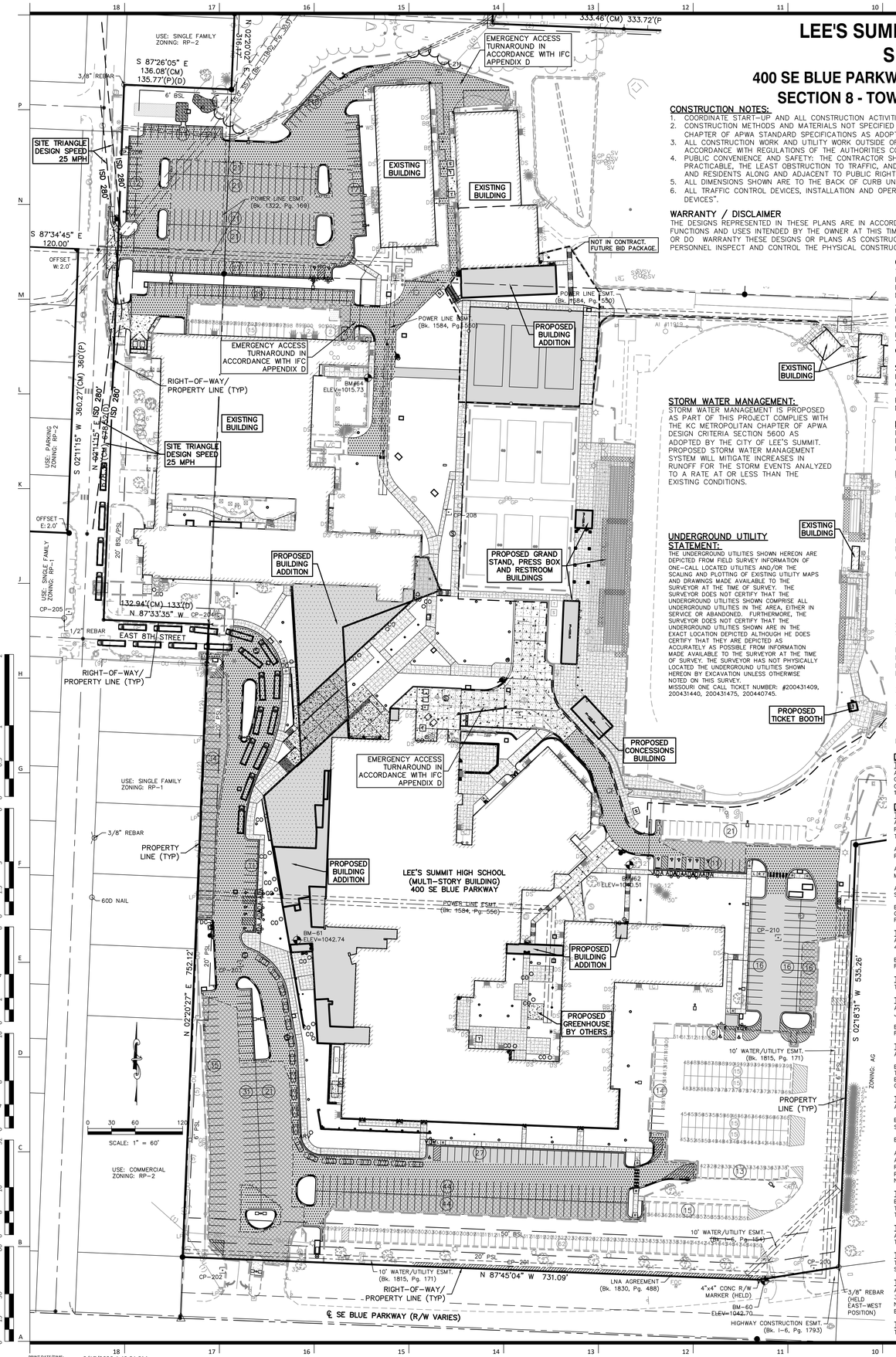
LEE'S SUMMIT HIGH SCHOOL
SITE PLAN
400 SE BLUE PARKWAY, LEE'S SUMMIT, MO 64063
SECTION 8 - TOWNSHIP 47 N - RANGE 31 W


USE: SINGLE FAMILY
ZONING: RP-2
S 87°26'05" E
136.08'(CM)
135.77'(P)(D)
3/8" REBAR
6' BSL
N 02°20'22" E 752.12'
SITE TRIANGLE
DESIGN SPEED
25 MPH
ISD 280'
EXISTING BUILDING
POWER LINE ESMT.
(Bk. 1322, Pg. 169)
S 87°34'45" E
120.00'
OFFSET
W: 2.0'
EMERGENCY ACCESS
TURNAROUND IN
ACCORDANCE WITH IFC
APPENDIX D
RIGHT-OF-WAY/
PROPERTY LINE (TYP)
S 02°11'15" W 360.27'(CM) 360'(P)
N 42°11'15" E 28.42'(CM) 28.42'(D)
USE: PARKING
ZONING: RP-2
OFFSET
E: 2.0'
USE: SINGLE FAMILY
ZONING: RP-1
CP-205
1/2" REBAR
EAST 8TH STREET
132.94'(CM) 133'(D)
N 87°33'35" W
CP-204
PROPOSED
BUILDING
ADDITION
PROPOSED GRAND
STAND, PRESS BOX
AND RESTROOM
BUILDINGS
PROPOSED
TICKET BOOTH
PROPOSED
CONCESSIONS
BUILDING
EMERGENCY ACCESS
TURNAROUND IN
ACCORDANCE WITH IFC
APPENDIX D
USE: SINGLE FAMILY
ZONING: RP-1
3/8" REBAR
PROPERTY
LINE (TYP)
60D NAIL
LEE'S SUMMIT HIGH SCHOOL
(MULTI-STORY BUILDING)
400 SE BLUE PARKWAY
PROPOSED
BUILDING
ADDITION
PROPOSED
GREENHOUSE
BY OTHERS
N 02°20'22" E 752.12'
BM-61
ELEV=1042.74
BM#2
ELEV=1040.51
CP-210
CP-209
CP-208
CP-207
CP-206
CP-201
CP-202
CP-203
10' WATER/UTILITY ESMT.
(Bk. 1815, Pg. 171)
PROPERTY
LINE (TYP)
S 02°18'31" W 535.26'
ZONING: AG
4" PSL
20' PSL
50' BSL
10' WATER/UTILITY ESMT.
(Bk. 1815, Pg. 171)
N 87°45'04" W 731.09'
RIGHT-OF-WAY/
PROPERTY LINE (TYP)
LNA AGREEMENT
(Bk. 1830, Pg. 488)
4"x4" CONC R/W
MARKER (HELD)
3/8" REBAR
(HELD
EAST-WEST
POSITION)
BM-60
ELEV=1042.70
HIGHWAY CONSTRUCTION ESMT.
(Bk. I-6, Pg. 1793)
℄ SE BLUE PARKWAY (R/W VARIES)
0 30 60 120
SCALE: 1" = 60'
USE: COMMERCIAL
ZONING: RP-2
NOT IN CONTRACT.
FUTURE BID PACKAGE.
POWER LINE ESMT.
(Bk. 1584, Pg. 560)
EXISTING
BUILDING
PROPOSED
BUILDING
ADDITION
EXISTING
BUILDING
EXISTING
BUILDING
EXISTING
BUILDING

LEE'S SUMMIT HIGH SCHOOL
PROPOSED MASTER PARKING PLAN



0 30 60 120

SCALE: 1" = 60'

PARKING:

EXISTING: 1,166 STALLS (18 ADA)

PROPOSED AFTER BOND PROJECT: 1,154 STALLS (22 ADA)

SE BLUE PARKWAY RELOCATION CITY OF LEE'S SUMMIT TIF PROJECT: (NOT PART OF THIS PROJECT)

SOUTHEAST LOT ONLY AND STADIUM DRIVE: 1,091 STALLS (22 ADA) (SEE AREA IN RED)

ADD ATHLETICS LOT: 1,165 STALLS (22 ADA)

TRAFFIC LEGEND:

- BUS DROP-OFF
- PARENT DROP-OFF/ PICK-UP

LEGEND:

- FULL DEPTH ASPHALT PAVING
- HEAVY DUTY CONCRETE PAVING
- SIDEWALK
- CURB AND GUTTER

SE BLUE PARKWAY RELOCATION IS NOT PART OF THIS PROJECT. FUTURE IMPROVEMENTS BY OTHERS.

0 15 30 60

SCALE: 1" = 30'

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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood — Date: 12/15/2020
Engineer — License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496MASTER PARKING.DWG DWN: DDW

DAVID D. WOOD
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KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

C105

Final Development Plan

LEGEND:

- SECTION CORNER
- CONTROL POINT
- BENCHMARK
- MONUMENT FOUND ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED
- (2) OU OVERHEAD UTILITY LINE (# OF LINES)
- LIGHT POLE
- UTILITY POLE
- ELECTRIC METER
- AIR CONDITIONER
- GAS METER
- WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- WS WATER SPIGOT
- SV SPRINKLER VALVE
- BB BREAKER BOX
- EO ELECTRIC OUTLET
- DE DOOR ELEVATION (AT THRESHOLD)
- FF FINISH FLOOR ELEVATION
- BUSH
- BASKETBALL GOAL
- LIMITS OF DISTURBANCE
- A A / B B ASPHALT EDGE TREATMENT. SEE SECTION ON C190
- SPLICE BOX
- UV UTILITY VAULT
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- SANITARY SEWER CLEAN OUT
- DS DOWN SPOUT
- GRATE INLET
- FLARED END SECTION
- STREET/TRAFFIC SIGN
- TRAFFIC SIGNAL LIGHT POLE
- HANDICAP SYMBOL
- (5) PARKING STALL COUNT
- ADA HANDICAP SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- TURN LANE DIRECTION
- ASPHALT MILL AND/OR OVERLAY
- ASPHALT PAVEMENT (040)
- HEAVY DUTY ASPHALT PAVEMENT (041)
- CONCRETE PAVEMENT (042)
- CONCRETE SIDEWALK (055)
- INSULATED 7" SIDEWALK (054) FOR SNOW MELT SYSTEM

- SECTION CORNER
- MONUMENT FOUND (ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED)
- 1/2"x24" REBAR W/214F CAP SET (UNLESS NOTED OTHERWISE)
- MAGNAIL W/ WASHER SET (UNLESS NOTED OTHERWISE)
- CHISELED PLUS SET (UNLESS NOTED OTHERWISE)
- (M) MEASURED VALUE
- (C) CALCULATED
- (D) DEED VALUE
- (P) PLAT VALUE
- (CP) CALCULATED PLAT VALUE
- (CM) CALCULATED MEASURED VALUE
- (R) RECORD VALUE
- SS/E SANITARY SEWER EASEMENT
- D/E STORM DRAINAGE EASEMENT
- TYPE 1/TYPE 3 JOINT TYPE
- L LANDING
- R RAMP
- T TRANSITION
- CONCRETE CURB AND GUTTER
- CONCRETE CURB AND GUTTER WITH REVERSE FLOW
- PAINTED CURB FOR FIRE LANE

CONSTRUCTION NOTE:

1. CONTRACTOR IS REQUIRED TO PROTECT TENNIS COURTS DURING CONSTRUCTION. STAGE WORK AND ACCESS ACCORDINGLY. DAMAGE TO TENNIS COURTS PAVING OR SURFACING CAUSED BY CONSTRUCTION ACTIVITIES WILL BE REPAIRED AT CONTRACTORS EXPENSE. TEMPORARY FENCING MAY BE REQUIRED AROUND TENNIS COURT IF WORK SCHEDULE CONFLICTS WITH LSHS ATHLETICS SCHEDULE. COORDINATE WITH SCHOOL DISTRICT.

LINE OF DEMARCATION LSHS RENOVATIONS/ADDITIONS SCOPE AND ATHLETICS SCOPE

MATCHLINE

MATCHLINE

PROPOSED BUILDING ADDITION FF=1049.2± (MATCH EXISTING)

PROPOSED BUILDING ADDITION AREA FF=1049.2± (MATCH EXISTING)

PROPOSED BUILDING ADDITION FF=1024.3± NORTH FF=1038.0± CENTRAL NORTH FF=1041.7± CENTRAL SOUTH FF=1049.0± SOUTH

GREENHOUSE (BY OTHERS) CONCRETE PAD IN CONTRACT

EXISTING BUILDING

POWER LINE ESMT. (Bk. 1584, Pg. 550)

ROSELAND HEIGHTS LOTS 46–51 (Bk. 19, Pg. 72)

603.77'(CM) 603.05'(CP)

N 02°20'27" E 752.12'

EAST LINE OF ROSELAND HEIGHTS LOTS 46 THRU 51 SET FROM MONUMENTS AND PHYSICAL CENTERLINE OF BROWNING STREET

PROPERTY LINE (TYP)

2" MINIMUM SURFACE COURSE 040

133'(P)

77.59'

N 87°44'19" W 157.96'

1/2" REBAR CENTER CORNER SEC. 8–47–31 DOC. NO. 600–65046 N: 996406.587 (GRID) E: 2826348.368 (GRID)

NORTH R/W LINE SET BY RECORD DISTANCE (77.6') NORTH OF CENTER CORNER AND EXISTING 4"x4" CONCRETE R/W MARKER

R/W CONVEYANCE (Bk. 661, Pg. 166) (DEED 1C)(TRACT 1 EXCEPTION)

R/W CONVEYANCE (Bk. 444, Pg. 46)

℄ SE BLUE PARKWAY (R/W VARIES)

730.10'

S 87°49'45" E 2645.85' SOUTH LINE, NE 1/4, SEC. 8

99.71'

RIGHT-OF-WAY/ PROPERTY LINE (TYP)

N 87°45'04" W 731.09'

SE BLUE PARKWAY

LNA AGREEMENT (Bk. 1830, Pg. 488)

4"x4" CONC R/W MARKER (HELD)

BM–60 ELEV=1042.70

N 82°25'22" E 75.28'

4"x4" CONC R/W MARKER

3/8" REBAR (HELD EAST–WEST POSITION)

HIGHWAY CONSTRUCTION ESMT. (Bk. I–6, Pg. 1793)

10' WATER/UTILITY ESMT. (Bk. 1815, Pg. 171)

10' WATER/UTILITY ESMT. (Bk. I–6, Pg. 154)

S 02°18'31" W 86.43'(CM)

TRACT 1 EXCEPTION (DEED 1B)

PROPERTY LINE (TYP)

BM#62 ELEV=1040.51

STAIR A / STAIR B / STAIR C / STAIR D / STAIR E / STAIR F / STAIR G / STAIR H / STAIR J

001 MONOLITHIC

040 2" MINIMUM SURFACE COURSE

042 CONCRETE PAVEMENT

055 CONCRETE SIDEWALK

TYPE 1 / TYPE 3 (TYP)

CP–201 / CP–202 / CP–210

20' PSL

50' BSL

NOTES:

2 ARCHITECTURAL SCRIM WALL. (REFER TO SHEET ____)
3 ARCHITECTURAL SCREEN WALL. (REFER TO SHEET ____)
4 ARCHITECTURAL SOUND WALL FOR MECHANICAL EQUIPMENT. (REFER TO SHEET ____)
5A MODIFIED COMMERCIAL DRIVEWAY. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 1.
5B MODIFIED PUBLIC SIDEWALK/CURB RAMP. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAILS GEN 2 AND GEN 3A.
5C PUBIC CURB AND GUTTER. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 4.
5D PUBLIC ROADWAY PAVEMENT PATCH. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 5.
6 DISTURBED AREAS TO BE LANDSCAPED OR SEEDED/SODDED AS NOTED ON PROJECT LANDSCAPE PLANS. ALL SEEDED AREAS WITHIN 10' OF SIDEWALKS AND BUILDINGS WITHIN 5' OF STORM STRUCTURES AND CURBS, AND ON SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH A TYPE 2 EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75BN OR APPROVED EQUAL)
7 CONCRETE STOOP (REFERENCE SHEET ____; DETAIL ____)
8 FLAGPOLE CENTERED IN CONCRETE PAD (REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR REQUIREMENTS)
11 CONTRACTOR TO REMOVE AND REPLACE CHAINLINK FENCE AS FREQUIRED TO CONSTRUCT IMPROVEMENTS. MATCH EXISTING MATERIALS AND CONSTRUCTION. WORK TO BE COMPLETED IN ACCORDANCE WITH SCHOOL DISTRICT STANDARDS.
11A PROPOSED 4' CHAIN LINK FENCE (REFER TO ARCHITECTURAL PLANS FOR MATERIALS AND FINISH)
12 WHITE PARKING LOT STRIPING (SEE SPECIFICATIONS THIS SHEET)
12B CROSSWALK 6'x24" WHITE LINES AT 24" TO DELINEATE CROSSWALK.
12D GORE AREA. 4" WHITE STRIPE AT 45 TO DIRECTION OF TRAVEL. SPACE AT 2'.
13 PAINT CURB RED TO DENOTE FIRE LANE. CONFIRM LIMITS WITH FIRE DEPARTMENT. (SEE SPECIFICATIONS THIS SHEET)
15 SITE SIGNAGE. MOUNT EDGE OF SIGN 2' FROM BACK OF CURB AT 7'–0" IN ACCORDANCE WITH MUTCD.
35 MODULAR BLOCK RETAINING WALL. (SEE SHEET C350)
51 LOADING DOCK WALLS (REFER TO ARCHITECTURAL AND STRUCTURAL PLAN SHEETS FOR SECTIONS AND DETAILS. REFER TO C300 SERIES SHEETS FOR ELEVATIONS)
54 CAST IN PLACE CONCRETE WALL. (REFER TO (REFER TO ARCHITECTURAL AND STRUCTURAL PLAN SHEETS FOR SECTIONS AND DETAILS. REFER TO C300 SERIES SHEETS FOR ELEVATIONS)
55 GREENWAY STEPS AND ADA RAMP (REFER TO ARCHITECTURAL PLAN SHEET ____ FOR DIMENSIONS, DETAILS AND LAYOUT. REFER TO SHEET C300 FOR PROPOSED ELEVATIONS)
60 STORM SEWER STRUCTURE (SEE C600 SERIES SHEETS)
70 SANITARY SEWER STRUCTURE (SEE SHEET C500 SERIES SHEETS)
71 PLACE PORTLAND CEMENT CONCRETE BASE AROUND MANHOLES IN AREAS WERE COMPACTION OF ASPHALT BASE IS DIFFICULT TO ACHIEVE.
80 WATER STRUCTURE (SEE C500 SERIES SHEETS)
90 TRASH BINS WITH BOLLARDS (C190 FOR LAYOUT AND DETAILS).
92 PROPOSED GAS METER. COORDINATE WITH MEP PLANS AND SPIRE ENERGY.
95 PROPOSED HAND HOLE OR TRANSFORMER ON HOUSEKEEPING PAD/ELECTRICAL APPURTENANCE. COORDINATE WITH MEP PLANS.
96 PROPOSED TELECOMM. COORDINATE WITH MEP PLANS.
97 PROPOSED SITE LIGHTING (REFER TO MEP SITE PLANS E003 AND E004). CENTER OF POLE BASE SHALL BE PLACED A MINIMUM OF 3'–0" FROM BACK OF CURB.

DETAILS – SEE DETAIL SHEETS C190 AND C195 FOR THE FOLLOWING DETAILS

001 CONCRETE CURB AND GUTTER
002 ZERO HEIGHT CURB
005 INTEGRAL CURB AND SIDEWALK
014 CONCRETE WHEEL STOPS
040 LD ASPHALT PAVEMENT
041 HD ASPHALT PAVEMENT
042 CONCRETE PAVEMENT
055 CONCRETE SIDEWALK
056 CONCRETE STEPS
060 SIDEWALK RAMP
102 ACCESSIBLE SPACE STRIPING
120 ACCESSIBLE PARKING SIGNAGE
130 BOLLARD
416 CONCRETE FLUME

0 15 30 60
SCALE: 1" = 30'

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

NOTE:
1. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
2. THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.
3. ALL DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINE.

PROJ. NO. C20_0496 DSN: DDW DAVID D. WOOD
CFN: 0496SP.DWG DWN: NJN ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12-15-2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

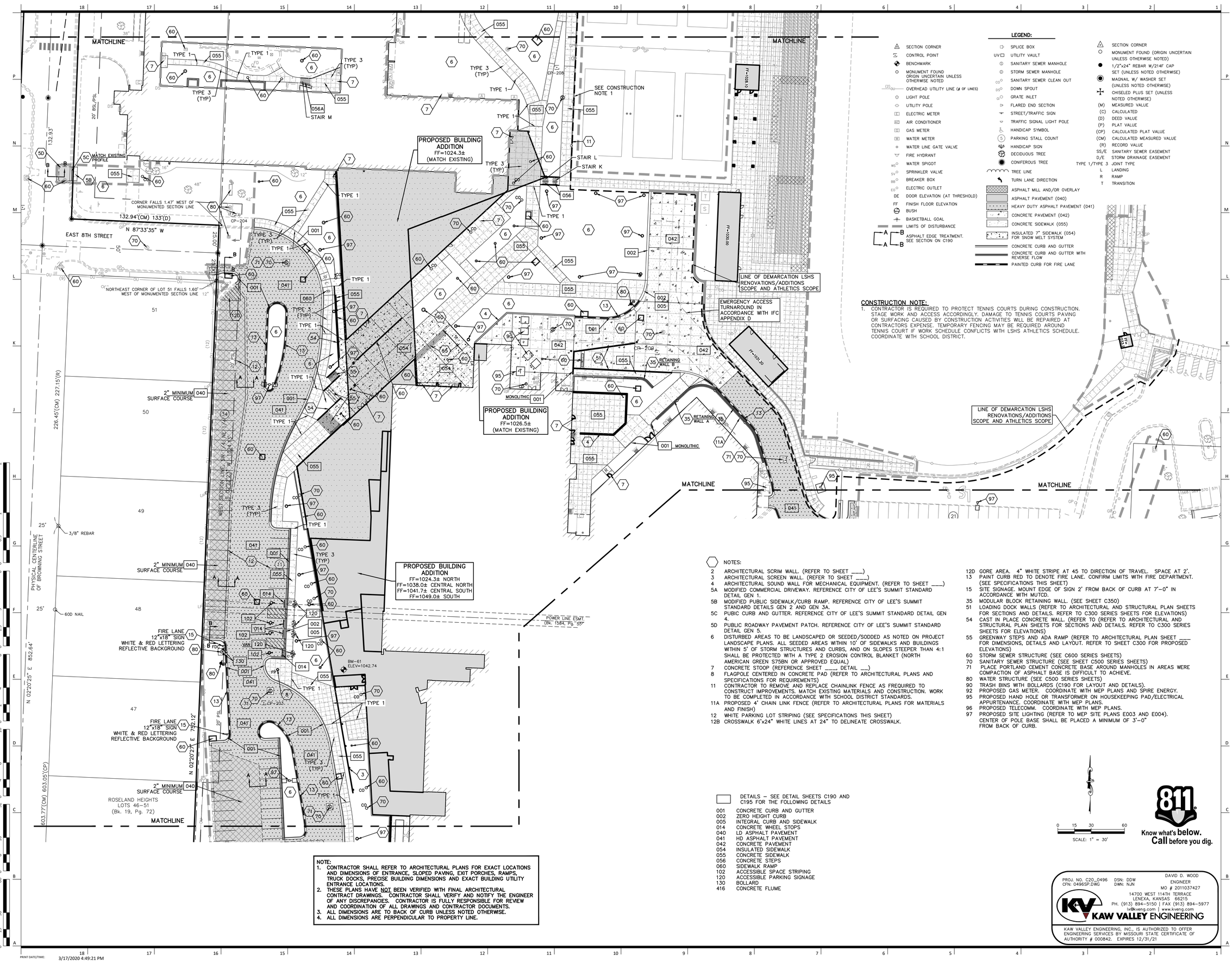
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

SITE PLAN - SOUTH

C110

Final Development Plan



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12-15-2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

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2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

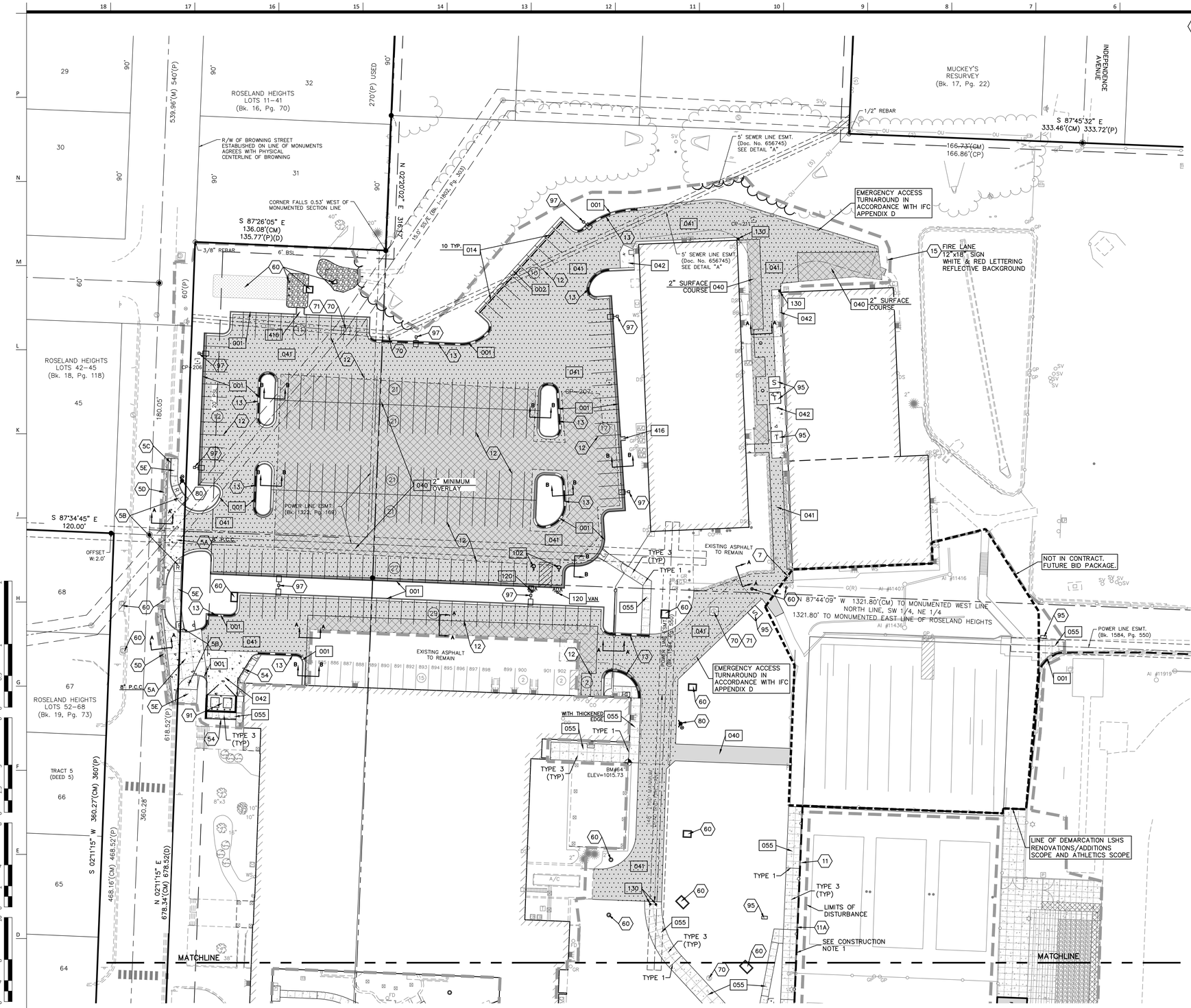
PROJECT NO: 0119-0100
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SITE PLAN - MIDDLE

C120

Final Development Plan



NOTES:

2 ARCHITECTURAL SCRIM WALL. (REFER TO SHEET ____)
3 ARCHITECTURAL SCREEN WALL. (REFER TO SHEET ____)
4 ARCHITECTURAL SOUND WALL FOR MECHANICAL EQUIPMENT. (REFER TO SHEET ____)
5A MODIFIED COMMERCIAL DRIVEWAY. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 1.
5B MODIFIED PUBLIC SIDEWALK/CURB RAMP. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAILS GEN 2 AND GEN 3A.
5C PUBIC CURB AND GUTTER. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 4.
5D PUBLIC ROADWAY PAVEMENT PATCH. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 5.
5E SIDEWALK/SHARED–USE PATH. REFERENCE CITY OF LEE'S SUMMIT STANDARD DETAIL GEN 2.
6 DISTURBED AREAS TO BE LANDSCAPED OR SEEDED/SODDED AS NOTED ON PROJECT LANDSCAPE PLANS. ALL SEEDED AREAS WITHIN 10' OF SIDEWALKS AND BUILDINGS WITHIN 5' OF STORM STRUCTURES AND CURBS, AND ON SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH A TYPE 2 EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75BN OR APPROVED EQUAL)
7 CONCRETE STOOP (REFERENCE SHEET ____, DETAIL __)
8 FLAGPOLE CENTERED IN CONCRETE PAD (REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR REQUIREMENTS)
11 CONTRACTOR TO REMOVE AND REPLACE CHAINLINK FENCE AS FREQUIRED TO CONSTRUCT IMPROVEMENTS. MATCH EXISTING MATERIALS AND CONSTRUCTION. WORK TO BE COMPLETED IN ACCORDANCE WITH SCHOOL DISTRICT STANDARDS.
11A PROPOSED 4' CHAIN LINK FENCE (REFER TO ARCHITECTURAL PLANS FOR MATERIALS AND FINISH)
12 WHITE PARKING LOT STRIPING (SEE SPECIFICATIONS THIS SHEET)
12B CROSSWALK 6'x24" WHITE LINES AT 24" TO DELINEATE CROSSWALK.
12D GORE AREA. 4" WHITE STRIPE AT 45 TO DIRECTION OF TRAVEL. SPACE AT 2'.
13 PAINT CURB RED TO DENOTE FIRE LANE. CONFIRM LIMITS WITH FIRE DEPARTMENT. (SEE SPECIFICATIONS THIS SHEET)
15 SITE SIGNAGE. MOUNT EDGE OF SIGN 2' FROM BACK OF CURB AT 7'–0" IN ACCORDANCE WITH MUTCD.
35 MODULAR BLOCK RETAINING WALL. (SEE SHEET C350)
51 LOADING DOCK WALLS (REFER TO ARCHITECTURAL AND STRUCTURAL PLAN SHEETS FOR SECTIONS AND DETAILS. REFER TO C300 SERIES SHEETS FOR ELEVATIONS)
54 CAST IN PLACE CONCRETE WALL. (REFER TO (REFER TO ARCHITECTURAL AND STRUCTURAL PLAN SHEETS FOR SECTIONS AND DETAILS. REFER TO C300 SERIES SHEETS FOR ELEVATIONS)
55 GREENWAY STEPS AND ADA RAMP (REFER TO ARCHITECTURAL PLAN SHEET ____ FOR DIMENSIONS, DETAILS AND LAYOUT. REFER TO SHEET C300 FOR PROPOSED ELEVATIONS)
60 STORM SEWER STRUCTURE (SEE C600 SERIES SHEETS)
70 SANITARY SEWER STRUCTURE (SEE SHEET C500 SERIES SHEETS)
71 PLACE PORTLAND CEMENT CONCRETE BASE AROUND MANHOLES IN AREAS WERE COMPACTION OF ASPHALT BASE IS DIFFICULT TO ACHIEVE.
80 WATER STRUCTURE (SEE C500 SERIES SHEETS)
90 TRASH BINS WITH BOLLARDS (C190 FOR LAYOUT AND DETAILS).
91 PROPOSED TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS).
92 PROPOSED GAS METER. COORDINATE WITH MEP PLANS AND SPIRE ENERGY.
95 PROPOSED HAND HOLE OR TRANSFORMER ON HOUSEKEEPING PAD/ELECTRICAL APPURTENANCE. COORDINATE WITH MEP PLANS.
96 PROPOSED TELECOMM. COORDINATE WITH MEP PLANS.
97 PROPOSED SITE LIGHTING (REFER TO MEP SITE PLANS E003 AND E004). CENTER OF POLE BASE SHALL BE PLACED A MINIMUM OF 3'–0" FROM BACK OF CURB.

DETAILS – SEE DETAIL SHEETS C190 AND C195 FOR THE FOLLOWING DETAILS

001 CONCRETE CURB AND GUTTER
002 ZERO HEIGHT CURB
005 INTEGRAL CURB AND SIDEWALK
014 CONCRETE WHEEL STOPS
040 LD ASPHALT PAVEMENT
041 HD ASPHALT PAVEMENT
042 CONCRETE PAVEMENT
055 CONCRETE SIDEWALK
056 CONCRETE STEPS
060 SIDEWALK RAMP
102 ACCESSIBLE SPACE STRIPING
120 ACCESSIBLE PARKING SIGNAGE
130 BOLLARD
416 CONCRETE FLUME
GEN–2 SIDEWALK/SHARED–USE PATH DETAIL
GEN–3A ADA RAMP RETROFIT DETAIL

LEGEND:

SECTION CORNER
CONTROL POINT
BENCHMARK
MONUMENT FOUND ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED
(2) OVERHEAD UTILITY LINE (# OF LINES)
LIGHT POLE
UTILITY POLE
ELECTRIC METER
AIR CONDITIONER
GAS METER
WATER METER
WATER LINE GATE VALVE
FIRE HYDRANT
WS WATER SPIGOT
SV SPRINKLER VALVE
BB BREAKER BOX
EO ELECTRIC OUTLET
DE DOOR ELEVATION (AT THRESHOLD)
FF FINISH FLOOR ELEVATION
BUSH
BASKETBALL GOAL
LIMITS OF DISTURBANCE
ASPHALT EDGE TREATMENT. SEE SECTION ON C190
SPLICE BOX
UV UTILITY VAULT
SANITARY SEWER MANHOLE
STORM SEWER MANHOLE
CO SANITARY SEWER CLEAN OUT
DS DOWN SPOUT
GI GRATE INLET
FLARED END SECTION
STREET/TRAFFIC SIGN
TYPE 1/TYPE 3 JOINT TYPE
TRAFFIC SIGNAL LIGHT POLE
HANDICAP SYMBOL
5 PARKING STALL COUNT
HANDICAP SIGN
DECIDUOUS TREE
CONIFEROUS TREE
TREE LINE
TURN LANE DIRECTION
ASPHALT MILL AND/OR OVERLAY
ASPHALT PAVEMENT (040)
HEAVY DUTY ASPHALT PAVEMENT (041)
CONCRETE PAVEMENT (042)
CONCRETE SIDEWALK (055)
INSULATED 7" SIDEWALK (054) FOR SNOW MELT SYSTEM
CONCRETE CURB AND GUTTER
CONCRETE CURB AND GUTTER WITH REVERSE FLOW
PAINTED CURB FOR FIRE LANE
L LANDING
R RAMP
T TRANSITION
SECTION CORNER
MONUMENT FOUND (ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED)
1/2"x24" REBAR W/2¼" CAP SET (UNLESS NOTED OTHERWISE)
MAGNAIL W/ WASHER SET (UNLESS NOTED OTHERWISE)
CHISELED PLUS SET (UNLESS NOTED OTHERWISE)
(M) MEASURED VALUE
(C) CALCULATED
(D) DEED VALUE
(P) PLAT VALUE
(CP) CALCULATED PLAT VALUE
(CM) CALCULATED MEASURED VALUE
(R) RECORD VALUE
SS/E SANITARY SEWER EASEMENT
D/E STORM DRAINAGE EASEMENT

CONSTRUCTION NOTE:

1. CONTRACTOR IS REQUIRED TO PROTECT TENNIS COURTS DURING CONSTRUCTION. STAGE WORK AND ACCESS ACCORDINGLY. DAMAGE TO TENNIS COURTS PAVING OR SURFACING CAUSED BY CONSTRUCTION ACTIVITIES WILL BE REPAIRED AT CONTRACTORS EXPENSE. TEMPORARY FENCING MAY BE REQUIRED AROUND TENNIS COURT IF WORK SCHEDULE CONFLICTS WITH LSHS ATHLETICS SCHEDULE. COORDINATE WITH SCHOOL DISTRICT.

SCALE: 1" = 30'

Know what's below. Call before you dig.

NOTE:
1. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
2. THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.
3. ALL DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINE.

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496SP.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
14700 WEST 114TH TERRACE LENEXA, KANSAS 66215
PH. (913) 894–5150 | FAX (913) 894–5977
kv@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

PRINT DATE/TIME: 3/17/2020 4:49:21 PM

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Kansas City, MO 64108
816.663.8700

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

STATE OF MISSOURI DAVID D WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

SITE PLAN - NORTH

C130

Final Development Plan

ASPHALT MILL AND OVERLAY NOTES:

PAVING SHALL BE IN ACCORDANCE WITH APWA TECHNICAL SPECIFICATIONS SECTION 2207 AS AMENDED BELOW.

MILLING FOR THE DRIVES AND PARKING LOTS SHALL BE COLD MILLED AS FOLLOWS:

1. EQUIPMENT: MILLING THE SURFACE OF PAVEMENTS SHALL BE COMPLETED BY USE OF A MILLING MACHINE CONFORMING TO THE FOLLOWING.
   - A. MACHINE: THE COLD MILLING MACHINE SHALL BE SELF-PROPELLED AND SHALL HAVE IN COMBINATION THE MEANS OF MILLING AND CUTTING, WITHOUT SOFTENING THE OLD SURFACE AND BLADING THE CUTTING INTO A SINGLE WINDROW, OR DEPOSITING THEM DIRECTLY INTO A TRUCK.
   - B. AIR POLLUTION: THE MACHINE SHALL BE EQUIPPED WITH A DUST SUPPRESSION SYSTEM INCLUDING WATER STORAGE TANKS AND HIGH PRESSURE SPRAY BARS.
   - C. OPERATING WIDTH: IT IS DESIRABLE THAT THE CUTTING WIDTH BE GREATER THAN 6 FEET (2 m). IN THE EVENT THE CUTTING WIDTH IS LESS THAN 6 FEET (2 m) CONTRACTOR IS RESPONSIBLE FOR ENSURING GRADE CONTROL AS NOTED ON PLANS.
   - D. CUTTING DRUM: THE CUTTING DRUM SHALL BE TOTALLY ENCLOSED TO PREVENT DISCHARGE OF ANY LOOSENED MATERIAL ADJACENT TO WORK AREAS.
2. CONSTRUCTION DETAILS
   - A. METHODS OF OPERATIONS FOR MILLING:
     - a. OPERATOR: THE MILLING MACHINE SHALL BE OPERATED BY AN EXPERIENCED AND CAPABLE OPERATOR.
     - b. UTILITIES: STREET SURFACES ADJACENT TO MANHOLE, WATER VALVES AND OTHER UTILITY EXTENSIONS, SHALL BE COMPLETELY REMOVED TO THE FULL DEPTH THE CUT SPECIFIED FOR THE STREET UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
     - c. MATERIAL DISPOSAL: THE MATERIAL WITHDREW BY THE MACHINE SHALL BE REMOVED FROM THE SURFACE OF THE PAVEMENT AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
     - d. SURFACE CONDITIONS: THE DRUM LACING PATTERNS SHALL PRODUCE A SMOOTH SURFACE AFTER MILLING WITH GROOVE DEPTHS NOT TO EXCEED 1/4 INCH (0.64 cm) AND GROOVE SPACING NOT TO EXCEED 1 INCH (2.54 cm) UNLESS OTHERWISE APPROVED BY THE ENGINEER.
   - B. TYPES OF CUTS TO BE MADE BY MILLING:
     - a. LEVELING: SUFFICIENT PASSES SHALL BE MADE SUCH THAT ALL IRREGULARITIES OR HIGH SPOTS ARE ELIMINATED, AND THAT 100% OF THE SURFACE IS MILLED.
     - b. AVERAGE DEPTH: SUFFICIENT PASSES, OR CUTS, SHALL BE MADE IN ORDER TO REMOVE A SPECIFIED DEPTH OVER THE ENTIRE STREET SECTION. THESE DEPTHS WILL BE DESIGNATED ON THE PLANS.
     - c. CURB CUT: SUFFICIENT PASSES, OR CUTS, SHALL BE MADE IN ORDER TO REMOVE A SPECIFIED DEPTH AT THE CURB FOR A SPECIFIED WIDTH. THE DEPTH AT THE WIDTH FURTHEST FROM THE CURB IS 0. THESE DIMENSIONS WILL BE DESIGNATED ON THE PLANS.
   - C. CLEANUP: ALL LOOSE ASPHALT AND DEBRIS SHALL BE REMOVED FROM THE STREET SURFACE AND CURB AND GUTTER. ANY MATERIAL AND DEBRIS THAT ADHERES TO THE CURB AND GUTTER SHALL BE REMOVED.

CRACKS: AFTER SURFACE MILLING DETERIORATED (FATIGUE CRACKED OR RAVELED) BLOCK CRACKS AND TRANSVERSE CRACKS THAT HAVE A WIDTH GREATER THAN 1.5–INCHES SHALL BE MILLED OR MECHANICALLY ROUTED OUT TO A MINIMUM DEPTH OF 2–INCHES AND PATCHED WITH A HOT MIX ASPHALT PRIOR TO OVERLAY. UNDETERIORATED PAVEMENT CRACKS WITH WIDTHS BETWEEN 1.5–INCHES AND 0.25–INCHES WIDE SHALL BE BLOWN OUT WITH PRESSURIZED AIR OR CLEANED AND DRIED PRIOR TO FILLING WITH AN APPROVED CRACK SEALING MATERIAL SUCH AS CRAFCO ROADSAVER 514, 515, PARKING LOT SEALANT TYPE 1 OR APPROVED EQUAL.

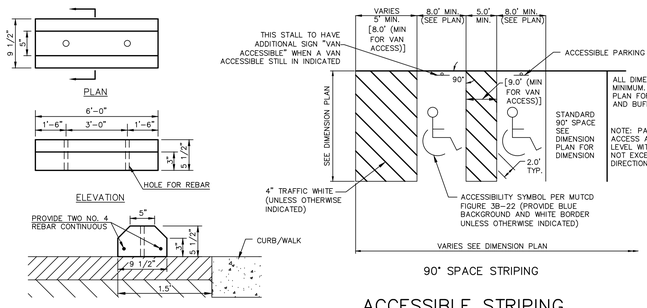
AREAS OF THE PAVEMENT REQUIRING PATCHING WILL BE DESIGNATED ON THE PLANS OR MARKED BY THE ENGINEER AFTER COMPLETION OF MILLING OPERATIONS FOR THE SECTION OF PAVEMENT UNDER CONSTRUCTION. THE DETERIORATED PAVEMENT WILL BE REMOVED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE SUBGRADE SHALL BE ADJUSTED TO PERMIT THE THICKNESS OF ASPHALT INDICATED ON THE PLANS. THE SUBGRADE SHALL CONSIST OF AB–3/MODOT TYPES AGGREGATE AND SHALL BE UNIFORMLY COMPACTED BY HAND TAMPING OR ROLLING. REFERENCE PAVING DETAILS FOR BITUMINOUS MIX FOR PATCHING. AT THE TIME OF PLACING ASPHALT THE EDGE OF THE AREA TO BE PATCHED WILL BE COATED WITH SS–1H EMULSIFIED ASPHALT OR APPROVED EQUAL. THE ASPHALT IN THE PATCH SHALL BE PLACED IN TWO EQUAL LIFTS WITH EACH LIFT THOROUGHLY COMPACTED PRIOR TO PLACEMENT OF THE SUBSEQUENT LIFT.

CONSTRUCTION OF THE OVERLAY WILL BE PERFORMED IN ACCORDANCE WITH APWA SPECIFICATIONS:

1. MEASURED DENSITY OF THE COMPLETED OVERLAY SHALL HAVE A COMPACTED DENSITY OF 92% TO 97% OF THE DAILY THEORETICAL MAXIMUM SPECIFIC GRAVITY (GMM) OF THE MIX SUPPLIED TO THE PROJECT.
2. AREAS OF THE PAVEMENT SURFACE ON THE DRIVES AND PARKING LOTS THAT ARE SHOWN TO HAVE SEGREGATION UPON COMPLETION OF FINAL ROLLING SHALL RECEIVE AN ADDITIONAL SURFACE TREATMENT TO CLOSE THE SURFACE VOIDS. THE SURFACE TREATMENT SHALL CONSIST OF MANUFACTURED SAND COATED WITH SS–1H EMULSION WORKED INTO THE SURFACE VOIDS TO YIELD A UNIFORM APPEARING SURFACE.
3. SEE DETAIL 040/041 FOR SURFACE MIX.

SEAL COAT NOTES:

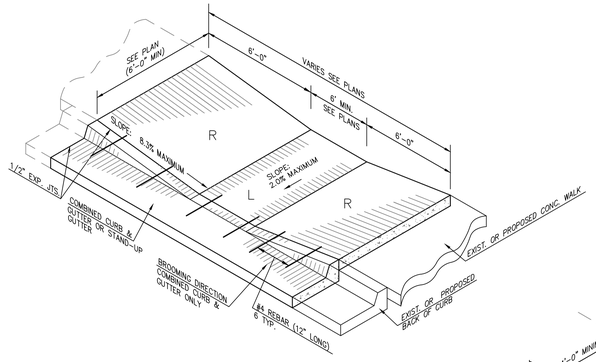
PAVEMENT SEAL COAT SHALL BE IN ACCORDANCE WITH APWA TECHNICAL SPECIFICATIONS SECTION 2206.6. THE PROPOSED MIX IS TYPE 1



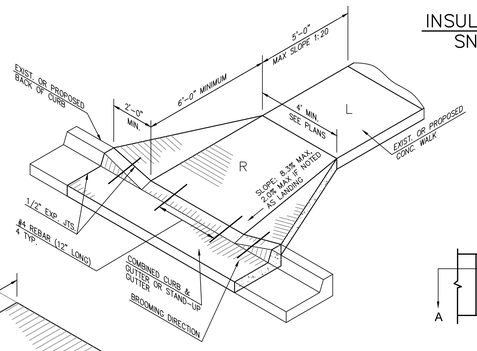
90° SPACE STRIPING

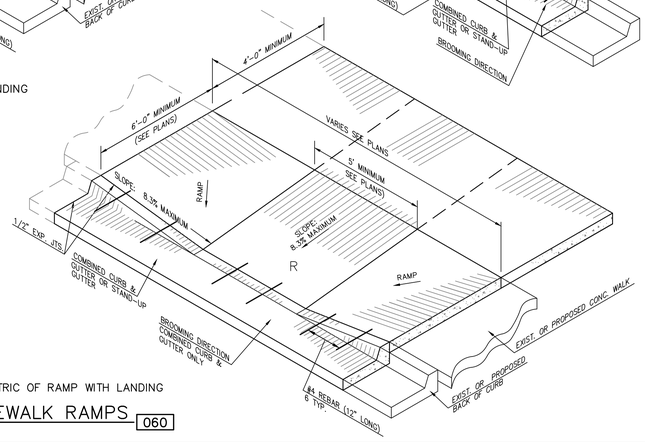
ACCESSIBLE STRIPING 102

CONCRETE WHEEL STOP 014



ISOMETRIC OF RAMP WITH LANDING



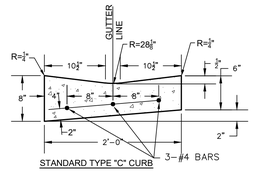


ISOMETRIC OF RAMP WITH LANDING

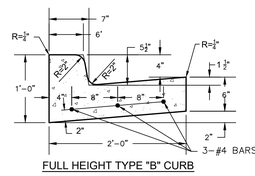
CONCRETE AND SIDEWALK NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AND COMPLY WITH KCMMB SPECIFICATIONS. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH APWA SECTION 2200.
2. REINFORCING STEEL SHALL BE GRADE 60 AND COMPLY WITH ASTM A615. EPOXY COATED BARS AS NOTED SHALL COMPLY WITH ASTM A775. ALL CUT ENDS OR DAMAGED AREAS SHALL BE FIELD REPAIRED WITH EPOXY COATING.
3. SIDEWALKS TO BE BROOM FINISHED.
4. SUBGRADE TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. MOISTURE CONTENT TO BE WITHIN A RANGE OF 2% BELOW TO 2% ABOVE OPTIMUM MOISTURE AS DEFINED BY ASTM D698.
5. SIDEWALK JOINTS MAY BE SAWN UNLESS SHOWN OTHERWISE ON ARCHITECT/LANDSCAPE ARCHITECT PLANS.

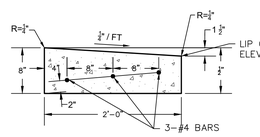
SIDEWALK RAMPS 060



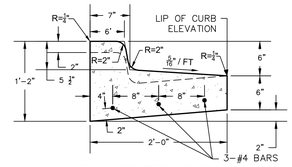
STANDARD TYPE "C" CURB



FULL HEIGHT TYPE "B" CURB



STANDARD TYPE "C" DRY CURB AND AT RAMPS



FULL HEIGHT DRY CURB

ZERO HEIGHT CURB 002

FULL HEIGHT CURB 001

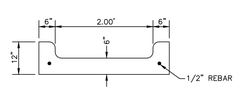
*GUTTER DEPTH MAY VARY TO IMPROVE DRAINAGE

CURB & GUTTER NOTES:

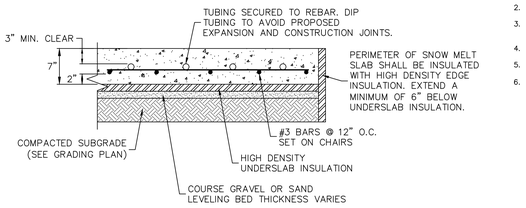
1. ½" PREMOLDED EXPANSION JOINTS SHALL BE PLACED AT POINTS OF CURVATURE, CURB RETURNS, CURB INLETS AND AT 250' CENTERS. THE EXPANSION JOINTS SHALL BE DOWELED IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTION JOINTS SHALL BE 2" DEEP AND PLACED AT 15' INTERVALS EQUALLY SPACED BETWEEN EXPANSION JOINTS.
2. ALL CONCRETE USED IN THIS WORK SHALL MEET THE LATEST EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION. KCMMB4K CONCRETE SHALL BE USED THROUGHOUT.
3. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'–0" MAXIMUM SPACING.
4. SEE SIDEWALK RAMP DETAILS FOR TYPICAL SIDEWALK RAMP CURB & GUTTER SECTIONS.
5. DETAILS AS SHOWN FOR CONCRETE AND ASPHALT PAVING. WHEN USED WITH CONCRETE PAVING POURED MONOLITHICALLY WITH CURB NO MODIFICATIONS ARE REQUIRED. WHEN CURB AND CONCRETE PAVING ARE TO BE POURED SEPARATELY #4 BARS, 24" LONG ARE TO BE PROVIDED TO TIE CURB TOGETHER WITH CONCRETE PAVING. PLACE AT 8" O.C.
6. ALL REINFORCING SHALL BE 60 GRADE 60 DEFORMED BARS AND COMPLY WITH ASTM A615. EPOXY BARS AS NOTED, SHALL COMPLY WITH ASTM A775.
7. CURBS TO BE CONSTRUCTED ON MINIMUM 6 INCHES OF COMPACTED WELL GRADED BASE ROCK.

CURB & GUTTER

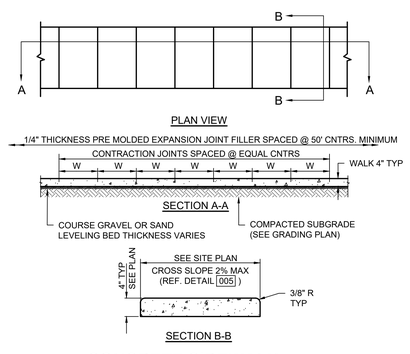
N.T.S



CONCRETE DRAINAGE FLUME 416

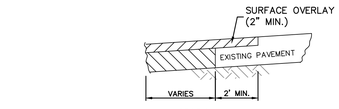


INSULATED SIDEWALK FOR SNOW MELT SYSTEM 054

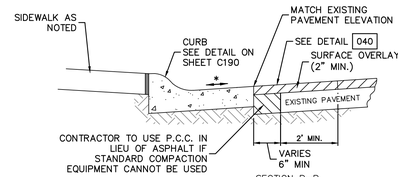


CONCRETE SIDEWALK 055

NOTE:
1. CONTRACTOR SHALL BACKFILL SIDEWALKS WITH TOPSOIL AND SEED/SOD IN ACCORDANCE WITH LANDSCAPE PLAN AND PROJECT SPECIFICATIONS.



