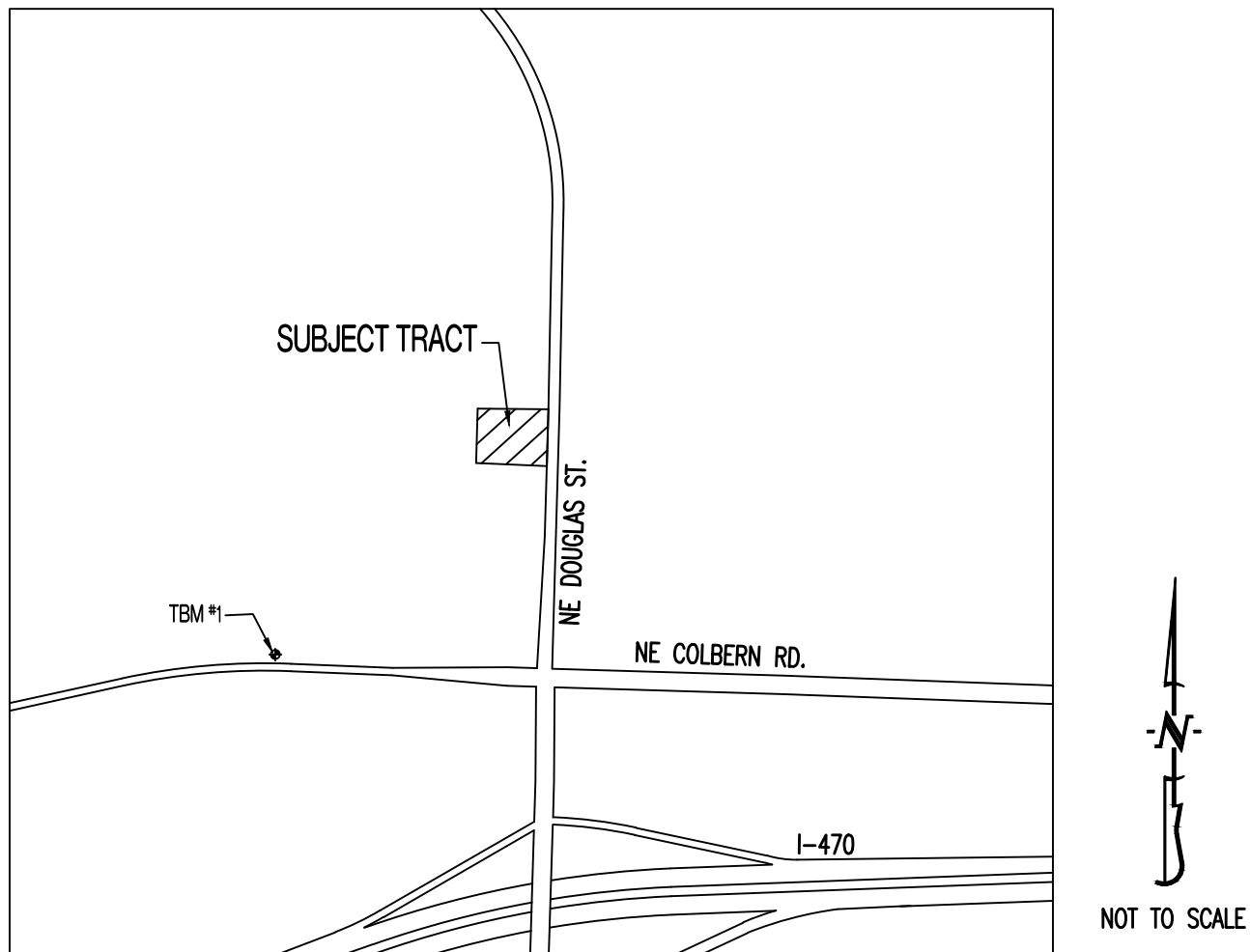


# THE VILLAGE AT DISCOVERY PARK

## LOT 13

### LOCATION MAP



### PROJECT BENCHMARK:

TBM #1 – CONTROL POINT #50 SET BY OLSSON. 1/2" IMBEDDED CAP ON NORTH SIDE OF NW COLBERN RD. LOCATED AT 1ST FIELD ENTRANCE.  
NORTHING = 1012389.819  
EASTING = 2822108.784  
ELEVATION = 990.810  
REFER TO "PRIVATE SITE DEVELOPMENT PLANS FOR THE VILLAGE AT DISCOVERY PARK ZONE 1" PLANS BY OLSSON DATED 10/18/2023 FOR MORE INFORMATION.

### FLOOD PLAIN STATEMENT:

THIS LOT IS LOCATED IN ZONE X UNSHADED – AREAS DETERMINED TO BE OUTSIDE THE 1% ANNUAL CHANCE FLOOD AS SHOWN ON THE FEMA F.I.R.M. PANEL #290950C0409G, DATED JANUARY 20, 2017.

### LEGAL DESCRIPTION:

VILLAGE AT DISCOVERY PARK, LOT 13. A SUBDIVISION IN JACKSON COUNTY, LEE'S SUMMIT, MISSOURI.

### UTILITY COMPANIES:

#### LOCATES:

MISSOURI ONE CALL INC.  
1022 B NORTHEAST DRIVE  
JEFFERSON CITY, MO 65109  
1-800-344-7483



#### TELEPHONE:

AT&T  
800-286-8313

#### NATURAL GAS:

SPIRE  
314-342-0500

#### CABLE TELEVISION:

SPECTRUM  
877-772-2253

#### ELECTRIC:

EVERGY  
816-524-3223

#### WATER/SANITARY SEWER:

CITY OF LEE'S SUMMIT  
WATER UTILITIES DEPARTMENT  
1200 S HAMLEN RD  
LEE'S SUMMIT, MO 64081  
816-969-1900

#### FIBER:

GOOGLE FIBER  
877-454-6959

### GENERAL NOTES:

ALL STREET, STORM DRAIN, AND SANITARY SEWER CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT "DESIGN AND CONSTRUCTION MANUAL" (CURRENT EDITION).

ANY CITY DETAILS SHOWN ON THIS SET OF PLANS ARE FOR REFERENCE ONLY. CONTRACTOR TO HAVE A COPY OF THE CITY'S LATEST EDITION OF SPECIFICATIONS AND STANDARDS FOR ALL STREET, STORM, AND SANITARY CONSTRUCTION ON SITE AT ALL TIMES DURING CONSTRUCTION. REFER TO <https://cityofls.net/development-services/design/design-criteria/design-construction-manual-infrastructure>

CONTRACTOR WILL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF TRAFFIC CONTROL DEVICES NECESSARY TO COMPLETE THEIR PORTION OF WORK. THE DEVICES AND METHODS EMPLOYED WILL COMPLY WITH THE CURRENT VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL CONCRETE MATERIALS SHALL CONFORM TO KCMMB STANDARDS AND SPECIFICATIONS.

THIS PLAT CONTAINS APPROXIMATELY 1.14 ACRES.

THIS TRACT IS ZONED PMIX.

THE STORM SEWER NETWORK DESIGN FOR THIS PROJECT IS BASED ON OPEN CHANNEL FLOW; THEREFORE THE HYDRAULIC GRADE LINE IS AT OR LESS THAN THE CROWN OF THE PIPE.

EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND VERTICAL) PRIOR TO ANY EXCAVATION.

ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010–319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.

A GEOTECHNICAL EVALUATION OF THE SUBSURFACE SOIL, GROUNDWATER CONDITIONS, AND A SLOPE STABILITY ANALYSIS HAS NOT BEEN PERFORMED BY THIS ENGINEER. THE OWNER SHALL SATISFY THEMSELVES OF ALL GEOTECHNICAL CONDITIONS PRIOR TO ANY CONSTRUCTION.

ALL LAND DISTURBANCE ACTIVITIES SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT CODE OF ORDINANCES. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR NARRATIVE REPORT AND BMP DESCRIPTIONS AND DETAILS.

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

IT IS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MOENR CLEAN WATER COMMISSION.

ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" SHALL BE FINE GRADED, SEEDED, AND MULCHED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES AND REMOVING THEM ONCE THE SITE IS STABILIZED.

ALL HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR PIPE BEDDING REQUIREMENTS.

IN ORDER TO TERMINATE A STATE OPERATING PERMIT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) REQUIRES THAT THE PERMITTEE SUBMIT A COMPLETED FORM H (INCLUDED WITH THE APPROVAL PERMIT) TO THE MDNR. A PERMIT IS ELIGIBLE FOR TERMINATION WHEN EITHER PERENNIAL VEGETATION, PAVEMENT, BUILDINGS, OR STRUCTURES USING PERMANENT MATERIALS COVER ALL AREAS THAT HAVE BEEN DISTURBED. VEGETATIVE COVER SHALL BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED AREA. A COPY OF FORM H SHOULD BE SUBMITTED TO THE CITY AT WHICH TIME THE CITY WILL REMOVE THE PROJECT FROM ITS INSPECTION SCHEDULE.

LAND DISTURBANCE SITES SHOULD BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 48 HOURS AFTER ANY STORM EVENT EQUAL TO OR GREATER THAN A 2-YEAR, 24-HOUR STORM HAS CEASED DURING A NORMAL WORK DAY OR WITHIN 72 HOURS IF THE RAIN EVENT CEASES DURING A NON-WORK DAY SUCH AS A WEEKEND OR HOLIDAY. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT. CONTRACTORS ARE REQUIRED TO SUBMIT TO CITY INSPECTION STAFF COPIES OF THEIR INSPECTION REPORTS REQUIRED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON A MONTHLY BASIS IF REQUESTED.

NO OIL AND GAS WELLS EXIST ON THIS TRACT ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES OIL AND GAS PERMIT DATABASE.

THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

TOTAL DISTURBED AREA ON SITE = 1.22 AC.

MISSOURI DNR LAND DISTURBANCE PERMIT NUMBER MORA23630.

### DEVELOPER :

DISCOVERY PARK LEE'S SUMMIT, LLC.  
4220 PHILLIPS FARM RD.  
COLUMBIA, MO 65201  
573-615-2252

### SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE	ORIGINAL 11/22/24	REV #1 02/21/25	REV #2 03/24/25	REV #3 04/08/25
CE 1.0	COVER SHEET	X	X		
CE 1.1	PROJECT SPECIFICATIONS	X			
CE 2.1	EROSION CONTROL PLAN	X			
CE 2.2	EROSION CONTROL DETAILS	X			
CE 3.0	OVERALL GRADING PLAN	X			
CE 3.1	GRADING PLAN SHEET 1	X	X		X
CE 3.2	GRADING PLAN SHEET 2	X			
CE 3.3	GRADING PLAN SHEET 3	X	X		
CE 4.1	UTILITY PLAN	X	X	X	X
CE 5.1	STORM PROFILE & DETAILS	X	X		
CE 5.2	25-YEAR STORM CALCULATIONS	X			X
CE 5.3	100-YEAR STORM CALCULATIONS	X			X
CE 6.1	SITE PLAN	X	X		X
CE 7.1	DETAILS SHEET 1	X			
CE 7.2	DETAILS SHEET 2	X			
CE 7.3	LEE'S SUMMIT DETAILS 1	X			
CE 7.4	LEE'S SUMMIT DETAILS 2	X	X		
CE 8.1	LANDSCAPING PLAN	X		X	

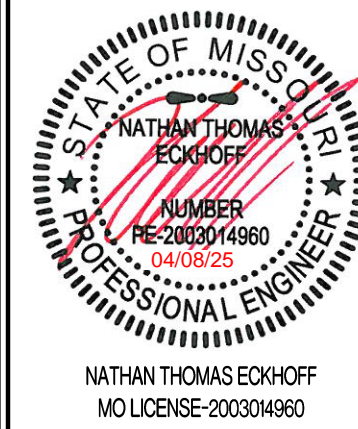
### LEGEND OF SYMBOLS:

----	EXISTING CURB	FF-XXXX	FINISHED FLOOR OF STRUCTURE
=====	PROPOSED CURB	(XXX.XX TC)	PROPOSED TOP OF CURB ELEVATION
	RIP RAP	(XXX.XX TP)	PROPOSED TOP OF PAVEMENT ELEVATION
	EXISTING STRUCTURE	(XXX.XX FG)	PROPOSED FINISHED GRADE ELEVATION
	EXISTING TREELINE	(XXX.XX TW)	PROPOSED TOP OF WALL
-----	PROPOSED TREELINE	(XX)	LOT NUMBER
—○—○—	EDGE OF WATERWAY	(X)	STORM SEWER STRUCTURE LABEL
— W —	EXISTING WATERLINE	(X)	SANITARY SEWER STRUCTURE LABEL
— W —	PROPOSED WATERLINE	HP.	HIGH POINT
— G —	EXISTING GAS LINE	LP.	LOW POINT
— G —	PROPOSED GAS LINE		EXISTING SIGNS
— T —	EXISTING TELEPHONE		EXISTING POWER POLE
— FO —	EXISTING FIBER OPTIC		EXISTING GAS VALVE
— OE —	EXISTING OVERHEAD ELECTRIC		EXISTING WATER VALVE
— UE —	EXISTING UNDERGROUND ELECTRIC		EXISTING GAS METER
— UE —	PROPOSED UNDERGROUND ELECTRIC		EXISTING WATER METER
— OETV —	EXISTING OVERHEAD ELEC. & TV		EXISTING FIRE HYDRANT
— OETV —	EXISTING OVERHEAD ELEC., TV & TELE.		MANHOLE
— S —	EXISTING SANITARY SEWER		EXISTING SANITARY SEWER LATERAL
— S —	PROPOSED SANITARY SEWER		PROPOSED SANITARY SEWER LATERAL
.....XXX.....	EXISTING MINOR CONTOUR		PROPOSED TRACER WIRE TEST STATION BOX
---XXX---	EXISTING MAJOR CONTOUR		EXISTING AIR CONDITIONER
—XXX—	PROPOSED MINOR CONTOUR		EXISTING TELEPHONE PEDESTAL
—XXX—	PROPOSED MAJOR CONTOUR		EXISTING ELECTRICAL TRANSFORMER
	100 YEAR FLOOD PLAIN		EXISTING ELECTRIC METER
	FLOODWAY		EXISTING LIGHT POLE
— · · —	ORDINARY HIGH WATER MARK		EXISTING GUY WIRE
— · · —	STREAM SIDE BUFFER		
-----	OUTER STREAM BUFFER		
	PROPOSED CONCRETE PAVEMENT		PROPOSED BUILDING FOOTPRINT
	PROPOSED CONCRETE PAVEMENT IN PARKING GARAGE		PROPOSED HEAVY DUTY PAVEMENT
	PIPE EMBEDMENT UNDER PAVEMENT		

### REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/21/2025

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



PREPARED BY:  
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Columbia, Missouri 65203  
(314) 487-0292  
www.crockettingeering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:  
DISCOVERY PARK LEE'S SUMMIT LLC  
4220 PHILLIPS FARM RD  
COLUMBIA, MO 65201

THE VILLAGE AT DISCOVERY  
LOT 13  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

### DRAWING INCLUDES:

COVER SHEET

DESIGNED: NTE

DRAWN: NMD

PROJECT NO.: 230286

SHEET:  
CE 10



SITE CLEARING & DEMOLITION:

IT IS THE INTENT THAT THE DEMOLITION BE COMPLETE AND ADEQUATE FOR THE INTENDED PURPOSE. THIS WORK SHALL INCLUDE THE REMOVAL OF ALL ITEMS, WHETHER IN VIEW OR HIDDEN UNDERNEATH THE SURFACE OF THE GROUND, REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR ENCOUNTERED DURING CONSTRUCTION.

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING MATERIALS, METHODS OF WORK, AND DISPOSAL OF EXCESS WASTE MATERIALS.

ERECT BARRIERS TO PROTECT PERSONNEL, STRUCTURES AND UTILITIES REMAINING INTACT.

PROTECT ALL EXISTING OBJECTS INTENDED TO REMAIN. IN CASE OF DAMAGE, MAKE REPAIRS OR REPLACEMENTS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

MINIMIZE INTERFERENCE WITH ROADS, STREETS, DRIVEWAYS, SIDEWALKS, AND ADJACENT FACILITIES.

DO NOT CLOSE OR OBSTRUCT STREETS, SIDEWALKS, ALLEYS OR PASSAGEWAYS WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.

IF CLOSURE IS PERMITTED, PROVIDE SIGNAGE INDICATING CLOSURE AND SIGNAGE TO DIRECTED TRAFFIC TO ALTERNATE ROUTE.

MOISTEN SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE.

PROVIDE THE OWNER'S REPRESENTATIVE A MINIMUM OF TWO BUSINESS DAYS' NOTICE PRIOR TO COMMENCING WORK OF THIS SECTION.

THE CONTRACTOR SHALL LOCATE EXISTING UTILITY LINES AND SERVICES TRaversING THE SITE AND DETERMINE THE REQUIREMENTS FOR THEIR PROTECTION. THE CONTRACTOR SHALL PRESERVE ACTIVE UTILITIES ON THE SITE THAT ARE DESIGNATED TO REMAIN.

BEFORE STARTING SITE OPERATIONS, THE CONTRACTOR SHALL DISCONNECT OR ARRANGE FOR THE DISCONNECTION OF ALL UTILITY SERVICES DESIGNATED TO BE REMOVED. THE CONTRACTOR SHALL PERFORM ALL SUCH WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY OR AGENCY INVOLVED.

IN REMOVING PAVEMENT, CURB AND GUTTER, SIDEWALKS, ETC., WHERE A PORTION IS LEFT IN PLACE, REMOVAL SHALL BE TO AN EXISTING JOINT OR TO A JOINT SAWN TO A MINIMUM DEPTH OF 2" WITH A TRUE SAW LINE AND A VERTICAL FACE. REMOVE SUFFICIENT PAVEMENT TO PROVIDE FOR PROPER GRADE AND CONNECTIONS IN THE NEW WORK REGARDLESS OF ANY LIMITS INDICATED ON THE DRAWINGS.

EXISTING CASTINGS AND CULVERTS, IF SALVAGEABLE AND REMOVED INTACT, REMAIN THE PROPERTY OF THE CONTRACTOR.

ALL SEWERS AND DRAINAGE PIPES, WHICH HAVE BEEN OR ARE TO BE ABANDONED, SHALL BE PERMANENTLY SEALED AT THE ENDS WITH BULKHEADS CONSTRUCTED OF CONCRETE, HAVING A MINIMUM THICKNESS OF 8".

ABANDON STORM OR SANITARY SEWER STRUCTURES BY BREAKING THE CONCRETE BOTTOM OF THE STRUCTURE INTO PIECES NO LARGER THAN 12" IN ANY DIRECTION AND REMOVING THE TOP OF THE STRUCTURE TO 3" BELOW FINISHED GRADE. PLUG ALL PIPES WITH CONCRETE AND FILL STRUCTURE WITH 1" CLEAN GRAVEL.

ALL DEBRIS SHALL BE DISPOSED OF OFF-SITE.

DO NOT STORE OR BURN MATERIALS ON-SITE UNLESS PERMITTED BY THE GOVERNING JURISDICTION.

ALL ASPHALT OR CONCRETE MATERIALS SHALL BE DISPOSED OF OFF-SITE.

MATERIAL ACQUIRED THROUGH DEMOLITION, OTHER THAN THOSE REQUIRED TO COMPLETE THE CONSTRUCTION PROJECT AND DESIGNATED FOR RETURN TO OWNER, WILL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE REMOVED FROM THE SITE. THE MATERIAL WILL BE DISPOSED OF IN A LEGAL MANNER.

THE CONTRACTOR'S OPERATIONS SHALL BE RESTRICTED TO THOSE AREAS INSIDE THE CONSTRUCTION LIMITS INDICATED ON THE DRAWINGS. IF LIMITS ARE NOT INDICATED, RESTRICT WORK TO THE OWNER'S PROPERTY, EASEMENT, OR PUBLIC RIGHTS-OF-WAY.

COMPLETE WORK WITHIN PUBLIC RIGHTS-OF-WAY UNDER THE PERMISSION OF THE GOVERNING AGENCY.

IF ITEMS OUTSIDE THE LIMITS OF DISTURBANCE GET DAMAGED, OWNER COMPLETES THE REQUIRED REPAIRS AND CHARGES THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR THE ADJUSTMENT OF ALL MANHOLES, CASTINGS, WATER VALVES IRRIGATION BOXES, CLEAN OUTS AND ETC. WITHIN THE GRADING LIMITS TO MATCH THE FINISHED SURFACE. ADJUSTMENTS SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO CONSTRUCTION UNLESS NOTED AS A BID ITEM. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITY STRUCTURES AND APPURTENANCES THAT OCCURS DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

EARTHMOVING:

CONTRACTOR TO SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH MATERIAL AND PRODUCT USED.

TEST REPORTS: SUBMIT FOR APPROVAL TEST REPORTS, LIST OF MATERIALS AND GRADATIONS PROPOSED FOR USE. OBTAIN SAMPLES OF ANY PROPOSED FILL MATERIAL AND CONTRACTOR TO PROVIDE STANDARD PROCTOR TEST REPORTS TO ENGINEER.

COMPACTION REQUIREMENTS ARE AS FOLLOWS:

- UNDER STEPS, PAVEMENTS, AND WALKWAYS, 95 PERCENT STANDARD PROCTOR MINIMUM DENSITY, ASTM D 698.
- UNDER LAWNS OR UNPAVED AREAS, 85 PERCENT, ASTM D 698.

GRADING TOLERANCES OUTSIDE BUILDING LINES ARE AS FOLLOWS:

- LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1 INCH.
- PAVEMENTS, PLUS OR MINUS 1/2 INCH.
- ALL ADA ROUTES AND PARKING ARE TO MEET ADA REQUIREMENTS AT ALL TIMES.

ALL ACTIVITIES WILL BE CONTAINED WITHIN CONSTRUCTION BOUNDARIES INDICATED ON SITE PLAN. SPECIFIED EXCAVATION REQUIREMENTS, PRECAUTIONS, AND PROTECTIVE SYSTEMS WILL BE OBSERVED AT ALL TIMES.

MOVEMENT OF TRUCKS AND EQUIPMENT ON OWNER'S PROPERTY WILL BE IN ACCORDANCE WITH OWNER'S INSTRUCTIONS.

TOPSOIL WILL BE STRIPPED FROM THE CONSTRUCTION SITE AND WILL BE DISPOSED OF LEGALLY OFF SITE.

TRENCHES WILL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE COMPLETED AND THE UTILITY SYSTEMS, AS INSTALLED, CONFORM TO REQUIREMENTS SPECIFIED BY THE CONTRACT DOCUMENTS.

EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE REGARDLESS OF MATERIALS ENCOUNTERED. REPAIR EXCAVATIONS BEYOND ELEVATIONS AND DIMENSIONS INDICATED AS FOLLOWS:

- AT STRUCTURE: CONCRETE OR COMPACTED STRUCTURAL FILL.
  - ELSEWHERE: BACKFILL AND COMPACT AS DIRECTED.
- MAINTAIN STABILITY OF EXCAVATIONS; CONTRACTOR TO BE RESPONSIBLE FOR DESIGN AND COORDINATION OF SHORING AND BRACING AS REQUIRED. PREVENT SURFACE AND SUBSURFACE WATER FROM ACCUMULATING IN EXCAVATIONS. STOCKPILE SATISFACTORY MATERIALS FOR REUSE, ALLOW FOR PROPER DRAINAGE AND DO NOT STOCKPILE MATERIALS WITHIN DRIP LINE OF TREES TO REMAIN.

COMPACT MATERIALS AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698 BY AERATION OR WETTING TO THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY:

- STRUCTURE, PAVEMENT, WALKWAYS: SUBGRADE AND EACH FILL LAYER TO 95% (-2%+4%) OF STANDARD PROCTOR MAXIMUM DRY DENSITY TO SUITABLE DEPTH. COMPACTION TESTING SHALL BE PERFORMED IMMEDIATELY PRIOR TO THE PLACEMENT OF REINFORCING STEEL AND NEW PAVING MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING TESTING WITH OWNERS DESIGNATED TESTING AGENCY.
- UNPAVED AREAS: TOP 6" OF SUBGRADE AND EACH FILL LAYER TO 80% MAXIMUM DRY DENSITY.
- A PROOF-ROLL SHALL BE REQUIRED OF THE SUBGRADE PRIOR TO PLACEMENT OF THE BASE COURSE. PROOF ROLLING SHALL CONSIST OF PASSING A LOADED, 20-TON, TANDEM DUMP TRUCK OVER THE PREPARED SUBGRADE SOIL WITH A MAXIMUM ALLOWABLE DISPLACEMENT OF 1". ANY AREAS THAT DISPLACE MORE THAN 1" SHALL BE COMPACTED UNTIL THIS CRITERION IS MET, OR THOSE AREAS MAY BE EXCAVATED AND BACKFILLED WITH COMPACTED TYPE 1 AGGREGATE USED FOR BASE MATERIAL. ALL PROOF ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- CUT AREAS UNDER PROPOSED ASPHALT OR CONCRETE PAVEMENTS SHALL BE CUT AND COMPACTED. AFTER GRADING TO SUBGRADE ELEVATION, SCARIFY THE TOP SIX INCHES OF THE SUB-BASE AND COMPACT AS OUTLINED ABOVE.

PLACE ACCEPTABLE MATERIALS IN LAYERS NOT MORE THAN 8" LOOSE DEPTH FOR MATERIALS COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4" LOOSE DEPTH FOR MATERIALS COMPACTED BY HAND EQUIPMENT TO SUBGRADES INDICATED AS FOLLOWS:

- STRUCTURAL FILL: USE UNDER FOUNDATIONS, SLABS ON GRADE IN LAYERS AS INDICATED.
- DRAINAGE FILL: USE UNDER DESIGNATED BUILDING SLABS, AT FOUNDATION DRAINAGE AND ELSEWHERE AS INDICATED.
- LANDSCAPE AREA FILL:
  - ALL SUB-GRADE AREAS SHALL BE "RIPPED" TO A MINIMUM 6" DEEP AND A MAXIMUM OF 12" APART IN OPPOSITE DIRECTIONS WITH MINIMAL TIRE TRAFFIC TO FOLLOW.
  - CONTRACTOR TO LEAVE AREAS 6" OR 18" (PLANTER AREAS) BELOW FINISH GRADE, OWNER TO PLACE TOPSOIL AND ALL PLANTINGS.
- ANY FILL SOIL WITHIN 36" OF FINISHED GRADE IN LAWN AND PLANTER AREAS SHALL BE CHESIVE SOILS IN SOIL CLASSIFICATIONS GROUPS ML, CL, CH OR A COMBINATION THEREOF, FREE OF ROCK OR GRAVEL LARGER THAN 1" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIAL, VEGETATION AND OTHER DELETERIOUS MATER.
- SUB-BASE MATERIAL: USE UNDER PAVEMENT, WALKS, STEPS, PIPING AND CONDUIT.

GRADE TO WITHIN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE AND WITHIN A TOLERANCE OF 1/2" IN 10'.

PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION. RECOMPACT AND REGRADE SETTLED, DISTURBED AND DAMAGED AREAS AS NECESSARY TO RESTORE QUALITY, APPEARANCE, AND CONDITION OF WORK.

CONTROL EROSION TO PREVENT RUNOFF INTO SEWERS OR DAMAGE TO SLOPED OR SURFACED AREAS.

CONTROL DUST TO PREVENT HAZARDS TO ADJACENT PROPERTIES AND VEHICLES. IMMEDIATELY REPAIR OR REMEDY DAMAGE CAUSED BY DUST INCLUDING AIR FILTERS IN EQUIPMENT AND VEHICLES. CLEAN SOILED SURFACES.

DISPOSAL OF EXCAVATION WASTE AND UNSUITABLE MATERIALS SHALL BE THE RESPONSIBILITY OF THE SITE WORK CONTRACTOR. NO SPECIFIC OR PRE-APPROVED LOCATION IS BEING PROVIDED BY THE OWNER.

CONCRETE:

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
  - FOUNDATIONS - 3,000 PSI
  - CAST-IN-PLACE WALLS - 3,500 PSI
  - FLOOR SLAB - 4,000 PSI
  - EXTERIOR SLABS, WALLS AND CURBS - 4,000 PSI
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
- CHLORIDE-BASED ADMIXTURES ARE PROHIBITED IN ALL CONCRETE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
- ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION.
- CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- CONCRETE SLUMP SHALL BE A MAXIMUM OF 4 +/- 1" (ASTM C-143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
- CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
- SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
- READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
- CONCRETE WORK EXECUTION
  - CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
  - POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE, ON THE DRAWINGS:
    - CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
    - EXPOSED TO EARTH OR WEATHER.....2 INCHES
    - NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....1 1/2 INCHES
  - PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM 1/4 OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
  - STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
  - CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.
- FLUT AND CHERT WILL BE LIMITED TO 1% MAXIMUM, BY WEIGHT OF THE COURSE AGGREGATE, IN ALL EXPOSED CONCRETE. (CAST-IN-PLACE OR PRECAST). LIGHTWEIGHT WILL BE LIMITED TO 0.5%, BY WEIGHT OF THE FINE AGGREGATE IN ALL EXPOSED CONCRETE. SOME APPLICATIONS MAY BE REQUIRED TO BE LIGHTWEIGHT.

CONCRETE PAVING JOINT SEALANTS:

DELIVER MATERIALS TO PROJECT SITE IN ORIGINAL UNOPENED CONTAINERS OR BUNDLES WITH LABELS INDICATING MANUFACTURER, PRODUCT NAME AND DESIGNATION, COLOR, EXPIRATION DATE, POT LIFE, CURING TIME, AND MIXING INSTRUCTIONS FOR MULTICOMPONENT MATERIALS.

STORE AND HANDLE MATERIALS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS TO PREVENT THEIR DETERIORATION OR DAMAGE DUE TO MOISTURE, HIGH OR LOW TEMPERATURES, CONTAMINANTS, OR OTHER CAUSES.

DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS UNDER THE FOLLOWING CONDITIONS:

- WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 DEG F.
- WHEN JOINT SUBSTRATES ARE WET OR COVERED WITH FROST.
- WHERE JOINT WIDTHS ARE LESS THAN THOSE ALLOWED BY JOINT-SEALANT MANUFACTURER FOR APPLICATIONS INDICATED.
- WHERE CONTAMINANTS CAPABLE OF INTERFERING WITH ADHESION HAVE NOT YET BEEN REMOVED FROM JOINT SUBSTRATES.

