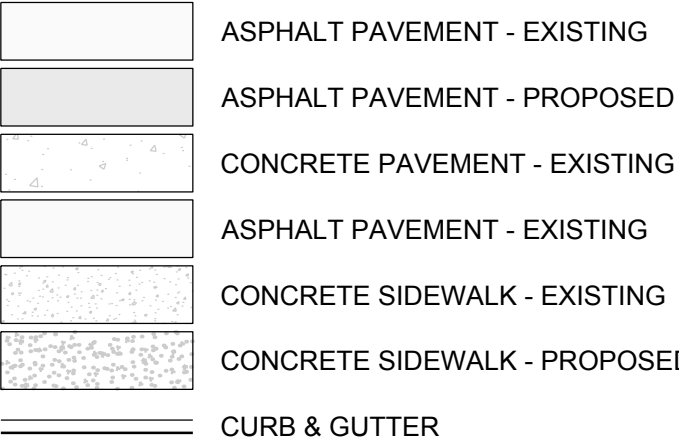






























FINAL DEVELOPMENT PLANS FOR COLEMAN EQUIPMENT

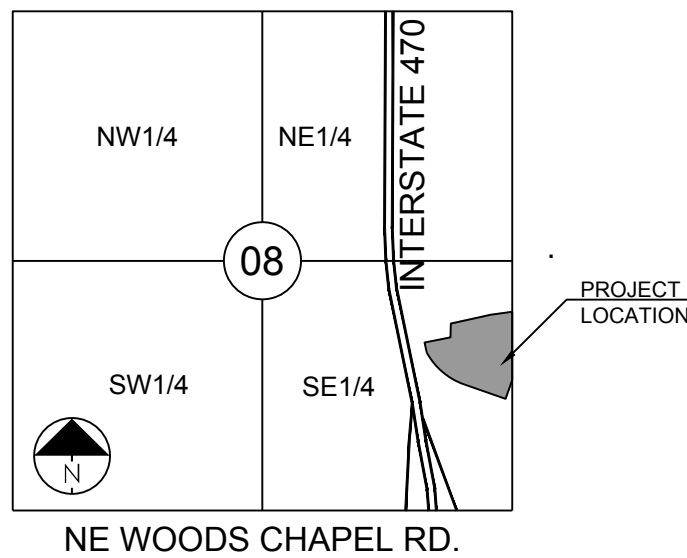
IN THE CITY OF LEE'S SUMMIT JACKSON COUNTY, MISSOURI

LEGEND:

- | | |
|------------|---------------------------------------|
| A/E | - ACCESS EASEMENT |
| BC | - BACK OF CURB |
| B/B | - BACK TO BACK |
| BM | - BENCHMARK |
| BL or B.L. | - BUILDING LINE |
| CO | - CLEANOUT |
| TJB | - TELEPHONE JUNCTION BOX |
| C&G | - CURB AND GUTTER |
| D/E | - DRAINAGE EASEMENT |
| E/E | - ELECTRICAL EASEMENT |
| EL | - ELEVATION |
| FL | - FLOW LINE |
| G/E | - GAS LINE EASEMENT |
| HDPE | - HIGH-DENSITY POLYETHYLENE |
| L/E | - LANDSCAPE EASEMENT |
| MSFE | - MINIMUM SERVICEABLE FLOOR ELEVATION |
| PVC | - POLYVINYL CHLORIDE |
| P/L | - PROPERTY LINE |
| PUB/E | - PUBLIC EASEMENT |
| RCP | - REINFORCED CONCRETE PIPE |
| ROW or R/W | - RIGHT-OF-WAY |
| S/E | - SANITARY SEWER EASEMENT |
| SL | - SERVICE LINE |
| S/W | - SIDEWALK |
| TE | - TOP ELEVATION |
| U/E | - UTILITY EASEMENT |
| WSE | - WATER SURFACE ELEVATION |
| W/E | - WATERLINE EASEMENT |



- | | |
|---|------------------------------|
|  | CURB & GUTTER - EXISTING |
|  | TREELINE |
|  | EXISTING LOT AND R/W LINES |
|  | EXISTING PLAT LINES |
|  | PROPERTY LINES |
|  | RIGHT-OF-WAY |
|  | SANITARY SEWER MAIN |
|  | SANITARY SEWER MAIN - EXIST. |
|  | STORM SEWER |
|  | STORM SEWER - EXISTING |
|  | CABLE TV - EXISTING |
|  | FIBER OPTIC CABLE - EXISTING |
|  | TELEPHONE LINE - EXIST. |
|  | ELECTRIC LINE - EXISTING |
|  | OVERHEAD POWER LINE - EXIST. |
|  | UNDERGROUND ELECTRIC - EX. |
|  | GAS LINE - EXISTING |
|  | WATERLINE - EXISTING |
|  | LIGHT - EXISTING |
|  | EXISTING MANHOLE |
|  | CLEANOUT |
|  | EXISTING SANITARY MANHOLE |
|  | PROPOSED SANITARY MANHOLE |
|  | EXISTING AREA INLET |
|  | EXISTING CURB INLET |
|  | EXISTING GRATE INLET |
|  | EXISTING JUNCTION BOX |
|  | EXISTING STORM MANHOLE |



SECTION 08-48N-31W

LOCATION MAP

SCALE 1" = 2000'

UTILITY CONTACTS:MISSOURI DEPARTMENT OF
TRANSPORTATION (MODOT)

Steve Holloway
600 NE Colbern Road
Lee's Summit, MO 64086
(816) 607-2186

MISSOURI GAS ENERGY (MGE)

Brent Jones
3025 SE Clover Drive
Lee's Summit, MO 64082
(816) 399-9633
brent.jones@spireenergy.

KANSAS CITY POWER & LIGHT
COMPANY (KCP&L)

Ron DeJarnette
1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-4316
Cell: (816) 810-5234
ron.dejarnette@kcpl.com

CITY OF LEES SUMMIT PUBLIC WORKS

Dena Mezger
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T

Mark Manion or Marty Loper
500 E. 8th Street, Room 370
Kansas City, MO 64106
(816) 275-2341 or (816) 275-1550

COMCAST CABLE

Barbara Brown
3400 W. Duncan Road
Blue Springs, MO 64015
(816) 795-2255

PUBLIC WATER SUPPLY DISTRICT

Mark Schaufler
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1900



EARTHWORK:

1. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER OBSERVE AND DOCUMENT ALL EARTHWORK ACTIVITIES.
2. CONTOURS HAVE BEEN SHOWN AT 1-FOOT OR 2-FOOT INTERVALS, AS INDICATED. GRADING SHALL CONSIST OF COMPLETING THE EARTHWORK REQUIRED TO BRING THE PHYSICAL GROUND ELEVATIONS OF THE EXISTING SITE TO THE FINISHED GRADE (OR SUB-GRADE) ELEVATIONS PROVIDED ON THE PLANS AS SPOT GRADES, CONTOURS OR OTHERS MEANS AS INDICATED ON THE PLANS.
3. THE EXISTING SITE TOPOGRAPHY DEPICTED ON THE PLANS BY CONTOURING HAS BEEN ESTABLISHED BY A PROFESSIONAL TOPOGRAPHY AND FIELD VERIFIED BY G.P.S. OBSERVATION NEAR JULY 18TH, 2016. THE CONTOUR ELEVATIONS PROVIDED MAY NOT BE EXACT GROUND ELEVATIONS, BUT RATHER INTERPRETATIONS OF SUCH. ACCURACY SHALL BE CONSIDERED TO BE SUCH THAT NOT MORE THAN 10 PERCENT OF SPOT ELEVATION CHECKS SHALL BE IN ERROR BY MORE THAN ONE-HALF THE CONTOUR INTERVAL PROVIDED, AS DEFINED BY THE NATIONAL MAP ACCURACY STANDARDS. ANY QUANTITIES PROVIDED FOR EARTHWORK VOLUMES ARE ESTABLISHED USING THIS TOPOGRAPHY CONTOUR ACCURACY, AND THEREFORE THE INHERENT ACCURACY OF ANY EARTHWORK QUANTITY IS ASSUMED FROM THE TOPOGRAPHY ACCURACY.
4. PROPOSED CONTOURS ARE TO APPROXIMATE FINISHED GRADE.
5. UNLESS OTHERWISE NOTED, PAYMENT FOR EARTHWORK SHALL INCLUDE BACKFILLING OF THE CURB AND GUTTER, SIDEWALK AND FUTURE MANIPULATION OF UTILITY TRENCH SPOILS. THE SITE SHALL BE LEFT IN A MOVABLE CONDITION AND POSITIVE DRAINAGE MAINTAINED THROUGHOUT.
6. UNLESS OTHERWISE NOTED, ALL EARTHWORK IS CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ROCK OR SHALE EXCAVATION, UNLESS SPECIFICALLY STATED OTHERWISE.
7. PRIOR TO EARTHWORK ACTIVITIES, PRE-DISTURBANCE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PER THE STORM WATER POLLUTION PREVENTION PLAN AND/OR THE EROSION AND SEDIMENT CONTROL PLAN PREPARED FOR THIS SITE.
8. ALL TOPSOIL SHALL BE STRIPPED FROM ALL AREAS TO BE GRADED AND STOCKPILED ADJACENT TO THE SITE AT AN AREA SPECIFIED BY THE PROJECT OWNER OR HIS APPOINTED REPRESENTATIVE. VEGETATION, TREES, TREES, BRUSH, AND OTHERS SHALL BE REMOVED AND PROPERLY DISPOSED OFF-SITE OR AS DIRECTED BY THE OWNER OR HIS APPOINTED REPRESENTATIVE.
9. UNLESS OTHERWISE SPECIFIED IN THE GEOTECHNICAL REPORT, ALL FILLS SHALL BE PLACED IN MAXIMUM 6-INCH LIFTS AND COMPACTED TO 95-PERCENT OF MAXIMUM DENSITY AS DEFINED USING A STANDARD PROCTOR TEST (ASHTO 199/ASTM 698).
10. SUBGRADE FOR PAVEMENTS SHALL BE PROOF-ROLLED PRIOR TO PAVING OPERATIONS UTILIZING A FULLY LOADED TANDEM AXLE DUMP TRUCK. ALL AREAS EXHIBITING EXCESSIVE PUMPING AND HEAVING SHALL BE REMOVED, FILLED AND COMPACTED WITH SUITABLE MATERIALS AND RETESTED UNTIL ACCEPTABLE RESULTS ARE ACHIEVED AND FINAL APPROVAL HAS BEEN OBTAINED FROM THE GEOTECHNICAL ENGINEER.
11. SUBGRADE FOR BUILDING PAD SHALL INCLUDE A MINIMUM OF 18-INCHES OF LOW VOLUME CHANGE (LVC) MATERIAL, OR AS IDENTIFIED IN THE SITE SPECIFIC GEOTECHNICAL REPORT.
12. FILL MATERIALS SHALL BE PER GEOTECHNICAL REPORT AND SHALL NOT INCLUDE ORGANIC MATTER, DEBRIS OR TOPSOIL. ALL FILLS PLACED ON SLOPES GREATER THAN 6:1 SHALL BE BENCHED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING THE TOPSOIL OVER PROPOSED TURF AND LANDSCAPED AREAS TO A MINIMUM DEPTH OF 6-INCHES BELOW FINAL GRADE.
14. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. UNLESS NOTED OTHERWISE THE FOLLOWING GRADES SHALL APPLY:
 - A. TURF AREAS – 2-5% MINIMUM, 4H:1V MAXIMUM
 - B. PAVED AREAS – 1-12% MINIMUM, 5% MAXIMUM
 - C. D.A. PARKING STALLS SHALL NOT BE SLOPED GREATER THEN 2% IN ANY DIRECTION AND CONSTRUCTED PER A.D.A. REQUIREMENTS.
15. ALL DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IMMEDIATELY AFTER EARTHWORK ACTIVITIES HAVE CEASED. SEEDING SHALL BE PER THE EROSION AND SEDIMENT CONTROL PLAN AND/OR LANDSCAPE PLAN. IF NOT SPECIFIED SEEDING SHALL BE PER APWA SECTION 2400, LATEST EDITION. UNLESS OTHERWISE NOTED, SEEDING SHALL BE SUBSIDIARY TO THE CONTRACT PRICE FOR EARTHWORK AND GRADING ACTIVITIES.
16. ALL DISTURBED AREAS IN THE RIGHT-OF-WAY SHALL BE SODED.
17. UNDERDRAINS ARE RECOMMENDED FOR ALL PAVED AREAS ADJACENT TO IRRIGATED TURF AND LANDSCAPED BEDS.
18. CONTRACTOR SHALL ADHERE TO THE REPORTING REQUIREMENTS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED AND KEPT CLEAN OF SILT AND DEBRIS AND IN GOOD WORKING ORDER. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS REQUIRED.

UTILITIES:

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, CONCRETE ENCASEMENT OF THE SANITARY OR STORM SEWER LINE SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, FINE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, DRAINAGE, SLOTTING AND EXCESS SEDIMENT RUNOFF, UNSUITABLE MATERIALS OR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH; AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, EXCESS ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.

NOTE:
TRENCH CHECKS TO BE INSTALL ON ALL SANITARY SEWER SERVICE LINES IN ACCORDANCE
WITH CITY OF LEE'S SUMMIT STANDARDS.

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	SITE LAYOUT PLAN
C2.0	GRADING PLAN
C3.0	EROSION CONTROL
C3.1	EROSION CONTROL DETAILS
C3.2	EROSION CONTROL DETAILS
C4.0	PLAN & PROFILE - PRIVATE DR.
C5.0	STORM DRAINAGE PLAN
C5.1	STORM SEWER PROFILES
C6.0	UTILITY PLAN
C7.0	CURB AND PAVEMENT DETAILS
C7.1	STORM DRAINAGE DETAILS
C7.2	STORM SEWER DETAILS
C7.3	EDDB OUTLET STRUCTURE DETAILS
C7.4	SITE DETAILS
C7.5	STREET SIGN DETAILS
L1.0	LANDSCAPE PLAN
L2.0	LANDSCAPE DETAILS
L2.1	LANDSCAPE DETAILS
IR-1	IRRIGATION DESIGN REQUIREMENTS

PREPARED AND SUBMITTED BY:

OWNER/DEVELOPER:

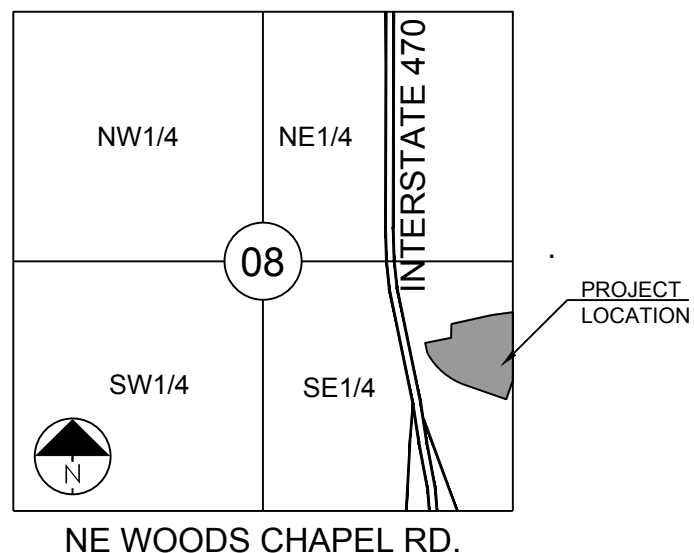
B & D BUSINESS HOLDING LLC
-
24000 W 43RD STREET
BONNER SPRINGS, KANSAS 66012
p (913) 422-3040
f -

REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-13-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS
9/22/2017	
17-019	

COVER SHEET

SHEET

C0.0



SECTION 08-48N-31W

LOCATION MAP
SCALE 1" = 2000'

OVERALL SITE DATA

EXISTING ZONING P-MIX
PROPOSED ZONING P-MIX
SITE AREA 12.80 ACRES

LOT 1 SITE DATA

LOT 1 AREA 6.71 ACRES (292,504.83 S.F.)
TOTAL BUILDING AREA 14,410 S.F. (EXCL. FUTURE EXPANSION)
DEALERSHIP AREA 7,780 S.F.
SHOP AREA 6,630 S.F. (7 BAYS)
FUTURE BUILDING EXPANSION 5,580 S.F.
PAVEMENT AREA 87,689.69 S.F.
TOTAL IMPERVIOUS AREA 101,689.69 S.F.
OUTDOOR DISPLAY AREA 17,989.17 S.F.
OPEN AREA 109,825 S.F.
F.A.R. .049

PARKING DATA

PARKING REQUIRED
DEALERSHIP AREA 15.56 SPACES (2 PER 1,000 S.F.)
SHOP AREA 21 SPACES (3 PER SERVICE BAY)
OUTDOOR DISPLAY 7.20 SPACES (1 PER 2,500 S.F.)
TOTAL PARKING REQUIRED 44 SPACES
PARKING PROPOSED
AUTO PARKING 38 SPACES
TRUCK/TRAILER PARKING 6 SPACES
TOTAL PARKING PROVIDED 44 SPACES

NOTES:

- BOUNDARY INFORMATION, SITE AREA INFORMATION, ADJACENT PROPERTY LINES AND UTILITY INFORMATION IS FROM ALTA SURVEY PREPARED BY R.L. BUFORD & ASSOCIATES, LLC PROVIDED BY AND USED WITH APPROVAL OF THE OWNER.
- TOPOGRAPHY FROM ALTA SURVEY PREPARED BY R.L. BUFORD & ASSOCIATES, LLC PROVIDED BY AND USED WITH APPROVAL OF THE OWNER.
- AN EASEMENT OR LICENSE WILL BE GRANTED TO THE CITY OF LEE'S SUMMIT, MISSOURI TO LOCATE, CONSTRUCT AND MAINTAIN, OR TO AUTHORIZE THE LOCATION, CONSTRUCTION AND MAINTENANCE OF SIDEWALKS, POLES, WIRES, ANCHORS, CONDUITS AND OR STRUCTURES FOR PEDESTRIAN ACCESS, GAS, SANITARY SEWER, STORM SEWER, SURFACE DRAINAGE CHANNEL, ELECTRICITY, TELEPHONE, CABLE TELEVISION, OR ANY OTHER NECESSARY PUBLIC UTILITY OR SERVICES, ANY OR ALL OF THEM, UPON, OVER, OR UNDER THOSE AREAS OUTLINED OR DESIGNATED UPON THIS PLAT AS "UTILITY EASEMENT" OR "U/E" OR WITHIN ANY STREET OR THOROUGHFARE DEDICATED TO PUBLIC USE.
- THE USE OF ALL TRACTS, LOTS, UNITS AND PROPERTIES IN THIS SUBDIVISION SHALL HEREAFTER BE SUBJECT TO THE COVENANTS AND RESTRICTIONS, WHICH INSTRUMENTS ARE TO BE RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF JACKSON COUNTY, MISSOURI, AS PROVIDED ABOVE, AND WHICH WILL BECOME A PART OF THE DEDICATION OF THE PLAT.
- BUILDING LINES (BL) OR SETBACK LINES WILL ESTABLISHED AS SHOWN ON THE PLAT AND NO BUILDING OR PORTION THEREOF SHALL BE CONSTRUCTED BETWEEN THIS LINE AND STREET RIGHT-OF-WAY.
- ALL CONSTRUCTION MUST COMPLY WITH THE MOST RECENT ADOPTED CITY CODE, ORDINANCES, AND DESIGN STANDARDS.
- ALL PARKING LOTS SHALL HAVE CG-1 CURB AS REQUIRED BY CODE.
- ALL DRIVE AISLES, DRIVEWAYS, AND STREETS ARE DIMENSIONED FROM BACK OF CURB TO BACK OF CURB ON THIS PLAN.
- ALL ACCESSIBLE PARKING SHALL COMPLY WITH THE ADA REQUIREMENTS.
- BASED ON THE GEOLOGIC DATA ON MISSOURI DEPARTMENT OF NATURAL RESOURCES WEB SITE THERE ARE NO KNOWN WELLS ON THE SITE.
- All issues pertaining to life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to the safety to fire fighters and emergency responders during emergency operations, shall be in accordance with the 2012 International Fire Code and local amendments.
- IFC 903.3.7 - Fire department connections. The location of fire department connections shall be approved by the fire code official. Connections shall be a 4 inch Storz type fitting and located within 100 feet of a fire hydrant, or as approved by the fire code official.
- IFC 507.5.1 - Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.
- IFC 503.2.3 - Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.
- IFC 506.1 - Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed in accordance with UL.
- 1037, and shall contain keys to gain necessary access as required by the fire code official.506.1.1 Locks. An approved lock shall be installed on gates or similar barriers when required by the fire code official. A Knox padlock will be provided on the gate and a Knox box on the building.
- Please note that parking lot design must meet the UDO Article 12 requirements and the private drive must meet public street design standards per the Design and Construction Manual Section 5200.
- Sanitary sewer main and easements for lots 2-6 will be provided in the future when one or more of those lots are developed.

PAVEMENT LEGEND:

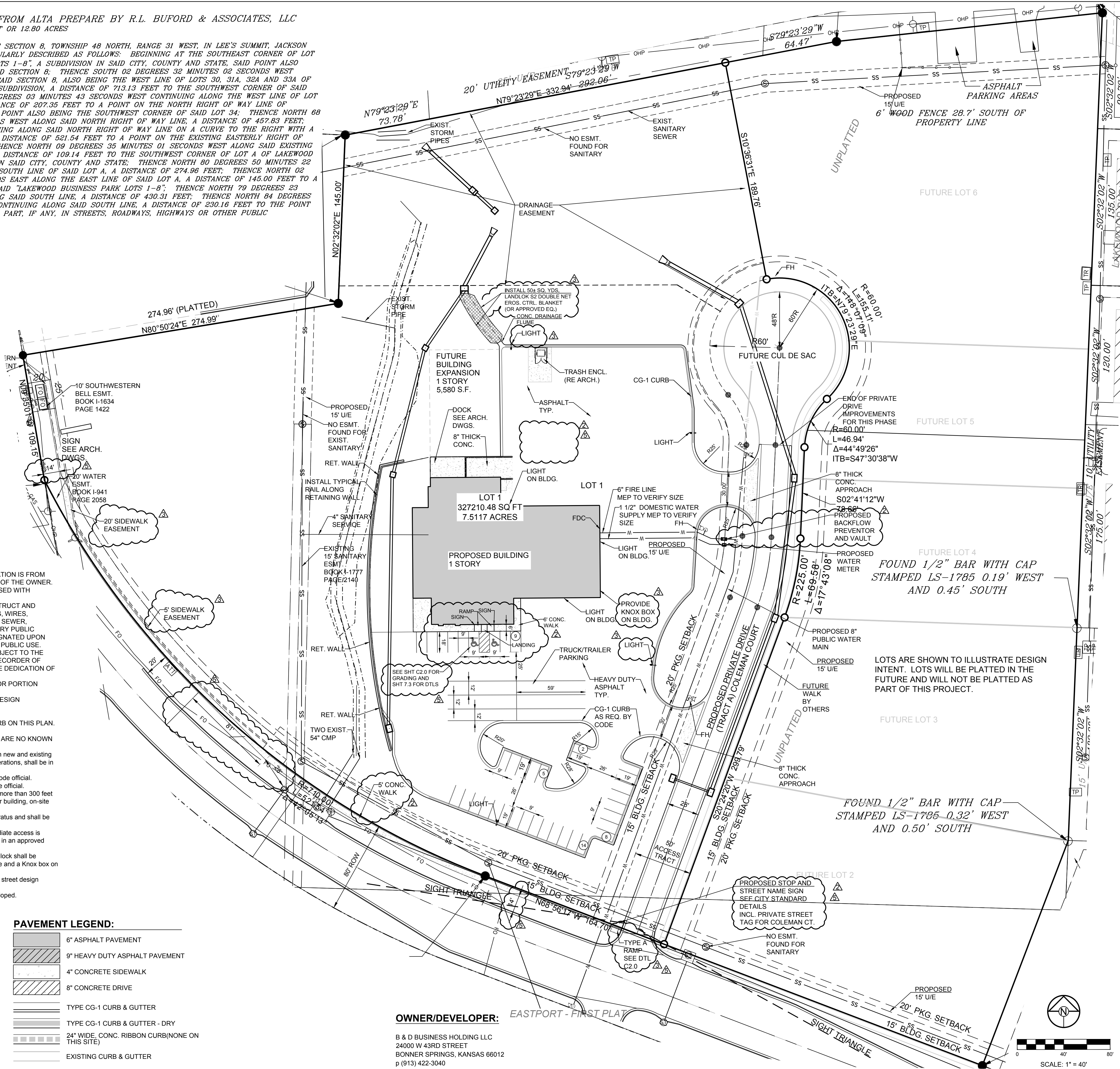
6" ASPHALT PAVEMENT
9" HEAVY DUTY ASPHALT PAVEMENT
4" CONCRETE SIDEWALK
8" CONCRETE DRIVE
TYPE CG-1 CURB & GUTTER
TYPE CG-1 CURB & GUTTER - DRY
24" WIDE, CONC. RIBBON CURB(NONE ON THIS SITE)
EXISTING CURB & GUTTER

FLOOD NOTE:

According to the Flood Insurance Rate Map of FEMA, Panel 430 of 625, Map # 29095C0430G, Dated January 20, 2017 the site is in Zone X, an area of minimal flooding.

PROPERTY DESCRIPTION FROM ALTA PREPARE BY R.L. BUFORD & ASSOCIATES, LLC
CONTAINING 557,618 SQUARE FEET OR 12.80 ACRES

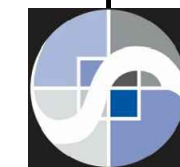
PART OF THE SOUTHEAST 1/4 OF SECTION 8, TOWNSHIP 48 NORTH, RANGE 31 WEST, IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF LOT 5, "LAKEWOOD BUSINESS PARK LOTS 1-8", A SUBDIVISION IN SAID CITY, COUNTY AND STATE, SAID POINT ALSO BEING ON THE EAST LINE OF SAID SECTION 8; THENCE SOUTH 02 DEGREES 32 MINUTES 02 SECONDS WEST ALONG THE SAID EAST LINE OF SAID SECTION 8, ALSO BEING THE WEST LINE OF LOTS 30, 31A, 32A AND 33A OF SAID LAKEWOOD BUSINESS PARK SUBDIVISION, A DISTANCE OF 713.13 FEET TO THE SOUTHWEST CORNER OF SAID LOT 33A; THENCE SOUTH 21 DEGREES 03 MINUTES 43 SECONDS WEST CONTINUING ALONG THE WEST LINE OF LOT 34 OF SAID SUBDIVISION, A DISTANCE OF 207.35 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF RELOCATED LAKEWOOD WAY, SAID POINT ALSO BEING THE SOUTHWEST CORNER OF SAID LOT 34; THENCE NORTH 68 DEGREES 56 MINUTES 17 SECONDS WEST ALONG SAID NORTH RIGHT OF WAY LINE, A DISTANCE OF 457.83 FEET; THENCE NORTHWESTERLY CONTINUING ALONG SAID NORTH RIGHT OF WAY LINE ON A CURVE TO THE RIGHT WITH A RADIUS OF 710.00 FEET, AN ARC DISTANCE OF 521.54 FEET TO A POINT ON THE EXISTING EASTERLY RIGHT OF WAY LINE OF I-470 HIGHWAY; THENCE NORTH 09 DEGREES 35 MINUTES 01 SECONDS WEST ALONG SAID EXISTING EASTERLY RIGHT OF WAY LINE, A DISTANCE OF 109.14 FEET TO THE SOUTHWEST CORNER OF LOT A OF LAKEWOOD BUSINESS PARK, A SUBDIVISION IN SAID CITY, COUNTY AND STATE; THENCE NORTH 80 DEGREES 50 MINUTES 22 SECONDS EAST ALONG THE SAID SOUTH LINE OF SAID LOT A, A DISTANCE OF 274.96 FEET; THENCE NORTH 02 DEGREES 32 MINUTES 02 SECONDS EAST ALONG THE EAST LINE OF SAID LOT A, A DISTANCE OF 145.00 FEET TO A POINT ON THE SOUTH LINE OF SAID "LAKEWOOD BUSINESS PARK LOTS 1-8"; THENCE NORTH 79 DEGREES 23 MINUTES 29 SECONDS EAST ALONG SAID SOUTH LINE, A DISTANCE OF 430.31 FEET; THENCE NORTH 84 DEGREES 00 MINUTES 15 SECONDS EAST CONTINUING ALONG SAID SOUTH LINE, A DISTANCE OF 230.16 FEET TO THE POINT OF BEGINNING, SUBJECT TO THAT PART, IF ANY, IN STREETS, ROADWAYS, HIGHWAYS OR OTHER PUBLIC RIGHT-OF-WAYS.



OWNER/DEVELOPER:

B & D BUSINESS HOLDING LLC
24000 W 43RD STREET
BONNER SPRINGS, KANSAS 66012
p (913) 422-3040

SCHLAGEL & ASSOCIATES, P.A.
Engineers-Planners-Surveyors-Landscape Architects
14920 West 10th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2002003600-F #LAC200100237 #LS200208659-F



PREPARED BY:

MARK ALLEN BREUER
NUMBER
PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DEFINITION GRADING PER OWNER
12-4-17	CITY COMMENTS

