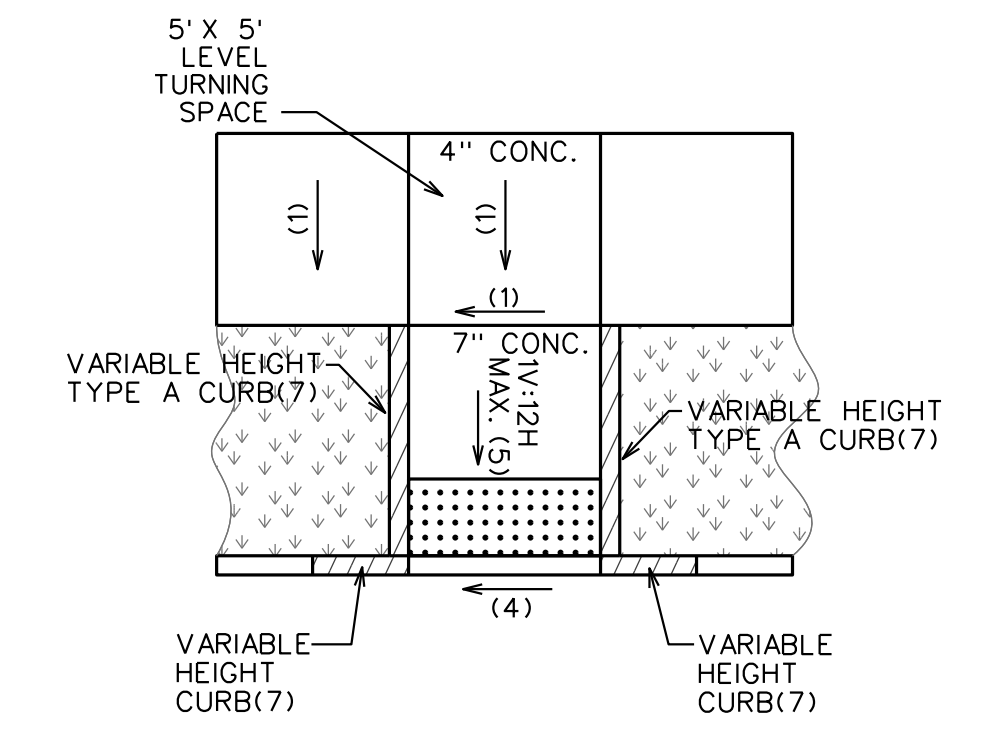
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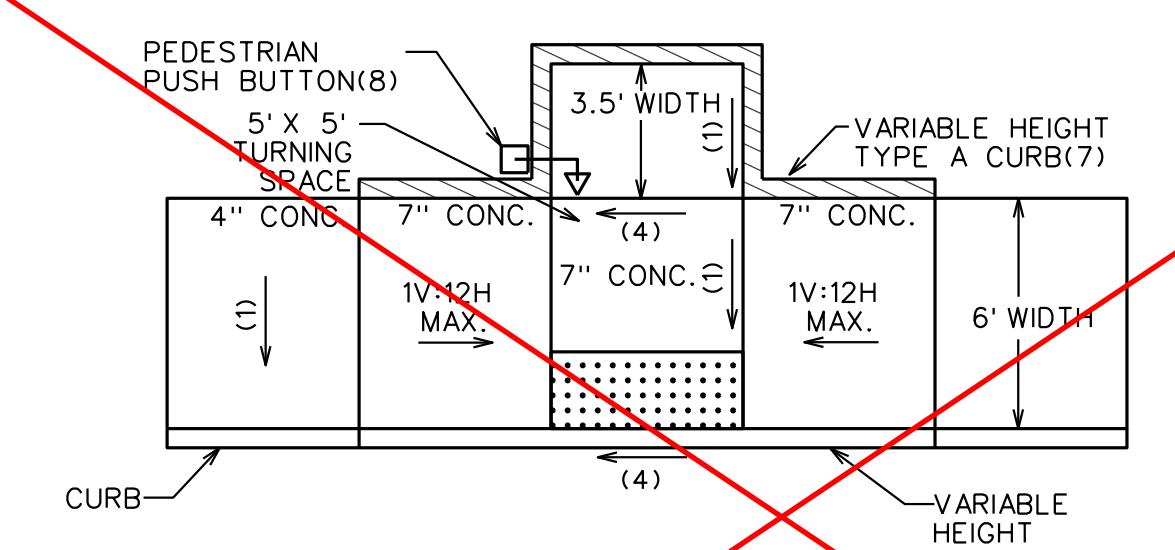
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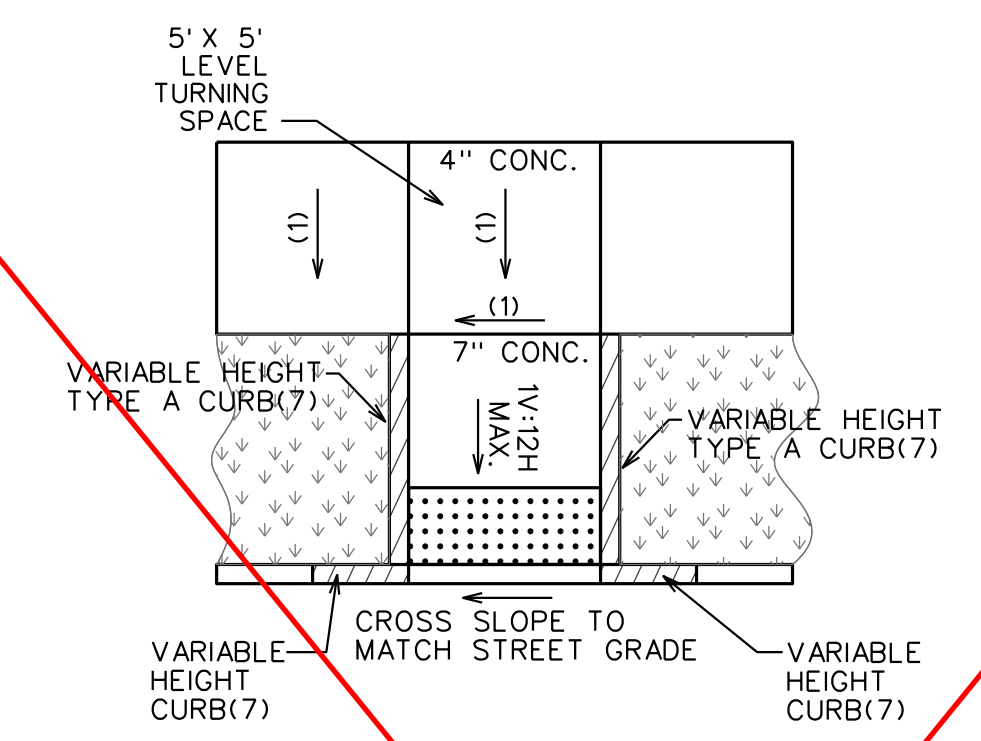
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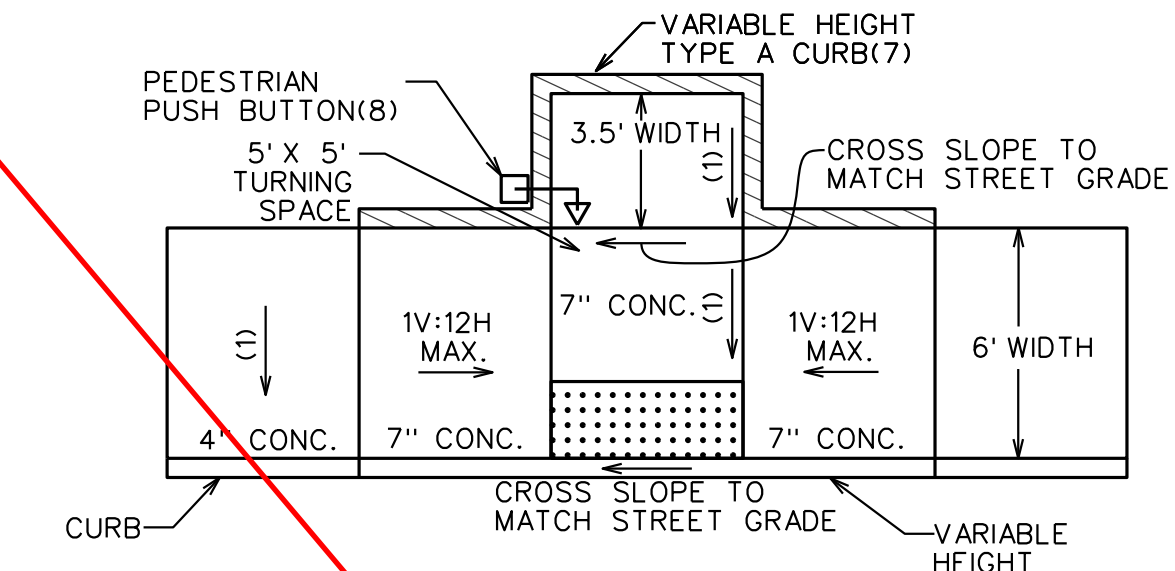
**CONFIGURATION S-PERP-8:
TYPE B CURB RAMP
SINGLE PERPENDICULAR**