PROVIDE JOINT SEALANTS, BACKING MATERIALS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.

COLD-APPLIED JOINT SEALANTS ARE TO BE TYPE NS SILICONE SEALANT FOR CONCRETE, SINGLE-COMPONENT, LOW-MODULUS, NEUTRAL-CURING, NONSAG SILICONE SEALANT COMPLYING WITH ASTM D 5893 FOR TYPE NS. PRODUCTS ALLOWED ARE: CRAFCO INC.; ROADSAVER SILICONE ; DOW CORNING CORPORATION; 888; PECORA NS 301, OR APPROVED EQUAL.

CONTRACTOR TO PROVIDE JOINT-SEALANT BACKER MATERIALS THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY JOINT-SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING. ROUND BACKER RODS FOR COLD-APPLIED SEALANTS: ASTM D 5249, TYPE 3, OF DIAMETER AND DENSITY REQUIRED TO CONTROL SEALANT DEPTHAND PREVENT BOTTOM-SIDE ADHESION OF SEALANT.

PRIOR TO JOINT INSTALLATION, CONTRACTOR IS TO EXAMINE JOINTS INDICATED TO RECEIVE JOINT SEALANTS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATION, INSTALLATION TOLERANCES, AND OTHER CONDITIONS AFFECTING JOINT- SEALANT PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS.

COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED, UNLESS MORE STRINGENT REQUIREMENTS APPLY.

COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.

INSTALL BACKER MATERIALS OF TYPE INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY. DO NOT LEAVE GAPS BETWEEN ENDS OF BACKER MATERIALS. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR BACKER MATERIALS. REMOVE ABSORBENT BACKER MATERIALS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.

INSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKING ARE INSTALLED:

- PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
- COMPLETELY FILL RECESSES PROVIDED FOR EACH JOINT CONFIGURATION.
- PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.

IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT. REMOVE EXCESS SEALANTS FROM SURFACES ADJACENT TO JOINT.USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY JOINT-SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.

PROVIDE JOINT CONFIGURATION TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED.

PROVIDE RECESSED JOINT CONFIGURATION FOR SILICONE SEALANTS OF RECESS DEPTH AND AT LOCATIONS INDICATED.

CLEAN OFF EXCESS SEALANTS OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

PROTECT JOINT SEALANTS DURING AND AFTER CURING PERIOD FROM CONTACT WITH CONTAMINATING SUBSTANCES AND FROM DAMAGE RESULTING FROM CONSTRUCTION OPERATIONS OR OTHER CAUSES SO SEALANTS ARE WITHOUT DETERIORATION OR DAMAGE AT TIME OF SUBSTANTIAL COMPLETION. IF, DESPITE SUCH PROTECTION, DAMAGE OR DETERIORATION OCCURS, CUT OUT AND REMOVE DAMAGED OR DETERIORATED JOINT SEALANTS IMMEDIATELY AND REPLACE WITH JOINT SEALANT SO INSTALLATIONS WITH REPAIRED AREAS ARE INDISTINGUISHABLE FROM THE ORIGINAL WORK.

PAVEMENT MARKING:

UNLESS NOTED OTHERWISE ON THE PLANS, PAINT SHALL BE WATERBORNE OR SOLVENT BORNE, COLORS AS SHOWN OR SPECIFIED HEREIN. WATERBORNE PAINT: PAINTS SHALL CONFORM TO FS IT-P-1952. SOLVENT BORNE PAINT: PAINT SHALL CONFORM TO FS A-A-2886 OR AASHTO M248. PAINT SHALL BE NON-BLEEDING, QUICK-DRYING AND ALKYO PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC BEARING SURFACE AND BE MIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION FOR COLORS WHITE, YELLOW, BLUE, AND RED. RETROREFLECTIVE PAINT SHALL BE TYPE I GLASS BEADS PER SECTION 620 OF THE CURRENT MDDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

PAINT SHALL BE APPLIED PER THE FOLLOWING COLOR CODE: WHITE FOR STANDARD PARKING SPACE LINES AND SIDEWALK CROSSINGS. BLUE FOR ACCESSIBLE PARKING STALL AND SYMBOLS AND ASSOCIATED CROSS-HATCHED AREAS

MATERIALS SHALL INCLUDE STANDARD COMMERCIAL GRADE MASKING MATERIALS, SCRAPERS, CLEANING SOLVENTS, AND OTHER MATERIALS REQUIRED FOR THE WORK. USE MATERIALS SPECIFIED BY MANUFACTURER'S DIRECTION LABEL ON CONTAINER.

DELIVER MATERIALS TO THE SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELS INTACT. PROTECT ALL PAINT FROM FREEZING. DO NOT ALLOW PAINT TO SETTLE, CAKE, OR THICKEN IN THE CONTAINER. READY STIR WITH A PADDOLE TO A SMOOTH CONSISTENCY. PAINT SHALL ARRIVE ON THE JOB COLOR-MIXED EXCEPT FOR TINTING OF UNDERCOATS AND POSSIBLE THINNING.

PRIOR TO BEGINNING CLEANING OR PAINTING OPERATIONS, CONTRACTOR SHALL PROTECT ALL ITEMS OR SURFACES NOT INCLUDED IN AREA TO BE PAINTED. PROTECT VEHICLES, EQUIPMENT, STRUCTURES, OR OTHER ITEMS FROM PAINT SPATTERS, OVER SPRAY, OR DAMAGE.

CONTRACTOR SHALL PROVIDE BARRICADES AND ANY SIGNAGE NEEDED TO PROTECT ALL PAINTED AREAS FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL ACHIEVING SUFFICIENT DRYING TIME.

PERFORM PAINTING AS SOON AS FEASIBLE AND PRACTICAL AFTER THE FINISHING OF THE PAVEMENT OR AS DIRECTED BY THE OWNERS REPRESENTATIVE. ADEQUATE LIGHTING SHALL BE AVAILABLE AT THE TIME OF PAINTING. EXAMINE ALL SURFACES TO RECEIVE PAINT TO MAKE SURE THERE ARE NO DEFECTS IN THE SURFACE TO BE STRIPED. DO NOT PAINT OVER RUST, SCALE, GREASE, OIL, FUEL, DUST, WET PAVEMENT, OR OTHER CONDITIONS DETRIMENTAL TO PAINT ADHESION. REMOVE GREASE, OIL, OR FUEL ON ANY SURFACE BEFORE PAINTING. CORRECT ALL SURFACE DEFECTS BEFORE PAINTING. CONTRACTOR SHALL EXAMINE AREAS TO BE PAINTED. NOTIFY THE OWNERS REPRESENTATIVE IN WRITING OF CONDITIONS THAT MIGHT DELAY TIMELY COMPLETION OF THE WORK.

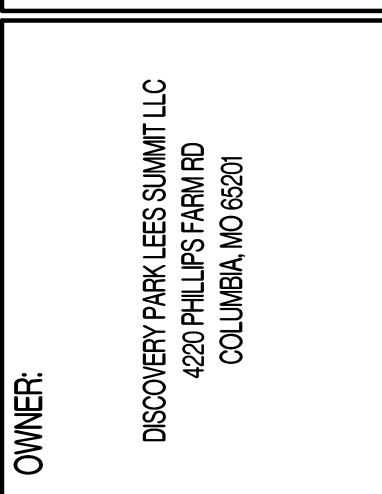
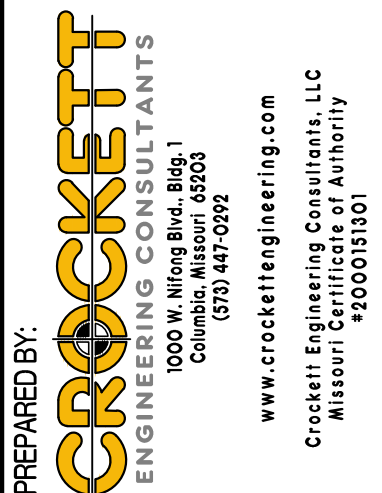
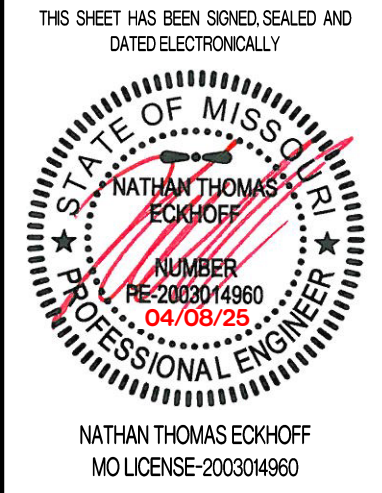
PAINTING SHALL NOT BE PERFORMED WHEN THE AMBIENT TEMPERATURE IS LESS THAN 55 DEGREES FAHRENHEIT AND NOT EXCEEDING 95 DEGREES FAHRENHEIT, OR WHILE THE SURFACE IS DAMP. THE SURFACE MUST BE FIVE DEGREES OR MORE ABOVE THE DEW POINT TEMPERATURE DURING PAINTING OPERATIONS AND WHILE PAINT IS DRYING.

AREAS TO BE PAINTED SHALL RECEIVE ONE COAT OF PAINT NOT LESS THAN 25 MILS THICKNESS WET PER MDDOT 620.9 THROUGH 620.9.3.4.2. IN LOCATIONS REQUIRING MULTIPLE COATS, PRIOR COAT SHALL BE DRY TO MANUFACTURER'S RECOMMENDATIONS BEFORE APPLYING THE NEXT COAT. FINISHED WORK SHALL BE UNIFORM, OF APPROVED COLOR, FREE OF RUNS, DRIPS, DEFECTIVE BRUSHING, SPRAYING, AND CLOGGING. PARKING LINES AND SYMBOLS SHALL BE NEAT AND WELL DEFINED. ONLY SKILLED APPLICATORS SHALL APPLY PAINT. OWNERS REPRESENTATIVE SHALL APPROVE APPLICATION TECHNIQUES.

REMOVE PAINT SPATTER FROM ADJACENT AREAS OR AREAS NOT DESIGNATED TO RECEIVE PAINT. CONTRACTOR SHALL REPAIR OR TOUCH UP ANY SURFACES IF EXPOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER. WHEN COLOR, DIRT, STAINS, EXISTING PAINT, ETC., SHOW THROUGH THE FINAL COAT, REPAINT THE SURFACE UNTIL THE FILM IS UNIFORM IN FINISH, COVERAGE, COLOR, AND APPEARANCE.

REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024



THE VILLAGE AT DISCOVERY

LOT 13

LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

PROJECT SPECIFICATIONS

DESIGNED: NTE

DRAWN: NMD

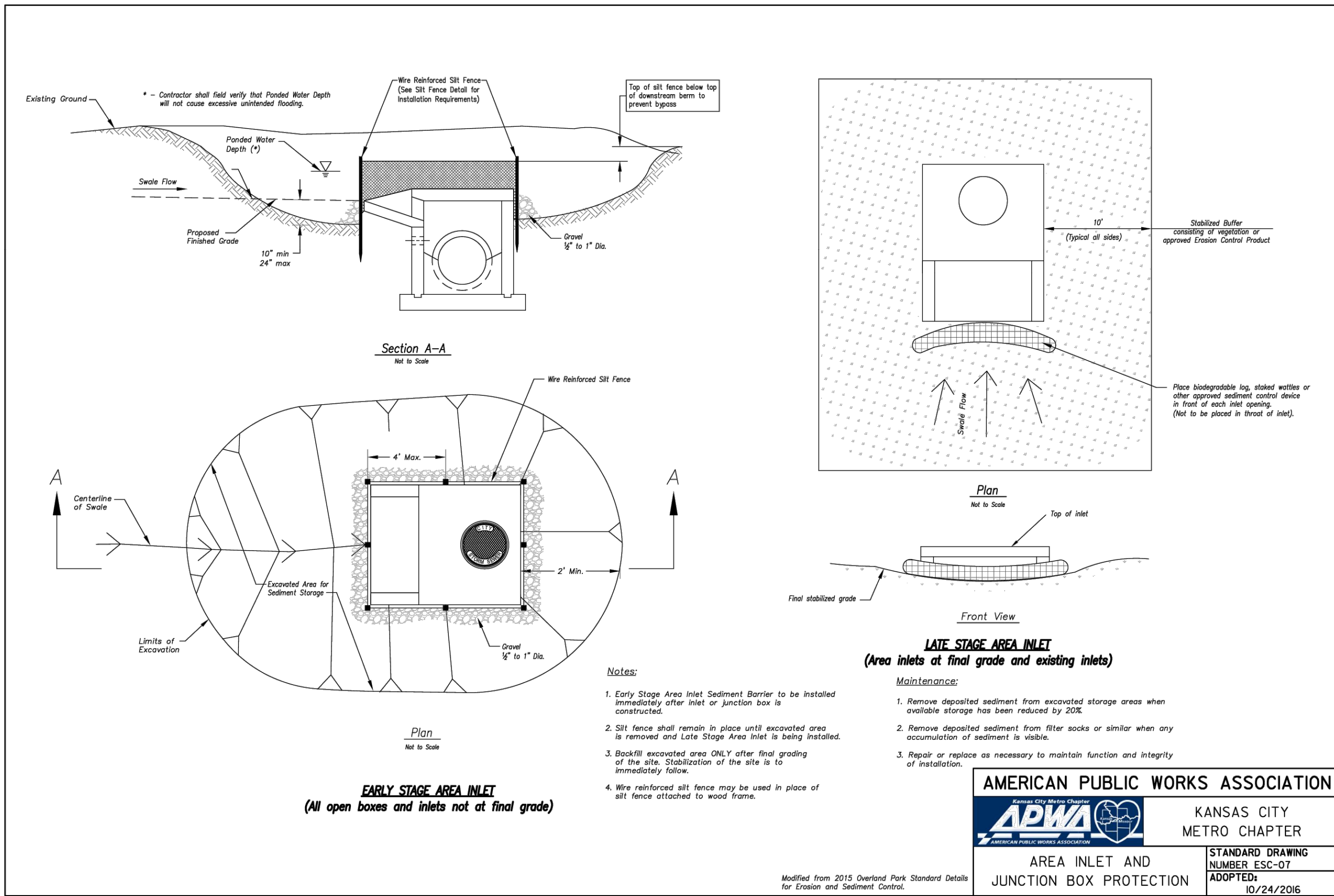
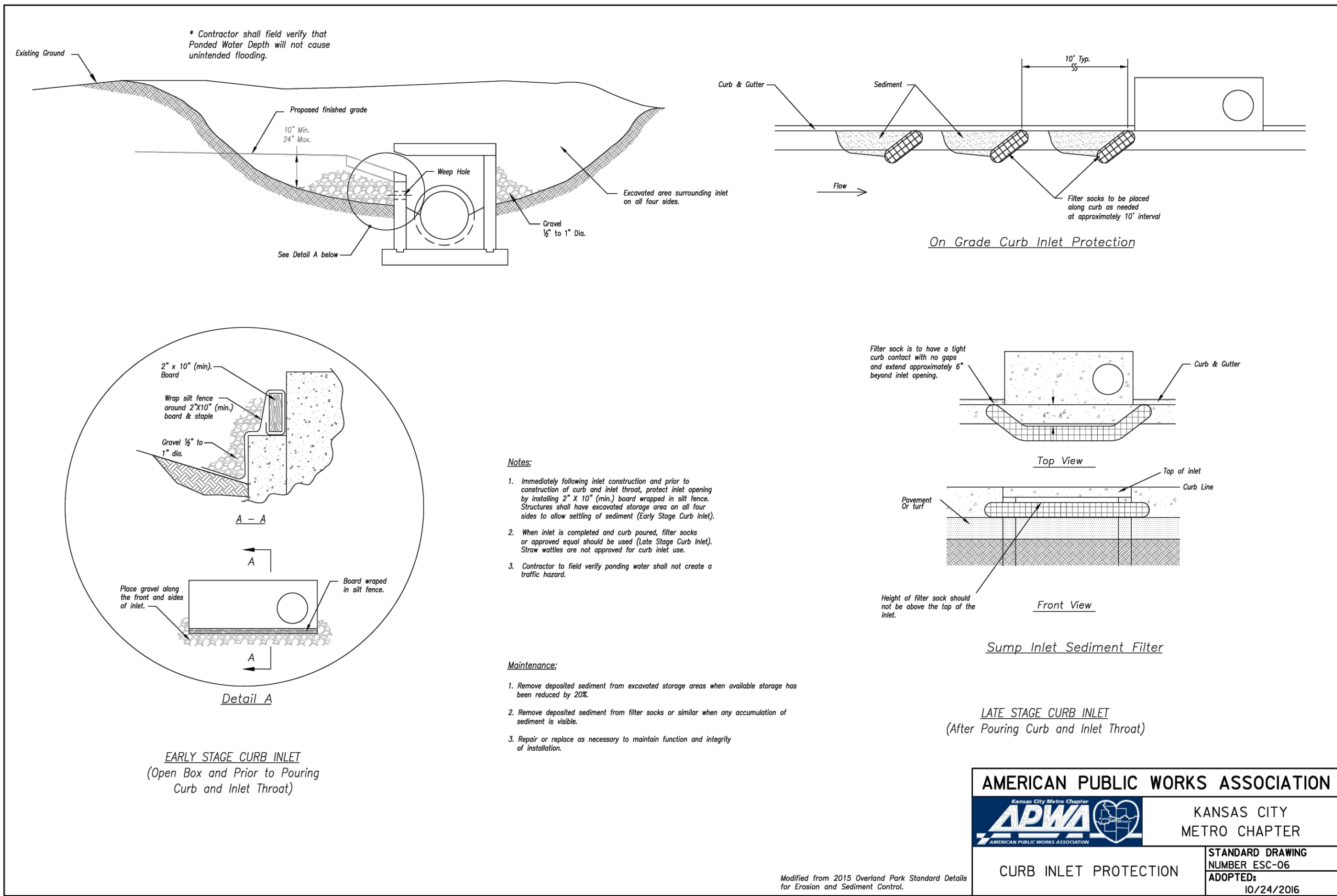
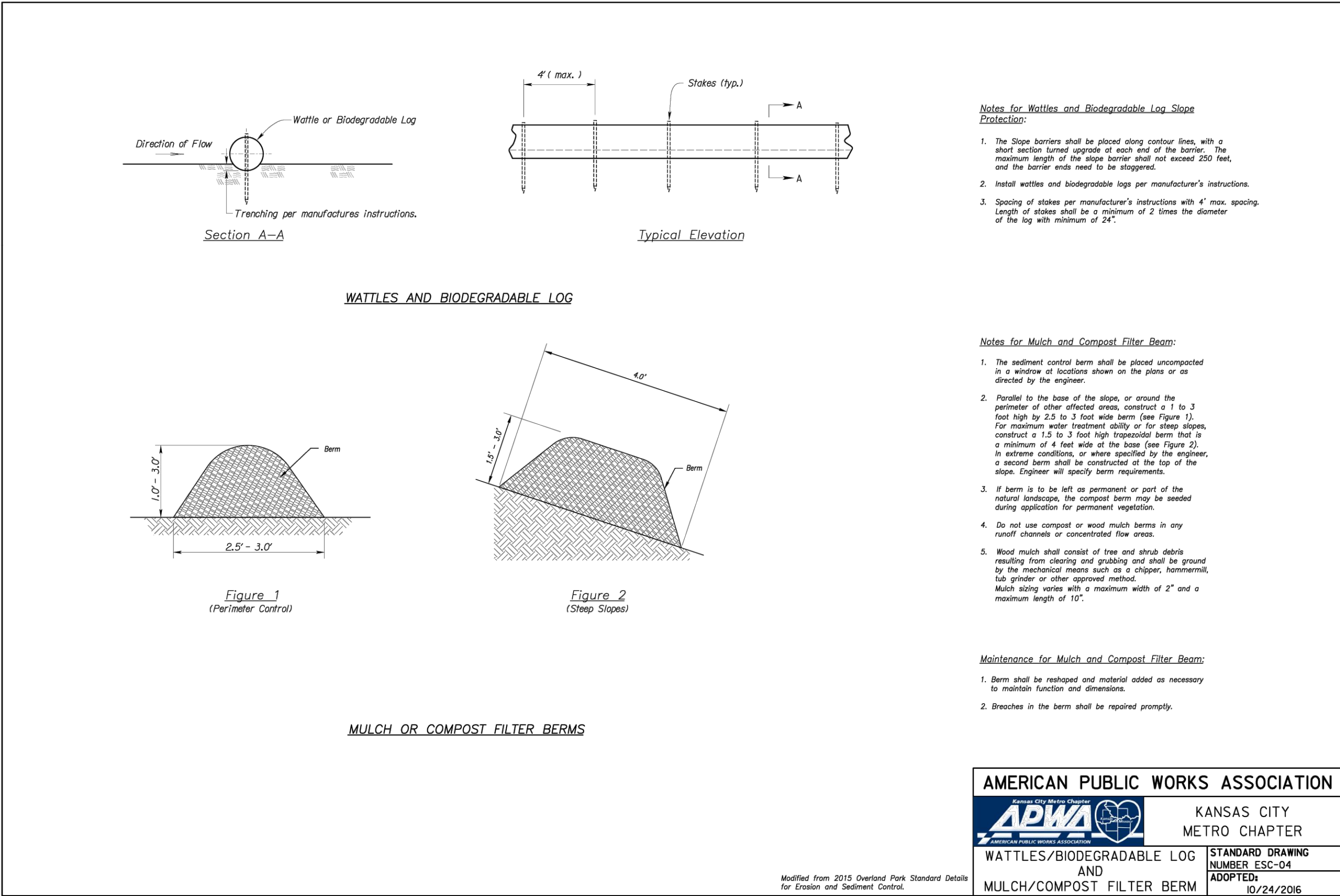
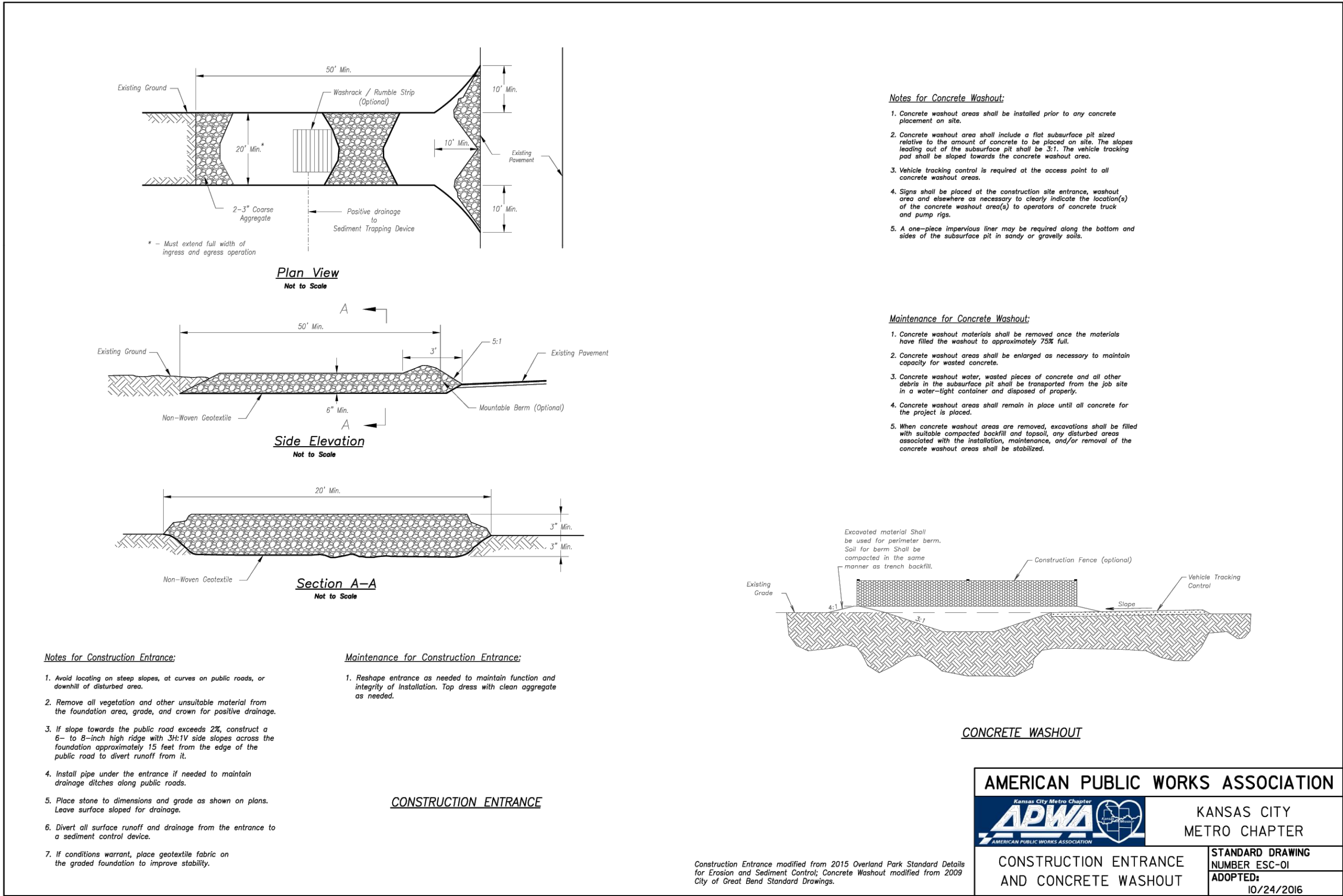
PROJECT NO.: 230286

SHEET:  
CE 11









REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI

NATHAN THOMAS ECKHOFF

PE-2003014960

04-08-25

PROFESSIONAL ENGINEER

NATHAN THOMAS ECKHOFF  
MO LICENSE 2003014960

PREPARED BY:

CROCKETT

ENGINEERS & PLANNERS

1000 W. Illinois Blvd., Suite 100  
Columbia, Missouri 65203  
(314) 487-0292

www.crockettingeering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:

DISCOVERY PARK LEES SUMMIT LLC

4220 PHILLIPS FARM RD

COLUMBIA, MO 65201

DRAWING INCLUDES:

EROSION CONTROL DETAILS

DESIGNED:

NTE

DRAWN:

NMD

PROJECT NO:

230286

SHEET:

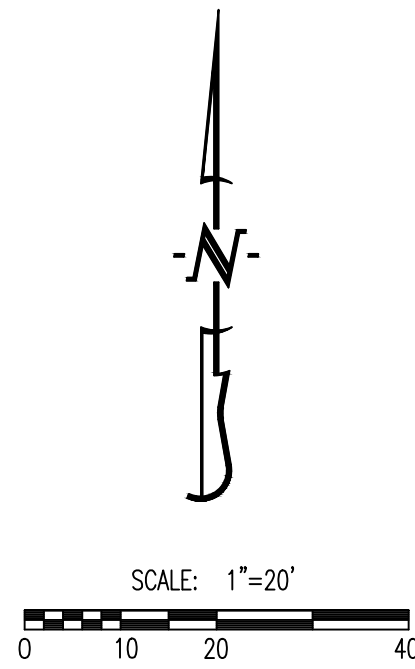
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THE VILLAGE AT DISCOVERY

LOT 13

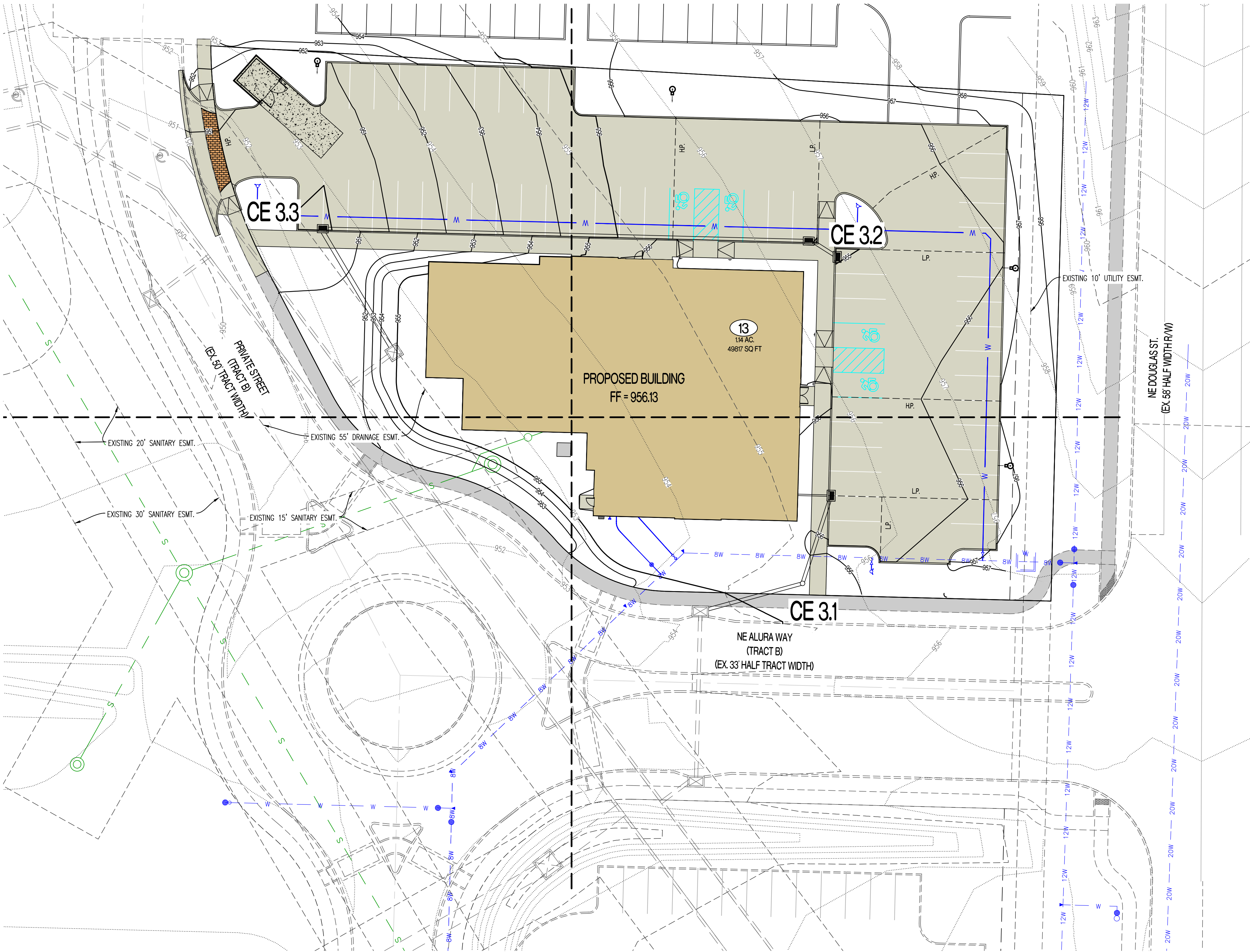
LEES SUMMIT, JACKSON COUNTY, MISSOURI





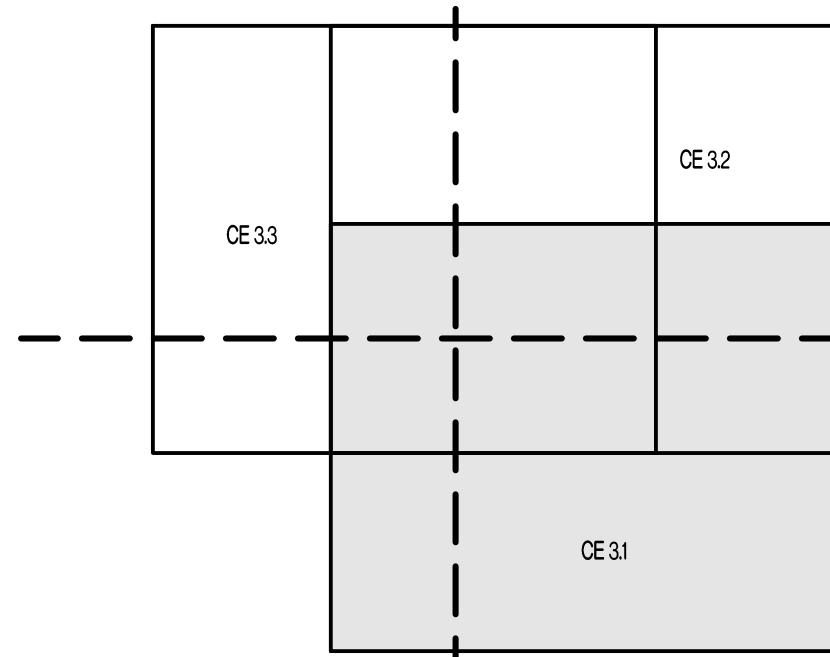
LEGEND OF SYMBOLS:

- x---x--- EXISTING MINOR CONTOUR
- - -x- - - EXISTING MAJOR CONTOUR
- x---x--- PROPOSED MINOR CONTOUR
- x---x--- PROPOSED MAJOR CONTOUR
- FF=XXXX FINISHED FLOOR OF STRUCTURE



REVISIONS:	
NO.	DATE
ORIGINAL	11/22/2024
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	
NATHAN THOMAS ECKHOFF MO LICENSE 200304960	
PREPARED BY:	 ENGINEERING CONSULTANTS 1000 W. Illinois Blvd., Suite 100 Columbia, Missouri 65203 (314) 487-0292 www.crockettengineering.com Missouri Certificate of Authority #000000001
OWNER:	DISCOVERY PARK LEES SUMMIT LLC 4220 PHILLIPS FARM RD COLUMBIA, MO 65201
THE VILLAGE AT DISCOVERY LOT 13 LEES SUMMIT, JACKSON COUNTY, MISSOURI	
DRAWING INCLUDES:	
OVERALL GRADING PLAN	
DESIGNED:	NTE
DRAWN:	NMD
PROJECT NO:	230286
SHEET:	CE 3.0



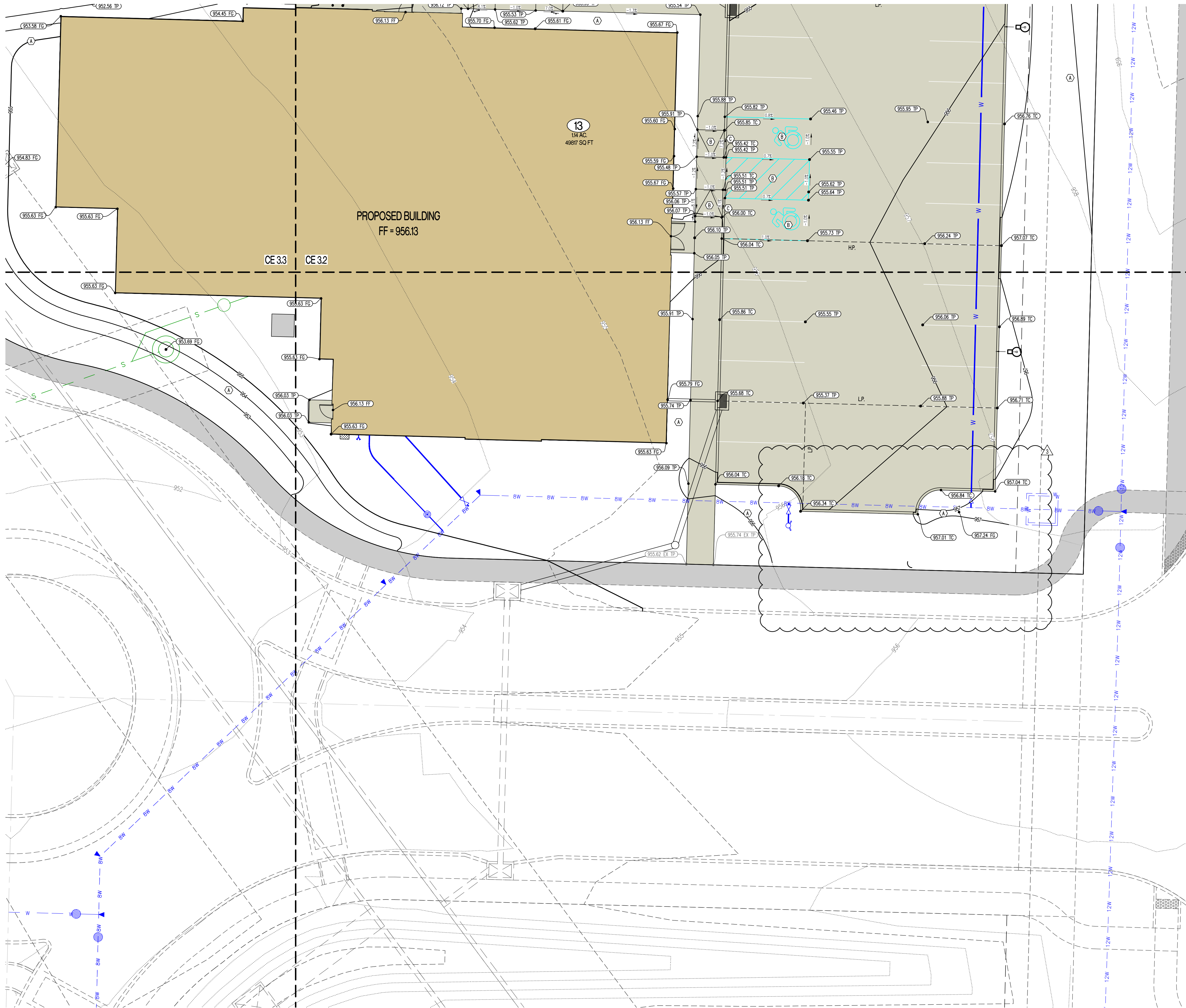
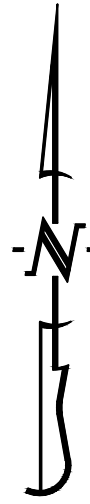
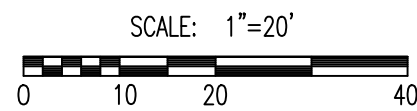


GRADING SHEET KEY

LEGEND OF LABELS	
(A)	FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL. SEED AND MULCH ALL DISTURBED AREAS.
(B)	GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
(C)	TRANSITION FROM 6" CURB TO 0" CURB

LEGEND OF SYMBOLS:

-----XXX-----	EXISTING MINOR CONTOUR
- - - - -XXX- - - - -	EXISTING MAJOR CONTOUR
-----xxx-----	PROPOSED MINOR CONTOUR
- - - - -xxx- - - - -	PROPOSED MAJOR CONTOUR
FF=XXXX	FINISHED FLOOR OF STRUCTURE
(XXX.XX TC)	PROPOSED TOP OF CURB ELEVATION TC = (TP+6") UNLESS NOTED OTHERWISE
(XXX.XX TP)	PROPOSED TOP OF PAVEMENT ELEVATION
(XXX.XX FG)	PROPOSED FINISHED GRADE ELEVATION
(XXX.XX FF)	PROPOSED FINISHED FLOOR AT DOOR



REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/21/2025
REV. 3	04/08/2025

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PREPARED BY:  
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www.crockettengineering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:

DISCOVERY PARK LEES SUMMIT LLC  
4220 PHILLIPS FARM RD  
COLUMBIA, MO 65201

THE VILLAGE AT DISCOVERY

LOT 13

LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

GRADING PLAN SHEET 1

DESIGNED: NTE

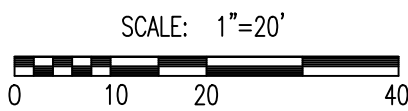
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PROJECT NO.: 230286

SHEET: CE 31



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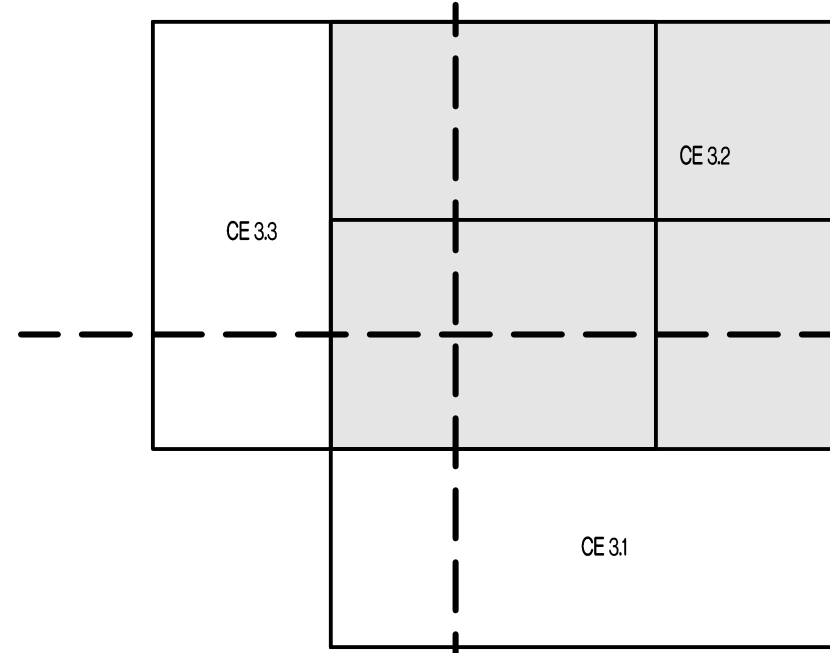


LEGEND OF LABELS

- (A) FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL, SEED AND MULCH ALL DISTURBED AREAS.
- (B) GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
- (C) TRANSITION FROM 6" CURB TO 0" CURB

LEGEND OF SYMBOLS:

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- - - - -XXX- - - - - EXISTING MAJOR CONTOUR
- XXX----- PROPOSED MINOR CONTOUR
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- FF=XXXX FINISHED FLOOR OF STRUCTURE
- (XXX.XX TC) PROPOSED TOP OF CURB ELEVATION  
TC = (TP+6") UNLESS NOTED OTHERWISE
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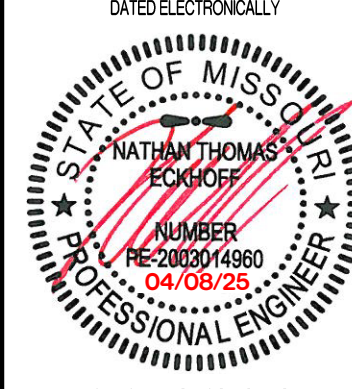
GRADING SHEET KEY



REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024

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NATHAN THOMAS ECKHOFF  
MO LICENSE 200304960

PREPARED BY:  
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www.crockettengineering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:

DISCOVERY PARK LEES SUMMIT LLC  
4220 PHILLIPS FARM RD  
COLUMBIA, MO 65201

# THE VILLAGE AT DISCOVERY

## LOT 13

LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

GRADING PLAN SHEET 2

DESIGNED: NTE

DRAWN: NMD

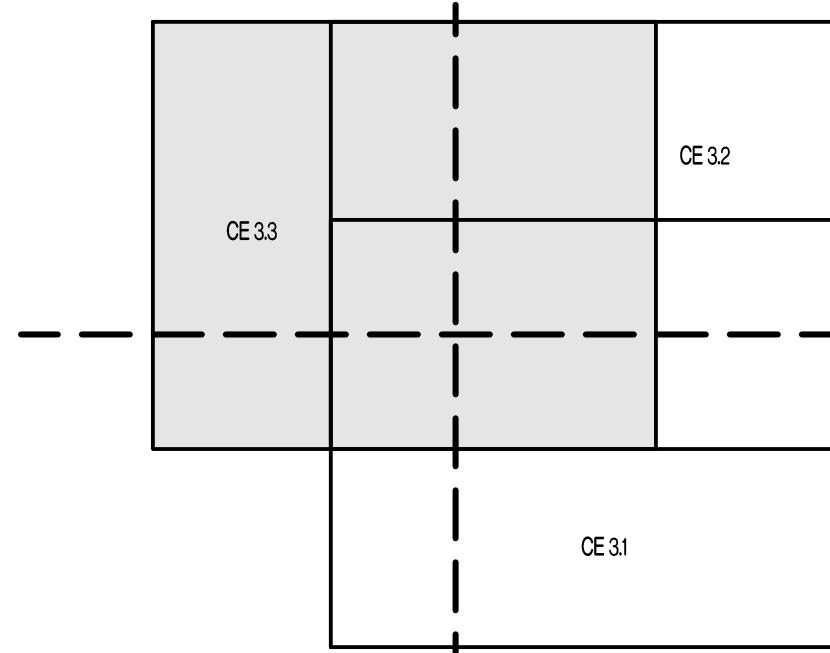
PROJECT NO.: 230286

SHEET:

CE 32



Y:\2023\230286 - Discovery Park Lees Summit\Zone 1 Lot 13\Civil\MOAD Files\Construction Plans\230286 Village at Discovery Zone 1 Lot 13 Grading Base.dwg

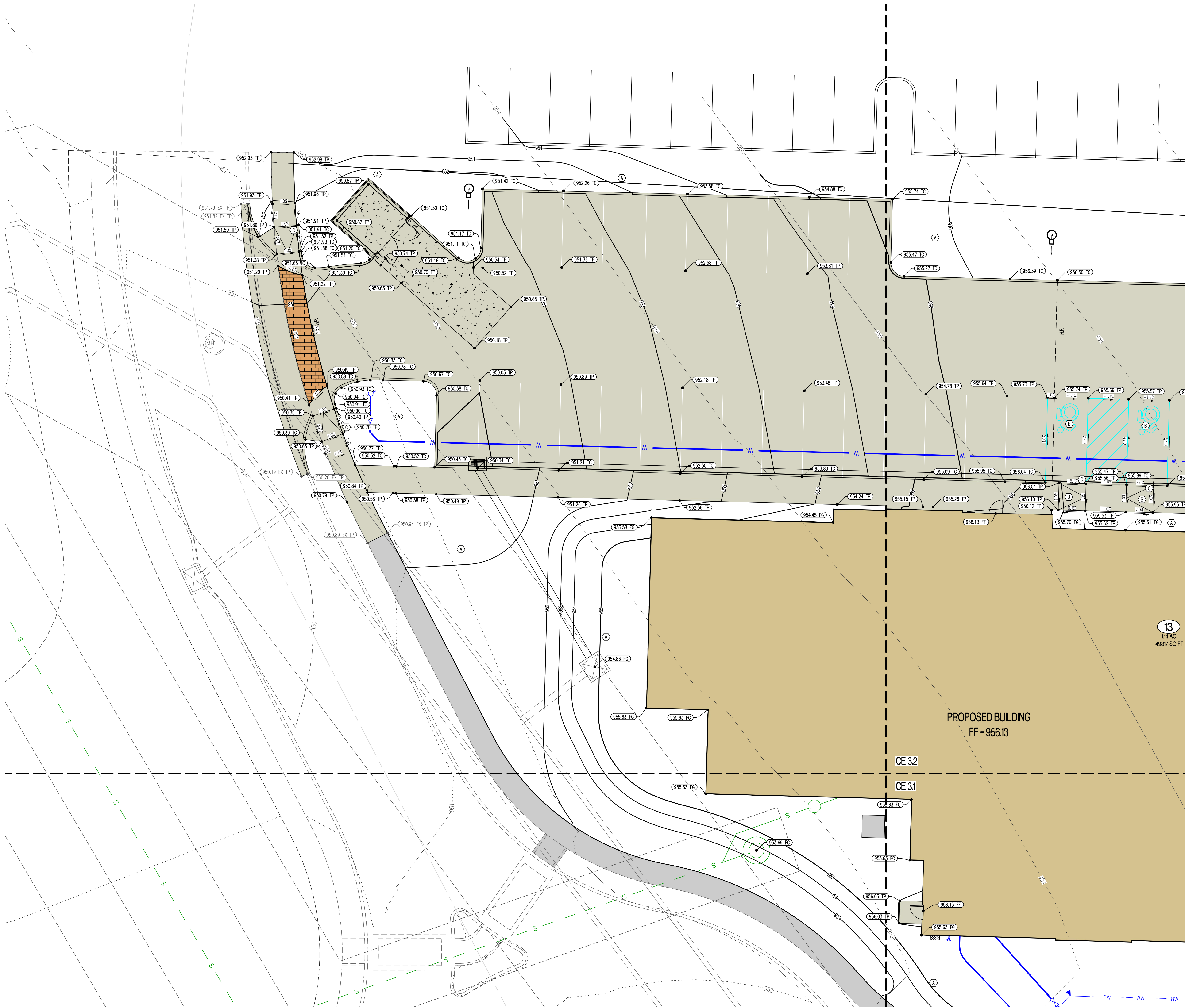


GRADING SHEET KEY

- LEGEND OF LABELS**
- (A) FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL. SEED AND MULCH ALL DISTURBED AREAS.
  - (B) GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
  - (C) TRANSITION FROM 6" CURB TO 0" CURB

**LEGEND OF SYMBOLS:**

- XXX----- EXISTING MINOR CONTOUR
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- XXX----- PROPOSED MINOR CONTOUR
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- (XXX.XX FF) PROPOSED FINISHED FLOOR AT DOOR



REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/27/2025

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NATHAN THOMAS ECKHOFF  
MISSOURI LICENSE 200304960

PREPARED BY:

ENGINEERS & ARCHITECTS  
1000 W. Illinois Blvd., Suite 100  
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(314) 487-0292  
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OWNER:

DISCOVERY PARK LEES SUMMIT LLC  
4220 PHILLIPS FARM RD  
COLUMBIA, MO 65201

**THE VILLAGE AT DISCOVERY**  
**LOT 13**  
**LEES SUMMIT, JACKSON COUNTY, MISSOURI**

DRAWING INCLUDES:

GRADING PLAN SHEET 3

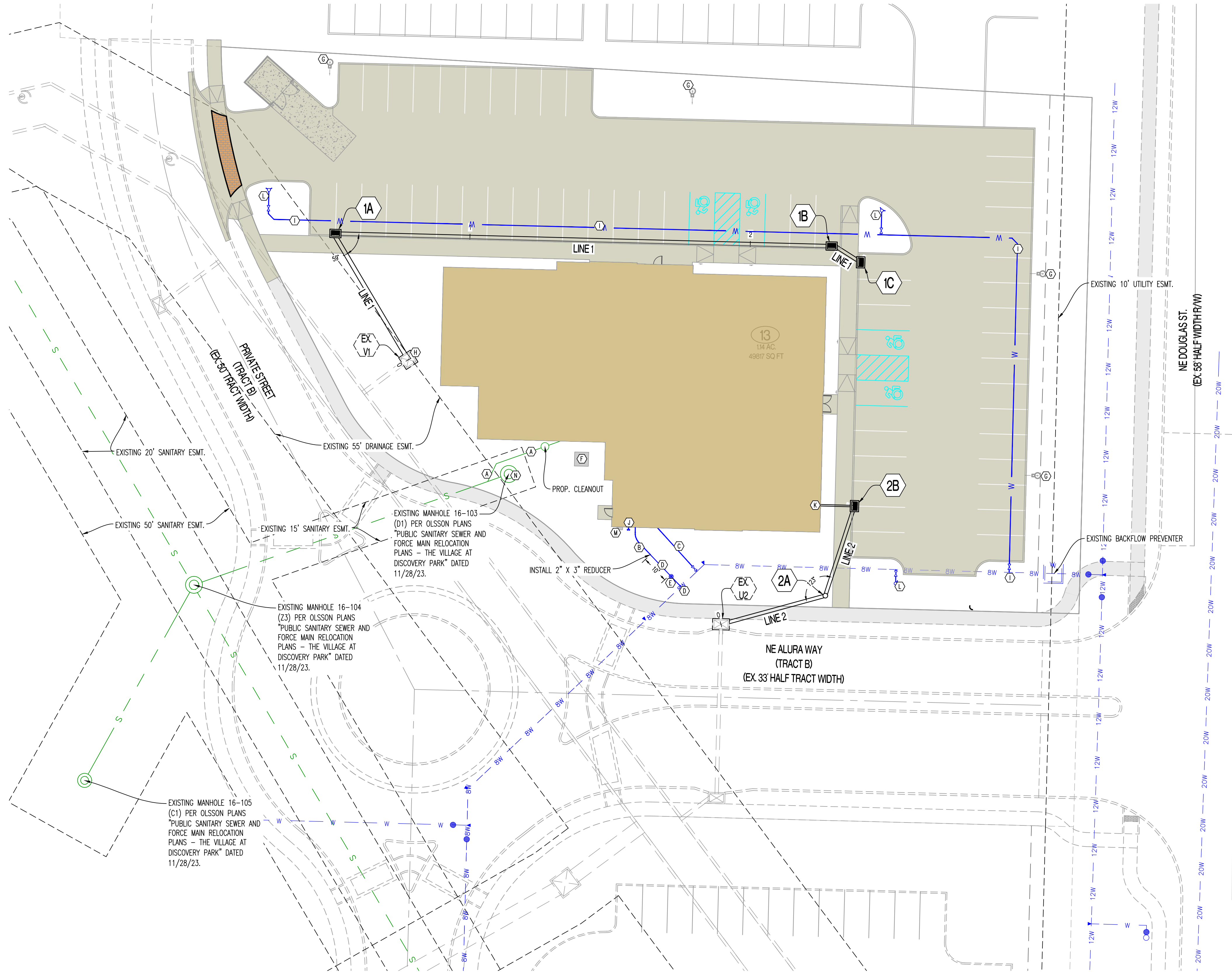
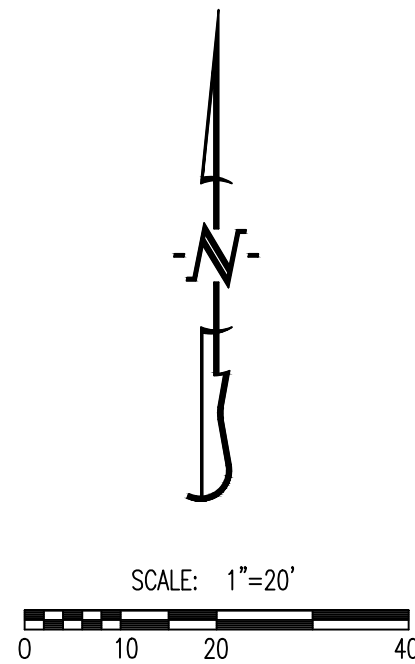
DESIGNED: NTE

DRAWN: NMD

PROJECT NO.: 230286

SHEET:  
CE 33





GENERAL NOTES:

1) CONTRACTOR SHALL VERIFY EXACT LOCATION AND DEPTH OF ALL UTILITIES BEFORE ANY EXCAVATION BEGINS.

2) ALL ITEMS ASSOCIATED WITH DOMESTIC WATERLINE CONSTRUCTION (INTERNAL OF VAULT/METER PIT) ARE SHOWN FOR CITY REVIEW ONLY. CONTRACTOR SHALL VERIFY ALL SIZES AND MATERIALS WITH M.E.P. BEFORE INSTALLATION.

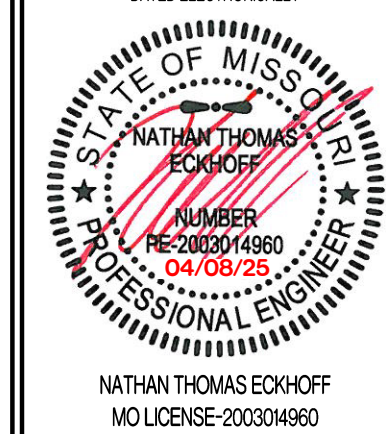
LEGEND OF LABELS

- |  |  |
|--|--|
| (A) INSTALL 6" SDR 26 PVC LATERAL WITH CLEANOUTS AS SHOWN. INSTALL WYE AND CONNECT TO EXISTING SANITARY SEWER AS SHOWN. CONTRACTOR TO FIELD VERIFY DEPTH OF EXISTING SANITARY SEWER AND ROUTE AT 1% MINIMUM TO BUILDING. REFER TO M.E.P. PLANS FOR BUILDING CONNECTION. REFER TO DETAIL 4 ON CE 5.1. | (H) CONTRACTOR TO ASBUILT TOP OF SIDE OPENING INLET. TOP TO BE ADJUSTED TO FINAL GRADE SHOWN ON CE 3.0-CE 3.3.   |
| (B) PROPOSED 3" CPVC WATERLINE SERVICE. REFER TO M.E.P. PLANS FOR BUILDING CONNECTION. CONFIRM SIZE AND MATERIAL WITH M.E.P. PLANS.  | (I) CONTRACTOR TO TAP EXISTING 8" WATERLINE AND INSTALL 6" CPVC PIPE WITH 8" X 6" TEE AND GATE VALVES AS SHOWN. CONTRACTOR TO VERIFY SIZE AND DEPTH OF EXISTING PIPE. INSTALL ALL BENDS, TEES, VALVES, AND THRUST BLOCKING AS REQUIRED BY CITY OF LEE'S SUMMIT STANDARDS. REFER TO CITY OF LEE'S SUMMIT DETAILS ON CE 7.4. |
| (C) PROPOSED 6" CPVC FIRE LINE. INSTALL 6" X 6" TEE AND 6" GATE VALVE AT CONNECTION TO PROPOSED WATERLINE. DOUBLE CHECK DETECTOR CHECK TO BE INSTALLED IN BUILDING. REFER TO M.E.P. PLANS. CONFIRM SIZE AND MATERIAL WITH SPRINKLER DESIGNER.  | (J) PROPOSED 4" STORZ FIRE DEPARTMENT CONNECTION (FDC). COORDINATE WITH ARCHITECT AND M.E.P.   |
| (D) PROPOSED 2" TYPE K SOFT COPPER SERVICE LINE. CONNECT TO PROPOSED 6" WATERLINE WITH 2" CORPORATION STOP VALVE. USE 2" X 3" REDUCER TO CONNECT SERVICE LINES A MINIMUM OF 10' BEYOND METER.  | (K) PROPOSED 6" PVC INTERNAL STORM DRAINAGE SYSTEM CONNECTION. COORDINATE EXACT LOCATION WITH M.E.P. ROUTE 6" PVC TO DRAINAGE STRUCTURES AS SHOWN. REFER TO CE 5.1 FOR INVERTS.  |
| (E) INSTALL 2" WATER METER AS SHOWN. CONTRACTOR TO VERIFY WITH M.E.P. PRIOR TO INSTALLATION. REFER TO CITY DETAIL WAT-11 ON CE 7.4.  | (L) PROPOSED FIRE HYDRANT ASSEMBLY. REFER TO DETAILS WAT-7 AND WAT-8 ON CE 7.4.  |
| (F) PROPOSED TRANSFORMER. COORDINATE WITH M.E.P. AND UTILITY PROVIDER.   | (M) PROPOSED GAS RISER. REFER TO M.E.P. PLANS.   |
| (G) PROPOSED LIGHT POLE. REFER TO M.E.P. PLANS.  | (N) CONTRACTOR TO ASBUILT TOP OF SANITARY SEWER MANHOLE. TOP TO BE ADJUSTED TO FINAL GRADE SHOWN ON CE 3.0-CE 3.3.   |

REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/21/2025
REV. 2	03/24/2025
REV. 3	04/08/2025

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PREPARED BY:  
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Missouri Certificate of Authority  
#000000001