DRAWN BY:	SCH
CHECKED BY:	SCH
DATE PREPARED:	9/22/2017
PROJ. NUMBER:	17-019

SITE LAYOUT
PLAN

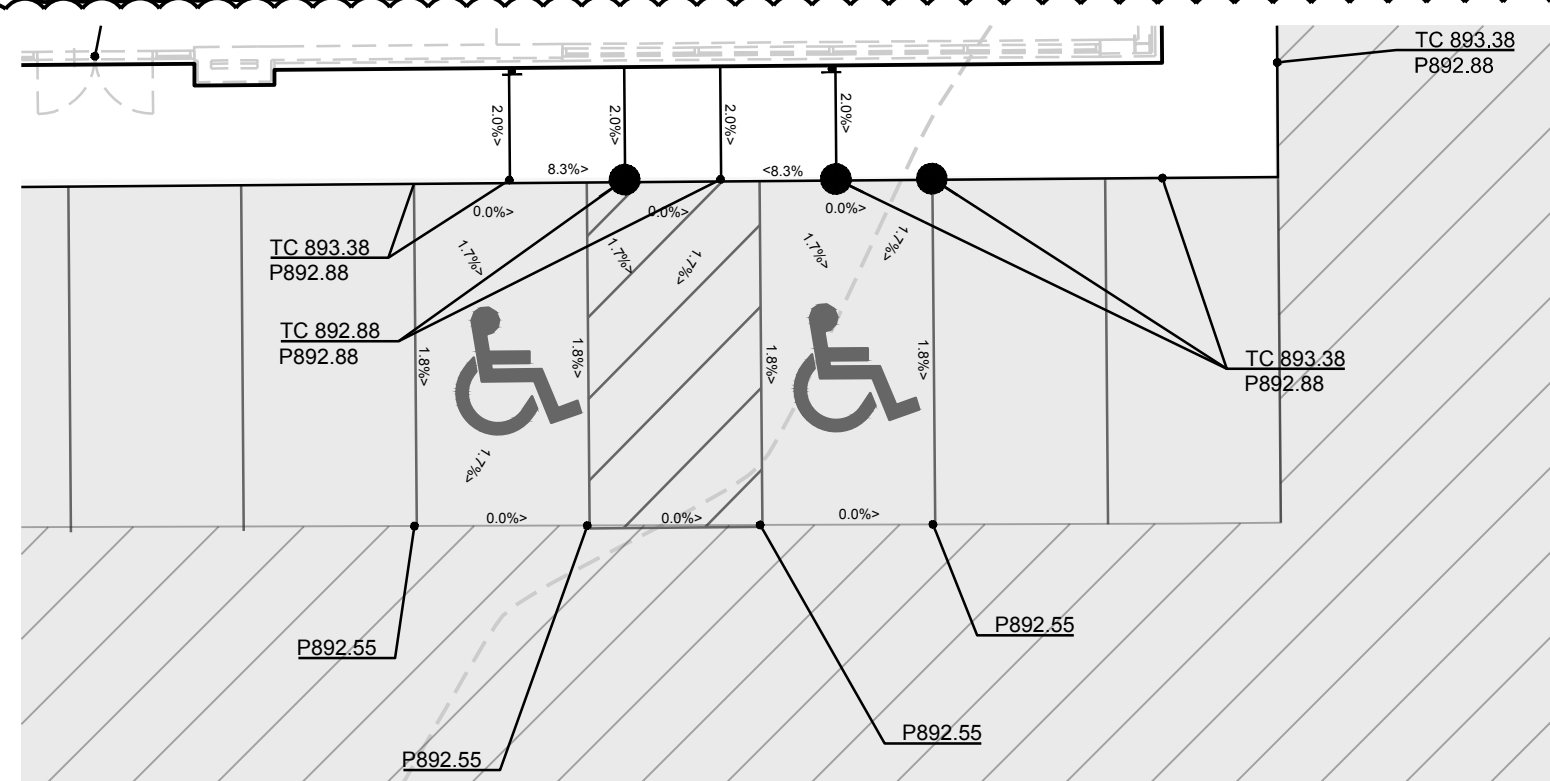
SHEET

C1.0
OF PERMIT SET

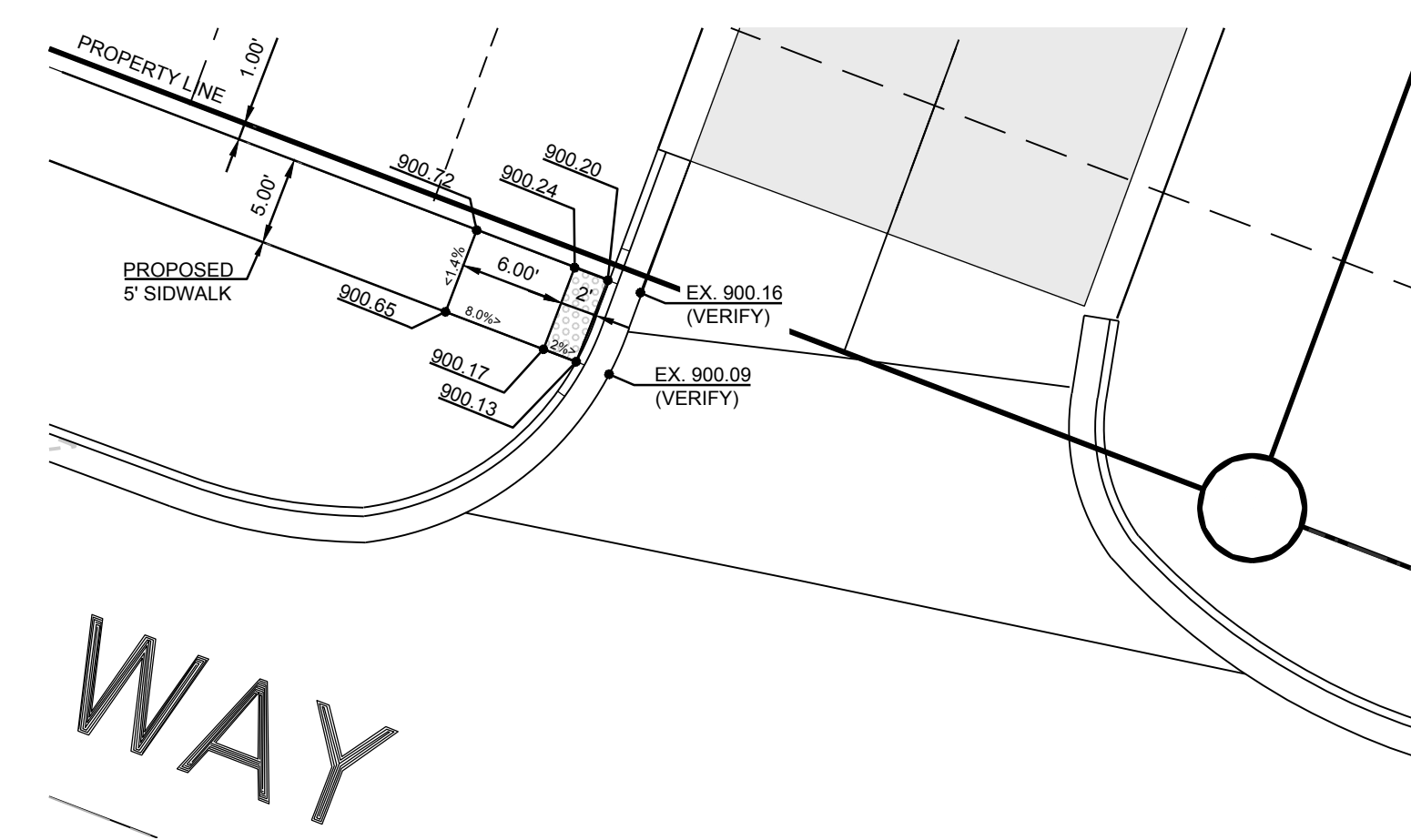
1. NO EDGE DRAINS OR UNDERDRAINS ARE INDICATED BEHIND THE CURBS. OWNER SHOULD CONSIDER THE INSTALLATION OF UNDERDRAINS DUE TO THE IRRIGATION OF GREENSPACE AREAS OF THE SITE.
2. RECOMMEND A GEOTECHNICAL ENGINEER REVIEW ALL EARTHWORK ACTIVITY TO MAKE SURE RECOMMENDATIONS IN GEOTECHNICAL REPORT ARE FOLLOWED.
3. PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT, GEOTECHNICAL ENGINE MUST APPROVE SUBGRADE IN WRITTEN FORM TO THE OWNER AND PROJECT ENGINEER.
4. ALL UTILITY INSTALLATIONS UNDER PAVED AREAS MUST BE COMPACTED AS PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND/OR GEOTECHNICAL REPORT.
5. ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
6. EXISTING TOPOGRAPHY SHOWN AS ESTABLISHED FROM BASE SURVEY PREPARED BY R.L. BUFORD & ASSOCIATES LLC - VERIFY GRADES PRIOR TO COMMENCEMENT OF GRADING AND CONSTRUCTION ACTIVITIES. NO ADDITIONAL MONEY WILL BE PAID FOR HAUL-IN OR HAUL-OFF OF MATERIAL.
7. ALL ROCK, CONCRETE, ASPHALT, TREE, BRUSH, ETC. TO BE REMOVED AS A PART OF THE PROJECT CONSTRUCTION SHALL BE DISPOSED OF BY THE GRADING CONTRACTOR AND SHALL BE A SUBSIDIARY OBLIGATION OF THE CONTRACT. THE GRADING CONTRACTOR IS ALSO RESPONSIBLE FOR ALL GRADING ON THE SITE INCLUDING THE MANIPULATION OF THE EXCESS DIRT MATERIAL THAT WAS LEFT ALONG THE SEWER TRENCHES. THE COST FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM FEE FOR GRADING.
8. ENTIRE PROJECT SHALL BE LEFT IN A MOVABLE CONDITION. ALL DISTURBED AREAS SHALL BE SEEDED & MULCHED AS PER PROJECT REQUIREMENTS. ALL DISTURBED AREAS WITHIN THE PUBLIC STREET RIGHT-OF-WAY SHALL BE SODDED IN COMPLIANCE WITH THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS AND MUNICIPAL CODE.
9. THE CONTRACTOR SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM BUILDINGS AND SIDEWALKS AT ALL TIMES.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS. ANY PROPERTY CORNERS DISTURBED OR DAMAGED BY GRADING ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI. AT THE CONTRACTOR'S EXPENSE.

11. RETAINING WALL DESIGN IS BY THE CONTRACTOR, WALL SUPPLIER, OR OWNER CONSULTANT. SCHLAGEL & ASSOCIATES, P.A. IS NOT RESPONSIBLE FOR THE RETAINING WALL DESIGN. BOTTOM OF WALL FINISH GRADE (BFG) IS AT EXISTING GRADE. BOTTOM OF WALL TO BE DETERMINED BY WALL DESIGNER. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR THE WALL.
12. THIS SITE CONTAINS WATER OF THE U.S. WHICH MUST BE PROTECTED. DO NOT ALTER OR DISTURB DRAINAGE DITCH.
13. A BALD EAGLE NEST IS LOCATED 1.5 MILES FROM THE PROJECT AREA. BALD EAGLES (HABEETUS LEUCOCEPHALUS) NEST NEAR STREAMS OR WATER BODIES. NESTS ARE LARGE AND EASILY EASY TO IDENTIFY. WHILE NO LONGER LISTED AS ENDANGERED, EAGLES CONTINUE TO BE PROTECTED BY THE FEDERAL GOVERNMENT UNDER THE BALD AND GOLDEN EAGLE PROTECTION ACT. WORK MANAGER SHOULD BE ALERT FOR NESTING AREAS WITHIN 1500 METERS OF PROJECT ACTIVITIES, AND FOLLOW FEDERAL GUIDELINES AT: <http://www.fws.gov/midwest/MidwestBird/EaglePermits/index.html> if eagle nests are seen.

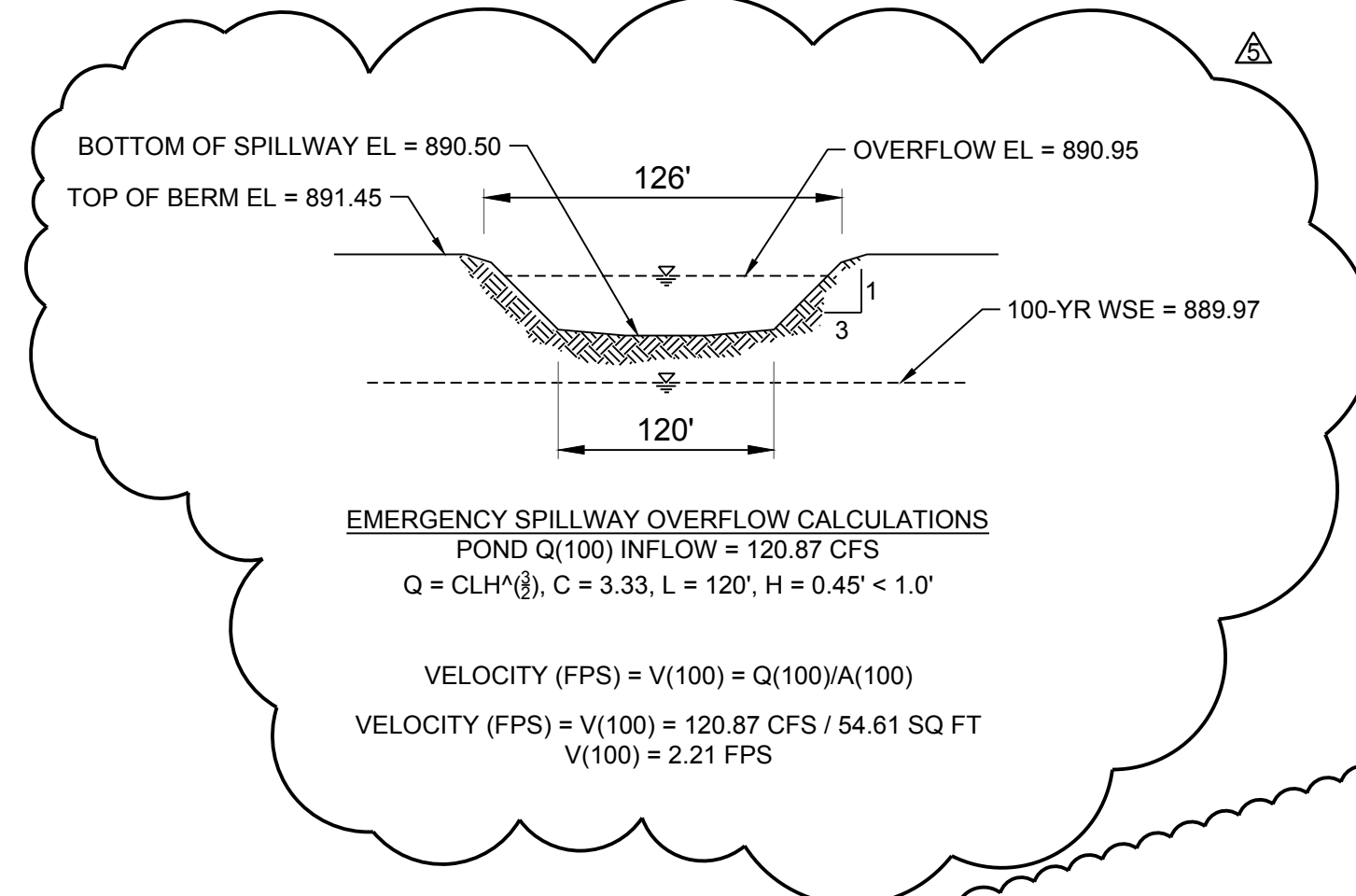
BFG	BOTTOM OF WALL FINISH GRADE ELEVATION
BW	BOTTOM OF WALL
TW	TOP OF WALL ELEVATION
P	PAVEMENT ELEVATION
TC	TOP OF CURB ELEVATION



2 BUILDING ENTRANCE SIDEWALK RAMP DETAIL




1 LAKEWOOD WAY SIDEWALK RAMP DETAIL



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 #E20000038000 • #LA20000109527 • #LS2000008850-F

PREPARED BY:



Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1	CITY COMMENTS
2	CITY COMMENTS
3	DETENTION GRADING PER OWNER
4	CITY COMMENTS
5	
6	
7	
8	
9	

GRADING PLAN

SHEET

C2.0

OF

PERMIT SET

TEMPORARY STORAGE AREA FOR EXCESS MATERIAL

TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA

CONCRETE WASHOUT AREA

SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS

ROCK DITCH CHECK

AREA INLET SEDIMENT TRAP

SILT SOCK / ROCK SOCK / SOCK WATTLE

1

BMP PLAN REF. NO.

SF1

SILT FENCE (PRIOR TO LAND DISTURBANCE)

SF2

SILT FENCE (DURING CONSTRUCTION)

X

CONSTRUCTION FENCE

LIMITS OF DISTURBANCE

965

EXISTING CONTOURS

965

PROPOSED CONTOURS

EXISTING TREE LINE

GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	EXISTING SITE ACCESS TO BE UTILIZED FOR ENTRANCE. PLACE WHERE INDICATED ON THE PLAN. MAINTAIN, REPAIR, OR REPLACE AS NECESSARY. REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	2	SILT FENCE (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED. REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	3	EXISTING INLET PROTECTION (GRAVEL CURB INLET SEDIMENT TRAP)	E	PLACE WHERE INDICATED. REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	4	CONCRETE WASHOUT AREA	D	ESTABLISH PRIOR TO ANY CONCRETE WORK
	5	ROCK DITCH CHECK	E	PLACE WHERE INDICATED IN EXISTING DRAINAGE DITCH
B - MASS GRADING	6	SILT FENCE (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED. REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	7	FOAM SILT DIKE OR ROCK DITCH CHECK	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
C - STORM SEWER/ SANITARY SEWER/ WATER MAIN/UTILITY CONSTRUCTION	8	CURB AND YARD AREA INLET PROTECTION (SILT FENCE)	E	EXCAVATE A SEDIMENT TRAP AND PLACE SILT FENCE WITH WIRE BACKING AND GRAVEL AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES SILT FENCE TO BE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
D - AFTER PAVING OPERATIONS	9	CURB INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
	10	YARD AREA INLET PROTECTION		MAINTAIN A SEDIMENT TRAP AND SILT FENCE WITH WIRE BACKING AND GRAVEL AROUND ALL STORM SEWER YARD AREA INLET STORM STRUCTURES ONCE ALL WORK IS COMPLETE AND SEDIMENT TRAP IS REMOVED. SEED/SOD THE AREA AND PLACE GRAVEL FILTER BAGS IN FRONT OF INLET OPENING
	11	SILT FENCE (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED. REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	12	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

SITE SPECIFIC NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES ON THE SITE.
- THE DRAINAGE FEATURE THROUGH THE MIDDLE OF THE SITE IS A PROTECTED AREA. NO CONSTRUCTION EQUIPMENT OR ACTIVITY IS ALLOWED IN THESE AREAS UNLESS A SPECIFIC PERMIT/PERMISSION FROM THE GOVERNING AUTHORITY HAS BEEN OBTAINED. A SWPPP HAS BEEN PREPARED FOR THIS PROJECT AND IS INCORPORATED INTO THIS EROSION CONTROL PLAN BY REFERENCE. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE SWPPP IMPLEMENTATION AND REPORTING REQUIREMENTS.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- SOIL STABILIZATION OF DISTURBED AREAS SHALL BE COMPLETED AFTER PERIODS OF INACTIVITY IN CONSTRUCTION OF GREATER THAN 7 DAYS. INITIAL STABILIZATION MUST BE COMPLETED WITHIN 21 DAYS.
- ALL SILT FENCE AND EROSION CONTROL MEASURES THAT ARE PLACED PRIOR TO LAND DISTURBANCE WILL BE MAINTAINED BY THE GENERAL CONTRACTOR AND ALL CONTRACTORS ON SITE.
- AREAS WITHIN THE PUBLIC RIGHT OF WAY SHALL BE ESTABLISHED IMMEDIATELY AFTER THE CONSTRUCTION IN THAT AREA IS COMPLETE.
- ALL PUBLIC STREETS SHALL BE KEPT CLEAN PER THE SWPPP AND CITY REQUIREMENTS.

DISTURBED AREA = 9.89 AC.

GENERAL NOTES:

- Survey data and legal description from Owner provided ALTA survey dated March 19, 2015 and prepared by Aylett Survey & Engineering Company. Used with permission from the Owner.
- Topographic data is City GIS data.

COLEMAN EQUIPMENT

FINAL DEVELOPMENT PLANS

4101 NE LAKEWOOD WAY

LEE'S SUMMIT, MISSOURI

STATE OF MISSOURI

PROFESSIONAL ENGINEER

MARK ALLEN BREUER, P.E.

MO# PE-2009007268

REVISION DATE

DESCRIPTION

10-18-17

CITY COMMENTS

11-3-17

CITY COMMENTS

11-13-17

DETENTION GRADING PER OWNER

12-4-17

CITY COMMENTS

DRAWN BY:

SCH

CHECKED BY:

SCH

DATE PREPARED:

9/22/2017

PROJ. NUMBER:

17-019

EROSION CONTROL

SHEET

C3.0

OF

SCHLAGEL & ASSOCIATES, P.A.

Engineers • Planners • Surveyors • Landscape Architects

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PREPARED BY:

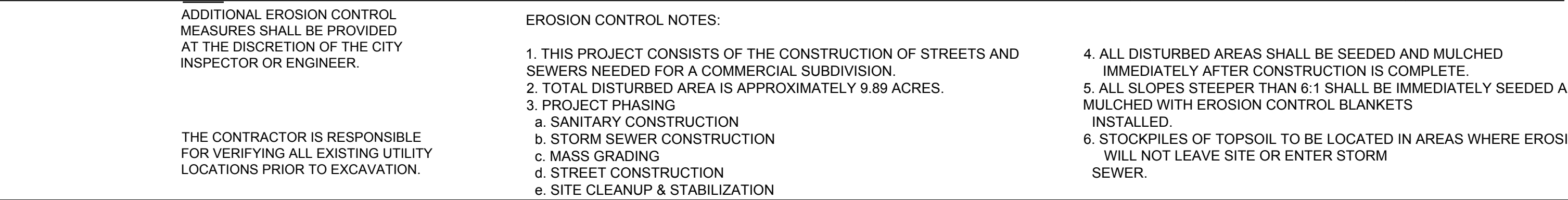
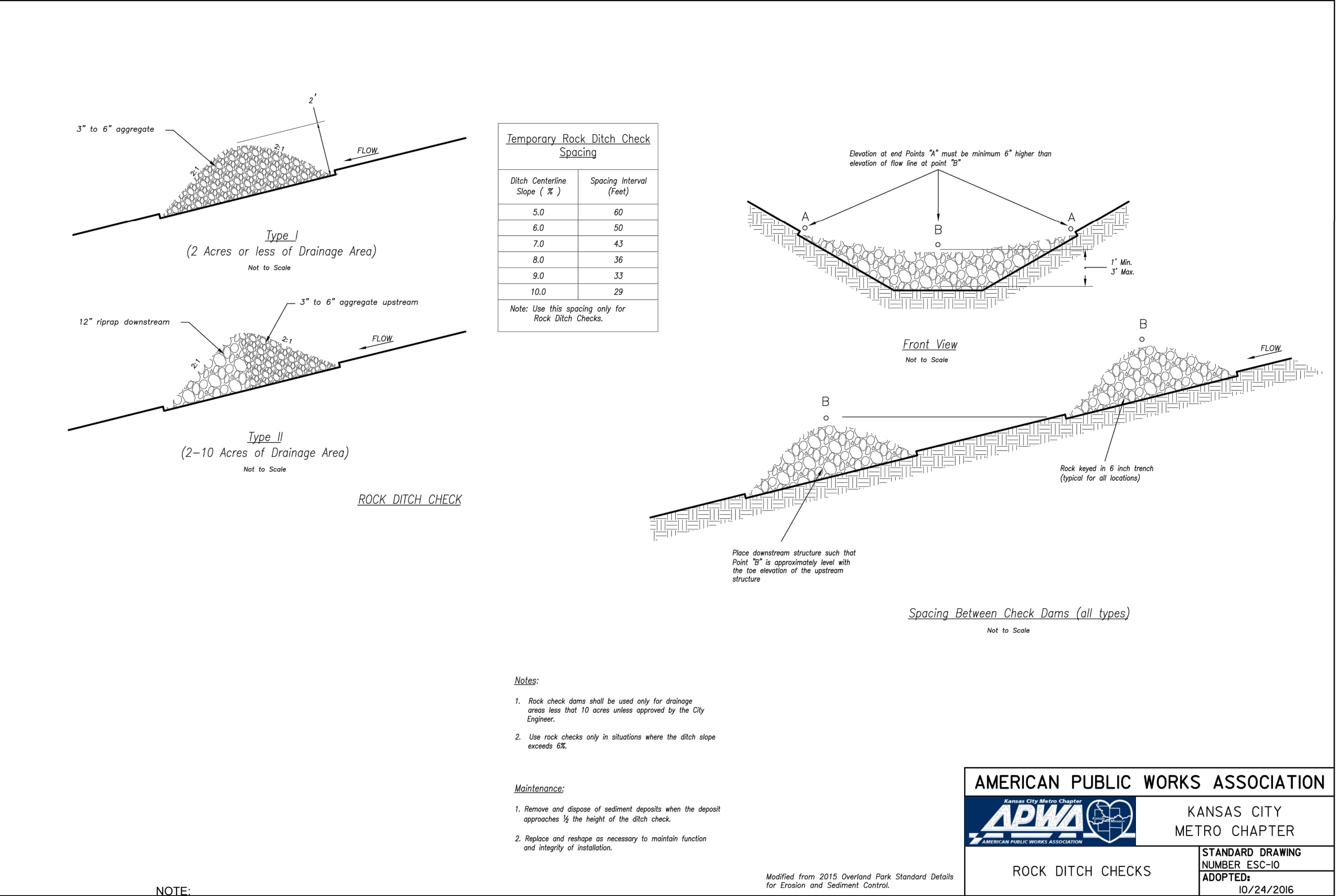
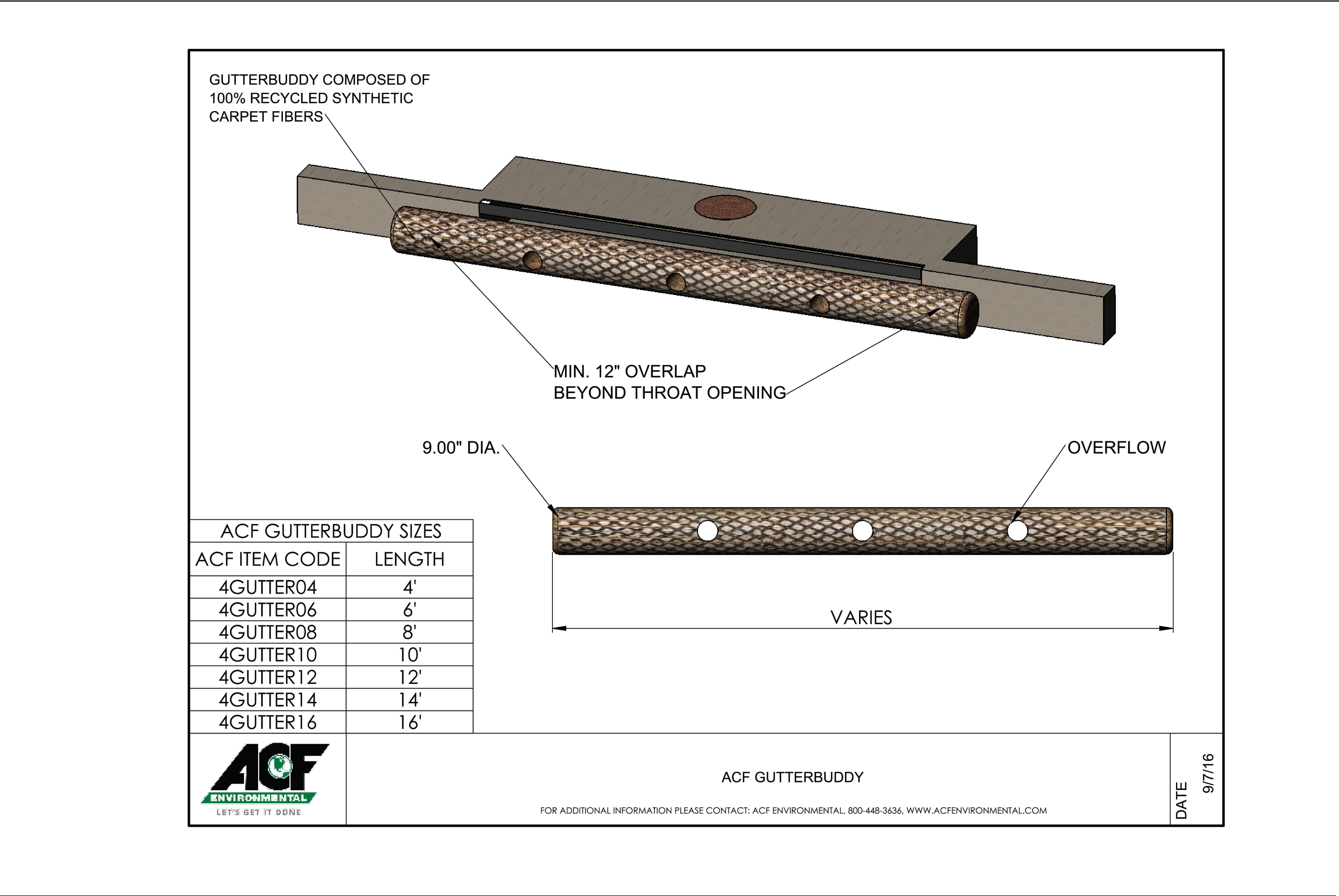
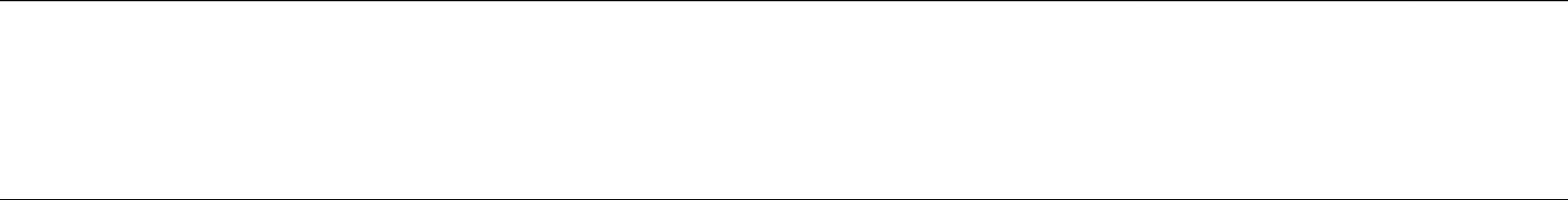
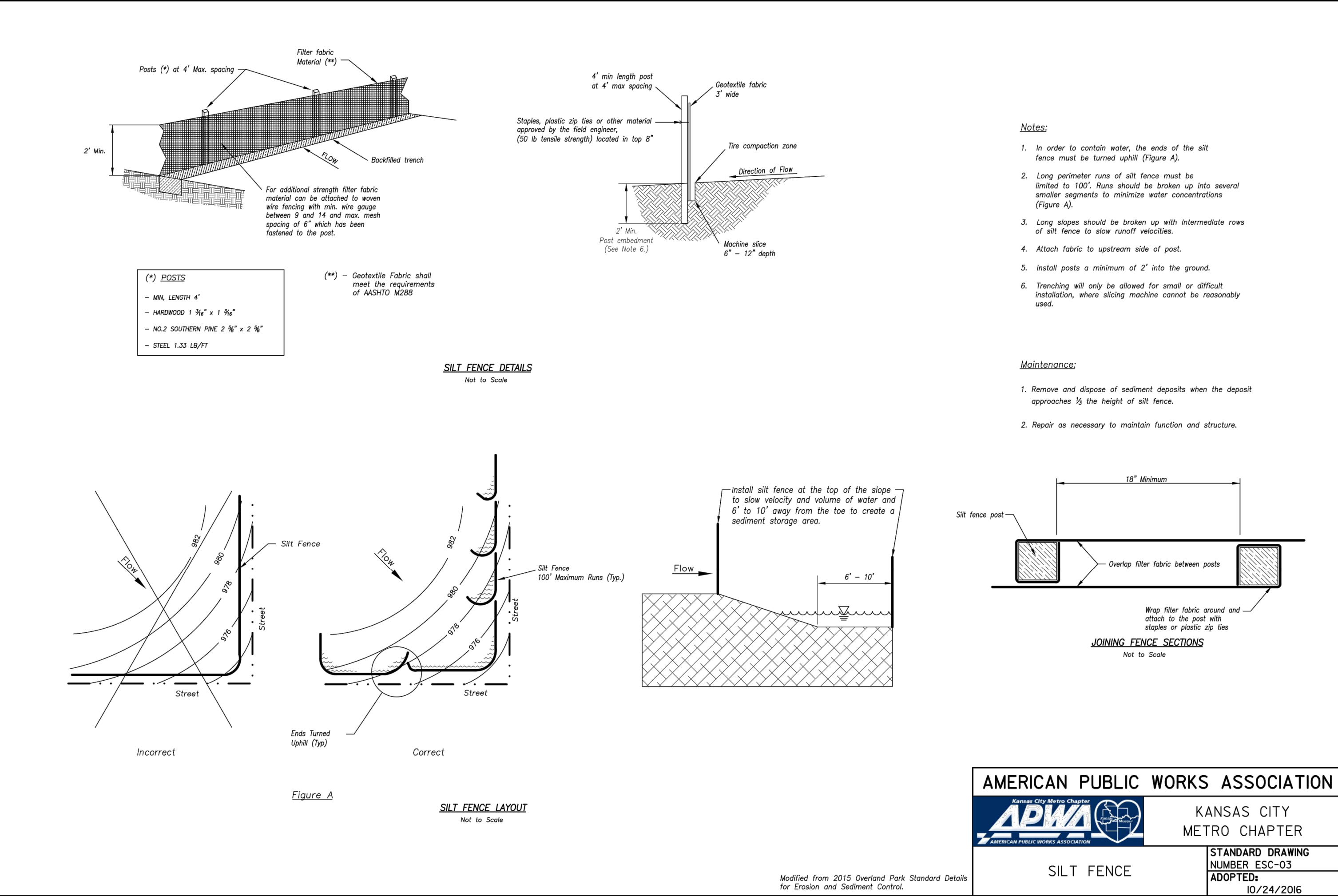
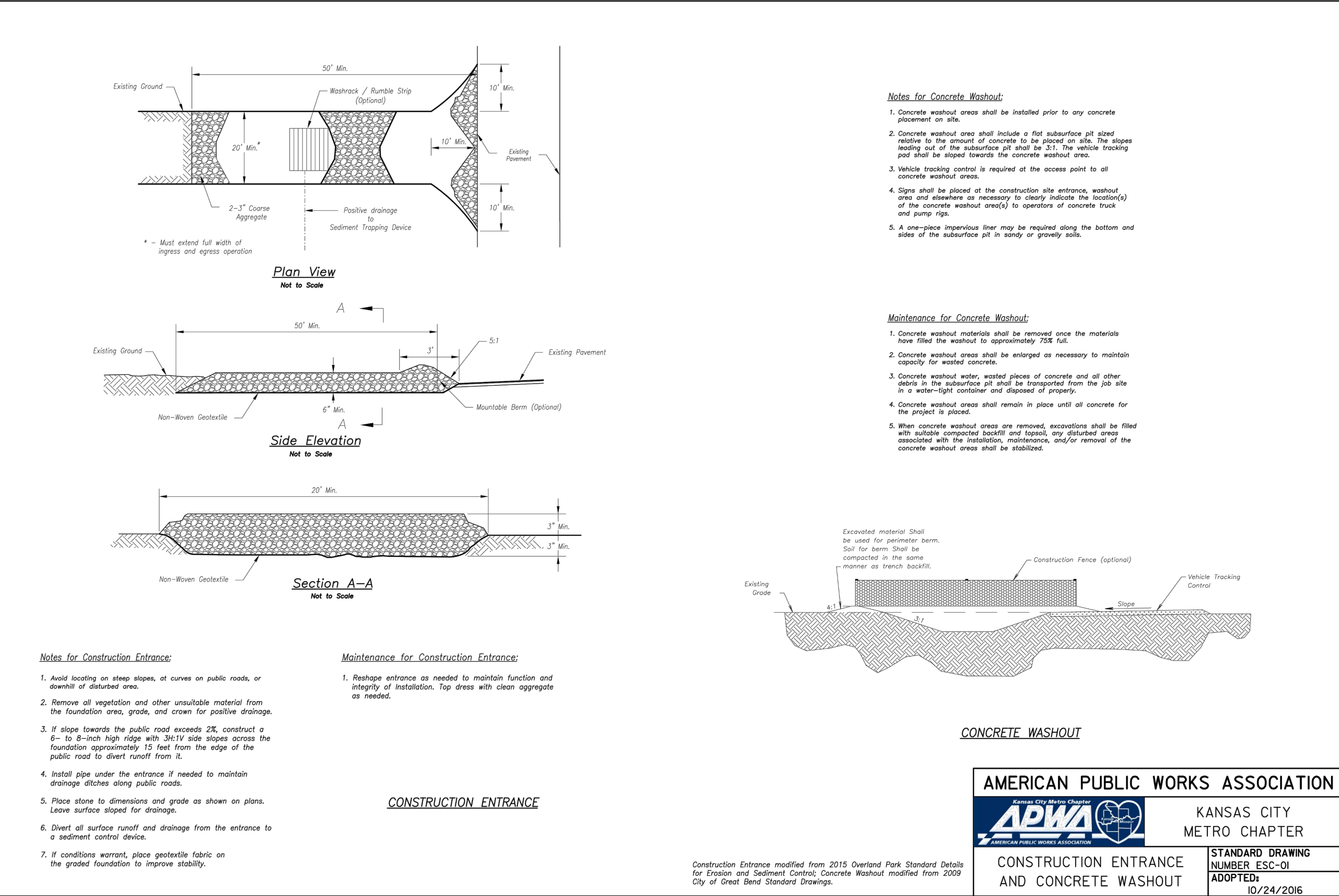
MARK ALLEN BREUER

NUMBER

PE-2009007268

Mark Allen Breuer, P.E.