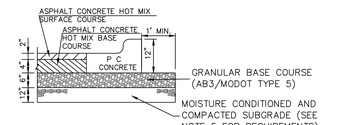
SECTION A–A



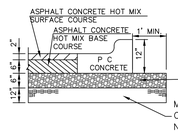
SECTION B–B

* REFERENCE SHEET C300 FOR SLOPE DIRECTION

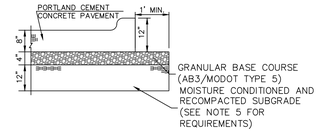
MILL AND OVERLAY DETAIL



LD ASPHALT PAVEMENT 040



HD ASPHALT PAVEMENT 041

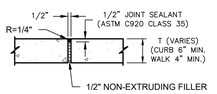


CONCRETE PAVEMENT 042

SEE NOTE 6 FOR REINFORCING OF CONCRETE PAVEMENT

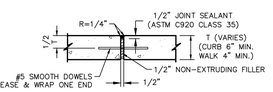
1. FLEXIBLE PAVEMENT SHALL BE IN ACCORDANCE WITH THE LATEST (FEBRUARY 2017) EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200 AS AMENDED BY PROJECT SPECIFICATIONS.
   - ASPHALT SURFACE COURSE – APWA TYPE 3–01
   - ASPHALT BASE COURSE – APWA TYPE 2–01
2. TYPE 3–01 SURFACE COURSE SHALL BE VIRGIN ASPHALT. RECYCLED MIXES MEETING APWA SPECIFICATIONS MAY BE CONSIDERED FOR BASE COURSE.
3. PORTLAND CEMENT CONCRETE SHALL BE A KCMMB4K MIX AND SHALL MEET THE LATEST EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200.
4. HEAVY DUTY CONCRETE IS AN OPTIONAL PAVEMENT FOR DETAIL 041 HEAVY DUTY ASPHALT. WHEN PLANS SPECIFY DETAIL 042 NO ALTERNATES ARE ALLOWED.
5. ONSITE CLAY SOILS SHALL BE STABILIZED WITH 5% PORTLAND CEMENT AS OUTLINED IN THE PROJECT GEOTECHNICAL REPORT
6. ALL EXPANSION AND CONTRACTION JOINTS SHALL BE DOWELED WITH #81 14" LONG SMOOTH DOWELS AT 12" O.C. SAT ON BASKET ASSEMBLY.

PAVING DETAILS

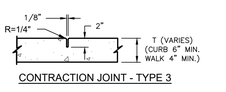


NOTE:
1. TYPE 1 JOINTS SHALL BE PLACED WHERE NEW CONCRETE ABUTS EXISTING CONCRETE AND IN AREAS WHERE CONCRETE ABUTS BUILDINGS. UNLESS NOTED OTHERWISE.

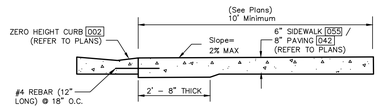
EXPANSION JOINT - TYPE 1



TYPE 2



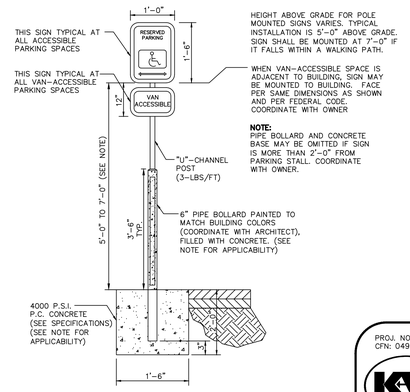
CONTRACTION JOINT - TYPE 3



INTEGRAL CURB AND SIDEWALK 005

Note:
Install 12" tie bars #4 epoxy coated @18" o.c. and through wings as shown.

NOTE:
1. TYPE 2 JOINTS SHALL BE PLACED AS NOTED AND AT ALL P.C.'S, P.T.'S AND TRANSITIONS, AND WHERE NEW CURB OR CONCRETE PAVEMENT TIES INTO EXISTING CURB OR CONCRETE PAVEMENT.
2. SMOOTH BARS SHALL BE 24" LONG



ACCESSIBLE PARKING SIGN 120

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KAW VALLEY ENGINEERING

PROJ. NO. C20_0496
CFN: 0496DET.DWG
DSN: DDW
DWN: NJN

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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

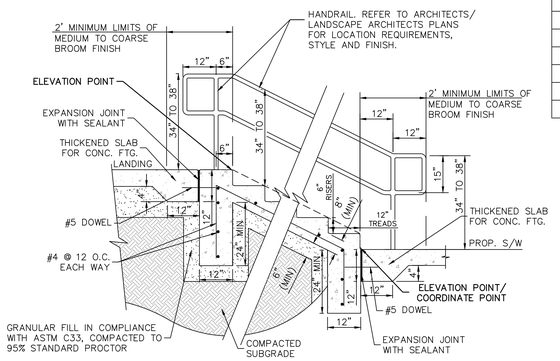
PROJECT NO: 0119-0100
DATE: November 20, 2020

SITE DETAILS

C190

Final Development Plan

PRINT DATE/TIME: 3/17/2020 4:49:21 PM

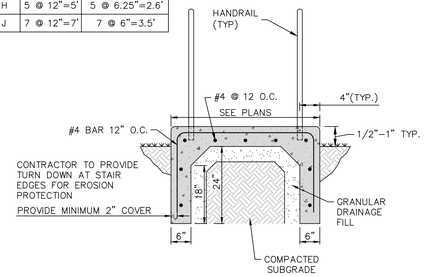


	TREAD	RISER
STAIR A	5 @ 12"=5'	5 @ 6"=2.5'
STAIR B	5 @ 12"=5'	5 @ 6"=2.5'
STAIR C	5 @ 12"=5'	5 @ 6"=2.5'
STAIR D	5 @ 12"=5'	5 @ 6"=2.5'
STAIR E	5 @ 12"=5'	5 @ 6.25"=2.6'
STAIR F	4 @ 12"=4'	4 @ 6.25"=2.1'
STAIR G	4 @ 12"=4'	4 @ 6.25"=2.1'
STAIR H	5 @ 12"=5'	5 @ 6.25"=2.6'
STAIR J	7 @ 12"=7'	7 @ 6"=3.5'

CONCRETE AND SIDEWALK NOTES:

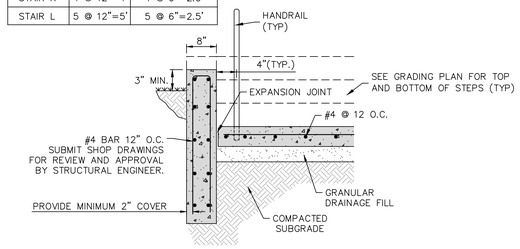
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. LOW SLUMP MIX AND COMPLY WITH KCMMB SPECIFICATIONS. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH APWA SECTION 2200.
2. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED AND COMPLY WITH ASTM A775. ALL CUT ENDS OR DAMAGED AREAS SHALL BE FIELD REPAIRED WITH EPOXY COATING.
3. SIDEWALKS TO BE BROOM FINISHED.
4. SUBGRADE TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. MOISTURE CONTENT TO BE WITHIN A RANGE OF 2% BELOW TO 2% ABOVE OPTIMUM MOISTURE AS DEFINED BY ASTM D698.

CONCRETE STEP DETAIL 056



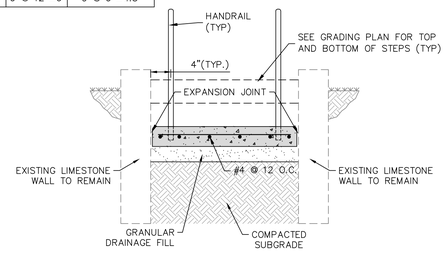
TURN DOWN EDGE

	TREAD	RISER
STAIR K	4 @ 12"=4'	4 @ 6"=2.0'
STAIR L	5 @ 12"=5'	5 @ 6"=2.5'

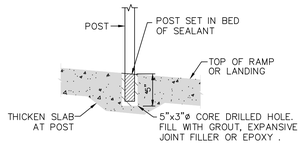


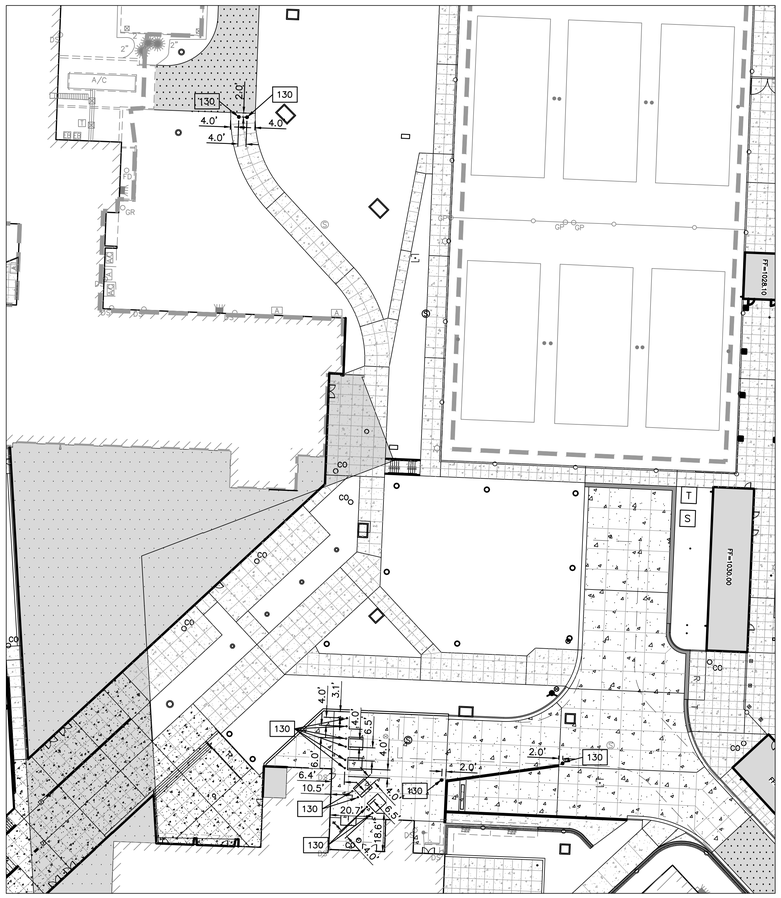
CHEEK WALL EDGE

	TREAD	RISER
STAIR M	9 @ 12"=9'	9 @ 6"=4.5'

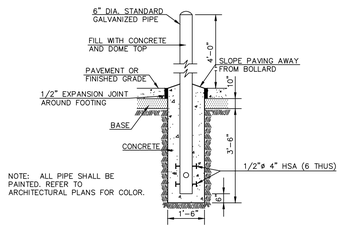


EXISTING LIMESTONE WALL EDGE

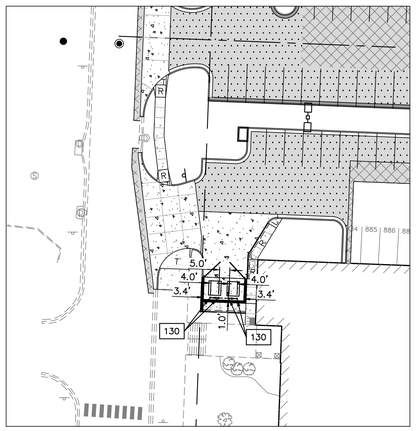




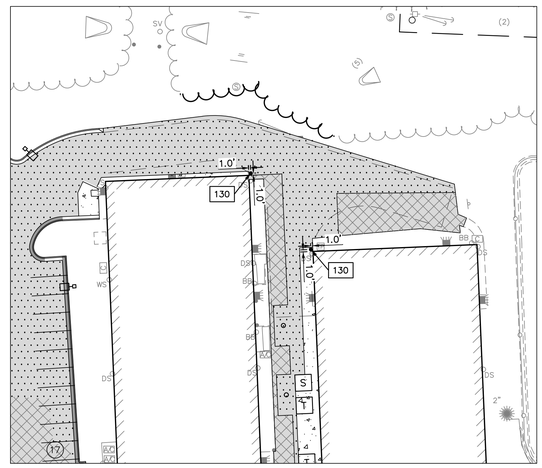
BOLLARD LAYOUT



BOLLARDS 130



NORTH TRASH ENCLOSURE BOLLARD LAYOUT



NORTH BUILDING BOLLARD LAYOUT

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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER · 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

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PROJECT NO: 0119-0100
DATE: November 20, 2020

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496DET.DWG DWN: NJN

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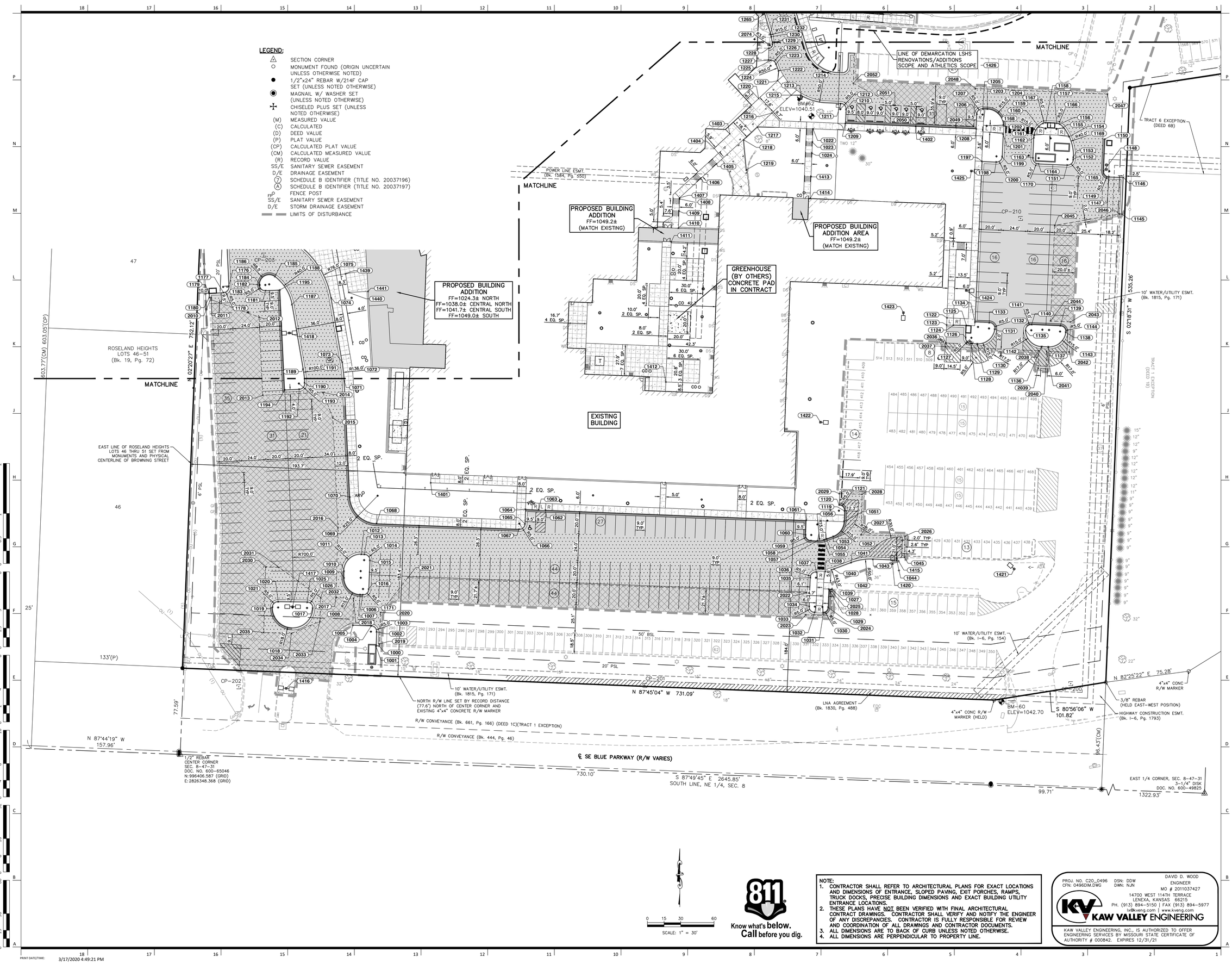
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SITE DETAILS

C195

Final Development Plan

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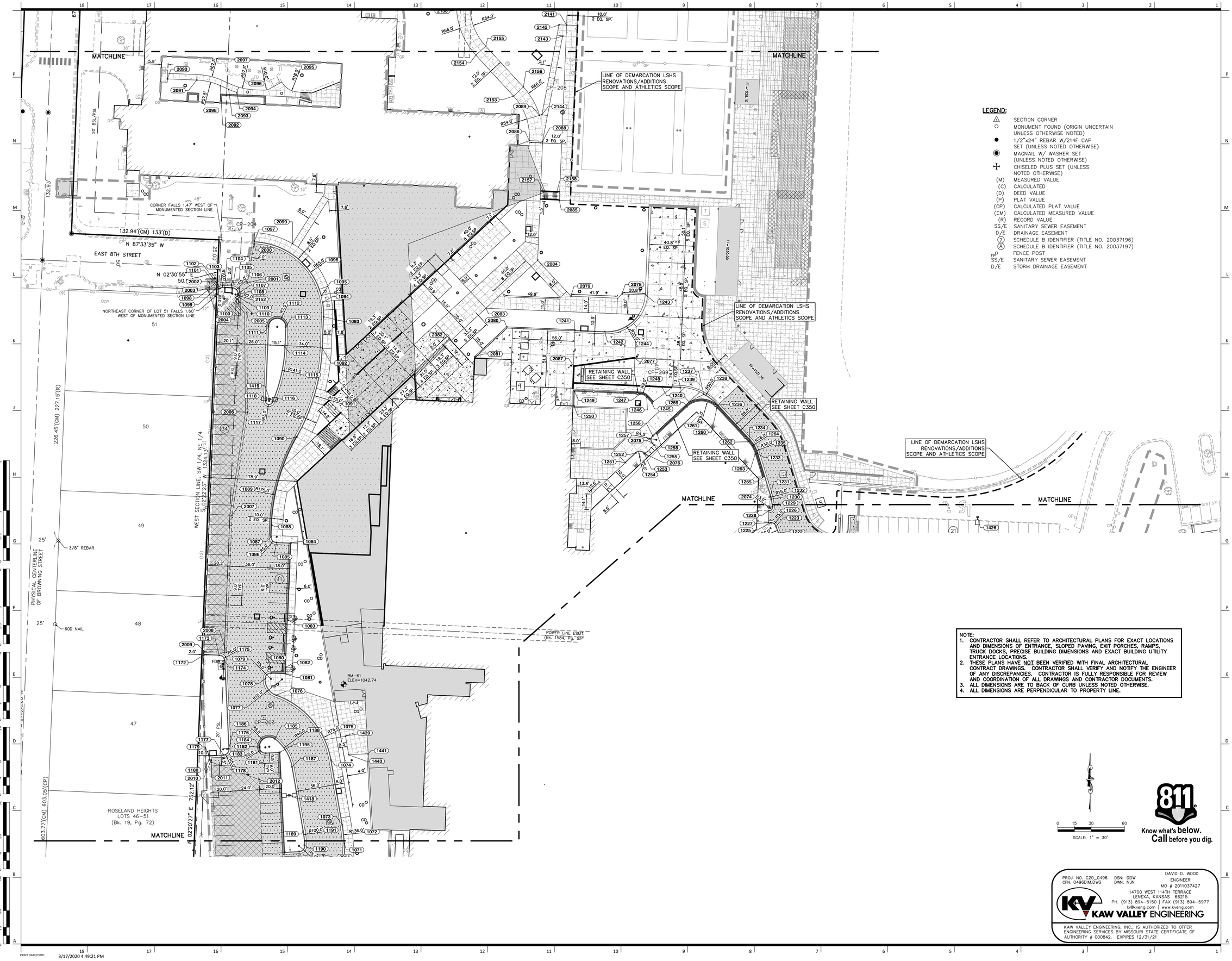
Number	DESCRIPTION	DATE
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2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

DIMENSION PLAN - SOUTH

C210

Final Development Plan



LEGEND:

- △ SECTION CORNER
- ○ MONUMENT FOUND (ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED)
- ● 1/2"x24" REBAR W/214F CAP SET (UNLESS NOTED OTHERWISE)
- ◉ MAGNAIL W/ WASHER SET (UNLESS NOTED OTHERWISE)
- ✢ CHISELED PLUS SET (UNLESS NOTED OTHERWISE)
- (M) MEASURED VALUE
- (C) CALCULATED
- (D) DEED VALUE
- (P) PLAT VALUE
- (CP) CALCULATED PLAT VALUE
- (CM) CALCULATED MEASURED VALUE
- (R) RECORD VALUE
- SS/E SANITARY SEWER EASEMENT
- D/E DRAINAGE EASEMENT
- (7) SCHEDULE B IDENTIFIER (TITLE NO. 20037196)
- (A) SCHEDULE B IDENTIFIER (TITLE NO. 20037197)
- FP FENCE POST
- SS/E SANITARY SEWER EASEMENT
- D/E STORM DRAINAGE EASEMENT

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0 15 30 60
SCALE: 1" = 30'

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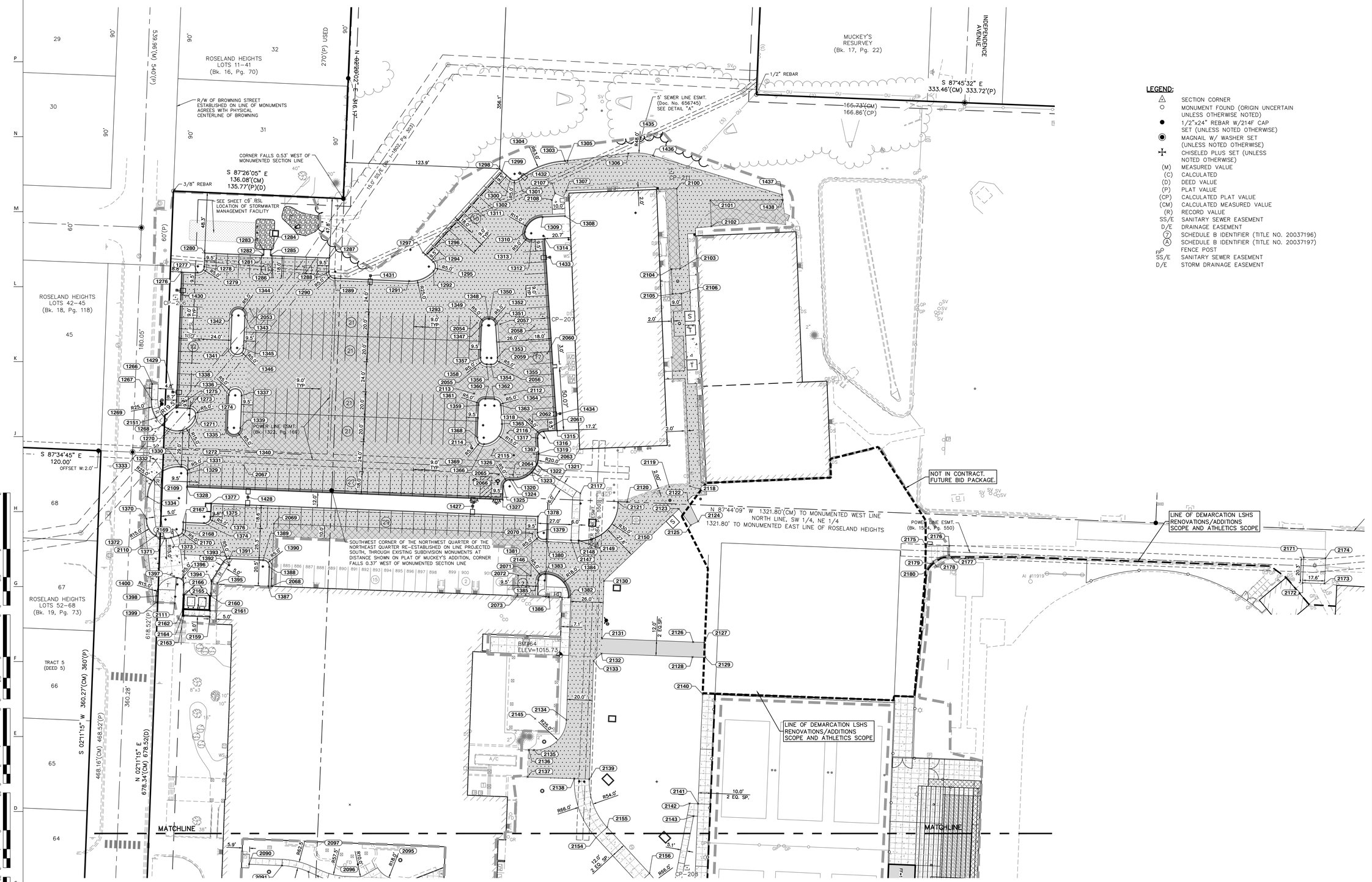
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PROJECT NO: 0119-0100
DATE: November 20, 2020

DIMENSION PLAN - MIDDLE

C220

Final Development Plan



LEGEND:

△	SECTION CORNER
○	MONUMENT FOUND (ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED)
●	1/2"x24" REBAR W/214F CAP SET (UNLESS NOTED OTHERWISE)
◉	MAGNAIL W/ WASHER SET (UNLESS NOTED OTHERWISE)
✢	CHISELED PLUS SET (UNLESS NOTED OTHERWISE)
(M)	MEASURED VALUE
(C)	CALCULATED
(D)	DEED VALUE
(P)	PLAT VALUE
(CP)	CALCULATED PLAT VALUE
(CM)	CALCULATED MEASURED VALUE
(R)	RECORD VALUE
SS/E	SANITARY SEWER EASEMENT
D/E	DRAINAGE EASEMENT
(7)	SCHEDULE B IDENTIFIER (TITLE NO. 20037196)
(A)	SCHEDULE B IDENTIFIER (TITLE NO. 20037197)
FP	FENCE POST
SS/E	SANITARY SEWER EASEMENT
D/E	STORM DRAINAGE EASEMENT

SCALE: 1" = 30'

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	PER CITY COMMENTS	
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

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DATE: November 20, 2020

DIMENSION PLAN - NORTH

C230

Final Development Plan

COORDINATE TABLE

◇	NORTHING	EASTING	DESCRIPTION
1000	996605.81	2826816.42	BC
1001	996605.93	2826813.43	BC
1002	996618.69	2826813.91	BC
1003	996618.88	2826808.91	R5.0
1004	996623.87	2826809.10	BC
1005	996624.50	2826792.64	BC
1006	996652.25	2826801.61	BC
1007	996652.35	2826799.20	BC
1008	996667.34	2826799.78	R15.0
1009	996667.16	2826784.79	BC
1010	996673.17	2826784.72	BC
1011	996673.34	2826799.71	R15.0
1012	996688.33	2826800.30	BC
1013	996688.23	2826803.02	BC
1014	996683.23	2826802.82	R5.0
1015	996683.04	2826807.82	BC
1016	996657.06	2826806.80	BC
1017	996640.03	2826756.42	BC
1018	996640.47	2826738.42	R18.0
1019	996640.91	2826720.43	BC
1020	996645.62	2826725.48	BC
1021	996640.62	2826725.42	R5.0
1022	997071.19	2827206.82	STAIR
1023	997059.20	2827206.32	STAIR
1024	997049.21	2827205.90	STAIR
1025	996645.15	2826751.56	BC
1026	996640.16	2826751.42	R5.0
1027	996657.08	2827223.92	BC
1028	996657.22	2827220.92	BC
1029	996640.91	2827220.29	BC
1030	996641.10	2827215.29	R5.0
1031	996636.21	2827216.31	BC
1032	996636.37	2827208.30	BC
1033	996641.37	2827208.50	R5.0
1034	996641.56	2827203.50	BC
1035	996667.55	2827204.51	BC
1036	996667.35	2827209.51	R5.0
1037	996672.34	2827209.85	BC
1038	996672.96	2827217.88	BC
1039	996715.34	2827210.63	R43.0
1040	996675.07	2827225.71	BC
1041	996680.80	2827241.00	BC
1042	996633.97	2827258.53	R50.0
1043	996683.93	2827260.68	BC
1044	996683.00	2827282.22	BC
1045	996685.62	2827289.20	EA
1051	996718.10	2827234.71	BC
1052	996718.75	2827219.73	R15.0
1053	996704.70	2827224.99	BC
1054	996702.45	2827218.99	BC
1055	996701.58	2827216.66	BC
1056	996715.63	2827211.40	R15.0
1057	996700.64	2827210.81	BC
1058	996700.86	2827205.05	BC
1059	996705.86	2827205.25	R5.0
1060	996706.05	2827200.25	BC
1061	996719.04	2827200.76	BC
1062	996728.22	2826965.94	BC
1063	996728.45	2826959.94	BC
1064	996728.92	2826947.95	BC
1065	996715.93	2826947.45	BC
1066	996716.12	2826942.45	R5.0
1067	996711.13	2826942.25	BC
1068	996716.14	2826813.98	BC
1069	996741.12	2826814.96	R25.0
1070	996739.94	2826789.99	BC
1071	996844.55	2826785.03	BC
1072	996838.12	2826649.18	R136.0
1073	996861.26	2826783.20	BC
1074	996919.16	2826773.21	BC
1075	996906.23	2826698.31	R76.0
1076	996977.80	2826723.89	BC
1077	996991.92	2826728.93	R15.0
1078	996992.54	2826713.95	BC
1079	996992.33	2826718.94	R5.0
1080	996997.33	2826719.15	BC
1081	996996.79	2826732.14	BC
1082	997002.79	2826732.38	BC
1083	997045.25	2826734.13	BC
1084	997114.69	2826737.00	BC
1085	997115.23	2826724.01	BC
1086	997120.22	2826724.21	R5.0
1087	997120.43	2826719.22	BC
1088	997130.80	2826719.64	BC
1089	997123.59	2826894.50	R175.0
1090	997210.28	2826742.48	BC
1091	997296.97	2826590.46	R175.0
1092	997289.77	2826765.31	BC
1093	997318.22	2826766.48	BC
1094	997331.36	2826765.69	BC
1095	997337.28	2826764.44	BC
1096	997320.90	2826701.54	R65.0
1097	997385.85	2826703.96	BC
1098	997342.88	2826663.36	BC
1099	997342.73	2826668.57	BC
1100	997352.73	2826668.85	R10.0
1101	997343.25	2826672.04	BC
1102	997343.79	2826673.65	BC
1103	997334.31	2826676.84	R10.0
1104	997344.30	2826677.34	BC

COORDINATE TABLE

◇	NORTHING	EASTING	DESCRIPTION
1105	997343.95	2826684.33	BC
1106	997338.96	2826684.08	R5.0
1107	997338.75	2826689.08	BC
1108	997338.16	2826689.05	BC
1109	997336.66	2826688.28	BC
1110	997335.57	2826686.85	BC
1111	997309.37	2826717.00	BC
1112	997309.06	2826724.53	R7.5
1113	997308.75	2826732.06	BC
1114	997291.17	2826731.34	BC
1115	997296.97	2826590.46	R141.0
1116	997241.29	2826720.00	BC
1117	997242.48	2826717.24	R3.0
1118	997242.60	2826714.24	BC
1119	996727.49	2827235.12	BC
1120	996732.70	2827230.33	BC
1121	996727.70	2827230.12	R5.0
1122	996901.19	2827327.34	BC
1123	996894.70	2827327.09	BC
1124	996894.44	2827333.09	BC
1125	996894.44	2827344.81	BC
1126	996883.45	2827344.34	BC
1127	996883.23	2827349.34	R5.0
1128	996878.24	2827349.12	BC
1129	996878.00	2827354.68	BC
1130	996892.98	2827355.33	R15.0
1131	996890.95	2827370.19	BC
1132	996891.63	2827365.23	R5.0
1133	996896.62	2827365.45	BC
1134	996897.18	2827352.50	BC
1135	996889.75	2827398.29	BC
1136	996875.51	2827412.63	BC
1137	996875.25	2827418.62	BC
1138	996888.21	2827434.13	BC
1139	996893.88	2827429.39	BC
1140	996894.99	2827403.50	BC
1141	996890.00	2827403.28	R5.0
1142	996890.50	2827413.27	R15.0
1143	996890.24	2827419.27	R15.0
1144	996888.88	2827429.17	R5.0
1145	996894.52	2827484.80	BC
1146	997027.57	2827486.22	BC
1147	997028.12	2827473.23	BC
1148	997033.33	2827468.45	BC
1149	997033.12	2827473.44	R5.0
1150	997062.08	2827469.68	BC
1151	997038.74	2827435.65	BC
1152	997043.53	2827440.86	BC
1153	997045.49	2827440.95	BC
1154	997064.11	2827437.24	BC
1155	997072.34	2827432.09	BC
1156	997075.33	2827428.63	BC
1157	997076.09	2827426.19	BC
1158	997076.52	2827416.31	BC
1159	997075.97	2827413.81	BC
1160	997073.28	2827410.10	BC
1161	997065.45	2827405.93	BC
1162	997063.27	2827405.68	BC
1163	997045.07	2827404.89	BC
1164	997039.86	2827409.68	BC
1165	997043.74	2827435.87	R5.0
1166	997071.10	2827426.00	R5.0
1167	997071.52	2827416.10	R5.0
1168	997062.62	2827420.66	R15.0
1169	997047.21	2827400.98	R40.0
1170	997044.86	2827409.89	R5.0
1171	996657.25	2826801.81	R5.0
1172	997014.02	2826658.78	BC
1173	997013.46	2826672.36	BC
1174	997008.70	2826677.15	BC
1175	997008.46	2826672.15	R5.0
1176	996929.23	2826680.91	BC
1177	996924.00	2826676.17	BC
1178	996928.99	2826675.92	R5.0
1179	996923.34	2826663.13	BC
1180	996919.35	2826663.33	BC
1181	996925.76	2826714.11	BC
1182	996930.52	2826708.88	BC
1183	996930.75	2826713.87	R5
1184	996930.92	2826708.86	BC
1185	996938.10	2826722.49	BC
1186	996931.32	2826717.35	R8.5
1187	996913.03	2826737.73	BC
1188	996906.23	2826698.31	R40.0
1189	996855.13	2826747.73	BC
1190	996842.85	2826749.07	BC
1191	996838.12	2826649.18	R100.0
1192	996837.09	2826744.34	BC
1193	996842.08	2826744.10	R5.0
1194	996836.47	2826731.35	BC
1195	996926.37	2826727.10	BC
1197	997042.05	2827358.72	BC
1198	997041.49	2827371.71	BC
1199	997046.27	2827376.92	BC
1200	997046.49	2827371.92	R5.0
1201	997066.66	2827377.80	BC
1202	997074.66	2827378.07	BC
1203	997088.84	2827363.73	BC
1204	997073.86	2827363.09	R15.0
1205	997089.02	2827359.54	BC

COORDINATE TABLE

◇	NORTHING	EASTING	DESCRIPTION
1206	997084.24	2827354.33	BC
1207	997084.03	2827359.33	R5.0
1208	997071.08	2827353.76	BC
1209	997075.99	2827235.87	BC
1210	997088.68	2827236.41	BC
1211	997093.90	2827231.61	BC
1212	997088.90	2827231.42	R5.0
1213	997101.25	2827195.72	BC
1214	997144.35	2827221.06	R50.0
1215	997101.54	2827187.21	SW
1216	997085.52	2827169.96	SW
1217	997072.57	2827156.74	BC
1218	997061.21	2827144.51	BC
1219	997034.32	2827146.93	BC
1220	997098.41	2827157.90	SW
1221	997114.50	2827175.02	SW
1222	997123.36	2827175.68	BC
1223	997129.37	2827173.36	BC
1224	997144.35	2827221.06	R50.0
1225	997132.86	2827168.88	bc
1226	997127.87	2827168.59	R5.0
1227	997132.99	2827166.74	BC
1228	997143.87	2827167.03	BC
1229	997147.30	2827170.08	BC
1230	997154.02	2827169.09	BC
1231	997156.17	2827168.61	BC
1232	997151.83	2827154.25	R15.0
1233	997195.41	2827156.73	BC
1234	997207.10	2827150.03	BC
1235	997186.72	2827128.02	R30.0
1236	997238.52	2827120.93	BC
1237	997248.31	2827108.42	BC
1238	997204.54	2827084.25	R50.0
1239	997254.45	2827087.38	BC
1240	997255.19	2827070.72	BC
1241	997306.01	2826992.52	BC
1242	997304.89	2827019.41	BC
1243	997338.41	2827055.83	BC
1244	997339.86	2827020.86	R35.0
1245	997240.63	2827061.82	EC
1246	997245.68	2827057.15	EC
1247	997248.55	2827050.94	EC
1248	997239.56	2827050.55	R9.0
1249	997251.13	2826992.13	EC
1250	997237.94	2826991.71	EC
1251	997186.88	2827037.99	BC
1252	997195.68	2827047.49	BC
1253	997194.68	2827055.23	BC
1254	997192.01	2827050.88	R5.0
1255	997202.84	2827063.97	BC
1256	997210.80	2827062.72	BC
1257	997207.50	2827065.78	R4.5
1258	997212.29	2827066.54	EC
1259	997237.25	2827093.49	EC
1260	997236.22	2827120.34	EC
1261	997223.31	2827106.40	R19.0
1262	997205.74	2827148.56	EC
1263	997194.83	2827154.82	EC
1264	997186.72	2827128.02	R28.0
1265	997173.58	2827161.25	EC
1266	997916.50	2826548.37	BC
1267	997904.15	2826547.85	BC
1268	997883.70	2826557.05	BC
1269	997903.10	2826572.82	R25.0
1270	997880.95	2826561.23	BC
1271	997890.71	2826582.77	BC
1272	997894.24	2826568.19	R15.0
1273	997896.88	2826578.10	BC
1274	997891.89	2826577.91	R5.0
1275	997897.31	2826567.31	BC
1276	998006.22	2826571.64	BC
1277	998005.71	2826584.63	BC
1278	998010.51	2826589.83	BC
1279	998010.70	2826584.83	R5.0
1280	998021.50	2826590.26	BC
1281	998019.65	2826636.73	BC
1282	998020.13	2826637.25	BC
1283	998024.12	2826637.40	BC
1284	998023.89	2826643.40	BC
1285	998019.89	2826643.24	BC
1286	998019.37	2826643.72	BC
1287	998017.52	2826690.18	BC
1288	998006.53	2826689.75	BC
1289	998001.34	2826694.54	BC
1290	998006.33	2826694.74	R5.0
1291	997998.97	2826753.89	BC
1292	998007.11	2826773.35	BC
1293	998023.95	2826754.88	R25.0
1294	998014.17	2826773.03	BC
1295	998010.48	2826769.66	R5.0
1296	998019.90	2826766.75	BC
1297	998021.58	2826764.90	BC
1298	998088.82	2826826.22	BC
1299	998087.14	2826828.07	BC
1300	998080.96	2826834.85	BC
1301	998080.80	2826841.40	BC
1302	998084.65	2826838.22	R5.0
1303	998095.15	2826878.55	BC
1304	998032.22	2826881.52	R63.0
1305	998095.24	2826880.55	EA

COORDINATE TABLE

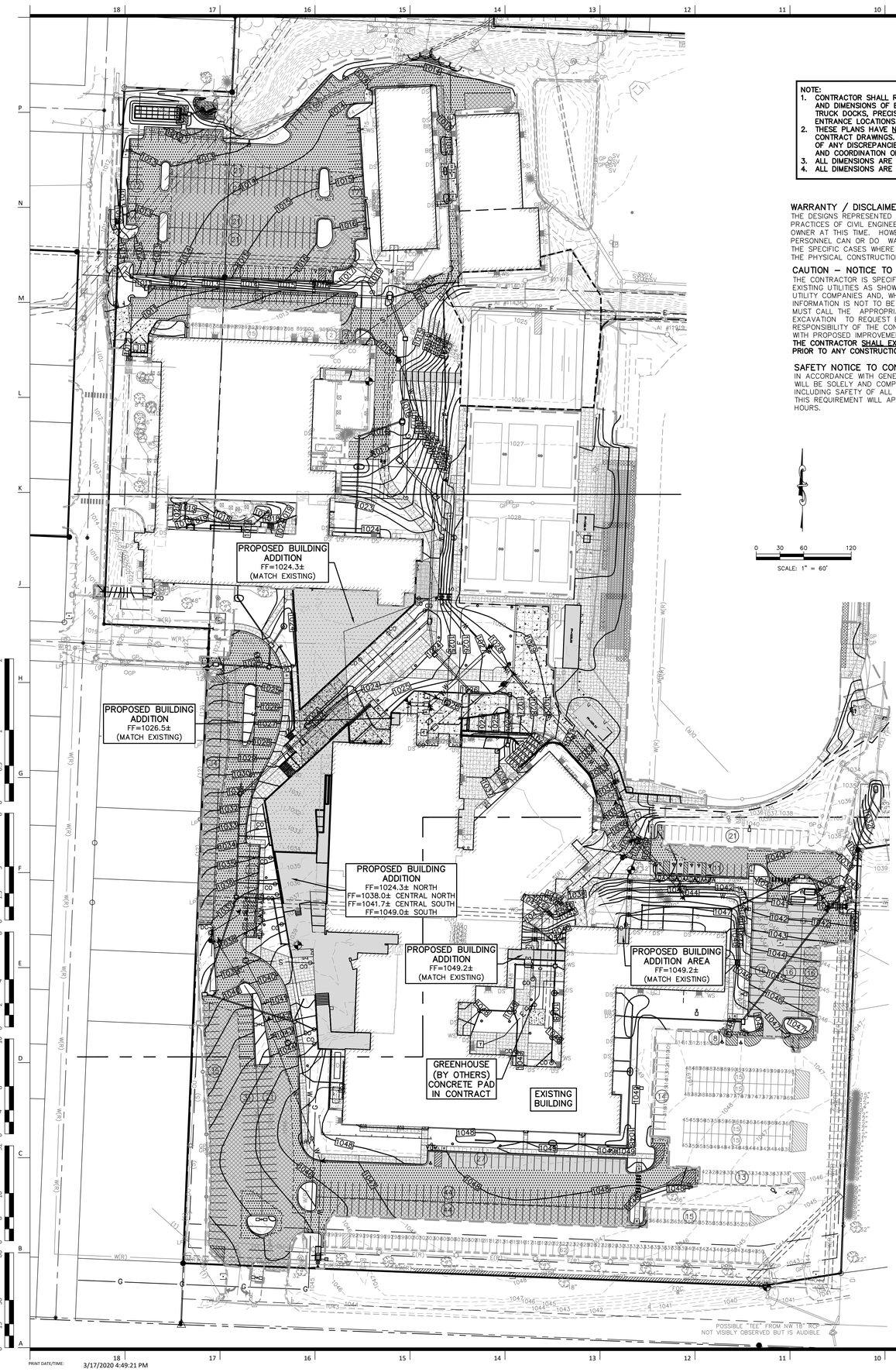
◇	NORTHING	EASTING	DESCRIPTION
1306	998101.14	2826929.22	EA
1307	998071.17	2826879.56	EA
1308	998050.77	2826878.66	BC
1309	998050.01	2826860.67	BC
1310	998038.19	2826846.63	BC
1311	998035.02	2826861.30	R15.0
1312	998032.15	2826851.85	BC
1313	998037.14	2826851.52	R5.0
1314	998032.83	2826862.44	BC
1315	997879.16	2826872.43	BC
1316	997878.44	2826861.45	BC
1317	997873.13	2826856.79	BC
1318	997873.46	2826861.78	R5.0
1319	997860.83	2826857.59	BC
1320	997839.55	2826836.83	BC
1321	997859.54	2826837.63	R20
1322	997852.34	2826856.29	BC
1323	997845.62	2826852.00	BC
1324	997839.64	2826834.47	BC
1325	997834.85	2826829.28	BC
1326	997834.65	2826834.27	R5.0
1327	997823.86	2826828.84	BC
1328	997833.91	2826576.04	BC
1329	997844.90	2826564.81	LP
1330	997850.10	2826571.68	BC
1331	997845.10	2826571.48	R5.0
1332	997846.45	2826556.63	BC
1333	997825.16	2826569.73	R25.0
1334	997826.28	2826544.75	BC
1335	997881.65	2826608.72	BC
1336	997907.63	2826609.75	BC
1337	997907.23	2826619.74	BC
1338	997907.43	2826614.75	R5.0
1339	997881.25	2826618.71	BC
1340	997881.45	2826613.71	R5.0
1341	997945.60	2826611.26	BC
1342	997971.58	2826612.30	BC
1343	997971.18	2826622.29	BC
1344	997971.38	2826617.29	R5.0
1345	997945.20	2826621.25	BC
1346	997945.40	2826616.26	R5.0
1347	997963.63	2826812.14	BC
1348	997968.43	2826817.33	BC
1349	997963.43	2826817.13	R5.0
1350	997968.40	2826818.05	BC
1351	997963.73	2826822.84	BC
1352	997963.40	2826817.85	R5.0
1353	997937.64	2826824.54	BC
1354	997932.32	2826819.35	BC
1355	997937.32	2826819.55	R5.0
1356	997932.46	2826815.90	BC
1357	997937.65	2826811.10	BC
1358	997937.45	2826816.10	R5.0
1359	997899.68	2826809.59	BC
1360	997904.48	2826814.79	BC
1361	997899.48	2826814.59	R5.0
1362	997904.18	2826822.22	BC
1363	997899.51	2826827.01	BC
1364	997899.19	2826822.02	R5.0
1365	997884.51	2826827.99	BC
1366	997868.55	2826813.83	BC
1367	997883.53	2826813.02	R15.0
1368	997873.75	2826808.56	BC
1369	997873.55	2826813.56	R5.0
1370	997808.72	2826543.94	BC
1371	997793.10	2826558.32	BC
1372	997808.09	2826558.93	R15.0
1373	997793.72	2826563.23	BC
1374	997805.35	2826589.68	BC
1375	997810.15	2826594.87	BC
1376	997810.34	2826589.88	R5.0
1377	997821.14	2826595.31	R5.0
1378	997810.72	2826857.10	BC
1379	997797.59	2826856.58	BC
1380	997792.30	2826863.59	BC
1381	997797.39	2826861.58	R5.0
1382	997745.61	2826881.21	BC
1383	997764.32	2826862.52	BC
1384	997746.22	2826865.22	R18.0
1385	997759.53	2826857.32	BC
1386	997746.15	2826865.78	BC
1387	997754.75	2826641.23	BC
1388	997770.26	2826641.83	BC
1389	997775.44	2826637.04	BC
1390	997770.45	2826636.83	R5.0
1391	997776.56	2826610.08	R5.0
1392	997774.19	2826605.62	BC
1393	997771.56	2826609.87	R5.0
1394	997758.84	2826595.54	RW
1395	997757.33	2826600.48	SW
1396	997756.21	2826568.42	R5
1397	997761.29	2826568.31	BC
1398	997747.00	2826551.73	BC
1399	997741.83	2826551.51	BC
1400	997746.36	2826566.71	R15.0
1401	996752.78	2826862.69	SW
1402	997073.35	2827299.31	BC
1403	997066.62	2827131.94	SW
1404	997053.70	2827117.89	SW
1405	997039.55	2827119.98	STAIR

COORDINATE TABLE

◇	NORTHING	EASTING	DESCRIPTION
1406	997026.63	2827105.85	STAIR
1407	997009.16	2827086.72	SW
1408	997008.16	2827086.68	STAIR
1409	996997.17	2827086.26	STAIR
1410	996981.78	2827085.67	SW
1411	996969.60	2827079.20	SW
1412	996843.46	2827074.37	SW
1413	997028.23	2827205.03	STAIR
1414	997008.47	2827204.22	SW
1415	996685.00	2827282.31	EA
1416	996567.84	2826732.65	LP
1417	996641.31	2826738.43	LP
1418	996887.58	2826735.51	LP
1419	997244.16	2826717.60	LP
1420	996680.17	2827278.33	LP
1421	996675.24	2827387.88	LP
1422	996807.27	2827213.52	LP
1423	996905.87	2827288.19	LP
1424	996925.81	2827344.72	LP
1425	997033.27	2827349.34	LP
1426	997138.01	2827354.92	LP
1427	997818.81	2826804.72	LP
1428	997825.97	2826624.89	LP
1429	997910.10	2826564.81	LP
1430	997991.60	2826568.06	LP
1431	998003.21	2826722.92	LP
1432	998085.25	2826842.32	LP
1433	998017.96	2826866.41	LP
1434	997892.80	2826874.55	LP
1435	998053.48	2826934.99	R48.0
1436	998099.40	2826948.97	EA
1437	998067.95	2827052.30	EA
1438	998063.82	2827052.80	SAWCUT
1439	996940.81	2826786.04	SW
1440	996923.99	2826788.95	SW
1441	996925.00	2826806.44	SW
2000	997383.85	2826703.88	SAW CUT
2001	997348.54	2826697.72	SAW CUT
2002	997349.55	2826663.55	SAW CUT
2003	997344.87	2826663.41	SAW CUT
2004	997333.98	2826688.07	SAW CUT
2005	997322.06	2826697.20	SAW CUT
2006	997232.23	2826697.96	SAW CUT
2007	997139.59	2826683.98	SAW CUT
2008	997016.19	2826678.89	SAW CUT
2009	997017.02	2826658.91	SAW CUT
2010	996919.44	2826665.18	SAW CUT
2011	996917.44	2826665.27	SAW CUT
2012	996901.89	2826708.23	SAW CUT
2013	996831.53	2826711.57	SAW CUT
2014	996834.10	2826765.86	SAW CUT
2015	996811.29	2826774.59	SAW CUT
2016	996712.42	2826779.28	SAW CUT
2017	996649.51	2826777.45	SAW CUT
2018	996648.89	2826793.29	SAW CUT
2019	996607.70	2826816.49	SAW CUT
2020	996636.14	2826817.58	SAW CUT
2021	996667.56	2826842.27	SAW CUT
2022	996653.86	2827200.98	SAW CUT
2023	996634.00	2827200.20	SAW CUT
2024	996633.11	2827222.99	SAW CUT
2025	996654.98	2827223.84	SAW CUT
2026	996704.81	2827289.74	SAW CUT
2027	996705.93	2827249.98	SAW CUT
2028	996742.42	2827251.01	SAW CUT
2029	996743.00	2827230.45	SAW CUT
2030	996676.99	2826714.22	SAW CUT
2031	996676.64	2826726.31	SAW CUT
2032	996649.48	2826763.66	SAW CUT
2033	996628.08	2826762.95	SAW CUT
2034	996617.30	2826737.29	SAW CUT
2035	996618.07	2826712.52	SAW CUT
2036	996878.59	2827326.47	SAW CUT
2037	996875.21	2827326.34	SAW CUT
2038	996871.61	2827410.10	SAW CUT
2039	996855.76	2827409.42	SAW CUT
2040	996855.46	2827416.36	SAW CUT
2041	996871.32	2827417.04	SAW CUT
2042	996870.44	2827437.43	SAW CUT
2043	996897.49	2827438.59	SAW CUT
2044	996898.26	2827420.58	SAW CUT
2045	996984.35	2827424.28	SAW CUT
2046	996994.60	2827482.80	SAW CUT
2047	997102.43	2827471.87	SAW CUT
2048	997107.48	2827352.83	SAW CUT
2049	997073.56	2827351.37	SAW CUT
2050	997091.40	2827300.09	SAW CUT
2051	997092.24	2827280.54	SAW CUT
2052	997112.14	2827243.06	SAW CUT
2053	997976.68	2826626.51	SAW CUT
2054	997965.58	2826808.21	SAW CUT
2055	997928.82	2826806.75	SAW CUT
2056	997927.93	2826829.17	SAW CUT
2057	997964.44	2826826.80	SAW CUT
2058	997962.79	2826853.85	SAW CUT
2059	997940.48	2826856.17	SAW CUT
2060	997941.03	2826864.40	SAW CUT
2061	997882.89	2826868.18	SAW CUT
2062	997881.85	2826852.21	SAW CUT
2063	997860.57	2826853.59	SAW CUT