OWNER:  
DISCOVERY PARK LEES SUMMIT LLC  
4020 PHILLIPS FARM RD  
COLUMBIA, MO 65201

# THE VILLAGE AT DISCOVERY

## LOT 13

### LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

UTILITY PLAN

DESIGNED: NTE

DRAWN: NMD

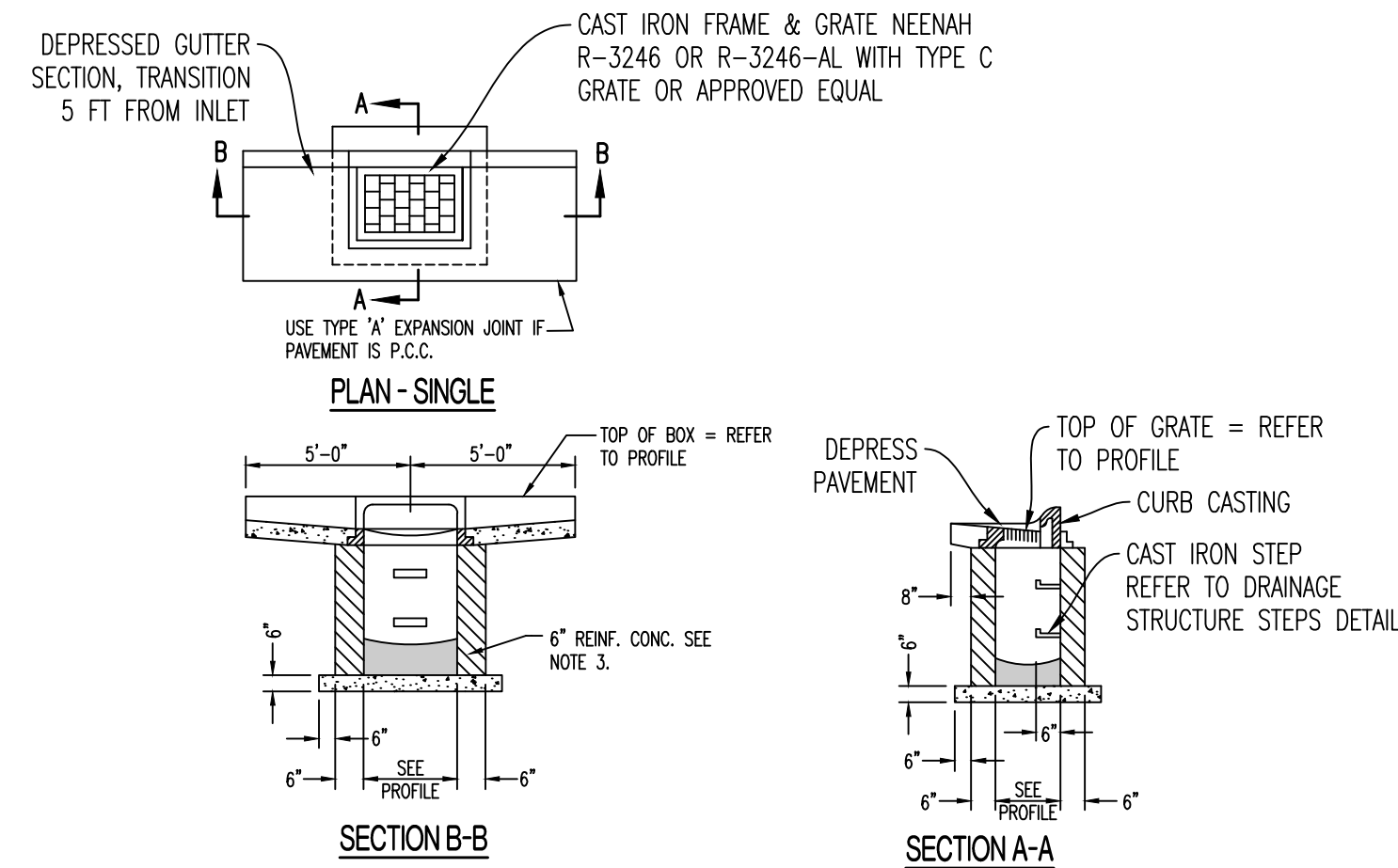
PROJECT NO.: 230286

SHEET:  
CE 4.1



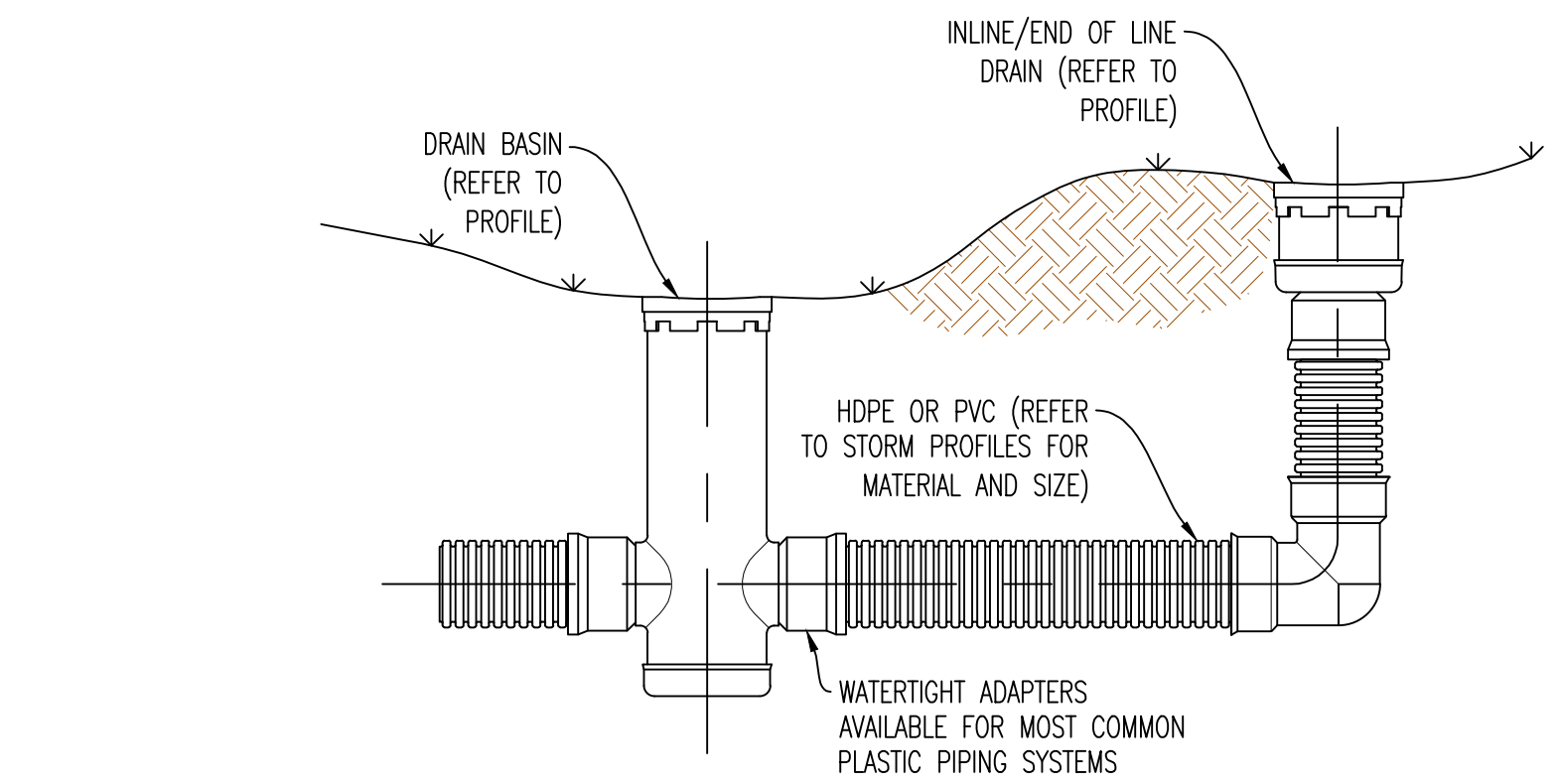
## STRUCTURAL FILL COMPACTION REQUIREMENTS

SOIL FILL THORNESS	<ul style="list-style-type: none"><li>9-INCHES OR LESS WHEN USING HEAVY SELF-PROPELLED COMPACTION EQUIPMENT</li><li>6-INCHES OR LESS WHEN USING HAND GUIDED OR LIGHT SELF-PROPELLED EQUIPMENT</li></ul>
COMPACTION MOISTURE CONTENT REQUIREMENTS	<ul style="list-style-type: none"><li>LEAN TO FAT CLAY AND FAT CLAY<ul style="list-style-type: none"><li>2% BELOW STANDARD PROCTOR OPTIMUM MOISTURE CONTENT (OMC) TO 4% ABOVE THE STANDARD PROCTOR OPTIMUM MOISTURE CONTENT</li></ul></li><li>LEAN CLAY AND SILT<ul style="list-style-type: none"><li>2% BELOW TO 3% ABOVE STANDARD PROCTOR OMC</li></ul></li><li>GRANULAR<ul style="list-style-type: none"><li>WORKABLE MOISTURE CONTENT AND SHALL NOT PUMP WHEN PROOF-ROLLED</li></ul></li></ul>
COMPACTION REQUIREMENTS	<p>95% OF STANDARD PROCTOR DRY DENSITY (ASTM D-698)</p> <ol style="list-style-type: none"><li>WE RECOMMEND ENGINEERED FILL BE TESTED FOR MOISTURE CONTENT AND COMPACTION DURING PLACEMENT. SHOULD THE RESULTS OF THE IN-PLACE DENSITY TESTS INDICATE THE SPECIFIED MOISTURE OR COMPACTION LIMITS HAVE NOT BEEN MET, THE AREA REPRESENTED BY THE TEST SHOULD BE REWORKED AND RETESTED AS REQUIRED UNTIL THE SPECIFIED MOISTURE AND COMPACTION REQUIREMENTS ARE ACHIEVED.</li><li>AS STATED WITHIN ASTM D698, THIS PROCEDURE IS INTENDED FOR SOILS WITH 30% OR LESS MATERIAL LARGER THAN 3/4". ACCORDINGLY, WE RECOMMEND FULL TIME PROOF-ROLL OBSERVATION BE PERFORMED INSTEAD OF MOISTURE DENSITY TESTING FOR MATERIALS CONTAINING MORE THAN 30% AGGREGATE RETAINED ON THE 3/4" SIEVE.</li></ol> <p>1. IF LIMESTONE SCREENINGS ARE USED AS NEW STRUCTURAL FILL, THE CONTRACTOR SHOULD BE AWARE THIS MATERIAL IS EXTREMELY SUSCEPTIBLE TO DEGRADATION UPON WETTING WHICH CAN RESULT IN DEEP-SEATED PUMPING AND RUTTING.</p> <p>2. LIMESTONE SCREENINGS THAT PUMP AND RUT ARE NOT ACCEPTABLE FOR USE AS NEW STRUCTURAL FILL OR FOR LOW VOLUME CHANGE MATERIAL AND WILL NEED TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.</p>

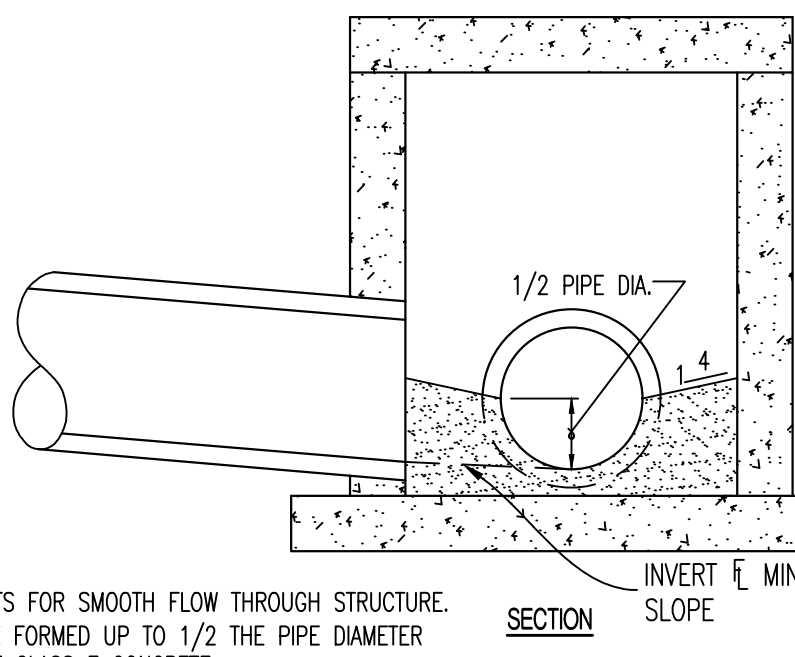
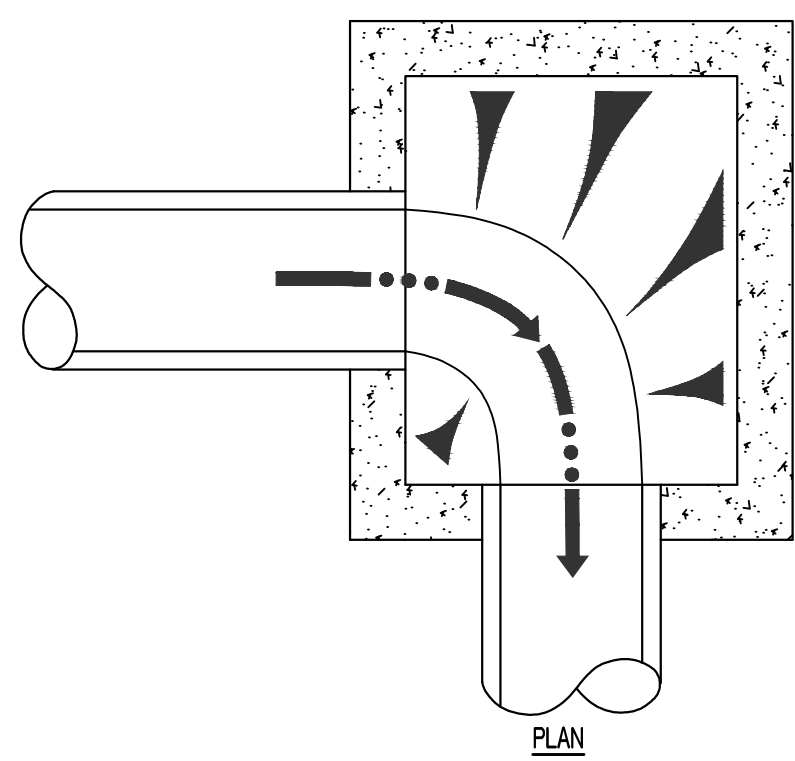
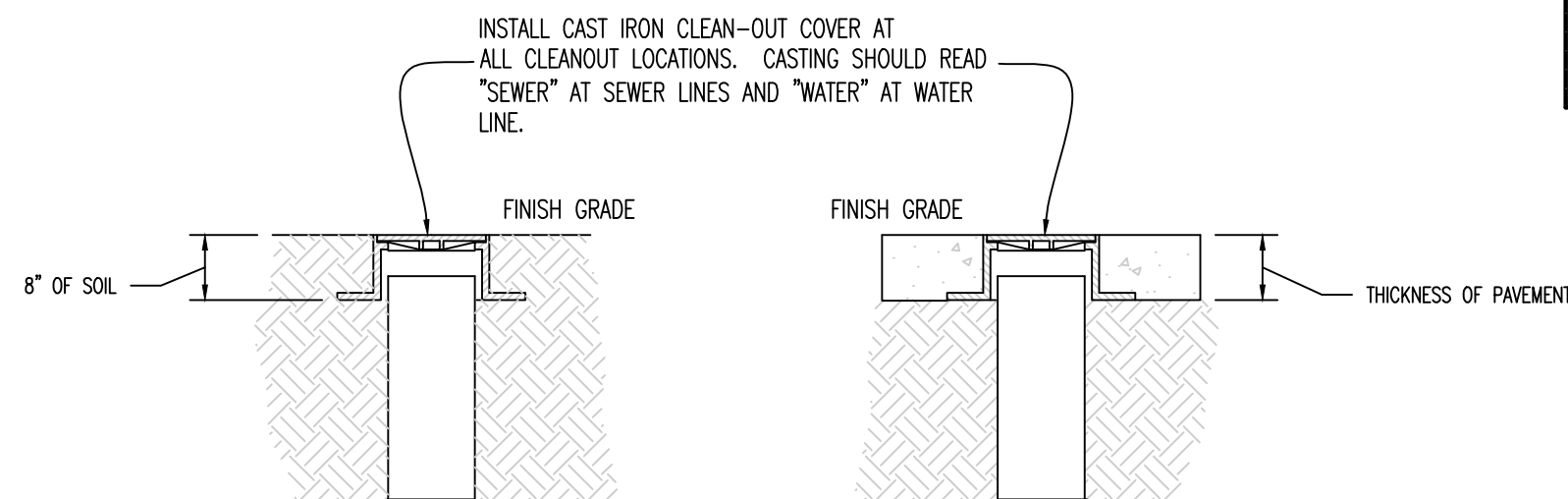
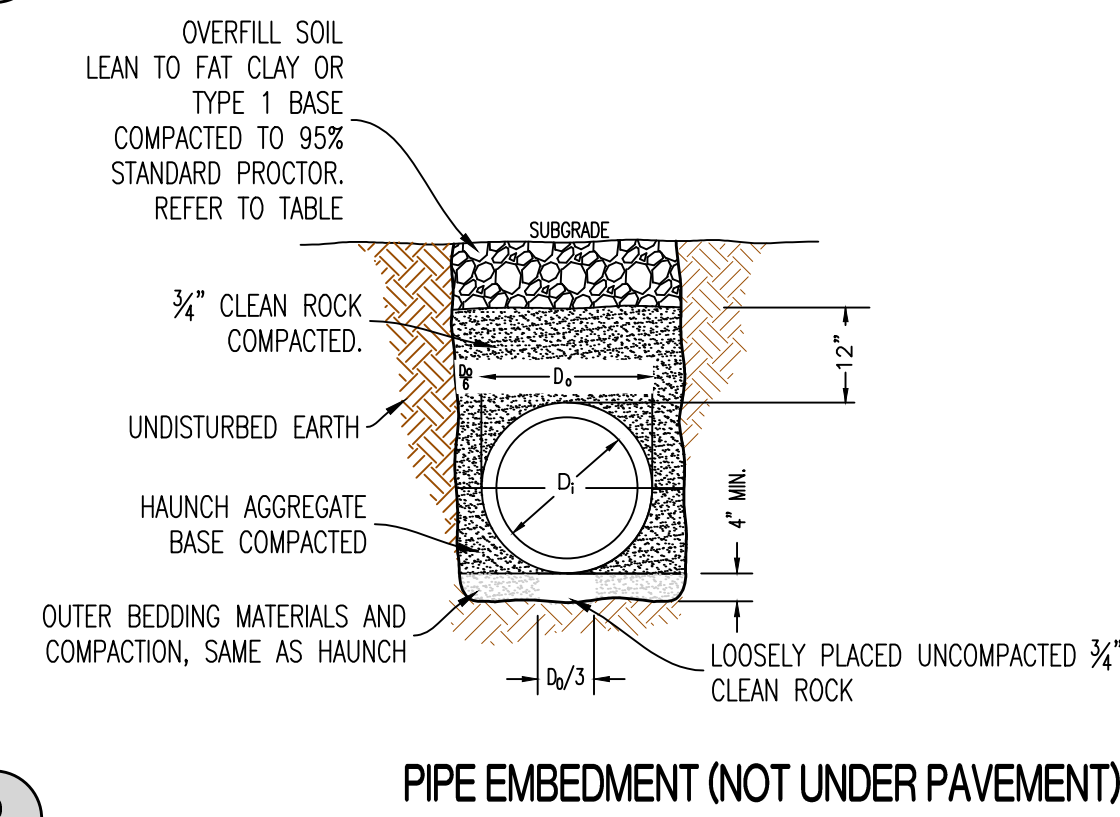
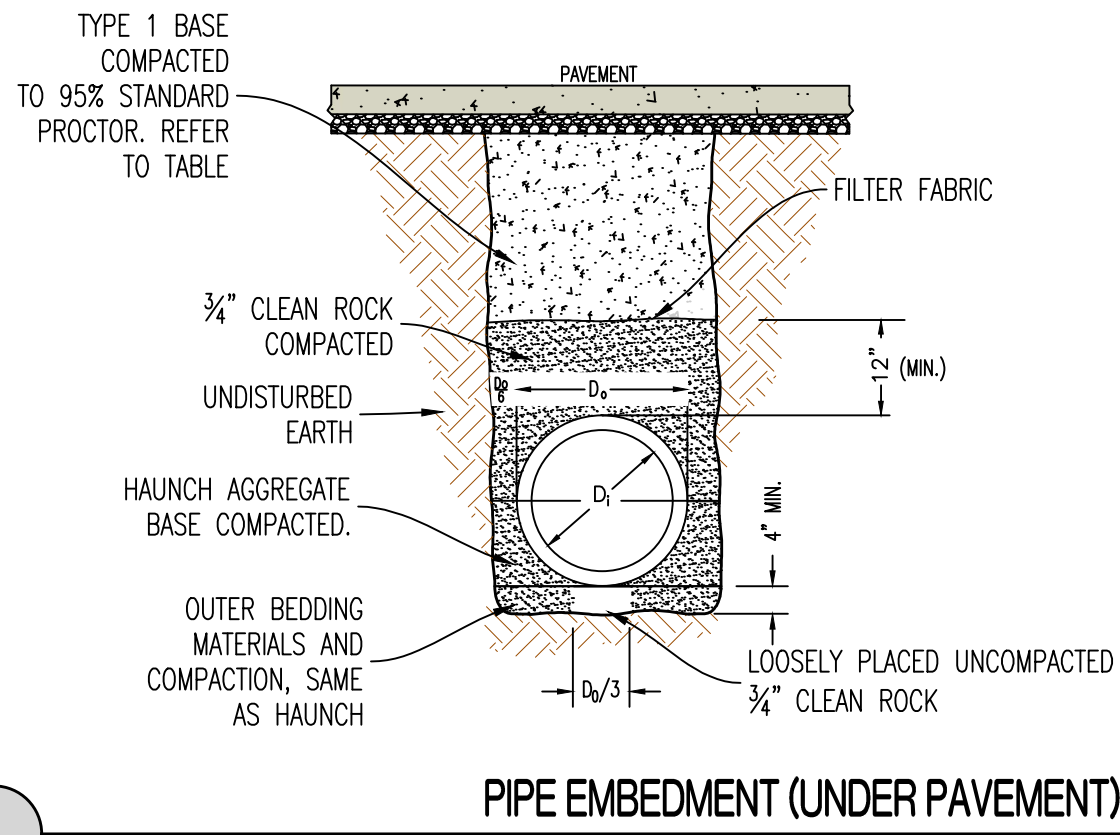


- NOTES:
- CONCRETE SHALL CONFORM TO CONCRETE SPECIFICATIONS. REFER TO CE 1.1.
  - REINFORCING STEEL SHALL BE GRADE 60
  - #4 BARS AT 12" CTRS. BOTH WAYS AND #4 BARS DIAGONAL AT PIPE OPENINGS
  - FOR BOX SIZES LARGER THAN THE GRATE, THE GRATE IS TO BE CENTERED ON THE BOX.
  - INSTALL WEEP HOLES PER DRAINAGE STRUCTURE WEEP HOLES DETAIL.

### SINGLE TYPE "A" INLET



### TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN AND INLINE DRAIN



- NOTES:
- FORM ALL INVERTS FOR SMOOTH FLOW THROUGH STRUCTURE.
  - INVERT SHALL BE FORMED UP TO 1/2 THE PIPE DIAMETER
  - INVERT SHALL BE CLASS E CONCRETE.

### DRAINAGE STRUCTURE INVERT

SCALE:  
HORIZ T = 50'  
VERT T = 10'

#### LEGEND OF LABELS:

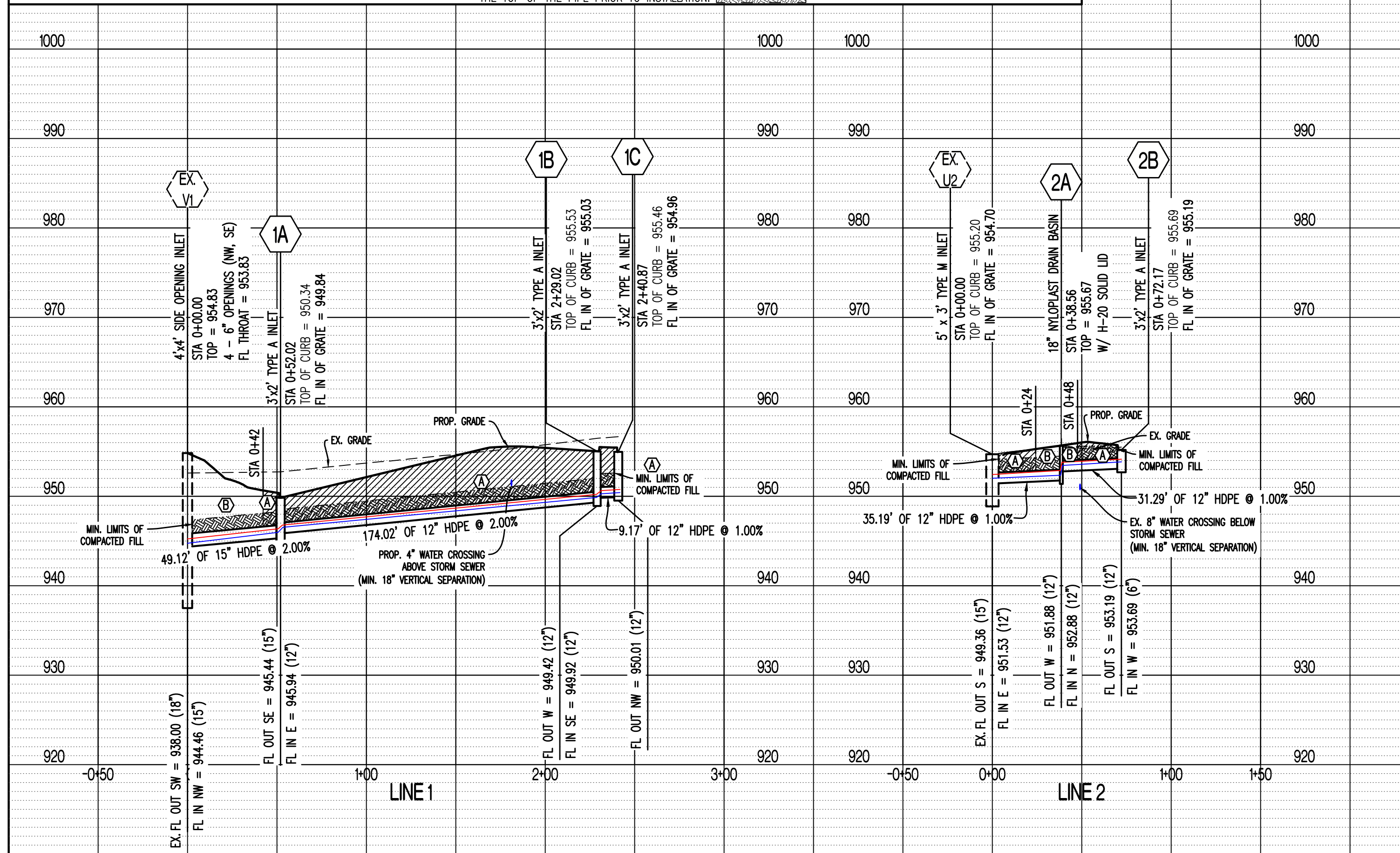
- (A) REFER TO PIPE EMBEDMENT DETAIL (UNDER PAVEMENT). SEE DETAIL 1 ON CE 5.1.
- (B) REFER TO PIPE EMBEDMENT DETAIL (NOT UNDER PAVEMENT). SEE DETAIL 2 ON CE 5.1.

#### GENERAL NOTES:

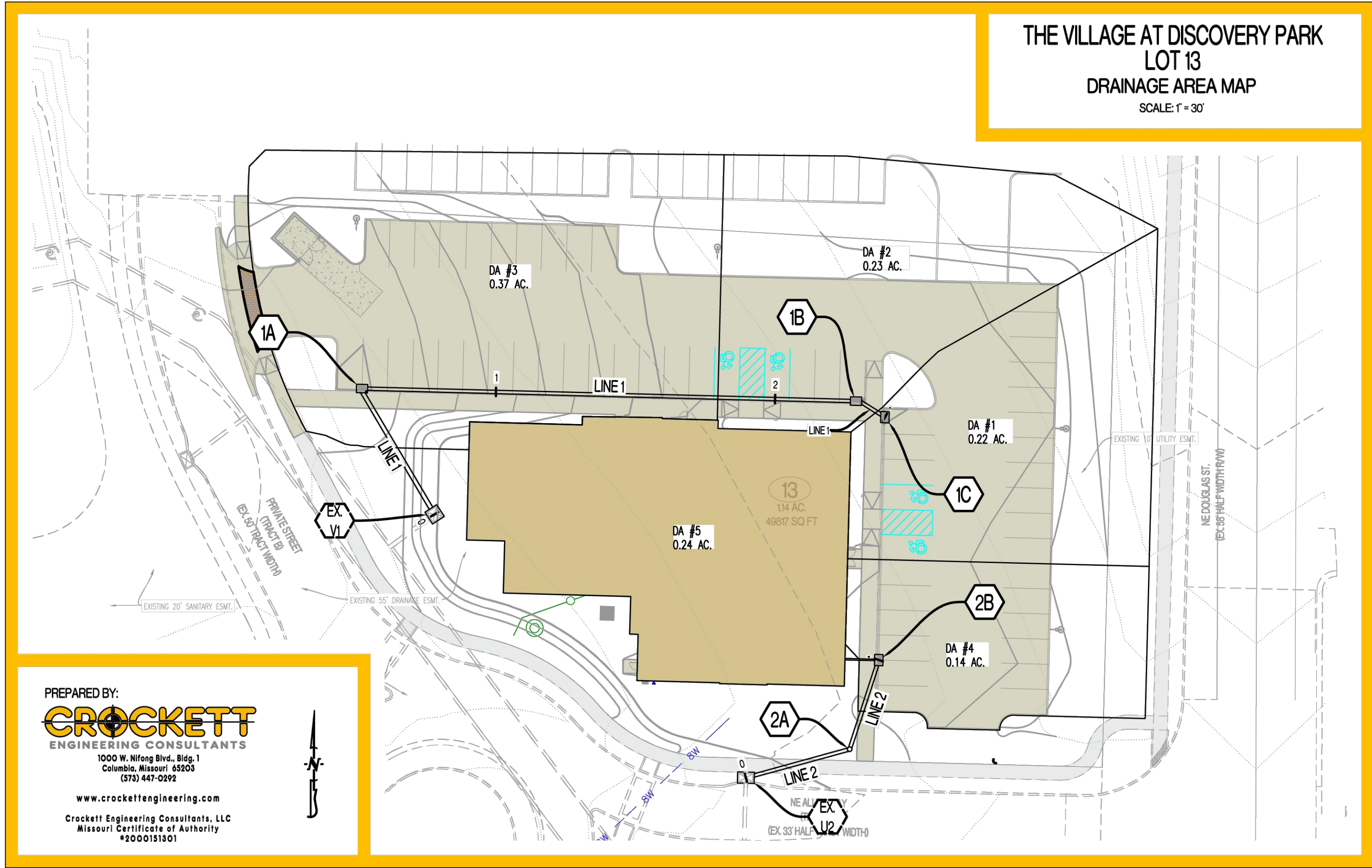
- ALL PORTIONS OF THIS STORM SEWER SHALL BE PRIVATE.
- LENGTHS AND SLOPES OF PIPE ARE MEASURED FROM EDGE OF STRUCTURE TO EDGE OF STRUCTURE.
- COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION.