MO# PE-2009007268



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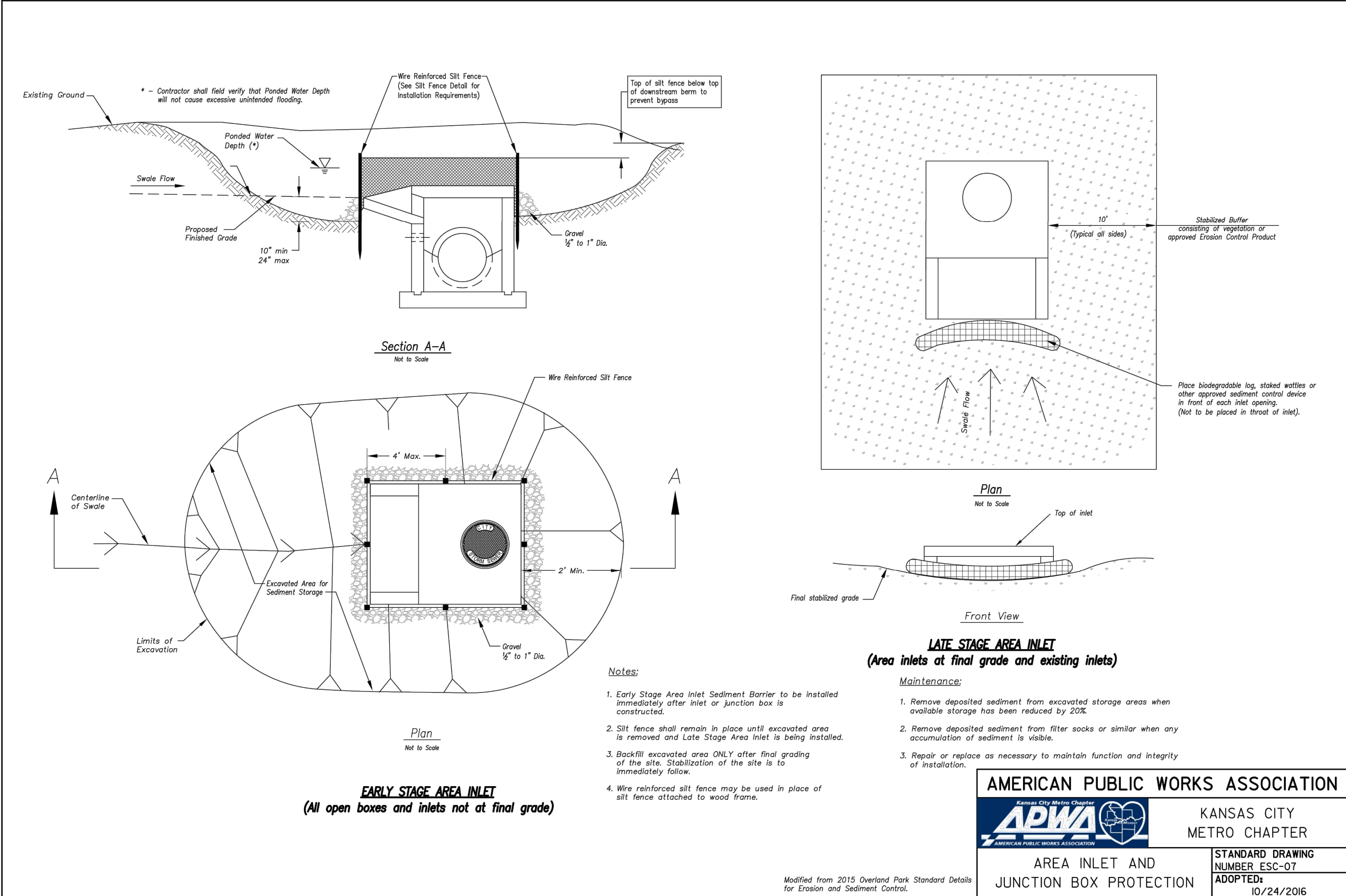
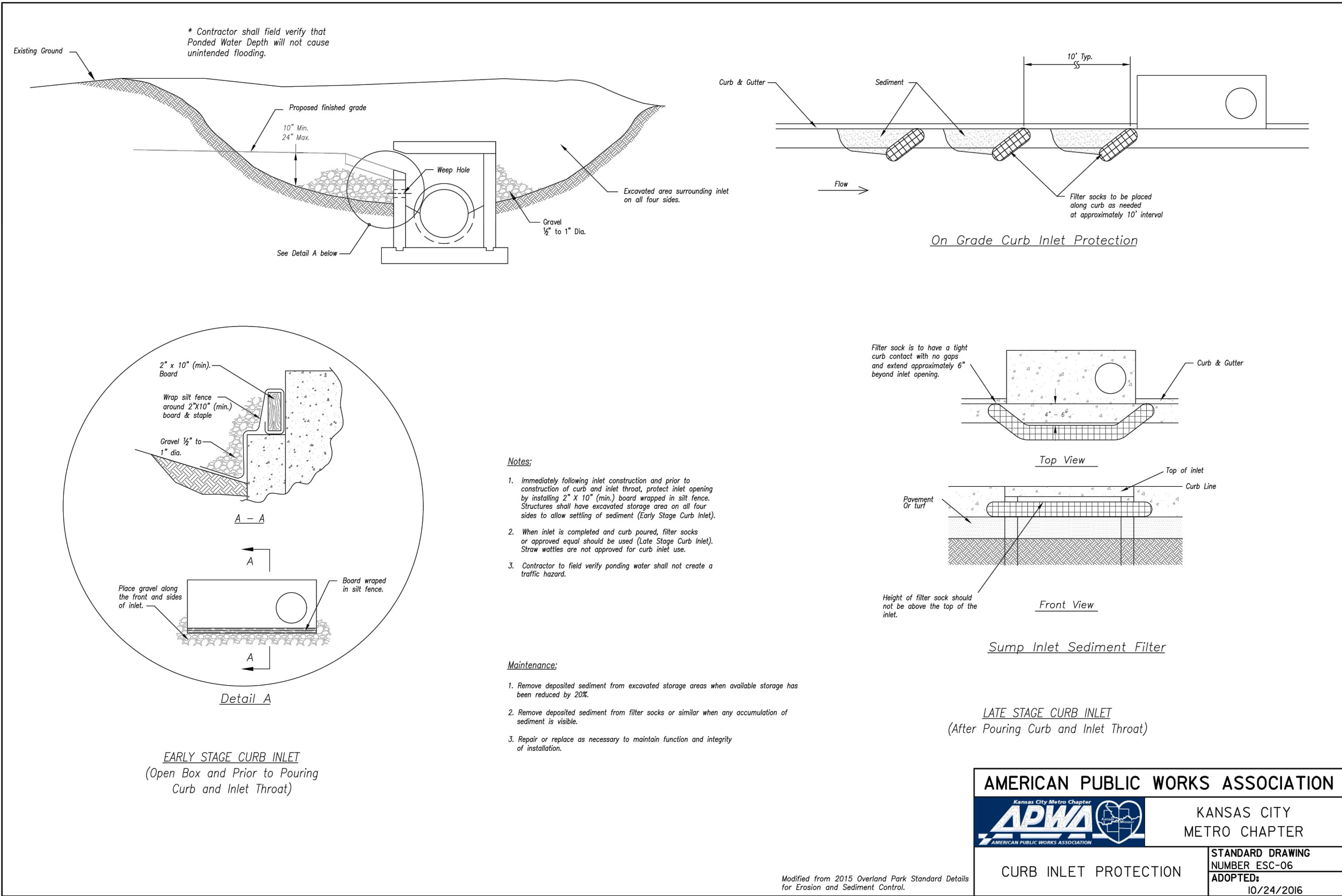
PREPARED BY:
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NUMBER PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1	10-18-17
2	11-3-17
3	11-13-17
4	12-4-17
5	12-4-17
6	12-4-17
7	12-4-17
8	12-4-17

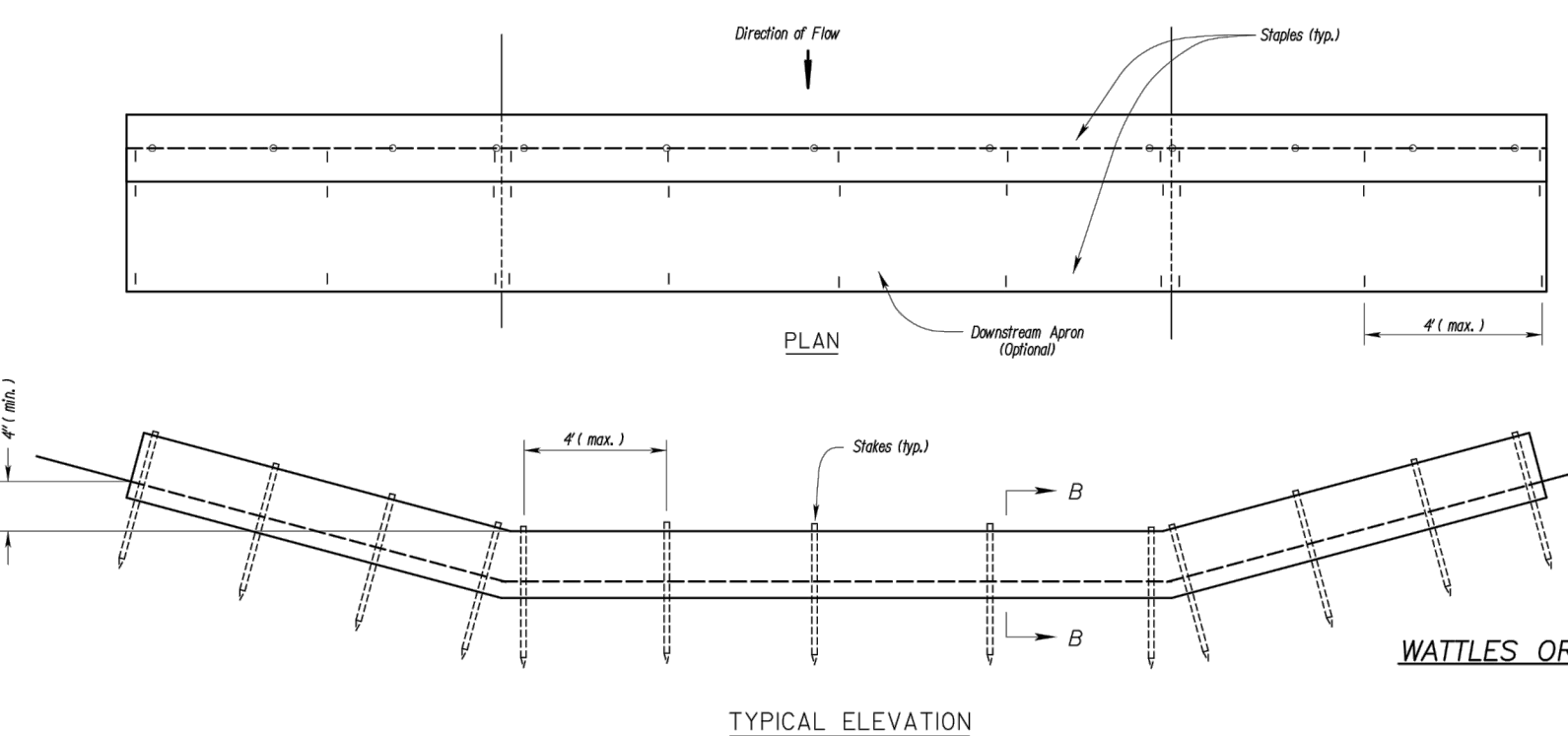
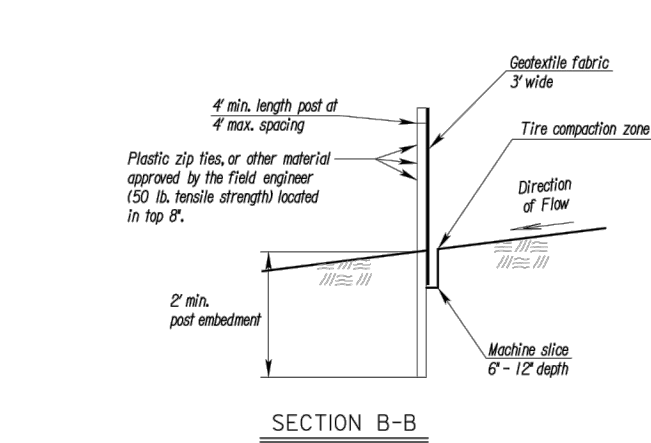
EROSION CONTROL DETAILS

SHEET
C3.1
OF PERMIT SET



Notes for Silt Fence Ditch Check:

1. Stakes shall be 4" (min.) long and one of the following materials:
 - a. Hardwood - 1 ¾" x 1 ¾" x 2 ½"
 - b. Southern Pine (No. 2) - 2 ½" x 2 ½"
 - c. Steel U, T, L, or C-Section - 35 lbs. per 1'-0"
 - d. Synthetic - same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence staked in to a 6" minimum depth.
8. Elevation of tie in points shall be a minimum of 4" higher than the center.



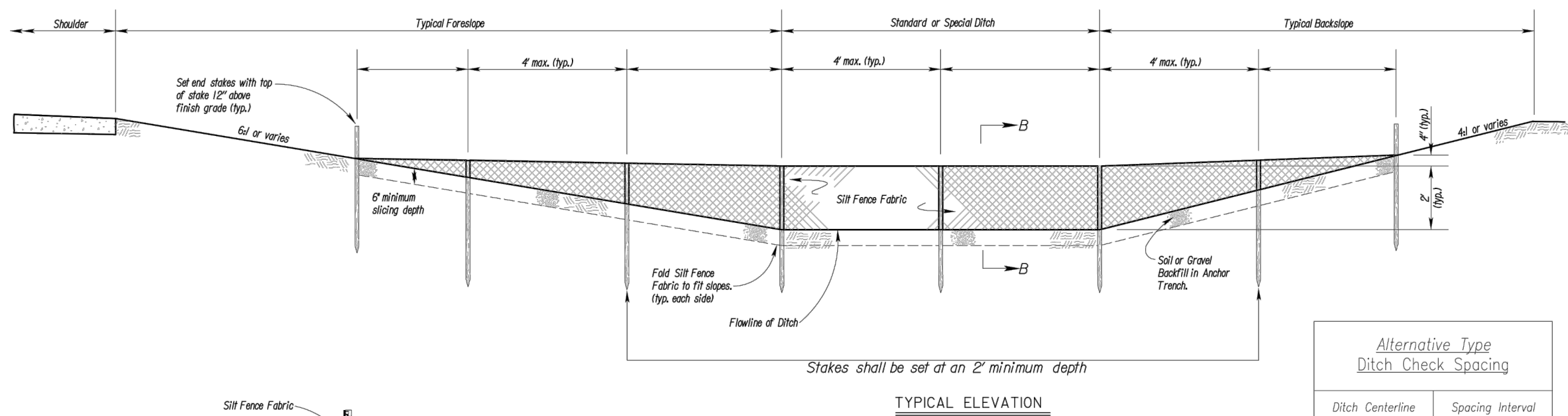
NOTE:

ADDITIONAL EROSION CONTROL MEASURES SHALL BE PROVIDED AT THE DISCRETION OF THE CITY INSPECTOR OR ENGINEER.

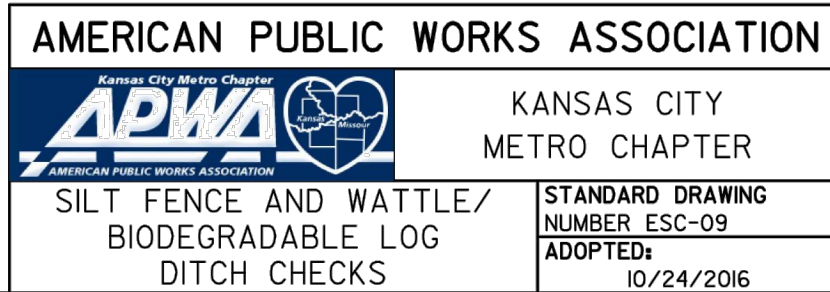
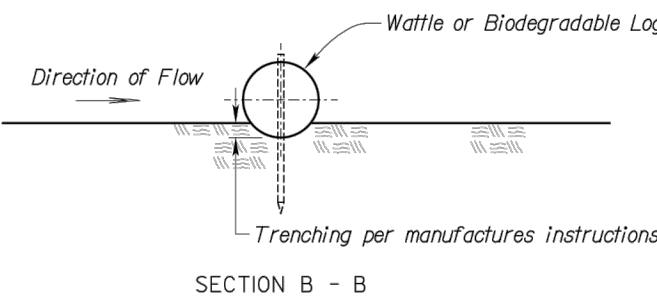
EROSION CONTROL NOTES:

1. THIS PROJECT CONSISTS OF THE CONSTRUCTION OF STREETS AND SEWERS NEEDED FOR A COMMERCIAL SUBDIVISION.
2. TOTAL DISTURBED AREA IS APPROXIMATELY 9.89 ACRES.
3. PROJECT PHASING
 - a. SANITARY CONSTRUCTION
 - b. STORM SEWER CONSTRUCTION
 - c. MASS GRADING
 - d. STREET CONSTRUCTION
 - e. SITE CLEANUP & STABILIZATION

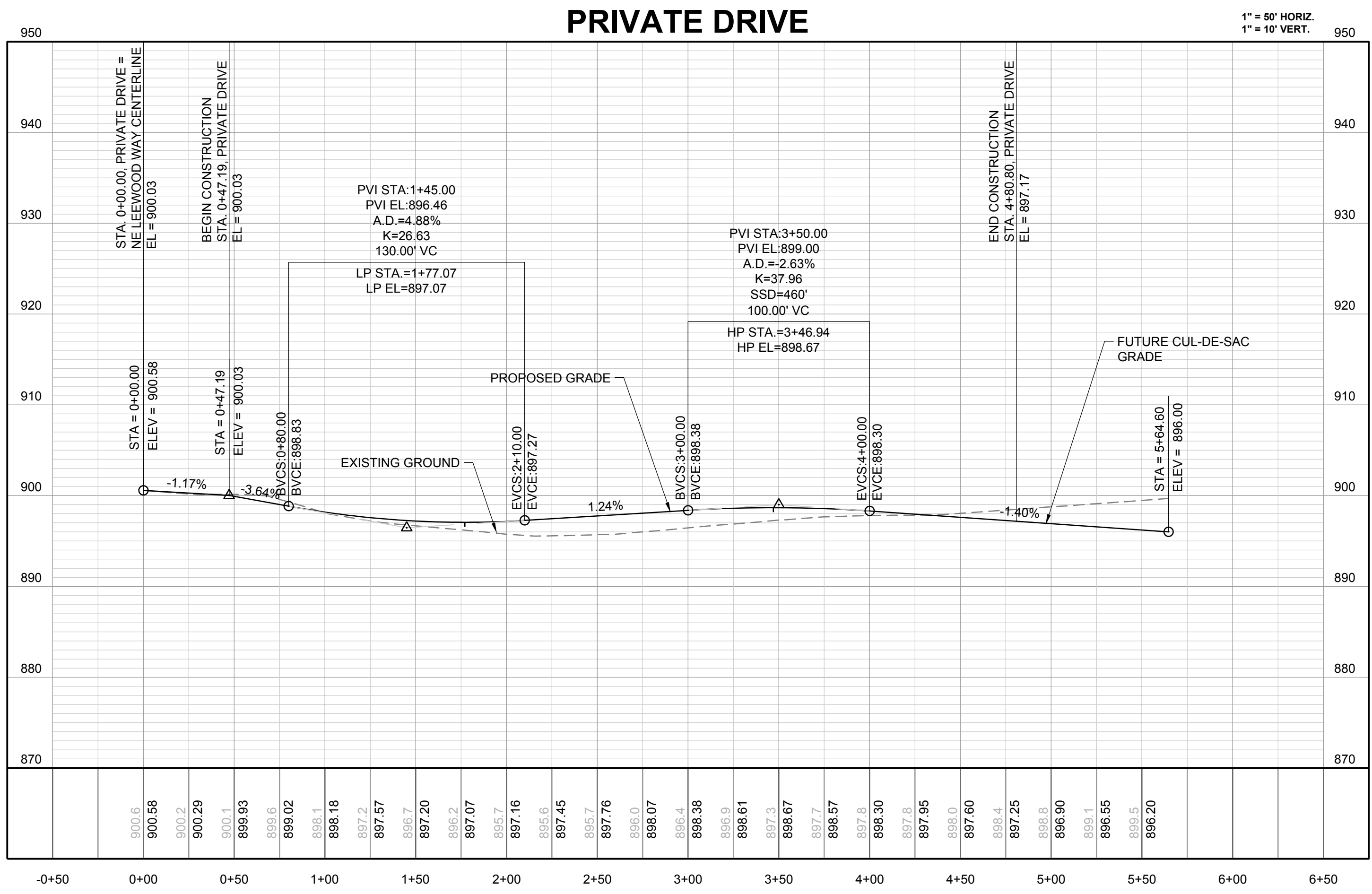
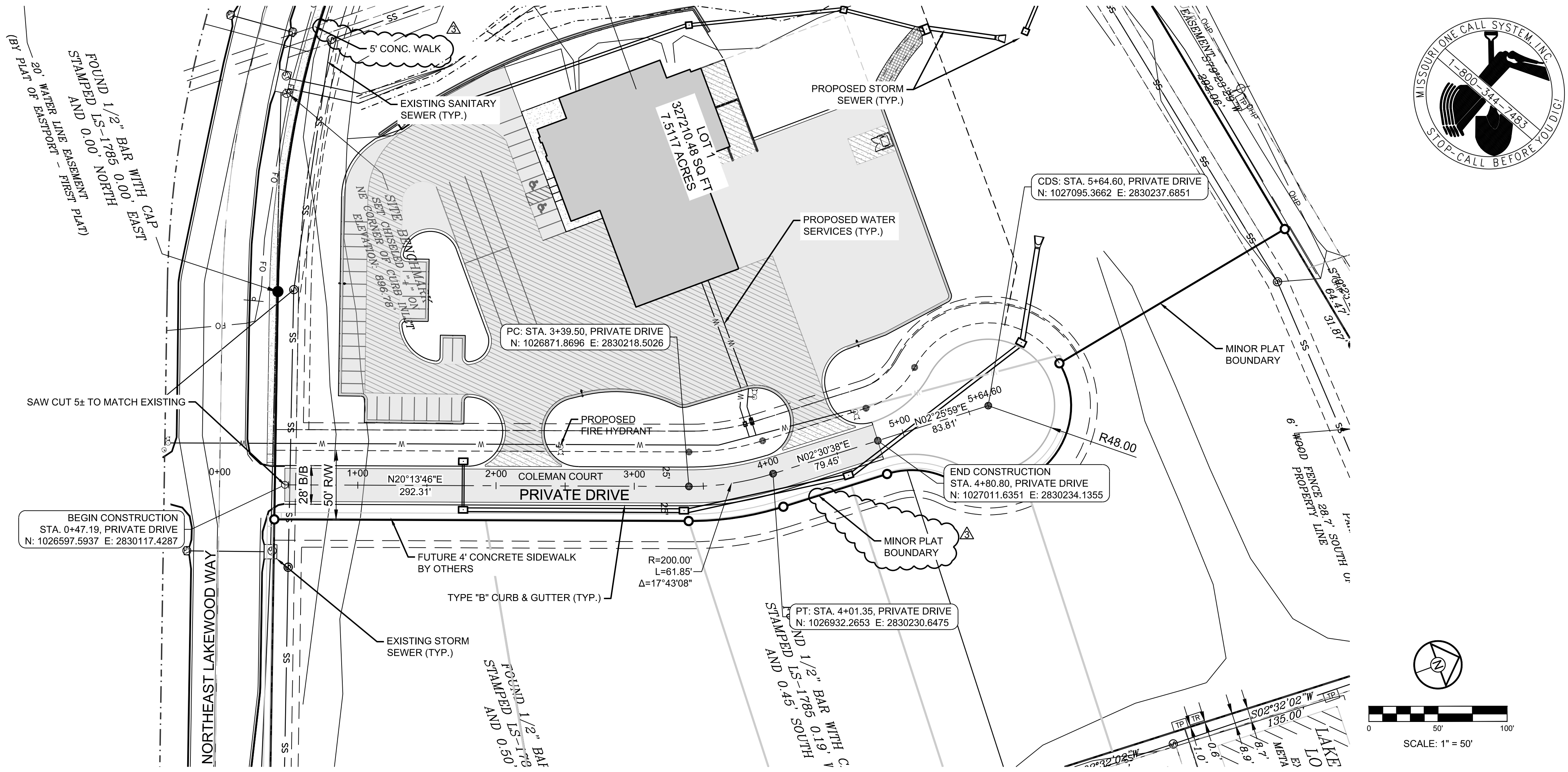
4. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.
5. ALL SLOPES STEEPER THAN 6:1 SHALL BE IMMEDIATELY SEEDED AND MULCHED WITH EROSION CONTROL BLANKETS INSTALLED.
6. STOCKPILES OF TOPSOIL TO BE LOCATED IN AREAS WHERE EROSION WILL NOT LEAVE SITE OR ENTER STORM SEWER.



- Notes for Wattles and Biodegradable Log Ditch Check:
1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
 2. Overlap sections a minimum of 18"
 3. Stakes shall be per manufacturer's instructions. Length of stakes shall be a minimum of 2 times the diameter of the log or 24" minimum.
 4. Use Erosion Control (Class 1) (Type C) as the downstream apron when directed by the Engineer.
 5. Use 9" diameter logs when used with Erosion Control (Class 2) (Key Type) channel lining. Smaller diameter logs may be used with Erosion Control (Class 2) (Key Type) channel lining as directed by the Engineer.



REVISION DATE	DESCRIPTION
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COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS

DRAWN BY:	DATE
PWDF	9/22/2017
CHECKED BY:	17-019
MAJUTS	
DATE PREPARED:	
PROJ. NUMBER:	

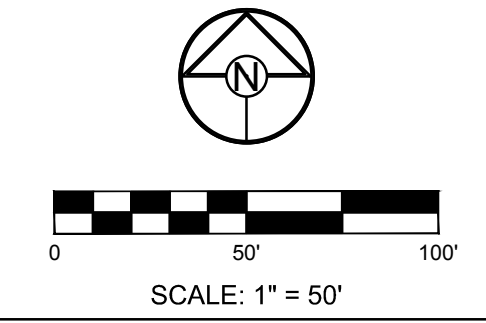
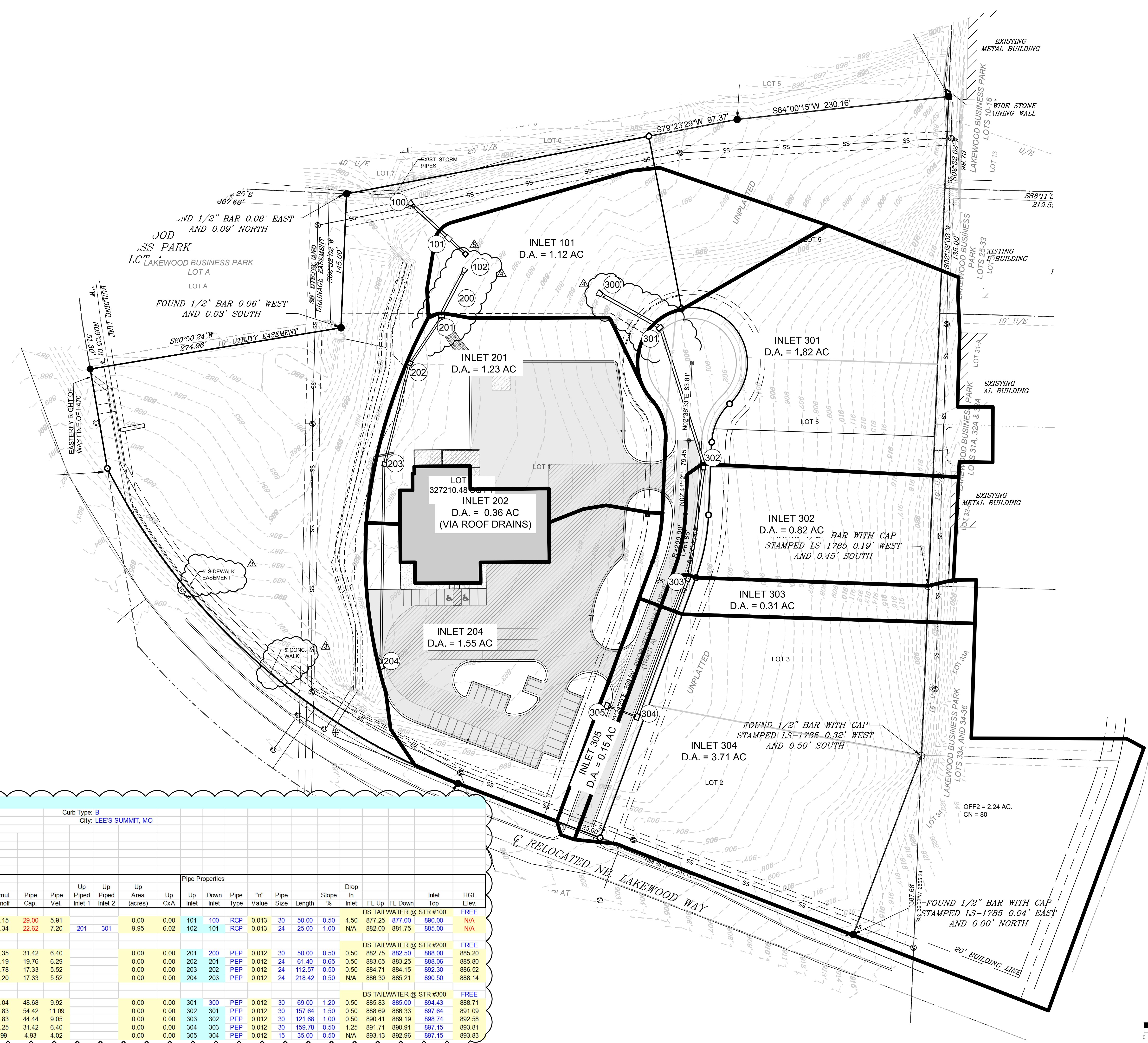
PLAN & PROFILE
- PRIVATE DR.

SHEET
C4.0
OF
PERMIT SET

Schlagel & Associates, P.A.