**CONFIGURATION S-PAR-3:
TYPE C CURB RAMP
SINGLE PARALLEL**



**CONFIGURATION MB-1:
TYPE B CURB RAMP
SINGLE PERPENDICULAR
AT MIDBLOCK CROSSING**

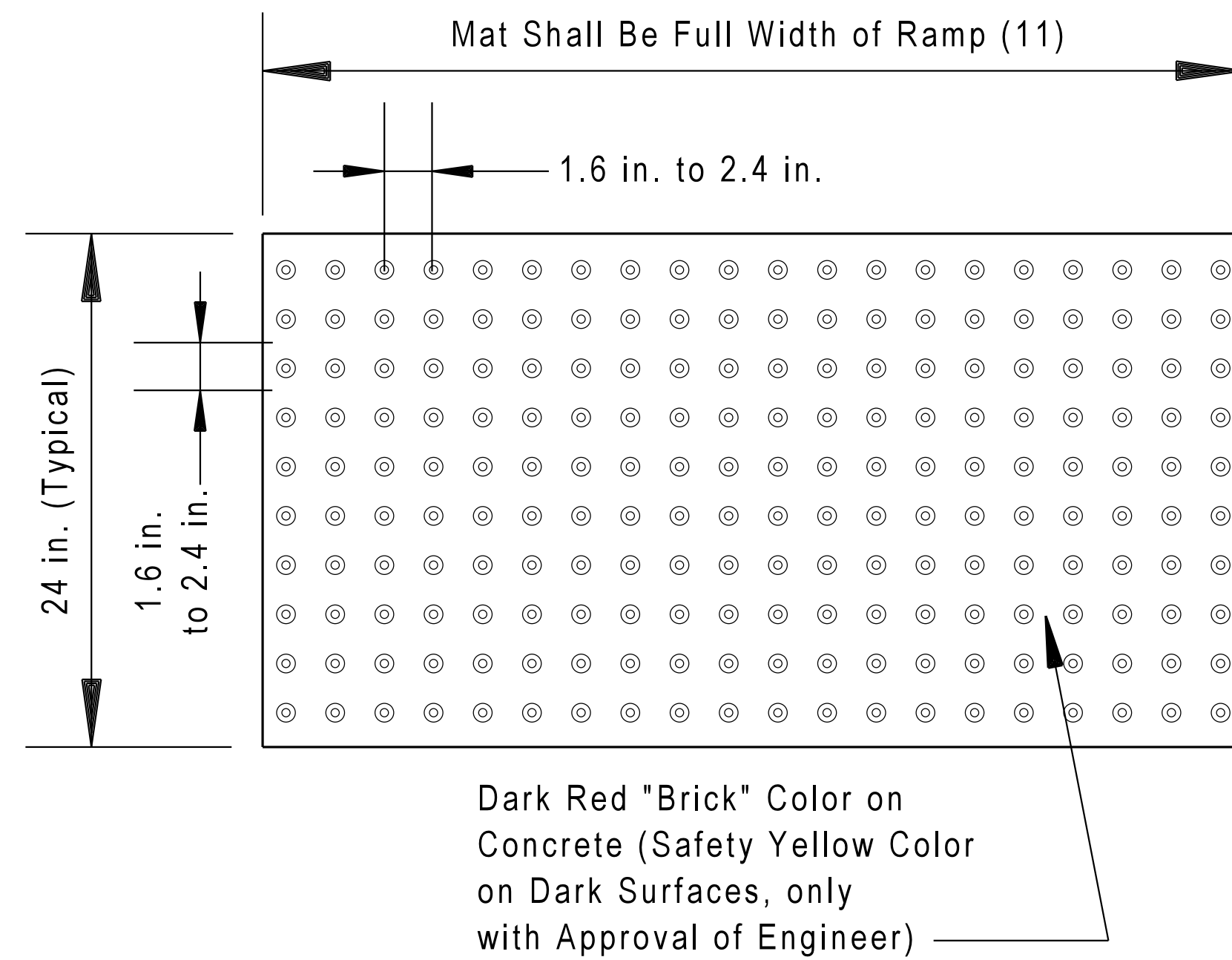


**CONFIGURATION MB-2:
TYPE C CURB RAMP
SINGLE PARALLEL
AT MIDBLOCK CROSSING**

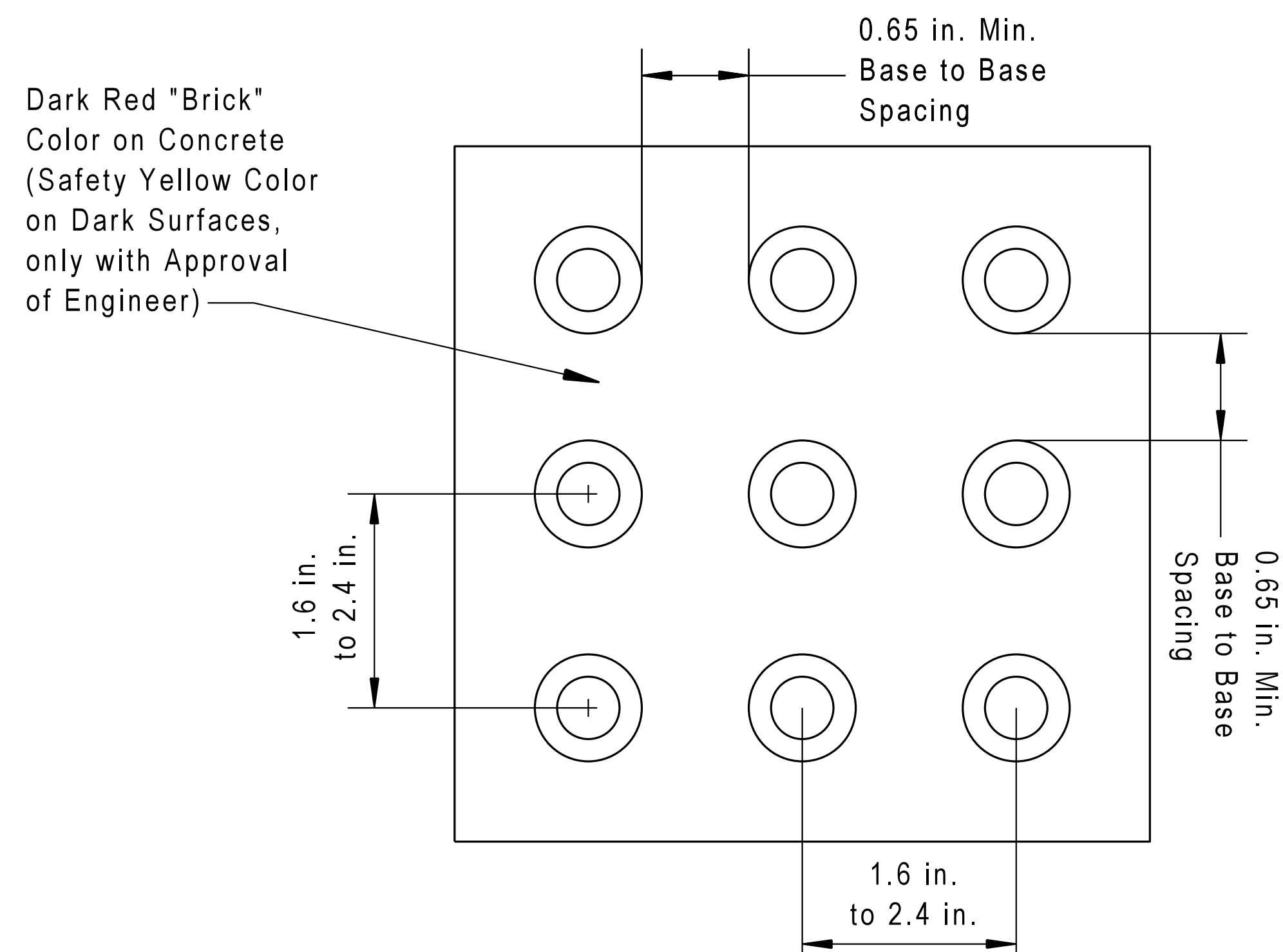
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REVISIONS		1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132	EFFECTIVE 05/01/2020	SHEET 6 OF 7	DRAWING C608.41