25-YEAR STORM HYDRAULIC GRADE LINE


100-YEAR STORM HYDRAULIC GRADE LINE







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Missouri Certificate of Authority  
#2000151301




PROJECT: The Village at Discovery Park - Lot 13

CALCULATED BY: NMD
CHECKED BY: NTE

DATE: 04/08/25
PROJECT NO: 230286

STORM HYDROLOGY / GUTTER / INLET CALCULATIONS

DESCRIPTION		OVERLAND FLOW HYDROLOGY				GUTTER AND INLET HYDRAULICS								NOTES	
AREA NO.	STRUCTURE LABEL	INLET TYPE	TIME OF CONCENTRATION	RUNOFF COEFFICIENT	AREA	CA	RAINFALL INTENSITY	RUNOFF	GUTTER FLOW	GUTTER SLOPE	WIDTH OF GUTTER	DEPTH OF GUTTER FLOW	THEORETICAL INLET CAPACITY	DESIGN INLET CAPACITY	NOTES
			min		acres	acres	in/hr	cfs	cfs	ft/ft	ft	ft	cfs	cfs	cfs
1	1C	A		0.89	0.22	0.20	8.5	167					9.80	7.84	TYPE A INLET
2	1B	A		0.89	0.23	0.20	8.5	175					9.80	7.84	TYPE A INLET
3	1A	A		0.89	0.37	0.33	8.5	2.81					9.80	7.84	TYPE A INLET
4	2B	A		0.89	0.14	0.12	8.5	103					9.80	7.84	TYPE A INLET
5		ROOF		0.99	0.24	0.24	8.5	2.03							CHECK W/MEP



PROJECT: The Village at Discovery Park - Lot 13

CALCULATED BY: NMD

CHECKED BY: NTE

DATE: 4/8/25

PROJECT NO: 230286

STORM DRAIN PIPE SIZE											
DESCRIPTION		STORM DRAIN HYDRAULICS								NOTES	
AREA NO.	UPSTREAM STRUCTURE LABEL	TIME OF CONCENTRATION	CA		RAINFALL INTENSITY	RUNOFF	STORM DRAIN SLOPE	STORM DRAIN DIAMETER	STORM DRAIN MATERIAL	CAPACITY FLOWING FULL	VELOCITY FLOWING FULL
			ADDED	CUMUL.							
		min	acres	acres	in/hr	cfs	ft/ft	in	ROD, PIPE OR HDPE	cfs	fps
LINE 1											
1	1C	45		0.20	8.53	167	0.010	12	HDPE	3.86	4.91
2	1B	45	0.20	0.40	8.53	3.42	0.020	12	HDPE	5.46	6.96
3	1A	45	0.33	0.73	8.53	6.23	0.020	16	HDPE	9.59	8.06
LINE 2											
5+4	2B	45		0.36	8.53	3.06	0.010	12	HDPE	3.86	4.91

REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
3 REV. 3	04/08/2025

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STATE OF MISSOURI

NATHAN THOMAS ECKHOFF

NUMBER

PE-2003014960

DATE

04/08/25

PROFESSIONAL ENGINEER

NATHAN THOMAS ECKHOFF

MO LICENSE: 2003014960

PREPARED BY:

CROCKETT

ENGINEERING CONSULTANTS

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Columbia, Missouri 65203

(313) 447-0292

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Crockett Engineering Consultants, LLC

Missouri Certificate of Authority

#2000151301

OWNER:

DISCOVERY PARK LEES SUMMIT LLC

4220 PHILLIPS FARM RD

COLUMBIA, MO 65201

THE VILLAGE AT DISCOVERY

LOT 13

LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

25-YEAR STORM CALCULATIONS

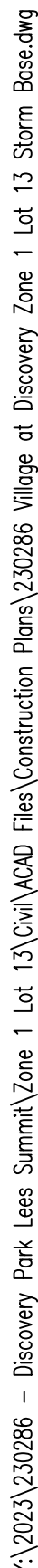
DESIGNED: NTE


DRAWN: NMD

PROJECT NO: 230286

SHEET: CE 5.2







PROJECT: The Village at Discovery Park - Lot 13

CALCULATED BY: NMD CHECKED BY: NTE

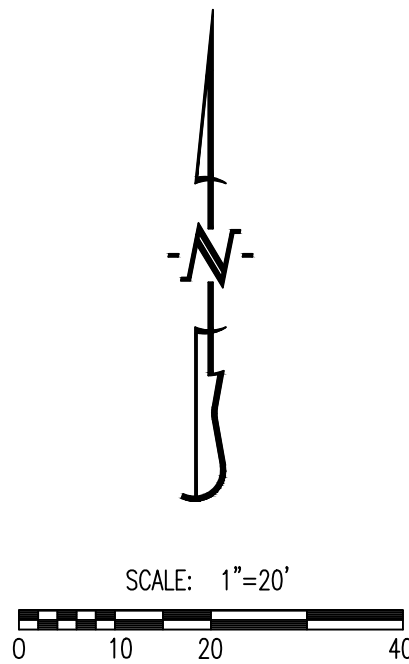
DATE: 4/8/25 PROJECT NO: 230286

STORM DRAIN PIPE SIZE

DESCRIPTION		STORM DRAIN HYDRAULICS										NOTES
AREA NO.	UPSTREAM STRUCTURE LABEL	TYPE OF CONCENTRATION	CA		RAINFALL INTENSITY	RUNOFF	STORM DRAIN SLOPE	STORM DRAIN DIAMETER	STORM DRAIN MATERIAL	CAPACITY CUMULATIVE FULL	VELOCITY CUMULATIVE FULL	
			ADDED	DUAL								
			min	sizes	sizes	in/hr	cfs	ft/ft	in	ROP, CMP, PVC OR HDPE	cfs	fps
LINE 1												
1	1C	-5		0.22	10.32	2.25	0.010	12	HDPE	3.86	4.91	
2	1B	-5	0.23	0.45	10.32	4.60	0.020	12	HDPE	5.46	6.95	
3	1A	-5	0.37	0.81	10.32	8.36	0.020	15	HDPE	9.89	8.06	
LINE 2												
5+4	2B	-5		0.37	10.32	3.82	0.010	12	HDPE	3.86	4.91	

REVIEWS:	
NO.	DATE
ORIGINAL	11/27/2024
3 REV. 3	04/08/2025
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NATHAN THOMAS ECKHOFF MO LICENSE 200304960	
PREPARED BY:  ENGINEERING CONSULTANTS 1000 W. Illinois Blvd., Ste. 1 Suite 100 Columbia, MO 65203 (314) 447-0292 www.crockettengineering.com Crockett Engineering Consultants, LLC Missouri Professional Engineering #200003301	
OWNER:	DISCOVERY PARK/LEES SUMMIT LLC 4220 PHILLIPS FARM RD COLUMBIA, MO 65201
<div><div>THE VILLAGE AT DISCOVERY</div><div>LOT 13</div><div>LEE'S SUMMIT, JACKSON COUNTY, MISSOURI</div></div>	
DRAWING INCLUDES:	
100-YEAR STORM CALCULATION	
DESIGNED:	NTE
DRAWN:	NMD
PROJECT NO.:	230286
SHEET:	CE 5.3





GENERAL NOTES:

- 1) ALL ACCESSIBLE PARKING SHALL COMPLY WITH THE REQUIREMENTS OF THE FEDERAL AMERICANS WITH DISABILITIES ACT.
- 2) THE PAVEMENT JOINTS SHOWN ARE A GRAPHICAL REPRESENTATION OF A POSSIBLE JOINT CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH JOINT LAYOUT FOR APPROVAL BY ENGINEER PRIOR TO POURING OF PAVEMENT.

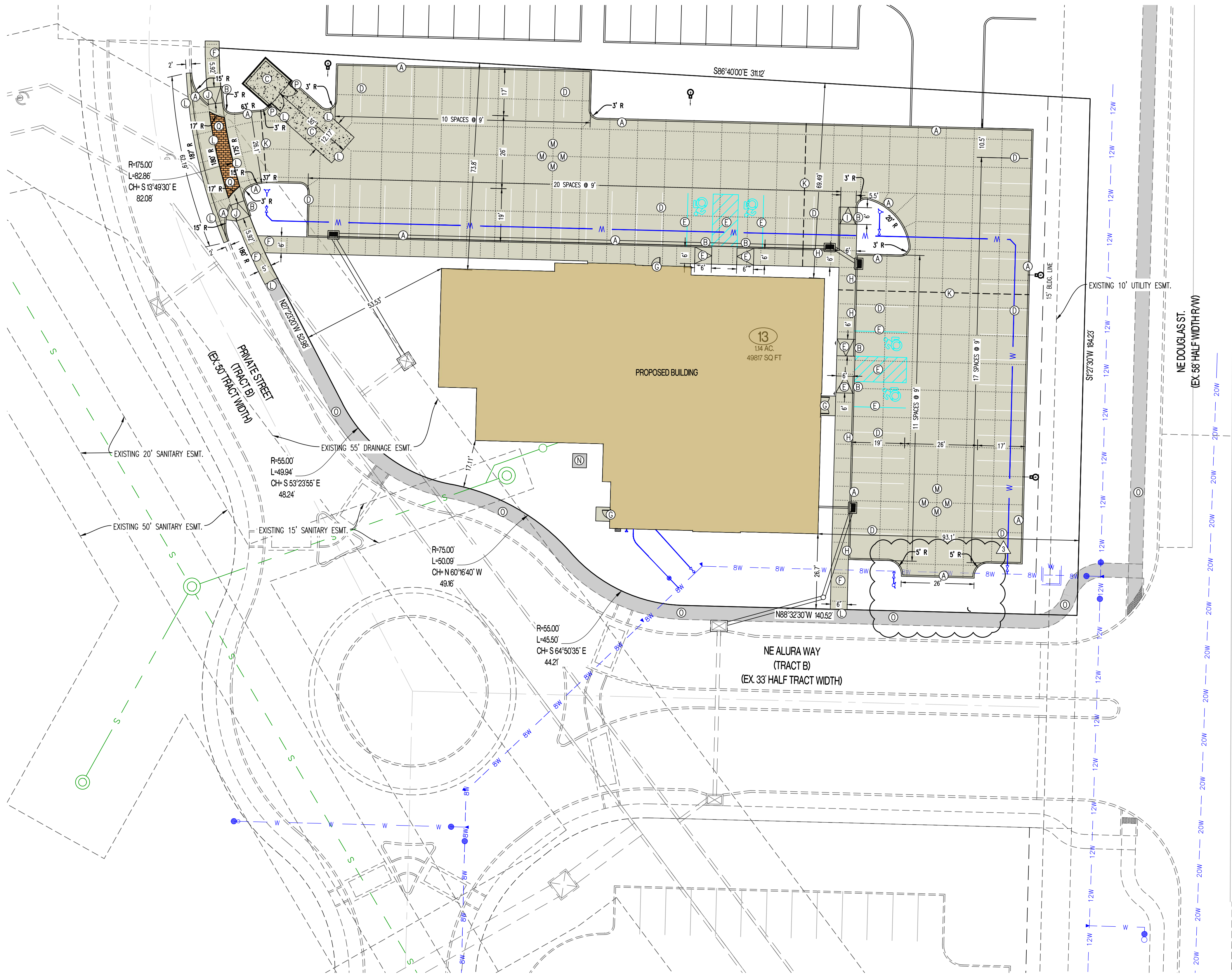
PARKING CALCULATIONS

PARKING SUMMARY (LOT 13):

SPACES REQUIRED:	
INSTITUTIONAL AND OTHER :	
SUBDIVISION SWIMMING POOL/CLUBHOUSE (485 UNITS)	31 SPACES
- 1 PER 16 LOTS (UNITS)	
- MINIMUM OF 6	
RESERVED OFFICE SPACES (3 OFFICES):	
- 1 PER OFFICE	3 SPACES
GENERAL OFFICE (6,000 SQ. FT.)	
- 4 PER 1,000 SQ. FT.	24 SPACES
STANDARD SPACES REQUIRED:	
HANDICAP SPACES REQUIRED:	58 SPACES
SPACES PROVIDED:	4 SPACES
STANDARD SPACES PROVIDED:	
HANDICAP SPACES PROVIDED:	58 SPACES
4 SPACES	

CALCULATIONS: LOT 13

LAND AREA:	
TOTAL LAND AREA:	1.15 AC
BUILDING DETAILS:	
1ST FLOOR:	10,509 SQ.FT.
2ND FLOOR:	10,509 SQ.FT.
TOTAL S.F. (2-STORIES)	21,018 SQ.FT.
LOT COVERAGES:	
ACTUAL	
NET LAND AREA:	49,890 SQ.FT. 100%
TOTAL IMPERVIOUS SURFACE AREA:	33,458 SQ.FT. 67%
TOTAL OPEN SPACE:	16,432 SQ.FT. 33%
FLOOR AREA RATIO:	42%



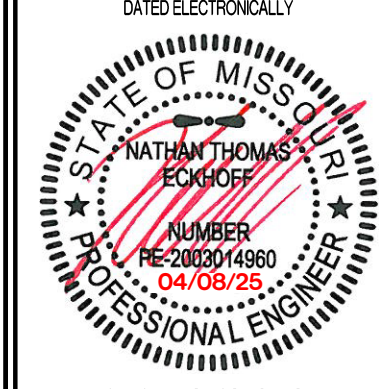
LEGEND OF LABELS

- |   |   |
|---|---|
| <p>(A) CONSTRUCT LIGHT DUTY CONCRETE W/ INTEGRAL CURB AS SHOWN. REFER TO DETAIL 1 &amp; 2 ON CE 7.1.</p> <p>(B) TRANSITION FROM 6" CURB TO 0" CURB. REFER TO CE 3.0-CE 3.3.</p> <p>(C) DUMPSTER PAD AREA W/ INTEGRAL CURB AS SHOWN. REFER DETAIL 7 ON CE 7.1. REFER TO ARCHITECTURAL PLANS FOR PROPOSED DUMPSTER ENCLOSURE DETAILS.</p> <p>(D) PAINT 4" PARKING STALL STRIPES AS SHOWN, COLOR WHITE (TYPICAL) ALL STALLS EXCEPT ADA ACCESSIBLE STALLS. REFER TO PLAN FOR WIDTH AND DEPTH OF STALLS.</p> <p>(E) CONSTRUCT ADA ACCESSIBLE PARKING AREA WITH SIGNAGE AND ADA RAMPS. PAINT 4" STRIPE AND ACCESSIBLE SYMBOL, COLOR BLUE. PAINT HATCH AREA AS SHOWN, COLOR BLUE. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE STALLS SHALL NOT EXCEED 1:50. REFER TO DETAIL 10 ON CE 7.2.</p> <p>(F) CONSTRUCT 4" THICK, PCC WALK PER PLAN DIMENSIONS AS SHOWN (MAXIMUM LONGITUDINAL SLOPE 1:20. MAXIMUM CROSS SLOPE AT 1:50). REFER DETAIL 5 ON CE 7.1.</p> <p>(G) CONSTRUCT THICKENED EDGE SIDEWALK/PAVEMENT ABUTTING BUILDING PER PLAN DIMENSIONS AS SHOWN (MAXIMUM LONGITUDINAL SLOPE 1:20. MAXIMUM CROSS SLOPE AT 1:50). REFER TO DETAIL 4 ON CE 7.1.</p> <p>(H) CONSTRUCT THICKENED EDGE SIDEWALK WALK AT BACK OF CURB PER PLAN DIMENSIONS AS SHOWN (MAXIMUM LONGITUDINAL SLOPE 1:20. MAXIMUM CROSS SLOPE AT 1:50). REFER TO DETAIL 3 ON CE 7.1.</p> | <p>(I) CONSTRUCT ADA ACCESSIBLE SIDEWALK RAMP AT BACK OF CURB. REFER TO DETAIL 8 ON CE 7.1.</p> <p>(J) CONSTRUCT ADA ACCESSIBLE SIDEWALK RAMP WITH FLARE AT BACK OF CURB. REFER TO DETAIL 9 ON CE 7.1.</p> <p>(K) INSTALL TYPE A OR TYPE A ALTERNATE EXPANSION JOINT IN PAVING. REFER TO DETAIL 6 ON CE 7.1.</p> <p>(L) INSTALL TYPE B CONSTRUCTION JOINT WHERE PROPOSED CONCRETE PAVING ABUTS EXISTING CONCRETE PAVING. REFER TO DETAIL 6 ON CE 7.1.</p> <p>(M) INSTALL TYPE C SAW JOINT IN PAVEMENT, MAXIMUM 12"x12" SQUARES (TYPICAL). REFER TO DETAIL 6 ON CE 7.1.</p> <p>(N) PROPOSED TRANSFORMER PAD. COORDINATE WITH M.E.P. FOR EXACT SIZE AND LOCATION.</p> <p>(O) 5' STREET-SIDE SIDEWALK TO BE CONSTRUCTED. REFER TO OLSSON PLANS TITLED "PRIVATE SITE DEVELOPMENT PLANS FOR THE VILLAGE AT DISCOVERY PARK ZONE 1" DATED 10/18/2023.</p> <p>(P) INSTALL PIPE BOLLARD AS SHOWN. REFER TO DETAIL 11 ON CE 7.2.</p> <p>(Q) CROSSWALK CONCRETE PAVEMENT TO BE INTEGRALLY COLORED AND STAMPED, COLOR AND PATTERN TO BE CHOSEN BY OWNER. PAVEMENT SHALL BE REINFORCED PER DETAIL 7 ON CE 7.1.</p> |
|---|---|

REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/21/2025
REV. 3	04/08/2025

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THE VILLAGE AT DISCOVERY  
LOT 13  
LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

SITE PLAN

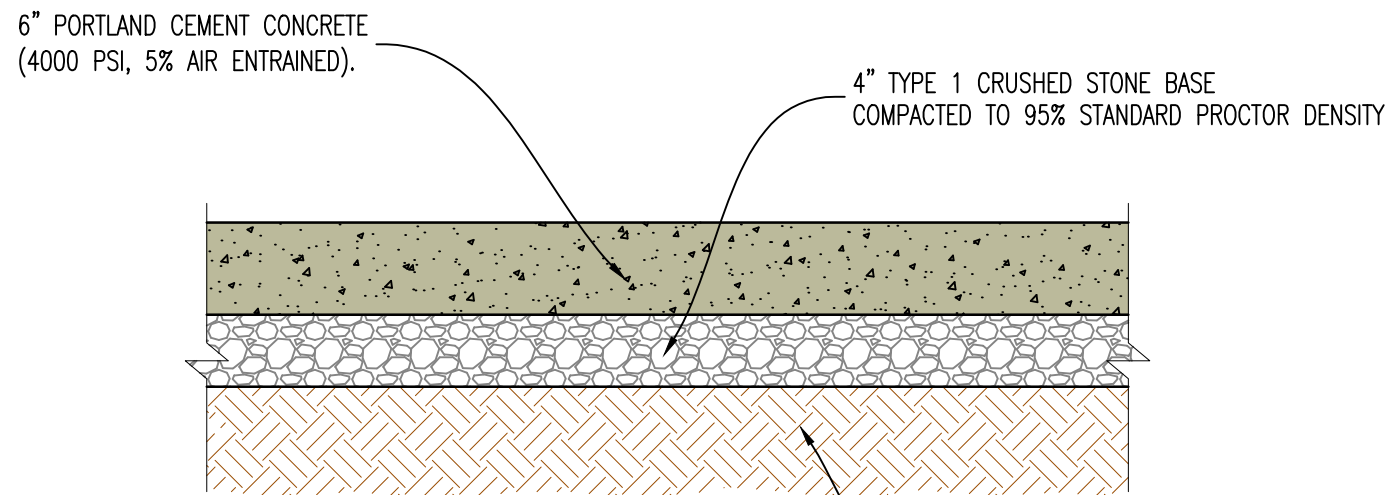
DESIGNED: NTE

DRAWN: NMD

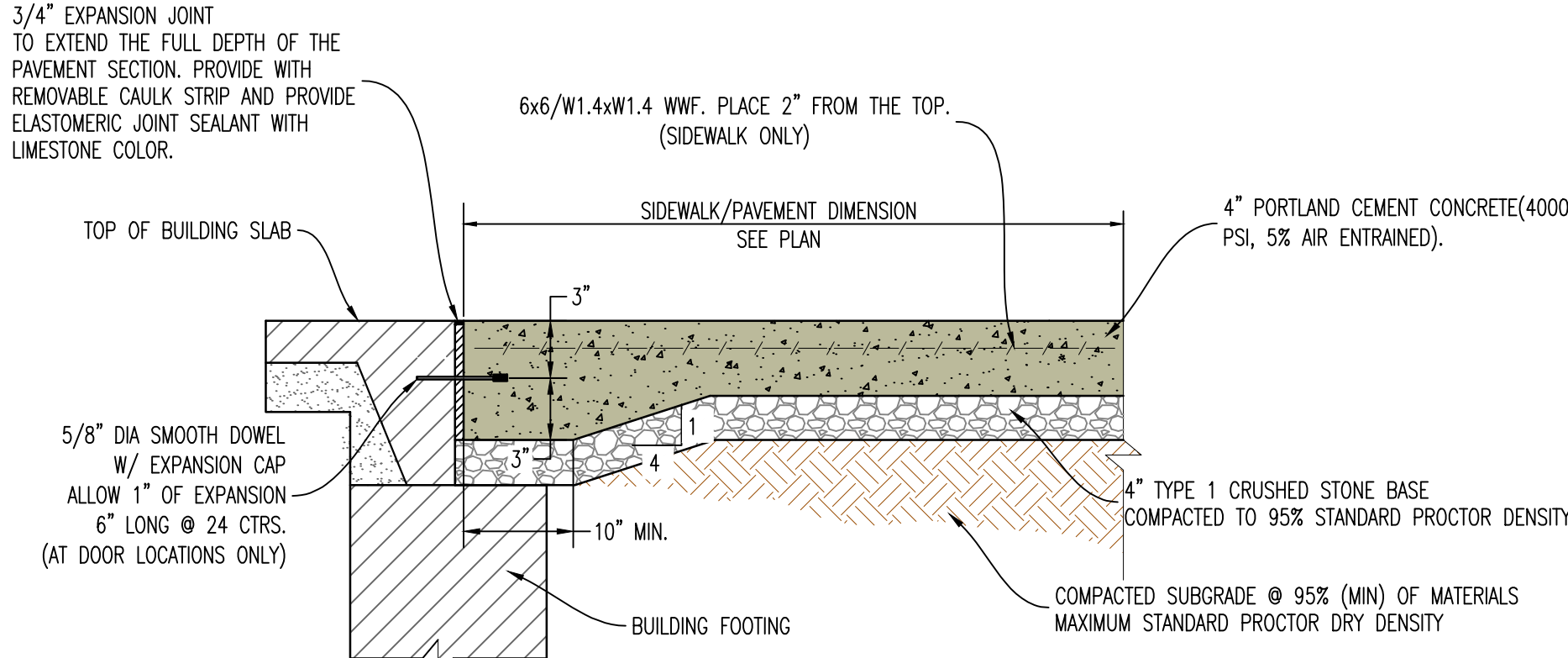
PROJECT NO.: 230286

SHEET:  
CE 6.1

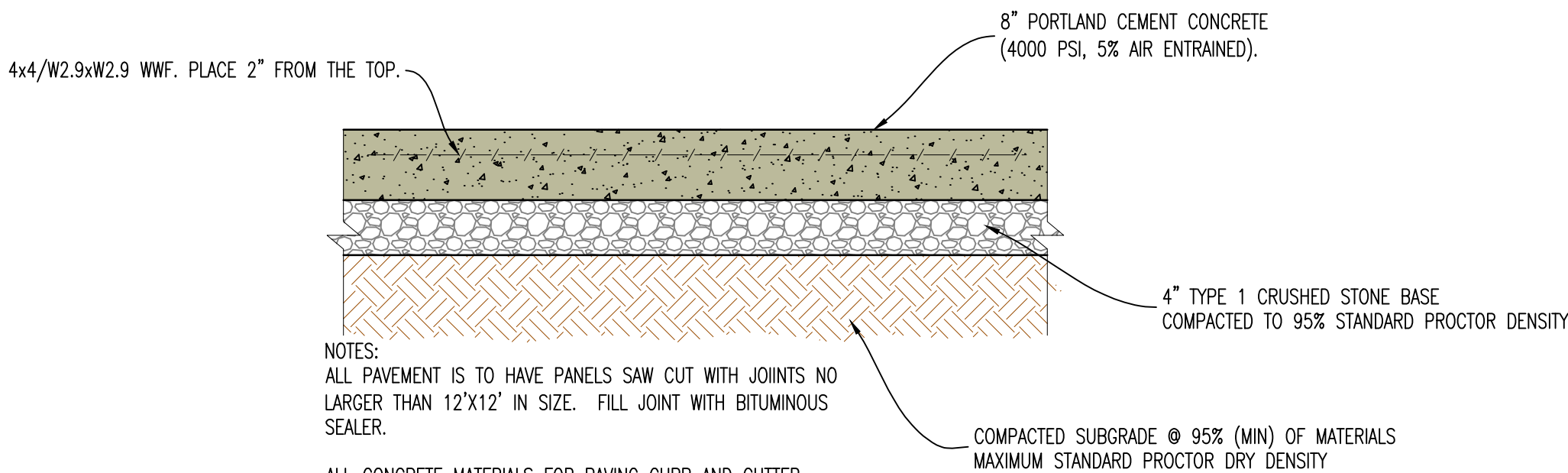




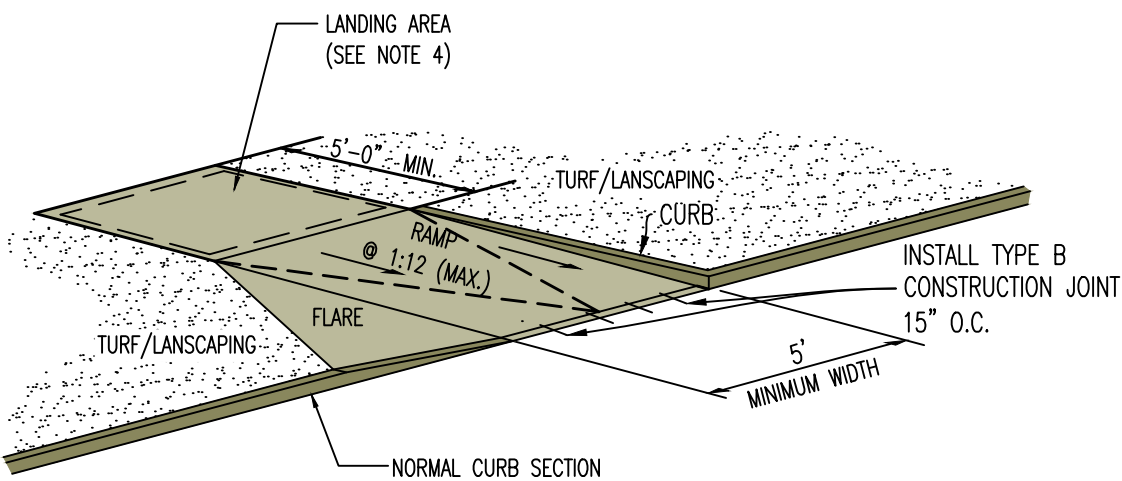
1 LIGHT DUTY CONCRETE PAVEMENT CROSS-SECTION



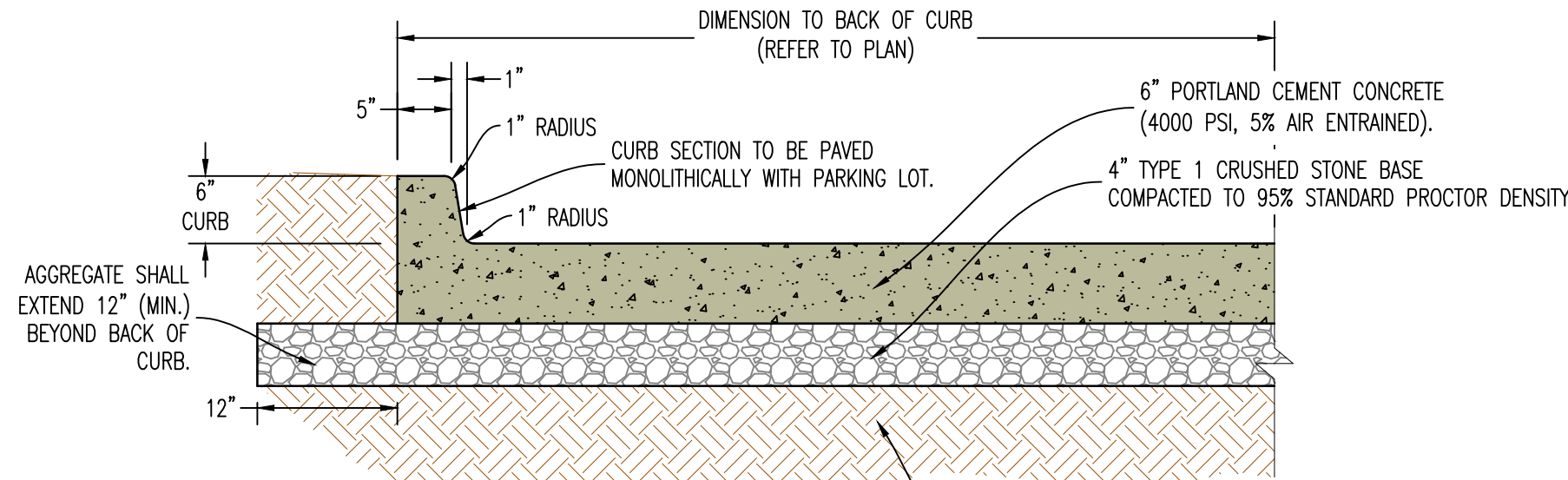
4 SIDEWALK/PAVEMENT ABUTTING BUILDING



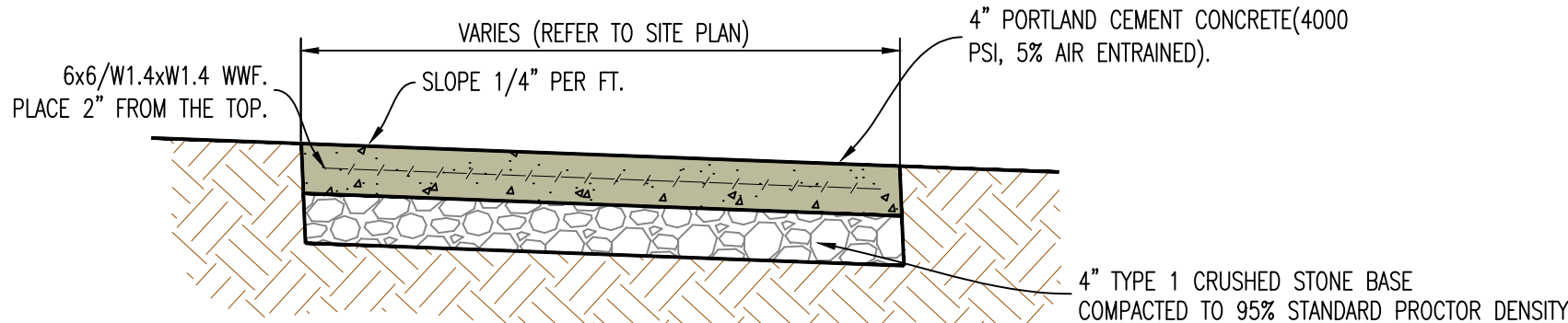
7 HEAVY DUTY CONCRETE PAVEMENT CROSS-SECTION (REINFORCED)