Project Name: COLEMAN EQUIPMENT
Project #: 17-019
Time: 12/4/2017 8:26
Curb Type: B
City: LEE'S SUMMIT, MO
Design Storm: 100
"K" Value: 1.25
"F" Factor: 1.00

Runoff Calculations															Pipe Properties														
Inlet	Area	"C" Value	Cum. Area	Cum. Cx/A	Tc	Intensity	Runoff To Inlet	Cum. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area	Up Cx/A	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev			
LINE 100																													
101	0.00	0.81	11.07	6.92	6.2	9.84	0.00	85.15	29.00	5.91			0.00	0.00	101	100	RCP	0.013	30	50.00	0.50	4.50	877.25	877.00	890.00	N/A			
102	1.12	0.81	11.07	6.92	6.2	9.86	11.18	85.34	22.62	7.20	201	301	9.95	6.02	102	101	RCP	0.013	24	25.00	1.00	N/A	882.00	881.75	885.00	N/A			
LINE 200																													
201	1.23	0.81	3.14	2.54	6.2	9.86	12.28	31.35	31.42	6.40			0.00	0.00	201	200	PEP	0.012	30	50.00	0.50	0.50	882.75	882.50	888.00	885.20			
202	0.36	0.81	1.91	1.55	6.0	9.92	3.62	19.19	19.76	6.29			0.00	0.00	202	201	PEP	0.012	24	61.40	0.65	0.50	883.65	883.25	888.06	885.80			
203	0.00	0.81	1.55	1.26	5.7	10.06	0.00	15.78	17.33	5.52			0.00	0.00	203	202	PEP	0.012	24	112.57	0.50	0.50	884.71	884.15	892.30	886.52			
204	1.55	0.81	1.55	1.26	5.0	10.32	16.20	16.20	17.33	5.52			0.00	0.00	204	203	PEP	0.012	24	218.42	0.50	N/A	886.30	885.21	890.50	888.14			
LINE 300																													
301	1.82	0.51	6.81	3.47	6.0	9.91	11.50	43.04	48.68	9.92			0.00	0.00	301	300	PEP	0.012	30	69.00	1.20	0.50	885.83	885.00	894.43	888.71			
302	0.82	0.51	4.99	2.54	5.8	10.01	5.23	31.83	54.42	11.09			0.00	0.00	302	301	PEP	0.012	30	157.64	1.50	0.50	888.69	886.33	897.64	891.09			
303	0.31	0.51	4.17	2.13	5.6	10.09	1.99	26.83	44.44	9.05			0.00	0.00	303	302	PEP	0.012	30	121.68	1.00	0.50	890.41	889.19	898.74	892.58			
304	3.71	0.51	3.86	1.97	5.1	10.26	24.27	25.25	31.42	6.40			0.00	0.00	304	303	PEP	0.012	30	159.78	0.50	1.25	891.71	890.91	897.15	893.81			
305	0.15	0.51	0.15	0.08	5.0	10.32	0.99	0.99	4.93	4.02			0.00	0.00	305	304	PEP	0.012	15	35.00	0.50	N/A	893.13	892.96	897.15	893.83			



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PREPARED BY:

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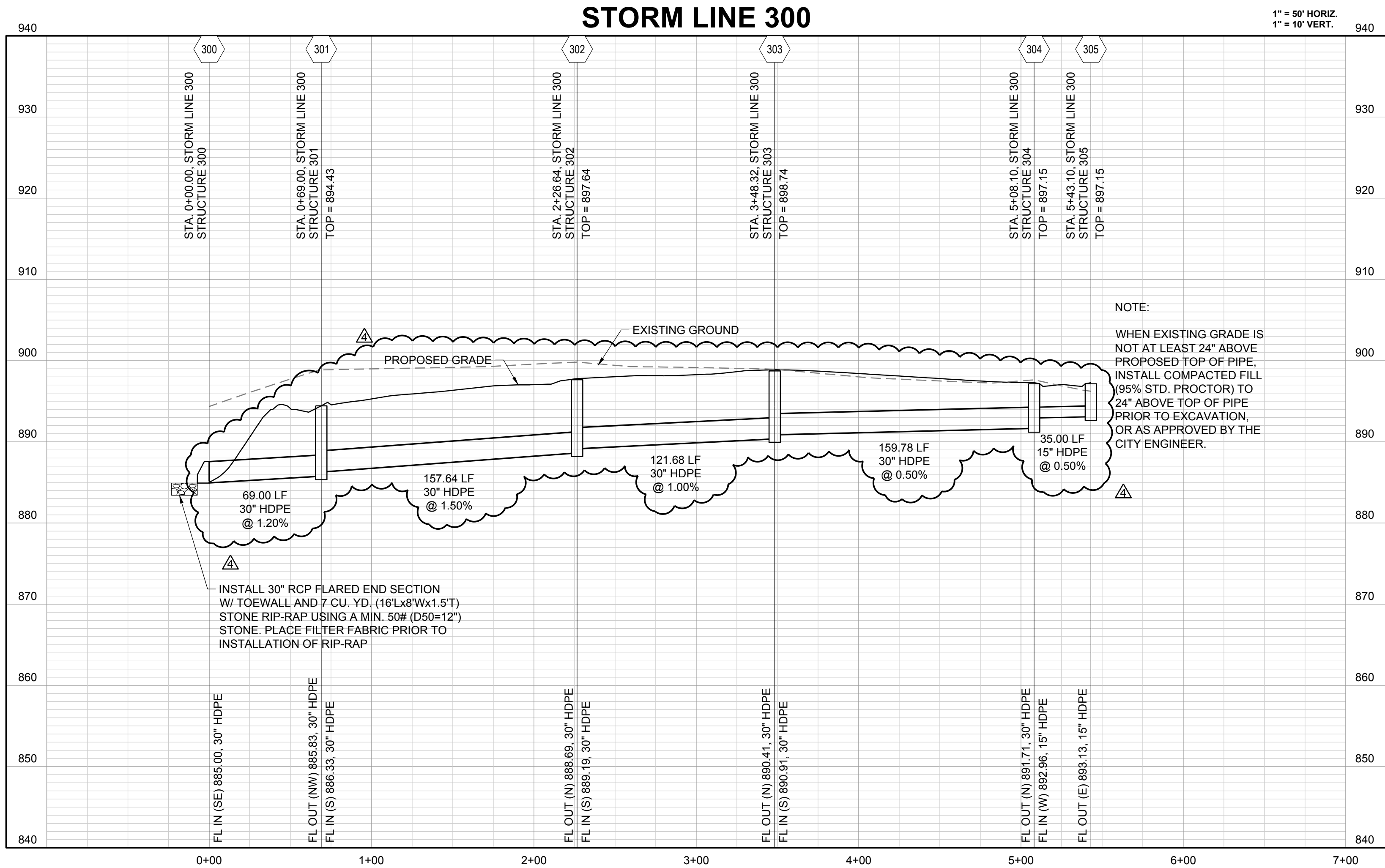
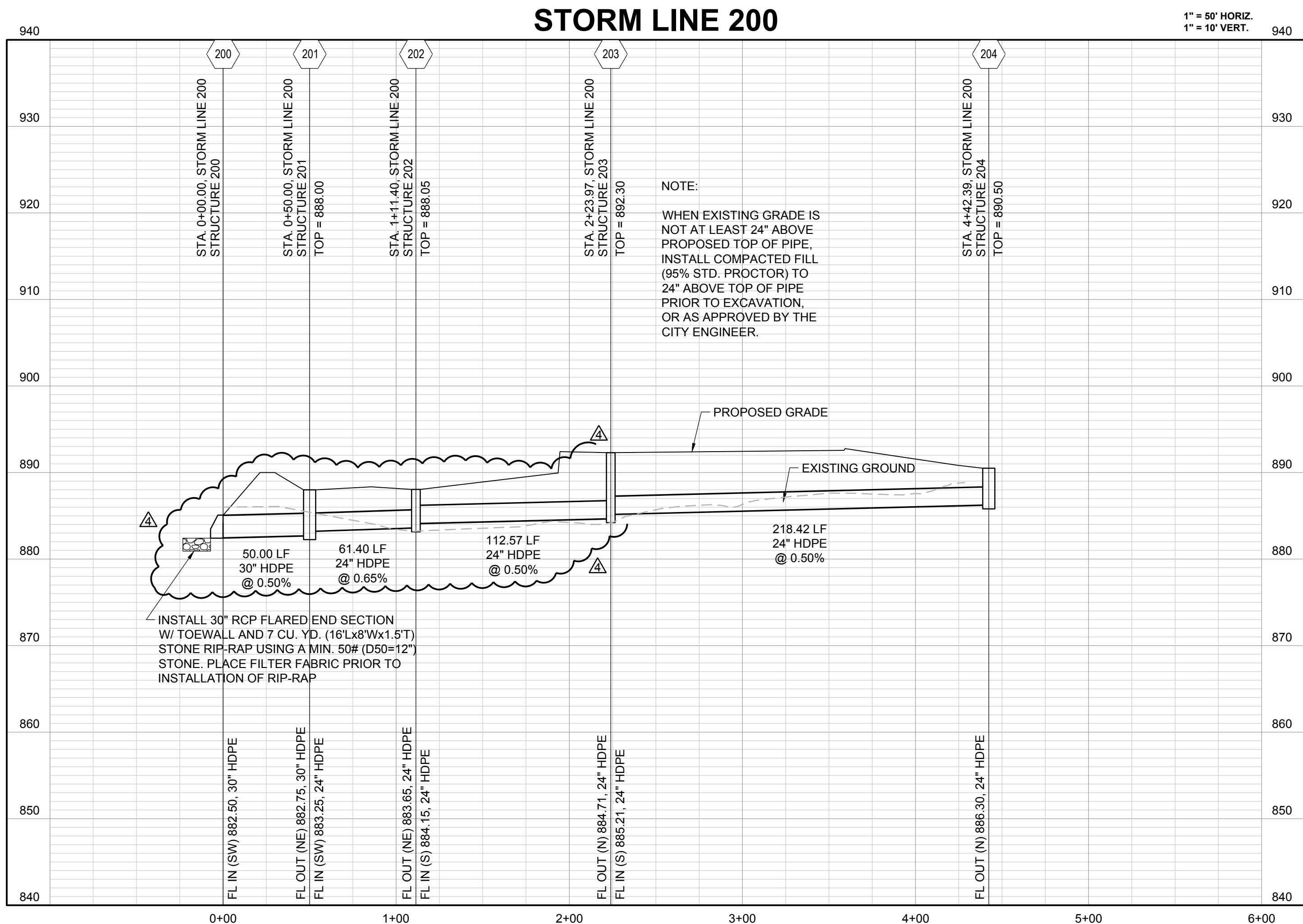
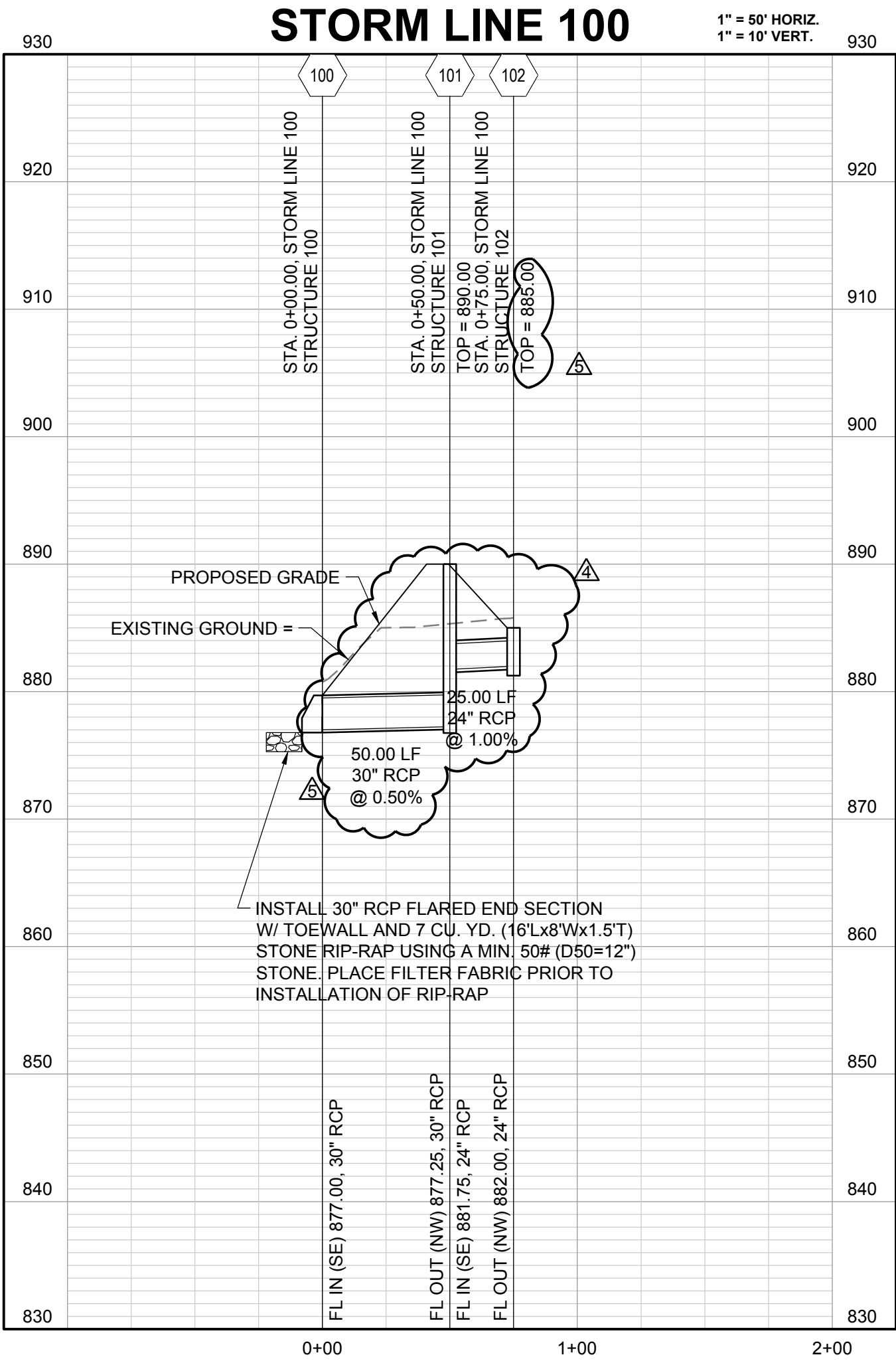
REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS

DRAWN BY:	DATE PREPARED:	PROJ. NUMBER:
SCH	9/22/2017	17-019

STORM DRAINAGE PLAN

SHEET
C5.0
OF
PERMIT SET

Storm Sewer Construction Notes	
Structure	Notes
100	STA 0+00.00, STORM LINE 100 INSTALL 30" RCP FLARED END SECTION W/ TOEWALL AND 7 CU. YD. (16'Lx8'Wx1.5'T) STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP 137"14'46" N 1027264.2233 E 2829937.5044
101	STA 0+50.00, STORM LINE 100 CONSTRUCT OUTLET STRUCTURE PER STRUCTURE DETAILS 47"15'13" N 1027230.2808 E 2829974.2182
102	STA 0+75.00, STORM LINE 100 WATER QUALITY CONTROL STRUCTURE WITH 4" ORIFICE OPENING CONSTRUCT 4'X4' AREA INLET PER STRUCTURE DETAILS 317"14'47" N 1027213.3099 E 2829992.5754
200	STA 0+00.00, STORM LINE 200 INSTALL 30" RCP FLARED END SECTION W/ TOEWALL AND 7 CU. YD. (16'Lx8'Wx1.5'T) STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP 67"40'33" N 1027191.0832 E 2829989.0796
201	STA 0+50.00, STORM LINE 200 CONSTRUCT 6'X4' AREA INLET 180"10'34" N 1027146.4816 E 2829966.4810
202	STA 1+11.40, STORM LINE 200 CONSTRUCT 4'X4' JUNCTION BOX 149"33'11" N 1027095.1099 E 2829932.8566
203	STA 2+23.97, STORM LINE 200 CONSTRUCTION 4'X4' JUNCTION BOX 255"40'37" N 1026986.0370 E 2829905.0077
204	STA 4+42.39, STORM LINE 200 CONSTRUCT 6'X4' CURB INLET 284"16'34" N 1026767.6430 E 2829901.8119
300	STA 0+00.00, STORM LINE 300 INSTALL 30" RCP FLARED END SECTION W/ TOEWALL AND 7 CU. YD. (16'Lx8'Wx1.5'T) STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP 142"17'46" N 1027167.6025 E 2830143.0356
301	STA 0+69.00, STORM LINE 300 CONSTRUCT 6'X4' CURB INLET 222"43'13" N 1027133.4003 E 2830202.9623
302	STA 2+26.64, STORM LINE 300 CONSTRUCT 6'X4' CURB INLET 87"29'22" N 1026983.0688 E 2830250.3917
303	STA 3+48.32, STORM LINE 300 CONSTRUCT 6'X4' CURB INLET 69"46'14" N 1026862.5344 E 2830233.7129
304	STA 5+08.10, STORM LINE 300 CONSTRUCT 6'X4' CURB INLET 249"46'14" N 1026712.6074 E 2830178.4631
305	STA 5+43.10, STORM LINE 300 CONSTRUCT 6'X4' CURB INLET 69"46'14" N 1026724.7097 E 2830145.6220



Schlagel & Associates, P.A.

Project Name:	COLEMAN EQUIPMENT	Curb Type:	B
Project #:	17-019	City:	LEE'S SUMMIT, MO
Time:	12/4/2017 7:47		
Design Storm:	100		
"K" Value:	1.25		
"F" Factor:	1.00		

Runoff Calculations															Pipe Properties												
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. Cx.A	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up Cx.A	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev	
LINE 100																											
101	0.00	0.81	11.07	6.92	6.2	9.84	0.00	85.15	29.00	5.91			0.00	0.00	101	100	RCP	0.013	30	50.00	0.50	4.50	DS TAILWATER @ STR #100			FREE	
102	1.12	0.81	11.07	6.92	6.2	9.86	11.18	85.34	22.62	7.20	201	301		9.95	6.02	102	101	RCP	0.013	24	25.00	1.00	N/A	877.25	877.00	890.00	N/A
LINE 200																											
201	1.23	0.81	3.14	2.54	6.2	9.86	12.28	31.35	31.42	6.40			0.00	0.00	201	200	PEP	0.012	30	50.00	0.50	0.50	DS TAILWATER @ STR #200			FREE	
202	0.36	0.81	1.91	1.55	6.0	9.92	3.82	19.19	19.76	6.29			0.00	0.00	202	201	PEP	0.012	24	61.40	0.65	0.50	883.65	883.25	888.06	885.80	
203	0.00	0.81	1.55	1.26	5.7	10.06	0.00	15.78	17.33	5.52			0.00	0.00	203	202	PEP	0.012	24	112.57	0.50	0.50	884.71	884.15	892.30	886.52	
204	1.55	0.81	1.55	1.26	5.0	10.32	16.20	16.20	17.33	5.52			0.00	0.00	204	203	PEP	0.012	24	218.42	0.50	N/A	886.30	885.21	890.50	888.14	
LINE 300																											
301	1.82	0.51	6.81	3.47	6.0	9.91	11.50	43.04	48.68	9.92			0.00	0.00	301	300	PEP	0.012	30	69.00	1.20	0.50	DS TAILWATER @ STR #300			FREE	
302	0.82	0.51	4.99	2.54	5.8	10.01	5.23	31.83	54.42	11.09			0.00	0.00	302	301	PEP	0.012	30	157.64	1.50	0.50	885.83	885.00	894.43	888.71	
303	0.31	0.51	4.17	2.13	5.6	10.09	1.99	26.83	44.44	9.05			0.00	0.00	303	302	PEP	0.012	30	121.68	1.00	0.50	888.69	886.33	897.64	891.09	
304	3.71	0.51	3.86	1.97	5.1	10.26	24.27	25.25	31.42	6.40			0.00	0.00	304	303	PEP	0.012	30	159.78	0.50	1.25	891.71	890.91	897.15	893.81	
305	0.15	0.51	0.15	0.08	5.0	10.32	0.99	0.99	4.93	4.02			0.00	0.00	305	304	PEP	0.012	15	35.00	0.50	N/A	893.13	892.96	897.15	893.83	

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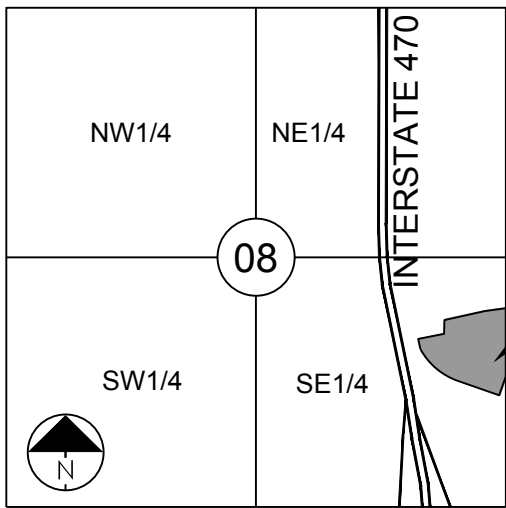


PREPARED BY:
MARK ALLEN BREUER
NUMBER
PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

**COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
9-19-17	SCH
11-3-17	CITY COMMENTS
11-13-17	CITY COMMENTS
12-4-17	CITY COMMENTS
9-22-2017	DATE PREPARED
17-019	PROJ. NUMBER

**STORM SEWER
PROFILES**



SECTION 08-48N-31W

LOCATION MAP
SCALE 1" = 2000'

UTILITY INFORMATION & CONTACTS:

Missouri Gas Energy
Attn: Lucas Walls
3025 Southeast Clover Drive
Lee's Summit, Missouri 64082
Phone: (816) 969-2218
Email: lucas.walls@sug.com

Kansas City Power & Light
Attn: Phillip Ingram
1300 Hamblen Road
Lee's Summit, Missouri 64081
Phone: (816) 347-4339
Email: phillip.ingram@kcpl.com

Sewer and Water - City of Lee's Summit
220 SE Green Street
Lee's Summit, Missouri 64063
Phone: (816) 969-1900
Email: publicworks@cityoffs.net

AT&T
Attn: Herb Upshaw
9444 Nall Avenue
Overland Park, Kansas 66207
Phone: (913) 383-4929
Email: hu4112@att.com

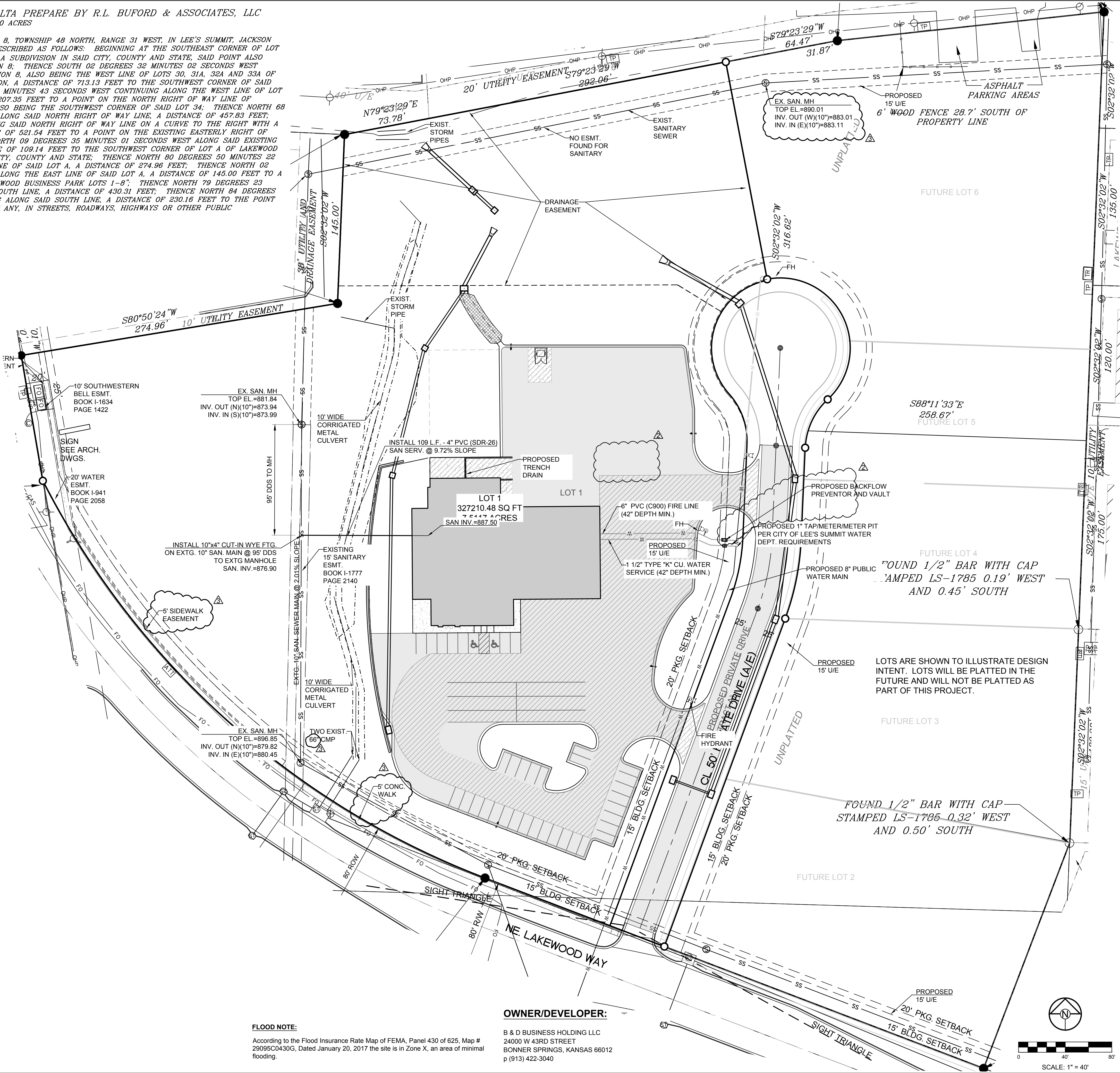
811
Missouri One Call - 1-800-344-7483

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDON. THE SURVEYOR FURTHER DOES NOT WARRANTY THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

PROPERTY DESCRIPTION FROM ALTA PREPARE BY R.L. BUFORD & ASSOCIATES, LLC
CONTAINING 557,618 SQUARE FEET OR 12.80 ACRES

PART OF THE SOUTHEAST 1/4 OF SECTION 8, TOWNSHIP 48 NORTH, RANGE 31 WEST, IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF LOT 5, "LAKEWOOD BUSINESS PARK LOTS 1-8", A SUBDIVISION IN SAID CITY, COUNTY AND STATE, SAID POINT ALSO BEING ON THE EAST LINE OF SAID SECTION 8; THENCE SOUTH 02 DEGREES 32 MINUTES 02 SECONDS WEST ALONG THE SAID EAST LINE OF SAID SECTION 8, ALSO BEING THE WEST LINE OF LOTS 30, 31A, 32A AND 33A OF SAID LAKEWOOD BUSINESS PARK SUBDIVISION, A DISTANCE OF 713.13 FEET TO THE SOUTHWEST CORNER OF SAID LOT 33A; THENCE SOUTH 21 DEGREES 03 MINUTES 43 SECONDS WEST CONTINUING ALONG THE WEST LINE OF LOT 34 OF SAID SUBDIVISION, A DISTANCE OF 207.35 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF RELOCATED LAKEWOOD WAY, SAID POINT ALSO BEING THE SOUTHWEST CORNER OF SAID LOT 34; THENCE NORTH 68 DEGREES 56 MINUTES 17 SECONDS WEST ALONG SAID NORTH RIGHT OF WAY LINE, A DISTANCE OF 457.83 FEET; THENCE NORTHWESTERLY CONTINUING ALONG SAID NORTH RIGHT OF WAY LINE ON A CURVE TO THE RIGHT WITH A RADIUS OF 710.00 FEET, AN ARC DISTANCE OF 521.54 FEET TO A POINT ON THE EXISTING EASTERLY RIGHT OF WAY LINE OF I-470 HIGHWAY; THENCE NORTH 09 DEGREES 35 MINUTES 01 SECONDS WEST ALONG SAID EXISTING EASTERLY RIGHT OF WAY LINE, A DISTANCE OF 109.14 FEET TO THE SOUTHWEST CORNER OF LOT A OF LAKEWOOD BUSINESS PARK, A SUBDIVISION IN SAID CITY, COUNTY AND STATE; THENCE NORTH 80 DEGREES 50 MINUTES 22 SECONDS EAST ALONG THE SAID SOUTH LINE OF SAID LOT A, A DISTANCE OF 274.96 FEET; THENCE NORTH 02 DEGREES 32 MINUTES 02 SECONDS EAST ALONG THE EAST LINE OF SAID LOT A, A DISTANCE OF 145.00 FEET TO A POINT ON THE SOUTH LINE OF SAID "LAKEWOOD BUSINESS PARK LOTS 1-8"; THENCE NORTH 79 DEGREES 23 MINUTES 29 SECONDS EAST ALONG SAID SOUTH LINE, A DISTANCE OF 430.31 FEET; THENCE NORTH 84 DEGREES 00 MINUTES 15 SECONDS EAST CONTINUING ALONG SAID SOUTH LINE, A DISTANCE OF 230.16 FEET TO THE POINT OF BEGINNING, SUBJECT TO THAT PART, IF ANY, IN STREETS, ROADWAYS, HIGHWAYS OR OTHER PUBLIC RIGHT-OF-WAYS.



FLOOD NOTE:
According to the Flood Insurance Rate Map of FEMA, Panel 430 of 625, Map # 29095C0430G, Dated January 20, 2017 the site is in Zone X, an area of minimal flooding.

OWNER/DEVELOPER:
B & D BUSINESS HOLDING LLC
24000 W 43RD STREET
BONNER SPRINGS, KANSAS 66012
p (913) 422-3040

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Missouri State Certificates of Authority
#E2002003600-F #LAC2001003237 #LS2002008695-F

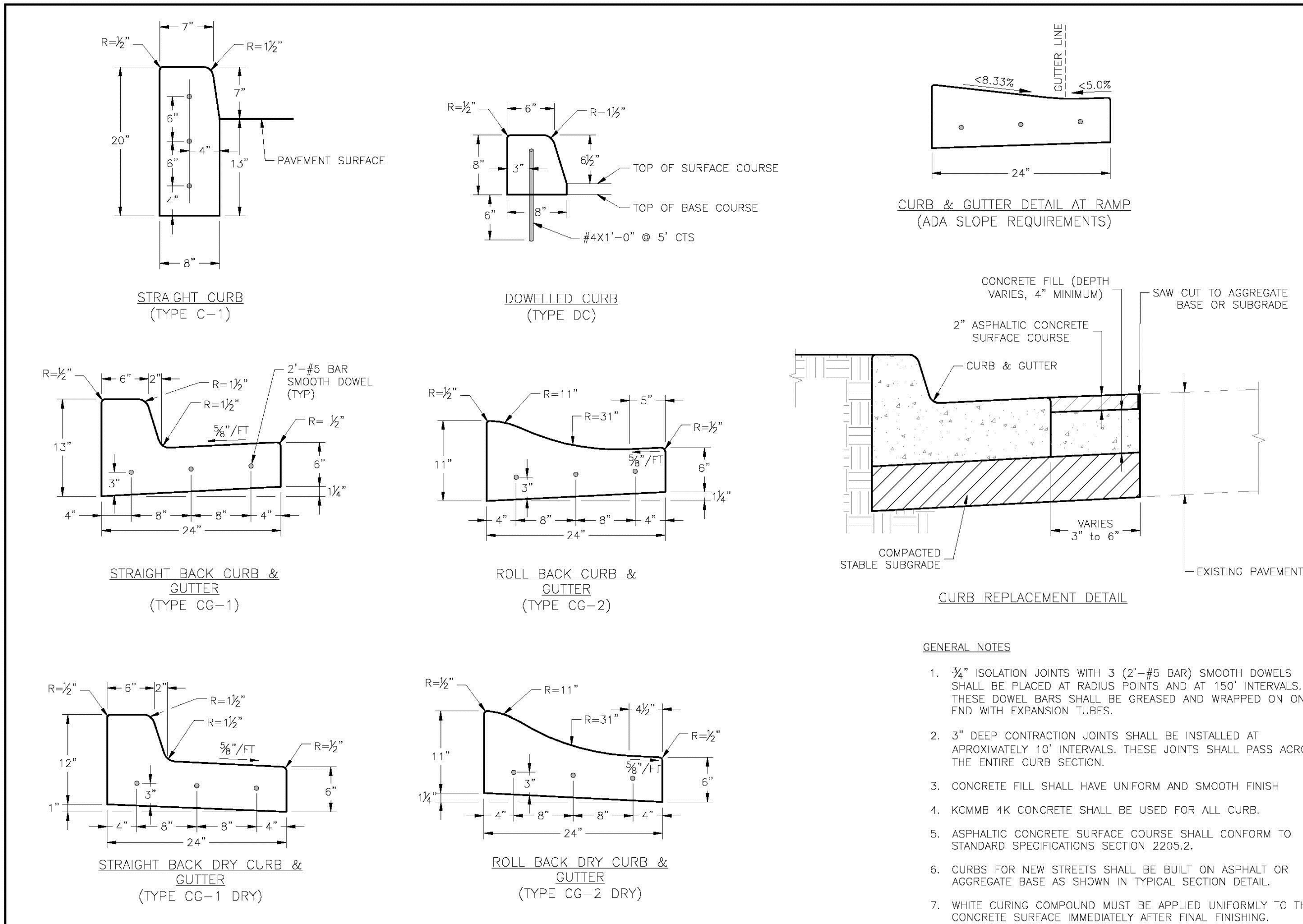
PREPARED BY:
MARK ALLEN BREUER
NUMBER
PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS
9/22/2017	DATE PREPARED
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UTILITY PLAN