General Notes

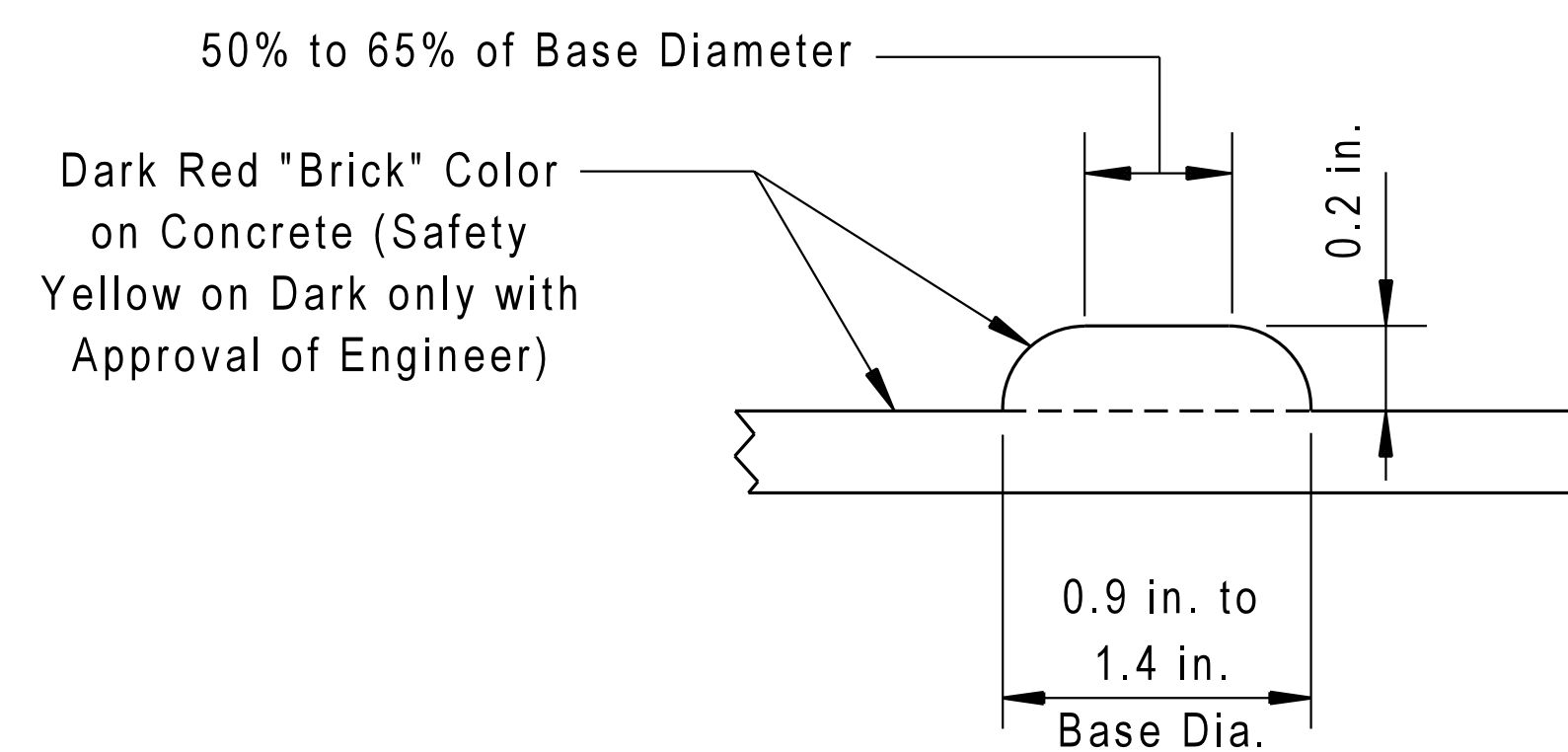
- 1) Do not scale drawings, follow dimensions.
- 2) Detectable warning surfaces (truncated domes) shall be preformed and installed as per manufacturer's recommendations. Stamped concrete will not be accepted.
- 3) All material shall be obtained from a source identified on the Missouri Department of Transportation "Qualified Lists". Specifically, Qualified Truncated Domes, FS-1067 Table 1
- 4) The detectable warning surface shall contrast visually with adjoining surfaces. Either light-on-dark or dark-on-light.
- 5) Truncated dome surfaces shall extend a minimum of 24 inches in the direction of sidewalk travel and the full width of the curb ramp (exclusive of flares), the landing, or blended transition. The panels shall be made of a durable material. The panels shall carry a manufacturer warranty covering all defects for a five-year period from the time of installation.
- 6) Detectable warning surfaces shall be aligned perpendicular or radial to the break between the ramp. Landing or blended transition. And the street.
- 7) Domes shall have a base diameter of 0.9 to 1.4 inches. The top diameter shall be 50 to 65 percent of the base diameter. The dome height shall be 0.2 inches. Dome center-to-center spacing shall be 1.6 to 2.4 inches with a minimum base-to-base spacing of 0.65 inches. Stamped concrete will not be accepted.
- 8) The contractor and/or manufacturer must provide a performance warranty on the product and installation of the Detectable Warning Surface for a minimum period of 1-year from the date of project acceptance or installation (whichever date is later). The performance warranty shall guarantee that the Detectable Warning Surface is free from defects in workmanship and material including deformation, breakage, excessive wearing or breakage of truncated domes, color fastness, delamination, or attachment to pavement surface.
- 9) Truncated dome mats applied with adhesive may be used for retrofit of existing curb ramps only
- 10) Contractors or manufacturers shall at the request of this Department, provide product literature, installation procedures, maintenance instructions, detectable warning surface samples (minimum 12 in. x 12 in.), current test reports in accordance with ASTM guidelines, and possible test installation by the contractor or manufacturer.
- 11) Some detectable warning products require a concrete border for proper installation. The concrete border shall not exceed 2 inches per side.
- 12) The detectable warning surface used shall be consistent throughout the project and are required to be installed on all curb ramps at public and private street intersections; signalized entrances; and at all channelized and raised islands where a curb ramp or cut-through is provided.



Detectable Warning Surface

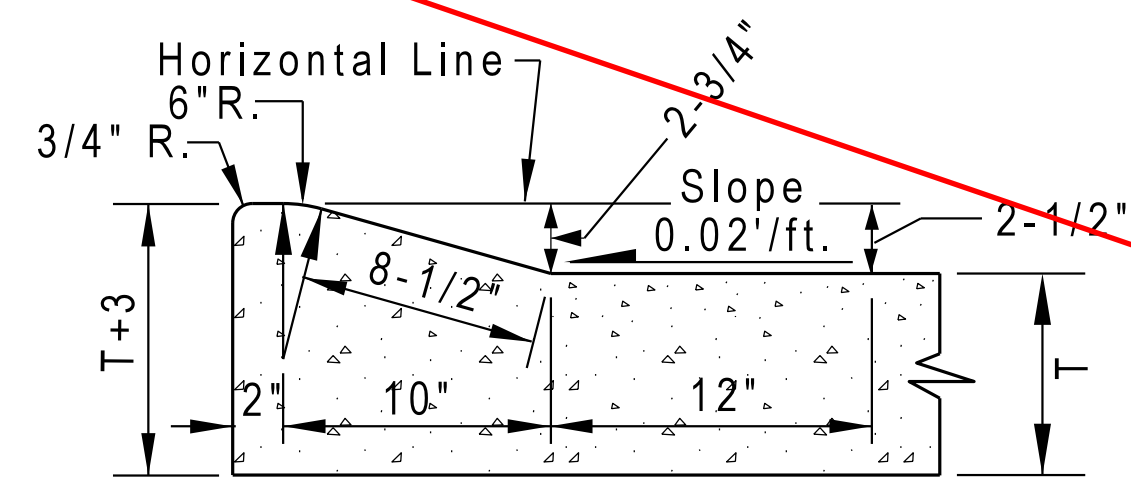


Square Pattern, Parallel Alignment

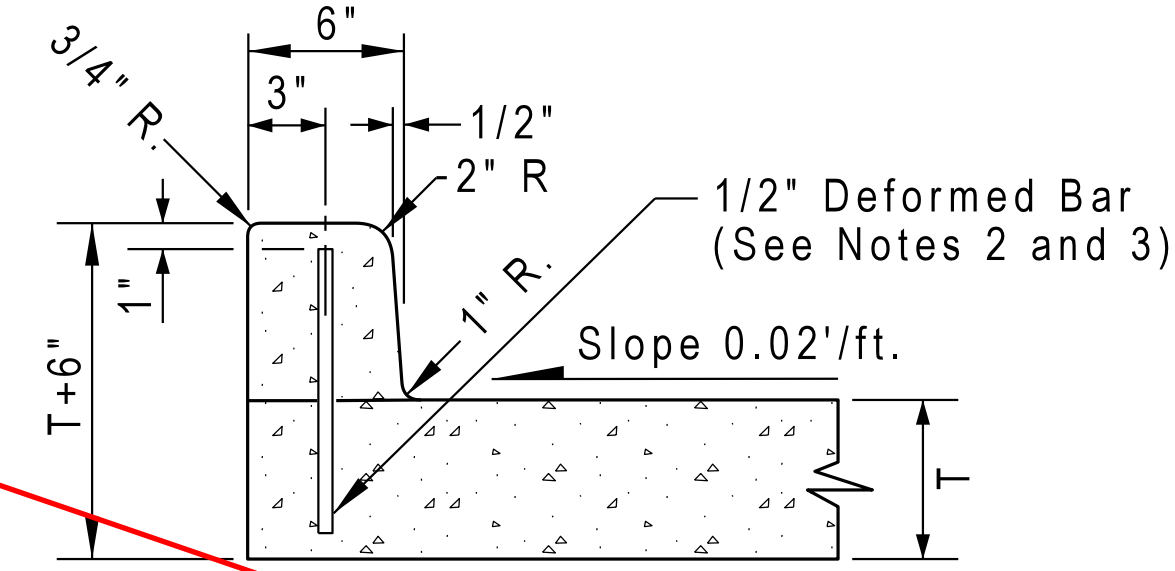


Truncated Dome Detail

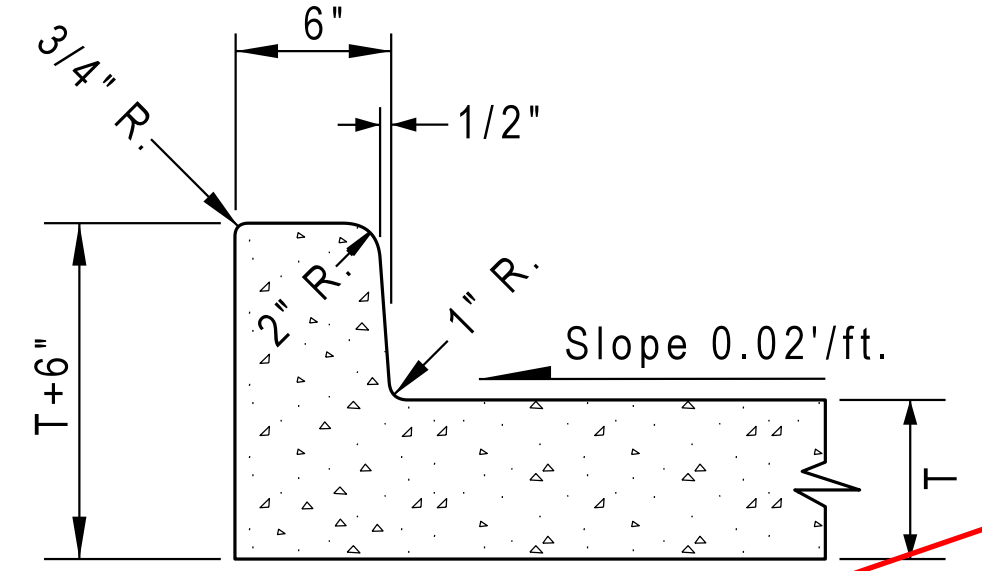
ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION <small>1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132</small>	SIDEWALK & CURB RAMP DETAILS		
03/09/2020			DETECTABLE WARNING SURFACE FOR NEW CONSTRUCTION AND RETROFITTING OF CURB RAMP		
REVISIONS			EFFECTIVE	SHEET	DRAWING
		05/01/2020	1 OF 1	C608.51	