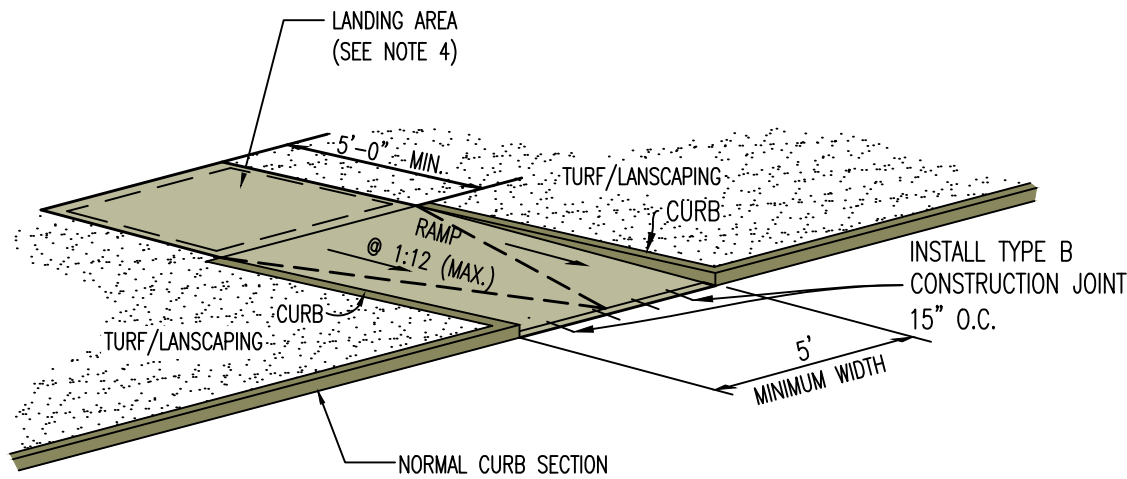
9 SIDEWALK RAMP WITH CURB AND FLARE



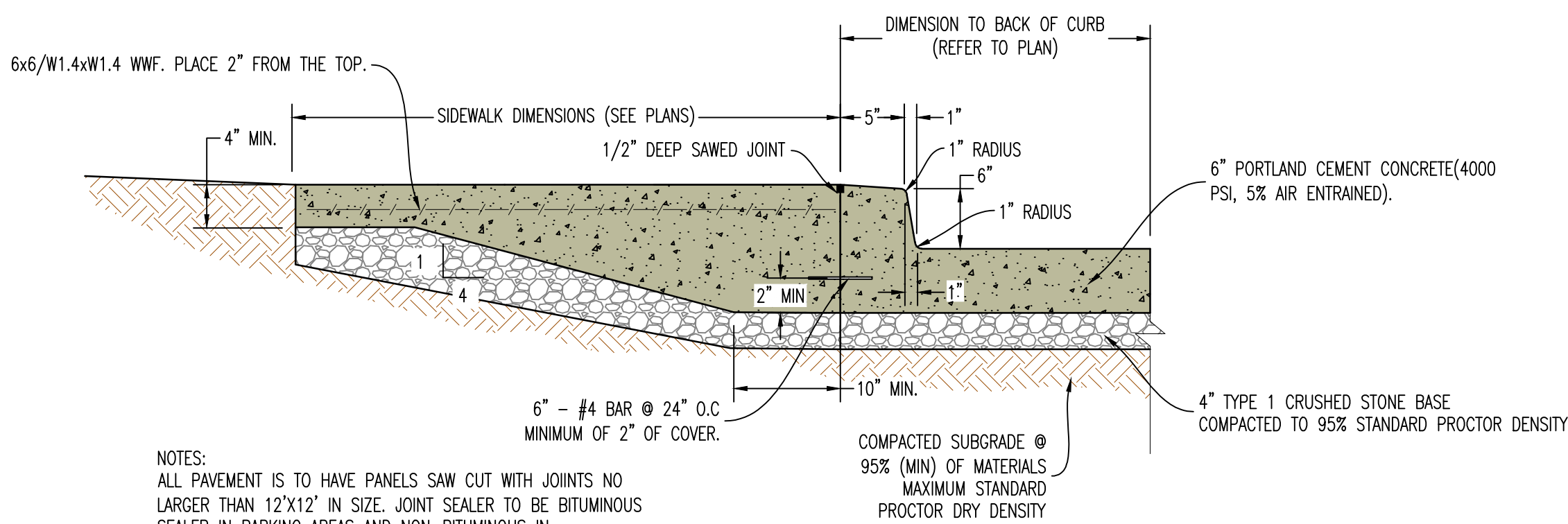
2 6" CONCRETE BARRIER CURB CROSS-SECTION



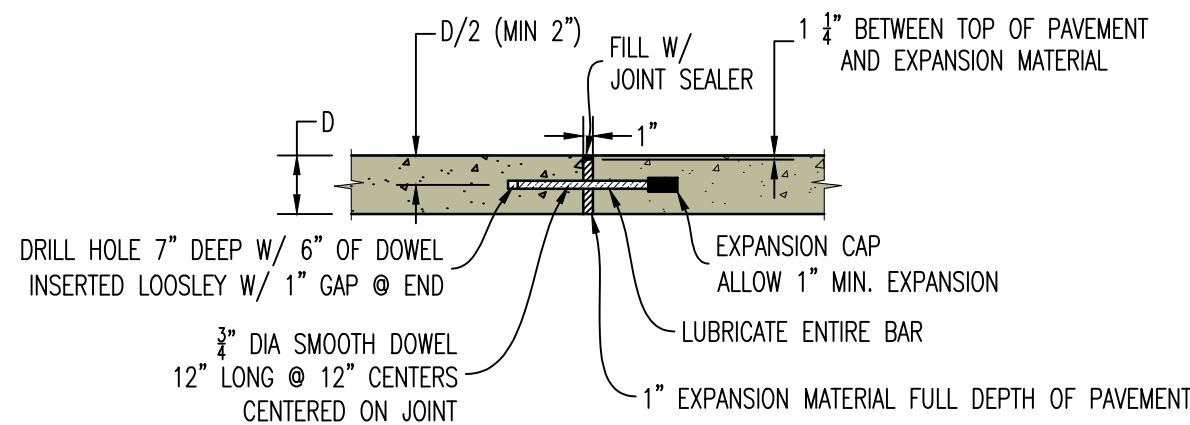
5 TYPICAL CONCRETE SIDEWALK



8 SIDEWALK RAMP WITH CURB



3 THICKENED EDGE SIDEWALK WITH INTEGRAL CURB & GUTTER



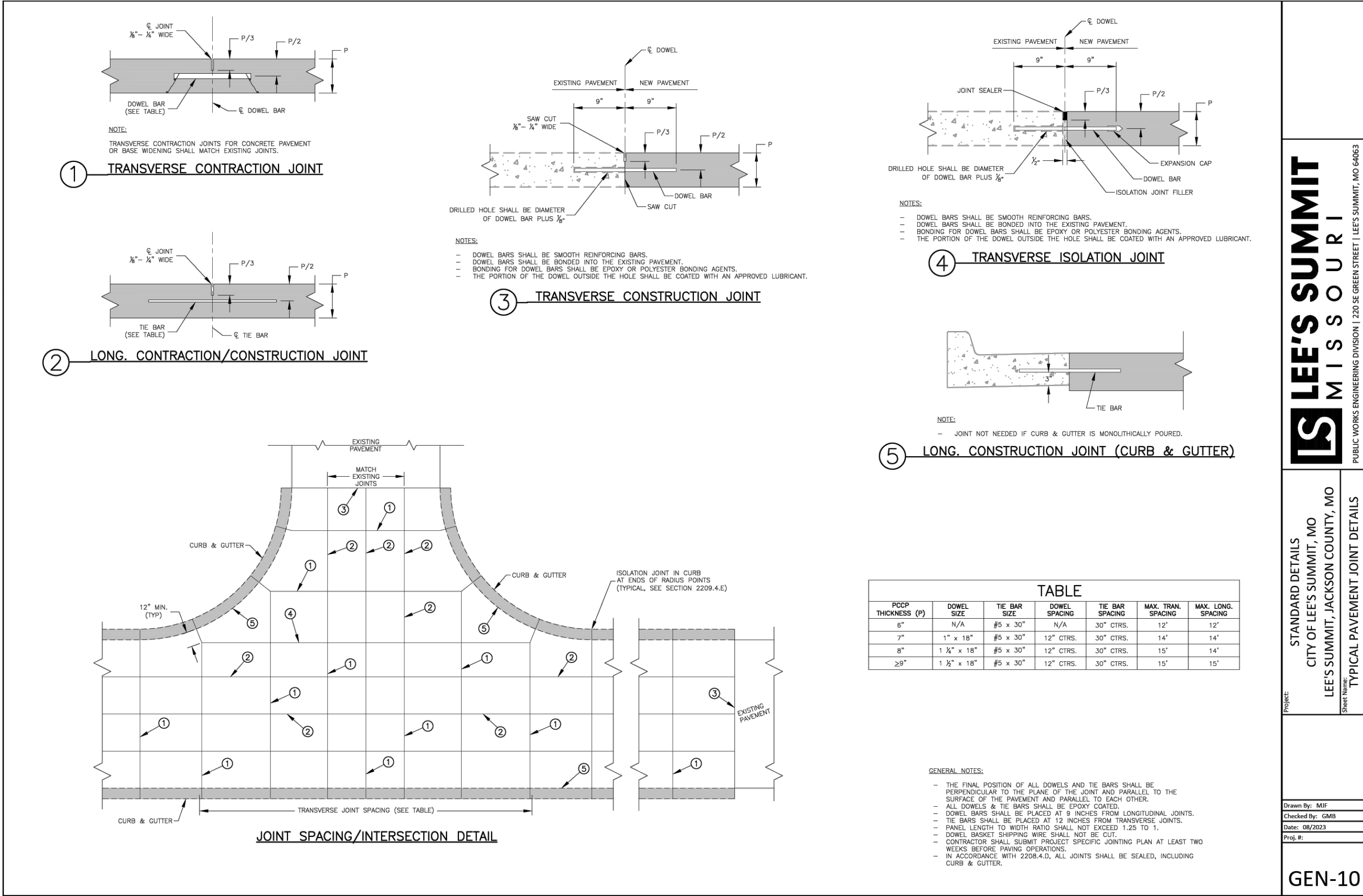
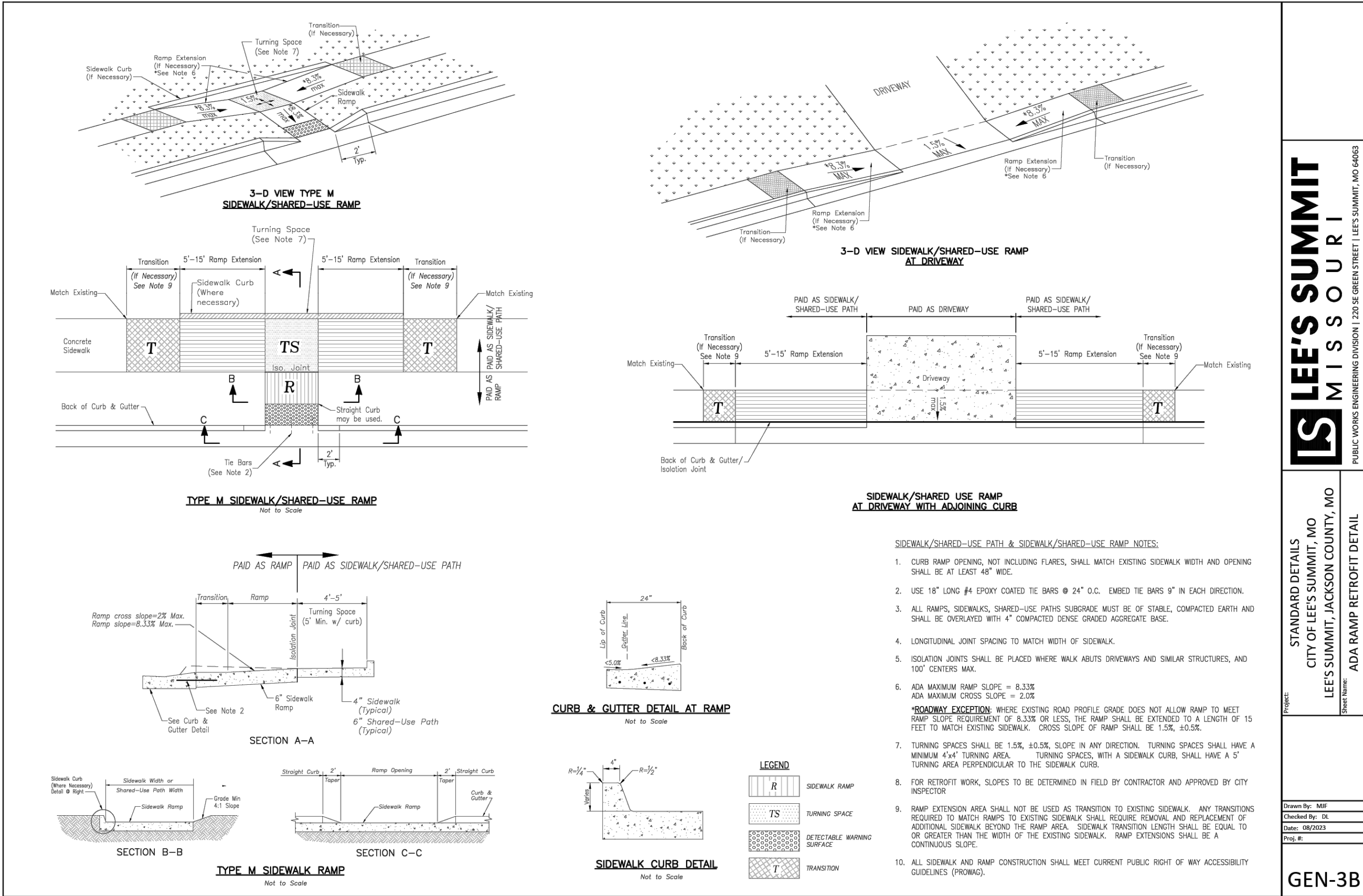
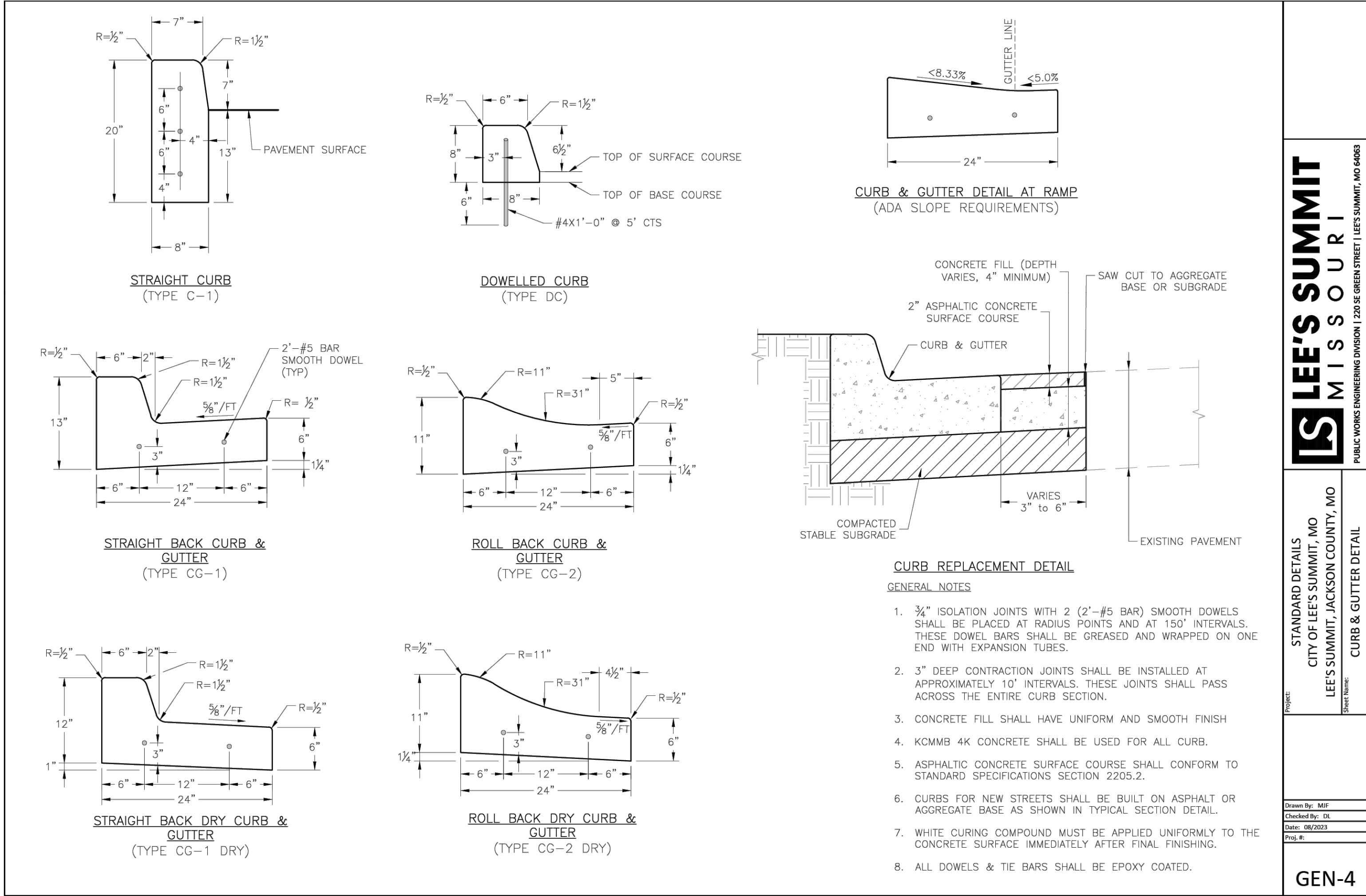
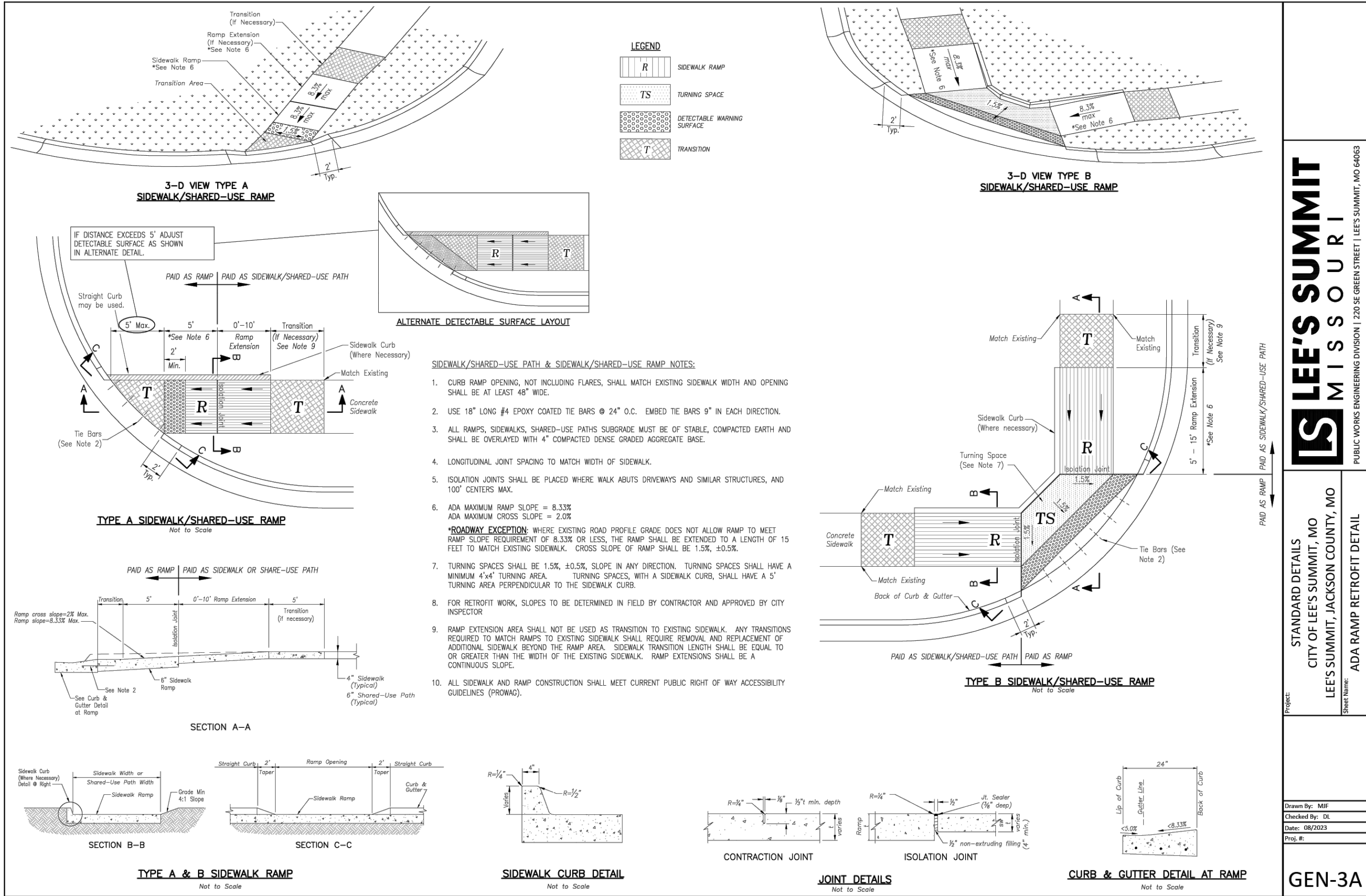
6 CONCRETE PAVEMENT JOINT DETAILS

REVISIONS:	
NO.	DATE
ORIGINAL	11/22/2024
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	
NATHAN THOMAS ECKHOFF MO LICENSE 200304960	
PREPARED BY:	
ENGINEER: NATHAN THOMAS ECKHOFF 1000 W. Illinois Blvd., Ste. 100 Columbia, Missouri 65203 (314) 487-0292 www.crockettengineering.com Missouri Certificate of Authority #000000001	
OWNER:	DISCOVERY PARK LEES SUMMIT LLC 4220 PHILLIPS FARM RD COLUMBIA MO 65201
THE VILLAGE AT DISCOVERY LOT 13 LEES SUMMIT, JACKSON COUNTY, MISSOURI	
DRAWING INCLUDES:	
DETAILS SHEET 1	
DESIGNED:	NTE
DRAWN:	NMD
PROJECT NO.:	230286
SHEET:	CE 7.1









REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024

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NATHAN THOMAS ECKHOFF  
MO LICENSE 200304960

PREPARED BY:  
  
ENGINEERS & ARCHITECTS  
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www.crocketting.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:  
DISCOVERY PARK LEE'S SUMMIT LLC  
4202 PHILLIPS FARM RD  
COLUMBIA, MO 65201

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
TYPICAL PAVEMENT JOINT DETAILS  
Sheet Name: GEN-10