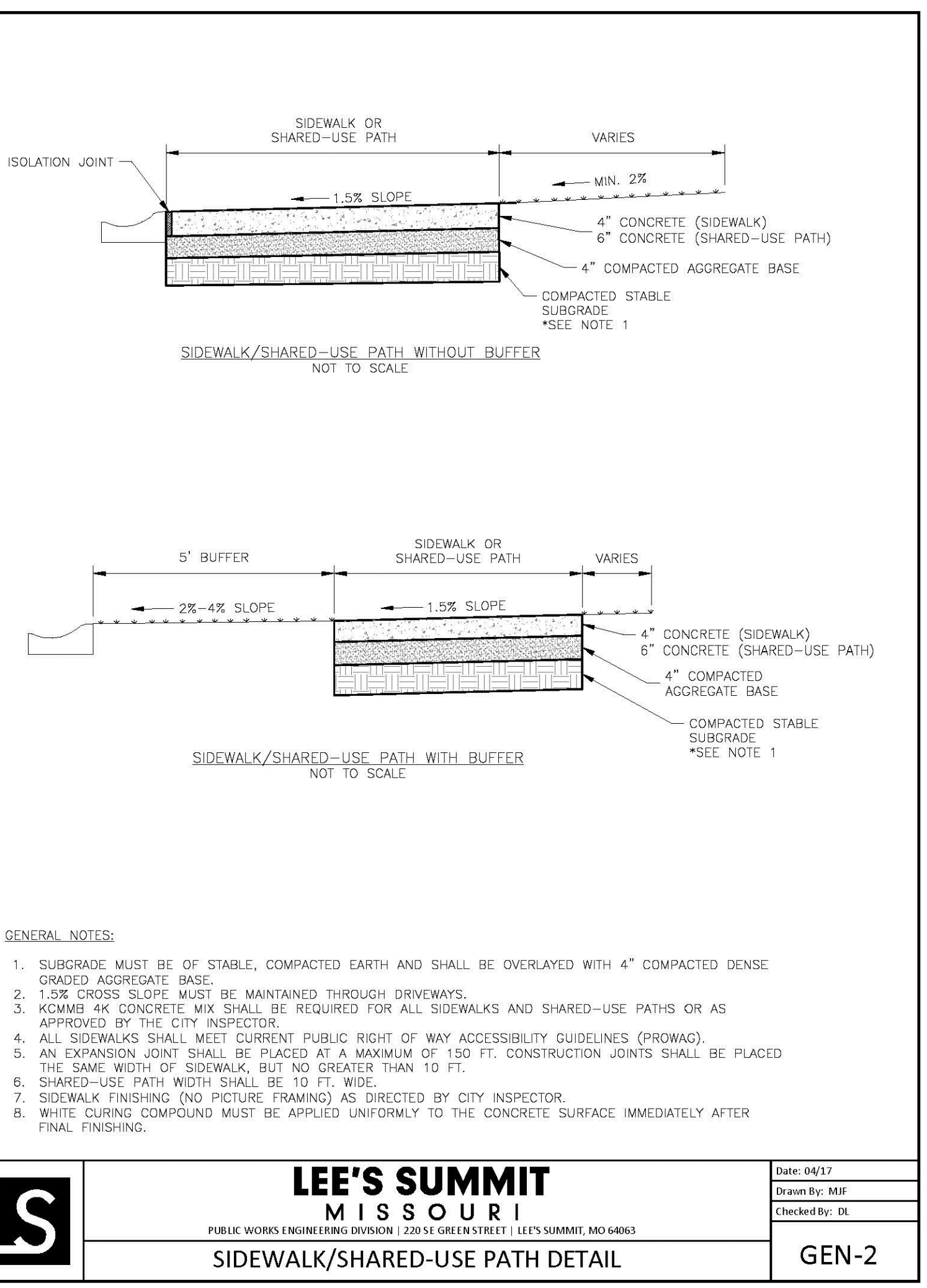
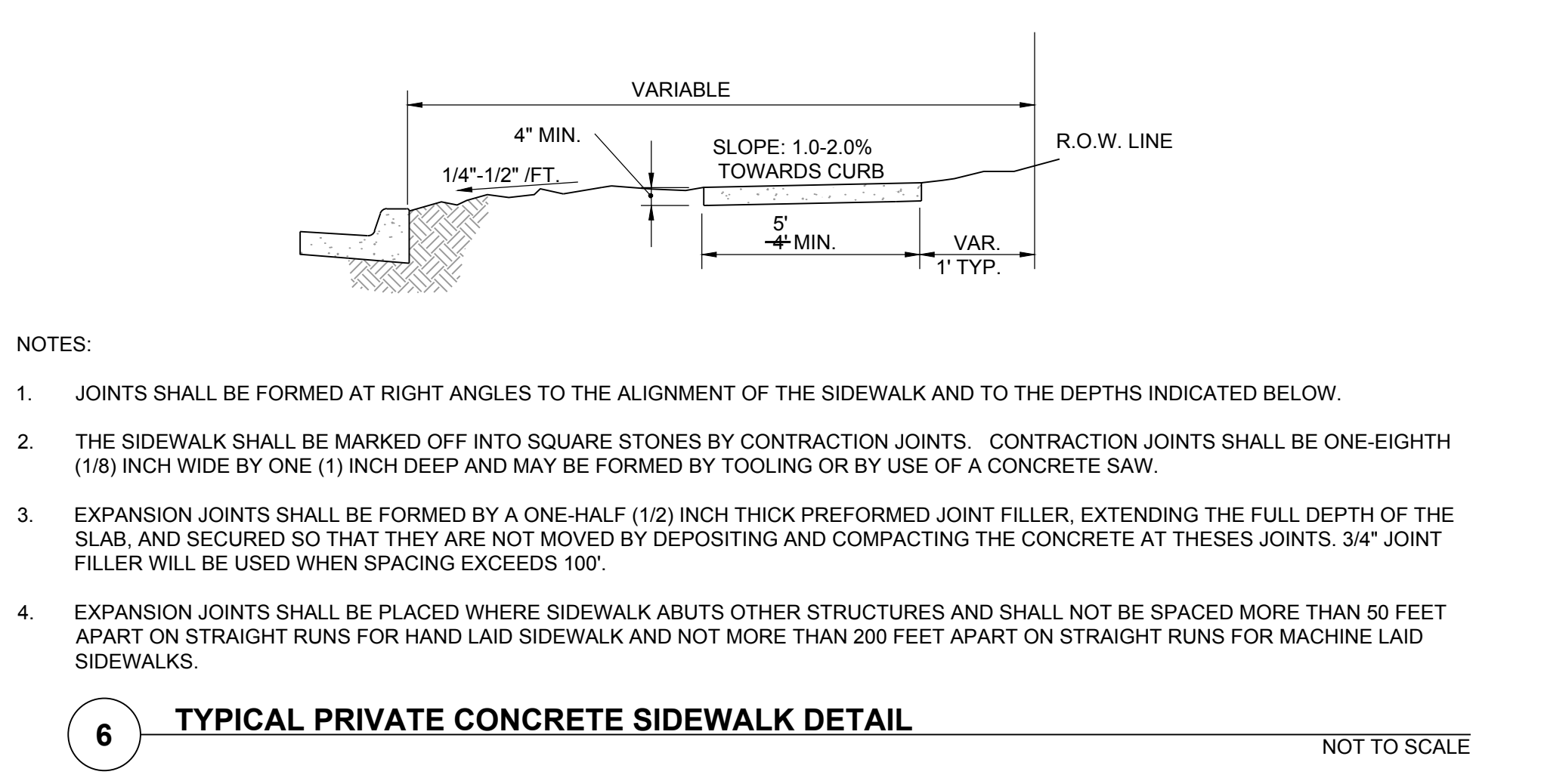
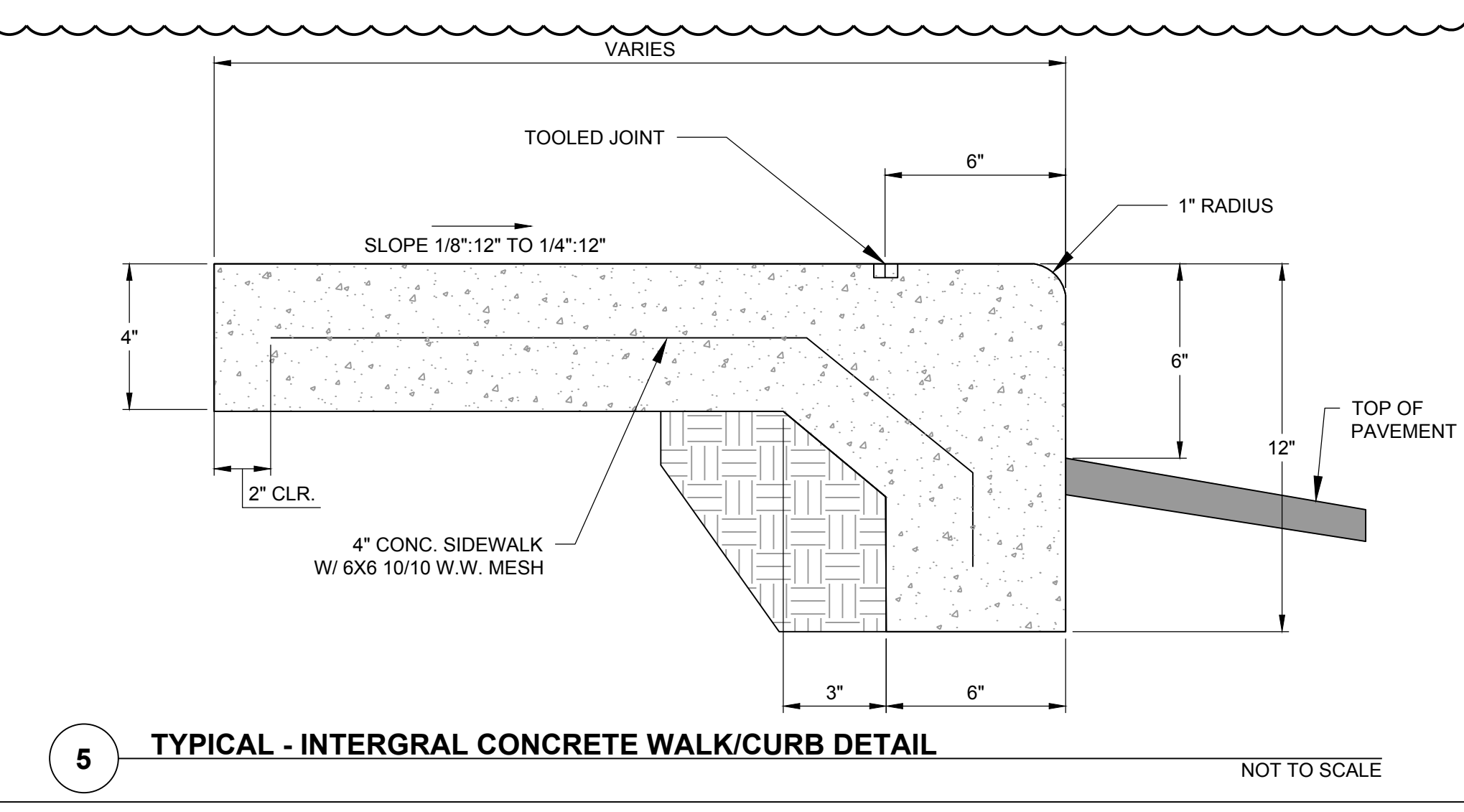
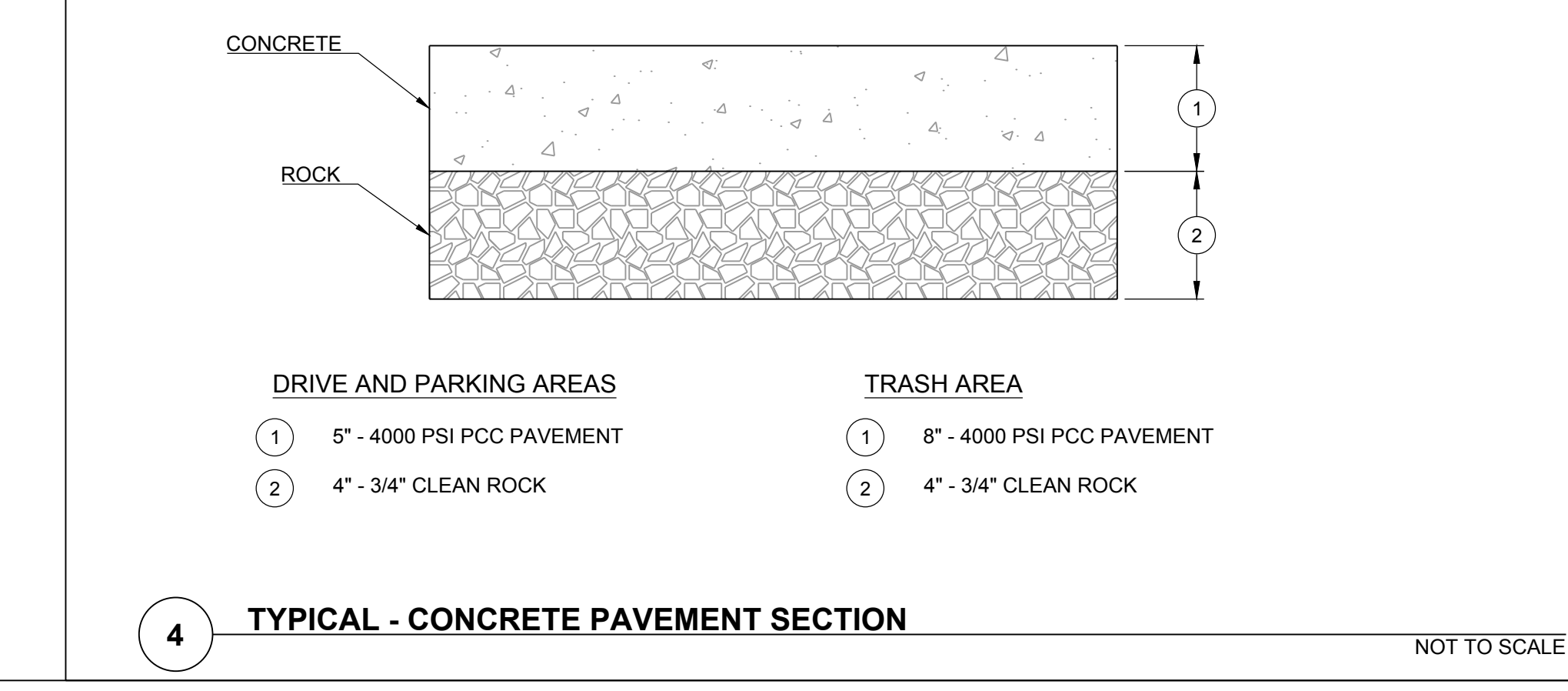
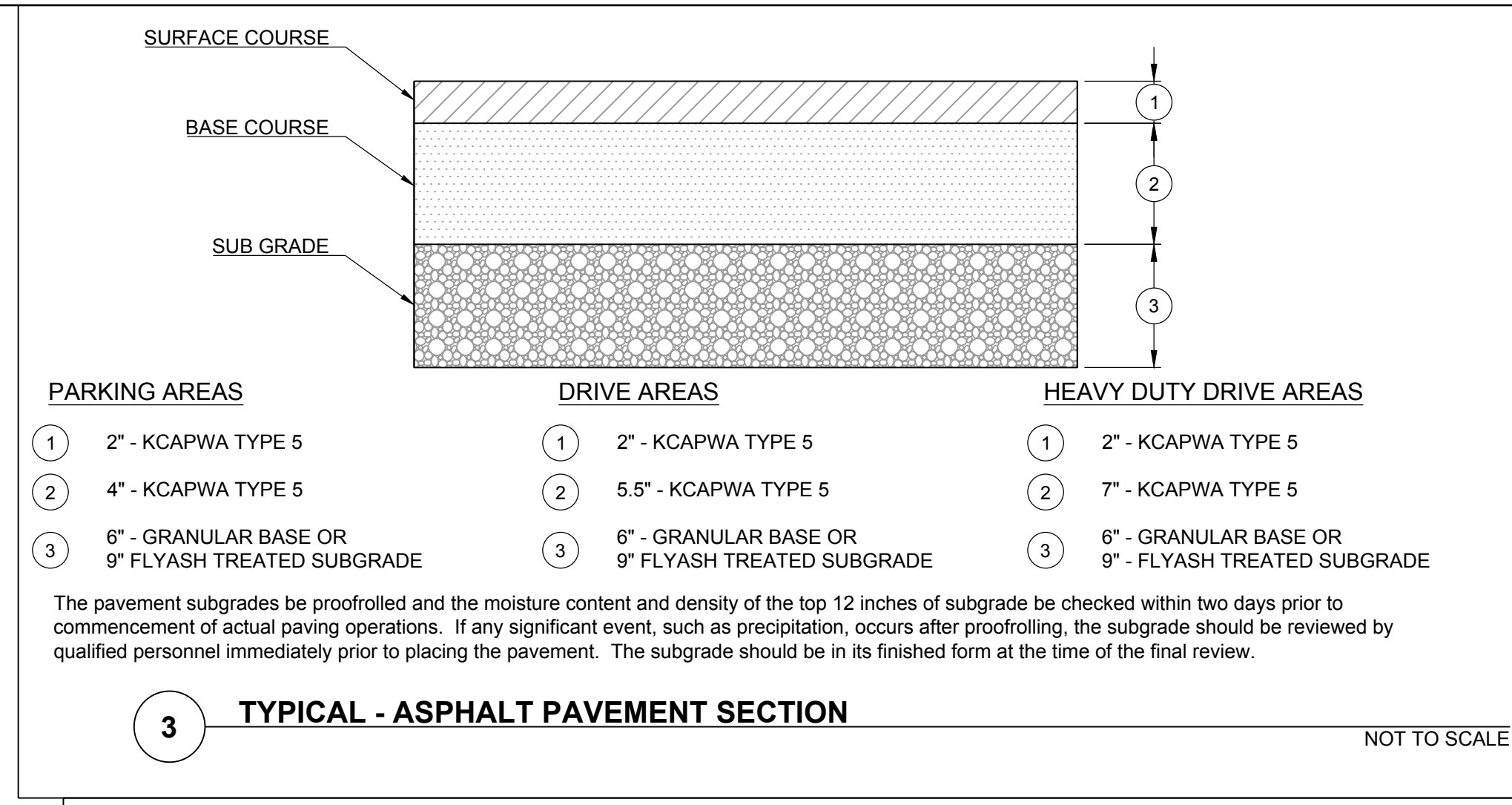
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C6.0
OF PERMIT SET



LEE'S SUMMIT
MISSOURI

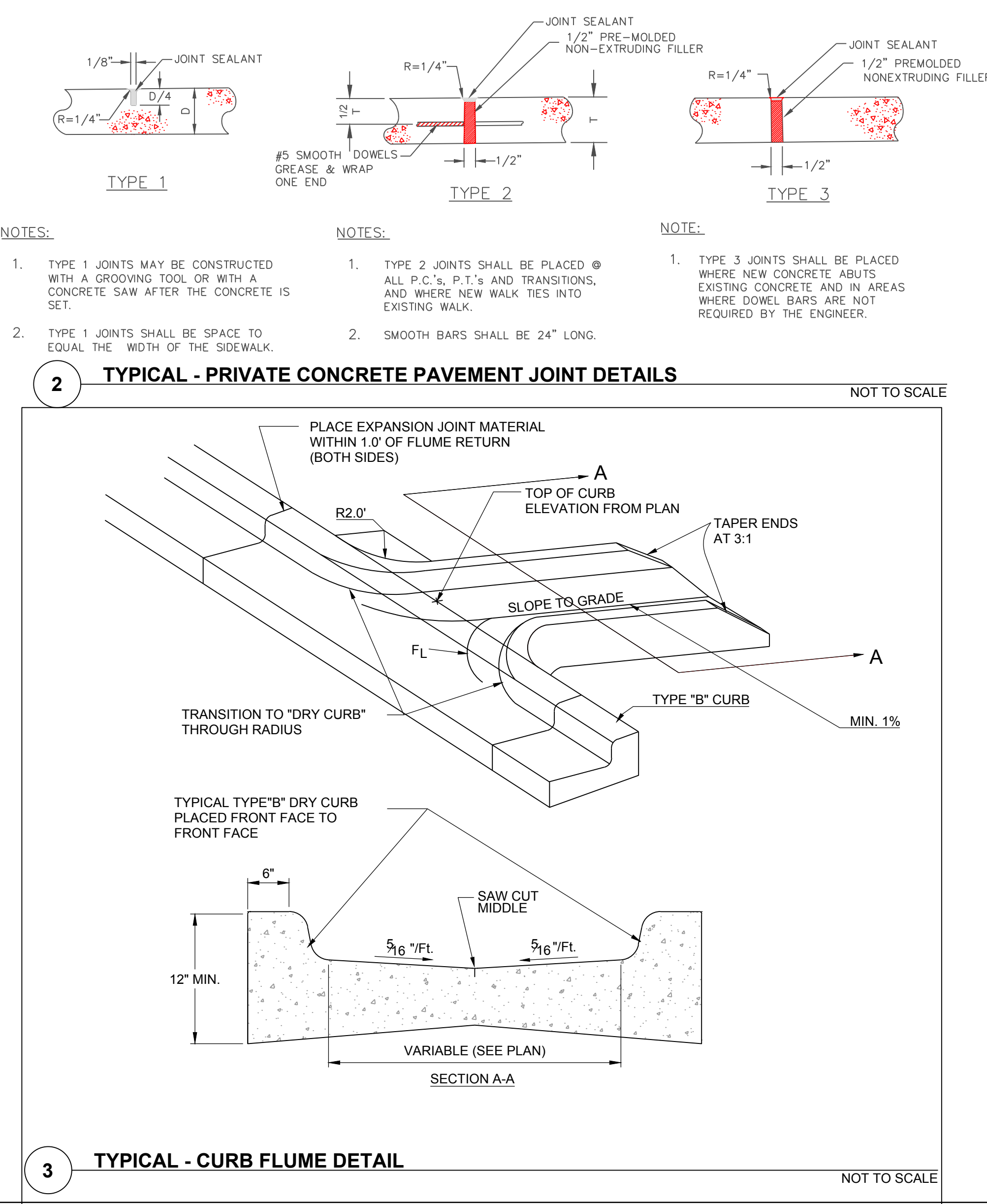
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

GEN-4



LEE'S SUMMIT
MISSOURI

Date: 04/17
Drawn By: MIF
Checked By: DL
GEN-2



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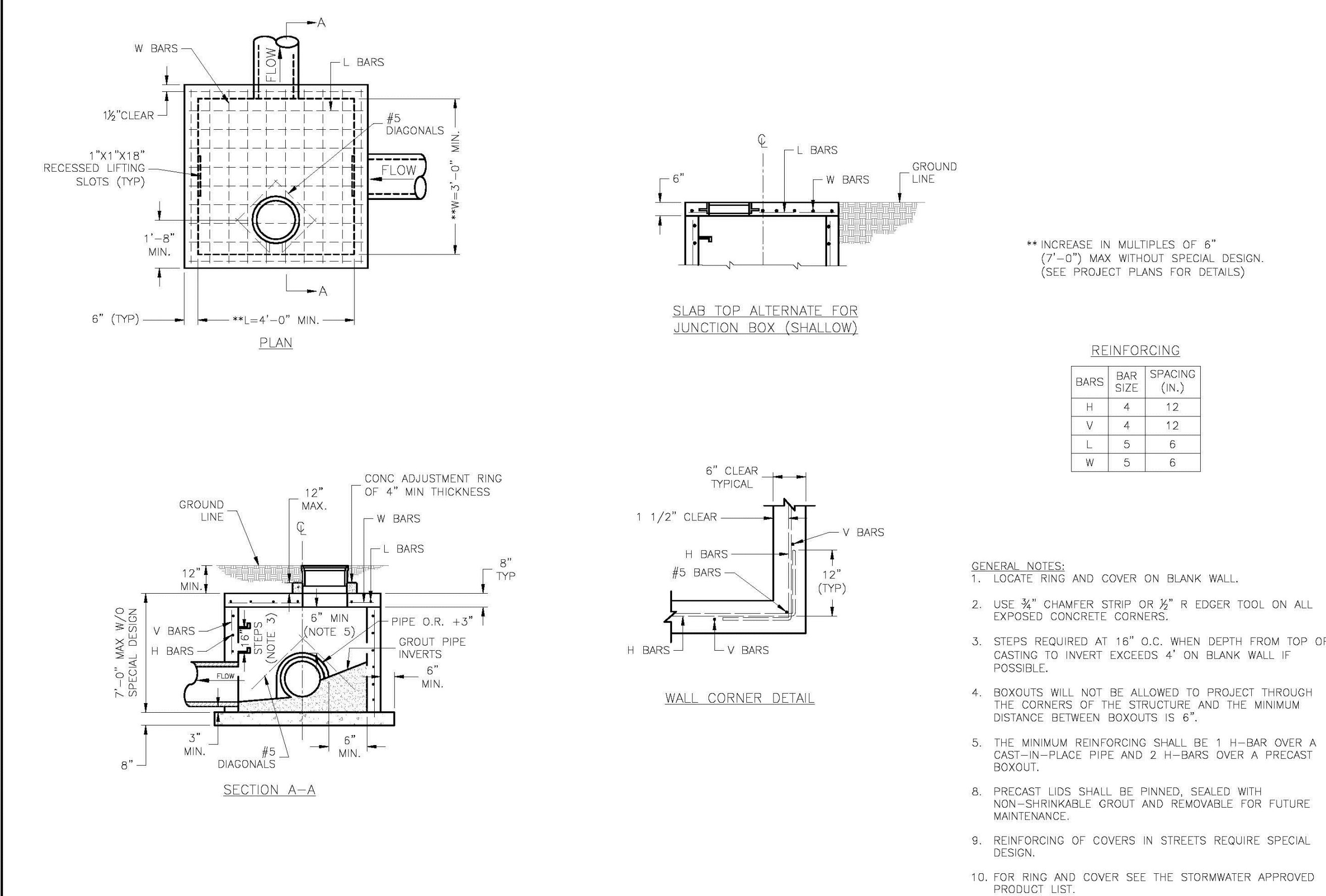
PREPARED BY:
MARK ALLEN BREUER
NUMBER
PE-2009007268
PROFESSIONAL ENGINEER
Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS
9/22/2017	DATE PREPARED
17-019	PROJ. NUMBER

CURB AND PAVEMENT DETAILS

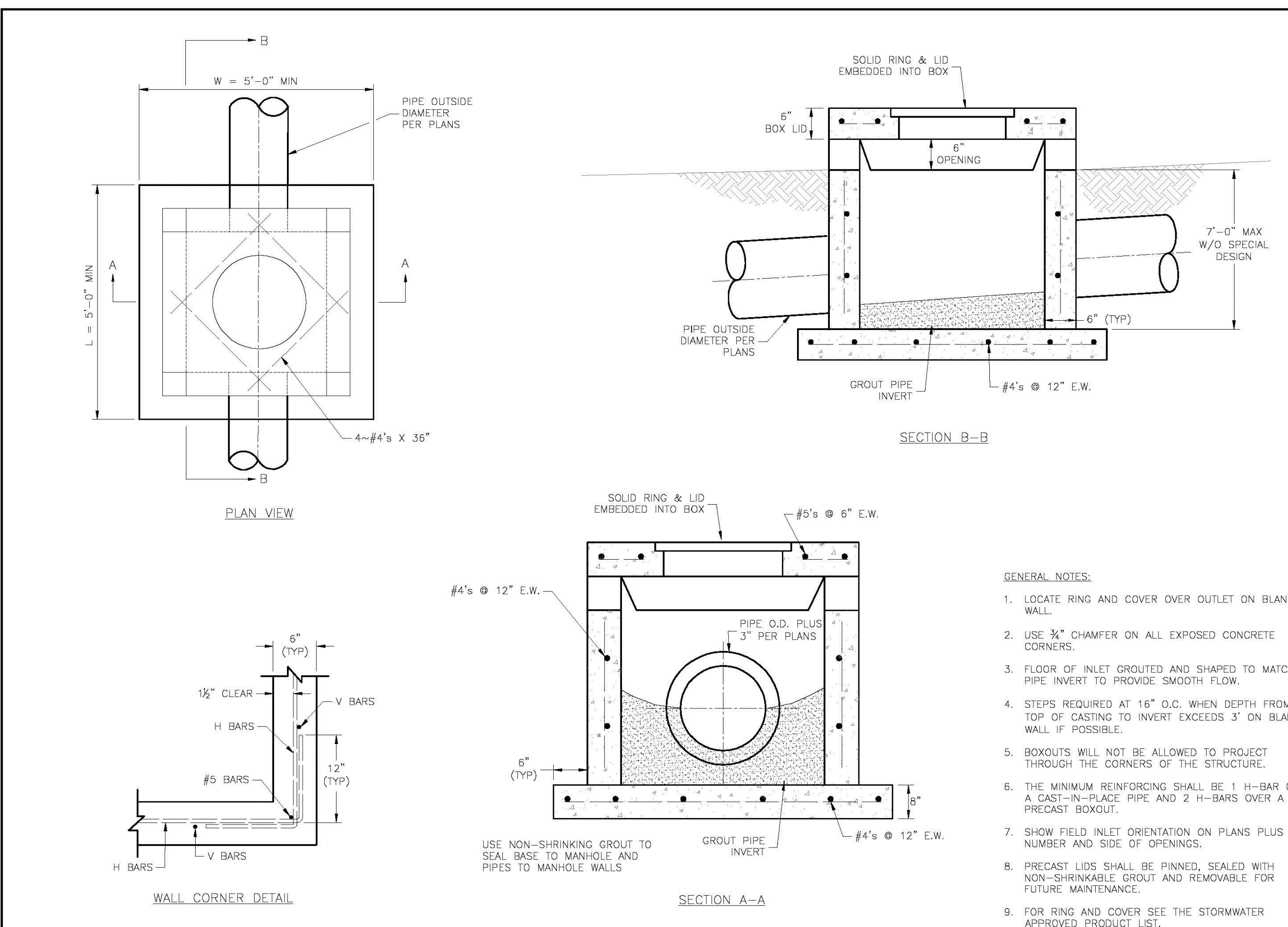
SHEET
C7.0
OF



LEE'S SUMMIT
MISSOURI

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

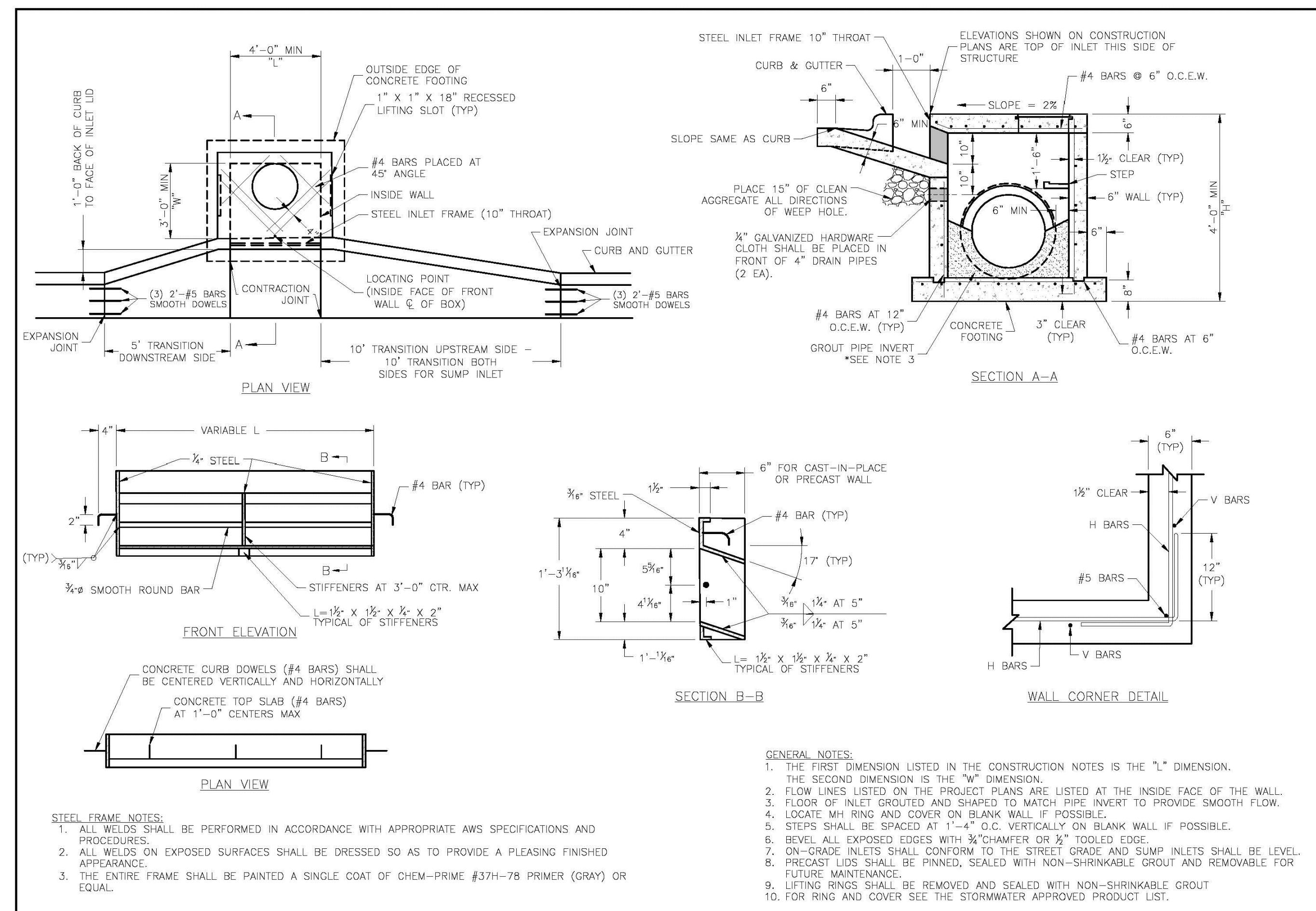
STM-3



LEE'S SUMMIT
MISSOURI

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

STM-2



LEE'S SUMMIT
MISSOURI

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

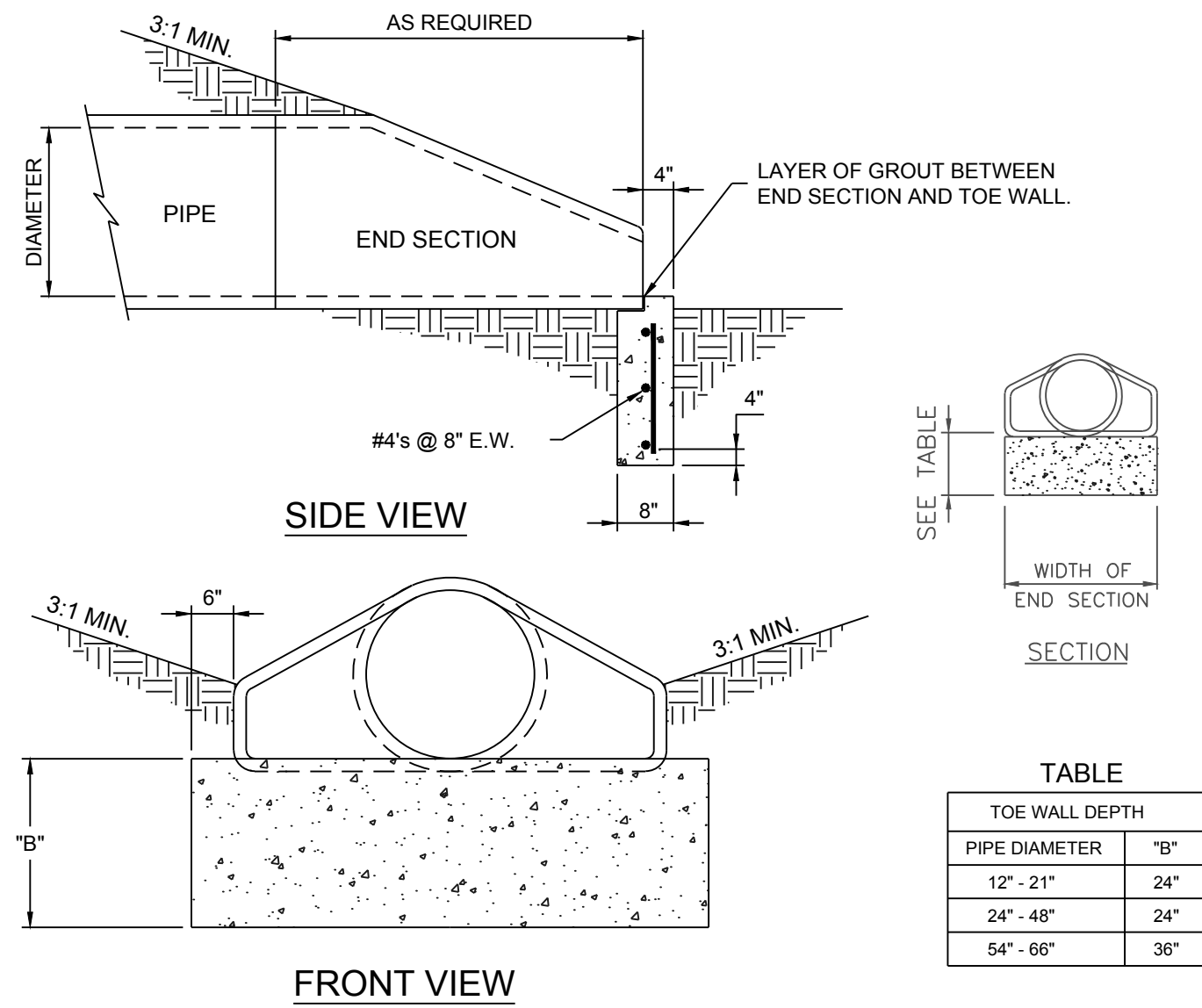
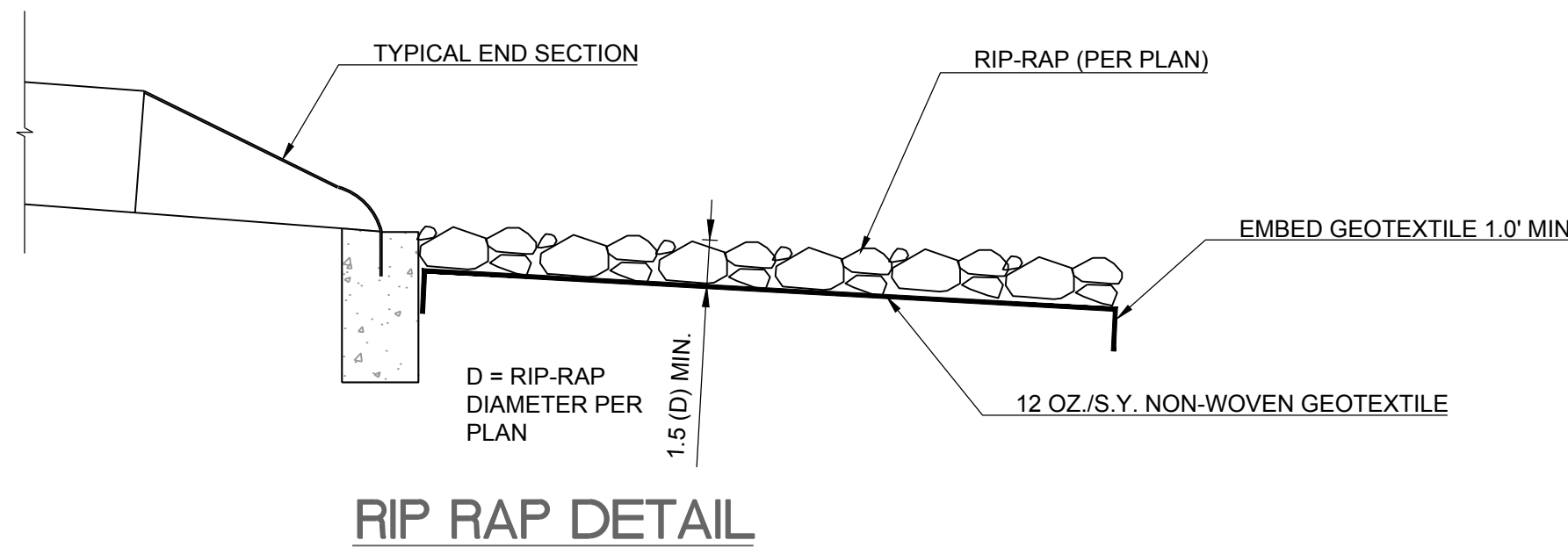
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PREPARED BY:
MARK ALLEN BREUER
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PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