COORDINATE TABLE

◇	NORTHING	EASTING	DESCRIPTION
2064	997843.55	2826836.99	SAW CUT
2065	997844.00	2826825.64	SAW CUT
2066	997839.97	2826825.48	SAW CUT
2067	997851.46	2826621.53	SAW CUT
2068	997754.66	2826643.73	SAW CUT
2069	997804.72	2826645.64	SAW CUT
2070	997796.79	2826852.55	SAW CUT
2071	997763.00	2826851.22	SAW CUT
2072	997763.39	2826841.10	SAW CUT
2073	997747.12	2826840.48	SAW CUT
2074	997146.87	2827167.12	R3.0
2075	997204.44	2827062.48	BC
2076	997195.41	2827054.55	BC
2077	997281.26	2827046.39	WALL
2078	997338.75	2827034.98	SW
2079	997336.67	2826988.93	SW
2080	997309.07	2826931.10	WALL
2081	997282.35	2826902.24	WALL
2082	997296.92	2826881.10	SW
2083	997325.84	2826912.34	SW
2084	997369.02	2826958.98	SW
2085	997423.03	2826978.46	SW
2086	997476.69	2826951.45	SW
2087	997274.21	2826991.12	WALL
2088	997476.19	2826963.44	SW
2089	997499.46	2826960.68	SW
2090	997532.22	2826625.80	SW
2091	997531.17	2826652.15	SW
2092	997526.20	2826673.35	SW
2093	997522.83	2826680.88	SW
2094	997520.06	2826688.33	SW
2095	997538.44	2826744.26	R18.0
2096	997532.09	2826712.86	R10.0
2097	997579.88	2826706.40	R57.5
2098	997473.72	2826649.87	R57.5
2099	997383.98	2826738.28	SW
2100	998072.92	2826967.90	SW
2101	998063.38	2826994.77	SAWCUT
2102	998042.65	2826995.65	SAWCUT
2103	998008.88	2826970.75	SAWCUT
2104	998008.57	2826963.72	SAWCUT
2105	997988.59	2826964.61	SAWCUT
2106	997988.90	2826971.64	SAWCUT
2107	998069.17	2826870.62	EA
2108	998063.76	2826868.11	EA
2109	997839.99	2826549.60	BC
2110	997795.24	2826551.18	BC
2111	997741.20	2826566.32	SW
2112	997907.86	2826830.48	SAWCUT
2113	997908.83	2826805.95	SAWCUT
2114	997884.87	2826804.21	SAWCUT
2115	997864.17	2826821.81	SAWCUT
2116	997877.37	2826832.46	SAWCUT
2117	997829.10	2826890.83	SW
2118	997834.84	2826978.45	SAWCUT
2119	997834.15	2826962.08	SAWCUT
2120	997822.03	2826928.21	SAWCUT
2121	997821.81	2826920.97	SAWCUT
2122	997823.40	2826976.82	EA
2123	997816.52	2826969.66	EA
2124	997806.56	2826985.12	EA
2125	997803.55	2826979.08	EA
2126	997710.04	2826981.04	SW
2127	997709.69	2826990.04	SW
2128	997698.04	2826980.58	SW
2129	997697.65	2826990.88	SW
2130	997758.99	2826909.71	EA
2131	997712.83	2826908.05	SW
2132	997700.84	2826907.62	SW
2133	997695.08	2826901.43	EA
2134	997647.79	2826879.70	EA
2135	997623.70	2826853.82	EA
2136	997623.86	2826849.58	EA
2137	997602.04	2826848.60	EA
2138	997600.69	2826886.01	EA
2139	997600.25	2826898.00	EA
2140	997668.30	2826988.68	SW
2141	997580.65	2826985.03	SW
2142	997580.93	2826978.21	SW
2143	997570.79	2826981.43	SW
2144	997500.12	2826962.84	SW
2145	997648.69	2826854.72	R25.0
2146	997759.33	2826862.31	R5.0
2147	997791.50	2826883.38	SW
2148	997791.25	2826889.38	EA
2149	997791.24	2826889.76	EA
2150	997820.89	2826890.99	R30.0
2151	997889.67	2826551.74	BC
2152	997338.24	2826687.05	R2.0
2153	997516.77	2826937.29	SW
2154	997553.61	2826903.39	SW
2155	997561.74	2826912.22	SW
2156	997524.90	2826946.12	SW
2157	997430.96	2826964.17	STAIRS
2158	997430.46	2826976.16	STAIRS
2159	997730.05	2826594.43	RW
2160	997747.04	2826595.08	BC
2161	997735.05	2826594.62	TRASH
2162	997735.89	2826572.64



0 30 60 120
SCALE: 1" = 60'

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HORIZONTAL AND VERTICAL DATUM:

UNLESS OTHERWISE NOTED THE COORDINATES SHOWN HEREON ARE GROUND COORDINATES BASED ON THE MISSOURI STATE PLANE (1983) WEST ZONE (NAD 1983) (NAVD 1988)
CAF: 0.9998978
SCALED AROUND 0,0

JA–25 (PID: 095025)

NORTHING:	303646.030 (GRID/METERS)	996313.829 (GROUND/FEET)
EASTING:	860950.475 (GRID/METERS)	2824923.692 (GROUND/FEET)
ELEVATION:	321.8 (METERS)	1055.77 (FEET)

SITE BENCHMARKS:

BM–60
FOUND CUT SQUARE AT THE WEST NORTHWEST CONCRETE HEADWALL ON THE WEST SIDE OF THE EAST ENTRY DRIVE TO LEE'S SUMMIT HIGH SCHOOL
ELEVATION= 1042.70

BM–61
SET CUT SQUARE WITH PUNCH IN THE SOUTHWEST EDGE ON A CONCRETE LIGHT BASE ON THE NORTH SIDE OF THE DRIVE LANE AT THE HIGH SCHOOL ADMINISTRATION CENTER ENTRY.
ELEVATION= 1042.74

BM–62
SET CUT SQUARE AT THE NORTHEAST CORNER OF THE FIRST STEP UP OF A CONCRETE WALK ON THE NORTH SIDE OF THE EAST MAIN WING.
ELEVATION= 1040.51

BM–63
SET CUT SQUARE AT THE TOP NORTHEAST CORNER OF A CONCRETE PATIO WITH COVERED TABLES ON THE EAST SIDE OF BUILDING "B".
ELEVATION= 1015.74

BM–64
SET CUT SQUARE AT THE TOP NORTHEAST CORNER OF STEPS TO THE NORTH ENTRY TO BUILDING "B" ON THE WEST SIDE.
ELEVATION= 1015.34

PROJECT CONTROL:

CP #200		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 996572.06 (GROUND)		996470.24 (GRID)
EASTING: 2827438.76 (GROUND)		2827149.83 (GRID)
ELEV = 1049.49		
CP #201		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 996570.39 (GROUND)		996468.55 (GRID)
EASTING: 2827055.45 (GROUND)		2826766.55 (GRID)
ELEV = 1048.24		
CP #202		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 996569.25 (GROUND)		996467.41 (GRID)
EASTING: 2826689.97 (GROUND)		2826401.11 (GRID)
ELEV = 1042.52		
CP #203		
MAG NAIL		
NORTHING: 996957.62 (GROUND)		996855.74 (GRID)
EASTING: 2826712.48 (GROUND)		2826423.62 (GRID)
ELEV = 1039.43		
CP #204		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 997397.36 (GROUND)		997295.43 (GRID)
EASTING: 2826684.55 (GROUND)		2826395.70 (GRID)
ELEV = 1023.04		
CP #205		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 997403.51 (GROUND)		997301.59 (GRID)
EASTING: 2826495.31 (GROUND)		2826206.47 (GRID)
ELEV = 1018.15		
CP #206		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 997985.93 (GROUND)		997883.94 (GRID)
EASTING: 2826567.03 (GROUND)		2826278.18 (GRID)
ELEV = 1012.56		
CP #207		
1/2" REBAR W/ ORANGE KVE CAP		
NORTHING: 997970.64 (GROUND)		997868.66 (GRID)
EASTING: 2826860.58 (GROUND)		2826571.70 (GRID)
ELEV = 1014.79		

GRADING NOTES:

1. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE. EXCESS TOPSOIL MAY BE WASTED IN FILL SLOPES PROVIDED THAT NO TOPSOIL WILL BE WASTED WITHIN 10 FEET OF THE EDGE OF THE BUILDING OR PARKING AREA. BURNING OF TIMBER WILL NOT BE PERMITTED UNLESS APPROVAL IS OBTAINED FROM GOVERNING OFFICIALS. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES. CONSTRUCTION MANAGER SHALL DESIGNATE LOCATION OF STOCKPILE AREAS DURING CONSTRUCTION. ANY UNAUTHORIZED STOCKPILE SHALL BE REMOVE/RELOCATED AT THE CONTRACTORS EXPENSE.
2. AREAS TO RECEIVE FILL SHALL BE SCARIFIED AND THE TOP 12–INCH DEPTH COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 WITH A MOISTURE CONTENT OF +/–3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF LESS THAN 40 AND 0 TO +4% FOR SOILS WITH A LIQUID LIMIT GREATER THAN 40. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
3. OFF–SITE SOIL MATERIAL FOR USE UNDER BUILDING AND PAVED AREAS SHALL HAVE A PLASTICITY INDEX OF 25 OR LESS, A LIQUID LIMIT OF 45 OR LESS AND CONTAIN NO ROCK LARGER THAN THREE INCHES. OFF–SITE FILL MATERIAL SHALL BE APPROVED BY THE OWNER'S TESTING AGENCY PRIOR TO BRINGING ON SITE.
4. EARTHWORK UNDER THE BUILDING, PAVING AND LIGHTLY LOADED STRUCTURAL FEATURES SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND PROJECT GEOTECHNICAL REPORT. THE BUILDING PAD SHALL BE EXCAVATED AS REQUIRED TO ALLOW THE PLACEMENT OF LOW VOLUME CHANGE MATERIAL. REFER TO GEOTECHNICAL REPORT FOR PREPARING BUILDING PAD AND LOW VOLUME CHANGE THICKNESS REQUIREMENTS. OTHER FILL MATERIAL SHALL BE MADE IN LIFTS NOT TO EXCEED EIGHT INCHES DEPTH COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. LVC SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT OF 0 TO +4% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT GREATER THAN 40 AND +/–3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT LESS THAN 40. NO ROCK LARGER THAN THREE INCHES IN ANY DIMENSION NOR ANY SHALE SHALL BE PLACED IN THE TOP 24 INCHES OF EMBANKMENT.
5. ON–SITE HIGH PLASTICITY CLAYS MAY BE TREATED WITH 5% TYPE 1/2 PORTLAND CEMENT BY WEIGHT. REFER TO PROJECT GEOTECHNICAL REPORT FOR REQUIREMENTS.
6. AREAS THAT ARE TO BE CUT TO SUBGRADE LEVELS SHALL BE PROOF ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.
7. IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED, THE OWNER'S ENGINEER SHALL RECOMMEND TO THE OWNER THE METHODS OF UNDERCUTTING AND REPLACEMENT OF PROPERLY COMPACTED, APPROVED FILL MATERIAL. ALL PROOFROLLING AND UNDERCUTTING SHOULD BE PERFORMED DURING A PERIOD OF DRY WEATHER.
8. **ALL EXCAVATIONS SHALL BE CONSIDERED AS UNCLASSIFIED. REFER TO PROJECT GEOTECHNICAL REPORT.**
9. ALL DISTURBED SLOPES ARE TO BE 3:1 OR FLATTER.
10. DETENTION BASIN AND ALL SLOPES DISTURBED EXCEEDING 4:1 SHALL BE HYDROSEEDED, SODDED OR PROTECTED BY EROSION CONTROL BLANKETS THAT WILL PREVENT EROSION AND PLACED SUCH THAT THE SURFACE IS FLUSH WITH SURROUNDING GROUND AND SHAPED TO CHANNEL WATER IN DIRECTIONS INDICATED. SEE GENERAL NOTES ON THIS SHEETS.
11. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND A MINIMUM OF FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON–SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SODDED OR SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. REFER TO THE NOTES ON THIS SHEET FOR TEMPORARY SEEDING SPECIFICATIONS. REFER TO PROJECT SITE PLAN FOR FINAL STABILIZATION TREATMENTS.
11. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.
12. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
13. IT IS NOT THE DUTY OF THE ENGINEER OR THE OWNER TO REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE AT ANY TIME DURING CONSTRUCTION.
14. IF ANY OF THESE NOTES CONFLICT WITH THE PROJECT GEOTECHNICAL REPORT (CFS PROJECT 20–1075) AND ALL ADDENDUMS PREPARED BY CFS ENGINEERS DATED JUNE 12, 2020, RECOMMENDATIONS IN GEOTECHNICAL REPORT SHALL GOVERN.
15. GRADE AT ALL STOOPS SHALL BE 1/2" BELOW FINISH FLOOR ELEVATION AND SLOPE AWAY FROM THE BUILDING AT 1/4"/FT. (2.0%).

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

PROJ. NO. C20_0496 DSN: DDW DAVID D. WOOD
CFN: 0496GP.DWG DWN: NJN ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894–5150 | FAX (913) 894–5977
lx@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

PRINT DATE/TIME: 3/17/2020 4:49:21 PM

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

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Lee's Summit R-7 School District
301 NE Tudor Road
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architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

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4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

OVERALL GRADING PLAN

C300

Final Development Plan

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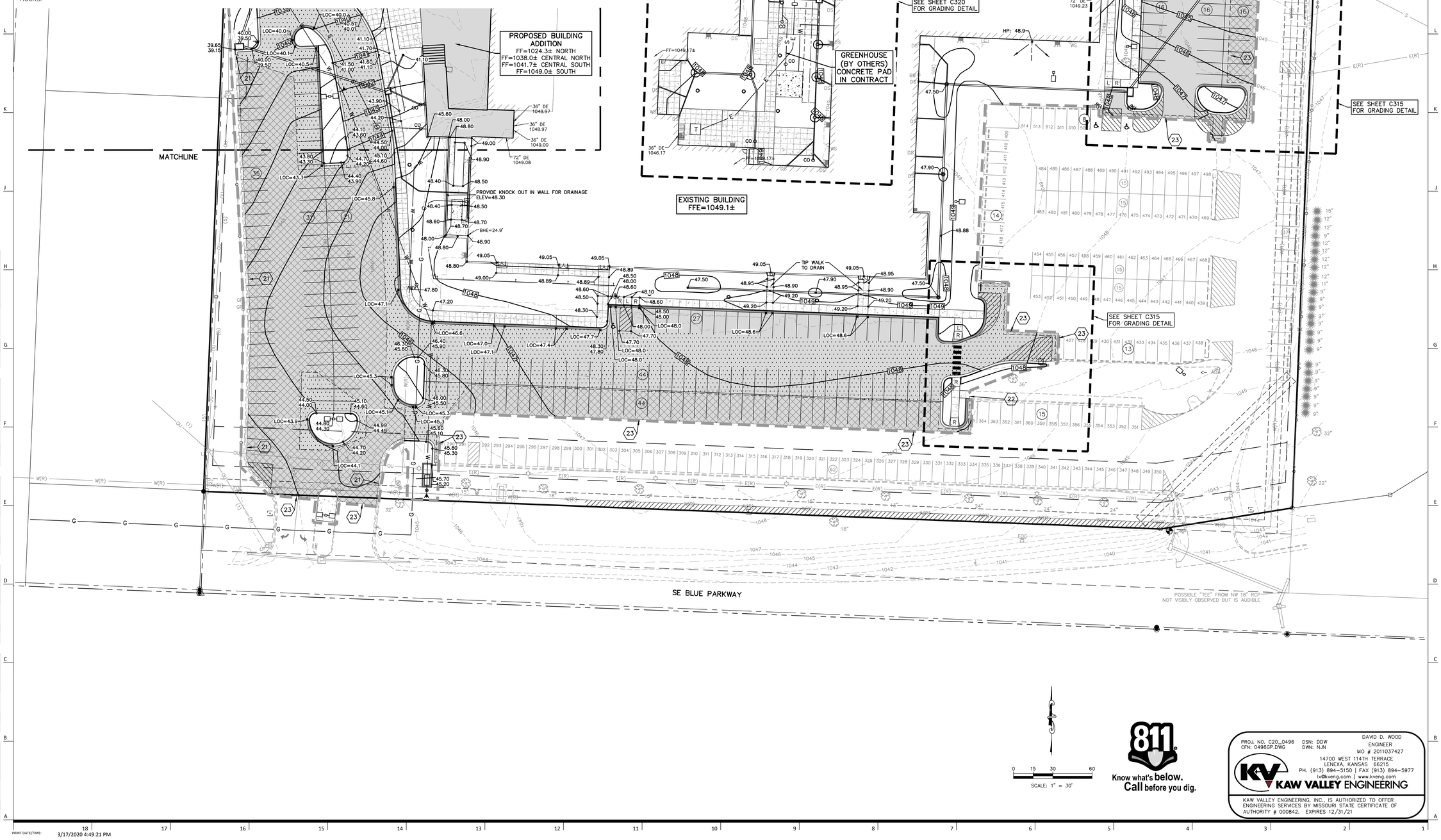
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NOTES:
21 MATCH EXISTING CURB ELEVATION.
22 MATCH EXISTING SIDEWALK ELEVATION.
23 MATCH EXISTING PAVEMENT ELEVATION.
24 TRANSITION FROM ZERO HEIGHT CURB TO FULL HEIGHT CURB

LEGEND (PROPOSED)

- 22.9 SPOT ELEVATION (ADD 900), TOP OF PAVEMENT
- 23.6 / 23.1 TOP OF CURB (ADD 900) / FLOWLINE OF CURB (ADD 900)
- FLOW DIRECTION
- 950 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
- SWALE
- LP LOW POINT
- HP HIGH POINT
- LOC LIP OF CURB
- TW TOP OF WALL
- BW BOTTOM OF WALL
- SW SIDEWALK ELEVATION
- P PAVEMENT ELEVATION



SCALE: 1" = 30'

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PRINT DATE/TIME: 3/17/2020 4:49:21 PM

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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

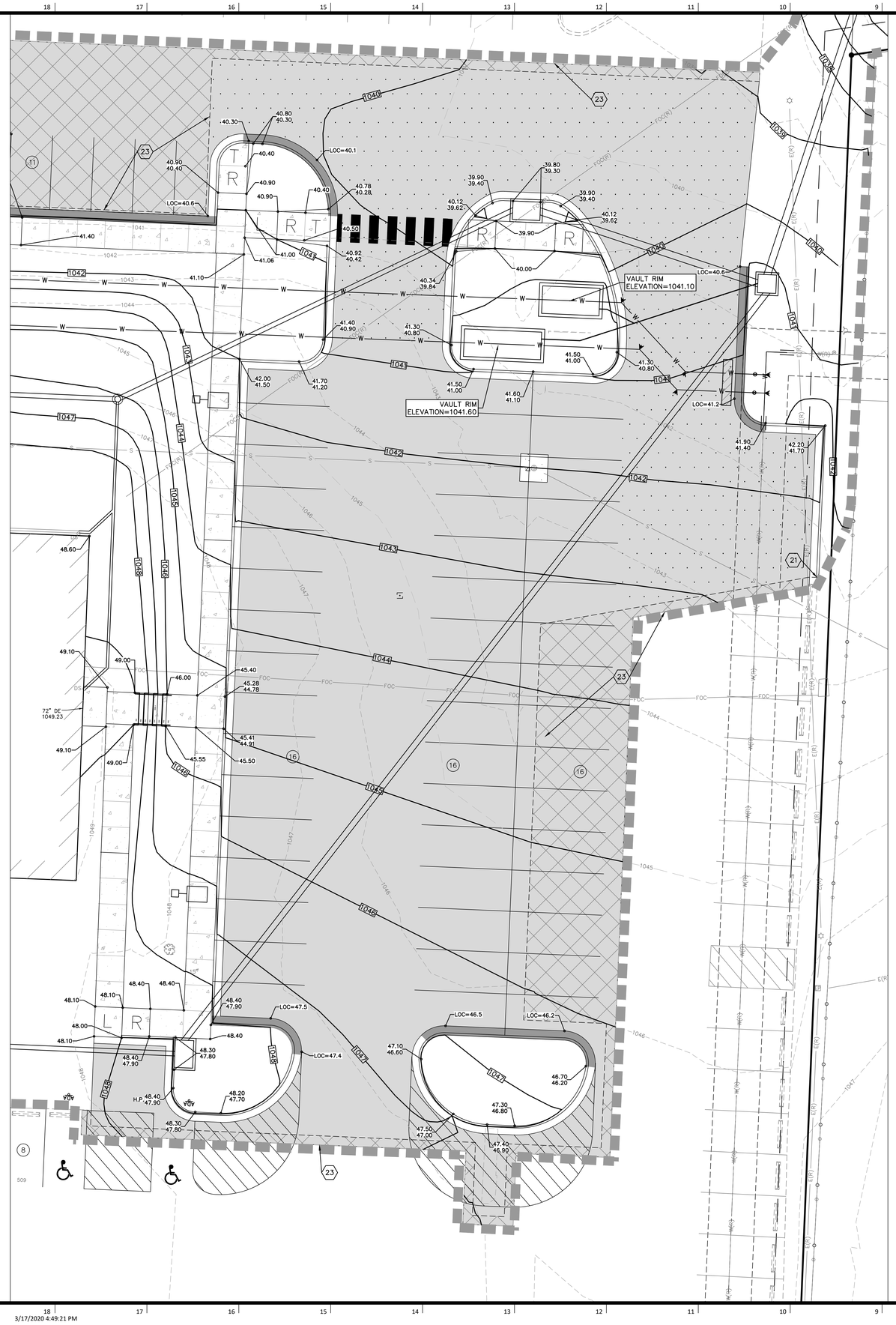
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

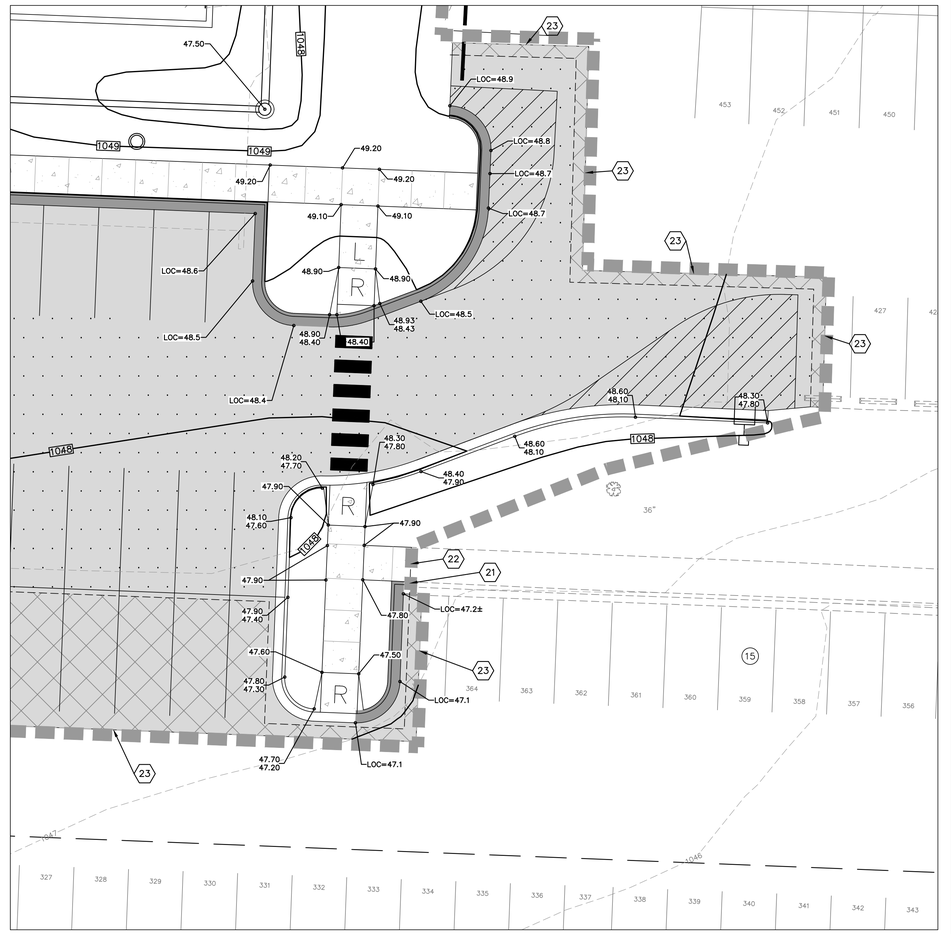
PROJECT NO: 0119-0100
DATE: November 20, 2020

GRADING PLAN - SOUTH

C310

Final Development Plan





NOTES:
21 MATCH EXISTING CURB ELEVATION.
22 MATCH EXISTING SIDEWALK ELEVATION.
23 MATCH EXISTING PAVEMENT ELEVATION.
24 TRANSITION FROM ZERO HEIGHT CURB TO FULL HEIGHT CURB

0 5 10 20
SCALE: 1" = 10'

NOTE:
1. **CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.**
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3. **ALL DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.**
4. **ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINE.**

LEGEND (PROPOSED)

- 22.9 SPOT ELEVATION (ADD 900), TOP OF PAVEMENT
- 23.6 TOP OF CURB (ADD 900)
- 23.1 FLOWLINE OF CURB (ADD 900)
- FLOW DIRECTION
- 950 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
- SWALE
- LP LOW POINT
- HP HIGH POINT
- LOC LIP OF CURB
- TW TOP OF WALL
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Know what's below. Call before you dig.

PROJ. NO. C20_0496 DSN: DDW DAVID D. WOOD
CFN: 0496GP.DWG DWN: NJN ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
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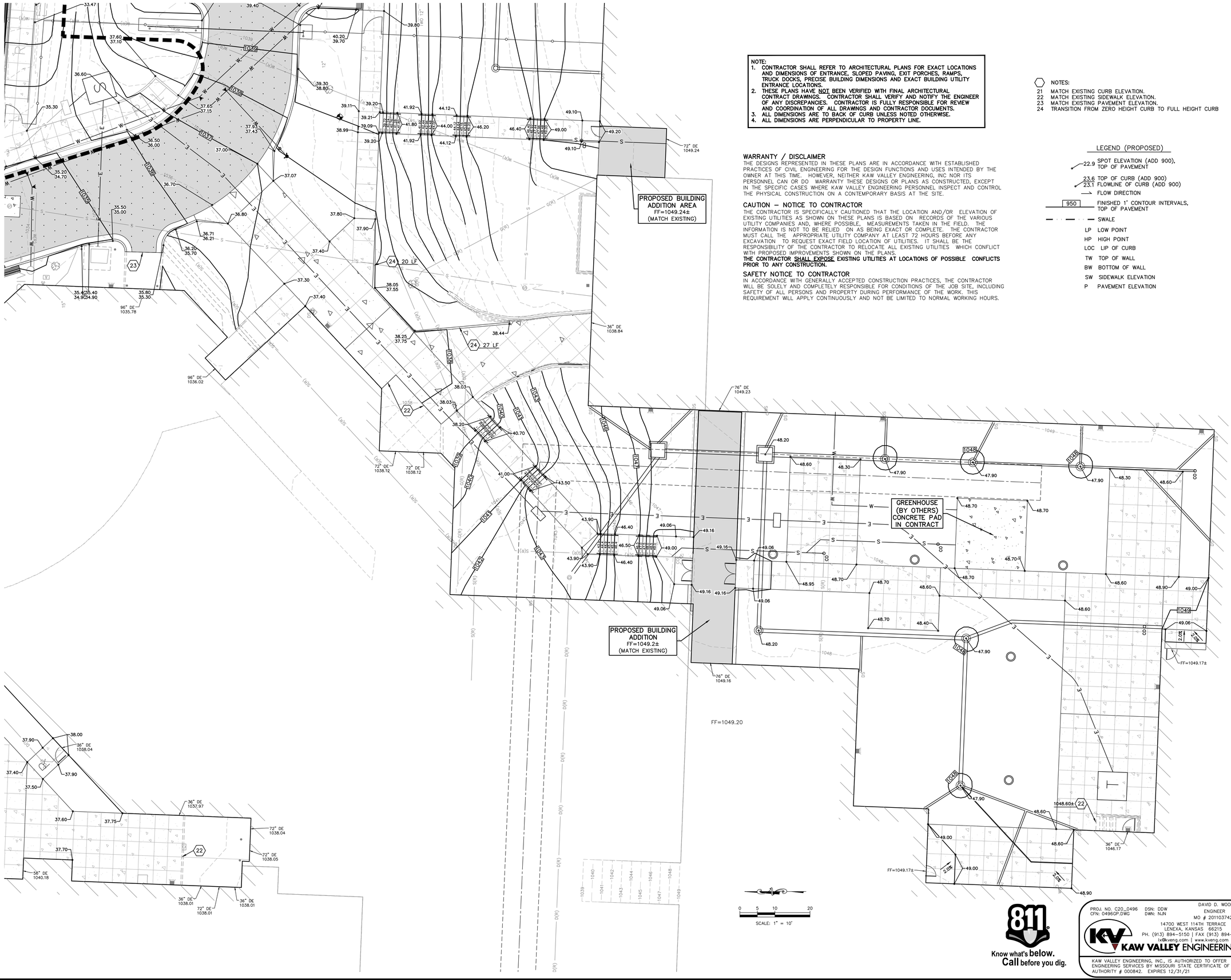
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PROJECT NO: 0119-0100
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DETAILED GRADING PLAN

C315

Final Development Plan



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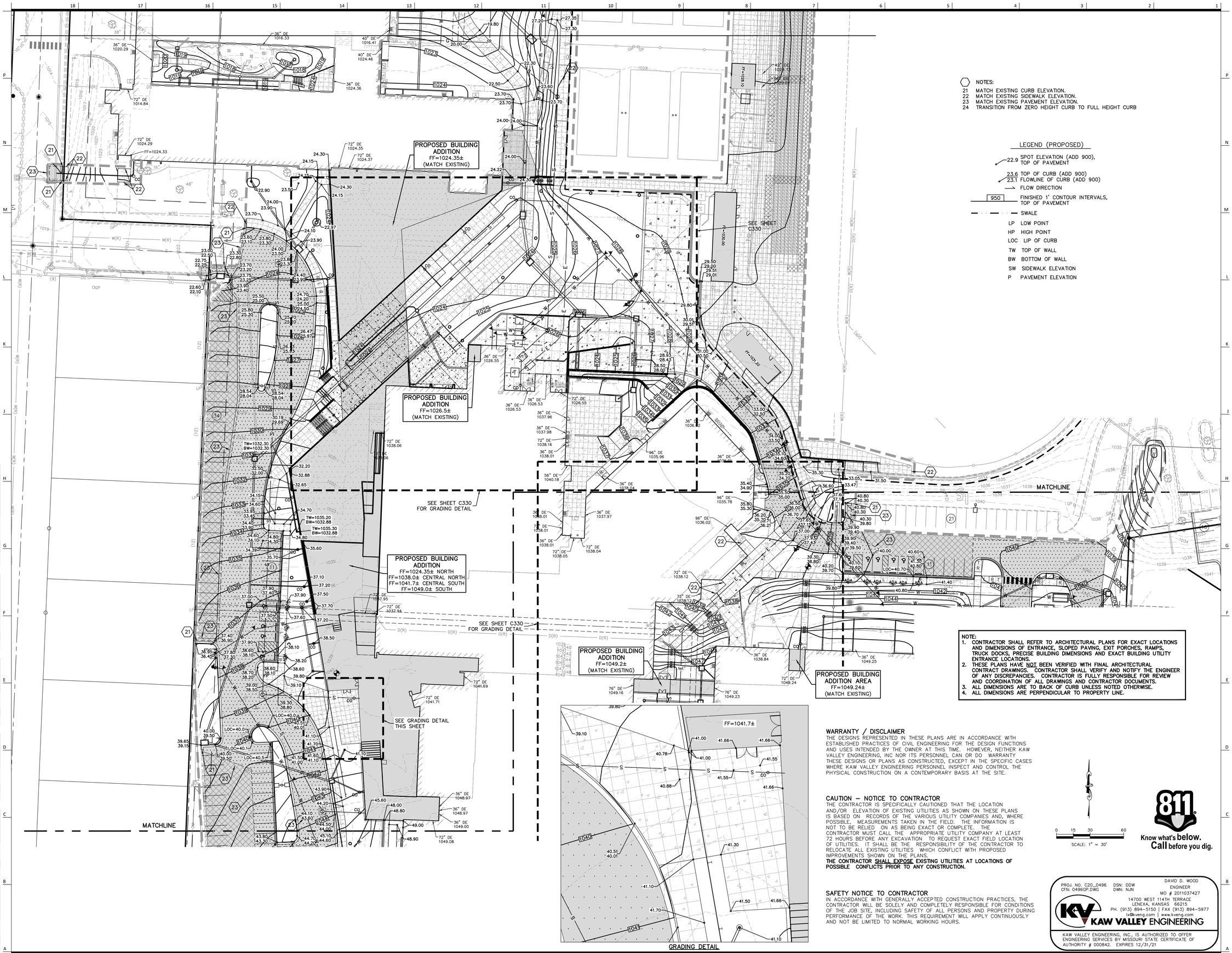
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2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

DETAILED GRADING PLAN

C320

Final Development Plan



NOTE:
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SCALE: 1" = 30'

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PROJECT NO: 0119-0100
DATE: November 20, 2020

GRADING PLAN - MIDDLE

C325

Final Development Plan

PROPOSED BUILDING ADDITION
FF=1024.35±
(MATCH EXISTING)

LINE OF DEMARCATION LSHS RENOVATIONS/ADDITIONS SCOPE AND ATHLETICS SCOPE

PROPOSED BUILDING ADDITION
FF=1026.5±
(MATCH EXISTING)

CURB FOR SCREEN WALL ELEV=1026.50

PROPOSED BUILDING ADDITION
FF=1024.35± NORTH
FF=1038.0± CENTRAL NORTH
FF=1041.7± CENTRAL SOUTH
FF=1049.0± SOUTH

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DOCK GRADING DETAIL

C330

Final Development Plan



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KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI DAVID D WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER
12/15/20

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood — Date: 12/15/2020
Engineer — License No. PE-2011037427

REVISIONS

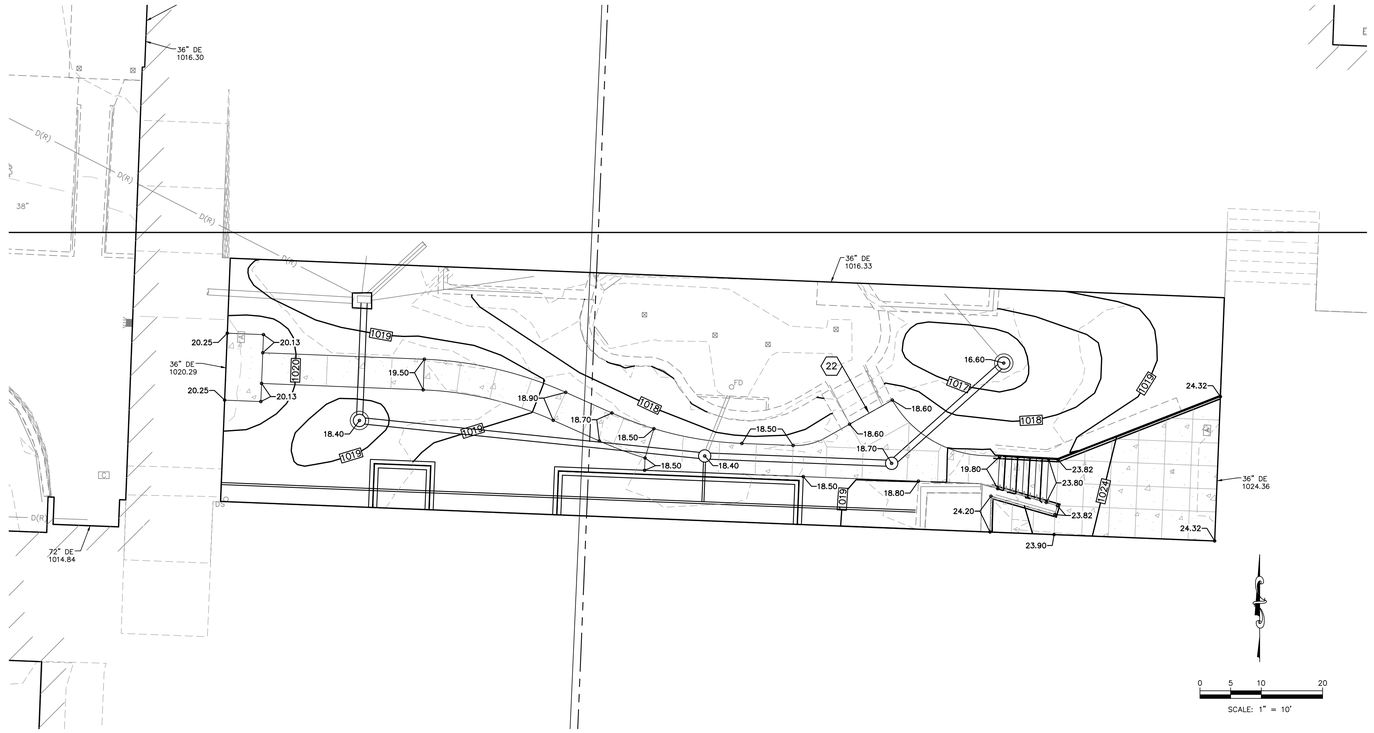
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
	PER CITY COMMENTS	
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

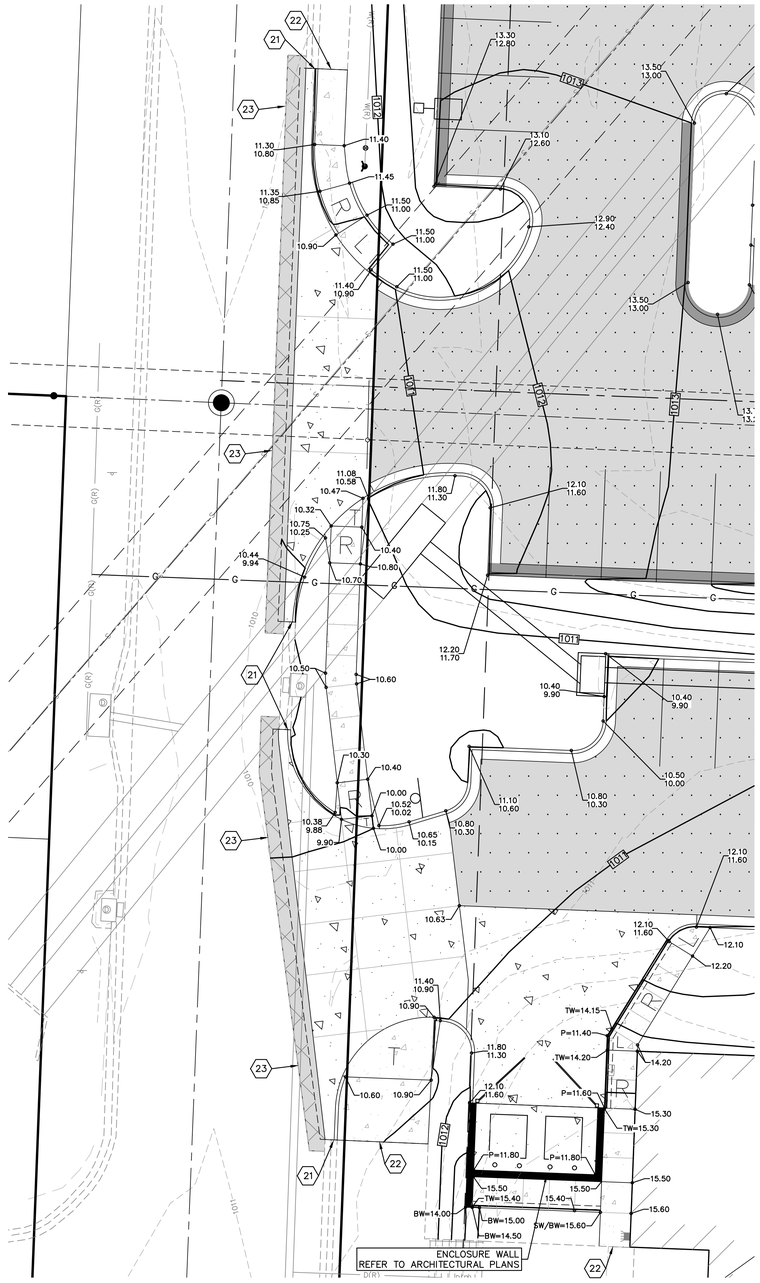
PROJECT NO: 0119-0100
DATE: November 20, 2020

GRADING PLAN - NORTH

C340

Final Development Plan





NOTES:
21 MATCH EXISTING CURB ELEVATION.
22 MATCH EXISTING SIDEWALK ELEVATION.
23 MATCH EXISTING PAVEMENT ELEVATION.
24 TRANSITION FROM ZERO HEIGHT CURB TO FULL HEIGHT CURB

LEGEND (PROPOSED)

- 22.9 SPOT ELEVATION (ADD 900), TOP OF PAVEMENT
- 23.6 TOP OF CURB (ADD 900)
- 23.1 FLOWLINE OF CURB (ADD 900)
- FLOW DIRECTION
- 950 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
- SWALE
- LP LOW POINT
- HP HIGH POINT
- LOC LIP OF CURB
- TW TOP OF WALL
- BW BOTTOM OF WALL
- SW SIDEWALK ELEVATION
- P PAVEMENT ELEVATION

WARRANTY / DISCLAIMER

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION – NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

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

NOTE:
1. **CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.**
2. **THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.**
3. **ALL DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.**
4. **ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINE.**

PROJ. NO. C20_0496
CFN: 0496GP.DWG
DSN: DDW
DWN: NJN
DAVID D. WOOD
ENGINEER
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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER · 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

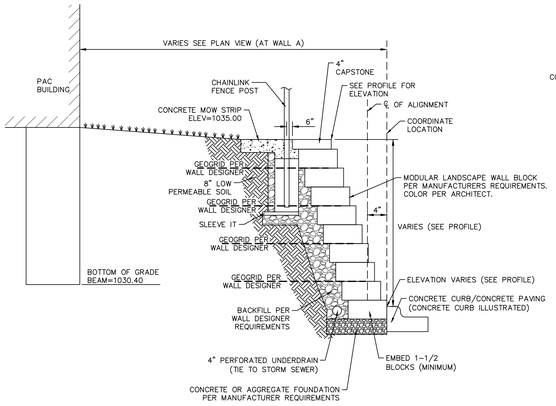
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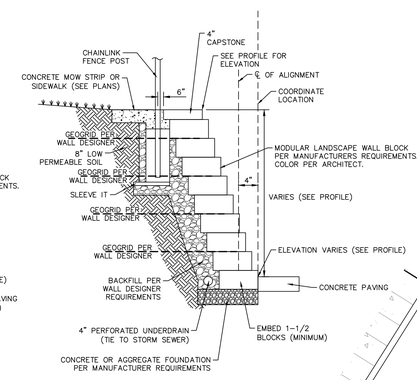
DETAILED GRADING PLAN

C345

Final Development Plan



WALL A TYPICAL SECTION



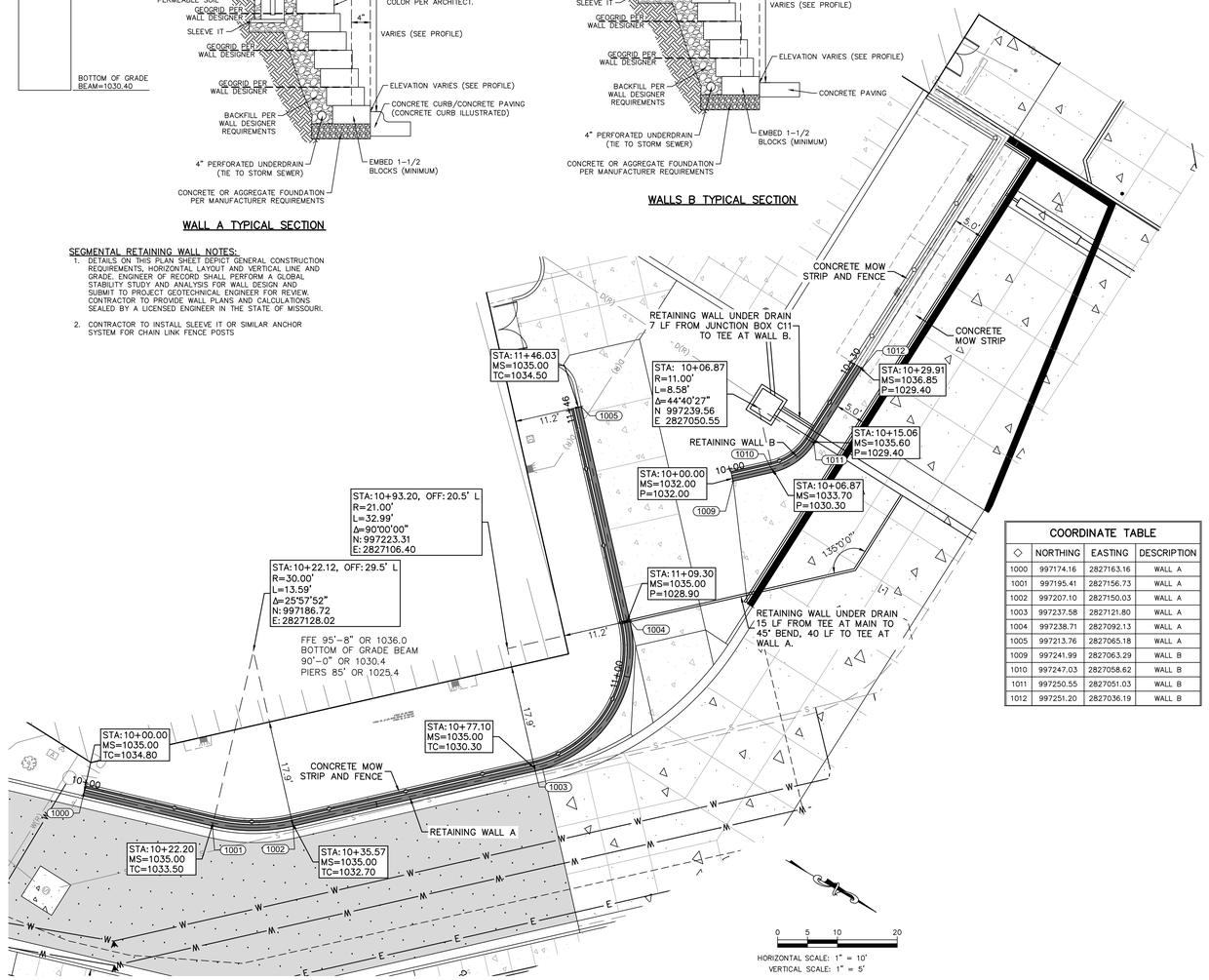
WALLS B TYPICAL SECTION

SEGMENTAL RETAINING WALL NOTES:

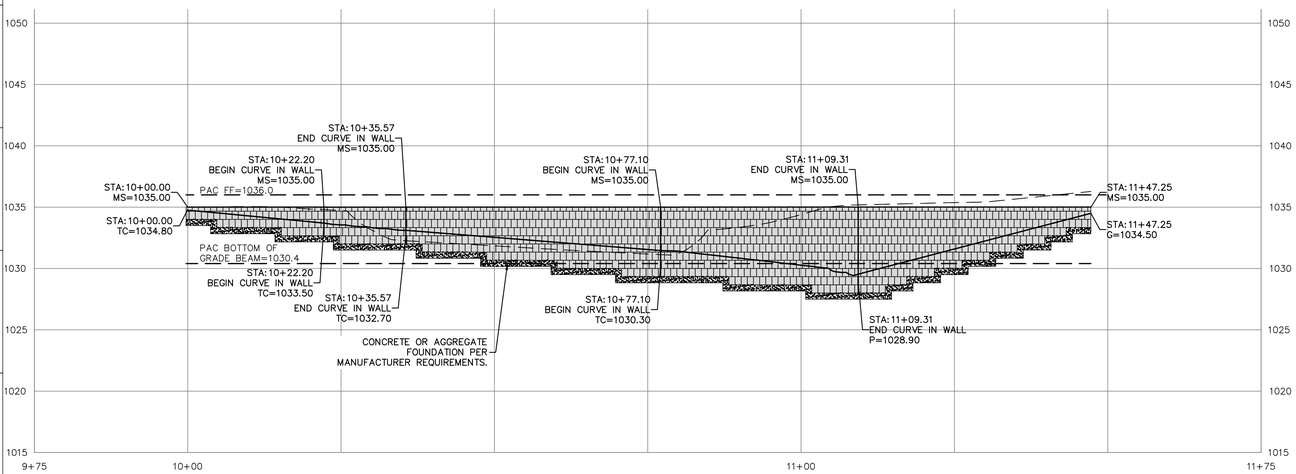
1. DETAILS ON THIS PLAN SHEET DEPICT GENERAL CONSTRUCTION REQUIREMENTS, HORIZONTAL LAYOUT AND VERTICAL LINE AND GRADE. ENGINEER OF RECORD SHALL PERFORM A GLOBAL STABILITY STUDY AND ANALYSIS FOR WALL DESIGN AND SUBMIT TO PROJECT GEOTECHNICAL ENGINEER FOR REVIEW. CONTRACTOR TO PROVIDE WALL PLANS AND CALCULATIONS SEALED BY A LICENSED ENGINEER IN THE STATE OF MISSOURI.
2. CONTRACTOR TO INSTALL SLEEVE IT OR SIMILAR ANCHOR SYSTEM FOR CHAIN LINK FENCE POSTS

LEGEND (PROPOSED)

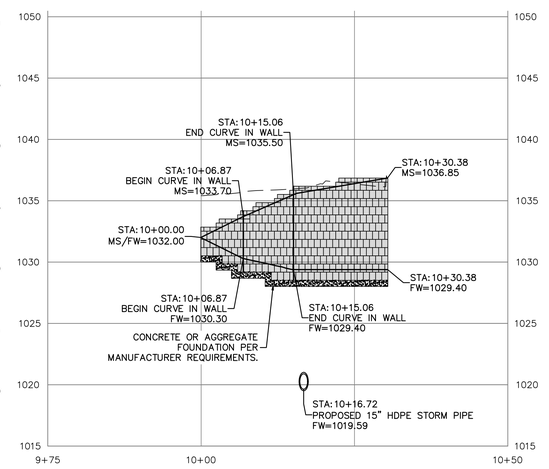
1103.25	SPOT ELEVATION TOP OF PAVEMENT
⟹	FLOW DIRECTION
TW	GROUND ELEVATION AT TOP OF WALL
FW	FACE OF WALL GROUND ELEVATION
MS	MOW STRIP ELEVATION AT TOP OF WALL
SW	SIDEWALK ELEVATION
TC	TOP OF CURB ELEVATION
P	PAVEMENT ELEVATION
HP	HIGH POINT



COORDINATE TABLE			
◇	NORTHING	EASTING	DESCRIPTION
1000	997174.16	2827163.16	WALL A
1001	997195.41	2827156.73	WALL A
1002	997207.10	2827150.03	WALL A
1003	997237.58	2827121.80	WALL A
1004	997238.71	2827092.13	WALL A
1005	997213.76	2827065.18	WALL A
1009	997241.99	2827063.29	WALL B
1010	997247.03	2827058.62	WALL B
1011	997250.55	2827051.03	WALL B
1012	997251.20	2827036.19	WALL B



RETAINING WALL A PROFILE



RETAINING WALL B PROFILE

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STATE OF MISSOURI — DAVID D WOOD — NUMBER PE-2011037427 — 12-15-20 — PROFESSIONAL ENGINEER

