5/4/2020 8:02:50 AM

Saint Luke's East Hospital

FLEX CAPACITY EXPANSION
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

P R O J E C T T E A M

CONSTRUCTION MANAGER
McCownGordon Construction

850 Main Street
Kansas City, MO 64105
PHONE 816.960.1111
FAX 816.960.1182

ARCHITECT
ACI BOLAND, INC.

1710 WYANDOTTE STREET
KANSAS CITY, MO 64108
PHONE 816.763.9600
FAX 816.763.9757

CIVIL ENGINEER
McClure Engineering Company

1700 Swift Ave., Suite 100
North Kansas City, MO 64116
PHONE 816.756.0444

STRUCTURAL ENGINEER
Structural Engineering Associates, Inc.

1000 Walnut St, Suite 1570
Kansas City, MO 64106
PHONE 816.421.1042
FAX 816.421.1061

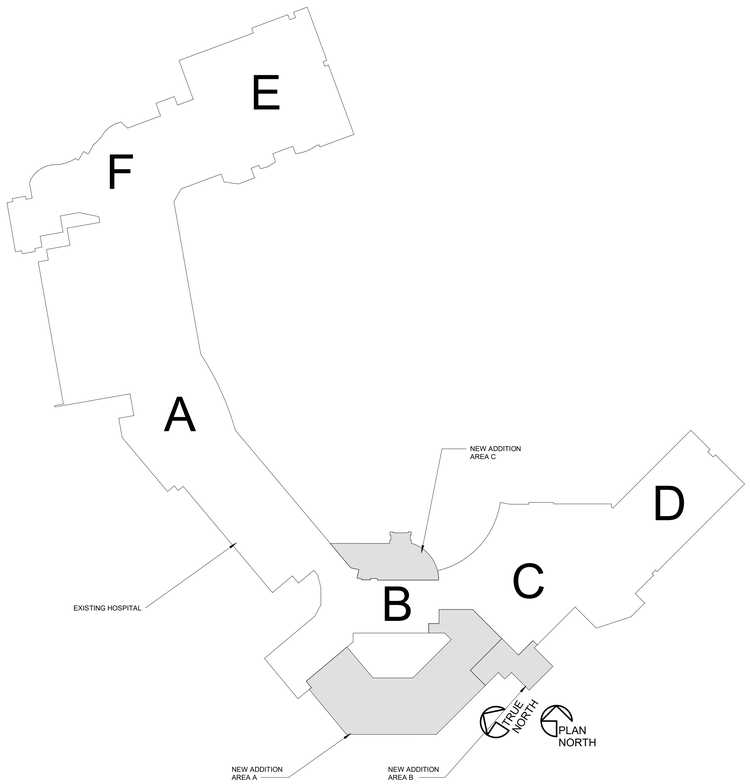
MEP ENGINEER
W. L. Cassell & Associates, Inc. now IMEG

1600 Baltimore, Suite 300
Kansas City, MO 64108
PHONE 816.842.8437
FAX 816.842.6441

ABBREVIATIONS

AC.	ACOUSTIC/ACOUSTICAL
ADD.	ADDENDUM
ADD'N.	ADDITION
ABC	AGGREGATE BASE COURSE
AFF.	ABOVE FINISH FLOOR
AGG.	AGGREGATE
A/C	AIR CONDITIONING
AL.	ALUMINUM
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
&	AND
ARCH.	ARCHITECT
ASP.	ASPHALT
@	AT
ACT	ACOUSTIC CEILING TILE/PANEL
∠	ANGLE
BLKG.	BLOCKING
BSMT.	BASEMENT
BM.	BEAM
B.M.	BENCHMARK
BD.	BOARD
B.O.	BOTTOM OF
BLDG.	BUILDING
CAB'T.	CABINET
C.I.P.	CAST IN PLACE
C.B.	CATCH BASIN
CLG.	CEILING
CEM.	CEMENT/CEMENTITIOUS
CG.	CENTIGRAM
CM	CENTIMETER
CL.	CENTER LINE
CER.	CERAMIC
C.T.	CERAMIC TILE
CHAN.	CHANNEL
C	CHANNEL
CLR.	CLEAR
C.O.	CLEAN OUT
CLOS.	CLOSET
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
C.J.	CONTROL JOINT CONSTRUCTION JOINT
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CORG.	CORRUGATED
CTR.	COUNTER
CTSK.	COUNTERSUNK
C.M.U.	CONCRETE MASONRY UNIT
D.P.	DAMP PROOFING
DB.	DECIBEL
DIAG.	DIAGONAL
DIAM.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DWL.	DOWEL
DN.	DOWN
D.S.	DOWNSPOUT
DWG.	DRAWING
EA.	EACH
ELEC	ELECTRIC
E.W.C.	ELECTRIC WATER COOLER
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXPAN.	EXPANSION
E.J.	EXPANSION JOINT
EXIST.	EXISTING
EXT.	EXTERIOR
FT.	FEET / FOOT
FIN.	FINISH
FIXT.	FIXTURE
FL.	FLASHING
FLR.	FLOOR
F.D.	FLOOR DRAIN
FLOR.	FLUORESCENT
FTG.	FOOTING
FND.	FOUNDATION
FR.	FRAME
F.H.C.	FIRE HOSE CAB.
F.V.	FIELD VERIFY
GA.	GAUGE
GL.	GLASS / GLAZING
GD.	GRADE
G.	GRAM
GRL.	GRILLE
GRD.	GRID
GND.	GROUND
G.S.	GALVANIZED STEEL
GYP.	GYPSUM
GWB/G.B.	GYPSUM BOARD
H.R.	HAND RAIL
HDN.	HARDENER
HDW.	HARDWARE
HDWD.	HARDWOOD
HTR.	HEATER
HT.	HEIGHT
H.P.	HIGH POINT
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIB
H.W.	HOT WATER
IN.	INCH / INCHES
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT.	JOINT
JST.	JOIST
K.P.	KICK PLATE
LAM.	LAMINATED
LB.	POUND
LDG.	LANDING
LTH.	LATH
LAV.	LAVATORY
LG.	LENGTH
LOC.	LOCATION
LT.	LIGHT
L.W.C.	LIGHT WEIGHT CONCRETE
LVR.	LOUVER
LOC.	LOCATION
M.O.	MASONRY OPENING
MAT'L.	MATERIAL
MFR.	MANUFACTURER
MB.	MARKER BOARD
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
M.L.	METAL LATH
M.	METER
MIN.	MINIMUM
MLDG.	MOLDING
MULL.	MULLION
N.G.	NATURAL GRADE
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. / #	NUMBER
OBS.	OBSCURE
O.C.	ON CENTER
OPNG.	OPENING
O.A.	OVERALL
O.D.	OUTSIDE DIAMETER
O.F.S.	OVERFLOW SCUPPER
O.F.D.	OVERFLOW DRAIN
O.H.D.	OVERHEAD DOOR
PTD.	PAINTED
PG.	PAGE
PLAM.	PLASTIC LAMINATE
PR.	PAIR
PNL.	PANEL
PTN.	PARTITION
¢	PENNY
PL	PLATE
PLBG.	PLUMBING
PLYWD.	PLYWOOD
PT.	POINT
P.S.I.	POUNDS PER SQ. IN.
P.S.F.	POUNDS PER SQ. FT.
P.C.	PRECAST
P.L.	PROPERTY LINE
R.	RISER, RISERS
RAD.	RADIUS
R.D.	ROOF DRAIN
RB.	RESILIENT BASE
RE.	REFER TO
REG.	REGISTER
REQ'D.	REQUIRED
REV.	REVISION
RF'G.	ROOFING
RGH.	ROUGH
RM.	ROOM
RND.	ROUND
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.C.	SEALED CONCRETE
SCR.	SCREW
SECT.	SECTION
SEL.	SELECT
SHG.	SHEATHING
SHT.	SHEET
SDG.	SIDING
SIM.	SIMILAR
SLDG.	SLIDING
SM.	SMOOTH
SPEC.	SPECIFICATION
SQ.	SQUARE
ST.	STAINED
STD.	STANDARD
S.S. / ST.STL.	STAINLESS STEEL
STRUC.	STRUCTURE
SUSP.	SUSPENDED
SW.BD.	SWITCHBOARD
SYS.	SYSTEM
T.	TREAD
T.C.	TOP OF CURB
T.G.	TEMPERED GLASS
T.O.	TOP OF
T.S.D.	TOP OF STEEL DECK
T.W.	TEACHERS WARDROBE
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V.	VENT
VERT.	VERTICAL
V.G.	VERTICAL GRAIN
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
VCP	VITREOUS CLAY PIPE
W.W.M.	WELDED WIRE MESH
W.C.	WATER CLOSET
W.H.	WATER HEATER
W.F.	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD.	WOOD
WDW.	WINDOW
W.W.	WINDOW WALL

LOCATION PLAN



SHEET INDEX

STATE OF MISSOURI
SAMUEL K. BECKMAN
ARCHITECT
05.01.20

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

ACI BOLAND ARCHITECTS
1710 Wyandotte
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T: 816.763.9600

ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number:
Missouri: #000958

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E-2002023253

STRUCTURAL CONSULTANT
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Licensee's Certificate of Authority Number:
000396

MEP CONSULTANT
W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:
00127265

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	04.24.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
7	05.04.20	BP4 - ASI5

BID PACKAGE #4 07.21.2020

A0.0

COVER SHEET

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PLAN FOR

SAINT LUKE'S EAST - NORTH PARKING LOT EXPANSION

CITY OF LEE'S SUMMIT, MISSOURI

GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF CITY OF LEE'S SUMMIT, MISSOURI.
2. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
3. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES, EVEN IF ONLY REMOTELY INVOLVED WITH THIS PROJECT ARE AS FOLLOWS:

ELECTRIC	KANSAS CITY POWER & LIGHT CO.	888-474-5275
GAS	MISSOURI GAS ENERGY	816-756-5252
WATER	CITY OF LEE'S SUMMIT	816-969-1940
TELEPHONE	AT&T	800-464-7928
SEWER	CITY OF LEE'S SUMMIT	816-969-1940
CABLE TV	TIME WARNER	816-358-8833
	COMCAST	816-833-3400

811 Know what's below. Call before you dig.

THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-(800)-DIG RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.

5. PRIOR TO ORDERING PREFRABRICATED STRUCTURES, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
6. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
7. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
8. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. ALL EXISTING UTILITIES SHALL BE ADJUSTED AS REQUIRED
9. ALL EXCESS AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF AT A LOCATION OFF SITE PROVIDED BY THE CONTRACTOR.
10. SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FREE FROM MUCK AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMEN OR MACHINERY ENGAGED IN SUBGRADE SURFACING, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUBGRADE TO PROVIDE A FIRM BASE FOR WORKING AND FOR PLACING THE FLOOR SLAB.
11. ALL EXCAVATION SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.

FLOOD NOTE:

THIS PROPERTY LIES WITHIN FLOOD ZONE X, DEFINED AS AREAS OF DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP, PREPARED BY THE FEDERAL EMERGENCY AGENCY'S NATIONAL FLOOD INSURANCE PROGRAM FOR LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, MAP NUMBER 29095C0409G AND DATED JANUARY 20, 2017.

SPECIFICATIONS

ALL WORK PERFORMED AND MATERIALS FURNISHED WITHIN PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LEE'S SUMMIT, MISSOURI. THE CONSTRUCTION AND MATERIALS FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE "AMERICAN PUBLIC WORKS ASSOCIATION, KANSAS CITY METROPOLITAN CHAPTER" AND ARE HEREBY MADE THE SPECIFICATIONS FOR THIS SET OF PLANS BY REFERENCE AS THOUGH FULLY SET FORTH HEREIN.

NOTE:

1. BY USE OF THESE PLANS THE CONTRACTOR AGREES THAT HE/SHE SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF THE CONSTRUCTION WORKERS AND OF THE PUBLIC.
2. ALL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS SET FORTH BY THE KANSAS CITY CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION AND THE CITY OF LEE'S SUMMIT, MISSOURI, WHICHEVER IS MORE STRICT.
3. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816)969-1200.

GENERAL LOCATION

PROJECT BENCHMARKS

BENCHMARK 1 ELEV.: 982.17
SET 5 PUNCH HOLES IN THE TOP OF A SOUTHWEST FLANGE BOLT ON A FIRE HYDRANT IN THE SOUTHEAST QUADRANT OF SOUTH RING ROAD AND DRIVE ENTRANCE SOUTHWEST OF THE HELICOPTER PAD.

BENCHMARK 2 ELEV.: 983.85
SET 5 PUNCH HOLES IN THE TOP OF A SOUTHWEST FLANGE BOLT ON A FIRE HYDRANT IN THE SOUTHEAST QUADRANT OF SOUTH RING ROAD AND PARK LOT E TO 50± DUE SOUTH OF THE SOUTHWEST CORNER OF MEDICAL OFFICE BUILDING.

LEGAL DESCRIPTION:

ALL OF LOT 1, SAINT LUKES HOSPITAL OF LEE'S SUMMIT LOTS 1 & 2, A SUBDIVISION OF LAND IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI.

CIVIL INDEX OF SHEETS

DESIGN ENGINEER
MATT EBLEN
1700 SWIFT AVE, SUITE 100
NORTH KANSAS CITY, MO
913-307-2588
MEBLEN@MECRESULTS.COM

PREPARED & SUBMITTED BY:
McCLURE
1700 SWIFT STREET, SUITE 100
NORTH KANSAS CITY, MISSOURI 64116

ENGINEER

DATE

ACCEPTED BY:

DATE

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE-2002000598
07/20/2020

ACI BOLAND ARCHITECTS
1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600
ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number:

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MEP CONSULTANT
W.L. Cassell & Associates, Inc.
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

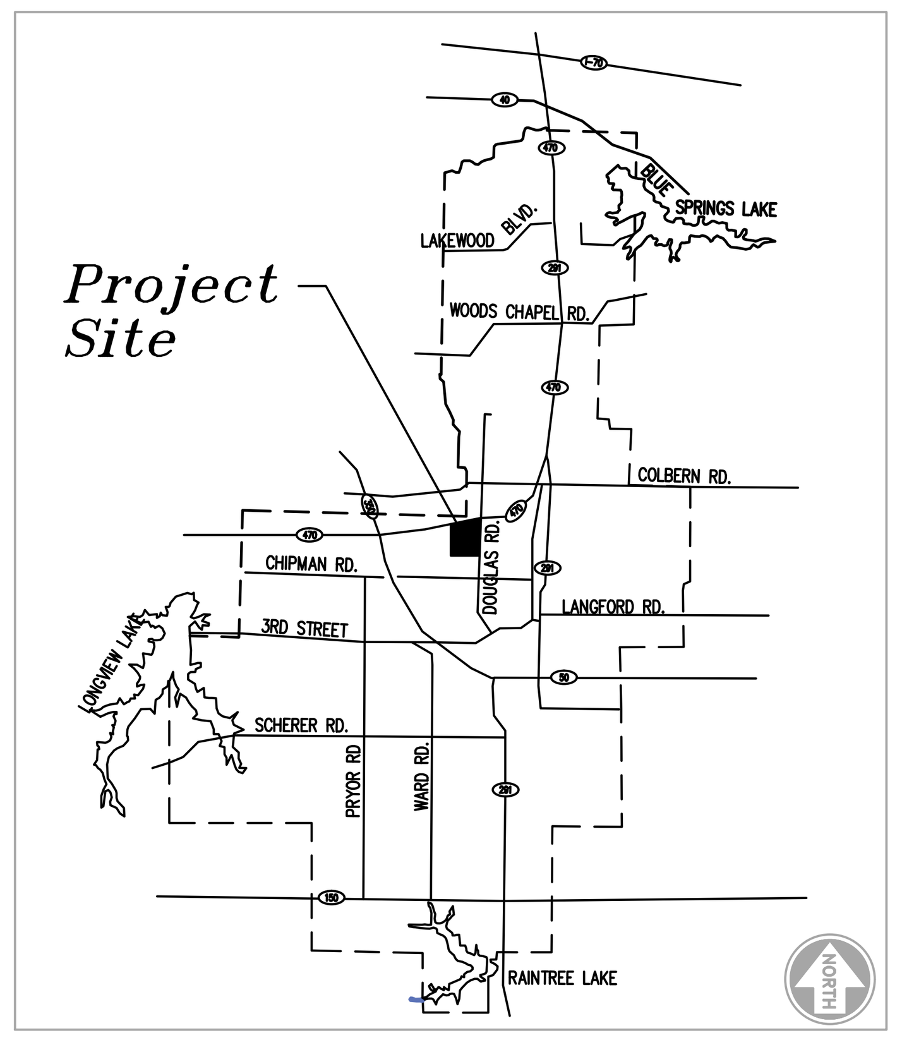
Number	Date	Description

C700

COVER SHEET

BID PACKAGE #4 07.21.2020

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000 COVER-NORTH.DWG



Location Map

General Notes

1. CONTAINING THE NET AREA OF 1,799,396 SQ. FT. OR 41.308 ACRES (SITE A) & 591,545 SQ. FT./13.58 AC. (SITE B).
2. ELEVATIONS ARE BASED ON USGS DATUM, NAVD 88.
3. CONTOURS ARE SHOWN AT 2 FEET INTERVALS.
4. ALL STREETS, STORM SEWERS, SANITARY SEWERS AND WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT, MISSOURI, DESIGN AND CONSTRUCTION MANUAL.
5. THE CONTRACTOR IS TO CONTACT PUBLIC WORKS INSPECTIONS AT (816) 969-1827 FOURTY EIGHT (48) HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
6. ALL PROPOSED UTILITY CROSSINGS OF EXISTING STREETS SHALL BE BORED PER THE CITY OF LEE'S SUMMIT STANDARD DETAIL (SS-3).
7. TYPE "CG-1" CONCRETE CURB & GUTTER SHALL BE USED THROUGHOUT THIS PROJECT. SEE KCAPWA STANDARD DETAIL (C-1).
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL, CITY ORDINANCE NO. 5813
9. THE WATER & SANITARY SEWER UTILITY CONTACT IS WATER UTILITIES DEPARTMENT, OPERATIONS DIVISIONS AT (816) 969-1940.
10. ALL WATER MAIN TAPS, 2" DIAMETER AND SMALLER, WILL BE MADE BY THE WATER UTILITIES, OPERATIONS DEPARTMENT (816) 969-1940 WITH A FORTY-EIGHT (48) HOUR NOTICE TO SCHEDULE THE TAP.
11. THE WATER SERVICE LINE FROM THE PUBLIC MAIN MUST BE TYPE K SOFT COPPER. ** NOT APPLICABLE FOR THIS PROJECT **

DEVELOPER:	ARCHITECTS:	ENGINEERS:
SAINT LUKE'S	ACI BOLAND	MCCLURE
4401 WORNALL ROAD	11229 NALL	1700 SWIFT ST STE 100
KANSAS CITY, MISSOURI 64111	SUITE 140	NORTH KANSAS CITY, MO 64116
ATTN: MARK BROOKS	LEAWOOD, KANSAS 66211	ATTN: MATT EBLEN
PHONE: (816) 932-3200	ATTN: VICTOR L. MOSBY	PHONE: (913) 307-2588
	PHONE: (816) 932-2479	

Impervious Area

		SITE A MAIN CAMPUS	SITE B WEST CAMPUS
PROPERTY AREA:		1,799,396 S.F./41.31 AC.	591,445 S.F./54.89 AC.
IMPERVIOUS AREA:	EXISTING & PROPOSED	1,026,215 S.F./23.56 AC.	90,067 S.F. ~ 2.070 AC.
PERVIOUS AREA:		773,181 S.F./17.75 AC.	501,378 S.F. ~ 11.51 AC.

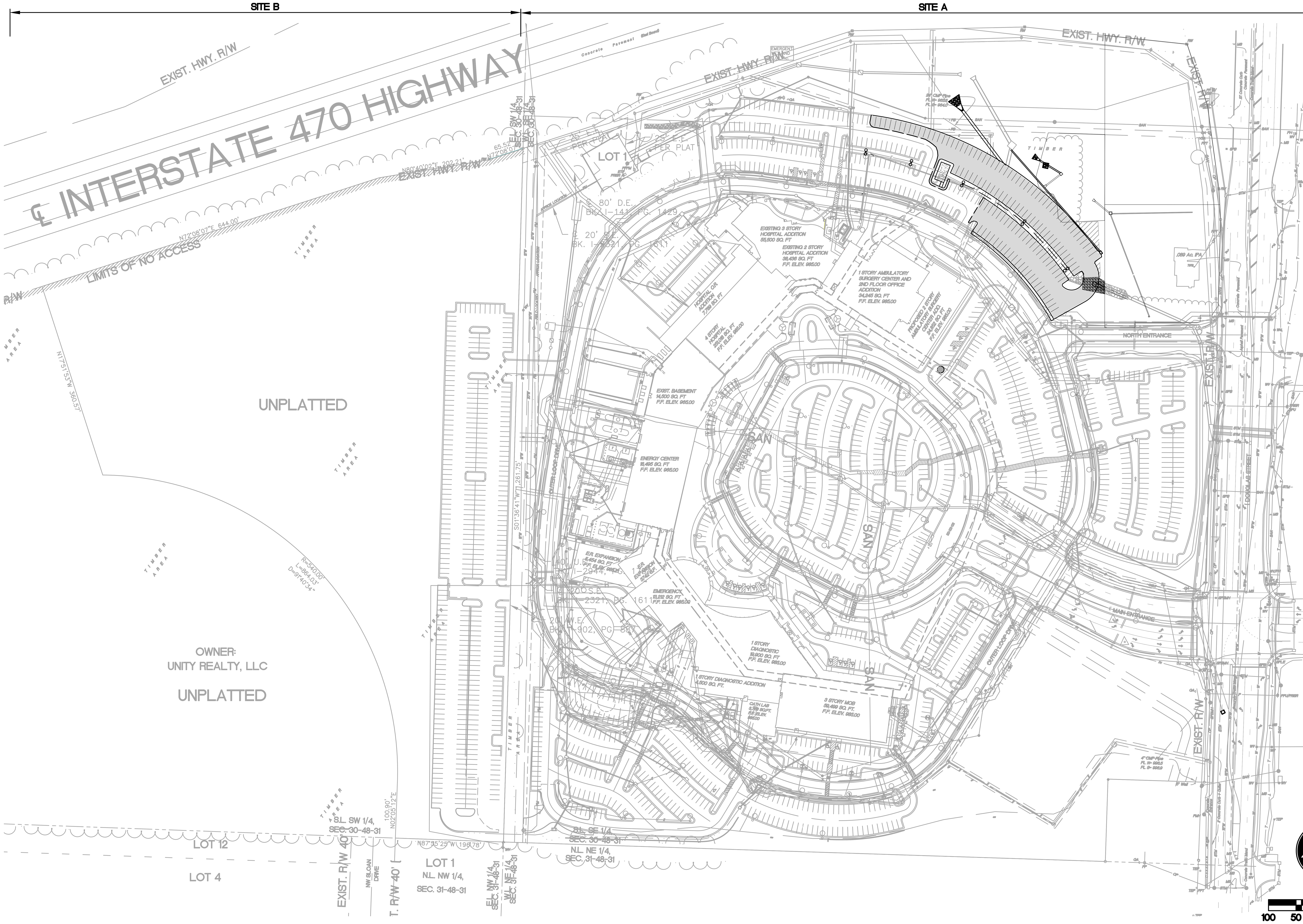
Legal Description (SITE B)

A tract of land in the Southwest Quarter of Section 30, Township 48 North, Range 31 West of the 5th Principal Meridian in Lee's Summit, Jackson County, Missouri being bounded and described as follows: Beginning at the Southeast corner of said Southwest Quarter; thence North 87 °55'25" West, along the South line of said Southwest Quarter, 196.78 feet; thence North 02°05'12" East, 100.90 feet; thence Northwesterly, along a curve to the left, being tangent to the last described course with a radius of 540.00 feet, a central angle of 91 °40'34" and an arc distance of 864.03 feet; thence North 17 °51'53" West, 360.57 feet to a point on the South right-of-way line of Interstate Highway 470, as now established; thence North 72°08'07" East, along said South right-of-way line, 644.00 feet; thence North 80 °40'02" East, continuing along said South right-of-way line, 202.21 feet; thence North 72 °08'07" East, continuing along said South right-of-way line, 65.52 feet to a point on the East line of said Southwest Quarter; thence South 01 °36'41" West, along said East line, 1,261.75 feet to the Point of Beginning.