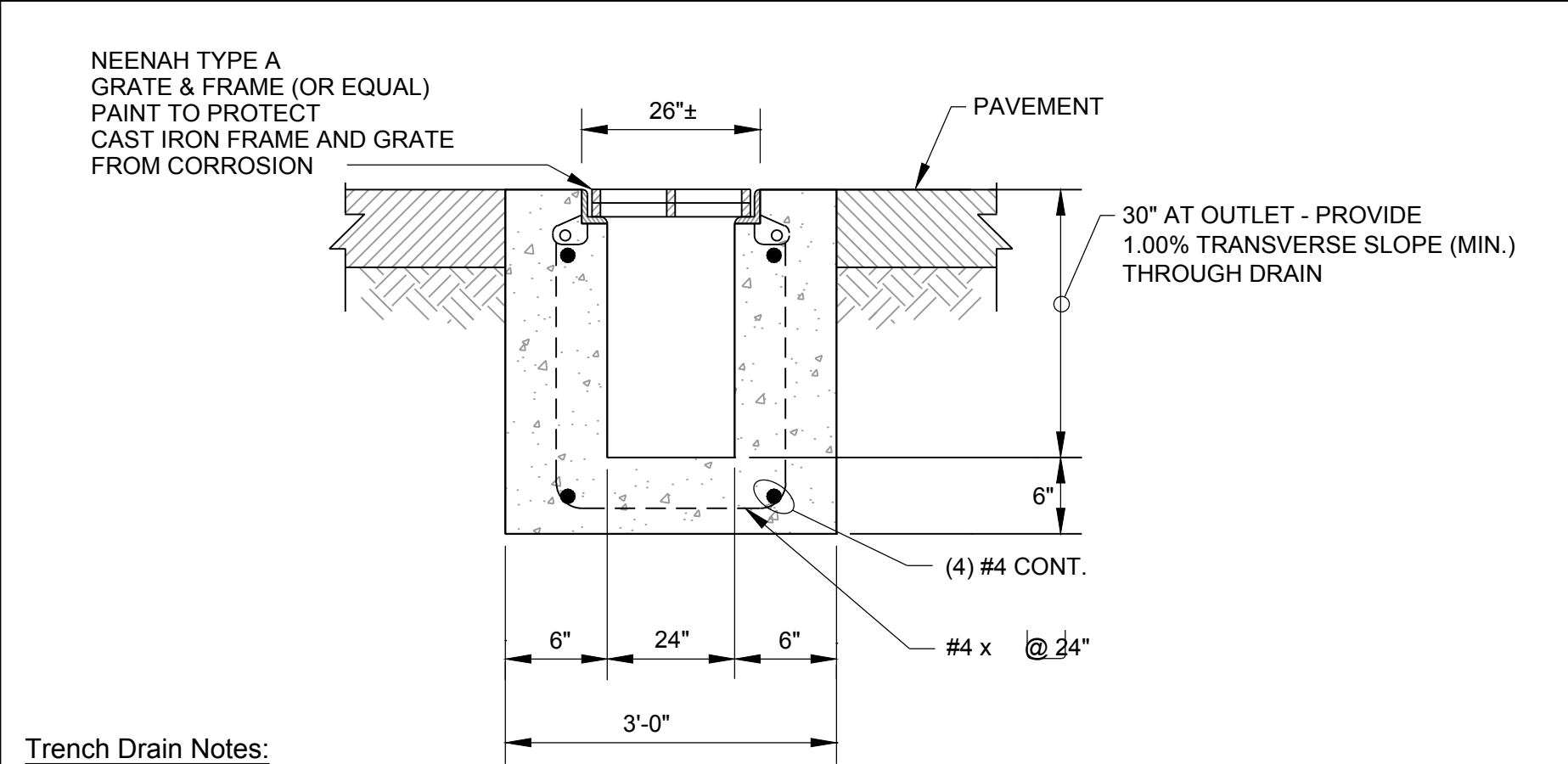
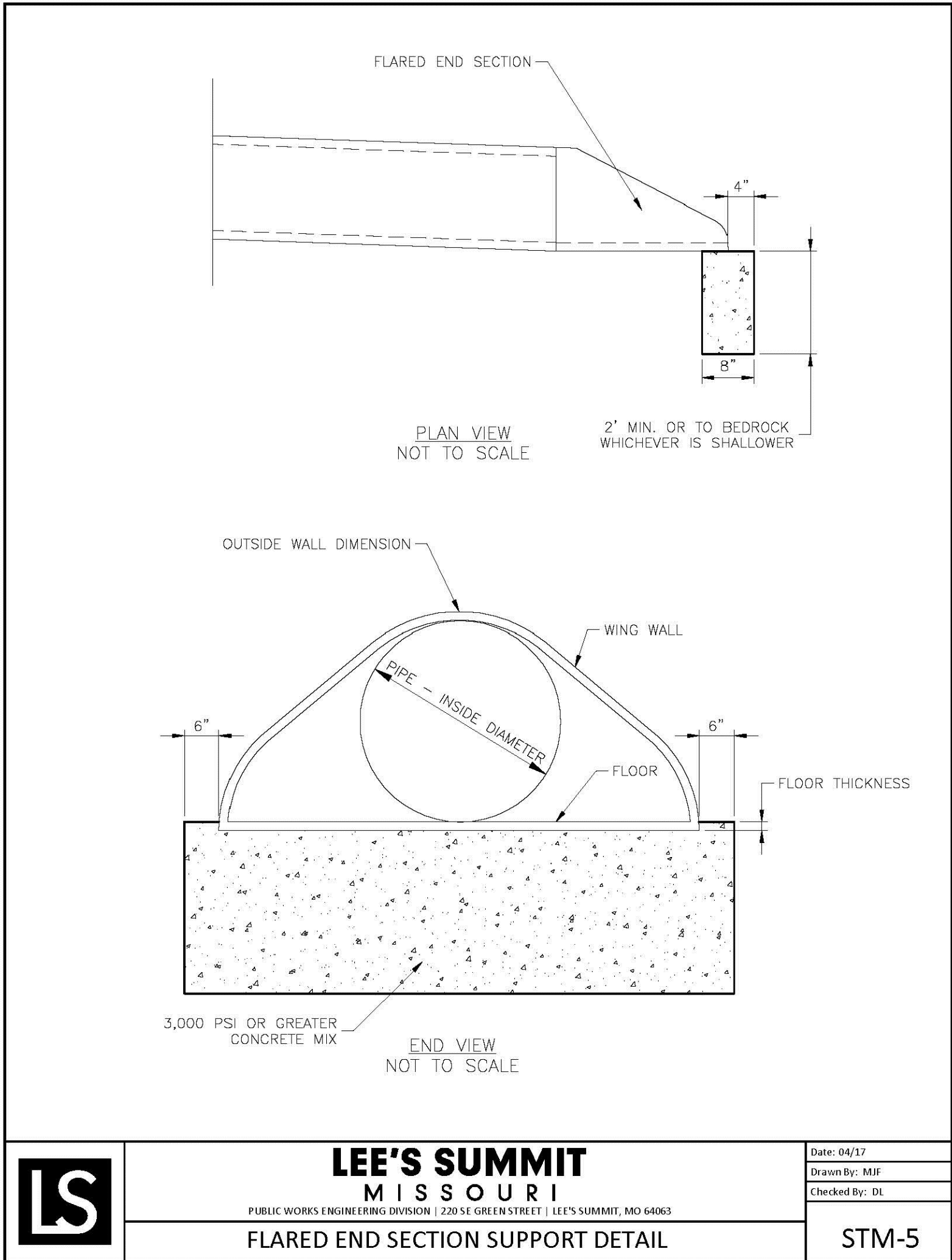
COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

STORM DRAINAGE DETAILS
SHEET
C7.1
OF



- NOTES:
1. THE DEPTH OF THE TOE WALL SHALL BE PER TABLE. IF BEDROCK IS ENCOUNTERED A MINIMUM OF 12" INTO BEDROCK IS REQUIRED.
 2. ALL CONCRETE SHALL CONFORM TO STANDARD SPECIFICATION SECTION 2205.2.

END SECTION AND TOEWALL DETAIL



Trench Drain Notes:

General

1. All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
2. Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department.
3. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
4. Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board.
5. Concrete construction shall meet the applicable requirements of Standard Specifications for State Road and Bridge Construction, Kansas Department of Transportation, latest edition, except as modified in the Overland Park Municipal Code.
6. Inlet floors shall be shaped with non-reinforced concrete inverts to provide smooth flow.
7. Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
8. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
9. All lap splices not shown shall be a minimum of 40 bar diameters in length.
10. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
11. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.
12. Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.

4

TYPICAL - CAST-IN-PLACE TRENCH DRAIN DETAIL

NOT TO SCALE



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#E2002003690-F #LAC200100237 #LS2002008659-F

COLEMAN EQUIPMENT FINAL DEVELOPMENT PLANS 4101 NE LAKEWOOD WAY LEE'S SUMMIT, MISSOURI

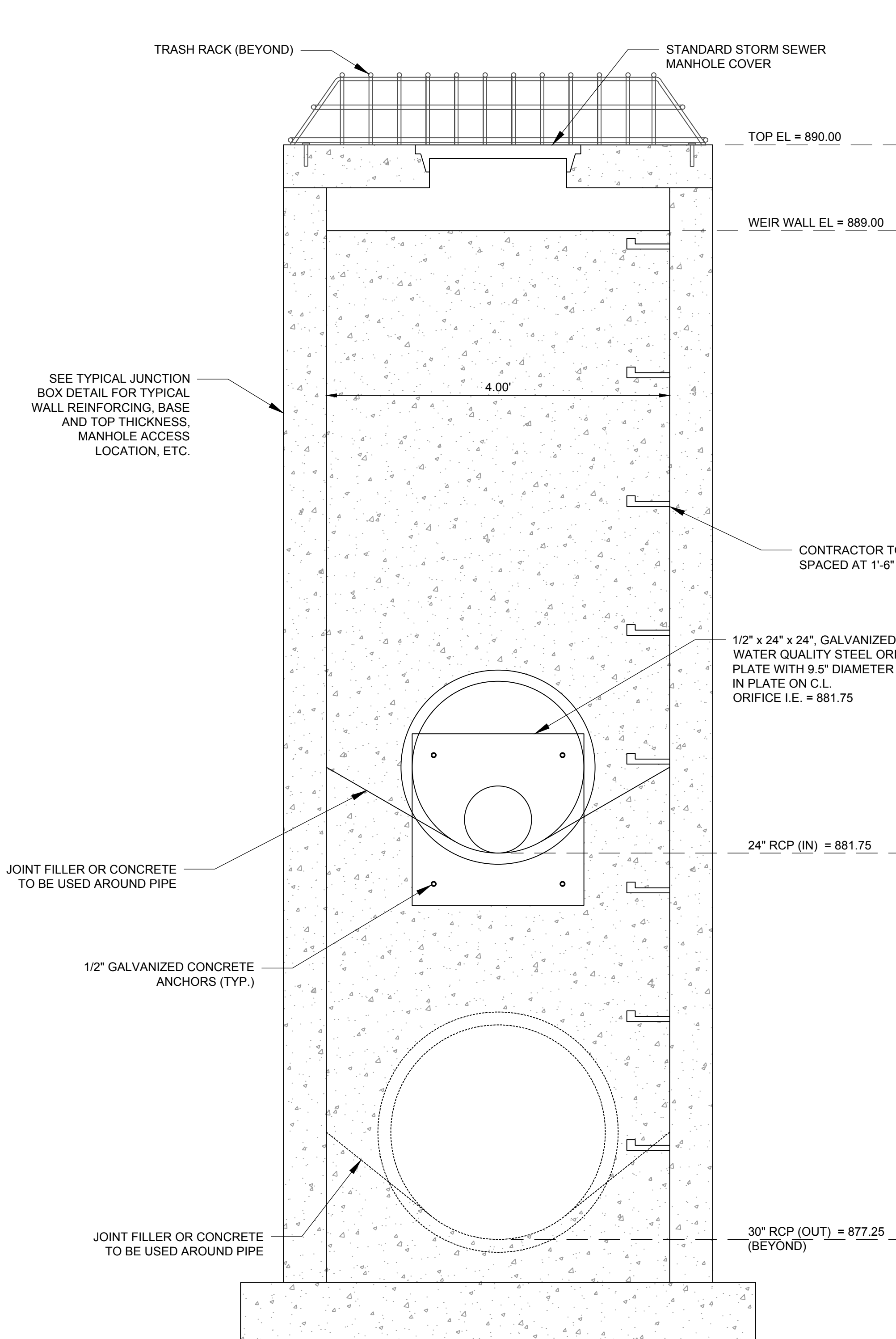
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11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS
9/22/2017	DATE PREPARED
17-019	PROJ. NUMBER

STORM SEWER DETAILS

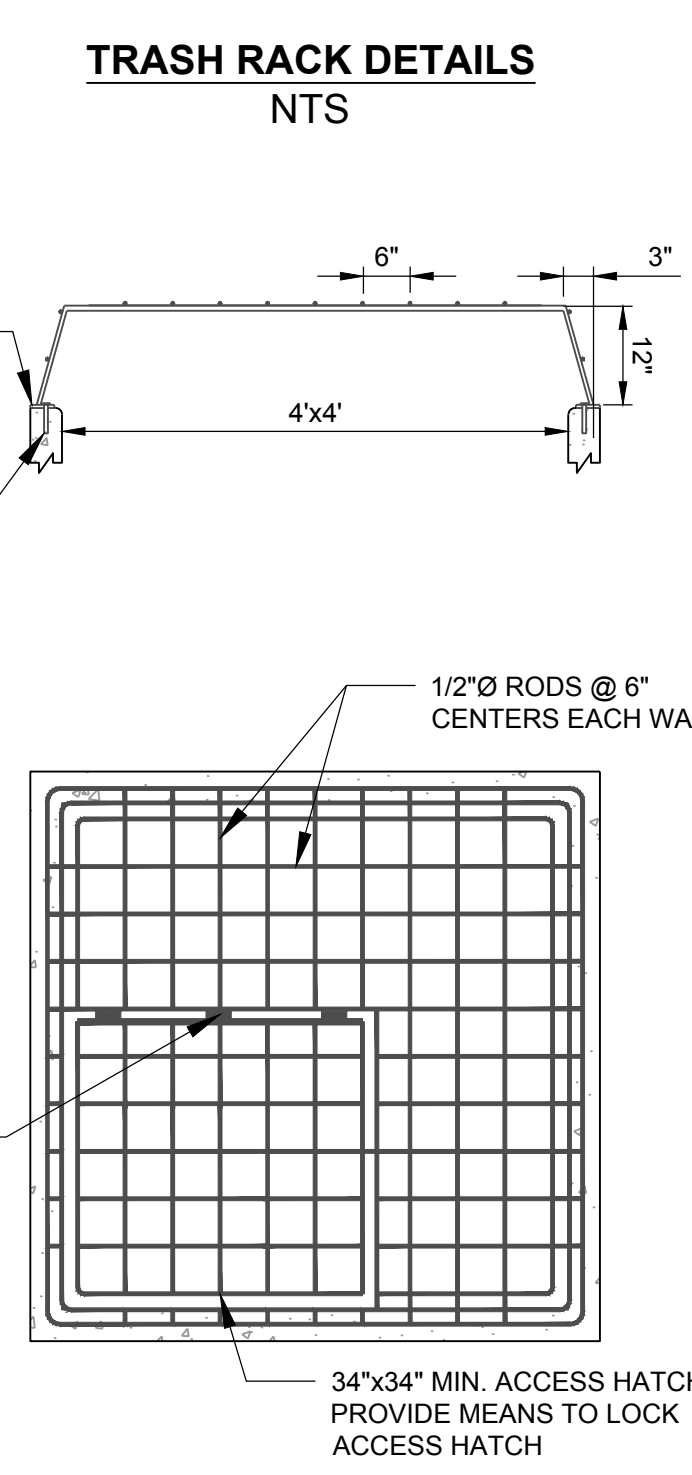
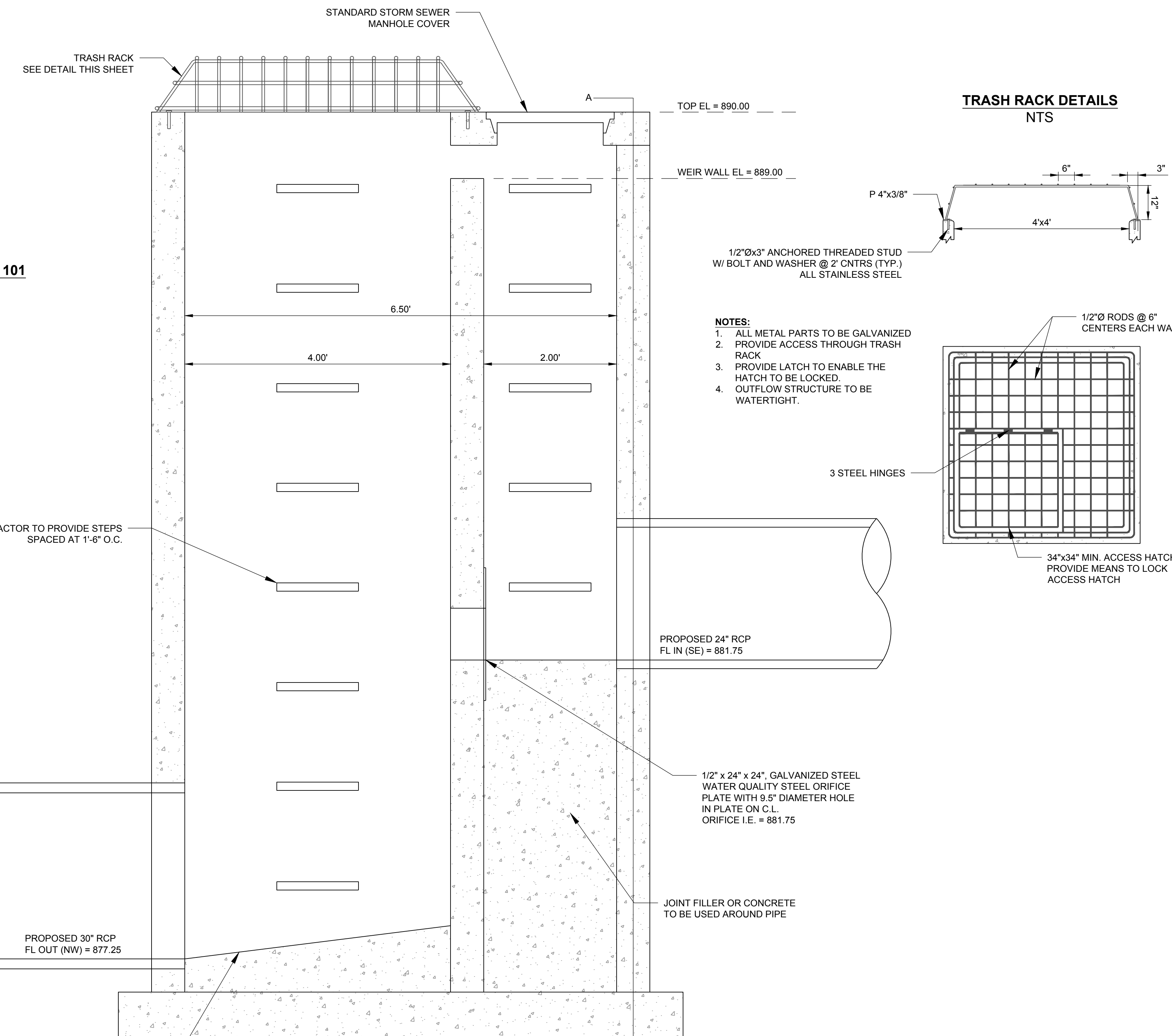
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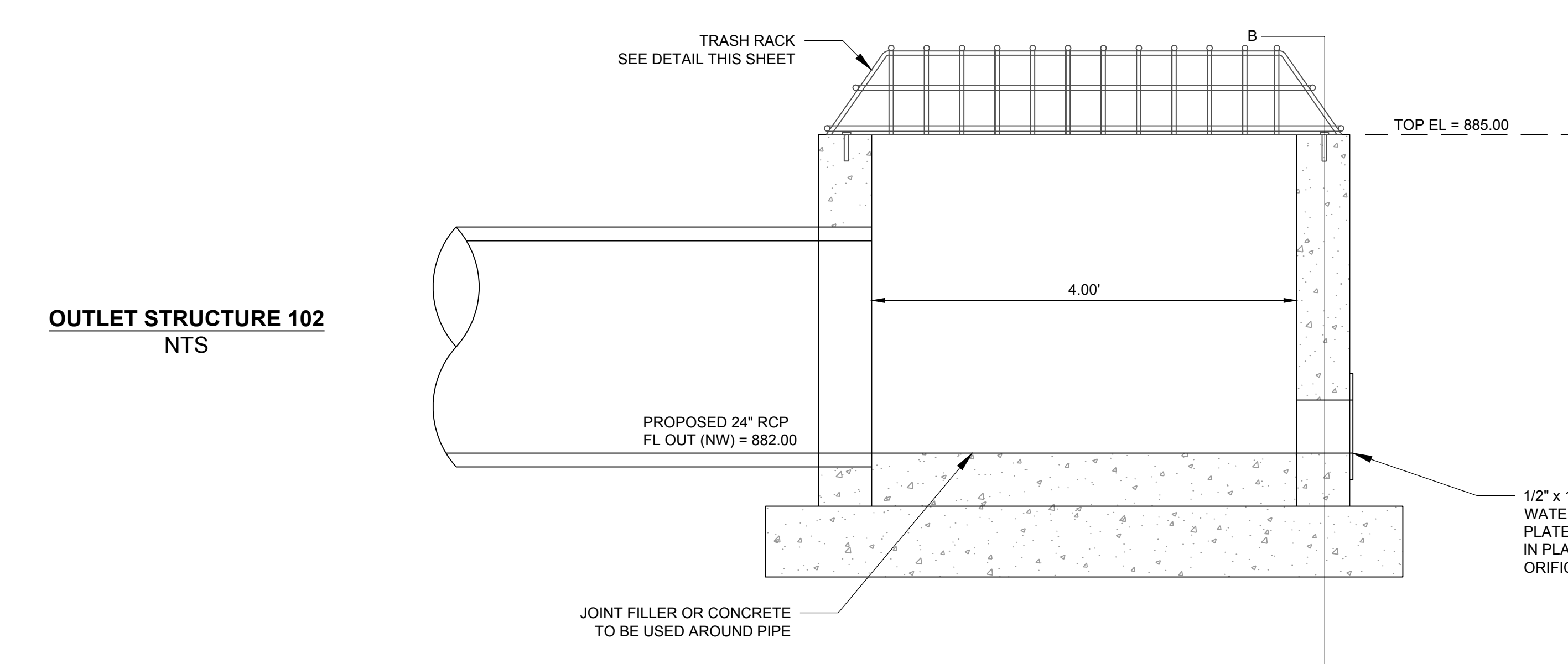
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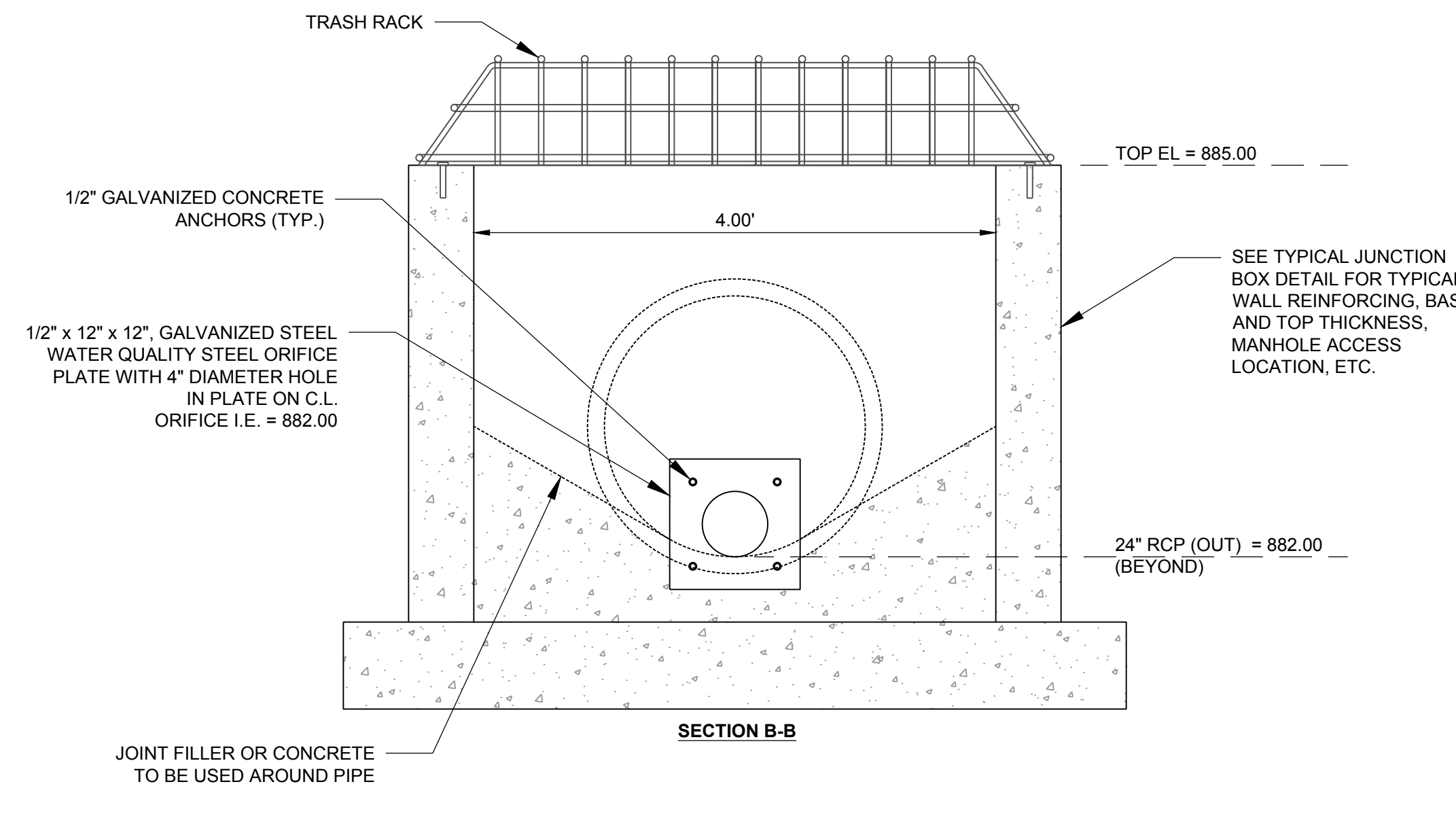
OUTLET STRUCTURE 101
NTS



- NOTES:**
1. ALL METAL PARTS TO BE GALVANIZED
 2. PROVIDE ACCESS THROUGH TRASH RACK
 3. PROVIDE LATCH TO ENABLE THE HATCH TO BE LOCKED.
 4. OUTFLOW STRUCTURE TO BE WATERTIGHT.



OUTLET STRUCTURE 102
NTS



REVISION	DATE	DESCRIPTION
1	10-18-17	CITY COMMENTS
2	11-3-17	CITY COMMENTS
3	11-13-17	DETENTION GRADING PER OWNER
4	12-4-17	CITY COMMENTS
5	9/22/2017	
6	17-019	

EDDB OUTLET
STRUCTURE
DETAILS




6 WALL DETAIL



NOT TO SCALE

PREPARED BY:



Mark Allen Breuer, P.E.
MO# PE-2009007268

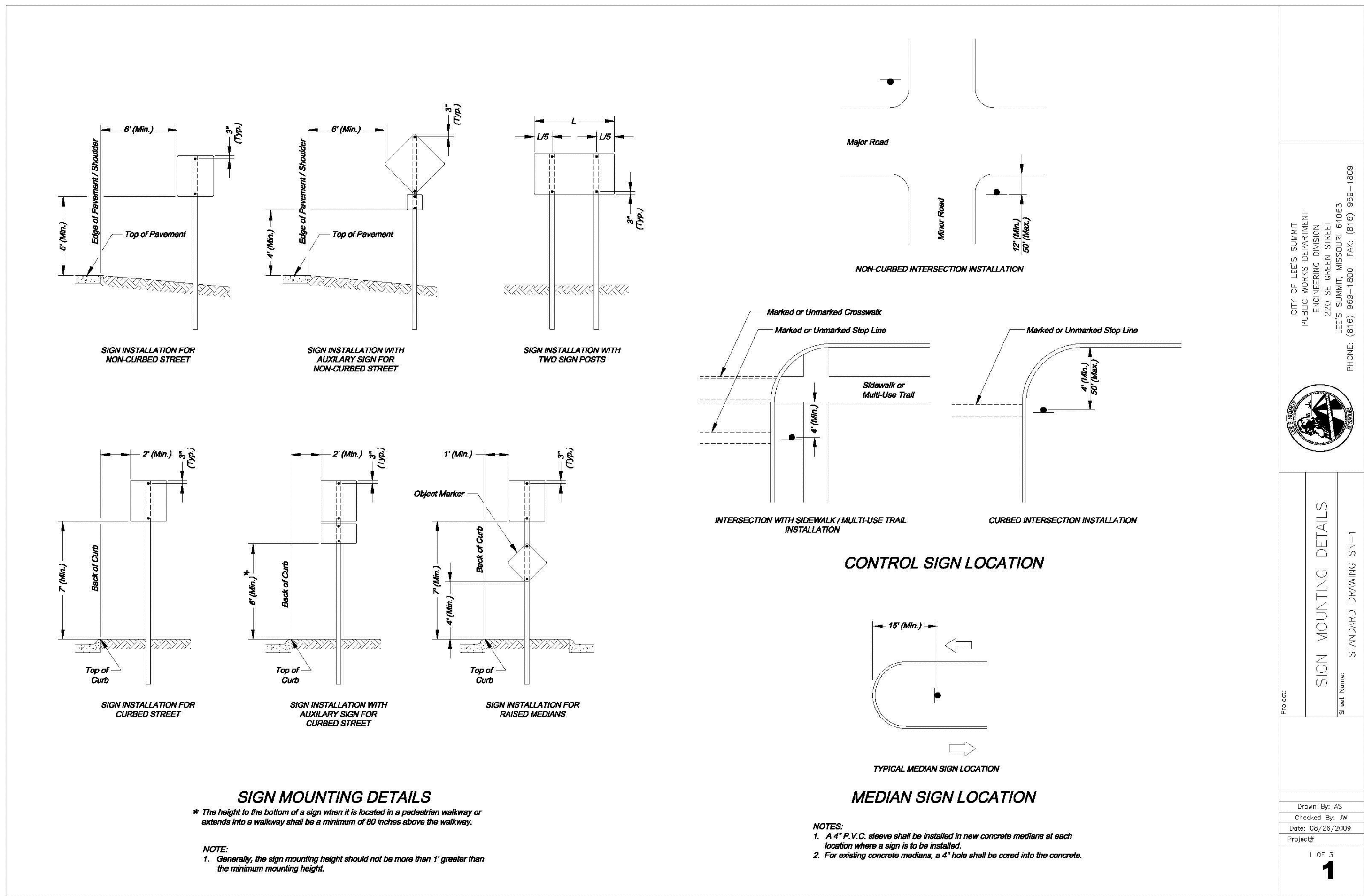
COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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2. 11-3-17	CITY COMMENTS
3. 11-13-17	DEFINITION GRADING PER OWNER
4. 12-4-17	CITY COMMENTS
5.	
6.	
7.	
8.	