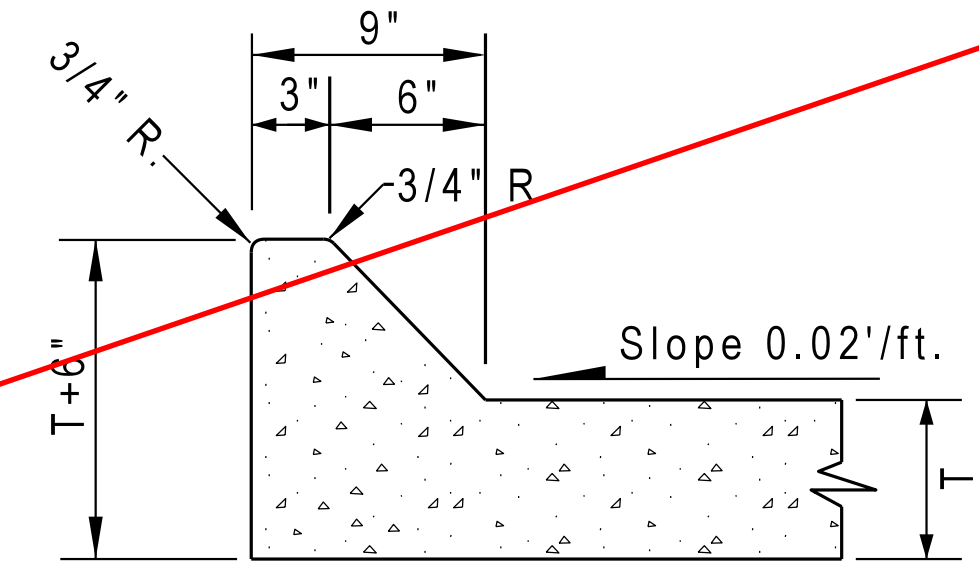
INTEGRAL ROLLED CURB



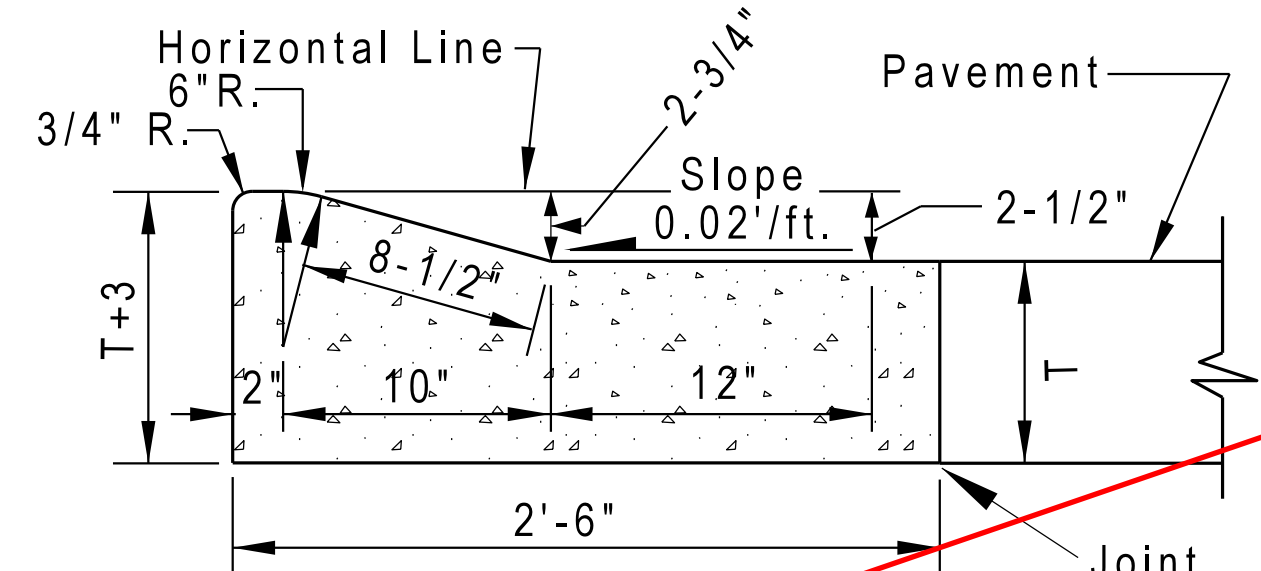
INTEGRAL 6 INCH VERTICAL CURB (DOWELED)



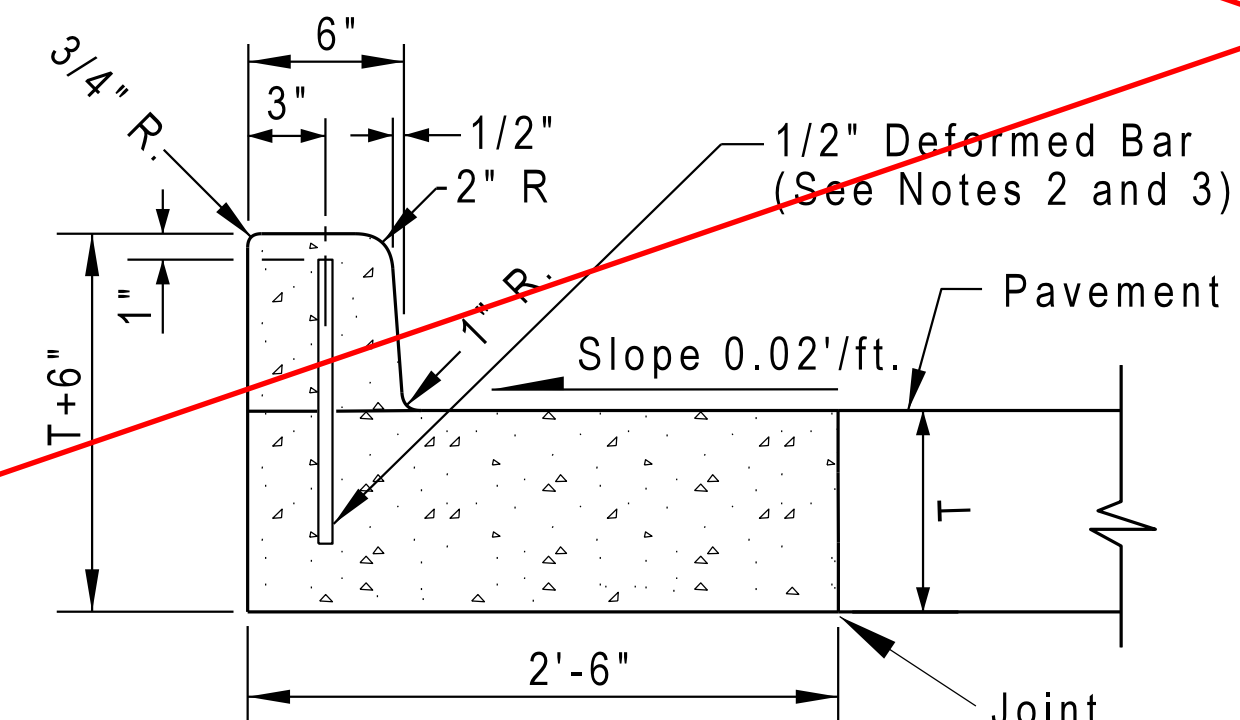
INTEGRAL 6 INCH VERTICAL CURB (MONOLITHIC)



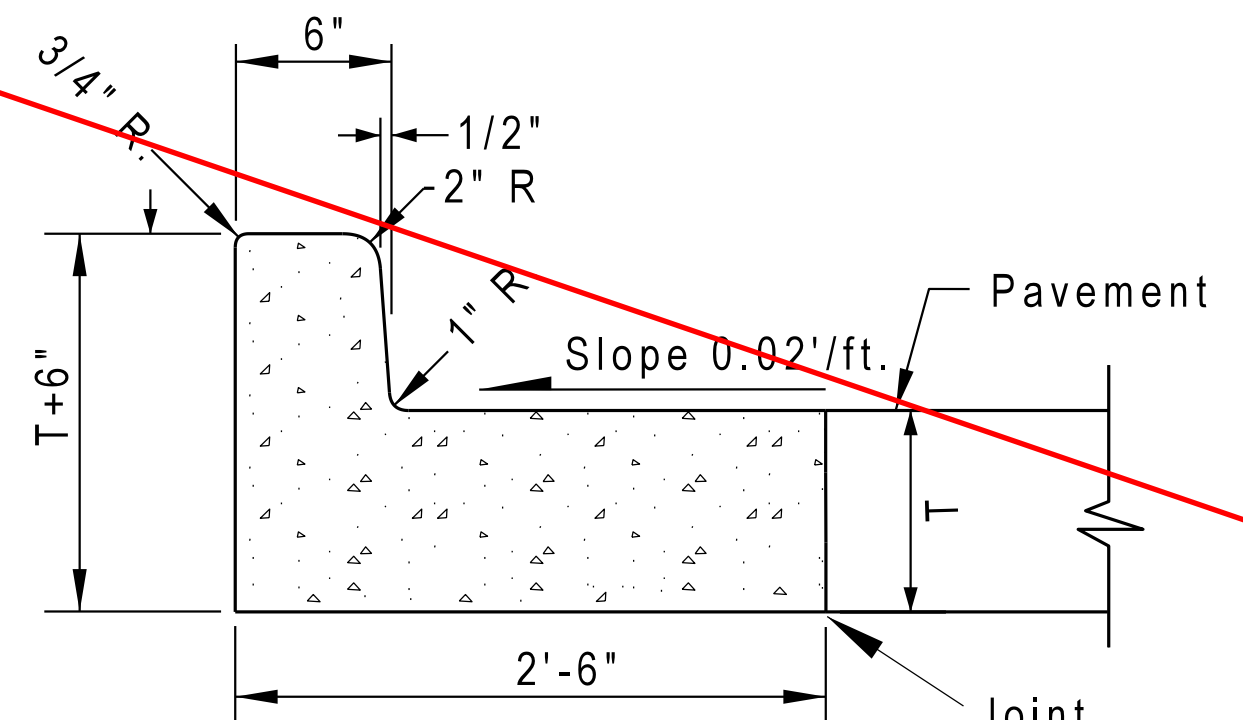
INTEGRAL 6 INCH MOUNTABLE CURB (See Note 10)