Legal Description (SITE A)

All that part of the Southeast Quarter of Section 30, Township 48N., Range 31W. which lies South of the Southerly right-of-way line of Interstate Highway Route No. 470 and West of the Westerly right-of-way line of Douglas Street, as said highway and street are now both established in the City of Lee's Summit, Jackson County, Missouri, being more particularly described as follows:

Beginning at the Southwest corner of said Quarter Section; thence North 01 degrees 36 minutes 49 seconds East, along the Westerly line of said Quarter Section, being also along the Westerly line of a tract of land described in the instrument filed as Document No. I-0030460 in Book I-2842 at Page 1366 and along the Westerly line of a tract of land described in the instrument filed as Document No. I-0074185 in Book I-2929 at Page 1203, a distance of 1,262.41 feet, more or less, to a point on the Southerly right-of-way line of said Interstate Highway Route No. 470, as now established, said point being 170.00 feet Southeasterly of the survey centerline of said Interstate Highway Route No. 470; thence Northeasterly and Easterly along said Southerly right-of-way line, being also along the Northerly line of the tract of land described in said Document No. I-0074185, the following courses and distances; thence North 72 degrees 06 minutes 55 seconds East along a line 170.00 feet Southeasterly of and parallel with the survey centerline of said Interstate Highway Route No. 470, a distance of 135.26 feet to a point 170.00 feet Southeasterly of said survey centerline at Station 485+00; thence North 60 degrees 48 minutes 20 seconds East, 101.98 feet to a point 150.00 feet Southeasterly of said survey centerline at Station 486+00; thence North 72 degrees 06 minutes 55 seconds East along a line 150.00 feet Southeasterly of and parallel with the survey centerline of said Interstate Highway Route No. 470, a distance of 400.00 feet to a point 150.00 feet Southeasterly of said survey centerline at Station 490+00; thence North 88 degrees 45 minutes 34 seconds East, 314.22 feet to a point 240.00 feet Southeasterly of said survey centerline at Station 493+01.05 Measured (Sta: 493+01.34, Plan); thence South 83 degrees 54 minutes 46 seconds East, 296.89 feet to a point 350.00 feet Southeasterly of said survey centerline at Station 496+00; thence South 18 degrees 20 minutes 28 seconds East, 117.71 feet, to the point of intersection of said Southerly right-of-way line with the Westerly right-of-way line of said Douglas Street said point being 85.00 feet West of the survey centerline of said Douglas Street at Station 78+50; thence Southerly along the Westerly right-of-way line of said Douglas Street, being also along the Easterly line of said Document No. I-0074185, the following courses and distances; thence South 07 degrees 47 minutes 59 seconds East, 152.03 feet to a point 60.00 feet West of said survey centerline at Station 77+00; thence South 03 degrees 24 minutes 53 seconds East, 56.47 feet to a point on the Westerly right-of-way line of said Douglas Street as established by the instrument filed as Document No. 98-I-81985 in Book I-3293 at Page 1467, said point being 55.00 feet West of the survey centerline of said Douglas Street; thence South 01 degree 39 minutes 53 seconds West along the Westerly right-of-way line of said Douglas Street as established by said Document No. 98-I-81985 and by the instrument filed as Document No. 98-I-81986 in Book I- 3293 at Page 1469, no longer along the Easterly line of said Document No. I-0074185, being along a line 55.00 feet West of and parallel with the survey centerline of said Douglas Street, a distance of 1,024.27 feet to a point on the Southerly line of a tract of land described in said Document No. I-0030460, said point being 150.00 feet North of the Southerly line of the Southeast Quarter of said Section 30, as measured perpendicular to the Southerly line thereof; thence Westerly and Southerly along the Southerly and Easterly line of the tract of land described in said Document No. I-0030460, no longer along the Westerly right-of-way line of said Douglas Street, the following courses and distances; thence North 88 degrees 08 minutes 41 seconds West along a line 150.00 feet North of and parallel with the Southerly line of said Quarter Section, a distance of 175.25 feet; thence South 01 degree 51 minutes 19 seconds West, perpendicular to the last described course, a distance of 150.00 feet, to a point on the Southerly line of said Quarter Section; thence North 88 degrees 08 minutes 41 seconds West, along the Southerly line of said tract of land, being also along the Southerly line of said Quarter Section, a distance of 1,095.16 feet to the Point of Beginning. LESS and EXCEPT from the above described tract of land, the following: All that part of LEE'S SUMMIT DOUGLAS ROAD PUMP STATION, LOT 1, a subdivision in the City of Lee's Summit, Jackson County, Missouri, according to the recorded plat thereof. Containing the net area of 1,799,396 square feet or 41.308 acres, more or less.



Building Area Summary

EXISTING BUILDINGS:
- ENERGY CENTER - 18,495 S.F.
- BASEMENT - 14,500 S.F.
- EMERGENCY CENTER - 13,212 S.F.
- DIAGNOSTIC - 24,400 S.F.
- 3 STORY MOB - 59,499 S.F.
- 2 STORY HOSPITAL ADDITION - 38,436 S.F.
- 3 STORY HOSPITAL ADDITION - 55,500 S.F.
- HOSPITAL - 251,018 S.F.
- SURGERY CENTER - 15,563 S.F.
- 2ND STORY ON SURGERY CENTER: - 18,682 S.F.
- O.R. EXPANSION - 7,789 S.F.
- EMERGENCY ROOM EXPANSION- 3,742 S.F.
- CATH LAB ADDITION- 3,768 S.F.
- EMERGENCY ROOM EXPANSION - 5,454 S.F.
- 2 STORY SURGERY CENTER - 24,852 S.F.
- RADIATION ONCOLOGY/ UROLOGY - 2,920 S.F.
- O.R. HOSPITAL ADDITION - 10,847 S.F.
- FLEX FACILITY EXPANSION - 24,949 S.F.

PROPOSED BUILDINGS:

Parking Calculation

REQUIRED:	
HOSPITAL 179 BEDS 1.8/BED	323 STALLS
MEDICAL OFFICE	239 STALLS
1 STORY MOB	94 STALLS
1 STORY CATH LAB	19 STALLS
TOTAL STALLS	675
HANDICAP REQUIRED	14 STALLS
ACTUAL PARKING STALLS SITE A & SITE B):	
EXISTING STALLS	1486 STALLS
REMOVED STALLS	2 STALLS
PROPOSED STALLS	134 STALLS
TOTAL STALLS	1618
TOTAL HANDICAP PROVIDED	38 STALLS

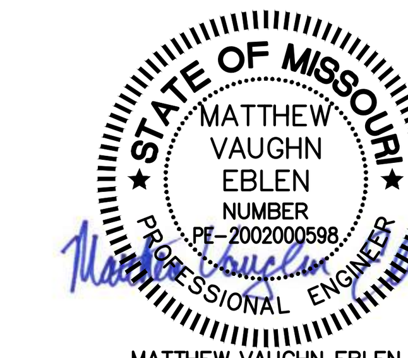
Benchmarks

TBM NO. 5= SET IRON BAR WITH PLASTIC CAP IN DOUGLAS ROAD RIGHT-OF-WAY, APPROXIMATELY 135' SOUTH OF THE NORTHEAST CORNER OF TRACT A, AT THE LOCATION AS SHOWN HEREON. ELEVATION: 990.41

TBM NO. 3386= SET IRON BAR WITH PLASTIC CAP IN DOUGLAS ROAD RIGHT-OF-WAY, APPROXIMATELY 550' NORTH OF THE SOUTHEAST CORNER OF TRACT B, AT THE LOCATION AS SHOWN HEREON. ELEVATION: 985.88

Legend

TVFB	CABLE TELEVISION CABLE AT BUILDING	TEP	TELEPHONE PEDESTAL
PRISR	POWER RISER	MS	METAL STREET SIGN
ETP	ELECTRIC TRANSFORMER PAD	STM	STORM SEWER
GP	GUY POLE	STMH	STORM SEWER MANHOLE
GA	GUY ANCHOR	SPBMH	SIGNAL PULL BOX MANHOLE
EM	ELECTRIC METER	SPLE	TRAFFIC SIGNAL POLE
PP	POWER POLE	SCB	SIGNAL CONTROL BOX
PPT	POWER POLE W/ TRANSFORMER	WV	WATER VALVE
PMH	POWER MANHOLE (ST LIGHTING)	M.	MEASURED
OP	OVERHEAD POWER	IB	IRON BAR
SAN	SANITARY SEWER	●	FOUND IRON BAR
SMH	SANITARY SEWER MANHOLE	○	SET 1/2" IRON BAR W/ PLASTIC C
RW	RIGHT-OF-WAY MARKER		



MATTHEW VAUGHN EBLEN
PE–2002000598
07/20/2020

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Structural Engineering Associates
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Phone Number: 816.842.8437
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Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

Number	Date	Description

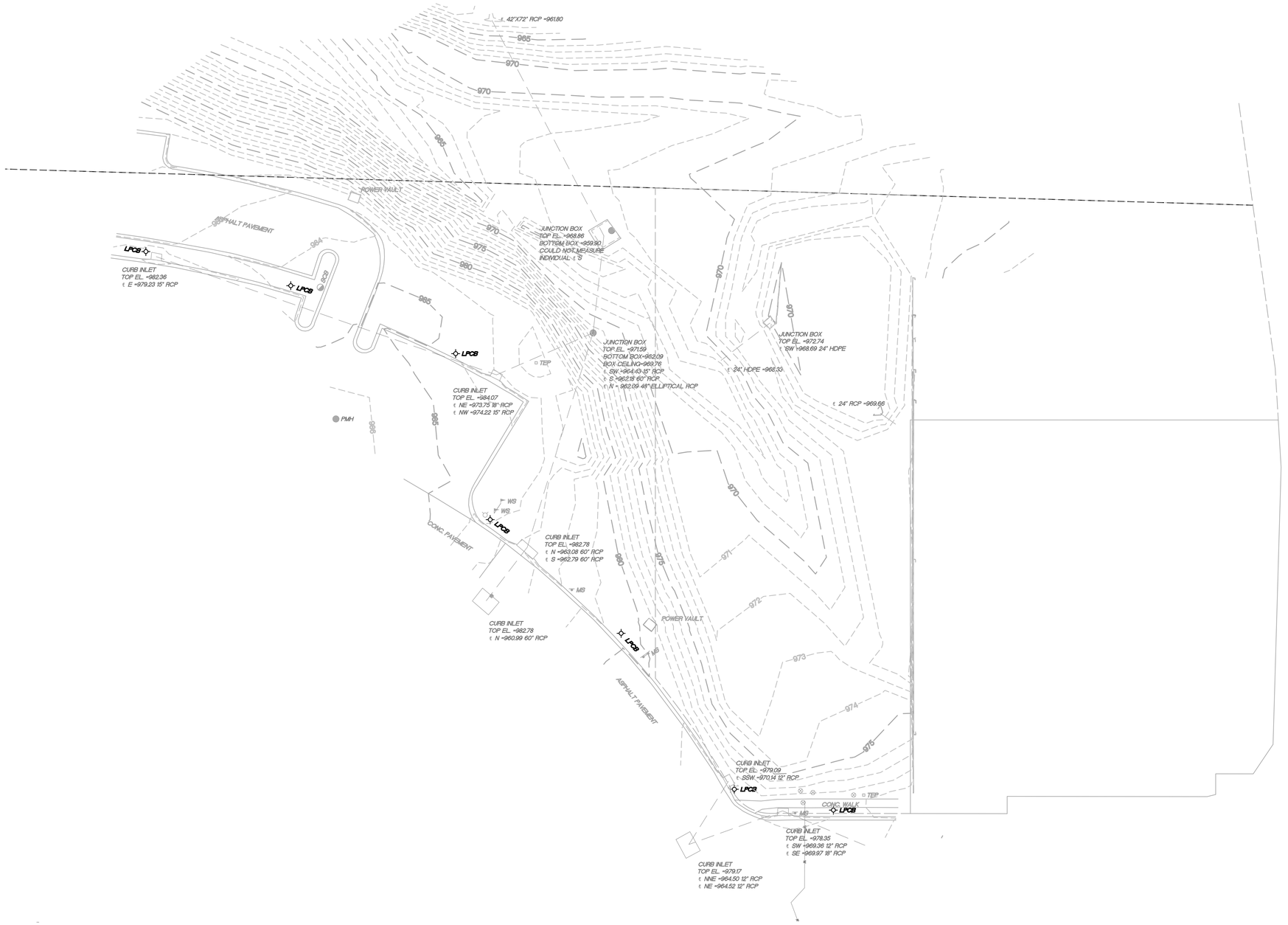
BID PACKAGE #4 07.21.2020

C701

REVISED FINAL DEVELOPMENT PLAN

2/20/2020 9:58:31 AM

PROJECT LOCATION



NORTH

30 15 0 30

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000 EXCON-NORTH.DWG

BID PACKAGE #4 07.21.2020

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER

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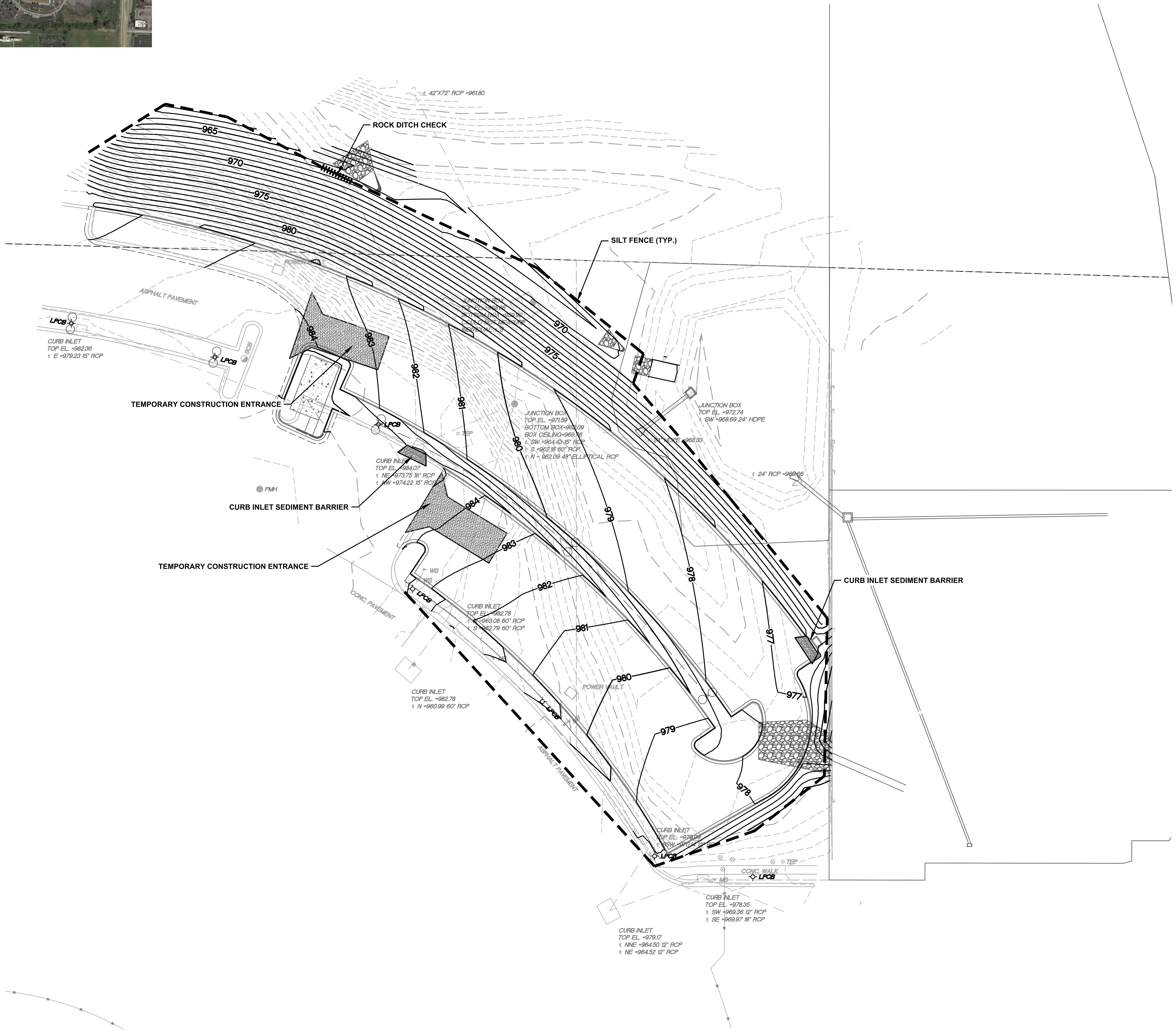
C702

EXISTING CONDITIONS



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). A COPY OF THE SWPPP SHALL BE AVAILABLE ON SITE AT ALL TIMES.
2. THE EROSION CONTROL FEATURES, NOTES AND SPECIFICATIONS IN THE SWPPP REPRESENT THE MINIMUM REQUIREMENTS ACCEPTABLE. LOCATIONS ARE TYPICAL AND MAY VARY ACCORDING TO CONTRACTORS STAGING AND LIMITS OF CONSTRUCTION. THE CONTRACTOR SHALL ADJUST, MODIFY AND ADD TO THIS PLAN AS NECESSARY TO CONTROL EROSION, SILTATION AND POLLUTION.
3. IT SHALL BE EACH CONTRACTOR'S RESPONSIBILITY TO CONTROL EROSION AND PREVENT POLLUTION FOR ALL WORK WHICH THEY ARE DIRECTLY INVOLVED.
4. EROSION CONTROL DEVICES ALONG THE DOWN SLOPE SIDE OF THE PROJECT SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY GRADING WORK.
5. WHEN POSSIBLE, WITHOUT ADVERSELY AFFECTING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL: MINIMIZE THE AMOUNT OF SURFACE AREA WHICH IS EXPOSED AT ONE TIME, LEAVE GRADED AREAS WITH A ROUGH TEXTURE, CONSTRUCT TEMPORARY TERRACES DURING GRADING OPERATIONS, AND LIMIT UNNECESSARY VEHICLE TRAFFIC IN GRADED AREAS.
6. THE SPILLAGE OF DEBRIS, INCLUDING THE TRACKING OF SOIL, OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE AVOIDED. THEREFORE THE CONTRACTOR SHALL PROVIDE STABILIZED DRIVES AT ALL ACCESS LOCATIONS AS NECESSARY AND SHALL REMOVE PROMPTLY ANY MATERIAL WHICH FINDS ITS WAY INTO THE PUBLIC RIGHT-OF WAY.
7. SILT FENCES SHALL BE PLACED ON A CONTOUR ELEVATION ALONG THE DOWNHILL SIDE AND FOR THE FULL EXTENT OF THE DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS. THE LAST FIVE FEET ON EACH END OF RUN OF SILT FENCE/STRAW BALE DIKE SHALL BE PLACED FACING UPHILL AT 90 DEGREES TO THE CONTOUR LINE.
8. THE CONTRACTOR SHALL PREVENT SILT AND SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM. STRAW BALE DIKES/SILT FENCE PLACED AROUND ALL STORM SEWER INLETS EXCEPT DURING CONSTRUCTION OPERATIONS WHICH REQUIRE THEIR REMOVAL IS ONE METHOD OF MEETING THE ABOVE REQUIREMENT.
9. EACH CONTRACTOR SHALL INSPECT THEIR EROSION CONTROL DEVICES EVERY 7 DAYS AND WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN DEPTH. THE CONTRACTOR SHALL REPAIR DAMAGE, CLEAN OUT SEDIMENT AND ADD ADDITIONAL CONTROL DEVICES AS NEEDED AS SOON AS PRACTICABLE AFTER INSPECTION. DEFICIENCIES MUST BE CORRECTED WITHIN 7 DAYS OF INSPECTION.
10. ALL AREAS UPON REACHING FINAL GRADE SHALL BE FINAL SEEDED AS SOON AS POSSIBLE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL SOIL DISTURBING ACTIVITIES ARE COMPLETE AND A UNIFORM PERENNIAL COVER WITH A DENSITY OF 70 % (MINIMUM) IS ESTABLISHED.
11. WHERE GRADED AREAS DRAIN ONTO PAVED AREAS, SILT FENCE SHALL BE PLACED AT THE BACK OF CURB TO PREVENT SILT FROM ENTERING THE PAVED AREAS. WHEN THESE EROSION CONTROL DEVICES ARE NOT PLACED ON THE CONTOUR, THEN THEY SHALL HAVE INSTALLED AT 50' INTERVALS A 5' LENGTH PLACED AT 90 DEGREES TO THE MAIN LENGTH.
12. ALL STORM SEWER INLETS SHALL HAVE INLET PROTECTION AFTER STORM SEWER CONSTRUCTION.
13. CONTRACTOR SHALL INSTALL CONCRETE WASHOUT AREAS AT VARIOUS LOCATIONS AS REQUIRED TO FACILITATE CONSTRUCTION
14. BY USE OF THESE PLANS THE CONTRACTOR AGREES THAT HE SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF THE CONSTRUCTION WORKERS AND OF THE PUBLIC.
15. CONTRACTOR SHALL FURNISH EVIDENCE THAT THEIR INSURANCE MEETS THE REQUIREMENTS OF THE CITY MUNICIPAL CODE.

EROSION CONTROL LEGEND

- SILT FENCE
- CONSTRUCTION ENTRANCE
- CURB INLET SEDIMENT BARRIER
- 924 EXISTING 1' CONTOUR
- 925 EXISTING 5' CONTOUR
- 929 PROPOSED 1' CONTOUR
- 930 PROPOSED 5' CONTOUR
- ROCK DITCH CHECK

NORTH

40 20 0 40

STATE OF MISSOURI
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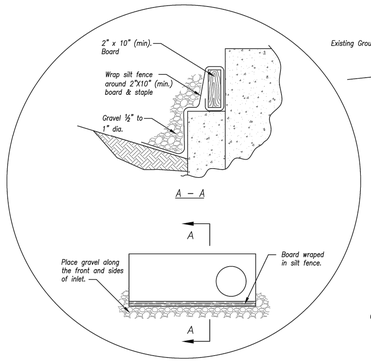
BID PACKAGE #4 07.21.2020

C703

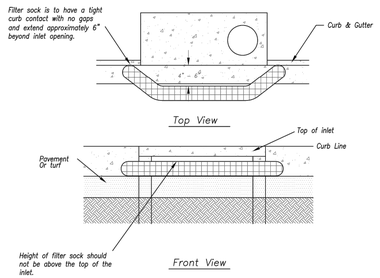
EROSION CONTROL



Detail A

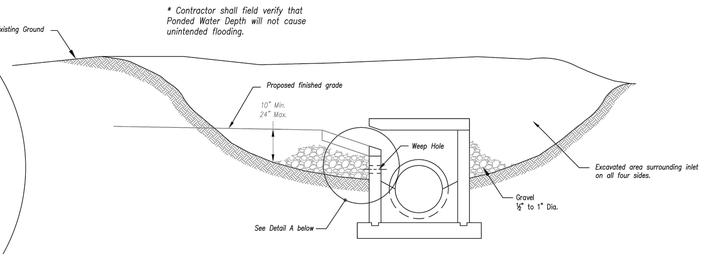
EARLY STAGE CURB INLET

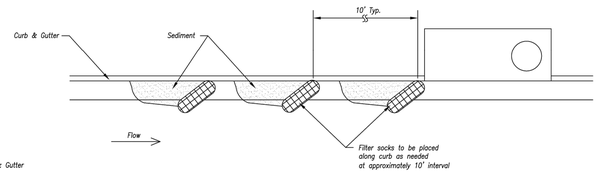
(Open Box and Prior to Pouring



Sump Inlet Sediment Filter

* Contractor shall field verify that Ponded Water Depth will not cause unintended flooding.





On Grade Curb Inlet Protection

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage ha been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

AMERICAN PUBLIC WORKS ASSOCIATION

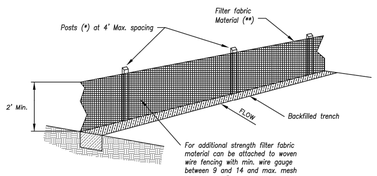
Kansas City Metro Chapter APWA American Public Works Association

KANSAS CITY METRO CHAPTER

CURB INLET PROTECTION

STANDARD DRAWING NUMBER ESC-06

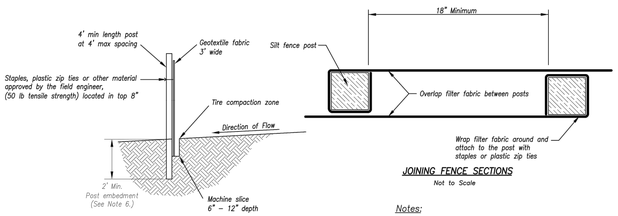
ADOPTED: 10/24/2016



(*) POSTS

- MIN. LENGTH 4'
- HARDWOOD 1 ⅜" x 1 ⅜"
- NO.2 SOUTHERN PINE 2 ⅜" x 2 ⅜"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288



JOINING FENCE SECTIONS

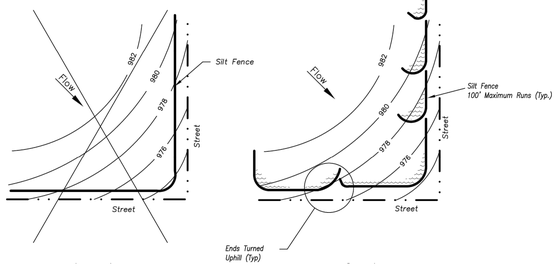
Not to Scale

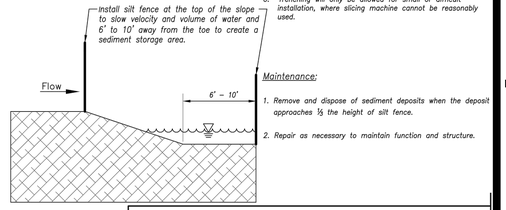
Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

SILT FENCE DETAILS

Not to Scale





Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

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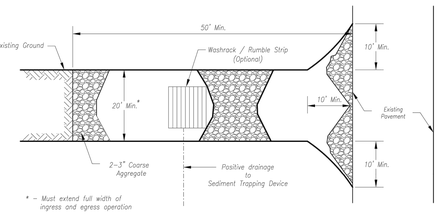
KANSAS CITY METRO CHAPTER

SILT FENCE

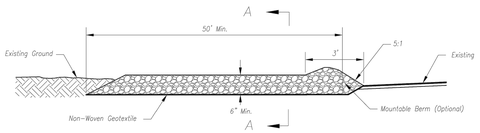
STANDARD DRAWING NUMBER ESC-03

ADOPTED: 10/24/2016



Plan View

Not to Scale



Side Elevation

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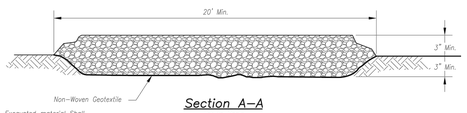

Section A–A

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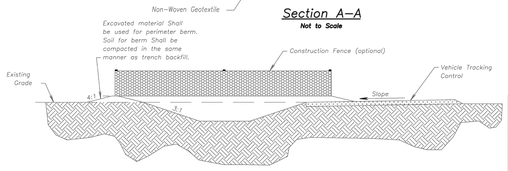

CONCRETE WASHOUT

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one–piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water–tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6– to 8–inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.