SITE DETAILS

SHEET

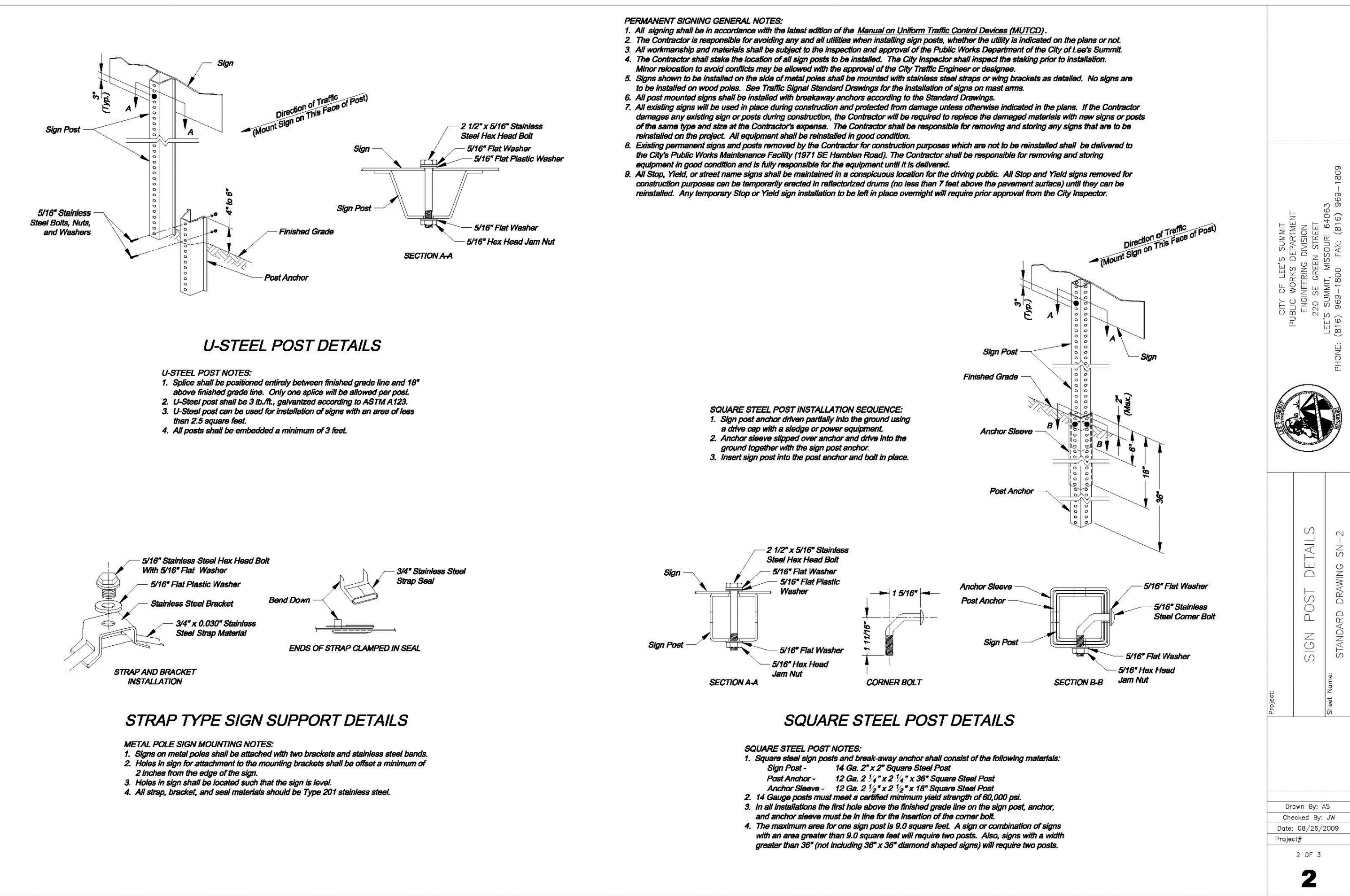
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OF



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
200 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64083
PHONE: (816) 866-1800 FAX: (816) 866-1809

Project: **SIGN MOUNTING DETAILS**
Sheet Name: **STANDARD DRAWING SH-1**

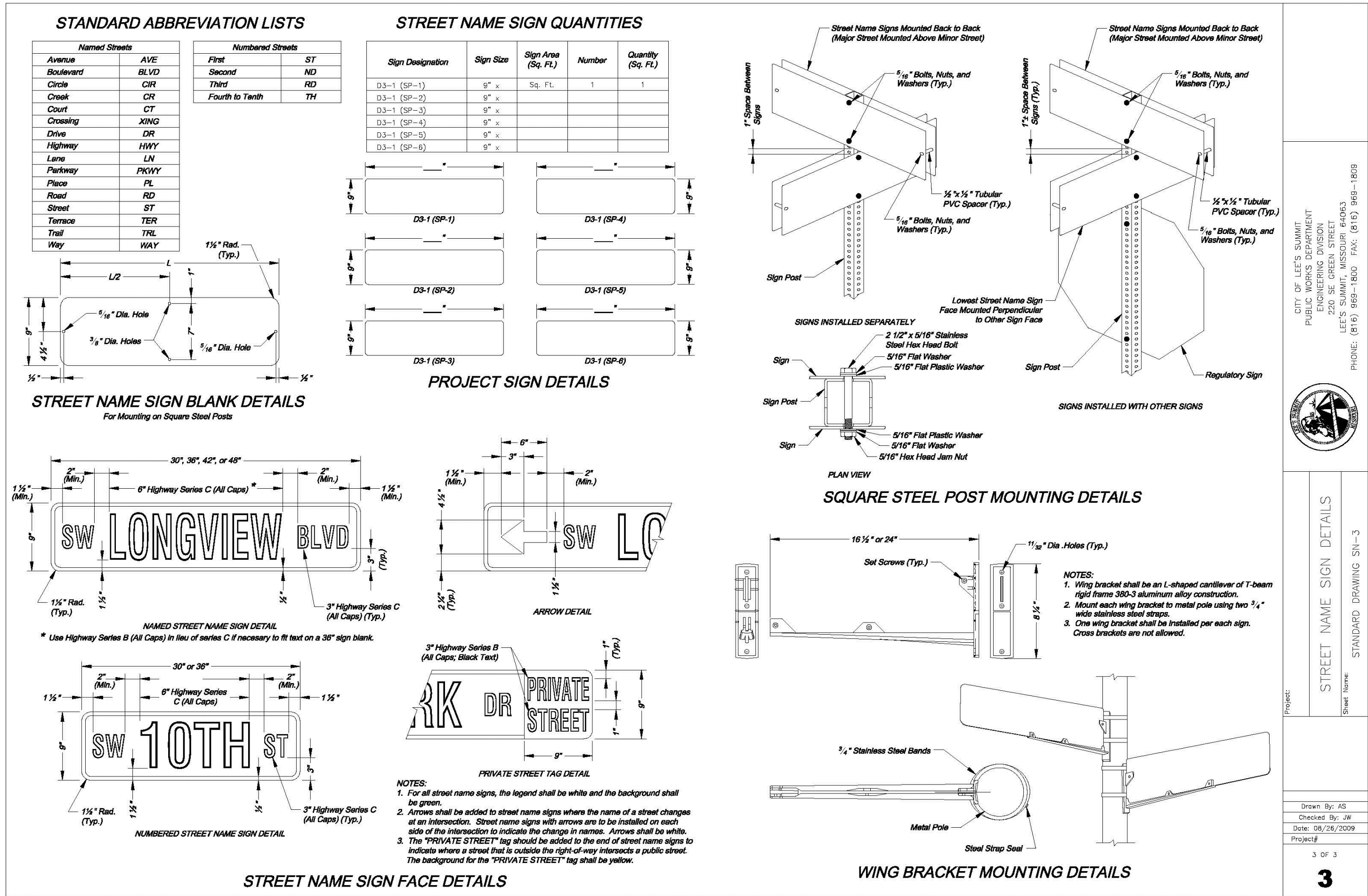
Drawn By: AS
Checked By: JW
Date: 05/26/2009
Project: **1**



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
200 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64083
PHONE: (816) 866-1800 FAX: (816) 866-1809

Project: **SIGN POST DETAILS**
Sheet Name: **STANDARD DRAWING SH-2**

Drawn By: AS
Checked By: JW
Date: 05/26/2009
Project: **2**



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
200 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64083
PHONE: (816) 866-1800 FAX: (816) 866-1809

Project: **STREET NAME SIGN DETAILS**
Sheet Name: **STANDARD DRAWING SH-3**

Drawn By: AS
Checked By: JW
Date: 05/26/2009
Project: **3**

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#E200200360-F #AC200100323-F #S200200859-F

PREPARED BY:
MARK ALLEN BREUER
NUMBER PE-2009007268
Mark Allen Breuer, P.E.
MO# PE-2009007268

COLEMAN EQUIPMENT
FINAL DEVELOPMENT PLANS
4101 NE LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1	10-18-17
2	11-13-17
3	11-13-17
4	12-4-17
5	12-4-17
6	12-4-17
7	12-4-17
8	12-4-17
9	12-4-17
10	12-4-17

STREET SIGN DETAILS

SHEET **C7.5** OF








LANDSCAPE DATA LOT 1 ONLY		
STREET FRONTAGE LANDSCAPE		
LAKEWOOD WAY TREES REQUIRED(1 PER 30')(745.37/30')	25 TREES	
LAKEWOOD WAY TREES PROVIDED	24 NEW TREES & 1 EXISTING TREE	
PRIVATE DRIVE TREES REQUIRED(1 PER 30')(502.31/30')	17 TREES	
PRIVATE DRIVE TREES PROVIDED	17 NEW TREES	
LAKEWOOD WAY SHRUBS REQUIRED(1 PER 20')(745.37/20')	37 SHRUBS	
LAKEWOOD WAY SHRUBS PROVIDED	37 SHRUBS	
PRIVATE DRIVE SHRUBS REQUIRED(1 PER 20')(502.31/20')	25 SHRUBS	
PRIVATE DRIVE SHRUBS PROVIDED	25 SHRUBS	

SITE LANDSCAPE REQUIRED		
TREES REQUIRED (1 PER 5,000 S.F. OF LOT AREA EXCL. BLDG.)(292,504-14,410-5,580/5000)	55 TREES	
TREES PROVIDED	55 TREES	
SHRUBS REQUIRED (2 PER 5,000 S.F. OF LOT AREA)(292,504.83-14,410-5,580/5000X2)	110 SHRUBS	
SHRUBS PROVIDED	110 SHRUBS	

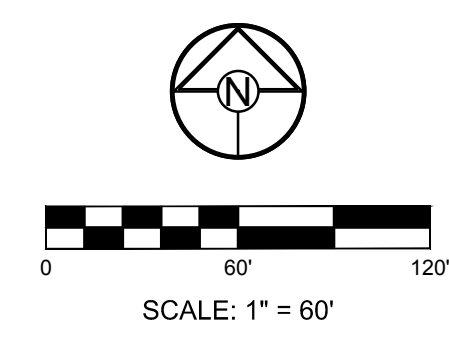
PARKING LOT LANDSCAPE		
LANDSCAPE AREA REQUIRED(5% OF PARKING AREA)(32,052.8X.05)	1,602.64 S.F.	
LANDSCAPE AREA PROVIDED	3,934.67 S.F.	
TREES REQUIRED(1 PER ISLAND)	6 TREES	
TREES PROVIDED	6 TREES	
PARKING SCREENING FROM LAKEWOOD WAY REQUIRED (2.5 FT. HT ALONG ENTIRE FRONTAGE ADJ. TO ST.12 SHRUBS PER 40 FT.)(169/40X12)	51 SHRUBS	
PARKING SCREENING FROM LAKEWOOD WAY PROVIDED	51 SHRUBS	
PARKING SCREENING FROM PRIVATE DRIVE REQUIRED (2.5 FT. HT ALONG ENTIRE FRONTAGE ADJ. TO ST.12 SHRUBS PER 40 FT.)(72/40X12)	22 SHRUBS	
PARKING SCREENING FROM PRIVATE DRIVE PROVIDED	22 SHRUBS	

- NOTES:
- UTILITY INFORMATION SHOWN IS DESIGNED LOCATION OR LOCATIONS BASED ON UTILITY LOCATES. AS BUILT LOCATIONS MAY VARY. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO COMMENCING LANDSCAPE INSTALLATION. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS OR OBSTRUCTIONS.
 - QUANTITIES INDICATED ON THE PLAN ARE FOR CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES PRIOR TO PLANTING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. THE PLAN QUANTITIES AND NUMBER OF SYMBOLS SHALL SUPERSEDE QUANTITIES IN THE SCHEDULE.
 - ALL PLANT MATERIAL SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT STANDARDS AND ANSI A60.1 THE AMERICAN STANDARD FOR NURSERY STOCK.
 - ALL TREES SHALL MEET THE SIZE REQUIREMENTS OF THE LEE'S SUMMIT ORDINANCE. ALL TREES SHALL BE CALLIPERED AND UNDERSIZED TREES SHALL BE REJECTED.
 - ALL SHRUBS TO BE UTILIZED FOR SCREENING SHALL BE 24" HEIGHT AT TIME OF PLANTING.
 - ALL PLANTING BEDS CONTAINING SHRUBS, GROUND COVER, PERENNIALS, ANNUALS SHALL BE IN A PLANTING BED WITH 3" MIN. DEPTH OF MULCH AND A 1/4" CUT EDGE.
 - ALL TREES SHALL HAVE A MIN. 3 FT. DIA. AREA THAT HAS 3" MIN. DEPTH OF WOOD MULCH.
 - ALL TURF AREAS SHALL BE SODDED UNLESS INDICATED ON THE PLANS.
 - ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN SHALL REQUIRE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT AND THE CITY OF LEE'S SUMMIT, PRIOR TO INSTALLATION.
 - THE LANDSCAPE ARCHITECT AND OWNER SHALL APPROVE GRADES AND CONDITION OF SITE PRIOR TO SODDING OPERATIONS.
 - INSTALLATION AND MAINTENANCE OF LANDSCAPING SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT STANDARDS.
 - ALL PLANT MATERIAL SHALL BE INSTALLED TO ALLOW A MINIMUM CLEARANCE BETWEEN PLANT AND ADJACENT PAVEMENT OF 1 FT. FOR PERENNIALS AND GROUND COVER AND 1.5 FT. FOR SHRUBS. A 2 FT. CLEARANCE(4 FEET FROM BACK OF CURB TO THE CENTER OF SHRUB)FOR CAR OVERHANG IS REQUIRED AT ALL PARKING ISLANDS AND PERIMETERS.
 - AFTER COMPLETE INSTALLATION OF ALL PLANT MATERIAL AND SOD THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT THAT THE WORK IS COMPLETE AND READY FOR REVIEW. THE LANDSCAPE ARCHITECT SHALL REVIEW THE LANDSCAPE INSTALLATION TO DETERMINE COMPLIANCE WITH THE APPROVED PLANS. WHEN THE LANDSCAPE INSTALLATION MEETS THE REQUIREMENTS OF THE APPROVED PLAN, THE LANDSCAPE ARCHITECT SHALL PROVIDE A SIGNED AND SEALED LETTER TO THE CITY STATING THAT ALL LANDSCAPE PLANTINGS HAVE BEEN INSTALLED PER THE APPROVED PLAN.
 - ALL EXTERIOR GROUND OR BUILDING MOUNTED EQUIPMENT (MECHANICAL, ELECTRICAL AND/OR TELEPHONE CABINETS), TRANSFORMERS, AIR CONDITIONING UNITS, ETC. SHALL BE SCREENED FROM PUBLIC VIEW BY INSTALLING FIVE SEA GREEN JUNIPERS EVENLY SPACED AROUND THE PERIMETER. FINAL LOCATION OF ANY EQUIPMENT SHALL BE DETERMINED AND VERIFIED WITH THE FINAL DESIGN AND PERMITTING OF THE PROJECT.
 - ALL ROOFTOP EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW WITH AN ARCHITECTURAL TREATMENT COMPATIBLE WITH THE BUILDING AND INTEGRAL TO THE OVERALL APPEARANCE OF THE BUILDING.

SHADE TREES						
	— AFA	24 EA.	Acer x freemanii 'Armstrong'	Armstrong Maple	3" Cal.	B&B
	— APC	3 EA.	Acer platanoides 'Columnare'	Columnar Norway Maple	3" Cal.	B&B
	— QRR	15 EA.	Quercus robur x bicolor(aka x warei) 'Long'	Regal Prince Oak	3" Cal.	B&B
	— UXF	18 EA.	Ulmus x Frontier	Frontier Elm	3" Cal.	B&B
	— ZSM	12 EA.	Zelkova serrata 'Musashino'	Musashino Columnar Zelkova	3" Cal.	B&B

SHRUBS					
•	— BSW	64 EA.	Buxus sinica var. insularis 'Wintergreen' fka a microphylla var.	Wintergreen Boxwood	3 gal. (18" ht. at planting) Cont.
•	— JCS	79 EA.	Juniperus chinensis 'Sea Green'	Sea Green Juniper	3 gal. (18" ht. at planting) Cont.
•	— RAG	90 EA.	Rhus aromatica 'Gro-Low'	Fragrant sumac	2 gal. Cont.
•	— VCK	12 EA.	Viburnum carlesii 'Korean Spice'	Koreanspice Viburnum	5 gal. Cont.
NOTE HEIGHT OF PLANTS TAKE PRECEDENCE OVER CONTAINER SIZE. HEIGHT SPECIFIED IS THE MINIMUM ALLOWED. IF THE PLANT HEIGHT IS NOT AVAILABLE IN THAT CONTAINER SIZE THEN THE CONTAINER SIZE THAT CONTAINS THE PLANT AT THE SPECIFIED HEIGHT MUST BE PLANTED.					

- EXISTING TREES
- EXISTING SHADE TREE THAT ARE 2" CAL. MINIMUM
 - EXISTING EVERGREEN TREE THAT ARE 6' HEIGHT MINIMUM
 - EXISTING SHADE TREE TO BE REMOVED
 - EXISTING EVERGREEN TREE TO BE REMOVED



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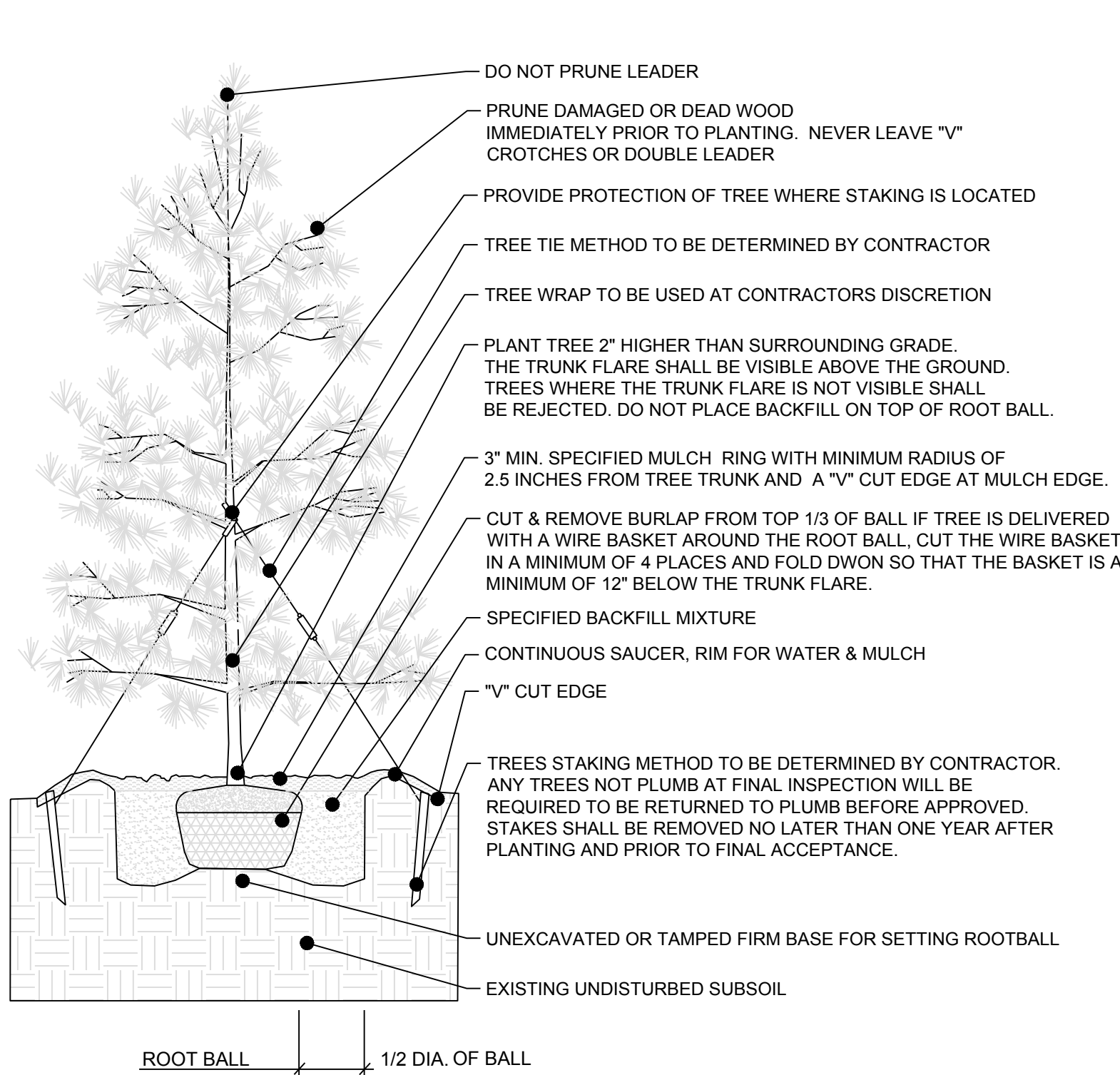
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LANDSCAPE PLAN

SHEET

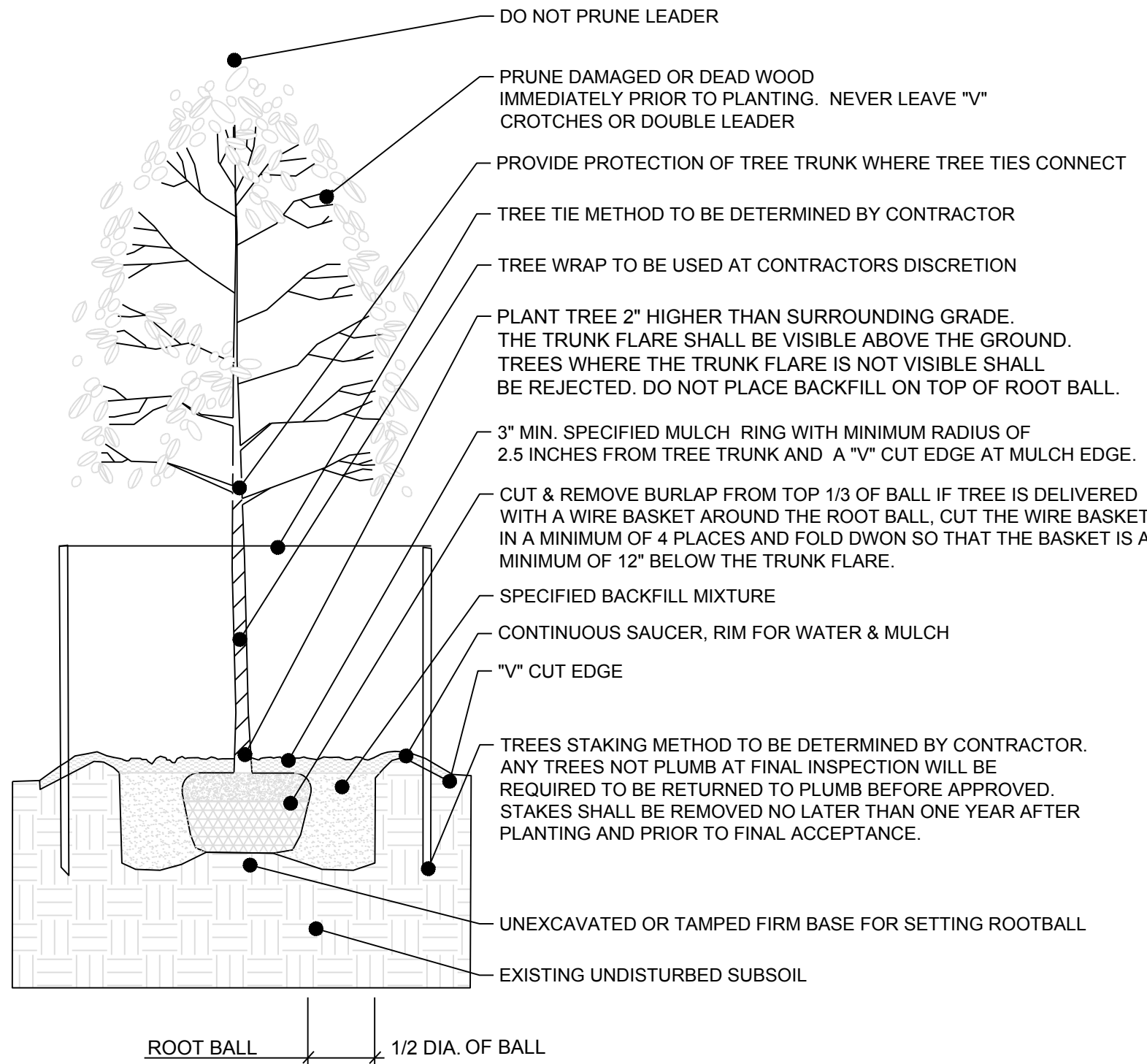
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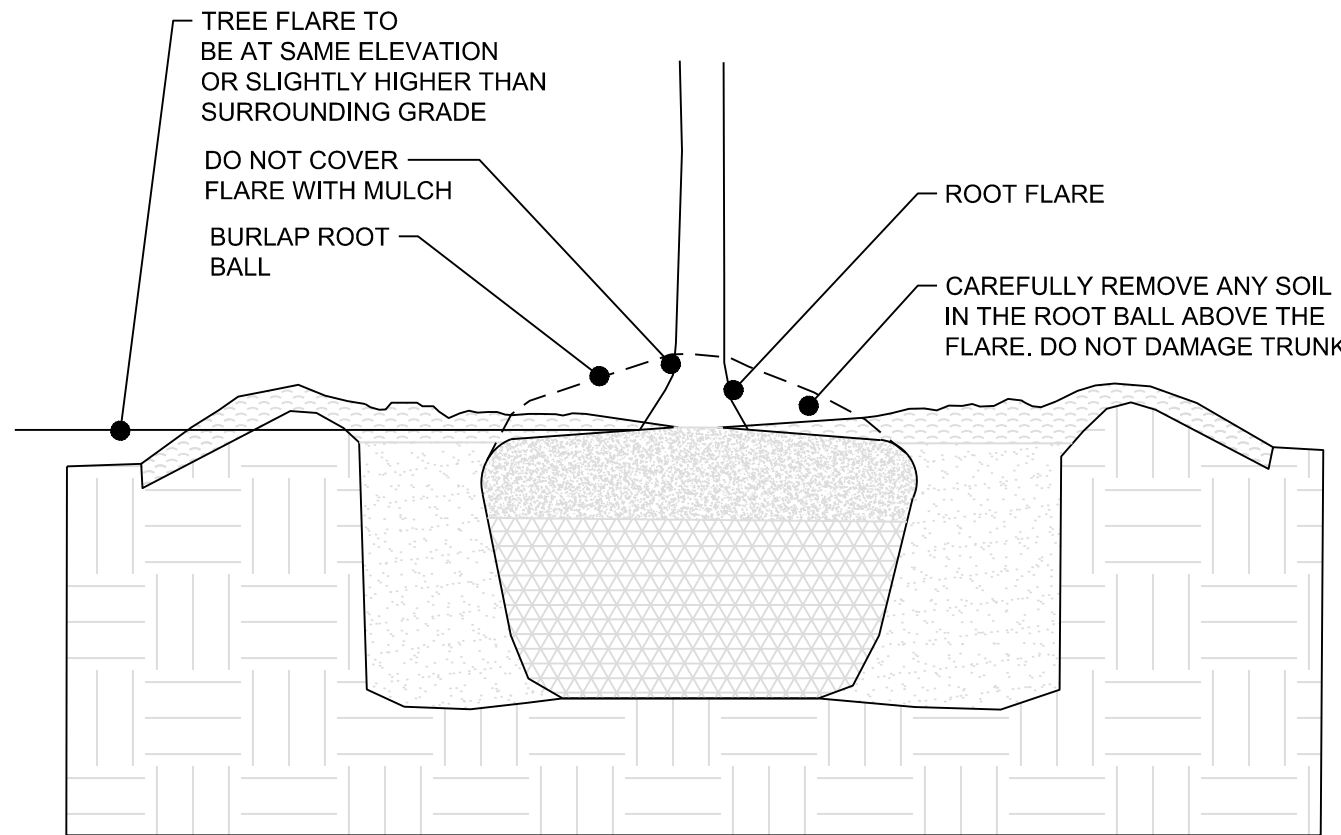
TYP. EVERGREEN PLANTING & GUYING

NO SCALE



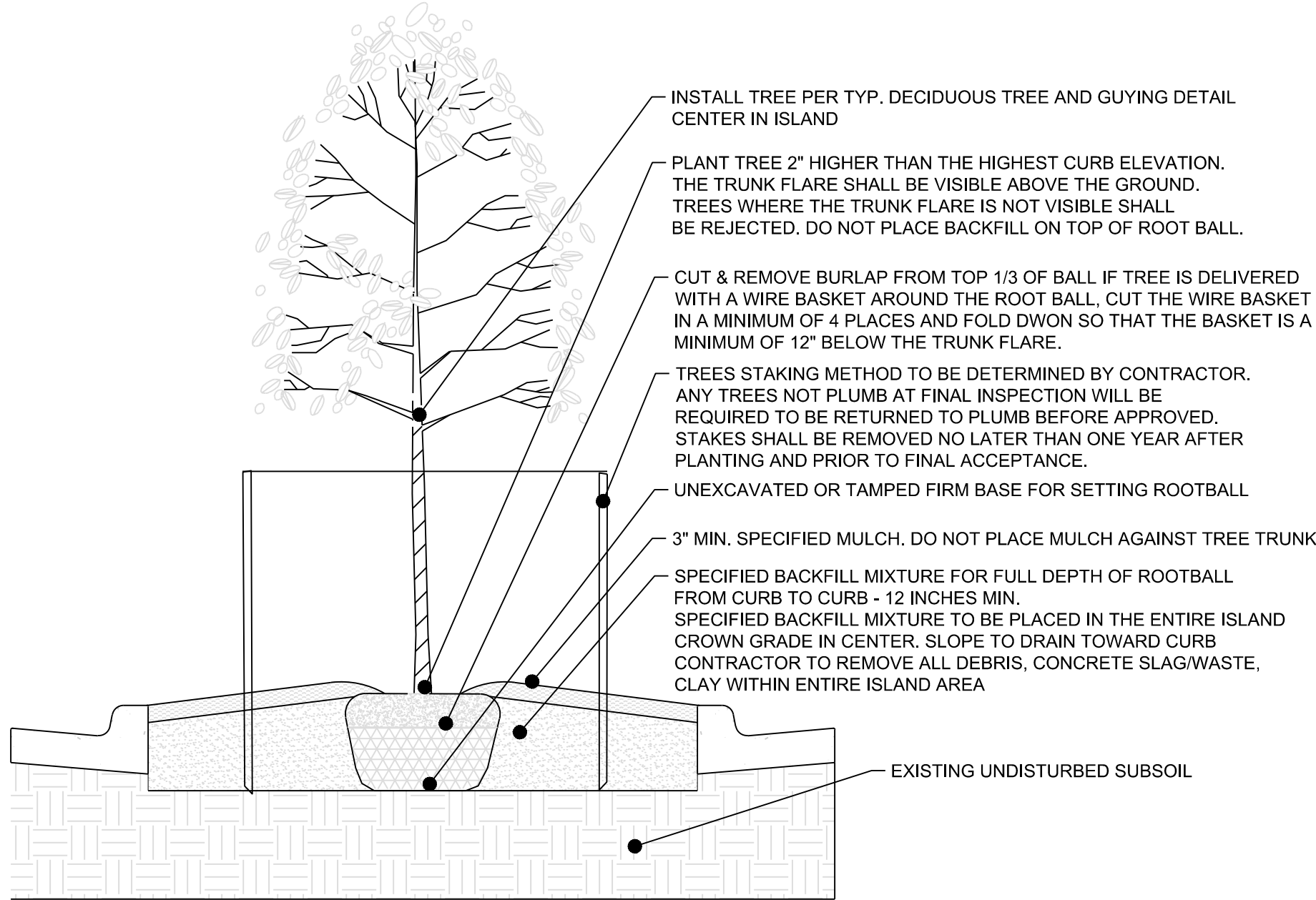
TYP. DECIDUOUS PLANTING & GUYING

NO SCALE



TYP. TREE PLANTING DEPTH

NO SCALE



TYP. PARKING LOT ISLAND PLANTING

NO SCALE

- All trees shall comply with State and Federal regulations. Trees should be obtained from local sources but must meet the quality guidelines herein. Trees transported from out of the region shall meet all State and Federal regulations and be certified to be disease and insect free.
- Provide healthy stock, grown in a nursery and reasonably free of die-back, disease, insects, eggs, bores, and larvae. At the time of planting all plants shall have a root system, stem, and branch form that will not restrict normal growth, stability and health for the expected life of the plant.
- All trees shall be nursery-grown.
- Plants shall be healthy with the color, shape, size and distribution of trunk, stems, branches, buds and leaves normal to the plant type specified. Tree quality above the soil line shall comply with the following:
 - Main branches shall be distributed along the central leader not clustered together. Potential main branches shall be evenly spaced and have appropriate space between them. They shall form a balanced crown appropriate for the cultivar/species.
 - Branch diameter shall be no larger than two-thirds (one-half is preferred) the diameter of the central leader measured 1 inch above the branch union.
 - The attachment of the largest branches (scaffold branches) shall be free of included bark.
 - Branches shall be distributed radially around and vertically along the trunk, forming a generally symmetrical crown typical for the species.
 - The attachment of scaffold branches shall be free of included bark.
- Branch structure: The better quality, large-maturing shade trees (lower extreme left) have all branches less than about two-thirds the trunk diameter. Poor quality shade trees (lower left center) have larger upright branches. Trees such as crape myrtle and other small-maturing trees can have several trunks. Trees with extensive defects in branches such as cracks and included bark (lower right) represent lesser quality than trees free of these potential problems. Included bark can be seen between the two arrows below. Branches with bark inclusions are weakly attached to the tree and can split easy.
- Evergreen branch structure: The branch pattern should dense, symmetrical and the branch stems should be evenly spaced completely around the trunk. The branches shall extend to within 12 inches of the ground and be along the full length of the trunk. Trees which are not symmetrical or that have an "open area" will be rejected. For structural integrity on evergreen trees, all side branches should be less than half the diameter of the adjacent trunk (less than one-third is preferred).
- Trunk: The tree trunk shall be relatively straight, vertical, and free of wounds that penetrate to the wood (properly made pruning cuts, closed or not, are acceptable and are not considered wounds), sunburned areas, conks (fungal fruiting bodies), wood cracks, sap leakage, signs of boring insects, galls, cankers, girdling ties, or lesions (mechanical injury).
- Evergreen tree trunk: Evergreen trees shall have a single trunk that is straight, vertical, and free of wounds that penetrate to the wood (properly made pruning cuts, closed or not, are acceptable and are not considered wounds), sunburned areas, conks (fungal fruiting bodies), wood cracks, sap leakage, signs of boring insects, galls, cankers, girdling ties, or lesions (mechanical injury). Codominant trunks (trunks of similar size) will not be accepted.
- Temporary branches, unless otherwise specified, can be present along the lower trunk below the lowest main (scaffold) branch, particularly for trees less than 1 inch in caliper. These branches should be no greater than 3/8-inch diameter. Clear trunk should be no more than 40% of the total height of the tree.
- Central Leader: **Trees shall have a single(one), relatively straight central leader** and tapered trunk, free of co-dominant stems and vigorous, upright branches that compete with the central leader. Preferably, the central leader should not have been headed. However, in cases where the original leader has been removed, an upright branch at least 1/2 (one-half) the diameter of the original leader just below the pruning point shall be present. All trees are assumed to have one central leader trees unless a different form is specified in the plant list or drawings. If the central leader is broken or damaged during delivery or installation the tree shall be rejected and removed from the site. If the central leader dies within the warranty period the tree shall be replaced at the end of the warranty period.
- All graft unions, where applicable, shall be completely closed without visible sign of graft rejection. All grafts shall be visible above the soil line.
- Trunk caliper and taper shall be sufficient so that the lower five feet of the trunk remains vertical without a stake. Auxiliary stake may be used to maintain a straight leader in the upper half of the tree.
- Plant roots shall be normal to the plant type specified. Root observations shall take place without impacting tree health. Root quality at or below the soil line shall comply with the project Root Acceptance details and the following:
 - The roots shall be reasonably free of scrapes, broken or split wood.
 - The root system shall be reasonably free of injury from biotic (e.g., insects and pathogens) and abiotic (e.g., herbicide toxicity and salt injury) agents. Wounds resulting from root pruning used to produce a high quality root system are not considered injuries.
 - A minimum of three structural roots reasonably distributed around the trunk (not clustered on one side) shall be found in each plant. Root distribution shall be uniform throughout the root ball, and growth shall be appropriate for the species.
 - Plants with structural roots on only one side of the trunk (J roots) shall be rejected.
 - The root collar shall be within the upper 1 inch of the substrate/soil. Two structural roots shall reach the side of the root ball near the top surface of the root ball. The grower may request a modification to this requirement for species with roots that rapidly descend, provided that the grower removes all stem girdling roots above the structural roots across the top of the root ball. Any excess soil shall be removed from the root ball so that the root flare is visible as indicated in the "Planting Depth Detail". The root collar shall be visible above the mulch layer.
 - The root system shall be free of stem girdling roots over the root collar or kinked roots from nursery production practices.
 - Plant Grower Certification: The final plant grower shall be responsible to have determined that the plants have been root pruned at each step in the plant production process to remove stem girdling roots and kinked roots, or that the previous production system used practices that produce a root system throughout the root ball that meets these specifications. Regardless of the work of previous growers, the plant's root system shall be modified at the final production stage, if needed, to produce the required plant root quality. The final grower shall certify in writing that all plants are reasonably free of stem girdling and kinked roots as defined in this specification, and that the tree has been grown and harvested to produce a plant that meets these specifications.
 - At time of observations and delivery, the root ball shall be moist throughout. Roots shall not show signs of excess soil moisture conditions as indicated by stunted, discolored, distorted, or dead roots.