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

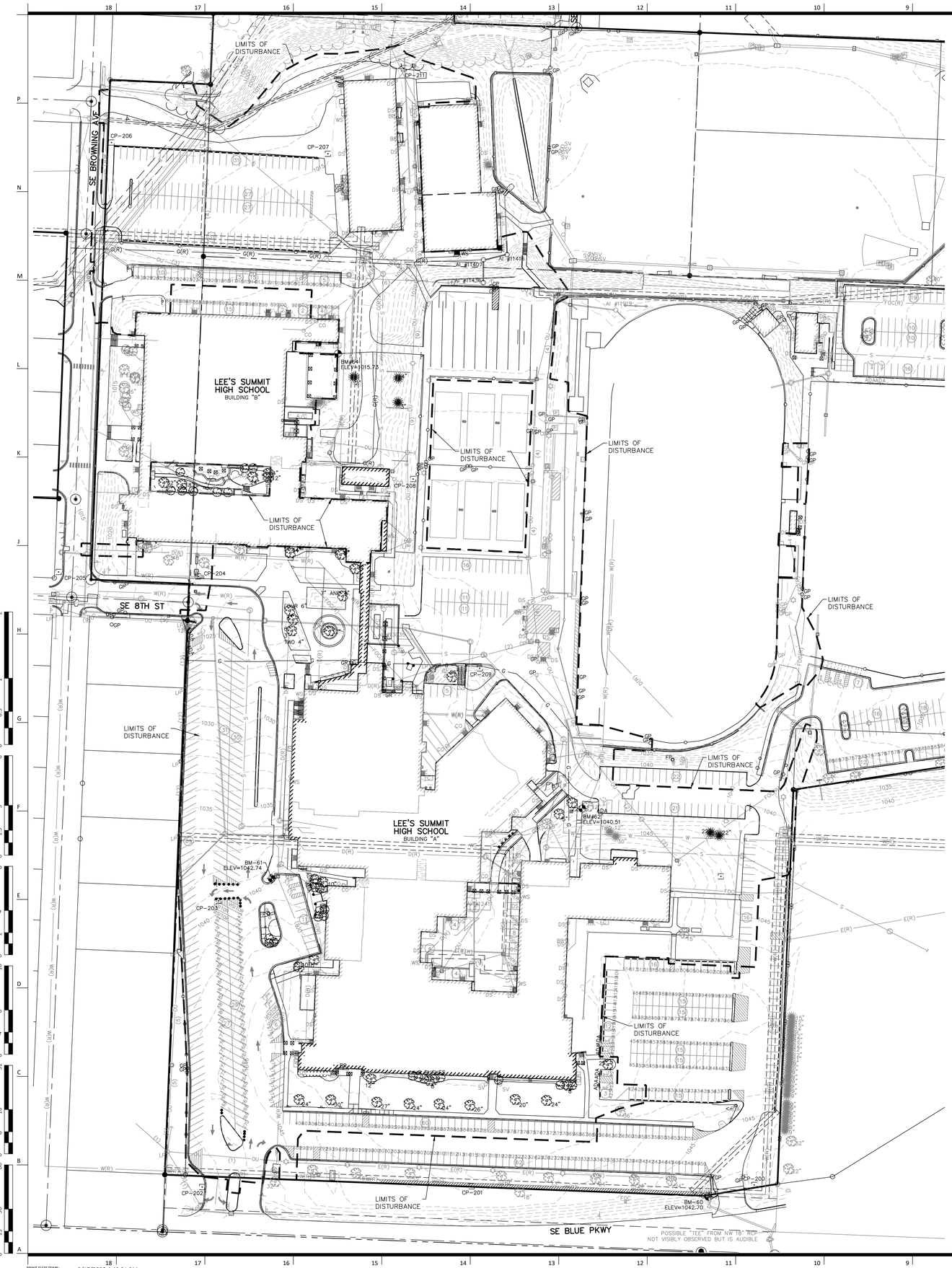
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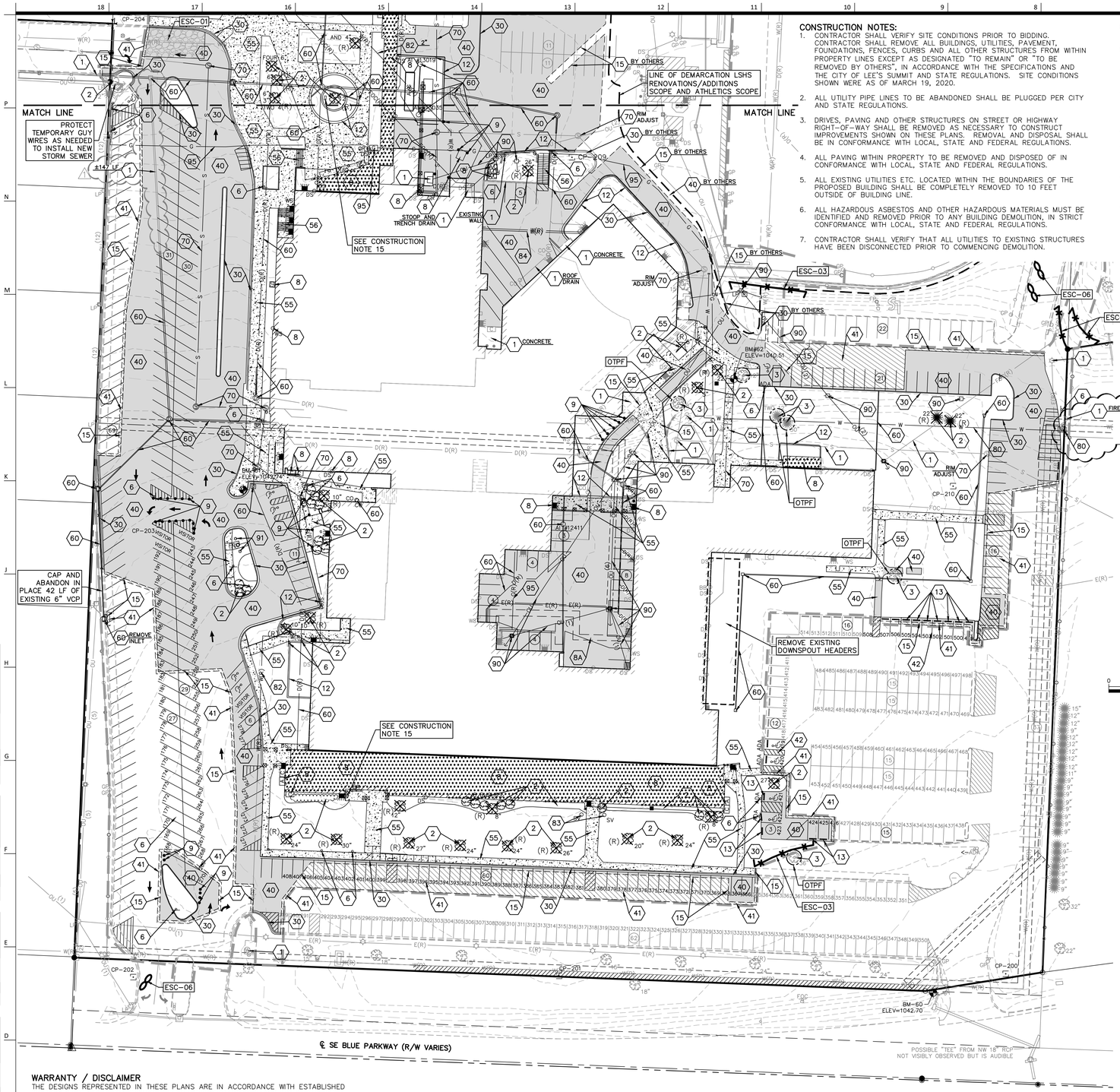
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CFN: 0496WALL.DWG DWN: NJN
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C350

Final Development Plan


LIMITS OF DISTURBANCE
SE BROWNING AVE
CP-206
CP-207
CP-211
LEE'S SUMMIT HIGH SCHOOL
BUILDING "B"
BM#64
ELEV=1015.73
CP-208
CP-204
CP-205
SE 8TH ST
CP-209
CP-203
LEE'S SUMMIT HIGH SCHOOL
BUILDING "A"
BM#62
ELEV=1040.51
BM-61
ELEV=1042.74
CP-202
CP-201
BM-60
ELEV=1042.70
CP-200
SE BLUE PKWY
POSSIBLE "TEE" FROM NW TO SE RCP NOT VISIBLY OBSERVED BUT IS AUDIBLE
AI #11415
AI #11417
AI #11419
AI #11420
AI #11421
AI #11422
AI #11423
AI #11424
AI #11425
AI #11426
AI #11427
AI #11428
AI #11429
AI #11430
AI #11431
AI #11432
AI #11433
AI #11434
AI #11435
AI #11436
AI #11437
AI #11438
AI



CONSTRUCTION NOTES:

1. CONTRACTOR SHALL VERIFY SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE ALL BUILDINGS, UTILITIES, PAVEMENT, FOUNDATIONS, FENCES, CURBS AND ALL OTHER STRUCTURES FROM WITHIN PROPERTY LINES EXCEPT AS DESIGNATED "TO REMAIN" OR "TO BE REMOVED BY OTHERS", IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CITY OF LEE'S SUMMIT AND STATE REGULATIONS. SITE CONDITIONS SHOWN WERE AS OF MARCH 19, 2020.
2. ALL UTILITY PIPE LINES TO BE ABANDONED SHALL BE PLUGGED PER CITY AND STATE REGULATIONS.
3. DRIVES, PAVING AND OTHER STRUCTURES ON STREET OR HIGHWAY RIGHT-OF-WAY SHALL BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS SHOWN ON THESE PLANS. REMOVAL AND DISPOSAL SHALL BE IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
4. ALL PAVING WITHIN PROPERTY TO BE REMOVED AND DISPOSED OF IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
5. ALL EXISTING UTILITIES ETC. LOCATED WITHIN THE BOUNDARIES OF THE PROPOSED BUILDING SHALL BE COMPLETELY REMOVED TO 10 FEET OUTSIDE OF BUILDING LINE.
6. ALL HAZARDOUS ASBESTOS AND OTHER HAZARDOUS MATERIALS MUST BE IDENTIFIED AND REMOVED PRIOR TO ANY BUILDING DEMOLITION, IN STRICT CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
7. CONTRACTOR SHALL VERIFY THAT ALL UTILITIES TO EXISTING STRUCTURES HAVE BEEN DISCONNECTED PRIOR TO COMMENCING DEMOLITION.
8. EXISTING POWER LINES AND APPURTENANCES TO BE RELOCATED. COORDINATE WITH LOCAL UTILITIES.
9. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
10. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
11. STAGE INSTALL OF CONSTRUCTION STAGING AND ACCESS AREA AS CONSTRUCTION PROGRESSES ON SITE. WEST PARKING LOT TO REMAIN TO THE MAXIMUM EXTENTS PRACTICAL TO MAINTAIN SITE CIRCULATION AND BUS ACCESS. COORDINATE WITH CM'S SITE LOGISTIC PLAN.
12. PROVIDE CONSTRUCTION FENCING AS NOTED ON CM'S SITE LOGISTIC PLAN.
13. WORK ON WEST SIDE OF THE BUILDING ADDITION TO BE SCHEDULED TO MAINTAIN ACCESS TO RECEIVING DOOR AND TRASH PICK UP. COORDINATE WITH CM'S CONSTRUCTION SCHEDULE.
14. ALL DEMOLITION OF EXISTING SITE FEATURES NORTH AND EAST OF DEMARCATION LINE IS BY ATHLETICS CONTRACTOR. REFER TO N-C SERIES SHEETS FOR COORDINATES.
15. BENCH ON SOUTH SIDE OF SCHOOL AND MEMORIAL IN LANDSCAPE ISLAND TO BE CAREFULLY REMOVED AND SALVAGED TO LSSD FOR RELOCATION.

GENERAL NOTES:

1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

NOTE:

THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

DESCRIPTION OF WORK – PRE CLEAR AND PHASE I:

- OBTAIN REVIEW COMPLIANCE AND APPLICABLE PERMITS.
- HOLD PRE-CONSTRUCTION CONFERENCE.
- INSTALL PERIMETER EROSION CONTROL MEASURES, INLET PROTECTION DOWNSTREAM OF DEMOLITION AREAS AND TREE PROTECTION FENCING WITHIN CLEARING LIMITS AS APPLICABLE
- SAWCUT AND REMOVE PAVEMENT, FLATWORK AND CURBING IN IMMEDIATE VICINITY OF PROPOSED WORK AREAS AND UTILITY RELOCATION POINTS. COORDINATE WORK WITH SCHOOL SCHEDULE TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE. PROVIDE STABILIZED CONSTRUCTION ENTRANCE OR TEMPORARY ACCESS ROAD AS REQUIRED.
- REMOVE/RELOCATE UTILITIES IN ACCORDANCE WITH DEMOLITION PLANS AS REQUIRED TO CONSTRUCT CLASSROOM BUILDING ADDITIONS.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

DEMOLITION

1	TO REMAIN.
2	REMOVE TREES/BUSHES/LANDSCAPING/SITE FURNITURE. (COORDINATE WITH PROJECT LANDSCAPE PLAN)
3	TREES TO REMAIN. PROVIDE TREE PROTECTION FENCE AT DRIPLINE. A MINIMUM RADIUS OF 10' FROM TREE SHALL BE PROVIDED ANYWHERE WHERE PORTIONS OF DRIPLINE ARE NOT FENCED OFF, A LAYER OF MULCH (6" MINIMUM) SHALL BE PROVIDED TO PROTECT ROOT SYSTEM FROM DAMAGE.
6	SIGN TO BE REMOVED
7	SIGN TO BE RELOCATED
8	REMOVE BUILDING AND BUILDING EQUIPMENT. (COORDINATE WITH ARCHITECTURAL AND MEP PLAN)
8A	REMOVE EXISTING SERVICE TUNNEL AFTER UTILITIES HAVE BEEN ABANDONED. SEAL PENETRATIONS AT BUILDING IN ACCORDANCE WITH ARCHITECTURAL AND STRUCTURAL PLANS
9	CONCRETE BOLLARD/TALL DELINEATORS TO BE REMOVED. (COORDINATE WITH ARCHITECTURAL PLAN)
10	FENCE AND FENCE POST TO BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS.
12	STRUCTURAL AND/OR RETAINING WALL TO BE REMOVED. (COORDINATE WITH STRUCTURAL PLANS IF TIED TO BUILDING)
13	CONCRETE WHEEL STOP TO BE REMOVED.
15	SAW CUT LINE (FOR CONCRETE SAW CUT AT NEAREST CONTROL JOINT. FOR ASPHALT SAW CUT MINIMUM OF 6" FROM NEW CURB LINE). SEE SHEET C100 AND C200 FOR LIMITS.
30	CONTRACTOR TO REMOVE CONCRETE CURBS TO CONSTRUCT IMPROVEMENTS. SEE SHEET C100 AND C200 FOR LIMITS.
40	CONTRACTOR TO REMOVE ASPHALT PAVING AS REQUIRED TO CONSTRUCT IMPROVEMENTS.
41	CONTRACTOR TO MILL ASPHALT SURFACE, MINIMUM 2' OUTSIDE ASPHALT REMOVAL. REFER TO C100 AND C200 SHEETS FOR LIMITS. REFER TO SECTIONS A–A AND B–B ON SHEET C190.
42	CONTRACTOR TO BLACK OUT PARKING LOT STRIPING ON ASPHALT TO REMAIN.
45	CONTRACTOR TO REMOVE GRAVEL SURFACE
55	CONTRACTOR TO REMOVE CONCRETE PAVING AND WALKS.
56	CONTRACTOR TO REMOVE CONCRETE STAIRS.
60	CONTRACTOR TO MODIFY, REMOVE AND/OR REROUTE STORM SEWER PRIOR TO CONSTRUCTING ADDITIONS. REFER TO C600 SHEETS FOR ADDITIONAL INFORMATION.
70	CONTRACTOR TO MODIFY, REMOVE AND/OR REROUTE EXISTING SANITARY SEWER PRIOR TO CONSTRUCTING ADDITION. REFER TO C500 AND P SERIES SHEETS FOR ADDITIONAL INFORMATION.
80	EXISTING PRIVATE FIRE LINE FROM EAST PROPERTY LINE TO PERFORMING ARTS CENTER IS TO BE REPLACED. REFER TO C500 SHEETS. PIPING THAT INTERFERES WITH PROPOSED CONSTRUCTION SHALL BE REMOVED. OTHER PIPE MAY BE ABANDONED IN PLACE IN ACCORDANCE WITH LS SPECIFICATIONS SECTION 3902 B.12 COORDINATE DISCONNECT AT PUBLIC MAIN WITH CITY OF LEE'S SUMMIT UTILITIES. EXISTING BACKFLOW PREVENTER AND VAULT TO BE REMOVED.
82	CONTRACTOR TO DISCONNECT AND REMOVE AND RELOCATE EXISTING DOMESTIC SERVICE LINE ROUTED EXTERIOR TO THE BUILDING AS NECESSARY TO CONSTRUCT THE BUILDING ADDITIONS AND SITE IMPROVEMENTS AS APPLICABLE REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
83	REMOVE SPRINKLER HEAD
84	EXISTING CHILLED WATER LINES ARE TO BE REROUTED AND LOWERED TO PROVIDE A MINIMUM OF 42" OF COVER. REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
90	REMOVE OVERHEAD ELECTRIC AND POLES. REFER TO SITE ELECTRICAL PLAN AS APPLICABLE. COORDINATE TIMING WITH GM/S SITE LOGISTICS PLAN
91	REMOVE SITE LIGHTING REFER TO SITE ELECTRICAL PLAN. COORDINATE WITH EVERGY AS APPLICABLE.
95	EXISTING GAS SERVICE AND APPURTENANCES TO BE REMOVED, REPLACED OR RELOCATED PRIOR TO CONSTRUCTING ADDITION. (COORDINATE WITH C500, SPIRE ENERGY AND MEP PLANS)

LEGEND:

- CONTROL POINT
- BENCHMARK
- GP GATE POST
- CHAIN LINK FENCE
- WOOD FENCE
- BOLLARD
- STREET/TRAFFIC SIGN
- PAINTED DIRECTIONAL ARROW
- TURN LANE DIRECTION
- HANDICAP SYMBOL
- (3) PARKING STALL COUNT
- HANDICAP SIGN
- HRMP HANDICAP RAMP
- WHEEL STOP
- FOC UNDERGROUND FIBER OPTIC CABLE
- FOC(R) UNDERGROUND FIBER OPTIC (FROM RECORDS)
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AI AREA INLET
- CI CURB INLET
- CO SANITARY SEWER CLEAN OUT
- DS DOWN SPOUT
- FD FLOOR DRAIN
- FLARED END SECTION
- S SANITARY SEWER LINE
- D STORM SEWER LINE
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- E(R) UNDERGROUND ELECTRIC PER RECORD
- AC AIR CONDITIONER
- WALL MOUNTED ELECTRICAL OUTLET
- G UNDERGROUND GAS
- GM GAS METER
- GV GAS VALVE
- GR GAS RISER
- GAS LINE SIGN
- 950 EXISTING GRADE 5' CONTOUR
- 939 EXISTING GRADE 1' CONTOUR
- W WATER LINE
- WM WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- WATER MANHOLE
- SV SPRINKLER VALVE
- SIAMESE FIRE CONNECTOR
- CANOPY SUPPORT
- MB MAIL BOX
- CONCRETE JOINT/CUT LINE
- BUSH
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- FP FLAG POLE
- T/E TRASH ENCLOSURE
- L/S LANDSCAPING AREA
- CONC CONCRETE
- VCP VITRIFIED CLAY PIPE
- DIP DUCTILE IRON PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- WALL MOUNTED LIGHT
- WALL MOUNTED CAMERA
- E(2) UNDERGROUND ELECTRIC
- OU(2) OVERHEAD UTILITY LINE (# OF LINES)
- P PULL BOX
- LIGHT POLE
- UTILITY POLE
- UP UTILITY POLE W/ LIGHT
- UTILITY POLE W/ TRANSFORMER
- GUY ANCHOR
- W(R) WATER LINE PER RECORD
- LW LOWEST WIRE HEIGHT
- EM ELECTRIC METER
- UNDERGROUND ELECTRIC PEDESTAL
- SPEAKER BOX
- BB BREAKER BOX
- G(R) UNDERGROUND GAS PER RECORD
- S(R) SANITARY SEWER LINE PER RECORD
- D(R) STORM SEWER LINE PER RECORD
- GRAVEL TO BE REMOVED
- ASPHALT PAVING TO BE REMOVED
- CONCRETE PAVING/SIDEWALKS TO BE REMOVED
- AREA TO BE MILLED
- BUILDING TO BE REMOVED

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- 1218 EXISTING GROUND CONTOUR (1' INTERVALS)
- 1218 PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- GRAVEL FILTER BAGS AND INLET PROTECTION (ESC-06 & ESC-07)
- OTPF FENCE (OTPF)
- SEDIMENTATION FENCE (ESC-03)
- LIMITS OF DISTURBANCE
- (R) INDICATES TREE/SHRUB TO BE REMOVED
- CONSTRUCTION ENTRANCE AND STAGING (ESC-01)
- WATTLE/BIODEGRADABLE LOG (ESC-04)
- ROCK DITCH CHECK (ESC-10) OR OUTLET PROTECTION (ESC-14)
- CW CONCRETE WASH AREA (ESC-01)

FOR THE FOLLOWING DETAILS REFER TO THE KC METROPOLITAN CHAPTER ADOPTED DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL (2017 VERSION) ON SHEETS C480 AND C485.

ESC-01	CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
ESC-02	EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
ESC-03	SEDIMENTATION FENCE
ESC-04	WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
ESC-06	CURB INLET PROTECTION
ESC-07	AREA INLET PROTECTION
ESC-10	ROCK DITCH CHECKS
ESC-14	OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)

WARRANTY / DISCLAIMER

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THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

SAFETY NOTICE TO CONTRACTOR

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STATE OF MISSOURI · DAVID D WOOD · NUMBER PE-2011037427 · 12/31/2020 · PROFESSIONAL ENGINEER

Kaw Valley Engineering, Inc
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

DEMOLITION AND EROSION CONTROL PLAN - PHASE I SOUTH

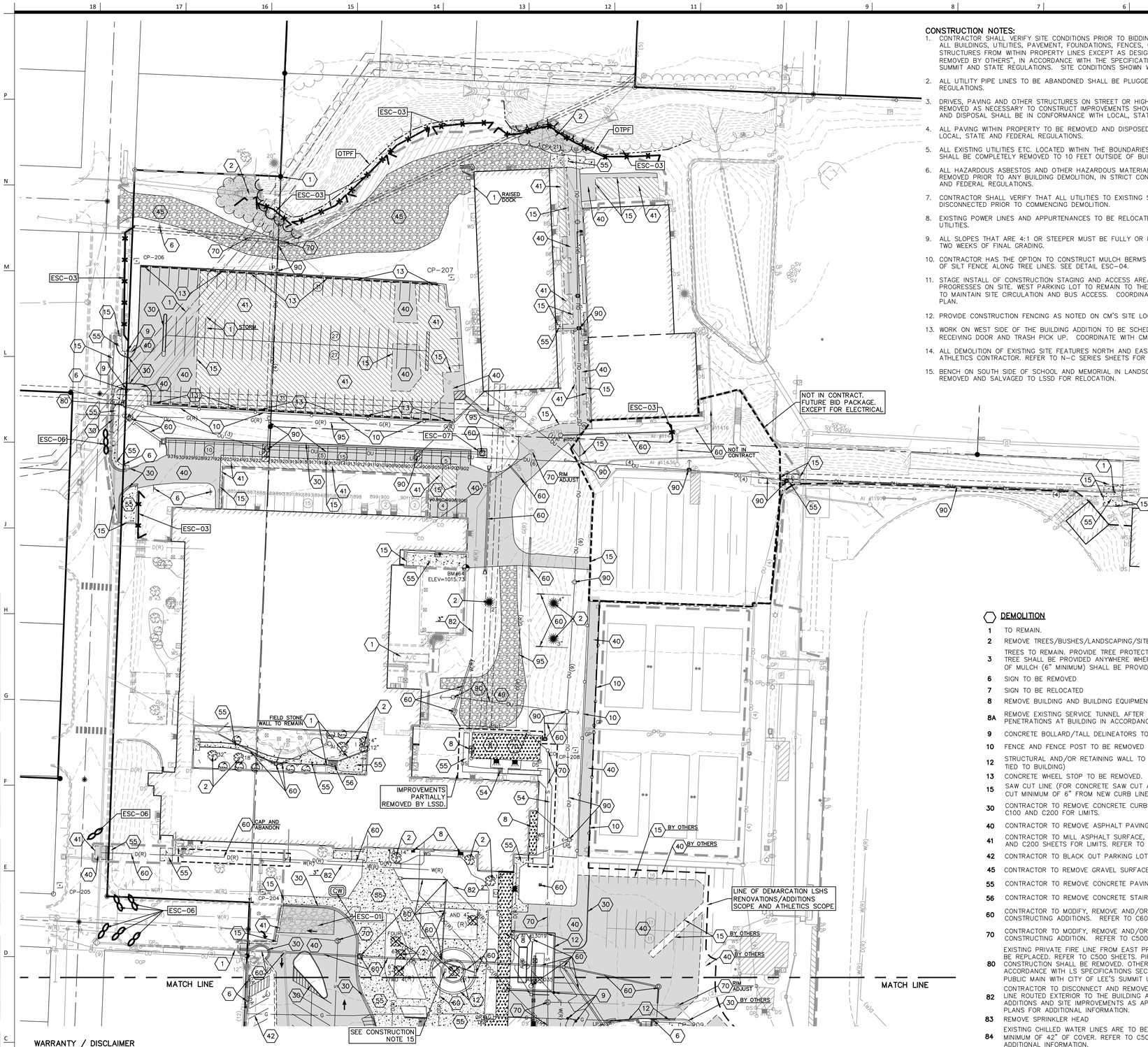
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Final Development Plan

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KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496ECP1.DWG DWN: NJN

Know what's below. Call before you dig.



CONSTRUCTION NOTES:

1. CONTRACTOR SHALL VERIFY SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE ALL BUILDINGS, UTILITIES, PAVEMENT, FOUNDATIONS, FENCES, CURBS AND ALL OTHER STRUCTURES FROM WITHIN PROPERTY LINES EXCEPT AS DESIGNATED "TO REMAIN" OR "TO BE REMOVED BY OTHERS", IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CITY OF LEE'S SUMMIT AND STATE REGULATIONS. SITE CONDITIONS SHOWN WERE AS OF MARCH 19, 2020.
2. ALL UTILITY PIPE LINES TO BE ABANDONED SHALL BE PLUGGED PER CITY AND STATE REGULATIONS.
3. DRIVES, PAVING AND OTHER STRUCTURES ON STREET OR HIGHWAY RIGHT-OF-WAY SHALL BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS SHOWN ON THESE PLANS. REMOVAL AND DISPOSAL SHALL BE IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
4. ALL PAVING WITHIN PROPERTY TO BE REMOVED AND DISPOSED OF IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
5. ALL EXISTING UTILITIES ETC. LOCATED WITHIN THE BOUNDARIES OF THE PROPOSED BUILDING SHALL BE COMPLETELY REMOVED TO 10 FEET OUTSIDE OF BUILDING LINE.
6. ALL HAZARDOUS ASBESTOS AND OTHER HAZARDOUS MATERIALS MUST BE IDENTIFIED AND REMOVED PRIOR TO ANY BUILDING DEMOLITION, IN STRICT CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
7. CONTRACTOR SHALL VERIFY THAT ALL UTILITIES TO EXISTING STRUCTURES HAVE BEEN DISCONNECTED PRIOR TO COMMENCING DEMOLITION.
8. EXISTING POWER LINES AND APPURTENANCES TO BE RELOCATED. COORDINATE WITH LOCAL UTILITIES.
9. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
10. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
11. STAGE INSTALL OF CONSTRUCTION STAGING AND ACCESS AREA AS CONSTRUCTION PROGRESSES ON SITE. WEST PARKING LOT TO REMAIN TO THE MAXIMUM EXTENTS PRACTICAL TO MAINTAIN SITE CIRCULATION AND BUS ACCESS. COORDINATE WITH CM'S SITE LOGISTIC PLAN.
12. PROVIDE CONSTRUCTION FENCING AS NOTED ON CM'S SITE LOGISTIC PLAN.
13. WORK ON WEST SIDE OF THE BUILDING ADDITION TO BE SCHEDULED TO MAINTAIN ACCESS TO RECEIVING DOOR AND TRASH PICK UP. COORDINATE WITH CM'S CONSTRUCTION SCHEDULE.
14. ALL DEMOLITION OF EXISTING SITE FEATURES NORTH AND EAST OF DEMARCATION LINE IS BY ATHLETICS CONTRACTOR. REFER TO N-C SERIES SHEETS FOR COORDINATES.
15. BENCH ON SOUTH SIDE OF SCHOOL AND MEMORIAL IN LANDSCAPE ISLAND TO BE CAREFULLY REMOVED AND SALVAGED TO LSSD FOR RELOCATION.

NOTE:

THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

DESCRIPTION OF WORK – PRE CLEAR AND PHASE I:

- OBTAIN REVIEW COMPLIANCE AND APPLICABLE PERMITS.
- HOLD PRE-CONSTRUCTION CONFERENCE.
- INSTALL PERIMETER EROSION CONTROL MEASURES, INLET PROTECTION DOWNSTREAM OF DEMOLITION AREAS AND TREE PROTECTION FENCING WITHIN CLEARING LIMITS AS APPLICABLE.
- SAWCUT AND REMOVE PAVEMENT, FLATWORK AND CURBING IN IMMEDIATE VICINITY OF PROPOSED WORK AREAS AND UTILITY RELOCATION POINTS. COORDINATE WORK WITH SCHOOL SCHEDULE TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE. PROVIDE STABILIZED CONSTRUCTION ENTRANCE OR TEMPORARY ACCESS ROAD AS REQUIRED.
- REMOVE/RELOCATE UTILITIES IN ACCORDANCE WITH DEMOLITION PLANS AS REQUIRED TO CONSTRUCT CLASSROOM BUILDING ADDITIONS.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

GENERAL NOTES:

1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

LEGEND:

- CONTROL POINT
- BENCHMARK
- GATE POST
- CHAIN LINK FENCE
- WOOD FENCE
- BOLLARD
- STREET/TRAFFIC SIGN
- PAINTED DIRECTIONAL ARROW
- TURN LANE DIRECTION
- HANDICAP SYMBOL
- PARKING STALL COUNT
- HANDICAP SIGN
- HRMP HANDICAP RAMP
- WHEEL STOP
- FOC — UNDERGROUND FIBER OPTIC CABLE
- FOC(R) — UNDERGROUND FIBER OPTIC (FROM RECORDS)
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA INLET
- CURB INLET
- SANITARY SEWER CLEAN OUT
- DOWN SPOUT
- FLOOR DRAIN
- FLARED END SECTION
- S — SANITARY SEWER LINE
- D — STORM SEWER LINE
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- VCP — VITRIFIED CLAY PIPE
- DIP — DUCTILE IRON PIPE
- HDPE — HIGH DENSITY POLYETHYLENE
- WALL MOUNTED LIGHT
- WALL MOUNTED CAMERA
- UNDERGROUND ELECTRIC
- (2) OHE — OVERHEAD UTILITY LINE (# OF LINES)
- PULL BOX
- LIGHT POLE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- UTILITY POLE W/ TRANSFORMER
- GUY ANCHOR
- W(R) — WATER LINE PER RECORD
- E(R) — UNDERGROUND ELECTRIC PER RECORD
- AIR CONDITIONER
- WALL MOUNTED ELECTRICAL OUTLET
- G — UNDERGROUND GAS
- GAS METER
- GAS VALVE
- GAS RISER
- GAS LINE SIGN
- 950 — EXISTING GRADE 5' CONTOUR
- 959 — EXISTING GRADE 1' CONTOUR
- W — WATER LINE
- WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- WATER MANHOLE
- SPRINKLER VALVE
- SIAMESE FIRE CONNECTOR
- CANOPY SUPPORT
- MB MAIL BOX
- CONCRETE JOINT/CUT LINE
- BUSH
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- FP FLAG POLE
- T/E TRASH ENCLOSURE
- L/S LANDSCAPING AREA
- CONC CONCRETE
- LW LOWEST WIRE HEIGHT
- ELECTRIC METER
- UNDERGROUND ELECTRIC PEDESTAL
- SPEAKER BOX
- BB BREAKER BOX
- G(R) — UNDERGROUND GAS PER RECORD
- S(R) — SANITARY SEWER LINE PER RECORD
- D(R) — STORM SEWER LINE PER RECORD
- GRAVEL TO BE REMOVED
- ASPHALT PAVING TO BE REMOVED
- CONCRETE PAVING/SIDEWALKS TO BE REMOVED
- AREA TO BE MILLED
- BUILDING TO BE REMOVED

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- 1218 — EXISTING GROUND CONTOUR (1' INTERVALS)
- 1218 — PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- GRAVEL FILTER BAGS AND INLET PROTECTION (ESC-06 & ESC-07)
- OTPF FENCE (OTPF)
- SEDIMENTATION FENCE (ESC-03)
- LIMITS OF DISTURBANCE
- (R) INDICATES TREE/SHRUB TO BE REMOVED
- CONSTRUCTION ENTRANCE AND STAGING (ESC-01)
- WATTLE/BIODEGRADABLE LOG (ESC-04)
- ROCK DITCH CHECK (ESC-10) OR OUTLET PROTECTION (ESC-14)
- CW — CONCRETE WASH AREA (ESC-01)

DEMOLITION

1	TO REMAIN.
2	REMOVE TREES/BUSHES/LANDSCAPING/SITE FURNITURE. (COORDINATE WITH PROJECT LANDSCAPE PLAN)
3	TREES TO REMAIN. PROVIDE TREE PROTECTION FENCE AT DRIPLINE. A MINIMUM RADIUS OF 10' FROM TREE SHALL BE PROVIDED ANYWHERE WHERE PORTIONS OF DRIPLINE ARE NOT FENCED OFF, A LAYER OF MULCH (6" MINIMUM) SHALL BE PROVIDED TO PROTECT ROOT SYSTEM FROM DAMAGE.
6	SIGN TO BE REMOVED
7	SIGN TO BE RELOCATED
8	REMOVE BUILDING AND BUILDING EQUIPMENT. (COORDINATE WITH ARCHITECTURAL AND MEP PLAN)
8A	REMOVE EXISTING SERVICE TUNNEL AFTER UTILITIES HAVE BEEN ABANDONED. SEAL PENETRATIONS AT BUILDING IN ACCORDANCE WITH ARCHITECTURAL AND STRUCTURAL PLANS
9	CONCRETE BOLLARD/TALL DELINEATORS TO BE REMOVED. (COORDINATE WITH ARCHITECTURAL PLAN)
10	FENCE AND FENCE POST TO BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS.
12	STRUCTURAL AND/OR RETAINING WALL TO BE REMOVED. (COORDINATE WITH STRUCTURAL PLANS IF TIED TO BUILDING)
13	CONCRETE WHEEL STOP TO BE REMOVED.
15	SAW CUT LINE (FOR CONCRETE SAW CUT AT NEAREST CONTROL JOINT. FOR ASPHALT SAW CUT MINIMUM OF 6" FROM NEW CURB LINE). SEE SHEET C100 AND C200 FOR LIMITS.
30	CONTRACTOR TO REMOVE CONCRETE CURBS TO CONSTRUCT IMPROVEMENTS. SEE SHEET C100 AND C200 FOR LIMITS.
40	CONTRACTOR TO REMOVE ASPHALT PAVING AS REQUIRED TO CONSTRUCT IMPROVEMENTS.
41	CONTRACTOR TO MILL ASPHALT SURFACE, MINIMUM 2' OUTSIDE ASPHALT REMOVAL. REFER TO C100 AND C200 SHEETS FOR LIMITS. REFER TO SECTIONS A-A AND B-B ON SHEET C190.
42	CONTRACTOR TO BLACK OUT PARKING LOT STRIPING ON ASPHALT TO REMAIN.
45	CONTRACTOR TO REMOVE GRAVEL SURFACE
55	CONTRACTOR TO REMOVE CONCRETE PAVING AND WALKS.
56	CONTRACTOR TO REMOVE CONCRETE STAIRS.
60	CONTRACTOR TO MODIFY, REMOVE AND/OR REROUTE STORM SEWER PRIOR TO CONSTRUCTING ADDITIONS. REFER TO C600 SHEETS FOR ADDITIONAL INFORMATION.
70	CONTRACTOR TO MODIFY, REMOVE AND/OR REROUTE EXISTING SANITARY SEWER PRIOR TO CONSTRUCTING ADDITION. REFER TO C500 AND P SERIES SHEETS FOR ADDITIONAL INFORMATION.
80	EXISTING PRIVATE FIRE LINE FROM EAST PROPERTY LINE TO PERFORMING ARTS CENTER IS TO BE REPLACED. REFER TO C500 SHEETS. PIPING THAT INTERFERES WITH PROPOSED CONSTRUCTION SHALL BE REMOVED. OTHER PIPE MAY BE ABANDONED IN PLACE IN ACCORDANCE WITH LS SPECIFICATIONS SECTION 3902 B.12 COORDINATE DISCONNECT AT PUBLIC MAIN WITH CITY OF LEE'S SUMMIT UTILITIES.
82	CONTRACTOR TO DISCONNECT AND REMOVE AND RELOCATE EXISTING DOMESTIC SERVICE LINE ROUTED EXTERIOR TO THE BUILDING AS NECESSARY TO CONSTRUCT THE BUILDING ADDITIONS AND SITE IMPROVEMENTS AS APPLICABLE REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
83	REMOVE SPRINKLER HEAD
84	EXISTING CHILLED WATER LINES ARE TO BE REROUTED AND LOWERED TO PROVIDE A MINIMUM OF 42" OF COVER. REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
90	REMOVE OVERHEAD ELECTRIC AND POLES. REFER TO SITE ELECTRICAL PLAN AS APPLICABLE. COORDINATE TIMING WITH GM/S SITE LOGISTICS PLAN
91	REMOVE SITE LIGHTING REFER TO SITE ELECTRICAL PLAN. COORDINATE WITH EVERGY AS APPLICABLE.
95	EXISTING GAS SERVICE AND APPURTENANCES TO BE REMOVED, REPLACED OR RELOCATED PRIOR TO CONSTRUCTING ADDITION. (COORDINATE WITH C500, SPIRE ENERGY AND MEP PLANS)

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ESC-02 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
ESC-03 SEDIMENTATION FENCE
ESC-04 WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
ESC-06 CURB INLET PROTECTION
ESC-07 AREA INLET PROTECTION
ESC-10 ROCK DITCH CHECKS
ESC-14 OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)

0 20 40 80
SCALE: 1" = 40'

Know what's below. Call before you dig.

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STATE OF MISSOURI DAVID D WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

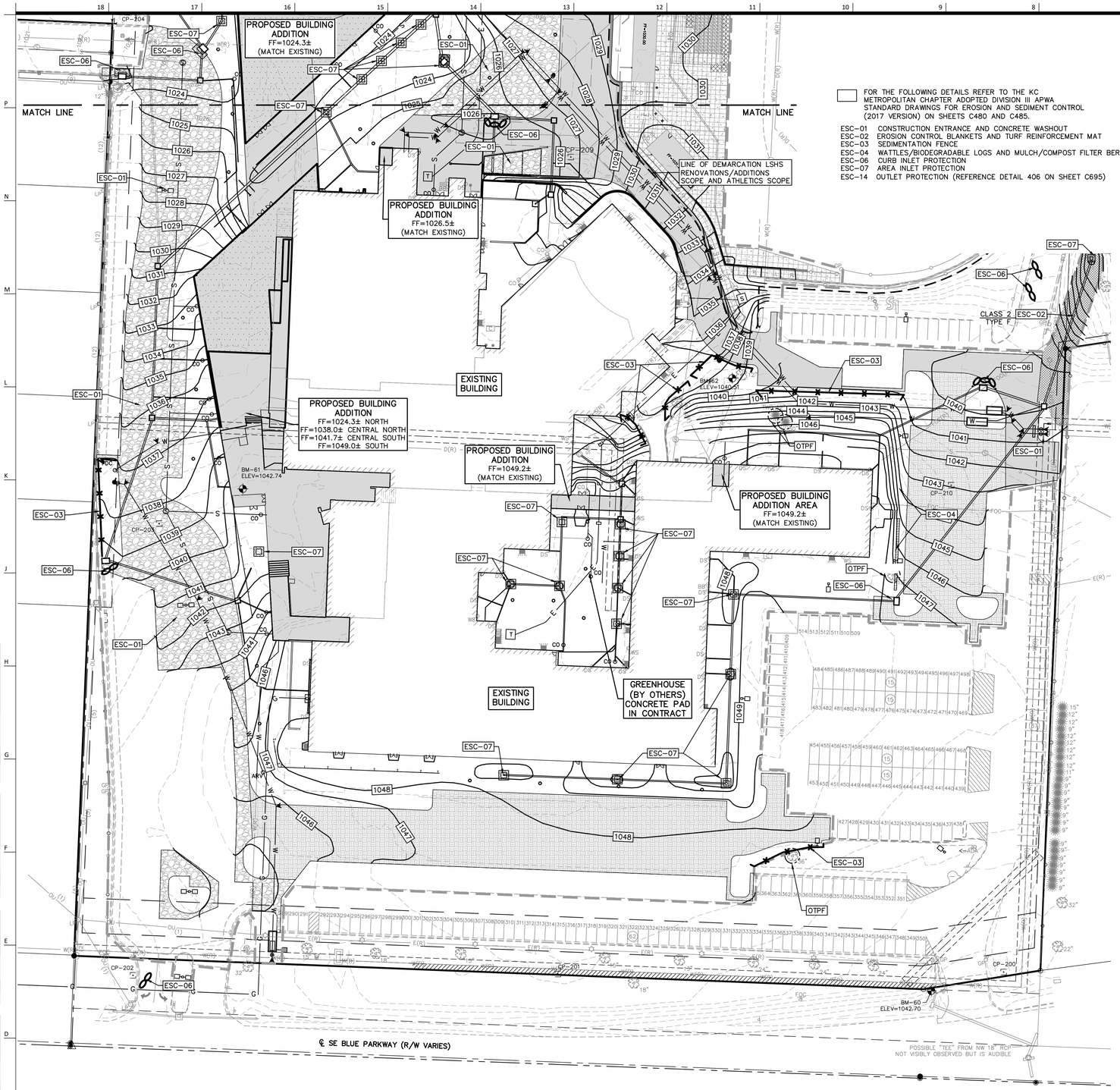
Number	DESCRIPTION	DATE
1	ADDENDUM #1 PER CITY COMMENTS	11-19-2020
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

DEMOLITION AND EROSION CONTROL PLAN - PHASE I NORTH

C415

Final Development Plan



NOTE:
THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

GENERAL NOTES:
1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

CONSTRUCTION NOTES:
1. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
2. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
3. STAGE INSTALL OF CONSTRUCTION STAGING AND ACCESS AREA AS CONSTRUCTION PROGRESSES ON SITE. PLAN DEPICTS EXISTING PARKING LOTS TO REMAIN TO THE MAXIMUM EXTENTS PRACTICAL TO MAINTAIN SITE CIRCULATION AND PAVED CONTRACTOR PARKING. COORDINATE WITH CM'S SITE LOGISTIC PLAN FOR LAYDOWN AND TEMPORARY PAVING REQUIREMENTS.
4. PROVIDE CONSTRUCTION FENCING AS NOTED ON CM'S SITE LOGISTIC PLAN.

DESCRIPTION OF WORK – PHASE II:
- ROUGH GRADE SITE TO ACCOMMODATE NEW CONSTRUCTION.
- INSTALL ADDITIONAL STABILIZED STAGING AREAS AND CONSTRUCTION/EMERGENCY ACCESS ROADS AS NOTED ON CM'S SITE LOGISTICS PLAN.
- EXCAVATE AND CONSTRUCT BUILDING PAD IN ACCORDANCE WITH PLANS.
- CONSTRUCT BUILDING FOUNDATIONS, SLAB AND UNDER SLAB UTILITY LINES.
- INSTALL PRIVATE UTILITIES: STORM, WATER, SANITARY. STAGE WORK IN A MANNER TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE.
- INSTALL EROSION CONTROL MEASURES AROUND STORM SEWERS AND DIVERT RUNOFF TO STORM STRUCTURES.
- INSTALL INTERMEDIATE SILT FENCES ON SLOPES AS EMBANKMENT OCCURS ACROSS SITE. TEMPORARILY SEED AREAS DOWNSTREAM.
- CONSTRUCT BUILDING IN ACCORDANCE WITH THE CONSTRUCTION MANAGER'S SCHEDULE.
- SAWCUT AND REMOVE PAVEMENT, FLATWORK AND CURBING AT PERIMETER TIE-INS. COORDINATE WORK WITH SCHOOL SCHEDULE IN ORDER TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

LEGEND:

- CONTROL POINT
- BENCHMARK
- GATE POST
- CHAIN LINK FENCE
- WOOD FENCE
- BOLLARD
- STREET/TRAFFIC SIGN
- PAINTED DIRECTIONAL ARROW
- TURN LANE DIRECTION
- HANDICAP SYMBOL
- PARKING STALL COUNT
- HANDICAP SIGN
- HRMP HANDICAP RAMP
- WHEEL STOP
- FOC UNDERGROUND FIBER OPTIC CABLE
- FOC(R) UNDERGROUND FIBER OPTIC (FROM RECORDS)
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA INLET
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- SANITARY SEWER CLEAN OUT
- DOWN SPOUT
- FLOOR DRAIN
- FLARED END SECTION
- SANITARY SEWER LINE
- STORM SEWER LINE
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- E(R) UNDERGROUND ELECTRIC PER RECORD
- AIR CONDITIONER
- WALL MOUNTED ELECTRICAL OUTLET
- G UNDERGROUND GAS
- GAS METER
- GAS VALVE
- GR GAS RISER
- GAS LINE SIGN
- 950 EXISTING GRADE 5' CONTOUR
- 939 EXISTING GRADE 1' CONTOUR
- W WATER LINE
- WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- WATER MANHOLE
- SV SPRINKLER VALVE
- SIAMESE FIRE CONNECTOR
- CANOPY SUPPORT
- MB MAIL BOX
- CONCRETE JOINT/CUT LINE
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- TREE LINE
- FP FLAG POLE
- T/E TRASH ENCLOSURE
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- WALL MOUNTED LIGHT
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- E UNDERGROUND ELECTRIC
- (2) O OVERHEAD UTILITY LINE (# OF LINES)
- P PULL BOX
- LIGHT POLE
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- SPEAKER BOX
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- G(R) UNDERGROUND GAS PER RECORD
- S(R) SANITARY SEWER LINE PER RECORD
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EROSION & PROPOSED IMPROVEMENTS LEGEND:

- 1218 EXISTING GROUND CONTOUR (1' INTERVALS)
- 1218 PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- OTPF FENCE
- GRAVEL FILTER BAGS AND INLET PROTECTION (ESC-06 & ESC-07)
- CONSTRUCTION ENTRANCE (ESC-01) AND STAGING
- SEDIMENTATION FENCE (ESC-03)
- WATTLE/BIODEGRADABLE LOG (ESC-04)
- TURF REINFORCEMENT MAT (ESC-02)
- ROCK DITCH CHECK (ESC-10) OR OUTLET PROTECTION (ESC-14)
- CW CONCRETE WASHOUT (ESC-01)
- SUBGRADE
- LIMITS OF DISTURBANCE
- TEMPORARY ASPHALT/ASPHALT BASE COURSE PAVING OR CONCRETE PAVING. COORDINATE WITH CONSTRUCTION MANAGER.

WARRANTY / DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

0 20 40 80
SCALE: 1" = 40'

Know what's below. Call before you dig.

DAVID D. WOOD ENGINEER MO # 2011037427
14700 WEST 114TH TERRACE LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
kv@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496ECP2.DWG DWN: NJN

PRINT DATE/TIME: 3/17/2020 4:49:21 PM

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

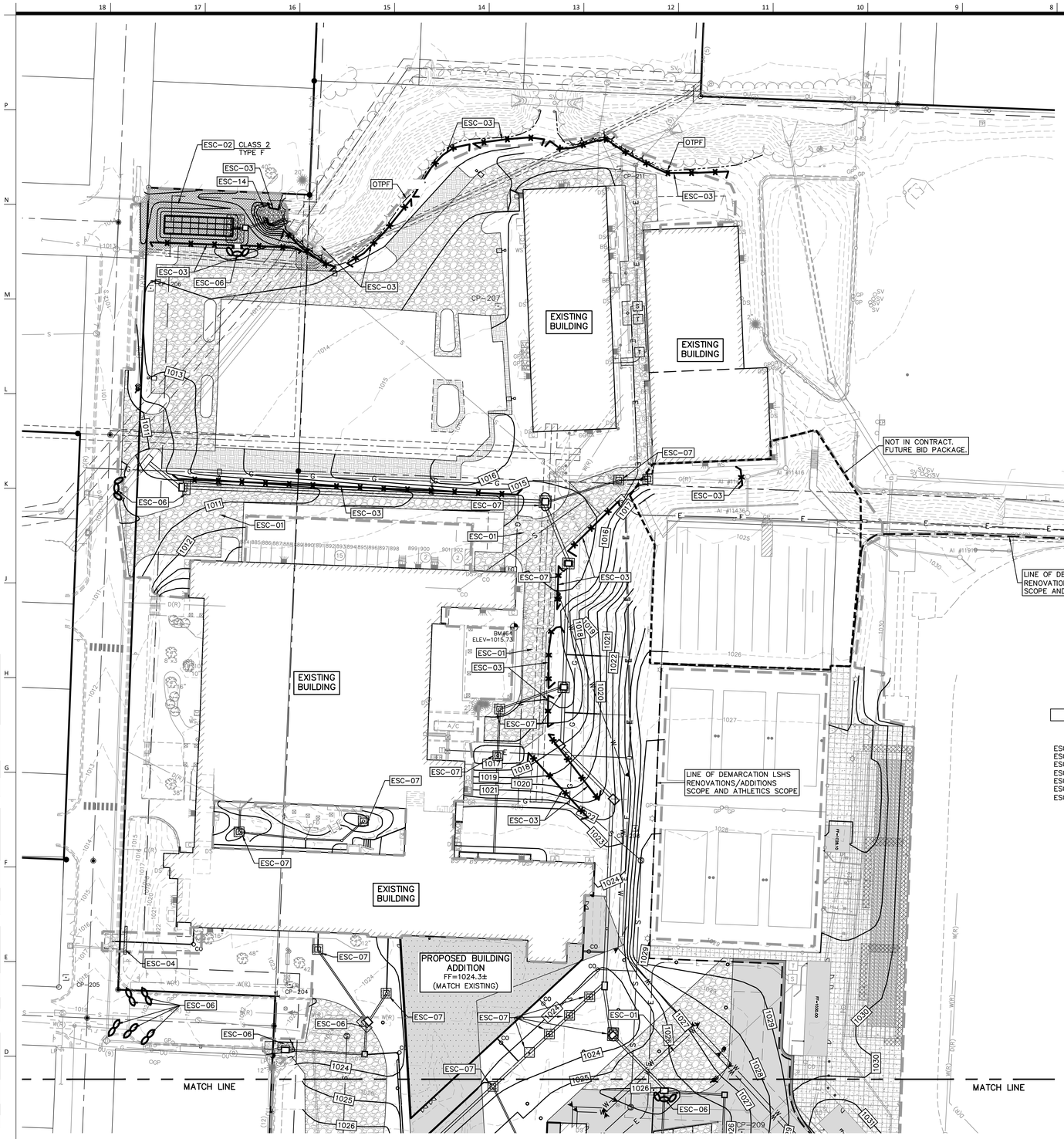
Number	DESCRIPTION	DATE
1	ADDENDUM #1 PER CITY COMMENTS	11-19-2020
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

EROSION CONTROL PLAN - PHASE II SOUTH

C420

Final Development Plan



NOTE:
THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

GENERAL NOTES:
1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

CONSTRUCTION NOTES:
1. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
2. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
3. STAGE INSTALL OF CONSTRUCTION STAGING AND ACCESS AREA AS CONSTRUCTION PROGRESSES ON SITE. PLAN DEPICTS EXISTING PARKING LOTS TO REMAIN TO THE MAXIMUM EXTENTS PRACTICAL TO MAINTAIN SITE CIRCULATION AND PAVED CONTRACTOR PARKING. COORDINATE WITH CM'S SITE LOGISTIC PLAN FOR LAYDOWN AND TEMPORARY PAVING REQUIREMENTS.
4. PROVIDE CONSTRUCTION FENCING AS NOTED ON CM'S SITE LOGISTIC PLAN.

DESCRIPTION OF WORK – PHASE II:
- ROUGH GRADE SITE TO ACCOMMODATE NEW CONSTRUCTION.
- INSTALL ADDITIONAL STABILIZED STAGING AREAS AND CONSTRUCTION/EMERGENCY ACCESS ROADS AS NOTED ON CM'S SITE LOGISTICS PLAN.
- EXCAVATE AND CONSTRUCT BUILDING PAD IN ACCORDANCE WITH PLANS.
- CONSTRUCT BUILDING FOUNDATIONS, SLAB AND UNDER SLAB UTILITY LINES.
- INSTALL PRIVATE UTILITIES: STORM, WATER, SANITARY. STAGE WORK IN A MANNER TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE.
- INSTALL EROSION CONTROL MEASURES AROUND STORM SEWERS AND DIVERT RUNOFF TO STORM STRUCTURES.
- INSTALL INTERMEDIATE SILT FENCES ON SLOPES AS EMBANKMENT OCCURS ACROSS SITE. TEMPORARILY SEED AREAS DOWNSTREAM.
- CONSTRUCT BUILDING IN ACCORDANCE WITH THE CONSTRUCTION MANAGER'S SCHEDULE.
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- ROCK DITCH CHECK (ESC-10) OR OUTLET PROTECTION (ESC-14)
- CW CONCRETE WASHOUT (ESC-01)
- SUBGRADE
- LIMITS OF DISTURBANCE
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FOR THE FOLLOWING DETAILS REFER TO THE KC METROPOLITAN CHAPTER ADOPTED DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL (2017 VERSION) ON SHEETS C480 AND C485.

ESC-01 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
ESC-02 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
ESC-03 SEDIMENTATION FENCE
ESC-04 WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
ESC-06 CURB INLET PROTECTION
ESC-07 AREA INLET PROTECTION
ESC-14 OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)

LEGEND:

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- GP GATE POST
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0 20 40 80
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PRINT DATE/TIME: 3/17/2020 4:49:21 PM

Know what's below. Call before you dig.