Maintenance for Construction Entrance:

6. Divert all surface runoff and drainage from the entrance to a sediment control. Maintain entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

AMERICAN PUBLIC WORKS ASSOCIATION

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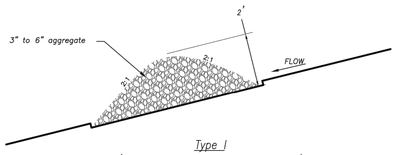
KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01

ADOPTED: 10/24/2016



Type I

(2 Acres or less of Drainage Area)

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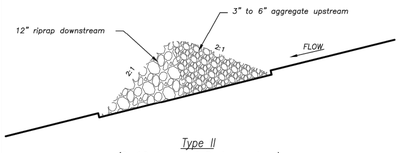


Type II

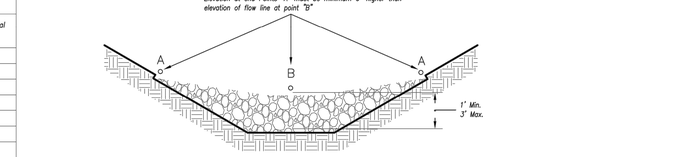
(2–10 Acres of Drainage Area)

Not to Scale

ROCK DITCH CHECK

Temporary Rock Ditch Check Spacing	
Ditch Centerline Slope (%)	Spacing Interval (Feet)
5.0	60
6.0	50
7.0	43
8.0	36
9.0	33
10.0	29

Note: Use this spacing only for Rock Ditch Checks.



Front View

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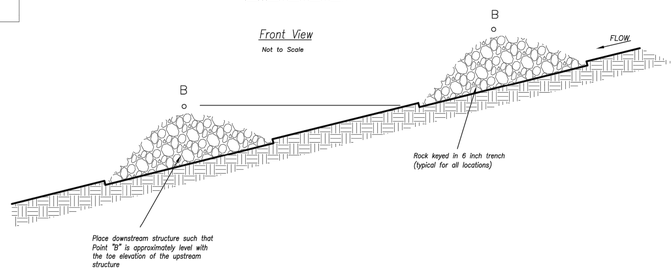

Spacing Between Check Dams (all types)

Not to Scale

Notes:

1. Rock check dams shall be used only for drainage areas less that 10 acres unless approved by the City Engineer.
2. Use rock checks only in situations where the ditch slope exceeds 6%.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of the ditch check.
2. Replace and reshape as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA American Public Works Association

KANSAS CITY METRO CHAPTER

ROCK DITCH CHECKS

STANDARD DRAWING NUMBER ESC-10

ADOPTED: 10/24/2016

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
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C704

EROSION CONTROL DETAILS

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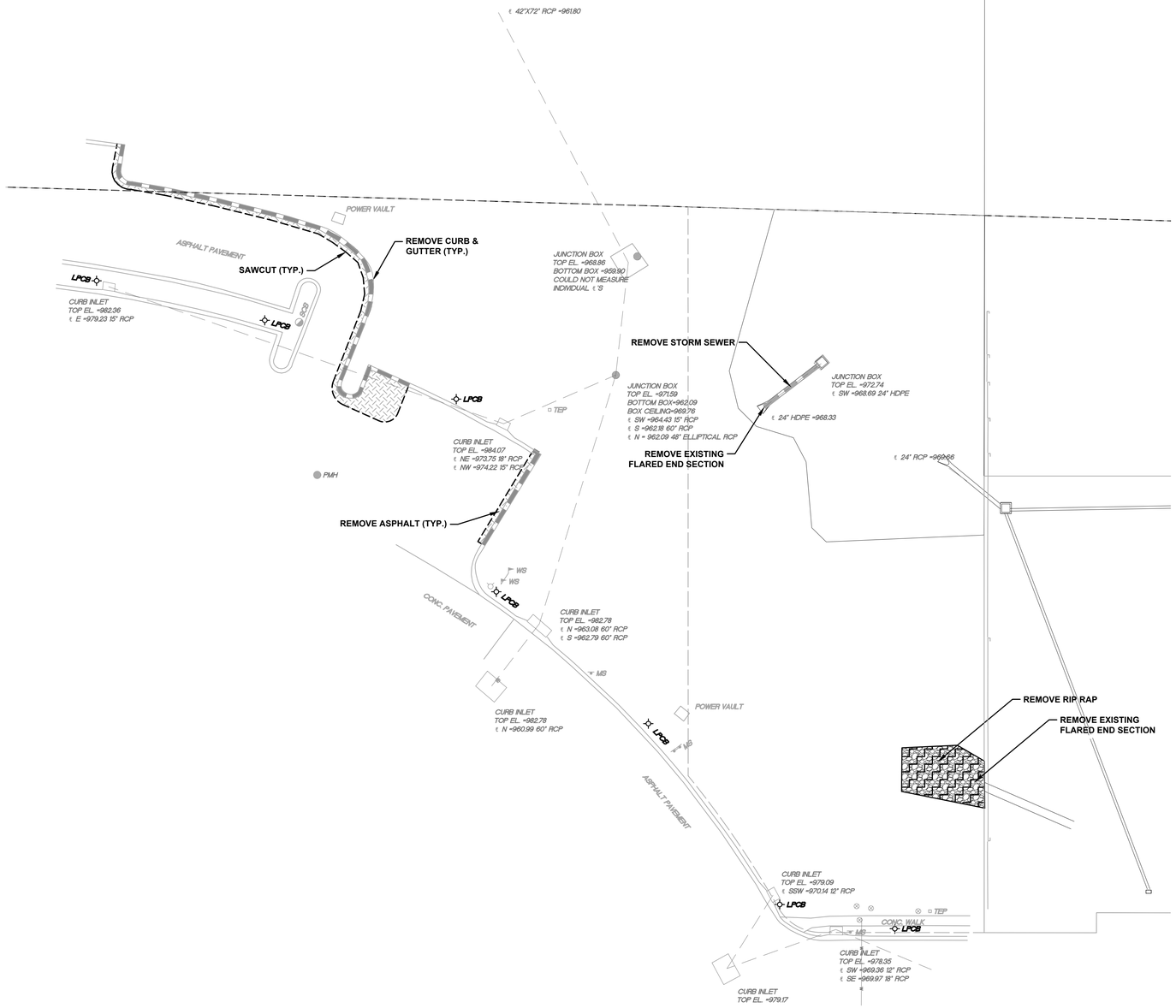

DEMOLITION NOTES:

1. THE SCOPE OF DEMOLITION IS NOT LIMITED EXCLUSIVELY TO THE WORK INDICATED ON THE DEMOLITION PLAN. THE CONSTRUCTION DOCUMENTS ARE PROVIDED AS A GENERAL GUIDE FOR DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADDITIONAL DEMOLITION THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF NEW WORK. SEE ALL CONSTRUCTION DOCUMENTS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL UTILITIES NOT SPECIFICALLY MARKED FOR DEMOLITION, SHALL BE PROTECTED THROUGHOUT CONSTRUCTION. SPECIAL SUPPORTS, BRACING ETC. SHOULD BE PROVIDED TO PROTECT EXISTING UTILITIES TO REMAIN.
3. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL UTILITY DEMOLITION, SHUTOFFS AND SWITCH OVERS WITH THE RESPECTIVE UTILITY COMPANY.
4. THE CONTRACTOR SHALL PROTECT ALL ITEMS, NOT SPECIFICALLY NOTED FOR DEMOLITION. IF ITEMS ARE DAMAGED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REPAIR THE ITEMS AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL REPAIR ALL SURROUNDING PAVEMENTS, SIDEWALKS AND CURBS DAMAGED BY CONSTRUCTION ACTIVITIES.
6. ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, MANHOLES, UTILITY VALVES, CLEANOUTS AND INTAKES ARE TO BE ADJUSTED AND/OR REBUILT TO FINISHED GRADE AS REQUIRED.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING FLOW IN THE EXISTING STORM SEWER & SANITARY SEWER SYSTEMS THROUGHOUT CONSTRUCTION. TEMPORARY BYPASS PUMPING, OR DIVERSION PIPES MAY BE REQUIRED.
8. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING THE EXISTING WATER SERVICES.
9. THE CONTRACTOR IS HEREBY ADVISED THAT NO FEDERALLY OWNED MAILBOX MAY BE DISTURBED. THE CONTRACTOR SHALL GIVE AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE TO THE MANAGER OF DELIVERY AND COLLECTIONS. TAMPERING WITH FEDERAL MAIL FACILITIES MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS, PUBLIC LAND SURVEY SYSTEM ALIQUOT CORNERS, AND/OR BENCHMARKS. ANY BOUNDARY CORNER, PUBLIC LAND SURVEY SYSTEM ALIQUOT CORNER, AND/OR BENCHMARK DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI AT THE CONTRACTOR'S EXPENSE.
11. ALL CONSTRUCTION DEMOLITION DEBRIS SHALL BE DISPOSED OF OFF-SITE AND IN FULL COMPLIANCE WITH CURRENT ENVIRONMENTAL REGULATIONS.
12. ALL UTILITIES MUST BE PLACED SUCH THAT THE HOSPITAL HAS SERVICE TO ALL UTILITIES THROUGHOUT CONSTRUCTION.

DEMOLITION LEGEND

- FULL DEPTH ASPHALT PAVEMENT REMOVAL
- CURB REMOVAL
- FULL DEPTH SAW CUT
- RIP RAP REMOVAL
- STORM SEWER REMOVAL

NORTH

30 15 0 30

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE-2002000598
07/20/2020

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Phone Number: 816.756.0444
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Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

Number	Date	Description

C705

DEMOLITION PLAN

BID PACKAGE #4 07.21.2020

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000 DEMO-NORTH.DWG

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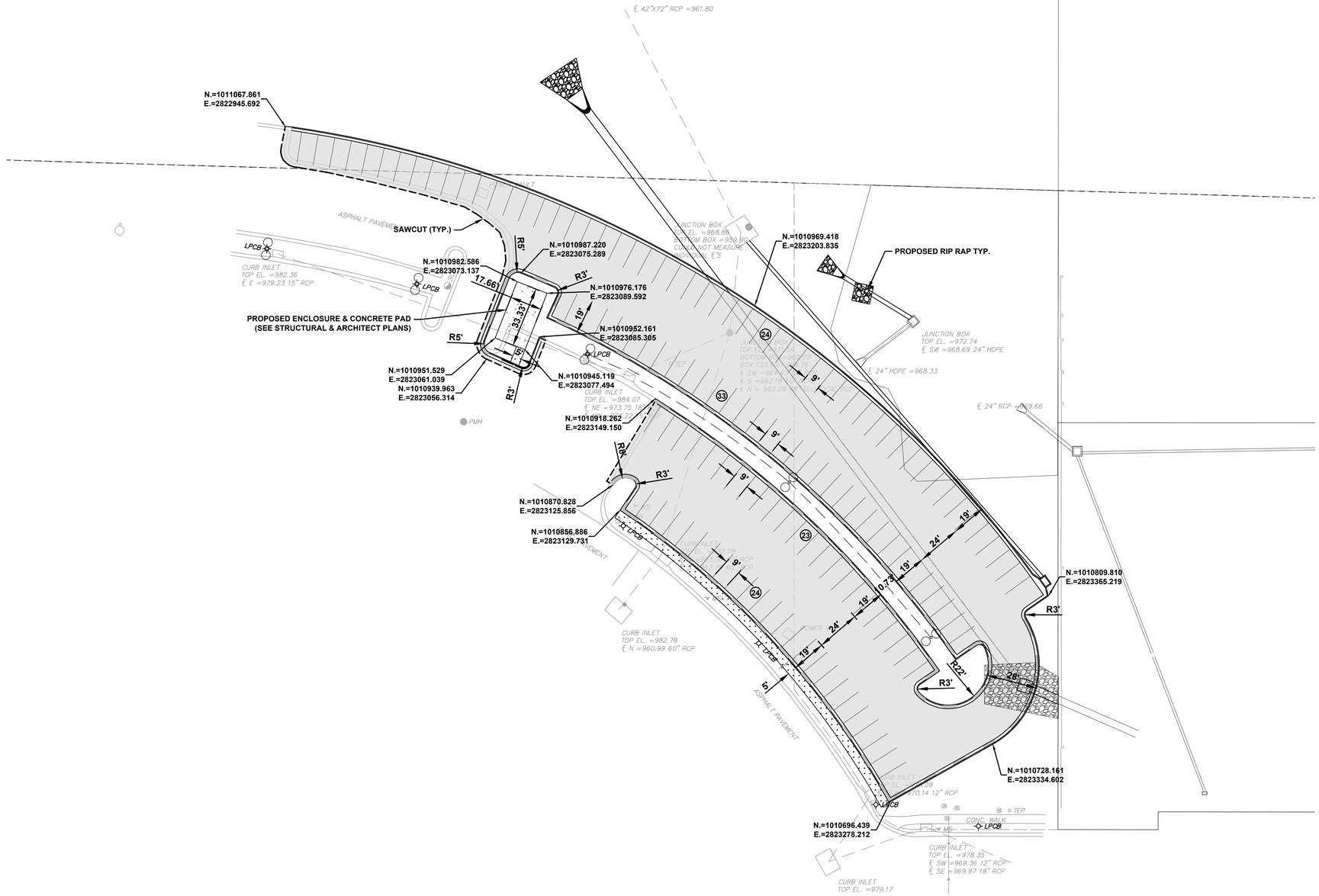
NOTES

1. ALL DIMENSIONS ARE MEASURED TO BACK OF CURB UNLESS NOTED OTHERWISE.



CONSTRUCTION LEGEND

- DENOTES LIGHT DUTY ASPHALT PAVEMENT
- DENOTES CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- RETAINING WALL
- DRY CURB & GUTTER
- CURB & GUTTER
- TRANSITION CURB (0"-6")
- FLUSH CURB (0")
- FULL DEPTH SAW CUT
- PARKING STALL COUNT

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C801

SITE PLAN

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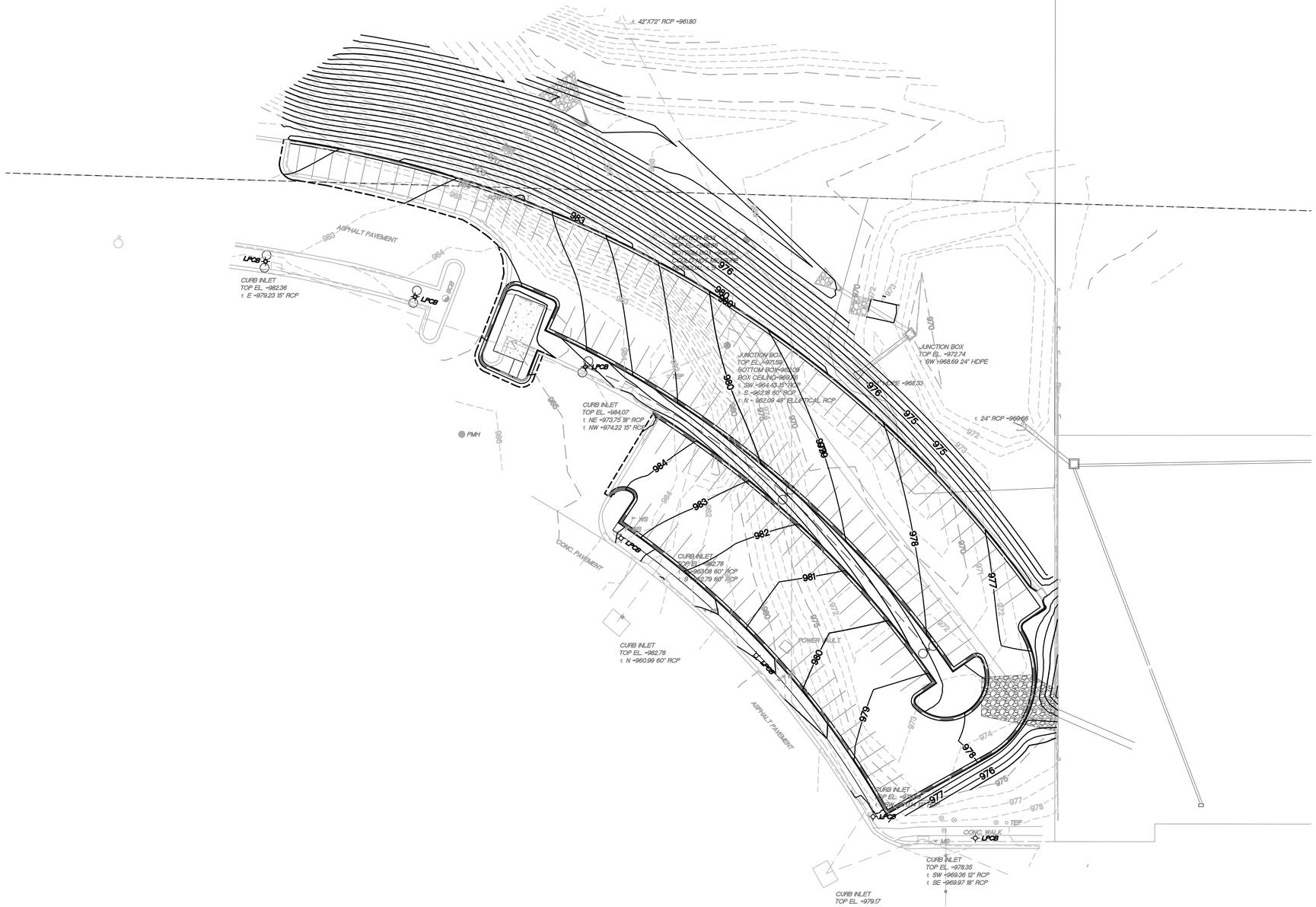
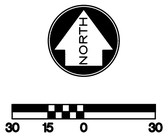


LEGEND

- 924 — EXISTING 1' CONTOUR
- 925 — EXISTING 5' CONTOUR
- 929 — PROPOSED 1' CONTOUR
- 930 — PROPOSED 5' CONTOUR



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C802

GRADING PLAN

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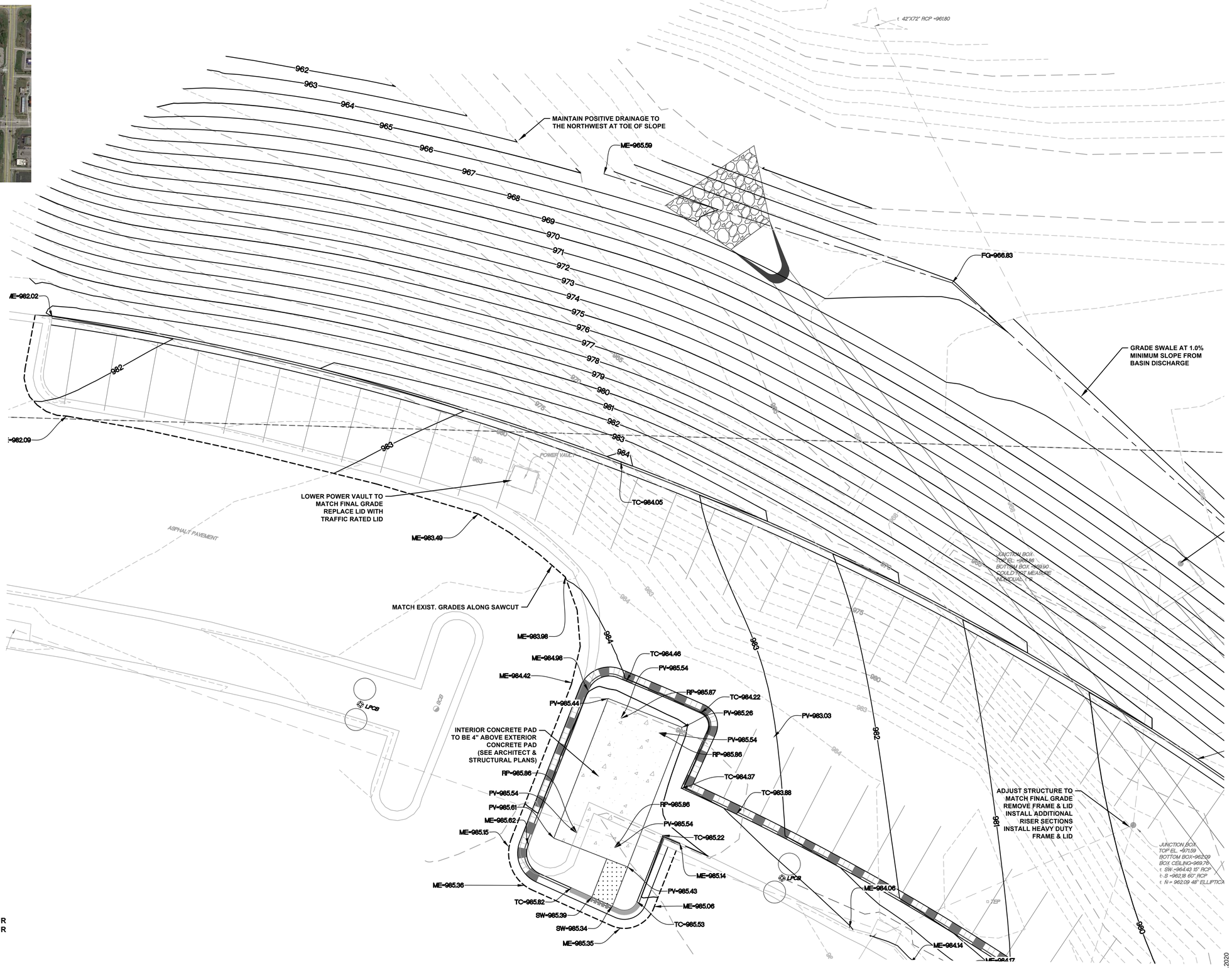

LEGEND

- 924 — EXISTING 1' CONTOUR
- 925 — EXISTING 5' CONTOUR
- 929 — PROPOSED 1' CONTOUR
- 930 — PROPOSED 5' CONTOUR
- TC = TOP OF CURB
- PV = PAVEMENT
- FG = FINISH GRADE
- SW = SIDEWALK
- ME = MATCH EXISTING
- RP = TOP OF RAISED PLATFORM
- TRANSITION CURB (0"-6")
- FLUSH CURB (0")
- CURB & GUTTER
- DRY CURB & GUTTER

NORTH

10 5 0 10

BID PACKAGE #4 07.21.2020

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C803

ENLARGED GRADING PLAN-1

2/20/2020 9:58:31 AM

RAISE JUNCTION BOX LID TO MATCH FINAL GRADE

JUNCTION BOX
TOP EL. =968.66
BOTTOM BOX =963.90
COULD NOT MEASURE INDIVIDUAL ø

PV=983.03

63.88

TC=979.63

ADJUST STRUCTURE TO MATCH FINAL GRADE
REMOVE FRAME & LID
INSTALL ADDITIONAL RISER SECTIONS
INSTALL HEAVY DUTY FRAME & LID

JUNCTION BOX
TOP EL. =971.59
BOTTOM BOX=962.09
BOX CEILING=969.79
℄ SW =964.43 15" RCP
℄ S =962.18 60" RCP
℄ N = 962.09 48" ELLIPTICAL RCP

JUNCTION BOX
TOP EL. =972.74
℄ SW =968.69 24" HDPE

LPCB

ME=984.06

TC=978.98

24" HDPE =964.33

ME=984.14

ME=984.17

CURB INLET
TOP EL. =984.07
℄ NE =973.75 18" RCP
℄ NW =974.22 15" RCP

PV=978.94

MATCH EXIST. GRADES ALONG BACK OF CURB

ME=983.74

PV=979.54

MATCH EXIST. GRADES ALONG SAWCUT

ME=984.28

TC=980.50

PV=984.07

ME=984.56

TC=984.22

TC=???