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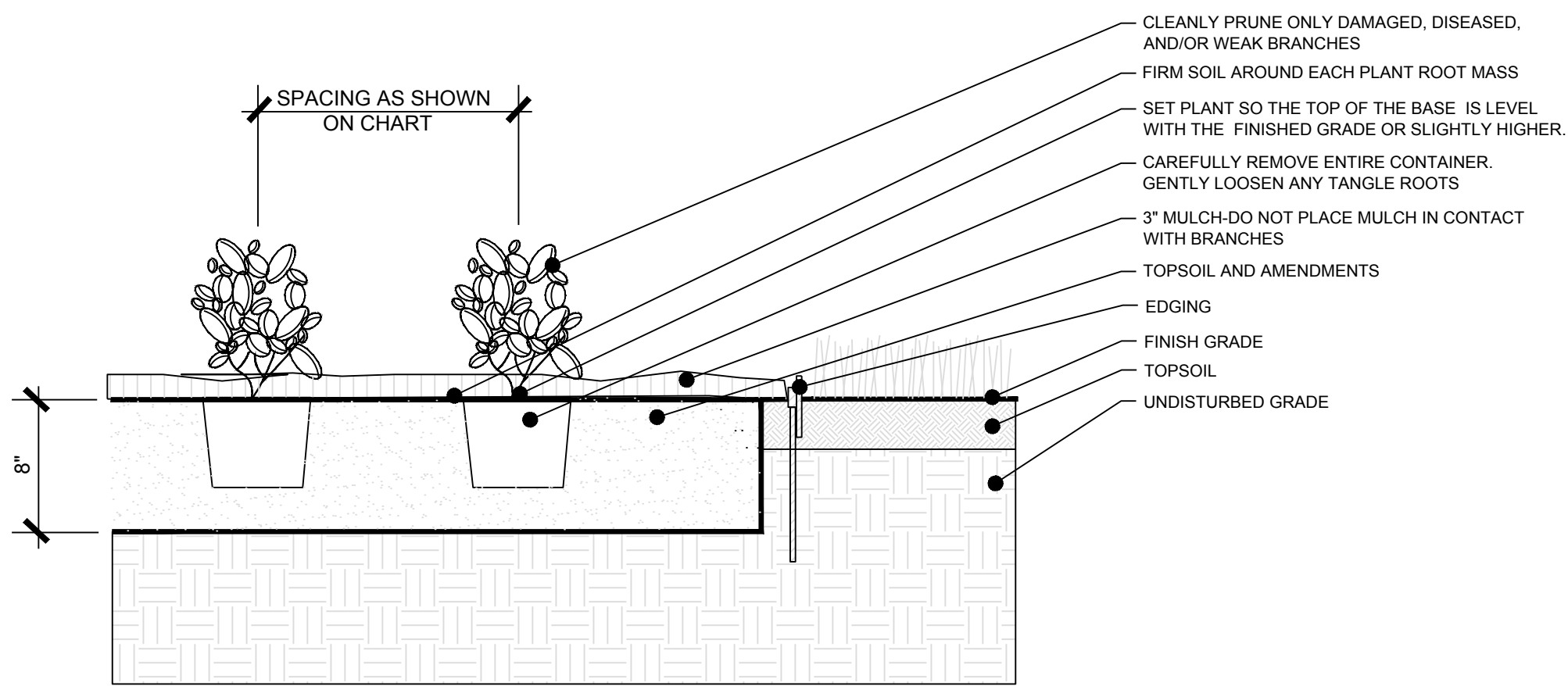
REVISION DATE	DESCRIPTION
10-18-17	CITY COMMENTS
11-3-17	CITY COMMENTS
11-13-17	DETENTION GRADING PER OWNER
12-4-17	CITY COMMENTS
9/22/2017	
17-019	

**LANDSCAPE
DETAILS**

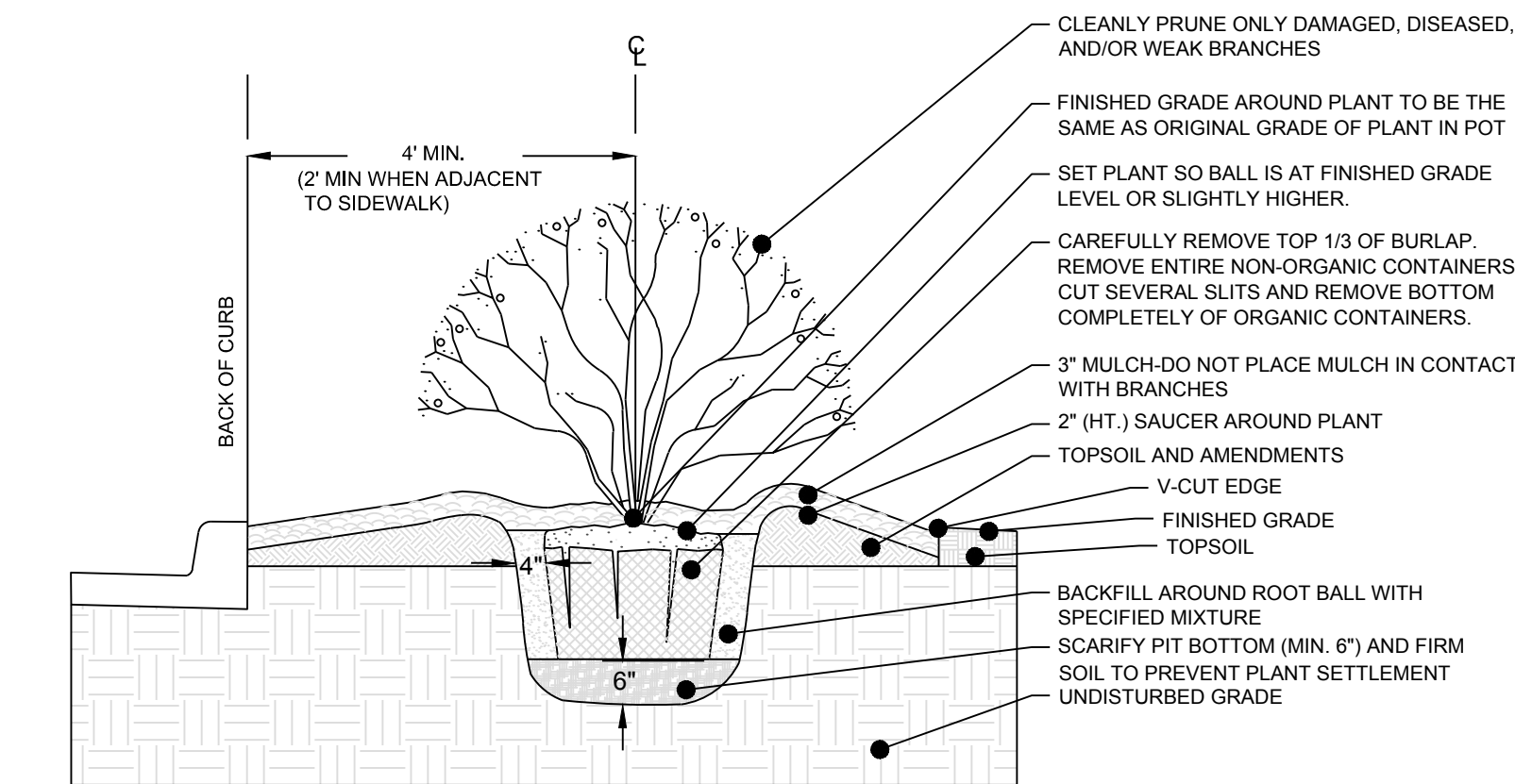
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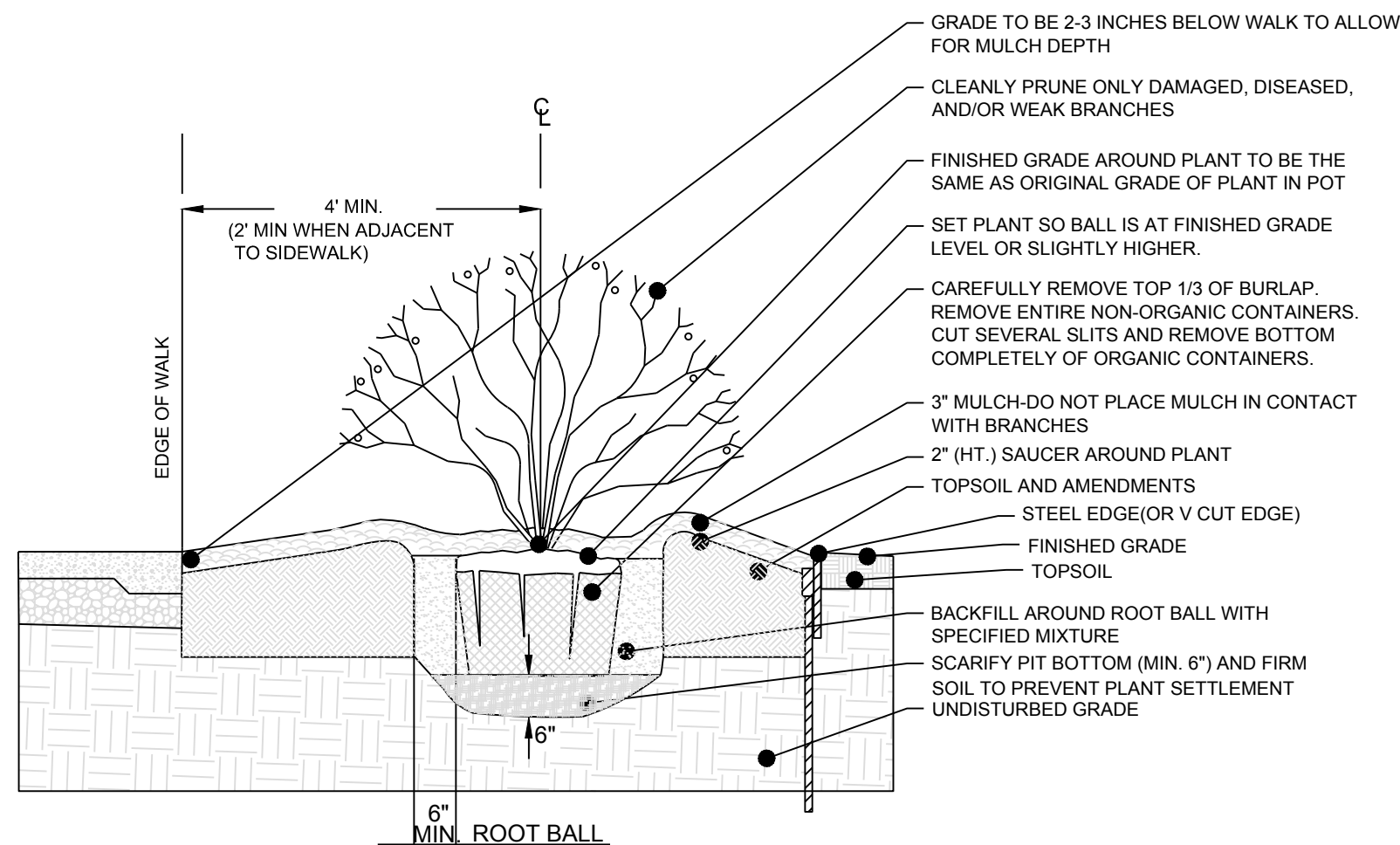
PLAN REVIEW/BID PLANS



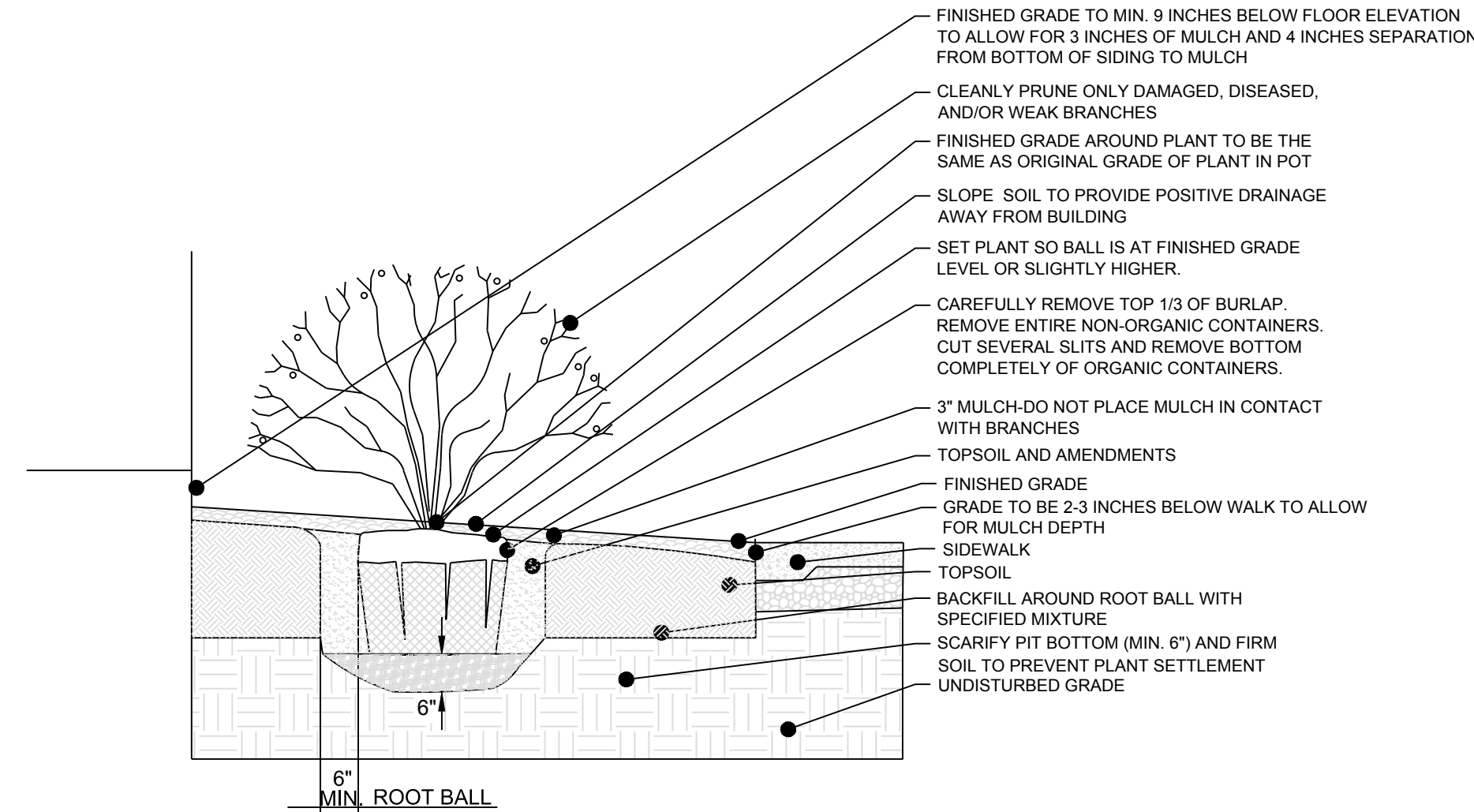
TYP. ANNUAL/PERENNIAL PLANTING
NO SCALE



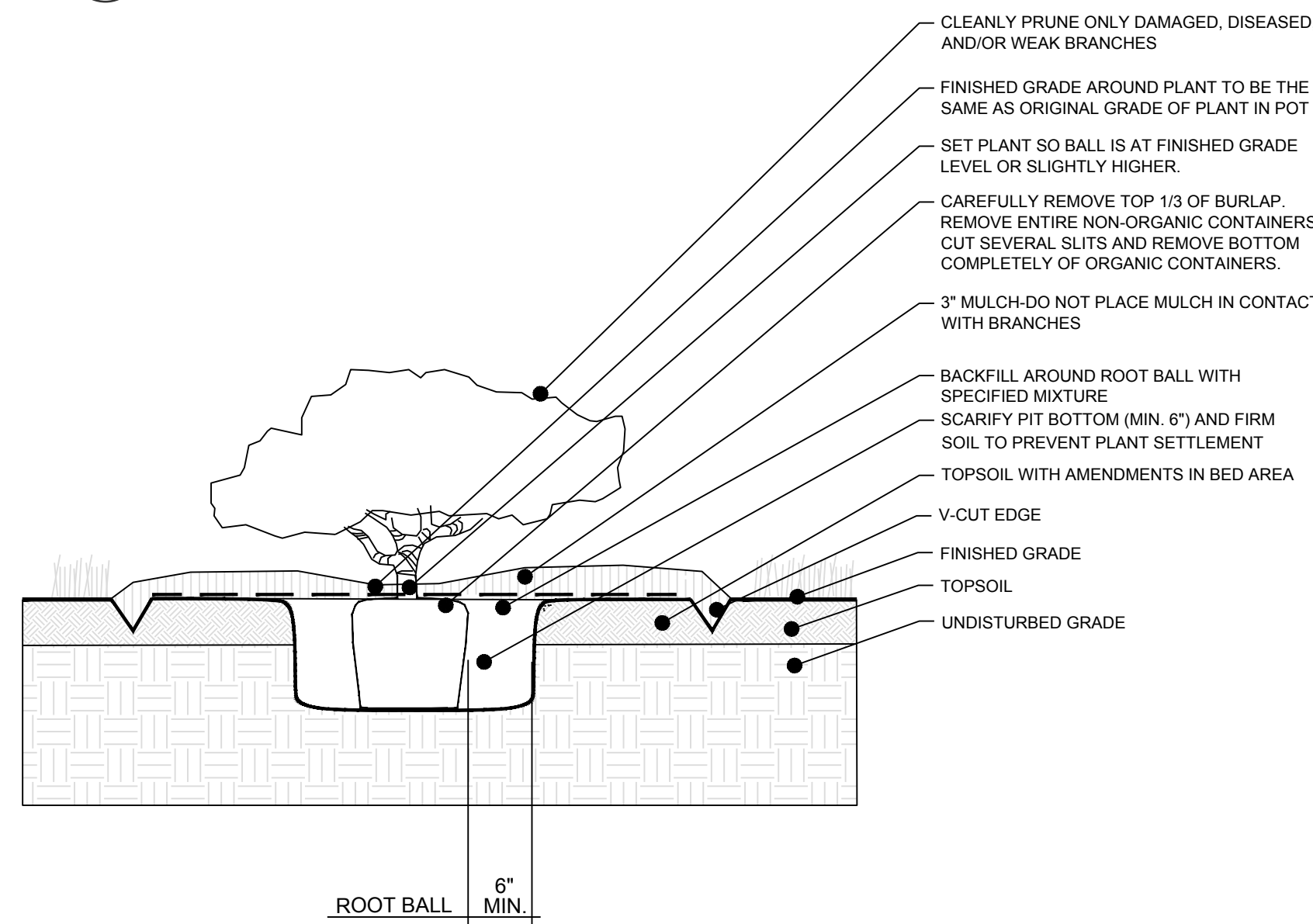
TYP. SHRUB PLANTING ADJACENT TO CURB
NO SCALE



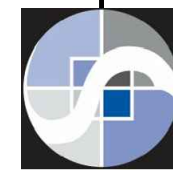
TYP. SHRUB PLANTING ADJACENT TO WALK
NO SCALE



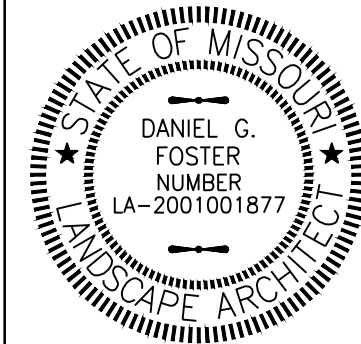
TYP. SHRUB PLANTING ADJACENT TO BUILDING
NO SCALE



TYP. SHRUB BED IN LAWN DETAIL
NO SCALE



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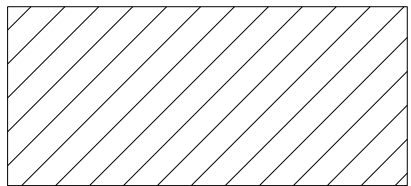
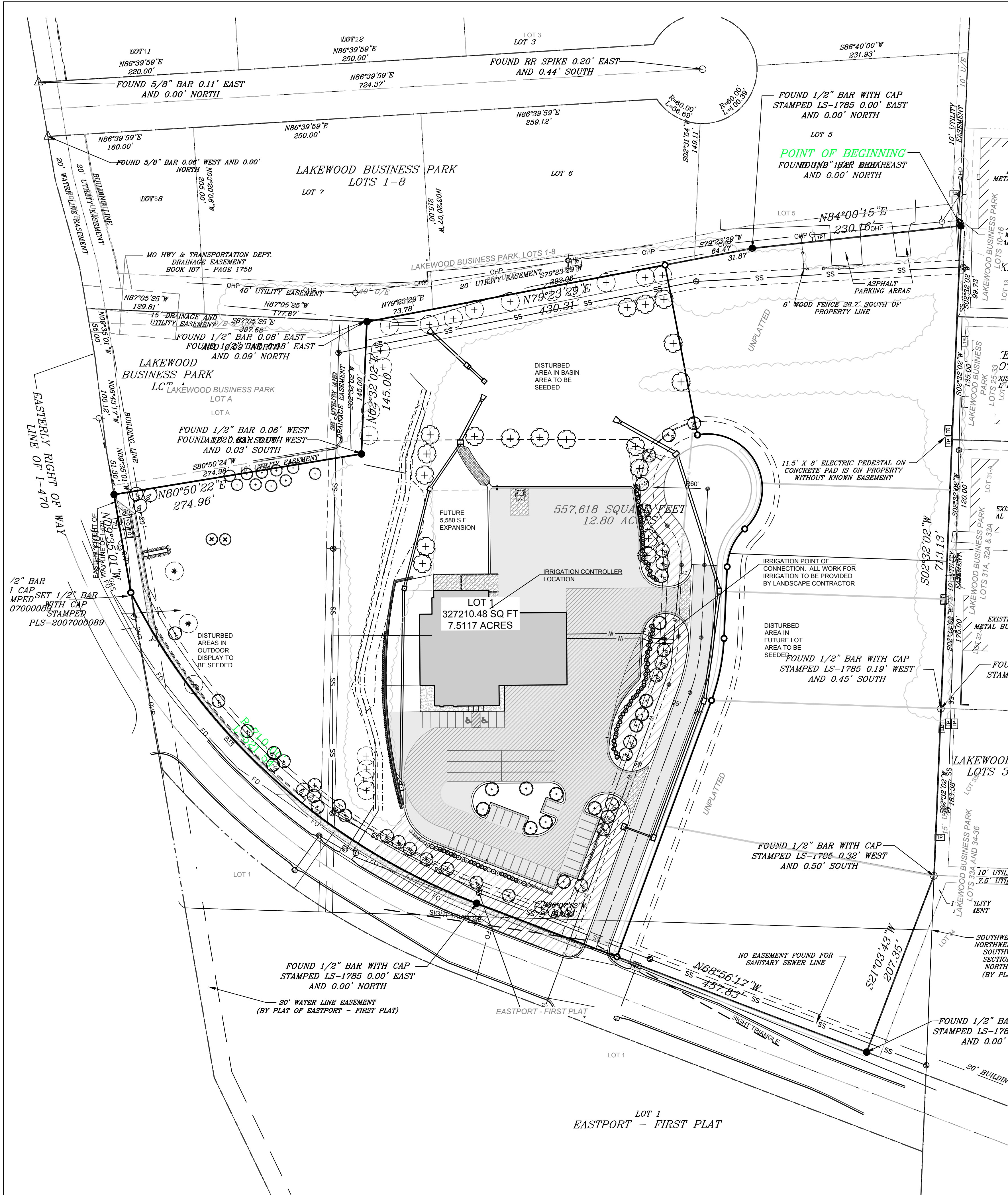
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6		
7		
8		

**LANDSCAPE
DETAILS**

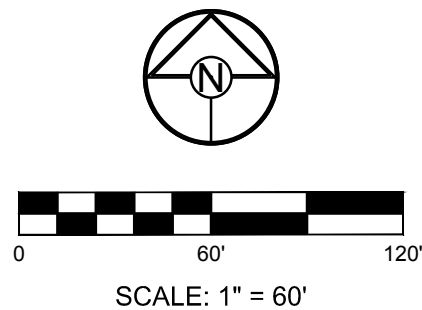
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PLAN REVIEW/BID PLANS



INDICATES AREA TO
BE IRRIGATED

IRRIGATION NOTES:

- METHOD OF DELIVERY FOR THE IRRIGATION SYSTEM IS DESIGN/BUILD.
- CONTRACTOR TO PROVIDE SEPARATE BIDS FOR THE FOLLOWING:
 - Fescue Sod-Turf Irrigation
 - Large Radius for display areas
- QUANTITIES PROVIDED ON THE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND COMPLETING ON TAKE OFFS FOR BIDS.
- FINAL IRRIGATION DESIGN SHALL BE DONE BY COMPETENT DESIGN/BUILD IRRIGATION CONTRACTOR AND/OR LANDSCAPE CONTRACTOR THAT HAVE PROVEN EXPERIENCE WITH SIMILAR PROJECTS. DRAWINGS ARE TO BE APPROVED BEFORE ANY CONSTRUCTION IS INITIATED. THE CONTRACTOR IS TO KEEP DETAILED CONSTRUCTION DRAWINGS AND PROVIDE ACCURATE AND LEGIBLE (AS-BUILT) DRAWINGS FOR ALL PHASES OF THE PROJECT. ALL IRRIGATION WORK IS TO BE COORDINATED AND SCHEDULED IN COOPERATION WITH ALL OTHER CONTRACTORS. ANY DIFFICULTIES, COST CHANGES, OR DAMAGES DUE TO LACK OF COOPERATION OR COMMUNICATION ARE THE RESPONSIBILITY OF THE CONTRACTOR, IRRIGATION CONTRACTOR AND/OR LANDSCAPE CONTRACTORS.
- THE LANDSCAPE/IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE AND AVAILABLE FLOW PRIOR TO CONSTRUCTION. IF DEFICIENCIES ARE NOTED THAT WILL HINDER THE SYSTEM'S PERFORMANCE, NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION TO CORRECT DEFICIENCIES.
- ALL LANDSCAPED AREAS SHALL HAVE AN AUTOMATIC UNDERGROUND SPRINKLER SYSTEM WHICH INSURES COMPLETE COVERAGE AND PROPERLY ZONED FOR REQUIRED WATER USES. EACH HYDRO-ZONE IS TO BE IRRIGATED WITH SEPARATE INDIVIDUAL STATIONS.
- SLEEVING SHALL BE INSTALLED AT ALL ROADS, DRIVES, WALKS, AND UTILITY CROSSINGS USING SCHEDULE 40 PVC. SLEEVES SHALL EXTEND 12" BEYOND SURFACE CROSSED.
- PLANTER BEDS AND LAWN AREAS ARE TO HAVE SEPARATE HYDRO-ZONES.
- MAIN LINES SHALL BE A MINIMUM DEPTH OF 36". LATERAL LINES SHALL BE A MINIMUM DEPTH OF 12".
- PROPER BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED PER ALL LOCAL, COUNTY, AND STATE REGULATIONS AND CODES WHEN CONNECTING TO A PUBLIC WATER SOURCE.
- POP-UP SPRINKLER HEADS SHALL HAVE A MINIMUM RISER HEIGHT OF 4" IN LAWN AREAS AND 12" IN PLANTER AREAS.
- ANNUALS, PERENNIALS, AND GROUND COVERS, SHALL HAVE A POP-UP SPRAY SYSTEM USING MIN. 12" POP-UPS. CONTRACTOR CAN UTILIZE SUBSURFACE DRIP IRRIGATION IN PLANTER BED AREAS.
- ELECTRONIC WATER DISTRIBUTION/TIMING CONTROLLERS ARE TO BE PROVIDED. MINIMUM CONTROLLER REQUIREMENTS ARE AS FOLLOWS:
 - PRECISE INDIVIDUAL STATION TIMING
 - RUN TIME CAPABILITIES FOR EXTREMES IN PRECIPITATION RATES
 - SUFFICIENT MULTIPLE CYCLES TO AVOID WATER RUN-OFF
 - POWER FAILURE BACKUP FOR ALL PROGRAMMED INDIVIDUAL VALVED WATERING STATIONS WILL BE DESIGNED AND INSTALLED TO PROVIDE WATER TO RESPECTIVE HYDRO-ZONES
- THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE 100% HEAD-TO-HEAD COVERAGE SQUARE OR TRIANGULAR SPACING AS APPROPRIATE.
- SPRINKLER HEADS SHALL BE ADJUSTED TO ELIMINATE OVERSPRAY ON ADJACENT IMPERVIOUS SURFACES SUCH AS SIDEWALKS, DRIVEWAYS, PATIO, FENCES, BUILDINGS, AND PARKING AREAS.
- PROVIDE MINIMUM (1) QUICK COUPLER VAL VIE PER EACH (6) AUTOMATIC VALVE ZONES. APPROVE LOCATIONS WITH OWNER.



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STATE OF MISSOURI
DANIEL G. FOSTER
NUMBER
LA-2001001877
LANDSCAPE ARCHITECT

Daniel G. Foster
Landscape Architect
MO# LA-2001001877

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CHECKED BY:	11-3-17	CITY COMMENTS
MAB/JS	11-13-17	DETENTION GRADING PER OWNER
DATE PREPARED:	12-4-17	CITY COMMENTS
9/22/2017		
PROJ. NUMBER:	17-019	

IRRIGATION
DESIGN
REQUIREMENTS

SHEET
IR-1