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496ECP2.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
lx@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

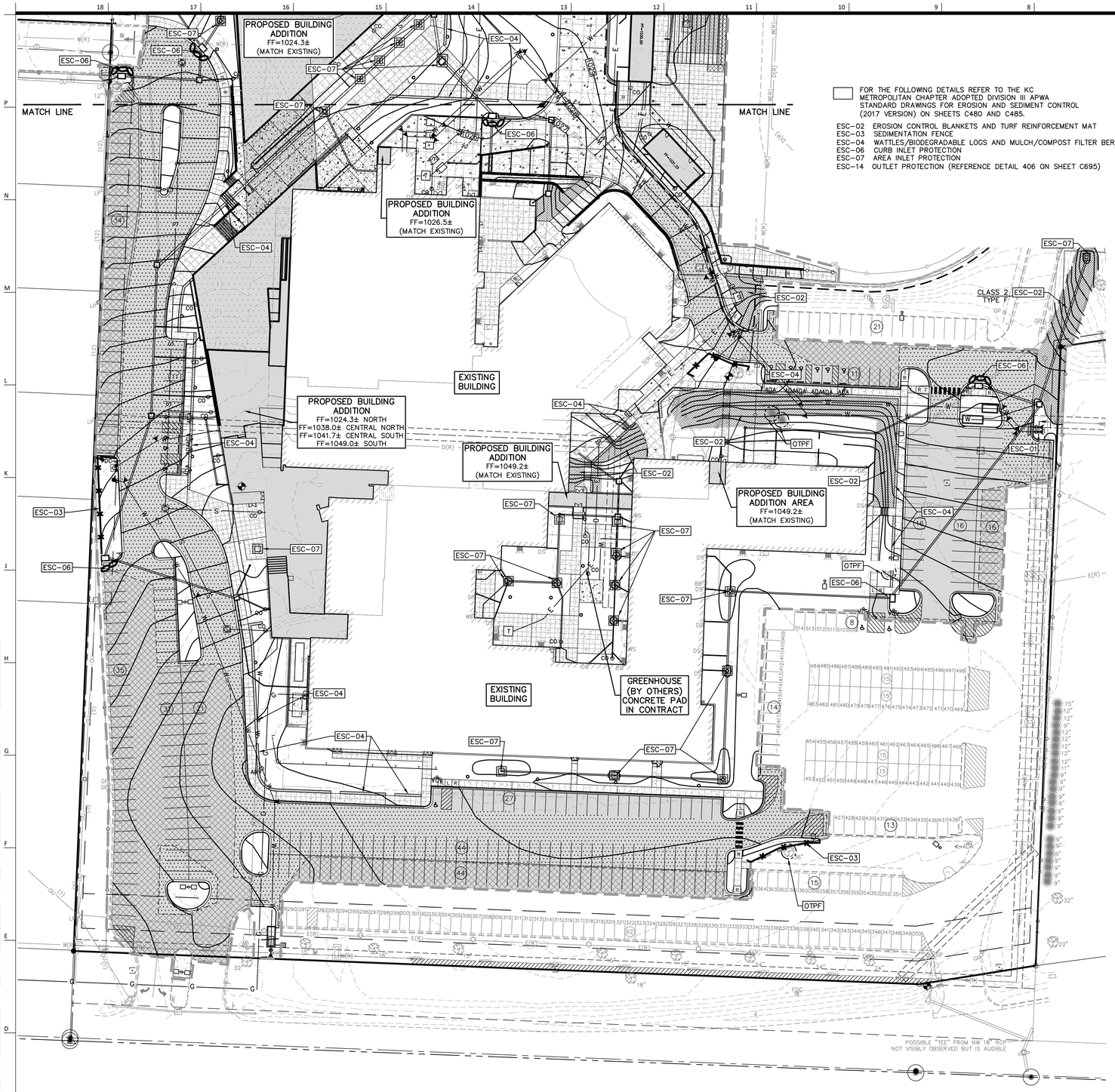
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

EROSION CONTROL PLAN - PHASE II NORTH

C425

Final Development Plan



FOR THE FOLLOWING DETAILS REFER TO THE KC METROPOLITAN CHAPTER ADOPTED DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL (2017 VERSION) ON SHEETS C480 AND C485.

ESC-02 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
ESC-03 SEDIMENTATION FENCE
ESC-04 WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
ESC-06 CURB INLET PROTECTION
ESC-07 AREA INLET PROTECTION
ESC-14 OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)

NOTE:
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GENERAL NOTES:
1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
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CONSTRUCTION NOTES:
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2. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC–04.
3. SILT FENCE (ESC–03) AND STRAW WATTLES (ESC–04) MAY BE REMOVED AFTER UPHILL SLOPES ARE SODDED OR SEEDED AND STABILIZED WITH TURF REINFORCEMENT MAT.

FINAL ACCEPTANCE:
ALL DISTURBED AREAS SHALL BE PREPPED FOR SEEDING OR SODDING IN ACCORDANCE WITH CITY ADOPTED APWA CRITERIA. THE SITE DISTURBANCE PERMIT SHALL BE MAINTAINED IN AN OPEN STATUS UNTIL FINAL ACCEPTANCE PER CITY ADOPTED APWA SECTION 2407.

DESCRIPTION OF WORK – PHASE III AND POST CONSTRUCTION:
- INSTALL CURB FOR PARKING AREAS IN ACCORDANCE WITH CM'S SITE LOGISTICS PLAN.
- INSTALL PAVING BASE COURSE IN ACCORDANCE WITH CM'S SCHEDULE.
- INSTALL ADDITIONAL EROSION CONTROL MEASURES AT TOES OF SLOPE ADJACENT TO CURB LINE AS APPLICABLE.
- COMPLETE FINAL GRADING AND SEED/SOD AND LANDSCAPE PERIMETER AREAS (ESTABLISH VEGETATION).
- COMPLETE EXTERIOR BUILDING CONSTRUCTION.
- INSTALL SURFACE COURSE ON PARKING LOT, WALKS AND FLATWORK.
- COMPLETE FINAL GRADING AND SOD/LANDSCAPE AROUND BUILDING AND SIDEWALK AREAS.
- FINAL SITE CLEANUP.
- MAINTAIN EROSION CONTROL MEASURES UNTIL SITE IS STABILIZED.
- INSPECT AND RESEED REMAINING DISTURBED AREAS, WASHOUTS, ETC.
- REMOVE SEDIMENT BUILDUP, RESEED AND STABILIZE AS EROSION CONTROL MEASURES ARE REMOVED.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

LEGEND:

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- OTPF FENCE
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- SEDIMENTATION FENCE (ESC–03)
- WATTLE/BIODEGRADABLE LOG (ESC–04)
- TURF REINFORCEMENT MAT (ESC–02)
- ROCK DITCH CHECK (ESC–10) OR OUTLET PROTECTION (ESC–14).
- LIMITS OF DISTURBANCE
- LIMITS OF AREA TO BE PAVED – REFERENCE GRADING PLAN FOR CONSTRUCTION SPECIFICATIONS

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0 20 40 80
SCALE: 1" = 40'

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Lee's Summit High School

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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER
12-15-2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

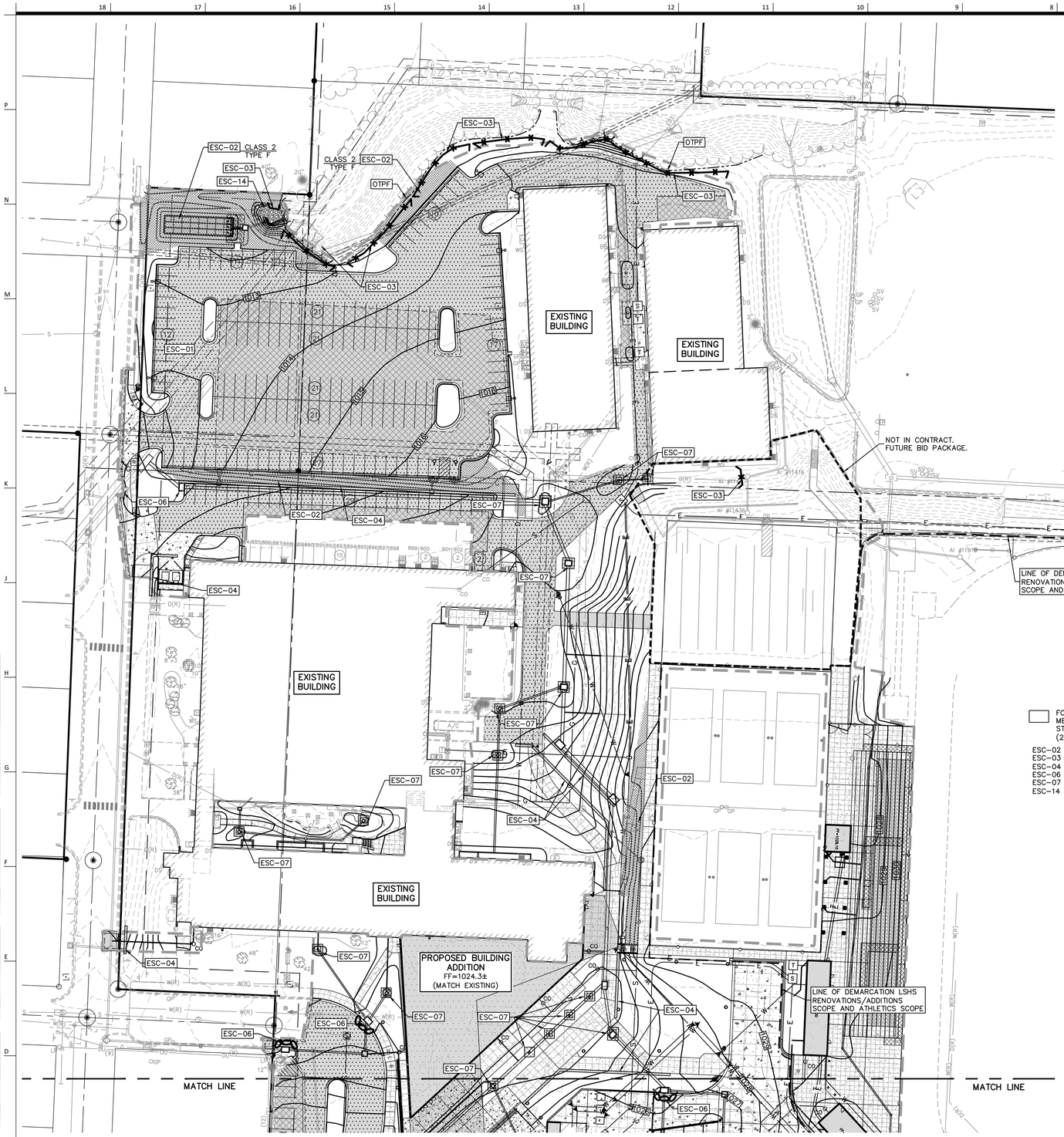
PROJECT NO: 0119-0100
DATE: November 20, 2020

EROSION CONTROL PLAN - PHASE III SOUTH

C430

Final Development Plan

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496ECP3.DWG DWN: NJN
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KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21



NOTE:
THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

GENERAL NOTES:
1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

CONSTRUCTION NOTES:
1. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
2. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
3. SILT FENCE (ESC-03) AND STRAW WATTLES (ESC-04) MAY BE REMOVED AFTER UPHILL SLOPES ARE SODDED OR SEEDED AND STABILIZED WITH TURF REINFORCEMENT MAT.

FINAL ACCEPTANCE:
ALL DISTURBED AREAS SHALL BE PREPPED FOR SEEDING OR SODDING IN ACCORDANCE WITH CITY ADOPTED APWA CRITERIA. THE SITE DISTURBANCE PERMIT SHALL BE MAINTAINED IN AN OPEN STATUS UNTIL FINAL ACCEPTANCE PER CITY ADOPTED APWA SECTION 2407.

DESCRIPTION OF WORK – PHASE III AND POST CONSTRUCTION:
- INSTALL CURB FOR PARKING AREAS IN ACCORDANCE WITH CM'S SITE LOGISTICS PLAN.
- INSTALL PAVING BASE COURSE IN ACCORDANCE WITH CM'S SCHEDULE.
- INSTALL ADDITIONAL EROSION CONTROL MEASURES AT TOES OF SLOPE ADJACENT TO CURB LINE AS APPLICABLE.
- COMPLETE FINAL GRADING AND SEED/SOD AND LANDSCAPE PERIMETER AREAS (ESTABLISH VEGETATION).
- COMPLETE EXTERIOR BUILDING CONSTRUCTION.
- INSTALL SURFACE COURSE ON PARKING LOT, WALKS AND FLATWORK.
- COMPLETE FINAL GRADING AND SOD/LANDSCAPE AROUND BUILDING AND SIDEWALK AREAS.
- FINAL SITE CLEANUP.
- MAINTAIN EROSION CONTROL MEASURES UNTIL SITE IS STABILIZED.
- INSPECT AND RESEED REMAINING DISTURBED AREAS, WASHOUTS, ETC.
- REMOVE SEDIMENT BUILDUP, RESEED AND STABILIZE AS EROSION CONTROL MEASURES ARE REMOVED.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

EROSION & PROPOSED IMPROVEMENTS LEGEND:
- 1218 — EXISTING GROUND CONTOUR (1' INTERVALS)
- 1218 — PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- OTPF FENCE
- INLET PROTECTION (ESC-06 AND ESC-07)
- SEDIMENTATION FENCE (ESC-03)
- WATTLE/BIODEGRADABLE LOG (ESC-04)
- TURF REINFORCEMENT MAT (ESC-02)
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FOR THE FOLLOWING DETAILS REFER TO THE KC METROPOLITAN CHAPTER ADOPTED DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL (2017 VERSION) ON SHEETS C480 AND C485.

ESC-02 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
ESC-03 SEDIMENTATION FENCE
ESC-04 WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
ESC-06 CURB INLET PROTECTION
ESC-07 AREA INLET PROTECTION
ESC-14 OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)

LEGEND:

CONTROL POINT; BENCHMARK; GATE POST; CHAIN LINK FENCE; WOOD FENCE; BOLLARD; STREET/TRAFFIC SIGN; PAINTED DIRECTIONAL ARROW; TURN LANE DIRECTION; HANDICAP SYMBOL; PARKING STALL COUNT; HANDICAP SIGN; HRMP HANDICAP RAMP; WHEEL STOP; FOC UNDERGROUND FIBER OPTIC CABLE; FOC(R) UNDERGROUND FIBER OPTIC (FROM RECORDS); TELEPHONE PEDESTAL; SANITARY SEWER MANHOLE; STORM SEWER MANHOLE; AREA INLET; CURB INLET; SANITARY SEWER CLEAN OUT; DOWN SPOUT; FLOOR DRAIN; FLARED END SECTION; S SANITARY SEWER LINE; D STORM SEWER LINE; CMP CORRUGATED METAL PIPE; RCP REINFORCED CONCRETE PIPE

E(R) UNDERGROUND ELECTRIC PER RECORD; AIR CONDITIONER; WALL MOUNTED ELECTRICAL OUTLET; G UNDERGROUND GAS; GAS METER; GAS VALVE; GR GAS RISER; GAS LINE SIGN; 950 EXISTING GRADE 5' CONTOUR; 939 EXISTING GRADE 1' CONTOUR; W WATER LINE; WATER METER; WATER LINE GATE VALVE; FIRE HYDRANT; SPRINKLER CONTROL BOX; WATER MANHOLE; SV SPRINKLER VALVE; SIAMESE FIRE CONNECTOR; CANOPY SUPPORT; MB MAIL BOX; CONCRETE JOINT/CUT LINE; BUSH; DECIDUOUS TREE; CONIFEROUS TREE; TREE LINE; FP FLAG POLE; T/E TRASH ENCLOSURE; L/S LANDSCAPING AREA; CONC CONCRETE

VCP VITRIFIED CLAY PIPE; DIP DUCTILE IRON PIPE; HDPE HIGH DENSITY POLYETHYLENE; WALL MOUNTED LIGHT; WALL MOUNTED CAMERA; E UNDERGROUND ELECTRIC; (2) OH OVERHEAD UTILITY LINE (# OF LINES); P PULL BOX; LIGHT POLE; UTILITY POLE; UTILITY POLE W/ LIGHT; UTILITY POLE W/ TRANSFORMER; GUY ANCHOR; W(R) WATER LINE PER RECORD; LW LOWEST WIRE HEIGHT; ELECTRIC METER; UNDERGROUND ELECTRIC PEDESTAL; SPEAKER BOX; BB BREAKER BOX; G(R) UNDERGROUND GAS PER RECORD; S(R) SANITARY SEWER LINE PER RECORD; D(R) STORM SEWER LINE PER RECORD

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SCALE: 1" = 40'

Know what's below. Call before you dig.

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Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

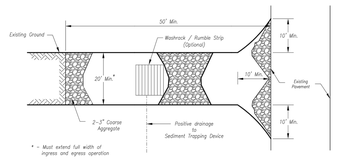
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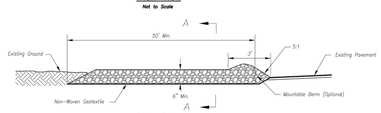
EROSION CONTROL PLAN - PHASE III NORTH

C435

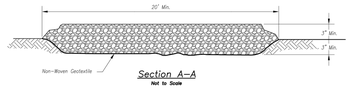
Final Development Plan



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A–A
Not to Scale

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.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

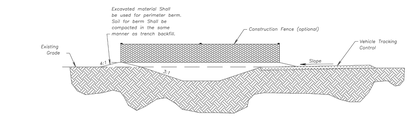
CONSTRUCTION ENTRANCE

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 to the pit shall be no steeper than 3:1. The concrete 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:

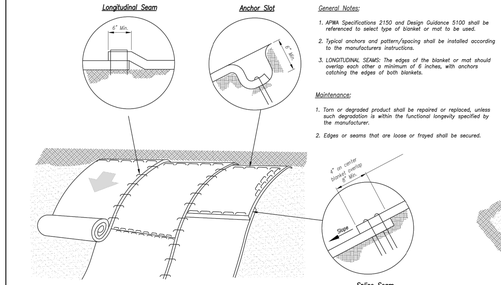
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface 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.



CONCRETE WASHOUT

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01
	ADOPTED: 10/24/2016

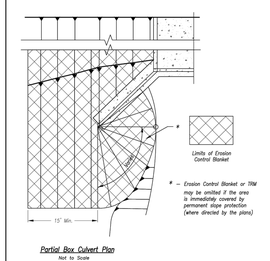


General Notes:

1. APWA Specifications 2150 and Design Guidance 5100 shall be referenced to select type of blanket or mat to be used.
2. Typical anchors and pattern/spacing shall be installed according to the manufacturers instructions.
3. LONGITUDINAL SEAMS: The edges of the blanket or mat should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.

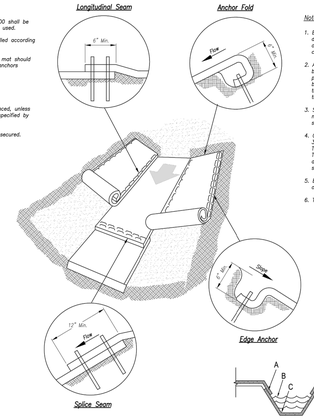
Maintenance:

1. Torn or degraded product shall be repaired or replaced, unless such degradation is within the functional longevity specified by the manufacturer.
2. Edges or seams that are loose or frayed shall be secured.



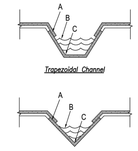
Notes for Installation on Slopes:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the slope. In order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.
2. ANCHOR SLOTS: The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.
3. SPLICE SEAM: When splices are necessary, overlap end a minimum of 8 inches in direction of water flow. Stagger splice seams.
4. TERMINAL FOLD: The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.



Notes for Installation in Channels:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline of channel, where applicable. In order for the mat to be in contact with the soil, lay the mat loosely, avoiding stretching.
2. ANCHOR FOLD: The top of the mat should be folded under, buried and anchored in a slot 6 inches wide x 6 inches deep. Install anchors every 4 feet. The top anchor slot the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.
3. SPLICE SEAM: When splices are necessary, overlap end a minimum of 12 inches in direction of water flow. Stagger splice seams.
4. CHECK SLOTS: Establish check slots transverse to slope every 50 feet. The slots should be 6 inches wide x 6 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.
5. EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.
6. TERMINUS: The bottom edge of the mat shall be anchored.



Critical Points:

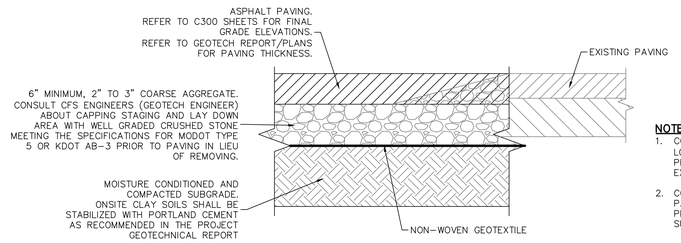
A – Overlaps and seams;

B – Projected water line;

C – Channel bottom / side slope vertices;

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

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
EROSION CONTROL BLANKETS AND TURF REINFORMENT MATS	STANDARD DRAWING NUMBER ESC-02
	ADOPTED: 10/24/2016



NOTES:

1. CONTRACTOR TO COORDINATE ACTUAL LIMITS WITH CM'S SITE LOGISTICS PLAN. AT MINIMUM A 20'x50' SECTION SHALL BE PROVIDED AT ALL CONSTRUCTION ACCESS POINTS FROM EXISTING PAVING.
2. CONTRACTOR SHALL VERIFY GRADE OF STAGING AND LAYDOWN PAD PRIOR TO PAVING. CONTRACTOR IS RESPONSIBLE TO PLACE ADDITIONAL CRUSHED STONE AS REQUIRED TO ACHIEVE SUBGRADE ELEVATIONS.

CONTRACTOR STAGING AND LAYDOWN ESC-01



Section A–A

Typical Elevation

Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. Install wattles and biodegradable logs per manufacturer's instructions.
3. Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

WATTLES AND BIODEGRADABLE LOG

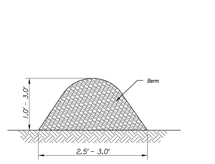


Figure 1
(Perimeter Control)

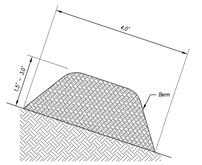


Figure 2
(Steep Slopes)

Notes for Mulch and Compost Filter Beam:

1. The sediment control berm shall be placed uncompacted in a windrow at locations shown on the plans or as directed by the engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
4. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, tub grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".

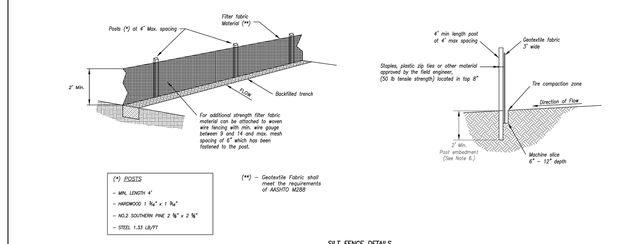
Maintenance for Mulch and Compost Filter Beam:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.
2. Breaches in the berm shall be repaired promptly.

MULCH OR COMPOST FILTER BERMS

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

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM	STANDARD DRAWING NUMBER ESC-04
	ADOPTED: 10/24/2016



(*) POSTS
– MIN. LENGTH 4'
– HARDWOOD 1 ¾" x 1 ¾"
– NO.2 SOUTHERN PINE 2 ¾" x 2 ¾"
– STEEL 1.33 LB/FT

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

SILT FENCE DETAILS
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.

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.

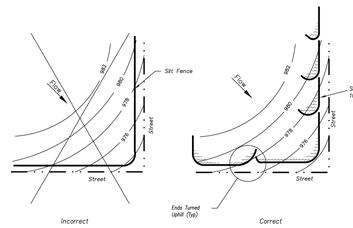
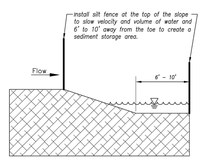
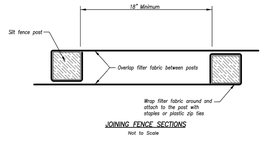


Figure A

SILT FENCE LAYOUT
Not to Scale





JOINING FENCE SECTIONS
Not to Scale

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

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SILT FENCE	STANDARD DRAWING NUMBER ESC-03
	ADOPTED: 10/24/2016

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12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

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PROJECT NO: 0119-0100
DATE: November 20, 2020

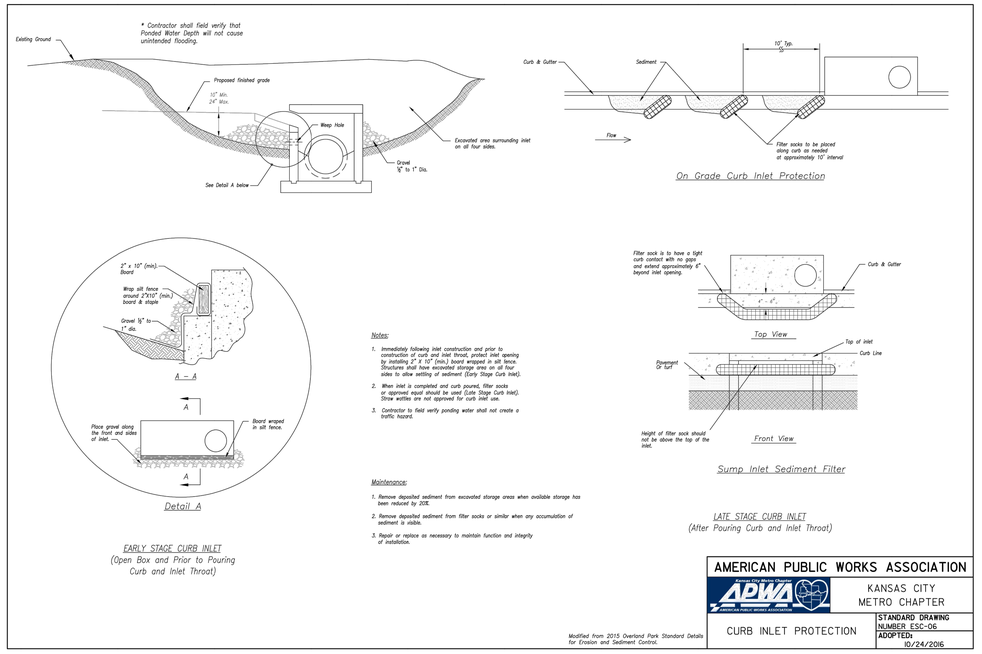
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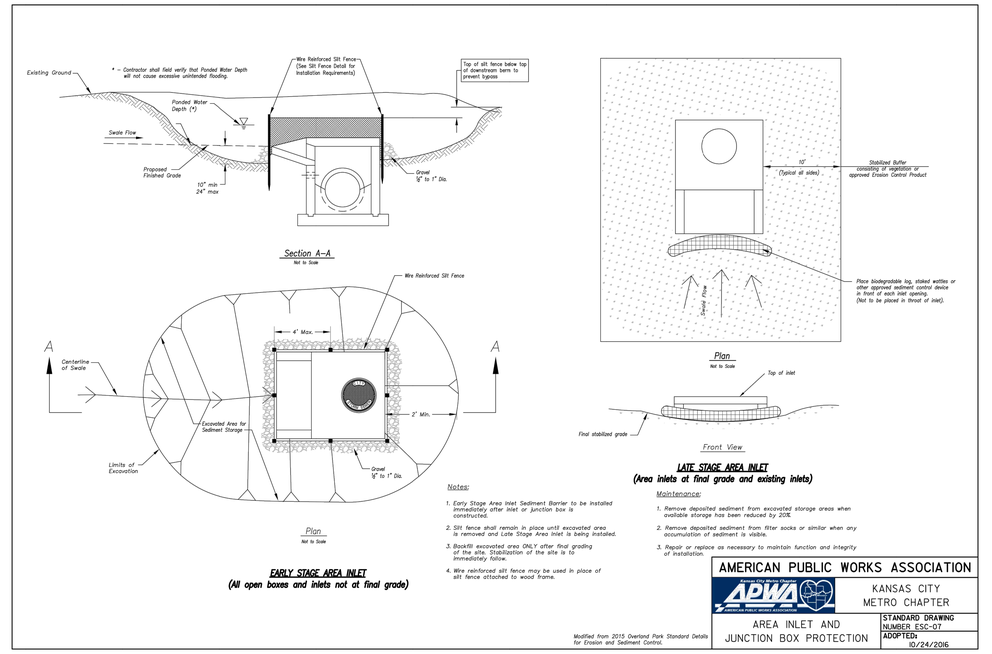
EROSION CONTROL DETAILS

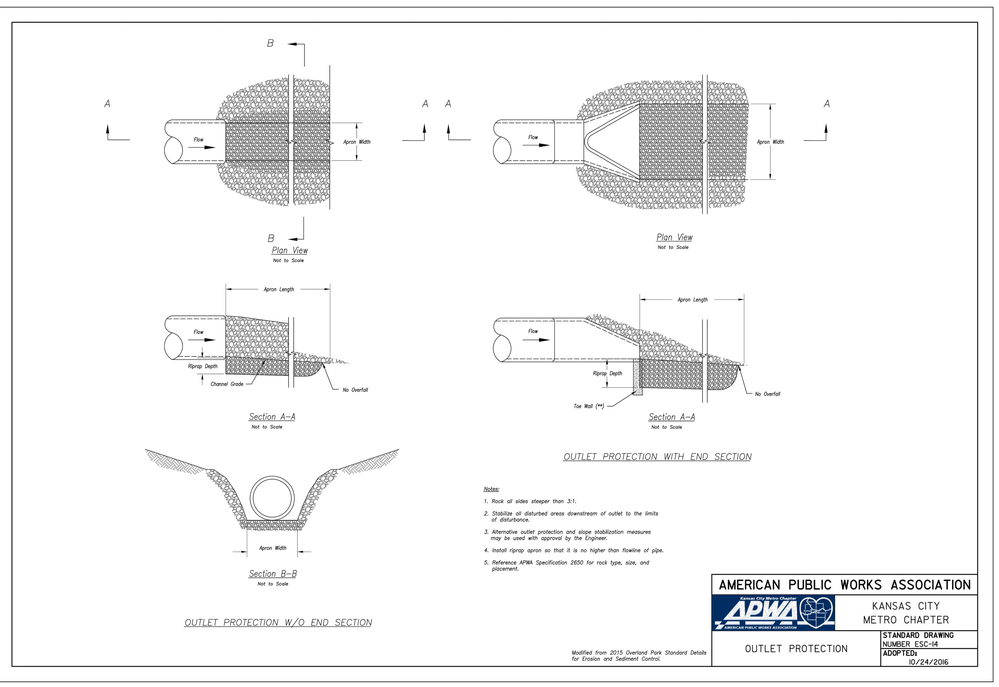
C480

Final Development Plan

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PERMANENT SEEDING:

DISTURBED AREAS ARE TO BE SEEDED (AS NOTED ON LANDSCAPE PLANS) UNLESS NOTED OTHERWISE ON THE LANDSCAPE PLANS AND SPECIFICATIONS. UNLESS DEFINED IN PROJECT MANUAL APPLICATION OF SEED SHALL BE IN ACCORDANCE WITH THE KANSAS CITY METROPOLITAN CHAPTER OF APWA TECHNICAL SPECIFICATIONS SECTION 2406.4.

PREPARATION OF THE SEED BED

UNLESS NOTED OTHERWISE ON THE LANDSCAPE PLANS AND SPECIFICATIONS ALL DISTURBED AREAS SHALL BE PREPPED FOR SEEDING AND SODDING IN ACCORDANCE WITH KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION 2406. THE AREA TO BE SEEDED SHALL BE THOROUGHLY TILLED TO A DEPTH OF AT LEAST THREE (3) INCHES BY DISCING, HARROWING OR OTHER APPROVED METHODS UNTIL THE SOIL IS WELL PULVERIZED. AFTER COMPLETION OF THE TILLING OPERATION, THE SURFACE SHALL BE CLEARED OF ALL STONES, STUMPS, OR OTHER OBJECTS LARGER THAN 1–1/2 INCHES IN DIAMETER, AND OF ROOTS, WIRE, GRADE STAKES, AND OTHER OBJECTS THAT MIGHT HINDER MAINTENANCE OPERATIONS.

PLACEMENT OF SEED

SEEDING MAY BE ACCOMPLISHED BY HYDRAULIC TYPE SEEDERS OR BROADCAST–TYPE SEEDERS. ALL SEED SOWN BY BROADCAST–TYPE SEEDERS SHALL BE "RAKED IN" OR OTHERWISE COVERED WITH SOIL TO A DEPTH OF AT LEAST ONE–QUARTER (1/4) INCH AND ROLLED TO OBTAIN A FIRM SEED BED. WATER SHALL BE APPLIED WHEN NECESSARY. SEEDED AREAS SHALL BE COMPACTED AND MULCHED.

SEEDED AREAS IN DETENTION BASIN LIMITS, SWALES, HILLSIDES WITH SLOPES IN EXCESS OF 4:1 AND OTHER AREAS ILLUSTRATED SHALL BE PROTECTED WITH A CLASS 1, TYPE A EROSION CONTROL BLANKET UNLESS NOTED OTHERWISE. BLANKET SHALL BE SECURED TO SURFACE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. SEE DETAIL ESC–02 AS ILLUSTRATED IN THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATION SECTION 2150, EROSION AND SEDIMENT CONTROL ADOPTED, DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL.

CONTRACTOR IS RESPONSIBLE FOR ONGOING MAINTENANCE, PROTECTION AND REPAIR OF TEMPORARY AND PERMANENT SEED AREAS. COORDINATE PLACEMENT OF INTERMEDIATE EROSION CONTROL MEASURES AS REQUIRED TO REDUCE CONCENTRATED FLOWS FROM RUNOFF.

FINAL ACCEPTANCE

THE MDNR SITE DISTURBANCE PERMIT SHALL BE MAINTAINED IN AN "OPEN" STATUS UNTIL FINAL ACCEPTANCE IS PROVIDED BY THE OWNER IN ACCORDANCE WITH APWA SPECIFICATION SECTION 2400.7.

EROSION CONTROL NOTES:

1. PROPERTY LINE IS LIMIT OF DISTURBANCE EXCEPT AS SHOWN.
2. ALL DISTURBED AREAS SHALL BE STABILIZED WITH VEGETATION WITHIN 14 DAYS OF COMPLETION OF WORK. AS WORK PROGRESSES AROUND SITE, SURROUNDING AREAS SHALL BE TEMPORARILY SEEDED.
3. EROSION CONTROLS SHALL BE INSTALLED AND MAINTAINED BY CONTRACTOR.
4. TEMPORARY SEDIMENT FENCE OR WATTLES TO REMAIN UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
5. MUD AND DEBRIS SHALL BE CLEANED UP AT THE CONCLUSION OF EACH WORKING DAY, OR AFTER EACH RAINFALL IF SILT IS PRESENT.
6. INSPECTION, MAINTENANCE AND REPAIR OF EROSION CONTROL DEVICES SHALL BE ONGOING THROUGHOUT THE LIFE OF CONSTRUCTION TO KEEP THE DEVICES IN OPERABLE CONDITION AT ALL TIMES. ADDITIONAL MEASURES SHALL BE INSTALLED AS REQUIRED BY ACTUAL FIELD CONDITIONS AND/OR OWNER'S INSPECTION AGENCY.

SEDIMENTATION AND EROSION CONTROL MEASURES:

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL INCLUDE AS A MINIMUM, BUT NOT BE LIMITED TO:

1. TEMPORARY SEDIMENT FENCE– SILT FENCE WILL BE INSTALLED AS SHOWN ON THE DRAWING. THIS WILL SLOW RUNOFF VELOCITIES AND MINIMIZE EROSION OF THE SLOPES SHOWN ON THE PLANS.
2. TEMPORARY SEEDING AND MULCHING– SEEDING AND MULCHING WILL TAKE PLACE ON ALL DISTURBED AREAS NOT TO BE SURFACED DURING CONSTRUCTION. HYDROSEEDING WILL BE REQUIRED WHERE SEEDING CANNOT EASILY BE ESTABLISHED. CONTRACTOR IS EXPECTED TO REDRESS AND RESEED AREAS AS NEEDED THROUGHOUT CONSTRUCTION. PHASE WORK ACCORDINGLY.
3. TEMPORARY INLET PROTECTION.

PERMANENT SEDIMENTATION AND EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO:

1. STABILIZATION OF PIPE INLETS AND OUTLETS WHERE INDICATED.
2. DETENTION BASINS WHERE INDICATED.
3. SEEDING OR SODDING OF ALL DISTURBED AREAS.
4. EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT SHALL BE INSTALLED ON ALL SEEDED SLOPES IN EXCESS OF 4:1 AND IN AREAS NOTED ON PLANS. DOWNSTREAM EROSION CONTROL MEASURES MAY BE REMOVED AFTER UPHILL SLOPES ARE SODDED OR SEEDED AND STABILIZED WITH TURF REINFORCEMENT MAT. SEE DETAIL ESC–02.

TEMPORARY SEEDING

APPLICATION OF SEED SHALL BE IN ACCORDANCE WITH KC METRO AMERICAN PUBLIC WORKS SPECIFICATIONS ADOPTED APWA TECHNICAL SPECIFICATIONS SECTION 2153.5 A THRU C.

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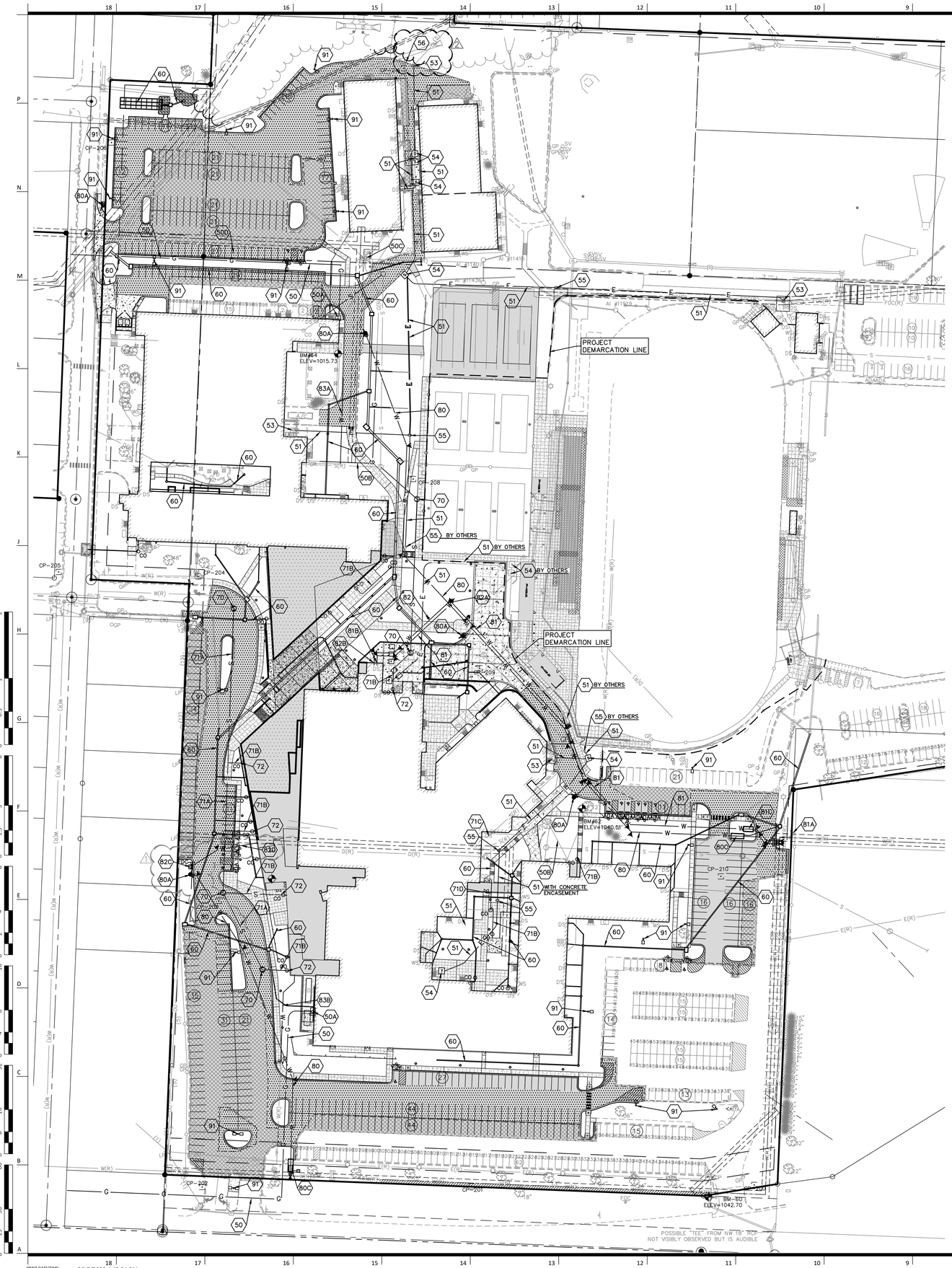
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EROSION CONTROL DETAILS

C490

Final Development Plan

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UTILITY NOTES:

1. EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
2. ALL BACKFILL SHALL BE TAMPED. BACKFILL WITHIN THE RIGHT-OF-WAY AND UNDER PARKING AREAS AND SLABS SHALL BE 95% COMPACTION OF OPTIMUM MOISTURE.
3. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY OF LEE'S SUMMIT UTILITIES DEPARTMENT UNLESS DULY AUTHORIZED TO DO SO. ANY ADVERSE CONSEQUENCE OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR. KAW VALLEY ENGINEERING AND OWNER ARE TO BE HELD HARMLESS. CONTRACTOR SHALL NOTIFY THE UTILITIES DEPARTMENT 48 HOURS MINIMUM.
4. CONTRACTOR TO INSTALL TRACING TAPE ALONG ALL NON-METALLIC SERVICE LINES PER SPECIFICATIONS.
5. CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF NEW UTILITIES.
6. A MINIMUM HORIZONTAL DISTANCE SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. REFERENCE LEE'S SUMMIT SPECIFICATIONS. SECTIONS 3500 AND 3900
7. CONTRACTOR TO SCHEDULE ALL INSPECTIONS FOR SEWER MAIN CONNECTIONS THROUGH THE PUBLIC WORKS DEPARTMENT.

NOTES:

50 PROPOSED GAS SERVICE LINE (COORDINATE WITH MEP PLANS, SPIRE AND CONSTRUCTION MANAGER)
50A GAS METER (REFER TO MEP PLANS)
50B REMOVE OR ADJUST ROUTING AND DEPTH TO EXISTING GAS LINE AS REQUIRED TO INSTALL IMPROVEMENTS. COORDINATE WITH SPIRE.
50C HIGH PRESSURE GAS REGULATOR TO BE REPLACED. COORDINATE WITH MEP PLANS.
50D EXISTING GAS LINE PER RECORD DRAWINGS. CONFIRM IF ACTIVE. REMOVE OR ABANDON AS APPLICABLE TO INSTALL IMPROVEMENTS.
51 ELECTRICAL CONDUIT WITH PULL STRING, INSTALLED BY CONTRACTOR. MAXIMUM BURIAL DEPTH IS 36" BELOW FUTURE GRADE. (COORDINATE TERMINATION POINT WITH ELECTRICAL SITE PLAN. REFER TO MEP PLANS FOR NUMBER OF CONDUITS AND MATERIAL SPECIFICATIONS.)
52 TELECOM CONDUIT WITH PULL STRING, INSTALLED BY CONTRACTOR (COORDINATE TERMINATION POINT WITH ELECTRICAL SITE PLAN. REFER TO MEP PLANS FOR NUMBER OF CONDUITS AND MATERIAL SPECIFICATIONS.)
53 EXISTING TRANSFORMER
54 PROPOSED TRANSFORMER OR SWITCH GEAR ON HOUSEKEEPING PAD (COORDINATE WITH SITE ELECTRICAL PLANS AND SPECIFICATIONS FOR PAD REQUIREMENTS)
55 PROPOSED HANDHOLE (COORDINATE WITH SITE ELECTRICAL PLANS)
56 CONTRACTOR TO COORDINATE WITH EVERGY/DESIGN TEAM TO LOCATE ANY NECESSARY GUY WIRES OUTSIDE OF LIMITS OF DESIGNATED FIRE LANE.
60 STORM SEWER (SEE C600 SERIES SHEETS)
61 POINT OF CONNECTION – ROOF DRAIN (SEE C600 SERIES SHEETS)
70 SANITARY SEWER MANHOLE
71A SANITARY SEWER MAIN (SEE SHEET C550, C560 AND C570)
71B SANITARY SEWER SERVICE LINE, SLOPE AT 1% MINIMUM (UNLESS NOTED OTHERWISE). SEE PROFILE ON SHEET C550, C560 OR C570.
71C SEWER LINE TO BE SCOPED FOR CONDITION AND DEPTH. DAMAGED SECTION TO BE REPAIRED. COORDINATE WITH LEE'S SUMMIT SCHOOL DISTRICT.
71D SANITARY SERVICE LINE UNDER BUILDING TO BE REMOVED AND REPLACE D WITH MATERIALS SUITABLE SUITABLE FOR UNDERSLAB PLUMBING. COORDINATE WITH MEP PLANS AND SPECIFICATIONS.
72 SANITARY SEWER CLEANOUTS (SEE DETAIL ON SHEET C590)
80 8" PVC AWWA C900 FIRE PROTECTION LINE (SEE SHEETS C510 AND C520 FOR PLAN AND PROFILE)
80A PROPOSED FIRE HYDRANT ASSEMBLY (SEE SHEETS C510 AND C520)
80C DOUBLE CHECK BACKFLOW PREVENTER IN VAULT FOR FIRE PROTECTION LINE
81 6" PVC AWWA C900 DOMESTIC WATER SERVICE LINE WITH. PARALLEL AND OFFSET NORTH/NORTHEAST FROM FIRE PROTECTION LINE. REFER TO SHEET C520 FOR OFFSET SPACING, ROUTING AND FITTING LOCATIONS. SEE CONSTRUCTION NOTES ON SHEET C510.
81A POINT OF CONNECTION – DOMESTIC WATER SERVICE (PROVIDE 8"x4" TEE AND GATE VALVE ON DOMESTIC LINE)
81B POINT OF CONNECTION TO BUILDING – DOMESTIC WATER SERVICE (SEE MEP PLANS)
81C 4" WATER METER IN VAULT
82 8" CLASS 50 DIP FIRE SERVICE (SEE FIRE PROTECTION PLANS FOR CONTINUATION AT BUILDING)
82A POINT OF CONNECTION – FIRE SERVICE BY CONTRACTOR
82B POINT OF CONNECTION TO BUILDING – FIRE SERVICE (SEE MEP PLANS)
82C REMOTE FIRE DEPARTMENT CONNECTION (FDC) (SEE MEP PLANS FOR SPECIFICATIONS)
82D CONTRACTOR TO INSTALL 55 LF OF 6" CLASS 50 DIP FIRE SERVICE TO 22.5° BEND AND 44 LF TO REMOTE FDC. PROVIDE NECESSARY BENDS AND FITTINGS. RESTRAIN THROUGHOUT.
83A RELOCATE EXISTING 3" DOMESTIC WATERLINE WITH 3" CLASS 52 DIP AS REQUIRED TO CONSTRUCT IMPROVEMENTS.
83B RELOCATE EXISTING DOMESTIC WATERLINE AS REQUIRED TO CONSTRUCT IMPROVEMENTS. FIELD VERIFY SIZE AND MATERIAL. NEW MATERIALS SHALL MEET REQUIREMENTS OUTLINED IN THE CONSTRUCTION NOTES ON SHEET C520 AND PROJECT SPECIFICATIONS.
91 SITE AND PARKING LOT LIGHTING. REFER TO SHEETS E003 AND E004

NOTE:
1. **REFER TO SHEETS E001 THRU E004 FOR ADDITIONAL SITE ELECTRICAL AND TELECOM REQUIREMENTS FOR SITE ELECTRICAL, LIGHTING AND SIGNAGE.**
2. **ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.**

NOTE:
1. **CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.**
2. **THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.**

WARRANTY / DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

LEGEND:

- CONTROL POINT
- BENCHMARK
- GATE POST
- CHAIN LINK FENCE
- WOOD FENCE
- BOLLARD
- STREET/TRAFFIC SIGN
- PAINTED DIRECTIONAL ARROW
- TURN LANE DIRECTION
- HANDICAP SYMBOL
- PARKING STALL COUNT
- HANDICAP SIGN
- HRMP HANDICAP RAMP
- WHEEL STOP
- FOC UNDERGROUND FIBER OPTIC CABLE
- FOC(R) UNDERGROUND FIBER OPTIC (FROM RECORDS)
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AI AREA INLET
- CI CURB INLET
- CO SANITARY SEWER CLEAN OUT
- DS DOWN SPOUT
- FD FLOOR DRAIN
- FLARED END SECTION
- S SANITARY SEWER LINE
- D STORM SEWER LINE
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- VCP VITRIFIED CLAY PIPE
- DIP DUCTILE IRON PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- WALL MOUNTED LIGHT
- WALL MOUNTED CAMERA
- E UNDERGROUND ELECTRIC
- (2) OH OVERHEAD UTILITY LINE (# OF LINES)
- P PULL BOX
- LIGHT POLE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- UTILITY POLE W/ TRANSFORMER
- GUY ANCHOR
- W(R) WATER LINE PER RECORD
- E(R) UNDERGROUND ELECTRIC PER RECORD
- AIR CONDITIONER
- WALL MOUNTED ELECTRICAL OUTLET
- G UNDERGROUND GAS
- GAS METER
- GAS VALVE
- GAS RISER
- GAS LINE SIGN
- A ENCROACHMENT IDENTIFIER
- EXISTING SPOT ELEVATION
- 950 EXISTING GRADE 5' CONTOUR
- 939 EXISTING GRADE 1' CONTOUR
- DE DOOR ELEVATION AT THRESHOLD
- FF FINISH FLOOR ELEVATION
- BHE BUILDING HEIGHT/ELEVATION
- B/B BACK TO BACK OF CURB MEASUREMENT
- E/E EDGE TO EDGE OF ASPHALT
- W WATER LINE
- WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- WATER MANHOLE
- SV SPRINKLER VALVE
- SIAMESE FIRE CONNECTOR
- CANOPY SUPPORT
- MB MAIL BOX
- CONCRETE JOINT/CUT LINE
- BUSH
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- FP FLAG POLE
- T/E TRASH ENCLOSURE
- L/S LANDSCAPING AREA
- CONC CONCRETE
- LW LOWEST WIRE HEIGHT
- ELECTRIC METER
- UNDERGROUND ELECTRIC PEDESTAL
- SPEAKER BOX
- BB BREAKER BOX
- G(R) UNDERGROUND GAS PER RECORD
- S(R) SANITARY SEWER LINE PER RECORD
- D(R) STORM SEWER LINE PER RECORD
- TURN LANE DIRECTION
- ASPHALT MILL AND/OR OVERLAY
- ASPHALT PAVEMENT (040)
- HEAVY DUTY ASPHALT PAVEMENT (041)
- CONCRETE PAVEMENT (042)
- CONCRETE CURB AND GUTTER
- CONCRETE CURB AND GUTTER WITH REVERSE FLOW

SCALE: 1" = 60'

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

PROJ. NO. C20_0496
CFN: 0496UP.DWG
DSN: DDW
DWN: NJN
DAVID D. WOOD
ENGINEER
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14700 WEST 114TH TERRACE
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KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
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4200 Pennsylvania Avenue
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Kansas City, MO 64108
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STATE OF MISSOURI · DAVID D. WOOD · PE-2011037427 · PROFESSIONAL ENGINEER · 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

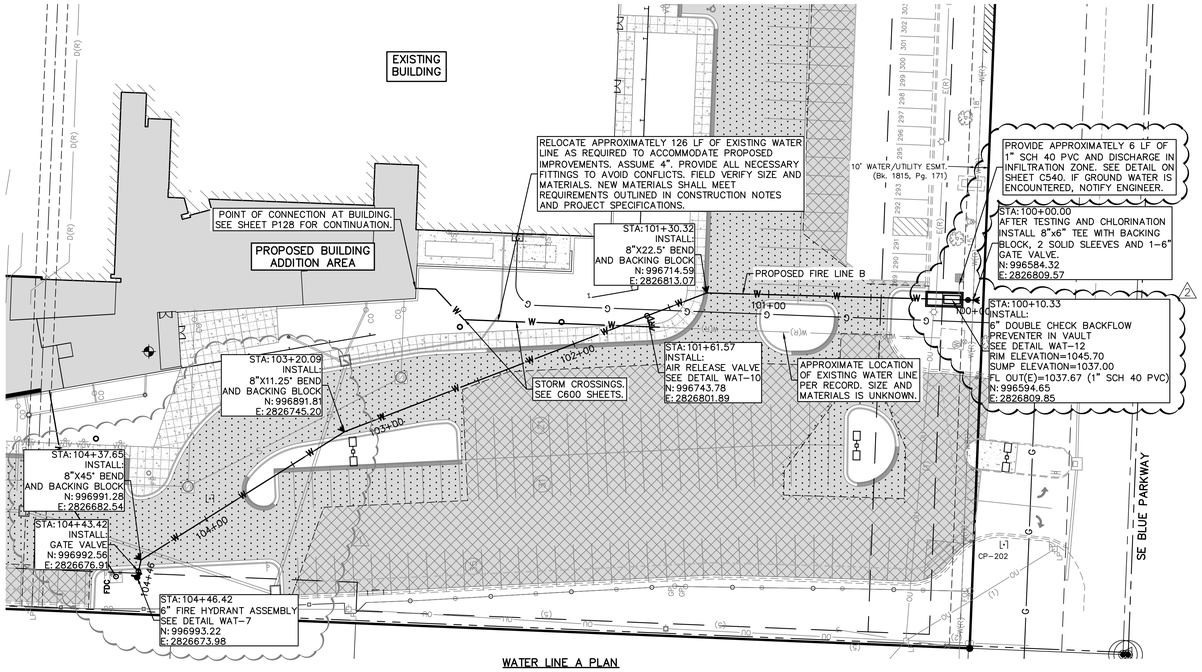
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
	PER CITY COMMENTS	
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