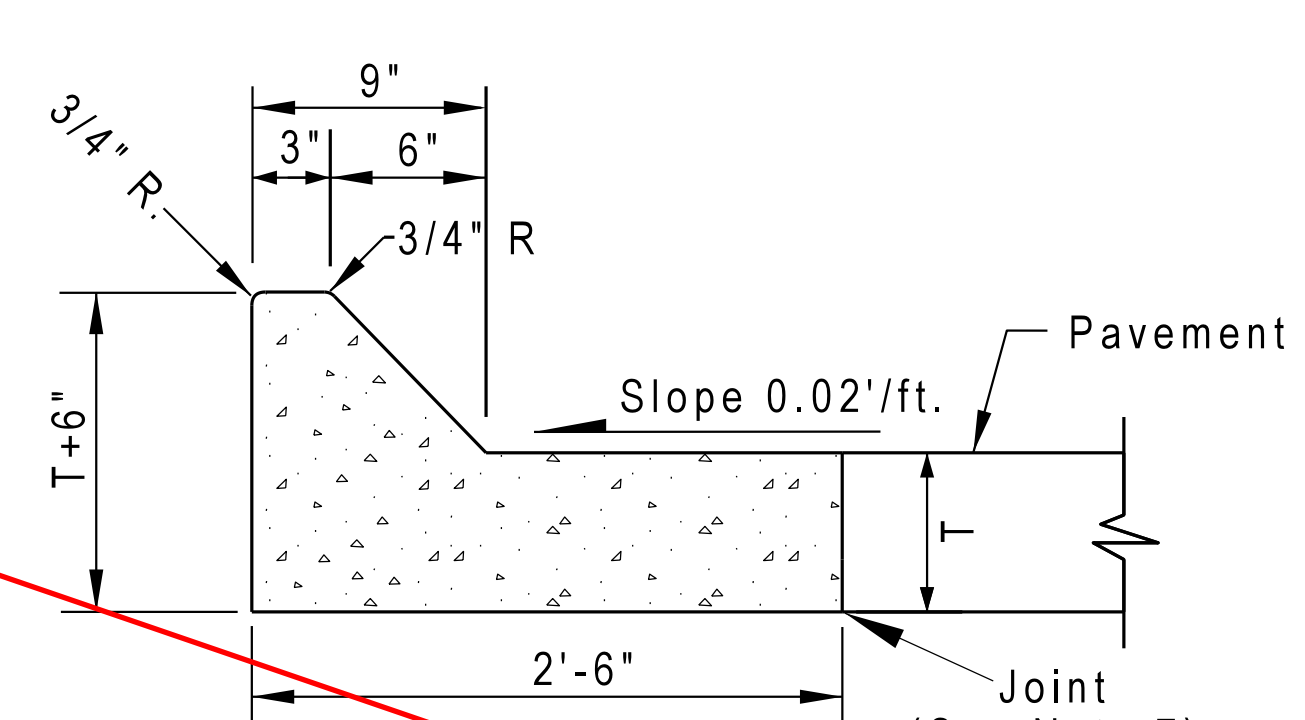
ROLLED CURB AND GUTTER (2'-6" WIDE)



6 INCH VERTICAL CURB AND GUTTER (DOWELED 2'-6" WIDE)



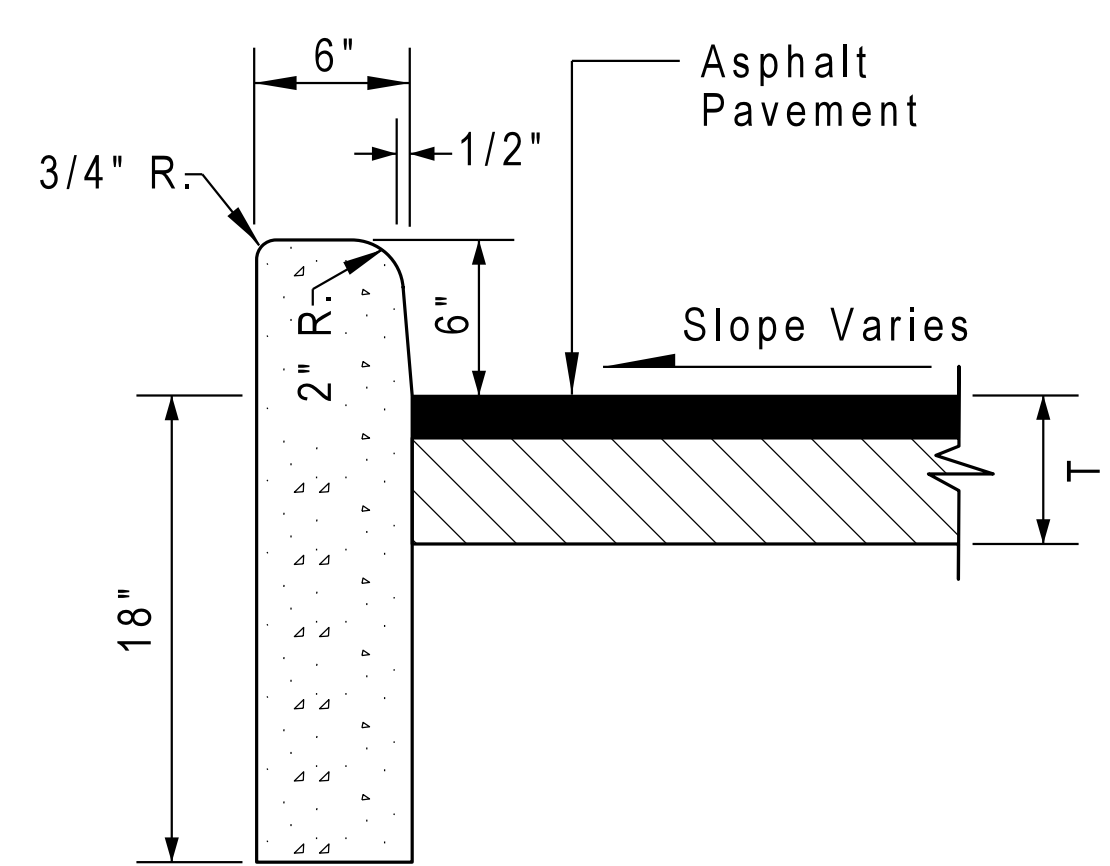
6 INCH VERTICAL CURB AND GUTTER (MONOLITHIC 2'-6" WIDE)