℄ 24" RCP =969.66

TC=977.82

PV=977.73

TC=984.22

SW=984.15

TC=982.28

PV=978.26

ME=984.00

CURB INLET
TOP EL. =982.78
℄ N =963.08 60" RCP
℄ S =962.79 60" RCP

TC=979.16

PV=981.15

TC=981.36

CONC. WALL

LEGEND

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- TC = TOP OF CURB
- PV = PAVEMENT
- FG = FINISH GRADE
- SW = SIDEWALK
- ME = MATCH EXISTING
- DRY CURB & GUTTER
- CURB & GUTTER

NORTH

10 5 0 10

P:\190891-000\08-DRAWINGS\KRM\PARKING LOT\190891-000 ENLRG GRAD-NORTH.DWG

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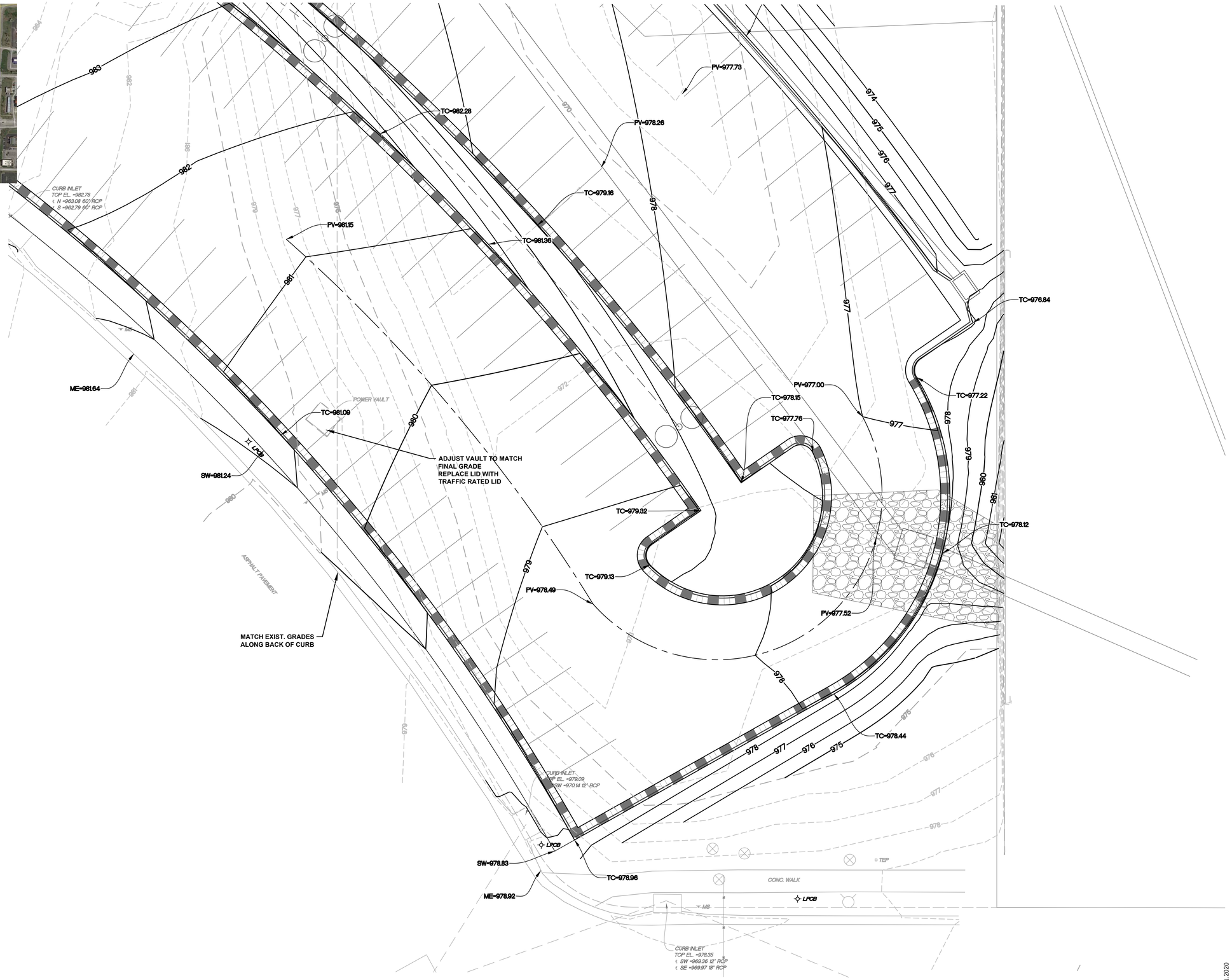
C804

ENLARGED GRADING PLAN-2

2/20/2020 9:58:31 AM



LEGEND

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- 925 — EXISTING 5' CONTOUR
- 929 — PROPOSED 1' CONTOUR
- 930 — PROPOSED 5' CONTOUR
- TC = TOP OF CURB
- PV = PAVEMENT
- FG = FINISH GRADE
- SW = SIDEWALK
- ME = MATCH EXISTING
- DRY CURB & GUTTER
- CURB & GUTTER

NORTH

10 5 0 10

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STATE OF MISSOURI
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C805

ENLARGED GRADING PLAN-3

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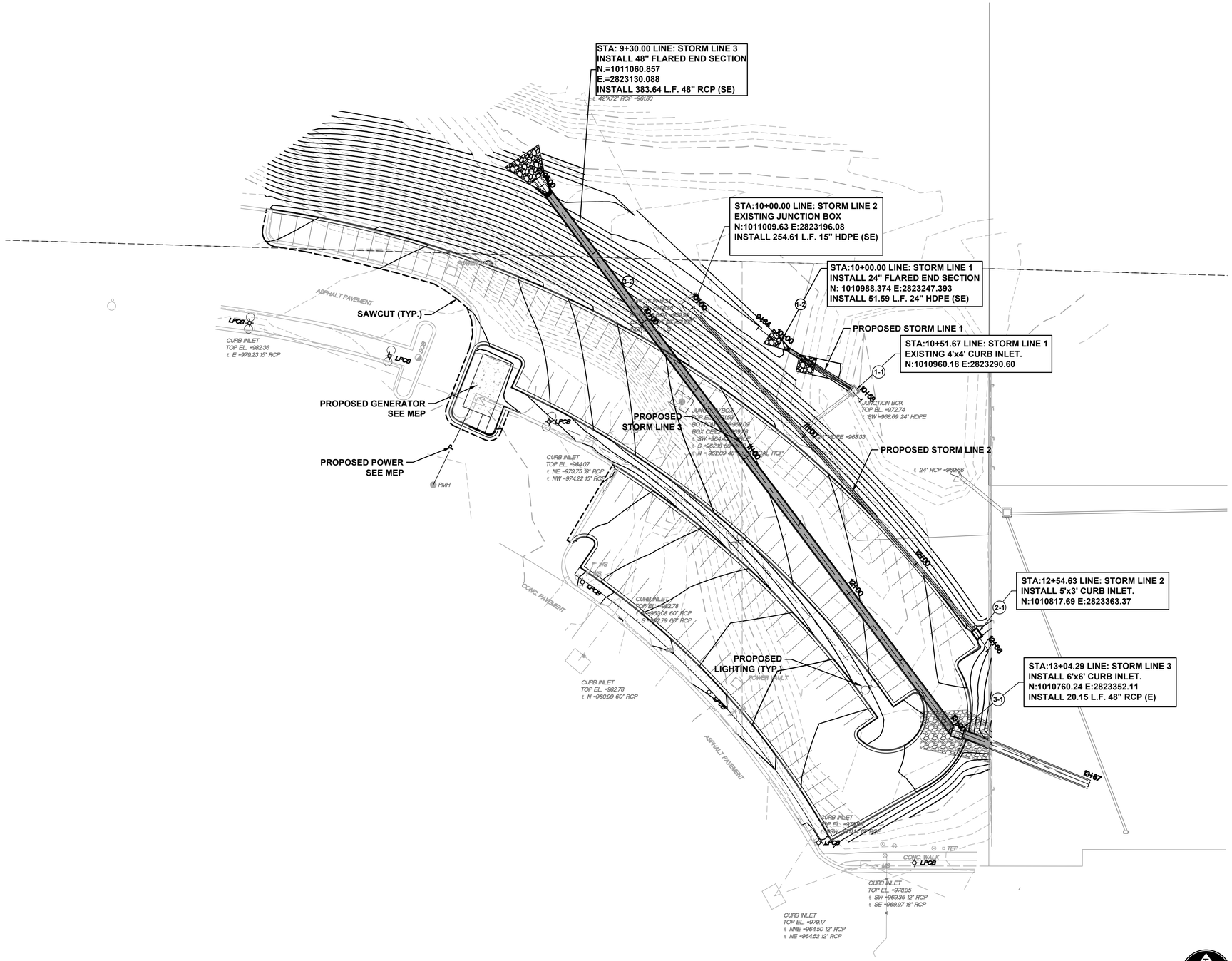

LEGEND

PROPOSED STORM SEWER SERVICE

PROPOSED POWER

NORTH

30 15 0 30

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000 UTIL-NORTH.DWG

BID PACKAGE #4 07.21.2020

STATE OF MISSOURI
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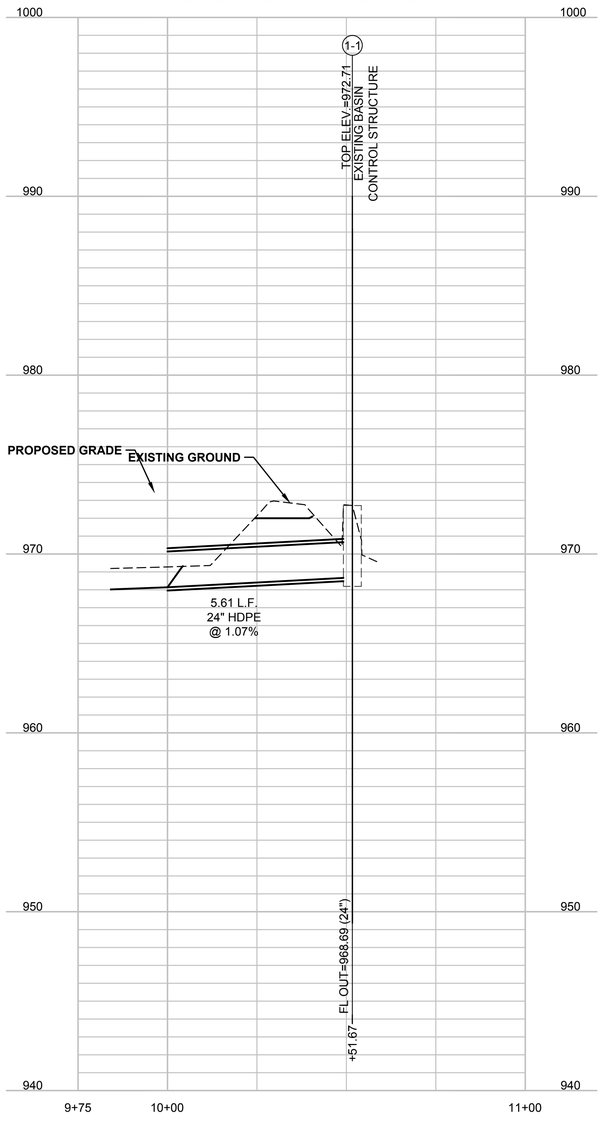
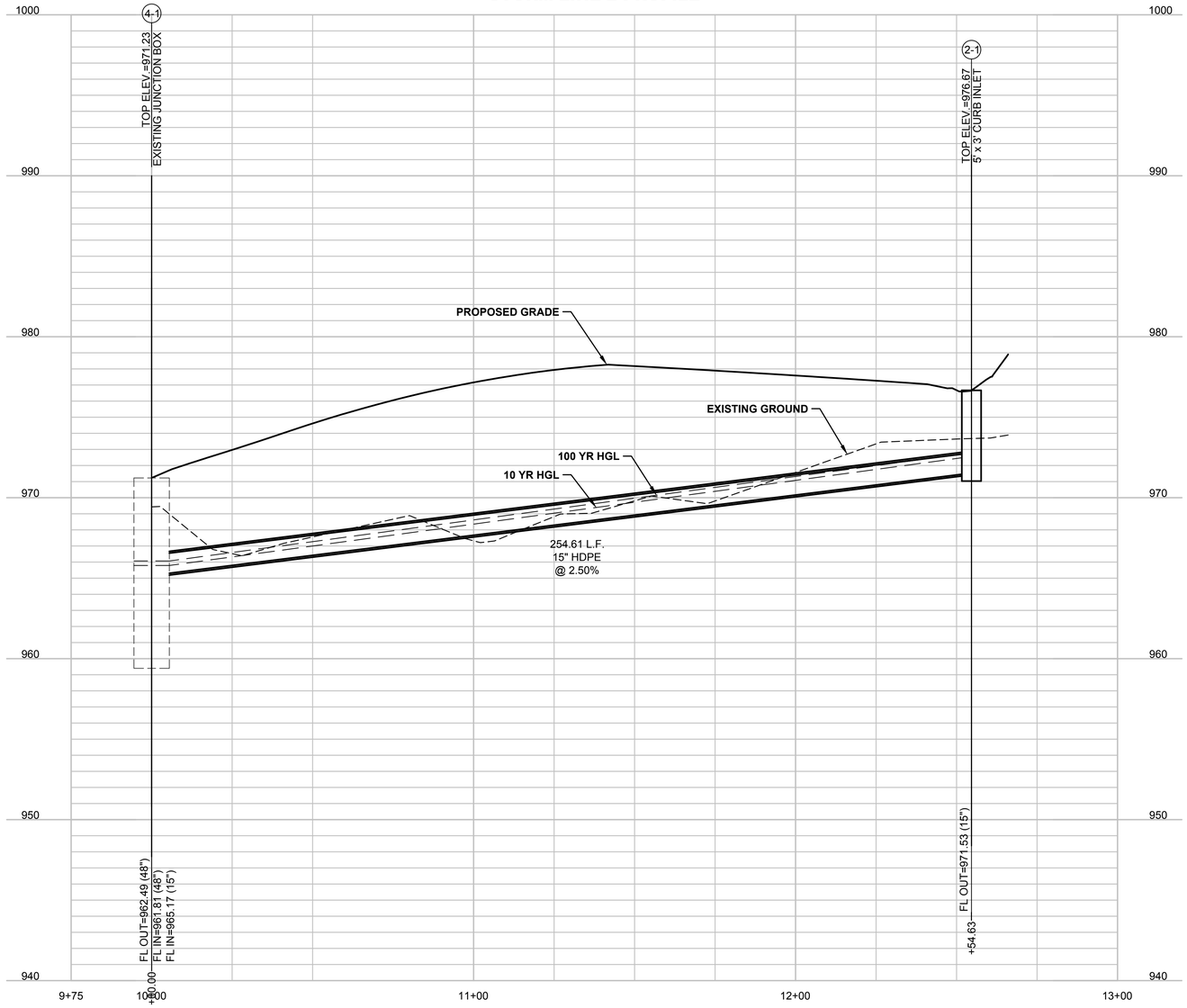
C901

UTILITY PLAN

STORM LINE 1 PROFILE



STORM LINE 2 PROFILE



HORIZ. SCALE
20 10 0 20

VERT. SCALE
5 2.5 0 5

STATE OF MISSOURI
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C902

UTILITY PROFILES-1

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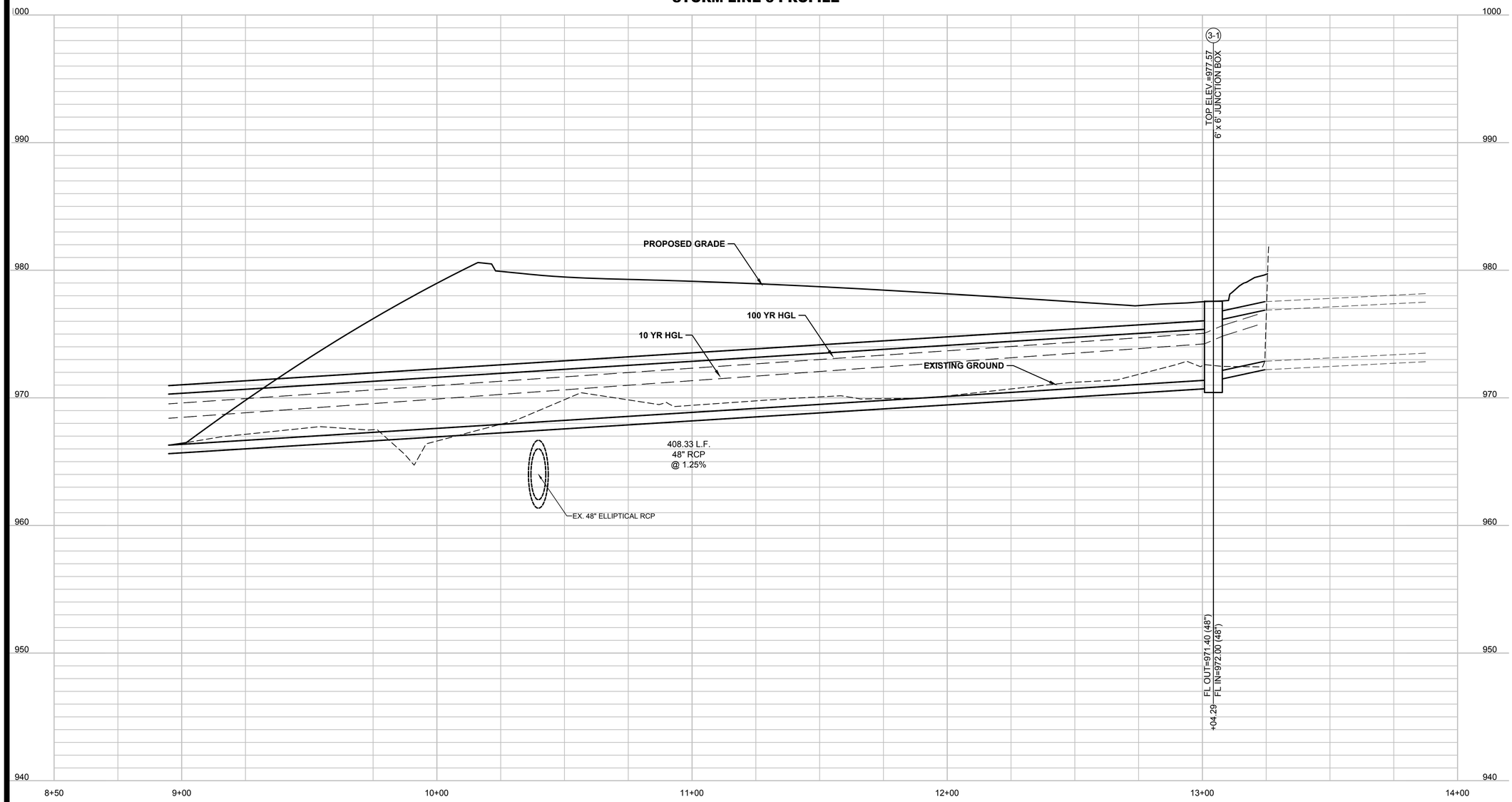
STORM LINE 3 PROFILE



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5 2.5 0 5

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C903

UTILITY PROFILES-2

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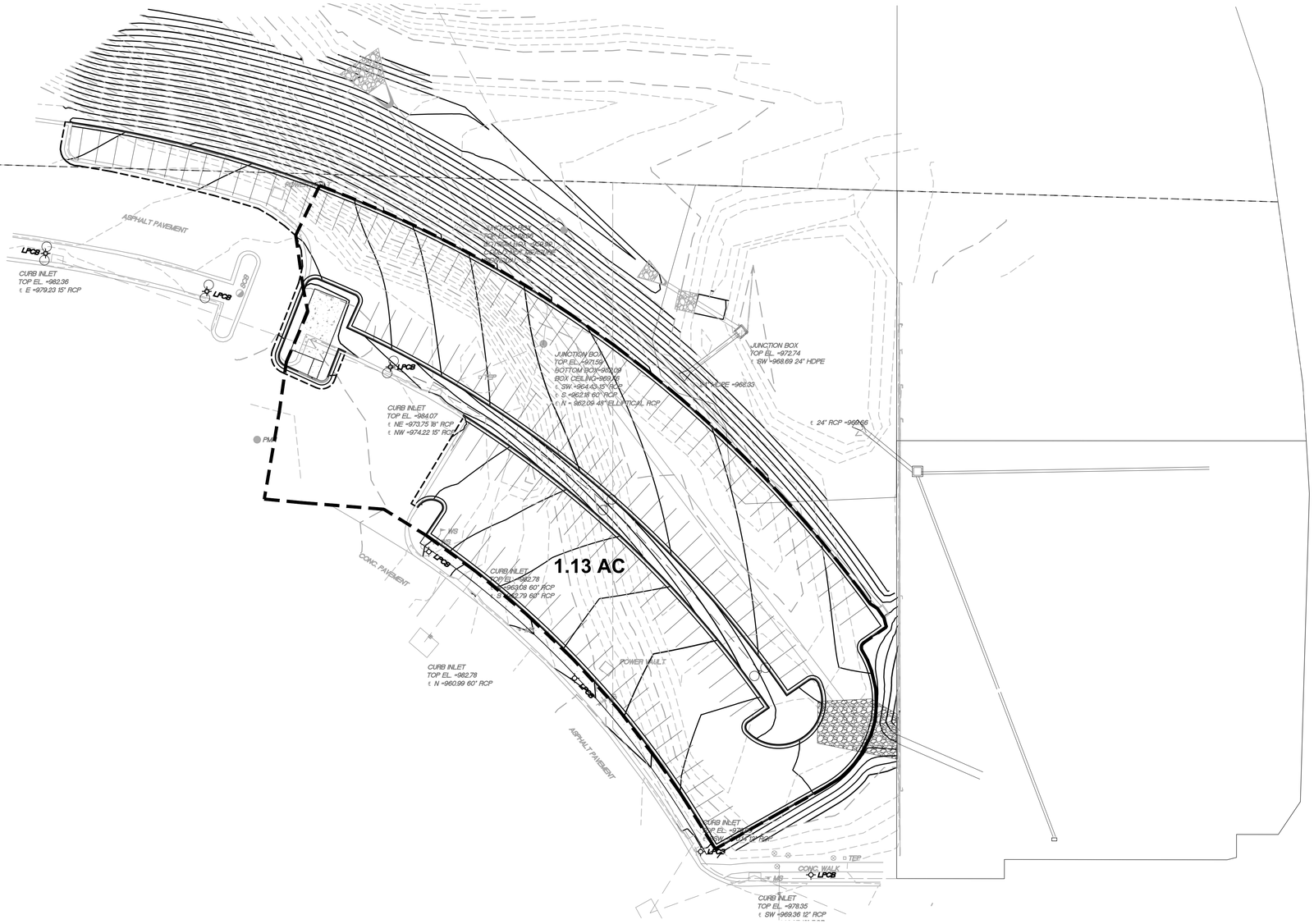

STORM DRAINAGE CALCULATIONS 10-YR.

Line ID	Inlet ID	Invert Up	Invert Dn	Drainage Area	Total Area	Runoff Coeff.	Tc	i	Flow Rate	Capacity Full	Velocity Ave.	Pipe Length	Pipe Size	Pipe Material	Pipe Slope	n-value Pipe	HGL Up	HGL Dn	Grnd/Rim Elev. Up	Grnd/Rim Elev. Dn
		(ft)	(ft)	(ac)	(ac)	(C)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(ft)	(in)		(%)		(ft)	(ft)	(ft)	(ft)
3-1 to 3-0	3-1	971.40	966.29	-	35.75	-	20.20	-	87.49	160.64	11.12	408.33	48	RCP	1.25	0.013	974.23	968.40	977.57	-
3-2 to 3-1	3-2	972.87	972.00	-	35.75	-	20.20	-	87.59	298.46	10.10	20.15	48	RCP	4.32	0.013	975.7	974.42	977.80	977.57
3-3 to 3-2	3-3	973.50	972.87	35.75	35.75	0.53	20.00	4.64	87.89	143.69	9.22	62.96	48	RCP	1.00	0.013	976.34	975.70	982.00	977.80
4-1 to 4-0	4-1	962.49	961.80	-	27.45	-	15.10	-	98.09	101.56	9.21	138.04	42x72	RCP	0.50	0.013	965.65	964.96	971.23	-
2-1 to 4-1	2-1	971.53	965.17	1.13	1.13	0.70	5.00	7.34	5.81	11.06	5.20	254.61	15	HDPE	2.50	0.012	972.5	966.45	976.67	971.23
4-2 to 4-1	4-2	962.09	961.81	26.32	26.32	0.68	15.00	5.27	94.26	102.02	7.50	55.52	60	RCP	0.50	0.013	966.69	966.45	979.82	971.23

STORM DRAINAGE CALCULATIONS 100-YR.