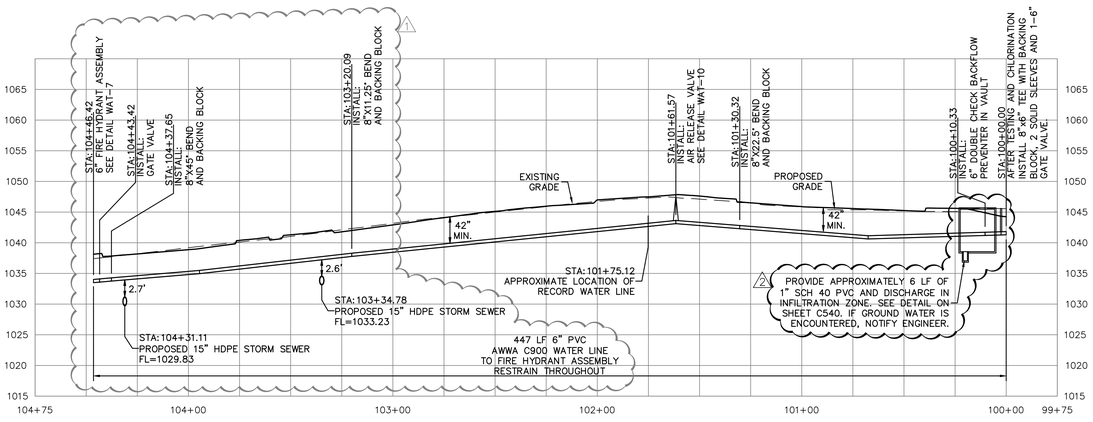
UTILITY PLAN

C500

Final Development Plan



WATER LINE A PLAN



WATER LINE A PROFILE

WATER LINE MATERIALS AND CONSTRUCTION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 3900 WATER MAINS OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS, CURRENT EDITION.
2. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO CITY OF LEE'S SUMMIT UTILITIES DEPARTMENT UNLESS DULY AUTHORIZED TO DO SO BY THE WATER DISTRICT. ANY ADVERSE CONSEQUENCE OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR. KAW VALLEY ENGINEERING AND OWNER ARE TO BE HELD HARMLESS. CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE CITY OF LEE'S SUMMIT WATER UTILITIES OPERATIONS DEPARTMENT PRIOR TO STARTING ANY WORK.
3. THE UTILITIES AS SHOWN ON THESE DRAWINGS WERE DEVELOPED FROM THE BEST INFORMATION AVAILABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE. CONTRACTOR SHALL POTHOLE AND EXPOSE ALL UTILITIES AT LEAST 500 FEET IN ADVANCE OF WATER MAIN CONSTRUCTION, DETERMINING THE DEPTH, SIZE, AND MATERIAL OF THE UTILITIES IN PROXIMITY TO THE PROPOSED WATER MAIN ALIGNMENT. DEFLECT PIPE TO MAINTAIN MINIMUM 5 FEET HORIZONTAL AND 18 INCH VERTICAL CLEARANCES BETWEEN PROPOSED WATER MAIN AND EXISTING UTILITIES. SEPARATION WITH NON-POTABLE LINES REQUIRES 18 INCH VERTICAL CLEARANCE, SEE CONST. NOTE 8.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL, AT NO EXTRA COST, ALL FITTINGS AND RESTRAINING DEVICES REQUIRED TO PROVIDE PROPER HORIZONTAL AND VERTICAL ALIGNMENT FOR THE NEW WATER SERVICE, CONNECTING TO EXISTING WATER MAIN, AND INSTALLATION OF FIRE HYDRANTS AT THE PROPER LOCATION AND ELEVATION, WHETHER OR NOT THE FITTINGS ARE CALLED OUT ON THESE PLANS.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL, AT NO EXTRA COST, ALL TEMPORARY BLOW-OFF ASSEMBLIES, FITTINGS, AND RESTRAINING DEVICES NECESSARY FOR TEMPORARY CONNECTIONS FOR PRESSURE TESTING, CHLORINATING, DE-CHLORINATING, AND FLUSHING THE NEW WATER MAINS AND SERVICE LINES. THE CONTRACTOR SHALL REMOVE ANY CORPORATION COCKS USED FOR TESTING OR CHLORINATION AND REPLACE THEM WITH TAPERED BRASS PLUGS PRIOR TO PLACING NEW MAINS IN SERVICE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED PERMITS, PAYING ALL FEES AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. ALL DISTURBED AREAS SHALL BE SEEDED OR STABILIZED AS NOTED ON PLANS.
8. WHEN WATER MAINS AND SANITARY SEWERS CROSS, A MINIMUM OF 18 INCHES OF CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF SANITARY SEWER. WHEN 18 INCHES OF CLEARANCE CANNOT BE MAINTAINED OR WHEN A WATER MAIN MUST CROSS UNDER A SANITARY SEWER, THE SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE, PVC PRESSURE PIPE OR PRE-STRESSED CONCRETE CYLINDER PIPE FOR A DISTANCE OF 10.0 FEET ON EACH SIDE OF THE CROSSING. WHEN A WATER MAIN IS CONSTRUCTED PARALLEL TO A SANITARY SEWER, THE HORIZONTAL SEPARATION SHALL BE 10.0 FEET MEASURED FROM THE OUTSIDE OF PIPE OR STRUCTURE. IF A VERTICAL SEPARATION OF 18 INCHES CANNOT BE MAINTAINED AND IF THE WATER MAIN IS CONSTRUCTED CLOSER THAN 10.0 FEET TO THE SANITARY SEWER, THE SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE, PVC PRESSURE PIPE OR PRE-STRESSED CONCRETE CYLINDER PIPE. AND SHALL BE PRESSURE TESTED FOR WATER TIGHTNESS.
9. CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS, COORDINATES AND ELEVATIONS BEFORE PROCEEDING WITH NEW WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. NO NEW CONSTRUCTION SHOULD BE PERFORMED BY "SCALING" FROM THE PLANS.
10. ALL EXCAVATION AND BACKFILL SHALL MEET OR EXCEED THE PROJECT SPECIFICATION. ALL TRENCHES SHALL BE BACKFILLED IN UNIFORM LIFTS NOT TO EXCEED 8 INCHES IN LOOSE MEASUREMENT. EACH LIFT SHALL BE COMPACTED TO THE REQUIRED DENSITY PRIOR TO THE NEXT LIFT BEING PLACED. THE BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF WITHIN A RANGE OF OPTIMUM TO BE 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR SOILS WITH A LIQUID LIMIT OF GREATER THAN 40 AND AND +/- 3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT LESS THAN 40 AS DEFINED BY THE STANDARD PROCTOR (ASTM-D698) UNDER AREAS TO BE PAVED. THE BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE, PLUS 4% IN AREAS NOT TO BE DEVELOPED. COMPACTION TESTS SHALL BE TAKEN AT EACH PAVEMENT CROSSING AND AT LOCATIONS DESIGNATED BY THE ENGINEER. ALL TRENCH BACKFILL WHICH DOES NOT MEET THE REQUIRED DENSITY, SHALL BE RE-EXCAVATED AND RE-COMPACTED UNTIL THE REQUIRED DENSITY IS OBTAINED. COPIES OF ALL COMPACTION TEST REPORTS SHALL BE PROVIDED TO THE ENGINEER.
11. NO ROCK LARGER THAN FOUR INCHES MAXIMUM DIMENSION SHALL BE PLACED WITHIN TWO FEET OF THE TOP OF THE PIPE. NO ROCK GREATER THAN ONE FOOT SHALL BE PLACED IN ANY EXCAVATION AS A BACKFILL.
12. LOCATIONS SHOWN FOR PROPOSED WATER LINES ARE APPROXIMATE. VARIATIONS MAY BE MADE, WITH APPROVAL OF THE ENGINEER TO AVOID CONFLICTS.
13. TAPS 1-1/2" AND LARGER AT EXISTING MAIN WILL BE RESPONSIBILITY OF THE CONTRACTOR. WORK WILL BE COORDINATED WITH THE WATER DISTRICT.
14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL COMPLY WITH SECTIONS 3901 B & C OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARDS SPECIFICATIONS SUBJECT TO THE CITY'S CURRENTLY ADOPTED FIRE CODE. THICKNESS SHALL BE SPECIAL THICKNESS CLASS 50.
15. ALL POLYVINYL CHLORIDE PIPE AND FITTINGS SHALL COMPLY WITH SECTION 3901.B & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARDS SPECIFICATIONS SUBJECT TO RESTRICTION OF THE CITY'S CURRENTLY ADOPTED FIRE CODE. THE MINIMUM PRESSURE CLASS SHALL BE CLASS 235.
16. SERVICE LINES 2 INCHES IN DIAMETER AND SMALLER SHALL BE MADE OF TYPE K SOFT COPPER, COMPLYING WITH ASTM B88.
17. ALL VALVES AND OTHER MATERIALS SHALL CONFORM TO SECTIONS 3901 E THRU S. REFER TO THE CITY'S APPROVED MATERIALS LIST.
18. CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3902 OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
19. WATER LINES SHALL HAVE A MINIMUM COVER OF 42". DEEPER EXCAVATIONS FOR CLEARANCE AT EXISTING PROPOSED UTILITIES IS ACCEPTABLE. REFERENCE CONST. NOTES 3 AND 8. FOR WATER MAINS CONSTRUCTED UNDER DRIVES OR PARKING AREAS THE DRIVES OR PARKING AREAS ARE TO BE TO SUBGRADE PRIOR TO WATER MAIN CONSTRUCTION.
20. WHERE FIRE HYDRANTS ARE NOT LOCATED AT THE END OF LINES, THE CONTRACTOR SHALL FURNISH A FLUSHING DEVICE.
21. FIRE HYDRANTS SHALL BE INSTALLED SO THAT THE CENTERLINE OF THE OUTLET NOZZLE IS BETWEEN EIGHTEEN INCHES ABOVE FINISHED GRADE, AND SO THAT THERE IS A MINIMUM CLEAR AREA OF 5' IN EACH DIRECTION TO ALLOW OPERATION OF THE HYDRANT. ALL FIRE HYDRANTS ARE TO BE SET WITH THE BASE 2" TO 6" ABOVE THE TOP OF CURB OR GRADE, AS RECOMMENDED BY THE HYDRANT'S MANUFACTURER. HYDRANTS SHALL BE PAINTED AS NOTE IN SECTION 3901 Q.9.
22. ALL TREES SHALL BE SPARED UNLESS MARKED. REFERENCE PROJECT LAND DISTURBANCE PLANS.
23. THRUST BLOCKS OR APPROVED JOINT RESTRAINTS SHALL BE PROVIDED AT TEES, BENDS, AND HYDRANT ASSEMBLIES.
24. CONSTRUCTION INSPECTION WILL BE PROVIDED BY OWNER.
25. CONTRACTOR SHALL INSTALL PIPE, BENDS AND FITTINGS A NECESSARY TO MAKE A COMPLETE OPERATIONAL SYSTEM. LINE IS TO BE AS-BUILT. CONTRACTOR SHALL MAINTAIN "AS CONSTRUCTED DRAWINGS" TO BE SUPPLIED TO LEE'S SUMMIT SCHOOL DISTRICT NOTING VALVE AND FITTING LOCATIONS AT THE END PROJECT.
26. THE ABANDONMENT OF ALL WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 3902 B.12 OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
27. THE CONTRACTOR SHALL VERIFY THE OUTSIDE DIAMETER (O.D.) OF THE EXISTING WATER MAIN PRIOR TO SCHEDULING CONNECTION. PROVIDE SOLID SLEEVES AS REQUIRED.
28. THE CONTRACTOR SHALL FLUSH, DISINFECT AND COMPLETE HYDROSTATIC AND LEAKAGE TESTS ON WATER MAINS IN ACCORDANCE WITH SECTIONS 3902 C & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.

REFER TO WATER LINE DETAILS ON SHEET C530 AND C540.

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496WPP.DWG DWN: NJN
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KAW VALLEY ENGINEERING
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mechanical/electrical engineer:
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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

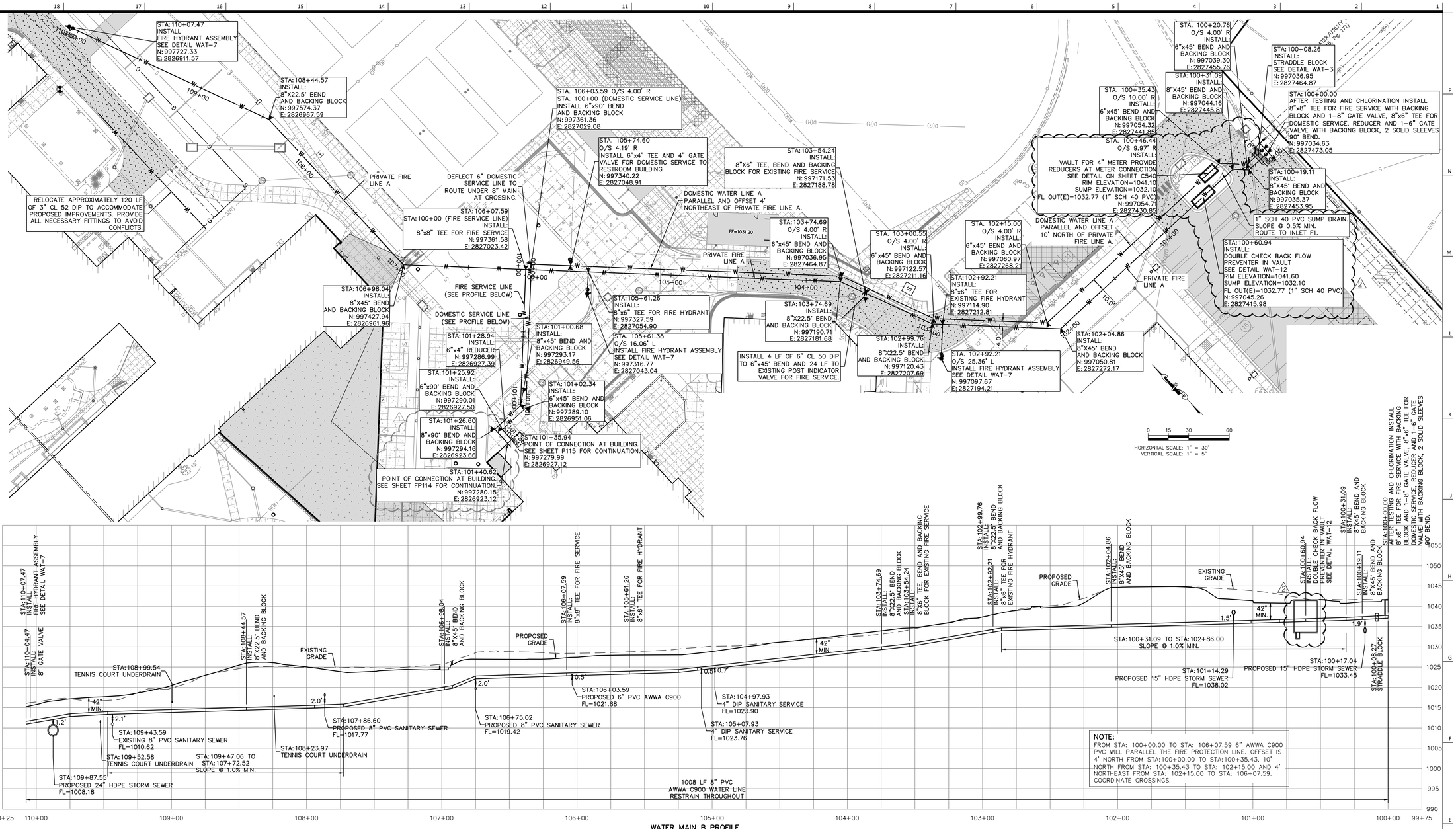
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

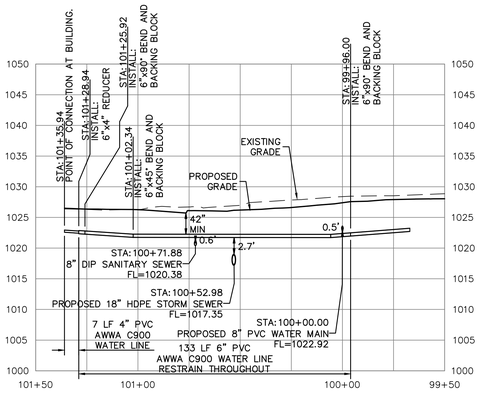
PRIVATE DOMESTIC WATER AND FIRE PROTECTION PLAN AND PROFILE

C510

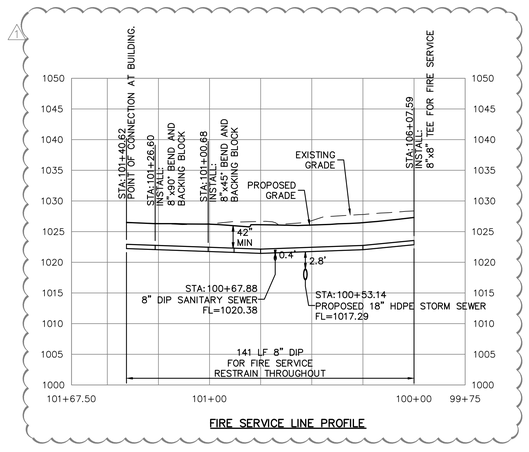
Final Development Plan



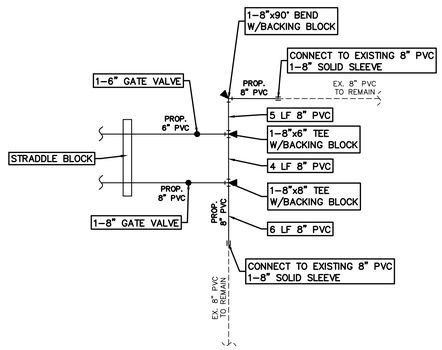
WATER MAIN B PROFILE



DOMESTIC SERVICE LINE PROFILE



FIRE SERVICE LINE PROFILE



PROPOSED CONNECTION TO EXISTING
8" PVC WATER MAIN DETAIL
NOT TO SCALE
RESTRAIN JOINTS THROUGHOUT

REFER TO WATER LINE NOTES ON SHEET C510 AND WATER LINE DETAILS ON SHEET C530 AND C540.

PROJ. NO. C20_0496
CFN: 0496WPP.DWG
DSN: DDW
DWN: NJN
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STATE OF MISSOURI
DAVID D. WOOD
NUMBER
PE-2011037427
PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

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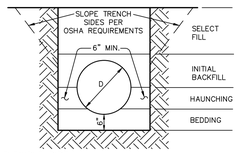
Number	DESCRIPTION	DATE
1	ADDENDUM #1 PER CITY COMMENTS	11-19-2020
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE DOMESTIC WATER AND FIRE PROTECTION PLAN AND PROFILE

C520

Final Development Plan



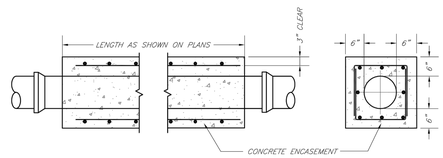
FLEXIBLE PIPE: INCLUDES CORRUGATED METAL PIPE. CORRUGATED POLYETHELENE PIPE AND/OR POLYVINYL CHLORIDE PIPE.

RIGID PIPE: INCLUDES REINFORCED CONCRETE, DUCTILE IRON, & CAST IRON

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS I OR II (REF. ASTM D2321) GRANULAR MATERIAL AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

TRENCH AND BEDDING DETAILS

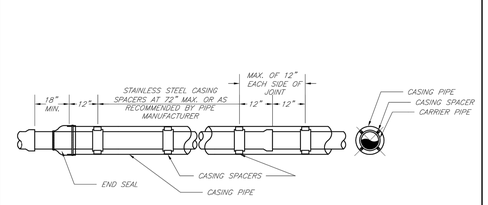
REFER TO KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION 2102.4



NOTES:
1. INTERMEDIATE BELLS SHALL BE ENCASED.
2. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".
3. THIS DETAIL IS FOR PIPES 12" AND SMALLER.

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

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-4
Rev:	1/14
Rev:	

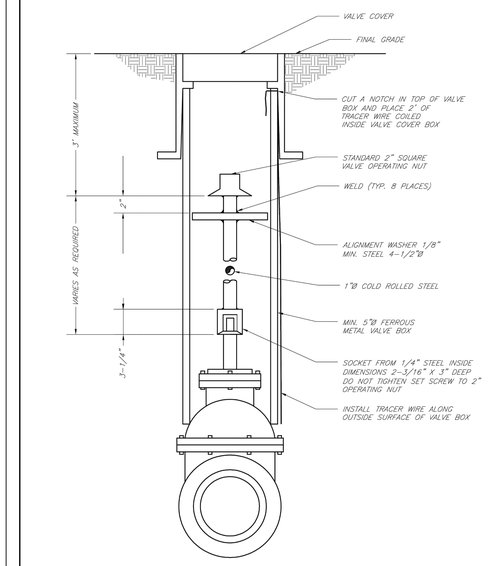


NOT TO SCALE

NOTES:
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.
2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.

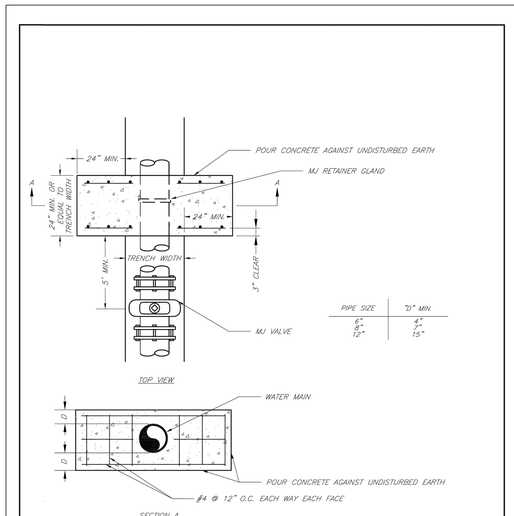
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
WATER CASING PIPE DETAIL

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-5
Rev:	1/14
Rev:	



LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
VALVE STEM EXTENSION AND VALVE BOX

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-9
Rev:	1/14
Rev:	



NOTE:
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"

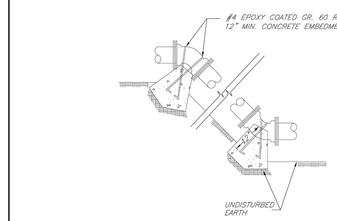
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
STRADDLE BLOCK

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-3
Rev:	1/14
Rev:	

REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



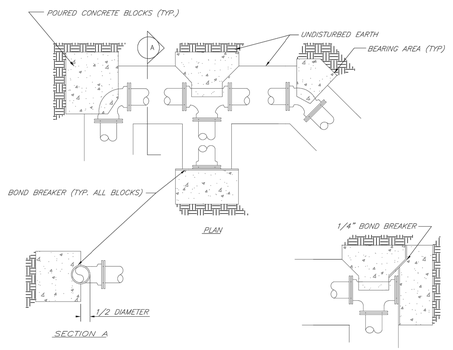
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
VERTICAL THRUST BLOCKS

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-2
Rev:	1/14
Rev:	

REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)

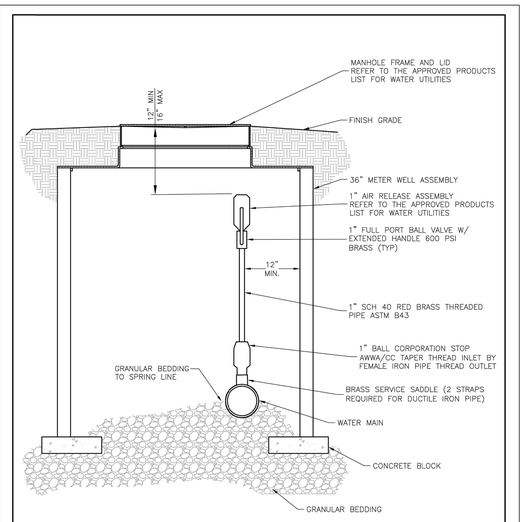
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



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

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-1
Rev:	1/14
Rev:	



AIR RELEASE ASSEMBLY
NOT TO SCALE

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

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	WAT-10

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Gould Evans
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Kansas City, MO 64111
816.931.6655 voice
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Kansas City, MO 64111
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14700 West 114th Terrace
Lenexa, KS 66215
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1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI — DAVID D. WOOD — NUMBER PE-2011037427 — PROFESSIONAL ENGINEER — 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

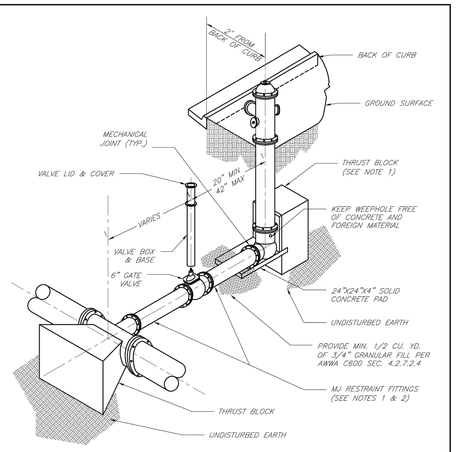
PROJ. NO. C20_0496
CFN: 0496DET.DWG
DSN: DDW
DWN: NJN
DAVID D. WOOD
ENGINEER
MO # 2011037427
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KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

WATER DETAILS

C530

Final Development Plan

PRINT DATE/TIME: 3/17/2020 4:49:21 PM



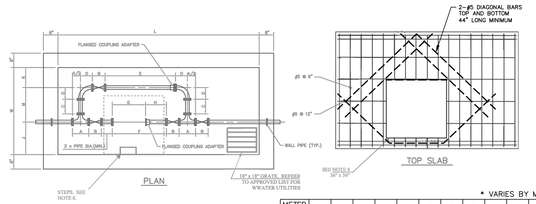
NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

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

HYDRANT INSTALLATION – STRAIGHT SET

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-7
Rev:	1/14
Rev:	



* VARIES BY MANUFACTURER

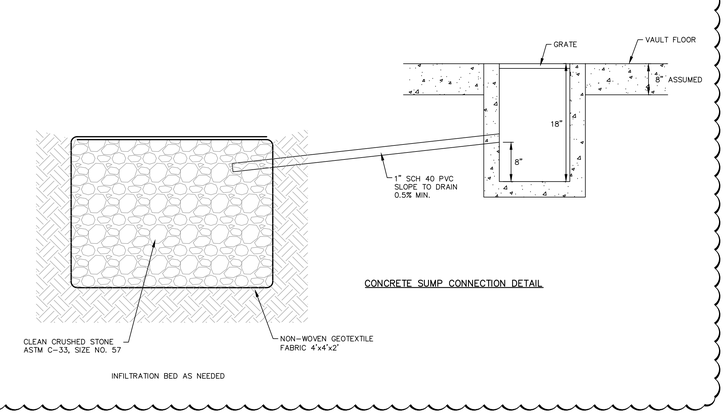
METER SIZE	L	W	A	B	C	D	E	F	G	H	J	K	M
2"	122	48	9	7	8	4.5	39	30	*	*	18	11	19
3"	150	72	11	8	12	4.5	52	42	*	*	24	23	26
4"	171	72	13	9	12	4.5	52	42	*	*	24	21	28
6"	202	72	16	10.5	9	8	61	51	*	*	24	20	29

NOMINAL DIMENSIONS FOR SINGLE METER PITS
ALL DIMENSIONS ARE IN INCHES

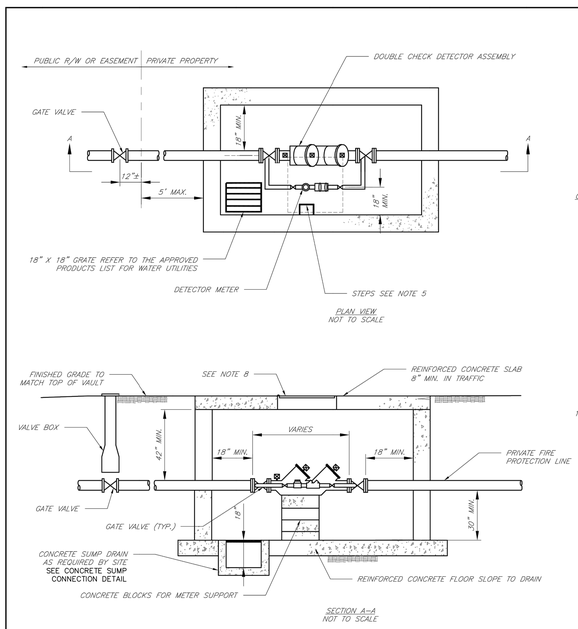
METERING PIT & SETTING W/BYPASS FOR SINGLE 2" THRU 6" METERS

NOTES:

1. POUR FOOTING ON FIRM UNDISTURBED EARTH.
2. ALL PIPING IN METER PIT SHALL BE D.I.P. OR C.I.P.
3. VALVES SHALL BE GATE TYPE; BYPASS VALVE SHALL BE O.S. & Y.
4. WALLS TO BE DOUBLE FORMED.
5. ALL RE-BARS TO HAVE 3/4" COVER.
6. CONCRETE SHALL BE MOIB MIX #WA585-3/4-2-0.410.
7. TOP LAYER OF SLAB REINFORCEMENT MAY BE ELIMINATED IN CURBED NON-TRAFFIC AREAS.
8. 3" OR GREATER SIZE METER SHALL HAVE AN UPSTREAM STRAINER.
9. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
10. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. PROVIDE CONCRETE SUMP TO DRAIN TO AN ABOVE GROUND DISCHARGE POINT.
11. ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
12. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
13. PROVIDE CITY APPROVED METER. CONTACT WATER UTILITIES AT 816-969-1900.
14. ALL VALVES SHALL HAVE RISING STEMS.
15. MANHOLE COVER SHALL BE A BILCO K-1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" ø HOLE DRILLED FOR A TOUCH/READ DEVICE.
16. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.



CONCRETE SUMP CONNECTION DETAIL



GENERAL NOTES:

1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
2. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. PROVIDE CONCRETE SUMP TO DRAIN TO AN ABOVE GROUND DISCHARGE POINT.
3. ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
4. ALL FITTINGS FOR THE DETECTOR METER TO BE BRASS.
5. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
6. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT WATER UTILITIES AT 816-969-1900.
7. ALL VALVES SHALL HAVE RISING STEMS.
8. MANHOLE COVER SHALL BE A BILCO K-1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" ø HOLE DRILLED FOR A TOUCH/READ DEVICE.
9. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
10. CONTACT PUBLIC WORKS ENGINEERING FOR VAULTS THAT INCLUDE A FIRE DEPARTMENT CONNECTION OR A 3" OR LARGER METER.

CITY OF LEE'S SUMMIT, MO
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
(LEE'S SUMMIT, MISSOURI)

STANDARD DRAWINGS

Subject: VAULT FOR DOUBLE CHECK DETECTOR CHECK

Drawn By: AS
Checked By: DL
Date: 1/14
Rev: 1/14
or

WAT-12

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STATE OF MISSOURI
DAVID D WOOD
NUMBER
PE-2011037427
PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
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PROJECT NO: 0119-0100
DATE: November 20, 2020

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496DET.DWG DWN: NJN

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WATER DETAILS

C540

Final Development Plan

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SANITARY SEWER MATERIALS AND CONSTRUCTION NOTES:

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4. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER; HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF SAME SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
5. ALL INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 3502 OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS. REFER TO SECTION 3502.C FOR TESTING AND ACCEPTANCE REQUIREMENTS.
6. EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT. ALL EXCAVATIONS SHALL BE CONSIDERED UNCLASSIFIED. REFER TO PROJECT GEOTECHNICAL REPORT.
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8. ALL STUB LINES SHALL BE LAID ON 1.00% GRADE FOR 6" PIPE AND 2.00% GRADE FOR 4" PIPE, UNLESS NOTED OTHERWISE.
9. RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE. REFER TO PLANS FOR ADDITIONAL INFORMATION.
10. REFER TO SHEET C580 FOR SANITARY SEWER DETAILS.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

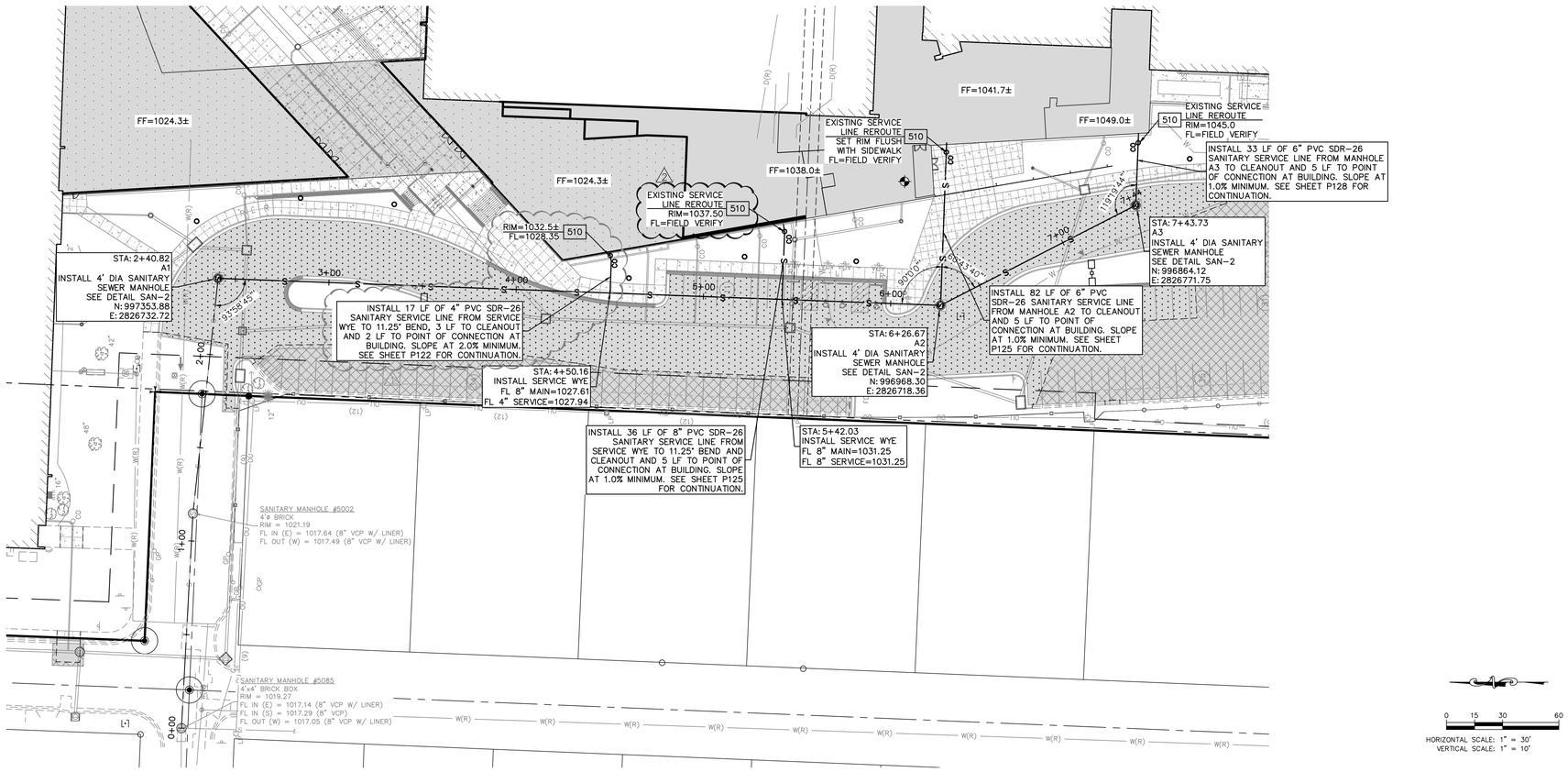
WARRANTY / DISCLAIMER

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CAUTION – NOTICE TO CONTRACTOR

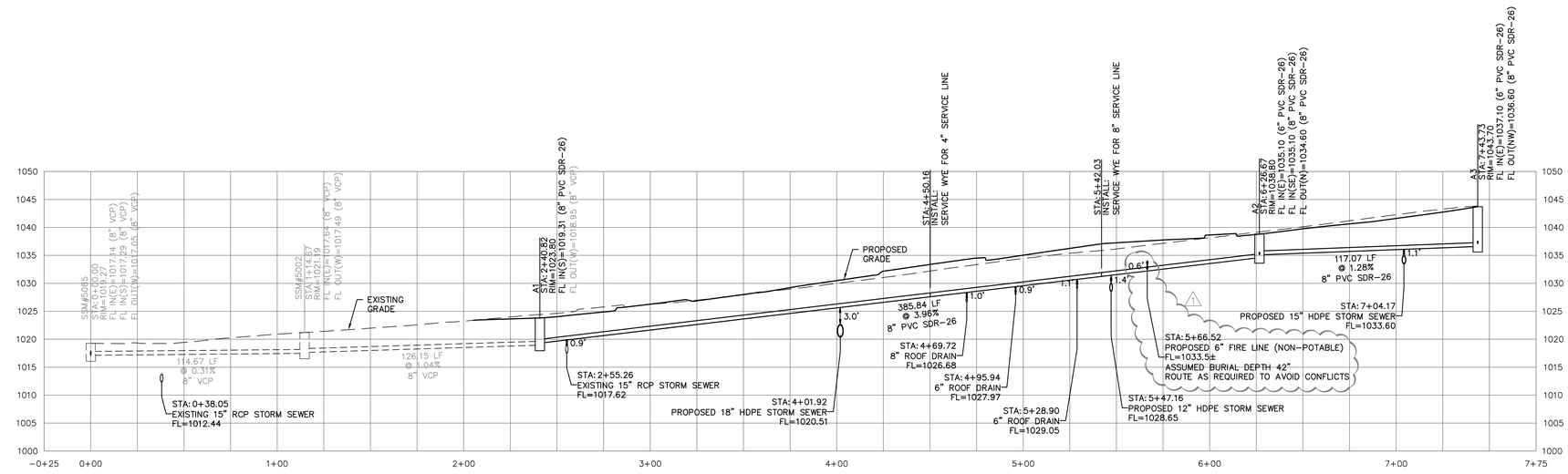
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PRIVATE SANITARY SEWER LINE A PLAN

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



PRIVATE SANITARY SEWER LINE A PROFILE

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STATE OF MISSOURI · DAVID D. WOOD · PE-2011037427 · PROFESSIONAL ENGINEER

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David Wood — Date: 12/15/2020
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PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE SANITARY SEWER PLAN AND PROFILE

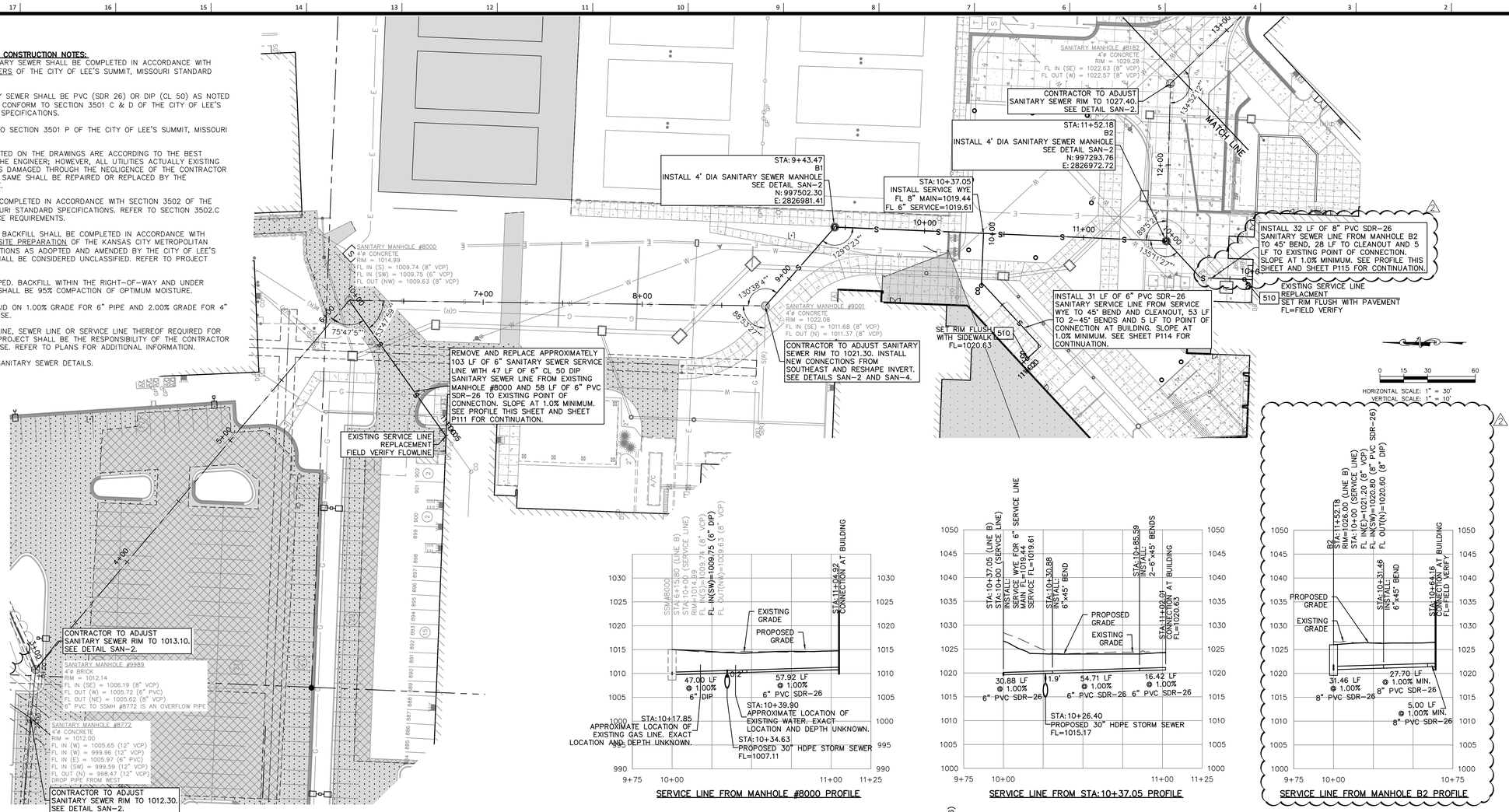
C550

Final Development Plan

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CFN: 0496SPP.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
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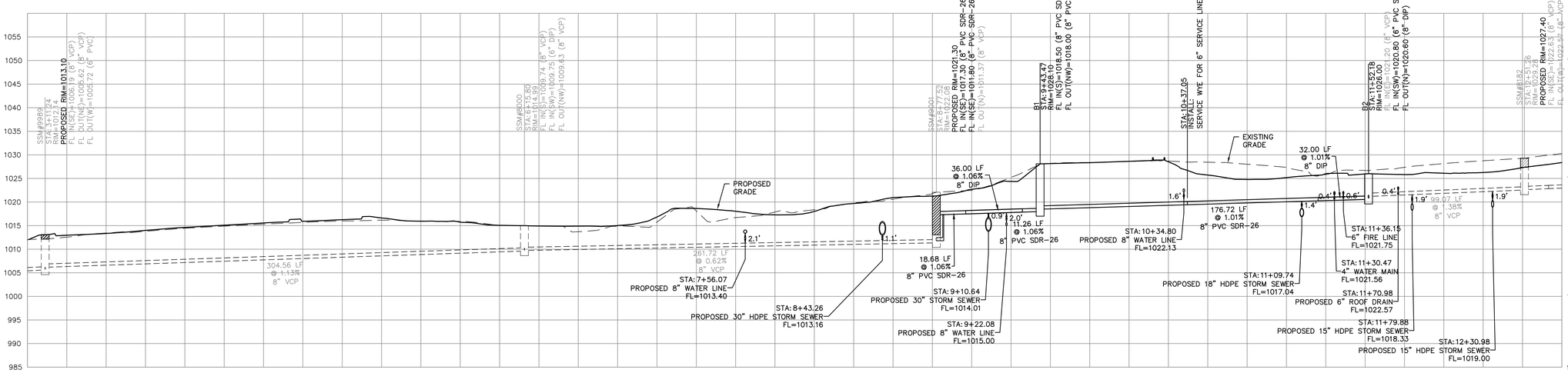
PRIVATE SANITARY SEWER LINE B PLAN

SERVICE LINE FROM MANHOLE #8000 PROFILE

SERVICE LINE FROM STA:10+37.05 PROFILE

SERVICE LINE FROM MANHOLE B2 PROFILE

PRIVATE SANITARY SEWER LINE B PLAN



PRIVATE SANITARY SEWER LINE B PROFILE

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CFN: 0496SPP.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
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KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
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structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
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civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
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Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 12/15/2020

Kaw Valley Engineering, Inc
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

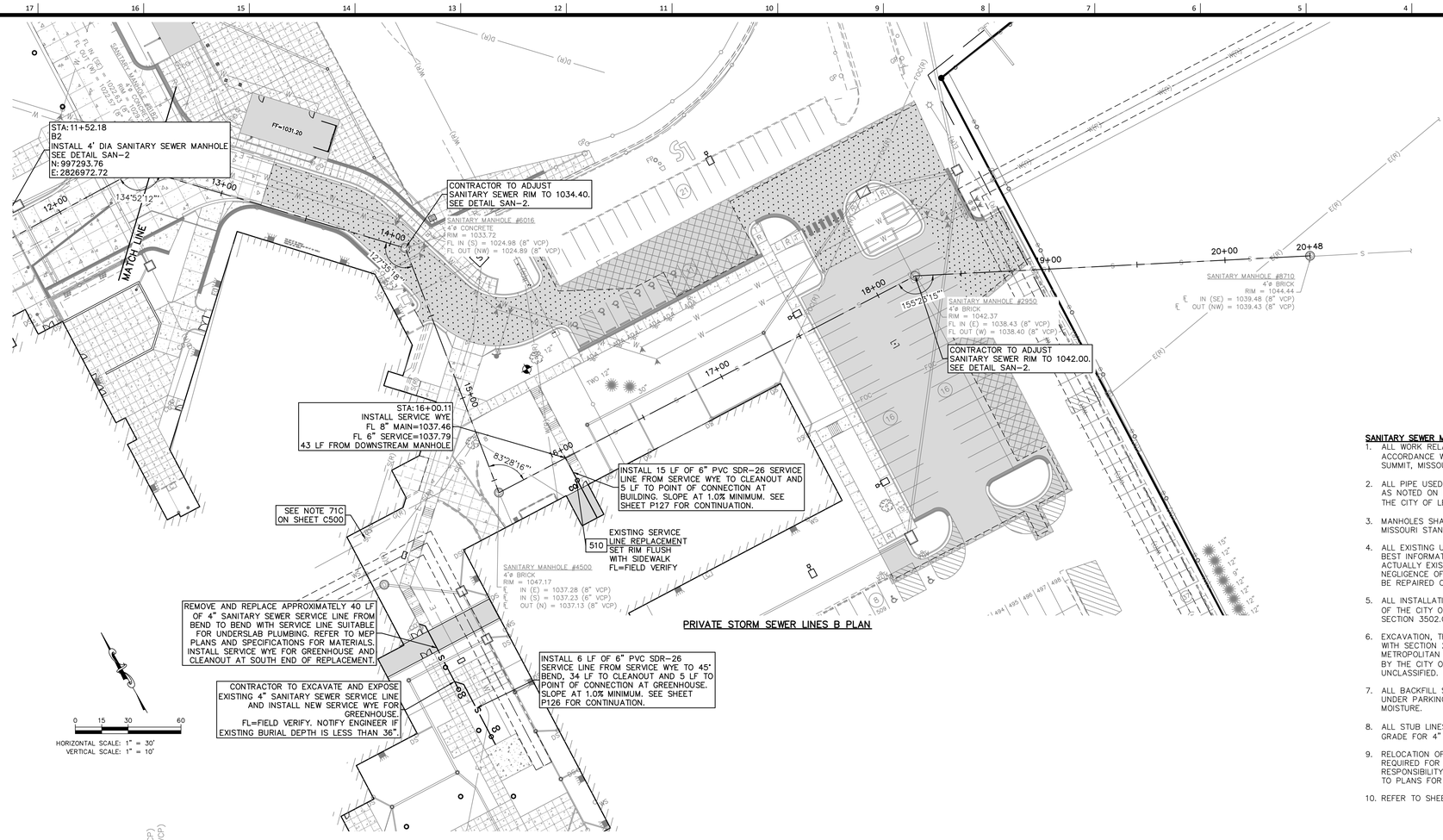
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

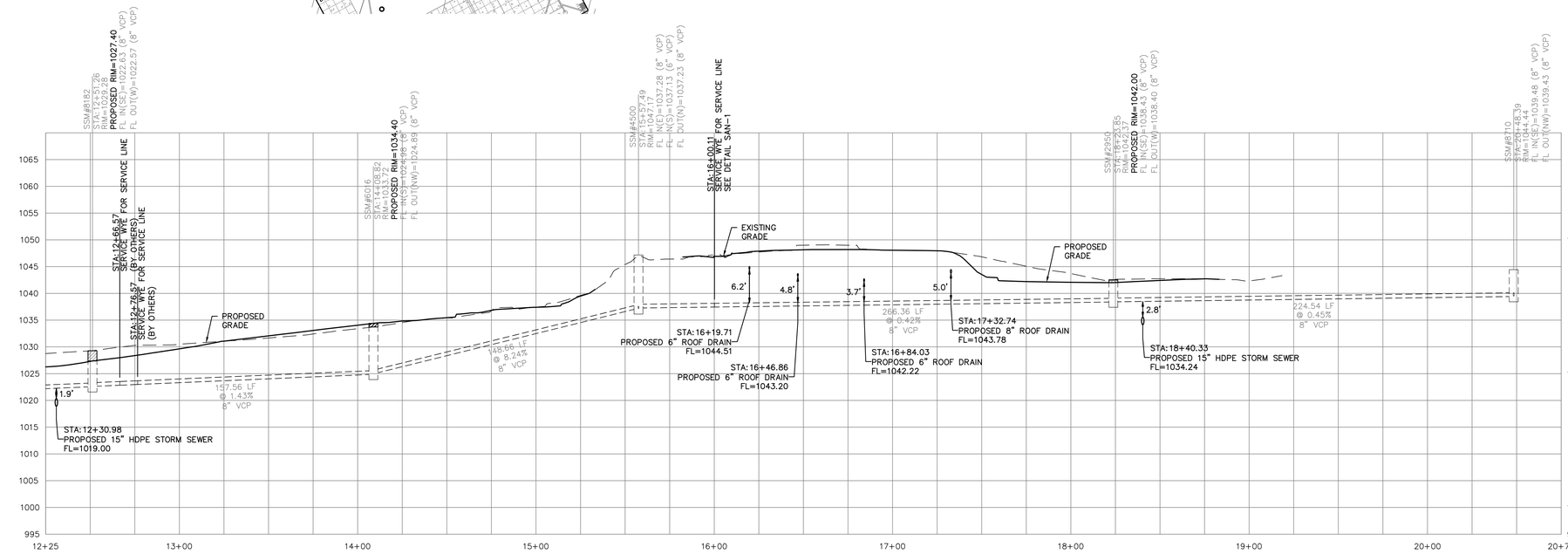
PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE SANITARY SEWER PLAN AND PROFILE

C560

Final Development Plan





PRIVATE SANITARY SEWER LINE B PROFILE

SANITARY SEWER MATERIALS AND CONSTRUCTION NOTES:

1. ALL WORK RELATED TO SANITARY SEWER SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 3500 SANITARY SEWERS OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
2. ALL PIPE USED FOR SANITARY SEWER SHALL BE PVC (SDR 26) OR DIP (CL 50) AS NOTED ON PLANS. MATERIAL SHALL CONFORM TO SECTION 3501 C & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
3. MANHOLES SHALL CONFORM TO SECTION 3501 P OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
4. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER; HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF SAME SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
5. ALL INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 3502 OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS. REFER TO SECTION 3502.C FOR TESTING AND ACCEPTANCE REQUIREMENTS.
6. EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT. ALL EXCAVATIONS SHALL BE CONSIDERED UNCLASSIFIED. REFER TO PROJECT GEOTECHNICAL REPORT.
7. ALL BACKFILL SHALL BE TAMPED. BACKFILL WITHIN THE RIGHT-OF-WAY AND UNDER PARKING AREAS AND SLABS SHALL BE 95% COMPACTION OF OPTIMUM MOISTURE.
8. ALL STUB LINES SHALL BE LAID ON 1.00% GRADE FOR 6" PIPE AND 2.00% GRADE FOR 4" PIPE, UNLESS NOTED OTHERWISE.
9. RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE. REFER TO PLANS FOR ADDITIONAL INFORMATION.
10. REFER TO SHEET C580 FOR SANITARY SEWER DETAILS.

WARRANTY / DISCLAIMER
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THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

Know what's below. Call before you dig.