6 INCH MOUNTABLE CURB AND GUTTER (2'-6" WIDE) (See Note 10)

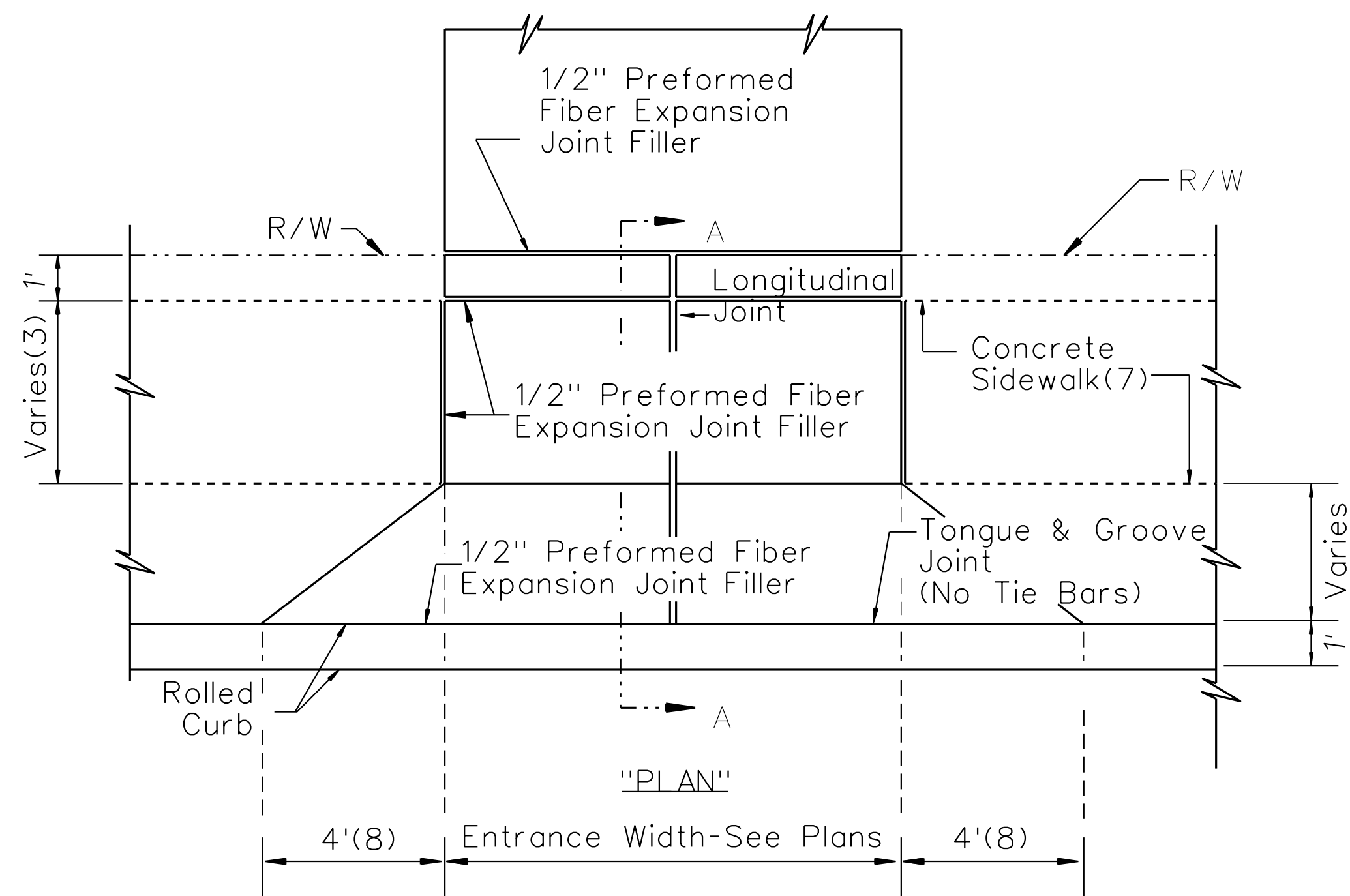
NOTES

- 1) Do not scale drawing, follow dimensions.
- 2) Construction joint and tie bars may be omitted when curb is poured integral with pavement.
- 3) Length of the tie bars shall be equal to the thickness of pavement plus the height of curb less 3 inches. Tie bars shall be placed at 24 inch centers.
- 4) All deformed bars for joints and curbs shall be in accordance with section 1057.4 of the "St. Louis County Standard Specifications" manual.
- 5) Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device as been approved in advance by the Department.
- 6) Certain streets will be required to overlay the gutter with 2 inches of asphalt as directed by the Department. Curb height shall be adjusted to maintain the standard curb height. Asphalt overlay type to be determined by the Department.
- 7) Type "B" joint required for concrete pavement.
- 8) If the Contractor elects to construct concrete pavement by slip-form methods in accordance with Section 502.17, the width of the aggregate base shown on the plans shall be increased to provide a 3-foot width outside the edge of the pavement being placed.
- 9) Type "S" curb shall only be used where repair of existing Type "S" curb is required, and only with Departmental approval.
- 10) 6" mountable curb shall only be used where repair of existing 6" mountable curb is required. Use of 6" mountable curb for other applications requires Departmental approval.

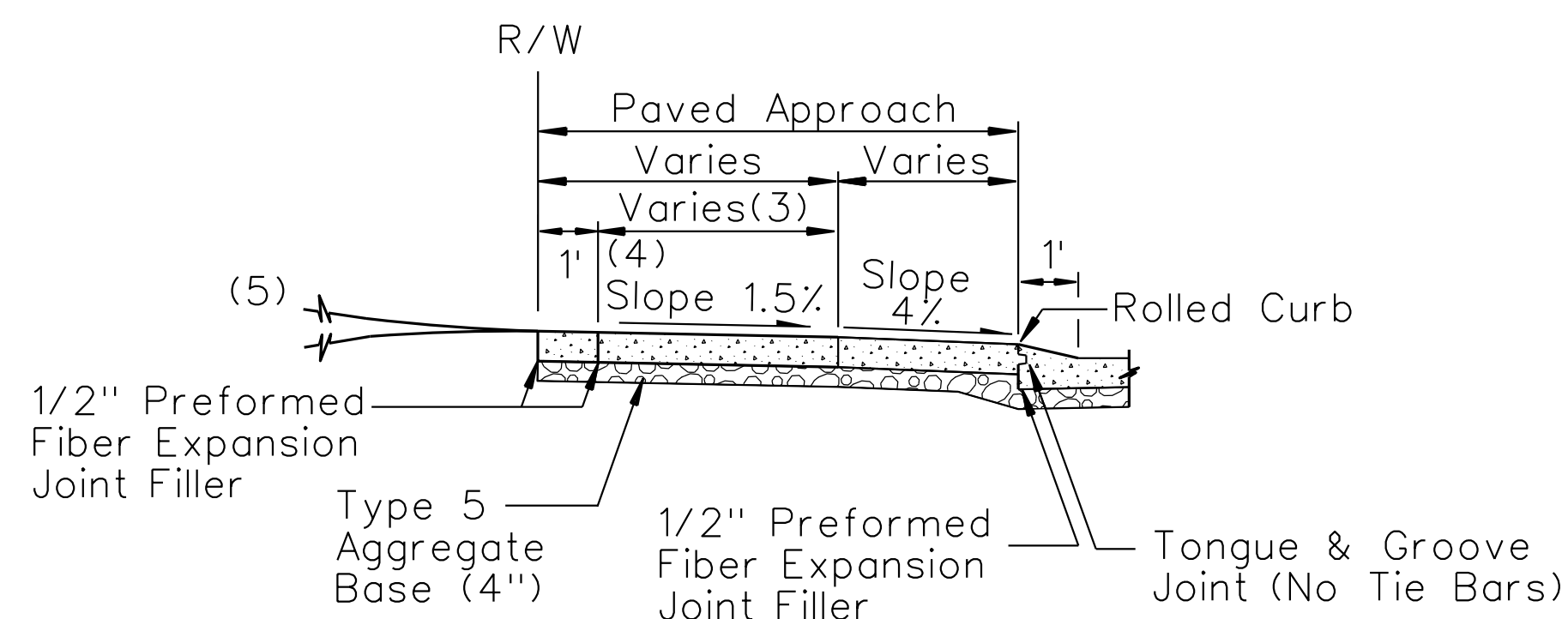


TYPE "S" CONCRETE CURB (See Note 9)

ISSUE DATE 03/09/2020	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION <small>1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132</small>	STANDARD DRAWING	
REVISIONS			CONCRETE CURB DETAILS	
			EFFECTIVE 05/01/2020	SHEET 1 OF 1
				DRAWING C502.14