Line ID	Inlet ID	Invert Up	Invert Dn	Drainage Area	Total Area	Runoff Coeff.	Tc	i	Flow Rate	Capacity Full	Velocity Ave.	Pipe Length	Pipe Size	Pipe Material	Pipe Slope	n-value Pipe	HGL Up	HGL Dn	Grnd/Rim Elev. Up	Grnd/Rim Elev. Dn
		(ft)	(ft)	(ac)	(ac)	(C)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(ft)	(in)		(%)		(ft)	(ft)	(ft)	(ft)
3-1 to 3-0	3-1	971.40	966.29	-	35.75	-	20.20	-	158.78	160.64	13.88	408.33	48	RCP	1.25	0.013	975.06	969.53	977.57	-
3-2 to 3-1	3-2	972.87	972.00	-	35.75	-	20.20	-	158.88	298.46	13.86	20.15	48	RCP	4.32	0.013	976.53	975.25	977.80	977.57
3-3 to 3-2	3-3	973.50	972.87	35.75	35.75	0.53	20.00	8.40	159.17	143.69	12.67	62.96	48	RCP	1.00	0.013	977.64	976.87	982.00	977.80
4-1 to 4-0	4-1	962.49	961.80	-	27.45	-	15.10	-	176.62	101.56	14.06	138.04	42x72	RCP	0.50	0.013	967.89	965.80	971.23	-
2-1 to 4-1	2-1	971.53	965.17	1.13	1.13	0.70	5.00	12.90	10.20	11.06	8.31	254.61	15	HDPE	2.50	0.012	975.18	969.76	976.67	971.23
4-2 to 4-1	4-2	962.09	961.81	26.32	26.32	0.68	15.00	9.47	169.44	102.02	13.48	55.52	60	RCP	0.50	0.013	970.54	969.76	979.82	971.23

LEGEND

924 EXISTING 1' CONTOUR
925 EXISTING 5' CONTOUR
929 PROPOSED 1' CONTOUR
930 PROPOSED 5' CONTOUR

NORTH

30 15 0 30

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000 DMAP.DWG

BID PACKAGE #4 07.21.2020

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE-2002000598
07/20/2020

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Kansas City, MO 64108
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Licensee's Certificate of Authority Number:

CIVIL CONSULTANT
McClure Engineering Company
1700 Swift Ave., Suite 100
North Kansas City, MO 64116
Phone Number: 816.756.0444
Licensee's Certificate of Authority Number:

STRUCTURAL CONSULTANT
Structural Engineering Associates
1000 Walnut Street, Suite 1570
Kansas City, MO 64106
Phone Number: 816.421.1042
Licensee's Certificate of Authority Number:

MEP CONSULTANT
W.L. Cassell & Associates, Inc.
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

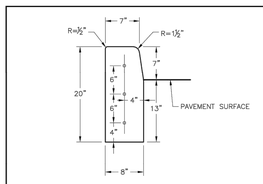
Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

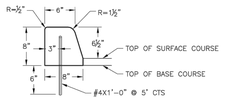
Number	Date	Description

C904

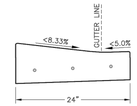
DRAINAGE AREA MAP



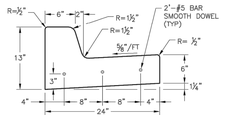
STRAIGHT CURB
(TYPE C-1)



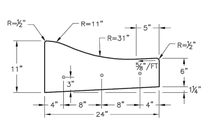
DOWELLED CURB
(TYPE DC)



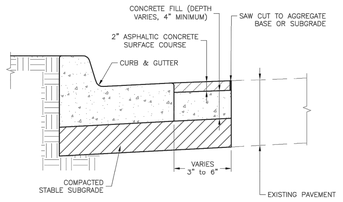
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



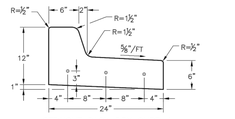
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



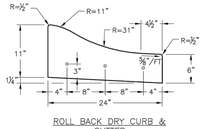
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

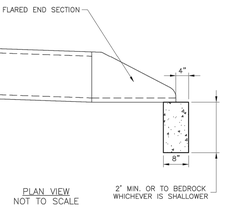
1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB & GUTTER DETAIL

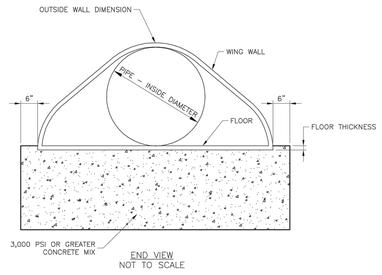
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj.#:

GEN-4



PLAN VIEW
NOT TO SCALE

2" MIN. OR TO BEDROCK WHICHEVER IS SHALLOWER



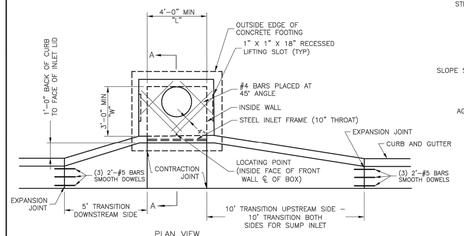
END VIEW
NOT TO SCALE

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

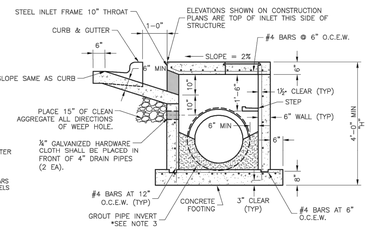
FLARED END SECTION SUPPORT DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

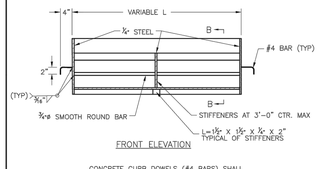
STM-5



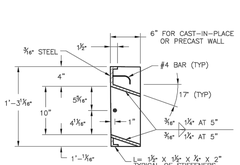
PLAN VIEW



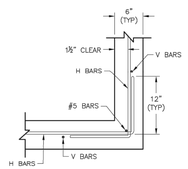
SECTION A–A



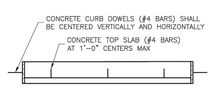
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

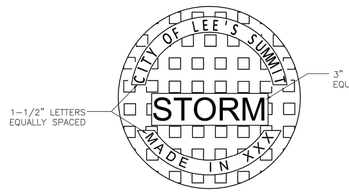
GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ¾" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

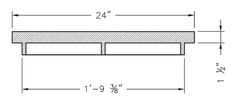
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj.#:

STM-1





STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

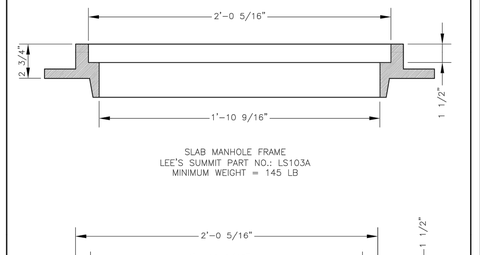
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

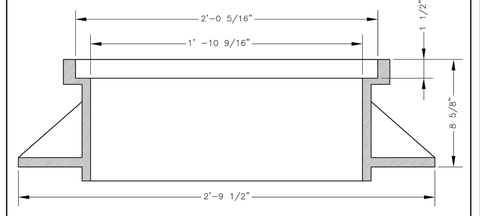
STORM MANHOLE COVER DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

STM-6



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB



STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

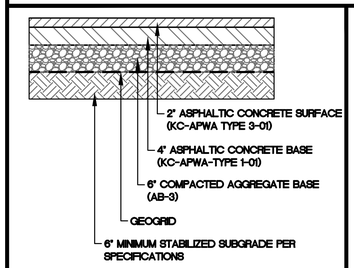
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

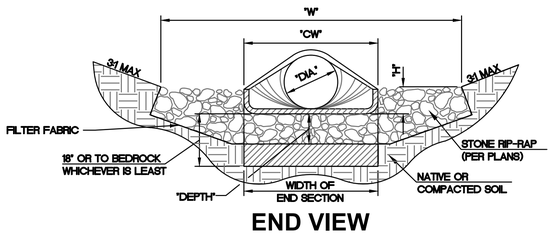
STORM MANHOLE FRAME DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

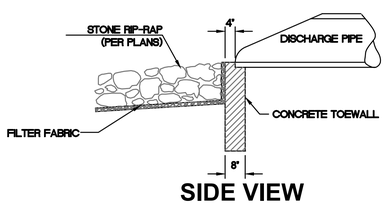
STM-7



LIGHT DUTY ASPHALT PAVEMENT DETAIL

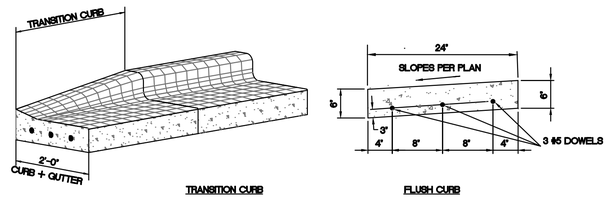


END VIEW



SIDE VIEW

STORM SEWER END SECTION W/ TOEWALL & RIP-RAP



TRANSITION CURB

FLUSH CURB

CURB DETAILS

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE–2002000598
07/20/2020

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Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

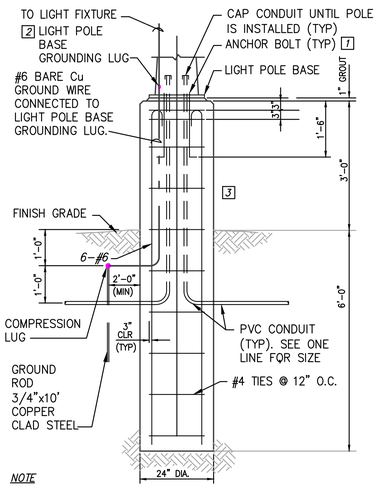
Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

Number	Date	Description

C1000

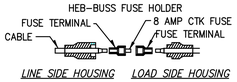
DETAILS



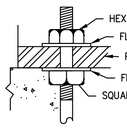
NOTE

1. ANCHOR BOLTS SHALL BE DESIGNED AND FURNISHED BY THE LIGHT POLE MANUFACTURER. ANCHOR BOLTS PROVIDED SHALL BE GALVANIZED.
2. BOND INCOMING EQUIPMENT GROUNDING CONDUCTOR TO LIGHT POLE BASE GROUNDING LUG.
3. ALL CONCRETE POLE BASES SHALL BE CONSOLIDATED BY AN INTERNAL TYPE VIBRATOR.

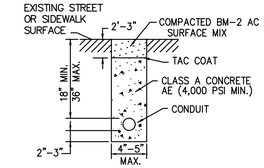
PARKING LOT LIGHTING POLE
EXTENDED CONCRETE BASE DETAIL
NO SCALE



FUSED CONNECTOR
NO SCALE

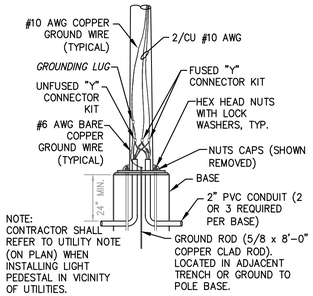


LIGHTING POLE ANCHOR
BOLT DETAIL
NO SCALE



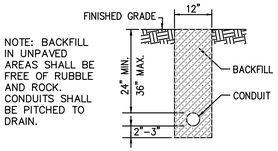
NOTE: ANY STREET DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH CITY OF LEES SUMMIT PARK PUBLIC WORKS STANDARDS.

TRENCHING IN PAVED AREAS
NO SCALE



NOTE: CONTRACTOR SHALL REFER TO UTILITY NOTE (ON PLAN) WHEN INSTALLING LIGHT PEDESTAL IN VICINITY OF UTILITIES.

POLE TO BASE CONNECTIONS
NO SCALE



NOTE: BACKFILL IN UNPAVED AREAS SHALL BE FREE OF RUBBLE AND ROCK. CONDUITS SHALL BE PITCHED TO DRAIN.

TRENCHING IN UNPAVED AREAS
NO SCALE

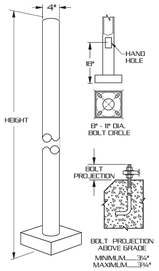
RNTS SERIES

ENGINEERING DATA

Maximum EPA - Square Feet

Catalog Number	Maximum Fixt. wgt.	100 MPH	90 MPH	80 MPH	70 MPH
RNTS 104-11	225	12.0	14.7	17.8	20.9
RNTS 124-11	165	9.3	11.7	14.5	17.2
RNTS 144-11	135	7.5	9.0	10.8	11.9
RNTS 164-11	110	5.8	7.2	9.3	11.2
RNTS 184-11	100	4.6	5.8	7.5	9.0
RNTS 204-11	100	3.6	4.4	6.0	7.2
RNTS 204-7	135	6.8	10.2	14.8	18.6
RNTS 244-7	110	3.2	5.8	8.9	13.1

All above design calculations are based on sustained wind forces plus additional 1.3 wind gust
[Example: Pole rated at 80 MPH withstands 104 MPH gusts]



ORDERING INFORMATION

MODEL NO.	POLES	MOUNTING	FINISH	OPTIONS
RNTS				

POLES

	POLE HEIGHT	WALL THICKNESS	BOLT CIRCLE	ANCHORAGE
☐ 104-11	10'	11	9"	3/4"X18"X3"
☐ 124-11	12'	11	9"	3/4"X18"X3"
☐ 144-11	14'	11	9"	3/4"X18"X3"
☐ 164-11	16'	11	9"	3/4"X18"X3"
☐ 184-11	18'	11	9"	3/4"X24"X3"
☐ 204-11	20'	11	10"	3/4"X24"X3"
☐ 204-7	20'	7	10"	3/4"X30"X3"
☐ 244-7	24'	7	11"	3/4"X30"X3"

MOUNTING

☐ 2 3/8"X4" TENON **PT23**
☐ 2 7/8"X4" TENON **PT27**
☐ OTHER TENON MT _____

DRILL MOUNT
☐ 1 ☐ 3-90 ☐ 2-180 ☐ 4-90 ☐ 2-90 ☐ 3-120

2-90, 3-90, 4-90 REQUIRES **PT27** AND **T490** ADAPTER
3-120 REQUIRES **PT27** AND **T3120** ADAPTER

FINISH

STANDARD SMOOTH FINISH
☐ BLACK **RAL-9005-S**
☐ WHITE **RAL-9003-S**
☐ GREY **RAL-7004-S**
☐ DRK BRONZE **RAL-8019-S**
☐ GREEN **RAL-6005-S**
OPTION:
☐ PRIME PAINT **PP**
☐ GALVANIZED **GLV**
☐ THERMOSET POLYESTER POWDER **PDR**
CONSULT FACTORY FOR CUSTOM COLORS

OPTIONS

☐ DUPLEX RECEPTACLE **DUP**
☐ GFI RECEPTACLE **GFI**
☐ 3 WAY ADAPTER **T3120**
☐ 4 WAY ADAPTER **T490**
☐ ROUND BASE COVER **RBC**
☐ 1/2" COUPLING **CPLN1/2**
☐ 3/4" COUPLING **CPLN3/4**
☐ 2" COUPLING **CPLN2**
(SPECIFY COUPLING LOCATION)

SEE ACCESSORIES SECTION FOR OTHER OPTIONS.

F1-12

U.S. ARCHITECTURAL LIGHTING
660 WEST AVENUE O, PALMDALE, CA. 93551
(661) 225-2202
FAX NO. (661) 233-2001
www.usaltg.com

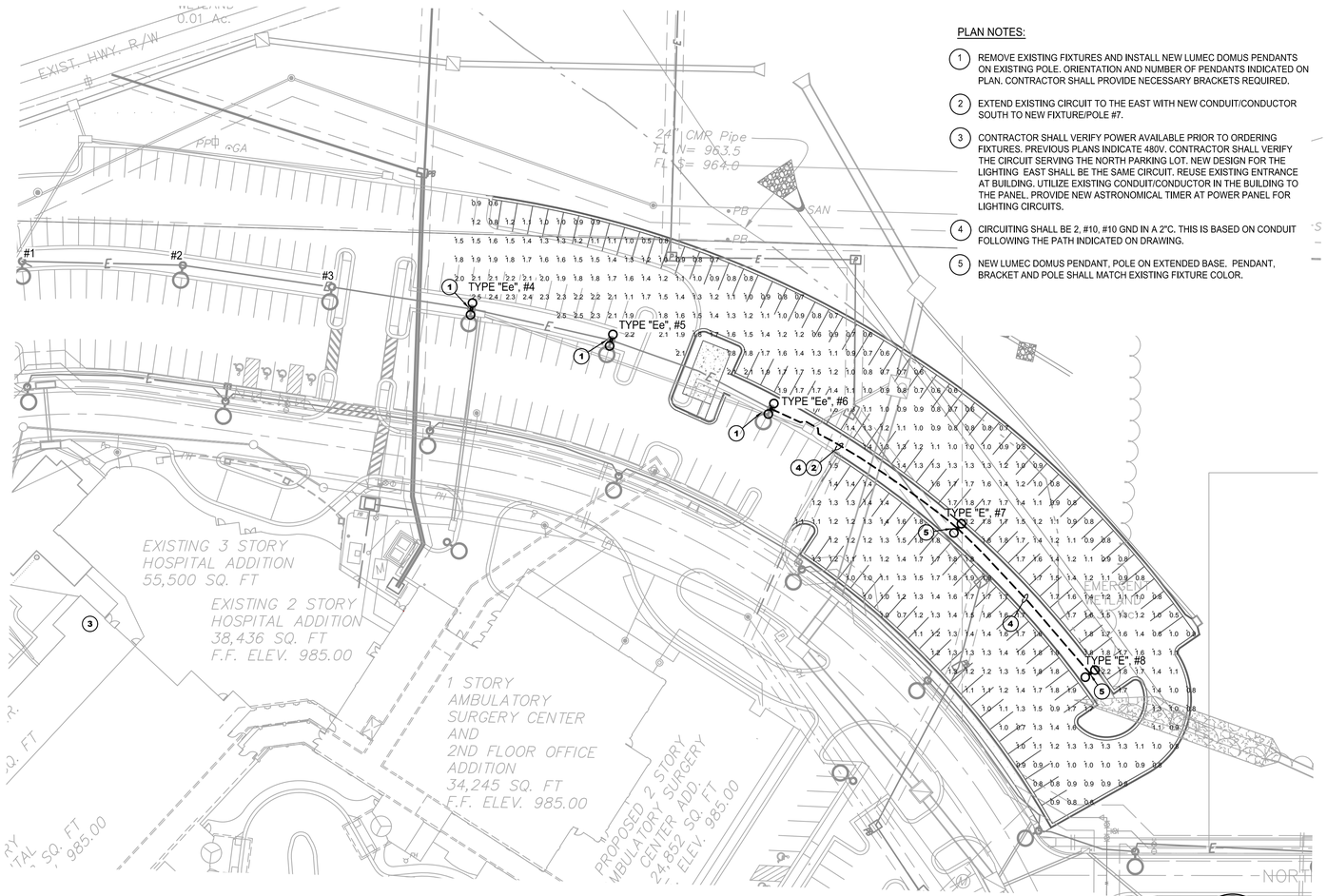
CONSTRUCTION NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF CITY OF LEE'S SUMMIT, MISSOURI.
2. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES, EVEN IF ONLY REMOTELY INVOLVED WITH THIS PROJECT ARE AS FOLLOWS:

ELECTRIC	KANSAS CITY POWER & LIGHT CO.	888-474-5275
GAS	MISSOURI GAS ENERGY	816-756-5252
WATER	CITY OF LEE'S SUMMIT	816-969-1940
TELEPHONE	AT&T	800-464-7928
SEWER	CITY OF LEE'S SUMMIT	816-969-1940
CABLE TV	TIME WARNER	816-358-8833
	COMCAST	816-833-3400

THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-(800)-DIG RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.

4. ALL EXCESS AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF AT A LOCATION OFF SITE PROVIDED BY THE CONTRACTOR.
5. ALL CONDUIT CROSSINGS SHALL BE INDICATED WITH AN ALUMINUM MARKER IN TOP OF CURB. ALUMINUM MARKERS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
6. ALL CONDUIT RUNS SHALL BE PLACED 2' FROM BACK OF CURB WHERE POSSIBLE, MINIMUM DEPTH 24".
7. HOMERUNS SHALL NOT RUN THROUGH UNDEVELOPED AREAS.
8. INDIVIDUAL AND SYSTEM GROUNDS SHALL BE INSTALLED ON ALL CIRCUITS. ALL DISTRIBUTION CABLE SHALL BE PLACED IN A SCHEDULE 40 PVC CONDUIT. CIRCUIT AS INDICATED.
9. LUMINAIRE ORIENTATION AND OPTICS ORIENTATION SHALL BE AS SHOWN ON PLANS.
10. SHOULD CONTRACTOR DEVIATE CONDUIT ROUTE, CONTRACTOR SHALL VERIFY VOLTAGE DROP CALCULATIONS.



PLAN NOTES:

1. REMOVE EXISTING FIXTURES AND INSTALL NEW LUMEC DOMUS PENDANTS ON EXISTING POLE. ORIENTATION AND NUMBER OF PENDANTS INDICATED ON PLAN. CONTRACTOR SHALL PROVIDE NECESSARY BRACKETS REQUIRED.
2. EXTEND EXISTING CIRCUIT TO THE EAST WITH NEW CONDUIT/CONDUCTOR SOUTH TO NEW FIXTURE/POLE #7.
3. CONTRACTOR SHALL VERIFY POWER AVAILABLE PRIOR TO ORDERING FIXTURES. PREVIOUS PLANS INDICATE 480V. CONTRACTOR SHALL VERIFY THE CIRCUIT SERVING THE NORTH PARKING LOT. NEW DESIGN FOR THE LIGHTING EAST SHALL BE THE SAME CIRCUIT. REUSE EXISTING ENTRANCE AT BUILDING. UTILIZE EXISTING CONDUIT/CONDUCTOR IN THE BUILDING TO THE PANEL. PROVIDE NEW ASTRONOMICAL TIMER AT POWER PANEL FOR LIGHTING CIRCUITS.
4. CIRCUITING SHALL BE 2, #10, #10 GND IN A 2"C. THIS IS BASED ON CONDUIT FOLLOWING THE PATH INDICATED ON DRAWING.
5. NEW LUMEC DOMUS PENDANT, POLE ON EXTENDED BASE. PENDANT, BRACKET AND POLE SHALL MATCH EXISTING FIXTURE COLOR.

NORTH

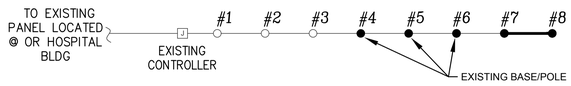
30 15 0 30

Luminaire Schedule								
Symbol	Label	Qty	LLF	Watts per luminaire	Lumens	Model Number	Manufacturer	Notes
	Ee	3	0.90	135	13626	DMS50-135W80LED4K-T-LE5F-480-DMG-GNCTX / IF-1A-TBD-GN6TX	SIGNIFY LUMEC - DOMUS	1,3
	E	2	0.90	135	13626	DMS50-135W80LED4K-T-LE5F-480-DMG-GNCTX / IF-1A-TBD-GN6TX	SIGNIFY LUMEC - DOMUS	1,2

NOTES:

1. LUMENS AND WATTS ARE PER EACH LUMINAIRE HEAD (TWO HEADS PER POLE).
2. NEW EXTENDED BASE REQUIRED FOR DOMUS "E" BACK TO BACK FIXTURE. BRACKETS PER CONFIGURATION SHOW ON PLAN. PROVIDE 4" ROUND STRAIGHT STEEL US ARCHITECTURAL POLE RNTS 244-7-X-RAL-6005-S. DRILLING MOUNT AND GOOSENECK BRACKET PER CONFIGURATION SHOW ON PLAN. PROVIDE STANDARD BASE COVER.
3. REUSE EXISTING POLE. REMOVE EXISTING FIXTURE AND INSTALL "Ee" DOMUS BACK TO BACK FIXTURE. PROVIDE LUMEC GOOSENECK BRACKETS AS REQUIRED PER CONFIGURATIONS SHOWN ON PLAN.