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CFN: 0496SPP.DWG
DSN: DDW
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STATE OF MISSOURI DAVID D WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

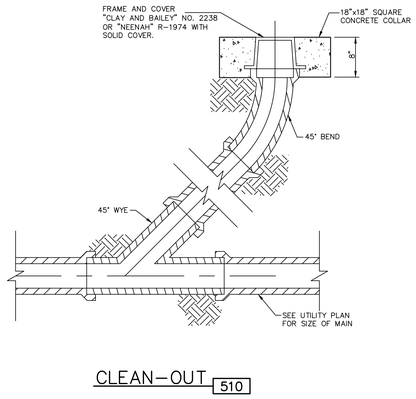
Number	DESCRIPTION	DATE
1	ADDENDUM #1 PER CITY COMMENTS	11-19-2020
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

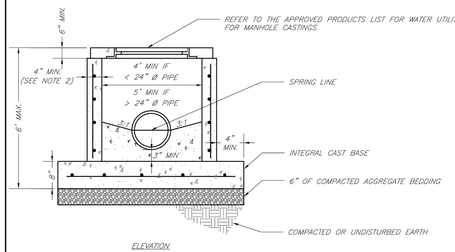
PRIVATE SANITARY SEWER PLAN AND PROFILE

C570

Final Development Plan



CLEAN-OUT 510

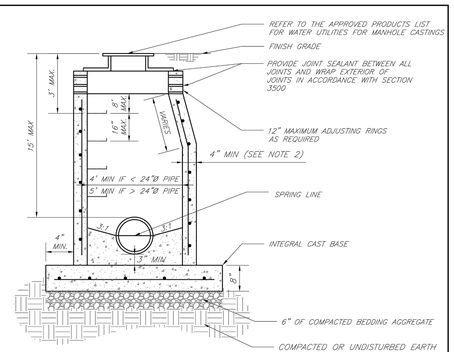


ELEVATION

NOTES:

1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THEN 14 MILS OF BITUMINOUS COATING.
4. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
5. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR MANHOLE GASKET MODELS.
6. PROVIDE STEPS AS SHOWN ON THE APPROVED PRODUCTS LIST FOR MANHOLE DEPTHS GREATER THAN 4'.

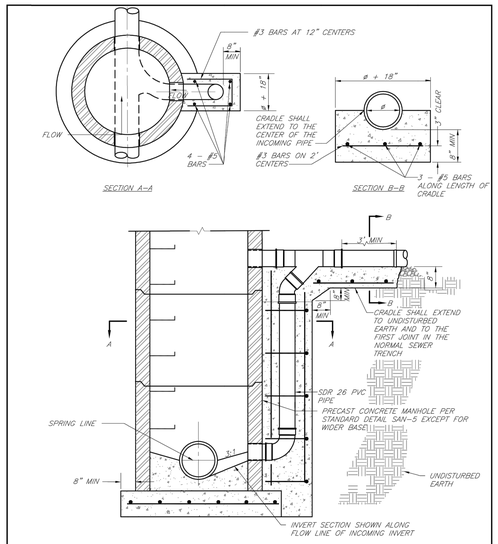
LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
SHALLOW PRECAST MANHOLE – SANITARY SEWER	Checked By: DL
	FILE: SAN-3
	Rev: 1/14
	Rev:



NOTES:

1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

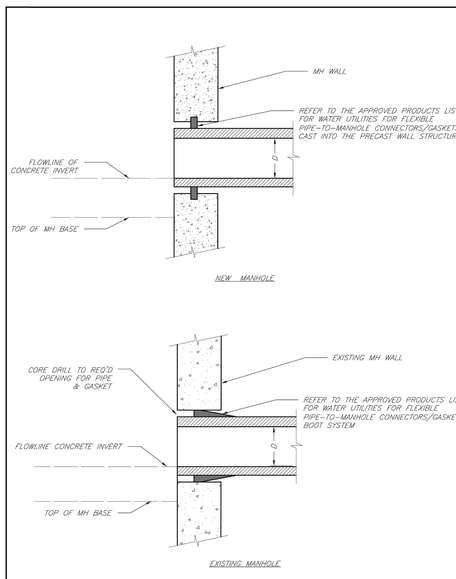
LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
STANDARD PRECAST MANHOLE – SANITARY SEWER	Checked By: DL
	FILE: SAN-2
	Rev: 1/14
	Rev:



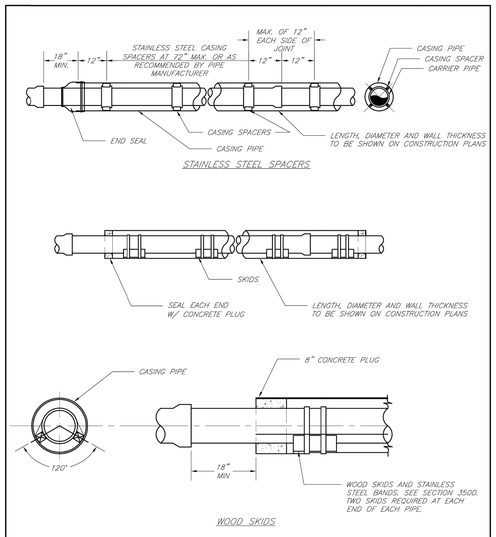
ELEVATION

NOTE:
REFER TO DRAWING SAN-2 FOR MANHOLE DETAILS NOT SHOWN.

LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
DROP SANITARY SEWER MANHOLE	Checked By: DL
	FILE: SAN-4
	Rev: 1/14
	Rev:

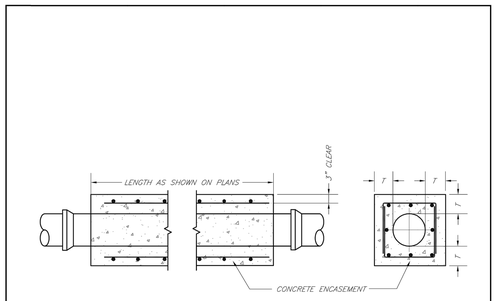


LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
MANHOLE WALL CONNECTIONS	Checked By: DL
	FILE: SAN-5
	Rev: 1/14
	Rev:



NOTE:
IF WOOD SKIDS ARE USED, ANNULAR SPACE BETWEEN CASING PIPE AND CARRIER PIPE SHALL BE FILLED WITH SAND.

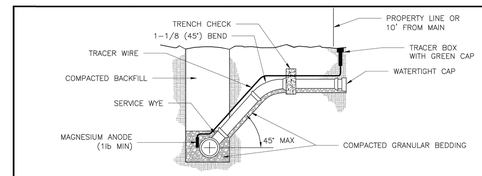
LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
CASING PIPE DETAIL	Checked By: DL
	FILE: SAN-6
	Rev: 1/14
	Rev:



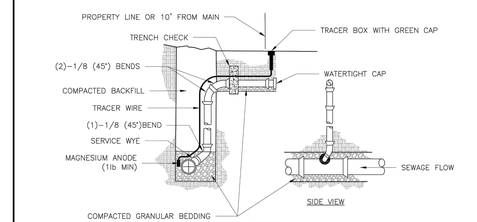
NOTES:

1. FOR PIPES LESS THAN 15", T = 6" MIN.
2. FOR PIPES 15" THRU 36", T = 8" MIN.
3. INTERMEDIATE BELLS SHALL BE ENCASED.
4. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".

LEE'S SUMMIT MISSOURI	Date: 02/13
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: JN
SANITARY PIPE ENCASEMENT	Checked By: DL
	FILE: SAN-7
	Rev: 1/14
	Rev:



STANDARD INSTALLATION
NOT TO SCALE



VERTICAL RISER
NOT TO SCALE

NOTES:

1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 36" ABOVE GROUND AND PAINTED GREEN.
3. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
4. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
5. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
6. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
7. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
8. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
9. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

LEE'S SUMMIT MISSOURI	Date: 04/17
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: MJF
BUILDING SEWER STUB AND RISER	Checked By: DL
	SAN-1

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NUMBER PE-2011037427
PROFESSIONAL ENGINEER
12/15/2020

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Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

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PROJECT NO: 0119-0100
DATE: November 20, 2020

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496DET.DWG DWN: NJN

DAVID D. WOOD
ENGINEER
MO # 2011037427

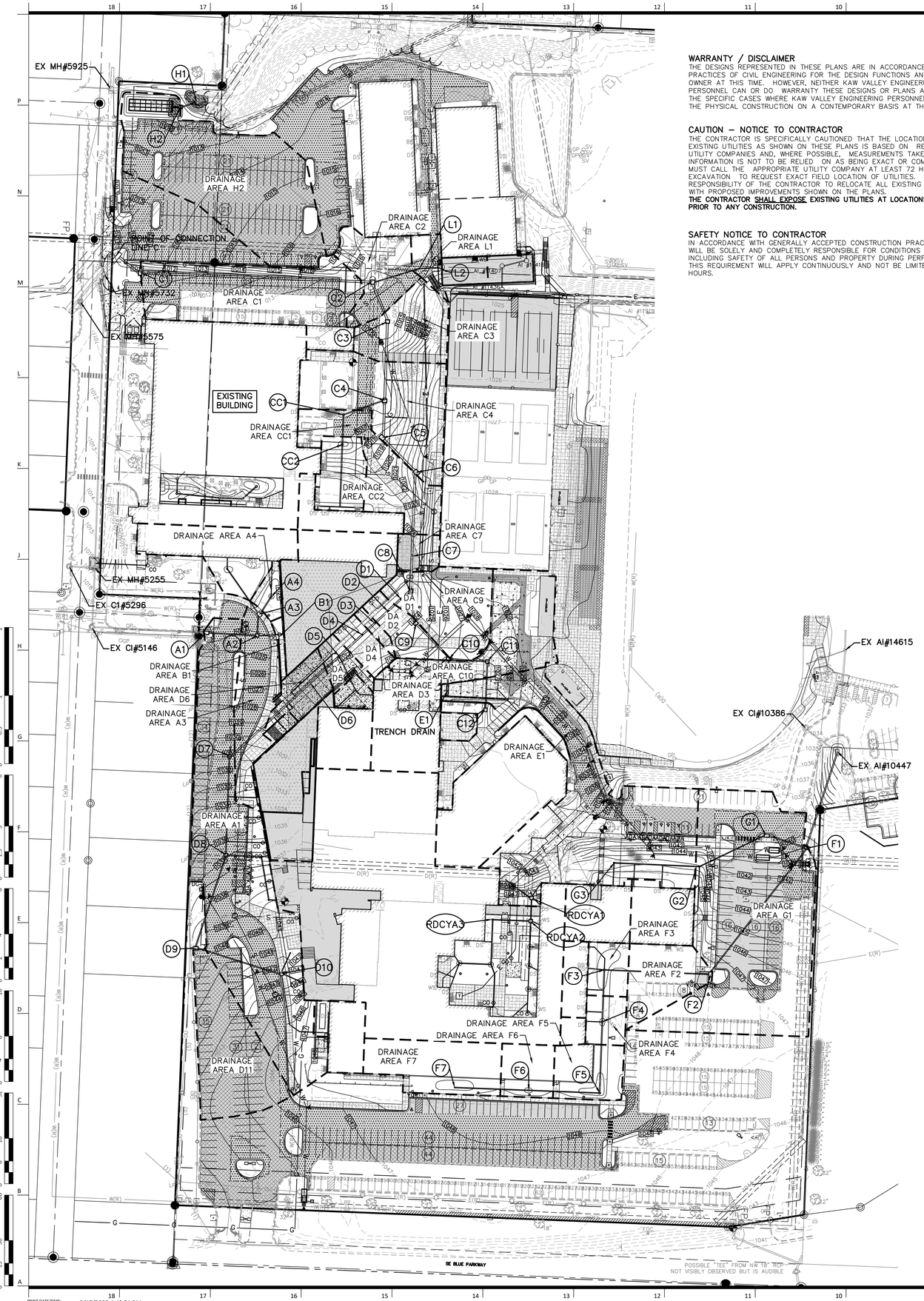
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lw@kveng.com | www.kveng.com

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SANITARY SEWER DETAILS

C580

Final Development Plan



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T_C Calculations 11-13-2020
e's Summit High School Addition and Renovation
KVE Project # C20D0496

Time of Concentration

Structure	Pipe	Design Storm (years)	Tributary Area, A (ac)	Impervious Area	Runoff Coefficient, C	Total Distance	D1	Slope	Inlet Time (min)	D2	Travel Time (min)	Time of Concentration (min)	Notes
A4	A4 - A3	10-year	0.04	0.01	0.45	30	30	2.5	4.7	0	0.0	4.7	5 Min Minimum
		100-year											
A3	A3 - A2	10-year	0.27	0.22	0.79	195	100	5.0	3.3	95	0.2	3.4	5 Min Minimum
		100-year											
A2	A2 - AI #6375	10-year											
		100-year											
AI #6375	AI #6375 - A1	10-year											
		100-year											
A1	A1 - CI #5146	10-year	1.12	0.89	0.78	625	100	5.0	3.4	525	0.9	4.3	5 Min Minimum
		100-year											
B1	B1 - A1	10-year											
		100-year											
C12	C12 - C11	10-year											
		100-year											
C11	C11 - C10	10-year											
		100-year											
C10	C10 - C9	10-year	0.60	0.57	0.87	180	100	2.0	3.3	80	0.1	3.4	5 Min Minimum
		100-year											
C9	C9 - C8	10-year	0.00	0.00	#DIV/0!	90	90	8.0	#DIV/0!	0	0.0	#DIV/0!	
		100-year											
C8	C8 - C7	10-year											
		100-year											
C7	C7 - C6	10-year	0.06	0.06	0.90	50	50	1.0	2.5	0	0.0	2.5	5 Min Minimum
		100-year											
C6	C6 - C5	10-year											
		100-year											
C5	C5 - C4	10-year											
		100-year											
C4	C4 - C3	10-year	0.46	0.16	0.51	120	100	15.0	4.3	20	0.0	4.3	5 Min Minimum
		100-year											
C3	C3 - C2	10-year	0.22	0.08	0.52	80	80	15.0	3.8	0	0.0	3.8	5 Min Minimum
		100-year											
C2	C2 - C1	10-year	0.20	0.11	0.63	80	80	6.0	2.0	0	0.0	2.0	5 Min Minimum
		100-year											
C1	C1 - INSERTA TEE 60" RCP	10-year	0.55	0.45	0.79	270	100	1.5	4.9	170	0.3	5.1	
		100-year											
CC2	CC2 - CC1	10-year											
		100-year											
CC1	CC1 - C4	10-year											
		100-year											
D10	D10 - D9	10-year											
		100-year											
D9	D9 - D8	10-year	0.37	0.37	0.90	220	100	6.0	3.0	120	0.2	3.2	5 Min Minimum
		100-year											
D8	D8 - D7	10-year											
		100-year											
D7	D7 - D6	10-year											
		100-year											
D6	D6 - D5	10-year	0.10	0.10	0.90	50	50	6.0	1.4	0	0.0	1.4	5 Min Minimum
		100-year											
D5	D5 - D4	10-year	0.06	0.05	0.80	50	50	6.0	2.1	0	0.0	2.1	5 Min Minimum
		100-year											
D4	D4 - D3	10-year	0.06	0.03	0.60	50	50	6.0	3.5	0	0.0	3.5	5 Min Minimum
		100-year											
D3	D3 - D2	10-year	0.05	0.02	0.54	50	50	6.0	3.9	0	0.0	3.9	5 Min Minimum
		100-year											
D2	D2 - D1	10-year	0.10	0.05	0.60	50	50	6.0	3.5	0	0.0	3.5	5 Min Minimum
		100-year											
D1	D1 - C9	10-year	0.29	0.07	0.44	50	50	6.0	4.6	0	0.0	4.6	5 Min Minimum
		100-year											
E1 (Dock Trench Drain)	E1 (Dock Trench Drain) - C11	10-year	1.15	0.69	0.66	460	100	5.0	4.6	360	0.6	5.2	
		100-year											
F7	F7 - F6	10-year	0.26	0.20	0.76	60	60	2.0	3.7	0	0.0	3.7	5 Min Minimum
		100-year											
F6	F6 - F5	10-year	0.11	0.08	0.74	30	30	2.0	2.8	0	0.0	2.8	5 Min Minimum
		100-year											
F5	F5 - F4	10-year	0.15	0.06	0.54	60	60	2.0	6.2	0	0.0	6.2	
		100-year											
F4	F4 - F3	10-year	0.08	0.00	0.30	30	30	2.0	6.3	0	0.0	6.3	
		100-year											
F3	F3 - F2	10-year	0.09	0.00	0.30	30	30	2.0	6.3	0	0.0	6.3	
		100-year											
F2	F2 - F1	10-year	0.19	0.09	0.58	100	100	2.0	7.4	0	0.0	7.4	
		100-year											
F1	F1 - AI #10447	10-year											
		100-year											
G3	G3 - G2	10-year											
		100-year											
G2	G2 - G1	10-year											
		100-year											
G1	G1 - F1	10-year	1.14	1.00	0.83	340	100	4.0	3.1	240	0.4	3.5	5 Min Minimum
		100-year											

0 15 30 60
SCALE: 1" = 30'

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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

DRAINAGE AREA MAP

C600

Final Development Plan

Storm Sewer Calculations 11-13-2020
Lee's Summit School District - Lee's Summit High School Addition and Renovation
KVE Project # C20D0496

Lee's Summit High School Addition and Renovation Private Storm Sewer

KVE	Design Storm (years)	Structure	Downstream Structure	Pipe	Overland Flow: Tributary Area, A (ac)	Impervious Area (ac)	Runoff Coefficient C	Antecedent Precipitation (K)	A x C (ac)	Time of Concentration, Tc (min)	Rainfall Intensity (in/hr)	Tributary Runoff (cfs)	System Flow: Total Area, A (ac)	Summation of Inlet A x C (ac)	Antecedent Precipitation (K)	System Tc (min)	System Rainfall Intensity (in/hr)	System Discharge (cfs)	Node: Node Condition	Pipe Design: Pipe Material	Pipe Shape	Pipe Size, D (in)	Manning's Coefficient	Upstream Invert (ft)	Downstream Invert (ft)	Length (ft)	Pipe Slope	Design Flow (cfs)	Full Flow Capacity (cfs)	Full Flow Velocity (fps)	Flow Time (sec)	Upstream Crown Elevations	Downstream Crown Elevations	Upstream Depth of Cover	Downstream Depth of Cover	Rim Elevation
	10-year	A4	A3	A4 - A3	0.04	0.01	0.45	1	0.02	5.0	7.4	0.1	0.04	0.02	1	5.0	7.4	0.1	PVC Drain Basin	HDPE	Circular	15	0.012	1019.20	1018.90	28.2	1.06%	0.1	7.2	5.9	4.8	1020.5	1020.2	2.4	3.6	1,022.90
	100-year							1.25			10.3	0.2			1.25		10.3	0.2										0.2								
	10-year	A3	A2	A3 - A2	0.27	0.22	0.79	1	0.21	5.0	7.4	1.6	0.59	0.44	1	5.1	7.3	3.2	Non Setback Curb Inlet	HDPE	Circular	15	0.013	1018.60	1018.30	27.9	1.08%	3.2	6.7	5.5	5.1	1019.9	1019.6	3.9	4.5	1,023.80
	100-year							1.25			10.3	2.7			1.25		10.3	5.6										5.6								
	10-year	A2	AI #6375	A2 - AI #6375									0.61	0.45	1	5.2	7.3	3.3	Junction Box	HDPE	Circular	15	0.013	1017.80	1017.12	43.1	1.58%	3.3	8.1	6.6	6.5	1019.1	1018.4	5.0	5.5	1,024.10
	100-year														1.25		10.2	5.7										5.7								
	10-year	AI #6375	A1	AI #6375 - A1									0.61	0.45	1	5.3	7.3	3.3	Junction Box	HDPE	Circular	15	0.013	1017.12	1016.80	24.0	1.33%	3.3	7.5	6.1	3.9	1018.4	1018.1	5.5	5.3	1,023.90
	100-year														1.25		10.2	5.7										5.7								
	10-year	A1	CI #5146	A1 - CI #5146	1.12	0.89	0.78	1	0.87	5.0	7.4	6.4	1.73	1.32	1	5.5	7.2	9.5	Non Setback Curb Inlet	RCP	Circular	15	0.013	1016.63	1013.55	151.2	2.04%	9.5	9.2	7.5	20.1	1017.9	1014.8	5.4	4.9	1,023.30
	100-year							1.25			10.3	11.2			1.25		10.1	16.6										16.6								1,023.00
	10-year	B1	A1	B1 - A1									0.02	0.01	1	5.0	7.4	0.1	Cleanout/Trench Drain Outlet	PVC	Circular	6	0.013	1023.10	1018.60	43.5	10.34%	0.1	1.8	9.2	4.7	1023.6	1019.1	0.4	0.0	1,024.00
	100-year														1.25		10.3	0.2										0.2								
	10-year	C12	C11	C12 - C11									0.50	0.45	1	5.0	7.4	3.3	Junction Box	HDPE	Circular	15	0.012	1019.80	1018.80	63.9	1.56%	3.3	8.8	7.1	9.0	1021.1	1020.1	14.6	6.3	1,035.60
	100-year														1.25		10.3	5.8										5.8								
	10-year	C11	C10	C11 - C10									0.50	0.45	1	5.2	7.3	3.3	Junction Box	HDPE	Circular	15	0.012	1018.50	1018.00	51.1	0.98%	3.3	6.9	5.6	9.1	1019.8	1019.3	6.5	6.7	1,026.30
	100-year														1.25		10.3	5.8										5.8								
	10-year	C10	C9	C10 - C9	0.60	0.57	0.87	1	0.52	5.0	7.4	3.8	2.25	1.73	1	5.3	7.3	12.6	Non Setback Curb Inlet	HDPE	Circular	18	0.012	1017.70	1016.60	64.2	1.71%	12.6	14.9	8.4	7.6	1019.2	1018.1	6.7	5.0	1,025.90
	100-year							1.25			10.3	6.7			1.25		10.2	22.1										22.1								
	10-year	C9	C8	C9 - C8									2.25	1.73	1	5.4	7.2	12.5	Junction Box	HDPE	Circular	24	0.012	1016.10	1015.80	42.4	0.71%	12.5	20.6	6.6	6.5	1018.1	1017.8	5.0	5.8	1,023.10
	100-year														1.25		10.2	22.0										22.0								
	10-year	C8	C7	C8 - C7									6.06	4.85	1	9.0	6.3	30.5	Junction Box	HDPE	Circular	30	0.012	1015.30	1014.80	48.4	1.03%	30.5	45.2	9.2	5.3	1017.8	1017.3	5.8	6.7	1,023.60
	100-year														1.25		8.9	53.9										53.9								
	10-year	C7	C6	C7 - C6	0.06	0.06	0.90	1	0.05	5.0	7.4	0.4	6.12	4.91	1	9.2	6.2	30.7	Area Inlet	HDPE	Circular	30	0.012	1014.80	1013.70	109.3	1.01%	30.7	44.6	9.1	12.0	1017.3	1016.2	6.7	8.3	1,024.00
	100-year							1.25			10.3	0.7			1.25		8.8	54.1										54.1								
	10-year	C6	C5	C6 - C5									6.12	4.91	1	9.3	6.2	30.5	Junction Box	HDPE	Circular	30	0.012	1013.50	1012.90	64.8	0.93%	30.5	42.8	8.7	7.4	1016.0	1015.4	8.5	3.1	1,024.50
	100-year														1.25		8.8	53.9										53.9								
	10-year	C5	C4	C5 - C4									6.12	4.91	1	9.4	6.2	30.4	Junction Box	HDPE	Circular	30	0.012	1009.50	1009.00	48.8	1.02%	30.4	45.0	9.2	5.3	1012.0	1011.5	6.5	3.3	1,018.50
	100-year														1.25		8.8	53.7										53.7								
	10-year	C4	C3	C4 - C3	0.46	0.16	0.51	1	0.23	5.0	7.4	1.7	7.11	5.45	1	9.6	6.2	33.6	Grate Inlet	HDPE	Circular	30	0.012	1008.80	1007.70	104.7	1.05%	33.6	45.5	9.3	11.3	1011.3	1010.2	3.5	4.0	1,014.80
	100-year							1.25			10.3	3.0			1.25		8.7	59.3										59.3								
	10-year	C3	C2	C3 - C2	0.22	0.08	0.52	1	0.11	5.0	7.4	0.8	7.33	5.57	1	9.7	6.1	34.1	Grate Inlet	HDPE	Circular	30	0.012	1007.50	1006.90	55.7	1.08%	34.1	46.1	9.4	5.9	1010.0	1009.4	4.2	4.3	1,014.20
	100-year							1.25			10.3	1.5			1.25		8.7	60.3										60.3								
	10-year	C2	C1	C2 - C1	0.20	0.11	0.63	1	0.13	5.0	7.4	0.9	7.64	5.79	1	10.3	6.0	34.8	Grate Inlet	HDPE	Circular	30	0.012	1006.70	1003.60	307.5	1.01%	34.8	44.6	9.1	33.8	1009.2	1006.1	4.5	4.5	1,013.70
	100-year							1.25			10.3	1.6			1.25		8.5	61.6										61.6								
	10-year	C1	INSERTA TEE 60" RCP	C1 - INSERTA TEE 60" RCP	0.55	0.45	0.79	1	0.44	5.1	7.3	3.2	8.19	6.23	1	10.3	6.0	37.4	Non Setback Curb Inlet/Yard Inlet	HDPE	Circular	30	0.012	1003.40	1002.90	36.7	1.36%	37.4	51.9	10.6	3.5	1005.9	1005.4	4.7	5.6	1,010.60
	100-year							1.25			10.3	5.6			1.25		8.5	66.1										66.1								
	10-year	CC2	CC1	CC2 - CC1	0.14	0.00	0.30	1	0.04	6.0	7.1	0.3	0.25	0.14	1	5.0	7.4	1.0	PVC Drain Basin	HDPE	Circular	15	0.012	1011.40	1011.00	39.4	1.02%	1.0	7.1	5.7	6.9	1012.7	1012.3	2.9	3.3	1,015.50
	100-year							1.25			9.9	0.5			1.25		10.3	1.8										1.8								
	10-year	CC1	C4	CC1 - C4	0.28	0.14	0.60	1	0.17	6.0	7.1	1.2	0.53	0.31	1	5.2	7.3	2.3	PVC Drain Basin	HDPE	Circular	15	0.012	1010.80	1010.20	57.4	1.05%	2.3	7.2	5.8	9.8	1012.1	1011.5	3.5	3.3	1,015.50
	100-year							1.25			9.9	2.1			1.25		10.3	4.0										4.0								
	10-year	D10	D9	D10 - D9									0.12	0.11	1	8.0	6.5	0.7	Junction Box	HDPE	Circular	15	0.012	1034.20	1031.60	118.5	2.19%	0.7	10.4	8.4	14.0	1035.5	1032.9	7.5	6.9	1,043.00
	100-year														1.25		9.2	1.2										1.2								
	10-year	D9	D8	D9 - D8	0.37	0.37	0.90	1	0.33	5.0	7.4	2.4	0.49	0.44	1	8.3	6.5	2.9	Non Setback Curb Inlet	HDPE	Circular	15	0.012	1031.10	1028.50	129.3	2.01%	2.9	9.9	8.1	16.0	1032.4	1029.8	7.4	7.2	1,039.70
	100-year							1.25			10.3	4.3			1.25		9.1	5.0										5.0								
	10-year	D8	D7	D8 - D7									2.95	2.54	1	8.5	6.4	16.3	Junction Box	HDPE	Circular	18	0.012	1028.00	1023.70	130.6	3.29%	16.3	20.6	11.7	11.2	1029.5	1025.2	7.4	5.9	1,036.90
	100-year														1.25		9.1	28.7										28.7								
	10-year	D7	D6	D7 - D6									2.97	2.55	1	8.7	6.4	16.2	Junction Box	HDPE	Circular	24	0.012	1020.80	1018.75	143.9	1.42%	16.2	29.2	9.3	15.5	1022.8	1020.8	8.3	3.1	1,031.10
	100-year														1.25		9.0	28.7										28.7								
	10-year	D6	D5	D6 - D5	0.10	0.10	0.90	1	0.09	5.0	7.4	0.7	3.07	2.64	1	8.8	6.3	16.8	Trench Drain	HDPE	Circular	24	0.012	1018.75	1018.00	52.4	1.42%	16.8	29.2	9.3	5.6	1020.7	1020.0	3.2	3.7	1,023.90
	100-year							1.25			10.3	1.2			1.25		8.9	29.6										29.6								
	10-year	D5	D4	D5 - D4	0.06	0.05	0.80	1	0.05	5.0	7.4	0.4	3.31	2.85	1	8.9	6.3	18.0	PVC Drain Basin	HDPE	Circular	24	0.012	1017.80	1017.15	41.7	1.56%	18.0	30.6	9.7	4.3	1019.8	1019.2	3.9	4.3	1,023.70
	100-year							1.25			10.3	0.6			1.25		8.9	31.8										31.8								
	10-year	D4	D3	D4 - D3	0.06	0.03	0.60	1	0.04	5.0	7.4	0.3	3.37	2.89	1	8.9	6.3	18.2	Inline Drain	HDPE	Circular	24	0.012	1017.15	1016.79	23.0	1.57%	18.2	30.7	9.8	2.4	1019.2	1018.8	4.3	4.5	1,023.40
	100-year							1.25			10.3	0.5			1.25		8.9	32.2										32.2								
	10-year	D3	D2	D3 - D2	0.05	0.02	0.54	1	0.03	5.0	7.4	0.2	3.42	2.92	1	9.0	6.3	18.4	Inline Drain	HDPE	Circular	24	0.012	1016.79	1016.42	23.2	1.60%	18.4	31.0	9.9	2.4	1018.8	1018.4	4.5	4.9	1,023.30
	100-year							1.25			10.3	0.3			1.25		8.9	32.5										32.5								
	10-year	D2	D1	D2 - D1	0.10	0.05	0.60	1	0.06	5.0	7.4	0.4	3.52	2.98	1	9.0	6.3	18.7	Inline Drain	HDPE	Circular	24	0.012	1016.42	1016.06	23.2	1.55%	18.7	30.5	9.7	2.4	1018.4	1018.1	4.9	5.2	1,023.30
	100-year							1.25			10.3	0.8			1.25		8.9	33.1										33.1								
	10-year	D1	C9	D1 - C9	0.29	0.07	0.44	1	0.13	5.0	7.4	0.9	3.81	3.11	1	9.0	6.3	19.5	Inline Drain	HDPE	Circular	24	0.012	1016.06	1015.80	16.0	1.63%	19.5	31.3	10.0	1.6	1018.1	1017.8	5.2	5.8	1,023.30
	100-year							1.25			10.3	1.7			1.25		8.9	34.5										34.5								
	10-year	E1 (Dock Trench Drain)	C11	E1 (Dock Trench Drain) - C11	1.15	0.69	0.66	1	0.76	5.3	7.3	5.5	1.15	0.76	1	5.0	7.4	5.6	Trench Drain	HDPE	Circular	15	0.012	1018.80	1018.00	35.7	2.24%	5.6	10.5	8.5	4.2	1020.1	1019.3	2.4	3.9	1,022.40
	100-year							1.25			10.2	9.7			1.25		10.3	9.8										9.8								
	10-year	F7	F6	F7 - F6	0.26	0.20	0.76	1	0.20	5.0	7.4	1.5	0.26	0.20	1	5.0	7.4	1.5	Inline Drain	HDPE	Circular	12	0.012	1045.00	1044.00	97.8	1.02%	1.5	3.9	5.0	19.7	1046.0	1045.0	1.5	2.9	1,047.50
	100-year							1.25			10.3	2.6			1.25		10.3	2.6										2.6								
	10-year	F6	F5	F6 - F5	0.11	0.08	0.74	1	0.08	5.0	7.4	0.6	0.37	0.28	1	5.3	7.3	2.0	Inline Drain	HDPE	Circular	12	0.012	1044.00	1043.00	93.7	1.07%	2.0	4.0	5.1	18.5	1045.0	1044.0	2.9	3.5	1,047.90
	100-year							1.25			10.3	1.0			1.25		10.2	3.6										3.6								
	10-year	F5	F4	F5 - F4	0.15	0.06	0.54	1	0.08	6.5	6.9	0.6	0.52	0.36	1	6.5	6.9	2.5	PVC Drain Basin	HDPE	Circular	12	0.012	1042.50	1041.50	94.0	1.06%	2.5	4.0	5.1	18.5	1043.5	1042.5	4.0	5.0	1,047.50
	100-year							1.25			9.7	1.0			1.25		9.7	4.4										4.4								
	10-year	F4	F3	F4 - F3	0.08	0.00	0.30	1	0.02	6.3	7.0	0.2	0.63	0.41	1	6.7	6.9	2.8	PVC Drain Basin	HDPE	Circular	12	0.012	1041.30	1040.60	68.8	1.02%	2.8	3.9	5.0	13.9	1042.3	1041.6	5.2	5.9	1,047.50
	100-year							1.25			9.8	0.3			1.25		9.6	5.0										5.0								
	10-year	F3	F2	F3 - F2	0.09	0.00	0.30	1	0.03	6.3	7.0	0.2	0.79	0.50	1	7.1	6.7	3.4	PVC Drain Basin	HDPE	Circular	15	0.012	1040.10	1038.60	140.3	1.07%	3.4	7.2	5.9	23.8	1041.4	1039.9	6.2	8.5	1,047.50
	100-year							1.25			9.8	0.3			1.25		9.5	6.0										6.0								
	10-year	F2	F1	F2 - F1	0.19	0.09	0.58	1	0.11	7.4	6.7	0.7	0.98	0.61	1	7.5	6.7	4.1	Non Setback Curb Inlet	HDPE	Circular	15	0.012	1038.10	1032.70	210.2	2.57%	4.1	11.2	9.1	23.0	1039.4	1034.0	9.0	7.3	1,048.30
	100-year							1.25			9.4	1.3			1.25		9.4	7.2										7.2								
	10-year	F1	AI #10447	F1 - AI #10447									2.42	1.84	1	7.7	6.6	12.2	Junction Box	HDPE	Circular	18	0.012	1032.20	1024.90	133.7	5.46%	12.2	26.6	15.0	8.9	1033.7	1026.4	7.5	2.4	1,041.20
	100-year														1.25		9.3	21.4										21.4								
	10-year	G3	G2	G3 - G2									0.15	0.14	1	5.0	7.4	1.0	PVC Drain Basin	HDPE	Circular	12	0.012	1042.90	1041.90	98.4	1.02%	1.0	3.9	5.0	19.9	1043.9	1042.9	2.6	3.2	1,046.50
	100-year														1.25		10.3	1.7										1.7								
	10-year	G2	G1	G2 - G1									0.30	0.29	1	5.1	7.3	2.1	PVC Drain Basin	HDPE	Circular	12	0.012	1039.90	1034.40	99.4	5.53%	2.1	9.1	11.6	8.6	1040.9	1035.4	5.2	4.4	1,046.10
	100-year														1.25		10.3	3.7										3.7								
	10-year	G1	F1	G1 - F1	1.14	1.00	0.83	1	0.94	5.0	7.4	6.9	1.44	1.23	1	5.2	7.3	8.9	Non Setback Curb Inlet	HDPE	Circular	18	0.012	1033.90	1032.70	54.7	2.19%	8.9	16.9	9.5	5.7	1035.4	1034.2	4.4	7.0	1,039.80
	100-year							1.25			10.3	12.2			1.25		10.2	15.7										15.7								

Upstream System/ Roof Drains

10-year	Roof Drain/A3A	A3	Roof Drain/A3A - A3	0.28	0.20	0.73	1	0.20	4.0	7.7	1.6
100-year							1.25			10.8	2.7
10-year	B1 Trench Drain	B1	B1 Trench Drain - B1	0.02	0.01	0.60	1	0.01	5.0	7.4	0.1
100-year							1.25			10.3	0.2
10-year	Roof Rain	C11	Roof Rain - C11	0.46	0.46	0.90	1	0.41	5.0	7.4	3.0
100-year							1.25			10.3	5.3
10-year	Mech Yard Drain	C11	Mech Yard Drain - C11	0.04	0.04	0.90	1	0.04	5.0	7.4	0.3
100-year							1.25			10.3	0.5
10-year	Roof Rain	CC2	Roof Rain - CC2	0.11	0.11	0.90	1	0.10	5.0	7.4	0.7
100-year							1.25			10.3	1.3
10-year	Roof Rain	D10	Roof Rain - D10	0.12	0.12	0.90	1	0.11	5.0	7.4	0.8
100-year							1.25			10.3	1.4
10-year	Roof Rain/Courtyard A	D9	Roof Rain/Courtyard A - D9	2.18	1.98	0.84	1	1.84	10.0	6.1	11.2
100-year							1.25			8.6	19.8
10-year	Roof Rain	D8/D7	Roof Rain - D8/D7	0.28	0.28	0.90	1	0.25	5.0	7.4	1.9
100-year							1.25			10.3	3.3
10-year	Greenway ID (D7/D6)	D7/D6	Greenway ID (D7/D6) - D7/D6	0.02	0.02	0.90	1	0.02	11.0	5.9	0.1
100-year							1.25			8.3	0.2
10-year	Greenway ID (D5)	D5	Greenway ID (D5) - D5	0.04	0.04	0.90	1	0.04	12.0	5.7	0.2
100-year							1.25			8.1	0.4
10-year	Roof Rain South	D5	Roof Rain South - D5	0.14	0.14	0.90	1	0.13	5.0	7.4	0.9
100-year							1.25			10.3	1.6
10-year	Roof Drain North	D8/C9	Roof Drain North - D8/C9	0.42	0.42	0.90	1	0.38	5.0	7.4	2.8
100-year							1.25			10.3	4.9
10-year	Roof Rain	F4	Roof Rain - F4	0.03	0.03	0.90	1	0.03	5.0	7.4	0.2
100-year							1.25			10.3	0.3
10-year	Roof Rain	F3	Roof Rain - F3	0.07	0.07	0.90	1	0.06	5.0	7.4	0.5
100-year							1.25			10.3	0.8
10-year	Roof Rain	G3	Roof Rain - G3	0.15	0.15	0.90	1	0.14	5.0	7.4	1.0
100-year							1.2			10.3	1.7
10-year	Roof Rain	G2	Roof Rain - G2	0.15	0.15	0.90	1	0.14	5.0	7.4	1.0
100-year							1.25			10.3	1.7

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STATE OF MISSOURI
DAVID D. WOOD
NUMBER
PE-2011037427
PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PROJ. NO. C20_0496
CFN: 0496DAM.DWG
DSN: DDW
DWN: NJN
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ENGINEER
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lx@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
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STORM SEWER CALCULATIONS

C605

Final Development Plan

STORM SEWER CONSTRUCTION NOTES:

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2600 STORM SEWER OF THE KANSAS CITY METRO CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS. REFERENCE APWA SPECIFICATION SECTION 2102.4 FOR EXCAVATION, TRENCHING AND BACKFILLING FOR PIPE AND STORM STRUCTURES.
2. A MINIMUM OF 18" COVER SHALL BE PROVIDED PRIOR TO AND MAINTAINED AFTER INSTALLATION OF STORM SEWER.
3. ALL COORDINATES FOR CURB INLETS ARE TO THE MIDDLE OF THE INSIDE FRONT FACE. ALL COORDINATES FOR PVC STRUCTURES AND CONCRETE YARD INLETS ARE TO THE CENTER OF THE STRUCTURE.
4. ALL JUNCTION BOXES/AREA INLETS HAVE ONE COORDINATE PROVIDED AT THE CENTER OF STRUCTURE. SEE PLAN FOR CLARIFICATION. ORIENT STRUCTURES PARALLEL TO ADJACENT CURB, BUILDING OR WALL FACE, UNLESS NOTED OTHERWISE.
5. RIM ELEVATION IS PROVIDED AT COORDINATE, UNLESS NOTED OTHERWISE. CONTRACTOR TO ADJUST ELEVATION OF RIM AS REQUIRED TO MATCH SLOPE OF ADJACENT CURB LINE. REFER TO GRADING PLAN (C300 SERIES SHEETS).
6. ALL EXISTING UTILITIES INDICATED ON THE DRAWING ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER; HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF SAME SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THEIR EXPENSE.
7. ALL BACKFILL SHALL BE COMPACTED TO 95 PERCENT STANDARD DENSITY AT OPTIMUM MOISTURE.
8. ALL EXCAVATION BENEATH THE STREETS AND PARKING LOTS FOR DRAINAGE PIPE LESS THAN 4'-0" IN DIAMETER SHALL BE BACKFILLED WITH AGGREGATE TO FOUR FEET (4') PAST BACK OF CURB IN ACCORDANCE WITH APWA SPECIFICATIONS SECTION 2102.4J.
9. RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT THEIR EXPENSE.
10. IF PRECAST STORM STRUCTURES ARE TO BE USED ON THIS PROJECT, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND HAVE THEM APPROVED BY THE ENGINEER PRIOR TO FABRICATION OF THE STRUCTURES. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION.
11. ALL HDPE PIPE JOINTS SHALL BE WATER TIGHT.

SAFETY NOTICE TO CONTRACTOR

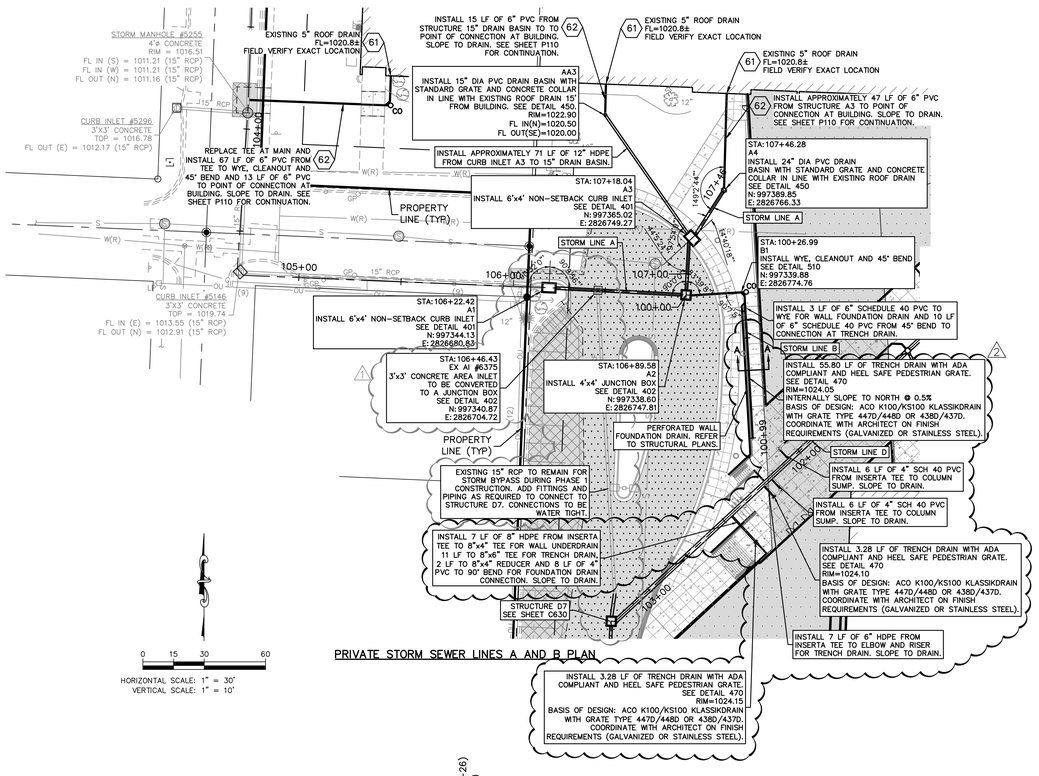
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY / DISCLAIMER

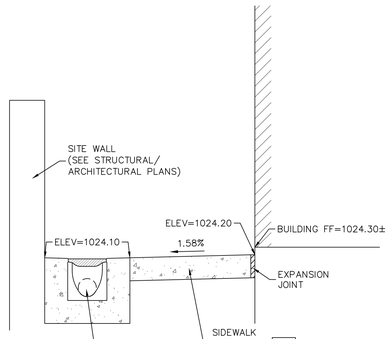
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CAUTION – NOTICE TO CONTRACTOR

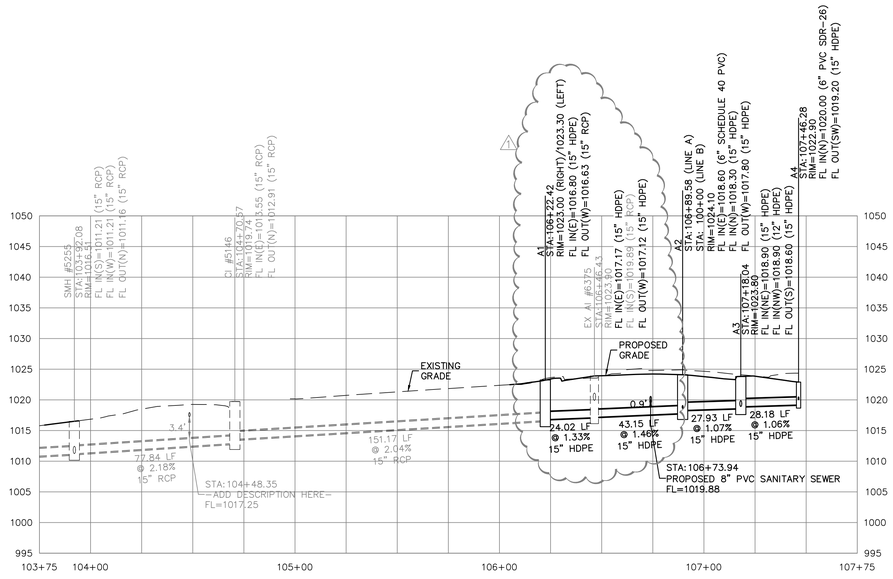
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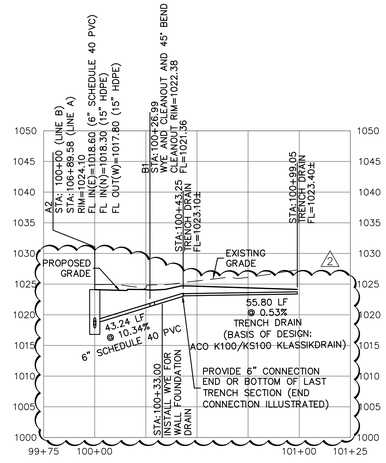
PRIVATE STORM SEWER LINES A AND B PLAN



SECTION A–A



PRIVATE STORM SEWER LINE A PROFILE



PRIVATE STORM SEWER LINE B PROFILE

	DETAILS SEE SHEET C690 AND C695
401	NON–SETBACK CURB INLET
402	JUNCTION BOX
403	YARD INLET
406	CONCRETE FLARED END SECTION WITH TOE WALL AND RIP RAP
433	DOWNSPOUT COLLECTOR
450	PVC DRAIN BASIN – CONTRACTOR TO ORDER INLETS ONE FOOT TALLER THAN PLAN ELEVATION SO INLET CAN BE FIELD ADJUSTED
460	INLINE DRAIN
470	TRENCH DRAIN
510	CLEANOUT

NOTES

61 STORM SEWER POINT OF CONNECTION AT BUILDING REFER TO MEP PLANS

62 PVC SDR–26 ROOF DRAIN. IF DRAIN IS LESS THAN 2' USE SCHEDULE 40 PVC FOR THE ENTIRE RUN. SLOPE TO DRAIN (1% MINIMUM FOR 6" AND LARGER ROOF DRAINS, 2% MINIMUM FOR 4" ROOF DRAINS)

63 PVC STORM LINE AND TEE FOR FOUNDATION DRAIN. COORDINATE WITH ARCHITECTURAL PLANS FOR SIZE.

Know what's below. Call before you dig.