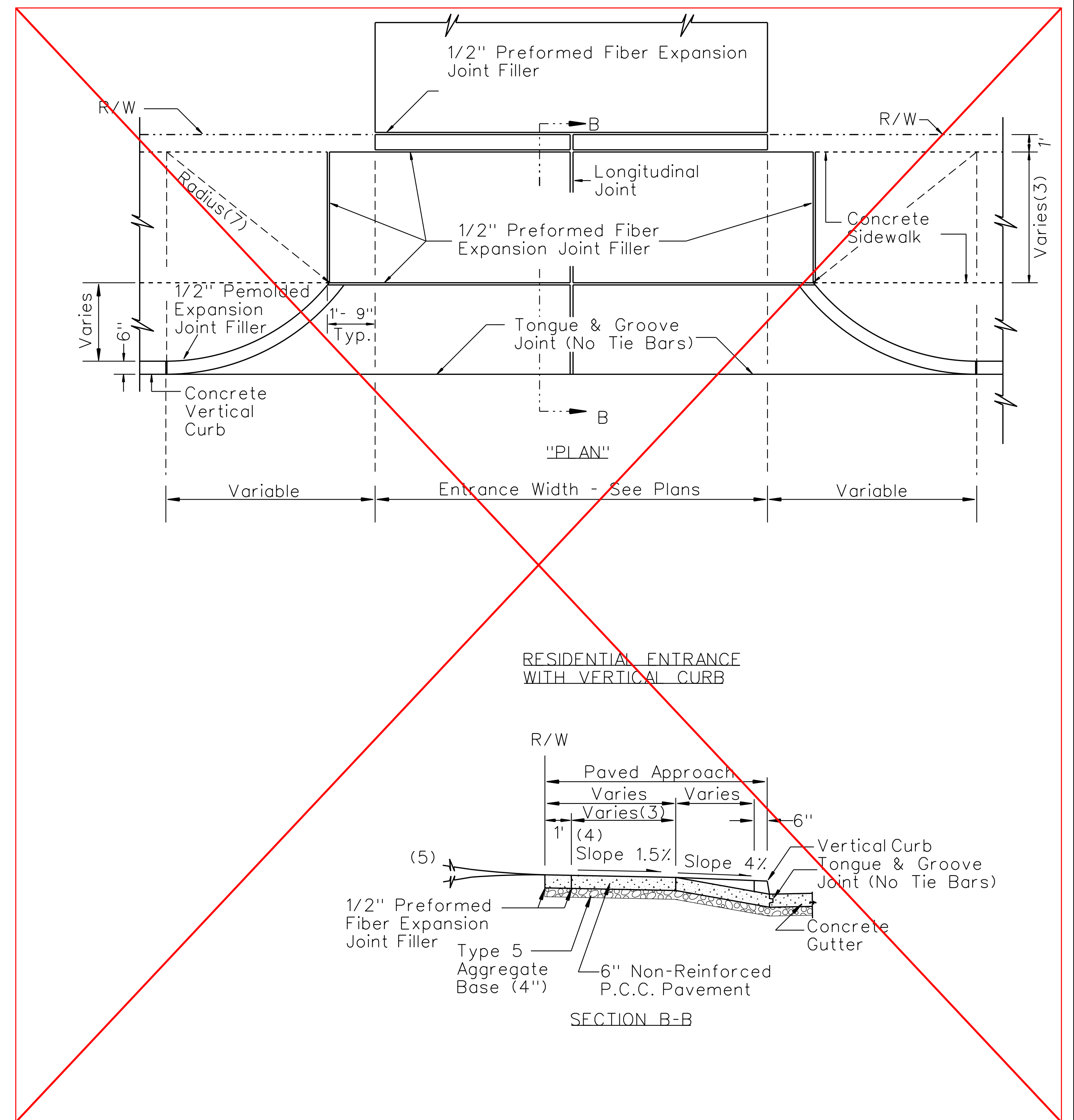
RESIDENTIAL ENTRANCE WITH ROLLED CURB



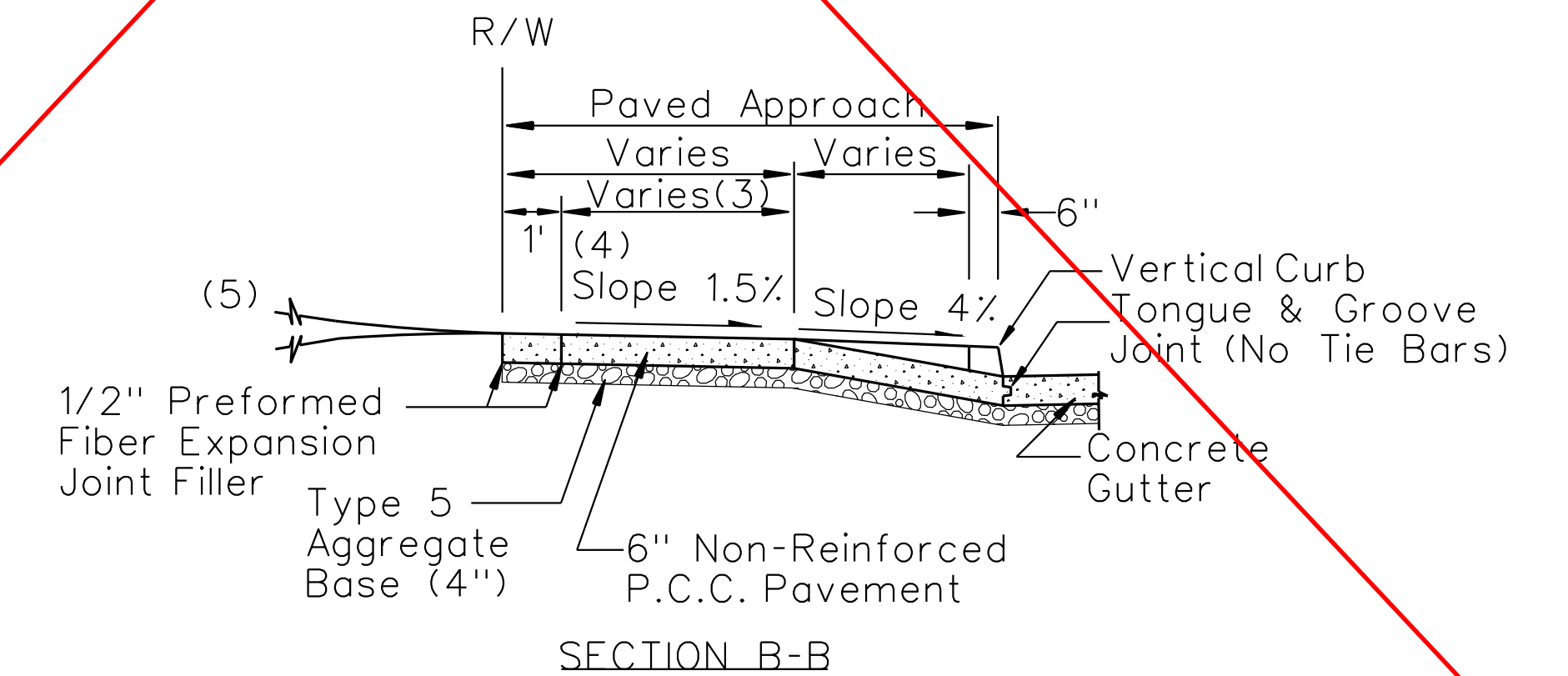
SECTION A - A

GENERAL NOTES

- 1) Do not scale drawing, follow dimensions.
- 2) The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness (6 inches).
- 3) Minimum sidewalk width shall be as defined by the sidewalk master plan. Sidewalk width shall be a minimum of 5 feet where not defined by the sidewalk master plan. Sidewalk width may be reduced to 4 feet within residential subdivision developments.
- 4) Cross slopes 1.5% (+/- 0.5%)
- 5) See Design Criteria For The Preparation of Improvement Plans, Saint Louis County Transportation.
- 6) Approach shall be platformed to accommodate future sidewalk when new sidewalk is not required.
- 7) See approved plan.
- 8) Driveway flare is optional within residential subdivisions. Flare is required along Arterial and Collector roadways.
- 9) Additional construction requirements apply for driveways opposite "T" intersections or on outside of a curve, refer to "Entrance Construction Details Guidelines for Joint Filler Installation", Std. Dwg. C608.10.
- 10) This detail is not applicable where sidewalk is installed at the back of curb.