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
North Addition	Fc	1.32	2.5	0.5	2.64	5.00



ONELINE DIAGRAM

STATE OF MISSOURI
DALE K. DICKSON
NUMBER PE-023058
PROFESSIONAL ENGINEER
DALE K. DICKSON
PE-023058 7/15/20

ACI BOLAND ARCHITECTS
1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600
ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number:

CIVIL CONSULTANT
McClure Engineering Company
1700 Swift Ave., Suite 100
North Kansas City, MO 64116
Phone Number: 816.756.0444
Licensee's Certificate of Authority Number:

STRUCTURAL CONSULTANT
Structural Engineering Associates
1000 Walnut Street, Suite 1570
Kansas City, MO 64106
Phone Number: 816.421.1042
Licensee's Certificate of Authority Number:

MEP CONSULTANT
W.L. Cassell & Associates, Inc.
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	KRM
Checked By	MVE

Revision

Number	Date	Description

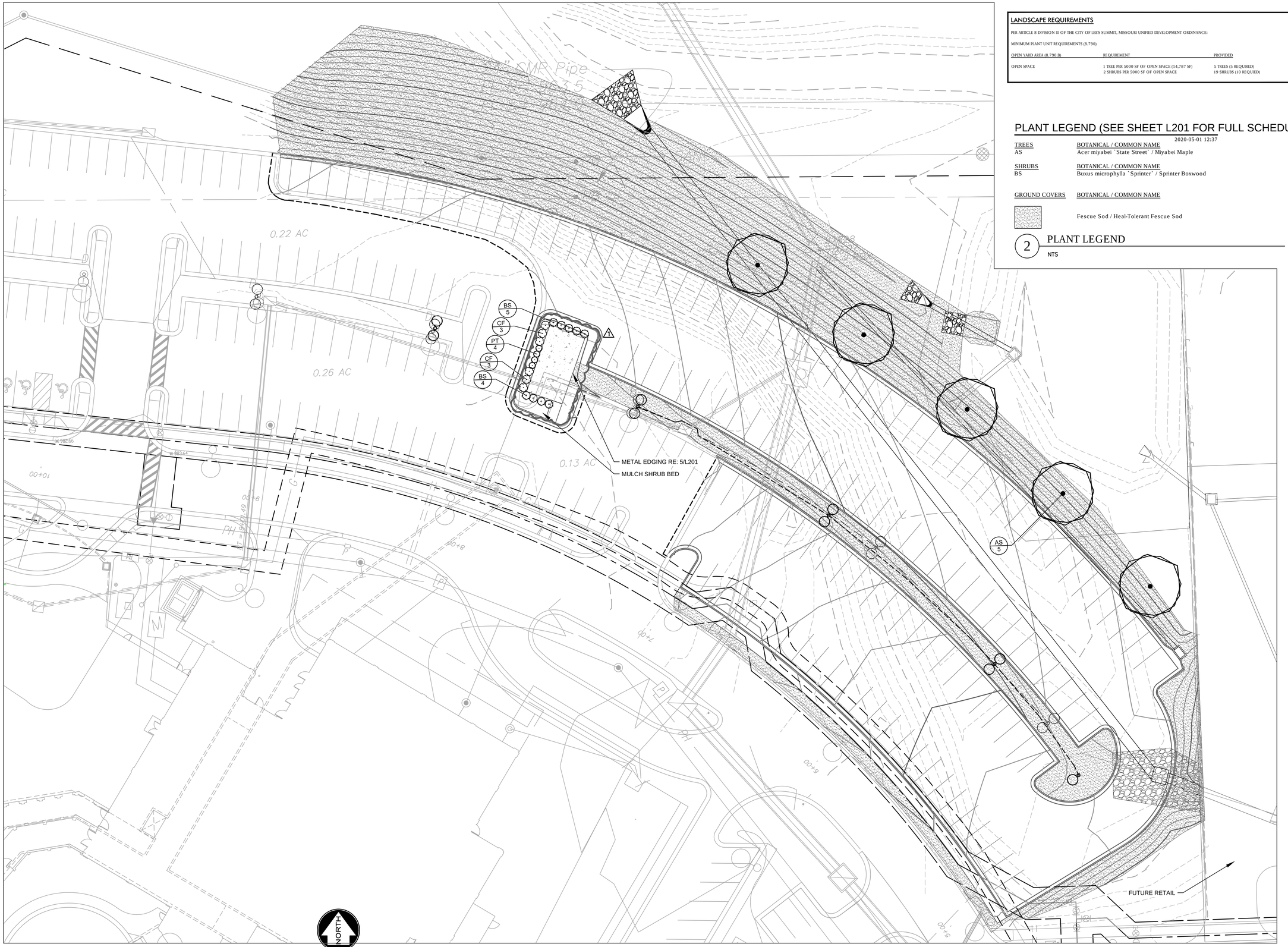
E200

LIGHTING SITE PLAN AND DETAILS

BID PACKAGE #4 07.21.2020

P:\190891-000\06-DRAWINGS\KRM\PARKING LOT\190891-000-LTG-NORTH.DWG

2/20/2020 9:58:31 AM



1 OVERALL LANDSCAPE PLAN

1" = 30'

LANDSCAPE REQUIREMENTS

PER ARTICLE 8 DIVISION II OF THE CITY OF LEE'S SUMMIT, MISSOURI UNIFIED DEVELOPMENT ORDINANCE:

MINIMUM PLANT UNIT REQUIREMENTS (8.790)

OPEN YARD AREA (8.790.B)	REQUIREMENT	PROVIDED
OPEN SPACE	1 TREE PER 5000 SF OF OPEN SPACE (14,787 SF) 2 SHRUBS PER 5000 SF OF OPEN SPACE	5 TREES (5 REQUIRED) 19 SHRUBS (10 REQUIED)

PLANT LEGEND (SEE SHEET L201 FOR FULL SCHEDULE)

2020-05-01 12:37

TREES	BOTANICAL / COMMON NAME
AS	Acer miyabei `State Street` / Miyabei Maple

SHRUBS	BOTANICAL / COMMON NAME
BS	Buxus microphylla `Sprinter` / Sprinter Boxwood

GROUND COVERS	BOTANICAL / COMMON NAME
	Fescue Sod / Heal-Tolerant Fescue Sod

2 PLANT LEGEND

NTS

STATE OF MISSOURI
GREGORY MICHAEL PFAU
NUMBER LA-2013025746
LANDSCAPE ARCHITECT
07/17/2020
GREGORY MICHAEL PFAU
LA-2013025746

ACI BOLAND ARCHITECTS

1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600

ACI/Boland, Inc.
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Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	AJD
Checked By	GMP

Revision

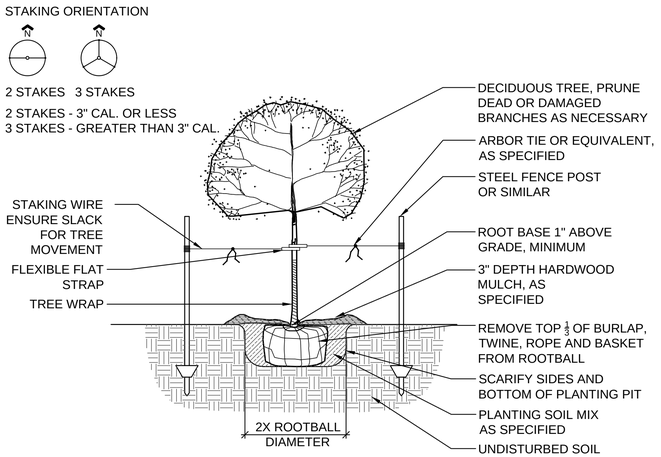
Number	Date	Description
1	05-18-2020	ASI 9

BID PACKAGE #4.04.24.2020

L102

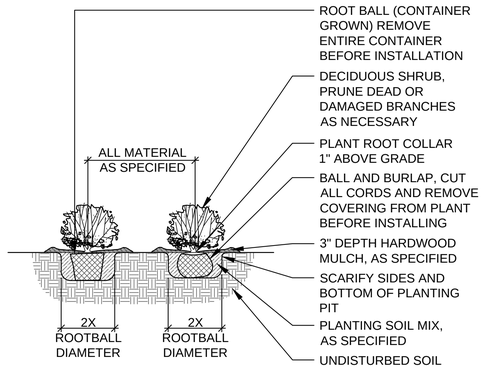
LANDSCAPE PLAN - NORTH PARKING LOT EXPANSION

P:\190891-000\06-DRAWINGS\LANDSCAPE\190891-000 LS NORTH.DWG



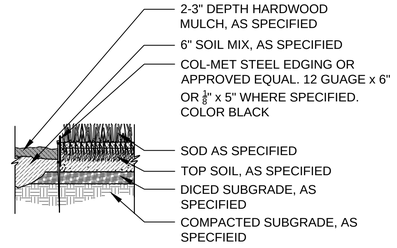
3 DECIDUOUS TREE PLANTING

1/2" = 1'-0" 329343.02-01



4 SHRUB AND PERENNIAL PLANTING

1/2" = 1'-0" 329333-04



5 METAL EDGING

1" = 1'-0" 329413.23-08

PLANT SCHEDULE

2020-07-17 16:3

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CAL
	AS	5	Acer miyabei `State Street` / Miyabei Maple	B & B	2"Cal
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**
	BS	9	Buxus microphylla `Sprinter` / Sprinter Boxwood	1 gal	
	CF	6	Cornus sericea `Farrow` / Arctic Fire Red Twig Dogwood	1 gal.	
	PT	4	Physocarpus opulifolius `SMPOTW` / Tiny Wine Ninebark	1 gal	
GROUND COVERS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER** **SPACING**
	FH	28,455 sf	Fescue Sod / Heal-Tolerant Fescue Sod	SF	

1 PLANT SCHEDULE

NTS

LANDSCAPE PLAN NOTES:

1. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES, IRRIGATION PIPING AND DRAINAGE STRUCTURES BEFORE COMMENCING WORK. INFORMATION SHOWN ON PLAN IS FROM AVAILABLE INFORMATION AND ALL LOCATIONS SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO ANY OF THE PREVIOUSLY LISTED ITEMS.

2. CONTRACTOR SHALL VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO PLANTING. ANY DISCREPANCIES WITH THE PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE PLAN QUANTITIES SHALL SUPERCEDE SCHEDULED QUANTITIES

3. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES SHOWN PRIOR TO PLANTING. QUANTITIES PROVIDED ARE FOR CONVENIENCE ONLY AND CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND INSTALLING THE QUANTITY OF PLANT MATERIALS SHOWN ON THE PLANS. ANY DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. ALL PLANT MATERIAL TO BE SPACED AS SHOWN, UNLESS OTHERWISE NOTED.

4. LOCATION AND PLACEMENT OF ALL PLANT MATERIAL SHALL BE STAKED OR LAID OUT IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

5. NO SUBSTITUTION (INCL. CULTIVARS) SHALL BE ACCEPTED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.

6. ALL PLANT MATERIAL SHALL BE OF EXCELLENT QUALITY, FREE OF DISEASE & INFESTATION-TRUE TO TYPE, VARIETY, SIZE SPECIFIED, & FORM PER ANSA STANDARDS.

7. ALL TREES & MULCH BEDS (UNLESS ROCK MULCH) SHALL RECEIVE 3" MIN. OF SHREDDED DARK BROWN PREMIUM HARDWOOD MULCH, AS DETAILED. ADD PREEN OR SNAPSHOT TO BEDS BEFORE & AFTER MULCHING FROM MARCH 1 TO OCTOBER 1. IF WINTER INSTALLATION, RETURN NEXT SPRING & INSTALL PREEN/SNAPSHOT WITH NEW MULCH.

8. TREE TIES SHALL BE DEWITT 20" STRAPS FOR TREE STAKING. USE 10 GAUGE ELECTRIC WIRE. TREES AND STAKES SHALL BE STRAIGHT, PLUMB AND TAUT. TREE STAKES TO BE REMOVED WINTER OF YEAR 2 AFTER INSTALLATION.

9. CONTRACTOR SHALL THOROUGHLY WATER-IN EACH PLANT IMMEDIATELY FOLLOWING INSTALLATION AND CONTINUE WATERING UNTIL SUBSTANTIAL COMPLETION. CONTRACTOR REQUIRED TO COORDINATE WATERING WITH THE OWNER AFTER SUBSTANTIAL COMPLETION.

10. ALL AREAS OF THE SITE DISTURBED DURING CONSTRUCTION THAT ARE NOT DESIGNATED AS BEDS / PAVEMENT AREAS SHALL BE SODDED WITH 90% TURF-TYPE TALL FESCUE AND 10% BLUEGRASS MIX SOD.

11. CONTRACTOR SHALL THOROUGHLY WATER-IN EACH PLANT IMMEDIATELY FOLLOWING INSTALLATION AND CONTINUE WATERING THROUGH SUBSTANTIAL COMPLETION TO ENSURE HEALTHY ESTABLISHMENT. CONTRACTOR REQUIRED TO COORDINATE WATERING WITH THE OWNER AFTER SUBSTANTIAL COMPLETION. PROVIDE HOURLY RATE TO WATER THE SITE, IF IRRIGATION NOT INSTALLED OR NOT WORKING.

12. NO TREES SHALL BE PLANTED OVER TOP OF ANY UTILITY LINES OR PIPES. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO PLANTING AND ANY MODIFICATIONS TO TREE LOCATIONS SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT AND APPROVED BY THE CITY PRIOR TO PLANTING.

13. ALL PLANT MATERIALS AND IRRIGATION SYSTEM SHALL BE GUARANTEED FOR 1 YEAR FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. PLANT MATERIALS WILL BE ONE TIME REPLACEMENT AND RECORDS KEPT BY THE LANDSCAPE CONTRACTOR FOR ALL REPLACEMENTS.

14. CONTRACTOR SHALL REPORT SUBSURFACE SOIL OR DRAINAGE PROBLEMS TO THE LANDSCAPE ARCHITECT.

15. THIS LANDSCAPE PLAN IS DESIGNED TO BE IN CONFORMANCE WITH THE LEE'S SUMMIT, MISSOURI UNIFIED DEVELOPMENT STANDARDS. THE LANDSCAPE ARCHITECT WILL COORDINATE CLOSELY WITH THE CITY OF LEE'S SUMMIT, MISSOURI TO MAKE SURE FINAL DEVELOPMENT AND PERMIT PLANS ARE IN CONFORMANCE WITH THIS CODE.

2 GENERAL LANDSCAPE NOTES

NTS

STATE OF MISSOURI
GREGORY MICHAEL PFAU
NUMBER LA-2013025746
LANDSCAPE ARCHITECT
07/17/2020
GREGORY MICHAEL PFAU
LA-2013025746

ACI BOLAND ARCHITECTS
1710 Wyandotte
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Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
North Parking Lot Expansion

100 NE Saint Luke's Blvd
Lee's Summit, MO 64086
Construction Documents

Date	7.17.2020
Job Number	3-19092
Drawn By	AJD
Checked By	GMP

Revision

Number	Date	Description

L202

LANDSCAPE NOTES AND DETAILS - NORTH PARKING LOT EXPANSION

BID PACKAGE #4.04.24.2020

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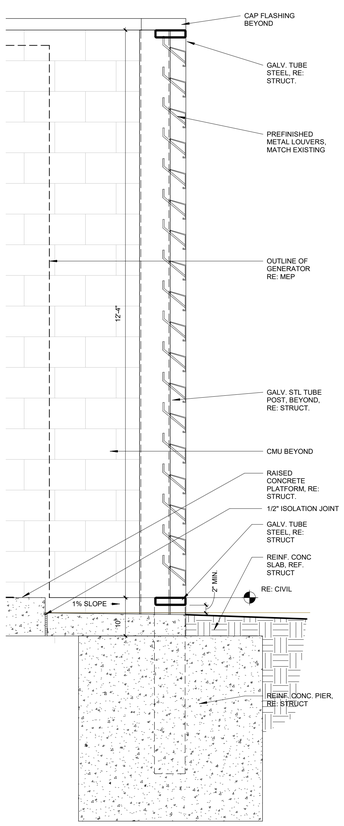
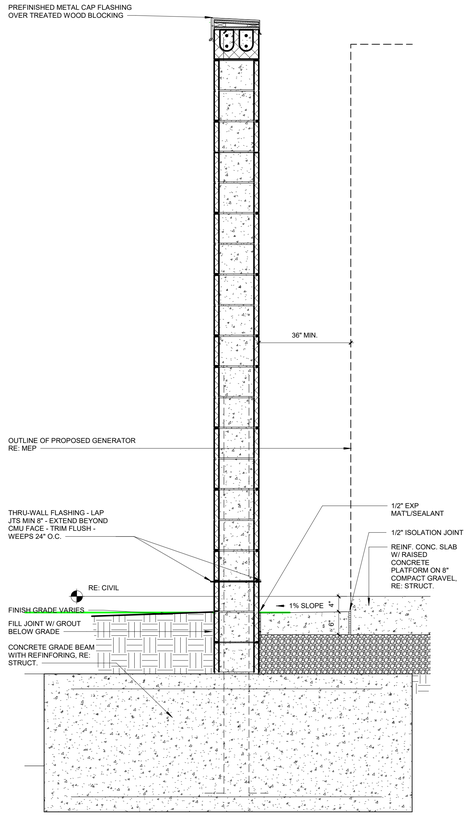
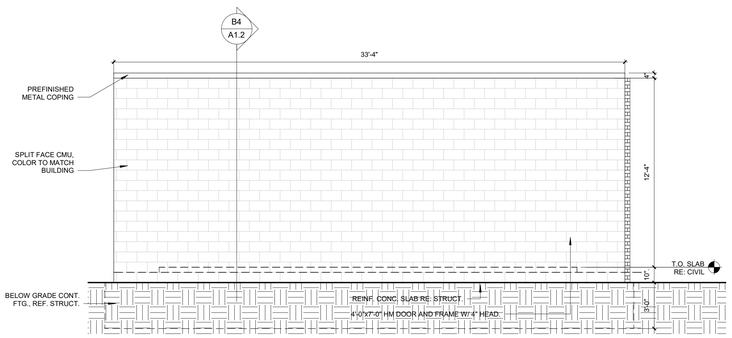


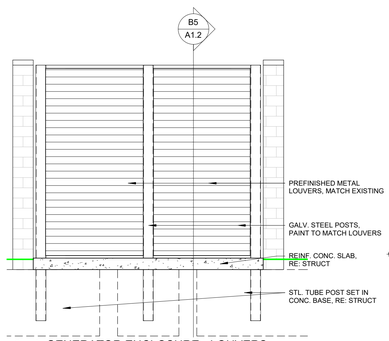
B5 GENERATOR LOUVER SECTION
3/4" = 1'-0"



B4 GENERATOR ENCLOSURE GATE SECTION
3/4" = 1'-0"



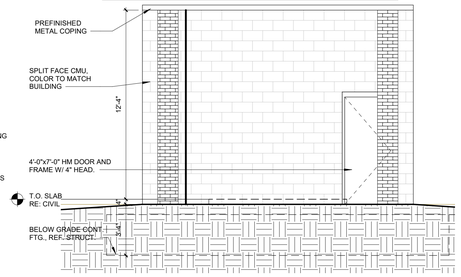
A6 GENERATOR ENCLOSURE ELEVATION
1/4" = 1'-0"



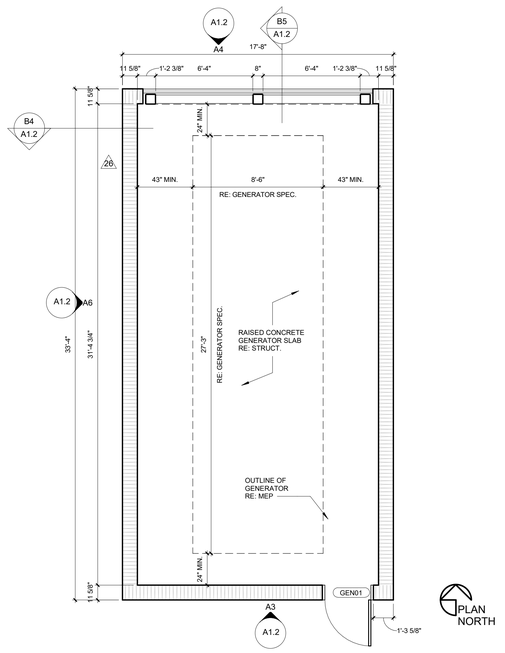
A4 GENERATOR ENCLOSURE - LOUVERS
1/4" = 1'-0"

GEN01 - HARDWARE SET

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	HINGE	5BB1HW	652	IVE
1	STOREROOM LOCK	ND80LD RHO	626	SCH
1	CYLINDER	BY OWNER	626	SCH
1	KICKPLATE	8400 10"X2" LDW B-CS	630	IVE
1	WALL STOP	WS406/407CCV	630	IVE
1	RAIN DRIP	142AA	AA	ZER
1	THRESHOLD	65A-223	A	ZER



A3 GENERATOR ELEVATION
1/4" = 1'-0"



A2 GENERATOR ENCLOSURE PLAN
1/4" = 1'-0"

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT
06.12.20

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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1710 Wyandotte
Kansas City, MO 64108
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ACI/Boland, Inc.
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Licensee's Certificate of Authority Number:
Missouri: #000958

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North Kansas City, MO 64116
Phone Number: 816.756.0444
Licensee's Certificate of Authority Number:
E-2002023253

STRUCTURAL CONSULTANT
Structural Engineering Associates
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Phone Number: 816.421.1042
Licensee's Certificate of Authority Number:
000396

MEP CONSULTANT
W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:
00127265

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

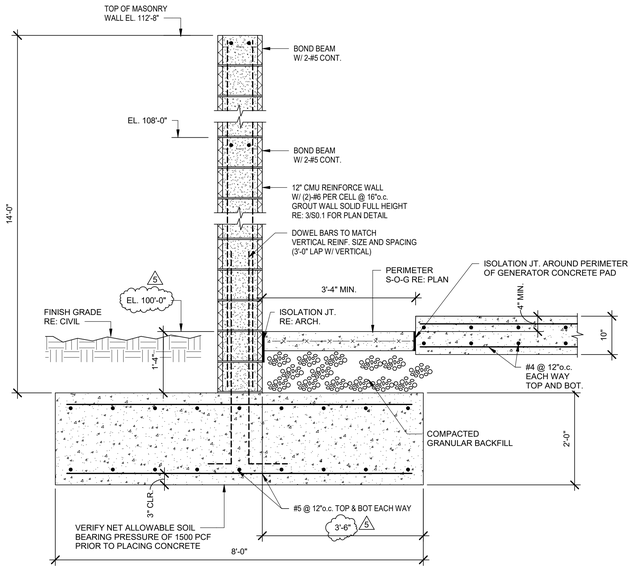
Number	Date	Description
14	05.18.20	ASI 9
26	07.08.20	ASI 14

BID PACKAGE #4 07.21.2020

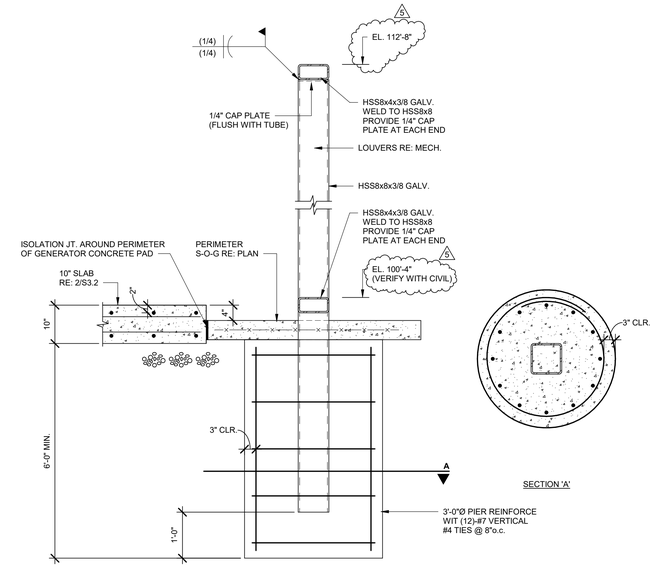
A1.2

GENERATOR ENCLOSURE

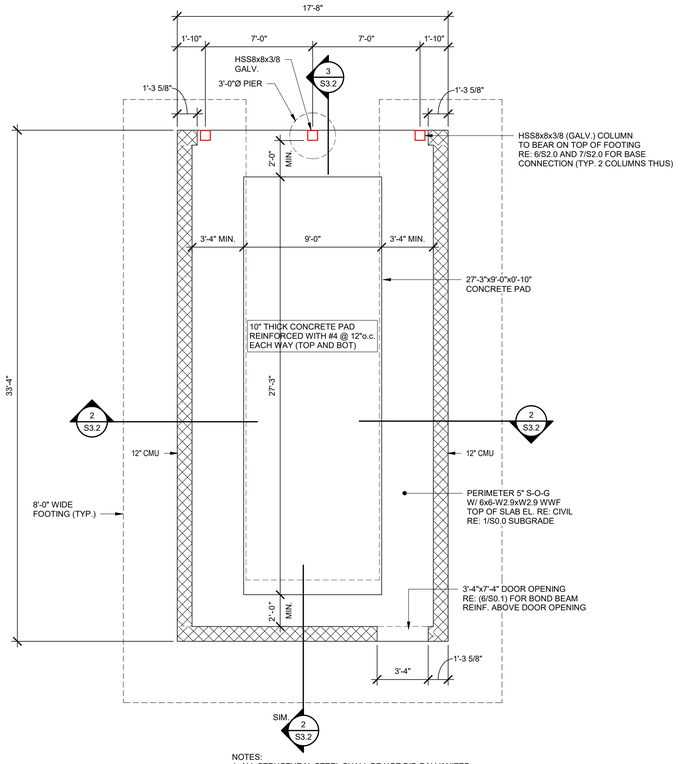
C:\Users\bdostal\Documents\3-19092_SLE Flex Capacity Expansion_Central_bdostal89Q2N.rvt



2 SECTION AT GENERATOR SCREEN WALL
3/4" = 1'-0"



3 SECTION AT COLUMN BASE
3/4" = 1'-0"



NOTES:
1. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED.
2. PROVIDE 1/4" CAP PLATE AT TOP TO ALL COLUMNS AND 1/4" CAP PLATE TO ALL HORIZONTAL TUBES.