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496DPP.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
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lx@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
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mechanical/electrical engineer:
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STATE OF MISSOURI DAVID D. WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

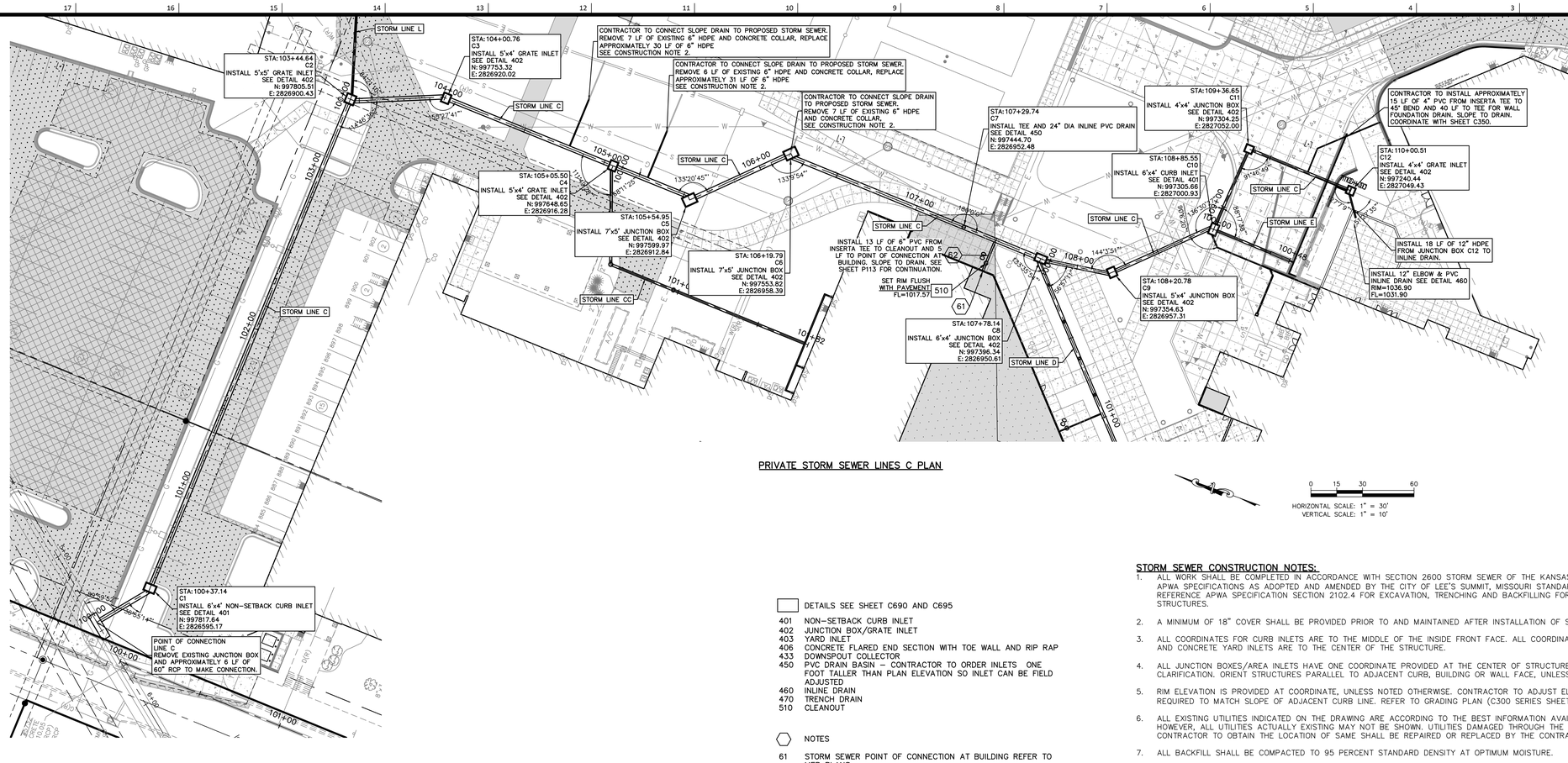
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE STORM SEWER PLAN AND PROFILE

C610

Final Development Plan



PRIVATE STORM SEWER LINES C PLAN

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

DETAILS SEE SHEET C690 AND C695

401 NON-SETBACK CURB INLET
402 JUNCTION BOX/GRATE INLET
403 YARD INLET
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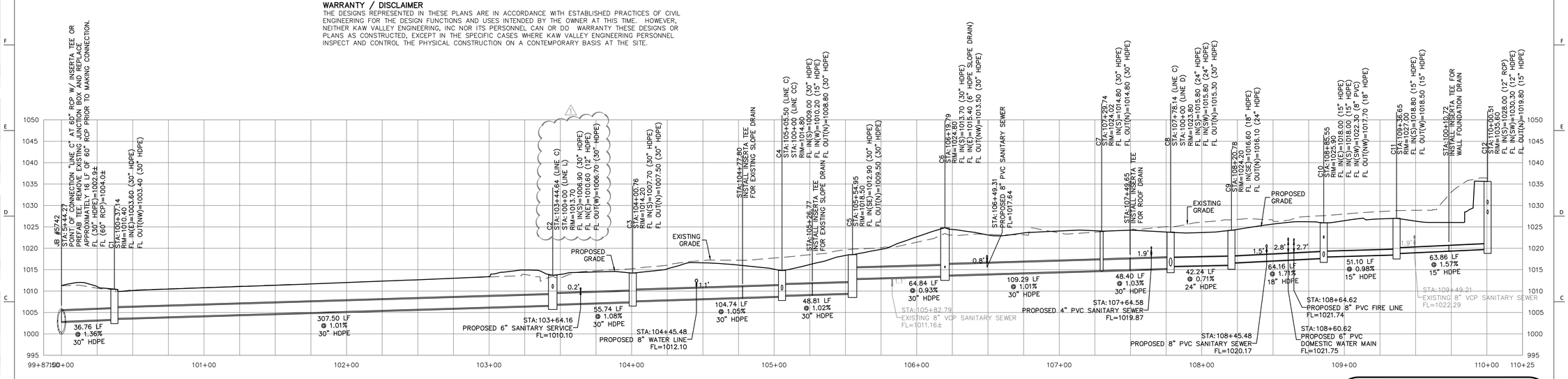
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PRIVATE STORM SEWER LINE C PROFILE

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PROJ. NO. C20_0496
CFN: 0496DPP.DWG
DSN: DDW
DWN: NJN
DAVID D. WOOD
ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
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architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER
12/15/20

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

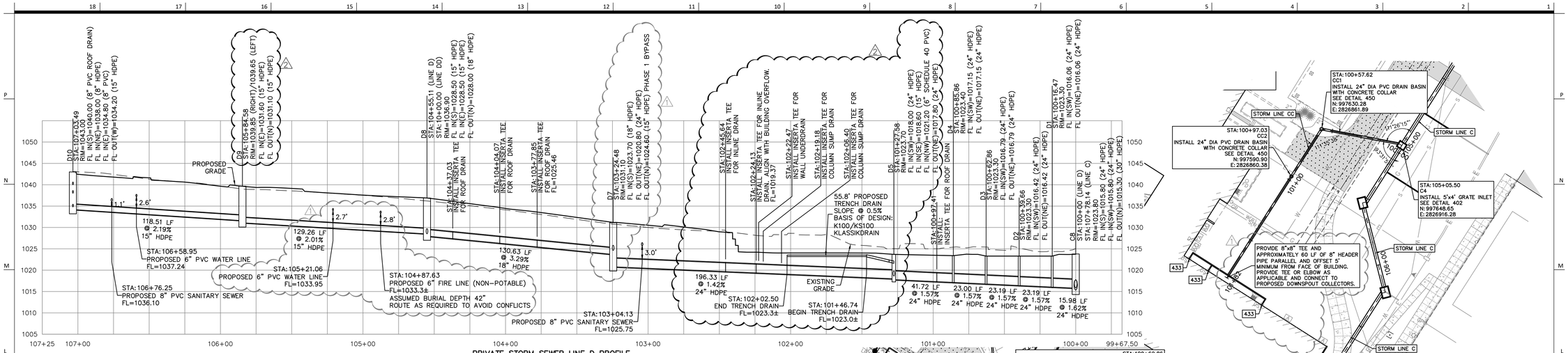
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1	ADDENDUM #1	11-19-2020
	PER CITY COMMENTS	
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE STORM SEWER PLAN AND PROFILE

C620

Final Development Plan



PRIVATE STORM SEWER LINE D PROFILE

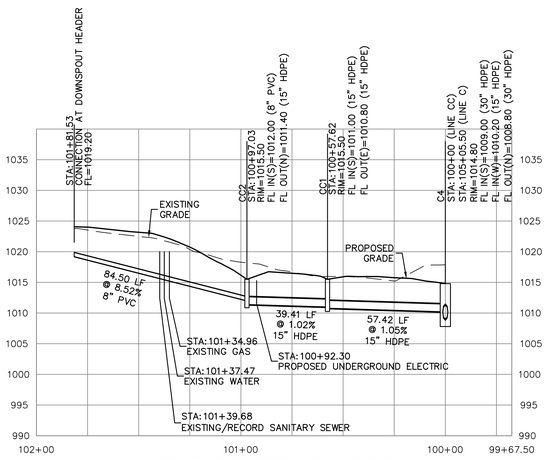
DETAILS SEE SHEET C690 AND C695

401 NON-SETBACK CURB INLET
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403 YARD INLET
406 CONCRETE FLARED END SECTION WITH TOE WALL AND RIP RAP
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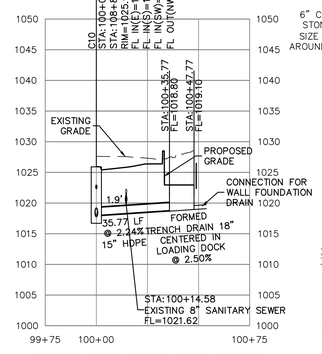
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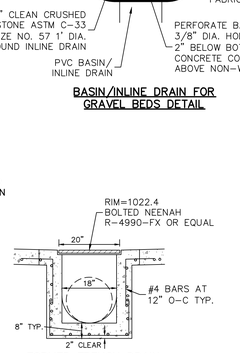
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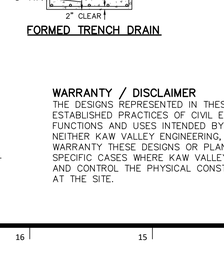
PRIVATE STORM SEWER LINE CC PROFILE



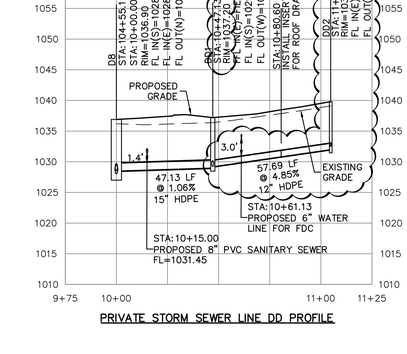
PRIVATE STORM SEWER LINE E PROFILE



BASIN/INLINE DRAIN FOR GRAVEL BEDS DETAIL



FORMED TRENCH DRAIN



PRIVATE STORM SEWER LINE DD PROFILE

PRIVATE STORM SEWER LINES D, E AND K PLAN

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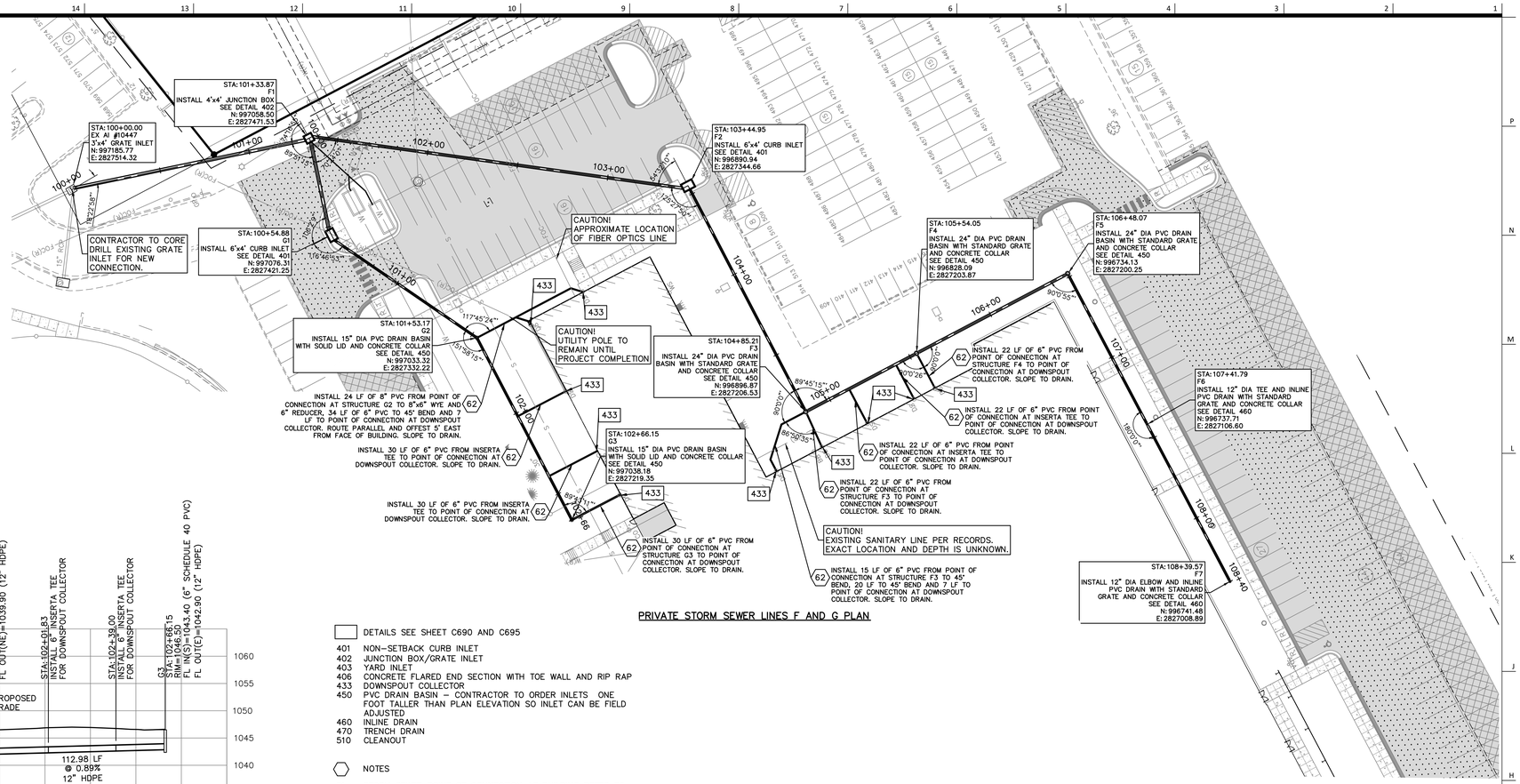
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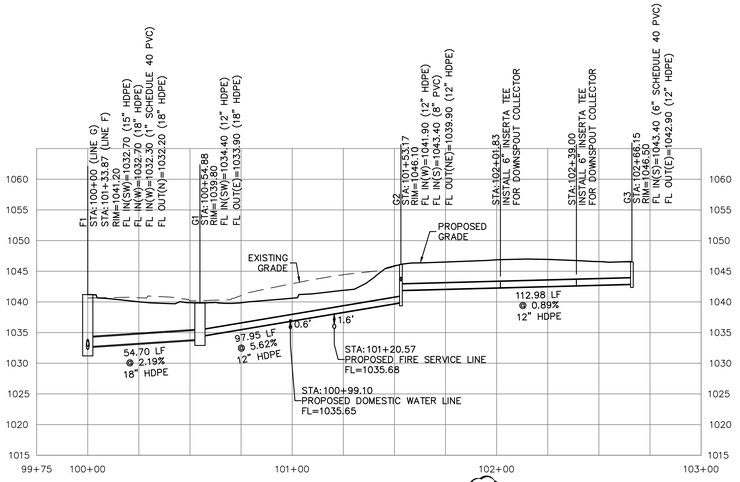
PRIVATE STORM SEWER LINES F AND G PLAN

DETAILS SEE SHEET C690 AND C695

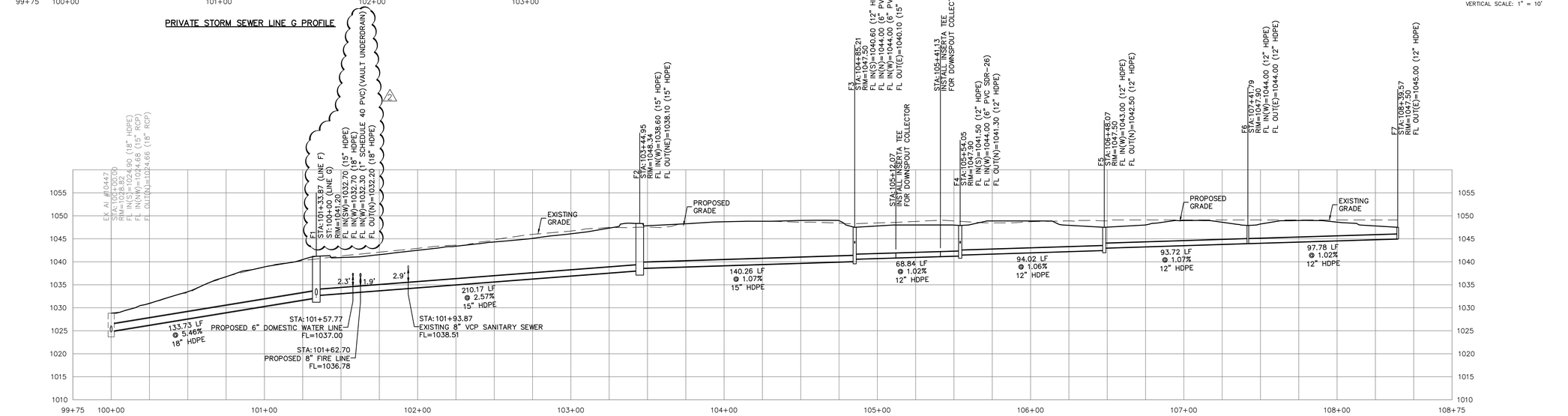
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PRIVATE STORM SEWER LINE G PROFILE



PRIVATE STORM SEWER LINE F PROFILE

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Lee's Summit High School

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Lee's Summit, MO 64063

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Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
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Kansas City, MO 64111
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STATE OF MISSOURI
DAVID D WOOD
NUMBER PE-2011037427
PROFESSIONAL ENGINEER
12/15/20

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
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REVISIONS

Number	DESCRIPTION	DATE
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	PER CITY COMMENTS	
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

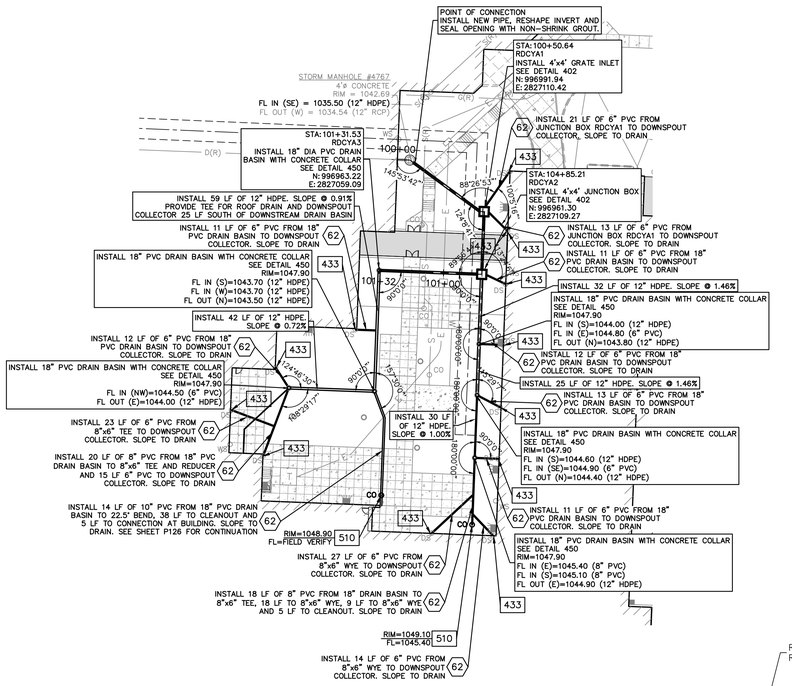
PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE STORM SEWER PLAN AND PROFILE

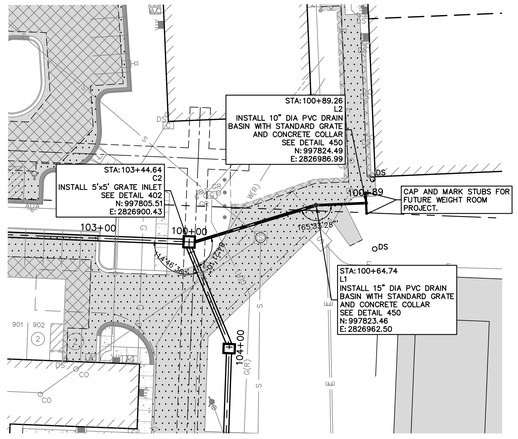
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Final Development Plan

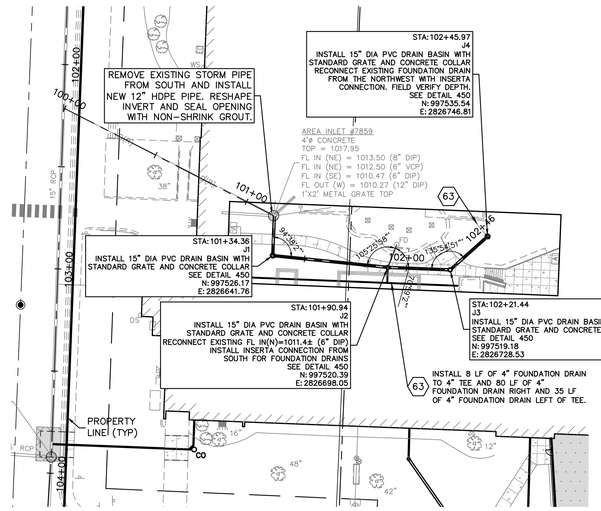
PROJ. NO. C20_0496 DSN: DDW
CFN: 0496DPP.DWG DWN: NJN
DAVID D. WOOD
ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
lw@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21



PRIVATE STORM SEWER ROOF DRAIN/COURTYARD A PLAN

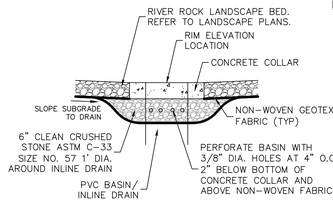


PRIVATE STORM SEWER LINE L PLAN

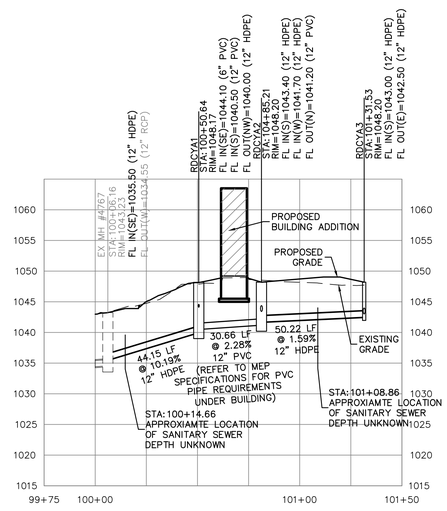


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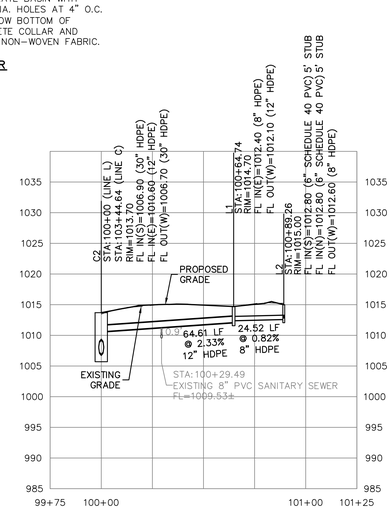
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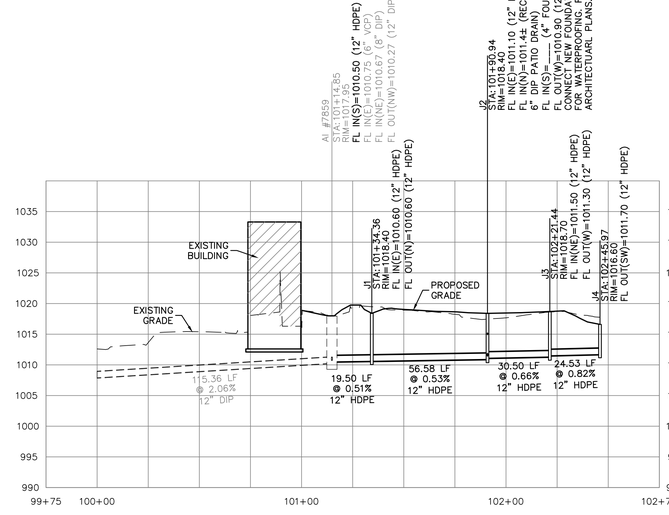
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CFN: 0496DPP.DWG DWN: NJN ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
kv@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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Lee's Summit High School

400 SE Blue Pkwy
Lee's Summit, MO 64063

owner:
Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, MO 64086

architect:
Gould Evans
4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI DAVID D WOOD NUMBER PE-2011037427 PROFESSIONAL ENGINEER 12/15/20

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

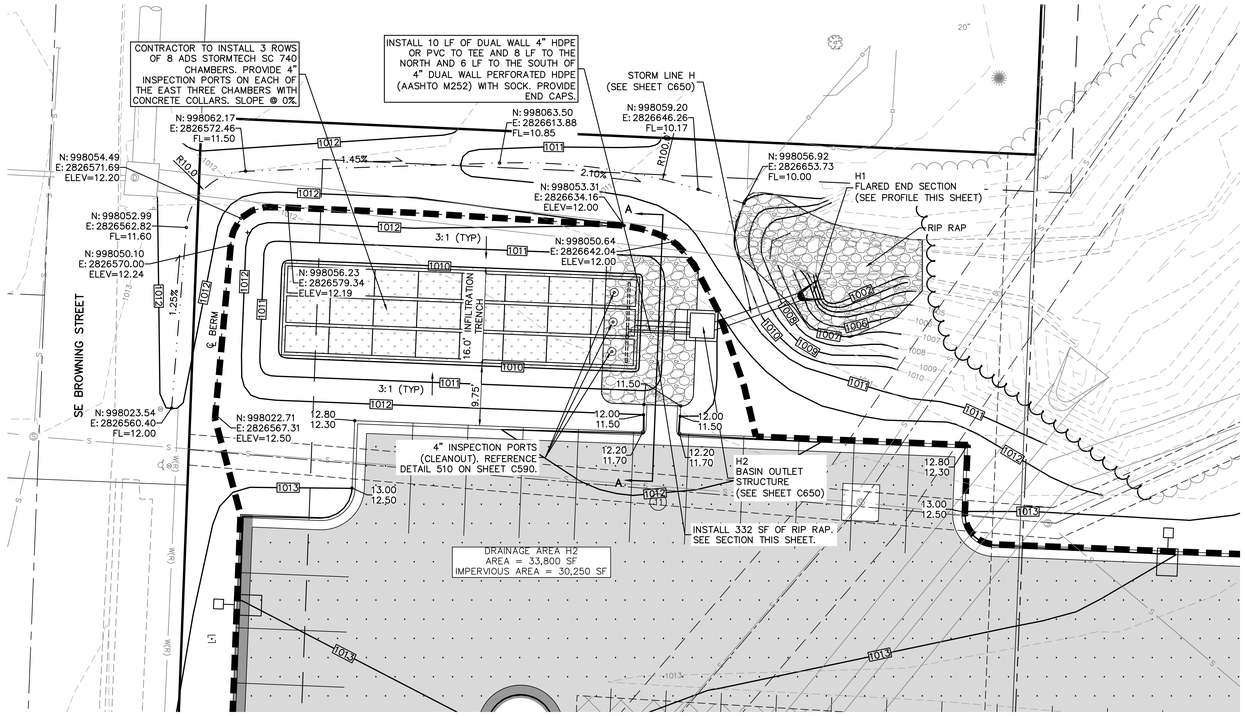
Number	DESCRIPTION	DATE
1	ADDENDUM #1 PER CITY COMMENTS	11-19-2020
2	AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

PRIVATE STORM SEWER PLAN AND PROFILE

C650

Final Development Plan

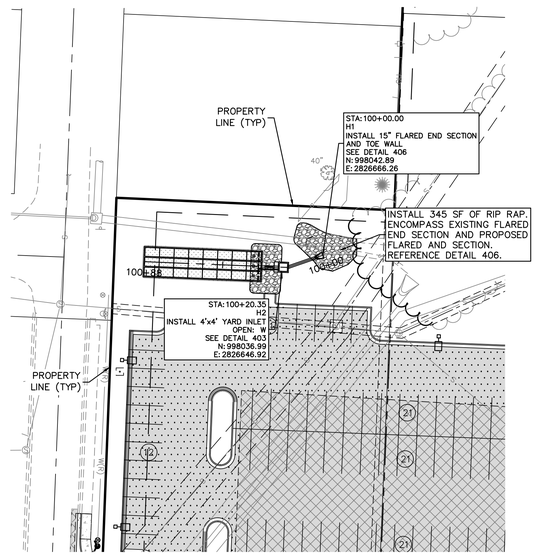


LEGEND:

- MONUMENT FOUND ORIGIN UNKNOWN UNLESS OTHERWISE NOTED
- 1/2"x24" REBAR W/LS 214F CAP SET (UNLESS NOTED OTHERWISE)
- BENCHMARK
- CONTROL POINT
- BUSH
- CABLE TV PEDESTAL
- DOWN SPOUT
- DECIDUOUS TREE
- ELECTRICAL TRANSFORMER
- ELECTRIC METER
- FF FINISH FLOOR ELEVATION
- WOOD FENCE
- FIRE SPRINKLER VALVE
- UNDERGROUND GAS
- GATE POST
- GAS LINE RISER
- HDPE HIGH DENSITY POLYETHYLENE
- LIGHT POLE
- SPRINKLER CONTROL BOX
- STORM SEWER MANHOLE
- STREET/TRAFFIC SIGN
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEVISION
- WALL MOUNTED LIGHT
- WALL MOUNTED SIAMESE FIRE CONNECTOR
- 921 EXISTING GRADE 1' CONTOUR
- 920 EXISTING GRADE 5' CONTOUR
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- SWALE

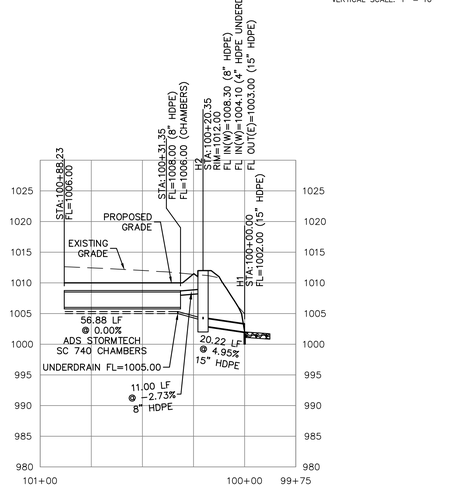
0 5 10 20
SCALE: 1" = 10'

NOTE TO CONTRACTOR
STORM LINE H AND DETENTION BASIN MUST BE INSTALLED AND OPERATIONAL; PRIOR TO WORK COMMENCING ON NORTH PARKING LOT.PROTECT GRAVEL BLANKET ON TOP OF CHAMBER SYSTEM FOR DURATION OF CONSTRUCTION. LOAMY SAND SHALL BE INSTALLED AFTER CURBING, PAVING BASE COURSE, TOP SOIL AND EROSION CONTROL BLANKET INSTALLATION. REFER TO C400 SERIES DRAWINGS.

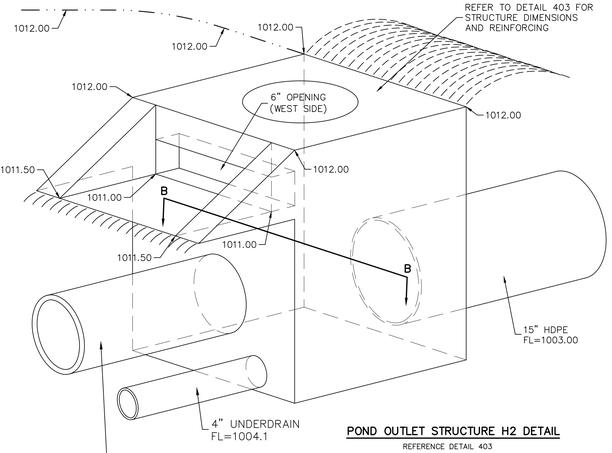


PRIVATE STORM SEWER LINE H PLAN

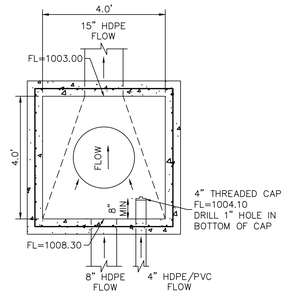
0 15 30 60
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



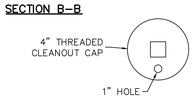
PRIVATE STORM SEWER LINE H PROFILE



POND OUTLET STRUCTURE H2 DETAIL
REFERENCE DETAIL 403



SECTION B–B

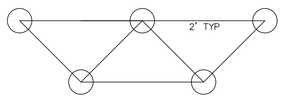


Pond Volume		
Elevation	Cum CF	ac-ft
1005.5	0	0
1006	141	0.003
1007	841	0.019
1008	1429	0.033
1009	1759	0.040
1010	1759	0.040
1011	2004	0.046
1012	3704	0.085

Detention Pond		
Elevation	Surface Area (sf)	Surface Area (ac)
1010	940	0.022
1011	1430	0.033
1011.5	1700	0.039
1011.7	1900	0.044

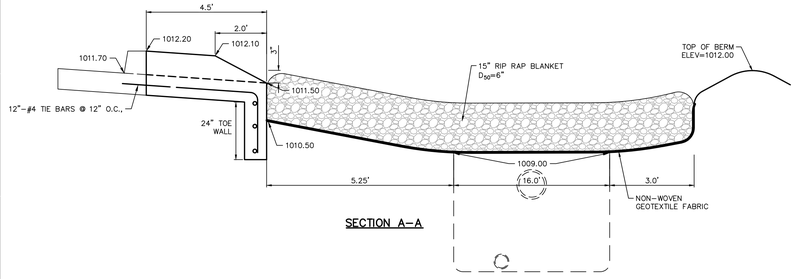
PLANTING SCHEDULE		
QTY.	BOTANICAL NAME	COMMON NAME
940 SF COVERAGE 2' O.C.	ANDROPOGON GERARDII PANICUM VIRGATUM SCHIZACHYRIUM SCOPARIUM	BIG BLUE STEM (CENTER) SWITCH GRASS (CENTER) LITTLE BLUE STEM (PERIMETER)

LOCAL SOURCE
APPLIED ECOLOGIST SOLUTIONS
1269 N 222 ROAD,
BALDWIN CITY, KS, 66006
PH: 785-594-2245

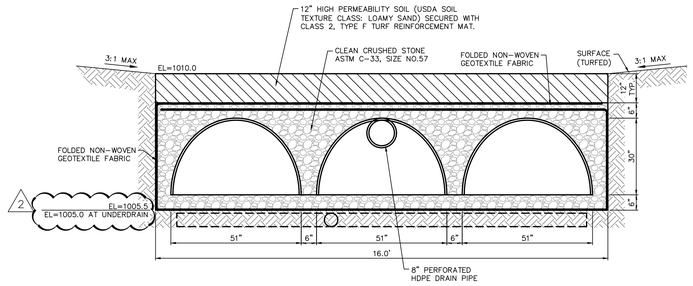


PLANTING DIAGRAM

NATIVE GRASSES (PLUGS 24" ON CENTER AT ELEVATION 1010.50 AND BELOW)
NOTE: SLOPES SHALL BE STABILIZED PRIOR TO PLANTING PERMANENT VEGETATION. UPSTREAM EROSION CONTROL SHALL REMAIN IN PLACE UNTIL VEGETATION IN BASIN IS ESTABLISHED.



SECTION A–A



INFILTRATION TRENCH
MINIMUM SURFACE ELEVATION = 940 SF
VOLUMETRIC STORAGE FOR INFILTRATION = 1320 CF

NOTE:
SIDES AND BOTTOM OF INFILTRATION TRENCH MUST BE LINED WITH GEOTEXTILE FABRIC (FILTER FABRIC)

SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY / DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

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

PROJ. NO. C20_0496 DSN: DDW
CFN: 0496BMP.DWG DWN: NJN
DAVID D. WOOD ENGINEER MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
lx@kveng.com | www.kveng.com
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STATE OF MISSOURI · DAVID D. WOOD · NUMBER PE-2011037427 · PROFESSIONAL ENGINEER
12/15/2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

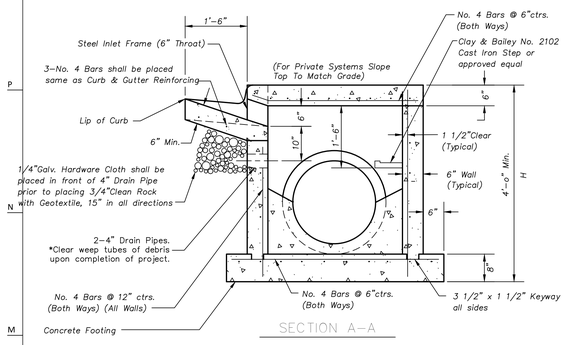
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

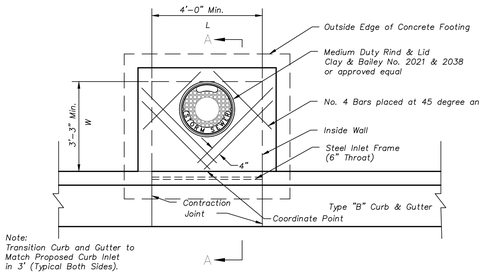
BMP PLAN

C660

Final Development Plan



SECTION A–A



PLAN

NON-SETBACK CURB INLET 401

USE STEEL INLET FRAME WITH 6" THROAT
PARKING LOTS ONLY

JUNCTION BOX YARD INLETS AND CURB INLET NOTES

GENERAL

1. ALL STORM SEWER STRUCTURES SHALL BE PRE–CAST OR POURED IN PLACE. IF PRE–CAST STRUCTURES ARE USED FOR PUBLICLY FINANCED, MAINTAINED OR ADMINISTERED CONSTRUCTION, THE TOPS SHALL BE POURED IN PLACE AND THE WALL STEEL SHALL BE LEFT EXPOSED TO A HEIGHT 2" BELOW THE FINISH TOP ELEVATION, OR AS DIRECTED BY THE CITY ENGINEER.
2. PRE–CAST SHOP DRAWINGS ARE TO BE APPROVED BY THE ENGINEER.
3. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"+"H") AND ("W"+"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED. PRECASTER SHALL PROVIDE DESIGN CALCULATIONS FOR DEEP STRUCTURES TO ENGINEER PRIOR TO CONSTRUCTING BOX.

CONCRETE

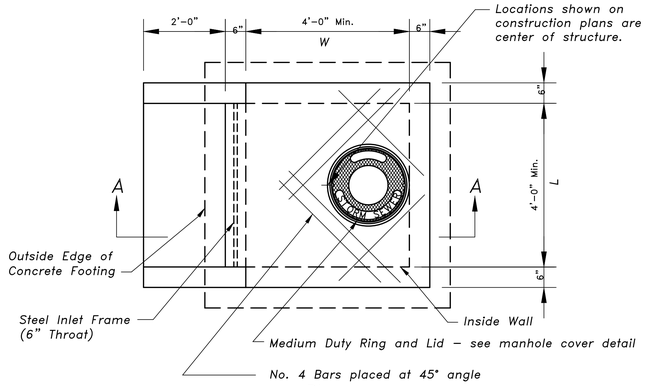
5. CONCRETE USED IN THIS WORK SHALL BE CLASS "A" CONCRETE (AE) THROUGHOUT, AND SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL SPECIFICATIONS.
6. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR MCIB, LATEST EDITION, EXCEPT AS MODIFIED IN THE APWA TECHNICAL SPECIFICATIONS.
7. INLET FLOORS SHALL BE SHAPED WITH NON–REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
8. BEVEL ALL EXPOSED EDGES WITH ¾" TRIANGULAR MOLDING.
9. 8" SOLID CONCRETE BLOCK OR BRICK MAY BE USED IN WALLS IN LIEU OF POURED CONCRETE WHERE NEITHER "H"+"L" NOR "H"+"W" (IN FEET) EXCEED FOURTEEN. BLOCK OR BRICK MAY BE USED IN ANY BOX WHERE "H" IS 5' OR LESS.
10. ALL CRUSHED STONE USED AS AGGREGATE FOR CONCRETE CONSTRUCTION SHALL BE OBTAINED FROM QUARRIES AND BEDS DESIGNATED BY THE MISSOURI DEPARTMENT OF TRANSPORTATION AS MEETING DURABILITY REQUIREMENTS OF KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL SPECIFICATIONS.

REINFORCING STEEL

11. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 60 AS PER ASTM A615, AND SHALL BE BENT COLD.
12. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/– ⅛" SHALL BE PERMITTED.
13. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
14. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'–0" MAXIMUM SPACING.
15. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.

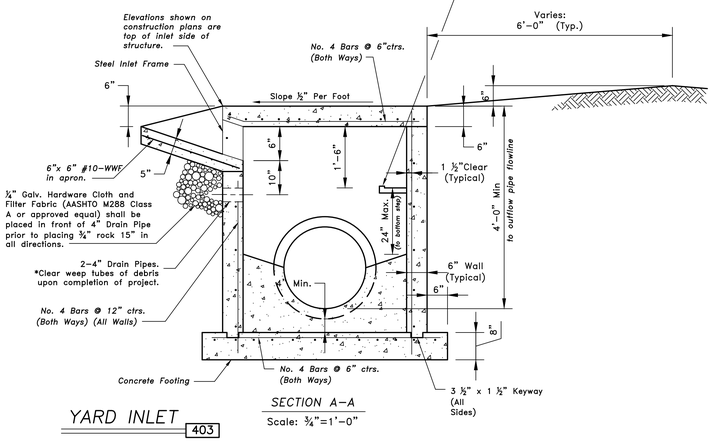
CONSTRUCTION

16. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
17. PIPE CONNECTIONS TO PRE–CAST STRUCTURES SHALL HAVE A MINIMUM OF 6" OF CONCRETE AROUND THE ENTIRE PIPE WITHIN 2' OF THE STRUCTURE.
18. MATERIAL SELECTION AND COMPACTION REQUIREMENTS FOR BACKFILL AROUND STRUCTURES SHALL BE AS SPECIFIED IN THE KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL SPECIFICATIONS.



Plan

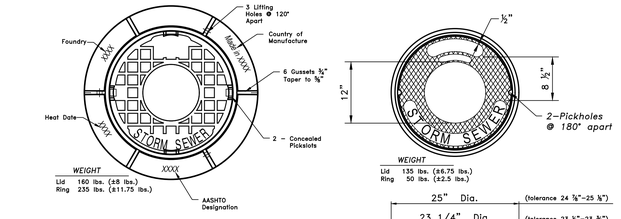
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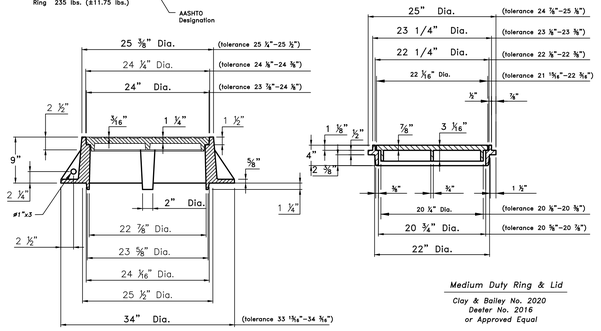


SECTION A–A

Scale: ¾"=1'-0"

YARD INLET 403





Heavy Duty Ring & Lid

Clay & Bailey NO. 2007MR
Deeter No. 1320
or Approved Equal

FOR JUNCTION BOX WITH GRATE, USE CATCH BASIN INLET GRATE AND FRAME (DEETER NO. 1936 OR APPROVED EQUAL)

Manhole Cover Notes:

1. Casting shall comply with ASTM A-48 and AASHTO M306-04.
2. As-cast dimensions may vary ± 1/16 inch per foot.
3. Each Casting shall be marked in accordance with AASHTO M 306-04, Sec.9.
4. Raised surfaces shall be cast as non-skid finish.
5. Horizontal bearing surfaces shall be machined.
6. Paint is optional unless specified.

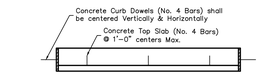
Medium Duty Ring & Lid

Clay & Bailey No. 2020
Deeter No. 2016
or Approved Equal

MANHOLE COVER

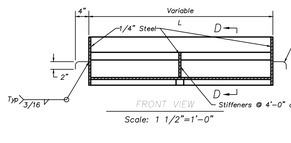
(Public Systems Only)

SCALE: 1 ½" = 1'(REV. Feb. 2005)



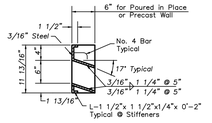
TOP VIEW

Scale: 1 1/2"=1'-0"



FRONT VIEW

Scale: 1 1/2"=1'-0"



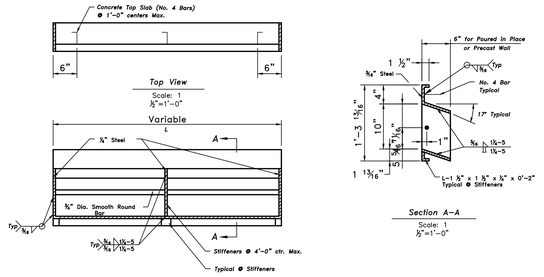
SECTION D–D (6" WALL)

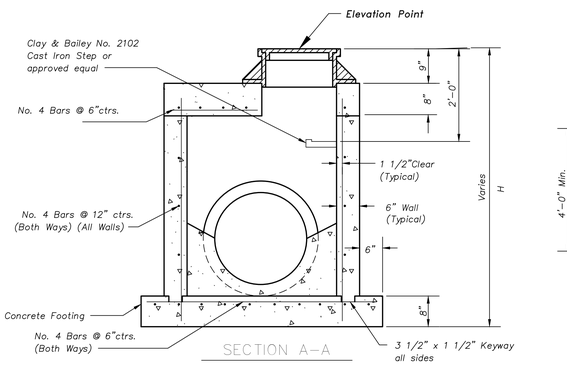
Scale: 1 1/2"=1'-0"

Notes: 1. All Welds shall be performed in accordance with appropriate AWS Specifications & Procedures.
2. All Welds on Exposed Surfaces shall be dressed so as to provide a pleasing finished appearance.
3. The Entire Frame shall be Hot Dip Zinc in Accordance ASTM A–123

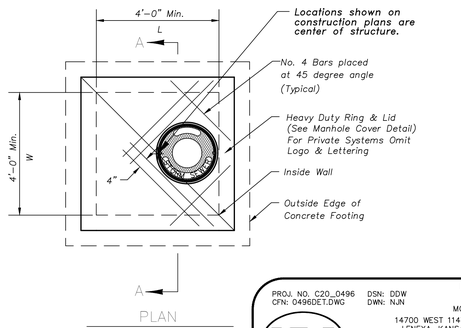
STEEL INLET FRAME (6" AND 10" THROAT)

USE 6" WITH NON–SETBACK CURB INLET/AREA INLET
USE 10" WITH SETBACK CURB INLET





SECTION A–A



PLAN

JUNCTION BOX/GRATE INLET 402

FOR JUNCTION BOX WITH GRATE, USE CATCH BASIN INLET GRATE AND FRAME (DEETER NO. 1936 OR APPROVED EQUAL)

PROJ. NO. C20_0496
CFN: 0496DET.DWG
DSN: DDW
DWN: NJN

DAVID D. WOOD
ENGINEER
MO # 2011037427
14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894–5150 | FAX (913) 894–5977
iw@kveng.com | www.kveng.com

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PRINT DATE/TIME: 3/17/2020 4:49:21 PM

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Engineer License No. PE-2011037427

REVISIONS

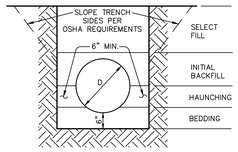
Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

STORM SEWER DETAILS

C690

Final Development Plan



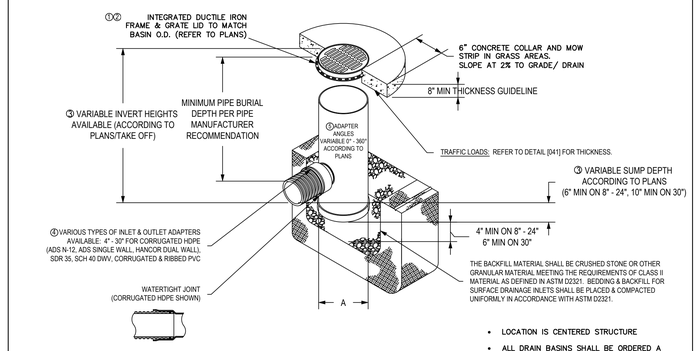
FLEXIBLE PIPE: INCLUDES CORRUGATED METAL PIPE. CORRUGATED POLYETHELENE PIPE AND/OR POLYVINYL CHLORIDE PIPE.

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS I OR II (REF. ASTM D2321) GRANULAR MATERIAL AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

TRENCH AND BEDDING DETAILS

REFER TO KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION 2102.4

PVC DRAIN BASIN 450



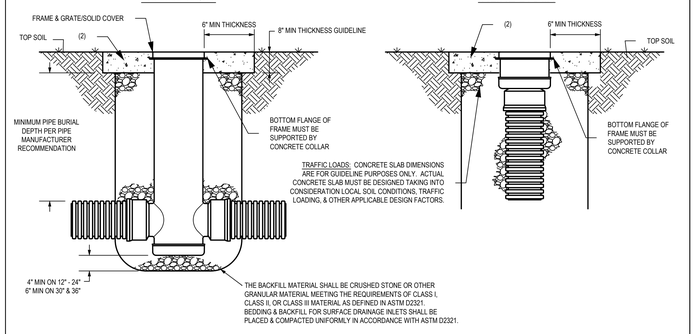
- LOCATION IS CENTERED STRUCTURE
- ALL DRAIN BASINS SHALL BE ORDERED A MINIMUM 1" TALLER THAN PLAN ELEVATION AND SHALL BE FIELD ADJUSTED TO GRADE UPON COMPLETED OF CONSTRUCTION

① - 8" - 30" GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE 8" - 15" BRONZE GRATES
② - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
③ - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
④ - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
⑤ - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012, 7001-110-013, & 7001-110-014.
6 - GRATES SHALL MEET H-10 LOAD RATING FOR 12" - 24" PED
7 - GRATES SHALL MEET H-20 LOAD RATING FOR 30" PED & 12" - 30" STD & SOLID
8 - ALL BRONZE GRATES, DROP IN GRATES, & 8" & 10" PED/STD GRATES & SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY
9 - DOME GRATES HAVE NO LOAD RATING

NYLOPLAST BASIN IS THE BASIS OF DESIGN

DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 1-23-06			
APPD BY CJA	PROJECT NO./NAME	TITLE	DRAIN BASIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL
DATE 1-23-06			
DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO.	7001-110-144 REV D

DRAIN BASIN / INLINE DRAIN 460

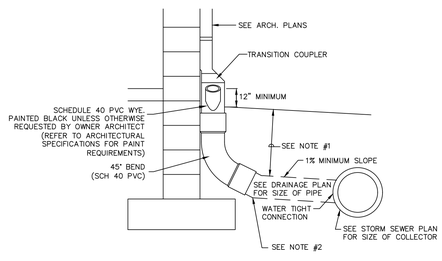


1. GRATES/SOLID COVERS SHALL MEET H-20 LOAD RATING FOR 30" PEDESTRIAN & 12" - 30" STANDARD & SOLID
2. DESIGN SHOULD ACCOUNT FOR ROOT DEPTH TO ALLOW TURF TO GROW AND PREVENT EROSION AROUND GRATE SO THAT HAZARDS DO NOT FORM.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONVEY, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 01-05-09			
REVISED BY NMH	PROJECT NO./NAME	TITLE	DRAIN BASIN & INLINE DRAIN TURF TRAFFIC INSTALLATION
DATE 06-12-18			
DWG SIZE A	SCALE 1:25 SHEET 1 OF 1	DWG NO.	7001-110-340 REV G

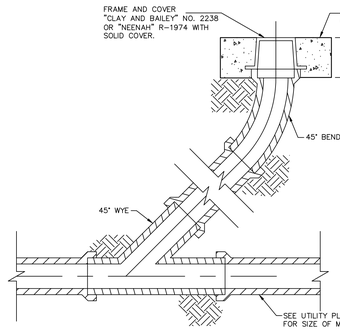
DOWNSPOUT COLLECTOR 433



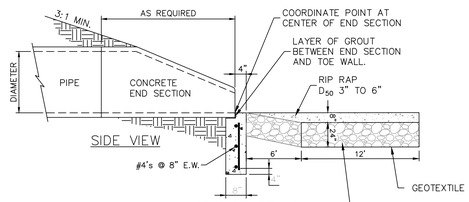
NOTES:
1) FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.

2) A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.

CLEAN–OUT 510



STRUCTURE H1



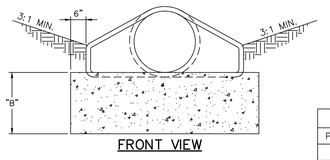
ROCK CHECK DAM NOTES:

A) CONSTRUCTION SPECIFICATIONS & INSTALLATION:

1. THE MAXIMUM HEIGHT OF THE DAM SHALL BE 1 FEET. THE CENTER OF THE CHECK DAM IS AT THE SAME ELEVATION OF THE OUTER EDGES.
2. FOR ADDED STABILITY, THE BASE OF THE CHECK DAM SHALL BE KEYED INTO THE SOIL APPROXIMATELY 6 INCHES.
3. STONE SHOULD BE PLACED ACCORDING TO THE CONFIGURATION ABOVE. HAND OR MECHANICAL PLACEMENT WILL BE NECESSARY TO ACHIEVE COMPLETE COVERAGE OF THE DITCH OR SWALE AND TO INSURE THAT THE CENTER OF THE DAM IS LOWER THEN THE EDGES.
4. GEOTEXTILE MAY BE USED UNDER THE STONE TO PROVIDE A STABLE FOUNDATION AND TO FACILITATE REMOVAL OF THE STONE.

B) INSPECTION AND MAINTENANCE:

1. CHECK DAMS SHOULD BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH STORM EVENT OF 1/2" OR GREATER. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 1/2 OF THE ORIGINAL HEIGHT OF THE DAM.
2. REGULAR INSPECTIONS SHOULD BE MADE TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THEN THE EDGES. EROSION CAUSED BY HIGH FLOWS AROUND EDGES OF THE DAM SHOULD BE CORRECTED.



TABLE

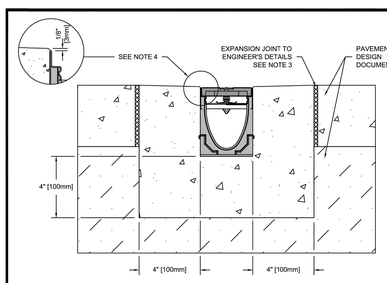
TOE WALL DEPTH	
PIPE DIAMETER	"B"
12" – 21"	24"
24" – 48"	30"
54" – 66"	36"

NOTES:

1. THE DEPTH OF THE TOE WALL SHALL BE PER TABLE. IF BEDROCK IS ENCOUNTERED A MINIMUM OF 12" INTO BEDROCK IS REQUIRED.
2. ALL CONCRETE SHALL MEET APWA 2600 SPECIFICATIONS.

CONCRETE FLARED END SECTION W/ TOE WALL AND RIP RAP STILLING BASIN 406

2



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K100 KLASSIKDRAIN - LOAD CLASS B

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

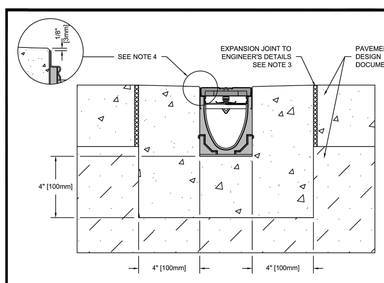
THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

K1-B-ECP	K100 - KLASSIKDRAIN - LOAD CLASS: B	ACO Polymer Products, Inc.
DATE: 08/24/15	Exposed Concrete Pavement	825 W. Beechcraft St Casa Grande, AZ 85122 Tel: 520-421-9888 Fax: 520-421-9899
	INSTALLATION DRAWING - ACO DRAIN	9470 Pinecone Dr. Mentor, OH 44060 Tel: 440-639-7230 Fax: 440-639-7235
		4211 Pleasant Rd. Fort Mill, SC 29708 Tel: 440-639-7230 Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764



NOTES:
1. IT IS NECESSARY TO ENSURE *MINIMUM* DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
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SPECIFICATION CLAUSE

KS100 KLASSIKDRAIN - LOAD CLASS B

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS100 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

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KS1-B-ECP	KS100 - KLASSIKDRAIN - LOAD CLASS: B	ACO Polymer Products, Inc.
DATE: 08/25/15	Exposed Concrete Pavement	825 W. Beechcraft St Casa Grande, AZ 85122 Tel: 520-421-9888 Fax: 520-421-9899
	INSTALLATION DRAWING - ACO DRAIN	9470 Pinecone Dr. Mentor, OH 44060 Tel: 440-639-7230 Fax: 440-639-7235
		4211 Pleasant Rd. Fort Mill, SC 29708 Tel: 440-639-7230 Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764

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Lee's Summit, MO 64063

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4200 Pennsylvania Avenue
Kansas City, MO 64111
816.931.6655 voice
www.gouldevans.com

structural engineer:
Bob D. Campbell & Company, Inc.
4338 Belleview
Kansas City, MO 64111
816.531.4144

civil engineer:
Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318

mechanical/electrical engineer:
Henderson Engineers
1801 Main St
Kansas City, MO 64108
816.663.8700

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STATE OF MISSOURI — DAVID D WOOD — NUMBER PE-2011037427 — PROFESSIONAL ENGINEER
12-15-2020

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
David Wood Date: 12/15/2020
Engineer License No. PE-2011037427

REVISIONS

Number	DESCRIPTION	DATE
1	ADDENDUM #1	11-19-2020
2	PER CITY COMMENTS AND COORDINATION WITH PACKAGE 2	12-15-2020

PROJECT NO: 0119-0100
DATE: November 20, 2020

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ENGINEER
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KAW VALLEY ENGINEERING
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STORM SEWER DETAILS

C695

Final Development Plan