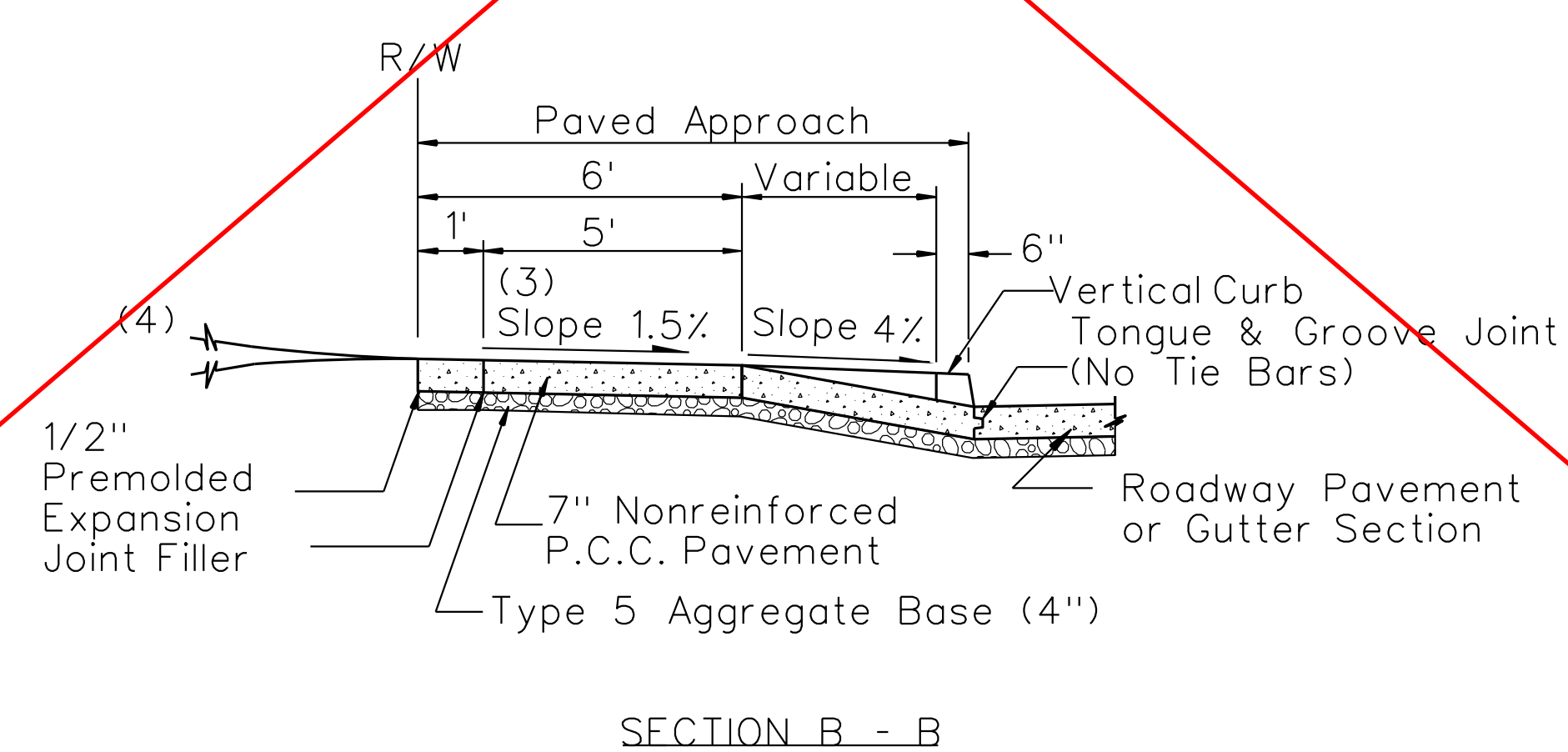
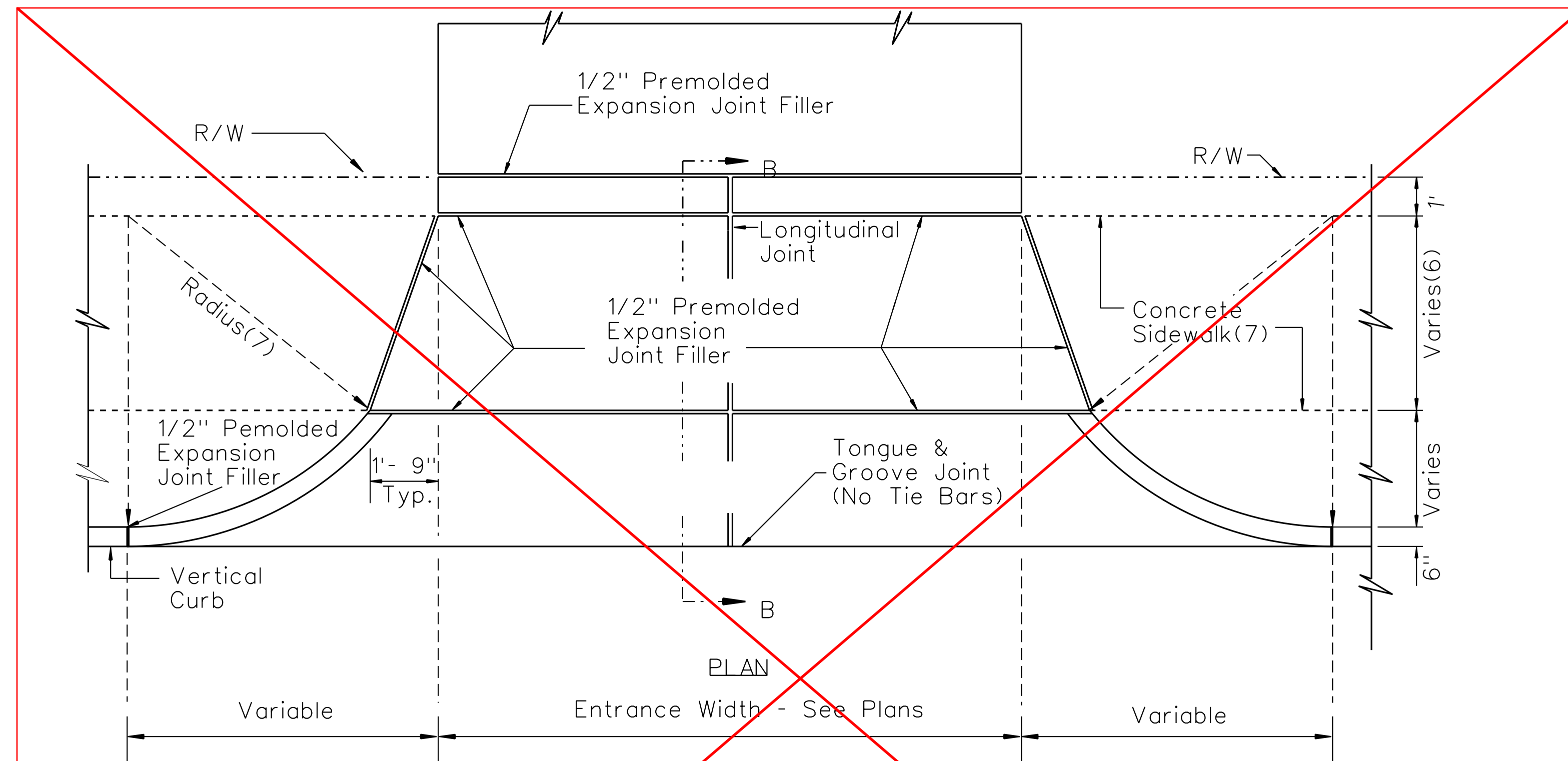
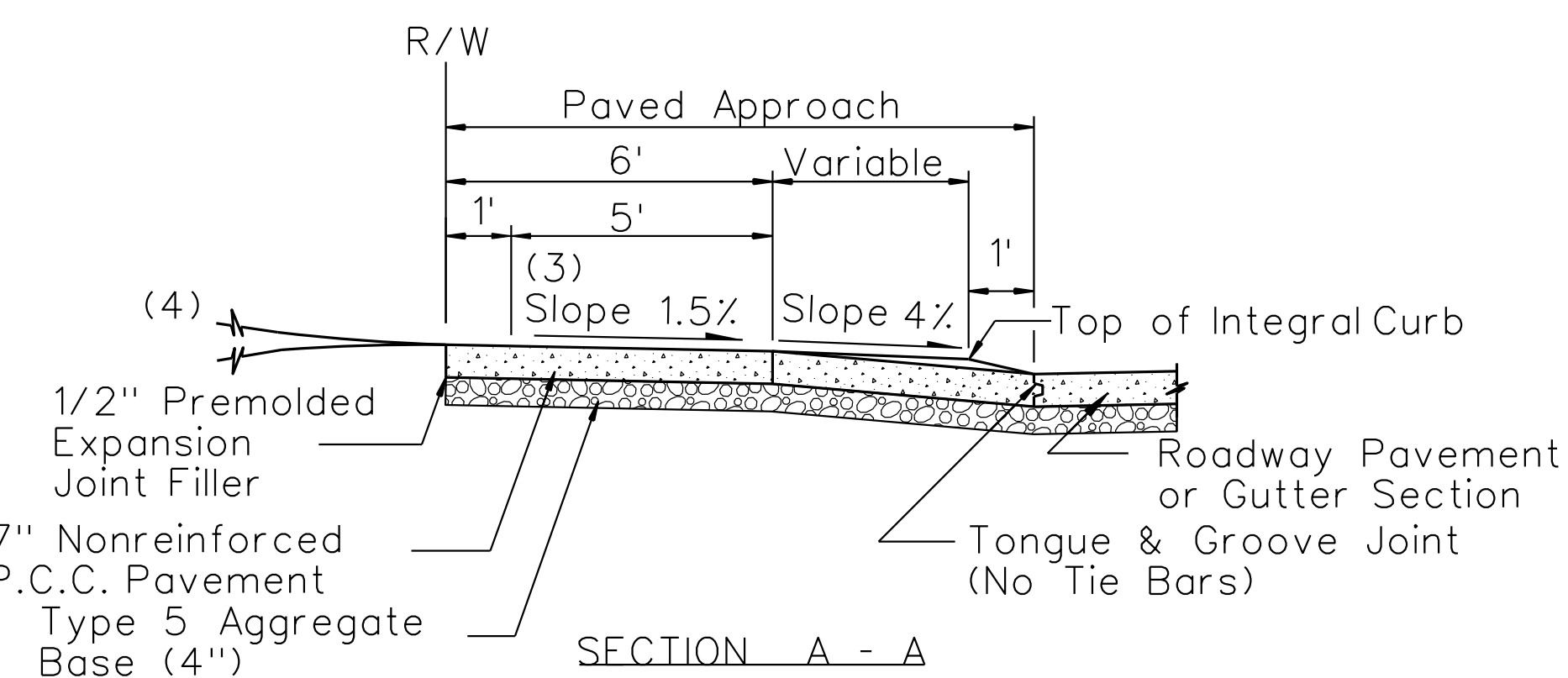
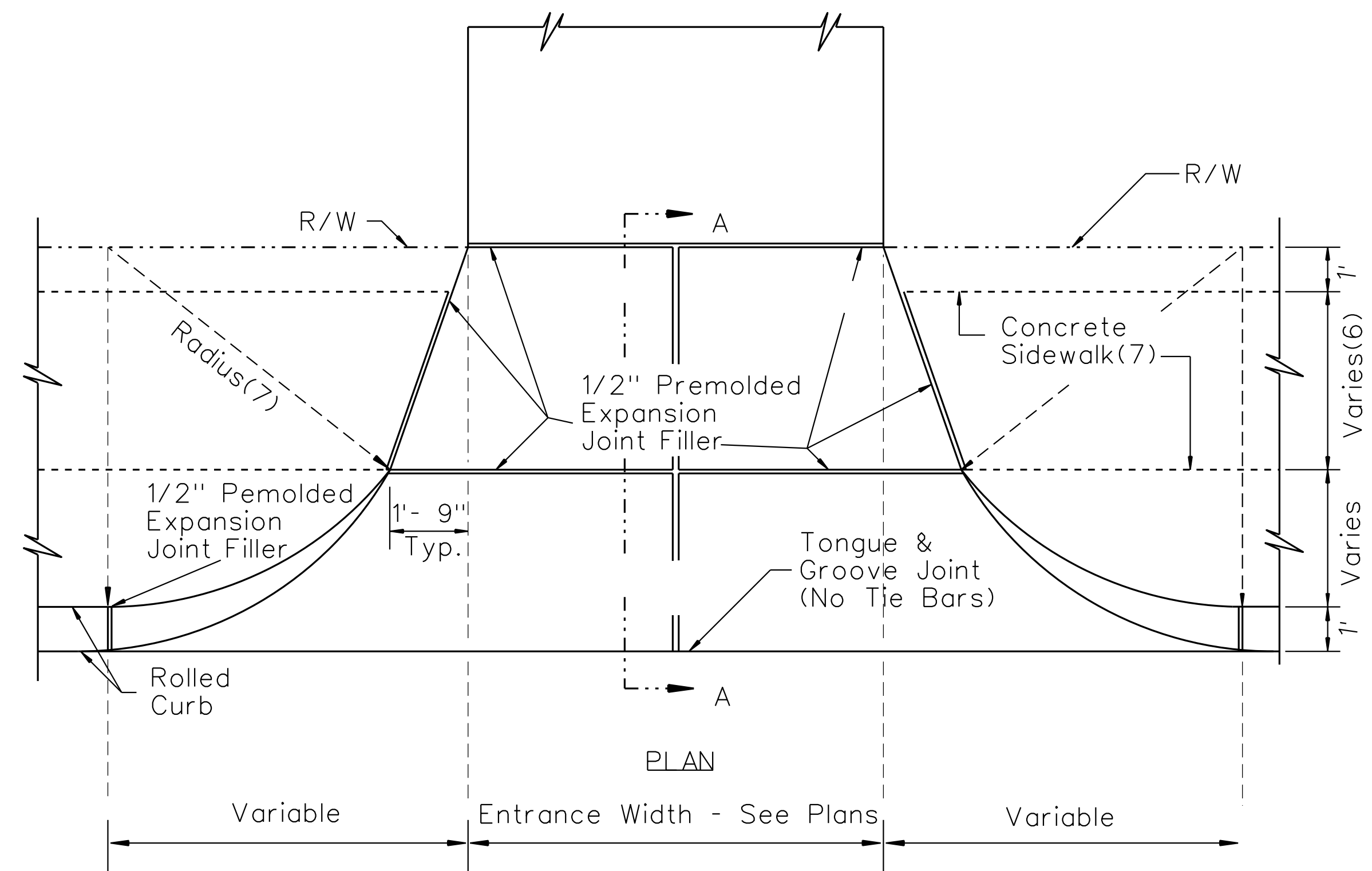


RESIDENTIAL ENTRANCE WITH VERTICAL CURB



SECTION B-B

ISSUE DATE 03/09/2020	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION <small>1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132</small>	ENTRANCE CONSTRUCTION DETAILS		
REVISIONS			RESIDENTIAL CONCRETE ENTRANCES		
			EFFECTIVE 05/01/2020	SHEET 1 OF 1	DRAWING C608.00



GENERAL NOTES

- 1) Do not scale drawing, follow dimensions.
- 2) The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness (7").
- 3) Cross slopes 1.5% (+/- 0.5%)
- 4) See Design Criteria For The Preparation of Improvement Plans, Saint Louis County Transportation.
- 5) Approach slab shall be platformed to accommodate future sidewalk where new sidewalk will not be constructed adjacent to the entrance.
- 6) Minimum sidewalk width shall be as defined by the sidewalk master plan. Sidewalk width shall be a minimum of 5 feet where not defined by the sidewalk master plan.
- 7) See approved plan.
- 8) Additional construction requirements apply for driveways opposite "T" intersections or on outside of a curve, refer to "Entrance Construction Details Guidelines for Joint Filler Installation", Std. Dwg. C608.10.
- 9) This detail is not applicable where sidewalk is installed at the back of curb.

ISSUE DATE 03/09/2020	THIS IS NOT A CERTIFIED DOCUMENT		ENTRANCE CONSTRUCTION DETAIL		
REVISIONS			COMMERCIAL CONCRETE ENTRANCE		
		1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132	EFFECTIVE 05/01/2020	SHEET 1 OF 1	DRAWING C608.01