1 GENERATOR ENCLOSURE PLAN
1/4" = 1'-0"

STATE OF MISSOURI
KRISHNA G. SAHA
NUMBER PE-2002
PROFESSIONAL ENGINEER
5/15/2020

ACI BOLAND ARCHITECTS
1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600

ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number:
Missouri: #000958

CIVIL CONSULTANT
McClure Engineering Company
1700 Swift Ave., Suite 100
North Kansas City, MO 64116
Phone Number: 816.756.0444
Licensee's Certificate of Authority Number:

STRUCTURAL CONSULTANT
Structural Engineering Associates
1000 Walnut Street, Suite 1570
Kansas City, MO 64106
Phone Number: 816.421.1042
Licensee's Certificate of Authority Number:

MEP CONSULTANT
W.L. Cassell & Associates, Inc.
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	04.24.2020
Job Number	3-19092
Drawn By	G.E.B.
Checked By	K.G.S.

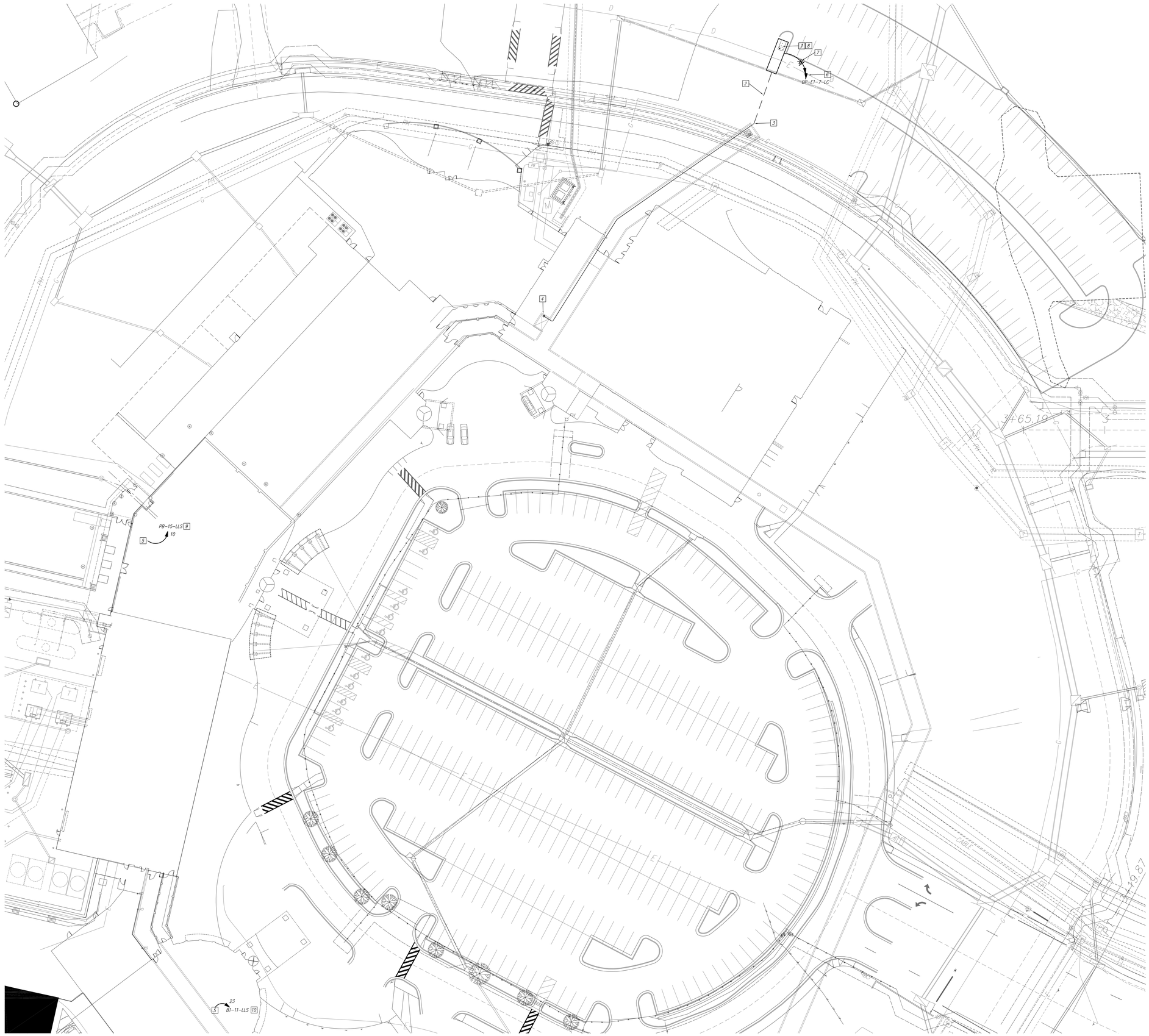
Revision

No.	Date	Description
5	05.15.20	Bid Pkg 4 - ASI 9

BID PACKAGE #4 07.21.2020

S3.2

GENERATOR ENCLOSURE AND DETAILS



PARTIAL ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ADDITIONAL GENERAL NOTES THAT APPLY TO THIS SHEET.
2. WORK SHOWN LIGHTLY IS EXISTING TO REMAIN. NEW WORK IS SHOWN DARK.
3. ALL CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY. CONTRACTOR SHALL FIELD DETERMINE EXACT ROUTING.

KEYED NOTES:

1. INSTALL OWNER FURNISHED 750KW GENERATOR. MAKE ALL POWER AND CONTROL CONNECTIONS AS SPECIFIED BY MANUFACTURER. REFER TO CIVIL SITE DRAWINGS FOR EXACT LOCATION.
2. EXTEND 3 SETS (4-#500 MCMK 1 -#2/0 GND IN EACH 4"C) BELOW GRADE FROM NEW GENERATOR TO TUNNEL ENTRANCE LOCATION.
3. FURNISH AND INSTALL LINK-SEAL SLEEVE AND EXTEND GENERATOR FEEDER THROUGH TUNNEL.
4. EXTEND GENERATOR FEEDER UP IN EXISTING TUNNEL ACCESS AND EXTEND TO NEW EMERGENCY DISTRIBUTION PANEL. REFER TO DETAIL SHEET E.3 0 FOR CONTINUATION.
5. INSTALL TWO(2) OWNER FURNISHED GENERATOR REMOTE ANNUNCIATOR PANELS. APPROXIMATE LOCATION OF GENERATOR PANEL IN ENERGY CENTER BASEMENT OFFICE. SECOND GENERATOR PANEL TO BE LOCATED IN FIRE COMM/ SECURITY 02-18005 IN ED BUILDING.
6. FURNISH AND INSTALL NEW 100A, 3P CIRCUIT BREAKER IN EXISTING PANEL TO SERVE NEW GENERATOR LOAD CENTER.
7. EXTEND 3-#1W AND 1-#6 GND IN 1-1/2"C AND CONNECT TO GENERATOR LOAD CENTER. MAKE ALL CONNECTIONS TO AS REQUIRED BY GENERATOR MANUFACTURER.
8. FURNISH BMS CONNECTION FOR BMS MONITORING OF SYSTEM AND ALARMS SIMILAR TO THE POWERCOMMAND 2.3 CONTROL SYSTEM. REFER TO GENERATOR MANUFACTURER DOCUMENTATION FOR NUMBER OF POINTS TO MONITOR.
9. EXTEND AND CONNECT TO SPARE 20A, 1P CIRCUIT BREAKER IN PANEL SPECIFIED.
10. FURNISH AND INSTALL NEW 20A, 1P CIRCUIT BREAKER IN EXISTING PANEL TO FEED NEW LOAD.

STATE OF MISSOURI
BRUCE ELDON HART
NUMBER E-22817
PROFESSIONAL ENGINEER

4/24/2020

Bruce E. Hart - Engineer
License - Missouri # E-22817

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W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number: 000396

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	04.24.2020
Job Number	3-19092
Drawn By	LLD
Checked By	BEH

Revision

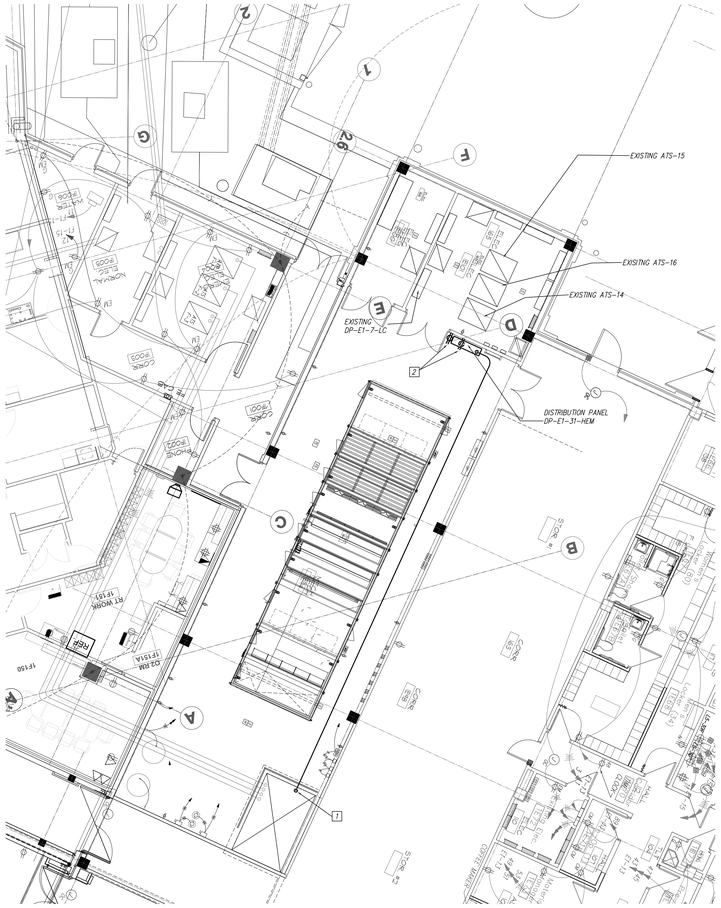
Number	Date	Description

BID PACKAGE #4 07.21.2020

ME2.0

MECHANICAL & ELECTRICAL SITE PLA

2019-150 E2.01.dwg



PARTIAL BUILDING "E" FIRST FLOOR ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E.00 FOR ADDITIONAL GENERAL NOTES WHICH APPLY TO THIS SHEET.
2. WORK SHOWN LIGHTLY IS EXISTING TO REMAIN. NEW WORK IS SHOWN DARK.

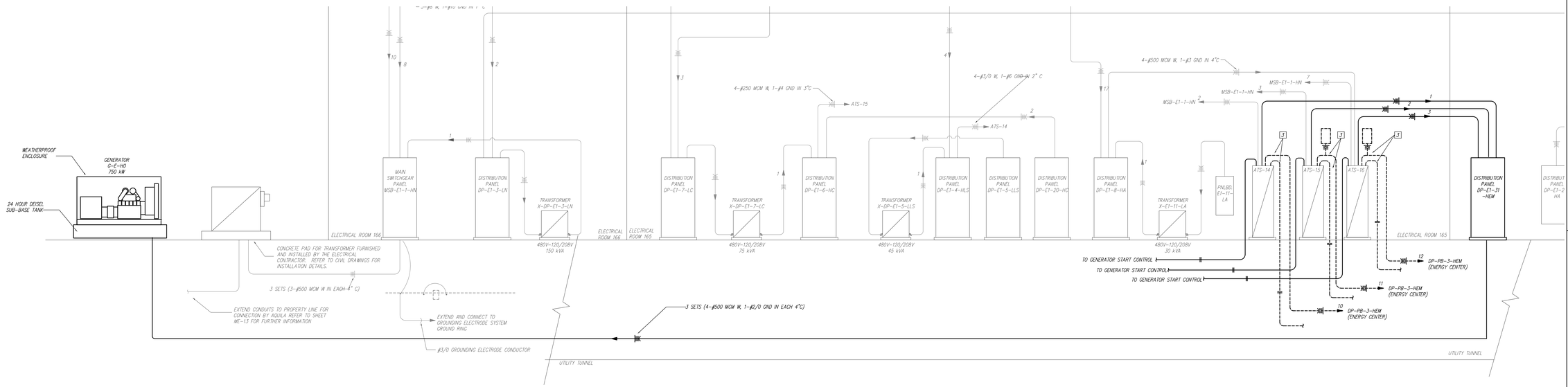
SCHEDULE OF BREAKERS IN DISTRIBUTION PANEL DP-E1-31-HEM

277/480 VOLT, 4 WIRE, 3 Ø, 1000 AMP BUS

NUMBER	BREAKER DESIGNATION	HORSE POWER	AMPS RUN	BREAKER SIZE	TYPE BREAKER	TRIP AMPS	WIRE AND CONDUIT SIZE
A	MAIN			1000	3P	1000	3 SETS (4-#500 MCM W, 1-#2/0 GND IN EACH 4" C)
1	DP-E1-4-HLS VIA ATS-14		40.93	200	3P	200	4-#4/0 W, 1-#4 GND IN 2-1/2" C
2	DP-E1-6-HC VIA ATS-15		274.99	400	3P	250	4-#350 MCM W, 1-#4 GND IN 3"C
3	DP-E1-8-HA VIA ATS-16		552.17	400	3P	400	2 SETS (4-#4/0 W, 1-#2 GND IN EACH 2-1/2"C)
4	SPACE				3P		
5	SPACE				3P		
6	SPACE				3P		
7	SPACE				3P		
8	SPACE				3P		
9	SPACE				3P		
10	SPACE				3P		
11	SPACE				3P		
12	SPACE				3P		
13	SPACE				3P		

KEYED NOTES:

1. EXTEND 3 SETS (4-#500 MCM W, 1-#2/0 GND IN EACH 4"C) DOWN IN TUNNEL AND EXTEND TO GENERATOR LOCATION . REFER TO SHEET E2.01 FOR CONTINUATION.
2. DISCONNECT, RELOCATE AND RECONNECT EXISTING RECEPTACLE TO ALLOW FOR INSTALLATION OF NEW DISTRIBUTION PANEL.
3. EXISTING ATS TO REMAIN. DISCONNECT AND REMOVE EXISTING EMERGENCY FEEDER, GENERATOR START AND ASSOCIATED METERS. LABEL EXISTING ENERGY CENTER BREAKERS AS SPARE.



PARTIAL BUILDING "E" ELECTRICAL RISER PLAN

N.T.S.

STATE OF MISSOURI
BRUCE ELDON HART
NUMBER E-22817
PROFESSIONAL ENGINEER
4/24/2020

Bruce E. Hart - Engineer
License - Missouri # E-22817

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	04.24.2020
Job Number	3-19092
Drawn By	
Checked By	

Revision

Number	Date	Description

E3.0

BUILDING 'E' ELECTRICAL PLANS

2

BID PACKAGE #4 07.21.2020

2019-150 E3.0.dwg

McCLURE

July 20, 2020

Mr. Kent Monter
Development Review Manager
City of Lee's Summit
220 SE Green St
Lee's Summit, Missouri 64083

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE-2002000598
07/20/2020

Re: Stormwater Calculations—Parking Expansion at NE Corner of St Luke's East campus

Dear Mr. Monter:

We have performed the stormwater runoff calculations for the Parking Expansion at the NE Corner of the Saint Luke's hospital site on the southwest corner of Interstate 470 and Douglas Road.

Existing runoff patterns for the area in question drained northerly overland and bypassed the detention site. Proposed runoff patterns for the new parking areas will be routed through the detention basin. The detention basin was initially designed so that the post-development flow was equal to or below the pre-development flow for the 25-year storm (per City of Lee's Summit design criteria at the time). The maximum release rate based on previous analysis was 142cfs, but the detention basin was designed with a peak outflow of 93.28cfs for the 25-year storm.

The attached Pondpack and CulvertMaster calculations are provided to show the effects of the increased impervious area on the site and the subsequent flows going toward the detention basin and the culvert immediately downstream on the northwest corner of the site (an 8' x 5' RCB heading north under Interstate-470). Note that the additional area going into the basin resulted in less site outflow going toward the 8' x 5' RCB.

The table below summarizes the flows before and after the parking lots are placed.

Flow Location--Pondpack Node Name (Hydrology)	Flow Case	Flows (cfs)			
		2-year	10-year	25-year	100-year
Undetained--"EX-DEV-UNDET2" (DA=12.49ac, CN=85, t_c =10min)	Existing	35.73	62.12	73.90	97.40
Undetained--"PRO-DEV-UNDET2" (DA=11.50ac, CN=86, t_c =10min)	Proposed	34.08	58.44	69.28	90.87
Detained--"EX-DEV-DET" (DA=26.32ac, CN=89, t_c =15min)	Existing	76.66	126.75	148.89	192.88
Detained--"PRO-DEV-DET" (DA=27.31ac, CN=89, t_c =15min)	Proposed	79.55	131.52	154.49	200.13
RCB Under Interstate 470	Existing	233.20	385.93		595.35
RCB Under Interstate 470	Proposed	232.98	385.67		595.09

All of the flow from the parking expansion will be captured via storm sewers. None of the existing on-site storm sewer pipes will be effected as a result of the increased impervious area. The 25-year flow leaving the detention basin is 98.49cfs.

Based on the timing of all of the flows going toward the downstream culvert, the 100-year flow decreases to 595.09cfs (compared to previous value of 595.35cfs). As the effects on amount of flow toward the culvert are unchanged, previous capacity analysis is included. The attached CulvertMaster output shows the 595.35cfs that would be heading to the 8' x 5' RCB to be well within the capacity of the culvert before it overtops (overtopping flow is 720cfs).

Please contact me if you should have questions about this letter.

SHAFER, KLINE & WARREN, INC.

By: Matt Eblen, P.E.
Senior Project Manager

Enclosure(s)

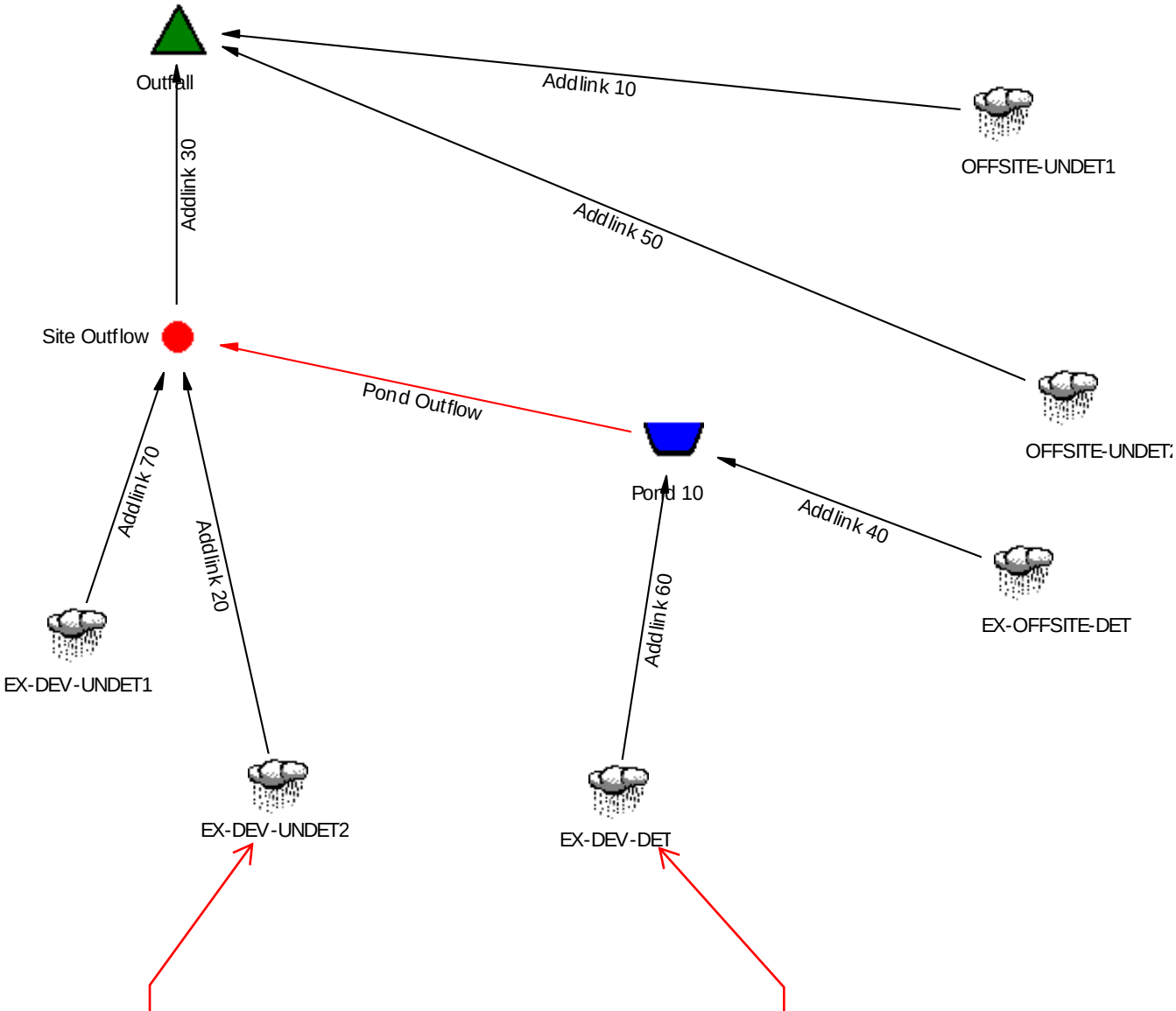
PONDPACK OUTPUT

SPECIFIC TO CURRENT CAMPUS AND WORK
RELATED TO PROPOSED FLEX FACILITY EXPANSION
(ANALYSIS LOOKED AT FLOWS FOR 2-, 5-,
10-, 25-, 50- & 100-YEAR STORM EVENTS)

This work was done in 2013 as part of the Radiation/Oncology/Urology addition

1700 Swift Ave., Suite 100, North Kansas City, MO 64116

EXISTING CONDITIONS



DA = 12.49 acres
CN = 85
Tc = 10 minutes
Effected Subbasin

DA = 26.32 acres
CN = 89
Tc = 15 minutes
Effected Subbasin

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	2.190	12.000	35.73
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 5 yrs	5	3.123	12.000	50.34
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	3.892	12.000	62.12
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 25 yrs	25	4.675	12.000	73.90
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 50 yrs	50	5.368	12.000	84.20
EX-DEV-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	6.266	12.000	97.40
EX-DEV-DET	KC-ALL - Synthetic Curve, 2 yrs	2	5.373	12.050	76.66
EX-DEV-DET	KC-ALL - Synthetic Curve, 5 yrs	5	7.436	12.050	104.52
EX-DEV-DET	KC-ALL - Synthetic Curve, 10 yrs	10	9.115	12.050	126.75
EX-DEV-DET	KC-ALL - Synthetic Curve, 25 yrs	25	10.812	12.050	148.89
EX-DEV-DET	KC-ALL - Synthetic Curve, 50 yrs	50	12.306	12.050	168.18
EX-DEV-DET	KC-ALL - Synthetic Curve, 100 yrs	100	14.236	12.050	192.88
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	5.789	12.100	73.82
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 5 yrs	5	8.386	12.100	106.51
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	10.542	12.100	133.13
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 25 yrs	25	12.745	12.100	159.91
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 50 yrs	50	14.700	12.100	183.39
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	17.242	12.100	213.57
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	2.002	12.050	29.08
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 5 yrs	5	2.972	12.050	43.16
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	3.785	12.050	54.75
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 25 yrs	25	4.623	12.050	66.49
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 50 yrs	50	5.369	12.050	76.83
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	6.344	12.050	90.16

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	0.492	11.950	8.36
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 5 yrs	5	0.686	11.950	11.52
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	0.844	11.950	14.05
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 25 yrs	25	1.004	11.950	16.57
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 50 yrs	50	1.145	11.950	18.76
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	1.328	11.950	21.58
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 2 yrs	2	0.880	12.050	12.75
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 5 yrs	5	1.255	12.050	18.01
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 10 yrs	10	1.564	12.050	22.26
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 25 yrs	25	1.879	12.050	26.51
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 50 yrs	50	2.157	12.050	30.23
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 100 yrs	100	2.519	12.050	34.99

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Site Outflow	KC-ALL - Synthetic Curve, 2 yrs	2	8.935	12.000	109.77
Site Outflow	KC-ALL - Synthetic Curve, 5 yrs	5	12.500	12.000	136.50
Site Outflow	KC-ALL - Synthetic Curve, 10 yrs	10	15.416	12.000	156.22
Site Outflow	KC-ALL - Synthetic Curve, 25 yrs	25	18.370	12.000	175.06
Site Outflow	KC-ALL - Synthetic Curve, 50 yrs	50	20.976	12.000	190.96
Site Outflow	KC-ALL - Synthetic Curve, 100 yrs	100	24.349	12.000	210.98
Outfall	KC-ALL - Synthetic Curve, 2 yrs	2	16.726	12.050	210.33
Outfall	KC-ALL - Synthetic Curve, 5 yrs	5	23.858	12.050	282.09
Outfall	KC-ALL - Synthetic Curve, 10 yrs	10	29.744	12.050	338.50

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Outfall	KC-ALL - Synthetic Curve, 25 yrs	25	35.737	12.050	394.23
Outfall	KC-ALL - Synthetic Curve, 50 yrs	50	41.045	12.050	442.82
Outfall	KC-ALL - Synthetic Curve, 100 yrs	100	47.935	12.050	504.73