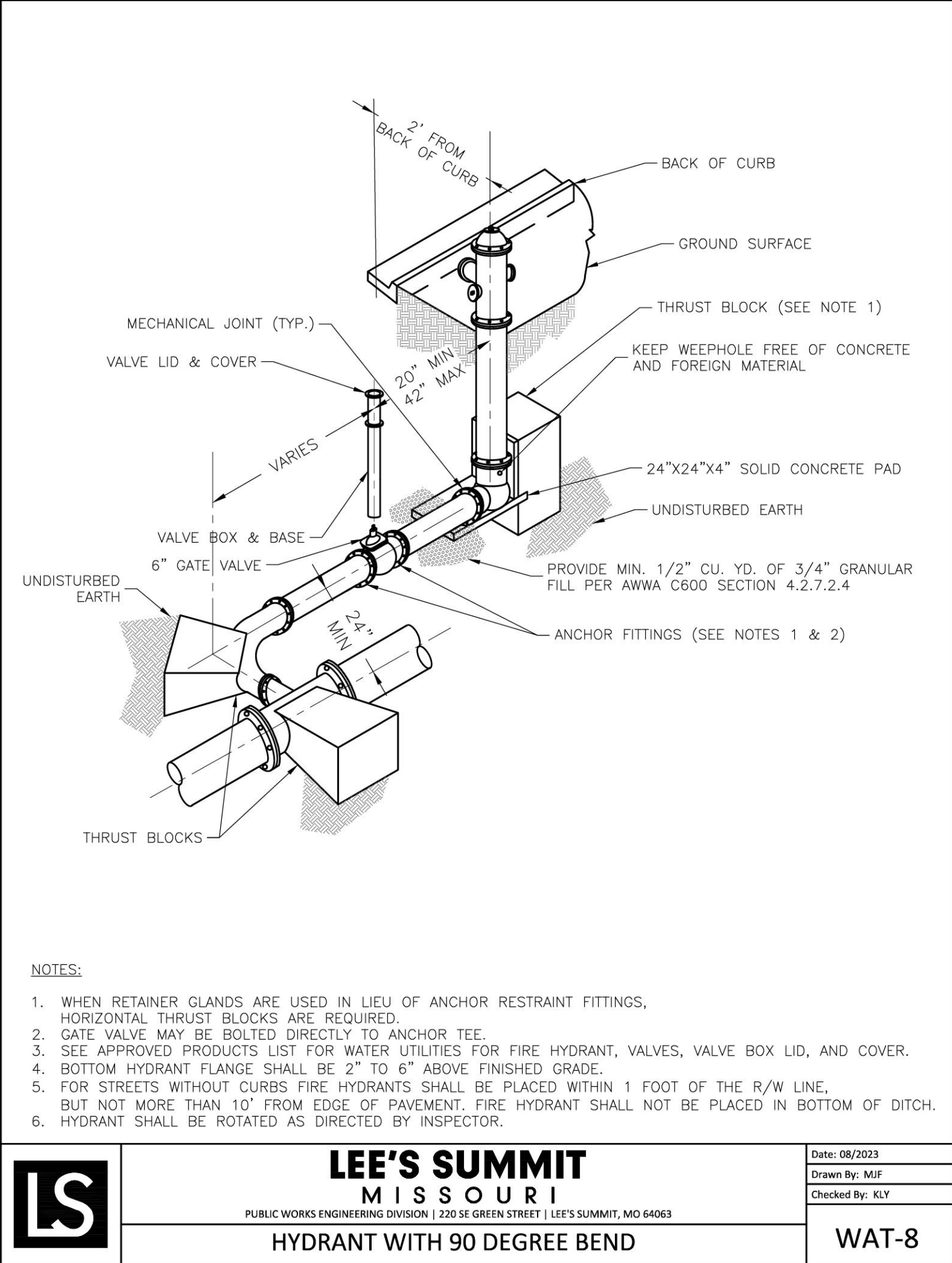
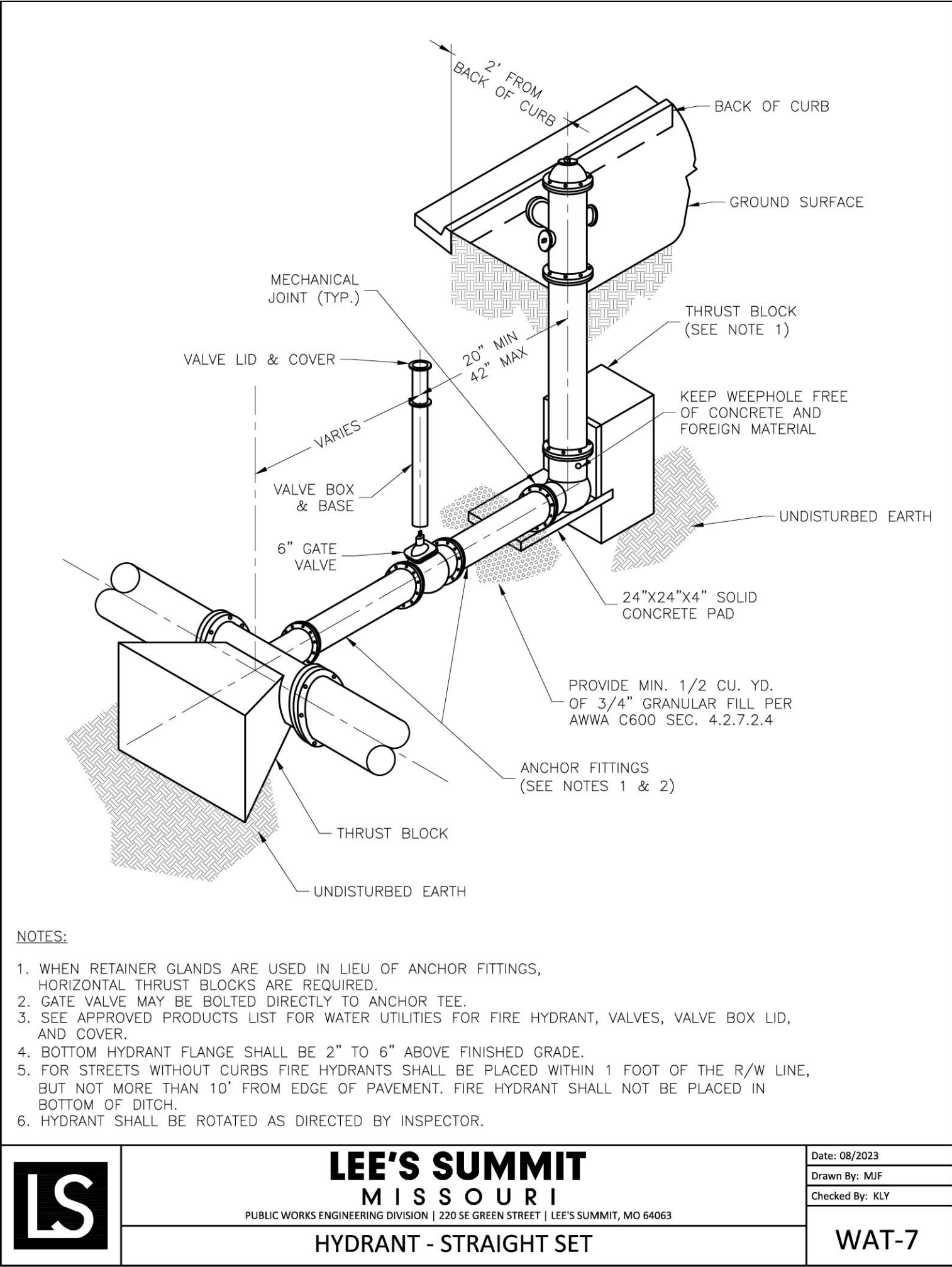
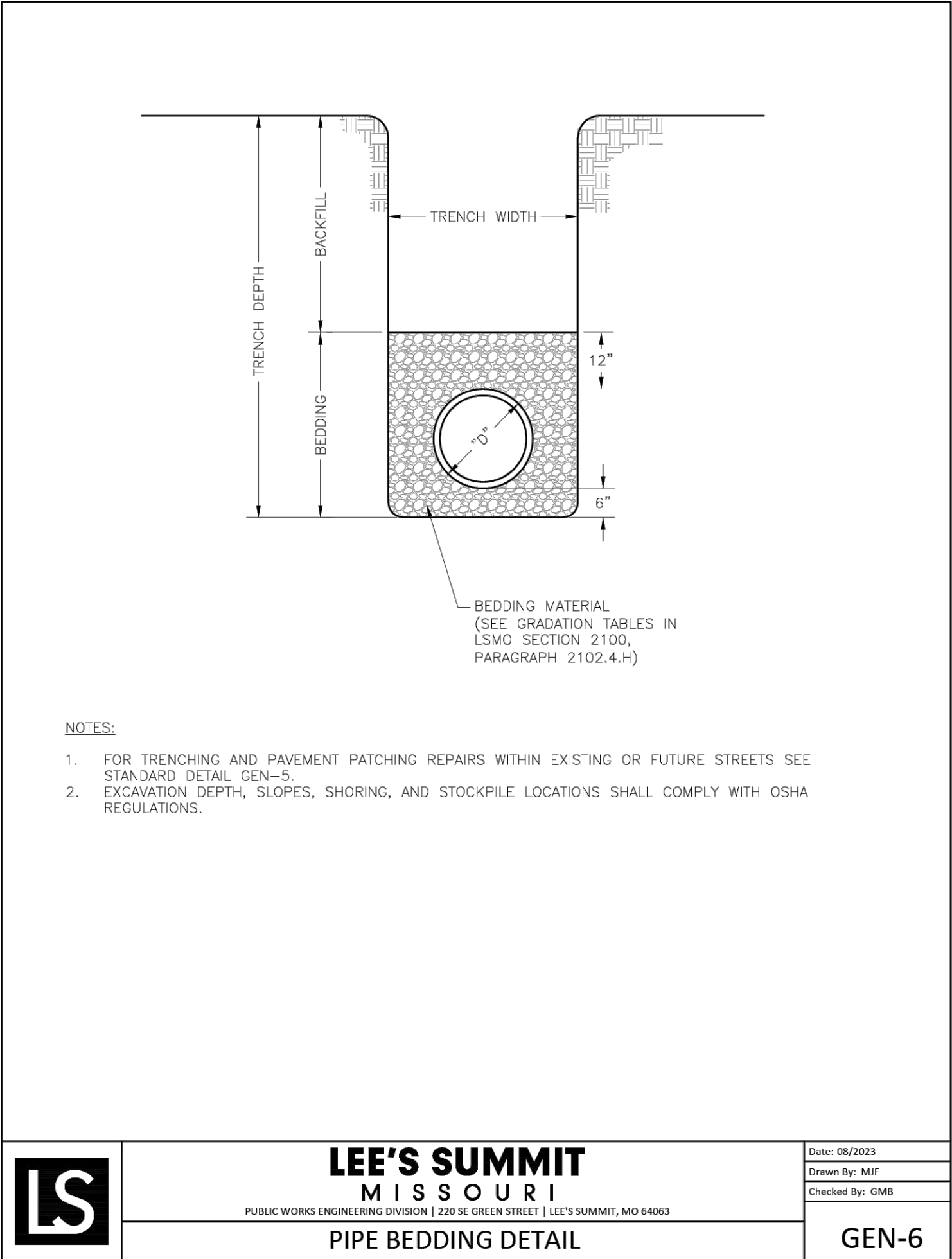
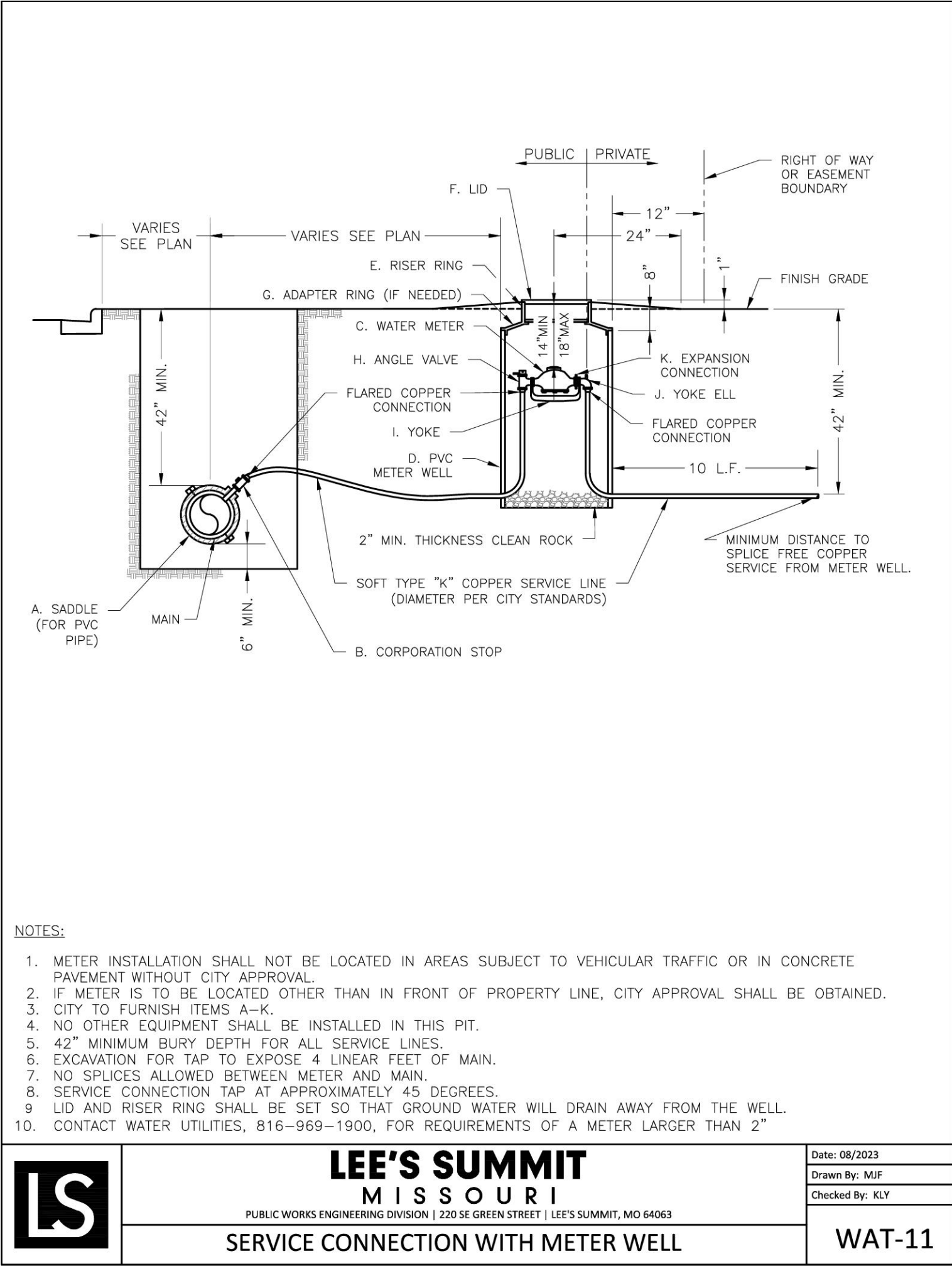
DESIGNED: NTE  
DRAWN: NMD  
PROJECT NO.: 230286  
SHEET: CE 7.3

THE VILLAGE AT DISCOVERY

LOT 13

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI





REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/27/2025

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STATE OF MISSOURI

NATHAN THOMAS ECKHOFF

NUMBER

PE-2003014960

04-08-25

PROFESSIONAL ENGINEER

NATHAN THOMAS ECKHOFF  
MO LICENSE 2003014960

PREPARED BY: CROCKETT ENGINEERS & ARCHITECTS

ENGINEERS & ARCHITECTS

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Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:

DISCOVERY PARK LEES SUMMIT LLC  
4420 PHILLIPS FARM RD  
COLUMBIA, MO 65201

THE VILLAGE AT DISCOVERY  
LOT 13  
LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

LEE'S SUMMIT DETAILS 2

DESIGNED: NTE

DRAWN: NMD

PROJECT NO: 230286

SHEET:  
CE 7.4



LANDSCAPE COMPLIANCE: LOT 4

LEE'S SUMMIT, MISSOURI  
CODE OF ORDINANCES: DIVISION III - LANDSCAPING, BUFFERS, AND TREE PROTECTION  
SITE ZONED: PMIX, PROPOSED: PMIX

STREET FRONTAGE TREES

1 TREE PER 30 FEET OF TOTAL LOT AREA, EXCLUDING BUILDING FOOTPRINT  
DOUGLAS AVE - 184 LF STREET FRONTAGE  
ALURA WAY - 421 LF STREET FRONTAGE

6 TREES REQUIRED	6 TREES PROPOSED
14 TREES REQUIRED	14 TREES PROPOSED

OPEN YARD TREES

1 TREE PER 5,000 SF OF TOTAL LOT AREA, EXCLUDING BUILDING FOOTPRINT  
TOTAL LOT AREA = 39,216 SF

8 TREES REQUIRED	8 TREES PROPOSED
------------------	------------------

STREET FRONTAGE SHRUBS

1 SHRUB PER 20 FEET OF STREET FRONTAGE  
DOUGLAS AVE - 29 LF STREET FRONTAGE  
ALURA WAY - 421 LF STREET FRONTAGE

1 SHRUBS REQUIRED	1 SHRUBS PROPOSED
21 SHRUBS REQUIRED	21 SHRUBS PROPOSED

12 SHRUBS PER 40 FEET OF PARKING LOT STREET FRONTAGE  
DOUGLAS AVE - 155 LF STREET FRONTAGE

47 SHRUBS REQUIRED	47 SHRUBS PROPOSED
--------------------	--------------------

OPEN YARD SHRUBS

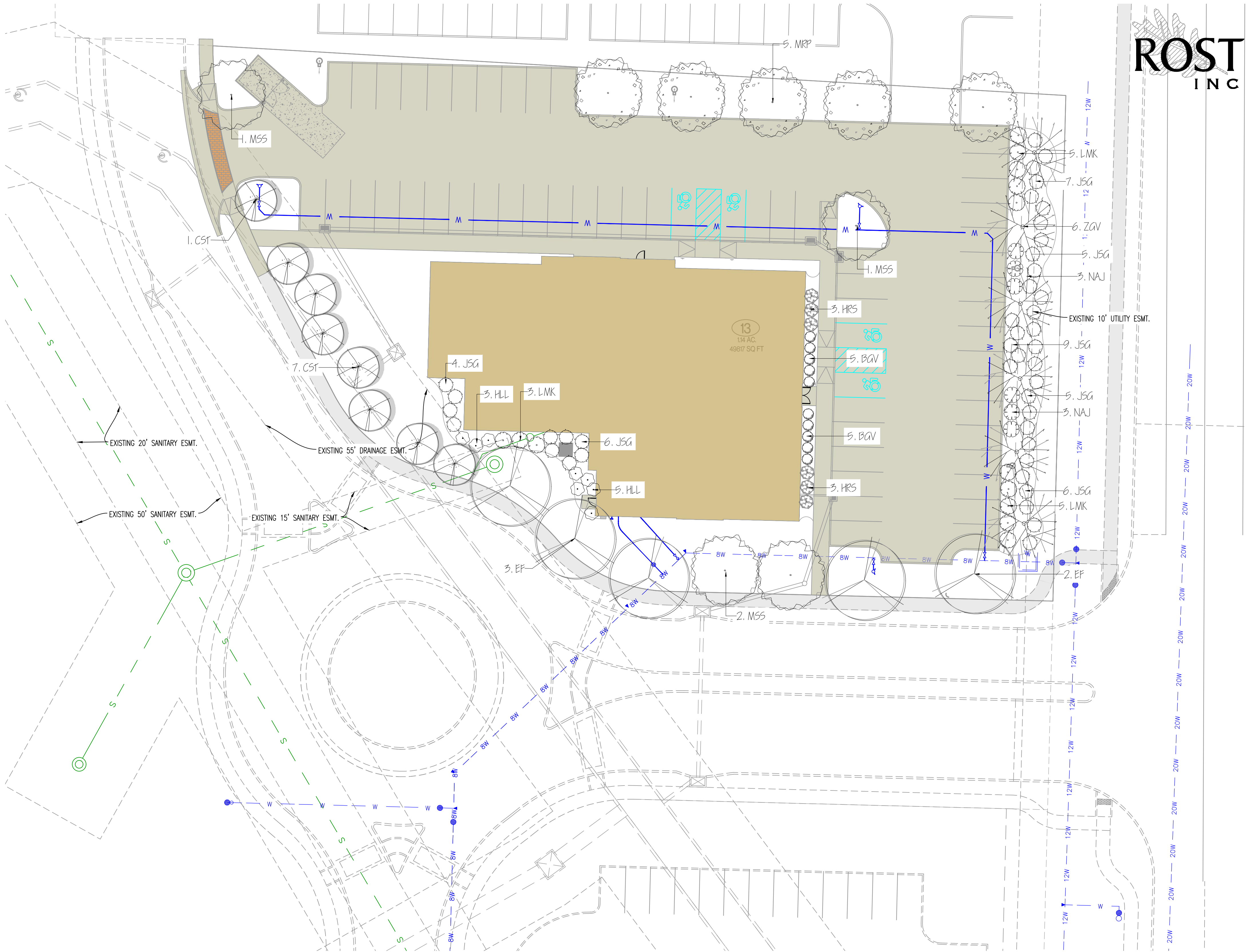
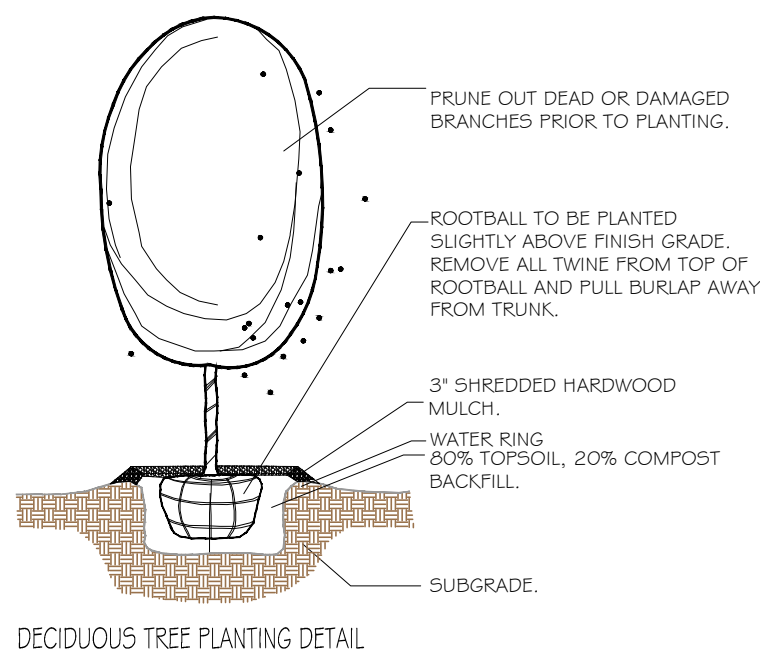
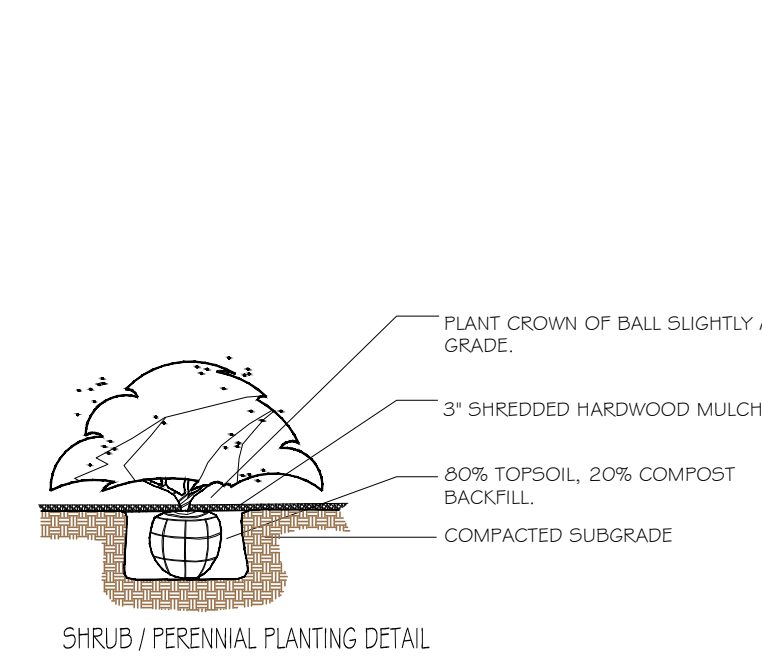
2 SHRUBS PER 5,000 SF OF TOTAL LOT AREA, EXCLUDING BUILDING FOOTPRINT  
TOTAL LOT AREA = 39,216 SF

16 SHRUBS REQUIRED	16 SHRUBS PROPOSED
--------------------	--------------------

PLANTING SCHEDULE:

QUANTITY	SYMBOL	PLANT NAME	PLANT TYPE	SIZE
5	EF	ELM "FRONTIER"	MEDIUM / LARGE TREE	3"
6	ZGV	ZELKOVA "GREEN VASE"	MEDIUM / LARGE TREE	3"
4	MSS	MYABI MAPLE "STATE STREET"	MEDIUM / LARGE TREE	3"
5	MRP	MAPLE "RED POINT"	MEDIUM / LARGE TREE	3"
8	CST	CRABAPPLE "SUGARTIME"	ORNAMENTAL TREE	2.5"
6	NAJ	NINEBARK "AMBER JUBILEE"	DECIDUOUS SHRUB	#5
8	HLL	HYDRANGEA "LITTLE LIME"	DECIDUOUS SHRUB	#5
6	HRS	HYDRANGEA "RUBY SLIPPERS"	DECIDUOUS SHRUB	#5
13	LMK	LILAC "MISS KIM"	DECIDUOUS SHRUB	#5
10	BGV	BOXWOOD "GREEN VELVET"	EVERGREEN SHRUB	#5
42	JSG	JUNIPER "SEA GREEN"	EVERGREEN SHRUB	#5

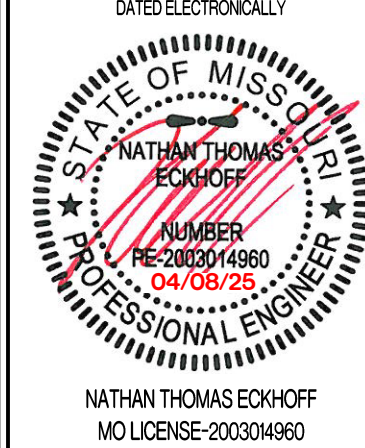
- THE PLANT LIST IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL PLANT COUNTS AND IF A DISCREPANCY EXISTS THE PLAN SHALL GOVERN.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF ALL UNDERGROUND UTILITIES, PIPES, AND STRUCTURES. THE LANDSCAPE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION.
- LANDSCAPE CONTRACTOR TO RECEIVE SITE GRADED TO +/-0.10 FOOT OF FINISHED GRADE.
- PLANTING BACK FILL MIX IS TO CONSIST OF 80% NATIVE TOPSOIL, AND 20% ORGANIC MATTER.
- SHRUB BEDS, BERMS, AND TREE WELLS ARE TO BE MULCHED WITH 3-4" DYED HARDWOOD MULCH.
- ALL BED AND LAWN AREAS SHALL BE IRRIGATED.
- ALL LAWN AREAS TO BE SODDED WITH TALL FESCUE SOD.
- LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWELVE MONTHS.
- ALL PLANTING BEDS AND TREE RINGS TO BE SEPERATED FROM TURF AREAS BY 'V' TRENCHING.
- ALL PLANT MATERIAL MUST MEET THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- PLANT LOCATIONS MAY BE ADJUSTED ONSITE TO AVOID UTILITIES, SITE FEATURES, ETC.
- ONLY ORNAMENTAL TREES AND SHRUBS MAY BE PLANTED IN ANY EASEMENTS.



REVISIONS:

NO.	DATE
ORIGINAL	11/22/2024
REV. 1	02/21/2025
REV. 2	03/24/2025

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#000000001

OWNER:  
DISCOVERY PARK LEES SUMMIT LLC  
4420 PHILLIPS FARM RD  
COLUMBIA, MO 65201

THE VILLAGE AT DISCOVERY  
LOT 13  
LEES SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

LANDSCAPING PLAN

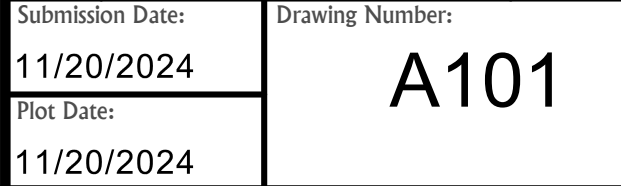
DESIGNED: NTE

DRAWN: NMD

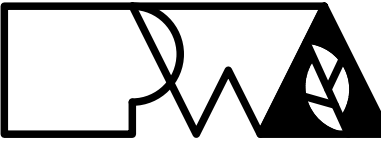
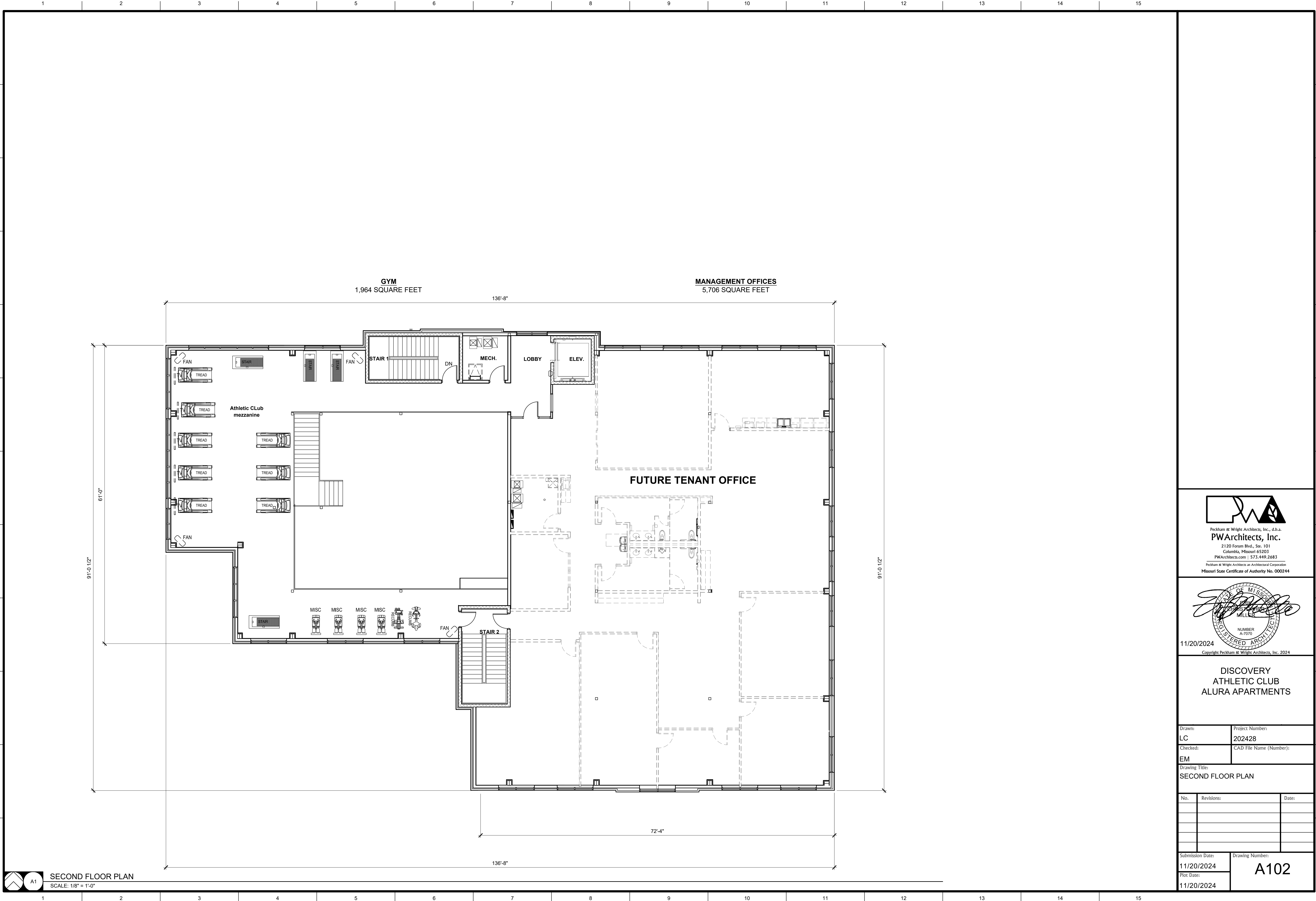
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SHEET:  
CE 8.1

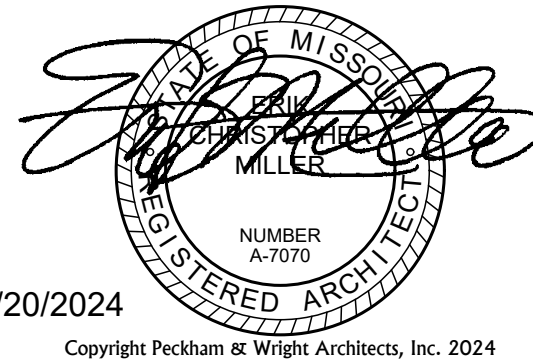








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**DISCOVERY  
ATHLETIC CLUB  
ALURA APARTMENTS**

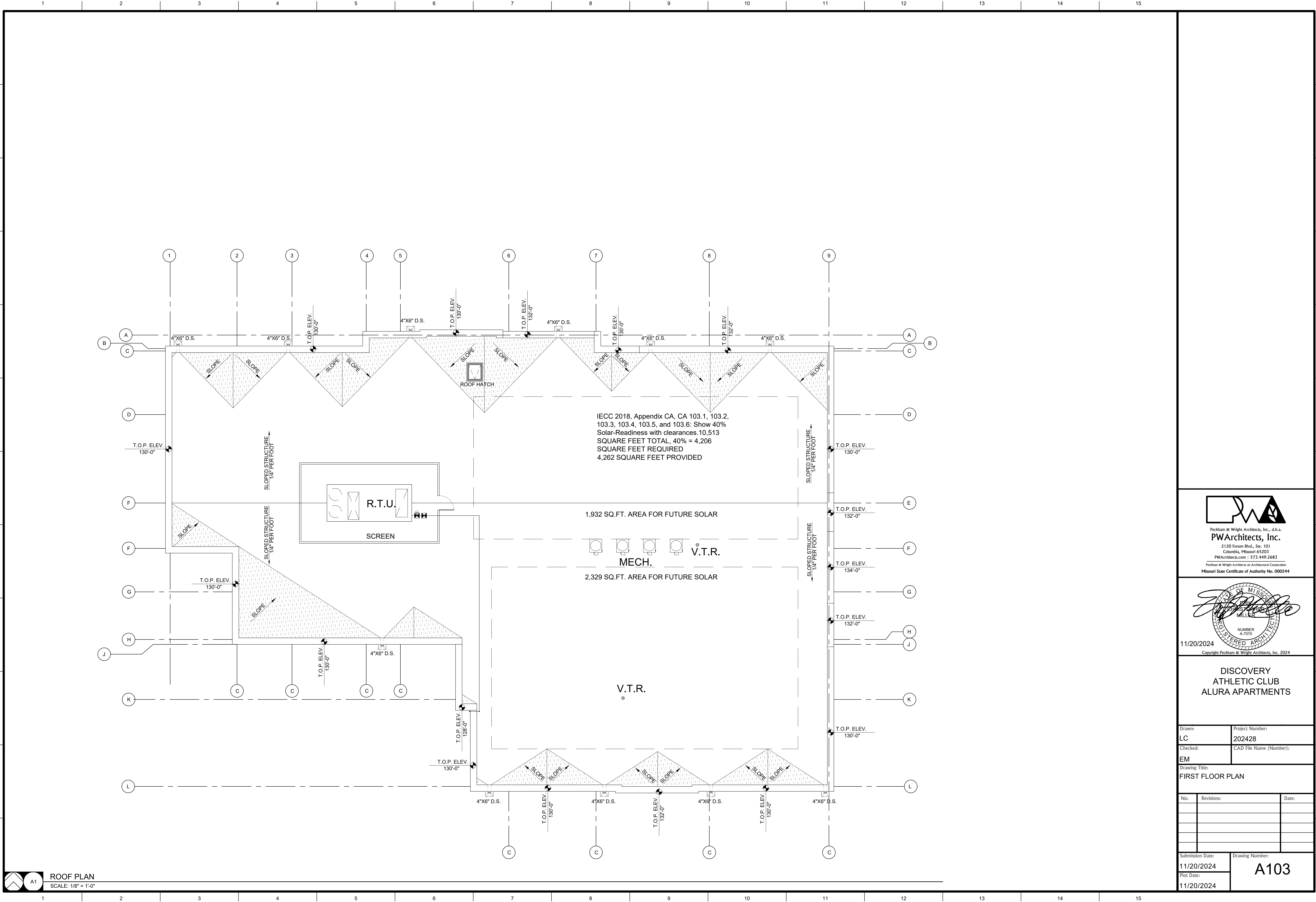
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LC	202428
Checked:	CAD File Name (Number):
EM	