Pond Summary

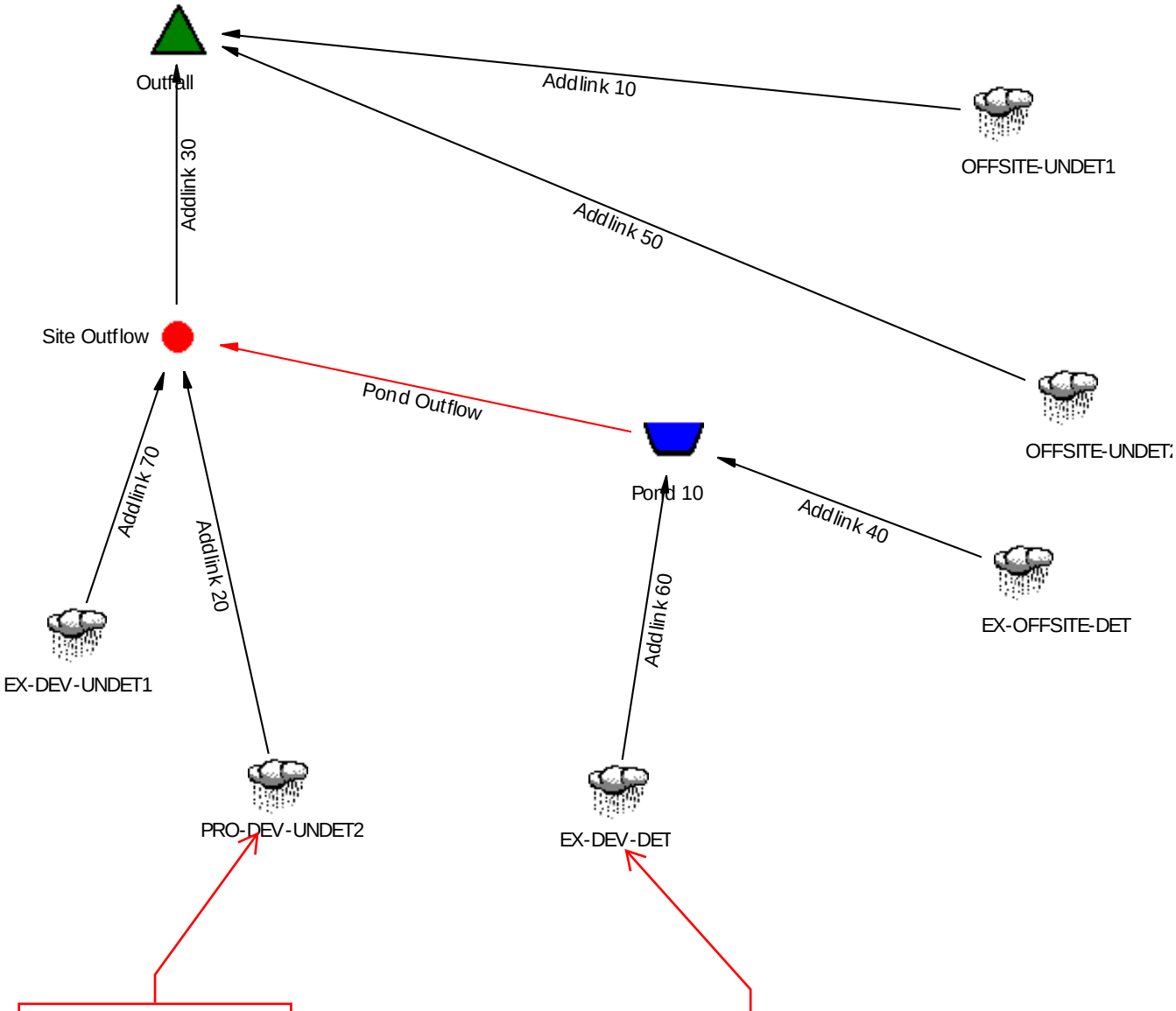
Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (IN)	KC-ALL - Synthetic Curve, 2 yrs	2	6.253	12.050	89.41	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 2 yrs	2	6.253	12.150	72.69	966.16	0.356
Pond 10 (IN)	KC-ALL - Synthetic Curve, 5 yrs	5	8.691	12.050	122.53	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 5 yrs	5	8.691	12.150	84.27	967.76	0.821
Pond 10 (IN)	KC-ALL - Synthetic Curve, 10 yrs	10	10.680	12.050	149.01	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 10 yrs	10	10.680	12.200	91.13	968.82	1.275
Pond 10 (IN)	KC-ALL - Synthetic Curve, 25 yrs	25	12.691	12.050	175.40	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 25 yrs	25	12.691	12.200	97.35	969.85	1.798
Pond 10 (IN)	KC-ALL - Synthetic Curve, 50 yrs	50	14.463	12.050	198.40	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 50 yrs	50	14.463	12.200	101.98	970.66	2.283
Pond 10 (IN)	KC-ALL - Synthetic Curve, 100 yrs	100	16.755	12.050	227.87	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 100 yrs	100	16.755	12.200	140.86	971.30	2.724

PROPOSED CONDITIONS



DA = 11.50 acres
CN = 86
Tc = 10 minutes
Effected Subbasin

DA = 27.31 acres
CN = 89
Tc = 15 minutes
Effected Subbasin

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	2.096	12.000	34.08
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 5 yrs	5	2.967	12.000	47.59
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	3.682	12.000	58.44
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 25 yrs	25	4.408	12.000	69.28
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 50 yrs	50	5.050	12.000	78.75
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	5.882	12.000	90.87
PRO-DEV-DET	KC-ALL - Synthetic Curve, 2 yrs	2	5.575	12.050	79.55
PRO-DEV-DET	KC-ALL - Synthetic Curve, 5 yrs	5	7.716	12.050	108.45
PRO-DEV-DET	KC-ALL - Synthetic Curve, 10 yrs	10	9.458	12.050	131.52
PRO-DEV-DET	KC-ALL - Synthetic Curve, 25 yrs	25	11.218	12.050	154.49
PRO-DEV-DET	KC-ALL - Synthetic Curve, 50 yrs	50	12.769	12.050	174.50
PRO-DEV-DET	KC-ALL - Synthetic Curve, 100 yrs	100	14.772	12.050	200.13
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	5.789	12.100	73.82
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 5 yrs	5	8.386	12.100	106.51
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	10.542	12.100	133.13
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 25 yrs	25	12.745	12.100	159.91
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 50 yrs	50	14.700	12.100	183.39
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	17.242	12.100	213.57
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	2.002	12.050	29.08
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 5 yrs	5	2.972	12.050	43.16
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	3.785	12.050	54.75
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 25 yrs	25	4.623	12.050	66.49
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 50 yrs	50	5.369	12.050	76.83
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	6.344	12.050	90.16

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	0.492	11.950	8.36
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 5 yrs	5	0.686	11.950	11.52
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	0.844	11.950	14.05
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 25 yrs	25	1.004	11.950	16.57
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 50 yrs	50	1.145	11.950	18.76
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	1.328	11.950	21.58
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 2 yrs	2	0.880	12.050	12.75
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 5 yrs	5	1.255	12.050	18.01
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 10 yrs	10	1.564	12.050	22.26
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 25 yrs	25	1.879	12.050	26.51
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 50 yrs	50	2.157	12.050	30.23
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 100 yrs	100	2.519	12.050	34.99

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Site Outflow	KC-ALL - Synthetic Curve, 2 yrs	2	9.043	12.000	109.02
Site Outflow	KC-ALL - Synthetic Curve, 5 yrs	5	12.623	12.000	134.56
Site Outflow	KC-ALL - Synthetic Curve, 10 yrs	10	15.548	12.000	153.43
Site Outflow	KC-ALL - Synthetic Curve, 25 yrs	25	18.510	12.000	171.28
Site Outflow	KC-ALL - Synthetic Curve, 50 yrs	50	21.121	12.000	186.41
Site Outflow	KC-ALL - Synthetic Curve, 100 yrs	100	24.500	12.000	205.39
Outfall	KC-ALL - Synthetic Curve, 2 yrs	2	16.834	12.050	209.84
Outfall	KC-ALL - Synthetic Curve, 5 yrs	5	23.981	12.050	280.40
Outfall	KC-ALL - Synthetic Curve, 10 yrs	10	29.876	12.050	335.96

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Outfall	KC-ALL - Synthetic Curve, 25 yrs	25	35.877	12.050	390.99
Outfall	KC-ALL - Synthetic Curve, 50 yrs	50	41.191	12.050	438.85
Outfall	KC-ALL - Synthetic Curve, 100 yrs	100	48.086	12.050	499.81

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (IN)	KC-ALL - Synthetic Curve, 2 yrs	2	6.455	12.050	92.30	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 2 yrs	2	6.455	12.150	73.89	966.32	0.391
Pond 10 (IN)	KC-ALL - Synthetic Curve, 5 yrs	5	8.971	12.050	126.46	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 5 yrs	5	8.971	12.150	85.39	967.92	0.884
Pond 10 (IN)	KC-ALL - Synthetic Curve, 10 yrs	10	11.023	12.050	153.77	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 10 yrs	10	11.023	12.200	92.37	969.02	1.368
Pond 10 (IN)	KC-ALL - Synthetic Curve, 25 yrs	25	13.097	12.050	181.00	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 25 yrs	25	13.097	12.200	98.55	970.06	1.912
Pond 10 (IN)	KC-ALL - Synthetic Curve, 50 yrs	50	14.926	12.050	204.73	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 50 yrs	50	14.926	12.200	103.13	970.87	2.421
Pond 10 (IN)	KC-ALL - Synthetic Curve, 100 yrs	100	17.290	12.050	235.12	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 100 yrs	100	17.290	12.150	153.63	971.40	2.800

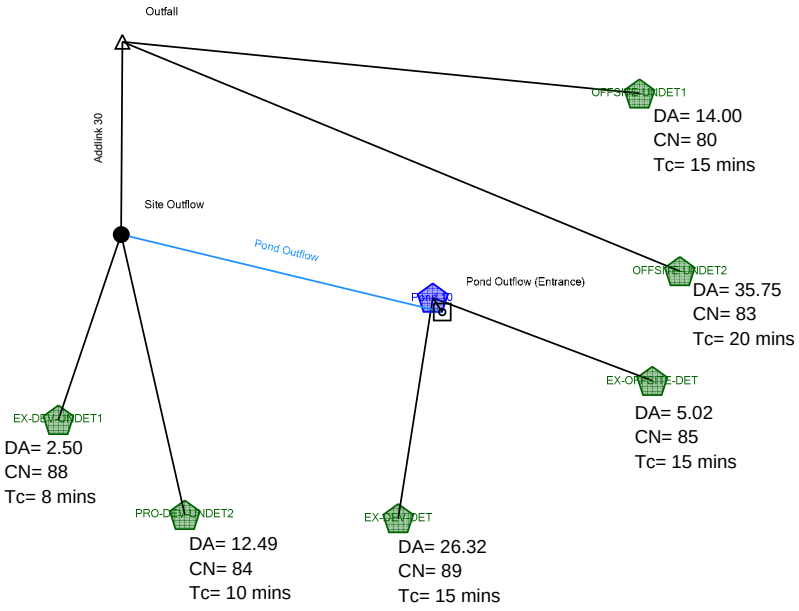
PONDPACK OUTPUT

SPECIFIC TO FLOW GOING TOWARD
8’ X 5’ RCB UNDER INTERSTATE 470
ANALYSIS LOOKED AT FLOW FOR 1-, 10-,
& 100-YEAR STORM EVENTS

This work was done in November 2016 as part of a parking expansion west of the current campus

1700 Swift Ave., Suite 100, North Kansas City, MO 64116

Scenario: KC-ALL - Synthetic Curve, 100 yrs



Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	2.105	12.000	34.44
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	3.787	12.000	60.73
PRO-DEV-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	6.144	12.000	96.06
EX-DEV-DET	KC-ALL - Synthetic Curve, 2 yrs	2	5.373	12.050	76.66
EX-DEV-DET	KC-ALL - Synthetic Curve, 10 yrs	10	9.115	12.050	126.75
EX-DEV-DET	KC-ALL - Synthetic Curve, 100 yrs	100	14.236	12.050	192.88
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 2 yrs	2	5.789	12.100	73.82
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 10 yrs	10	10.542	12.100	133.13
OFFSITE-UNDET2	KC-ALL - Synthetic Curve, 100 yrs	100	17.242	12.100	213.57
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	2.002	12.050	29.08
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	3.785	12.050	54.75
OFFSITE-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	6.344	12.050	90.16
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 2 yrs	2	0.492	11.950	8.36
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 10 yrs	10	0.844	11.950	14.05
EX-DEV-UNDET1	KC-ALL - Synthetic Curve, 100 yrs	100	1.328	11.950	21.58
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 2 yrs	2	0.880	12.050	12.75
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 10 yrs	10	1.564	12.050	22.26
EX-OFFSITE-DET	KC-ALL - Synthetic Curve, 100 yrs	100	2.519	12.050	34.99

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Site Outflow	KC-ALL - Synthetic Curve, 2 yrs	2	8.850	12.000	108.48
Site Outflow	KC-ALL - Synthetic Curve, 10 yrs	10	15.311	12.000	154.83
Site Outflow	KC-ALL - Synthetic Curve, 100 yrs	100	24.227	12.000	209.64

Subsection: Master Network Summary

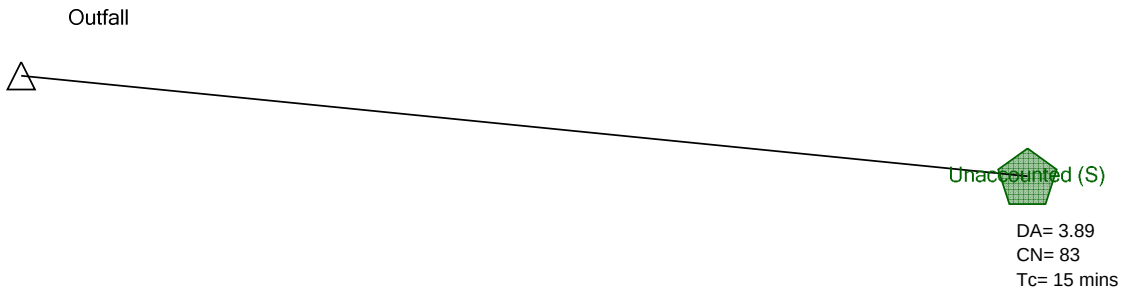
Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Outfall	KC-ALL - Synthetic Curve, 2 yrs	2	16.641	12.050	209.26
Outfall	KC-ALL - Synthetic Curve, 10 yrs	10	29.639	12.050	337.37
Outfall	KC-ALL - Synthetic Curve, 100 yrs	100	47.813	12.050	503.65

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (IN)	KC-ALL - Synthetic Curve, 2 yrs	2	6.253	12.050	89.41	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 2 yrs	2	6.253	12.150	72.69	966.16	0.356
Pond 10 (IN)	KC-ALL - Synthetic Curve, 10 yrs	10	10.680	12.050	149.01	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 10 yrs	10	10.680	12.200	91.13	968.82	1.275
Pond 10 (IN)	KC-ALL - Synthetic Curve, 100 yrs	100	16.755	12.050	227.87	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 100 yrs	100	16.755	12.200	140.86	971.30	2.724

Scenario: KC-ALL - Synthetic Curve, 100 yrs



Subsection: Master Network Summary

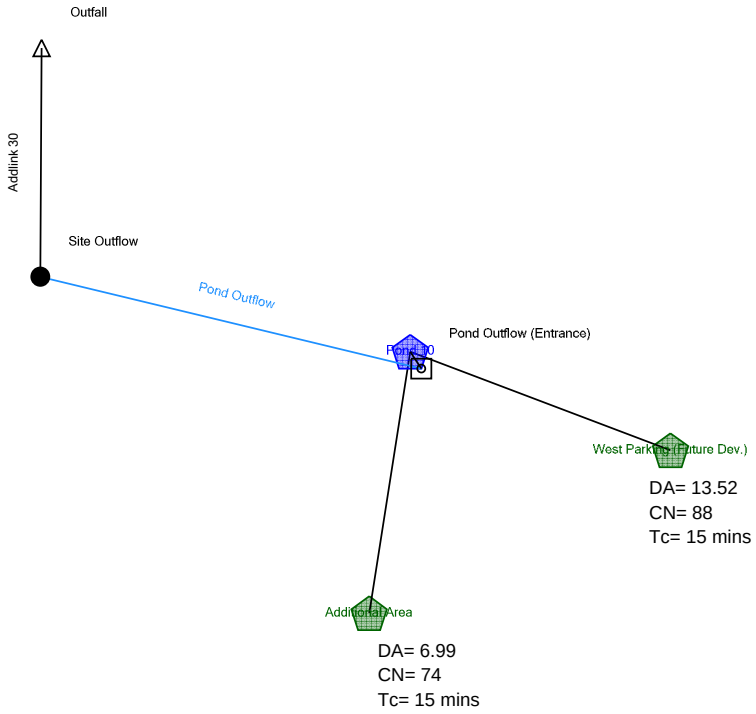
Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Unaccounted (S)	KC-ALL - Synthetic Curve, 2 yrs	2	0.630	12.050	9.15
Unaccounted (S)	KC-ALL - Synthetic Curve, 10 yrs	10	1.147	12.050	16.45
Unaccounted (S)	KC-ALL - Synthetic Curve, 100 yrs	100	1.876	12.050	26.33

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Outfall	KC-ALL - Synthetic Curve, 2 yrs	2	0.630	12.050	9.15
Outfall	KC-ALL - Synthetic Curve, 10 yrs	10	1.147	12.050	16.45
Outfall	KC-ALL - Synthetic Curve, 100 yrs	100	1.876	12.050	26.33

Scenario: KC-ALL - Synthetic Curve, 100 yrs



Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Additional Area	KC-ALL - Synthetic Curve, 2 yrs	2	0.763	12.050	10.85
Additional Area	KC-ALL - Synthetic Curve, 10 yrs	10	1.565	12.050	22.76
Additional Area	KC-ALL - Synthetic Curve, 100 yrs	100	2.765	12.050	39.96
West Parking (Future Dev.)	KC-ALL - Synthetic Curve, 2 yrs	2	2.659	12.050	38.13
West Parking (Future Dev.)	KC-ALL - Synthetic Curve, 10 yrs	10	4.563	12.050	63.88
West Parking (Future Dev.)	KC-ALL - Synthetic Curve, 100 yrs	100	7.180	12.050	97.96

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Site Outflow	KC-ALL - Synthetic Curve, 2 yrs	2	3.422	12.350	13.50
Site Outflow	KC-ALL - Synthetic Curve, 10 yrs	10	6.129	12.300	30.72
Site Outflow	KC-ALL - Synthetic Curve, 100 yrs	100	9.945	12.250	64.03
Outfall	KC-ALL - Synthetic Curve, 2 yrs	2	3.422	12.350	13.50
Outfall	KC-ALL - Synthetic Curve, 10 yrs	10	6.129	12.300	30.72
Outfall	KC-ALL - Synthetic Curve, 100 yrs	100	9.945	12.250	64.03

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (IN)	KC-ALL - Synthetic Curve, 2 yrs	2	3.422	12.050	48.99	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 2 yrs	2	3.422	12.350	13.50	960.69	1.309
Pond 10 (IN)	KC-ALL - Synthetic Curve, 10 yrs	10	6.129	12.050	86.63	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 10 yrs	10	6.129	12.300	30.72	962.13	2.255
Pond 10 (IN)	KC-ALL - Synthetic Curve, 100 yrs	100	9.945	12.050	137.91	(N/A)	(N/A)
Pond 10 (OUT)	KC-ALL - Synthetic Curve, 100 yrs	100	9.945	12.250	64.03	963.59	3.337

Culvert Designer/Analyzer Report
Culvert-1-8x5

Analysis Component			
Storm Event	Design	Discharge	595.35 cfs

Peak Discharge Method: User-Specified			
Design Discharge	595.35 cfs	Check Discharge	720.00 cfs

Tailwater properties: Irregular Channel

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	1+01	0.080
1+01	1+32	0.040
1+32	2+03	0.080

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	908.58
0+50	905.48
0+61	905.18
0+77	904.43
0+88	903.01
1+01	901.95
1+05	898.29
1+09	898.36
1+17	898.00
1+32	902.00
1+50	903.38
2+00	907.18
2+03	907.58

Tailwater conditions for Design Storm.			
Discharge	595.35 cfs	Actual Depth	5.20 ft
Velocity	4.35 ft/s		

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-8 x 5 ft Box	595.36 cfs	911.50 ft	16.80 ft/s
Weir	Roadway	0.00 cfs	911.50 ft	N/A
Total	----------	595.36 cfs	911.50 ft	N/A

Culvert Designer/Analyzer Report
Culvert-1-8x5

Component:Culvert-1

Culvert Summary					
Computed Headwater Elev	911.50	ft	Discharge	595.36	cfs
Inlet Control HW Elev.	911.50	ft	Tailwater Elevation	903.20	ft
Outlet Control HW Elev.	910.16	ft	Control Type	Inlet Control	
Headwater Depth/Height	2.30				

Grades					
Upstream Invert	900.00	ft	Downstream Invert	898.50	ft
Length	150.00	ft	Constructed Slope	0.010000	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	4.43	ft
Slope Type	Steep		Normal Depth	4.08	ft
Flow Regime	Supercritical		Critical Depth	5.00	ft
Velocity Downstream	16.80	ft/s	Critical Slope	0.009548	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	8.00	ft
Section Size	8 x 5 ft		Rise	5.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	910.16	ft	Upstream Velocity Head	3.44	ft
Ke	0.50		Entrance Loss	1.72	ft

Inlet Control Properties					
Inlet Control HW Elev.	911.50	ft	Flow Control	Submerged	
Inlet Type	45° non-offset wingwall flares		Area Full	40.0	ft²
K	0.49700		HDS 5 Chart	12	
M	0.66700		HDS 5 Scale	1	
C	0.03390		Equation Form	2	
Y	0.80300				

Culvert Designer/Analyzer Report
Culvert-1-8x5

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	911.50	ft
Roadway Width	100.00	ft	Overtopping Coefficient	2.90	US
Low Point	915.00	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	2.90		Submergence Factor (Kt)	1.00	
Tailwater Elevation	903.20	ft			

Sta (ft)	Elev. (ft)
0.00	917.08
50.00	916.04
100.00	915.38
117.53	915.00
150.00	915.50
200.00	916.00
250.00	916.87

Culvert Designer/Analyzer Report
Culvert-1-8x5

Analysis Component			
Storm Event	Check	Discharge	720.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	595.35 cfs	Check Discharge	720.00 cfs

Tailwater properties: Irregular Channel

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	1+01	0.080
1+01	1+32	0.040
1+32	2+03	0.080

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	908.58
0+50	905.48
0+61	905.18
0+77	904.43
0+88	903.01
1+01	901.95
1+05	898.29
1+09	898.36
1+17	898.00
1+32	902.00
1+50	903.38
2+00	907.18
2+03	907.58

Tailwater conditions for Check Storm.			
Discharge	720.00 cfs	Actual Depth	5.64 ft
Velocity	4.33 ft/s		

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-8 x 5 ft Box	720.02 cfs	914.97 ft	18.00 ft/s
Weir	Roadway	0.00 cfs	914.97 ft	N/A
Total	----------	720.02 cfs	914.97 ft	N/A

Culvert Designer/Analyzer Report
Culvert-1-8x5

Component:Culvert-1

Culvert Summary					
Computed Headwater Eleva	914.97	ft	Discharge	720.02	cfs
Inlet Control HW Elev.	914.97	ft	Tailwater Elevation	903.64	ft
Outlet Control HW Elev.	913.29	ft	Control Type	Inlet Control	
Headwater Depth/Height	2.99				

Grades					
Upstream Invert	900.00	ft	Downstream Invert	898.50	ft
Length	150.00	ft	Constructed Slope	0.010000	ft/ft

Hydraulic Profile					
Profile	PressureProfile		Depth, Downstream	5.14	ft
Slope Type	N/A		Normal Depth	N/A	ft
Flow Regime	N/A		Critical Depth	5.00	ft
Velocity Downstream	18.00	ft/s	Critical Slope	0.013964	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	8.00	ft
Section Size	8 x 5 ft		Rise	5.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	913.29	ft	Upstream Velocity Head	5.04	ft
Ke	0.50		Entrance Loss	2.52	ft

Inlet Control Properties					
Inlet Control HW Elev.	914.97	ft	Flow Control	Submerged	
Inlet Type	45° non-offset wingwall flares		Area Full	40.0	ft²
K	0.49700		HDS 5 Chart	12	
M	0.66700		HDS 5 Scale	1	
C	0.03390		Equation Form	2	
Y	0.80300				

Culvert Designer/Analyzer Report
Culvert-1-8x5

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	914.97	ft
Roadway Width	100.00	ft	Overtopping Coefficient	2.90	US
Low Point	915.00	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	2.90		Submergence Factor (Kt)	1.00	
Tailwater Elevation	903.64	ft			

Sta (ft)	Elev. (ft)
0.00	917.08
50.00	916.04
100.00	915.38
117.53	915.00
150.00	915.50
200.00	916.00
250.00	916.87