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**SECOND FLOOR PLAN**

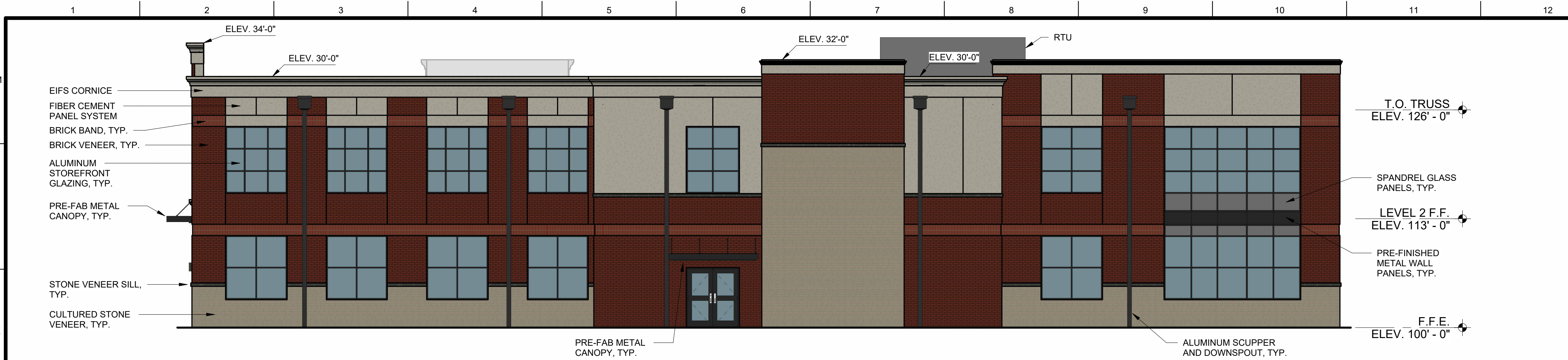
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Submission Date:	Drawing Number:
11/20/2024	<b>A102</b>
Plot Date:	
11/20/2024	









K1 NORTH  
1/8" = 1'-0"



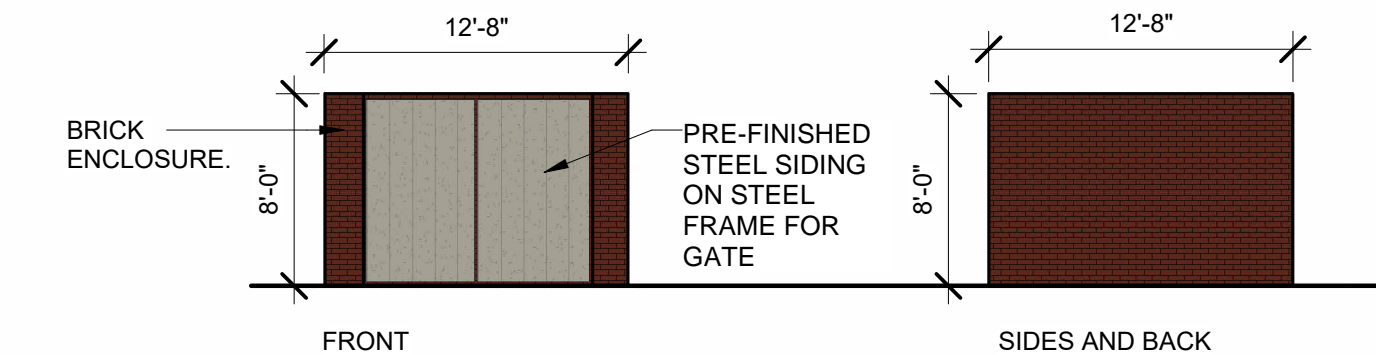
G1 SOUTH  
1/8" = 1'-0"



D1 EAST  
1/8" = 1'-0"



A1 WEST  
1/8" = 1'-0"



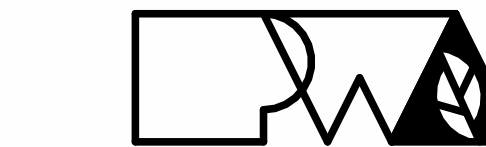
A12 DUMPSTER ENCLOSURE  
1/8" = 1'-0"

#### GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS.

#### EXTERIOR FINISH MATERIALS

	EIFS.
	BRICK VENEER
	BRICK VENEER SOLDIER COURSE
	STONE VENEER
	STONE VENEER SILL



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#### DISCOVERY ATHLETIC CLUB ALURA APARTMENTS

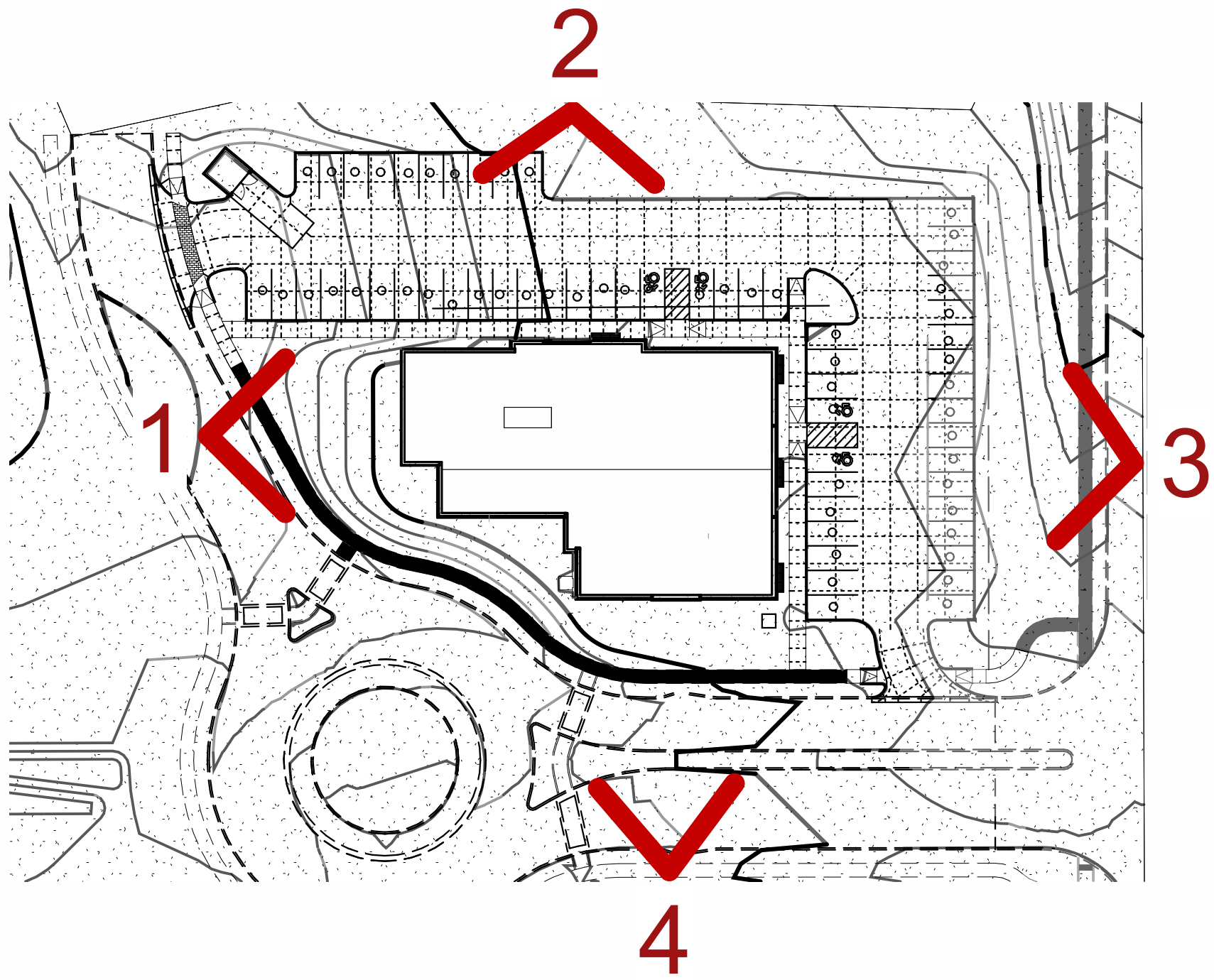
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Checked: EM	CAD File Name (Number): ALURA CLUBHOUSE

Drawing Title:  
EXTERIOR ELEVATIONS

No.	Revisions:	Date:

Submission Date: 06/27/2024	Drawing Number: <b>A201</b>
Plot Date: 06/27/2024	





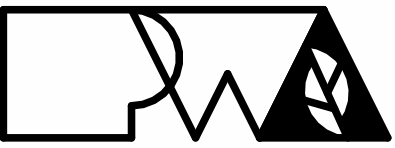
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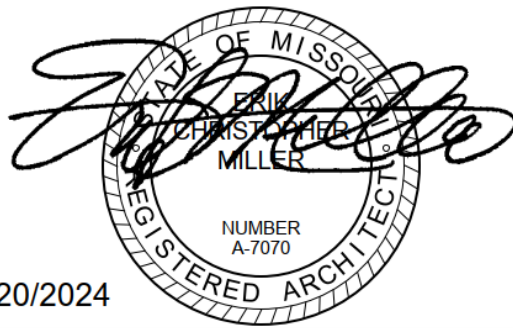
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A7 PERSPECTIVE 2  
Not to Scale



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**DISCOVERY  
ATHLETIC CLUB  
ALURA APARTMENTS**

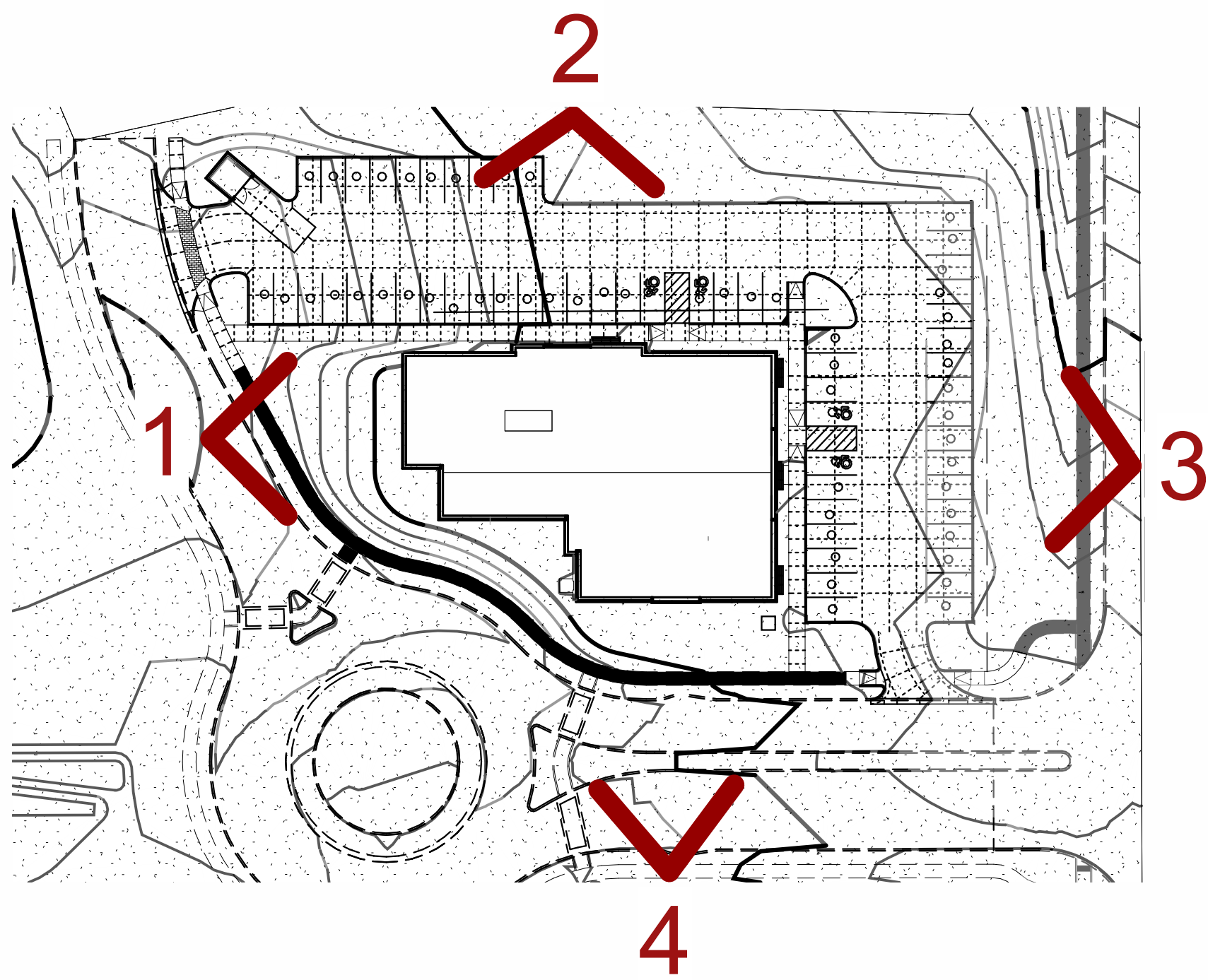
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DS	202428
Checked:	CAD File Name (Number):
EM	ALURA CLUBHOUSE

Drawing Title:  
**PERSPECTIVES**

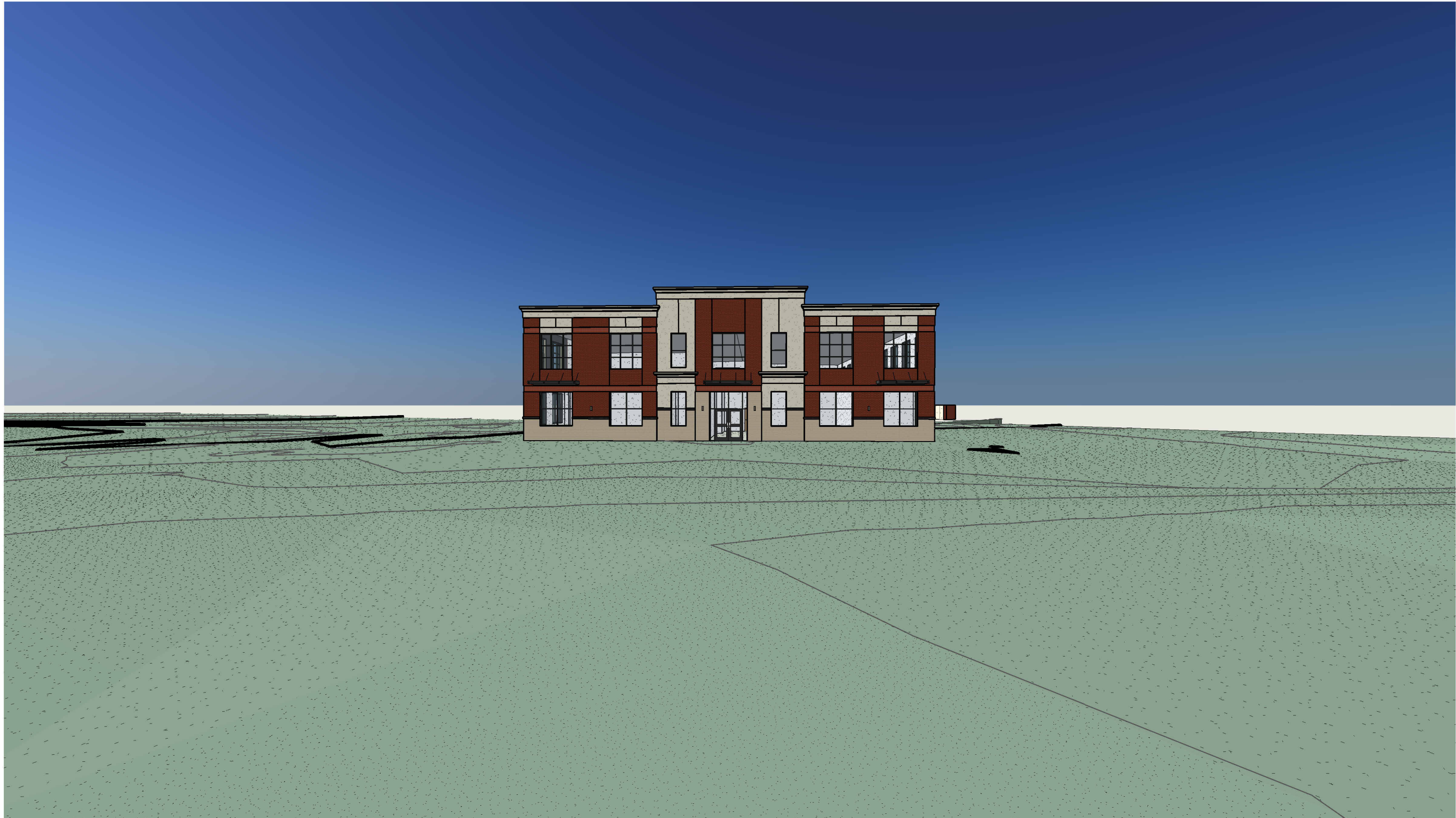
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Submission Date:	Drawing Number:
06/27/2024	<b>A701</b>
Plot Date:	
06/27/2024	





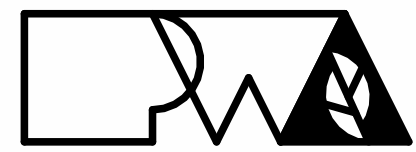
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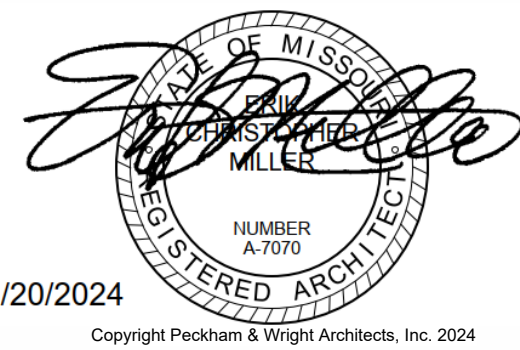
G7 PERSPECTIVE 3  
Not to Scale



A7 PERSPECTIVE 4



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**DISCOVERY  
ATHLETIC CLUB  
ALURA APARTMENTS**

Drawn: DS	Project Number: 202428
Checked: EM	CAD File Name (Number): ALURA CLUBHOUSE

Drawing Title:  
**PERSPECTIVES**

No.	Revisions:	Date:

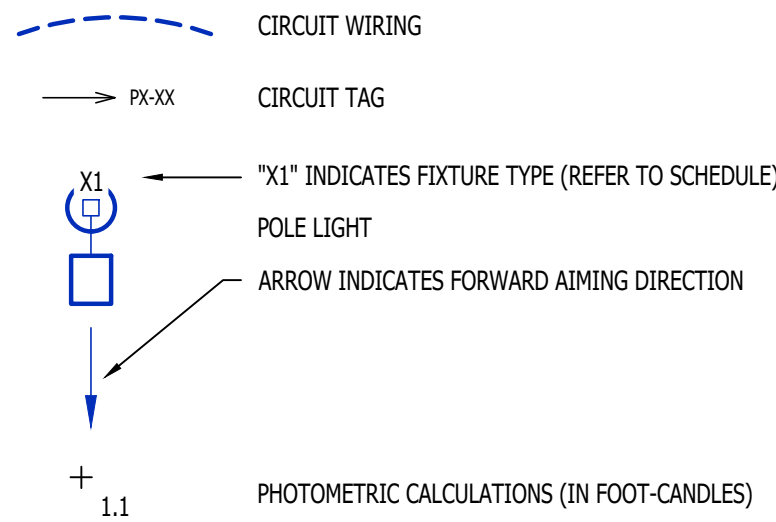
Submission Date: 06/27/2024	Drawing Number: <b>A702</b>
Plot Date: 06/27/2024	



SITE LIGHTING CALCULATION SUMMARY							
AREA / LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
SITE	ILLUMINANCE	FC	2.04	4.6	0.7	2.9	6.6
SPILL LIGHT	ILLUMINANCE	FC	0.12	1.6	0	N/A	N/A
NOTES:							
1. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE EXISTING LIGHTING							

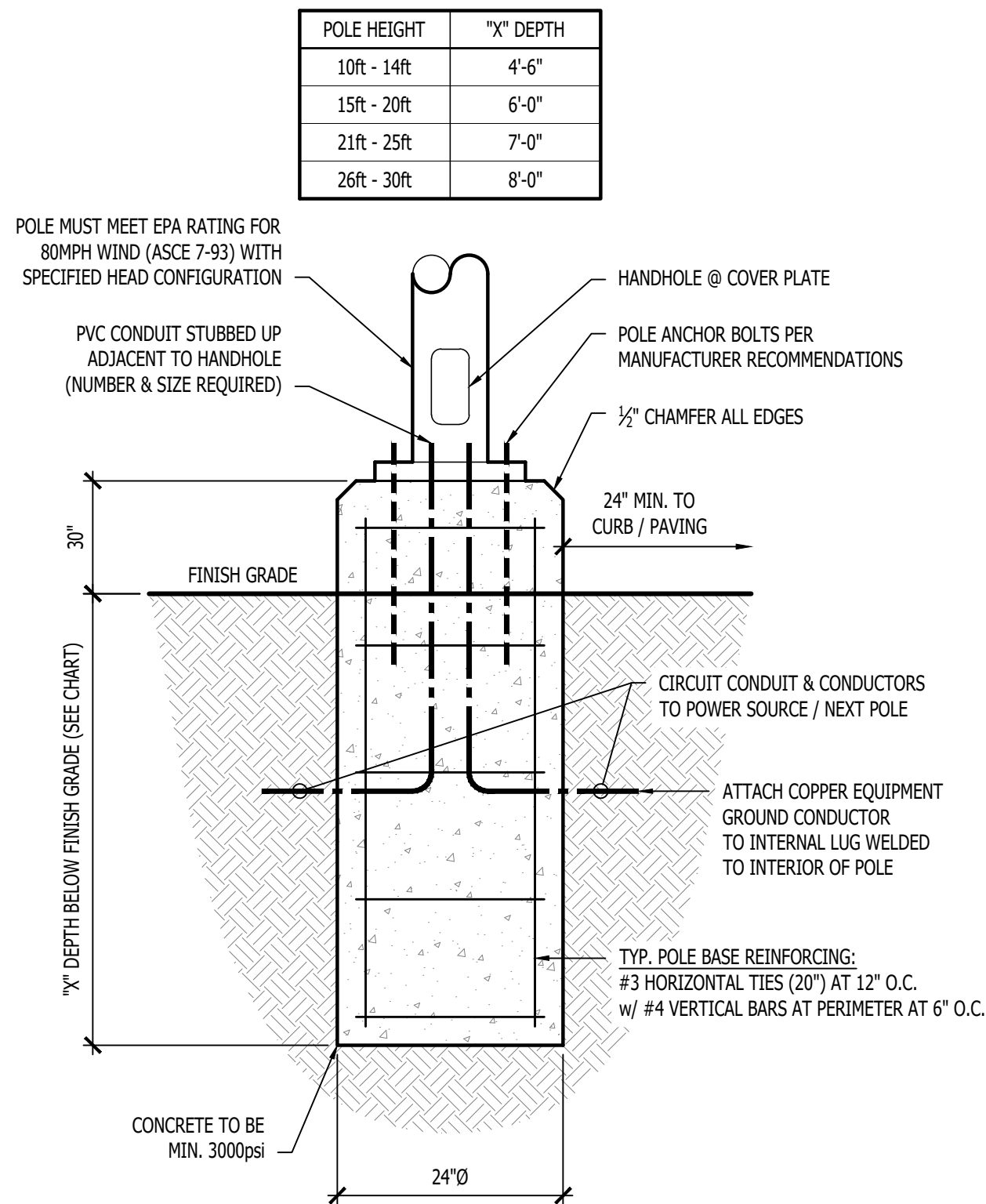
SITE LIGHTING FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
PL1	MCGRAW-EDISON	PRV-XL-PA3A-740-U-T4W-HSS	LED POLE LIGHT	20' #SSS POLE ON 30" BASE	17,617	4000	70	208	172	WITH #MS/DIM-L40W MOTION SENSING DIMMING
NOTES:										
1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO ORDERING.										

SITE LIGHTING PLAN SYMBOL LEGEND

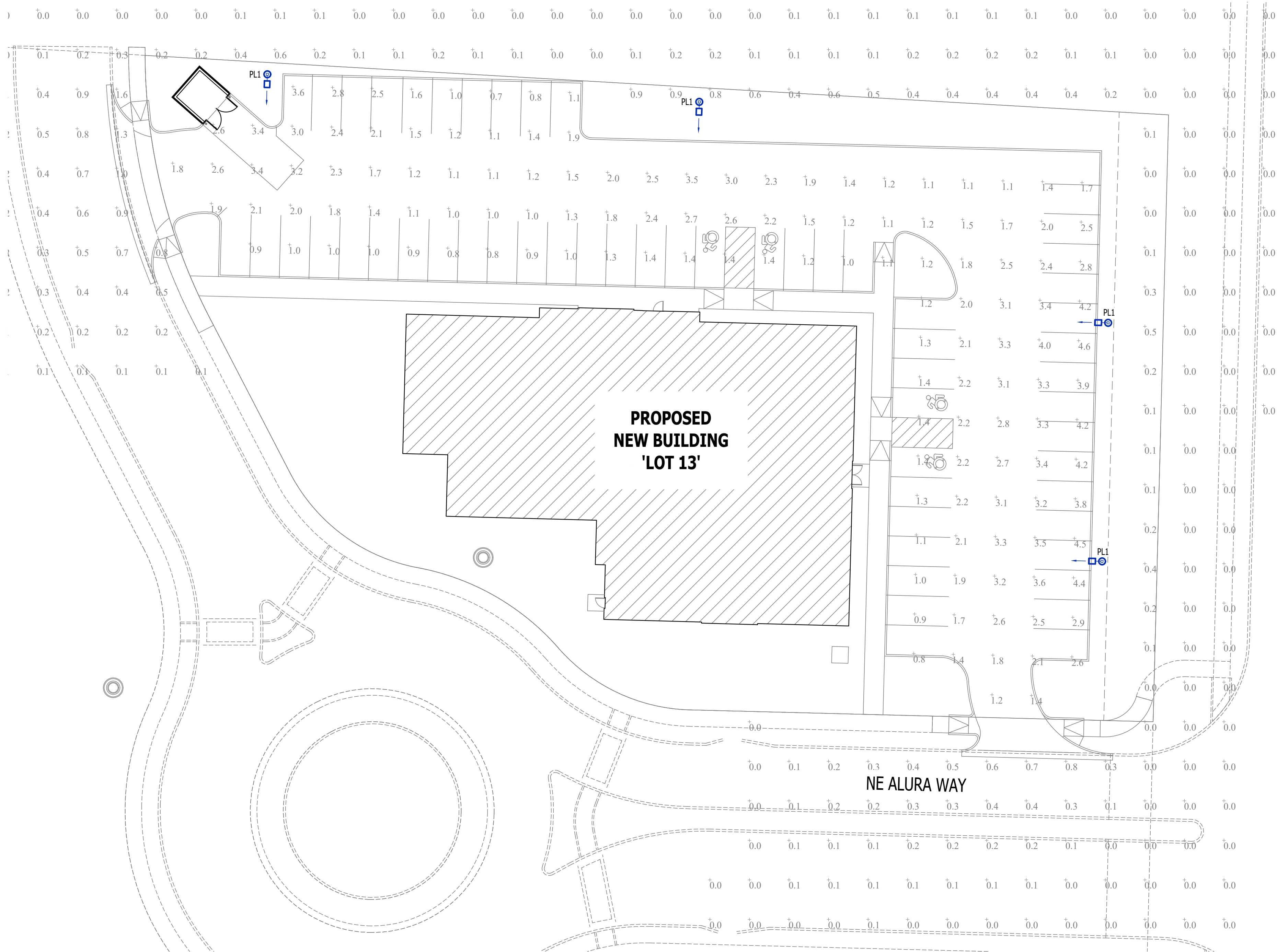


SITE LIGHTING PLAN GENERAL NOTES:

- SITE PHOTOMETRIC VALUES SHOWN HAVE BEEN CALCULATED PER SPECIFIED LIGHT FIXTURES AT INDICATED MOUNTING HEIGHTS. ANY CHANGES OR ALTERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE RECALCULATING SITE PHOTOMETRICS AND WILL THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
- PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURE(S), ONLY NEW POLE LIGHT FIXTURE(S) SHOWN.
- BUILDING-MOUNTED EXTERIOR LIGHTING IS NOT YET DESIGNED FOR PROPOSED BUILDING. ALL BUILDING-MOUNTED LIGHTING WILL BE INTENDED AS ACCENT LIGHTING AND NOT INTENDED TO PROVIDE GENERAL AREA LIGHTING. ALL BUILDING-MOUNTED LIGHTING SHALL COMPLY WITH CITY OF LEE'S SUMMIT UDO SECTIONS 8.220, 8.260, & 8.270.

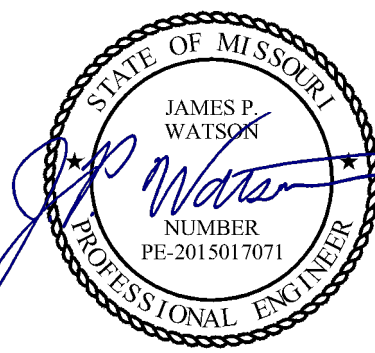


TYPICAL LIGHT POLE DETAIL



SITE LIGHTING PLAN

SCALE: 1" = 20 ft



James Watson, P.E. November 7, 2024  
PE-2015017071  
MO Certificate of Authority # 2018029680



**J-SQUARED**  
ENGINEERING

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J2 PROJECT No: J212211

J2 DESIGN: ACW

ISSUE TITLE DATE

FDP SUBMITTAL 11 - 07 - 2024